



REGIONAL FLOOD CONTROL DISTRICT



Las Vegas Valley NPDES Municipal Stormwater Discharge Permit Annual Report 2007-2008

SEPTEMBER 2008



MWH

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REGIONAL FLOOD CONTROL DISTRICT



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September 26, 2008

Mr. Cliff Lawson
State of Nevada
Bureau of Water Pollution Control
333 West Nye Lane, Room 129
Carson City, NV 89706-0851

RE: 2007-2008 NPDES ANNUAL REPORT

Dear Mr. Lawson:

Please find enclosed a copy of the 2007-2008 Annual Report for the Las Vegas Valley NPDES storm water discharge permit. This report was prepared by MWH and is hereby submitted for your use. The report details NPDES compliance activities for the period from July 2007 through June 2008. These activities were performed in accordance with Permit Number NV0021911 and the Storm Water Management Plan.

If you should have any questions, please do not hesitate to call.

Sincerely,

A handwritten signature in blue ink, appearing to read 'Kevin Eubanks', is written over a white background.

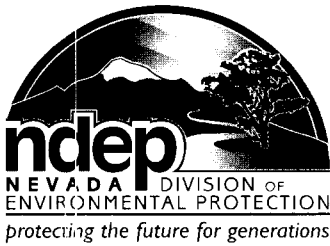
Kevin Eubanks, P.E., CFM
Assistant General Manager

Enclosure

KLE:fv

c: Regional Administrator
Environmental Protection Agency
75 Hawthorn Street
San Francisco, CA 94105

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STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

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FCD
H 3:06
DEC 17 2008

December 17, 2008

Kevin Eubanks, P.E., CFM
Clark County Regional Flood Control District
600 S. Grand Central Parkway, Suite 300
Las Vegas, Nevada 89106-3870

RE: 2007-2008 Las Vegas Valley MS4 Annual Report - Permit No. NV0021911

Dear Mr. Eubanks:

The Nevada Division of Environmental Protection ("NDEP") finished its review of Las Vegas Valley's MS4 Annual Report that covered stormwater compliance activities from July 1, 2007, through June 30, 2008. NDEP finds the annual report acceptable and meets the criteria for annual reports outlined in the NPDES permit and Las Vegas Valley's Stormwater Management Plan.

If you have questions concerning this letter, please contact me at (775) 687-9429.

Sincerely,

Steve McGoff, P.E.
Staff Engineer III
Technical Services Branch
Bureau of Water Pollution Control

cc: Cliff Lawson, P.E., NDEP
Regional Administrator, EPA, 75 Hawthorne St, San Francisco, CA 94105
Chip Paulson, MWH, 1801 California St, 29th Floor, Denver, CO 80202-1244



NPDES PERMIT NO. NV0021911

2007-2008 ANNUAL REPORT FOR

**LAS VEGAS VALLEY NPDES MUNICIPAL
STORMWATER DISCHARGE PERMIT**

Prepared for

LAS VEGAS VALLEY
STORMWATER QUALITY MANAGEMENT COMMITTEE

Clark County Regional Flood Control District
Clark County
City of Las Vegas
City of North Las Vegas
City of Henderson

Prepared by



MWH

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SEPTEMBER 2008

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ACRONYMS AND ABBREVIATIONS

<i>Annual Report</i>	<i>Las Vegas Valley NPDES Municipal Stormwater Discharge Permit Annual Report 2007-2008</i>
BLM	Bureau of Land Management
BMP	Best Management Practices
BOD	Biochemical Oxygen Demand
CC	Clark County
CCDAQEM	Clark County Department of Air Quality and Environmental Management
CCPRO	Clark County Public Response Office
CCPW	Clark County Department of Public Works
CCRFCDD	Clark County Regional Flood Control District
CCSD	Clark County School District
CCWRD	Clark County Water Reclamation District
CDSN	Conservation District of Southern Nevada
CLV	City of Las Vegas
CNLV	City of North Las Vegas
COD	Chemical Oxygen Demand
COH	City of Henderson
CPWG	Construction Program Working Group
CSN	College of Southern Nevada
DAQEM	Clark County Department of Air Quality and Environmental Management
deg C	degrees Celsius
EPA	Environmental Protection Agency
GBI	Green Building Initiative
GIS	Geographic Information System
LEED	Leadership in Energy and Environmental Design (LEED)
LEPC	Local Emergency Planning Committee
LLV	Lake Las Vegas
LVVWD	Las Vegas Valley Water District
MEP	Maximum Extent Practicable
mg/L	milligrams per liter
mL	Milliliter
mMhos	micro Mhos
MPN	Most Probable Number
MS4	Las Vegas Valley Municipal Separate Storm Sewer System
MTBE	methyl tert-butyl ether
MWH	MWH Americas, Inc.
NDEP	Nevada Division of Environmental Protection
NDOT	Nevada Department of Transportation
NH ₃ -N	Ammonia-Nitrogen
NOI	Notice of Intent

ACRONYMS AND ABBREVIATIONS (Continued)

NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Units
TCE	Tetrachloroethylene
pH	measure of acidity
PSA	public service announcement
RCRA	Resource Conservation and Recovery Act
SARA	Superfund Amendments and Reauthorization Act
SDSU	South Dakota State University
SIC	Standard Industrial Classification
SNHBA	Southern Nevada Homebuilders Association
SNWA	Southern Nevada Water Authority
SNWS	Southern Nevada Water System
SOC	Semi-Volatile Organic Compound
SQMC	Stormwater Quality Management Committee
SSWG	Stormwater Stakeholders Working Group
<i>SWMP</i>	<i>Stormwater Management Plan</i>
TDS	Total Dissolved Solids
THM	Trihalomethane
TKN	Total Kjeldahl Nitrogen
TM	Technical Memorandum
TRI	Toxic Release Inventory
TSS	Total Suspended Solids
µg/L	micrograms per liter
UNLV	University of Nevada, Las Vegas
USACOE	United States Army Corps of Engineers
USGS	United States Geological Survey
VOC	Volatile Organic Compound

SECTION 1

Introduction



Section 1

Introduction

1.1 INTRODUCTION

The United States Environmental Protection Agency (EPA) has adopted regulations to control pollutants entering the environment through storm drainage facilities associated with the Las Vegas Valley Municipal Separate Storm Sewer System (MS4). In compliance with these regulations, the Nevada Division of Environmental Protection (NDEP) issued National Pollutant Discharge Elimination System (NPDES) Permit No. NV0021911 jointly to Clark County Regional Flood Control District (CCRFCFCD), the City of Las Vegas (CLV), the City of North Las Vegas (CNLV), the City of Henderson (COH), and Clark County (CC). This permit, which was issued on June 19, 2003, authorizes agencies to discharge from stormwater outfalls on Las Vegas Wash and its tributaries. (The original MS4 permit was issued in 1992, and included Nevada Department of Transportation (NDOT) as a permittee. NDOT has subsequently received its own MS4 permit from NDEP.) A copy of the current permit is found in **Appendix A**. The appendices are separately bound, and also contain other documents referenced throughout this report.

The permit designates CCRFCFCD as the Lead Agency for permit implementation, with CCRFCFCD and the other four agencies identified together as Co-Permittees. The Lead Agency is responsible for general administration of the permit conditions, preparation of reports, coordination between Co-Permittees, and liaison with NDEP. The consulting firm MWH Americas, Inc. (MWH), was contracted to assist CCRFCFCD and the Co-Permittees with preparation of information required to comply with the conditions of the permit.

The permit requires that the Co-Permittees develop a *Stormwater Management Plan (SWMP)* to describe specific activities, responsibilities, and measurable goals adopted to comply with the various permit provisions. On September 29, 2003, the Co-Permittees submitted the *SWMP* to NDEP. A copy of the original *SWMP* is found in **Appendix B**. The Co-Permittees updated the *SWMP* in the 2005-2006 permit year (see **Section 10**) at the request of the EPA through its audit of the MS4 permit program. The *SWMP* Update is provided in **Appendix B**. The Co-Permittees are in the process of making major revisions to their Post-Construction and Construction Programs; these revisions are discussed in **Sections 6 and 9**, respectively. After final program elements are determined, the *SWMP* will be updated accordingly.

This *Las Vegas Valley NPDES Municipal Stormwater Discharge Permit Annual Report 2007-2008 (Annual Report)* covers the period from July 1, 2007, through June 30, 2008. The *Annual Report* presents the information specifically required by the MS4 permit and as described in the *SWMP*, and is organized as follows:

- Section 1 - Introduction
- Section 2 - Legal Authority
- Section 3 - Source Identification
- Section 4 - Stormwater Monitoring Program
- Section 5 - Public Outreach and Education Program
- Section 6 - Structural and Source Control Measure Program
- Section 7 - Illicit Discharge Detection Program
- Section 8 - Industrial Facility Monitoring and Control Program
- Section 9 - Construction Site Program
- Section 10 - Stormwater Management Program

1.2 COORDINATION

As Lead Agency, the CCRFCD has organized the project, encouraged coordination among the various Co-Permittees, and provided funding for many of the permit compliance efforts. A Stormwater Quality Management Committee (SQMC), comprised of representatives from the County, the cities, and other interested parties, conducted monthly meetings, provided program guidance, reviewed draft material prepared in compliance with the permit, and coordinated the efforts of the Co-Permittees and outside agencies. In addition, the SQMC included other local agencies and public entities that have an interest in water quality issues, but are not directly involved with the NPDES permit. These agencies received copies of the monthly meeting minutes and were invited to attend all meetings. The list of Co-Permittees, other interested parties, and key contacts are presented in **Table 1-1**.

In January 2007, the SQMC adopted a more formal operating procedure to comply with Nevada's Open Meeting Law. Designated committee representatives and alternatives were assigned from each Co-Permittee to be official voting members. These representatives and alternates are shown in **Table 1-1**. Meeting agendas and minutes were made available to the public, and time was allowed in each meeting to take public comment.

In January 2008, a Stormwater Stakeholders Working Group (SSWG) was convened to provide public input to the SQMC in developing the Construction and Post-Construction Programs. Stakeholder support was considered necessary to develop locally implementable programs that are technically feasible and politically acceptable. The SSWG has met monthly, and includes representatives of the Co-Permittees, developers, local engineers, homeowners' groups, and vendors. Members are listed in **Table 1-2**.

Table 1-1

**Stormwater Quality Management Committee
Representatives and Regular Participants**

SQMC Representatives and Alternates	
Gale Fraser Clark County Regional Flood Control District Phone Number (702) 685-0000	Kevin Eubanks Clark County Regional Flood Control District Phone Number (702) 685-0000
Les Henley Clark County Department of Public Works Phone Number (702) 455-6065	Mark Silverstein Clark County Department of Air Quality and Environmental Management Phone Number (702) 455-4728
Curt Chandler City of Henderson Phone Number (702) 267-3020	Al Jankowiak City of Henderson Phone Number (702) 267-3024
Dan Fischer City of Las Vegas Phone Number (702) 229-2440	Cheng Shih City of Las Vegas Phone Number (702) 229-2338
Kirk Medina City of North Las Vegas Phone Number (702) 633-1275	Jennifer Doody City of North Las Vegas Phone Number (702) 633-1223
SQMC Co-Permittee Staff Members	
Betty Hollister Clark County Regional Flood Control District Phone Number (702) 685-0000	Kerri Anne Mukhopadhyay Clark County Regional Flood Control District Phone Number (702) 685-0000
Andrew Trelease Clark County Regional Flood Control District Phone Number (702) 685-0000	
Ebrahim Juma Clark County Department of Air Quality and Environmental Management Phone Number (702) 455-1649	Chuck Richter Clark County Department of Air Quality and Environmental Management Phone Number (702) 455-1624
Rob Mrowka Clark County Department of Air Quality and Environmental Management Phone Number (702) 455-3119	Gil Suckow Clark County Department of Public Works Phone Number (702) 455-7540
Randy Fultz City of Las Vegas Phone Number (702) 229-2176	John Solvie City of Las Vegas Phone Number (702) 229-6547
Rob Welch City of Las Vegas Phone Number (702) 229-2177	Tom Rura City of North Las Vegas Phone Number (702) 633-1261

Table 1-1 (Continued)

**Stormwater Quality Management Committee
Representatives and Regular Participants**

Other SQMC Attendees	
Jennifer Szejbka Conservation District of Southern Nevada (CDSN) Phone Number (702) 262-9047	Steve Ross Las Vegas Valley Water District Phone Number (702) 870-4194
Chip Paulson MWH Phone Number (303) 291-2132	Gabriela Estrada MWH Phone Number (702) 878-8010
Maria Jimenez MWH Phone Number (702) 878-8010	Gari Lindsey MWH Phone Number (702) 878-8010
Angie MacKinnon MWH Phone Number (702) 878-8010	Cliff Lawson Nevada Division of Environmental Protection Phone Number (775) 687-9435
Steve McGoff Nevada Division of Environmental Protection Phone Number (775) 687-9429	Peggy Roefer Southern Nevada Water Authority Phone Number (702) 822-3359
Roslyn Ryan Southern Nevada Water Authority Phone Number (702) 862-7431	Xiaoping Zhou Southern Nevada Water Authority Phone Number (702) 822-3302

Table 1-2

Stormwater Stakeholders Working Group Representatives

Stormwater Stakeholders Working Group Members	
Kevin Eubanks Clark County Regional Flood Control District	Terry Murphy Strategic Solutions, Facilitator
Mark Silverstein Clark County	Dan Fischer City of Las Vegas
Jennifer Doody City of North Las Vegas	Al Jankowiak City of Henderson
Peggy Roefer SNWA/Utilities	Ed Thurnbeck Engineering
Mark Failla Engineering and Vendors	Joe Pantuso Southern Nevada Homebuilders
Mark Jones Associated General Contractors	Pam Scott Homeowners
Stuart Hitchen Trade Associations	Pam Vilken Green Building Council

1.3 EPA PERMIT AUDIT

In September 2005, EPA conducted an audit of the Las Vegas Valley MS4 permit. The audit report, dated April 20, 2006, indicated positive attributes, program deficiencies, and potential permit violations. The Co-Permittees invested considerable effort in assessing their programs in light of the audit findings and preparing a formal response, which was submitted on August 22, 2006.

In March 2007, EPA responded to the Co-Permittees' proposed audit response in a letter identifying a number of program enhancements required to meet the minimum MS4 permit requirements. NDEP then coordinated with EPA and provided the Co-Permittees with a letter that clarified the required program enhancements. In June 2007, the Co-Permittees sent a letter to NDEP describing their proposed process for complying with NDEP's requirements. Status report letters were submitted to NDEP on January 8 and May 15, 2008. This correspondence is included in **Appendix C**.

Some of the program changes resulting from the audit and subsequent guidance from EPA and NDEP have been accomplished in the past three permit years. These are listed in **Table 1-3**. A number of activities are ongoing and will be accomplished in the 2008-2009 permit year. These are discussed in **Sections 6, 8, 9 and 10**

Table 1-3

**MS4 Program Changes Due to EPA Audit
Implemented in 2005-2006 through 2007-2008 Permit Years**

Co-Permittee	Program Element/Activity
General – All Co-Permittees	1. Submitted formal response to NDEP comments on <i>SWMP</i>
	2. Updated <i>SWMP</i>
	3. Improved construction site inspection programs and timeliness of response to problems found in construction site inspections
	4. Clarified responsibilities of Co-Permittees in <i>SWMP</i>
	5. Tracked supplemental industrial site inspections
	6. Prepared coordinated Spill Response Strategy
	7. Formed Development Guidelines Working Group, Construction Program Working Group (CPWG), and Detention Basin Working Group to provide technical assistance in developing specific program enhancement recommendations.
	8. Formed SSWG to provide stakeholder input on development of new stormwater management programs.
	9. Began developing program enhancements in the areas of local stormwater ordinances, construction site inspection/enforcement, and post-construction program.
	10. Improved local industrial site inspection programs and sediment removal from detention basins.

Table 1-3 (Continued)
MS4 Program Changes Due to EPA Audit
Implemented in 2005-2006 through 2007-2008 Permit Years

Co-Permittee	Program Element/Activity
General – All Co-Permittees (Continued)	11. Re-instituted drain inlet marking program in cooperation with Conservation District of Southern Nevada (CDSN) (CC, CLV, COH)
Clark County	1. Improved efficiency of handling stormwater issues and enforcing ordinances
	2. Clark County Water Reclamation District (CCWRD) conducting program to reduce exfiltration from sanitary sewer system
	3. Increased stormwater program awareness among County staff
	4. CCWRD conducted expanded number of industrial site inspections in Unincorporated CC.
	5. Developed rationale for selecting industrial sites for inspection.
	6. Clark County Department of Air Quality and Environmental Management (DAQEM) improved tracking of construction site inspections and made inspections more consistent with COH methods
City of Las Vegas	1. Submitted summary of industrial site inspections.
	2. Improved tracking of source control Best Management Practice (BMP) activities.
	3. Developed rationale for identifying industrial sites with potential to pollute
	4. Expanded number of individual site inspections
	5. Tracked grease trap inspections as industrial BMP
City of North Las Vegas	1. Submitted summary of industrial site inspections
	2. Improved coordination among city departments for spill response
	3. Improved tracking of source control BMP activities.
City of Henderson	1. Increased resources assigned to drain inlet maintenance
	2. Increased resources assigned to street sweeping.
	3. Engaged Fire Department inspectors in industrial program.
	4. Coordinated construction site inspection protocols with DAQEM

1.4 SUMMARY OF ANNUAL REPORT

This *Annual Report* was prepared to verify that the Co-Permittees have complied with the permit requirements and measurable goals identified in the *SWMP* for the 2007-2008 permit year.

Table 1-4 summarizes the Permit Year 5 (2007-2008) measurable goals and how they were satisfied.

Table 1-4

**Las Vegas Valley MS4 NPDES Permit
Stormwater Management Plan**

Status of Measurable Goals for Permit Year 5

Program Category		Measurable Goal / Milestone	Activities	Done
Legal Authority	1	Perform annual review of stormwater ordinances and update as necessary	Detailed review of local ordinances performed by each entity in Winter-Spring 2008	X
	2	Adopt ordinance to require erosion and sediment controls	Draft stormwater ordinances requiring erosion and sediment controls prepared by each entity	X
	3	Adopt ordinance to establish post-construction runoff controls	Draft stormwater ordinances requiring post-construction runoff controls developed by each entity	X
Stormwater System Map	1	None	Updated Stormwater System Map	X
Monitoring Program	1	Develop proposed monitoring plan for Year 5 of permit	See <i>Annual Report</i> , Section 4	X
	2	Implement Year 5 monitoring program (2 sites on Las Vegas Wash (LVW), 3 detention basins)	Five detention basin samples; six LVW samples	X
Public Outreach and Education	1	Attend three community events and distribute materials	Co-Permittees attended the Earthfaire in Summerlin Centre Community Park, National Night Out, Bark in the Park event, Concordia Homes Open House event, Acacia Demonstration Gardens Open House event, Spring in the Desert Event, Clark County Fair, Earth Day at UNLV, Project Green Earth Day 2008, Galleria Mall 2008 Earth Day Celebration, Helldorado Parade and World Oceans Day at the Mandalay Bay.	X
	2	Produce and broadcast Flood Channel Documentary with stormwater segment	New public service announcement (PSA) entitled "Don't Trash Clark County"	X
	3	Produce or update and broadcast a PSA	"Storm Drain Cowboy" PSA in November and December Anti-litter PSA in April and May	X
	4	Maintain Las Vegas Valley stormwater website	Added links to other resources Added training presentations Tracked website access and usage	X
	5	Make five presentations in public schools	Made 63 presentations	X
	6	Implement storm drain inlet marking program	Participating in drain inlet marking program through CDSN 319 Program grant; marker installation began in Spring 2008	X
	7	Track effectiveness of public outreach programs	Completed CCRFCD phone survey	X

Table 1-4 (Continued)

Las Vegas Valley MS4 NPDES Permit
Stormwater Management Plan

Status of Measurable Goals for Permit Year 5

Program Category	Measurable Goal / Milestone	Activities	Done	
Structural and Source Control Measures	1	Implement storm drain system cleaning program developed in Year 1, as amended	Ongoing activities - see Section 6 Met objectives	X
	2	Implement street sweeping program developed in Year 1, as amended	Ongoing activities – see Section 6 Met objectives	X
	3	Review effectiveness of data collection and management of maintenance activity tracking, and make improvements if warranted	Entities are continuously improving data management processes	X
	4	Conduct detention basin retrofit pilot program	Formed Detention Basin Working Group which studied potential retrofit concepts; determined not worth pursuing at this time	X
	5	Develop and implement post-storm construction program as required by NDEP	Identified program objectives, pollutants of concern, and existing BMPs; post-construction program is currently under development; received time extension from NDEP	X
Illicit Discharge Detection and Elimination Program	1	Conduct dry weather monitoring per Section 4	SNWA responsibility until further notice; data received in February and June	X
	2	Conduct semi-annual field inspections of open channels	Fall and Spring Wash Walks completed	X
	3	Review local Spill Response Strategy to identify and implement improvement	No changes for current permit year	X
	4	Complete all municipal maintenance staff training, and conduct regular refresher training courses	Formal training conducted by COH and CLV	X

Table 1-4 (Continued)

Las Vegas Valley MS4 NPDES Permit
Stormwater Management Plan

Status of Measurable Goals for Permit Year 5

Program Category	Measurable Goal / Milestone	Activities	Done	
Industrial Facility Monitoring and Control Program	1	Update industrial facility map	Completed	X
	2	Continue program for conducting industrial site inspections and tracking inspection reports and follow-up activities, as well as enforcement ordinances	Ongoing by CLV, CNLV, COH and CCWRD	X
	3	Determine industrial sites that are or may be contributing a substantial pollutant load to the MS4	Reviews completed by CLV, CNLV, COH, and CC	X
	4	Review and, as necessary, refine tracking and data management programs	Ongoing	X
	5	Conduct industrial inspector training program as needed	COH added Fire Department inspectors to program; provided stormwater training for them	X
	6	Use monthly SQMC meeting to coordinate with NDEP on State industrial permit program	Ongoing	X
Construction Site BMP Program	1	Conduct semi-annual inspections and post-storm inspections	Post-storm inspection program was terminated with consent of NDEP	X
	2	Conduct and track construction site inspections	Routine inspections conducted by DAQEM and COH	X
	3	Develop and implement construction site program improvements as required by NDEP	SSWG has developed draft program guidance and ordinances; program will be completed in 2008-09 permit year	X
	4	If necessary, modify standard BMP designs for local conditions	Selected appropriate BMPs for local conditions; Construction Site BMP Manual is in preparation	X
	5	Conduct one contractor training seminar	Conducted eight training seminars on November 28-29 and May 27-29.	X
	6	Provide ongoing training for local construction site inspectors	Trained new inspectors as needed; provided information training for inspection program changes	X
	7	Review and improve tracking and record-keeping practices	DAQEM and COH improved processes for data management and follow-up for enforcement	X
	8	Use monthly SQMC meeting to coordinate with NDEP on State construction permit program	Ongoing	X

SECTION 2

Legal Authority



Section 2

Legal Authority

2.1 INTRODUCTION

The purpose of this section is to provide an update on the status of the legal authority of the MS4 Co-Permittees to carry out the activities required by the MS4 permit. This section summarizes the legal authority of each Co-Permittee to implement the various aspects of the *SWMP* and other requirements of the permit including:

- Prohibit illicit discharges to the municipal separate storm drain system.
- Control spills, dumping or disposal of materials other than stormwater to the storm drain.
- Require compliance with conditions in ordinances related to stormwater discharges.
- Carry out inspection and monitoring procedures necessary to determine compliance with the prohibition on illicit discharges to storm sewer system.

This section addresses the MS4 permit requirements in Paragraph 4.2 and the *SWMP* requirements in Section 2.2.

2.2 ORDINANCES AND REGULATIONS

Copies of the current ordinances and regulations for each agency are included in **Appendix D**. No additions were required to local ordinances during the 2007-2008 permit year. The Co-Permittees' ordinances pertaining to the MS4 are as follows:

- Chapter 24.40 of the Clark County Code: Water, Sewage, and Other Utilities. Sections 24.40.020, 24.40.030, and 24.40.040 pertain to the stormwater system.
- Chapter 13.16 of the City of Henderson Municipal Code: Regulation of industrial wastewater and pretreatment program. Section 13.16.020 (A) pertains to wastewater regulations and limitation. Section (B) pertains to prohibitions on storm drainage, groundwater, and unpolluted water.
- Chapter 14.17 of the City of Las Vegas Municipal Code: Wastewater Collection and Treatment. Sections 14.17.120 (D) and (E) and Sections 14.17.025 (66) and (67) pertain to the stormwater system.

- Chapter 13.28 of the City of North Las Vegas Municipal Code: Wastewater Collection and Treatment. Sections 13.28.025, 13.28.120 (D) and (E) pertain to the stormwater system discharges.

2.3 COMPLIANCE

Each entity requires compliance with its stormwater ordinances and regulations, as it does with all its ordinances. The public and business communities are made aware of local stormwater regulations through a variety of outreach measures, including the MS4 public outreach and education activities described in **Section 5** of this *Annual Report*. The Municipal Code of each entity describes enforcement measures (fines and other penalties) that could be used against violators of stormwater ordinances and regulations. Law enforcement officers, code enforcement officers, pretreatment officials for CLV and CNLV, and Clark County Public Response Office (CCPRO) staff have the authority to enforce stormwater ordinances and regulations. The Southern Nevada Health District (SNHD) enforces ordinances prohibiting dumping of solid waste and sewage to the Las Vegas Valley MS4. Members of the SQMC work together to coordinate and ensure cross-jurisdictional cooperation.

2.4 INSPECTION AND MONITORING PROCEDURES

Inspection and monitoring procedures used by the entities to track compliance with stormwater ordinances prohibiting illegal dumping and discharges to the MS4 are presented in **Section 7** of this report. Inspection and monitoring procedures used to track compliance with stormwater ordinances related to industrial sites and construction activities are presented in **Section 8** and **Section 9** of this report, respectively.

2.5 ADDITIONAL REQUIRED LEGAL AUTHORITY

The existing ordinances were considered to be adequate for the needs of the program as understood upon the issuance of the permit in 2003, so no new ordinances or regulations were adopted by any of the Co-Permittees. The COH revised its ordinances relating to NPDES activities. Revision of these ordinances included having them rewritten to be similar to the language used by the CLV and the CNLV based on comments from the EPA audit. The revised ordinances are now in both the Title 14 Utility Services and Title 19 Development Code. The ordinance is located in Chapter 14.09.040 – Wastewater Discharge Regulation, Section D and in Chapter 19.9.13 – Streets, Section H – Drainage, Subsection 1b. Copies of the pertinent sections are included in **Appendix D**.

Direction received from EPA and NDEP in Spring 2007 to upgrade existing construction and post-construction programs includes a requirement for new or improved ordinances governing erosion control at construction sites and management of runoff from areas of new development and significant redevelopment. Co-Permittees have formed working groups to draft these required ordinances and develop details of the enhanced programs in the

2007-2008 permit year. Reports were provided to NDEP on January 8 and May 15, 2008, to describe proposed program enhancements, including any new ordinances or regulations, and provide a schedule for adoption.

2.6 CONCLUSION

The existing legal authority is adequate to prohibit illegal discharges to the stormwater system, control spills, require compliance, and determine compliance. Adequate penalties (including imprisonment, fines or both) are in place for violation of ordinances. New or modified ordinances will be developed in the 2008-2009 permit year in compliance with recent direction received from EPA and NDEP.

SECTION 3

Source Identification



Section 3

Source Identification

3.1 INTRODUCTION

This section summarizes the activities conducted for the source identification program, described in Section 3.2 of the *SWMP*, to satisfy the MS4 permit requirement described in paragraph 4.3.1. The goal was to develop a current stormwater system map for the Las Vegas Valley. The stormwater system map was generated to assist Co-Permittees, regulatory agencies, and others in determining where potential stormwater quality problems may exist or originate. The map is based on existing computerized inventory information from CCRFCD, which outlines the existing drainage and flood control system.

3.2 STORMWATER SYSTEM MAP

In Year 1 of the *SWMP*, a map of the existing regional storm drain system was prepared to document locations and contributing areas of major outfalls to receiving waters in the Las Vegas Valley. The map was prepared using information in the CCRFCD GIS system that was developed for the *Las Vegas Valley Master Plan Update (2002)*. Although no update to this map was required as a measurable goal for Year 5 of the permit, the overall Stormwater System Map has been updated this year to assure that it is current in light of the considerable growth that continues to occur in Las Vegas Valley. Locations of regional detention basins, channels, storm drains, and the washes in the Las Vegas Valley are shown in **Figure 3-1**. **Figures 3-2** through **3-5** are the sectional areas of the Las Vegas Valley (Northwest, Northeast, Southwest, and Southeast, respectively) as indicated in **Figure 3-1**.

The COH is in the process of creating a GIS database of the public storm drain system in its jurisdiction. This could assist in tracking the source of illicit discharges discovered during field observations, and managing maintenance activities.

Northwest
See Figure 3-2

Northeast
See Figure 3-3

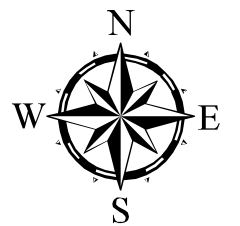
LAS VEGAS VALLEY STORMWATER SYSTEM MAP

Legend

- Washes
- Completed Pipe
- Pipe Under Construction
- Completed Channel
- Channel Under Construction

Detention Basins

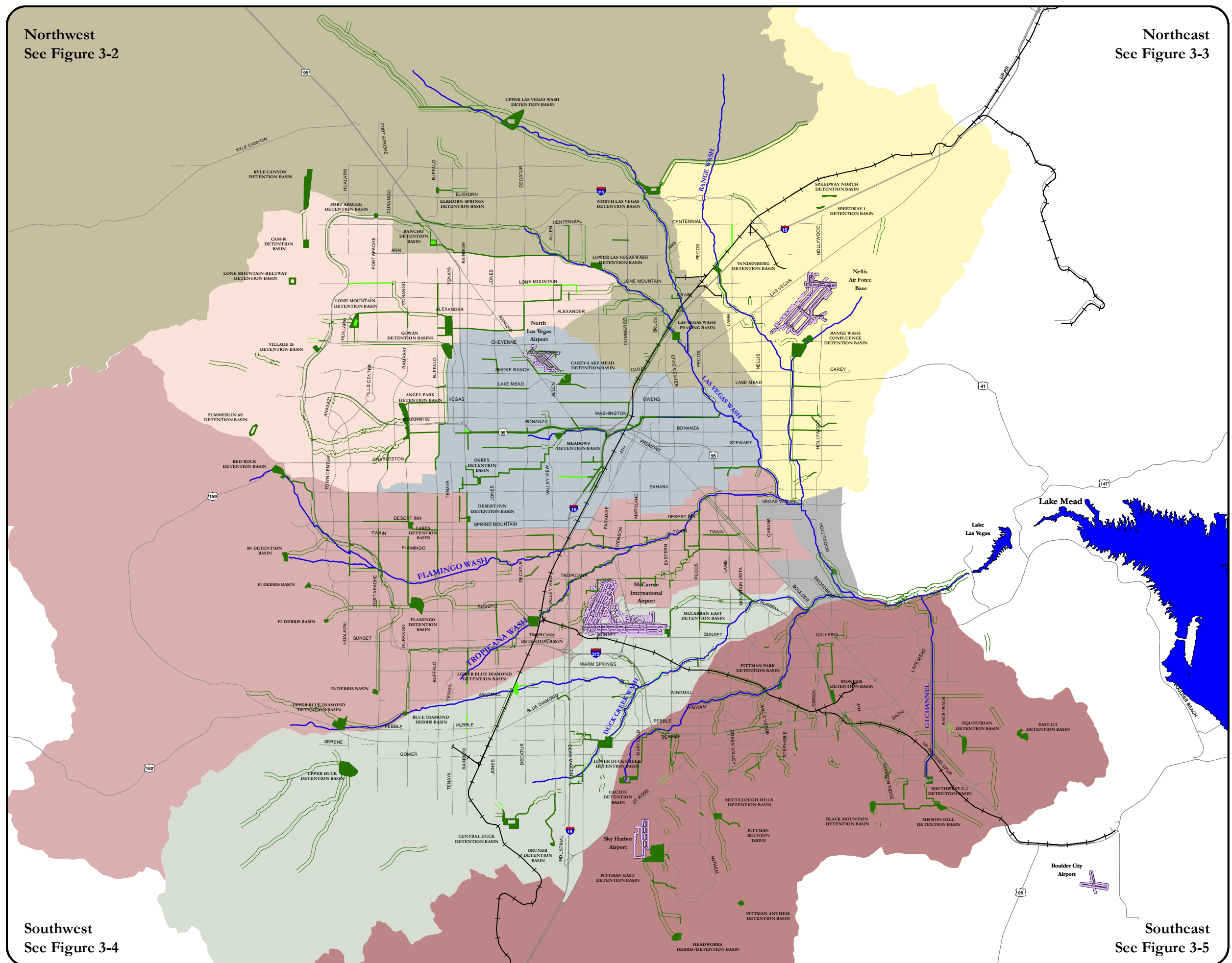
- Complete
- Under Construction
- ✈ Airports
- Railroads
- Streets
- Range Wash Watershed
- Pittman / C-1 Watershed
- North Basin Watershed
- Lower Las Vegas Wash Watershed
- Gowan Watershed
- Flamingo / Tropicana Watershed
- Duck Creek Watershed
- Central Watershed



0 1 2 4 6 Miles

OVERALL

Figure 3-1



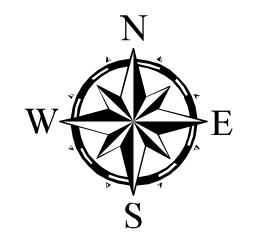
Southwest
See Figure 3-4

Southeast
See Figure 3-5

LAS VEGAS VALLEY STORMWATER SYSTEM MAP

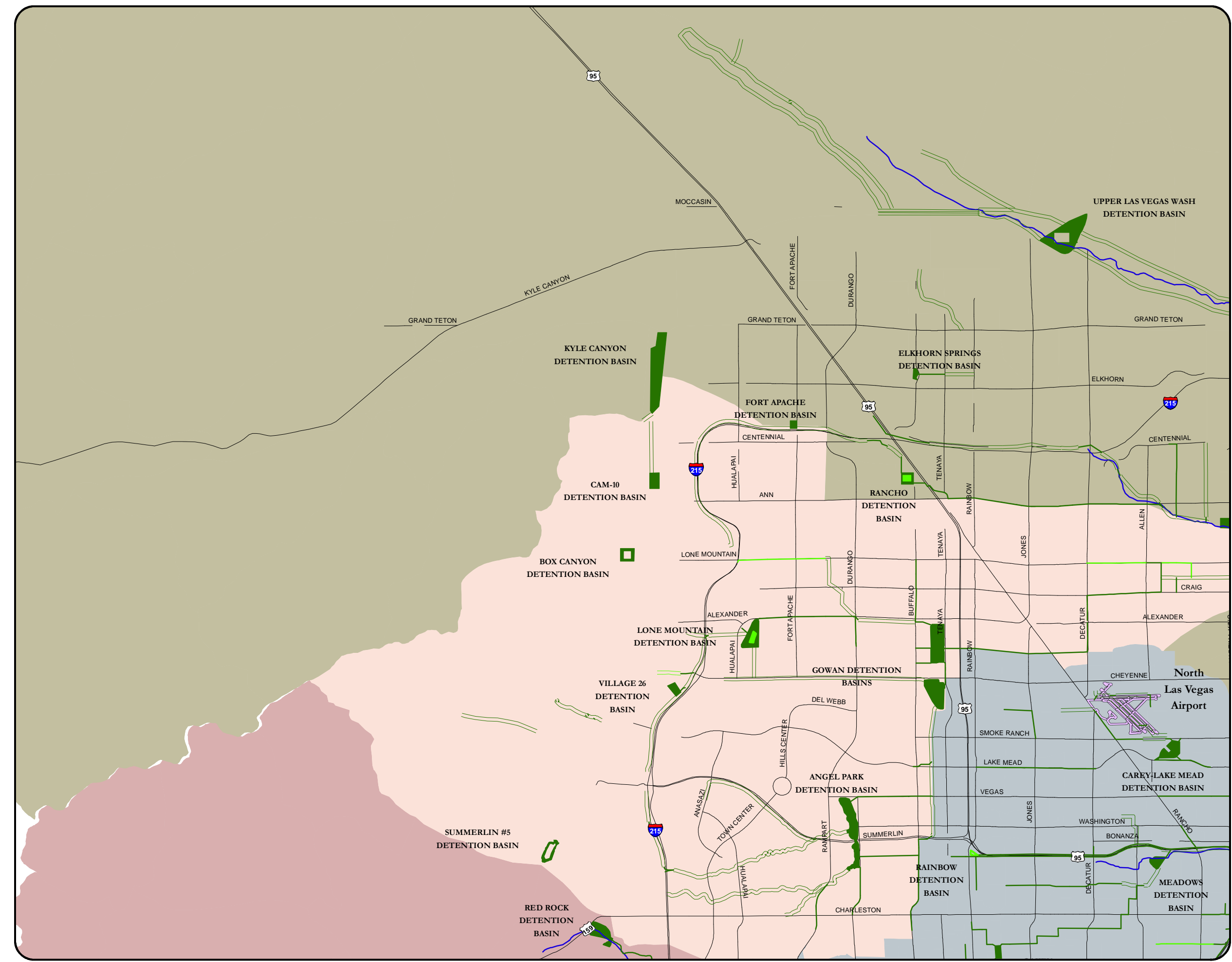
Legend

- Washes
- Conveyance Facilities**
 - Completed Pipe
 - Pipe Under Construction
 - Completed Channel
 - Channel Under Construction
- Detention Basins**
 - Complete
 - Under Construction
 - Airports
 - Railroads
 - Streets
 - Range Wash Watershed
 - Pittman / C-1 Watershed
 - North Basin Watershed
 - Lower Las Vegas Wash Watershed
 - Gowan Watershed
 - Flamingo / Tropicana Watershed
 - Duck Creek Watershed
 - Central Watershed



NORTHWEST AREA

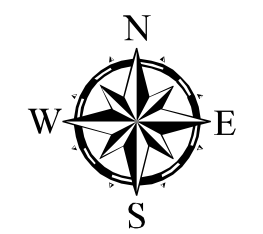
Figure 3-2



LAS VEGAS VALLEY STORMWATER SYSTEM MAP

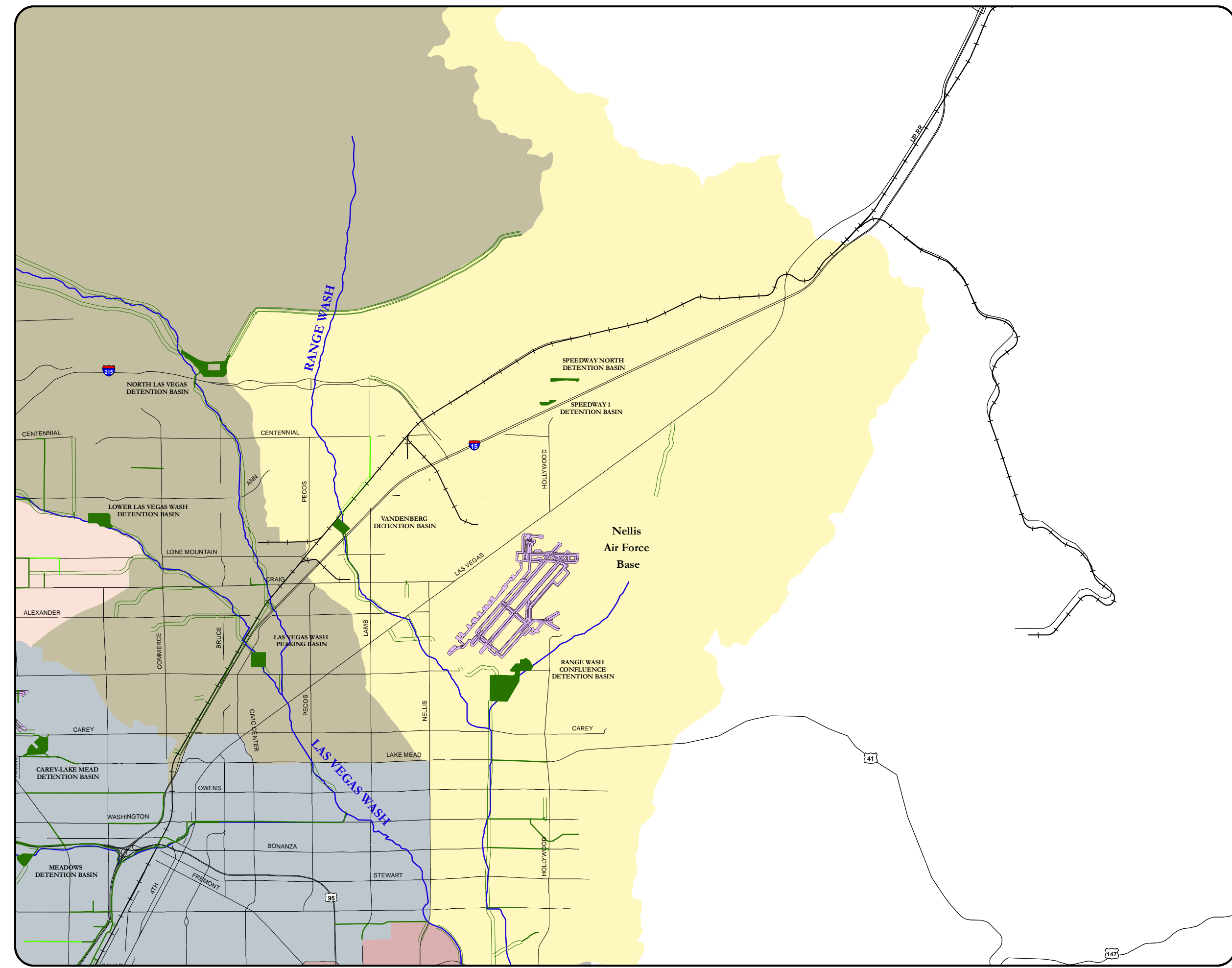
Legend

- Washes
- Conveyance Facilities**
 - Completed Pipe
 - Pipe Under Construction
 - Completed Channel
 - Channel Under Construction
- Detention Basins**
 - Complete
 - Under Construction
- Airports
- +— Railroads
- Streets
- Range Wash Watershed
- Pittman / C-1 Watershed
- North Basin Watershed
- Lower Las Vegas Wash Watershed
- Gowan Watershed
- Flamingo / Tropicana Watershed
- Duck Creek Watershed
- Central Watershed



NORTHEAST AREA

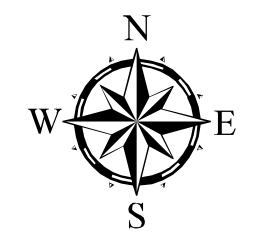
Figure 3-3



LAS VEGAS VALLEY STORMWATER SYSTEM MAP

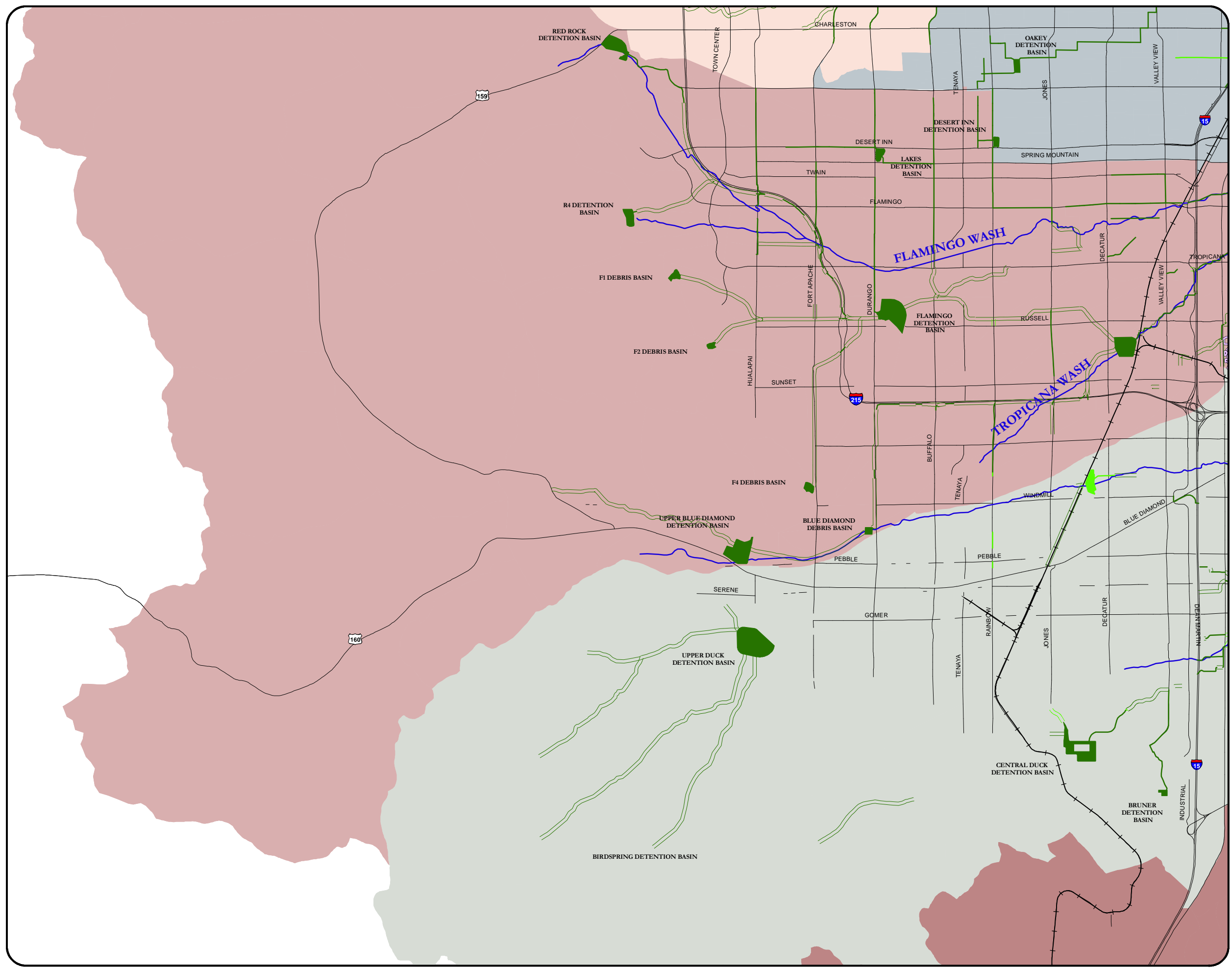
Legend

- Washes
- Conveyance Facilities**
 - Completed Pipe
 - Pipe Under Construction
 - Completed Channel
 - Channel Under Construction
- Detention Basins**
 - Complete
 - Under Construction
- Airports
- Railroads
- Streets
- Range Wash Watershed
- Pittman / C-1 Watershed
- North Basin Watershed
- Lower Las Vegas Wash Watershed
- Gowan Watershed
- Flamingo / Tropicana Watershed
- Duck Creek Watershed
- Central Watershed



SOUTHWEST AREA

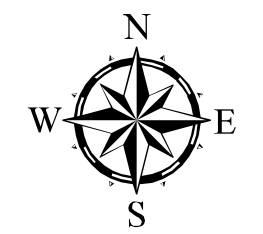
Figure 3-4



LAS VEGAS VALLEY STORMWATER SYSTEM MAP

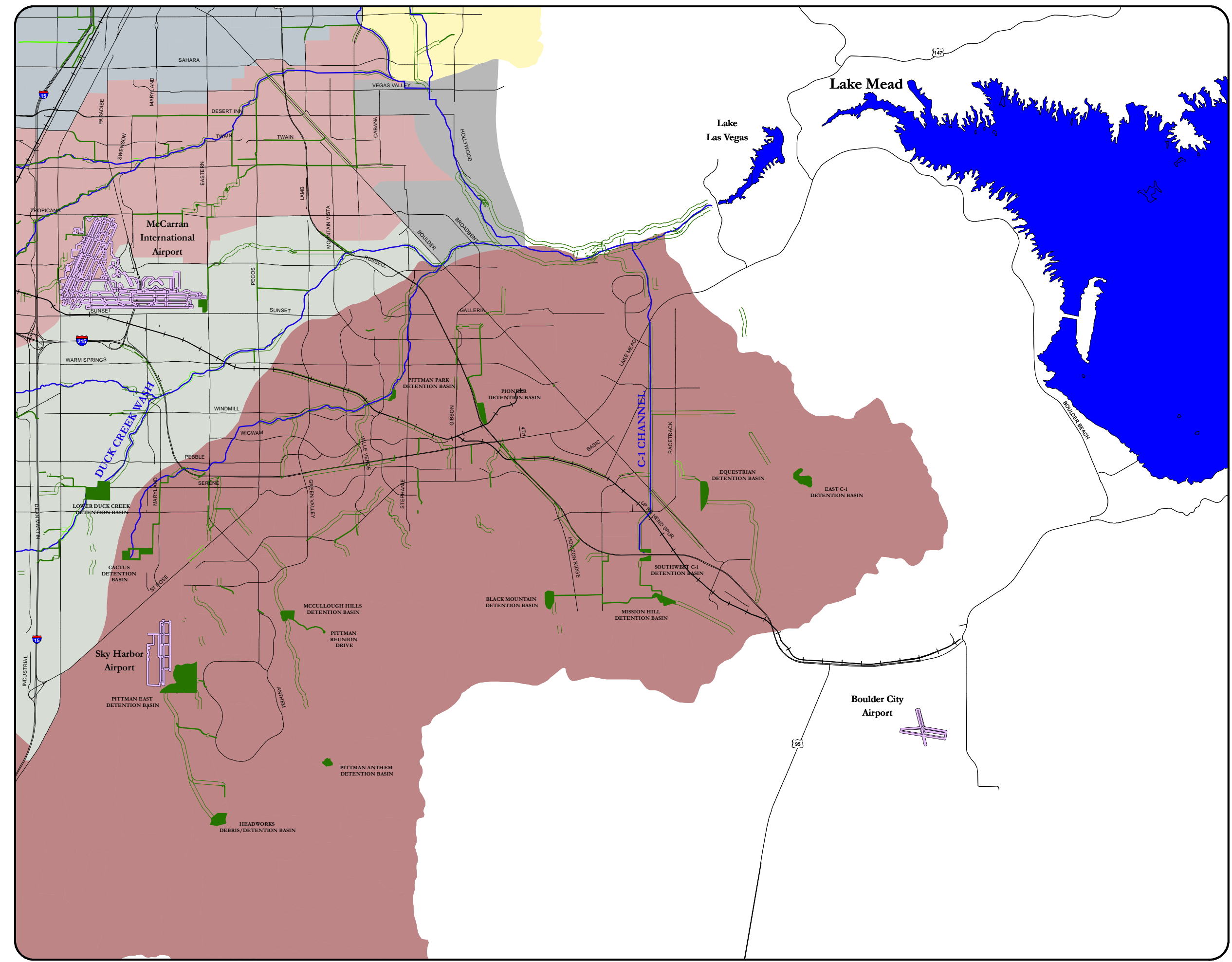
Legend

- Washes
- Conveyance Facilities**
- Completed Pipe
- Pipe Under Construction
- Completed Channel
- Channel Under Construction
- Detention Basins**
- Complete
- Under Construction
- Airports
- Railroads
- Streets
- Range Wash Watershed
- Pittman / C-1 Watershed
- North Basin Watershed
- Lower Las Vegas Wash Watershed
- Gowan Watershed
- Flamingo / Tropicana Watershed
- Duck Creek Watershed
- Central Watershed



SOUTHEAST AREA

Figure 3-5



SECTION 4

Stormwater Monitoring Program



Section 4

Stormwater Monitoring Program

4.1 INTRODUCTION

Section 4 of the *SWMP* and paragraphs 4.4 and 5.1.1 of the MS4 permit describe the requirements of a stormwater monitoring program. This section presents the findings of that program as required for Year 5 of the MS4 program.

This section discusses the findings of the Dry Weather Monitoring Program, Wet Weather Monitoring Program, Detention Basin Monitoring Program, and the stormwater monitoring plan for next year.

4.2 2007-2008 DRY WEATHER MONITORING PROGRAM

4.2.1 Introduction

The dry weather sampling program for the MS4 permit has two primary objectives:

1. To target potential illegal or illicit discharges to the municipal storm sewer system (e.g., from industrial activity).
2. To develop a baseline of dry weather surface water quality data against which future changes can be measured and which can be used to compute urban pollutant loading to receiving waters.

The Southern Nevada Water Authority (SNWA) conducted dry weather sampling for the NPDES stormwater discharge permit for the 2007-2008 permit year.

This subsection summarizes the results of the 2007-2008 dry weather sampling and the analysis of the data collected. The current program is evaluated to determine if changing conditions or opportunities to coordinate with other monitoring programs are warranted for the following year.

4.2.2 Comprehensive Sampling

The comprehensive sampling program was designed to gather a wide range of dry weather water quality characterization data for each major outfall, and to build upon the water quality database started in 1991. SNWA conducted the dry weather monitoring, analysis, and data tabulation under a cooperative agreement with CCRFCD.

4.2.2.1 Sampling Procedures

The dry weather monitoring program followed the same protocols used by SNWA in previous years, and consisted of quarterly sampling at the following locations:

- Meadows Detention Basin – LVC_2
- Flamingo Wash at Nellis Boulevard – FW_0
- Sloan Channel at Charleston Boulevard – SC_1
- Monson Channel at Stephanie Street – MC_2
- Duck Creek at Broadbent – DC_1
- Las Vegas Wash at Desert Rose Golf Course – LW12.1
- Burns Street Channel – BS_1

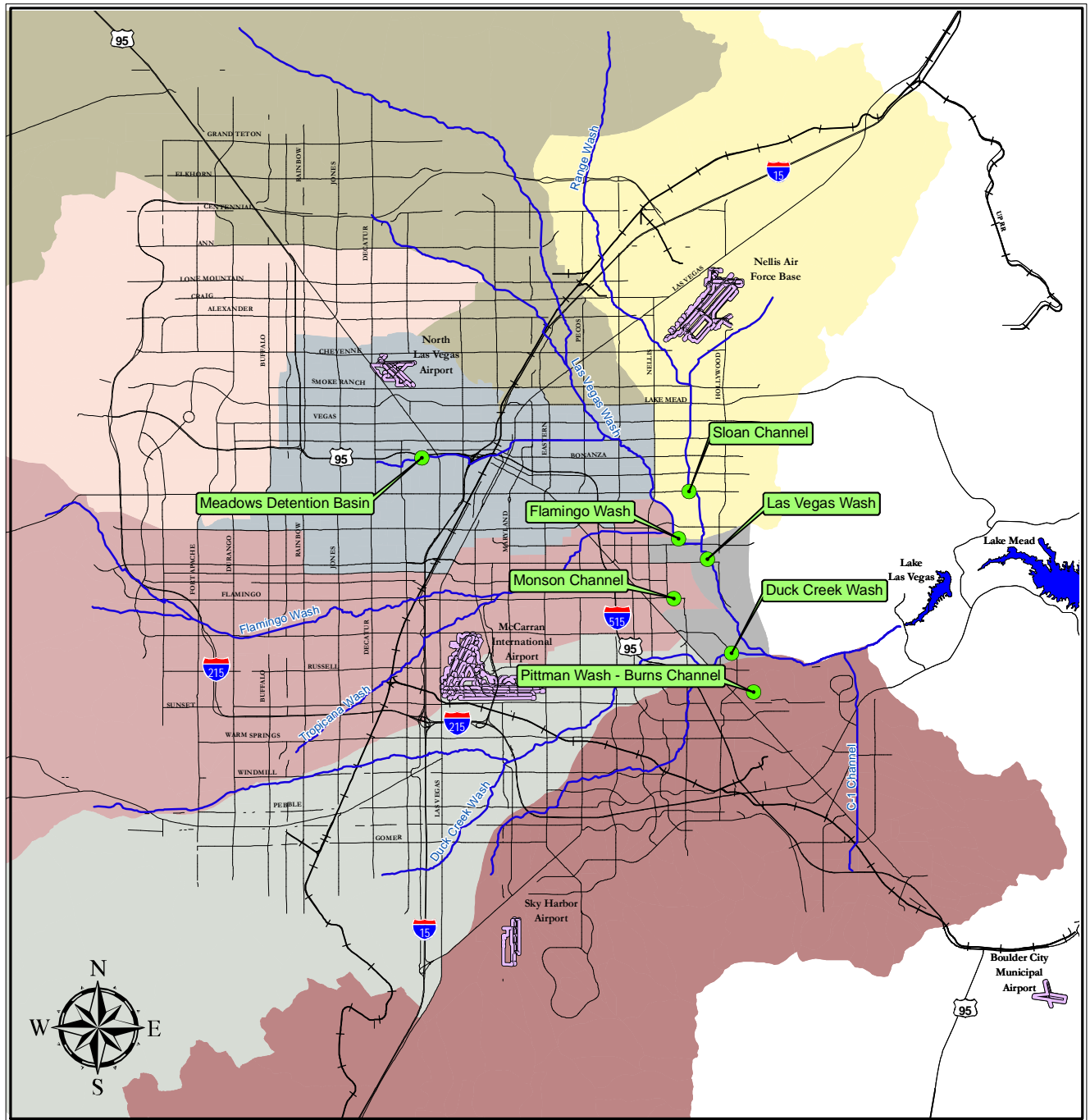
Quarterly samples are collected each year in January, April, July, and October. Single grab samples were collected at each monitoring site, see **Figure 4-1**. Major ions, trace metals, and organic compound analyses were performed by MWH Laboratories; phosphorus and other nutrient analyses were performed by Southern Nevada Water System (SNWS); and selenium analyses were performed by South Dakota State University (SDSU) Laboratories.

SNWA prepares an annual report, which includes the results from the dry weather monitoring program. The data and results from that report are summarized in the following section. This section satisfies the requirements for dry weather flow water quality characterization in the NPDES stormwater discharge permit Section 5.1.

4.2.3 Results

Results of the 2007-2008 comprehensive dry weather sampling program are summarized below. The tables show the analytical results of the individual grab samples at all of the sites in the July 2007, October 2007, January 2008, and April 2008 grab samples. A comprehensive database of all dry weather sampling data collected in the period of 1991-2008 is located in **Appendix E**.

The dry weather concentrations for all NPDES program samples and sample sites were compared to medians for SNWA samples in 2007-2008, see **Table 4-1**.



Legend

- Dry Weather Sampling Point
- Washes
- Streets
- Airports
- Railroads
- Central Watershed
- Duck Creek Watershed
- Flamingo / Tropicana Watershed
- Gowan Watershed
- Lower Las Vegas Wash Watershed
- North Basin Watershed
- Pittman / C-1 Watershed
- Range Wash Watershed

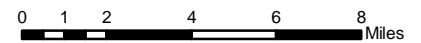


Figure 4-1

**DRY WEATHER
MONITORING SITES**

Table 4-1

**Comparison of Period-of-Record
Dry Weather Concentrations for all NPDES Samples
to 2007-2008 Medians and Ranges for SNWA Sites 2007-2008**

Constituent	NPDES Median (1991-2008)	SNWA Median of 2007-2008 Data	Range of 2007-2008 Data
TDS	3,140 mg/L	3,300 mg/L	500 – 5,400 mg/L
Zinc	0.00002 µg/L	<5.0 µg/L	<5.0 – 140.0 µg/L
Lead	<1.0 µg/L	<0.20 µg/L	<0.02 – 0.9 µg/L
Copper	<10 µg/L	2.0 µg/L	<1.0 – 53.0 µg/L
Nitrite	< 0.08 mg/L	<0.10 mg/L	<0.10 – 0.67 mg/L
Nitrate	4.20 mg/L	4.97 mg/L	0.58 – 7.68 mg/L
Orthophosphate	0.016 mg/L	0.008 mg/L	0.002 – 0.016 mg/L
Total Phosphate	0.030 mg/L	0.016 mg/L	<0.01 – 0.065 mg/L
Conductance	3.72 mmhos	4.05 mmhos	1.80 – 5.98 mmhos
Temperature	20.32 Deg C	17.1 Deg C	4.0 – 32.4 Deg C
pH	8.2	8.3	7.5 – 8.8
NH3-N	<0.08 mg/L	<0.10 mg/L	<0.10 -0.29 mg/L
Chromium	2.0 µg/L	0.9 µg/L	0.4 – 24.0 µg/L
Nickel	0.009 mg/L	0.001 mg/L	<0.0008– 0.0079 mg/L
Selenium	0.011 mg/L	0.013 mg/L	0.0028 – 0.026 mg/L
Arsenic	<0.009 mg/L	0.015 mg/L	0.0016 – 0.069 mg/L
Turbidity	NA	1.10 NTU	0.20 – 5.29 NTU
Fecal Coliform	665 MPN/100mL	880 MPN/100mL	<50 – 29,800 MPN/100mL

Total Dissolved Solids

For the Total Dissolved Solids (TDS) concentrations for 2007-2008, see **Table 4-2**. TDS values varied from 500 mg/L to 5,400 mg/L. Duck Creek at Broadbent and Burns Street Channel provided the highest TDS concentrations. The 2007-2008 median TDS value was 3,300 mg/L, which is lower than the median value of 3,500 mg/L for 2006-2007. The overall 1991-2008 median value is 3,140 mg/L.

Nutrients

For nutrient concentrations for 2007-2008, see **Table 4-3**. The Meadows Detention Basin had the highest median total phosphate value for 2007-2008 (0.032 mg/L). This is lower than the median value of 0.056 mg/L recorded in 2006-2007. The highest median orthophosphate value was recorded at Burns Street Channel with a value of 0.012 mg/L. Last year, the highest median total phosphate and orthophosphate values were recorded at the Meadows Detention Basin and Las Vegas Wash at Desert Rose (0.056 mg/L and 0.020 mg/L respectively). In the past, 2005-2006, Kerr-McGee Seeps recorded the highest median total phosphate and orthophosphate concentrations (1.19 mg/L and 0.280 mg/L, respectively).

Table 4-2

Quarterly Major Ion Chemistry of Water Samples From Tributary Locations

Location	ID	Date	Calcium (mg/L)	Magnesium (mg/L)	Sodium (mg/L)	Potassium (mg/L)	Bicarbonate as HCO ₃ (mg/L)	Carbonate CaCO ₃ (mg/L)	Sulfate (mg/L)	Chloride (mg/L)	Bromide (mg/L)	Fluoride (mg/L)	Silica (mg/L)	Total Dissolved Solids (mg/L)	TOC (mg/L)
Meadows Detention Basin	LVC_2	7/18/07	93	80	150	16	200	<2.0	510	170	0.21	0.49	20	1100	5.8
		10/27/07	86	43	110	8.2	180	<2.0	330	120	0.04	0.66	10	900	3.1
		1/22/08	150	150	250	24	340	13.0	830	260	0.35	0.32	13	2000	3.3
		4/23/08	140	130	220	21	390	22.0	790	280	0.30	0.38	27	1700	6.8
	2007-2008 Median		117	105	185	19	270	7.5	650	215	0.26	0.44	17	1400	4.6
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	210	220	300	53	230	<2.0	1700	290	0.58	0.73	26	2300	5.4
		10/27/07	230	280	330	67	240	<2.0	1900	300	0.70	0.42	40	4000	5.2
		1/22/08	240	320	360	61	290	<2.0	2000	300	0.73	0.46	43	3300	2.6
		4/23/08	240	340	340	60	270	22.0	1600	360	0.73	0.58	41	3400	3.7
	2007-2008 Median		235	300	335	59	255	<2.0	1800	300	0.72	0.52	41	3350	4.5
Flamingo Wash at Nellis Boulevard	FW_0	7/18/07	310	180	260	27	240	<2.0	1600	350	0.64	0.75	32	2500	3.6
		10/27/07	3	180	270	29	230	<2.0	1500	320	0.53	0.46	31	3000	3.8
		1/22/08	310	200	270	27	230	<2.0	1500	300	0.50	0.51	26	2800	2.3
		4/23/08	310	210	270	25	240	<2.0	2000	350	0.62	0.58	23	2900	13
	2007-2008 Median		310	190	270	27	235	<2.0	1550	335	0.58	0.55	29	2850	3.7
Sloan Channel at Charleston Boulevard	SC_1	7/18/07	150	210	310	17	190	<2.0	1300	380	1.4	1.2	65	2200	4.5
		10/27/07	190	290	440	27	270	<2.0	1700	410	1.5	0.7	34	3900	12.0
		1/22/08	130	210	290	16	180	25.0	1100	310	5.0	1.1	71	2300	1.7
		4/23/08	140	220	300	15	200	31.0	1200	360	1.2	1.0	77	2300	2.5
	2007-2008 Median		145	215	305	17	195	14	1250	370	1.5	1.1	68	2300	3.5
Monson Channel at Stephanie Street	MC_2	7/18/07	400	280	380	33	210	<2.0	2500	400	1.0	0.67	48	3200	2.9
		10/27/07	390	290	390	36	180	2.1	2400	370	1.0	0.44	50	4800	2.0
		1/22/08	410	340	400	34	220	<2.0	2400	380	1.0	0.56	43	3900	2.7
		4/23/08	430	360	390	29	150	35.0	2600	430	0.9	0.54	42	4300	2.7
	2007-2008 Median		405	315	390	34	195	<2.0	2450	390	1.0	0.55	46	4100	2.7
Duck Creek at Broadbent	DC_1	7/18/07	440	250	500	67	160	130.0	2500	780	1.0	1.5	52	3900	3.5
		10/27/07	480	310	570	72	230	<2.0	2600	730	1.0	1.2	71	5400	2.2
		1/22/08	430	270	490	58	190	<2.0	2300	680	1.0	1.1	45	4400	1.9
		4/23/08	530	390	590	75	260	<2.0	3000	850	0.9	1.8	85	5200	1.6
	2007-2008 Median		460	290	535	70	210	<2.0	2550	755	1.0	1.4	62	4800	2.1
Burns Street Channel	BS_1	7/18/07	420	190	480	42	170	<2.0	1900	850	1.1	1.3	59	3300	1.5
		10/27/07	410	190	550	45	110	5.3	1900	900	1.5	0.96	63	4900	1.9
		1/22/08	410	210	570	42	140	<2.0	1900	890	1.4	1.0	59	4300	1.4
		4/23/08	450	240	540	37	150	<2.0	2000	960	1.4	1.2	70	4200	1.7
	2007-2008 Median		415	200	545	42	145	<2.0	1900	895	1.4	1.1	61	4250	1.6
Overall 2007-2008 Median		310	220	350	34	215	<2.0	1900	365	1.0	0.69	43	3300	2.8	

Table 4-3

Nutrient Concentrations of Water Samples From Tributary Locations

Location	ID	Sample Date	Ammonia mg N/L	Nitrite mg N/L	Nitrate mg N/L	Nitrate-Nitrite mg N/L	Total Kjeldahl Nitrogen (TKN) mg N/L	Orthophosphate mg P/L	Total Phosphate mg P/L			
Meadows Detention Basin	LVC_2	7/18/07	0.13	<	0.10	0.58	0.58	1.30	0.007	0.038		
		10/24/07	<	0.10	<	0.10	1.17	1.20	0.36	0.063	0.065	
		1/22/08	0.29	<	0.10	4.52	4.60	<0.10	0.003	<	0.010	
		4/23/08	<	0.10	0.14	1.87	2.00	0.87	0.002	0.025		
2007-2008 Median			0.12	<	0.10	1.52	1.60	0.62	0.005	0.032		
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	0.12	<	0.19	1.72	1.90	0.56	0.005	0.024		
		10/24/07	0.11	<	0.10	4.74	4.80	0.39	0.005	0.021		
		1/22/08	0.28	<	0.10	4.74	4.70	<0.10	0.009	0.012		
		4/23/08	<	0.10	<	0.10	3.16	3.10	0.42	0.005	<	0.010
2007-2008 Median			0.12	<	0.10	3.95	3.90	0.41	0.005	0.017		
Flamingo Wash at Nellis Boulevard	FW_0	7/18/07	0.13	<	0.10	4.29	4.40	<0.10	0.016	0.017		
		10/24/07	<	0.10	<	0.10	6.32	6.30	<0.20	0.007	0.019	
		1/22/08	0.12	<	0.10	4.74	4.80	<0.10	0.003	0.011		
		4/23/08	<	0.10	<	0.10	4.07	4.00	0.73	0.005	<	0.010
2007-2008 Median			0.11	<	0.10	4.52	4.60	<0.60	0.006	0.014		
Sloan Channel at Charleston Boulevard	SC_1	7/18/07	0.100	<	0.10	5.19	5.20	0.26	0.015	0.016		
		10/24/07	0.240		0.67	8.35	9.10	1.50	0.013	0.053		
		1/22/08	0.110	<	0.10	5.42	5.40	<0.10	0.007	0.011		
		4/23/08	<	0.100	<	0.10	5.64	5.70	<0.10	0.009	0.012	
2007-2008 Median			0.105	<	0.10	5.53	5.55	0.18	0.011	0.014		
Monson Channel at Stephanie Street	MC_2	7/18/07	0.16		0.11	3.84	3.90	0.14	0.015	0.018		
		10/24/07	<	0.10	<	0.10	5.65	5.70	0.25	0.014	0.017	
		1/22/08	0.14		0.14	3.84	3.90	<0.10	0.004	0.012		
		4/23/08	<	0.10	<	0.10	4.06	4.10	0.34	0.006	0.014	
2007-2008 Median			0.12		0.11	3.95	4.00	0.20	0.010	0.016		
Duck Creek at Broadbent	DC_1	7/18/07	<	0.10	<	0.10	6.77	6.80	0.40	0.012	0.015	
		10/24/07	<	0.10	<	0.10	6.77	6.70	0.47	0.014	0.014	
		1/22/08	<	0.10	<	0.10	6.77	6.70	<0.10	0.006	<	0.010
		4/23/08	<	0.10	<	0.10	7.00	6.10	<0.10	0.009	0.012	
2007-2008 Median			<	0.10	<	0.10	6.77	6.70	0.25	0.011	0.013	
Burns Street Channel	BS_1	7/18/07	<	0.10	<	0.10	7.68	7.70	0.16	0.015	0.012	
		10/24/07		0.11	<	0.10	6.32	6.40	0.48	0.016	0.016	
		1/22/08		0.12	<	0.10	6.32	6.40	<0.10	0.007	0.018	
		4/23/08	<	0.10	<	0.10	6.54	6.50	<0.10	0.008	0.020	
2007-2008 Median				0.11	<	0.10	6.43	6.45	0.13	0.012	0.017	
Overall 2007-2008 Median			<	0.10	<	0.10	4.97	5.00	0.23	0.008	0.016	

Nitrate concentrations ranged from 0.58 mg/L to 8.35 mg/L, and the highest value was recorded at Sloan Channel. The highest median value was found at Duck Creek (6.77 mg/L). Comparing nitrate concentrations to previous years, the highest concentration was 24.0 mg/L recorded in 2005-2006 at the Meadows Detention Basin. Other than this one value, the 2003-2004 and 2004-2005 data concentrations did not show a significant increase.

Metals

For metals concentrations for 2007-2008, see **Table 4-4**. On average, concentrations of lead were below the detection limit with the highest value (0.9 µg/L) detected at Flamingo Wash at Nellis Boulevard. In 2006-2007, concentrations of lead detected ranged from below the detection limit to 1.1 µg/L.

Copper concentrations ranged from below the detection limit of 1.0 µg/L to 53.0 µg/L, with the highest concentration found in Monson Channel. In 2006-2007, the highest concentration was 18.0 µg/L at Sloan Channel.

Concentrations of zinc ranged from below the detection limit of 5.0 µg/L to 140.0 µg/L, which was found in Meadows Detention Basin. In 2005-2006, the highest concentration was 66 µg/L, found in Sloan Channel. There was a recorded concentration of 210.0 µg/L at Meadows Detention Basin for the 2004-2005 monitoring period.

Perchlorate

For perchlorate concentrations for 2007-2008, see **Table 4-5**. Perchlorate is not a constituent specified for analysis by the MS4 permit of the Las Vegas Valley Stormwater Monitoring Program. SNWA analyzed perchlorate because of surface and groundwater contamination caused by past industrial activities near the Lower Las Vegas Valley Wash. Perchlorate concentrations ranged from 1.5 µg/L (Meadows Detention Basin) to 2,000 µg/L (Burns Street Channel). Burns Street Channel also had the highest median value for 2007-2008 (1,380 µg/L).

Bacteria

For bacteria concentrations for 2007-2008, see **Table 4-5**.

Fecal coliform concentrations ranged from below the detection limit of 50 MPN/100mL to 29,800 MPN/100mL. The highest median value for 2007-2008 was found at Sloan Channel and the highest detection was at Meadows Detention Basin. Overall median concentration for 2007-2008 is 880 MPN/100mL. This is lower than the overall median concentration of 2,900 MPN/100ml in 2006-2007.

Table 4-4

Quarterly Heavy Metal Concentrations From Tributary Locations

Sampling Location	Date	Aluminum (µg/L)	Arsenic (µg/L)	Barium (µg/L)	Chromium (µg/L)	Copper (µg/L)	Iron (µg/L)	Lead (µg/L)	Manganese (µg/L)	Nickel (µg/L)	Selenium (µg/L)	Zinc (µg/L)
Meadows Detention Basin	7/18/07	44.0	3.6	41.0	1.1	5.5	0.046	0.30	2.0	<0.80	4.3	8.0
	10/24/07	8.9	1.6	130.0	<0.001	0.8	<0.020	<0.02	0.3	1.0	2.8	140.0
	1/22/08	11.0	2.4	30.0	0.8	2.0	<0.020	<0.02	0.9	2.9	8.4	<5.0
	4/23/08	18.0	2.3	32.0	0.4	3.7	<0.020	<0.02	1.1	0.8	6.3	<100
2007-2008 Median		14.5	2.4	36.5	0.8	2.9	<0.020	<0.02	1.0	1.0	5.3	54
Las Vegas Wash at Desert Rose Golf Course	7/18/07	97.0	6.2	45.0	0.6	1.4	0.097	0.3	20.0	1.4	8.2	6.7
	10/24/07	70.0	7.2	32.0	0.7	1.4	0.069	<0.02	26.0	1.5	12.0	15.0
	1/22/08	19.0	7.6	24.0	0.9	1.5	0.022	<0.02	20.0	5.0	14.0	<5.0
	4/23/08	12.0	6.0	27.0	0.4	1.6	<0.020	<0.02	6.90	1.2	11.1	<500
2007-2008 Median		44.5	6.7	29.5	0.7	1.5	0.046	<0.02	20.0	1.5	11.6	10.9
Flamingo Wash at Nellis Boulevard	7/18/07	17.0	5.5	59.0	1.0	1.7	0.028	<0.2	3.6	1.2	14.0	8.2
	10/24/07	19.0	4.7	59.0	2.5	2.1	<0.020	<0.2	1.8	1.4	16.0	12.0
	1/22/08	31.0	4.5	52.0	1.9	1.8	0.029	<0.2	3.4	5.6	17.0	8.6
	4/23/08	11.0	4.5	50.0	0.9	33.0	0.084	0.9	11.0	1.2	14.7	<100
2007-2008 Median		18.0	4.6	55.5	1.5	2.0	0.029	<0.2	3.5	1.3	15.4	10.3
Sloan Channel at Charleston Boulevard	7/18/07	17.0	16.0	45.0	4.0	2.2	0.036	<0.20	1.0	<0.80	13.0	<5.0
	10/24/07	33.0	14.0	60.0	1.3	4.4	0.062	<0.20	5.7	1.0	20.0	20.0
	1/22/08	8.4	15.0	35.0	3.9	1.1	<0.020	<0.20	0.5	2.0	13.0	<5.0
	4/23/08	12.0	16.0	35.0	3.7	4.4	<0.020	<0.02	0.9	<0.08	11.2	<500
2007-2008 Median		14.5	15.5	40.0	3.8	3.3	0.028	<0.02	1.0	0.9	13.0	<12.5
Monson Channel at Stephanie Street	7/18/07	42.0	15.0	30.0	0.6	53.0	45.000	<0.2	16.0	0.9	24.0	5.7
	10/24/07	21.0	14.0	20.0	0.7	1.1	0.024	<0.2	1.0	<0.8	26.0	<5.0
	1/22/08	16.0	15.0	20.0	0.6	1.9	<0.020	<0.2	5.0	6.6	24.0	<5.0
	4/23/08	25.0	12.0	20.0	0.6	3.2	0.024	<0.2	0.6	<0.8	19.2	<500
2007-2008 Median		23.0	14.5	20.0	0.6	2.6	0.024	<0.2	3.0	0.9	24.0	<5.4
Duck Creek	7/18/07	15.0	46.0	27.0	1.0	0.8	<0.020	<0.2	5.0	1.2	21.0	<5.0
	10/24/07	9.6	66.0	22.0	0.8	<1.0	<0.020	<0.2	16.0	1.7	21.0	<5.0
	1/22/08	49.0	36.0	23.0	1.1	1.9	0.020	<0.4	6.3	7.9	21.0	<10.0
	4/23/08	23.0	69.0	16.0	0.7	1.4	0.022	<0.2	8.3	1.6	17.2	<500
2007-2008 Median		19.0	56.0	22.5	0.9	1.1	0.020	<0.2	7.3	1.7	21.0	<7.5
Burns Street Channel	7/18/07	18.0	37.0	42.0	13.0	11.0	<0.020	<0.20	1.4	<0.80	11.0	<5.0
	10/24/07	8.7	40.0	39.0	15.0	<1.0	<0.020	<0.20	1.1	<0.80	12.0	<5.0
	1/22/08	67.0	34.0	39.0	24.0	<1.0	0.029	<0.40	2.9	6.7	13.0	<10.0
	4/23/08	190.0	37.0	45.0	18.0	1.3	0.190	0.20	20.0	0.9	11.0	<500
2007-2008 Median		42.5	37.0	40.5	16.5	1.3	0.029	<0.20	2.2	0.9	11.5	<7.5
Overall 2007-2008 Median		18.5	14.0	35.0	1.0	1.8	0.023	<0.20	3.5	1.2	13.5	<8.4

Table 4-5

Field Measurements, Bacteriological Compositions, and
Perchlorate Concentrations of Tributary Locations

Location	ID	Date	Conductivity µS/cm	DO mg/L	pH Units	Temperature °C	Turbidity NTU	Perchlorate µg/L	Ave # FC /100mL	Ave # E. coli /100mL
Meadows Detention Basin	LVC_2	7/18/07	1803	8.53	8.67	23.1	3.91	1.5	29800	600
		10/24/07	1242	11.54	8.25	14.7	0.20	3.7	<50	<10
		1/22/08	2585	14.66	8.22	4.0	0.42	20.0	<100	<5
		4/23/08	2338	10.61	7.47	11.4	1.59	11.0	220	<100
2007-2008 Median			2071	11.08	8.24	13.1	1.01	7.4	160	<8
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	3558	7.04	8.11	26.5	5.29	6.1	3900	350
		10/24/07	3917	13.41	8.43	16.5	4.40	9.5	2600	380
		1/22/08	4093	12.62	8.29	10.0	1.87	9.1	<1000	<200
		4/23/08	4131	9.53	8.13	17.6	1.42	8.9	<1000	<200
2007-2008 Median			4005	11.08	17.10	17.1	3.14	9.0	1800	275
Flamingo Wash at Nellis Boulevard	FW_0	7/18/07	3569	7.67	8.14	25.1	1.50	9.7	21000	2020
		10/24/07	3434	12.57	8.19	16.1	1.68	13	<4000	800
		1/22/08	3413	11.74	8.24	10.4	3.58	35.0	1333	1175
		4/23/08	3445	9.66	8.10	15.8	0.43	9.6	<1000	<1000
2007-2008 Median			3440	10.70	8.17	16.0	1.59	11.4	1167	988
Sloan Channel at Charleston Boulevard	SC_1	7/18/07	3271	8.96	8.65	25.5	0.98	7.9	9600	260
		10/24/07	4072	13.23	8.57	13.6	1.23	110.0	4500	290
		1/22/08	2987	13.74	8.80	12.6	1.21	6.4	<2000	<200
		4/23/08	3069	10.57	8.49	15.7	0.98	6.3	487	197
2007-2008 Median			3170	11.90	8.61	14.7	1.10	7.2	2494	227
Monson Channel at Stephanie Street	MC_2	7/18/07	4750	9.67	8.07	29.6	1.46	13	3800	<200
		10/24/07	4758	19.99	8.52	21.3	1.19	14	<1000	<200
		1/22/08	4774	18.75	8.62	16.1	1.67	13	1360	783
		4/23/08	4828	17.99	7.92	18.4	0.66	18	<400	<200
2007-2008 Median			4766	18.37	8.30	19.9	1.33	14	880	<200
Duck Creek at Broadbent	DC_1	7/18/07	5681	8.21	8.13	32.4	NA	29	12100	<200
		10/24/07	6237	13.35	7.53	25.0	0.62	22	<1000	<200
		1/22/08	5663	11.20	8.15	17.4	1.27	24	<400	<100
		4/23/08	5984	10.12	7.79	22.5	1.84	30	<400	<50
2007-2008 Median			5833	10.66	7.96	23.8	0.95	27	<400	<150
Burns Street Channel	BS_1	7/18/07	5140	8.63	8.21	28.5	0.50	960	4700	<200
		10/24/07	4973	10.39	8.31	25.9	0.42	62	<1000	<200
		1/22/08	3148	11.90	8.44	20.4	1.60	2000	<400	<100
		4/23/08	5363	10.63	8.24	23.2	4.31	1800	<200	<40
2007-2008 Median			5057	10.51	8.28	24.6	1.05	1380	<300	<150
Overall 2007-2008 Median			3995	10.92	8.23	18.0	1.35	13.0	<1000	<200

Notes:

NA = Not Analyzed

Semi-Volatile Organic Compounds and Volatile Organic Compounds

For semi-volatile organic compounds (SOCs) and volatile organic compounds (VOCs) pollutant concentrations for 2007-2008, see **Table 4-6**.

During the 2007-2008 permit year, three SOC's were detected. The SOC's detected were butylbenzylphthalate, caffeine, and di-n-octylphthalate which were found at three sites (Meadows Detention Basin, Flamingo Wash, and Monson Channel). Caffeine was detected twice. Detections were found at Meadows Detention Basin and Monson Channel. In 2006-2007, only one type of SOC was detected (caffeine).

Twenty-six VOCs were detected for the 2007-2008 permit year. At least one VOC was detected at each site during this monitoring period. During the 2006-2007 permit year, nine VOCs were detected and 20 were detected during the 2005-2006 permit year. Since the last monitoring period, the list of organic compounds has grown to include nine additional constituents and detections for those constituents are shown.

Pesticides and Herbicides

Two types of pesticides - cyclohexanone and glyoxal - were detected in the Las Vegas Valley dry weather samples during the 2007-2008 permit year, for a total of 10 detections. During the 2006-2007 permit year, there were four types of pesticides detected.

Four types of herbicides (surrogate: DECA, surrogate: TCmx, tot DCPA mono and diacid degradate, and surrogate: tributylphosphate) were detected during the 2007-2008 permit year, for a total of 63 detections. Since last year, the list of organic compounds has grown to include nine additional constituents. This has led to the increase of the total number of detections. There were three detections of herbicides during the 2006-2007 permit year and two detections during 2005-2006. The number of detections for pesticides and herbicides varied from year to year, but it appears that there may be a general upward trend in the number of samples in which pesticides and herbicides are detected.

4.2.4 Conclusion

This report satisfies the requirements for dry weather flow water quality characterization in the NPDES stormwater discharge permit. There were no significant changes in dry weather constituent concentrations in 2007-2008 that would indicate increased water quality impairment due to illegal discharges. The possible upward trend in detections of pesticides and herbicides will be watched in future years to see if it continues.

Table 4-6

Organic Compound Concentrations (µg/L) of Water Samples From Tributary Locations

Location	ID	Sample Date	1,1,2,2-Tetrachloroethane	1,1,1-Trichloropropanone	1,1-Dichloroethane	1,2-Dichloroethane	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	1,2,4,-Trimethylbenzene	2-Butanone (MEK)	2-(2-butoxyethoxy)ethoxyeth	2,4-D	2-Butoxyethanol phosphate (3:1)	3,6,9,12-tetraoxahexadecan-1-o	2,3,5,6-Tetrafluorobenzaldehyd	4-Methylphenol	4,4'-DDD	Acetaldehyde	Acetone	Aldrin	Alpha-BHC	Baygon	Benzo (k) Fluoranthene	Beta-BHC	Bromodichloromethane	Bromoform	Butanal	Butylbenzylphthalate	
Meadows Detention Basin	LVC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.2	ND	ND	ND	ND	ND	ND	1.9	0.87	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flamingo Wash	FW_0	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.7	180	ND	ND	ND	ND	ND	ND	ND	ND	ND
Sloan Channel	SC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Monson Channel	MC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Duck Creek	DC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Burns Street Channel	BS_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
Total Number of Detects			0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7	1	0	0	0	0	1	1	0	1		

Notes:

ND = Not Detected

NA = Not Analyzed

Table 4-6 (Continued)

Organic Compound Concentrations (µg/L) of Water Samples From Tributary Locations

Location	ID	Sample Date	Caffeine	Carbon disulfide	Chlorodibromomethane	Chloroform	Chloroform (Trichloromethane)	Cyclohexane	Cyclohexanone	Dalapon	Decane	Diazinon	Dieldrin	Delta-BHC	Dibromacetonitrile	Dibromochloromethane	Di(2-Ethylhexyl)phthalate	Dichloriodomethane	Dichlorobromomethane	Dichloromethane	Dichlorprop	Diethylphthalate	Dicamba	Di-n-Butylphthalate	Di-n-octylphthalate	Disulfoton	Diuron	Dodecane	Eicosane (total)	Endrin	Endrin Aldehyde	Formaldehyde	Glyoxal	
Meadows Detention Basin	LVC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	
		10/24/07	ND	ND	ND	1.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	22	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	0.79	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND
		4/23/08	0.31	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	3.7
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.4	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.5	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.1	3.6
Flamingo Wash	FW_0	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.9	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.8	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.7	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	4.2	
Sloan Channel	SC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	12	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	15	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.6	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	4.4	
Monson Channel	MC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.8	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9.1	ND	
		1/22/08	0.75	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.1	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	2.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.2	
Duck Creek	DC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7	ND		
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	9	ND		
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	ND	8.3	ND	
		4/23/08	ND	ND	ND	0.63	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	8.6	5.3	
Burns Street Channel	BS_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.1	ND		
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.7	ND		
		1/22/08	ND	ND	3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.4	ND		
		4/23/08	ND	ND	ND	ND	ND	2.3	ND	ND	6.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.4	29.9	ND	ND	6.1	4.5	
Total Number of Detects			2	0	1	2	0	1	3	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	1	0	0	2	1	0	0	28	7	

Notes:

ND = Not Detected

NA = Not Analyzed

Table 4-6 (Continued)

Organic Compound Concentrations (µg/L) of Water Samples From Tributary Locations

Location	ID	Sample Date	Glyphosate	Heptadecane	Hexadecane (total)	Hexadecanoic acid	Lindane	Lindane (gamma-BHC)	Oxamyl-(Vydate)	Methylene Chloride	Methyl Tert-butyl ester (MTBE)	m-Dichlorobenzene (1,3-DCB)	M-Glyoxal (Pyruvic Aldehyde)	Molybdenum	Naphthalene (total)	Nonadecane	Octadecane	Pentadecane	p-Dichlorobenzene (1,4-DCB)	Pentachlorophenol	Pentanal	Phenanthrene	Propanal	Tetrachloroethylene (PCE)	Tetradecane	
Meadows Detention Basin	LVC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.8	6.3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	9.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.8	7.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	29	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	33	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6	27	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Flamingo Wash	FW_0	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	17	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.5	14	ND	ND	ND	ND	ND	ND	ND	ND	3.3	ND	ND
Sloan Channel	SC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	52	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.1	76	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2	55	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.7	19	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Monson Channel	MC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	11	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	9.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.4	9.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	3.6	8.1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Duck Creek	DC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	25	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	28	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	5.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.6	ND	ND	ND	ND	ND	ND	ND	ND	ND	5.9
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	4.8	24	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Burns Street Channel	BS_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.5	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	16	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
		4/23/08	ND	43.5	15.2	ND	ND	ND	ND	ND	ND	ND	ND	4.1	14	10.4	ND	17	19	ND	ND	ND	ND	ND	ND	21
Total Number of Detects			0	1	1	1	0	0	0	0	0	16	28	1	1	1	1	0	0	0	0	1	0	2		

Notes:

ND = Not Detected

NA = Not Analyzed

Table 4-6 (Continued)

Organic Compound Concentrations (µg/L) of Water Samples From Tributary Locations

Location	ID	Sample Date	Simazine	Toluene	Tot DCPA Mono&Diacid Degradate	Total Trihalomethanes	Total THM	Tri (2-chloroethyl) phosphate	Trichloroethylene (TCE)	Unknown (Total)	Unknown alcohol (Total)	Surrogate: DECA (%)	Surrogate: TCmX(%)	Surrogate: Tributylphosphate (%)	Surrogate: Triphenylphosphate (%)	Undecane (total)	Vanadium	2,3,7,8-TCDD	Malathion	
Meadows Detention Basin	LVC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.1	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87	ND	71	ND	2.3	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	98	90	ND	82	ND	4	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	2.3	ND	78	72	ND	93	ND	2.8	ND	ND
Las Vegas Wash at Desert Rose Golf Course	LW12.1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	7.5	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	87	ND	ND	ND	10	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	82	106	ND	74	ND	8.9	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	79	77	ND	124	ND	8.7	ND	ND
Flamingo Wash	FW_0	7/18/07	ND	ND	0.5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	6.3	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	2.2	ND	90	ND	ND	ND	5	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	77	97	ND	66	ND	4.3	ND	ND
		4/23/08	ND	ND	0.49	ND	ND	ND	ND	ND	18.9	2.9	81	71	ND	116	ND	4.2	ND	ND
Sloan Channel	SC_1	7/18/07	ND	ND	0.2	ND	ND	ND	ND	ND	ND	82	82	ND	98	ND	13	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	4	ND	50	ND	ND	ND	4.2	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	99	ND	78	ND	ND	ND	ND
		4/23/08	ND	ND	0.18	ND	ND	ND	ND	ND	ND	ND	79	74	ND	103	ND	12	ND	ND
Monson Channel	MC_2	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.8	1.16	ND	0.91	ND	9	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.95	ND	ND	ND	9.1	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.84	1.01	ND	0.87	ND	6.9	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.79	0.77	ND	87	ND	7.5	ND	ND
Duck Creek	DC_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	94	108	ND	92	ND	16	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	19	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	3.5	92	92	ND	72	ND	12	ND	ND	
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	5.4	ND	79	70	ND	ND	ND	17	ND	ND
Burns Street Channel	BS_1	7/18/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	87	99	ND	87	ND	26	ND	ND	
		10/24/07	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	90	ND	ND	ND	29	ND	ND	
		1/22/08	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	98	ND	64	ND	25	ND	ND
		4/23/08	ND	ND	ND	ND	ND	ND	ND	ND	32.2	ND	82	77	ND	ND	27.2	26	ND	ND
Total Number of Detects			0	0	4	0	0	0	0	4	4	18	24	0	17	1	27	0	0	

Notes:

ND = Not Detected

NA = Not Analyzed

4.3 2007-2008 WET WEATHER MONITORING PROGRAM

4.3.1 Introduction

One of the requirements for compliance with the MS4 permit is the performance of a Wet Weather Monitoring Program. This subsection discusses the work performed and the results obtained during the wet weather monitoring program in the July 2007 to June 2008 period of the MS4 permit. The monitoring program as implemented in 2007-2008 has the main elements described in the following section.

4.3.2 Wet Weather Characterization Monitoring Program

4.3.2.1 Monitoring Locations

Sampling was conducted at the following two locations:

- Las Vegas Wash at Desert Rose Golf Course
- Las Vegas Wash below Lake Las Vegas Dam

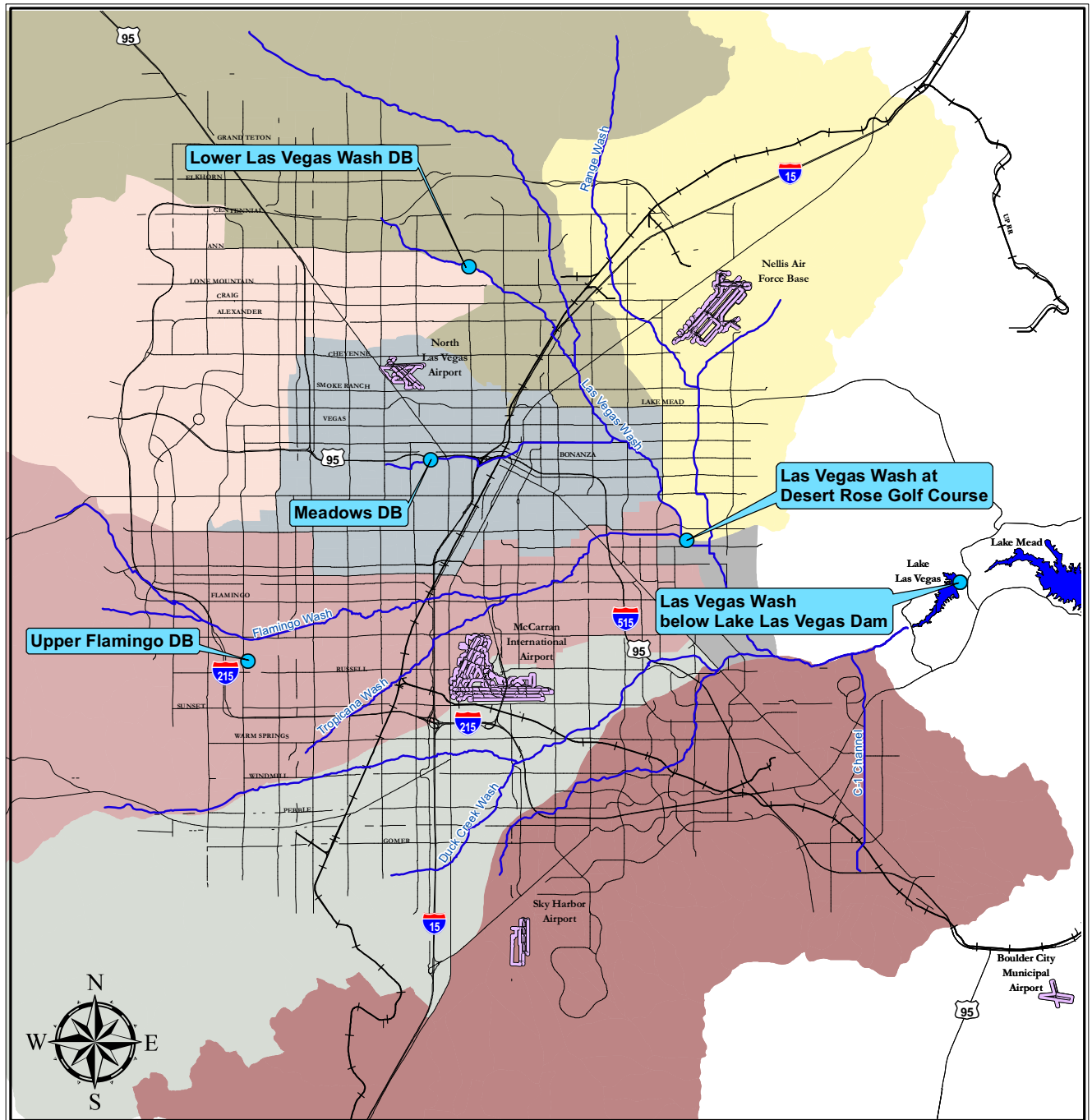
The wet weather monitoring is operated by MWH personnel at the Las Vegas Wash below Lake Las Vegas Dam Las Vegas site and the Las Vegas Wash site near Desert Rose Golf Course was operated by the United States Geological Survey (USGS). See **Figure 4-2**.

4.3.2.2 Sampling Analysis and Protocols

The wet weather sampling objective was to collect samples from all significant storm events, up to 10 per year from each of the sample sites. For the first three sample events, the full suite of constituents was analyzed. For subsequent storms (up to 10), the shorter list (NPDES constituents) were to be analyzed. Automated samplers were installed at both monitoring sites for sample collection.

4.3.2.3 Constituents Analyzed

The basic list of constituents analyzed for 2007-2008 is shown in **Table 4-7**. This list was also used during the 2004-2005, 2005-2006, and 2006-2007 stormwater monitoring plans.



Legend

- Wet Weather Sampling Point
- Washes
- Railroads
- Streets
- Airports
- Range Wash Watershed
- Pittman / C-1 Watershed
- North Basin Watershed
- Lower Las Vegas Wash Watershed
- Gowan Watershed
- Flamingo / Tropicana Watershed
- Duck Creek Watershed
- Central Watershed



Figure 4-2

**WET WEATHER
MONITORING SITES**

Table 4-7

Constituents Analyzed in Wet Weather Samples in 2007-2008

Constituent	Method	Constituent	Method
TDS	160.1	Nickel, total	200.8
TSS	160.2	Silver, total	200.8
Alkalinity	310.1	Thallium, total	200.8
Bicarbonate	310.1	Zinc, total	200.8
Carbonate	310.1	Mercury, total	245.1
Nitrate	300	Pesticides	614/619
Nitrite	300	Pesticides	508
Bromide	300	SVOC	625
Chloride	300	VOC	624
Sulfate	300	VOC	524.2
Bromate	300.1	Organics	551.1
Chlorate	300.1	Organics	6252
Chlorite	300.1	Organics	504.1
Calcium	200.7	Organics	525.1
Iron	200.7	Organics	531.1
Magnesium	200.7	Organics	515.1
Potassium	200.7	Diuron	532
Silica	200.7	Endothall	548.1
Sodium	200.7	Fluorine	4500
Selenium	200.9	Glyphosate	547
Arsenic	200.9	Hydroxide	2320
Anion/Cation	1040	Diquat	549.2
pH	150.1	Paraquat	549.2
Specific Conductance	S2510	Fecal Coliform	9221B
Hardness	2340B	Fecal Streptococcus	9230
Total Organic Carbon	5310C	Total Phosphorus	365.4
Surfactants	5540	TKN	351.2
Aluminum, total	200.8	Oil and Grease	413.1/1664A*
Antimony, total	200.8	Dissolved Copper	200.8
Barium, total	200.8	Dissolved Lead	200.8
Beryllium, total	200.8	Dissolved Zinc	200.8
Cadmium, total	200.8	Boron	200.7
Chromium, total	200.8	Herbicides	615
Copper, total	200.8	Carbon Dioxide	450-CO2-D
Lead, total	200.8	Total Coliform Bacteria	9221B
Manganese, total	200.8	Langelier Index	2330B

Note:

* April 16th samples were analyzed using the 1664A testing method.

4.3.3 Results

In 2007-2008, wet weather monitoring was possible during six storms: July 24, 2007, August 1, 2007, August 27, 2007, September 22, 2007, January 5, 2008 and January 27, 2008. Due to the variability in localized rainfall, not all sites were sampled for each storm. Each initial storm was tracked by the amount of rainfall occurring in the watershed tributary to each site. The CCRFCD website (www.ccrfcd.org) was used to view the rain maps of the Las Vegas Valley. Each map displayed the amount of rainfall located at various sites during different time increments. This data helped determine if the site met the stormwater sample criteria. Sampling crews were mobilized to track and gather samples during every potential storm event. Tracking of storms was completed by using weather sites (websites) and also the CCRFCD website (rain maps). During some storms, samples could not be collected at certain sampling stations due to insufficient stream flow, damaged or vandalized automated samplers, or other factors.

The Lake Las Vegas site is set up for automated sampling; however samples at this location had to be collected as grab samples. Water levels fluctuate at this site due to variable discharges from the upstream wastewater treatment plants and there have been many times when the sampler (while in operation) would pick-up water samples when a rain event had not occurred. MWH will attempt to provide sufficient calibration for the automated sampling equipment in the future to allow the sampler to be used as intended.

See **Table 4-8** for wet weather monitoring data collected in 2007-2008. **Appendix F** contains the full 1992-2008 wet weather database of the MS4 NPDES program.

Total Suspended Solids, Total Dissolved Solids and Surfactants

The median TSS concentration this year was 809 mg/L, which is lower than the 2006-2007 median of 1,839 mg/L. The highest concentration in the 2007-2008 samples was 3,140 mg/L recorded at Las Vegas Wash below Lake Las Vegas Dam. This concentration was much smaller than the highest recorded value of 11,100 mg/L in 2003.

The median total dissolved solids (TDS) concentration was 1,076 mg/L in 2007-2008. TDS levels were slightly less than the TDS median level of 1,250 mg/L recorded in 2006-2007. Historically, the concentration range for TDS has varied from 47 mg/L to 5,210 mg/L. The median concentration for 1992-2008 is 580 mg/L. Generally, lower TDS concentrations may be the result of dilution caused by the generally wetter hydrologic conditions in the early part of the 2007-08 sampling period.

The median concentration of surfactants was 0.08 mg/L in the 2007-2008 monitoring year. This is lower than the median concentration of 0.09 mg/L recorded last year. It is also lower than the 1992-2008 median concentration of 0.50 mg/L. The highest concentration recorded at Las Vegas Wash below Lake Las Vegas Dam was 0.62 mg/L.

Table 4-8

Wet Weather Monitoring Data 2007-2008

Parameter	Units	Las Vegas Wash below Lake Las Vegas Dam	Las Vegas Wash below Lake Las Vegas Dam	Las Vegas Wash below Lake Las Vegas Dam	Las Vegas Wash below Lake Las Vegas Dam	Las Vegas Wash USGS	Las Vegas Wash below Lake Las Vegas Dam	2007-2008 Median
		LLV-300-FW	LVW-100-FW	LVW-200-FW	LVW-200-FW	LVW-100-FW	LVW-100-FW	
		Wet Weather Composite 24-Jul-07	Wet Weather Composite 1-Aug-07	Wet Weather Composite 27-Aug-07	Wet Weather Composite 22-Sep-07	Wet Weather Composite 5-Jan-08	Wet Weather Grab 27-Jan-08	
Oil and Grease - Gravimetric	mg/L	1.7	<5.0	2.9	2.1	NA	<5.0	2.1
Total Dissolved Solid (TDS)	mg/L	1,420	1,430	732	574	536	1,620	1,076
Total Suspended Solids (TSS)	mg/L	178	74	3,140	1,440	1,520	98	809
Total phosphorus-P	mg/L	0.13	0.14	2.20	1.90	3.30	0.26	1.08
Orthophosphate-P	mg/L	0.15	0.26	1.40	1.30	0.56	0.44	0.50
Nitrite, Nitrogen by IC	mg/L	<0.50	<1.0	<0.50	<0.20	<0.20	10	<0.5
Nitrate-N by IC	mg/L	8.4	12.0	2.8	2.9	1.9	45	5.7
Metal Digestion Performed	Y/N	Y	Y	Y	Y	NA	Y	Y
Kjeldahl Nitrogen	mg/L	1.4	1.1	5.0	4.3	12.0	1.8	3.1
Ammonia Nitrogen	mg/L	NA	NA	NA	NA	NA	NA	NA
Copper, Total, ICAP	mg/L	0.026	0.023	0.006	0.051	0.100	0.009	0.025
Lead, Total, ICAP	mg/L	0.0041	0.0031	<0.00050	0.0160	0.017	0.002	0.004
Zinc, Total, ICAP	mg/L	0.080	0.062	0.17	0.17	0.59	0.048	0.13
Copper, Total, ICAP, Dissolved	mg/L	0.015	0.022	0.0076	0.011	0.024	0.0061	0.013
Lead, Total, ICAP, Dissolved	mg/L	<0.0005	0.0029	<0.00050	<0.0005	0.001	<0.0005	<0.00050
Zinc, Total, ICAP, Dissolved	mg/L	0.025	0.054	<0.0050	<0.0050	0.091	0.027	0.026
Boron, Total, ICAP	mg/L	0.56	0.58	0.36	0.26	0.27	0.75	0.46
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA
Fecal Coliform Bacteria	MPN/100mL	>1,600,000	5,000	900,000	1,600,000	3,000	11,000	455,500
Fecal Streptococci	MPN/100mL	500,000	16,000	110,000	110,000	28,000	17,000	69,000
SOCs	# of Detects	2	0	0	1	1	1	1
Volatile Organic Compounds (VOC)	# of Detects	9	4	4	3	14	7	6
Pesticides	# of Detects	0	0	0	0	0	0	0
Herbicides	# of Detects	2	3	3	2	0	0	2
2-Chloroethylvinylether	µg/L	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5
Alkalinity in CaCO3	mg/L	120	127	100	110	69	117	114
Aluminum, Total, ICAP	mg/L	1.2	0.97	<0.020	12.7	8.05	1.33	1.33
Anion Sum, Calculated	meq/L	21	23	11	8.7	7.9	24	16.0
Antimony, Total, ICAP	µg/L	3.3	<1.0	2.7	<2.0	5.2	<1.0	3.0
Arsenic, Total GF	mg/L	0.013	0.0088	0.023	0.017	0.0076	0.0095	0.011
Barium, Total, ICAP	mg/L	0.085	0.081	0.31	0.22	0.18	0.051	0.13
Beryllium, Total, ICAP	µg/L	0.18	<1.0	<1.0	<2.0	<1.0	<2.0	<1.5
Bicarbonate Alkalinity as HCO3	mg/L	150	150	120	130	84	140	135
Bromide	mg/L	0.183	0.235	0.072	0.077	0.098	0.261	0.141
Bromate by IC	µg/L	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
CO2, Free, Calculated	mg/L	9.8	2.5	6.2	5.4	3.5	7.3	5.8
Carbonate, Calculated	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Cadmium, Total, ICAP	µg/L	<0.50	<0.50	<0.50	<1.0	0.53	<0.50	<0.50
Calcium, Total, ICAP	mg/L	180	140	450	230	300	160	205
Cation Sum, Calculated	meq/L	24	23	31	20	24	24	24
Chlorate, IC	mg/L	0.148	0.276	0.061	0.06	0.199	0.109	0.129
Chloride	mg/L	230	280	66	68	62	257	149
Chlorite, IC	mg/L	<0.020	<0.10	<0.010	0.012	<0.010	0.117	0.016
Chromium, Total, ICAP	µg/L	3.1	2.5	24	28	17	2.7	10
Diuron	µg/L	7.1	2.5	1.61	NA	NA	NA	3
Diquat	µg/L	NA	NA	NA	NA	NA	NA	NA
Paraquat	µg/L	NA	NA	NA	NA	NA	NA	NA
Endothal	µg/L	<20	<20	<20	<20	NA	<20	<20
Fluoride	mg/L	0.80	0.86	0.39	0.39	0.076	0.790	0.59
Glyphosate	µg/L	8.69	<6.0	13	<6.0	7.6	<6.0	8.7
Hardness as CaCO3	mg/L	730	620	1,400	830	1,100	720	780
Hydroxide as OH, Calc	mg/L	<2.0	<2.0	<2.0	<2.0	13	<2.0	<2.0
Iron, Total, ICAP	mg/L	0.67	0.4	11	12	13	0.67	6
Langelier Index - 25 degree	None	0.4	0.9	0.8	0.6	0.6	0.4	0.6
Magnesium, Total, ICAP	mg/L	68	66	64	61	82	79	67
Manganese, Total, ICAP	mg/L	0.22	0.21	0.93	0.64	0.22	0.15	0.22
Mercury	µg/L	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20	<0.20
Nickel, Total, ICAP	mg/L	0.01	0.01	<0.005	0.016	0.012	<0.005	<0.011
pH, Lab	Units	7.4	8.0	7.5	7.6	7.6	7.5	7.6
Potassium, Total, ICAP	mg/L	26	22	19	17	14	25	21
Reactive Silica	mg/L	17	20	9.2	15	8.5	23	16
Selenium	mg/L	<0.005	<0.005	<0.005	<0.001	<0.005	0.0054	<0.005
Silver, Total, ICAP	µg/L	<0.50	<0.50	<0.50	<1.0	<0.50	<0.50	<0.50
Sodium, Total, ICAP	mg/L	190	240	64	64	55	210	127
Specific Conductance	umho/cm	1,930	1,900	1,030	838	846	2,260	1,465
Sulfate	mg/L	540	240	320	210	220	650	280
Surfactants	mg/L	0.618	<0.050	0.110	<0.050	0.810	<0.050	0.080
Thallium, Total, ICAP	µg/L	<1.0	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0
Total Coliform Bacteria	MPN/100mL	NA	NA	NA	NA	NA	NA	NA
Total Organic Carbon	mg/L	12.3	8.0	31.0	21.0	55.0	12.0	16.7

(1) Total Nitrogen = TKN + NO3. If TKN or NO3 are below the detection limit, the concentration was assumed to be equal to the detection limit.

(2) NA = Not Available

	24-Jul-07	1-Aug-07	27-Aug-07	22-Sep-07	5-Jan-08	27-Jan-08
SOC Detections						
caffeine	x	x				x
di(2-ethylhexyl)phthalate				x	x	
diethylphthalate	x					
VOC Detections						
1,1-Dichloroethylene	x					
2-Butanone					x	
Acetaldehyde	x	x	x	x	x	
Acetone	x	x	x			
Bromodichloromethane					x	x
Butanal					x	
Chlorodibromomethane					x	
Chloroform	x					x
Chloroform (trichloromethane)	x	x		x	x	x
Dichloroacetonitrile						x
Dibromochloromethane					x	
Dichlorobromomethane					x	x
Formaldehyde	x	x			x	x
Glyoxal	x			x	x	
M-glyoxal (pyruvic aldehyde)	x				x	
Pentanal					x	
Propanal			x		x	
Toluene			x			
Total THM	x	x			x	x
Herbicide Detections						
2, 4 -D	x		x	x		
2,4-DB				x		
dichlorprop			x			
diuron	x		x			

This large difference is attributed to the very high surfactant concentrations recorded in the early storms of the 2007-08 sampling period. These storms occurred after a very long dry period, and created a uniquely prominent first-flush condition. Surfactants originating from detergents discharged in the watershed and petroleum-based asphalt materials experienced a substantial wash-off effect, and were visibly evident in Lower Las Vegas Wash. Observers indicated that this condition frequently occurs after very long dry periods.

Nutrients

Total phosphate concentrations varied from 0.13 mg/L to 2.20 mg/L with a median concentration of 1.08 mg/L for the 2007-2008 permit year. The 2007-2008 median concentration was slightly higher than the 2006-2007 median concentration of 0.75 mg/L and the overall 1992-2007 median of 0.96 mg/L.

The median nitrate concentration for 2007-2008 is 5.7 mg/L. This value is higher than the 2006-2007 median concentration of 3.0 mg/L and the overall 1992-2008 median of 1.8 mg/L. The range of nitrate values for 2007-2008 was 1.9 mg/L to 45 mg/L. These values are all lower than the highest recorded value of 165 mg/L at Las Vegas Wash at Desert Rose Golf Course in 2004.

Nitrate concentrations may be on the rise; we don't know the cause, but typical sources in urban areas are fertilizers, animal waste and septic/sewer systems.

Orthophosphate concentrations varied from 0.15 mg/L to 1.40 mg/L. The 2007-2008 median concentration of 0.50 mg/L was lower than the 2006-2007 median value of 0.75 mg/L and lower than the overall 1992-2008 median concentration of 0.20 mg/L.

Metals

Total lead concentration for 2007-2008 varied from non-detect levels to 0.017 mg/L. The 2007-2008 median concentration was 0.004 mg/L. This value is lower than the previous year's median of 0.016 mg/L and less than the 1992-2008 median of 0.071 mg/L.

Total copper concentrations in 2007-2008 ranged 0.006 mg/L to 0.10 mg/L. The concentration median of 0.025 mg/L is lower than the 2006-2007 median of 0.083 mg/L and the 1992-2008 median of 0.044 mg/L.

Total zinc concentrations ranged from 0.048 mg/L to 0.59 mg/L, with the highest detection at Lake Las Vegas at Rainbow Gardens. The median concentration of zinc was 0.13 mg/L, which was lower than the 2006-2007 median of 0.45 mg/L, and the 1991-2008 median of 0.21 mg/L.

Dissolved copper concentrations ranged from 0.0061 mg/L to 0.024 mg/L. The 2007-2008 median of 0.013 mg/L is higher than the 2006-2007 median of 0.011 mg/L and the 1992-2008 median of 0.010 mg/L.

Dissolved lead concentrations for 2007-2008 varied from non-detect levels to 0.001 mg/L. The median of <0.0005 mg/L is lower than the 2006-2007 median of 0.001 mg/L and the 1992-2008 median of <0.100 mg/L.

Taken together, these findings for metals indicate that total metal concentrations and dissolved metal concentration tended to be somewhat lower in the past years

Bacteria

The median value for fecal coliform bacteria in 2007-2008 was 455,500 MPN/100mL. The highest value was detected at Lake Las Vegas at Rainbow Gardens during the September storm, and the concentration was recorded at 1,600,000 MPN/100mL. The concentration in the sample at Lake Las Vegas at Rainbow Gardens from the September storm was the same as the detection in 2005-2006 (1,600,000 MPN/100mL).

Fecal streptococci median concentration was 69,000 MPN/100mL, which is higher than the 2006-2007 median concentration of 50,000 MPN/100mL.

Semivolatile Organic Compounds, Volatile Organic Compounds, Pesticides and Herbicides

There were a total of 19 different VOCs detected this year. Las Vegas Wash at Desert Rose Golf Course had a total of 14 different detections and Las Vegas Wash below Lake Las Vegas Dam had a combined total, from all storms, of 15 different detections of VOCs. There were three different SOCs detected. Caffeine (an SOC) was detected at the Las Vegas Wash below Lake Las Vegas Dam site. Pesticides were not detected and there were four different types of herbicides detected at Las Vegas Wash below Lake Las Vegas Dam site: 2,4-D, 2,4-DB, dichlorprop, and diuron. Compared to last year, the total number of detections for herbicides, SOCs, and VOCs increased. There were eight more detections of herbicides, four more detections of SOCs and ten more detections of VOCs this permit year. There were no pesticides detected. The total number of detections during the 2005-2006 permit year were far less. There were a total of two detections of VOCs and two detections of herbicides. This comparison shows that the total number of detects are increasing.

4.3.3.1 Potential Sources of Bacteria in Wet Weather Flows

High bacteria levels have been recorded in wet weather flows at times over the 1992-2008 sampling period. In previous years, potential sources of bacteria in wet weather runoff were investigated. See the 2003-2004 Annual Report on analysis of bacteria sources in the Las Vegas Valley. In 2001, the University of Nevada, Las Vegas (UNLV) prepared a study

that reported tributary bacteria counts. Findings reported a moderate potential human influence and a stronger non-human influence. Possible human waste contributions are related to the large number of homeless people in Las Vegas Valley. No new research was performed for the 2007-2008 monitoring period by the MS4 team.

4.3.3.2 Comparison of Wet Weather and Dry Weather Concentrations

Wet weather monitoring results from the 1992-2008 storms were compared to dry weather sampling data from 1991-2008 at the same locations. **Table 4-9** compares the typical dry weather concentrations, the typical wet weather concentrations, and the relative magnitude of wet weather versus dry weather concentrations. The following observations were drawn.

1. Bacteria counts are 46 times greater in wet weather flows.
2. TSS concentrations are about 73 times higher (same as 2006-2007) and turbidity is about 133 times higher than dry weather flows. This is due to sediment loads present in storm flows.
3. Hydrocarbons are at the same concentrations for wet and dry weather concentrations. Surfactants are an order of magnitude higher in wet weather flows.
4. Total nitrogen is a little over one and a half times higher in wet weather flows and total phosphorus is almost 32 times higher in wet weather flows.
5. For the most common metals – copper, lead and zinc – concentrations of total particulate forms were 4 to over 71 times higher in wet weather flows than in dry weather flows.
6. BOD and COD are about an order of magnitude higher in wet weather flows.
7. Wet weather flow pH remains within an acceptable range of 7.6 to 8.3, with the typical flow pH at 7.6. The dry weather flow pH median concentration was 8.2, with a range of 7.8 to 8.3. The pH is slightly higher in dry weather flows.

Table 4-9

**Comparison of Wet Weather and Dry Weather
Pollutant Concentrations in Las Vegas Valley
(1991-2008)**

Constituent	Typical Dry Weather Concentration	Typical Wet Weather Concentration	Wet/Dry
Biochemical Oxygen Demand (mg/L)	<6	35	>6
Chemical Oxygen Demand (mg/L)	16	230	14
Total Suspended Solids (mg/L)	13	950	73
Total Dissolved Solids (mg/L)	3,140	580	0.18
Oil and Grease (mg/L)	<3.0	<3.0	1.0
Total Petroleum Hydrocarbons (mg/L)	<1.0	<1.0	1.0
Total Kjeldahl Nitrogen (mg/L)	0.75	4.9	6.5
Nitrate-N (mg/L)	4.20	1.80	0.4
Ammonia-N (mg/L)	<0.08	0.60	>7.5
Total Nitrogen (mg/L)	4.3	7.2	1.7
Orthophosphate - P (mg/L)	0.016	0.20	>12.5
Total Phosphorus (mg/L)	0.030	0.96	32.0
Total Cadmium (mg/L)	<0.005	<0.005	1.0
Total Chromium (mg/L)	<0.002	0.017	>8.5
Total Copper (mg/L)	<0.01	0.044	>4.4
Total Lead (mg/L)	<0.001	0.071	>71
Total Nickel (mg/L)	0.009	0.025	2.6
Total Mercury (mg/L)	<0.0002	<0.0002	1.0
Total Silver (mg/L)	<0.010	<0.010	1.0
Total Zinc (mg/L)	<0.02	0.21	>10.5
Arsenic (mg/L)	<0.009	0.013	>1.44
Boron (mg/L)	0.96	0.24	0.25
Cyanide (mg/L)	<0.005	<0.005	>1.0
Turbidity (NTU)	1.77	235	133
pH	8.2	7.6	0.9
Surfactants (mg/L)	0.06	0.50	>8.3
Phenol (mg/L)	<0.01	0.02	>2
Total Chlorine (mg/L)	<0.10	<0.10	1.0
Color (ACU)	15	100	6.7
Selenium (mg/L)	0.011	<0.009	>0.82
Fecal Coliform (MPN/100mL)	655	30,000	46
Salmonella (MPN/100mL)	<2.2	<2.0	0.9

4.3.4 Summary

Results and findings of the 2007-2008 wet-weather monitoring program for the NPDES stormwater discharge permit for Las Vegas Valley are summarized below.

1. Water quality samples were collected at two locations on Las Vegas Wash and analyzed for three storms. Grab samples were obtained during the storms.
2. The 2007-2008 data are consistent with the water quality data collected from 1992-2008 in the Las Vegas Valley.
3. Wet weather flows in the Las Vegas Wash contribute higher pollutant concentrations in the Las Vegas Wash than dry weather flows for most constituents.
4. Only two herbicides and one SOC were detected at one site. One pesticide was detected at one site in the 2007-2008 permit year. A combined total of 16 different types of VOCs were detected at both sites this year.

4.4 DETENTION BASIN MONITORING PROGRAM

In the 2004-2005 permit year, a detention basin monitoring program was proposed to evaluate the water quality benefits of existing detention basin and flood control channels in the Las Vegas Valley. Detention basins are important structural controls for sediments that are delivered to the Las Vegas Wash, and are a key component of the Las Vegas Valley post-construction controls program. Data was not available to show the effectiveness of detention basins in controlling pollutants and sediment discharge. Therefore, a program was implemented to sample detention basin inflow and outflow and determine the change in constituent concentrations attributable to the basins. **Appendix F** contains a technical memorandum describing the detention basin monitoring program first implemented in 2005-2006. The following is a summary of that program.

4.4.1 Monitoring Locations

Three basins were chosen for monitoring based upon criteria outlined in the 2003-2004 Annual Report. These are shown in **Figure 4-2**, and are listed below:

- Meadows Detention Basin
- Lower Las Vegas Wash Detention Basin
- Upper Flamingo Detention Basin

In addition, qualitative observations of sediment deposition were made at Gowan North Detention Basin and Lower Duck Creek Detention Basin as part of the post-storm inspections conducted for the construction site program (see **Section 9**). The detention basin monitoring program is operated and conducted by MWH personnel.

4.4.2 Sampling Analysis and Protocols

The detention basin monitoring program objective was to collect inflow and outflow samples from three storms per basin per year. Automated samplers were installed at three monitoring sites for sample collection, and where automated samplers were not equipped, grab samples were collected.

4.4.3 Constituents Analyzed

The constituents analyzed for 2007-2008 were: TDS, TSS, total phosphorus, orthophosphate, nitrate, total copper, total lead, total zinc, dissolved copper, dissolved lead, dissolved zinc, turbidity, fecal coliform bacteria, and fecal streptococci. These constituents were selected to provide an indication of the effectiveness of existing detention basins in removing constituents of concern to downstream receiving waters.

4.4.4 Results

In 2007-2008, detention basin monitoring was possible during five storms: July 24, 2007, August 1, 2007, August 27, 2007, September 22, 2007 and January 5, 2008. Due to the variability in localized rainfall, not all sites were sampled for each storm. **Table 4-10** shows which sites were sampled for each storm and states if it was a flow-weighted composite or grab sample.

Table 4-10

2007-2008 Detention Basin Monitoring Events

Location	July 24, 2007	August 1, 2007	August 27, 2007	September 22, 2007	January 5, 2008
Meadows Detention Basin		Composite	Composite		
Upper Flamingo Detention Basin		Grab Sample	Grab Sample	Grab Sample	Grab Sample
Lower Las Vegas Wash Detention Basin	Grab Sample	Composite			

For each monitored basin, a table was created to present the constituent concentrations. The constituents were divided and analyzed based upon inflow and outflow concentrations. See **Table 4-11** for constituent concentrations for the July 24, 2007, August 1, 2007, August 27, 2007, September 22, 2007 and January 5, 2008 detention basin monitoring events. **Figure 4-3** through **Figure 4-6** display graphical results for four constituents (TDS, total lead, total phosphorus, and total zinc) that were detected during detention basin monitoring events.

Section 4 – Stormwater Monitoring Program

Table 4-11

Detention Basin Monitoring Data for 2007-2008

Detention Basin Monitoring Lab Results	Parameter	Units	Lower Las Vegas Detention Basin 7/24/07		Upper Flamingo Wash Detention Basin 8/01/07		Lower Las Vegas Detention Basin 8/01/07		Meadows Detention Basin 8/01/07	
			Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
			LLV-400-IN	LLV-400-OUT	UF-100-IN	UF-100-OUT	LLV-100-IN	LLV-100-OUT	MD-100-IN	MD-100-OUT
			Grab Sample		Grab Sample		Composite Sample		Composite Sample	
		24-Jul-07	24-Jul-07	1-Aug-07	1-Aug-07	1-Aug-07	1-Aug-07	1-Aug-07	1-Aug-07	
Total Dissolved Solid (TDS)	mg/L	526	516	266	226	162	260	302	368	
Total Suspended Solids (TSS)	mg/L	218	466	2,690	696	1,760	1,230	240	194	
Total phosphorus-P	mg/L	1.3	0.57	2.1	0.74	0.96	0.61	0.76	0.75	
Orthophosphate-P	mg/L	1.25	1.45	3.1	0.93	1.90	0.88	0.71	0.670	
Nitrate-N by IC	mg/L	4.0	4.0	1.2	1.3	1.5	1.8	2.3	2.2	
Metals digestion performed	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	
Copper, Total, ICAP	mg/L	0.023	0.023	0.0072	0.018	0.089	0.028	0.042	0.040	
Lead, Total, ICAP	mg/L	0.0081	0.0091	0.0011	0.0088	0.016	0.0029	0.0088	0.0086	
Zinc, Total, ICAP	mg/L	0.059	0.067	<0.020	0.08	0.210	0.081	0.17	0.150	
Copper, Total, ICAP, Dissolved	mg/L	0.013	0.013	0.0055	0.043	0.0074	0.0083	0.0086	0.012	
Lead, Total, ICAP, Dissolved	mg/L	<0.00050	<0.00050	<0.0005	<0.0005	<0.00050	<0.00050	0.00057	0.00068	
Zinc, Total, ICAP, Dissolved	mg/L	<0.005	<0.005	0.017	<0.005	<0.005	0.0077	0.039	0.051	
Turbidity	NTU	474	492	1,770	566	1,170	524	165	153	
Fecal Coliform Bacteria	MPN/100mL	>1,600,000	>1,600,000	30,000	16,000	160,000	240,000	110,000	160,000	
Fecal Streptococci	MPN/100mL	240,000	50,000	300,000	50,000	170,000	90,000	17,000	160,000	

Detention Basin Monitoring Lab Results	Parameter	Units	Meadows Detention Basin 8/27/07		Upper Flamingo Wash Detention Basin 8/27/07		Upper Flamingo Wash Detention Basin 9/22/07		Upper Flamingo Wash Detention Basin 1/05/08	
			Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
			MD-200-IN	MD-200-OUT	UF-200-IN	UF-200-OUT	UF-300-IN	UF-300-OUT	UF-400-IN	UF-400-OUT
			Composite Sample		Grab Sample		Grab Sample		Grab Sample	
		27-Aug-07	27-Aug-07	27-Aug-07	27-Aug-07	22-Sep-07	22-Sep-07	5-Jan-08	5-Jan-08	
Total Dissolved Solid (TDS)	mg/L	364	174	198	160	104	110	60	180	
Total Suspended Solids (TSS)	mg/L	519	256	1,340	129	315	1,800	194	288	
Total phosphorus-P	mg/L	0.82	0.84	1.40	0.25	0.57	1.90	0.26	0.66	
Orthophosphate-P	mg/L	0.48	0.66	1,200	0.420	0.40	2.80	0.30	0.70	
Nitrate-N by IC	mg/L	<0.44	1.10	1.30	0.83	0.39	0.51	0.28	0.89	
Metals digestion performed	Y/N	Y	Y	Y	Y	Y	Y	Y	Y	
Copper, Total, ICAP	mg/L	0.011	0.009	0.007	0.006	0.018	0.014	0.034	0.057	
Lead, Total, ICAP	mg/L	0.0012	0.0005	<0.0005	<0.0005	0.004	0.0038	0.0032	0.0052	
Zinc, Total, ICAP	mg/L	0.49	0.180	0.024	0.025	0.064	0.042	<0.1	0.130	
Copper, Total, ICAP, Dissolved	mg/L	0.0036	0.014	0.0049	0.0037	0.0130	0.016	0.0110	0.024	
Lead, Total, ICAP, Dissolved	mg/L	0.0013	0.001	<0.0005	<0.0005	0.0036	0.011	<0.0005	<0.0005	
Zinc, Total, ICAP, Dissolved	mg/L	0.029	0.023	<0.0005	<0.0005	0.059	0.080	<0.0020	<0.020	
Turbidity	NTU	133	129	964	151	207	1,252	55	173	
Fecal Coliform Bacteria	MPN/100mL	>1,600,000	>1,600,000	90,000	1,600	90,000	24,000	500	900	
Fecal Streptococci	MPN/100mL	NA	NA	NA	NA	NA	NA	3,000	2,400	

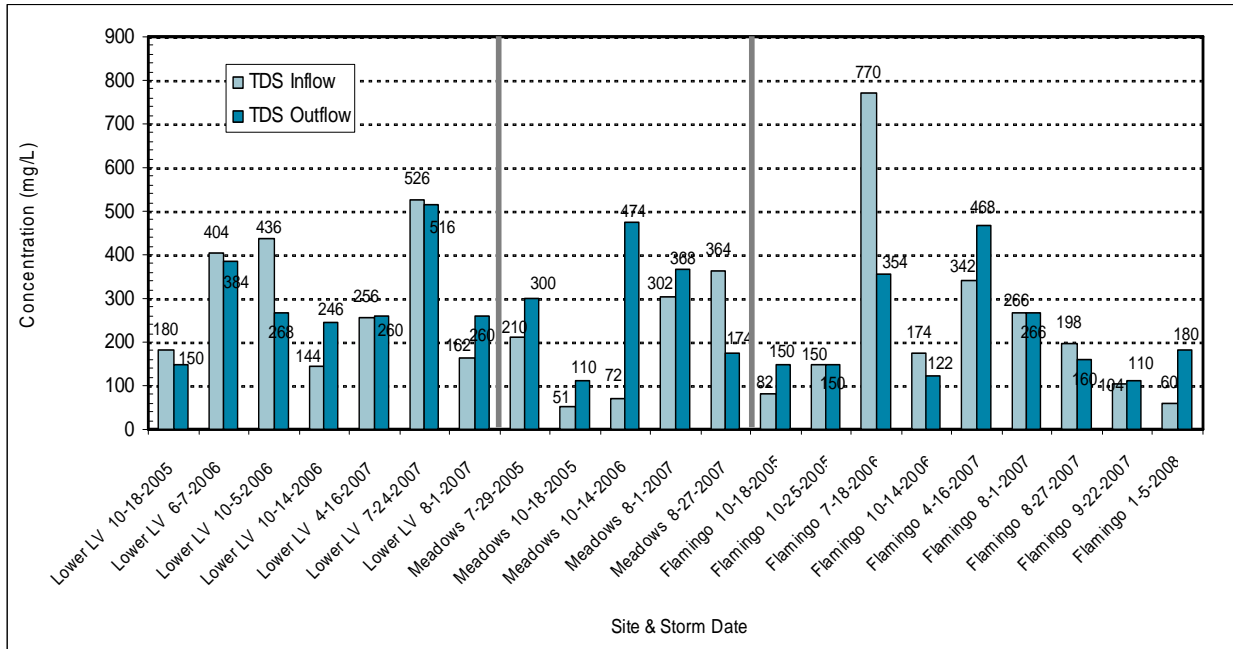


Figure 4-3
Detention Basin Monitoring Results for Total Dissolved Solids (TDS)

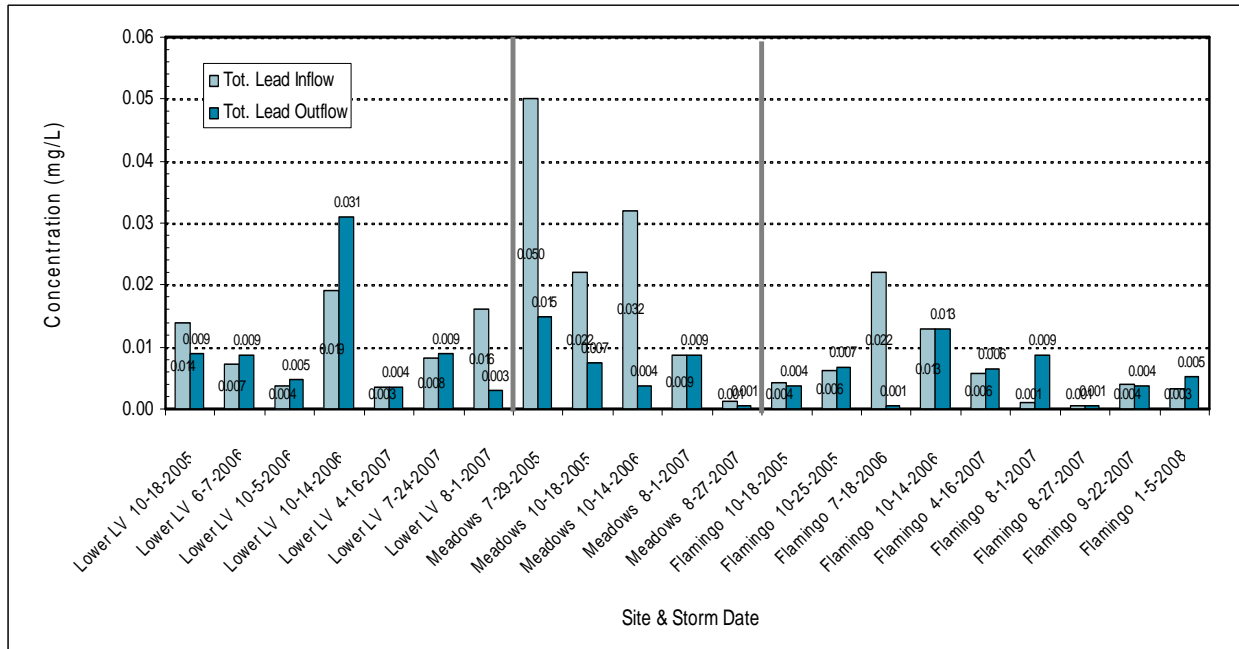


Figure 4-4
Detention Basin Monitoring Results for Total Lead

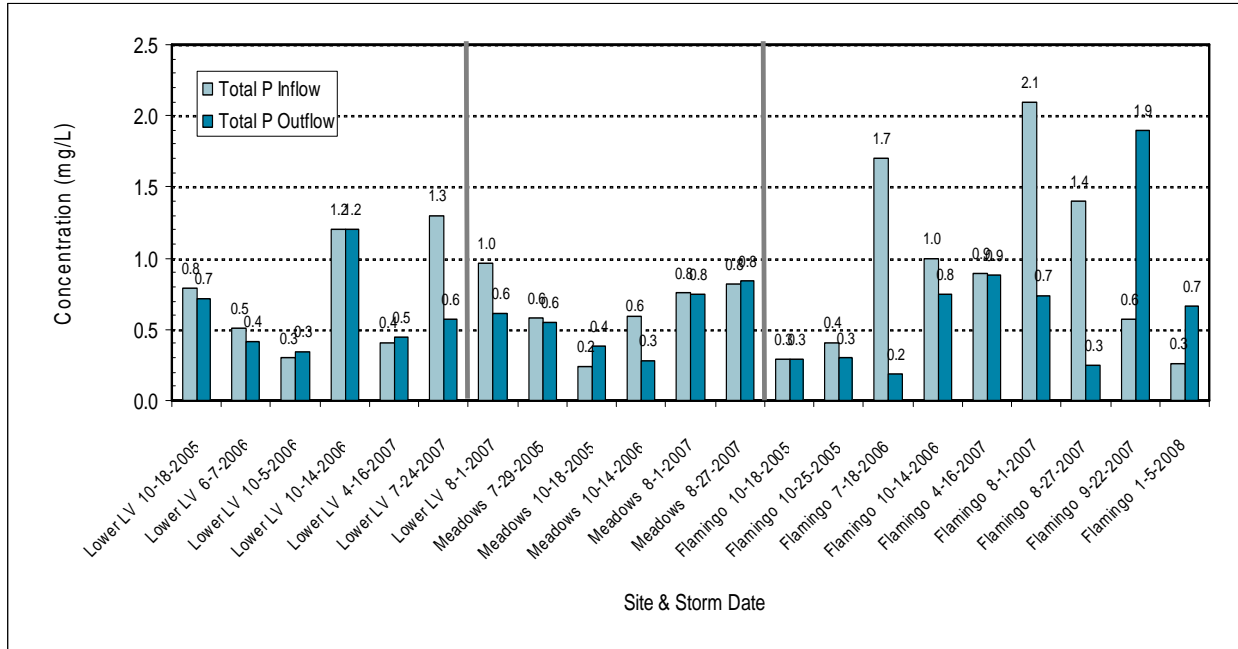


Figure 4-5
Detention Basin Monitoring Results for Total Phosphorus

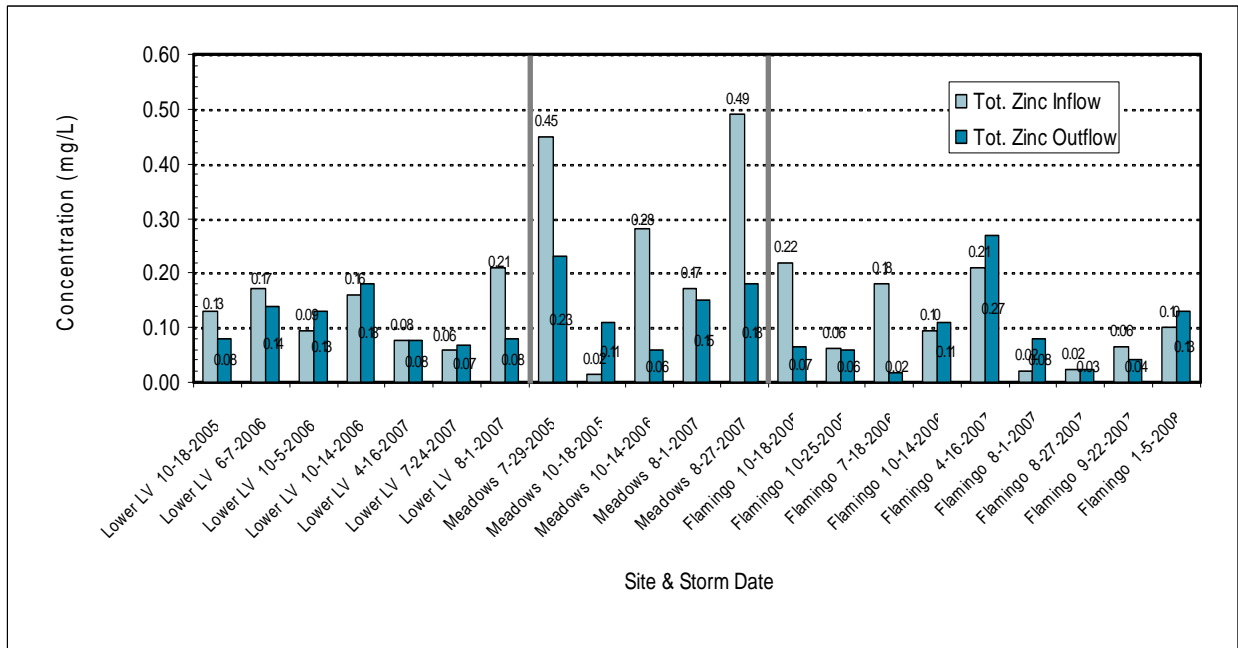


Figure 4-6
Detention Basin Monitoring Results for Total Zinc

The results of the Detention Basin Monitoring Program from 2005-2008 are described and analyzed in the results section of the Summary of Detention Basin Monitoring for Pollutant Removal Effectiveness – July 2005 through May 2008 TM in **Appendix F**.

4.4.5 Conclusion

The following conclusions can be drawn from the detention basin monitoring results.

- Overall, the three existing detention basins sampled to date are somewhat effective at reducing concentrations of the constituents analyzed.
- As expected, data demonstrates that detention basins are more effective at removing particulate constituents than dissolved constituents. Concentrations of primarily particulate constituents were reduced in 54 percent of the sample events, whereas concentrations of primarily dissolved constituents were reduced in only 41 percent of the sample events.
- Detention basins reduced the total metal concentration in half of the sample sets while the dissolved metal concentrations were only reduced in 33 percent of the sample sets.
- Surprisingly, sediment-related constituents (TSS and turbidity) were only reduced in 54 percent of the sample sets. This may be related in part to gravel mining in Upper Flamingo Detention Basin. Based on inspection and maintenance reports, detention basins are effective in removing sediment from inflows. However, the initial sampling data suggest that suspended (fine) sediment and associated particulates are not removed as effectively, possibly due to resuspension of previously deposited material.
- Meadows Detention Basin and Upper Flamingo Detention Basin reduced constituent concentrations in approximately half of the sample sets. However, Meadows Detention Basin had a higher percentage of increasing the constituent concentrations (43 percent) than did Upper Flamingo Detention Basin (37 percent). Storms occurring one week apart were sampled at Upper Flamingo Detention Basin. The basin showed significantly better performance in reducing constituent concentrations during the second storm; 12 constituents showed reduced concentrations or no change in the second storm, compared to 6 constituents showing reduced concentrations or no change in the first storm. This difference in performance may be evidence of the first flush effect during the first storm, or it may be due to differing effects of gravel mining occurring in the basin area.

4.5 LONG-TERM WATER QUALITY DATA ANALYSIS

During the 2007-2008 permit year, MWH performed analyses of long-term water quality data collected over the duration of the MS4 program. These analyses were performed to provide the permittees and the Stormwater Stakeholders Working Group with an understanding of the potential effects of key constituents of concern, long-term trends in the data, and the possible relation between extent of development in the watershed and measured water quality. Results of these analyses are provided in the technical memorandum entitled “Analysis of Long-Term Trends in MS4 Water Quality Data” found in **Appendix F**. Primary findings are summarized in the following sections.

4.5.1 Trends in Streamflow

Increased area of urban development would, in theory, increase the rates and volumes of streamflow occurring during both wet weather and dry weather conditions. Average annual streamflow in Las Vegas Wash near Lake Las Vegas and in Flamingo Wash near the confluence with Las Vegas Wash was plotted to see if trends could be observed. These plots are shown in **Figures 4-7** and **4-8**.

At both locations average annual streamflow is shown to have increased significantly over time. Average annual streamflow is comprised of a combination of storm runoff, dry weather flows from urban and other sources, resurfacing groundwater, and in the case of lower Las Vegas Wash, wastewater treatment plant effluent. Wastewater treatment plant effluent has increased in direct response to population growth. Resurfacing groundwater has probably increased in areas adjacent to Las Vegas Wash, particularly in the Henderson area, as a result of increased applied water for landscape irrigation. This factor strongly influences dry weather streamflows at the lower Las Vegas Wash gage locations and lower Duck Creek. The Flamingo Wash gage data plotted in **Figure 4-8** is less influenced by this effect. Urbanization is generally thought to increase dry weather flows due to miscellaneous factors such as over-watering of lawns, car washing, pool draining, dewatering for construction, and similar activities. This influence may be contributing to the trends see in **Figures 4-7** and **4-8**.

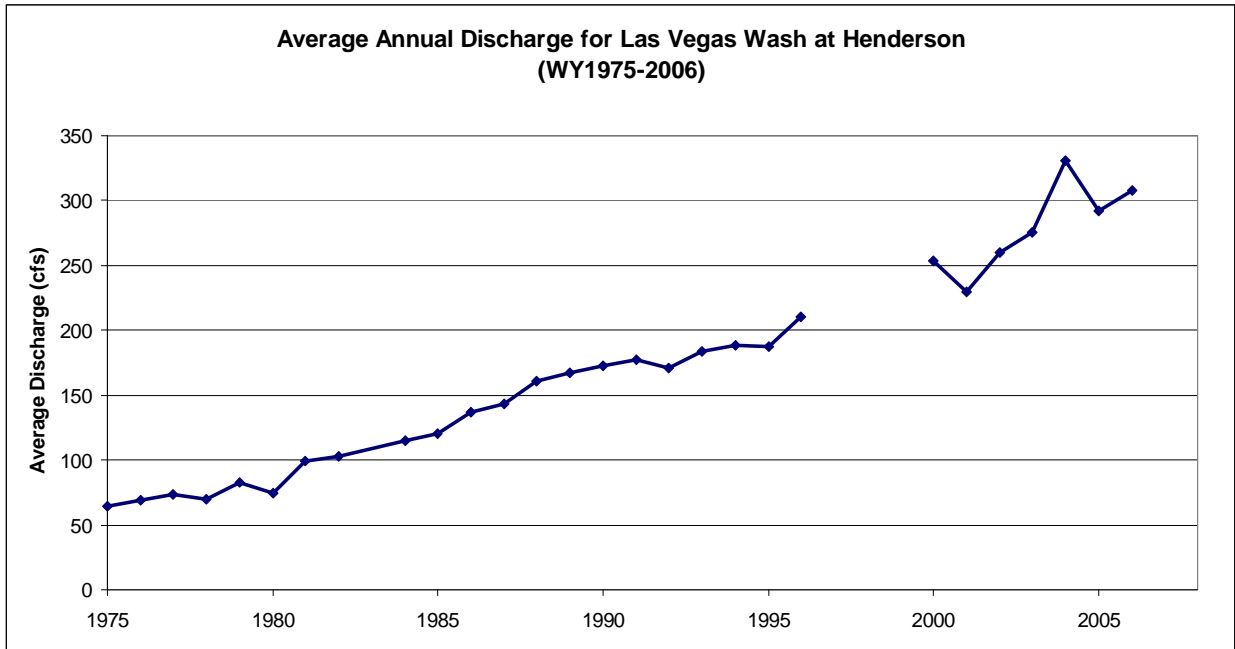


Figure 4-7

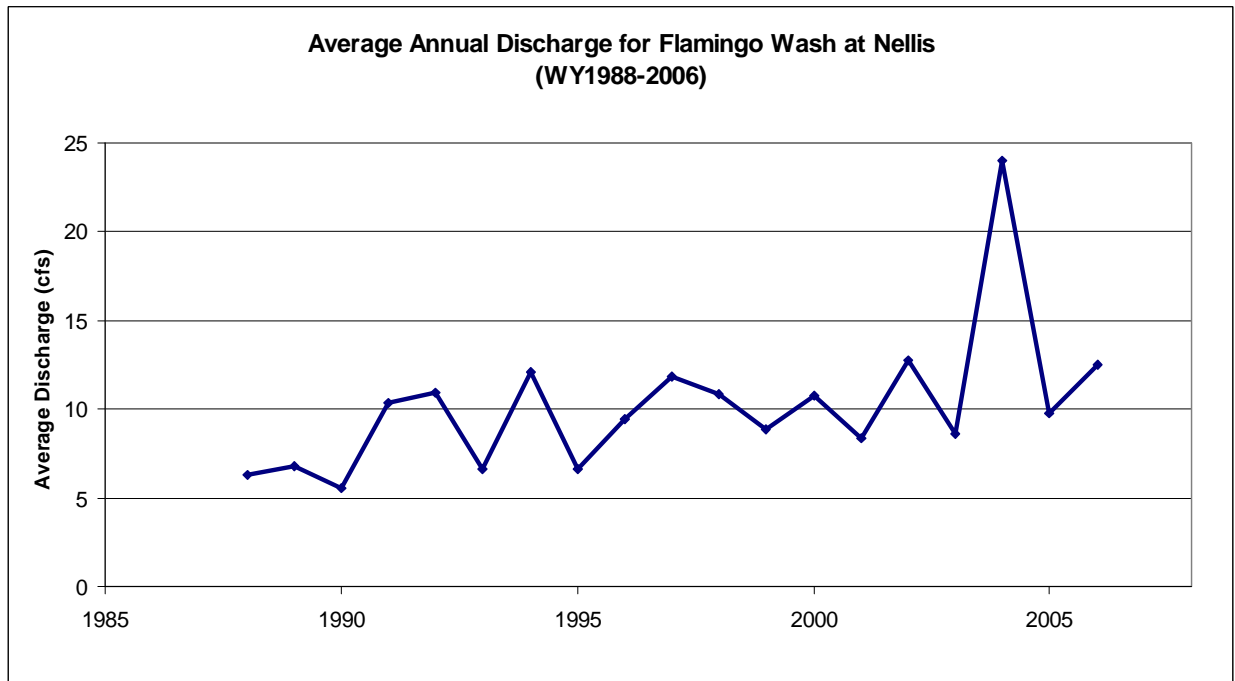


Figure 4-8

Base flows were subtracted from the total annual runoff at the lower Las Vegas Wash gaging station (which has been relocated several times due to failures during high flow events) to compute the annual storm runoff. This is shown in **Figure 4-9**. It is seen that annual storm flow is also increasing over time, demonstrating the effect of urban development on storm runoff. In 2002 MWH reviewed annual storm runoff and rainfall data to determine whether

the apparent increase in storm runoff was due to increased rainfall over the sampling period or to an increase in the percentage of rainfall that is converted to runoff. It was found that annual rainfall totals did not show an upward trend, but the ratio of annual runoff to annual rainfall did show an upward trend. This supports the conclusion that the percentage of rainfall converted to runoff in the Las Vegas Valley watershed is increasing as the level of development increases.

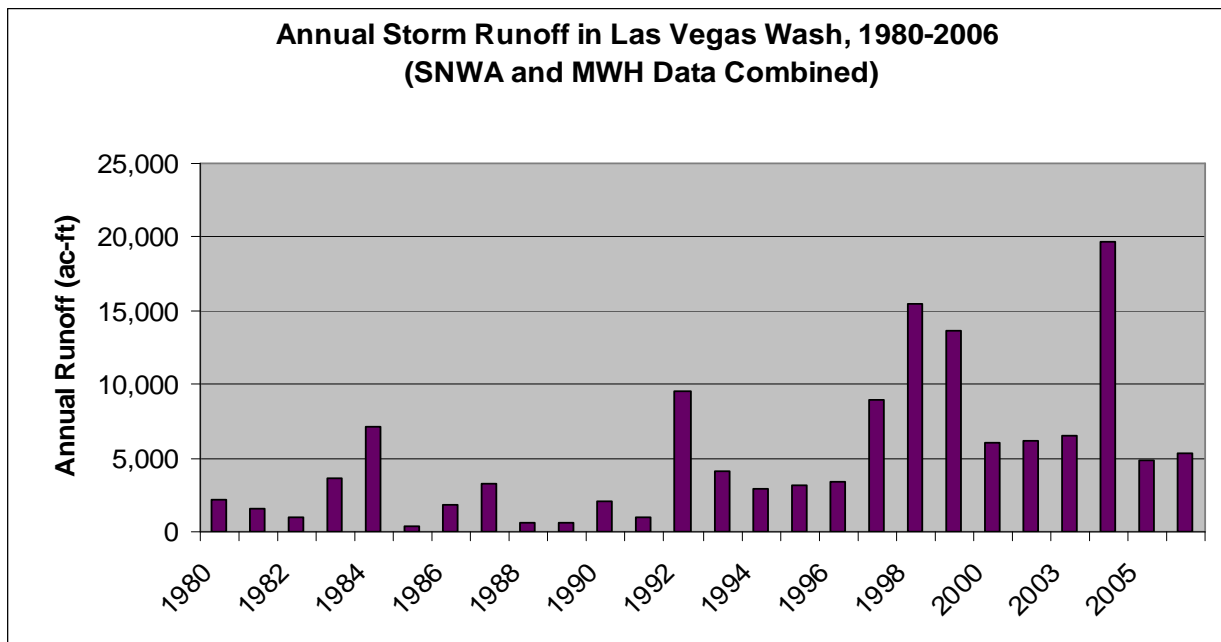


Figure 4-9

Taken together, the limited analysis of streamflow data presented above suggests that “hydromodification” – i.e., a change in the hydrologic regime of low flows and/or storm flows – has occurred and is continuing to occur in Las Vegas Valley as a result of a number of aspects of urban development.

4.5.2 Relationship Between Wet Weather Concentration and Development

Concentrations of selected urban pollutants (TSS, TDS, total phosphorus, nitrate, total lead and total zinc) measured at the lower Las Vegas Wash monitoring station were plotted against time and population to determine whether concentrations have increased as development has increased. **Figures 4-10, 4-11 and 4-12** show representative plots of this data. The results showed that the significant increase of development in Las Vegas Valley over the past 15 years has not resulted in an increase in concentration of any of the constituents investigated.

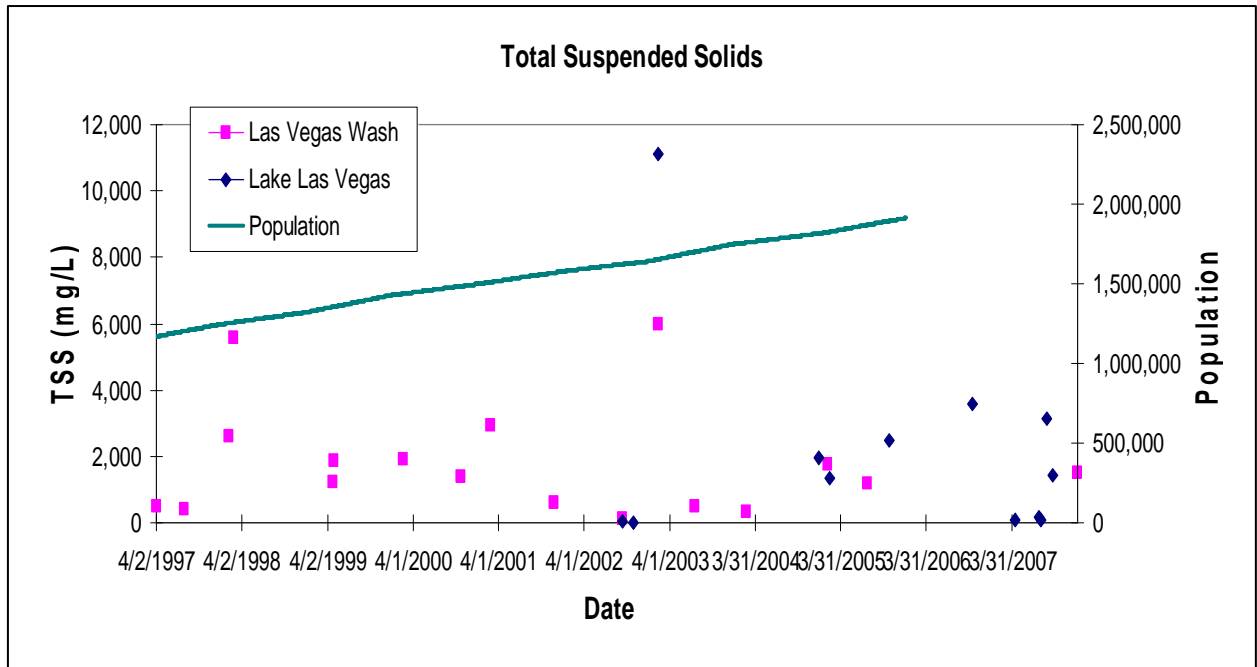


Figure 4-10

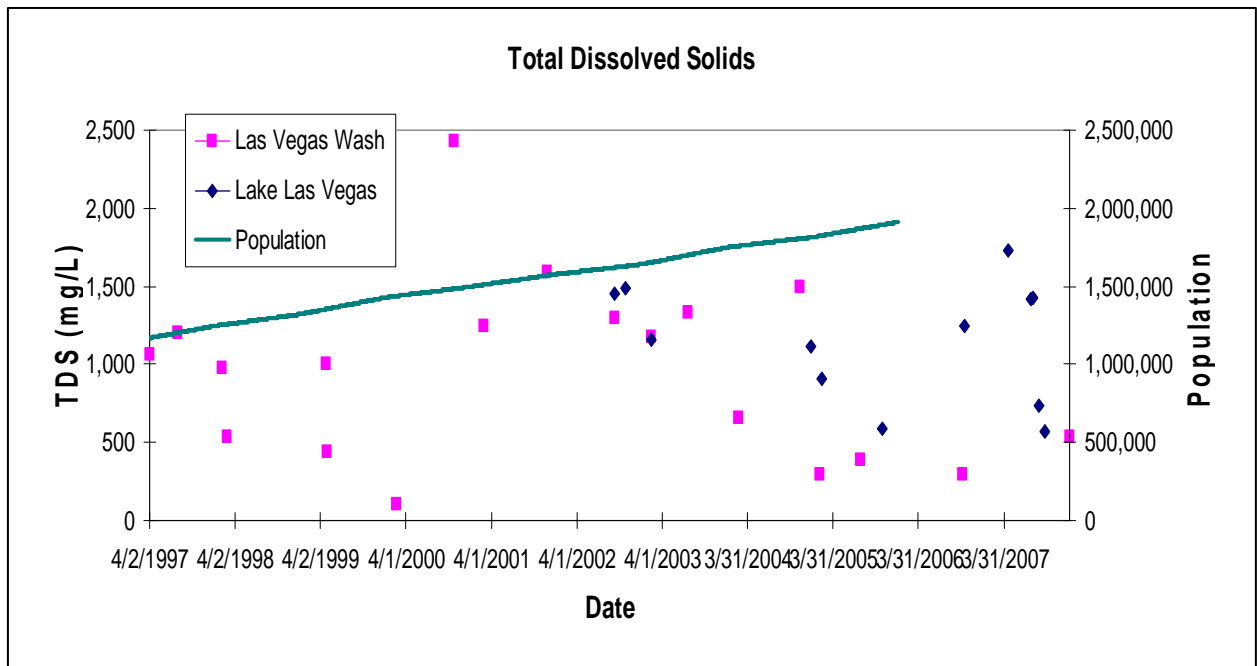


Figure 4-11

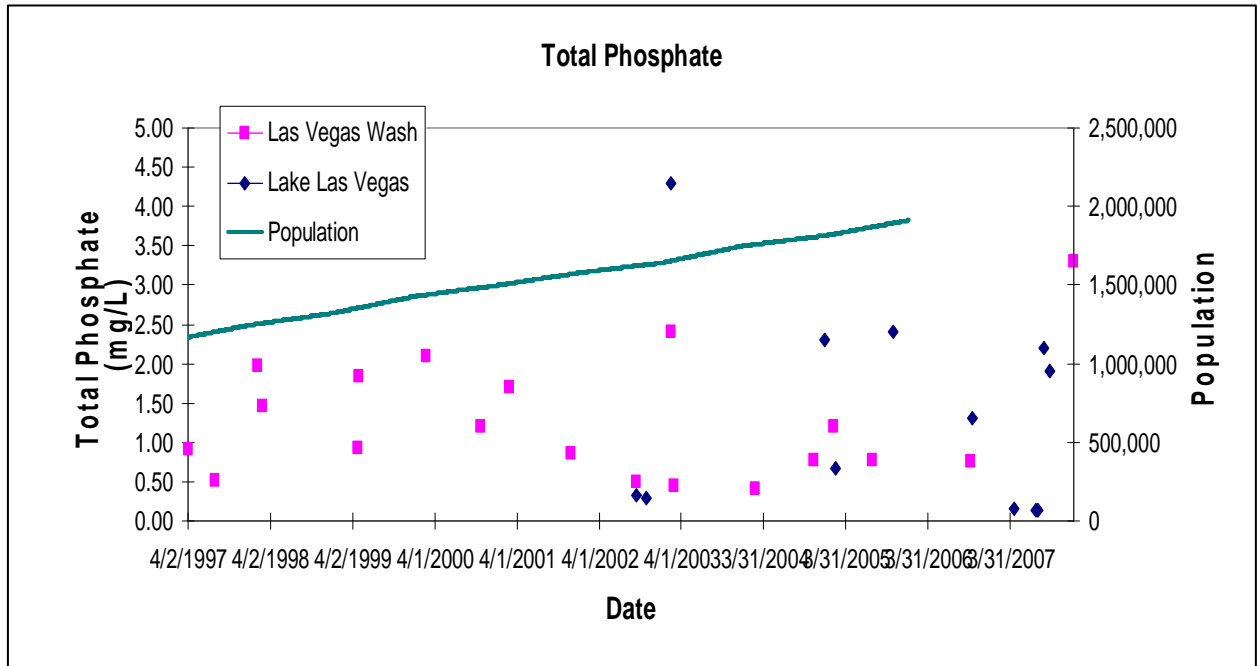


Figure 4-12

4.5.3 Wet Weather Concentrations Versus Flow Rate

Concentrations of selected pollutants (TSS, TDS, total phosphorus, nitrate, total copper, and total lead) in wet weather sampling were plotted against flow rate to determine whether there is a positive or negative relationship between concentration and discharge. The flow-weighted concentration for each wet weather sample was plotted against both average discharge during the sample collection period and peak discharge during the sample collection period. Both approaches showed the same basic relationships.

The plots in **Figures 4-13, 4-14 and 4-15** show flow-weighted concentration plotted against discharge for 3 representative constituents and monitored outfalls. **Table 4-12** presents the results for the 6 constituents at all monitored outfalls. The overall results can be summarized as follows:

- TSS, total phosphorus and other largely particulate constituents show a general positive correlation to discharge. This is consistent with the suspected higher suspended sediment transport at higher flow rates.
- TDS, nitrate and other dissolved constituents show a general negative correlation to discharge. This is probably due to the dilution provided at high flows.
- Metals, which have both particulate and dissolved fractions, show no consistent correlation to discharge.
- TSS and TDS show the strongest correlations across all sites, but even these have anomalies in the data sets (e.g., for TSS, low concentrations at high discharges, and for TDS, high concentrations at high discharges).

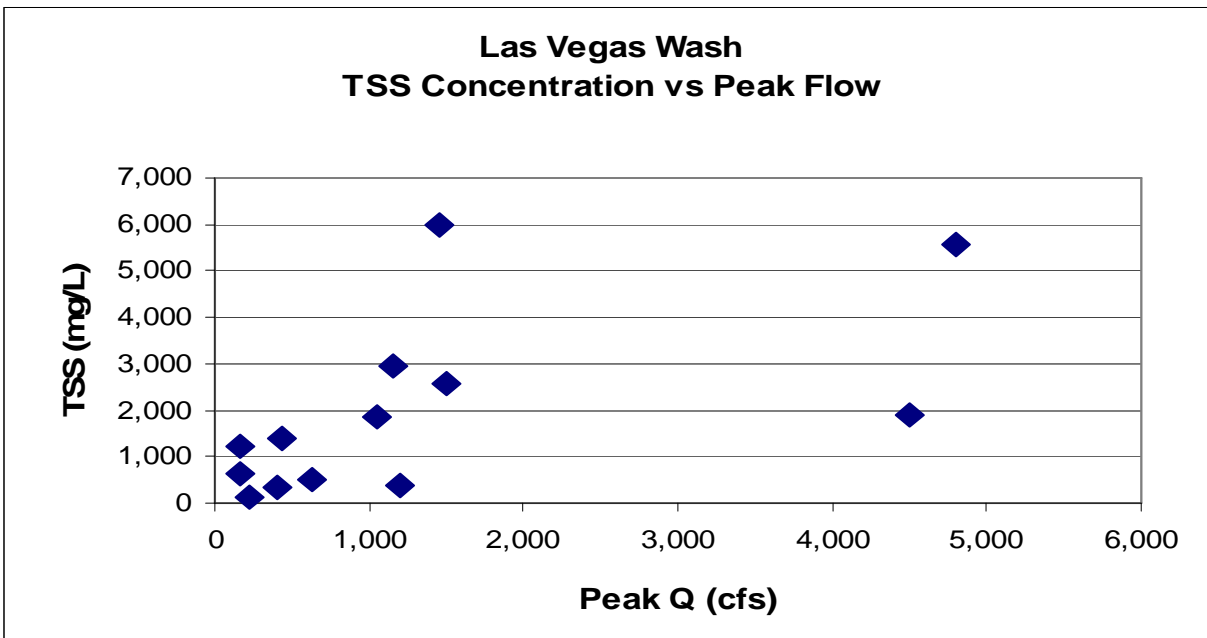


Figure 4-13

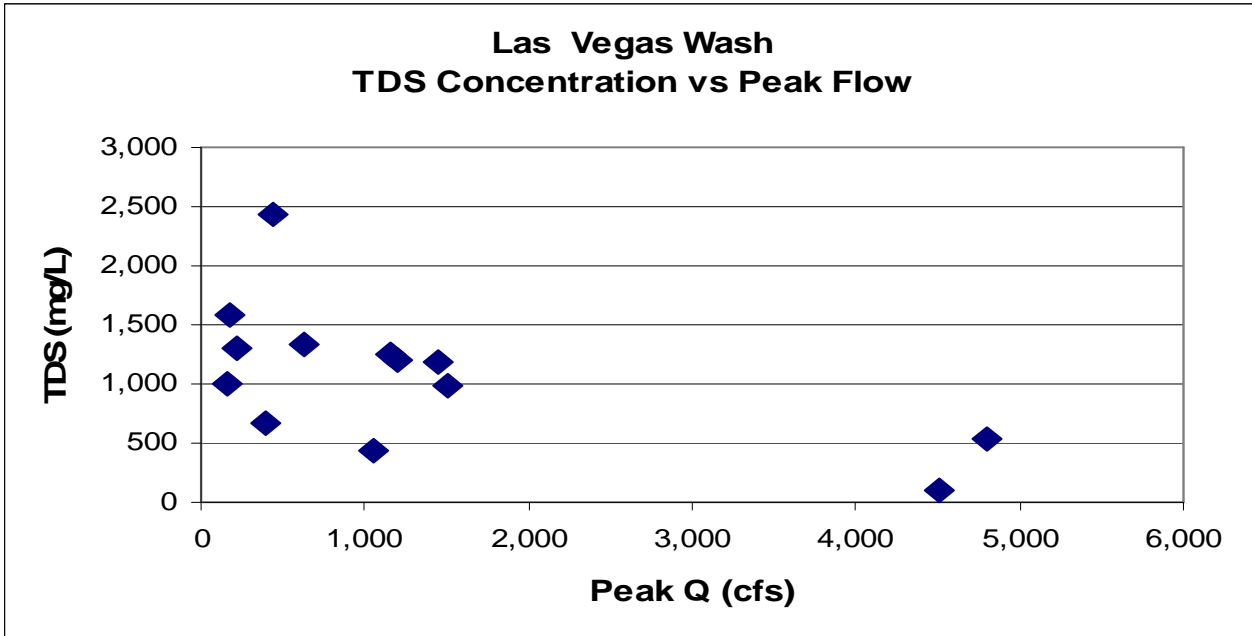


Figure 4-14

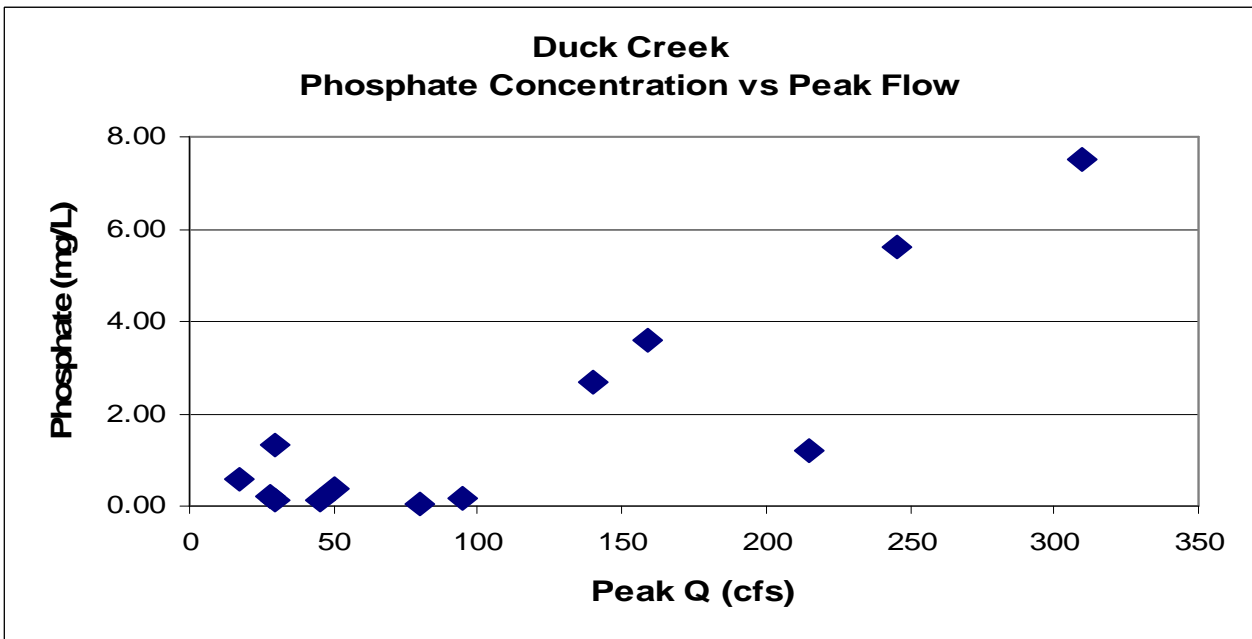


Figure 4-15

Table 4-12

Correlation Between Flow-Weighted Concentration and Discharge

Outfall	TSS	TDS	T Phos	Nitrate	Copper	Lead
Las Vegas Wash						
Average Q	+	-	+	-	+	x
Peak Q	+	-	+	-	x	x
Range Wash						
Average Q	-	-	x	-	-	x
Peak Q	-	-	x	x	-	-
C-1 Channel						
Average Q	+	-	-	x	+	+
Peak Q	+	x	-	x	+	+
Flamingo Wash						
Average Q	x	-	x	x	+	x
Peak Q	x	-	x	x	+	x
Duck Creek						
Average Q	+	-	+	x	x	x
Peak Q	+	-	+	x	x	+
Las Vegas Creek						
Average Q	x	-	x	x	x	x
Peak Q	x	-	x	x	x	x
Western Tributary						
Average Q	x	x	x	-	-	x
Peak Q	x	x	x	-	-	x
Synthesis						
Average Q	+	-	+	-	x	x
Peak Q	+	-	+	-	x	X

Notes:

- + = positive correlation
- = negative correlation
- x = no correlation

The relationship between concentration and antecedent dry period was investigated at selected sites (Las Vegas Wash, Flamingo Wash and Duck Creek) for the 6 selected parameters listed in the previous section. The theory was that longer antecedent dry periods before rainfall events would lead to greater pollutant wash-off and a seasonal first-flush effect. The limited available data does not demonstrate this effect. **Table 4-13** summarizes the results, and **Figures 4-16, 4-17 and 4-18** show representative plots of concentration versus antecedent dry days (i.e., days since the last measurable rainfall in the tributary watershed). Sometimes concentration is positively correlated to antecedent dry days as expected (e.g., total copper on Las Vegas Wash), while at other locations concentration is unexpectedly negatively correlated to antecedent dry days (e.g., TSS on Duck Creek). Most commonly there is no consistent relation to antecedent dry period. This suggests that individual storm characteristics such as intensity and location have more influence on water quality an antecedent dry period.

Table 4-13

Correlation Between Flow-Weighted Concentration and Antecedent Dry Days

Outfall	TSS	TDS	T Phos	Nitrate	Copper	Lead
Las Vegas Wash	x	+	-	x	+	x
Flamingo Wash	x	x	x	x	x	x
Duck Creek	-	-	-	-	x	x
Synthesis	x	x	-	x	x	X

Notes:

- + = positive correlation
- = negative correlation
- x = no correlation

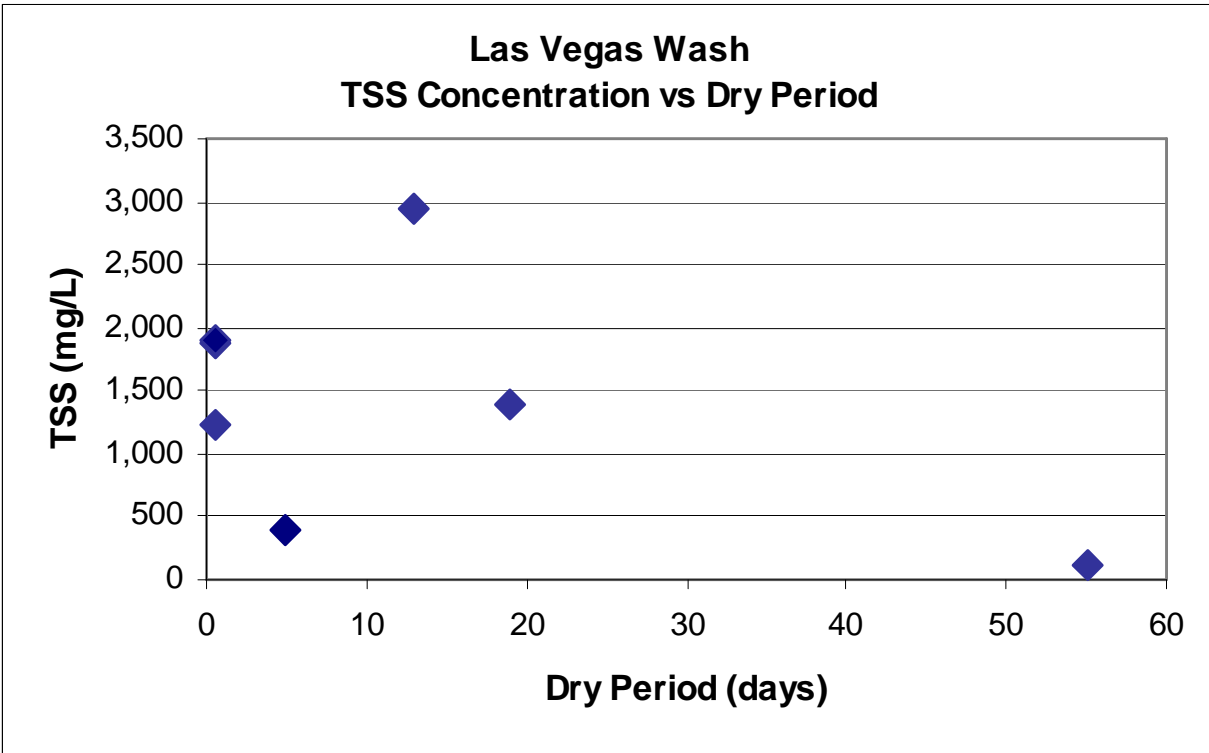


Figure 4-16

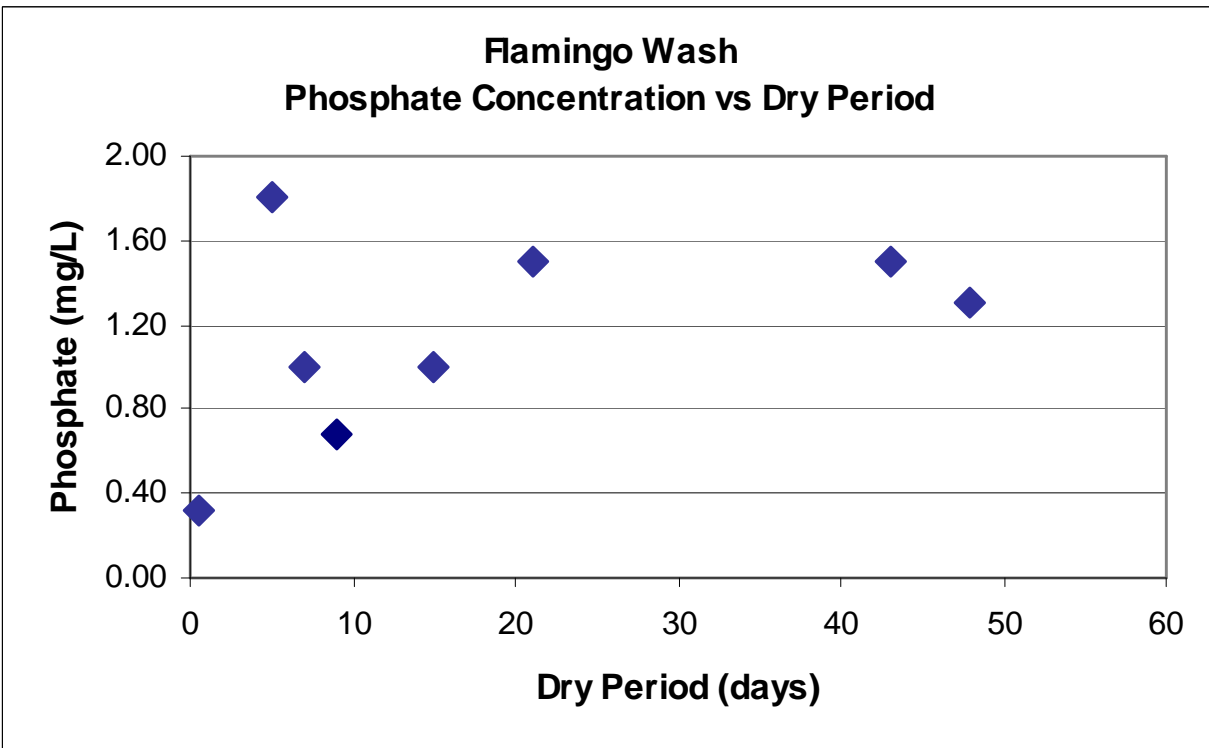


Figure 4-17

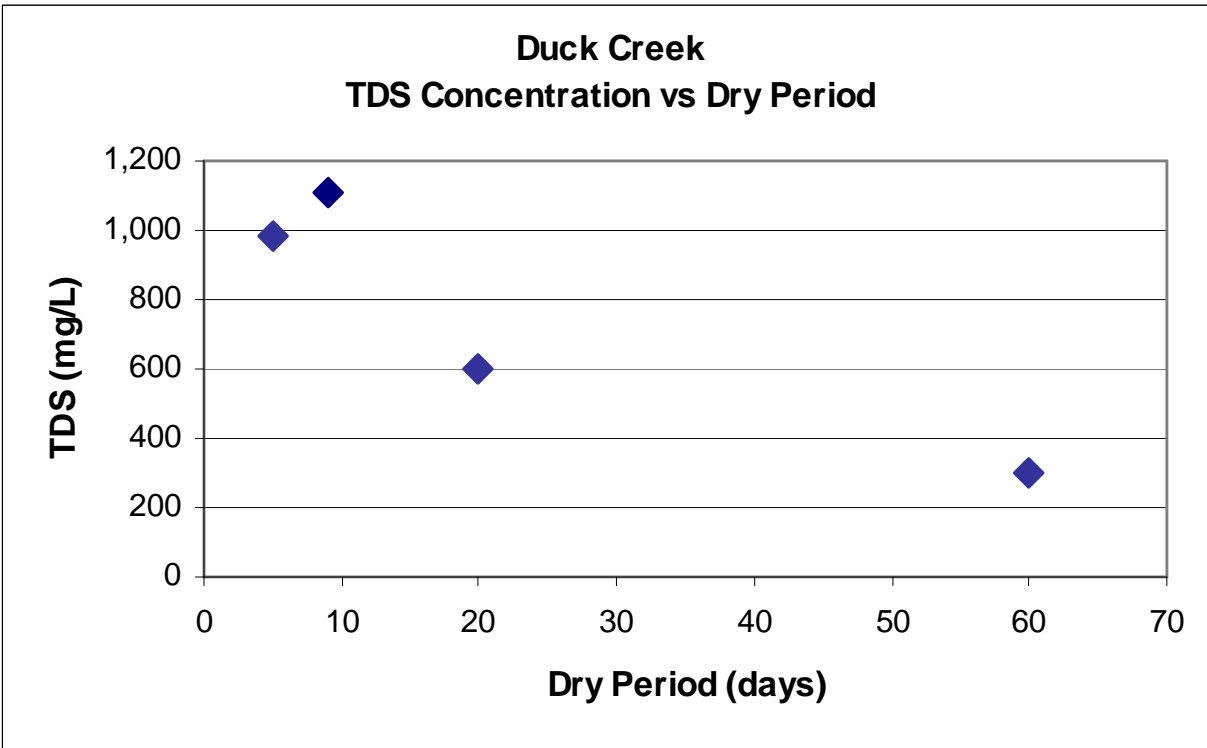


Figure 4-18

4.5.4 Dry Weather Concentration Trends With Development

Dry weather concentration data collected for Las Vegas Wash at Desert Rose was plotted against time and Clark County population to determine whether the data demonstrates an effect of increased urban development in the Las Vegas Valley watershed. The Desert Rose site was selected because it is upstream of the influence of wastewater discharges and most resurfacing groundwater. Representative results are shown in **Figures 4-19** and **4-20**. None of the 6 representative constituents analyzed (TSS, TDS, total phosphorus, nitrate, total lead, and total zinc) showed a significant positive correlation between concentration and population. There is no evidence in this data that urbanization is increasing concentrations of these constituents.

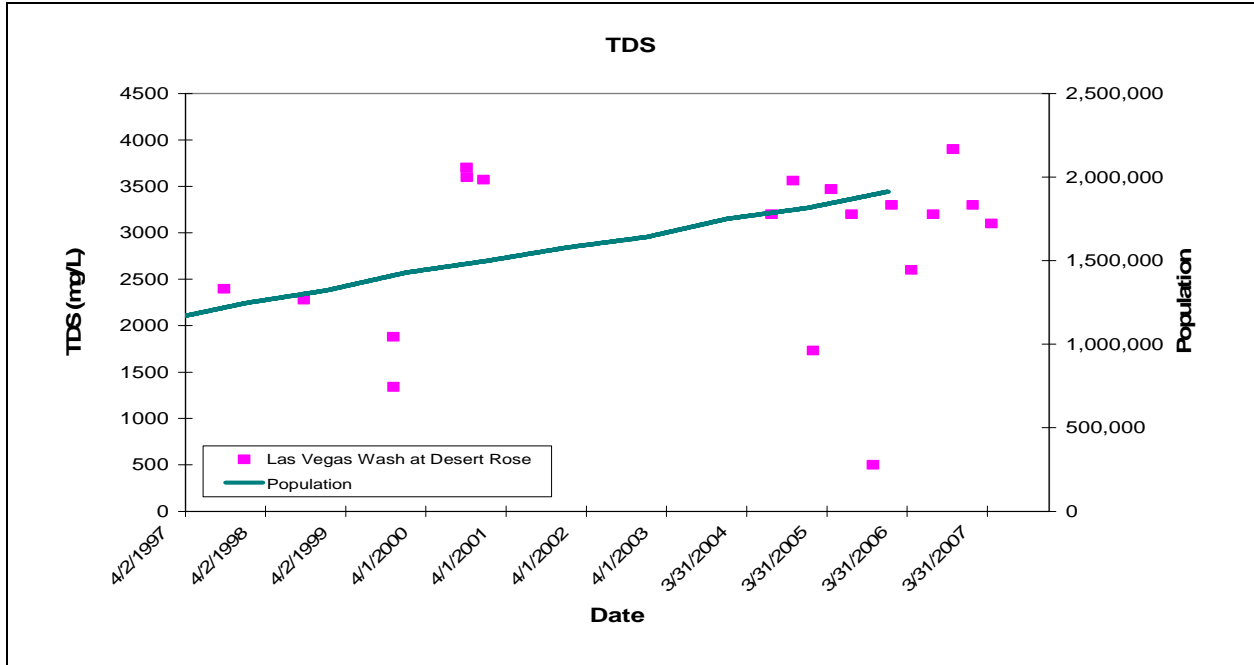


Figure 4-19

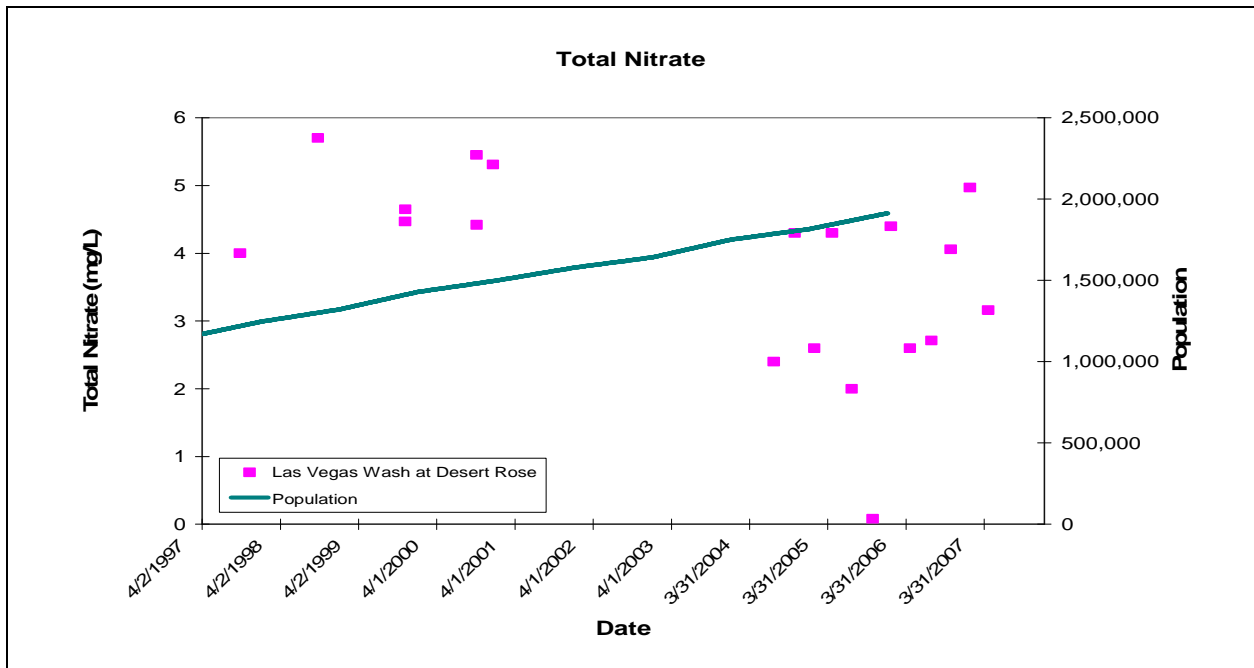


Figure 4-20

4.5.5 Pollutant Load Increases with Increased Development

Preceding sections show that: (1) dry weather and wet weather concentrations have remained fairly consistent over the past 15 despite over 100 percent increase in urban development in the Las Vegas Valley watershed; and (2) dry weather and wet weather flows have increased in response to this increase in development. Thus, although concentrations have not increased, pollutant loads delivered to lower Las Vegas Wash, Las Vegas Bay and Lake Mead have increased.

Increases in average pollutant loads delivered by Lower Las Vegas Wash were estimated by computing theoretical pollutant loads in 1991 and 2007 for dry and wet weather conditions. These are called “theoretical” loads because:

- wet weather flows were estimated assuming average hydrologic conditions based on **Figure 4-9**;
- dry weather flows were estimated as the difference between total annual flows from **Figure 4-8** and wet weather flows; and
- pollutant concentrations were estimated using the median value for the entire period of record at all sites.

Calculations of estimated flow volumes in Lower Las Vegas Wash in 1991 and 2007 are provided in **Table 4-14**. Calculations of estimated pollutant loads in 1991 and 2007 are provided in **Table 4-15**. Load calculations are only estimates, and provide the order of magnitude of annual pollutant loads and the change in load that has occurred during the period of the MS4 permit.

The following conclusions can be drawn from this analysis:

- Although concentrations have not increased significantly, pollutant loads to lower Las Vegas Wash have increased significantly over the period of the MS4 permit due to increases in wet and dry weather flow volumes.
- Pollutants more strongly associated with wet weather flows (e.g., TSS, phosphorus, metals) have experienced a greater increase in loads than those more strongly associated with dry weather flows (e.g., TDS, nitrate).

Table 4-14

Summary of Lower Las Vegas Wash Flows

Parameter	1991	2007
Total Average Annual Flow (cfs)	180	330
Total Average Annual Flow (af)	130,320	238,920
% Increase in Total Flow		83%
Total Storm Runoff in an Average Hydrologic Year (af)	2,500	7,500
% Increase in Storm Flow		200%
Total Dry Weather Runoff (af)	127,820	231,420
% Increase in Dry Flow		81%

Table 4-15

Calculation of Pollutant Loads

Constituent	Wet Weather			Dry Weather			Total	
	Median Conc. (mg/l)	1991 Annual Load (lbs)	2007 Annual Load (lbs)	Median Conc. (mg/l)	1991 Annual Load (lbs)	2007 Annual Load (lbs)	1991 Annual Load (lbs)	2007 Annual Load (lbs)
TSS	950	44,966	134,897	13	615	1,846	45,581	136,743
TDS	580	27,453	82,358	3140	148,624	445,871	176,076	528,229
Total Phosphorus	0.96	45	136	0.03	1.4	4.3	47	141
OrthoPhosphate	0.2	9	28	0.016	0.8	2.3	10	31
Nitrate	1.6	76	227	4.2	199	596	275	824
Total Copper	0.044	2	6	0.01	0.5	1.4	3	8
Total Lead	0.071	3	10	0.001	0.05	0.14	3	10

Note:

Detection limit is shown for Cu and Pb; median is less than DL

4.6 2007-2008 STORMWATER MONITORING PLAN

Wet weather characterization monitoring will continue at the two existing Las Vegas Wash monitoring sites: Las Vegas Wash at Desert Rose Golf Course and Lake Las Vegas at Rainbow Gardens. Sampling and analysis objectives will be the same as those adopted for 2007-2008, until additional direction is received from NDEP. It is possible that the new MS4 permit being drafted by NDEP could contain provisions that would affect the required elements of the stormwater monitoring program.

Dry weather characterization monitoring conducted for the NPDES program will be continued at the Desert Rose site. Data collected by SNWA for its Urban Tributaries Program and by the COH on the Lower Las Vegas Wash will be evaluated to continue to characterize dry weather flows in the Las Vegas Wash and the major tributaries.

Detention basin characterization monitoring will continue for at least one more year at the three currently sampled detention basins to increase the dataset for detention basin pollutant removal effectiveness. Other detention basins may be substituted based on recommendations of the Detention Basin Working Group or the Stormwater Stakeholders Working Group, particularly if a basin is selected for a pilot retrofit project.

SECTION 5

Public Outreach and Education Program



Section 5

Public Outreach and Education Program

5.1 INTRODUCTION

Part of the MS4 permit requirements (paragraph 4.5) for the Co-Permittees included developing a Public Outreach and Education Program as described in the *SWMP* Section 5.2. The objectives of the Public Outreach and Education Program are to:

- Inform the general public in the Las Vegas Valley about important water quality issues related to stormwater runoff.
- Influence behavior of the general public to reduce activities that have a negative impact on stormwater runoff quality and increase activities that have a positive impact on stormwater runoff quality.

The following subsections describe the public outreach and education activities performed during the 2007-2008 permit year.

5.2 COMMUNITY EVENTS

During the 2007-2008 permit year, Co-Permittees attended several community events to educate the general public about water quality issues by handing out informational material and answering questions. These events are listed below.

- August 7, 2007 – CNLV attended National Night Out, which was attended by about 1,600 people.
- March 1, 2008 – CDSN staff attended the Bark in the Park event and handed out stormwater material.
- March 8, 2008 – CDSN staff handed out stormwater material at the Concordia Homes Open House event.
- March 15, 2008 – CDSN staff attended the Acacia Demonstration Gardens Open House event and handed out stormwater material.
- March 29, 2008 – CDSN staff distributed stormwater material at the Spring in the Desert event
- April 10-13, 2008 – CDSN attended the Clark County Fair and distributed stormwater educational material.

- April 19, 2008 – CCRFCD and CDSN distributed stormwater program information at the Summerlin Earthfaire Summerlin Centre Community Park.
- April 22, 2008 – CDSN staff handed out stormwater material at Earth Day at UNLV event.
- April 26, 2008 – COH attended the Project Green Earth Day 2008 where stormwater quality and outreach materials were distributed.
- April 26, 2008 – CDSN staff handed out stormwater material at the Galleria Mall 2008 Earth Day Celebration.
- May 17, 2008 – CLV participated in the Helldorado Parade by handing out various kinds of education material.
- June 7, 2008 – CDSN staff attended World Oceans Day at the Mandalay Bay – Shark’s Reef and distributed stormwater material.

5.3 MEDIA MATERIALS

The “Storm Drain Cowboy” PSA was produced by the CCRFCD to encourage Valley residents to look for clogged drop inlets and report them to the CCRFCD. During the months of November and December, this PSA was aired during news programs on local television stations (Channel 3 and Channel 13) generating about one call per day to report problems with drain inlets, such as clogged storm drains, or illegal dumping.

The CCRFCD produced an anti-litter public PSA, based on a similar campaign in California developed by Caltrans. During the months of February, March and April, this PSA titled “Don’t Trash Las Vegas” was aired in rotation with the “Floods Happen” PSA and “Flood Insurance” PSA on local television stations (Channel 3, Channel 5, and Channel 12). CCRFCD received good public feed back on “Don’t Trash Las Vegas” PSA and it is a finalist for a PSA award.

The Flood Channel program titled *Protecting the Environment* was produced by CCRFCD and included an updated segment devoted to stormwater issues. The episode aired for six weeks on Channel 2 and Channel 4.

The CCRFCD won three awards at The Videographer Awards competition in 2007 for its educational DVD, *Desert Floods*, which included an expanded section on the environment, and an episode of the Flood Channel titled *Protecting the Environment*.

An annual survey is sent to Clark County residents to evaluate the effectiveness of the “Public Information Program.” The survey has been conducted during the beginning of

October every year since 1999. The 2007 survey was conducted during the period between October 1 and October 26 and 700 interviews were completed. Approximately twelve percent of the surveys were in Spanish. The survey uses five demographic variables to create sub-sets for data analysis. These variables are:

1. Residence area of respondent within Clark County
2. Length of time in Clark County
3. Age
4. Level of education
5. Gender

Selected findings from the survey include:

- Seven hundred residents were contacted.
- Three hundred forty-five respondents knew that stormwater runoff enters receiving waters with no treatment. This is a higher percentage than last year.
- Six hundred twenty-six respondents are willing to change their behavior if they knew what to do to improve water quality.
- Four hundred fifty respondents would like to know how to keep the environment clean.
- Three hundred seven respondents believe that the billboard campaign contest is somewhat effective in communicating flood safety to the community.

For further details, a copy of the survey results has been included in **Appendix G**.

5.4 PRINTED MATERIAL

A section was added to the *CCRFCD Annual Report* and flyer on stormwater pollution, including phone numbers to call to report potential violations of local ordinances.

Construction program brochures were printed and distributed at the contractor training workshops described in **Section 9.5**.

A one-page flyer to hand out during construction site inspections and contractor training was prepared in the 2004-2005 permit year to summarize the construction permit requirements and show pictures of acceptable and unacceptable construction site BMPs. Text was in both English and Spanish. Flyers were distributed to contractors during inspections and at training workshops.

In conjunction with the inlet marking program, CDSN has ordered 3,500 refrigerator magnets with the “Don’t Pollute” message as a way to reach out to the community about this issue.

5.5 WEBSITE

The Las Vegas Valley Water District (LVVWD) and the SQMC host a helpful website, www.lvstormwater.com, which provides information about the storm drain system, monitoring programs, public outreach, community programs, monitoring programs, and Federal and State regulations. Several guidelines for the construction industry, home owners, and business and industry are also found on the website (as a link) to educate the public about reducing the quantity and improving the quality of stormwater runoff. Tracking measures are being added to the website to provide the SQMC with information on how the site is being used and which sections are accessed most frequently.

Co-Permittees maintain and periodically update their websites to provide the public with information on topics such as water quality, BMPs, and related links to other information sources.

5.6 SCHOOL PROGRAM

In 2007-2008, CCRFCD conducted a program about the importance of flood safety and stormwater quality at elementary schools. The video titled *Desert Floods* was updated and used in the elementary schools around Clark County. The updated portion included a segment on stormwater quality.

CCRFCD also distributed educational materials on flood safety and water quality to 460 teachers and 9,002 students. See **Table 5-1** for a list of the 2007-2008 Student Flood Safety Awareness Presentations. A teacher survey was added to the program to assess the effectiveness of presentations made to their students. A copy of the survey is provided in **Appendix G**.

Table 5-1

**Elementary Schools
2007-2008 Student Flood Safety Awareness Presentations**

Elementary School	Grade Level	Students	Teachers	Date
Will Beckley Elementary School	3 rd	100	5	07/06/07
Myrtle Tate Elementary School	3 rd	70	3	07/09/07
Frank Lamping Elementary School	2 nd	60	3	07/10/07
John Tartan Elementary School	2 nd – 3 rd	160	8	07/11/07
Myrtle Tate Elementary School	3 rd	70	3	07/16/07
D’Vorre & Hall Ober Elementary School	3 rd	120	5	07/17/07
John Tartan Elementary School	2 nd	240	12	07/18/07
Aggie Roberts Elementary School	3 rd	110	5	07/23/07
John Tartan Elementary School	3 rd	220	11	07/24/07
Frank Lamping Elementary School	2 nd	140	7	07/25/07
Ira J. Earl Elementary School	1 st – 3 rd	360	23	07/30/07
J. Marlin Walker International School	3 rd	160	8	07/31/07
Don E. Hayden Elementary School	3 rd	180	9	08/07/07
Ulis Newton Elementary School	3 rd	140	6	09/11/07
J. M. Ullom Elementary School	2 nd	150	7	09/12/07
Montessori Visions Academy	PK – 5 th	140	15	09/18/07
C.P. Squires Elementary School	3 rd	120	6	09/21/07
Aggie Roberts Elementary School	2 nd	160	8	09/28/07
Steve Cozine Elementary School	3 rd	140	7	10/02/07
Mountain View Elementary School	3 rd	100	6	10/09/07
Herbert A. Derfelt Elementary School	3 rd	80	4	10/17/07
E. W. Griffith Elementary School	1 st – 5 th	175	10	10/25/07
Ollie Detwiler Elementary School	3 rd	140	7	11/06/07
Elizabeth Wilhelm Elementary School	3 rd	140	6	11/07/07
Nate Mack Elementary School	3 rd	100	5	11/08/07
Eva G. Simmons Elementary School	2 nd – 3 rd	150	7	11/15/07
D’Vorre & Hall Ober Elementary School	3 rd	120	6	11/29/07
Eva G. Simmons Elementary School	2 nd – 3 rd	150	7	12/13/07
O.K. Adcock Elementary School	3 rd	110	5	01/15/08
Roger Gehring Elementary School	3 rd	130	6	01/16/08
CVT Gilbert Elementary School	3 rd	20	1	01/22/08
P.A. Diskin Elementary School	2 nd – 3 rd	175	8	01/29/08
Gordon McCaw Elementary School	3 rd	120	5	01/31/08

Table 5-1 (Continued)

**Elementary Schools
2007-2008 Student Flood Safety Awareness Presentations**

Elementary School	Grade Level	Students	Teachers	Date
Cyril Wengert Elementary School	2 nd	135	8	02/01/08
Glen C. Taylor Elementary School	3 rd	150	7	02/06/08
Sandy Searles Miller Elementary School	2 nd	120	6	02/07/08
O.K. Adcock Elementary School	2 nd	100	5	02/12/08
Roger Gehring Elementary School	2 nd	115	7	02/13/08
Roberta Cartwright Elementary School	3 rd	145	7	02/19/08
Reynaldo Martinez Elementary School	2 nd	110	6	02/27/08
P.A. Diskin Elementary School	2 nd	68	3	02/28/08
J. T. McWilliams Elementary School	2 nd	120	6	03/04/08
Sunrise Acres Elementary School	2 nd	180	8	03/07/08
Joseph E. Thiriot Elementary School	2 nd	120	6	03/11/08
Steve Schorr Elementary School	2 nd	140	8	03/25/08
Gwendolyn Woolley Elementary School	3 rd	260	13	03/27/08
Elizabeth Wilhelm Elementary School	2 nd	140	7	03/28/08
Lomie G. Heard Elementary School	3 rd	100	5	04/02/08
D'Vorre & Hall Ober Elementary School	2 nd	120	7	04/03/08
Neil C. Twitchell Elementary School	3 rd	160	8	04/08/08
Ethel W. Staton Elementary School	3 rd	154	7	04/09/08
Dr. Claude G. Perkins Elementary School	2 nd	130	6	04/15/08
Richard C. Priest Elementary School	1 st – 3 rd	420	21	04/16/08
Clyde C. Cox Elementary School	2 nd	280	15	04/17/08
J. Marlin Walker International School	2 nd	150	8	04/22/08
Stanford Elementary School	3 rd	120	5	04/23/08
Linda Rankin Givens Elementary School	3 rd	150	7	04/29/08
Martin Lither King Elementary School	2 nd	80	5	05/06/08
Green Valley Christian School	3 rd	30	2	05/07/08
Dr. Claude G. Perkins Elementary School	1 st – 3 rd	200	8	05/23/08
Aggie Roberts Elementary School	3 rd	120	6	06/18/08
Total		9,002	460	

5.7 INVOLVEMENT IN OTHER ORGANIZATIONS

In 2007-2008, Co-Permittees continued to actively participate in other organizations in the Las Vegas Valley to promote interagency cooperation and conduct common outreach and education functions. The primary cooperative activities are described below.

- Drought Ordinance – The Co-Permittees worked on public education programs associated with the regional Drought Ordinance adopted in 2004. These programs

addressed excess outdoor water use and other behaviors that impact stormwater quality.

- SNWA Programs – The Co-Permittees support SNWA and its public outreach program that includes water quality components. The SNWA television program similar to the Flood Channel often addresses water quality topics.
- Sustainable Building Initiatives – Co-Permittee planning departments supported promulgation of information supporting sustainable building initiatives in the Las Vegas Valley. Two such programs are Leadership in Energy and Environmental Design (LEED), which was supported by all local governments, and the Southern Nevada Homebuilders Association (SNHBA) Green Building Initiative (GBI), which was supported by CLV. Each of these initiatives encourages use of low impact development on runoff quantity and quality. Residential and commercial builders are increasingly interested in using “green” building techniques, with the encouragement of planners at CC, CLV, CNLV and COH.

5.8 STORM DRAIN INLET MARKING PROGRAM

The Co-Permittees partnered with the CDSN to implement a storm drain inlet marking program. The program is funded by a Section 319 Non-Point Source grant, with matching funds provided by CC, CLV and COH. A total of 8,000 plaques will be installed along MS4 storm drains. One thousand four hundred rectangular plaques are available from the previous Las Vegas Valley inlet marking program in the late 1990’s (see **Figure 5-1**). One thousand four hundred new round plaques were ordered in English (see **Figure 5-2**), and 5,200 round plaques were ordered with both English and Spanish text (see **Figure 5-3**).

The plaques were ordered by the CDSN in July from a private manufacturer. The COH and CC will be using in-house personnel from their Public Works Departments to perform the installations. The COH has installed 25 plaques and CC has installed 206. The CLV will be contracting out the installation work from a sub-contractor with the help from the CDSN. The CNLV chose not to participate in the storm drain inlet marking program.

In addition to purchasing and installing the storm drain inlet markers, the Co-Permittees will collect GIS data on the location of the installed markers in order to track their installation and maintenance. This information will also assist CDSN in reporting progress related to the Section 319 grant.

Section 5 – Public Outreach and Education Program

A public outreach kickoff event was held on April 4, 2008, at Mandalay Bay Hotel and Casino. Co-Permittees are now in the process of installing the plaques and markers.



Figure 5-1
Storm Drain Plaque Used in Previous Marking Program

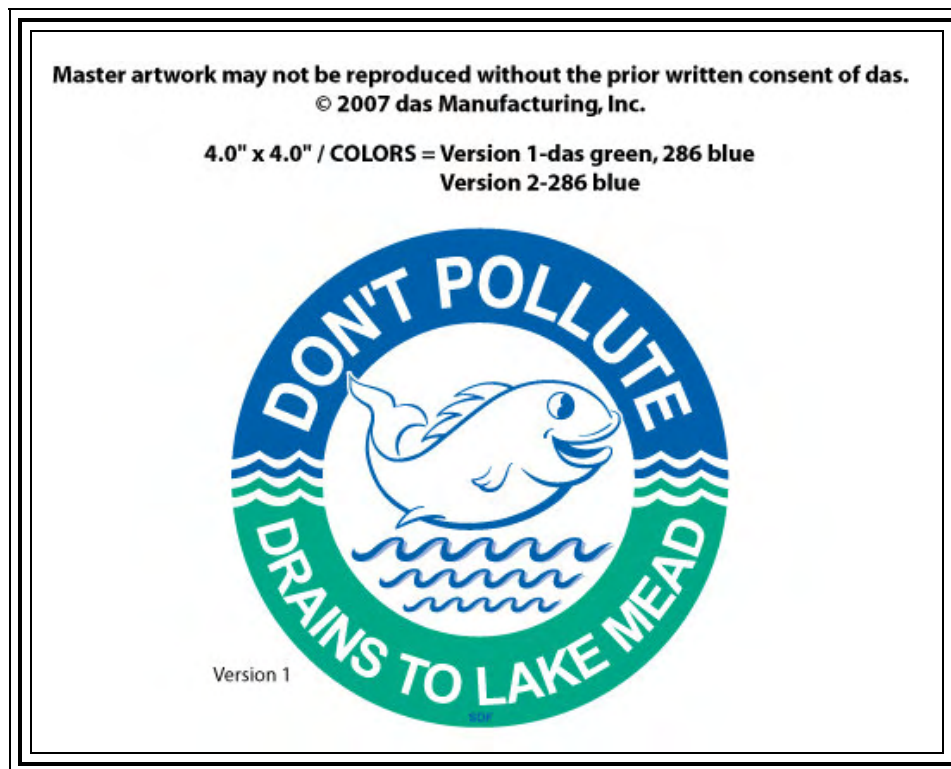


Figure 5-2
Storm Drain Plaque for 2007/2008 Marking Program



Figure 5-3
Bilingual Storm Drain Plaque for new Marking Program

5.9 CONSTRUCTION AND INDUSTRIAL PROGRAM

In 2007-2008, Co-Permittees conducted education and outreach activities targeting construction industry organizations (i.e., developers, contractors, and engineers) and permitted industries. Outreach activities to these groups are described below. Components of the education activities that deal with the construction and industrial programs are also described in **Section 8** and **Section 9**.

- The DAQEM conducts regular dust control classes that include a module on the stormwater program focusing on BMPs and construction practices. The module was developed and first implemented in the 2006-2007 permit year. Information is distributed to the contractor community via brochures discussing the program.
- The DAQEM includes a statement on their dust control permit application to notify applicants that are going to disturb $\frac{1}{4}$ acre or greater of land that compliance with regulations associated with stormwater is required by the State of Nevada. This statement is also included within the County's grading permit application language.

Section 5 – Public Outreach and Education Program

- Clark County Public Works includes language within their contracts for County construction projects notifying potential contractors of their responsibilities under the NPDES program and the transfer of monetary penalties if the County is found in violation (Section 637 of CCPW Specifications). COH also has this language in Standard Section 637 of its contracts for public works projects.
- The COH attended a Southern Nevada Homebuilders Association meeting and conducted a presentation of the city's construction site inspection program.
- November 28-29, 2007 – CCRFCD, CLV, CNLV, COH and NDEP conducted four sessions of a workshop for the construction industry on aspects of the construction permit program and proper construction site BMPs. See **Section 9.5** for more information.
- May 27 and May 29, 2008 – CCRFCD, CLV, CNLV, COH and NDEP conducted four sessions of a workshop for the construction industry on aspects of the construction permit program and proper construction site BMPs. See **Section 9.5** for more information.

SECTION 6

Structural and Source Control Measure Program



Section 6

Structural and Source Control Measure Program

6.1 INTRODUCTION

A Structural and Source Control Measure Program has been developed to mitigate the effects of urbanization on stormwater quality. These structural BMPs and source control measures address the miscellaneous requirements described in paragraph 4.6 of the permit. This program is also described in Section 6 of the *SWMP*.

6.2 STORM SEWER AND STREET MAINTENANCE

Sections 6.2 and 6.4 of the *Las Vegas Valley SWMP* require development of maintenance programs for drainage facilities and streets. This section describes the stormwater maintenance objectives, activities, and methods of tracking and reporting maintenance activities conducted for the *SWMP*.

6.2.1 Maintenance Objectives

Each of the municipal entities in the Las Vegas Valley developed storm drain system maintenance and street sweeping objectives based on standard practice as well as the expected benefit to stormwater quality. To the extent possible, these objectives were made consistent for all the Co-Permittees. **Table 6-1** summarizes the maintenance activity targets for each entity.

6.2.2 Activities Performed During the Permit Year

Each entity tracked information from the 2007-2008 permit year using internal tools and processes. These procedures and results are summarized in the following paragraphs and in **Table 6-2**. Entities' reports summarizing their BMP activities for the permit year are included in **Appendix H**.

6.2.2.1 Clark County

Street Sweeping. Clark County Department of Public Works (CCPW) tracks street maintenance through a comprehensive tracking program that is timecard and work order driven. The County is divided into 21 districts for street sweeping and maps are available for all County-owned paved streets with curb and gutter. The County tracks the number of lane miles in each district and the number of times they are swept each year. The County tracks the number of sweeper loads, and this number can be used to compute the total volume of material captured in the sweeping process.

Table 6-1

Maintenance Goals for Municipal Permittees

Entity	Street Sweeping	Drop Inlet Cleaning	Detention Basin Maintenance
Clark County	Sweep curbed-and-paved public county streets in urban area once every 30 days ¹ ; as-needed in rural areas	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate ²	Inspect during semi-annual channel inspections and after major storms ³ ; clean as appropriate
City of Las Vegas	Sweep curbed-and-paved public city streets once every 30 days ⁴	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate
City of North Las Vegas	Sweep curbed-and-paved public city streets once every 30 days ⁵	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate
City of Henderson	Sweep curbed-and-paved public city streets once every 30 days	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate

Notes:

- ¹ Clark County sweeps most urban public streets on a 7- to 10-day schedule.
- ² Unincorporated Clark County is divided into nine zones. Maintenance Management Division estimates it will take 8 to 10 weeks to complete a full rotation through all nine zones. Therefore, most inlets will be inspected/cleaned four times per year.
- ³ County also currently routinely inspects all detention basins two times per year.
- ⁴ CLV sweeps most urban public streets on a 14-day schedule.
- ⁵ CNLV sweeps most urban public streets on a 14-day schedule.

Table 6-2

Maintenance BMP Summary Report for 2007-2008

Maintenance BMP Activity	Clark County	Las Vegas	North Las Vegas ¹	Henderson
Street Sweeping				
Streets Swept (miles)	82,030	220,244	100,255	39,673
Material Removed (cubic yards)	30,544	²	23,233	³
Storm Drain Maintenance				
Number of Inlets Cleaned/Maintained	9,409	NA	194	330
Material Removed (cubic yards)	NA	1,500	149	3, ⁴
Detention Basins				
Number of Basins Inspected/Cleaned	16	16	8	
Material Removed (cubic yards)	840	²	472	84
Sediment Removed (cubic yards)	74	NA	NA	NA
Number of Complaints Received	NA	NA	12	8

Notes:

¹ Quarterly data is available in **Appendix H**.

² Total material removed from all maintenance activities = 46,356 cubic yards

³ Material removed from combined street sweeping and drain inlet maintenance activities = 2,682 cubic yards

⁴ 12,900 cubic yards of material was removed from maintenance of open channels

All material removed from streets, drain inlets and detention basins was hauled to the Apex Landfill

NA = Data is not available.

The County sweeps most urban public streets on a 7- to 10-day schedule. The County maintains a total of 2,542 curb miles within the MS4 permit area. In the 2007-2008 permit year, Clark County swept 82,030 street miles and removed 30,544 cubic yards of debris. The County determined that the goal of the street sweeping BMP to sweep curbed-and-paved public streets in urban areas once every 30 days was exceeded for the 2007-2008 permit year.

Drain Inlet Cleaning. CCPW tracks drain inlet maintenance through a comprehensive tracking program that is also timecard and work order driven. For drain inlets, the system tracks the number of inlets in each district and how often they are cleaned. The County currently maintains 9,409 drain inlets and catch basins. Clark County performed 9,409 drain inlet facility inspection and cleaning operations in the 2007-2008 permit year. The volume or weight of material removed during storm drain system maintenance activities is not currently recorded. The goal of the drain inlet cleaning BMP to inspect/clean 20 percent of drain inlets a minimum of once per year was exceeded in the 2007-2008 permit year.

Detention Basin Maintenance. Clark County maintains 16 detention basins in the Las Vegas Valley. Each basin was inspected at least two times during the 2007-2008 permit period, meeting the goal for this activity. A total of over 914 cubic yards of sediment and debris were removed from the basins listed below. This information was provided in Clark County's 2007-2008 annual BMP report.

- The Tropicana Detention Basin had 191 cubic yards of sediment and debris from storms removed.
- The Desert Inn Detention Basin had 5 cubic yards of debris removed.
- The Upper Blue Diamond Detention Basin had 20 cubic yards of debris removed.
- The Lakes Detention Basin had 194 cubic yards of debris removed.
- The Upper Duck Creek Detention Basin had 30 cubic yards of debris removed.
- The Upper Flamingo Wash Detention Basin had 420 cubic yards of debris removed.
- The Lower Duck Creek Detention Basin had 54 cubic yards of debris removed.

The Upper Flamingo Wash Detention Basin remains under contract with the United States Army Corps of Engineers (USACOE), which is increasing the storage capacity of the facility.

6.2.2.2 City of Las Vegas

Street Sweeping. The CLV is separated into districts. Sediment and debris from each district was dumped into one of two central refuse piles at either the west or east city yards. The Field Operations Department, which details the number of street miles swept and the number of inlets cleaned, produced monthly reports.

CLV sweeps most urban public streets on a 14-day schedule. The CLV swept 220,244 miles of streets in the 2007-2008 permit year. Drain inlets are also cleaned when streets are swept.

Detention Basin Maintenance. Sixteen detention basins were inspected twice per year as part of the Wash Walk program, and were also inspected after each major storm event. A total of 1,500 yd³ of sediment were removed from the detention basins. This satisfies the goal for this BMP. The basins were cleaned as needed after each inspection by the CLV maintenance contractor.

In the 2007-2008 permit year, the total volume of trash hauled from the east and west city yards to the Apex Landfill from all maintenance activities was 46,356 cubic yards.

6.2.2.3 City of North Las Vegas

Street Sweeping. The CNLV Public Works Department's Roadway Division was responsible for performing street sweeping duties on all CNLV-maintained streets (1,260 total miles). Street sweeping records were maintained at the CNLV Public Works Department's Roadway Division. The number of curb or lane miles of street sweeping was reported to the CNLV representative to the SQMC quarterly. The amount of debris collected from street sweeping was noted on the daily work order and was provided to the CNLV SQMC representative each quarter. The CNLV swept 100,255 miles of streets and picked up 23,233 cubic yards of debris during the 2007-2008 permit year. CNLV sweeps most urban public streets on a 14-day schedule, meeting the goal of sweeping streets once every 30 days.

Drain Inlet Cleaning. The CNLV Utility Department's Field Services Section performed drain inlet cleaning and other storm drain system maintenance. Records for these maintenance activities were maintained at the Utility Department, and reporting was provided on a quarterly basis at the SQMC meeting. Reporting included the number of drain inlets inspected and cleaned and an estimate of the amount of material removed. The CNLV inspected and cleaned 194 drain inlets, catch basins, and storm drains and removed 149 cubic feet of waste during the 2007-2008 permit year.

Detention Basin Maintenance. The CNLV Public Works Roadway Division was responsible for performing semi-annual inspections of detention basins. The Public Works Department's Development and Flood Control Division performed inspections of detention basin outfalls after each major storm event. The Public Works Department's Roadway Division was notified if debris/sediment needed removal based on these inspections by the originating Department/Division. Documentation of inspections and any debris removed, including estimated quantities, was reported in the semi-annual Wash Walk reports, which were prepared as part of the Illegal Connection Detection and Elimination Program, and in the quarterly BMP reports. Eight detention basin cleaning operations were performed, and a total of 472 cubic yards of material was removed during the 2007-2008 permit year.

6.2.2.4 City of Henderson

Street Sweeping. The COH had an objective of sweeping the curbed and paved public streets once every 30 days, as outlined in the *2004-2005 Annual Report*. They are currently sweeping the streets once every 2 days with seven street sweepers in operation. The COH swept 39,673 miles of streets in the 2007-2008 permit year.

Drain Inlet Cleaning. The COH hired additional maintenance staff to meet the drain inlet maintenance objectives of inspecting and maintaining 20 percent of the total number of drain inlets in the system every year. The maintenance staff has completed inspecting and cleaning the public drop inlets within the City limits approximately 2 years ahead of schedule. This objective was outlined in the *2004-2005 Annual Report*. The COH cleaned and

maintained 330 drop inlets and catch basins in the 2007-2008 permit year. The goals of the drop inlet cleaning program were met for the 2007-2008 permit year. The City is also ahead of schedule for inspecting and cleaning the entire system.

Material collected during the inlet clean up and street sweeping activities was delivered to the same drop off point. The City Maintenance Department is now working on measures to differentiate between the material collected from inlets and street sweeping. In the 2007-2008 permit year, COH removed 2,682 cubic yards of trash from inlet cleaning and street sweeping. In addition, about 1,588 cubic yards of material was removed from open channels.

Detention Basin Maintenance. The COH inspects and maintains regional flood control facilities under a maintenance agreement with the CCRFCD. Inspections were performed twice per year and after major storm events, and approximately 84 cubic yards of material were removed in the 2007-2008 period.

6.3 POTABLE WATER DISCHARGES

NDEP has authorized discharges from the drinking water system into the stormwater system by SNWA/LVVWD and COH, and has allowed required documentation for these discharges to be submitted as part of the Las Vegas Valley MS4 Permit *Annual Report*. NDEP requires discharges greater than 100,000 gallons and reservoir draining or flushing to be reported. Copies of this information are found in **Appendix H**.

6.4 NEW DEVELOPMENT PLANNING PROCEDURES

Paragraph 4.6.1.2 of the MS4 permit requires development of *“a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment.”* In the past, the Co-Permittees addressed this requirement through two approaches: (1) capture of sediment and other pollutants in regional detention basins; and (2) various training programs to address pollution prevention methods of the MS4 staffs.

As a result of the EPA audit of the MS4 Program and subsequent guidance provided by NDEP, the Co-Permittees agreed to develop and implement a comprehensive post-construction program targeting runoff from areas of new development and significant redevelopment. The SQMC formed a Development Guidelines Working Group (DGWG) comprised of planners and engineers to study technical and administrative issues associated with developing post-construction program for Las Vegas Valley. The DGWG has met regularly since June 2007, addressing topics such as post-construction programs in other arid communities; existing BMPs in Las Vegas Valley; structural and non-structural BMPs appropriate for Las Vegas Valley; maintenance concerns; and tracking and record-keeping issues. The SSWG has been tasked with the responsibility of developing the main components of the post-construction program, and began working specifically on program development in May 2008. Issues related to ordinance language giving the Co-Permittees the

authority to implement post-construction runoff controls were addressed by the SSWG earlier in the year. In their May 15, 2008, letter to NDEP, the Co-Permittees committed to completing development of a Post-Construction Program plan and implementation schedule by November 2008.

One of the initial findings of the SSWG in developing the Post-Construction Program is that there are many existing activities, measures, and programs currently being conducted in Las Vegas Valley that will be integrated into a comprehensive program for managing runoff from new developed areas. These activities are discussed in the following subsections. The detention basin component is discussed separately because it was specifically identified in the *SWMP* as a post-construction control measure.

6.4.1 Detention Basin Program

Regional detention basins are key components of the Las Vegas Valley MS4 system. These detention basins, funded by CCRFCD, are part of the regional flood control master plan for the Valley. Although existing detention basins have not been designed to intentionally provide water quality benefits, they cause sediment to drop out (and be removed by maintenance activities described previously) along with associated water quality constituents. The Co-Permittees believe the existing and proposed detention basins provide benefits to control runoff from developed areas, and thus are an important post-construction BMP for areas of new development and redevelopment.







In order to be an effective BMP, regional detention basins must meet two criteria: (1) they must control runoff from a majority of the developed area in the Valley; and (2) they must be effective in removing constituents of concern.

Figure 6-1 is a map showing the location of existing regional detention basins and the areas from which they capture runoff. This map demonstrates that all areas on the north, west and south sides of the urban core are controlled by one or more regional detention basins. These are the areas where the majority of new development is occurring. Therefore, runoff from most new development will be captured and detained in a regional detention basin. CCRFCD has plans to expand the system of regional detention basins as development continues. However, significant redevelopment is occurring in areas along the Las Vegas Strip and in the vicinity of downtown. These areas are downstream of all existing and proposed regional detention basins and would not be controlled by them.

A detention basin monitoring program was implemented in the 2005-2006 through 2007-2008 permit years. Inflow and outflow samples were collected at Meadows Detention Basin, Lower Las Vegas Wash Detention Basin and Upper Flamingo Wash Detention Basin. Water quality data from the monitoring program is presented in **Section 4**. Results of the three years of the program are summarized below and presented in detail in **Appendix F**.

AREAS DRAINING TO REGIONAL DETENTION BASINS

Legend

-  Streets
-  Airports
-  Railroads
-  Washes
-  Detention Basins
-  Detention Basin Watershed

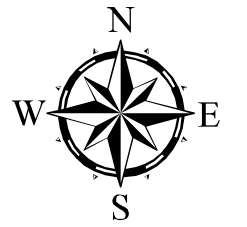
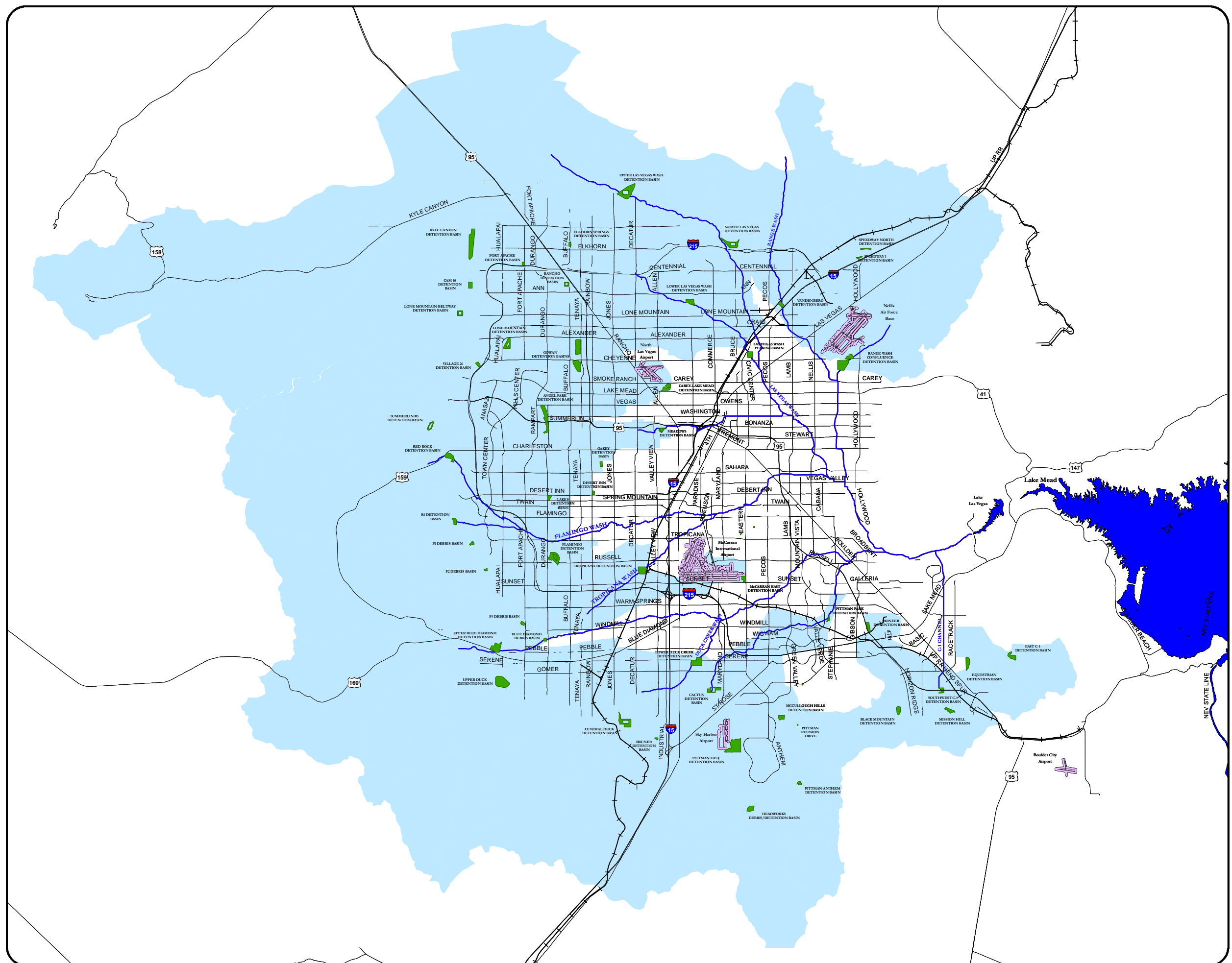


Figure 6-1

- Overall, the three existing detention basins sampled to date are somewhat effective at reducing concentrations of the constituents analyzed. However, in some cases outflow concentrations exceed inflow concentrations for various constituents.
- As expected, data demonstrates that detention basins are more effective at removing particulate constituents than dissolved constituents. Concentrations of primarily particulate constituents were reduced in 54 percent of the sample events, whereas primarily dissolved constituents were reduced in only 41 percent of the sample events.
- Of the classes of constituents analyzed, the regional detention basins are most effective at reducing concentrations of nutrients.
- Detention basins did not consistently reduce bacteria concentrations.
- Surprisingly, sediment-related constituents (TSS and turbidity) were only reduced in about half of the sample sets. This may be related in part to construction and gravel mining in Upper Flamingo Wash Detention Basin. Based on inspection and maintenance reports, detention basins are effective in removing sediment from inflows. However, the initial sampling data suggests that suspended (fine) sediment and associated particulates are not removed as effectively, possibly due to resuspension of previously deposited material.
- Meadows Detention Basin and Upper Flamingo Wash Detention Basin reduced constituent concentrations in approximately half of the sample sets. Storms occurring one week apart were sampled at Upper Flamingo Wash Detention Basin. The basin showed significantly better performance in reducing constituent concentrations during the second storm; 12 constituents showed reduced concentrations or no change in the second storm, compared to six constituents showing reduced concentrations or no change in the first storm. This difference in performance may be evidence of the first flush effect during the first storm, or it may be due to differing effects of construction occurring in the basin area. At this point, no determination will be concluded since more data is needed in order to determine if this was due to the above mentioned scenarios or to other factors.

Detention basin monitoring data for 2005-2008 suggests that existing regional detention basins provide moderate benefits for reducing certain constituent concentrations. These benefits apply more significantly to constituents occurring primarily in particulate form, but results can vary widely from storm to storm and from site to site. The detention basin monitoring program did not sample for reduction in sediment load between inflows and outflows. However, the previous subsection on detention basin maintenance demonstrates that the basins are effective in retaining sediment and preventing it from being conveyed into Las Vegas Wash and Lake Mead.

During the 2007-08 permit year, the Co-Permittees investigated the feasibility of retrofitting regional detention basins to improve their pollutant removal effectiveness. This investigation was conducted by the Detention Basin Working Group (DBWG), a group comprised of engineers representing each Co-Permittee. The DBWG prepared a white paper describing the types of methods commonly used to retrofit existing detention basins to provide better pollutant removal performance (see **Appendix K**). These included modifying the outlet structure to allow for more storage and less outflow during small storm events; constructing a sediment forebay; establishing a wetland plant community in the detention basin area; and increasing the length of the flow path through the detention basin. The DBWG considered the possibility of conducting a regional detention basin pilot retrofit project. A plan and cost were prepared to retrofit Vandenburg Detention Basin in North Las Vegas (see **Appendix K**). After considering the plan, the cost, and the low likelihood that retrofitting regional detention basins would be accepted by regulatory agencies as a stand-alone post-construction runoff control strategy, the DBWG recommended that regional detention basin retrofits not be pursued at this time. However, it was recommended that the SSWG consider this approach along with other approaches when developing the overall Post-Construction Program for Las Vegas Valley.

6.4.2 Post-Construction Program Development Approach

The SSWG adopted a systematic approach to developing the Post-Construction Program. This is summarized below. The status of each activity as of July 2008 has been indicated.

1. Set Program Objectives
 - A. Review water quality data for Las Vegas and national urban runoff databases [complete]
 - B. Review other post-construction programs, particularly in arid regions [in progress]
 - C. Summarize unique local climate, watershed and development conditions [complete]
 - D. Establish pollutants of concern for Post-Construction Program [complete]

- E. Establish scope of Post-Construction Program (size and type of development) [complete]
- 2. Optimize Existing Programs
 - A. Summarize existing BMPs and relevant programs [complete]
 - B. Link existing BMPs/programs to pollutants of concern [complete]
 - C. Identify needed enhancements to: [in progress]
 - i. expand to more pollutants of concern
 - ii. assure “credit” for stormwater program
 - iii. improve effectiveness for stormwater program
- 3. Identify Program Gaps [in progress]
 - A. Identify problems not addressed by optimized existing programs
 - B. Identify inconsistencies among existing programs that need to be resolved
 - C. Identify existing programs that are not controlled by MS4s
- 4. Select BMPs to Fill Gaps [in progress]
 - A. Consider source control versus regional solutions
 - B. Consider private versus public ownership issues
 - C. Consider maintenance responsibility
 - D. Consider funding options
- 5. Develop Plan for Program Implementation [in progress]
 - A. Develop required ordinances
 - B. Prepare Post-Construction BMP Handbook
 - C. Develop tracking and reporting procedures
 - D. Identify administrative changes required in MS4 agencies
 - E. Develop training program (for development community, engineers, etc)
 - F. Develop funding methods

6.4.3 Existing Post-Construction BMPs

The Co-Permittees are engaged in numerous existing activities that provide significant benefits for post-construction runoff water quality. These activities are described in **Table 6-3**. These existing BMPs are not identified in the current *SWMP* for the Post-Construction Program, but many are elements of other programs in the *SWMP* (e.g., Source Control). These “cross-over BMPs” are identified in **Table 6-3**

Table 6-3
Existing Las Vegas Valley Practices
That Provide Potential Benefits for a Post-Construction Program
(Provisional, Subject to Changes B y SSWG)

Existing BMP or Other Activity	In Current SWMP ¹	Description	Enhancements Possibly Needed to Meet MEP	Categories of Potential Pollutants Addressed by Measure	Land Use Types Benefited by Measure
Source Control Measures					
Street Sweeping Program	X	Removes pollutants from street surfaces before they are introduced to the MS4.	Include requirements for commercial properties and private streets	Heavy Metals, Nutrients, Organic Compounds, Sediment, Litter and Floatables, Hydrocarbons, Surfactants	Streets (public)
Storm Drain System Maintenance Program	X	Removes pollutants from drain inlets and storm drains before they are transported to receiving waters	N/A	Nutrients, Pathogens, Hydrocarbons, Organic Compounds, Pesticides and Herbicides, Sediment, Heavy Metals, Litter and Floatables, Surfactants	All
Conservation (Drought) Ordinance		Watering restrictions and turf limitations reduce urban dry weather flows and associated transport of landscaping pollutants	Tie the stormwater program issues into the drought ordinance in the event the latter is changed if drought ends	Pathogens, Nutrients, Pesticides and Herbicides, TDS, Selenium, pH, Surfactants, Hydromodification	Residential development Commercial/industrial development (with landscaping)
Commercial/Industrial Site Housekeeping		Practices prevent contact of rain water with potentially contaminated surfaces and materials and/or control site runoff	Ensure new stormwater ordinances require these measures. Ensure industrial site inspections by MS4 permittees check for housekeeping practices.	Pathogens, Nutrients, Pesticides and Herbicides, Litter and Floatables, Hydrocarbons, Surfactants	Commercial/Industrial development
Household Hazardous Waste Collection	X	Removes and properly disposes of hazardous materials prior to their introduction to trash collection areas and landfills	Improve public outreach to better advertise this service	Pesticides and Herbicides, Organic Compounds, Nutrients, Hydrocarbons	Residential development
Ordinances Prohibiting Non-Stormwater Discharges and Littering	X	Provides each entity with legal authority to prohibit discharge of non-stormwater (except as expressly permitted) to the MS4, including litter	N/A	Pesticides and Herbicides, Organic Compounds, Nutrients, Hydrocarbons, Heavy Metals, Surfactants	Residential development Commercial/industrial development
Desert Dumping Controls		Reduces incidents of dumping of potentially hazardous materials in rural areas	N/A	Trash and Floatables, Oxygen Demanding Substances, Pesticides and Herbicides, Organic Compounds, Nutrients, Hydrocarbons, Heavy Metals	Residential development
Grease Interceptor Inspections		Prevents overflows from sanitary system to stormwater system in restaurants and certain industrial facilities	N/A	Hydrocarbons, Oxygen Demanding Substances	Commercial/industrial development Restaurants
Dust Control Measures		Reduces airborne transport and eventual deposition of pollutants. Requires stabilization of dirt roads, reducing erosion.	Promote palliatives measures that do not add pollutants to storm drains	Sediment, Nutrients, Heavy Metals	Streets Commercial/industrial development
Public Education and Outreach					
Public Education – General Stormwater Awareness	X	Attempts to modify potentially harmful behaviors by disseminating information and products; targeted activities and pollutants in the past have included pet waste, illegal dumping, household hazardous waste management, over-watering	Prepare comprehensive public education program with short- and long-term strategies, including targeted programs for unique local land uses such as hotel/casinos	All except sediment	Residential development
Storm Drain Marking Project	X	Provides continual reminder of personal best management practices; currently in retrofit phase with considerations to expand to a regional planning level	Expand to regional planning level including all communities. Develop local design standards for new inlets. Require developers to install storm drain markers in all new development and redevelopment.	Nutrients, Organic Compounds, Hydrocarbons, Pathogens, Pesticides and Herbicides, Litter and Floatables, Surfactants	Residential development Commercial/industrial development
Developer Education – Green Building and LID Practices		Other organizations are promoting sustainable and LID building practices, which can reduce stormwater impacts based on site design principles	Partner with existing programs by other organizations to include stormwater education	Nutrients, Pesticides and Herbicides, Sediment, Pathogens, Oxygen Demanding Substances, TDS,/pH/Selenium (shallow groundwater areas), Hydromodification	Residential development Commercial/industrial development

Table 6-3 (Continued)
Existing Las Vegas Valley Practices
That Provide Potential Benefits for a Post-Construction Program
(Provisional, Subject to Changes B y SSWG)

Existing BMP or Other Activity	In Current SWMP ¹	Description	Enhancements Possibly Needed to Meet MEP	Categories of Potential Pollutants Addressed by Measure	Land Use Types Benefited by Measure
Regional Flood Control Projects					
Regional Detention Basins	X	Regional detention basins capture runoff from developed areas, allowing sediment and associated pollutants to drop out	Could employ retrofits to improve pollutant removal during frequent storm events	Sediment, Heavy Metals, Nutrients, Litter and Floatables, Hydromodification	All
Regional Channel Lining		Concrete lining and other channel stabilization measures by CCRFCD reduce erosion and associated sediment transport to downstream receiving waters	N/A	Sediment, Hydromodification	All
Las Vegas Wash Stabilization Structures		Wash stabilization measures (grade control structures, bank stabilization) by SNWA and LVWCC reduce erosion and encourage deposition of upstream sediment prior to reaching Las Vegas Bay and Lake Mead	N/A	Sediment, Nutrients, Heavy Metals, Hydromodification	All
Site Design Principles					
Low Impact Development		LID design reduces rate and volume of stormwater runoff from frequent storm events. LID design practices are being implemented in some new developments.	Need to emphasize proper design for stormwater benefits, and promote and/or create incentives for LID concepts in development community as part of stormwater program	Pathogens, Nutrients, Pesticides and Herbicides, Hydrocarbons, Surfactants, Hydromodification	Residential development Commercial/Industrial development
Open Space and Landscaping Objectives		Entities have open space, landscaping and recreation requirements, but they are not necessarily tied to stormwater program goals. Setting aside land for open space will prevent impacts of development from occurring on that land.	Need to create link between open space objectives and stormwater benefits, and adopt formal guidelines for using open space for stormwater management	Hydrocarbons, Organic Compounds, Sediment, Heavy Metals, Surfactants, Hydromodification	All
Habitat Conservation Planning (also part of Permitting measure)		Habitat conservation areas (e.g., for desert tortoise) provide open space that could be used for stormwater management. Setting aside land for habitat will prevent impacts of development from occurring on that land.	Need to create link between habitat conservation areas and stormwater benefits, and adopt formal guidelines for using open space for stormwater management	Nutrients, Hydrocarbons, Organic Compounds, Pesticides and Herbicides, Heavy Metals, Surfactants, Hydromodification	All
Floodplain Ordinances		Criteria for development in 100-year floodplain areas, which are high-impact areas for water quality	Existing floodplain ordinances would be enhanced to include stricter development restrictions adjacent to active channels (e.g., prohibit certain land uses with high potential to pollute)	Nutrients, Hydrocarbons, Organic Compounds, Pesticides and Herbicides, Heavy Metals, Surfactants, Hydromodification	All
Hillside Development Ordinances		Specifies design guidelines for development on steep slopes that minimize erosion	N/A	Sediment	Residential development
Preserve Natural Washes		Preservation of natural washes in master planned areas and recreation areas allows for natural runoff attenuation and infiltration in unlined channels	Need to create link between natural channel preservation and stormwater benefits, and adopt formal guidelines for using natural channels for stormwater mgt	Hydrocarbons, Organic Compounds, Pesticides and Herbicides, Surfactants, Hydromodification	All
Structural BMPs					
Sports complexes incorporated into detention basins		Turf areas and landscaping provide filtering of sediments and trash; potential adverse effects are from fertilizers, pesticides, and herbicides	N/A	Sediment, Litter and Floatables, Heavy Metals	All

Table 6-3 (Continued)
Existing Las Vegas Valley Practices
That Provide Potential Benefits for a Post-Construction Program
(Provisional, Subject to Changes B y SSWG)

Existing BMP or Other Activity	In Current SWMP ¹	Description	Enhancements Possibly Needed to Meet MEP	Categories of Potential Pollutants Addressed by Measure	Land Use Types Benefited by Measure
Cooperative Programs					
Southern Nevada Water Authority		Water conservation, drought management, water smart landscaping, Wash management, promoting commercial car washing, water quality monitoring, public education and other programs all have secondary benefits to stormwater quality program	Intentionally use SNWA resources to promote stormwater programs	All	All
Las Vegas Valley Watershed Advisory Committee		New organization taking a watershed approach to water quality planning	Intentionally use LVVWAC resources to promote stormwater programs	All	All
Sustainability and Green Building Initiatives		Initiatives adopted by local entities include minor components for onsite stormwater management that can reduce water quality effects	Increase emphasis with development community to get full stormwater benefits	Pathogens, Nutrients, Pesticides and Herbicides, Surfactants, Hydromodification	Residential development Commercial/Industrial development
Environmental Permitting		Complying with permitting requirements of NDEP, United States Army Corps of Engineers, U.S. Fish and Wildlife, etc. often have benefits to stormwater quality	N/A	All	All
Selenium Management Program		Program under development by Clean Water Coalition to reduce selenium in Lower Las Vegas Wash and tributaries to meet water quality standards	N/A	Selenium, TDS	All
SCOP Project		Project to reduce wastewater effluent flow in Lower Las Vegas Wash; will reduce dry weather pollutant loads to Lake Mead and erosion effects	N/A	Nutrients, Hydrocarbons, Organic Compounds, Heavy Metals, Surfactants, Hydromodification	All

Notes:

¹ BMP is specifically called out in the current MS4 Storm Water Management Plan as a practice the Co-Permittees have committed to perform, although not necessarily as part of the Post-Construction Program.

² Practice or measure is discussed in the current MS4 program Annual Report, although not necessarily as part of the Post-Construction Program.

During the next permit year, the *SWMP* will be updated to incorporate the elements of the Post-Construction Program currently being developed by the SSWG. At that time, these existing BMPs and other practices will formally become part of the Post-Construction Program. The SSWG will determine whether the existing BMPs listed in **Table 6-3** are sufficient to meet the standard of Maximum Extent Practicable (MEP), or whether they need to be enhanced or supplemented with new practices. However, in the meantime many existing BMPs are being implemented by the Co-Permittees or by other agencies in Las Vegas Valley. In some cases these BMPs are not specifically designed or implemented to improve stormwater quality, but they provide significant incidental benefits. It is noted that the non-MS4 agencies that are responsible for implementing some of the existing BMPs all receive financial, administrative and/or political support directly or indirectly from the MS4 Co-Permittees.

SECTION 7

Illicit Discharge Detection Program



Section 7

Illicit Discharge Detection Program

7.1 INTRODUCTION

The requirements of the Illicit Discharge Detection Program are described in paragraph 4.7 of the MS4 permit, and the adopted program elements are outlined in Section 7 of the *SWMP*. The program consists of four components: field screening, field inspections, public reporting opportunities, and a spill response strategy.

7.2 FIELD SCREENING PROGRAM

Field screening consisted of quarterly water quality sampling and analysis during dry weather conditions at eight locations in the Las Vegas Valley. One objective of the sampling program was to detect changes in dry weather water quality that could indicate the presence of illegal non-stormwater discharge to the drainage system. Dry weather monitoring was conducted by SNWA in 2007-2008 as part of its Urban Tributary Sampling program. See **Section 4.2** for dry weather results. Dry weather monitoring did not show any evidence of illegal non-stormwater discharge to the drainage system, compared to past years.

7.3 INSPECTION PROGRAM

7.3.1 Channel and Basin Inspections

Municipal separate storm sewers were inspected in Fall 2007 and Spring 2008. Inspections were performed by the staffs of the Co-Permittees and included visually inspecting exposed storm channels and detention basins, primarily focusing on those where dry weather flow persisted. The inspections were performed by visually observing open channel sections and looking for evidence of non-stormwater discharges. Emphasis was placed on those areas that had a reasonable potential of containing illicit discharges, exfiltration from the sanitary sewer system or other sources of non-stormwater. Also looked for were heavy sediment loads that may be associated with construction site runoff. Illicit discharge and dumping were referred to the proper local authorities for resolution. See **Appendix H** for complete channel inspection reports.

Clark County Fall 2007 Wash Walk reported intermittent minor dry weather flows, dry basins, and construction activity in several basins. At Flamingo Wash, Duck Creek Channel, Las Vegas Range Wash, and Tropicana Wash there were several potential problems observed and reported to NDEP and DAQEM. Construction activity was taking place near each location listed above with partial BMP's or no apparent BMP's in place.

Clark County Spring 2008 Wash Walk reported minor dry weather flow, minor inflows, dry basins, and construction activity in several basins during the inspections. At Flamingo Wash, Duck Creek Channel, and Las Vegas Range Wash there were several potential problems reported to NDEP. It was noted that construction activity was taking place along and in the

vicinity of each location and there were no apparent BMPs in place. Several locations (intersections) were listed and referred to NDEP.

The City of Las Vegas Fall 2007 Storm Channel Inspection reported minor flows, minor graffiti, and minor rocks. There was no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris. Observations included:

- An expansion joint in the Cheyenne Channel is deteriorating just west of Grand Canyon Drive. A photo was taken and sent to the City of Las Vegas Flood Control. Deteriorating concrete was also noted underneath Rampart Boulevard. Photos were taken and sent to the City of Las Vegas Flood Control.
- A bollard that was previously reported as being pulled out of the ground has been replaced at the Gilmore Channel.
- Construction activity is continuing inside Meadows Detention Basin and inside the Las Vegas Valley Water District property. The LVVWD property and the Meadows Detention Basin is becoming a public park. Ducks were observed in the channel enclosed between Meadows Detention Basin and US-95.
- Gowan North Lower Detention Basin still continues to be used as a soccer field. The fence located on the side of the inlet grate is broken. Large chunks of concrete are broken off the southwest corner inlet grate structure. Pictures were taken and sent to the City of Las Vegas Flood Control.
- A pressurized canister of refrigerant was noted inside the base of Gowan South Detention Basin. It has been hauled away by H2O Environmental.
- Noticeable erosion was found on the walls of the Rainbow East Detention Basin. The City of Las Vegas Flood Control was notified. A truck bed liner was sitting in the bottom of the basin, which was also noted during the previous inspection. The manhole cover was placed back on the manhole, but not bolted down.
- Rancho Detention Basin, northwest side contained standing water due to the outlet being sandbagged to prevent water from entering the basin (construction related).
- Approximately nine acres of the inside of the basin of Summerlin 5 Detention Basin is still being used as a plant nursery for the Howard Hughes Corporation. Water tanks are located inside the basin with “no trespassing private property” signs posted around the outside of the basin.

- Village 26 Detention Basin contained landscaping, block walls and paving as a demonstration project for the adjacent Pulte Homes development under construction. A photo was sent to the City of Las Vegas Flood Control.

The City of Las Vegas Spring 2008 Storm Channel Inspection reported minor intermittent flows, minor graffiti, minor to moderate vegetation, minor debris and trash, and minor algae. There was no visible evidence of illegal connections, illicit discharges, excessive trash and debris. Observations included:

- Construction underway on the north side of the Cedar Creek Channel (entire length).
- Grate in the block wall on the south side of the Cheyenne Channel has fallen down. Four dead rabbits were lying in the channel west of Rampart Boulevard.
- Deteriorating concrete underneath Rampart Boulevard and Soft Breezes Drive. (Cheyenne Channel) has been repaired since the last inspection.
- Gilmore Channel has construction underway to extend the channel northwesterly from Cliff Shadows Parkway.
- A large water hose extended from a construction stationary water tank adjacent into the covered portion of the channel underneath Lone Mountain Drive. The CLV Environmental Officer was informed.
- Small unidentifiable electronic device was noted in the tributary box culvert in the south wall of the opening of the Las Vegas Creek. A photo was forwarded to CLV Flood Control and CCRFCD for identification and action.
- Coolant odor was noted in the Elkhorn Springs Detention Basin. The odor was traced upstream through adjacent residential neighborhood but was unable to locate the source.
- Bollard chains were replaced in the Gowan North Upper Detention Basin, but some bollards have been undermined by erosion and are tilting into the basin.

The City of North Las Vegas Fall 2007 Storm Channel Inspection detected no illegal discharges during this inspection. Channels were in great to fair condition with no flows to moderate flows. Basins were in generally dry with no signs of illegal discharge. Minor dirt, sediment, and debris were removed from several basins. Observations included:

- The entrance gate at the north end of Bulloch St., Las Vegas Wash-Middle Channel, has been replaced since the Spring Inspection.

- The construction of the park/soccer field, Lower Las Vegas Wash Detention Basin, was completed in June.
- A tree was noted growing in the concrete lined portion of the Las Vegas Wash, “N” Channel, just south of Cheyenne bridge.
- Concrete was found on the east and west side of the Range Wash-West Tributary.
- Trees and vegetation are in need of removal in the Las Vegas Wash-Colton, between Losee Road and the railroad.

The City of North Las Vegas Spring 2008 Storm Channel Inspection detected no illegal discharges during this inspection. Observations included:

- Lots of debris and vegetation next to College of Southern Nevada (CSN) in the Las Vegas Wash, “N” Channel. A tree is growing in the channel. The low flow channel at the outflow needs clearing and there is graffiti at the Northwest inflow at Vandenberg Detention Basin.
- Vegetation and carts are in the Las Vegas Wash Middle – Cartier Channel at Crawford St. and Ellis St. Debris, trash, heavy vegetation, and small trees are in need of removal. Lots of graffiti was noted and the embankment is eroded between Carey Ave. and Cartier Channel. Road maintenance is needed between Las Vegas Blvd. and Cheyenne Ave. Small homeless camp is located on the east side of the channel.
- Lots of debris on Vandenberg Detention Basin access ramp.
- Broken gate at south end of Kyle Canyon Detention Basin access road and minor erosion in collectors.
- Erosion at the Lower Las Vegas Wash Detention Basin needs to be repaired. There is also minor erosion at the east end.
- Lots of graffiti noted at the Lake Mead/Owens Pipeline. Minor debris at the underpass and the cement embankment is breaking away.

The City of Henderson Fall 2007 Channel Inspection Report found a steady flow of water at various locations in the channel system. Damage was found to the spillway of the East C-1 Detention Basin. Minor trash and sediment was found at the outlet and low flow channel of the Pioneer Detention Basin. This will be removed during the next scheduled maintenance. Other channels were found to be clean and dry with no maintenance required.

The City of Henderson discharge permit annual report stated that channels and basins were visually inspected semi-annually during the Fall and Spring of each permit year. Sediment, debris, and trash found during the inspections are logged in inspection reports and maintenance is scheduled. Sediment and material that is removed is deposited at their Warm Springs maintenance yard and then transferred to the landfill at Apex.

7.3.2 Training Municipal Maintenance Staff

In previous permit years, Co-Permittees developed materials for training municipal maintenance staff to look for evidence of non-stormwater discharges to the storm drain system during their normal duties. Co-Permittees performed informal internal training sessions with maintenance personnel to increase their awareness of conditions in their communities that could indicate illegal discharges or dumping. The COH conducted formal training with its public works crews. The CLV has a formal training session scheduled for its maintenance personnel in July 2007.

7.4 PUBLIC REPORTING PROGRAM

There are several avenues by which the public can and has reported potential illicit discharges to the MS4. These are described below.

Website. The Co-Permittees' website, www.lvstormwater.com, has a link for reporting illicit discharges. This link gives contact information for reporting illicit discharges and clogged storm drains, and has an online complaint form through the Southern Nevada Health District (SNHD).

Southern Nevada Health District. The SNHD has the authority to enforce ordinances prohibiting dumping of solid waste and sewage to the Las Vegas Valley stormwater conveyance systems. The public can call SNHD and report problems directly, or a complaint form for reporting evidence of illegal dumping is found on the www.lvstormwater.com website.

Clark County Public Response Office. The Clark County Public Response Office (CCPRO) receives public complaints related to illegal dumping and other ordinance violations, and is empowered to respond to and address these problems.

Direct Contact With Co-Permittees. Each of the Co-Permittees receives direct calls from citizens reporting dumping, illegal discharges of non-stormwater to the drainage system, maintenance problems, and other activities that may affect water quality. The CLV, CNLV and COH follow up on these complaints within their jurisdiction; CCPRO follows up on complaints in unincorporated Clark County.

7.5 SPILL RESPONSE STRATEGY

The MS4 permit (paragraph 4.7.1.4) and the *SWMP* (Section 7.5) require development of a plan for responding to spills of non-stormwater liquids and solids to the drainage system. During the 2005-2006 permit year, the Co-Permittees prepared a Spill Response Strategy to summarize their coordinated approach to responding to illegal spills. The Spill Response Strategy was submitted to NDEP, and is contained in **Appendix I**.

Key components of the Spill Response Strategy are described below.

- The State and County each have hazardous material emergency response plans that adequately outline field procedures, roles and responsibilities, training requirements, and notifications. Each local entity also has standard operating procedures for dealing with illegal dumping or accidental spills.
- The Clark County Local Emergency Planning Committee (LEPC) meets regularly to coordinate the activities of all emergency response agencies in Las Vegas Valley. The LEPC encourages use of common policies and procedures and passes on information related to regulations and spill response techniques. Steve Ross of Las Vegas Valley Water District is a member of the LEPC and is also a regular attendee of SQMC meetings. He acts as an SQMC liaison to the LEPC, assuring that stormwater system concerns are adequately reflected in LEPC planning and coordination.
- H2O Environmental is a private contractor that is used by all entities in Las Vegas Valley to respond to and clean up hazardous material spills over 25 gallons. Standing contracts with H2O Environmental allow the firm to respond to spills quickly (within 45 minutes anywhere in Las Vegas Valley).
- The hazardous material emergency response plans contain extensive notification lists, of individuals and agencies that should be contacted in the event of a hazardous material spill. The CCRFCD has been added to the standard notification lists to assure that the MS4 representatives are aware of any hazardous material spills that could affect the stormwater systems in their jurisdictions.

SECTION 8

Industrial Facility Monitoring and Control Program



Section 8

Industrial Facility Monitoring and Control Program

8.1 INTRODUCTION

Industrial sites can be potential sources of urban stormwater pollution. This section describes the Industrial Facility Monitoring and Control Program that is covered in paragraph 4.8 of the MS4 permit and Section 8 of the *SWMP*. Activities consisted of identifying industrial facilities that could be potential pollutant sources, conducting inspections of industrial facilities, and conducting an ongoing training program for local industrial site inspectors. The Industrial Facility Monitoring and Control Program created in Year 2 of the *SWMP* provided Co-Permittees with the appropriate training materials for individual site inspectors. This program is intended to complement the separate industrial site permitting program conducted by NDEP.

8.2 IDENTIFICATION OF INDUSTRIAL FACILITIES

The purpose of this section is to identify industrial facilities in categories called out in the Las Vegas Valley MS4 NPDES permit. This section will identify industrial facilities in the Las Vegas Valley that are specifically regulated under the MS4 permit. This section addresses the MS4 permit requirements in paragraph 4.8 and the *SWMP* requirements in **Section 8.2**.

The MS4 permit (paragraph 4.8.1) specifically identifies four classes of industrial facilities for which a program to monitor and control pollutants must be developed. These classes of industrial facilities are:

- Industrial facilities that are subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA)
- Municipal landfills
- Hazardous waste treatment, disposal and recovery facilities
- Industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system

This subsection addresses facilities in each of these categories.

8.2.1 Industrial Facilities Subject to Section 313

The EPA regulates and keeps a list of industrial and other facilities that release certain amounts of regulated chemicals into the environment. The EPA's website (www.epa.gov/enviro/html/tris/tris_query.html) was used to search for and list all Toxic Release Inventory (TRI) facilities in CC. A total of 62 facilities were found. This list was compiled by the EPA based on reporting by regulated industries and therefore may be incomplete. NDEP agreed that this was a reasonable source of information for this purpose. EPA classifies facilities by Standard Industrial Classification (SIC) codes. A list of industrial facilities that are subject to Section 313 in the Las Vegas Valley was compiled (see **Table 8-1**).

Using the street addresses or the latitude and longitude provided in the EPA database, a map was created using GIS software to display the location of these facilities (see **Figure 8-1**).

8.2.2 Municipal Landfills

The only landfill within the Las Vegas Valley is the Sunrise Landfill. This landfill has been closed since 1993. The Apex Regional Landfill is currently the only active local landfill, but is located outside of the Las Vegas Wash Watershed. No municipal landfills are covered under the MS4 industrial program requirements since there are no active municipal landfills in the Las Vegas Wash drainage area.

8.2.3 Hazardous Waste Treatment, Disposal, and Recovery Facilities

The EPA keeps a list of hazardous waste treatment, disposal, and recovery facilities that are subject to the Resource Conservation and Recovery Act (RCRA). The EPA RCRAInfo web site (www.epa.gov/enviro/html/rcris/rcris_query.html) was searched to find hazardous waste treatment and disposal facilities within CC. The search returned seven facilities that are covered by the MS4 permit or that have a written determination on file and are all within the Las Vegas Valley. The hazardous waste treatment, disposal, and recovery facilities covered by the permit are listed below:

- Safety Kleen Systems Incorporated
4582 Donovan Way
North Las Vegas, NV 89031
- Tronox LLC
(DBA Kerr – McGee Chemical Corporation)
8100 West Lake Mead Drive
Henderson, NV 89015

Table 8-1

**Industrial Facilities Subject to Section 313
in the Las Vegas Valley Based on Current EPA Website¹**

Facility Number	Facility Name	Facility Address	SIC Codes	NAICS Code ²	Latitude	Longitude	Jurisdiction
1	Anderson Dairy	801 Searles Avenue Las Vegas, NV 89101	2026		36.184808	-115.131705	City of Las Vegas
2	Bardon Materials Gowan Asphalt	413 E. Gowan Road North Las Vegas, NV 89030	2951		36.225289	-115.124866	City of North Las Vegas
3	Canyon State Oil Co Inc	4581 Eaker Street North Las Vegas, NV 89081		424710	36.244085	-115.081447	City of North Las Vegas
4	Capital Cabinet Corp	3645 Losee Road North Las Vegas, NV 89030	2434		36.22667	-115.119958	City of North Las Vegas
5	Casino Ready Mix	5355 N. Beesley Drive Las Vegas, NV 89115	3273		36.257738	-115.038765	Clark County
6	Ergon Asphalt Products Inc. Las Vegas	6400 W. Richmar Avenue Las Vegas, NV 89118	2951, 5171		36.016916	-115.234389	Clark County
7	Good Humor Corp	1001 Olsen Street Henderson, NV 89015	2024		36.075644	-114.957414	City of Henderson
8	Grand Products Nevada Inc	751 Pilot Road Suite A Las Vegas, NV 89119	3679, 3672		36.063791	-115.146173	Clark County
9	HD Supply Construction Supply (WC0059)	2437 1/2 Losee Road North Las Vegas, NV 89030	3449		36.203766	-115.137466	City of North Las Vegas
10	IGT	6811 Spencer Street Las Vegas, NV 89119	3699		36.066329	-115.12759	Clark County
11	Jensen Precast	3853 Losee Road North Las Vegas, NV 89030	3272		36.22963	-115.118546	City of North Las Vegas
12	Kalco Lighting LLC	6355 S Windy Street Suite 3 Las Vegas, NV 89119	2514, 3645, 3646		36.072443	-115.176812	Clark County
13	Las Vegas Cultured Marble Inc.	6875 Speedway Boulevard Building U-102 Las Vegas, NV 89115	3087		36.279459	-115.020549	Clark County
14	Las Vegas Finishing LLC	3261 Builders Avenue Las Vegas, NV 89101	3471		36.160854	-115.102808	City of Las Vegas
15	Las Vegas Paving	Eastgate Road and Capehorn Drive Henderson, NV 89015	2951		36.06008	-115.020056	City of Henderson
16	Las Vegas Paving	3400 N. 5th Street North Las Vegas, NV 89030	2951		36.221978	-115.133877	City of North Las Vegas
17	Las Vegas Paving	1.5 Miles N. of Hollywood and Las Vegas Boulevard Las Vegas, NV 89115	2951				Clark County
18	Las Vegas Paving	6600 Speedway Boulevard Las Vegas, NV 89115	2951				Clark County
19	Las Vegas Paving	0.75 Miles West of I-15 & 1.5 Southwest of U.S. 95 Las Vegas, NV 89115	2951		36.370833	-114.875277	Clark County
20	Las Vegas Paving	9325 S. Jones Boulevard Las Vegas, NV 89119	2951		36.020286	-115.225743	Clark County
21	Las Vegas Paving	W. Lone Mountain Road Las Vegas, NV 89129	2951		36.1419	-115.1384	Clark County
22	May Manufacturing (DBA Artesian Spas)	4720 N Lamb Boulevard Las Vegas, NV 89115	3088		36.245624	-115.079814	Clark County
23	Meadow Gold Dairies	6350 E. Centennial Parkway North Las Vegas, NV 89115	2026		36.276944	-115.031944	City of North Las Vegas
24	Melt-Span I LTD	4700 Engineering Way Suite 103 North Las Vegas, NV 89031			36.246961	-115.10443	City of North Las Vegas
25	Monierlifetile LLC	430 Eastgate Road Henderson, NV 89015	3272		36.057581	-115.019933	City of Henderson
26	Nevada Ready Mix	601 W. Bonanza Road Las Vegas, NV 89106	2024		36.177261	-115.149327	City of Las Vegas
27	Nevada Ready Mix Arville	4301 W. Hacienda Las Vegas, NV 89109	3273		36.093611	-115.197222	Clark County
28	Nevada Ready Mix Le Reve	Sands and Las Vegas Boulevard S. Las Vegas, NV 89109	3273		36.125352	-115.169222	Clark County
29	Nevada Ready Mix South Coast	8755 W. Sunset Las Vegas, NV 89123	3273, 2951		36.012222	-115.1725	Clark County
30	Ocean Spray Cranberries Inc.	1301 American Pacific Drive Henderson, NV 89014-8806	2086		36.033333	-115.041666	City of Henderson

Table 8-1 (Continued)

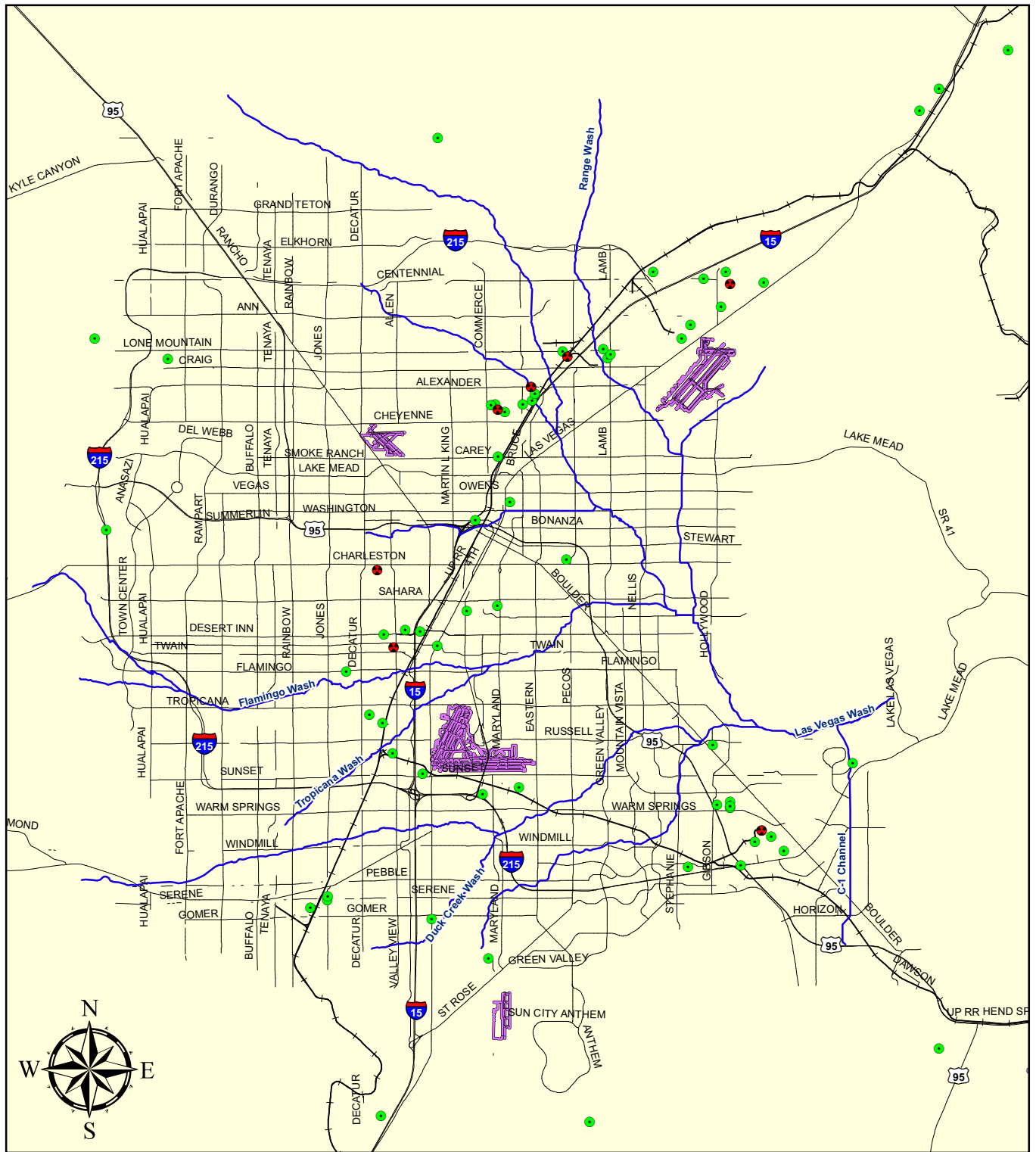
Industrial Facilities Subject to Section 313
in the Las Vegas Valley Based on Current EPA Website¹

Facility Number	Facility Name	Facility Address	SIC Codes	NAICS Code ²	Latitude	Longitude	Jurisdiction
31	Pacific Engineering & Production Co. of Nevada	8291 Gibson Road Henderson, NV 89015	2819		36.083704	-115.028818	City of Henderson
32	Pioneer Americas LLC	8000 Lake Mead Parkway Henderson, NV 89015	2812, 2813, 2819		36.045555	-114.99916	City of Henderson
33	Rebel Oil Co. Inc.	5054 N. Sloan Lane Las Vegas, NV 89115	5171		36.252164	-115.043246	Clark County
34	Rinker Materials Anthem Plant 1856	2403 Democracy Henderson, NV 89044	3273		35.927837	-115.092348	City of Henderson
35	Rinker Materials Blue Diamond 1894	9275 S. Jones Boulevard Las Vegas, NV 89139	3273		36.02161	-115.22547	Clark County
36	Rinker Materials Buffalo Main #1850	4511 S. Buffalo Road Las Vegas, NV 89147	3273		36.11472	-115.215833	Clark County
37	Rinker Materials Gowan Plant #1860	29 W Gowan North Las Vegas, NV 89030	3273				City of North Las Vegas
38	Rinker Materials Henderson #1854	750 Capehorn Henderson, NV 89015	3273		36.058889	-115.026666	City of Henderson
39	Rinker Materials Kyle Canyon Plant #1866	2645 Moccasin Road Las Vegas, NV 89143	3273				
40	Rinker Materials North Las Vegas #1853	4001 Losee Road North Las Vegas, NV 89030	3273		36.4475	-114.851388	City of North Las Vegas
41	Rinker Materials Turnberry Plant	2777 Paradise Road Las Vegas, NV 89109	3273		36.13952	-115.15392	Clark County
42	SEMMATERIALS LP LAS VEGAS	3901 W Ponderosa Way Las Vegas, NV 89118	5171, 2951		36.080848	-115.192048	
43	Service Rock Products Inc. 4th Street	8350 4th Street Henderson, NV 89015	3273		36.043416	-115.00745	City of Henderson
44	Service Rock Products Inc. Las Vegas	800 Feet S. of Intersection of Cactus Road and Pollock Drive Las Vegas, NV 89102	3273		35.995833	-115.143611	Clark County
45	Service Rock Products Inc. Lone Mountain NV Facility	10815 W. Washburn Las Vegas, NV 89149	3273		36.253056	-115.343611	Clark County
46	Service Rock Products Inc. Sloan	14575 Arville Street Las Vegas, NV 89124	3273		35.930833	-115.198888	Clark County
47	Silver State Materials	450 Eastgate Road Henderson, NV 89014	3273		36.058346	-115.019958	City of Henderson
48	Silver State Materials	143 W. Gowan Road North Las Vegas, NV 89030	3273		36.224802	-115.141189	City of North Las Vegas
49	Silver State Materials	Range Road Las Vegas, NV 89115	3273				Clark County
50	Southern Nevada Paving (DBA Bardon Materials)	Summerlin Parkway and Interstate 215 Summerlin Asphalt Plant Las Vegas, NV 89145	2951		36.173889	-115.338055	City of Las Vegas
51	Sparkletts Drinking Water Corp.	4225 W. Desert Inn Road Las Vegas, NV 89102	2086		36.130104	-115.196464	Clark County
52	Spartan of Nevada Inc.	2441 W. Desert Inn Road Las Vegas, NV 89109	3079, 3088		36.131372	-115.177704	Clark County
53	Thatcher Co. of Nevada	850 W. Lake Mead Drive Henderson, NV 89014	2819		36.033547	-115.014811	City of Henderson
54	Thermo Fluids Inc. Antifreeze Services	4000 Arcata Way North Las Vegas, NV 89030	2899		36.232258	-115.12058	City of North Las Vegas
55	Titanium Metals Corp	8000 W. Lake Mead Parkway Gate 3 Henderson, NV 89015	3339		36.0396	-114.992798	City of Henderson
56	Tronox LLC	8000 W. Lake Mead Parkway Henderson, NV 89015	2819		36.04792	-115.0039	City of Henderson
57	Universal Urethane Inc.	4201 E. Lone Mountain Road North Las Vegas, NV 89030	3086		36.247869	-115.083633	City of North Las Vegas
58	Washington Group International	4610 N. Grand Canyon Drive Las Vegas, NV 89129	3273		36.244535	-115.306268	Clark County
59	Young Electric Sign Co.	5119 S. Cameron Street Las Vegas, NV 89118	3993		36.09691	-115.203853	Clark County

Notes:

¹ Data on EPA website was not verified. Historically, many businesses listed on the EPA website no longer exist, as the data is not regularly purged.

² Starting with Reporting Period Year 2006, TRI Facilities began reporting NAICS codes, instead of SIC codes, to identify their Primary Business Activities.



Legend

- Industrial Facilities Subject to Section 313
- Hazardous Waste Treatment, Disposal and Recovery Facilities
- Washes
- Railroads
- Streets
- Airports

Figure 8-1
INDUSTRIAL FACILITY LOCATIONS

- MBI Incorporated
1353 Arville Street
Las Vegas, NV 89102
- Merry X-ray Corporation
4070 Schiff Drive
Las Vegas, NV 89103
- Road Runner Glycol Inc.
6969 Speedway Boulevard
Suite 102
Las Vegas, NV 89115
- Thermo Fluids Incorporated
9 West Delhi Avenue
North Las Vegas, NV 89032
- Thermo Fluids Incorporated
4000 Arcata Way
North Las Vegas, NV 89030

The locations of these facilities are identified on the map in **Figure 8-1**.

8.2.4 Other Industrial Facilities that Contribute A Substantial Pollutant Load

The MS4 Co-Permittees have not identified any facilities other than those already identified in the above categories that are contributing a substantial pollutant loading to the municipal storm sewer system. However, many industrial facilities in addition to those listed above are being inspected. These facilities are identified in **Section 8.3**.

8.2.5 Conclusion

This section completes the requirement to identify industrial facilities subject to Section 313 of SARA Title III; municipal landfills; hazardous waste treatment, and disposal facilities; and other industrial facilities determined by the Co-Permittees to be potential sources of substantial pollutant loading. The inventory of regulated industrial sites was used by the Co-Permittees in developing their industrial site inspection and management programs. The industrial pretreatment program staffs that conduct the industrial inspections for the MS4 program already routinely inspect these facilities. No special inspection requirements have been adopted for these facilities.

8.3 INDUSTRIAL FACILITY INSPECTION PROGRAM

Each MS4 Co-Permittee has developed an industrial facility monitoring and control program as required by the Las Vegas MS4 NPDES Permit. Each city is using its industrial pretreatment program staff to conduct stormwater inspections during their regular site visits. Clark County has entered into an inter-local agreement with CCWRD to allow its industrial pretreatment program inspectors to inspect sites in unincorporated Clark County. The Cities of Las Vegas, North Las Vegas, and Henderson are inspecting all applicable industrial sites visited by their pretreatment inspectors.

The COH's stormwater quality staff worked with the Building and Fire Safety Department to incorporate the fire safety inspectors into the industrial facility inspection program beginning in 2008. The inspectors identify and inspect facilities identified by the City as potential substantial contributors of pollutants to the MS4. The identification of facilities, inspection procedures, and enforcement of the industrial inspection program is based on the hazardous materials requirements in the 2006 International Fire Code. The City is making changes to the inspection program, finalizing and implementing a training program for the inspectors, and setting up a reporting and tracking system for the inspection process.

Clark County prepared a plan to expand its industrial facility inspection program in response to the EPA audit and guidance provided by NDEP. This plan was provided to NDEP in the January 8 and May 15, 2008, progress reports from the Co-Permittees, and is included in **Appendix C**. In summary, the plan consists of the following elements.

- Incorporate current industrial inspections conducted under other programs
 - Over 2,000 grease trap inspections performed by CCWRD annually under its pretreatment program
 - Dovetail with current inspections performed at government owned or operated facilities (e.g., McCarran Airport, Nellis Air Force Base)
- Implement near-term industrial site inspection program elements
 - At Section 313 sites and TRI sites
 - At sites that are routinely inspected under the County's pretreatment program
 - NPDES industrial permit holders
- Consider possible long-range industrial site inspection program elements
 - Transportation-related operations and other priority facilities, such as auto repair and maintenance facilities, transportation fleet facilities, construction suppliers, and electroplaters

- Industrial park inspections that include all sites in the park, not just those in specific SIC codes
- Federally operated facilities
- Small- and large-quantity pollutant generators per NDEP
- Review Clark County Fire Department Business License Disclosure forms for facilities storing or employing hazardous materials in their operations

8.3.1 Industrial Facility Inspector Training Materials

Training materials for industrial facility inspectors were developed in the 2004-2005 permit year. The training presentation includes a description of the Las Vegas MS4 NPDES Permit and the Las Vegas Valley *SWMP*. The local ordinances and the Industrial Facility Monitoring and Control Plans for each jurisdiction are described. A list of Section 313 facilities in the Las Vegas Valley was organized by jurisdiction. Contact information, such as names and phone numbers, for MS4 Co-Permittees and other interested parties were given for the inspectors' information. Training materials have been updated and customized to individual entities as needed.

8.3.2 Industrial Facility Inspector Training

Pretreatment inspectors performing stormwater inspections for CCWRD, CLV, CNLV and COH have been adequately trained. No formal training sessions were performed for CCWRD, CLV or CNLV in this permit year because all inspectors had been previously trained. Inspector activities are informally discussed on a regular basis. COH conducted a stormwater training program for its Fire Department inspectors who began performing stormwater inspections in 2008.

8.3.3 Inspections

Table 8-2 lists the industrial facility inspections performed by each of the Co-Permittees in the 2007-2008 permit year. Documentation of the inspections performed by CC, CLV, CNLV and COH are provided in **Appendix J**.

The COH Utility Services Department – Pretreatment Division, currently inspects at least annually the sites identified on the SARA Section 313 list, as well as those identified with a potential to discharge a substantial pollutant load to the MS4. One hundred fifteen industrial sites are included in its inspection program.

The CLV inspected the five existing facilities identified by Section 313 of Title III of SARA that are within its jurisdiction. Two of the facilities were inspected twice, two were inspected once, and one was found to be out of business. No stormwater violations were found.

Table 8-2

Summary of 2007-2008 Industrial Facility Inspections

Jurisdiction	Location	Date	Results / Violations	Action Taken	Follow-Up Action
Clark County	Baker Commodities 5725 Range Rd. Las Vegas, NV	9/20/2007	Informed facility contact of need to correct problem.	Observed facility contact correcting problem.	
	Ken's Foods, Inc. 8925 Kens Ct. Las Vegas, NV 89139	2007-2008	No significant stormwater-related problems reported		
	RC White (Arville) Transportation Center 4499 S. Arville St. Las Vegas, NV 89103	7/12/2007	Trash through out the site. Unlabeled drums, open dumpsters, draining transmissions and old engines, drums without containment, and used oil filters in the dumpsters.	Most of the deficiencies noted in the inspection report have been addressed. Two items will require more time.	
	Nevada Linen Supply 3960 Mesa Vista Dr. Las Vegas, NV 89118	7/19/2007	Facility discharging RO reject water into on-site storm drain pipe. Does not have a stormwater permit.	Observed facility contact correcting problem.	
	American Soft Gel Products 7440 S. Dean Martin Ave. , Suite 206 Las Vegas, NV	2007-2008	No significant stormwater-related problems reported		
	Nellis AFB 6020 Beale Ave. Las Vegas, NV 89191	2007-2008	No significant stormwater-related problems reported		
	Western Linen Services 4575 S. Procyon Ave. Las Vegas, 89103	2007-2008	No significant stormwater-related problems reported		
	City of Las Vegas	MBI, Inc. 1353 Arville Las Vegas, NV	12/19/2007	No off-site discharges	
City of North Las Vegas			No significant stormwater-related problems reported		
City of Henderson	AAA Customer Cabinets Inc.	3/7/2008	Pass		
	Henderson Hyundai Superstore	3/27/2008	Pass		
	Sunset Collision Center Inc.	4/14/2008	Pass		
	AR Iron LLC.	5/01/2008	Pass		
	Duaine's Automotive Inc.	5/21/2008	Pass		
	Findlay Volkswagen	5/30/2008	Pass		
	Acme Underground Inc.	6/10/2008	Pass		
	Green Valley Collision Center	6/25/2008	Pass		
	Del Webb	8/1/2008	Pass		
Desert BMW of Henderson	8/5/2008	Pass			

Stormwater inspections were also conducted by the Industrial Waste Section during normal inspections for compliance with non-domestic discharges to the sanitary sewer. In all cases, all stormwater issues that were discovered have been satisfactorily resolved.

The CNLV pretreatment inspector performed a total of xxxx stormwater inspections associated with their normal inspections for compliance with regulations for discharges to the sanitary sewer system. All stormwater issues identified were satisfactorily resolved.

Expanding out from the Section 313 industrial site inspection requirements, CCWRD conducted pretreatment inspections on seven sites for the 2007-2008 permit year. Reports and comments from those inspections are found in **Appendix J**. There is also a spreadsheet listing grease and sand/oil interceptor inspections reports. These reports were provided by CCWRD and they are located in **Appendix J** for review.

In response to direction received from NDEP after the EPA audit, DAQEM devised a multi-faceted strategy to implement an expansion of its industrial stormwater inspection program. Its elements include:

- Development of a more extensive inspection form,
- Increase in funding for, and expansion of the role of, the CCWRD inspection program, including modification of the inter-local agreement to reflect these changes,
- Categorizing and prioritizing the industries, facilities and sites to be inspected to include those that can be inspected (a) in the near term and at little or no additional cost relative to the current inter-local agreement and (b) in the longer term and likely incurring significant additional costs. This may include conducting inspections on an “industrial park” basis rather than only on an individual facility basis.

Elements of industrial program enhancements will be finalized in the coming permit year.

The BMI Complex is a County island within the COH boundaries that contains heavy industrial sites. The inter-jurisdictional nature of the site has created some confusion in the past over inspection responsibilities. Because of the site design conditions, there is rarely runoff from this complex to the MS4 system. The sanitary sewer system discharges to COH facilities and is inspected by COH pretreatment inspectors. However, these inspectors are not authorized to inspect the stormwater system. As described above, COH Fire Department inspectors are being integrated into the MS4 industrial inspection program, and have the authority to inspect the BMI Complex perimeter for illegal discharges. The BMI Complex has an individual stormwater permit with the State, and monitors and reports any violations to NDEP under this permit. Nonetheless, NDEP has indicated that the local entities must be conducting their own industrial site stormwater inspections. The COH and CC have held discussions to coordinate inspections at the BMI Complex, and COH is conducting those inspections.

Section 8 – Industrial Facility Monitoring and Control Program

Inspections of the industrial facilities for compliance with the MS4 stormwater regulations will continue in the 2008-2009 permit year. The inspectors will fill out inspection forms after completing the inspection and will forward the form for recordkeeping and enforcement if necessary. CLV inspection forms are filed with the Industrial Waste Section, which also performs the inspection and enforcement.

SECTION 9

Construction Site Program



Section 9

Construction Site Program

9.1 INTRODUCTION

This section describes the Construction Site Program required by paragraph 4.9 of the permit and described in Section 9 of the *SWMP*. The program consists of required elements to minimize the impacts of new construction on the quality of downstream receiving waters. The Construction Site Program provides the Co-Permittees with the information necessary to enforce their local ordinances prohibiting discharge of pollutants to the MS4 system. This local program complements, but is independent of, the State’s construction site permitting program.

9.2 DEVELOPER NOTIFICATION PROGRAM

In paragraph 9.2 of the *SWMP*, the Co-Permittees committed to notifying developers of the requirements of the State’s construction site permitting program. This is intended to improve compliance with the NDEP construction site program.

Table 9-1 describes the program procedures each Co-Permittee has developed to notify developers, engineers, and contractors of the requirements of the NDEP’s Construction Site BMP Program. No significant changes were made to these procedures during the 2007-2008 permit year.

Table 9-1
Summary of Procedures for
Notifying Developers of Need for NDEP Construction Permit

Co-Permittee	Procedure
Clark County	• Distribute brochure on need for NDEP construction permit
	• Standard comment on Grading Permit review letter notifying developer of need for NDEP construction permit
	• Standard general condition for construction plans or specifications on Public Works projects assigning the owner or contractor the responsibility for obtaining the NDEP construction permit
	• DAQEM includes statement on dust permit applications that developer needs to submit a Notice of Intent (NOI) to NDEP for construction permit
City of Las Vegas	• Standard comment on Grading Permit review letter notifying developer of need for NDEP construction permit
	• Standard general condition for construction plans or specifications on Public Works projects assigning the owner or contractor the responsibility for obtaining the NDEP construction permit

Table 9-1 (Continued)

Summary of Procedures for
Notifying Developers of Need for NDEP Construction Permit

Co-Permittee	Procedure
City of North Las Vegas	• Standard comment on Drainage Study review letter notifying developer of need for NDEP construction permit
	• Standard general condition for construction plans or specifications assigning the owner or contractor the responsibility for obtaining the NDEP construction permit
City of Henderson	• Standard comment on Drainage Study review letter notifying developer of need for NDEP construction permit
	• Standard general condition for construction plans or specifications assigning the owner or contractor the responsibility for obtaining the NDEP construction permit

9.3 CONSTRUCTION SITE BEST MANAGEMENT PRACTICES MANUALS

Section 9.3 of the *SWMP* requires the Co-Permittees to review existing BMP manuals addressing construction practices and recommend modifications to them to be pertinent to local conditions if necessary. This task was completed during the 2003-2004 permit year. No modifications to BMP designs were proposed during the 2007-2008 permit year.

The SQMC formed a CPWG made up of representatives of all the Co-Permittees and a SSWG to develop enhancements to the current construction site runoff management program. One of the tasks of these groups is to recommend improvements to BMP guidance currently available to contractors in the Las Vegas Valley area. The SSWG has decided that a new Construction Site BMP Guidance Manual is warranted to describe the elements of the new construction site runoff management program and to provide BMP implementation guidance. As a result, a new Manual is currently being developed, and should be ready for distribution by the end of 2008. It is likely that this improved guidance will be incorporated into the CCRFCD *Hydrologic Criteria and Drainage Design Manual*.

The SQMC is cooperating with the Truckee Meadows MS4 Permittees to prepare a Nevada BMP Field Guide that could be used by contractors and construction site inspectors throughout the State. CCRFCD has committed to contribute \$10,000 to the cost of printing the Field Guide. Preparation of the Field Guide is being managed by the Truckee Meadows MS4 Permittees. A draft version of the Field Guide was prepared by the Truckee Meadows MS4 Permittees and provided to SQMC members for review during the 2007-2008 permit year. Publication of the Field Guide is pending.

9.4 CONSTRUCTION SITE INSPECTION PROGRAM

This subsection summarizes the inspection component of the Construction Site Program for the Las Vegas Valley MS4 *SWMP*. A construction site inspection program is required by the MS4 permit to assure that local ordinances are effectively prohibiting discharge of pollutants to the drainage system and are not being violated. Based on Section 9 of the *SWMP*, the construction site inspection program consists of two parts: routine inspections and post-storm inspections.

9.4.1 Routine Inspections

During the 2004-2005 permit year, construction site inspection protocols were developed and an inspector training program was developed and implemented. During the 2005-2006 permit year, the field component of the construction site inspection program was initiated. The original program elements are still being implemented, however, improvements in information transfer between agencies, follow-up on potential problems, and consistency in inspection protocols between DAQEM and COH inspectors have been implemented in 2007-2008.

DAQEM undertook inspections of active construction sites in unincorporated CC, CLV and CNLV, through an interagency agreement that included the two cities, the CC and CCRFCD. DAQEM inspectors visit construction sites as part of the air quality permitting program, and have been trained in performing stormwater inspections as well. Simple checklists are completed by inspectors, documenting site information and any evidence of the potential for pollutants to leave the site in violation of local ordinances. DAQEM inspectors forward information on any problems to CCRFCD, which then distributes the information to the appropriate local entity. During the permit year, improvements were made to the process by which information gathered by inspectors was transferred to appropriate personnel for follow-up. In particular, the process for transferring inspection information from the inspectors to CCRFCD to the entities with jurisdiction was streamlined. Improvements were made both at the request of inspectors and in response to comments in the EPA audit of the MS4 permit. In addition, closer coordination between DAQEM and COH resulted in some changes in data gathering and tracking.

Information regarding each entities construction inspection for the 2007-2008 permit year can be found in **Appendix K**. A summary of problems, action taken, and some comments are given for sites inspected.

The COH conducted construction site inspections with staff of the Public Works Department – Quality Control Division. All active construction sites received at least one inspection during the permit year. A training session for the current and new inspectors was provided on July 25, 2007, and a copy of the sign-in sheet is included in **Appendix K**. **Table 9-2** summarizes the results of the inspection process for the 2007-2008 permit year.

Table 9-2

**Summary of Construction Site Inspections
Conducted by the City of Henderson**

Category	Number	Explanation
Inspections Scheduled	1,111	Sites believed to have active construction for which an inspection was scheduled
Inspections Conducted	1,106	Actual inspections conducted
Inspections Cancelled	3	Inspections requested, but subsequently cancelled for various reasons; no inspection took place
Sites Passing	895	Inspection was completed and no potential to violate code/site had no stormwater issues
Sites Failing	24	Inspection was completed and problems of varying degrees were found, ranging from serious (e.g., a discharge was occurring and needed to be resolved immediately) to minor (e.g., no discharge, but site conditions should be changed to prevent a future discharge)

The COH’s process includes sending a letter to potential violators after an initial inspection informing them of the problem and notifying them that a follow-up inspection will occur shortly. The COH’s objective is to re-inspect failing sites within about 21 days to determine whether problems found in the initial inspection had been addressed. This process has been very effective; problems identified in the inspections were corrected at each site. The COH has incorporated a reporting process to differentiate between inspections that identified a potential to violate the local stormwater ordinance from those identifying actual violations.

Documentation of the construction site inspections performed by DAQEM and the COH for the 2007-2008 permit year are provided in **Appendix K**.

9.4.2 Post-Storm Inspections

Post-storm inspections of active construction sites and detention basins were not performed by MWH during the 2007-2008 permit year. The success and comprehensiveness of the routine construction site inspection program, combined with the program improvements developed by the CPWG, made this program obsolete. These program improvements are discussed in **Section 9.6**. NDEP approved termination of the post-storm construction site inspection program in 2007.

9.5 CONTRACTOR EDUCATION AND TRAINING PROGRAM

Section 9.5 of the *SWMP* describes requirements for developing and implementing a contractor education and training program. In compliance with the *SWMP*, in the 2007-2008 permit year, Co-Permittees conducted eight sessions of a contractor training workshop, with two sessions each held on November 28 and 29, 2007, and again on May 27 and 29, 2008. The workshops were hosted by LVVWD and conducted jointly by NDEP, CCRFCD, CLV and CNLV. They covered aspects of local stormwater ordinances, NDEP construction permit requirements, and BMPs for construction sites. A total of over 500 construction industry personnel attended a workshop during the permit year. The attendance lists from these workshop sessions are contained in **Appendix K**.

DAQEM presented a stormwater module at the dust permit training classes provided to contractors in Las Vegas Valley. The “dust class” is a 4-hour training session with a test at the end that informs contractors of compliance requirements and BMP, associated with dust and air quality regulations. Every construction site ¼ acre or larger must have someone onsite with a “dust card” verifying that they have been through the training. Recertification is required every three years. About 100 water truck operators, general construction workers and site supervisors are trained in dust classes each week. The stormwater module was incorporated into the dust class curriculum in the 2006-2007 permit year, and focuses on BMPs and construction practices. It is seen as a supplement to, not a substitute for, the more comprehensive contractor training workshops. The “dust class” material presented to the class is contained in **Appendix K**.

9.6 CONSTRUCTION PROGRAM WORKING GROUP AND STORMWATER STAKEHOLDERS WORKING GROUP

In order to more efficiently address the EPA audit issues concerning construction sites, the CPWG was formed with the purpose of reviewing the existing regulations, inspection, and enforcement procedures governing the construction program. The CPWG meets once a month with representatives from CC, CLV, CNLV, and COH. In addition, the SSWG was formed with an objective of developing construction site program improvements that would meet the NDEP/EPA requirements and be acceptable to the local development community and other local stakeholders. The SSWG also meets monthly.

Appendix L contains materials presented at the Stormwater Stakeholders Open House, held November 15, 2007. The history of its development, requirements, and goals are included in this appendix.

The SSWG and CPWG were successful in the following activities in 2007-2008:

- Worked with entity staffs to develop draft stormwater runoff and erosion control ordinances

- Agreed on reasonable inspection procedures and objectives, and determined that eventually all construction site inspections for the four entities would be conducted by the entities' staff and be responsible for their own inspections themselves rather than DAQEM
- Agreed on reasonable enforcement measures
- Developed a list of feasible construction site BMPs for Las Vegas Valley

Final elements of the revised construction site runoff management program will be developed in the 2008-2009 permit year, including adoption of required ordinances, establishment of new local inspection programs, adoption of local policies for approving construction site permit applications, and adoption of a Construction Site BMP Guidance Manual.

SECTION 10

Stormwater Management Program



Section 10

Stormwater Management Program

10.1 INTRODUCTION

The permit (paragraph 4.1) requires that the Co-Permittees develop, implement and enforce a *SWMP*. The *SWMP* that applies to the 2007-2008 permit year was submitted to NDEP on September 29, 2003.

The *SWMP* was approved by NDEP with comments and additions on October 21, 2003. A copy of the current *SWMP* and approval letter can be found in **Appendix B**.

10.2 ANNUAL UPDATE TO STORMWATER MANAGEMENT PLAN

Permit paragraph 4.11.1 requires that the Co-Permittees complete an annual review of the *SWMP* as part of the annual report. A detailed review of the *SWMP* was performed during the course of supporting and then responding to the EPA audit of the MS4 permit program. The EPA audit report, dated April 20, 2006, indicated positive attributes, program deficiencies, and potential permit violations. The Co-Permittees invested considerable effort in assessing their programs in light of the audit findings and preparing a formal response. The audit response was submitted on August 22, 2006, and is included in **Appendix C**.

As a result of their program review, the Co-Permittees prepared a formal *SWMP Update* to document the program status and proposed changes as of the end of the 2005-2006 permit year. The *SWMP Update* is contained in **Appendix B**.

No formal modifications were made to the *SWMP* during the 2007-2008 permit year. However, the EPA permit audit process that was started in 2005 concluded in 2007 with a letter from NDEP to the Co-Permittees outlining required MS4 program improvements. The Co-Permittees responded to NDEP in June 2007, proposing a process for addressing the program issues raised by NDEP. This correspondence is included in **Appendix C**.

In June 2007, the Co-Permittees committed to investigating and implementing the following enhancements to the *SWMP* in the 2007-2008 permit year.

- Construction Site Runoff Management Program – A Construction Program Working Group was formed to develop improvements to the current construction site inspection and management program implemented by DAQEM and COH. Specifically this working group is assigned to address the following requirements from NDEP.
 - (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;

- (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
 - (c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - (d) Procedures for site plan review which incorporate consideration of potential water quality impacts;
 - (e) Procedures for receipt and consideration of information submitted to the public;
 - (f) Procedures for site inspection and enforcement of control measures.
- Post-Construction Runoff Management Program – Two working groups were formed to develop recommendations for improving the existing post-construction runoff management program. First, a Detention Basin Working Group was formed to research methods for improving the water quality performance of existing and future regional detention basins. This will include implementing a pilot program for investigating effective detention basin retrofit approaches, including construction and monitoring of detention basin retrofits.

Second, a Development Guidelines Working Group was formed to develop specific recommendations for components of a post-construction runoff management program that would meet the following requirements as outlined by NDEP.

- (a) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the Co-Permittees' community;
- (b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
- (c) Ensure adequate long-term operation and maintenance of BMPs.
- (d) Incorporate controls that provide for or address:
 - Runoff from commercial and residential areas;
 - Planning procedures;
 - Design standards, BMP fact sheets or guidance manuals that include site design;

- Tracking and maintenance for structural BMPs;
 - Training and education;
 - Estimates of expected reductions in loads.
- Industrial Runoff Management Program – NDEP required the Co-Permittees to make the following improvements to their industrial runoff management programs.
 - (a) Develop an inventory and plan for industrial facilities that are or may be contributing a substantial loading to the MS4;
 - (b) Revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities.

Clark County and the three cities made enhancements to their industrial site inspection programs during the 2006-2007 and 2007-2008 permit years as described in **Section 8**. Additional improvements to meet NDEP's requirements are being developed during the first half of the 2008-2009 permit year, and will be incorporated into the *SWMP* at the end of the year.

- Operation and Maintenance of Treatment Systems and Controls – NDEP issued the following requirements.
 - (a) Provide a plan to address or remove accumulated sediments in regional detention basins;
 - (b) Develop and implement a specific schedule and protocol for inspecting and cleaning regional detention basins.

CCRFCD already has adequate policies in place regarding the inspection and cleaning of regional detention basins, and has an adequate funding source for these activities. Improved reporting of the inspection and maintenance of the detention basins was implemented as documented in Section 6. No additional programs are required by the Co-Permittees to address this issue.

The Co-Permittees agreed to determine the specific program elements they will adopt by November 2008, and to have the new programs implemented by the end of the next permit year in June 2009. The *SWMP* will be updated at that time.

10.3 NEXT PERMIT YEAR GOALS

The current MS4 permit is a 5-year permit, with the last year being 2007-2008. NDEP is in the process of issuing a new permit. In the meantime, the provisions of the current permit continue to apply. Therefore, the goals to be completed for the next permit year (July 1, 2008 - June 30, 2009) are the same as those for Permit Year 5 as identified in the *SWMP*, and supplemented by subsequent commitments made to NDEP by the Co-Permittees. Goals are shown in **Table 10-1**. These goals may need to be revised if the provisions of the new permit being developed by NDEP vary from those in the current permit.

Section 10 – Stormwater Management Program

Table 10-1

**Permit Year 5
Measurable Goals and Milestones**

Section Number	Section Title	Measurable Goal / Milestone
2	Legal Authority	<ul style="list-style-type: none"> • Review and update ordinances and regulations if necessary • Adopt ordinance to require erosion and sediment controls • Adopt ordinance to establish post-construction runoff controls
3	Source Identification	<ul style="list-style-type: none"> • None
4	Stormwater Monitoring Program	<ul style="list-style-type: none"> • Develop monitoring program for new permit
5	Public Outreach and Education Program	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update and broadcast one PSA • Maintain Las Vegas Valley stormwater website • Make five presentations in public schools • Implement storm drain inlet marking program • Track effectiveness of public outreach programs
6	Structural and Source Control Measure Program	<ul style="list-style-type: none"> • Implement storm drain system cleaning program developed in Permit Year 1, as amended • Implement street sweeping program developed in Permit Year 1, as amended • Review effectiveness of data collection and management for maintenance activity tracking, and make improvements if warranted • Develop and implement post-storm construction program (DBWG) as required by NDEP
7	Illicit Discharge Detection Program	<ul style="list-style-type: none"> • Conduct dry weather monitoring per Section 4 of the <i>SWMP</i> • Conduct semi-annual field inspections of open channels • Implement local Spill Response Strategy as needed • Conduct municipal maintenance staff training programs
8	Industrial Facility Monitoring and Control Program	<ul style="list-style-type: none"> • Update industrial facility map • Continue program for conducting industrial site inspections and tracking inspection reports and follow-up activities, as well as enforcement ordinances • Determine industrial sites that are contributing a substantial pollutant load to the MS4 • Review and as necessary, refine tracking and data management methods • Conduct industrial inspector training course as needed • Use monthly SQMC meetings to coordinate with NDEP on State industrial programs
9	Construction Site Program	<ul style="list-style-type: none"> • Conduct and track construction site inspections • Develop and implement construction site program improvements as required by NDEP (CPWG) • Produce Construction Site BMP Design Guidance Manual • Conduct one contractor/developer training workshop • Provide ongoing training for local construction site inspectors • Review and improve tracking and recordkeeping processes • Use monthly SQMC meetings to coordinate with NDEP on State construction site programs



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REGIONAL FLOOD CONTROL DISTRICT



Las Vegas Valley NPDES Municipal Stormwater Discharge Permit Appendices 2007-2008

SEPTEMBER 2008



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APPENDIX A

Las Vegas Valley Municipal Separate Storm Sewer System NPDES Permit



APPENDIX A

**LAS VEGAS VALLEY MUNICIPAL SEPARATE
STORM SEWER SYSTEM NPDES PERMIT**



National Pollutant Discharge Elimination System

Permit for Discharges from Municipal Separate Storm Sewer Systems

Authorization to Discharge under the National Pollutant Discharge Elimination System

In compliance with the provisions of the Clean Water Act (CWA), as amended, (33 U.S.C. 1251 et. seq.), except as provided in Part 1.3 of this permit, and Chapter 445A of the Nevada Revised Statutes, the following Permittees are authorized to discharge municipal stormwater runoff to the Las Vegas Wash, its tributaries, and other waters of the United States in accordance with the conditions and requirements set forth herein:

The City of Henderson, City of Las Vegas, City of North Las Vegas, Clark County, Clark County Regional Flood Control District, and the Nevada Department of Transportation (Permittees)

This permit becomes effective on JUNE 19, 2003.

This permit and the authorization to discharge expire at midnight, JUNE 18, 2008.

Signed and issued this 19th day of JUNE, 2003.

Clifford M. Lawson

Clifford M. Lawson
Staff II Associate Engineer
Bureau of Water Pollution Control

1 Coverage under this Permit

1.1 Permit Area

1.1.1 This permit covers discharges into receiving waters of the United States within the City of Henderson, City of Las Vegas, City of North Las Vegas, and Clark County not including Boulder City, Laughlin, Mesquite, and Nellis Air Force Base.

1.2 Coverage

1.2.1 This permit authorizes discharges of stormwater from the Permittees municipal separate storm sewer system (MS4s), as defined in 40 Code of Federal Regulations (CFR) §122.26. The Permittees are authorized to discharge in accordance with the terms and conditions of this permit.

1.2.2 The following are types of authorized discharges:

1.2.2.1 *Stormwater discharges.* This permit authorizes stormwater discharges to waters of the United States from the Permittees MS4s identified in Section 1.2.1, except as excluded in Section 1.3.

1.2.2.2 *Non-stormwater discharges.* The Permittees are authorized to discharge the following non-stormwater sources provided that the Nevada Division of Environmental Protection (NDEP) has not determined these sources to be substantial contributors of pollutants to the Permittees MS4:

- Water line flushing
- Diverted stream flows
- Rising ground waters
- Uncontaminated ground water infiltration (infiltration is defined as water other than wastewater that enters a sewer system, including sewer service connections and foundation drains, from the ground through such means as defective pipes, pipe joints, connections, or manholes. Infiltration does not include, and is distinguished from, inflow.)
- Discharges from potable water sources
- Foundation drains
- Footing drains
- Air conditioning condensate
- Irrigation water (to include lawn watering and landscape irrigation)
- Springs
- Water from crawl space pumps
- Individual residential car washing
- Flows from riparian habitats and wetlands
- Dechlorinated swimming pool discharges
- Street wash water
- Discharges or flows from fire fighting activities

1.3 Limitations on Coverage

1.3.1 This permit does not cover the following:

1.3.1.1 Discharges of non-stormwater, whether or not mixed with stormwater, unless such non-stormwater discharges are:

1.3.1.1.1 Currently covered under a separate National Pollutant Discharge Elimination System (NPDES) permit, or

1.3.1.1.2 Included in 1.2.2.2 or determined not to be a substantial contributor of pollutants to waters of the U.S. by NDEP.

1.3.1.2 Stormwater discharges currently covered under another permit.

1.3.1.3 Discharges that do not comply with the Nevada's anti-degradation policy for water quality standards.

1.3.2 Stormwater discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi) are identified and permitted through a separate NPDES General Industrial Activity permit.

1.3.3 Stormwater discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15) are identified and permitted through a separate NPDES General Construction Activity permit.

1.3.4 If it is determined that Permittees discharges cause or contribute to instream exceedances of water quality standards, NDEP may require corrective action or an application for a separate individual permit or alternative permit if an MS4 is determined to cause an instream exceedance of water quality standards.

1.4 Annual Fee

1.4.1 The Permittees shall remit an annual review and services fee in accordance with Nevada Administrative Code 445A.232 starting July 1, 2004 and every year thereafter until the permit is terminated.

2 Reapplication Requirements

2.1 Deadlines for Reapplication

2.1.1 The Permittees shall submit an application, or other form of written correspondence requesting permit coverage, not later than 180 days before this permit expires.

2.1.2 *Additional Designations after the Date of Permit Issuance.* Public entities not covered by this permit may apply for coverage as an additional Permittee. Following authorization by existing Permittees, the entity shall submit an application to NDEP along with a written request for inclusion. NDEP reserves the right to take appropriate enforcement actions for any unpermitted discharges.

2.1.3 *Submitting a Late Application.* The Permittees are not prohibited from submitting an application after the dates provided in 2.1. NDEP reserves the right to take appropriate enforcement actions for any unpermitted discharges.

2.2 **Contents of the Application**

2.2.1 The Application must be signed in accordance with Part 6.7 of this permit and must include the following information:

2.2.2 *Information on the Permittees:*

2.2.2.1 The name of the Permittees municipal entity/state agency/federal agency, mailing address, and telephone number;

2.2.3 *Information on the Municipal Separate Storm Sewer System:*

2.2.3.1 The name of the major receiving water(s) and an indication of whether any of the Permittees receiving waters are on the latest CWA §303(d) list of impaired waters.

2.2.3.2 Information on the Permittees' chosen best management practices (BMPs) and measurable goals, the Permittees timeframe for implementing each of the BMPs, and the person or persons responsible for implementing or coordinating the Permittees' Stormwater Management Program (SWMP).

2.3 **Where to Submit**

2.3.1 The Permittees are to submit the application, or other form of written correspondence requesting permit coverage, signed in accordance with the signatory requirements of Section 6.7 of this permit, to NDEP at the following address:

Stormwater Coordinator
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
333 West Nye Lane
Carson City, NV 89706-0851

2.4 Permittees under a Single Permit

- 2.4.1 The Permittee may partner with other MS4s to develop and implement the Permittees SWMP. The description of the Permittees' SWMP must clearly describe which Permittees are responsible for implementing each of the control measures.

3 Special Conditions

3.1 Discharges to Water Quality Impaired Waters

- 3.1.1 *Applicability:* Based upon the year 2002-303(d) list and subsequent updates, the Permittees must evaluate whether stormwater discharge from any part of the MS4 significantly contributes directly or indirectly to the listing of a waterbody on the 303(d) list (i.e., impaired waterbody). If Permittees have discharges meeting this criterion, the Permittees must comply with Part 3.1.2; if the Permittees do not have discharges meeting this criterion, Part 3.1 does not apply.
- 3.1.2 If the Permittees have "303(d)" discharges described above, the Permittees must also determine whether a TMDL has been developed and approved by NDEP for the listed waterbody. If there is a TMDL, the Permittees must comply with Part 3.1.3; if no TMDL has been approved, the Permittees must comply with Part 3.1.4.
- 3.1.3 When a TMDL has been established as described in paragraph 3.1.2, the Permittees must notify NDEP if the TMDL includes a wasteload allocation applicable to stormwater discharges covered by this permit.
- 3.1.3.1 *Consistency with Total Maximum Daily Load (TMDL) Allocations.* If a TMDL is approved for any waterbody into which the Permittees discharge, the Permittees must:
- 3.1.3.1.1 Determine or report whether the approved TMDL is for a pollutant likely to be found in stormwater discharges from the Permittees MS4;
- 3.1.3.1.2 Determine or report whether the TMDL includes a pollutant load allocation (LA) or other performance requirements specifically for stormwater discharge from the Permittees MS4;
- 3.1.3.1.3 Determine or report whether the TMDL addresses a flow regime likely to occur during periods of stormwater discharge;
- 3.1.3.1.4 After the determinations above have been made and if it is found that the Permittees MS4 must implement specific LA provisions under the TMDL, assess whether the LAs are being met through

implementation of existing stormwater control measures or if additional control measures are necessary;

- 3.1.3.1.5 Document all control measures currently being implemented or planned to be implemented. Also include a schedule of implementation for all planned controls. Document the calculations or other evidence that shows that the LA will be met;
 - 3.1.3.1.6 Describe a monitoring program to determine whether the stormwater controls are adequate to meet the LA; and,
 - 3.1.3.1.7 If the evaluation shows that additional or modified controls are necessary, describe the type and schedule for the control additions/revisions, and an analysis that demonstrates the overall effectiveness.
- 3.1.4 When a TMDL has not been established as described in paragraph 3.1.2, the Permittees must include a section in the annual report describing the condition for which the water has been listed, evaluating possible BMPs that might practicably be implemented, examining whether these BMPs would have a substantial effect on achieving compliance, and identifying any BMPs that are selected for implementation.
- 3.1.5 The SWMP shall identify additional BMPs, if appropriate, to help achieve the TMDL for phosphorus or ammonia loadings into Lake Mead and shall be submitted in accordance with section 4.1.2.

4 Stormwater Management Program. Permittees must comply with the following:

- 4.1 General Requirements: Develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the Permittees MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the CWA;
 - 4.1.1 Submit the SWMP to NDEP no later than October 1, 2003;
 - 4.1.2 Fully implement the SWMP within three (3) years of the authorization date of this permit;
 - 4.1.3 Identify the best management practices (BMPs) that the Permittees or another entity will implement;
 - 4.1.4 Identify the measurable goals for BMPs, as appropriate, including the months and years in which the Permittees will undertake required actions;
 - 4.1.5 Provide a rationale for how and why the Permittees selected each of the BMPs and measurable goals for the SWMP.

- 4.1.6 Implementation of best management practices consistent with the provisions of the stormwater management program as required by this permit constitutes compliance with the standard of reducing pollutants to the “maximum extent practicable”.
- 4.1.7 The scope and coverage of the SWMP shall extend at least to the limits of the urbanized area in Las Vegas Valley.
- 4.1.8 The management program shall include a description of staff and resources available to implement the program elements.
- 4.1.9 Separate proposed programs, or one or more joint programs, may be submitted by each co applicant.
- 4.1.10 Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.
- 4.1.11 Proposed management programs shall describe priorities for implementing controls and shall be based on Public Outreach and Education; Illicit Discharge and Detection; Industrial Facility Monitoring and Control; and a Construction Site BMP Program.
- 4.1.12 Implement other BMPs identified in this permit.
- 4.1.13 Pending submittal of the SWMP, the Permittees shall continue to implement current BMPs.

4.2 Adequate legal authority:

- 4.2.1 DEP has previously reviewed and approved the Permittees legal authority and interlocal agreements, in some cases after modifications. The SWMP shall include an update on the status of the Permittees’ legal authority, established by statute, ordinance or series of contracts which authorizes or enables the applicant to:
 - 4.2.1.1 Prohibit through ordinance, order, or similar means, illicit discharges to the municipal separate storm sewer;
 - 4.2.1.2 Control through ordinance, order, or similar means the discharge to a municipal separate storm sewer from spills, dumping or disposal of materials other than stormwater;
 - 4.2.1.3 Require compliance with conditions in ordinances, permits, contracts or orders; and
 - 4.2.1.4 Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the prohibition of illicit discharges to the MS4s.

4.2.2 The Permittees shall provide written notice to NDEP of any formal proposal to modify the ordinances regulating stormwater discharges into the municipal storm sewers. Before any ordinance is modified, NDEP shall have an opportunity to comment on the proposed modification.

4.3 **Source identification:**

4.3.1 The SWMP shall provide, at a minimum: updated maps of the Permittees' MS4s, including the location of any major outfall that discharges to waters of the United States that was not previously reported.

4.3.2 If requested, the Permittees shall assist DEP in developing lists of industrial facilities subject to stormwater permitting requirements within their boundaries.

4.4 **Characterization data:**

4.4.1 The SWMP shall evaluate, and if necessary update, characterization data previously submitted to include additional data collected in the same manner, and evaluate whether existing data collection programs should be modified to improve characterization of stormwater discharges, effects of BMPs, or ambient water quality. This information shall be submitted for approval as part of the annual monitoring plan required in section 5.1.1.

4.5 **Public Outreach and Education, and Intergovernmental Coordination:**

4.5.1 The management program covering the duration of the permit shall include a section which involves public outreach and education, and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate.

4.6 **Best Management Practices:**

4.6.1 A description of structural and source control measures expected to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with a discussion of the basis for the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

4.6.1.1 A description of maintenance activities and a maintenance schedule to reduce pollutants in discharges from MS4s;

- 4.6.1.2 A description of planning procedures including a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment;
- 4.6.1.3 A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems;
- 4.6.1.4 A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from stormwater is feasible;
- 4.6.1.5 A description of a program to evaluate and as necessary monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste; and
- 4.6.1.6 A description of a program to evaluate and as necessary reduce pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizer.

4.7 Illicit Discharge and Detection:

- 4.7.1 A description of a program, including a schedule, to detect and remove illicit discharges and improper disposal into the MS4. The proposed program shall include:
 - 4.7.1.1 A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4 This program description shall address all types of illicit discharges, however the following category of non-stormwater discharges or flows shall only be addressed where such discharges are identified by the Permittee as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

- 4.7.1.2 A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;
- 4.7.1.3 A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-stormwater ;
- 4.7.1.4 A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;
- 4.7.1.5 A description of a program to facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from MS4s;
- 4.7.1.6 A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and
- 4.7.1.7 An assessment of whether the procedures otherwise implemented in response to this paragraph are sufficient to identify instances of exfiltration from the sanitary sewer to the storm sewers, and if not a description of additional activities to be undertaken to control exfiltration

4.8 Industrial Facility Monitoring and Control:

- 4.8.1 A description of a program to monitor and control pollutants in stormwater discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:
 - 4.8.1.1 Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges; and,
 - 4.8.1.2 Describe a monitoring program for stormwater discharges associated with the industrial facilities identified in this section, to be implemented during the term of the permit in accordance with the monitoring programs defined in section 5.1.1.

4.9 Construction Site BMP Program:

- 4.9.1 A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in stormwater

runoff from construction sites to the municipal storm sewer system, which shall include:

- 4.9.1.1 A description of procedures for notifying developers of properties of one acre or more of requirements applicable to stormwater runoff;
- 4.9.1.2 A description of nonstructural and structural best management practices for construction sites; and
- 4.9.1.3 A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality;; and,
- 4.9.1.4 A description of appropriate educational and training measures for construction site operators.

4.10 Sharing Responsibility:

- 4.10.1 The Permittees may either share responsibility or assign responsibility to one or more Permittees, and may implement BMPs individually, as a group, or through consultants. The SWMP shall include a description of how responsibility is being shared or assigned.

4.11 Reviewing and Updating Stormwater Management Programs

- 4.11.1 The Permittees must complete an annual review of the SWMP in conjunction with preparation of the annual report required under Part 5.3
- 4.11.2 The Permittees may change the SWMP during the life of the permit in accordance with the following procedures:
 - 4.11.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to NDEP.
 - 4.11.2.2 Requests for changes replacing an ineffective, unfeasible, or inappropriate BMP specifically identified in the SWMP with an alternate BMP may be submitted to NDEP for approval at any time. If request is denied, NDEP will send the Permittees a written response giving a reason for the decision. The Permittees modification requests must include the following:
 - 4.11.2.2.1 An analysis of why the BMP is ineffective, infeasible (including cost prohibitive), or otherwise should be revised or replaced, and
 - 4.11.2.2.2 An analysis of why the replacement BMP is expected to be more effective, feasible, or appropriate than the BMP to be replaced.

4.12 Changes by NDEP:

- 4.12.1 Formal changes requested by NDEP must be made in writing, set forth the time schedule for the Permittees to develop the changes, and offer the Permittees the opportunity to propose alternative program changes to meet the objective of the requested modification. If the Permittees do not agree to the requested changes, changes required by NDEP will be made in accordance with 40 CFR 124.5, 40 CFR 122.62, or as appropriate 40 CFR 122.63.
- 4.12.2 NDEP may request formal changes to the SWMP as needed to:
 - 4.12.2.1 Address impacts on receiving water quality caused, or contributed to, by discharges from the Municipal Separate Storm Sewer System;
 - 4.12.2.2 Include more stringent requirements necessary to comply with new Federal statutory or regulatory requirements; and,
 - 4.12.2.3 Include such other conditions deemed necessary by NDEP to comply with the requirements of the Clean Water Act.

4.13 Responsibility for Stormwater Management Program Implementation:

- 4.13.1 The Permittees must implement the SWMP on all new areas added to the Permittees portion of the MS4 (or for which the Permittees become responsible for implementation of stormwater quality controls) not later than one year from addition of the new areas.
- 4.13.2 Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.

5 Monitoring, Recordkeeping, and Reporting

5.1 Monitoring

- 5.1.1 The Permittees shall submit to NDEP a stormwater monitoring plan for the following year on or before October 1 each year. In developing the plan, the Permittees must evaluate and update as necessary how monitoring may assist in making decisions about program compliance, the appropriateness of identified best management practices, and progress toward achieving identified measurable goals. Pending submittal of the annual monitoring plan, the Permittees shall continue to implement the existing monitoring plan.
- 5.1.2 When the Permittees conduct monitoring at the Permittees permitted MS4, the Permittees is required to comply with the following:

- 5.1.2.1 Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. This requirement does not prevent Permittees from analyzing or reporting samples that are representative of a limited situation (e.g. concentration at peak flow).
- 5.1.2.2 Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Act, unless other procedures are approved by NDEP.
- 5.1.3 Records of monitoring information shall include:
 - 5.1.3.1 The date, exact place, and time of sampling or measurements;
 - 5.1.3.2 The names(s) of the individual(s) who performed the sampling or measurements;
 - 5.1.3.3 The date(s) analyses were performed;
 - 5.1.3.4 The names of the individuals who performed the analyses;
 - 5.1.3.5 The analytical techniques or methods used; and
 - 5.1.3.6 The results of such analyses.
- 5.1.4 Analyses shall be performed by a State of Nevada certified laboratory. Laboratory reports shall be provided if requested by NDEP.
- 5.1.5 If the Permittees perform stormwater monitoring more frequently than required by the stormwater monitoring plan the results of such monitoring shall be reported.

5.2 Record keeping

- 5.2.1 The Permittees must retain records of all monitoring information, including, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, a copy of the NPDES permit, and records of all data used to complete the application for this permit, for a period of at least three (3) years from the termination date of this permit. This period may be extended at the direction of NDEP at any time.
- 5.2.2 The Permittees must submit the records to NDEP only when specifically asked to do so. The Permittees must retain a copy of the SWMP required by this permit (including a copy of the permit language) at a location accessible to NDEP. The Permittees must make the records, including a copy of the SWMP, available to the public if requested to do so in writing.

5.2.3 For public requests of records, the Permittees may impose a reasonable fee for personnel time and copying expenses.

5.3 Reporting

5.3.1 Beginning one year after the submission of the SWMP, Permittees must submit annual reports to NDEP by October 1 of each year of the permit term. Each annual report shall cover the period beginning July of the previous year through June of the current year.

5.3.2 Each year, Permittees shall review the program defined under section 4 of this permit, and report to NDEP on the status of the program, whether Permittees have identified any modifications, and the plans for implementing those modifications.

5.3.3 At a minimum the Annual Report shall include:

5.3.3.1 Status of the Permittees compliance with permit conditions;

5.3.3.2 An assessment of the appropriateness of the identified BMP's, and revisions to previous assessments if appropriate;

5.3.3.3 Progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP;

5.3.3.4 Status of the achievement of measurable goals;

5.3.3.5 Results of information collected and analyzed, if any, during the reporting period, including monitoring data used to assess the success of the program at reducing the discharge of pollutants to the MEP, a description of any identified improvements to or degradation in water quality attributable to the program, and a description of any identified effects on attainment of water quality standards attributable to the program;

5.3.3.6 A summary of the stormwater activities the Permittees plan to undertake during the next reporting cycle (including an implementation schedule and a fiscal analysis);

5.3.3.7 Changes to the SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements;

5.3.3.8 Notice that the Permittees are relying on another government entity to satisfy some of the permit obligations (if applicable); and

- 5.3.3.9 Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal stormwater quality management program. The assessment shall also identify known impacts of stormwater controls on ground water.
- 5.3.4 A summary of inspections performed and enforcement activity taken during the report cycle.
- 5.3.5 Annual expenditures for the reporting period, with a breakdown for the major elements of the Stormwater Management Program, and the budget for the year following each annual report.
- 5.3.6 An original signed copy of all reports and plans required herein shall be submitted to the State at the following address:

Stormwater Coordinator
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
333 West Nye Lane
Carson City, NV 89706-0851

6 Standard Permit Conditions

6.1 Duty to Comply

- 6.1.1 The Permittees must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of CWA and is grounds for enforcement action; permit termination; revocation and reissuance; modification; or for denial of a permit renewal application. Each Permittee is responsible for its own compliance with this permit, but not for any noncompliance of another Permittee. No Permittee shall be held liable for the violation of this permit by another Permittee.

6.2 Continuation of the Expired Permit

- 6.2.1 If this permit is not reissued or replaced prior to the expiration date, it will be administratively continued in accordance with the Administrative Procedures Act and remain in force and effect. Any Permittee who was granted permit coverage prior to the expiration date will automatically remain covered by the continued permit until the earlier of:

- 6.2.1.1 Reissuance or replacement of this permit; or

- 6.2.1.2 Issuance of another individual permit for the Permittees discharges.

6.3 Need to Halt or Reduce Activity Not a Defense

6.3.1 It shall not be a defense for the Permittees in an enforcement action that it would have been necessary to halt or reduce the permitted activity under the Permittees control in order to maintain compliance with the conditions of this permit.

6.4 Duty to Mitigate

6.4.1 The Permittees must take all reasonable steps to minimize or prevent any discharge in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

6.5 Duty to Provide Information

6.5.1 The Permittees must furnish to NDEP any information that is requested by NDEP and needed to determine compliance with this permit or other information.

6.6 Other Information

6.6.1 If the Permittees becomes aware that the Permittees have failed to submit any relevant facts in the Permittees application or submitted incorrect information in the application or in any other report to NDEP, the Permittees must promptly submit such facts or information.

6.7 Signatory Requirements

6.7.1 All applications, reports, certifications, or information submitted to NDEP, or that this permit requires be maintained by the Permittees shall be signed and certified as follows:

6.7.1.1 *Applications.* All applications shall be signed by either a principal executive officer or ranking elected official.

6.7.1.2 *Reports and other information.* All reports required by the permit and other information requested by NDEP or authorized representative of NDEP shall be signed by a person described above from the lead agency (Clark County Regional Flood Control District) or by a duly authorized representative of that person. A person is a duly authorized representative only if:

6.7.1.2.1 *Signed authorization.* The authorization is made in writing by a person described above and submitted to NDEP.

6.7.1.2.2 *Authorization with specified responsibility.* The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of manager, operator, superintendent, or position of equivalent responsibility for environmental matter for the regulated entity.

6.7.2 *Changes to authorization.* If an authorization is no longer accurate because a different operator has the responsibility for the overall operation of the MS4, a new authorization satisfying the requirement of (6.7.2.2) above must be submitted to NDEP prior to or together with any reports, information, or applications to be signed by an authorized representative.

6.8 Property Rights

6.8.1 The issuance of this permit does not convey any property rights of any sort, or any exclusive privilege, nor does it authorize any injury to private property nor any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations

6.9 Proper Operation and Maintenance

6.9.1 The Permittees must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Permittees to achieve compliance with the conditions of this permit.

6.10 Inspection and Entry

6.10.1 The Permittees shall allow NDEP or an authorized representative (including an authorized contractor acting as a representative of the Administrator) upon the presentation of credentials and other documents as may be required by law, to do any of the following:

6.10.1.1 Enter the Permittees premises where a regulated facility or activity is located or conducted or where records must be kept under the conditions of this permit;

6.10.1.2 Have access to and copy at reasonable times, any records that must be kept under the conditions of this permit;

6.10.1.3 Inspect at reasonable times any facilities or equipment (including monitoring and control equipment) practices, or operations regulated or required under this permit; and

6.10.1.4 Sample or monitor at reasonable times, for the purposes of assuring permit compliance or as otherwise authorized by the CWA, any substances or parameters at any location.

6.11 Permit Actions

6.11.1 This permit may be modified, revoked and reissued, or terminated for cause. The Permittees filing of a request for a permit modification, revocation and

reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition.

6.12 Permit Transfers

- 6.12.1** This permit is not transferable to any person except after notice to NDEP. NDEP may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the CWA.

6.13 Anticipated Noncompliance

- 6.13.1** The Permittees must give advance notice to NDEP of any planned changes in the permitted MS4 or activity which may result in noncompliance with this permit.

6.14 State Environmental Laws

- 6.14.1** Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittees from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the CWA.
- 6.14.2** No condition of this permit releases the Permittees from any responsibility or requirements under other environmental statutes or regulations.

6.15 Severability

- 6.15.1** The provisions of this permit are severable, and if any provision of this permit or the application of any provision of this permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this permit shall not be affected thereby.

6.16 Procedures for Modification or Revocation

- 6.16.1** Permit modification or revocation will be conducted according to 40 CFR 122.62, 122.63, 122.64 and 124.5.

6.17 Requiring a Separate Individual Permit or an Alternative General Permit

- 6.17.1** *Request by NDEP.* NDEP may require any person authorized by this permit to apply for and/or obtain either a separate individual NPDES permit or an alternative NPDES general permit. Any interested person may petition NDEP to take action under this paragraph. Where NDEP requires the Permittees to apply for an individual NPDES permit, NDEP will notify the Permittees in writing that a permit application is required. This notification shall include a brief statement of the reasons for this decision, an application form, a statement setting a deadline for the Permittees to file the application, and a

statement that on the effective date of issuance or denial of the individual NPDES permit or the alternative general permit as it applies to the individual Permittee, coverage under this general permit shall automatically terminate. Applications must be submitted to NDEP. NDEP may grant additional time to submit the application upon request of the applicant. If the Permittee fails to submit in a timely manner an individual NPDES permit application as required by NDEP under this paragraph, then the applicability of this permit to the Permittee is automatically terminated at the end of the day specified by NDEP for application submittal.

6.17.2 *Request by Permittee.* Any discharger authorized by this permit may request to be excluded from the coverage of this permit by applying for a separate individual permit. In such cases, the Permittee must submit an individual application, with reasons supporting the request, to NDEP at the address for the appropriate Regional Office. The request may be granted by issuance of any individual permit or an alternative general permit if the reasons cited by the Permittee are adequate to support the request.

6.17.3 *Permit termination.* When an individual NPDES permit is issued to a discharger otherwise subject to this permit, or the Permittee is authorized to discharge under an alternative NPDES general permit, the applicability of this permit to the individual NPDES Permittee is automatically terminated on the effective date of the separate individual permit or the date of authorization of coverage under the alternative general permit, whichever the case may be. When an individual NPDES permit is denied to an operator otherwise subject to this permit or the operator is denied for coverage under an alternative NPDES general permit, the applicability of this permit to the individual NPDES Permittee is automatically terminated on the date of such denial, unless otherwise specified by NDEP.

6.18 Availability of Reports

6.18.1 Except for data determined to be confidential under NRS 445A.665, all reports and plans submitted in accordance with the terms of this permit shall be available for public inspection at the office of NDEP. As required by the CWA, effluent data shall not be considered confidential. Knowingly making any false statement on any such report may result in the imposition of criminal penalties as provided for in NRS 445A.710.

6.19 Furnishing False Information and Tampering with Monitoring Devices

6.19.1 Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document submitted or required to be maintained by the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required to be maintained under the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit,

rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than \$10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, pursuant to NRS 445A.300 to 445A.730, inclusive.

6.20 Penalty for Violation of Permit Conditions

6.20.1 NRS 445A.675 provides that any person who violates a permit condition is subject to administrative and judicial sanctions as outlined in NRS 445A.690 through 445A.710.

6.21 Permit Modification, Suspension or Revocation

6.21.1 After notice and opportunity for a hearing, this permit may be modified, suspended, or revoked in whole or in part during its term for cause including, but not limited to, the following:

6.21.1.1 Violation of any terms or conditions of this permit;

6.21.1.2 Obtaining this permit by misrepresentation or failure to disclose fully all relevant facts;

6.21.1.3 A change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; or

6.21.1.4 To impose specific requirements for BMPs or annual reporting requirements in accordance with 40 CFR § 122.62 or §122.63.

6.21.2 Any Permittee may request that NDEP reopen and modify this permit.

7 Definitions

7.1 All definition contained in Section 502 of the CWA and 40 CFR 122 shall apply to this permit and are incorporated herein by reference. For convenience, simplified explanations of some regulatory/statutory definitions have been provided, but in the even of a conflict, the definition found in the Statute or Regulation takes precedence.

7.2 *Best Management Practices (BMPs)* means schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements, operating procedures, and practices to control runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

7.3 *Control Measure* as used in this permit, refers to any Best Management Practice or other method used to prevent or reduce the discharge of pollutants to waters of the United States.

- 7.4 *CWA or The Act* means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Pub.L. 92-500, as amended Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483 and Pub. L. 97-117, 33 U.S.C. 1251 et.seq.
- 7.5 *Discharge*, when used without a qualifier, refers to “discharge of a pollutant” as defined at 40 CFR 122.2.
- 7.6 *Illicit Connection* means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.
- 7.7 *Illicit Discharge* is defined at 40 CFR 122.26(b)(2) and refers to any discharge to a municipal separate storm sewer that is not entirely composed of stormwater, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.
- 7.8 *Indian Country*, as defined in 18 USC 1151, means (a) all land within the limits of any Indian reservation under the jurisdiction of the United States Government, notwithstanding the issuance of any patent, and including rights-of-way running through the reservation; (b) all dependent Indian communities within the borders of the United States whether within the original or subsequently acquired territory thereof, and whether within or without the limits of a state, and (c) all Indian allotments, the Indian titles to which have not been extinguished, including rights-of-way running through the same. This definition includes all land held in trust for an Indian tribe.
- 7.9 *MEP* is an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in stormwater discharges that was established by CWA §402(p).
- 7.10 *MS4* is an acronym for "Municipal Separate Storm Sewer System" and is used to refer to either a Large, Medium, or Small Municipal Separate Storm Sewer System (e.g. "the Clark County MS4"). The term is used to refer to either the system operated by a single entity or a group of systems within an area that are operated by multiple entities (e.g., the Clark County MS4 includes MS4s operated by the City of Las Vegas, the City of North Las Vegas, the City of Henderson, the Nevada Department of Transportation, the Clark County Regional Flood Control District, and Clark County).
- 7.11 *Municipal Separate Storm Sewer* is defined at 40 CFR 122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district,

flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

- 7.12 *Permitting Authority* means the Nevada Division of Environmental Protection.
- 7.13 *Small Municipal Separate Storm Sewer System* is defined at 40 CFR 122.26(b)(16) and refers to all separate storm sewers that are owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States, but is not defined as “large” or “medium” MS4. This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.
- 7.14 *Stormwater* is defined at 40 CFR 122.26(b)(13) and means stormwater runoff, snowmelt runoff, and surface runoff and drainage.
- 7.15 *Stormwater Management Program (SWMP)* refers to a comprehensive program to manage the quality of stormwater discharged from the MS4.
- 7.16 *SWMP* is an acronym for “Stormwater Management Program.”

ACRONYMS

BMP	Best Management Practice
CFR	Code of Federal Regulations
CWA	Clean Water Act
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
NAC	Nevada Administrative Code
NAC	Nevada Administrative Code
NDEP	Nevada Division of Environmental Protection
NPDES	National Pollutant Discharge Elimination System
NRS	Nevada Revised Statute
SARA	Superfund Amendments and Reauthorization Act
SWMP	Stormwater Management Program
TMDL	Total Maximum Daily Load
USC	United States Code

APPENDIX B

Las Vegas Valley Storm Water Management Plan for Municipal Separate Storm Sewer System



APPENDIX B

LAS VEGAS VALLEY STORM WATER MANAGEMENT PLAN FOR MUNICIPAL SEPARATE STORM SEWER SYSTEM

- **Las Vegas Valley MS4 Permit Stormwater Management Plan – 2003**
- **NDEP Approval Letter**
- **Las Vegas Valley MS4 Permit Stormwater Management Plan Update**



Las Vegas Valley Storm Water Management Plan for Municipal Separate Storm Sewer System

September 2003

prepared by the
Las Vegas Valley Stormwater Quality Management Committee



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SECTION 1

Introduction

1.1 Purpose

The purpose of this Storm Water Management Plan (SWMP) is to describe the programs, practices and responsibilities adopted by the Las Vegas Valley Municipal Separate Storm Sewer System (MS4) permittees to implement the current NPDES Permit No. NV0021911. The SWMP describes the activities that will be performed to comply with the MS4 permit conditions, provides measurable goals for key activities, and outlines staffing and funding responsibilities for the permittees. The SWMP will apply to the 5-year duration of the current MS4 permit. Annual updates will be provided if necessary as part of the required annual reports to address changes in proposed program elements or in conditions in the permit area.

1.2 Authorization

This SWMP was prepared by the Las Vegas Valley MS4 permittees - Clark County Regional Flood Control District (CCRFC), Clark County, the City of Las Vegas, the City of North Las Vegas, and the City of Henderson. Funding for development of the SWMP was provided by CCRFC and Nevada Department of Transportation (NDOT).

1.3 Area of Coverage

The area of coverage is defined in paragraph 1.1 of the MS4 permit:

"This permit covers discharges into receiving waters of the United States within the City of Henderson, City of Las Vegas, City of North Las Vegas, and Clark County not including Boulder City, Laughlin, Mesquite, and Nellis Air Force Base."

However, the focus is on the discharge of municipal storm water runoff into "Las Vegas Wash, its tributaries, and other waters of the United States" as authorized on the cover page of the permit. Consistent with this focus, the activities described in the SWMP will be conducted within the urbanized area of Las Vegas Valley.

NDOT has been a permittee for the Las Vegas Valley MS4 permit since 1990. NDOT is currently in the process of obtaining its own MS4 permit with Nevada Division of Environmental Protection (NDEP). Once NDOT is issued its own permit, it will withdraw from the present MS4 permit. Because this is expected to occur early in the first permit year, and because NDOT is expected to submit its own SWMP, this SWMP does not address NDOT issues.

1.4 Period of Performance

This SWMP applies to the 5-year effective period of the MS4 permit, or from July 2003 to June 2008. The SWMP refers to Permit Years when specifying when various activities are scheduled to occur. Permit Years are defined as follows:

Permit Year	Start	End
Permit Year 1	July 1, 2003	June 30, 2004
Permit Year 2	July 1, 2004	June 30, 2005
Permit Year 3	July 1, 2005	June 30, 2006
Permit Year 4	July 1, 2006	June 30, 2007
Permit Year 5	July 1, 2007	June 30, 2008



SECTION 2

Legal Authority

2.1 Introduction and Rationale

This section addresses the MS4 permit requirements in paragraph 4.2 dealing with legal authority of the permittees to implement the various aspects of the proposed Storm Water Management Plan and other requirements of the permit. The objective is to provide documentation that the permittees either currently have adequate legal authority to conduct all necessary activities, or have a plan for obtaining that authority. The adopted activities satisfy the specific requirements of the permit in this category.

2.2 Existing Legal Authority

Documentation will be provided to update the status of the legal authority of each permittee to conduct the following types of activities.

- Prohibit illicit discharges to the municipal separate storm sewer system.
- Control spills, dumping or disposal of materials other than storm water to the storm sewer system.
- Require compliance with conditions in ordinances related to storm water discharges.
- Carry out inspection and monitoring procedures necessary to determine compliance with the prohibition on illicit discharges to the storm sewer system.

Copies of current ordinances will be assembled and summarized by the permittees.

2.3 Additional Required Legal Authority

If the review of current regulations and ordinances identifies deficiencies in the ability to implement SWMP programs, a plan for addressing those deficiencies will be developed.

2.4 Priorities and Measurable Goals

Existing legal authority will be documented first, followed by development of a plan to address any deficiencies in current ordinances, etc. Measurable goals are defined below.

Completed by	Measureable Goal/Milestone
End of Permit Year 1	Assemble and summarize existing legal authority
End of Permit Year 2	If necessary, develop plan for addressing deficiencies in current legal authority
End of Permit Year 3	None
End of Permit Year 4	None
End of Permit Year 5	None

2.5 Staffing and Funding

Funding for review of legal authority will be provided by CCRFCD. Staffing for review of legal authority will be provided by CCRFCD.



SECTION 3

Storm Water System Maps

3.1 Introduction and Rationale

This section describes the adopted plan for satisfying the MS4 permit requirement in paragraph 4.3.1 to prepare a storm water system map for the permitted area of Las Vegas Valley. A storm water system map will be valuable to the permittees, regulatory agencies and others in determining where potential storm water quality problems may exist or originate. The adopted plan relies on existing computerized inventory information from CCRFCD, which is adequate to describe the existing drainage and flood control system.

3.2 Storm Water System Map

A map of the existing regional storm drain system will be prepared to document locations and contributing areas of major outfalls to receiving waters in Las Vegas Valley. The map will be prepared using information in the CCRFCD GIS system that was developed for the Las Vegas Valley Flood Control Master Plan Update (2002). The map will show locations of major regional storm drains (e.g., 36-inch and larger) and regional detention basins.

3.3 Priorities and Measurable Goals

There is only one activity in this category; it will be conducted in Permit Year 1, as defined below.

Completed by	Measureable Goal/Milestone
End of Permit Year 1	Prepare regional storm water system infrastructure map
End of Permit Year 2	None
End of Permit Year 3	None
End of Permit Year 4	None
End of Permit Year 5	None

3.4 Staffing and Funding

Funding for the storm water system infrastructure map will be provided by CCRFCD. Staffing for map preparation will be provided by CCRFCD.



SECTION 4

Monitoring Program

4.1 Introduction and Rationale

This section describes the adopted plan for preparing a monitoring program for wet and dry weather discharges, as required by the MS4 permit (paragraphs 4.4 and 5.1.1). The monitoring program will be related to Las Vegas Valley water quality problems identified by previous sampling by CCRFCD and others. CCRFCD has implemented a storm water characterization monitoring program since 1991, in which characterization data are updated annually. The proposed monitoring program will be coordinated annually with other regional monitoring programs to make the best use of resources and to avoid duplication of effort.

4.2 Evaluation of Previously Collected Data

Monitoring results from previous sampling activities for the NPDES program and other monitoring programs will be summarized and compared to water quality objectives and other stream standards. Constituents contributing to water quality problems or concerns will be identified. Regional water quality concerns in the Las Vegas Wash Basin will be summarized. Based on the data review, constituents and locations of concern will be identified.

4.3 Proposed Monitoring Program

Based on the data summary, regional water quality concerns, and EPA guidelines for storm water permit monitoring, a wet and dry weather sampling program will be developed. The program will be coordinated with other Las Vegas Valley sampling programs to avoid duplication of effort and make the maximum use of monitoring resources.

The monitoring program will be revised annually to adapt to changing conditions, new information, and opportunities to coordinate with other monitoring programs. An annual monitoring program will be submitted to NDEP for review and approval at the beginning of each permit year.

The annual monitoring program will include activities required by the other SWMP program elements. This may include monitoring of detention basins, structural BMPs, landfills, or other facilities as required by the plans and programs developed for other SWMP elements.

The wet and dry weather monitoring programs currently being implemented by the permittees will continue to be followed until a new program is approved by NDEP.

4.4 Priorities and Measurable Goals

The first activity will be to review and analyze existing characterization data. Based on this analysis, a monitoring plan will be developed and submitted for approval. The monitoring plan will be updated in subsequent years, as defined below.



Completed by	Measureable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> • Review and analyze existing wet and dry weather data for storm water system • Approved monitoring program for Year 2
End of Permit Year 2	Approved monitoring program for Year 3
End of Permit Year 3	Approved monitoring program for Year 4
End of Permit Year 4	Approved monitoring program for Year 5
End of Permit Year 5	Approved monitoring program for Year 1 of next permit cycle

4.5 Staffing and Funding

Studies of water quality data, development of annual monitoring plans, and execution of those plans will be funded by CCRFCD. Staffing will be provided by CCRFCD.



SECTION 5

Public Outreach and Education

5.1 Introduction and Rationale

This section describes the public education and outreach activities adopted by the permittees in response to the MS4 permit requirements for such a program (paragraph 4.5). The rationale for the program is to inform the general public as to the importance of storm water quality issues, and to influence behavior in a way that benefits regional water quality. Activities were selected to take advantage of existing programs, and to target specific water quality problems and audiences that are important in Las Vegas Valley.

5.2 Public Outreach and Education Program Elements

5.2.1 Objectives for Public Education and Outreach

The overall objectives of the Public Education and Outreach Program are to:

- Inform the general public in Las Vegas Valley about important water quality issues related to storm water runoff;
- Influence behavior of the general public to reduce activities that have a negative impact on storm water runoff quality and increase activities that have a positive impact on storm water runoff quality.

5.2.2 Public Education and Outreach Activities

The following activities will be part of the public education and outreach program.

- a) **Community Events.** Permittees will continue to use major community events related to environmental awareness and regional water issues as opportunities for education and outreach. Booths will be staffed by volunteers from the permittees and/or other local organizations (e.g., Conservation District

of Southern Nevada), who will hand out informational materials and answer questions.

- b) **Media Materials.** Permittees will continue to produce or distribute media materials to disseminate public education and outreach information. Media materials will include: (1) a program (The Flood Channel) for local public television including general information on storm water quality issues; (2) Public Service Announcements for targeted messages and audiences; (3) occasional billboards with targeted messages.
- c) **Printed Materials.** Permittees will continue to develop, produce or distribute printed materials (e.g., brochures, flyers, promotional items) for specific topics related to storm water quality. Older printed materials will be updated as necessary.
- d) **Section 319 Grants.** Permittees will continue to pursue opportunities for obtaining Section 319 Nonpoint Source Management grants through NDEP for specific projects addressing storm water quality issues. This will be done in cooperation with Conservation District of Southern Nevada and other regional planning and management agencies.
- e) **Website.** Permittees will continue to maintain and update a website to provide information to the public on storm water permitting, Las Vegas Valley water quality issues, BMPs, and links to other related websites.
- f) **School Programs.** Permittees will continue to conduct outreach activities in public schools in Las Vegas Valley to promote awareness of water quality issues and basic watershed principles.
- g) **Involvement in Other Organizations.** Permittees will continue to be active in other



organizations in Las Vegas Valley that promote inter-agency cooperation and have outreach and education functions. These include the Lake Mead Water Quality Forum and the Las Vegas Wash Coordination Committee.

- h) **Construction and Industrial Program.**
 Permittees will conduct education and outreach activities targeting construction industry organizations (developers, contractors, engineers) and permitted industries. These activities are described in the respective sections of the SWMP.

5.3 Priorities and Measurable Goals

All outreach and education activities have similar priorities, and all will be conducted in each permit year. Measurable goals are defined in the following table.

5.4 Staffing and Funding

CCRFCFCD has an annual budget for public education and outreach. This will provide funding for producing PSAs, Flood Channel documentaries, printed material, billboards, and other outreach and education materials. CCRFCFCD funds a staff position that will coordinate these education and outreach activities, and assist in developing long-term education and outreach strategies and methods. CCRFCFCD also funds staff time to make presentations in public schools every spring.

Attendance of permittee staff members at community outreach events, where part of staff employment responsibilities, will be funded by the individual permittees. Staff may also volunteer time at some of these events.

Completed by	Measureable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one Public Service Announcement (PSA) • Maintain LVV storm water website • Make five presentations in public schools
End of Permit Year 2	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one PSA • Maintain LVV storm water website • Make five presentations in public schools
End of Permit Year 3	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one PSA • Maintain LVV storm water website • Make five presentations in public schools
End of Permit Year 4	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one PSA • Maintain LVV storm water website • Make five presentations in public schools
End of Permit Year 5	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one PSA • Maintain LVV storm water website • Make five presentations in public schools



SECTION 6

Structural and Source Control Measures

6.1 Introduction and Rationale

This section describes the various structural BMPs and source control measures that will be applied to existing and new development to mitigate the effects of urbanization on storm water quality. These practices and measures address the miscellaneous requirements described in paragraph 4.6 of the MS4 permit. Specific activities and programs were selected because of their link to existing permittee activities (e.g., for street and storm sewer system maintenance) and their relevance to the arid desert environment. Emphasis is on enhancing and documenting existing programs and activities. Information on a plan to address anticipated pollutant reduction from adopted BMPs is described in Section 10.4.

6.2 Storm Sewer Maintenance Program Elements

Appropriate frequencies will be determined for cleaning catch basins, inlets and storm drains. Cleaning frequency goals will be adopted by all permittees.

Common procedures for tracking and reporting storm sewer system maintenance activities by all the permittees will be established. This will include standardization of the data that will be collected, and how it will be reported.

6.3 New Development Planning Procedures

6.3.1 Regional Drainage and Flood Control Improvements

CCRFCFCD has a comprehensive flood control program for Las Vegas Valley that includes numerous detention basins spread throughout the Valley. Many of these regional detention basins have already been constructed (these will be shown on the map to be prepared as part of SWMP Element 3.1). Runoff from most areas of

new development and significant redevelopment will be captured by existing or proposed detention basins. These basins provide water quality benefits by settling out sediment and settleable solids and the pollutants commonly adhering to those solids (e.g., phosphorus, metals).

In areas of new development, CCRFCFCD will evaluate whether new structural regional flood control facilities, including detention basins, may provide useful storm water quality management benefits. CCRFCFCD will continue to plan, design and construct these facilities. For information about monitoring studies to determine effectiveness of structural and other BMPs, see section 4.

6.3.2 CCRFCFCD Design Manual Best Management Practices

The current CCRFCFCD Hydrologic Criteria and Drainage Design Manual (HCDDM) includes a section on recommended design criteria for structural BMPs that could be applied to new development and redevelopment. The HCDDM includes criteria for extended detention ponds, oil-grit separators, grassed swales, and other BMPs. If improved structural BMPs are developed, the manual will be reviewed and updated to include the improved BMPs.

6.4 Street Maintenance Program Elements

Appropriate frequencies will be determined for sweeping local and arterial streets. Cleaning frequency goals will be adopted by all permittees. Air quality regulations also affect street sweeping goals, and will be considered when developing street sweeping guidelines.

Common procedures for tracking and reporting street sweeping activities by all the permittees will



be established. This will include standardization of the data that will be collected, and how it will be reported.

6.5 Flood Control Structure Review Program Elements

6.5.1 Water Quality Benefits of Existing Flood Control Structures

A desktop study will be conducted to assess the water quality benefits of existing detention basins and flood control channels in Las Vegas Valley. It is anticipated that this study will include the following tasks.

- Collect records for the amount of sediment removed from regional detention basins and channels (e.g., for past 10 years), and any testing that may have been performed on that sediment.
- Ensure future records are maintained for sediment removed from detention basins and channels.
- Collect data for total miles of hard-lined channels and total capacity and design sediment storage of CCRFCD detention basins.
- Collect available data on sediment loading to Lake Mead during relevant times.
- Use available pollutant load models (e.g. those developed by MWH, UNLV) to estimate changes in concentrations and loads of TSS and other indicator pollutants attributable to development.
- Use analysis of available data to estimate effect of detention basins and other structural BMPs in controlling sediment.
- Consider need for additional data.
- Research published estimates of historical sediment production from LVV watersheds and channels, and extrapolate to current conditions.
- Determine appropriate baseline for comparison of potential construction impacts.

If necessary based on the results of the desktop study, water quality monitoring of detention basin inflows and outflows will be conducted to document pollutant reduction benefits of existing regional detention basins.

6.5.2 Potential Flood Control Structure Retrofits for Water Quality Improvement

If warranted based on the results of the investigations, the availability of additional BMPs and proposed structural modifications, the cost of additional BMPs or modifications, the benefits of additional BMPs or modifications, and the relative costs and benefits of other programs for structural storm water improvements, a program will be evaluated for retrofitting existing flood control structures to increase water quality benefits.

6.6 Municipal Landfill and Waste Disposal Management Program Elements

See section 8 for program elements. Monitoring programs are described in section 4.

6.7 Pesticide, Herbicide and Fertilizer Management Program Elements

Current monitoring data shows very few detections of pesticides, herbicides and organic compounds associated with fertilizers in wet or dry weather flows. Data will be reviewed and summarized to assess the potential impacts of pesticides, herbicides and fertilizers on Las Vegas Wash water quality.

Proper handling and application of pesticides, herbicides and fertilizers will be the subject of public education and outreach activities described in Section 5.

Las Vegas Valley communities are implementing water conservation plans that have guidelines and ordinances addressing outdoor landscape irrigation. The plans are aimed at reducing water waste through overwatering. This will also reduce the contribution of pesticides, herbicides and fertilizers to downstream receiving waters.



6.8 Priorities and Measurable Goals

The first priority is to coordinate the desired maintenance frequencies and tracking/reporting procedures among the permittees in the first year, in order to establish goals for following years. The next priority will be to prepare and execute a work plan to assess the water quality benefits of existing flood control facilities. These and other measurable goals are listed below.

Completed by	Measurable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> • Establish expected frequency of cleaning catch basins, inlets and storm drains • Establish procedures for tracking and reporting of storm drain system maintenance • Establish expected frequency of street sweeping • Establish procedures for tracking and reporting of street sweeping • Develop study work plan to assess water quality benefits of existing regional flood control facilities and potential benefits of structural BMPs in areas of new development • Summarize available pesticide, herbicide and fertilizer monitoring data and existing management programs
End of Permit Year 2	<ul style="list-style-type: none"> • Implement storm drain system cleaning program developed in Permit Year 1 • Implement street sweeping program developed in Permit Year 1 • Conduct study of regional flood control facilities and new development impacts proposed in Year 1
End of Permit Year 3	<ul style="list-style-type: none"> • Implement storm drain system cleaning program developed in Permit Year 1 • Implement street sweeping program developed in Permit Year 1 • Based on results of Year 2 study, evaluate whether to modify program for implementing structural BMPs
End of Permit Year 4	<ul style="list-style-type: none"> • Implement storm drain system cleaning program developed in Permit Year 1 • Implement street sweeping program developed in Permit Year 1
End of Permit Year 5	<ul style="list-style-type: none"> • Implement storm drain system cleaning program developed in Permit Year 1 • Implement street sweeping program developed in Permit Year 1

6.9 Staffing and Funding

Studies required to assess existing water quality conditions and propose appropriate levels of management activities will be funded by CCRFCD. Staffing will be provided by CCRFCD and the entities.

Staffing and funding for source control measures (storm sewer maintenance, street maintenance, O&M manuals, plan reviews) will be provided by each individual permittee. Funding for source control measures for regional flood control facilities storm sewer systems will be provided by CCRFCD.



SECTION 7

Illicit Discharge Detection and Elimination

7.1 Introduction and Rationale

This section describes the elements of the Illicit Discharge Detection and Elimination Program required by the MS4 permit in paragraph 4.7. Preventing illegal and illicit discharges to the storm water system is a key factor in the permittees' obligation to prevent the discharge of non-storm water to the regional drainage system. Program elements implemented by the permittees in previous years of the past MS4 permits have been successful in detecting and eliminating significant illegal and illicit discharges to the storm water system. Therefore, the proposed elements are based on formalizing and documenting activities that are presently conducted by the permittees.

7.2 Legal Authority

See section 2 for legal authority.

7.3 Field Screening Program Elements

Dry weather screening will be conducted to improve understanding of dry weather water quality from urban areas and background water quality of receiving waters. Existing dry weather water quality data will be summarized to identify data gaps. Specific monitoring program elements are described in Section 4.

7.4 Inspection Program Elements

Municipal separate storm sewer systems will be formally inspected two times per year by visually observing open channel sections in which dry weather flow persists and looking for evidence of non-storm water discharges. Emphasis will be on those areas that, based on the results of field screening or other appropriate information, indicate a reasonable potential of containing illicit discharges, exfiltration from the sanitary sewer system, or other sources of non-storm water.

Inspections will be performed by permittee staffs or designated representatives. Problems will be reported to the proper authorities.

Municipal maintenance staffs for streets and storm drains from each permittee will be trained to look for evidence of non-storm water discharges to the drainage system during their normal duties. A process for reporting potential problems will be established. See Section 8.2 for industrial facility program elements.

7.5 Spill Prevention and Response Program Elements

All entities currently have spill prevention and response regulations and programs in place through their fire departments and contracts with special emergency response contractors. No additional program elements are required.

7.6 Public Reporting Program Elements

Public reporting of illegal discharges or other water quality problems is currently available through the following avenues:

- Calls to the Clark County Public Response Office (CCPRO) hotline
- Calls to Clark County Health District, which is in the process of establishing a hotline phone number
- Calls directly to the entities and CCRFCD
- Entries to the lvstorm.water.com web site

These procedures have proven adequate in the past for public reporting of illegal discharges or dumping. No new program elements are necessary.



7.7 Household Hazardous Waste Disposal Program Elements

Republic Silver State Services has an exclusive franchise agreement to manage a valley-wide household hazardous waste disposal program. Bi-annual curb-side pickup days and weekly Wednesday through Saturday drop-off opportunities are provided for residents to dispose of hazardous materials or other similar items. Promotion is provided by Republic Silver State Services and the entities.

Several of the public education and outreach elements of Section 5 address household hazardous waste disposal.

No additional program elements are required.

7.8 Priorities and Measurable Goals

In addition to the annual activities of dry weather monitoring and field inspections (which are continuations of present programs), the first priority will be to identify existing inspection programs that are conducted by municipal maintenance staff, followed by the development of training materials and a training program. These and other measurable goals are defined below.

Completed by	Measureable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> • Develop and conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels • Develop training materials for municipal maintenance staffs
End of Permit Year 2	<ul style="list-style-type: none"> • Conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels • Implement training program for municipal maintenance staffs
End of Permit Year 3	<ul style="list-style-type: none"> • Conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels
End of Permit Year 4	<ul style="list-style-type: none"> • Conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels
End of Permit Year 5	<ul style="list-style-type: none"> • Conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels

7.9 Staffing and Funding

Funding for dry weather monitoring will be provided by CCRFCD. Staffing for dry weather monitoring will be provided by CCRFCD or by SNWA under an existing cooperative agreement with CCRFCD.

Staffing and funding for field inspection activities, spill response programs, and follow-up to reported incidents will be provided by each individual entity.



SECTION 8

Industrial Facility Monitoring and Control Program

8.1 Introduction and Rationale

This section describes the Industrial Facility Monitoring and Control Program required in paragraph 4.8 of the MS4 permit. Industrial sites can be potential sources of urban pollutants, and are particularly identified by the EPA for regulation under the NPDES storm water discharge permit program. The BMP program consists of inventorying industrial facilities in categories specifically called out in the permit, and developing an inspection program to assist NDEP in implementing its industrial permitting program. Because comprehensive industrial pretreatment programs and other inspection programs are currently conducted in all Las Vegas Valley entities, these existing programs will serve as the basis for identifying any industrial storm water pollution problems.

8.2 Industrial Facilities Covered

The following industrial facilities in Las Vegas Valley will be identified using best available information.

- Municipal landfills
- Hazardous waste treatment, disposal and recovery facilities
- Industrial facilities subject to Section 313 of Title III of Superfund Amendments and Reauthorization Act of 1986
- Industrial facilities that could contribute a substantial pollutant load to the municipal storm sewer system

Facilities identified above will be shown on a map. Current permit requirements and available information about onsite BMPs will be identified, and any monitoring activities will be summarized. The industrial facility map will be updated annually.

8.3 Industrial Facility Inspection Program Elements

Existing inspection programs that visit industrial sites (e.g., Industrial Pretreatment Programs, etc.) will be identified.

A training program for existing inspectors to identify and report potential, industrial, site-storm water management deficiencies during their normal duties will be developed and implemented. Materials will be prepared for a training workshop for existing inspectors. A process will be developed for existing inspectors to report identified problems.

A process will be adopted to manage forms and information received from inspectors. Problems identified from inspector reports and information gathered in Element 8.1 will be summarized. Reported problems will be forwarded to NDEP for follow-up.

An inventory of operating or closed municipal landfills and other treatment, storage and disposal facilities for municipal waste will be prepared. Documentation will be gathered for existing permits, management plans and monitoring programs that were or are implemented at the identified facilities. Potential impacts of storm water runoff from these facilities will be assessed.

8.4 Industrial Facility Monitoring Program Elements

A program to track inspection reports and follow-up activities for problems reported at industrial sites covered under Element 8.2 will be developed and implemented.



8.5 Priorities and Measurable Goals

The first priority is to prepare the inventory of industrial sites covered by the MS4 permit. The second priority is to identify existing programs that currently inspect industrial sites and implement a training program for these inspectors. Other measurable goals are defined below.

8.6 Staffing and Funding

Staffing and funding for identifying covered industries will be provided by CCRFCD and the entities.

Development of inspection program training materials will be funded by CCRFCD. Training

Completed by	Measurable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> • Identify (map and description) all industrial facilities covered under this section of the permit • Identify existing industrial site inspection programs • Develop program for tracking inspection reports and follow-up activities • Prepare inventory of operating and closed municipal waste landfills and treatment, storage and disposal facilities
End of Permit Year 2	<ul style="list-style-type: none"> • Update industrial facility map • Develop training materials for inspectors • Summarize potential industrial problem areas • Assess potential impacts of landfill runoff on water quality
End of Permit Year 3	<ul style="list-style-type: none"> • Update industrial facility map • Implement program for tracking inspection reports and follow-up activities
End of Permit Year 4	<ul style="list-style-type: none"> • Update industrial facility map • Continue program for tracking inspection reports and follow-up activities
End of Permit Year 5	<ul style="list-style-type: none"> • Update industrial facility map • Continue program for tracking inspection reports and follow-up activities



SECTION 9

Construction Site BMP program

9.1 Introduction and Rationale

This section describes the construction site BMP program required by paragraph 4.9 of the MS4 permit. Construction activity was singled out by the EPA as a potential source of pollutants that require special permitting attention. The proposed program includes activities intended to provide guidance to public and private groups in Las Vegas Valley regarding appropriate construction practices, as well as activities intended to support NDEP in implementing its construction permitting program. The adopted BMPs are suited to the arid Las Vegas Valley environment.

9.2 Developer Notification Program Elements

A brief description of the development review/approval process will be prepared for each community. A process will be developed and adopted for notifying developers in each entity of the requirements of the NDEP construction site permitting program. The goal will be to provide notification to the developer of every property of one acre or more.

9.3 Construction Site BMP Elements

Existing construction site BMP manuals developed for Nevada and Las Vegas Valley will be reviewed. This will include the CCRFCD Hydrologic Criteria and Drainage Design Manual (HCDDM), the State of Nevada Best Management Practices Manual, and the BMP manual developed by Northern Nevada MS4 permittees. A summary of practices recommended for Las Vegas Valley will be prepared, referencing these manuals. If necessary based on the review of current construction practices, BMP designs in one or more of these manuals will be modified to be more applicable to local Southern Nevada conditions.

9.4 Construction Site Inspection Program Elements

- a) The list of State-permitted construction sites will be requested from NDEP. This, combined with local information and other tools, will be used to identify areas of high construction activity in Las Vegas Valley.
- b) Information available from the entities regarding construction projects (e.g., size, location, date, ownership) will be identified. If information is available that would be useful to NDEP in conducting inspections for its construction site permit program, this information can be provided to NDEP.
- c) Semi-annual inspections of washes and open channels will be conducted by the permittees for the purpose of identifying locations of heavy sediment loads that may be associated with construction site runoff. Inspected channel reaches will include the dry weather flow reaches identified in section 7.3, plus reaches downstream of areas with high construction activity as identified in section 9.3(a). If problems are found, these will be reported for follow-up.
- d) Routinely after significant storm events, priority detention basins and channels subject to storm flows will be inspected. If during the course of this inspection, it is determined that construction sites may not be maintaining their BMP's, the appropriate NDEP authorities will be contacted.
- e) The information developed from (a) through (d) above will be used to develop a procedure for identifying priorities for inspecting construction areas.



9.5 Contractor Education and Training Program Elements

The permittees will support NDEP in conducting local construction site permit program workshops for developers, contractors and engineers. This will include providing venues for workshops, handling local logistics, assisting with advertising, and providing staff to assist with workshop activities.

Printed outreach and education materials for the construction site management program will be prepared with assistance from NDEP. Possible examples include NDEP Construction Site Permit Program, How to Prepare a Storm Water Pollution Prevention Plan, and Proper Selection and Installation of Construction Site BMPs.

Printed materials will be distributed to developers and contractors during the land use application process, and will also be available to NDEP and permittee staff to distribute at construction sites during field visits.

9.6 Priorities and Measurable Goals

All of the program set-up activities are given high priority and scheduled in Permit Year 1. The contractor education and training program is delayed to Year 2 because it is dependent on the results of the BMP manual review scheduled for Year 1. Other measurable goals are defined below.

9.7 Staffing and Funding

CCRFCFCD will be responsible for preparation of materials and development of a process with each entity for notifying developers of NDEP requirements. Post-storm inspections for significant events will be the responsibility of the entities. CCRFCFCD will provide staff resources and printing costs for producing contractor education and training materials.

CCRFCFCD will work with individual permittees to summarize and develop a process to distribute materials in their jurisdictions. The entities will also provide to CCRFCFCD any information they normally collect that would be useful in preparing an inventory of construction sites.

Completed by	Measurable Goal/Milestone
End of Permit Year 1	<ul style="list-style-type: none"> * Develop process for notifying developers in each community of construction site permit program * Develop process for identifying high construction activity areas * Develop program for post-storm inspections * Review existing BMP manuals and modify for local conditions if necessary
End of Permit Year 2	<ul style="list-style-type: none"> * Conduct semi-annual inspections and post-storm inspections * Prepare contractor education and training materials
End of Permit Year 3	<ul style="list-style-type: none"> * If necessary, modify standard BMP designs for local conditions * Conduct semi-annual inspections and post-storm inspections
End of Permit Year 4	<ul style="list-style-type: none"> * Conduct semi-annual inspections and post-storm inspections
End of Permit Year 5	<ul style="list-style-type: none"> * Conduct semi-annual inspections and post-storm inspections



SECTION 10

SWMP Implementation Responsibilities

10.1 Introduction and Rationale

This section describes how the responsibilities for implementing the adopted SWMP programs will be shared among the various MS4 permittees. This complies with the requirement in paragraph 4.10 of the MS4 permit. Responsibilities are assigned to permittees that currently have the authority and/or funding capability to implement them, and have been discussed by members of the Las Vegas Valley Storm water Quality Management Committee.

10.2 Implementation Responsibilities

Responsibility for implementing the various elements of the SWMP will be shared among the permittees as described in the Staffing and Funding portions of the previous sections. In general, CCRFCD provides overall program oversight, funding, and staffing for activities that are common to all permittees (e.g., storm water monitoring, public education and outreach, annual reports), while municipalities are responsible for activities specific to their jurisdictions (e.g., storm system inspections, maintenance BMPs).

Implementation responsibilities and activities will be coordinated through the Las Vegas Valley Storm water Quality Management Committee (SQMC). The SQMC meets monthly, and is comprised of representatives of all permittees as well as other interested organizations.

10.3 Implementation in New Areas

The programs outlined in this SWMP will be applied to areas within Las Vegas Valley that become urbanized during the period of the current MS4 permit. Maintenance and management BMPs will be extended to new urban areas with a goal of implementation within one year of development. Information on new annexed areas and any resulting updates to the SWMP will be included in annual reports.

10.4 Anticipated Pollutant Load Reductions

Anticipated pollutant load reductions resulting from implementation of the BMPs as part of this SWMP will be estimated using one of the following approaches:

- Published information from storm water BMP research
- Experience of other communities in implementing similar BMPs
- Desktop calculations using the Las Vegas Valley storm water quality monitoring database
- Application of GIS-based pollutant load models for Las Vegas Valley developed by MWH and UNLV
- Analysis of data collected within Las Vegas Valley
- Engineering judgement



SECTION 11

Year 1 Measurable Goals

This section summarizes the measurable goals proposed in the previous sections for Year 1 of the 5-year permit. Many activities are proposed for Year 1 that will establish a foundation for future BMPs, monitoring programs, etc.

Year 1 measurable goals are summarized in the following table.

Program Category	Measureable Goal/Milestone
Legal Authority	<ul style="list-style-type: none"> • Assemble and summarize existing legal authority
Storm Water System Map	<ul style="list-style-type: none"> • Prepare regional storm water system infrastructure map
Monitoring Program	<ul style="list-style-type: none"> • Review and analyze existing wet and dry weather data for storm water system • Approved monitoring program for Year 2
Public Outreach and Education	<ul style="list-style-type: none"> • Attend three community events and distribute materials • Produce Flood Channel documentary • Produce or update one PSA • Maintain LVV storm water website • Make five presentations in public schools
Structural and Source Control Measures	<ul style="list-style-type: none"> • Establish expected frequency of cleaning catch basins, inlets and storm drains • Establish procedures for tracking and reporting of storm drain system maintenance • Establish expected frequency of street sweeping • Establish procedures for tracking and reporting of street sweeping • Develop study work plan to assess water quality benefits of existing regional flood control facilities and potential benefits of structural BMPs in areas of new development • Summarize available pesticide, herbicide and fertilizer monitoring data and existing management programs
Illicit Discharge Detection and Elimination Program	<ul style="list-style-type: none"> • Develop and conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels • Develop training materials for municipal maintenance staffs
Industrial Facility Monitoring and Control Program	<ul style="list-style-type: none"> • Identify (map and description) all industrial facilities covered under this section of the permit • Identify existing industrial site inspection programs • Develop program for tracking inspection reports and follow-up activities • Prepare inventory of operating and closed municipal waste landfills and treatment, storage and disposal facilities
Construction Site BMP Program	<ul style="list-style-type: none"> • Develop process for notifying developers in each community of construction site permit programs • Develop process for identifying high construction activity areas • Develop program for post-storm inspections • Review existing BMP manuals and modify for local conditions if necessary



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Water Pollution Control
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Mining Regulation and
Reclamation
Facsimile 684-5259



Waste Management
Corrective Actions
Federal Facilities

Air Pollution Control
Air Quality Planning
Water Quality Planning

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DEPARTMENT OF CONSERVATION AND NATURAL RESOURCES
DIVISION OF ENVIRONMENTAL PROTECTION

333 W. Nye Lane, Room 138
Carson City, Nevada 89706

October 21, 2003

Kevin Eubanks, P.E.
Assistant General Manager
Regional Flood Control District
600 S Grand Central Parkway, Ste 300
Las Vegas, NV 89106-4511

Dear Mr. Eubanks:

RE: MUNICIPAL SEPARATE STORM SEWER SYSTEM (MS4)
STORM WATER MANAGEMENT PLAN (SWMP)

The Nevada Division of Environmental Protection (NDEP) has received and reviewed the Clark County MS4 submittal of the SWMP dated September 29, 2003. With the following comments and conditions, the SWMP meets the minimum terms outlined in NPDES Permit # NV0021911.

General Comments:

- While this permit supercedes the previous permit, all permit practices and procedures in place prior to this issuance of the permit must continue until the appropriate current New Permit requirement has been implemented.
- For each section with respect to each MS4 permittee, provide the location of where the documentation will be housed and maintained.
- Are the measurable goals to be performed by each co-permittee or the group as a whole?
- This permit and the programs defined within it are the responsibility of the Clark County MS4.

Section 4 – Monitoring Program

- All data, to avoid duplication, must be collected and compared in accordance with permit

Mr. Eubanks
October 21, 2003
Page Two

items 5.1.2.2 and/or 5.1.3.

Section 6 Structural and Source Control Measures

- Detention basins can be used as part of sequential system for the MS4 but cannot be the sole source of structural control. Structural controls must address any pollutant that enters the Clark County MS4.

40 CFR 122.26(b)(8), "*municipal separate storm sewer* means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State

law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

Section 7 – Illicit Discharge Detection and Elimination

- Describe the formal process that is followed once the MS4 receives a report of illegal / Illicit discharge.
- The training program and implementation time frame for municipal maintenance staff and field inspections are not acceptable. With both the input from Clark and Washoe Counties, NDEP's committed on September 5, 2002 to EPA a time frame of two years for implementation of an inspection and enforcement program.

Section 8 – Industrial Facility Monitoring and Control Program

Mr. Eubanks
October 21, 2003
Page Three

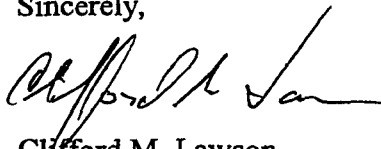
- This BMP program is not to assist NDEP with its Industrial Permitting program but a required program for the MS4 to develop, implement and maintain.
- It appears that part of the text is missing from the last paragraph.

Section 9 - Construction Site BMP Program

- An acceptable program must include elements that address the construction activity while in process. Referring to NDEP for inspections does not remove the MS4 of its responsibility of ensuring that there are no pollutants entering their site as a result of the construction activity. NDEP can be notified to assist in the MS4 enforcement of the program to protect their system.
- As stated previously, this program is not to assist or support NDEP with its Permitting program but a required program for the MS4 to develop, implement and maintain.

Should you have any questions, I can be reached at (775) 687-9429.

Sincerely,



Clifford M. Lawson
Staff II Associate Engineer
Bureau of Water Pollution Control

Cc: Jon Palm
Darrell Rasner

**LAS VEGAS VALLEY
MUNICIPAL SEPARATE STORM SEWER SYSTEM**

NPDES PERMIT No. NV0021911

**STORM WATER MANAGEMENT PLAN
UPDATE**

SEPTEMBER 2006

Prepared by MWH Americas, Inc.

for

**Las Vegas Valley
Stormwater Quality Management Committee**

**LAS VEGAS VALLEY
MUNICIPAL SEPARATE STORM SEWER SYSTEM
STORM WATER MANAGEMENT PLAN UPDATE
SEPTEMBER 2006**

SECTION 1

INTRODUCTION

This Storm Water Management Plan Update constitutes an update to the *Las Vegas Valley Storm Water Management Plan for Municipal Separate Storm Sewer System* dated September 2003. The update describes modifications made to the original Storm Water Management Plan (SWMP) in response to several factors, including:

- Progress made in implementing the SWMP over the first three years of the current Municipal Separate Storm Sewer System (MS4) permit for Las Vegas Valley (NPDES Permit No. NV0021911);
- Updates identified in the MS4 Annual Reports for 2003-2004 and 2004-2004;
- Official comments received from Nevada Division of Environmental Protection (NDEP) on the SWMP in September 2003, and official responses provided by the permittees correspondence dated July 12, 2006, and over the course of the past three years; and
- Comments received from the Environmental Protection Agency (EPA) as part of the formal audit of the Las Vegas Valley MS4 permit program (April 20, 2006).

This SWMP Update contains modified sections of the 2003 SWMP, using the same section names and numbers as the original SWMP to facilitate correlation with the original document. Only those sections that are being updated are included in the SWMP Update; sections from the 2003 SWMP that are omitted from the SWMP Update remain the same as the 2003 SWMP.

Provisions of the SWMP Update apply to Permit Year 4 and Permit Year 5, as Permit Years 1 through 3 have been completed.

SECTION 2

LEGAL AUTHORITY

2.2 Existing Legal Authority

Documentation has been provided in previous Annual Reports demonstrating that the permittees have adequate legal authority to:

- Prohibit illicit discharges to the municipal separate storm sewer system;
- Control spills, dumping or disposal of materials other than storm water to the storm sewer system;
- Require compliance with conditions in ordinances related to stormwater discharges;
- Carry out inspection and monitoring procedures necessary to determine compliance with the prohibition on illicit discharges to the storm sewer system.

Deficiencies in municipal ordinances have been addressed over the past three years where necessary.

2.3 Additional Required Legal Authority

The permittees will annually review their stormwater-related ordinances to determine whether enhancements to these ordinances are required.

2.4 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined below.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none">• Review and update ordinances as needed
End of Permit Year 5	<ul style="list-style-type: none">• Review and update ordinances as needed

2.5 Staffing and Funding

Funding and staffing for review and update of municipal ordinances will be provided by Clark County Department of Air Quality and Environmental Management, City of Las Vegas, City of North Las Vegas, and City of Henderson.

SECTION 5

PUBLIC OUTREACH AND EDUCATION

5.2.2 Public Education and Outreach Activities

Public education and outreach strategies will be focused on behaviors believed to affect local water quality issues. Current information and observations suggest that these issues include illegal dumping and pet waste, among others.

The public education and outreach activities described in SWMP Section 5.2.2 to address these and other issues are unchanged. The following activity is added:

- i) **Storm Drain Inlet Marking.** The permittees conducted a storm drain inlet marking program several years ago, in which small plaques were placed at drain inlets discouraging dumping to the MS4 system. The program was terminated due to concerns over safety of plaque installers and other issues. The permittees will review the relative advantages and drawbacks of a storm drain inlet marking program, and decide whether they want to re-institute the program.

5.3 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined below.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none">• Attend three community events and distribute materials• Produce Flood Channel documentary• Produce or update and broadcast one PSA• Maintain Las Vegas Valley stormwater website• Make five presentations in public schools• Decide whether or not to re-institute storm drain inlet marking program
End of Permit Year 5	<ul style="list-style-type: none">• Attend three community events and distribute materials• Produce Flood Channel documentary• Produce or update and broadcast one PSA• Maintain Las Vegas Valley stormwater website• Make five presentations in public schools• If re-instituted, implement the storm drain inlet marking program

5.4 Staffing and Funding

CCRFCD has an annual budget for public education and outreach. This will provide funding for producing PSAs, Flood Channel documentaries, printed material, billboards,

and other outreach and education materials. CCRFCD funds two staff positions that will coordinate these education and outreach activities, and assist in developing long-term education and outreach strategies and methods. CCRFCD also funds staff time to make presentations in public elementary schools.

Attendance of permittee staff members at community outreach events, which are part of staff employment responsibilities, will be funded by the individual permittee organizations. Staff may also volunteer time at some of these events.

The previous storm drain marking program was funded in part by a Section 319 grant (which was used to purchase the plaques) and by individual permittees (who provided labor for plaque installation or for coordinating volunteers). At this time it has not been determined how a renewed storm drain marking program would be funded or staffed.

SECTION 6

STRUCTURAL AND SOURCE CONTROL MEASURES

6.2 Storm Sewer Maintenance Program Elements

Permittees have reviewed potential frequencies for inspecting and, if necessary, cleaning storm drain inlets (catch basins, drop inlets, sidewalk inlets, etc.). Adopted inspection and cleaning frequency goals are summarized in **Table 6-1**.

Each permittee has established its own procedures for tracking and reporting storm drain system maintenance activities. The types of information tracked and reported will be standardized to the extent possible, but individual systems for data collection and management will continue to be unique to each permittee. Permittees will assess the effectiveness of their storm drain maintenance data collection and management processes on an annual basis to determine whether improvements are warranted.

**Table 6-1
Maintenance Goals for Entities**

Entity	Street Sweeping	Drop Inlet Cleaning	Detention Basin Maintenance
County	Sweep curbed-and-paved public city streets in urban area once every 30 days ⁽¹⁾ ; as-needed in rural areas	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate ⁽⁴⁾	Inspect during semi-annual channel inspections and after major storms ⁽⁵⁾ ; clean as appropriate
CLV	Sweep curbed-and-paved public city streets once every 30 days ⁽²⁾	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate
CNLV	Sweep curbed-and-paved public city streets once every 30 days ⁽³⁾	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate
COH	Sweep curbed-and-paved public city streets once every 30 days	Inspect/clean 20 percent of drop inlets a minimum of once per year; clean as appropriate	Inspect during semi-annual channel inspections and after major storms; clean as appropriate

6.3 New Development Planning Procedures

CCRFCD has a comprehensive flood control program for Las Vegas Valley that includes numerous detention basins spread throughout the Valley. Many of these regional detention basins have already been constructed, and are shown on the most current Storm

Drain System Map prepared to comply with SWMP Element 3.1. Runoff from most areas of new development and significant redevelopment will be captured by existing or proposed detention basins. A map has been prepared to depict the drainage areas captured by existing detention basins; this is included in the 2005-2006 Annual Report. These basins provide water quality benefits by settling out sediment and settleable solids and the pollutants commonly adhering to those solids (e.g., phosphorus, metals). Detention basin pollutant removal effectiveness will be measured as described in Section 6.5.

CCRFCD will continue to plan, design and construct regional detention basins in accordance with its current flood control master plan for Las Vegas Valley. Based on the results of the ongoing detention basin pollutant removal effectiveness monitoring program, CCRFCD and the permittees will consider whether re-design of existing detention basin outlets is warranted to improve water quality benefits.

6.3.2 CCRFCD Design Manual Best Management Practices

The current CCRFCD Hydrologic Criteria and Drainage Design Manual (HCDDM) includes a section on recommended design criteria for structural BMPs that could be applied to new development and redevelopment. The HCDDM includes criteria for extended detention ponds, oil-grit separators, grassed swales, and other post-construction and during-construction BMPs.

In the 2003-2004 permit year, the permittees conducted a review of BMPs that could be appropriate to the Las Vegas Valley climate and environment, and considered whether revisions to the HCDDM recommended BMPs or design criteria were warranted. It was determined that the HCDDM, in combination with other readily available BMP manuals such as the State of Nevada Handbook of Best Management Practices, is adequate to meet the present needs in Las Vegas Valley. It was recommended that the BMP section be updated the next time the HCDDM is formally updated.

If a future decision is made to make the HCDDM BMPs mandatory rather than voluntary, or if other structural BMPs with demonstrated effectiveness are developed by the stormwater industry, the HCDDM will be formally updated.

6.4 Street Maintenance Program Elements

Permittees have reviewed potential frequencies for sweeping local and arterial streets, and have adopted street sweeping frequency goals. Air quality regulations were also considered when developing street sweeping guidelines. Adopted street sweeping frequency goals are summarized in **Table 6-1**.

Each permittee has established its own procedures for tracking and reporting street sweeping activities. The types of information tracked and reported will be standardized to the extent possible, but individual systems for data collection and management will be unique to each permittee. Permittees will assess the effectiveness of their street sweeping

data collection and management processes on an annual basis to determine whether improvements are warranted.

6.5 Flood Control Structure Review Program Elements

6.5.1 Water Quality Benefits of Existing Flood Control Structures

Existing and planned regional detention basins are the centerpiece of the MS4 approach to controlling post-construction runoff quality. Because these are critical facilities in the adopted post-construction source control program, a monitoring program is being implemented to determine the effectiveness of existing detention basin in removing selected constituents. Data collected after one year of sampling is inconclusive, and the monitoring program is being extended to a second year. In addition, a map has been prepared showing the portion of Las Vegas Valley that drains to existing detention basins. At the end of the 2006-2007 permit year, a determination will be made as to whether regional detention basins are effective enough and control enough area to be relied upon for providing adequate post-construction runoff quality control. This decision will be reported in the 2006-2007 Annual Report.

6.5.2 Potential Flood Control Structure Retrofits for Water Quality Improvement

If it is determined that existing and proposed regional detention basins do not provide adequate post-construction runoff quality control, the potential for retrofitting existing detention basins (e.g., by modifying the outlet structure to restrict outflows during common, low-magnitude runoff events) will be investigated.

If detention basin retrofitting is determined to be infeasible or ineffective, the permittees will evaluate other programs to address post-construction runoff from new development and significant redevelopment.

6.8 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined below.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none"> • Implement storm drain inlet maintenance program developed in Permit Year 1, as amended by subsequent enhancements • Implement street sweeping program developed in Permit Year 1, as amended by subsequent enhancements • Review effectiveness of data collection and management for maintenance activity tracking, and make improvements if warranted • Determine pollutant removal effectiveness of regional detention basins and determine if retrofits are needed
End of Permit Year 5	<ul style="list-style-type: none"> • Implement storm drain inlet maintenance program developed in Permit Year 1, as amended by subsequent enhancements • Implement street sweeping program developed in Permit Year 1, as amended by subsequent enhancements • Review effectiveness of data collection and management for maintenance activity tracking, and make improvements if warranted • If needed, determine appropriate detention basin retrofit design criteria and standard design details

6.9 Staffing and Funding

Detention basin monitoring studies and, if needed, retrofit designs will be funded by CCRFCD. Staffing will be provided by CCRFCD through its consultant contract.

Staffing and funding for source control measures (storm sewer maintenance, street maintenance, plan reviews) will be provided by each individual permittee. Funding for source control measures for regional flood control facilities will be provided by CCRFCD.

SECTION 7

ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.4 Inspection Program Elements

Municipal maintenance staffs for street and storm drain maintenance for most entities have been trained to look for evidence of non-storm water discharges to the drainage system during their normal duties, and report this evidence to the proper internal authorities. Training will be completed by the remaining permittees, and continued on a regular basis to assure that all maintenance personnel are aware of what to look for in the field and how to report potential problems.

7.5 Spill Prevention and Response Program Elements

All entities currently have spill prevention and response regulations and programs in place through their fire departments, public works departments, and contracts with special emergency response contractors (e.g., H2O Environmental). The current spill response measures have been summarized in an Illicit Discharge Detection and Elimination Program Spill Response Strategy. This was completed in the 2005-2006 permit year and is contained in the Annual Report. The Spill Response Strategy describes how existing State and local hazardous material programs will be relied upon to provide first responder training, interagency coordination, and spill response and cleanup. The Strategy identified enhancements to existing programs that will improve the coordination between agencies to protect the MS4 system from hazardous material spills. Recommended enhancements to existing programs will be promoted to the pertinent organizations in the 2006-2007 permit year.

Permittees will annually review spill response plans, programs and interagency coordination to seek ways to improve program efficiency and effectiveness.

7.6 Public Report Program Elements

The SWMP describes several methods by which the public can report evidence of illicit discharges to the MS4. Not all permittees are tracking this information or keeping records of followup activities. Permittees will review their current record-keeping processes and determine if improvements are warranted.

7.8 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined below.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none"> • Develop and conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels • Complete all municipal maintenance staff training, and conduct regular refresher training courses • Work with outside organizations to implement recommended enhancements to existing spill response programs identified in the Spill Response Strategy • Review local spill response plans to identify and implement improvements • If warranted, improve ability to track activities associated with public complaints of illicit discharges
End of Permit Year 5	<ul style="list-style-type: none"> • Develop and conduct dry weather monitoring per Section 4 • Conduct semi-annual field inspections of open channels • Conduct regular refresher training courses for municipal maintenance staffs • Review local spill response plans to identify and implement improvements

7.9 Staffing and Funding

Funding and staffing for dry weather monitoring will be provided by SNWA, in a cooperative agreement with CCRFCD.

Staffing and funding for field inspection activities, spill response programs, municipal maintenance staff training, and follow-up to respond to reported incidents will be provided by each individual entity.

SECTION 8

INDUSTRIAL FACILITY MONITORING AND CONTROL PROGRAM

8.2 Industrial Facilities Covered

The MS4 permit identifies four classes of industrial facilities that must be addressed by the local industrial program. The current status inventorying these classes of facilities is described as follows.

- Municipal landfills – There are no active municipal landfills in the area covered by the MS4 permit.
- Hazardous waste treatment, disposal and recovery facilities - The EPA RCRAInfo website (www.epa.gov/enviro/html/rcris/rcris_query.html) will be used as the source of hazardous waste treatment and disposal facilities within Clark County. There are currently five sites shown in the current database.
- Industrial facilities subject to Section 313 of Title III of the Superfund Amendment and Reauthorization Act of 1986 - The EPA's web site (www.epa.gov/enviro/html/tris/tris_query.html) will be used as the source for TRI facilities in Clark County. A total of 43 facilities were found in 2005-2006.
- Industrial facilities that are contributing a substantial pollutant load to the municipal storm sewer system – Permittees will develop prioritized criteria for determining which facilities are contributing a substantial pollutant load to the storm drain system. Information from pretreatment programs and other existing industrial programs will be used to determine which industrial sites should be specifically added to the inspection program.

Permittees will assure that appropriate municipal operations are included in the industrial program.

Facilities in the above four classes will be shown on a map. The industrial facility map will be updated annually.

8.3 Industrial Facility Inspection Program Elements

The permittees have established industrial inspection programs using existing pretreatment staff. For CLV and CNLV, industrial pretreatment inspectors currently conduct stormwater inspections at all sites visited for the pretreatment program. For COH, pretreatment staff currently conduct inspections for industrial sites in the categories described in Section 8.2. Clark County Water Reclamation District (CCWRD) currently conducts inspections for industrial facilities in unincorporated Clark County. Sites in the categories described in Section 8.2 are inspected.

The permittees have developed training programs for industrial site inspectors. These programs will be refined by each permittee as the industrial program matures.

The permittees will use monthly SQMC meetings to coordinate with NDEP on the State’s industrial permitting and inspection program to improve control of discharges from industrial facilities.

8.4 Industrial Facility Monitoring Program Elements

Permittees have developed initial methods of tracking and maintaining records for industrial facility inspections. Methods of record-keeping vary among the permittees, and are often integrated with their individual industrial pretreatment inspection programs. As the industrial inspection program matures, the permittees will improve tracking and record-keeping for this program; a formal review of monitoring and data management methods will be performed by each permittee annually.

8.5 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined below.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none"> • Update industrial facility map • Conduct industrial site inspections, tracking and enforcement activities • Determine industrial sites that are contributing a substantial pollutant load to the MS4 • Review and, as necessary, refine industrial inspector training programs • Review and, as necessary, refine tracking and data management methods • Use monthly SQMC meetings to coordinate with NDEP on State industrial permit program
End of Permit Year 5	<ul style="list-style-type: none"> • Update industrial facility map • Conduct industrial site inspections, tracking and enforcement activities • Review and, as necessary, refine industrial inspector training programs • Review and, as necessary, refine tracking and data management methods • Use monthly SQMC meetings to coordinate with NDEP on State industrial permit program

8.6 Staffing and Funding

Staffing and funding for identifying covered industries will be provided by CCDAQEM, CCWRD, CLV, CNLV, and COH. Coordination will be provided by CCRFCD. An

updated industrial facility map combining facilities from all entities will be developed annually by CCRFCD for inclusion in the Annual Report.

Industrial site inspections, inspector training, and tracking/record-keeping will be staffed and funded by CCDAQEM, CCWRD, CLV, CNLV, and COH. Assistance in developing training materials may be provided by CCRFCD if desired.

All permittees will participate in coordination with NDEP as part of the regularly scheduled monthly SQMC meetings.

SECTION 9

CONSTRUCTION SITE BMP PROGRAM

9.2 Developer Notification Program Elements

A process for notifying developers of the requirements of the NDEP construction site permitting program and local ordinances related to construction site runoff has been developed and implemented by each permittee. Current program elements are described in the Annual Report. The goal is to provide notification of applicable regulations to the developer of every property of one acre or more.

9.3 Construction Site BMP Elements

Existing construction site BMP manuals developed for Las Vegas Valley, Truckee Meadows, the State of Nevada, and several other agencies were reviewed and summarized in the 2003-2004 permit year. The objective was to determine whether BMPs currently recommended for use by CCRFCD in the HCDDM are appropriate for environmental conditions in Southern Nevada. No recommendations were made for changing BMPs or their designs as long as BMPs are not a mandatory requirement in the HCDDM.

9.4 Construction Site Inspection Program

The construction site inspection program consists of the following elements.

- a) Semi-annual inspections of washes and open channels are conducted by the permittees for the purpose of identifying locations of heavy sediment loads that may be associated with construction site runoff. Inspected channel reaches include the dry weather flow reaches inspected as part of the Illicit Discharge Detection and Elimination Program. If problems are found, they are addressed by the entity performing the inspection or forwarded to Clark County Public Response Office (CCPRO) or Southern Nevada Health District (SNHD).
- b) During the 2005-2006 permit year, permittees began implementation of their construction site inspection programs to enforce local ordinances. CCDAQEM inspects construction sites in unincorporated Clark County, CLV and CNLV under a cooperative agreement. Dust permit inspectors, who visit all sites holding dust permits, have been trained in the requirements of the stormwater program and perform storm water inspections. Reports of inspections finding possible ordinance violations are forwarded to CCRFCD, which distributes the information to the appropriate entity for follow-up. COH inspects construction sites in its jurisdiction using inspectors from the Public Works Department – Quality Control Division. All active construction sites receive at least one inspection during the permit year. Methods for improving coordination among inspection personnel

and enforcement personnel and improving the timeliness of response to potential stormwater problems will be investigated on a continuous basis, with a formal review conducted at the end of each permit year.

- c) CCRFCD has conducted a post-storm inspection program, consisting of inspecting 8-10 construction sites after up to 3 significant storm events for evidence of non-stormwater discharges. Construction sites are selected to provide geographical and jurisdictional diversity. The post-storm inspection program will be continued through the 2006-2007 permit year, after which its validity will be evaluated by the permittees and the program could be extended or terminated.

Current construction inspectors have been trained to conduct stormwater inspections by SQMC representatives and by NDEP at contractor workshops. Inspectors will receive refresher training at either internal training sessions or at contractor workshops taught by NDEP.

The permittees will use monthly SQMC meetings to coordinate with NDEP on the State's construction site permitting and inspection program to improve control of discharges from construction sites.

9.6 Priorities and Measurable Goals

Measurable goals for the remainder of the current permit period are defined in the table on the following page.

9.7 Staffing and Funding

Each permittee will be responsible for conducting semi-annual channel inspections.

CCDAQEM will provide staff for construction site inspections in unincorporated Clark County, CLV and CNLV. CCRFCD will provide funding for this activity. CCDAQEM will be responsible for training its inspectors. COH will provide staff and funding for construction site inspections in its jurisdiction and for training inspectors. CCDAQEM, COH and CCRFCD will be responsible for conducting annual program reviews to determine whether improvements to tracking and coordination are feasible and warranted.

CCRFCD will provide funding and staffing for the post-storm inspection program and for printing of contractor education and training materials.

All permittees will participate in coordination with the NDEP construction site permitting program through attendance at SQMC meetings.

Completed by	Measurable Goal/Milestone
End of Permit Year 4	<ul style="list-style-type: none"> • Conduct semi-annual wash and channel inspections • Conduct construction site inspections for dust permit holders in Clark County, CLV and CNLV, and for all sites of 1.0 acre or larger in COH • Conduct post-storm construction site inspections at 8-10 sites for up to 3 storms each • Conduct one general training workshop for the construction industry • Provide ongoing training for local construction site inspectors • Conduct review of processes for program tracking and record-keeping, and for transfer of information from inspectors to enforcement entities • Use monthly SQMC meetings to coordinate with NDEP on State construction permit program
End of Permit Year 5	<ul style="list-style-type: none"> • Conduct semi-annual wash and channel inspections • Conduct construction site inspections for dust permit holders in Clark County, CLV and CNLV, and for all sites of 1.0 acre or larger in COH • Conduct post-storm construction site inspections at 8-10 sites for up to 3 storms each, if it is decided to continue this element • Conduct one general training workshop for the construction industry • Provide ongoing training for local construction site inspectors • Conduct review of processes for program tracking and record-keeping, and for transfer of information from inspectors to enforcement entities • Use monthly SQMC meetings to coordinate with NDEP on State construction permit program

APPENDIX C

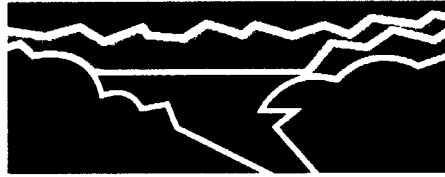
EPA Audit and Related Correspondence



APPENDIX C

EPA AUDIT AND RELATED CORRESPONDENCE

REGIONAL FLOOD CONTROL DISTRICT



Gale Wm. Fraser, II, P.E.
General Manager/Chief
Engineer

BOARD OF DIRECTORS

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Roger Tobler
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Bruce L. Woodbury
Clark County

August 22, 2006

Jeremy Johnstone
Senior Environmental Engineer
Water Division
U.S. Environmental Protection Agency, Region IX
75 Hawthorne Street
San Francisco CA 94105-3901

Re: Las Vegas Storm Water Management Program, NPDES Permit No. NV0021911, Transmittal of Program Audit Report

Dear Mr. Johnstone:

Thank you for your letter transmitting the Program Audit Report, Las Vegas Valley Storm Water Management Program: Clark County Regional Flood Control District; Clark County; City of Las Vegas; City of North Las Vegas; and City of Henderson (NPDES Permit No. NV0021911), September 19-23, 2005, prepared for EPA Region 9 by Science Applications International Corporation, Reston VA.

On behalf of the co-permittees the District would like to thank EPA and SAIC for the positive feedback and constructive criticism provided in the audit report. We are proud of our program, which provides innovative and effective means of protecting water quality as well as life and property against the flash flooding common in the Mohave Desert, and look forward to making the program even better by implementing program improvements identified in the audit report.

A point by point response is attached. Please contact me with any questions or comments.

Sincerely,

Kevin Eubanks, P.E., CFM
Assistant General Manager

KLE:jb

Attachment

P:\Letters and Memos\Environmental Impact\2006\Final response to epa audit letter.doc

**Response To EPA's
Program Audit Report
Las Vegas Valley Storm Water Management Program:
Clark County Regional Flood Control District; Clark County;
City of Las Vegas; City of North Las Vegas; and City of Henderson
(NPDES Permit No. NV0021911)
September 19-23, 2005**

1 INTRODUCTION

1.1 Program Audit Purpose

The co-permittees recognize that EPA and SAIC devoted a substantial effort to the review.

1.2 Permit History

The audit report identifies the current NPDES permit as the second issued to the permittees. It is actually the third. The first NPDES permit was issued in December 1990 followed by renewed permits issued in June 1997 and June 2003.

1.3 Logistics and Program Audit Preparation

The co-permittees cooperated in the audit, and assisted the audit team by providing documentation and responding to questions.

1.4 Program Areas Evaluated

The audit report accurately identifies the program areas evaluated.

1.5 Program Areas Not Evaluated

The audit report accurately identifies the program areas not evaluated.

1.6 Program Audit Results

All comments in the audit report have been considered. Audit report comments have been discussed with other co-permittees. Conditions identified in the audit report

have been investigated, and responses to comments and revisions to the program elements have been developed.

2 PROGRAM-WIDE GENERAL FINDINGS

2.1 Program Management, Reporting & Monitoring

- *The CCRFCD provides a good structural foundation for program oversight, logistics, and communications among the co-permittees.*

The District and co-permittees thank EPA and SAIC for the positive comment.

- *CCRFCD is developing an integrated GIS system with features such as area photography and topographic maps that could be used to support storm water programs.*

The District and co-permittees thank EPA and SAIC. Numerous improvements have been implemented by the District through the use of advancing technology. Advances in technology continue to be reviewed and considered, and additional improvements are expected to be implemented in the future.

- *The SWMP has not been updated to address current activities and has not been updated to address NDEP's comments (Permit Sections 4.1 and 4.12).*

After submitting the SWMP, the District and co-permittees received feedback from NDEP, met with NDEP to discuss relevant issues, and followed up informally and in the annual reports. Each annual report included a section listing changes in the SWMP provisions, if needed the District and co-permittees have continued to meet regularly with NDEP, respond appropriately to formal and informal requests from NDEP, and improve implementation of the SWMP. In response to this comment in the audit report, formal written responses to NDEP's comments in correspondence dated October 21, 2003 have been prepared and submitted on July 12, 2006, and the SWMP will be formally updated for submission with the 2005-2006 annual report. Additional meetings will be held with NDEP to identify whether additional formal responses are required. A process will be developed for future SWMP updating.

- *The co-permittees do not have an inter-jurisdictional agreement or a description in the SWMP that outlines the responsibilities of each co-permittee with respect to the current permit.*

As part of the process relating to the issuance of the initial stormwater permit in 1990, the co-permittees prepared and signed an inter-jurisdictional agreement. The co-permittees are reviewing and updating the agreement. In addition, the SWMP outlines the responsibilities of each co-permittee, in association with the tables of priorities and measurable goals. Following each table is a section on staffing and funding, which describes which co-permittees will be responsible for the activities identified in the tables. The co-permittees have also developed programs with non-permittees, including

monitoring programs in association with the Southern Nevada Water Authority and the U.S. Geological Survey. In response to this comment, the SWMP will be revised to clarify responsibilities associated with the identified tasks.

2.2 Public Outreach and Education (Permit Section 4.5)

- *The CCRFCD has developed excellent Public Service Announcements (PSAs) that target identified areas of concern.*

The District and co-permittees thank EPA and SAIC.

- *The web site is thorough, frequently updated, and provides a good source of information for the community.*

The District and co-permittees thank EPA and SAIC.

- *Results from public outreach activities are not being tracked or measured.*

The District conducts telephone surveys and uses web tracking to evaluate public responses to outreach programs. In response to this comment in the audit report, the telephone surveys and web tracking programs have been re-evaluated and revised to include additional survey questions and tracking activities. Information is being included in the annual report.

- *Except for 5,000 inlets initially marked by the City of Las Vegas and inlets marked by the City of North Las Vegas, the co-permittees do not have an effective inlet stenciling or marking program.*

The marking of inlets is a component of the public outreach program conducted in accordance with the SWMP. For clarification, all of the co-permittees participated in the installation of the initial 5000 inlet markers organized by City of North Las Vegas through a 319 grant. For example, Clark County installed 2982 of these inlet plaques. Consideration was given to having civic groups; Boy Scouts, etc. participate in the marking program. Concerns about the safety of workers in the street have increased as a result of the deaths of local juvenile offenders impacted by cars during a highway trash pick up program. Emphasis lately has been placed on other public outreach activities, including television spots, with wide distribution. In response to this comment in the audit report, additional consideration will be given to resuming the inlet marking program.

2.3 New Development Controls

- *The Meadows Detention Basin is being modified to incorporate a natural, meandering waterway, and will become part of a regional park.*

The District and co-permittees thank EPA and SAIC for the positive comment. Many other detention basins are open to the public and used for recreational activities.

- *The co-permittees have not developed a plan nor developed requirements to reduce the discharge of pollutants from areas of new development and significant redevelopment (Permit Section 4.6.1.2).*

The co-permittees' current plan to reduce the discharge of pollutants from areas of new development and redevelopment relies on the extensive system of regional detention basins. Detention basins have been constructed in every area of new development and significant redevelopment and are planned for areas of future development.. Detention basins in Las Vegas Valley have been designed to detain storm water flowing into them, in particular flash floods and other high flows, and release them at a rate more appropriate for the downstream channel. Detention basins effectively reduce sediment concentrations and loadings, and improve water quality and human health and safety, in the following ways.

When storm water enters a detention basin the flow velocity decreases, which allows settleable solids, including sediment, to deposit within the basin. Settleable material also includes metals, organics, oils and greases adhering to soils, and bacteria. The basins effectively remove not just large dense material, but also smaller diameter soil particles, including sands and silts. Deposited materials are routinely removed from detention basins and disposed of in a municipal landfill as part of the CCRFCD Maintenance Work Program. The basins have been determined to be very effective in removing sediment. One detention basin removed and retained 82,000 cubic yards of sediment carried by back-to-back storms.

By holding back stormwater flows and limiting discharges from the basin to a relatively small flow, detention basins also decrease peak flows and velocities downstream from the basin. Flows are generally decreased from 50% to 90%. The effect of the decrease in peak flows and velocities is to decrease scour and erosion downstream, thereby improving suspended solids concentrations and water quality generally. To date 57 detention basins have been built in the Las Vegas Valley and 34 more are planned.

Co-permittees have also protected water quality from sediment discharges by participating in the programs of the Clark County Regional Flood Control District, which supports measures to protect channels and banks from excessive erosion.

Co-permittees have enacted ordinances protecting natural washes and providing a buffer zone to protect them from development. Co-permittees participate in the Clark County Wetlands Park, which maintains desert wetlands that provide natural water polishing in lower Las Vegas Wash.

As members of the Southern Nevada Water Authority, co-permittees have also participated in the construction of erosion control structures (ECSs) in lower Las Vegas Wash. These structures have been designed to prevent erosion in the lower wash and

thereby reduce discharges of excessive sediment. Soils in lower Las Vegas Wash are easily eroded, and were formerly carried off by every significant flood. Before the ECSs were installed, canyons as deep as forty feet were cut into the desert. In addition to preventing erosion, ECSs establish ponds and wetlands and promote riparian vegetation that naturally improves water quality. The programs of installing ECSs, along with other erosion-control measures for the Lower Las Vegas Wash, is continuing. Because of the presence of readily erodable desert soils in Las Vegas Valley, ECSs and detention basins are considered more effective than onsite BMPs in preventing sediment discharge and erosion. Onsite BMPs may allow the discharge of sediment-depleted stormwater flows that are “hungry” for sediment, which causes them to scour sediment from the channel bottoms and erode sediment from the banks.

The co-permittees have implemented programs in association with the Clark County Drought Ordinance to reduce pollutant runoff from summer over watering. The programs restrict the installation of lawns in new construction, restrict landscape watering to specified days in both new and existing construction, and pay for the replacement of existing lawns with xeriscape. An enforcement program ensures that water conservation requirements are followed. These measures reduce the dry-weather flows of water down gutters in municipal streets, the use of fertilizers and pesticides, and the dry-weather wash off and discharge of these substances.

The co-permittees will continue to implement these programs, and continue to search for improvements.

- *The co-permittees have not evaluated existing structural flood control devices to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible.*

The co-permittees have evaluated existing and proposed detention basins to determine whether additional berms, structures, or design additions would promote effectiveness and improve pollutant removal. At least two basins have been retrofitted, and several basins have been designed with berms to trap sediment. Each of the ECSs has been designed to drop out sediment.

Section 6.5 of the SWMP includes a Flood Control Structure Review Program. As part of that program detention basin are being sampled during flood events. The data retrieved will document current water quality benefits and help identify opportunities to improve on those benefits. Development of the program work plan was completed in Year 1. Implementation of the program commenced in Year 2 shortly after the audit. The co-permittees will continue this program.

2.4 Illicit Discharge and Detection (Permit Section 4.7)

- *The co-permittees do not generally track or evaluate the effectiveness of illicit discharge and detection programs.*

For many years, the co-permittees have been routinely walking the many miles of open channels to identify any illicit discharges. Any discharges into storm drains are readily observed by this program. When an illicit discharge is identified, the co-permittees take action to eliminate the discharge. The program includes a training component, and a public awareness component that informs the public about who to contact when an illicit discharge is observed. These procedures have been highly effective. Illicit discharges are minor and uncommon, and recidivists are very rare or nonexistent. In response to this comment in the audit report, additional efforts will be made immediately to improve tracking and evaluation of effectiveness.

- *CCRFCD has published two different phone numbers for the reporting of illegal dumping.*

The District will identify instances of duplicative or incorrect numbers, and correct them.

- *Although co-permittees' semi-annual Wash Walks proactively detect illicit discharges, information collected could be improved.*

The co-permittees have considered sampling and analysis during inspections, but initial efforts were not effective in improving information collection and illicit discharge identification. In response to the comment in the audit report, the co-permittees will test the effectiveness of hand-held meters in identifying illicit discharges.

2.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

- *The co-permittees have not identified the industrial facilities that are contributing a substantial loading to the MS4 and have not developed an industrial facility monitoring and control program for those industrial facilities. (Permit Section 4.8.1)*

By considering stormwater issues during all pretreatment inspections of significant industrial users, co-permittees have gone beyond the minimum permit requirements and included as part of the stormwater program industries that do not contribute a substantial loading to the MS4. Las Vegas Valley is not a heavily industrialized area, and no industries beyond those in categories specifically identified in the MS4 permit have been identified as contributing a substantial loading to the MS4. In response to the comment in the audit report, additional review of industries that might potentially be contributing a substantial load will be conducted, and any that are contributing a substantial loading will be identified by the end of 2006.

- *The program does not track or acknowledge many of the inspection activities being conducted to control pollutants at industrial facilities.*

The District and co-permittees thank EPA and SAIC for this recognition that the co-permittees go beyond the requirements of the permit and inspect many industrial

facilities. In response to this comment in the audit report, the co-permittees will improve documentation for the inspections and the program.

- *The co-permittees and NDEP do not coordinate activities to control discharges from industrial facilities.*

The co-permittees meet regularly with NDEP to discuss pending issues. As part of these meetings, significant observations about inspections are reported, in addition to local enforcement action and activities. In response to this comment in the audit report, the District and co-permittees will coordinate with NDEP in considering whether additional procedures should be implemented.

2.6 Construction Site BMP Program (Permit Section 4.9)

- *The co-permittees do not appear to have the authority to require structural and nonstructural BMPs for erosion and sediment control at construction sites. (Permit Section 4.9.1.2)*

The co-permittees exercise their authority to implement local ordinances preventing the discharge of sediment and other pollutants from construction sites. As part of the inspection program that was just being initiated at the time of the audit, the inspectors assess whether construction site BMPs are effectively controlling the discharge of sediment and other pollutants. If they are not, the matter is referred to co-permittees, which have authority to enforce local ordinances and prevent illicit discharges into public rights-of-way and the municipal storm drain system.

In the case of Clark County, City of Las Vegas and City of North Las Vegas, the initial storm water inspections are performed by CCDAQEM Dust Control inspectors. Many of the same BMPs to control dust benefit storm water. These dust control BMPs are also inspected by CCDAQEM within City of Henderson. Construction site operators are required to employ BMPs to control sediment track out and daily street sweeping at the MS4 outlets from construction sites for dust control.

- *Timely and appropriate response to storm water problems at construction sites is not occurring. (Permit Section 4.9.1.3)*

At the time of the audit, the Las Vegas Valley inspection program had been operating only a very short time. Since then, the co-permittees have worked out initial issues and are working to improve overall performance. It should be noted that between July 1, 2005 and June 30, 2006 2953 inspections were completed by CCDAQEM inspectors for construction sites located in Clark County, and the cities of Las Vegas and North Las Vegas. Of the inspections completed 2400 (81%) sites inspected revealed no potential to violate code and general compliance with State and local construction site requirements; 497 (17%) revealed potential to violate code and were corrected at the site prior to discharge of pollutants to the MS4. With an average annual occurrence of thunderstorms of less than 13 days per year (National Weather Service), there is often

time to resolve issues of potential code violation in our climate and effectively preclude discharge of pollutants to the MS4; 56 (2%) revealed code violations which were immediately forwarded to the appropriate jurisdiction for enforcement action. The City of Henderson utilizes the inspectors from their Public Works Department-Quality Control Division to implement its Construction Site Inspection Program. Of the 1691 inspections completed during the same period, 1527 (90%) sites inspected revealed no potential to violate code and general compliance with State and local construction site requirements; 164 (10%) revealed potential to violate code or actually had violations to the code. The problems identified in the inspections were corrected at the site. The City of Henderson is working on the reporting process to differentiate between the inspections that identified the potential to violate and those with actual violations. The results represent a vast increase in inspection frequency and has provided valuable information for further program development. In that regard, this program's first year is considered a huge success. In response to the comment in the audit report, the co-permittees conducted an overall program review on August 8, 2006 to investigate opportunities to improve timeliness and response to problems at construction sites. Improvements identified for immediate incorporation in the CCDAQEM program include modification of the inspection form to include jurisdiction where inspected site lies, direct notification from the inspector to the agency follow-up and enforcement individual and follow-up reporting to CCRFCD and the inspector. The improvements identified for updating the City of Henderson program include incorporating the Building Department inspectors as part of the program, revising the reports to filter for violations versus potential to violate, reducing the turnaround time for re-inspections, and using feedback from the inspectors to update the training based on experiences from the last year. The co-permittees will continue to meet and implement program improvements in the coming year.

- *The co-permittees and the State do not coordinate activities to control discharges from construction sites.*

NDEP is notified of every potential violation that the co-permittees intend to take action on. This coordination provides NDEP with information on repeat violators and helps NDEP focus its limited resources. In response to this comment in the audit report, the co-permittees will meet with NDEP and consider whether additional coordination would be appropriate.

3 CLARK COUNTY FINDINGS

3.1 Adequate Legal Authority (Permit Section 4.2)

- *The Clark County legal authority provides good description and control of pollutants and/or materials discharged either intentionally or unintentionally to the storm water system.*

Clark County thanks EPA and SAIC for this comment.

- *Clark County has not required compliance with conditions in ordinances, permits, contracts or orders. (Permit Section 4.2.1.3.) Appropriate storm water enforcement has not occurred due to a cumbersome and lengthy process of handling construction site violations and a possible lack of adequate Code Enforcement staff.*

See response to section 2.6. At the time of the audit, the inspection and enforcement program was just being initiated, and may not have been fully implemented. Since that time the process has improved, and is believed to be fully compliant with permit conditions. In response to this comment, Clark County will look for ways to streamline and improve the process.

3.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

No comments provided.

3.3 Best Management Practices (Permit Section 4.6)

- *Clark County has not implemented a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment. (Permit Section 4.6.1.2)*

See response to second bullet in section 2.3.

- *Clark County has not implemented a program to evaluate and as necessary reduce pollutants in discharges from MS4s associated with the application of pesticides, herbicides, and fertilizers. (Permit Section 4.6.1.6)*

Clark County has evaluated pollutants associated with pesticides, herbicides, and fertilizers and developed programs to reduce possible discharges. These substances are included in monitoring programs, and the results are regularly reported. Pesticide and herbicide applicators are regulated, and receive training on their proper storage, use, and disposal. Clark County Public Works has developed standard operating procedures in which all products are used according to manufacturer's labeling. All containers are triple washed and properly disposed. Photos in Appendix B2 show containers that have been sawed in half per manufacturers recommendations; what appeared to the auditor to be residual product was actually plastic particles created by the sawing. Monitoring data show programs for herbicides are effective. Dry weather monitoring from 1991-2005 show zero detects for herbicides. Wet weather combined data from storms from 2002-2005 show an average of 8.7 ug/L of diuron. In addition, see response to first bullet in section 2.3.

- *Clark County Parks and Recreation staff and many Public Works staff have not received formal storm water training.*

Clark County Public Works staff have received training. In response to this comment, additional classes are being developed and scheduled for all remaining Public Works field staff, and appropriate Parks & Recreation and Real Property Management staff.

- *Clark County has not used the tools available to ensure implementation of appropriate Best Management Practices (BMPs) in a timely manner.*

At the time of the audit, the inspection and enforcement program was just being initiated, and may not have been fully implemented. Since then, the inspection program has been implemented, and Clark County Public Works has recently adopted a formal inspection reporting system. These programs will ensure that appropriate BMPs are implemented. In addition, Clark County Public Works has evaluated, identified, and implemented means to reduce erosion within detention basins, and has budgeted for improvements to County installed BMPs.

- *Clark County has not evaluated the effectiveness of its street sweeping and catch basin and inlet cleaning programs.*

Clark County Public Works evaluates its street sweeping program on an annual basis. The 2003-2004 Annual Report and the 2004-2005 Annual Report indicate the volumes of materials removed from street sweeping as indicated in the Appendix. The volume of material removed from inlets and catch basins is not recorded. County Public Works is currently reviewing its operational practices and database management systems and is implementing new software to capture this information in the future.

3.4 Illicit Discharge and Detection (Permit Section 4.7)

- *Clark County has not implemented a program that includes inspections to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the MS4. (Permit Section 4.7.1.1)*

See response to first bullet under section 2.4. In addition, the Clark County Fire Department routinely handles calls for disposal of household hazardous wastes. Callers are instructed to contact Republic Services for free disposal. Republic Services offers a household hazardous waste disposal program at no charge to local residents which include a drop-off facility and curbside pick-up. The Fire Prevention Bureau maintains a "Household Hazardous Waste Guide" which explains how to handle and dispose of unwanted chemicals.

- *Clark County has not implemented procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer. (Permit Section 4.7.1.4)*

Standard operating procedures have been developed for responding to hazardous spills. The Clark County Fire Department Fire Prevention Bureau (FPB) responds to hazardous materials spills and discharges on any County right of ways, including storm drains or

waterways. When the Fire Dept responds to a hazardous materials spill, cleanup is coordinated through a licensed clean-up contractor, and Clark County Risk Management is notified. The clean-up contractor is required to provide a final report to the Fire Department showing that all federal, state, and local ordinances and regulations have been met and satisfied.

Standard operating procedures have also been developed for responding to sewer backups. Clark County Water Reclamation District has recently met with NDEP to discuss the response to and reporting of sanitary sewer overflows. Staff is rewriting standard operating procedures for responding to overflows. These procedures will be finalized within FY 06/07.

In addition to these County-specific standard operating procedures, the co-permittees recently prepared a valley wide coordinated spill response strategy for their illicit discharge detection and elimination program. This submitted to NDEP on July 12, 2006 as part of a response to comments offered by NDEP regarding the SWMP dated October 21, 2003.

- *Clark County has not conducted an assessment of whether the procedures otherwise implemented are sufficient to identify instances of exfiltration from the sanitary sewer to the storm sewers, and if not, additional activities to be undertaken to control exfiltration. (Permit Section 4.7.1.7)*

Although the majority of the sanitary sewers are too deep for connections to storm drains, in some instances storm drains are temporarily connected to the sanitary sewers. Clark County Water Reclamation District is conducting a five-year multimillion dollar pipeline rehabilitation project. During this project, the District is televising and inspecting pipelines in the valley. Older lines, instances where exfiltration has been discovered, and lines that are under undue stress are being relined and repaired, using a cured-in-place-pipe process. The relining process will eliminate any exfiltration from older lines. Clark County Water Reclamation District staff have met with Clark County Public Works staff to continue ongoing discussions about possible improper connections.

- *Clark County Public Works appeared to consider storm water to be a low priority as demonstrated by municipal facilities not addressing basic storm water issues.*

Clark County Public Works is concerned about storm water issues, maintains an active stormwater program, and has taken steps to ensure compliance with permit requirements. In response to the audit comments, additional steps were taken to respond to all issues identified.

- *The Clark County mapping of facilities does not include structure history and maintenance (e.g., date constructed, date and type of maintenance, number and cause of blockages).*

Public Works is populating the data fields for structure history for regional facilities. Additional items have been identified in the budget and are awaiting funding.

- *Clark County Public Works staff appeared to lack general storm water knowledge. For example, a Clark County staff person stated that an incident involving a discharge of a herbicide to a wash was not a concern.*

The incident referenced appeared not to have been an illegal discharge of herbicide, but rather an application of an EPA approved aquatic dye in accordance with the manufacturer's label. The isolated incident occurred in 1998, and repeated inspections have not identified any recurrence of the issue.

- *Clark County Public Works appeared to lack internal coordination between various county departments. For example, staff from two County departments stated that they were the individuals to be notified of a spill at a Public Works location. Signage at the Public Works Fuel Point directs that spills be reported by calling 911, yet a third option.*

Several County departments have responsibilities in emergency response situations, which include gasoline spills of more than 25 gallons. Response actions may be initiated by a call to 911, but other procedures are also effective. The Clark County Fire Department is likely to be dispatched, because it can often reach the scene most quickly. When staff from the Clark County Department of Risk Management arrive, they are likely to take over the response to spills, and may call in a response contractor. Coordination procedures are established in the Clark County Public Works Emergency Response Plan.

3.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

- *Clark County uses CCWRD for the industrial inspection program. CCWRD staff conduct very thorough inspections (see Appendix B.4).*

Clark County DAQEM and Clark County Water Reclamation District thank EPA and SAIC for this comment.

- *Clark County has not implemented a program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities that are contributing a substantial pollutant loading to the MS4. (Permit Section 4.8)*

See response to first bullet under section 2.5. In addition, a threats analysis is currently being conducted to identify high priority sites to begin inspection. Clark County intends to expand its industrial inspection program in its FY 06/07.

- *Clark County does not determine whether the inspected industry has applied for and/or received the required NPDES Industrial General Permit during inspections. Thus,*

follow-up notification to NDEP of non-permitted industries and/or directing non-permitted industries to contact NDEP to secure the required permit does not occur.

The focus of inspections is on code compliance. The industries being inspected are reminded that an NPDES Industrial General Permit may be required. Any code violations encountered are brought to NDEP's attention immediately. Clark County will continue to coordinate any negative inspection findings with NDEP through immediate correspondence and regular committee meetings.

- *Clark County does not include appropriate municipal operations in the industrial program.*

The County has carefully examined the 11 categories of storm water discharges associated with industrial activity described in 40 CFR 122.26(b)(14)(i)-(xi) and believes that no applicable industrial activity occurs within the cited facilities. However, Clark County concurs that the potential for pollutant discharge into the MS4 may exist in several county-maintained locations and is in the process of (1) developing comprehensive and regularly scheduled awareness training on storm water issues and pollution prevention planning for the Public Works and other relevant county departments, and (2) evaluating BMPs other than those currently in place at these locations. All of these actions are intended and expected to mitigate these concerns.

3.6 Construction Site BMP Program (Permit Section 4.9)

- *The CCDAQEM inspector exhibited a desire to conduct a viable construction site storm water inspection and ensure control of runoff from the site.*

Clark County and the co-permittees regard the construction site inspection program as viable in controlling polluted runoff from construction sites. This program just completed its first year of execution. The information gathered along with feedback from all involved, including the inspectors, has been valuable in identifying opportunities for improvement of the program. One such improvement discussed at a meeting on August 8, 2006 is to have the DAQEM inspectors report problems directly to the agency representative responsible for follow up and enforcement actions. Additionally, an agency follow-up report will be forwarded to CCRFCD and the DAQEM inspector to close the loop on the case. This will improve the sense of effectiveness felt by the DAQEM inspectors. These improvements will be incorporated immediately.

- *Clark County has not adopted an ordinance that would provide the authority to require structural and nonstructural BMPs for erosion and sediment control at construction sites (Permit Section 4.9.1.2)*

See response to first bullet under section 2.6.

- *Clark County's inspectors (CCDAQEM) do not have specific authority to enter and inspect construction sites for storm water and to enforce storm water regulations. (Permit Sections 4.2.1.4 and 4.9.1.3)*

See response to first bullet under section 2.6. Clark County codes and inspections and enforcement procedures are in place, and provide authority to prevent violations at construction sites.

- *Clark County has not enforced control measures to reduce pollutants in storm water runoff from construction sites to the MS4. (Permit Section 4.9.1.3)*

See response to first bullet under section 2.6.

- *Clark County has not conducted semi-annual inspections of washes and open channels for the purpose of identifying locations of heavy sediment loads that may be associated with construction site runoff. (SWMP Section 9.4.c)*

Semi-annual wash inspections are conducted by Public Works, and the findings are reported in the Las Vegas Valley NPDES Annual Reports. These inspections identify sediment loading that may be associated with construction site runoff and are referred to the Public Response Office and NDEP.

- *Clark County does not handle storm water discharge noncompliance reports in an effective and expeditious manner and does not proactively take actions to ensure timely correction of storm water noncompliance.*

Clark County DAQEM will work with the Regional Flood Control District and Public Response Office (CCPRO) to streamline and improve the response time.

- *Clark County does not adequately regulate its own construction sites.*

See response to first bullet under section 2.6.

- *The CCDAQEM inspectors do not verify whether the construction site has a NPDES permit.*

As part of the construction site inspection program inspectors assess whether construction site BMPs are effectively controlling the discharge of sediment and other materials. If they are not, the matter is referred to co-permittees for enforcement of local ordinances to prevent improper discharges into municipal storm drains. There is no local code or ordinance requiring a construction site to have an NPDES permit. NDEP is notified of every potential violation that the co-permittees intend to take action on. This coordination provides NDEP with information on repeat violators and helps NDEP focus its limited resources. In response to this comment in the audit report, the co-permittees will meet with NDEP and consider whether additional coordination would be appropriate.

- *Clark County neither provides formal training for construction site operators, nor directs them to periodic training held by NDEP.*

Formal training is periodically provided for contractors and operators. DAQEM and the co-permittees participate with NDEP in developing and implementing the training. The contractor training program attempts to provide training twice each year. Training opportunities are advertised to all dust permit holders through DAQEM's Dust Fax Line. Thus far we have reached approximately 400 individuals at each of 3 sessions since implementation. Clark County and the co-permittees will continue this contractor training program.

4 CITY OF LAS VEGAS FINDINGS

4.1 Adequate Legal Authority (Permit Section 4.2)

- *The Las Vegas Municipal Code does not appear to contain the legal authority to require compliance, monitor, inspect, or take enforcement action against an illicit discharge by a person or entity that does not meet the definition of an industrial user. (Permit Sections 4.2.1.1 and 4.2.1.3.)*

The City has identified illicit discharges and taken enforcement action without having had its authority challenged. The City will review and revise its ordinances as necessary within FY 07 to ensure that enforcement action can be taken against any illicit discharge.

4.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

- *Las Vegas has good interagency coordination that benefits program implementation.*

The City thanks EPA and SAIC.

4.3 Best Management Practices (Permit Section 4.6)

- *Las Vegas has developed an excellent spreadsheet for basin maintenance that may serve as a model to other co-permittees.*

The City thanks EPA and SAIC.

- *Las Vegas has not developed a plan nor developed requirements to reduce the discharge of pollutants from areas of new development and significant redevelopment (Permit Section 4.6.1.2)*

See response to second bullet under section 2.3.

- *Las Vegas does not evaluate the effectiveness of its street sweeping and catch basin programs.*

The City keeps records of the frequency of street sweeping and catch basin maintenance. These records are summarized in the annual report.

- *Las Vegas does not have a data management system for its storm drain structures.*

The City is developing a database for managing storm drain maintenance.

- *Trash containers are located within detention basins that are used for additional purposes (e.g., playing fields).*

Trash containers are appropriate for use within detention basins that are also used for public recreation. Detention basins are often very large, and trash containers sited outside the basins are not likely to be used.

4.4 Illicit Discharge and Detection (Permit Section 4.7)

- *Las Vegas was observed to respond appropriately when an illicit discharge was observed.*

The City thanks EPA and SAIC for this comment.

- *A Hazmat team responding to a spill may flush the material to a storm drain if it determines there might be danger from fumes.*

City HazMat response procedures are those recommended in the audit. HazMat crews contain spills and immobilize them with adsorbent material. HazMat crews dilute and flush materials that have already entered the storm system only in rare cases where it is necessary to protect public health and safety.

- *The City should track 911 calls that involve events that could impact the MS4.*

The City tracks all 911 calls. Records of responses to all 911 calls are kept. Operators monitoring 911 calls notify the appropriate HazMat team when they receive a report of a chemical spill.

4.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

- *City pretreatment inspectors inspect and report on City-owned sites the same as all other industrial permitted sites [including the publicly Owned Treatment Works (POTW)].*

The City thanks EPA and SAIC for this positive comment.

- *Experienced pretreatment inspectors include storm water evaluations in their pretreatment inspections for a comprehensive list of industrial facilities.*

The City thanks EPA and SAIC for this comment.

- *Las Vegas must provide a summary of storm water inspections performed for inclusion in the Annual Report. (Permit Section 5.3.4)*

The City will provide the summary.

- *Las Vegas does not determine whether the inspected industry has applied for and/or received the required NPDES industrial storm water permit during inspections. Thus, follow-up notification to NDEP of non-permitted industries and/or directing non-permitted industries to contact NDEP to secure the required permit does not occur.*

The City has met and discussed additional coordination with NDEP, and offered to assist NDEP by providing additional information. The City understands that NDEP is implementing a procedure for identifying industries requiring stormwater permits. The City expects discussions to continue and information sharing to be implemented in areas where it would be productive.

- *The City Maintenance East yard had not filed a NOI and did not have a SWPPP on site as required by the NDEP Industrial Storm Water General Permit.*

The City has carefully examined the 11 categories of stormwater discharges associated with industrial activity described in 40 CFR 122.26(b)(14)(i)-(xi). The City believes that no applicable industrial activity occurs at the East Yard.

- *Minor City yard violations were observed, but were corrected promptly.*

The City Industrial Waste Section routinely inspects the East Yard for compliance with the City's stormwater requirements. Any issues are corrected promptly.

4.6 Construction Site BMP Program (Permit Section 4.9)

- *Las Vegas does not have an ordinance that would provide the authority to require structural and nonstructural BMPs for erosion and sediment control at construction sites. (Permit Section 4.9.1.2)*

See response to first bullet in section 2.6.

- *Las Vegas does not have the legal authority to conduct inspections of construction sites. (Permit Sections 4.2.1.4 and 4.9.1.3)*

The City has the legal authority to inspect construction sites to determine compliance with City ordinances, including requirements on discharges into storm drains.

- *Inefficiencies in the transfer of information regarding problems found by CCDAQEM inspectors to co-permittees were previously discussed in Section 3.6.*

Information transfer has been improved since the initiation of the program.

5 CITY OF NORTH LAS VEGAS FINDINGS

5.1 Adequate Legal Authority (Permit Section 4.2)

- *The North Las Vegas legal authority provides a good description and control of pollutants and/or materials discharged intentionally or unintentionally to the storm water system. The restrictions on uncontaminated discharges appear to go beyond the requirements of the Permit.*

The City thanks EPA and SAIC for this comment.

- *North Las Vegas has not provided Utilities Department staff with the authority to enforce the requirements of Chapter 13.28 of the Municipal Code. (Permit Sections 4.2.1.3 and 4.2.1.4)*

During the audit, the EPA may have inadvertently been given an outdated copy of Chapter 13.28. The Municipal Code, which was changed in June of 2004 at the time the Utilities Department was created, provides authority to the Department. The current section of the Municipal Code is available online at the City of North Las Vegas website.

- *North Las Vegas does not have an ordinance that requires the timely pickup, and proper disposal, of pet wastes.*

The City utilizes our litter ordinance to police this item. The following are excerpts from our Municipal Code.

8.24.20 Definitions

"Litter" means garbage, refuse or rubbish as defined herein and all other waste material which, if thrown or deposited as herein prohibited, is unsightly, dirty or offensive, creates or tends to create a fire hazard or danger to public health, safety or welfare.

8.24.30 Litter declared a nuisance

Litter, as defined in Section 8.24.020 of this chapter, and for the purpose of this chapter, is declared to be a nuisance. (Ord. 744 § 4, 1982)

8.24.70 Litter in public places

No person shall throw or deposit, or cause to be thrown or deposited, in or upon any public place, sewer, storm drain, ditch, drainage canal, lake, river or tidal waterway within the city any litter, junk or trash. (Ord. 1063 § 2, 1992: Ord. 744 § 8, 1982)

8.24.90 Violation – Penalty

Any person violating any of the provisions of this chapter shall be guilty of a misdemeanor and upon conviction thereof, be punished by a fine of not less than fifty dollars (\$50.00) nor more than one thousand dollars (\$1,000.00), and to be credited to a special fund to cover the cost of enforcement of this chapter. Any moneys derived thereafter will be credited to the general fund. Every day of such violation shall constitute a separate offense. Additionally, any person found guilty of violating this chapter shall be assessed court costs. (Ord. 744 § 10, 1982)

5.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

- *North Las Vegas has an active and innovative public outreach and education program.*

The City thanks EPA and SAIC for this comment.

5.3 Best Management Practices (Permit Section 4.6)

- *North Las Vegas is adding staff and equipment to enhance its street sweeping program.*

The City thanks EPA and SAIC for this positive comment.

- *The PHF procedures implemented by the Parks Department have resulted in a reported reduction in the amount of PHF materials used.*

The City thanks EPA and SAIC for this positive comment.

- *North Las Vegas has not implemented a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment. (Permit Section 4.6.1.2)*

See response to second bullet in section 2.3.

- *North Las Vegas should identify priority streets for street sweeping and post parking limitations to ensure that these streets are swept at least every two weeks. If voluntary compliance with the street posting is insufficient, North Las Vegas should enact an ordinance which provides the authority to issue parking violations to vehicles that prevent effective street sweeping.*

The City of North Las Vegas currently has a street sweeping schedule that addresses all City streets on a once every two week basis. Targeted streets within the City's downtown core area are being swept on a weekly basis. The City is currently working with citizens on voluntary parking compliance by implementing an assigned day/route system to assist citizens of knowing when to remove their cars from the roadways. Staff will be continually evaluating the success of the current voluntary

parking compliance program. As future needs warrant, additional parking restrictions may be pursued.

5.4 Illicit Discharge and Detection (Permit Section 4.7)

- *North Las Vegas responds quickly and effectively to citizen complaints of illicit discharges.*

The City thanks EPA and SAIC for this comment.

- *North Las Vegas must consider sediment being discharged to a wash to be an illicit discharge, conduct an investigation of the source, and take appropriate actions to reduce or eliminate the discharge. (Permit Section 4.7.1.3)*

The City will take appropriate action in response to excessive sediment discharges in violation of the City ordinance. Sediment deposits in channels, however, are likely to result from natural forces. The City of North Las Vegas is located within a desert environment in which the vast majority of the undeveloped land in the Las Vegas Valley consists of alluvium. This alluvium, or fine soil, is highly erodable by both wind and water.

- *North Las Vegas has not consolidated the illicit discharge response reports from the three City Departments that may respond.*

The Utility Operations Division of the Utilities Department is the primary respondent to illicit discharge complaints for the City. The City will begin to include the total number of illicit discharge complaint responses in our quarterly reports to CCRFCD for inclusion in the Annual Report.

5.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

- *North Las Vegas has developed an effective storm water inspection program by incorporating storm water inspection elements into its existing permitted facility inspection program.*

The City thanks EPA and SAIC for this comment.

- *North Las Vegas must forward to the CCRFCD a summary of storm water inspections performed for inclusion in the Annual Report. (Permit Section 5.3.4)*

The City will provide this summary.

5.6 Construction Site BMP Program (Permit Section 4.9)

- *North Las Vegas does not have an ordinance that would provide the authority to require structural and nonstructural BMPs for erosion and sediment control at construction sites. (Permit Section 4.9.1.1)*

See response to first bullet under section 2.6.

- *Clark County's inspectors (CCDAQEM) do not have specific authority to enter and inspect construction sites for storm water and to enforce storm water regulations. (Permit Sections 4.2.1.4 and 4.9.1.3)*

See response to first bullet under section 2.6. County inspectors have authority to enter construction sites, and to collect information on stormwater conditions that is reported back to the co-permittees for enforcement response.

- *North Las Vegas has not enforced control measures to reduce pollutants in storm water runoff from construction sites to the MS4. (Permit Section 4.9.1.3)*

See response to second bullet under section 2.6.

- *The transfer of information regarding problems found by CCDAQEM inspectors to North Las Vegas is an inefficient and cumbersome process.*

Information transfer has been improved since the initiation of the program.

- *North Las Vegas should require that the SWPPP prepared for any Capital Improvement Program (CIP) project be submitted to the City and conduct inspections to ensure compliance with the SWPPP as part of its normal CIP project oversight.*

Our CIP Construction Managers already perform this type of service. Capital Improvement Program contractors are contractually required to obtain stormwater discharge permits. The SWPPP is provided to the City and a copy is kept at the project office. Compliance with the SWPPP is monitored by the construction inspector and the construction manager.

6 CITY OF HENDERSON FINDINGS

6.1 Adequate Legal Authority (Permit Section 4.2)

- *Several piles of pet waste were observed during the channel inspection of Upper Pittman Wash, including Project Green.*

The City of Henderson has a pet waste program in place that provides baggies on kiosks located along the banks of the Upper Pittman Wash for owners to clean-up after their pets. The City will develop public outreach programs to alert the citizens of this service.

6.2 Public Outreach and Education, and Intergovernmental Coordination (Permit Section 4.5)

- *Henderson provided advice and funding for Project Green, which created an open space for recreational use along Pittman Wash with the help of volunteers.*

The City thanks EPA and SAIC for this positive comment.

6.3 Best Management Practices (Permit Section 4.6)

- *Henderson has not implemented a plan to reduce the discharge of pollutants from MS4s which receive discharges from areas of new development and significant redevelopment. (Permit Section 4.6.1.2)*

See response to second bullet in section 2.3. In addition, the City of Henderson also has ordinances in place for the development of projects on the hillside and in sensitive lands. These ordinances have restrictions on the amount grading that can take place in a development based on ground slopes, preservation of natural habitats and historical lands, and preservations of natural drainage paths. The City of Henderson has also recently adopted an Open Space and Trails Plan that can be used to set up a framework for preserving natural washes, creating buffer zones, identifying trail corridors, and development at the transition between urban and protected resources.

- *Henderson is considering adopting an “Open Space Plan” that will require developments to retain more open space and will focus on keeping flood channels natural rather than concrete-lined.*

The City thanks EPA and SAIC for this positive comment.

- *Catch basin cleaning is behind schedule this year.*

The City has hired a dedicated crew for the inspection and maintenance of drop inlets. The City is currently operating in compliance with the schedule outlined in the Annual Report.

- *Henderson does not have a regular cleaning schedule for storm sewer pipes.*

The City maintains drop inlets through a regular inspection program and removes debris intercepted at the entrance to the system. The City is currently working on an asset management policy to regularly inspect and maintain the local storm drain system.

6.4 Illicit Discharge and Detection (Permit Section 4.7)

- *Henderson has not trained its municipal maintenance staff to look for evidence of non-storm water discharges to the drainage system during their normal duties (Section 7.4 of the SWMP).*

Municipal Maintenance staff is trained to investigate flows to the storm drain/flood control system. They track unidentified flows to the source. If a potable water source they contact the Utility Services Department for enforcement action under

the drought regulations or to provide repairs as necessary. If an unidentified source they contact the Public Works Department for investigation and clean-up. The City will set up a formal procedure for evaluation, identification, and response within FY 06/07.

- *The Municipal Codes prohibiting illicit discharges or illegal dumping are not enforced unless someone actually observes the illegal dumping.*

The City is working to review its enforcement procedures with respect to illegal dumping. Also, the City will review the current public outreach program for illegal dumping to identify areas for improvement.

- *Henderson does not sample dry weather flow to ensure that it is unpolluted irrigation or groundwater flow.*

Samples are routinely taken and analyzed in many places within the storm drain and channel system. These samples, as expected, show that many channels within the City contain a typical base flow consisting of surfacing groundwater and surface runoff attributable to over-watering. City staff recognizes this base flow, and have conducted investigations in the past to identify atypical sources. If City staffs observe atypical flows, additional investigation is conducted to determine the source.

- *Henderson maintenance staff do not carry spill containment supplies in their vehicles and would need to return to the yard for event a minor incident.*

Due to the limited amount of vehicle space available, containment supplies are located in an easily accessible area of the maintenance facility for a quick response to a spill situation. The City will review the current procedures to determine if changes are necessary.

- *Henderson documents the locations of illicit discharges and illegal dump sites, but has not mapped these locations.*

The City will work with GIS staff to create a layer on City View that shows the location of complaints, discharges, and dump sites.

6.5 Industrial Facility Monitoring and Control (Permit Section 4.8)

- *Henderson has not implemented a program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities that are contributing a substantial pollutant loading to the MS4. (Permit Section 4.8)*

See response to first bullet in section 2.5. In addition, the Utility Services Department Pre-treatment Division currently inspects at least annually the sites identified on the SARA Section 313 list as well as those identified with a potential to discharge. The inspectors include storm water issues as part of their inspection procedures. The City is currently working with Pre-treatment staff to review the industrial categories and identify any other facilities with the potential to discharge for future inspections.

- *Henderson does not include municipal operations that have potential to contribute substantial pollutant loading to the MS4 in its industrial program. The municipal operations do not have SWPPPs and are not inspected for storm water.*

The City has examined the 11 categories of stormwater discharges associated with industrial activity described in 40 CFR 122.26(b)(14)(i)-(xi) and believes that no applicable industrial activity occurs at the municipal operations. The City will review the municipal operations, prepare SWPPPs as necessary, and conduct regular stormwater inspections.

- *Henderson has not finalized a checklist or guide for the inspection of storm water controls. The pretreatment inspectors have a general knowledge of storm water requirements, but have not been formally trained.*

The City has created a preliminary inspection checklist that is being used by the Pre-treatment inspectors during their regularly scheduled Utility Services inspections. The City will complete an Industrial Facility Training presentation and set dates for training the Pre-treatment staff. The inspection checklist will be updated as necessary based on the current inspection process.

- *The Henderson industrial facility inspection program does not include determining whether the inspected industries have applied for and/or received the required NPDES industrial storm water permit. Thus, Henderson cannot notify NDEP of non-permitted industries and/or direct non-permitted industries to contact NDEP to secure the required permit.*

See response to third bullet in section 2.5. The City has reviewed the NDEP web site for information on industrial discharges and a list of facilities within the City limits that have received a Notice of Intent from the State. The City understands that NDEP is developing a method of identifying industrial discharges that require stormwater permits.

6.6 Construction Site BMP Program (Permit Section 4.9)

- *Henderson's storm water inspectors have been given an in-house training regarding storm water BMPs on construction sites and are encouraged to contact supervisory staff if they have questions regarding storm water BMPs or potential violations.*

The City thanks EPA and SAIC for this positive comment.

- *As of September 2005, Henderson had conducted 767 storm water inspections, which is more than the commitment of 300 that the City made to CCRFCD. Henderson established an inspection frequency of once every 45 days and is not limiting inspections to its commitment of 300 (see Appendix E.1 for additional information).*

The City thanks EPA and SAIC for this positive comment.

- *Henderson uses a database to track plan approval for construction sites and all types of construction site inspections, including storm water inspections.*

The City thanks EPA and SAIC for this positive comment.

- *Henderson does not have an ordinance that would provide the authority to require structural and nonstructural BMPs for erosion and sediment control at construction sites. (Permit Section 4.9.1.1)*

See response to first bullet in section 2.6.

- *Henderson does not enforce its requirement that sites correct storm water BMP deficiencies and schedule a follow-up inspection within 21 days.*

The City has commenced meetings with the Quality Control inspectors to develop and implement improvements in the inspection process. The improvements identified for updating the City of Henderson program include incorporating the Building Department inspectors as part of the program, revising the reports to filter for violations versus potential to violate, reducing the turnaround time for re-inspections, and using feedback from the inspectors to update the training based on experiences from the last year. The City will continue to meet with staff and the co-permittees to implement program improvements in the coming year.

- *Henderson does not have an enforcement guide or procedures that indicate in what circumstances enforcement should be escalated.*

The City will establish a procedure that will identify the circumstances for moving to enforcement as part of updating the Construction Inspection Program.

- *Henderson has not trained building inspectors to recognize storm water issues and contact the other inspectors if they see a construction site with the potential to discharge pollutants to the MS4.*

The City is updating the inspection program to include building inspectors as an integral part of the program. It is envisioned that the building inspectors will pick up where the offsite inspectors leave off thus providing storm water inspections for the duration of the construction project. Building inspectors will be thoroughly trained to perform this function. The city has developed a program for training building inspectors, and is in the process of implementing it during the 2006-2007 permit year.



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION IX

75 Hawthorne Street

San Francisco, CA 94105-3901

MAR 30 2007

Kevin Eubanks, P.E.
Assistant General Manager
Clark County Regional Flood Control District
600 S. Grand Central Parkway, Suite 300
Las Vegas, NV 89106-4511

Subject: Las Vegas Valley Storm Water Management Program, NPDES Permit No. NV0021911, Program Audit

Dear Mr. Eubanks:

Following our program audit of September 19-23, 2005, we sent you and the other copermitees the audit report on April 20, 2006 which identified several program deficiencies. The co-permittees responded to these conclusions in a letter dated August 22, 2006. In September 2006, the co-permittees submitted the 2005-2006 Annual Report under the permit, which included some revisions to the Storm Water Management Plan (SWMP) in response to findings in the audit report.

Since that time, EPA and NDEP have continued to evaluate the Las Vegas Valley program's compliance with the NPDES permit. We agree there have been, and continue to be, significant deficiencies with the permittees' storm water management program. EPA understands that the co-permittees and NDEP have met to discuss these problem areas and commence development of a plan to promptly correct the deficiencies in an expeditious manner. We believe that corrections to the program should be made prior to the next NPDES permit taking effect.

Without repeating the audit report's findings, we believe that the most significant deficiencies concern the Las Vegas Valley program's failures to reduce pollutants to the maximum extent practicable ("MEP") with regard to the following program elements:

1. Construction site storm water runoff management;
2. Post-construction storm water runoff management from areas of new development and significant redevelopment;
3. Storm water runoff management from areas of industrial activity; and
4. Storm water runoff management related to operation and maintenance of treatment systems and controls. This issue was not identified in the audit report. A review of the co-permittees' 2005-2006 Annual Report indicated accumulations of sediment reducing the potential effectiveness of detention basins. Two County detention basins have accumulated sediments of 81,000 and 56,000 cu. yds, respectively, yet County removed only 313 cu. yds in 05/06 reporting period.

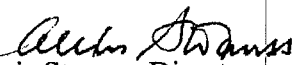
Mr. Kevin Eubanks
30 March 2007

Page 2

As the co-permittees and NDEP work to remedy these deficiencies, I would like to share EPA's expectations as to substance and timing of necessary corrective actions. Enclosed is a brief discussion of the program and implementation changes we consider essential to the co-permittees' compliance with storm water program requirements.

EPA requests copies of all submittals developed by the co-permittees to assure us you are making the needed corrections in a timely manner. Please direct any questions to Mr. Jeremy Johnstone at 415-972-3499 or via email at johnstone.jeremy@epa.gov. Thank you for your continuing cooperation in this matter.

Sincerely,

 30 March 2007
Alexis Strauss, Director
Water Division

Enclosure

cc (w/enclosure):

T. Reilly, Clark County
R. Fultz, City of Las Vegas
J. Doody, City of North Las Vegas
C. Chandler, City of Henderson
T. Porta, NDEP

Enclosure
Las Vegas Valley MS4
EPA's Recommendations for Correcting Select Identified Deficiencies

1. Construction site storm water runoff management

The co-permittees should revise their construction site runoff management program to at least comply with the requirements of the Phase 2 rule¹, which requires that programs include, at a minimum:

- An ordinance;
- Requirements to implement erosion and sediment control BMPs;
- Requirements to control other waste at the construction site;
- Procedures for reviewing construction site plans;
- Procedures to receive and consider information submitted by the public; and
- Procedures and authority for inspections and enforcement of storm water requirements at construction sites.

Guidance for complying with these requirements may be found on EPA's website at:
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=4

We believe that these revisions should be completed, by the time of permit reapplication (Dec. 2007) so that these minimum requirements are being complied with by the time the next NPDES permit goes into effect.

2. Post-construction site runoff management from areas of new development and significant redevelopment

The existing large flood control detention basins provide little, if any, water quality benefit, as evidenced by the detention basin pollutant removal monitoring that was reported in the most recent annual report. They may be utilized as part of an effective post-construction control system (in conjunction with other measures, as discussed below) if they are:

- converted/retrofitted to address water quality. Retrofits should include inlet and outflow structures designed to control floatables, sediment, and toxic fractions associated with sediment particles; and
- maintained to address water quality, and prevent resuspension of sediment.

¹- The Phase 2 rule established minimum program elements that meet the required MEP standard for Phase 2 MS4s. As such, the Phase 2 requirements provide useful guidance to all MS4s regarding the content and expectations of programs that meet this required standard.

In addition to detention basin retrofit the co-permittees should revise their program to, at a minimum, comply with the requirements as stated in the Phase 2 rule. In summary, these minimum requirements include:

- Strategies to implement a combination of structural and non-structural BMPs;
- An ordinance to address post-construction runoff; and
- A program to ensure adequate long-term operation and maintenance of BMPs.

As stated above, source controls (non-structural measures) must be incorporated into the program in addition to detention basin retrofits. Such controls should provide for or address:

- runoff from commercial and residential areas;
- planning procedures;
- design standards, BMP fact sheets or guidance manuals that include site design source control, and storm water treatment BMPs;
- tracking & maintenance for structural BMPs;
- training and education; and
- estimates of expected reductions in loads.

Guidance for complying with these requirements may be found on EPA's website at:
http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=5

Additionally, we encourage the Las Vegas Valley co-permittees to include Low Impact Development (LID) principles in the revised program. Information on LID principles may be found at <http://www.epa.gov/owow/nps/lid/lid.pdf>.

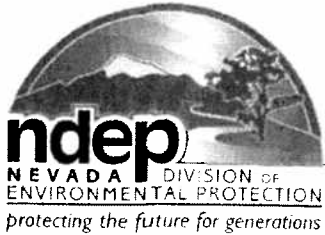
These program revisions should be completed as expeditiously as possible. We recognize that some work will certainly be required to continue beyond the 12/07 permit reapplication date. Any such tasks should clearly be identified along with progress milestones and due dates.

3. Storm water runoff management from areas of industrial activity

The co-permittees should complete their search for industrial facilities that are or may be contributing a substantial loading to the MS4 by 30 June 2007, in accordance with the commitment made in the Sept. 2006 SWMP revisions. The co-permittees should revise their industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities by the time of permit reapplication (Dec. 2007).

4. Storm water runoff management related to operation and maintenance of treatment systems and controls

The co-permittees should remove accumulated sediments in regional detention basins (e.g. 82,000 cu. yds. at the Red Rock DB and 51,000 cu. yds. at the Blue Diamond DB) before the summer monsoon season and should, by the time of permit reapplication (Dec. 2007), develop and implement a specific schedule and protocol for inspecting and cleaning these basins.



STATE OF NEVADA
Department of Conservation & Natural Resources
DIVISION OF ENVIRONMENTAL PROTECTION

Jim Gibbons, Governor

Allen Biaggi, Director

Leo M. Drozdoff, P.E., Administrator

May 2, 2007

Kevin Eubanks, P.E.
Assistant General Manager
Clark County Regional Flood Control District
600 South Grand Central Parkway
Suite 300
Las Vegas, NV 89106-4511

RE: Municipal Separate Storm Sewer System (MS4) Program,
NPDES Permit No. NV0021911

Dear Mr. Eubanks:

The Nevada Division of Environmental Protection (NDEP) thanks the MS4 Permit NV0021911 Permittees (Permittees) for their continued efforts to collectively strengthen the Clark County Storm water program. As a growing community, this task is less than simple and requires a dynamic approach. To ensure the continued integrity of the MS4 Storm water program and consistent with your proactive approach to environmental compliance, please provide a plan and schedule to address the following items by no later than June 12, 2007. Please carbon copy EPA on your response, as well as future reports that are submitted in response to the items below.

1. For the construction site runoff management program, please provide copies of the following:
 - a. An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State, or local law;
 - b. Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
 - c. Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
 - d. Procedures for site plan review which incorporate consideration of potential water quality impacts;
 - e. Procedures for receipt and consideration of information submitted by the public;
 - f. Procedures for site inspection and enforcement of control measures;
 - g. Please complete these revisions and provide supporting documentation to NDEP no later than December 19, 2007; and
 - h. Please implement the revisions by June 19, 2008.



2. The existing large flood control detention basins appear to provide little water quality benefit. They may be utilized as part of an effective post-construction control system (in conjunction with other measures, as discussed below) if they are converted/retrofitted to address water quality. Retrofits should outflow structures designed to control floatables, sediment, and toxic fractions associated with sediment particles; and maintained to address water quality, and prevent re-suspension of sediment. Please incorporate the following and provide applicable supporting documentation:
 - a. Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the permittees community;
 - b. Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State, or local law; and
 - c. Ensure adequate long-term operation and maintenance of BMPs.

As stated above, source controls (non-structural measures) must be incorporated into the program in addition to detention basin retrofits. Such controls shall provide for or address:

- d. Runoff from commercial and residential areas;
 - e. Planning procedures;
 - f. Design standards, BMP fact sheets or guidance manuals that include site design
 - g. Tracking & maintenance for structural BMPs;
 - h. Training and education;
 - i. Estimates of expected reductions in loads; and
 - j. Provide to NDEP a proposed schedule and or plan, to address these items no later than December 19, 2007.
3. For storm water runoff management from areas of industrial activity, please provide the following:
 - a. Develop an inventory and plan for industrial facilities that are or may be contributing a substantial loading to the MS4;
 - b. Revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities; and
 - c. Please complete these revisions and provide supporting documentation to NDEP no later than December 19, 2007; and
 - d. Implement the revisions by June 19, 2008.

Mr. Eubanks
May 2, 2007
Page Three

4. For storm water runoff management related to operation and maintenance of treatment systems and controls, please provide to NDEP a plan to address or remove accumulated sediments in regional detention basins and develop and implement a specific schedule and protocol for inspecting and cleaning these basins no later than December 19, 2007.
5. Where the above timelines can not be reasonably met, please provide the supporting information and a proposed schedule and or plan to comply with the requirements.

Finally, the above requirements must meet the intent of section 4.1 of the permit. Section 4.1 requires the permittees develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the Permittees MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.

NDEP appreciates the Permittees proactive approach to environmental compliance and values our strong working relationship. We look forward to continuing this relationship as we move forward. If you have any questions, please call me at your earliest convenience at (775) 687-9435.

Sincerely,



Clifford M. Lawson, P.E.
Supervisor, Technical Services
Bureau of Water Pollution Control
Nevada Division of Environmental Protection

CC: Leo Drozdoff, Administrator, NDEP
Tom Porta, Deputy Administrator, NDEP
Jon Palm, Chief, BWPC
Valerie King, Supervisor, Compliance and Enforcement Branch
Jeremy Johnstone, EPA, Region 9

June 12, 2007

Mr. Clifford Lawson
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701



Subject: Municipal Separate Storm Sewer System (MS4) Program
NPDES Permit No. NV0021911
Response to May 2, 2007 Letter

Dear Mr. Lawson:

On behalf of the Las Vegas Valley MS4 NPDES Permittees, I want to thank you for your letter of May 2, 2007 providing direction on steps to be taken to comply with the requirements of NPDES Permit NV0021911. We understand that these steps are intended as clarification of the similar requirements outlined in EPA's letter of March 30, 2007 describing activities to be performed in response to the permit audit of September 2005.

The Permittees are committed to continuing to develop and implement stormwater management programs that are appropriately suited to the Las Vegas Valley region and climate, and appreciate your willingness to work cooperatively to that end.

In your May 2, 2007 letter you requested that the Permittees submit, by June 12, 2007, a plan and schedule to address specific aspects of four components of the MS4 program. These components are:

- Construction Site Runoff Management Program
- Post-Construction Runoff Management Program
- Industrial Site Runoff Management Program
- Operation and Maintenance of Treatment Systems and Controls

The following sections describe our plan and schedule for addressing the specific requirements in your letter.

Construction Site Runoff Management Program

The following requirements were specified in your May 2, 2007 letter.

- (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
- (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

- (c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- (d) Procedures for site plan review which incorporate consideration of potential water quality impacts;
- (e) Procedures for receipt and consideration of information submitted to the public;
- (f) Procedures for site inspection and enforcement of control measures.

As you know, the Permittees have made substantial progress in improving their construction site runoff management programs since the time the EPA audit was performed. This progress includes expanding construction site inspection programs and improving mechanisms for follow-up and enforcement of local ordinances. However, it is recognized that additional improvements to the construction program will be required to comply with the above requirements.

Plan

Items (a), (b), (d) and (f) will require new ordinances or modifications to existing ordinances to require development and implementation of erosion and sediment control measures (e.g., through construction site BMPs) by contractors, and the corollary plan reviews, inspections and enforcement authority for these measures by the Permittees. We believe that Item (c) is already adequately addressed by current local ordinances prohibiting the discharge of any non-stormwater to the MS4. Nonetheless, this item could be covered more fully in a new or revised set of ordinances.

The Permittees have formed a new Construction Program Working Group (CPWG), which will be a subcommittee of the Las Vegas Valley Stormwater Quality Management Committee (SQMC). The CPWG is tasked with recommending modifications to local ordinances and construction site runoff management programs to address Items (a), (b), (d) and (f). Specifically, the CPWG will address the following issues:

- Determine whether a uniform construction ordinance can be adopted by all Permittees to require implementation of erosion and sediment control practices (this is the preference of the SQMC), and recommend language for such a draft ordinance.
- Determine whether current CCRFCD regulations can or should be used to promulgate guidance for construction site runoff management.
- Recommend improvements to current construction site inspection practices, if warranted, to assure compliance with proposed new local construction ordinances.
- Determine feasible enforcement mechanisms to be implemented on either a local or regional level, and include these mechanisms in draft ordinance language.
- Recommend procedures at the local level for assuring that contractors have received State construction permits prior to issuing a grading permit.

In addition to the above issues, the CPWG will consider possible opportunities for better integrating the State and local construction management programs as the State's general construction permit is being reissued later this year.

The CPWG will be comprised of the following members initially. Others may be added as needed.

Al Jankowiak, COH (Group Leader)
Kevin Eubanks, CCRFCD
Rob Mrowka, DAQEM
Chuck Richter, DAQEM
Randy Fultz, CLV
Rob Welch, CLV
Greg McDermott, CLV (alternate)
Dale Daffern, CNLV
Jan Schweitzer, CNLV

The CPWG will carry recommendations to the full SQMC, which will then act on them and direct members to implement adopted program changes in their respective organizations.

The Permittees believe that Item (e), which addresses response to information submitted by the public, is adequately addressed by current practices and programs, as long as the intent of this item is to respond to public complaints regarding conditions at construction sites. If this is not what is intended by this item, please clarify your intent for us.

Schedule

Consistent with the requested deadline in your May 2, 2007 letter, construction site runoff management program revisions and documentation will be submitted to NDEP no later than December 19, 2007. In order to meet this deadline, the CPWG will develop initial recommendations for consideration by the SQMC at its regularly scheduled meeting of August 14, 2007. Program revisions will be implemented no later than June 19, 2008.

Post-Construction Runoff Management Program

Your May 2, 2007 letter repeats EPA's assertion that the existing large regional detention basins in Las Vegas Valley appear to provide little water quality benefit. We respectfully disagree with this assertion. While it is true that the limited available water quality monitoring data show little demonstrated improvement in water chemistry between detention basin inflows and outflows, the regional detention basins are very effective at removing sediment and debris generated in upstream urban and natural watersheds. We have documented some of this sediment and debris removal in past MS4 Permit Annual Reports, and are working to further document this benefit. We are confident that the regional detention basins will be shown to have a very positive impact on downstream

water quality with regard to sediment transport, a key constituent in EPA's view, and consider them to be a significant component of any post-construction runoff management program. In addition, other regional programs such as ongoing construction of a system of channel stabilization structures in lower Las Vegas Wash to arrest channel erosion and reduce sediment transport to Lake Mead, have had significant water quality benefits to receiving waters downstream of the MS4.

The above notwithstanding, the Permittees agree that certain enhancements to the Post-Construction Runoff Management Program will be necessary to comply with the requirements in the May 2, 2007 letter. This letter lists the following activities to be performed.

- (a) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the permittees' community;
- (b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
- (c) Ensure adequate long-term operation and maintenance of BMPs.

Incorporate controls that provide for or address:

- (d) Runoff from commercial and residential areas;
- (e) Planning procedures;
- (f) Design standards, BMP fact sheets or guidance manuals that include site design;
- (g) Tracking and maintenance for structural BMPs;
- (h) Training and education;
- (i) Estimates of expected reductions in loads.

Plan

The Permittees have formed a new Detention Basin Working Group (DBWG) to research methods for improving the water quality performance of existing and future regional detention basins. The DBWG has been tasked with formulating a pilot program for investigating effective detention basin retrofit approaches, including construction and monitoring of basin retrofits. MWH has prepared a technical memorandum outlining detention basin retrofit measures that have been successfully used in other communities; this will be the starting point of this investigation.

The DBWG will consist of the following members initially. Others may be added as needed.

Kevin Eubanks, CCRFCD – Group Leader
Chip Paulson, MWH
Les Henley, Clark County
Gil Suckow, Clark County
Rob Welch, CLV
Randy Fultz, CLV

Greg McDermott, CLV (alternate)
Dennis Scott, CNLV
Jennifer Doody, CNLV
Joe Damiani, COH
Al Jankowiak, COH (alternate)

In order to address the issues raised in Items (a), (b), (c), (d), (e), (h) and (i) above, the Permittees have formed a new Development Guidelines Working Group (DGWG). The DGWG is tasked with the following responsibilities:

- Determine which post-construction planning measures, such as low impact development, would be appropriate for, and implementable in, the Las Vegas Valley MS4 region.
- Investigate impacts of changed planning policies and guidelines on community services (e.g., plan reviews, inspections), developers, and land values.
- Determine changes to ordinances, policies or guidelines that will be required to implement the recommended planning measures, and prepare draft language for new or revised ordinances, policies or guidelines.
- Determine whether regional agencies (e.g., CCRFCD, DAQEM) can provide planning authority, or whether this must be done at the local level.
- Determine recommended structural or non-structural approaches to addressing stormwater runoff from commercial and residential areas in Las Vegas Valley.
- Determine appropriate strategies for ensuring adequate long-term maintenance of post-construction BMPs.

The DGWG will consist of the following members initially. Others may be added as needed.

Mark Silverstein, DAQEM - Group Leader
TBD, Clark County Development Services
Flinn Fagg, CLV
Cheng Shih, CLV
Jory Stewart, CNLV
Jennifer Doody, CNLV
Bristol Ellington, COH

Items (f) and (g) relate to site design and O&M issues for new development and significant redevelopment. At the present time the DGWG is tasked with addressing these topics; however, we may decide to form a separate working group to evaluate these issues in more detail. Specifically, the DGWG or a separate Site Design Working Group will have the following responsibilities related to site design.

- Develop design criteria for structural BMPs that are specific to the Las Vegas Valley MS4 area (note: the 2003-2004 Annual Report contains a review of BMP design criteria used by other MS4 agencies and their applicability to Las Vegas Valley).
- Prepare BMP fact sheets and design specifications based on the recommended design criteria.

- Promulgate design criteria through the CCRFCD Hydrologic Criteria and Drainage Design Manual or other means.
- Develop maintenance guidelines for structural BMPs that are specific to the Las Vegas Valley region.

Schedule

Consistent with the requested deadline in your May 2, 2007 letter, preliminary post-construction runoff management program elements and a preliminary implementation schedule will be submitted to NDEP no later than December 19, 2007. In order to meet this deadline, the DBWG will develop initial recommendations for consideration by the SQMC at its regularly scheduled meeting of September 11, 2007, and the DGWG will develop initial elements to be considered by the SQMC at its regularly scheduled meeting of October 9, 2007.

It is likely that the detention basin retrofit pilot project will require about 3 years to complete (1 year for design and construction and 2 years for monitoring). The DBWG will develop a firm schedule as part of their tasks; this will be presented to NDEP no later than December 19, 2007.

Depending on the final adopted revisions to the post-construction program, full implementation could take several years. Activities such as adopting ordinances, educating the development community, expanding community services and establishing a funding source (should those activities be necessary) would be challenging and would require considerable time and effort. The DGWG will develop an anticipated implementation schedule as part of its work assignment; this will be presented to NDEP no later than December 19, 2007.

Industrial Runoff Management Program

The following requirements were specified in your May 2, 2007 letter.

- (a) Develop an inventory and plan for industrial facilities that are or may be contributing a substantial loading to the MS4;
- (b) Revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities.

Plan

All Permittees have made extensive improvements to their industrial runoff management programs since the time of the EPA audit. The City of Las Vegas industrial waste/pretreatment program oversees approximately 1,000 industrial sites, 700 restaurants, and specific sites identified as Section 313 facilities. The City routinely inspects these facilities. All such inspections at applicable facilities include a stormwater inspection per an established checklist. Similarly, the City of North Las Vegas currently

routinely inspects all industrial facilities covered under its industrial pretreatment program, consisting of over 600 industrial sites, 300 restaurants, Section 313 facilities, and all facilities requiring a business license inspection within its jurisdiction. The City of Henderson is greatly expanding its industrial inspection program to utilize the services of Fire Department inspectors to conduct stormwater inspections at about 115 industries identified to be high-risk for potential stormwater pollution based on the types of chemicals used on site. The expanded program will be operational in Fall 2007. As a result, each of the cities will have industrial site inspection programs that meet or exceed the requirements of Items (a) and (b) by the end of this year.

Clark County has been inspecting Section 313 facilities and other selected facilities, and is currently in the process of developing criteria to identify other industrial sites that “are or may be contributing a substantial loading to the MS4.” Application of these criteria to County industrial sites will satisfy the requirements of Item (a). Industrial inspections are currently performed by the Clark County Water Reclamation District (CCWRD) inspectors under an interlocal agreement with the County (i.e., DAQEM). DAQEM has, in consultation with CCWRD, devised a multifaceted strategy to implement an expansion of its industrial stormwater inspection program for Clark County that will satisfy and exceed the requirements of Item (b). Its elements include:

- Developing a more extensive inspection form;
- Increasing funding for, and the expansion of the role of, the CCWRD inspection program, including making relevant modifications to the interlocal contract;
- Categorizing and prioritizing the sites to be inspected to include those that can be inspected (1) in the near-term (i.e., within the next 18 to 24 months) and/or at little or no addition cost with respect to the current interlocal contract, and (2) in the longer term, likely incurring significant additional planning and costs.

Near-term categories include any remaining 313 sites, CCWRD pretreatment industrial sites and grease trap/interceptor inspection facilities, NDEP industrial stormwater permit holders, and any municipal landfills and hazardous waste facilities located within the Clark County MS4 boundaries. Longer-term categories are transportation-related operations (e.g., auto repair and maintenance and fleet servicing facilities) and other priority facilities (e.g., electroplating shops), developing industrial park inspection approach, Clark County School District bus yards, federally operated facilities (e.g., USPS yards), reviewing NDEP’s large- and small-quantity generators lists and Clark County Fire Department Business Licensing Disclosure Forms for potential non-filers.

However, DAQEM and its CCWRD partner (and the other co-permittees) require close coordination with NDEP to include ready access to information from NDEP, including: (1) inspection strategies in the Las Vegas Valley MS4 area, (2) schedules for its industrial inspections, (3) results of those inspections, and (4) up-to-date online NPDES Industrial Stormwater General Permit database. This proposed program will be submitted to NDEP for review and included in the Annual Report.

Through the above existing and proposed activities, each entity will prepare an inventory of industrial facilities (either specifically or by category) that it will address as part of its

MS4 local industrial program. Expansions of inspection programs, if needed, will be described by each Permittee.

The Permittees will seek opportunities to work with NDEP to integrate the components of the State and local industrial site stormwater programs as the State's general industrial permit is being revised in early 2008.

Schedule

The three cities either currently meet the industrial program requirements, or will fully comply by the end of 2007. Clark County will provide documentation of revisions to their industrial program no later than the deadline of December 19, 2007 specified in your letter, and will have their proposed revisions implemented by the deadline of June 19, 2008.

Operation and Maintenance of Treatment Systems and Controls

The following requirements were specified in your May 2, 2007 letter.

- (a) Provide a plan to address or remove accumulated sediments in regional detention basins;
- (b) Develop and implement a specific schedule and protocol for inspecting and cleaning regional detention basins.

Plan

CCRFCFCD has an existing Operation and Maintenance Manual that guides removal of sediment and debris from regional detention basins. This Manual is used by CCRFCFCD and the MS4 Permittees to determine schedules and procedures for cleaning regional detention basins and other regional flood control facilities. These procedures are designed to maintain the flood control function of the basins, but also serve to protect water quality by specifying timely removal of sediment and debris. In addition, detention facilities in the Valley that were constructed by the U.S. Army Corps of Engineers (USACE) have additional O&M requirements as specified by the USACE. CCRFCFCD provides funds to local entities for performing O&M activities at regional detention basins.

The Permittees will provide NDEP with a copy of pertinent sections of the CCRFCFCD O&M Manual to demonstrate compliance with Items (a) and (b) above.

It is noted that detention basins on property managed by the Bureau of Land Management (BLM), such as Red Rocks Detention Basin, are subject to restrictions on removal and disposal of accumulated sediment and debris imposed by BLM. The MS4 Permittees must work within these restrictions when planning and executing detention basin maintenance at these facilities.

Schedule

A copy of pertinent sections of the CCRFCD O&M Manual will be provided in the 2006-2007 Annual Report. This report must be submitted to NDEP by October 1, 2007.

Conclusion

As indicated by our responses above, the Las Vegas Valley MS4 Permittees remain committed to developing components of a stormwater program that meet the requirements outlined by NDEP and that will be practical and effective in this region. We appreciate the opportunity to work cooperatively with you and your agency to refine our program components accordingly.

If you have any questions regarding our response to your May 2, 2007 letter, please contact me at 702-455-3139.

Respectfully submitted,

Kevin Eubanks

cc:

Gale Fraser, Clark County Regional Flood Control District

Les Henley, Clark County

Mark Silverstein, Clark County

Dan Fischer, City of Las Vegas

Cheng Shih, City of Las Vegas

Kirk Medina, City of North Las Vegas

Jennifer Doody, City of North Las Vegas

Curt Chandler, City of Henderson

Al Jankowiak, City of Henderson

Chip Paulson, MWH

Alexis Strauss, EPA

January 8, 2008

Mr. Clifford Lawson
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701



Subject: Municipal Separate Storm Sewer System Program
NPDES Permit No. NV0021911
Proposed MS4 Program Revisions in Response to EPA Audit

Dear Mr. Lawson:

In a letter of June 12, 2007, the Las Vegas Valley Municipal Separate Storm Sewer System (MS4) Permittees agreed to develop and implement enhancements to the MS4 permit program to meet requirements specified in Nevada Division of Environmental Protection's (NDEP) letter of May 2, 2007. In our June 12 letter, we committed to providing a report on proposed program revisions and a schedule for implementation to NDEP by December 19, 2007. This document is intended to fulfill that requirement.

Brief status reports are provided below on progress in enhancing the four areas of the MS4 permit program identified in your May 2 letter:

- Construction Site Runoff Management Program
- Post-Construction Runoff Management Program
- Industrial Runoff Management Program
- Operation and Management of Treatment Systems and Controls

Attachments provide more detail on activities that have been performed over the past six months.

Overview

In responding to the requirements specified by NDEP, the Permittees have adopted two overall strategies. First, it was determined that working groups consisting of representatives of the Permittee organizations would be required to address the details of the various possible program enhancements for the Construction Site Program and the Post-Construction Program. These working groups were organized in June 2007 and have been meeting since then to address specific issues as described in the sections below. We have found that these working groups have been effective in dealing with technical and administrative issues and in engaging a broader spectrum of Permittee staff members and departments than was previously represented on the Las Vegas Valley Stormwater Quality Management Committee (SQMC).

Second, it became clear that a stakeholder involvement process would be necessary to assure that recommended program enhancements would be feasible and implementable, and would have community support. Therefore, the SQMC is in the process of forming a Stormwater Stakeholder Working Group (SSWG) that will take the lead in developing recommended policies and procedures for the Construction Site Program and the Post-Construction Program. This is consistent with EPA's establishment of Public Outreach/Involvement as one of the six minimum control measures for Phase 2 communities. The Permittees are forming the SSWG from representatives of many sectors of the community including developers, environmental groups, consulting engineers, and local governments. The SSWG will develop specific locally acceptable recommendations for meeting all of the general objectives specified by NDEP for ordinances/regulations, programs, policies, etc. These recommendations will be forwarded to the SQMC for action. The SSWG will begin meeting monthly in January 2008; it is anticipated that their efforts will require 6 to 9 months to complete. The status of the stakeholder involvement process and planned future activities are described in more detail in the attached "Stakeholder Involvement Process – Summary and Status" report.

It is stressed that the Permittees are committed to meeting the objectives for implementing ordinances, programs and policies as set by NDEP; the stakeholders group will be used to ensure that the specifics of those ordinances, programs and policies are appropriate for the Las Vegas Valley region and will receive community support.

Construction Site Runoff Management Program

The Permittees agreed in the letter of June 12, 2007 that certain enhancements to the Construction Site Runoff Management Program were necessary to comply with the requirements in NDEP's May 2, 2007 letter. The most important required enhancements are summarized as follows.

- An ordinance or other regulatory mechanism to require erosion and sediment controls;
- Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
- Procedures for site inspection and enforcement of control measures.

In order to address these issues, the Permittees formed a new Construction Program Working Group (CPWG). The CPWG is comprised of representatives of each Permittee, and was tasked with recommending modifications to local regulations and construction site runoff management programs. The progress of the working group and improvements that have already been made to the Construction Site Program are described in the attached "Construction Site Runoff Management Program Development – Summary and Status" report.

The CPWG has engaged in detailed discussions of the three topics listed above, as well as other issues related to the construction site runoff management program. As a result, recommendations for specific program elements will be prepared for consideration by the SSWG. Because the SQMC and the local governments have determined that the stakeholders must be involved in any policy decisions, details of the final proposed Construction Program will be developed by the SSWG. The CPWG will serve as a technical and administrative resource to the SSWG during the course of the stakeholder process.

The following work has already been completed by the CPWG.

- The internal processes of each construction inspection program were reviewed to make them consistent. The City of Henderson construction inspection program was used as the model for updating the City of Las Vegas, City of North Las Vegas, and Clark County processes and procedures. Each entity identified standard turn-around time, staff responsible for inspections/re-inspections, tracking procedures and coordination between entities.
- The CPWG representatives reviewed current local ordinances for authority to address the requirements outlined in the NDEP letter.
- The CPWG has determined that the model ordinance is a good start in developing the legal authority for implementing a storm water quality program,

Any changes to ordinances, policies and procedures by the Permittees that impact the development community will be determined during the stakeholder process that begins in January 2008.

Post-Construction Runoff Management Program

The Permittees agreed in the letter of June 12, 2007 that certain enhancements to the Post-Construction Runoff Management Program were necessary to comply with the requirements in NDEP's May 2, 2007 letter. These required enhancements are summarized as follows.

- Develop and implement planning procedures and other strategies which include a combination of structural and/or non-structural BMPs for new commercial and residential areas, appropriate for the Permittees' community;
- Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
- Ensure adequate long-term operation and maintenance of BMPs.

In order to address these issues the Permittees formed two new working groups - the Development Guidelines Working Group (DGWG) and the Detention Basin Working Group (DBWG), each reporting to the SQMC. The mission of the DGWG is to recommend components of a Post-Construction Program that would be effective in Las Vegas Valley and meet the requirements specified by EPA and NDEP. The mission of the DBWG is to investigate the feasibility of retrofitting existing regional detention basins to improve their water quality performance as part of the Post-Construction Program.

The progress of each working group is detailed in the attached "Post-Construction Runoff Program Development – Summary and Status" report. The role of these working groups was to research the pertinent issues, determine pros and cons of optional courses of action, and prepare recommendations for the SSWG and SQMC. The majority of this work has been completed; remaining issues will be addressed over the next 2 to 3 months. Activities conducted to date include:

- Researched post-construction runoff management programs (policies, procedures, BMPs) being implemented in other Southwest U.S. communities
- Developed recommended program objectives for site- and development-level runoff quality and quantity
- Reviewed potential program approaches and philosophies (i.e., prescriptive, non-prescriptive, guidance-based) and developed recommendations and alternative options
- Reviewed potential structural and non-structural BMPs that could be effective in arid environments such as the Las Vegas Valley and prepared recommendations
- Reviewed existing local ordinances and development codes and other municipal and regional regulatory mechanisms (e.g., CCRFCD Hydrologic Criteria and Drainage Design Manual) for potential conflicts or obstacles to implementing recommended post-construction program elements
- Assessed the need for new ordinances to implement a post-construction program, and studied the feasibility of adopting EPA's model stormwater ordinance to assist in accomplishing this
- Discussed logistical, regulatory, and financial issues associated with inspection, maintenance and enforcement of post-construction BMPs on public and private property
- Determined that retrofitting existing regional detention basins would not be a recommended element of the Post-Construction Program at this time

Because the SQMC and the local governments have determined that the stakeholders must be involved in any policy decisions, details of the final proposed Post-Construction Program will be developed by the SSWG. The DGWG and DBWG will serve as technical and administrative resources to the SSWG during the course of the stakeholder process.

Industrial Runoff Management Program

The following requirements were specified in NDEP's May 2, 2007 letter.

- (a) Develop an inventory and plan for industrial facilities that are or may be contributing a substantial loading to the MS4;
- (b) Revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities.

In the SQMC letter dated June 12, 2007 it was reported that each of the permittees had or was in the process of implementing industrial site inspection programs that meet the MS4 permit requirements. In summary:

- The City of Las Vegas industrial waste/pretreatment program oversees approximately 1,000 industrial sites, 700 restaurants, and specific sites identified as Section 313 facilities. The City routinely inspects these facilities. All such inspections at applicable facilities include a stormwater inspection per an established checklist. No industrial sites beyond those listed above have been determined to contribute a substantial load to the MS4.
- The City of North Las Vegas currently routinely inspects all industrial facilities covered under its industrial pretreatment program, consisting of over 600 industrial sites, 300 restaurants, Section 313 facilities, and all facilities requiring a business license inspection within its jurisdiction. No industrial sites beyond those listed above have been determined to contribute a substantial load to the MS4.
- The City of Henderson utilizes Building and Fire Safety Department, Fire Safety Inspectors to conduct inspections at approximately 300 facilities that were identified by the City with the potential to contribute a substantial pollutant loading to the MS4. The inventory is based on the need for acquiring and maintaining a renewable Fire Permit under Chapter 27 of the International Fire Code (IFC), as well as handling and storing materials that may pose a threat to storm water quality. This chapter of the IFC also provides the legal authority for entering the facilities, conducting stormwater inspections, and enforcing the requirements for implementing storm water quality best management practices. Facilities requiring a business license are inspected and added to the inventory for annual inspection if found to have the potential to contribute a substantial pollutant loading to the MS4 under Chapter 27 of the IFC.

- Clark County has been inspecting Section 313 facilities and other selected facilities, and has now developed criteria to identify other industrial sites that “are or may be contributing a substantial loading to the MS4.” The criteria and schedule for expanding the County’s industrial inspection program are described in the attached “Strategy for Expansion of Industrial Inspections for Stormwater Pollution Prevention Planning in Unincorporated Clark County under the NPDES MS4 Permit.” Application of these criteria to County industrial sites will satisfy the requirements of Items (a) and (b).

Operation and Management of Treatment Systems and Controls

The following requirements were specified in NDEP’s May 2, 2007 letter.

- (a) Provide a plan to address or remove accumulated sediments in regional detention basins;
- (b) Develop and implement a specific schedule and protocol for inspecting and cleaning regional detention basins.

The Permittees are in compliance with these requirements, based on the following accomplishments.

- As reported in our letter of June 12, 2007, CCRFCD has an existing Operation and Maintenance (O&M) Manual that guides inspection and removal of sediment and debris from regional detention basins. This Manual is used by CCRFCD and the MS4 Permittees to determine plans, schedules and procedures for cleaning regional detention basins and other regional flood control facilities. Details are provided in the attached “Operation and Maintenance of Treatment Control Systems – Summary and Status” report.
- CCRFCD provides annual financing for maintenance of regional flood control facilities, assuring a dependable funding source for this program.
- Local entities conduct biannual inspections (“Wash Walks”) of their above-ground drainage facilities, noting those in need of maintenance and sediment removal. Similar inspections are performed after major storms.

No additional plans, programs or activities are required to comply with this requirement.

Schedule Status

NDEP established a deadline of June 19, 2008 for implementing the MS4 permit program enhancements proposed by the Permittees. All issues related to the Industrial Runoff Management Program and the Operation and Management of Treatment Systems and Controls requirements either have already been completed or, in the case of the County’s industrial program enhancements, will be implemented by the June 19, 2008 deadline.

Because it will not be possible to get the SSWG up and running until January 2008, we expect it will take longer to have all the new elements for the Construction Site Program and the Post-Construction Program identified, approved, and implemented by each of the local governments. Because we believe that stakeholder involvement is critical to the success of whatever program components are adopted, we may need to request an extension in the June 19, 2008 deadline for those two programs. We currently anticipate that it will take 6 to 12 months to move through the stakeholder process, develop specific program improvements, and then write and adopt the necessary policies, regulations and/or ordinances. We will provide NDEP with a written status of the process by May 1, 2008, and if necessary, request an extension to the June 19, 2008 deadline and propose an alternate schedule at that time. In the meantime, the Permittees are committed to implementing individual program enhancements as early in the process as possible. For example, construction site inspection programs have already been improved as a result of the work of the CPWG, and the City of Las Vegas is planning to submit revised ordinances to its City Council by June 19, 2008 to give it the necessary authority to implement future elements of the Construction Site Program and the Post-Construction Program.

Supplemental Information

The Permittees would like to take this opportunity to remind you of several factors that affect runoff and water quality conditions in Las Vegas Valley and that will influence the programs we will be developing over the next few months. Some of these factors have been described in our previous Annual Reports, but they bear repeating as we move into detailed program development. The attached document "Supplemental Information Related to Las Vegas Valley Runoff and Water Quality" provides details on the following important factors.

- Lower Las Vegas Wash Channel Stabilization – erosion control structures have been planned and constructed to reduce channel erosion and encourage sediment deposition upstream of Las Vegas Bay and Lake Mead, thereby protecting downstream receiving water quality
- Las Vegas Valley Watershed Advisory Committee – a new regional committee has been formed that will take a holistic, proactive approach to addressing water quality issues in Las Vegas Valley
- Drought Ordinance – this County-wide ordinance stipulates measures to reduce turf and impose watering restrictions, thereby reducing the transport of pollutants from residential and commercial landscaping to the drainage system
- Regional Flood Control Facilities – detention basins and hard-lined channels have greatly reduced the generation and transport of sediment and related pollutants from drainageways

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- Arid Southwest Conditions – low rainfall, isolated storms and alluvial fans create unique conditions that should dictate the nature of local stormwater quality programs in Las Vegas Valley

Let me or any of the other Permittees know if you have any questions or concerns regarding our plan for improving the Las Vegas Valley MS4 permit program in response to your direction.

Respectfully submitted,



Kevin Eubanks, P.E.
Assistant General Manager, Clark County Regional Flood Control District
Chairman Alternate, Stormwater Quality Management Committee

KLE:jb

**Las Vegas Valley MS4 Permit
Stakeholder Involvement Process – Summary and Status
December 19, 2007**

The Permittees determined that stakeholder involvement in MS4 program development would be critical to finding technically feasible solutions and gaining the community support necessary to implement new policies and procedures. The Permittees concluded that a much more aggressive stakeholder involvement program was needed. This is especially true because of the possible need for revising or adopting new ordinances and regulations to meet the requirements imposed by NDEP. The involvement of community stakeholders in the program development process is consistent with EPA's establishment of Public Outreach/Involvement as one of the six minimum control measures for Phase 2 communities.

It is stressed that the Permittees are committed to meeting the objectives for implementing ordinances, programs and policies as set by NDEP; the stakeholders group will be used to ensure that the specifics of those ordinances, programs and policies are appropriate for the Las Vegas Valley region and will receive community support.

A consultant (Strategic Solutions) was hired in September 2007 to facilitate the overall stakeholder process. After developing a framework for the stakeholder involvement process and making initial stakeholder contacts, an open house for interested stakeholders was held on November 15, 2007 to solicit participation in an active stakeholder process. The Stormwater Stakeholder Working Group (SSWG) will formally convene in January 2008, and will be comprised of representatives of the development, environmental and consulting engineering communities as well as the Permittees themselves. At present it appears that the group will consist of 12-15 formal members representing these categories, but other interested parties will be encouraged to attend meetings and contribute to the discussion. It is anticipated that the SSWG will meet monthly until program development is complete.

The mission of the SSWG is to develop recommendations to the SQMC in the following main areas.

- Construction Program
 - Ordinances and regulations for erosion and sediment control
 - BMPs for controlling construction site runoff
 - Construction site inspection programs

- Post-Construction Program
 - Ordinances and regulations for site development and permanent BMPs
 - Programs and policies at local and regional levels
 - BMPs for new development and redevelopment
 - Maintenance responsibilities
 - Funding mechanisms

The stakeholders will be tasked with recommending specific locally acceptable methods of complying with the general objectives stipulated by NDEP. The stakeholders will be asked to prioritize the issues they would like to address. Other issues outside the realm of the stakeholders group will be addressed by the other technical working groups, the SQMC, or the individual Permittees.

The SSWG will cooperate with the other working groups to develop recommendations on feasible and acceptable program changes, and provide those recommendations to the SQMC for possible adoption. The SQMC will be the final authority on committing the Permittees to specific courses of action. This process is very similar to that used to develop the successful air quality management program in Clark County.

Strategic Solutions believes, based on past experience on similar projects with these stakeholder groups, that the stakeholder participation process to develop the recommended Construction and Post-Construction Program modifications will require 6 to 9 months to complete. Thus the stakeholder involvement process is expected to run from January through June or September 2008.

**Las Vegas Valley MS4 Permit
Construction Site Runoff Management Program Development –
Summary and Status
December 19, 2007**

In the letter dated June 12, 2007, the Las Vegas Valley Municipal Separate Storm Sewer System (MS4) Permittees through the Storm Water Quality Management Committee (SQMC) agreed to investigate and introduce enhancements to the MS4 permit program to meet requirements specified in Nevada Division of Environmental Protection's (NDEP) letter of May 2, 2007. The SQMC formed working groups consisting of representatives from each of the co-permittees to address the details of the program improvements for the Construction Site Program, the Post-Construction Program, and the retrofitting and design of regional detention basins to provide additional water quality benefits. The SQMC committed to providing a report on the proposed program revisions and a schedule for implementation to NDEP by December 19, 2007.

This document is intended to provide an update of the activities of the Construction Program Working Group (CPWG), which engaged in a comprehensive and systematic process of reviewing the current construction site inspection programs to identify changes and additions needed to bring the Las Vegas Valley into compliance with the MS4 permit. Please note that there are some elements of the construction site inspection program that have not been addressed because they require broad-based community support for the entire program to be successful. The construction site inspection program revisions required to bring the program into compliance with the MS4 permit are as follows.

- (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;
- (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;
- (c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;
- (d) Procedures for site plan review which incorporate consideration of potential water quality impacts;
- (e) Procedures for receipt and consideration of information submitted by the public;
- (f) Procedures for site inspection and enforcement of control measures.

To address these requirements the CPWG reviewed the NDEP letter and the EPA audit report to determine the deficiencies in the current program, and agree upon a common understanding of the required program changes. The group decided to tackle the deficiencies in the internal processes of each construction inspection program to make them equivalent for the Las Vegas Valley. The City of Henderson construction inspection program was used as the model for updating the City of Las Vegas, City of North Las Vegas, and Clark County processes and procedures. Each entity identified

standard turn-around time, staff responsible for inspections/re-inspections, tracking procedures and coordination between entities. These changes were implemented by each permittee so that the current construction inspection programs are similar in all areas of the Las Vegas Valley.

The CPWG then moved on to address the requirements outlined in the NDEP letter. Specifically, the CPWG is addressing the technical and administrative aspects of the following issues:

- The review of current local ordinances for authority to address the requirements in the NDEP letter.
- The feasibility of a uniform storm water quality ordinance or regulation that can be adopted by all Permittees to require implementation of erosion and sediment control practices, as well as to address the authority and enforcement required by the Phase II rules.
- Discuss whether current CCRFCD guidance manuals and regulations can or should be used to promulgate the construction site runoff program.
- Review improvements to current construction site inspection practices, if warranted, to assure compliance with proposed new local construction ordinances.
- Discuss enforcement mechanisms to be implemented on either a local or regional level, and include these mechanisms in draft ordinance language.
- Discuss internal procedures for assuring that contractors have received coverage under the NDEP Storm Water General Permit NV100000 prior to issuing a grading permit.

The CPWG representatives reviewed current local ordinances for authority to address the requirements outlined in the NDEP letter. All of the permittees have health and sanitation ordinances that address construction site housekeeping measures by controlling the storage and disposal of construction materials, waste, and trash. The ordinances prohibiting the discharge of any pollutant to the MS4 can also be used to prevent construction materials from being discharged from the construction site. The review of public information is also already adequately addressed in the current storm water programs. General public complaint processes are implemented at the local level by each permittee through use of web sites and hotlines, as well as at a regional level by Clark County Public Response Office and Southern Nevada Health District.

New ordinances, modifications to existing ordinances, and/or development of other regulatory mechanisms to require verification of coverage under the NDEP general permit NV100000, development and implementation of erosion and sediment control measures by contractors, and the inspections and enforcement authority for these measures are required for the permittees to implement the storm water quality program. The CPWG has reviewed the EPA model storm water ordinance for application and conformity for use by the permittees. The CPWG has determined that the model ordinance is a good start in developing the legal authority for implementing a storm water quality program, but any changes to ordinance, policy and procedure by the permittees

that impact the development community will be determined during the stakeholder process that begins in January 2008.

**Las Vegas Valley MS4 Permit
Post-Construction Runoff Program Development –
Summary and Status
December 19, 2007**

The Permittees agreed that certain enhancements to the Post-Construction Runoff Management Program were necessary to comply with the requirements in NDEP's May 2, 2007 letter. The Permittees' letter of June 12, 2007 listed the following activities to be performed.

- (a) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the Permittees' community;
- (b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law;
- (c) Ensure adequate long-term operation and maintenance of BMPs.

Incorporate controls that provide for or address:

- (d) Runoff from commercial and residential areas;
- (e) Planning procedures;
- (f) Design standards, BMP fact sheets or guidance manuals that include site design;
- (g) Tracking and maintenance for structural BMPs;
- (h) Training and education;
- (i) Estimates of expected reductions in loads.

In order to address these issues the Permittees formed two new working groups - the Development Guidelines Working Group (DGWG) and the Detention Basin Working Group (DBWG), each reporting to the SQMC. The mission and progress of each working group is detailed below.

Development Guidelines Working Group

The DGWG is comprised of engineers, planners, and environmental specialists from each of the Permittees. The DGWG is tasked by the SQMC with the following responsibilities:

- Determine which post-construction planning measures, such as low impact development, would be appropriate for, and implementable in, the Las Vegas Valley MS4 region.
- Investigate impacts of changed planning policies and guidelines on community services (e.g., plan reviews, inspections), developers, and land values.
- Determine changes to ordinances, policies or guidelines that will be required to implement the recommended planning measures, and prepare draft language for new or revised ordinances, policies or guidelines.
- Determine whether regional agencies (e.g., CCRFCD, DAQEM) can provide planning authority, or whether this must be done at the local level.

- Determine recommended structural or non-structural approaches to addressing stormwater runoff from commercial and residential areas in Las Vegas Valley.
- Determine appropriate strategies for ensuring adequate long-term maintenance of post-construction BMPs.

The DGWG has been meeting approximately twice per month since June 2007, with from 12 to 18 attendees per meeting. The DGWG has been working, to one degree or another, on virtually all of the above issues. Additional local government staff members with specific types of expertise (e.g., ordinance applications, erosion coefficient calculation) have been brought into the discussion as needed. The emphasis of the DGWG has been on:

- (1) ensuring appropriate local government staff members are educated and fully informed on local and regional stormwater issues and programs so that each can most effectively bring these issues and options to the attention of their respective managements and to the public at large;
- (2) exploring and establishing, as deemed appropriate, local government preferences for future program components, evaluating how these options would affect and/or require changes to current procedures or regulatory mechanisms for implementation; and
- (3) preparing recommendations and issue summaries first for consideration by the SQMC, and then for discussion, evaluation, and consideration by the SSWG.

Within this context, the DGWG and its members representing each Permittee have accomplished the following.

- Researched post-construction runoff management programs (policies, procedures, BMPs) being implemented in other Southwest U.S. communities, and considered their applicability to Las Vegas Valley.
- Developed recommended program objectives for site- and development-level runoff quality and quantity (e.g., local BMP design storm, pre-development versus post-development runoff peak and volume targets, water quality goals).
- Reviewed potential program approaches and philosophies (i.e., prescriptive, non-prescriptive, guidance-based) and developed recommendations and alternative options.
- Reviewed and evaluated 28 potential structural and non-structural BMPs that could be effective in arid environments such as the Las Vegas Valley and prepared recommendations.
- Reviewed existing local ordinances and development codes (e.g., standards for landscape and parking design) and other municipal and regional regulatory mechanisms (e.g., CCRFCD Hydrologic Criteria and Drainage Design Manual) for potential conflicts or obstacles to implementing recommended structural and non-structural post-construction program elements.
- Assessed the need for new ordinances to implement a post-construction program, and studied the feasibility of adopting EPA's model stormwater ordinance to assist in accomplishing this.

- Discussed logistical, regulatory, and financial issues associated with inspection, maintenance and enforcement of permanent post-construction BMPs on public and private property.
- Documented activities and recommendations in a working draft of a report entitled, “Supporting Information for Preparation of the Proposed Post-Construction Program for New Development and Significant Redevelopment.”

The majority of this information has been presented to the SQMC for review and will be provided to the SSWG for its deliberations on the proposed Post-Construction Program components. Once the SSWG is fully functioning, the DGWG will become a technical resource to the SSWG on issues related to the Post-Construction Program.

Detention Basin Working Group

The Permittees formed the DBWG to research methods for improving the water quality performance of existing and future regional detention basins. The objective was to determine whether detention basin retrofitting should be proposed as a part of the Post-Construction Program. The DBWG was tasked with formulating a pilot program for investigating effective detention basin retrofit approaches, including construction and monitoring of basin retrofits. The DBWG studied the potential benefits and costs of retrofitting regional detention basins, and researched potential retrofit opportunities at existing regional detention basins. After review, the DBWG recommended to the SQMC that the detention basin retrofit program not be pursued as part of the Post-Construction Program at this time. It is possible that the SSWG could decide that this concept is worth further consideration, in which case it may be re-evaluated. It is also possible that this strategy could be revisited as part of other regional efforts to address Las Vegas Valley water quality on a watershed basis (e.g., Las Vegas Valley Watershed Advisory Committee).

Strategy for Expansion of Industrial Inspections for Stormwater Pollution Prevention Planning in Unincorporated Clark County under the NPDES MS4 Permit

1. BACKGROUND

Clark County, along with the Clark County Regional Flood Control District and the cities of Henderson, Las Vegas, and North Las Vegas, is a co-permittee on the Las Vegas Valley Municipal Separate Storm Sewer Systems (MS4) Permit to the Nevada Division of Environmental Protection (NDEP) under the National Pollution Discharge Elimination System (NPDES) Program of the federal Clean Water Act.

A component of the MS4 permit is to inspect industrial facilities contained in the Las Vegas Valley to mitigate pollutant discharges into receiving waters of the United States (i.e., Las Vegas Wash, Lake Mead, Colorado River). For unincorporated Clark County, the approach to implement this program is through an interlocal contract between the Department of Air Quality and Environmental Management (DAQEM) and the Clark County Water Reclamation District (CCWRD). Through this contract, the CCWRD wastewater pretreatment inspector(s) also inspect industrial sites and facilities located in unincorporated locations in the valley required to plan for and implement stormwater pollution prevention monitoring and controls.

Section 4.8 of the MS4 Permit categorizes these industrial facilities as:

- Municipal landfills
- Hazardous waste treatment, disposal, and recovery facilities
- Industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (referred to herein as “313 sites”), and
- Industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.

Until recently, CCWRD was only directed by DAQEM via the interlocal contract to inspect and report on 313 sites.

2. REQUIREMENTS TO EXPAND INSPECTIONS

In September 2005, an audit of the MS4 Permit was conducted by the US Environmental Protection Agency (EPA) on the implementation of the stormwater management program in the Las Vegas Valley. With respect to Clark County’s industrial facility inspection program, the audit yielded the following findings:

Clark County has not implemented a program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities that are contributing a substantial pollutant loading to the MS4. (Permit Section 4.8),

and,

The co-permittees and NDEP do not coordinate activities to control discharges from industrial facilities. The co-permittees’ inspectors do not verify if the facilities are subject to nor have submitted a Notice Of Intent (NOI) or developed a Storm Water Pollution Prevention Plan (SWPPP) in compliance with NDEP General Permit NVR050000 for Storm Water Associated with Industrial Activity (NDEP Industrial General Permit).

While these audit findings, in the opinion of DAQEM, are not completely accurate, Clark County recognizes the need to improve upon and expand its industrial stormwater inspection program.

Subsequent to the EPA audit and a letter report from EPA to the MS4 co-permittees of its overall findings (dated March 30, 2007), NDEP followed with its own letter to the co-permittees (dated May 2, 2007), which includes the following requirements with respect to industrial inspections:

3. *For storm water runoff management from areas of industrial activity, please provide the following:*
 - a. *Develop an inventory and plan for the industrial facilities that are or may be contributing a substantial loading to the MS4*
 - b. *Revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities; and*
 - c. *Please complete these revisions and provide supporting documentation to NDEP no later than December 19, 2007, and*
 - d. *Implement the revisions by June 19, 2008.*

These EPA and NDEP findings should be evaluated in the context that Section 4.3.2 of the NPDES MS4 permit also states that,

“...if requested, the (co-)permittees shall assist NDEP in developing lists of industrial facilities subject to stormwater permitting requirements within their boundaries.”

3. STRATEGIES TO EXPAND INDUSTRIAL STORMWATER INSPECTIONS

DAQEM has devised a multifaceted strategy to implement an expansion of its industrial stormwater inspection program. Its elements include the following

- a) Development of a more extensive inspection form
- b) Increase in funding for, and expansion of the role of, the CCWRD inspection program, including modifying the interlocal contract to reflect these changes,
- c) Categorizing and prioritizing the industries, facilities, and sites to be inspected to include those that (1) are currently being inspected other under programs, but have not been reported with respect to stormwater pollution mitigation (e.g., grease interceptors), (2) can be inspected in the near-term and/or at little or no addition cost with respect to the current interlocal contract, (3) can be inspected in the longer term, likely incurring significant additional costs.
- d) DAQEM (with its CCWRD partner) cannot operate in a vacuum in this endeavor. Required is also close coordination with NDEP (see above) to include ready access to (1) NDEP inspection strategies in the Las Vegas Valley MS4 area, (2) NDEP schedules for its industrial inspections, (3) results of those NDEP inspections, and (4) an up-to-date online NPDES Industrial Stormwater Permit database maintained by NDEP. In addition, it is also critical to have access to an accurate and relevant EPA Toxic Release Inventory (TRI) database of the 313 sites to properly determine the most critical sites and facilities to inspect (see <http://www.epa.gov/triexplorer/facility.htm>).

Each of these strategies is described below. In addition, the aforementioned categorization and prioritization of industries to be inspected are summarized in Table 1.

3.a. Updating Industrial Stormwater Inspection Form

As a prelude to implementing an overall strategy to expand the Clark County industrial stormwater inspection program, DAQEM in consultation with CCWRD, has greatly modified the current inspection form. With the completion of several 313 inspections by CCWRD, the need to modify the form became evident. The original inspection form was primarily designed to document that a given industrial facility was inspected and did not provide for any details pertaining to observations found or actions taken, creating the need for additional and oftentimes lengthy narratives be composed by the inspector.

To both streamline and make more consistent this documentation process, DAQEM researched forms used by other MS4 industrial stormwater inspection programs nationwide, and tailored a new form for our local conditions. The updated form (see Attachment 1), designed in consultation with the CCWRD inspection staff, is intended to guide the inspector through the industrial process with more “check boxes,” to reduce the need for lengthy narrative comments, and to ensure consistency among inspections. This new form is also intended to increase the efficiency of the inspections by reducing the time required to perform and report on each site inspection. This form has been in used by the CCWRD inspection staff since July 2007.

3.b. Expand Scope and Funding of CCWRD Interlocal Contract

Various strategies were evaluated by DAQEM to expand the industrial stormwater inspection program. It has been determined that currently the most expeditious and efficient means of accomplishing this task is to increase the funding for and the role of CCWRD in the inspection program. This will entail a significant modification to the current interlocal contract to reflect these changes, a task that is in the final stages of completion subsequent to review, changes, and concurrences by CCWRD. In addition, the sum of \$80K has been budgeted for FY08 to fund a full-time employee by CCWRD to function in the stormwater inspection program, for which CCWRD is currently in the process of increasing its inspection staff to account for this eventuality.

It is also the intent of DAQEM to, as necessary, work with both the current experienced CCWRD staff and with NDEP to ensure that any new inspector(s) have the proper training to perform stormwater inspections at industrial sites. It is anticipated that a PowerPoint module and on-site training will be used to ensure all facets of the inspections are covered. Modification to previously developed training materials will be employed to accomplish this.

In addition, a formalized a process flow for communications and compliance/enforcement actions both internally (i.e., DAQEM, CCWRD inspection staff, County Code Enforcement staff) and externally with NDEP is in the developmental stages and will be implemented as the new interlocal contract is implemented.

3.c. Categorizing and prioritizing Inspection Sites

Based on MS4 permit requirements and, in consultation with CCWRD, DAQEM has developed a strategy to inspect industrial sites for stormwater compliance based on various factors to most

likely to discharge, cost-effectiveness, degrees of difficulty to plan for and execute. Section 3.c.1 identifies those industrial facilities that are currently being inspected other under programs, but have not previously been reported with respect to stormwater pollution mitigation. Section 3.c.2 identifies those industrial categories and sites for which inspections could be best executed in the near-term, realistically within a 6 to 24 month timeframe. Section 3.c.3 discusses those that would take longer to plan for and implement, reasonably in 2 to 5 years. In addition, Section 3.c.4 provides a status and proposed approach on the DAQEM-NDEP interactions in collectively achieving an improved industrial stormwater inspection program in the Las Vegas Valley.

3.c.1 Current Industrial Inspections under other Programs

- Grease trap inspections. The County, as a co-permittee, has not to this point, reported nor been credited in the annual MS4 report with the execution of the approximately ~2000 grease trap and interceptor inspections that CCWRD performs annually as part of its wastewater pretreatment inspection program. Grease trap inspections are an EPA-acknowledged stormwater pollution mitigation strategy. The only extra time and effort required is for DAQEM to devise a reporting format in which CCWRD will tally and report the pertinent metrics.
- Dovetailing/Piggybacking other ongoing inspection programs. DAQEM will attempt to piggyback on environmental programs managed by the valley's large government-operated or managed facilities. Examples are as follows:
 - McCarran International Airport conducts environmental inspections of its tenants (e.g., car rental, air carrier, fueling companies). The strategy is for DAQEM staff and/or a CCWRD inspector to conduct a review of the airport's inspection forms for stormwater compliance and to perform brief visual site inspections to validate the results of these inspections. The following is from the airport website: "*The Department of Aviation is committed to creating and maintaining a positive environment for the Las Vegas valley and has prepared a set of Environmental Directives which summarize federal, state, local, and airport environmental regulations that all airport tenants are expected to comply with while operating on airport property. The Directives outline Best Management Practices that help maintain the integrity of the airport environment (contact: Sydney Nitschke, 702-261-5166).*"
 - CCWRD to dovetail its Nellis Air Force Base pretreatment inspections with that of stormwater, similar to the airport scenario described above, even though Nellis AFB does its own stormwater inspections under a separate NPDES permit with NDEP.

3.c.2 Near-term Inspection Strategies

- 313 sites. CCWRD will inspect all identified 313 sites, per the current interlocal contract and funding, and based on best available data on the TRI website. A schedule will also be crafted to begin re-inspecting 313 sites previously completed by CCWRD
- CCWRD Pretreatment industrial sites. CCWRD will include the relevant facilities on which it performs routine pretreatment inspections for wastewater discharges (e.g., Meadow Gold Dairy) that would fit within the NPDES permit requirements listed above. Since CCWRD inspectors regularly visit those sites for wastewater pretreatment inspections, it would be expeditious to "piggyback" a stormwater inspection at common industrial facilities that also pose the potential to release pollutants into the MS4. It will likely reduce the costs for these inspections as compared to the stand-alone inspections.

(Note: One of the Clark County School District (CCSD) school bus yards is a pretreatment facility and was inspected by CCWRD in July 2007. DAQEM, with the support of NDEP, investigated the status of CCSD facilities for inspection in light of the fact that it is exempt from being required to file for a NPDES permit.

- NPDES industrial permit holders. DAQEM will evaluate the NPDES-permitted industries by reviewing the NDEP website containing all permits for Clark County. Identify and select relevant SIC code industries for inclusion in the local inspection program. (Note: DAQEM and CCWRD, in conjunction with NDEP, may also attempt to identify “non-filers” (i.e., businesses that should, but have not filed an NOI under the NPDES industrial stormwater general permit) via one or more of the strategies described herein for inclusion in the industrial inspection program.
- Municipal Landfills/Hazardous Waste Facilities. Few, if any of these facilities are anticipated to be located in the Las Vegas Valley. No municipal landfills are currently operating within the MS4 and DAQEM will review with NDEP whether Republic Services refuse transfer stations apply. In addition, any industries involved in waste recycling (e.g., motor or cooking oil, antifreeze, scrap metal) will be identified and evaluated for inclusion in the inspection program.

3.c.2 Long-range Approaches

- Transportation-related operations and other priority facilities. Irrespective of SIC codes, inspection priority should be given to:
 - Auto repair and maintenance facilities
 - Transportation fleet facilities/services such as trucking companies, bus yards (including CAT), rail yards, courier services (e.g., DHL, FedEx, UPS), police department yards, truck stops, taxi yards, and auto dealers
 - Construction suppliers storing/handling large volumes of paints and adhesives
 - Electroplaters (only one operating in unincorporated county @ Arville/Tropicana)
- Industrial park inspection approach. Conduct inspections on an "industrial park" basis, rather than (or in tandem with) selecting sites by SIC categories. This approach is to inspect an area on a holistic basis or in a systemic manner, rather than by “cherry-picking” certain industries in a given area and ignoring others that may have an equal potential to pollute. In addition, inspecting many industries in one locale would reduce time and cost of inspections per site. One example is at the Las Vegas Motor Speedway complex, where in addition to the speedway itself, surrounding it are several auto manufacturing and other auto related businesses.
- Federally operated facilities. Investigate, with the support of NDEP, whether the county has the jurisdiction to inspect federal facilities (e.g., US Postal Service and BLM yards)
- Review large- and small-quantity generators lists. These lists, maintained by NDEP, will be reviewed by DAQEM and CCWRD to determine if any match those inspected by CCWRD for wastewater pretreatment; those requiring them, will be inspected.
- Review Clark County Fire Department (CCFD) Business Licensing Disclosure Forms. DAQEM will identify for possible inclusion of the industrial inspection list, via CCFD forms submitted as part of the business licensing process, businesses claiming to house and/or handle hazardous materials. Non-filers may also be identified in this process.

Table 1. Summary of Approaches to Expand Stormwater Industrial Inspection Program

Timeframe to Implement	Inspection Approach/ Industry Category	Activities/Level of Effort to Perform	Estimated Number of Facilities
Immediate (ongoing)	Grease trap inspections	CCWRD desktop data compilation	~2000 operations
	Dovetail/piggyback on other ongoing inspection programs	Coordinate with respective facility (e.g., McCarran IA, Nellis AFB*) ES&H manager; significant effort in coordination and data review, but not so for actual on-site inspection time	2 to 4 very large facilities
Near-term (6 to 24 months)	All identified 313 sites	CCWRD to inspect all sites on TRI website	<5
	CCWRD pretreatment sites	CCWRD to identify facilities also appropriate for stormwater inspections; effort level less than current inspections	10 to 20
	NPDES industrial permit holders	CCWRD and DAQEM to identify most critical facilities to inspect; inspection effort equivalent to those completed.	~20
	Municipal landfills/hazardous waste facilities	DAQEM to identify any appropriate facilities in landfill, recycling, and similar categories	<5
	Transportation-related and other priority facilities	DAQEM and CCWRD to identify most critical facilities to inspect	~50
	Clark County School District (CCSD) bus yards	DAQEM to work with NDEP/CCSD to determine jurisdictional issues and inspection approach	3
Long-term (2 to 5 years)	Industrial park approach	Significant time to be expended identifying industrial park locations and appropriate industries within the park to inspect, and in notifying/coordinating with owners to perform inspections	Several dozen businesses
	Corporate Yards	DAQEM to work with County departments to determine inspection and reporting approaches	~15
	Federal facilities	DAQEM to work with NDEP and respective facility to determine jurisdictional issues/inspection approach	~5
	Review large- and small-quantity generators lists	DAQEM and CCWRD to identify most critical facilities to inspect	10 to 50
	Review CCFD business licensing forms	DAQEM to confer with CCFD to identify most likely facilities to inspect.	~25

* CCWRD pretreatment inspector conducted a cursory stormwater inspection of Nellis AFB during a routine pretreatment inspection on July 27, 2007.

3.c.4 Coordination with NDEP

As lists of sites to inspect are developed by the above approaches, listed sites will be compared to NPDES-permitted facilities pretreatment facilities and determine any overlap. Required is also close coordination between DAQEM (with its CCWRD partner) and NDEP to include ready access by DAQEM to (1) NDEP inspection strategies in the Las Vegas Valley MS4 area, (2) NDEP schedules for its industrial inspections, (3) results of those NDEP inspections, and (4) an up-to-date online NPDES Industrial Stormwater Permit database maintained by NDEP.

This process has already been initiated by NDEP providing Clark County (i.e., DAQEM) and the other co-permittees user and password access to its online database at <http://ndep.nv.gov/bwpc/industrialnoi/signin.aspx>. The database not only lists filers, it also provides data on previous NPDES inspections by NDEP and cursory results of the inspections.

Attachment 1

Updated

**Industrial Site Inspection Checklist in Clark County
Summary Sheet**

Las Vegas Valley Municipal Separate Storm Sewer System Permit Industrial Facility Monitoring and Control Program

Industrial Site Inspection Checklist in Clark County Summary Sheet

Facility Name/Address:	
Type of Industry:	Date / Time of Inspection:
Facility Contact Person:	<input type="checkbox"/> First Time Inspection <input type="checkbox"/> Re-inspection
Facility Contact Person Title/Phone:	Inspector's Name:
Facility Environmental/Plant Manager (if different): Name: Title: Phone:	Phone #: Affiliation:

Inspection Criteria <i>(Please explain any "Yes" box checked and attach photograph)</i>	Yes	No
1. Is there evidence of any process wastewater that has been or is being discharged from the site into the storm drain or public right-of-way?		
2. Have any pollutants run off the site into the public right of way?		
3. Do any on-site pollutants have the potential to run off the site?		
Actions Taken	Yes	No
1. Informed facility contact of need to correct problem		
2. Observed facility contact correcting problem		
Comments: <i>(include location/description of problems observed/if enforcement is deemed necessary; continue on back)</i>		



Copies of this form should be faxed to Joe Boteilho, Clark County Public Response Office at (702) 455-2080 if local ordinance violations are observed or Chad Schoop, Nevada Division of Environmental Protection at 486-2863 if onsite housekeeping practices need attention to prevent offsite impact.

**INDUSTRIAL SITE STORMWATER POLLUTION PREVENTION
INSPECTION CHECKLIST**

Jurisdiction of Facility:

- Clark County (unincorporated)
- City of Las Vegas
- City of Henderson
- City of North Las Vegas

Type of Industrial Activity:

- Active/inactive mining operation(s)
- Hazardous waste treatment, storage, or disposal facility
- Landfill, land application site, open dump
- Recycling (metal scrap yard, battery reclaimer, salvage yard, automobile junkyard, other)
- Steam electric power generating facility
- Transportation facility:
 - Vehicle maintenance shop (e.g., vehicle rehab., mechanical repair, painting, fueling, lubrication)
 - Equipment cleaning operation
 - Airport (including deicing operations)
- Section 313, Title III of SARA (1986)
- Other (facility with potential for substantial pollutant loading to storm sewer system)

Comments:

Owner Information:

Name _____
 Address _____
 Telephone number(s) _____
 Fax _____
 E-mail _____

Operator Information (if different than above):

Name: _____
 Address: _____
 Telephone number(s) _____
 Fax _____
 E-mail address _____

Facility/Site Information:

Name _____
 Address _____
 Latitude/longitude of the site: _____ / _____
 Approximate facility/site area: _____ acres

Legal Status of Facility: (circle one)

Private, federal, state, county, city, other public, tribal, other: _____

This site is an: existing facility new facility new operator of existing facility

NPDES Permit Status:

	Yes/No/ NA	Comments
Does the business have a NPDES Industrial Stormwater Permit with NDEP for this facility? If yes, permit # (if available): _____ Expiration date: _____		
If permitted, does the facility have a SWPPP?		
Are site maps with BMPs and other relevant information available?		

Has facility been previously inspected for stormwater compliance? Yes / No

If yes, last inspection date: _____

If yes, briefly describe any noteworthy findings:

Name of the receiving water (closest named wash): _____

Distance/direction to receiving water: _____

Comments:

Description of Potential Pollutants and Sources:

Do outfalls from the facility contribute stormwater via discharges or off-site connections to the municipal separate storm sewer system? Yes / No

Comments/descriptions of outfall(s):

Exposed Materials (materials handled, stored, processed, treated, or disposed of in a manner that allows for exposure to precipitation or runoff):

	Yes/No/ NA	Comments
Are exposed materials stored in drums, barrels, tanks, and similar containers properly closed/sealed, in good structural condition?		
Can exposed materials reasonably be expected to add pollutants to the storm sewer system from:	1) Rain events and related stormwater discharges?	
	2) Dry weather discharges?	
Are there processing, storage, material loading/unloading, and/or other areas where significant materials are exposed to precipitation or runoff?		
Are employees trained/educated on BMPs for exposed materials?		

Facility structures (e.g., buildings, garages, storage tanks)

	Yes/No/ NA	Comments
Are structural control devices (BMPs) present and, if, so, designed to reduce pollution in stormwater runoff?		
Are there process wastewater treatment units (including ponds)?		
Are air treatment units (e.g., bag house) exposed to precipitation or runoff?		
Are surface water bodies (including wetlands) on the facility?		
Are there vehicle and equipment maintenance areas?		
Do physical features of the site influence stormwater runoff or contribute a dry weather flow?		
Are employees trained/educated on maintenance programs and BMP on facility and stormwater structures?		

Good Housekeeping Measures:

	Yes/No/ NA	Comments
Are areas of the facility that contribute or potentially contribute pollutants to stormwater discharges (e.g., areas around trash dumpsters, storage areas, loading docks, and outdoor processing areas) maintained in a clean and orderly manner?		
Are measures taken to eliminate or reduce exposure of garbage and refuse materials to precipitation or runoff prior to their disposal?		
Are employees trained/educated on good housekeeping measures?		

Spill Prevention and Response Measures:

	Yes/No/ NA	Comments
Can areas susceptible to pollutant spills potentially contribute pollution to stormwater discharges (i.e., are BMPs in place to prevent these occurrences)?		
Are procedures in place to minimize/prevent contamination of stormwater from spills (e.g., daily inspection for equipment leaks; installation of secondary containment structures around liquid storage tanks and drums; installation of overfill prevention devices on pumps and tanks; modification of material handling techniques; routine inspection of drums, tanks and other containers)?		
Are drums, tanks, and other containers clearly labeled and properly sealed or closed?		
Are hazardous waste containers that require special handling, storage, use, and disposal clearly marked?		
Is a Spill Prevention and Response Measures Plan readily available to facility personnel?		
Are materials available and equipment necessary for spill clean up?		
Is an inventory maintained of spill cleanup materials and equipment?		
Are employees trained/educated on spill prevention and response measures?		
Does pavement washwater where spills or leaks of toxic or hazardous materials have occurred contain detergents? Is the washwater properly disposed of?		

Erosion Control Measures:

	Yes/No/ NA	Comments
Are erosion prevention measures and controls in place to reduce soil erosion in areas of the facility that have ongoing erosion or potential for soil erosion (e.g., soil stabilization through vegetative cover; contouring slopes; paving; and installation of structural controls/BMPs).		
Are employees trained/educated on erosion control measures and BMPs?		

Structural Controls:

	Yes/No/ NA	Comments
Are physical structures (e.g., oil/water separators, catch basins, sediment/settling ponds, grass swales, berms) installed, as necessary, to reduce pollutants in stormwater discharges?		
Are stormwater structural controls maintained and inspected on a regular basis to prevent failures that could result in a discharge of pollutants?		
Are records maintained to document the estimated volumes of solids removed from catch basins, sediment ponds, and other similar control structures?		
Are employees trained/educated on structural control BMPs?		

Parking Lots:

	Yes/No/ NA	Comments
Are parking lots paved?		
Are parking lots adequately cleaned/swept?		
Are BMPs in place to mitigate pollutants in the parking lot from entering the storm sewer?		

Non-stormwater Discharges Requiring BMPs:

	Yes/No/ NA	Comments
Are BMPs implemented if needed to minimize impacts of contaminated discharges?		
Are non-stormwater sources (e.g., water used to wash vehicles, external building wash down water) combined with stormwater discharges from the facility and allowed to enter the separate storm sewer system? If so, are these authorized by NDEP*?		

*** Non-stormwater discharges that are significant contributors of pollutants shall be eliminated or authorized under a separate permit**

Other inspection information/documentation:

- Are additional pages/write-up attached? Yes / No
If yes, number of additional pages: _____
- Were photographs taken?
If yes, number of photos: _____
Provide photo frame number(s)/digital file ID(s) and description of each photo, below:

**Las Vegas Valley MS4 Permit
Operation and Management of Treatment Systems and Controls –
Summary and Status
December 19, 2007**

In its letter of May 2, 2007 to the MS4 Permittees, NPEP pointed out a perceived deficiency in the operation and management of regional detention basins in Las Vegas Valley. This was highlighted in part because the Permittees relied on the regional detention basins as a key component of their Post-Construction Runoff Management Program. The following requirements were specified in the May 2, 2007 letter.

- (a) Provide a plan to address or remove accumulated sediments in regional detention basins;
- (b) Develop and implement a specific schedule and protocol for inspecting and cleaning regional detention basins.

As reported in the Permittees' letter of June 12, 2007, CCRFCD has an existing Operation and Maintenance (O&M) Manual (current version dated January 11, 2007) that guides inspection and removal of sediment and debris from regional detention basins. This Manual is used by CCRFCD and the MS4 Permittees to determine plans, schedules and procedures for cleaning regional detention basins and other regional flood control facilities. Selected pages from the O&M Manual are attached for reference.

The O&M guidance promulgated by CCRFCD and adopted by each of the local governments provides criteria for management of sediment accumulation in detention basins. Sediment removal is performed semi-annually, when debris basin or detention basin capacity is significantly reduced, and/or as soon as possible after major storm events. Clean-out is normally justified when the sedimentation reaches 1 to 2 feet in depth or as established by the design. These procedures are designed to maintain the flood control function of the basins, but also serve to protect water quality by specifying timely removal of sediment and debris. In addition, detention facilities in the Valley that were constructed by the U.S. Army Corps of Engineers (USACE) have additional O&M requirements as specified by the USACE.

CCRFCD provides funds to local entities for performing O&M activities at regional detention basins. The O&M Manual specifies policies for applying for CCRFCD maintenance funds. In Fiscal Year 2006-2007, CCRFCD spent \$8.1 million on maintenance of regional facilities.

CCRFCD also provides design guidance for regional detention basins that includes an allowance for sediment storage capacity in addition to flood water storage capacity (see Section 1300 of the CCRFCD Hydrologic Criteria and Drainage Design Manual). This ensures that normal sediment delivery to the detention basins from upstream erosion during flood events will not affect their flood control performance, and also ensures that

sediments will be trapped and held in the basins without being transported to downstream receiving waters.

It is noted that detention basins located on rights-of-way granted by the Bureau of Land Management (BLM) are subject to restrictions on removal and disposal of accumulated sediment and debris imposed by BLM. Any material within a detention basin located on BLM land belongs to BLM. In these cases sediments must be handled in a manner consistent with BLM policies. A suitable disposal site on other BLM controlled land must be identified and the transport of material must be fully coordinated with BLM. This can be a lengthy and cumbersome process, especially when combined with the required processes to quantify, describe, advertise, bid, award and complete the work. That is one reason detention basins are designed to have extra capacity for accumulation of sediment such that flood storage capacity is not compromised.

Cases were previously cited by EPA for the Red Rock Detention Basin and the Blue Diamond Detention Basin in which 81,000 cu. yds. and 56,000 cu. yds. of material, respectively, were captured in the winter of 2004/05 but not promptly removed. This amount of sediment constituted less than 25% of the reserved sediment storage capacity available at each site. The CCRFCD design criterion for designated sediment storage capacity allows more time to resolve sediment accumulations prior to overwhelming the facility or remobilizing the materials in a subsequent event. The following factors are also important to keep in mind when considering the conditions observed by EPA at these two detention basins.

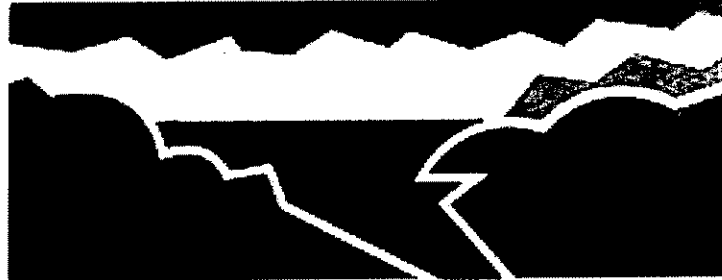
- The majority of the watershed area upstream of the detention basins is in the Red Rock Canyon National Conservation Area (federal lands) that are largely undisturbed by man and contain minimal development.
- The Las Vegas Valley, like much of the arid Southwest U.S., has vast alluvial fans that have been created over time by the transport of sediment from the mountain ranges (a naturally occurring process). Red Rock and Blue Diamond Detention Basins are located at the apex of alluvial fans, which coincide with locations of extremely high natural sediment loads.
- The rains over the four-month period contributing the highest sediment loads to the basins were from three to eight times greater than normal average rainfall.
- The basins reduce the flood threat of a 100-year flood by reducing the flow rate more than 98 percent. It is not surprising that the basins captured sediment from this historic wet cycle. In fact, because the flows out of the basins are only 2 percent of the inflow, it is reasonable that they would capture sediment.
- Based on the dedicated sediment storage capacity, both basins had the ability to capture significantly more sediment before even coming close to jeopardizing their potential effectiveness as asserted by EPA.

In addition to the detention basin inspections required by CCRFCD, the Permittees conduct semi-annual inspections of most detention basins as part of their drainage system inspection activities under the Illegal/Illicit Connection Program of the MS4 Permit. Also known as “Wash Walks,” these inspections are conducted in the Spring and Fall of each year and identify conditions that may require maintenance, such as accumulation of

sediment and debris, clogged outlet facilities, or evidence of urban pollutants (e.g., spills). In addition, the local governments conduct inspections of their local and regional drainage system on an as-needed basis after major storm events.

The O&M plans, protocols and activities described above fully satisfy NDEP's specific requirements related to the Operation and Maintenance of Treatment Systems and Controls as noted in the May 2, 2007 letter. No additional policies or programs are necessary.

REGIONAL FLOOD CONTROL DISTRICT



OPERATIONS AND MAINTENANCE MANUAL

*Adopted
January 11, 2007*

**CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT**

**OPERATIONS AND MAINTENANCE
MANUAL**

**GALE WM. FRASER, II, P.E.
GENERAL MANAGER / CHIEF ENGINEER**

www.regionalflood.org

The Operations and Maintenance Manual has been updated in accordance with Regional Flood Control District Board action on January 11, 2007. The Board adopted amendments to Chapter 1, Section 1.10 - Executive Summary, Chapter 2, Section 2.20 - Authority and Section 2.50 - Definitions, Chapter 3, Section 3.20 - Policies, Chapter 4, Section 4.11 - Purpose, 4.12 - Payment Procedures, Section 4.22 - Annual Work Plans, Section 4.25 - Certification of Compliance, 4.26 - Interlocal Contract Document, 4.27 - Contract for Maintenance Performance, Performance Standards, 4.35 - Reporting, and Appendix B.

**CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
OPERATIONS AND MAINTENANCE MANUAL**

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**CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
OPERATIONS AND MAINTENANCE MANUAL**

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**CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
OPERATIONS AND MAINTENANCE MANUAL**

**CHAPTER 1
EXECUTIVE SUMMARY**

1.10 EXECUTIVE SUMMARY

The Clark County Regional Flood Control District (District) was created under NRS 543 with responsibility to plan, construct and maintain drainage and flood control facilities throughout Clark County. In order to comply with NRS 543.340(4), this **Operations and Maintenance Manual** has been prepared through the cooperation and support of all of the affected member entities, which include Clark County and the incorporated cities within Clark County. The document sets forth both policies and procedures by which the maintenance of the drainage and flood control facilities will be achieved to assure their proper working order at the time of need. The overall goal of the maintenance program as adopted by the District Board is as follows:

COMPLY WITH THE PROVISIONS OF NRS 543.340(4) AND ASSURE THAT FACILITIES IN
THE MASTER PLAN ARE MAINTAINED IN A MANNER THAT MAXIMIZES THEIR USEFUL
LIFE AND ENSURES THEIR OPERATION AT DESIGN CAPACITY DURING A STORM EVENT.

Nineteen policy statements have been adopted to support the above goal.

In order to achieve the goal, and to comply with the adopted policies, the following procedures have been developed in an open and very participatory manner.

Funding Procedure – Provides for a means by which the member entities can be paid for activities associated with maintenance of drainage and flood control facilities on the Master Plan provided they meet criteria as set forth in the manual.

Administrative Procedure – Provides for establishing standards and levels of service by which maintenance will be achieved. This procedure includes the steps and schedule by which an annual work plan is established and adopted by the District Board. It also provides for the certification of performance by each member entity in accordance with the annual interlocal contract. The ability for the member entity to contract maintenance activities to private contractors is also authorized under this procedure.

Maintenance Procedures – This procedure provides the specific activities under which the maintenance program is to be carried out as listed below:

ACTIVITY NUMBER	ACTIVITY NAME	WORK MEASURE UNIT
05	Inspect Channels	Miles
10	Clean and Reshape Channels	Cubic Yards
15	Repair Lined Channel	Each
20	Provide/Maintain Erosion Control	Square Feet
21	Provide/Maintain Dust Control	Acres
25	Clean and Inspect Detention/Debris Basins	Cubic Yards
30	Erosion Repair	Cubic Yards
35	Fence Repair	Linear Feet
40	Vegetation Control - Chemical	Acres
45	Vegetation Control - Mechanical	Acres
50	Maintain Access Road	Miles
55	Clean and Inspect Inlet/Outlet Structures	Each
60	Repair Inlet/Outlet Structures	Each
65	Clean Storm Sewer Lines	Linear Feet
70	Storm Sewer Repair	Repairs
75	Clean/Flush Culverts & Bridges	Each
80	Miscellaneous Work Activities	Labor Hours
85	Engineering	Labor Hours

A specific performance standard has been developed for each activity setting forth the following elements:

- The most effective crew size.
- The kinds and number of equipment required.
- The major types of material that should be used.
- Recommended procedures for performing the work.
- An estimate of expected average daily accomplishment with standard crew size, equipment, and procedures.
- Authorization and scheduling criteria.

Inventory Procedures – A critical element of any maintenance program is the identification and condition of the overall drainage and flood control system. In the case of this program, the inventory also identifies those facilities that are “eligible” for payment of maintenance activities, provided the work is a part of the annual plan. Facilities eligible are those identified in the Regional Flood Control District’s Master Plan and any revisions, amendments, and/or changes subsequently approved. Only those facilities that exist as Master Plan facilities, or exist in the same alignment as a proposed Master Plan facility and appurtenant facilities are eligible.

Maintenance is an ongoing and very dynamic function of a successful drainage and flood control program. This **Operations and Maintenance Manual** sets forth an initial set of policies and procedures, including the various actions required to achieve the maintenance goal. The manual will need to be updated on a regular basis to reflect fiscal implications and the experience gained as the District continues to grow and to serve the citizens and taxpayers of Clark County.

CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT OPERATIONS AND MAINTENANCE MANUAL

CHAPTER 2 INTRODUCTION

2.10 BACKGROUND

The Clark County Regional Flood Control District (District) was established in 1986 to plan, construct, and maintain drainage and flood control facilities throughout Clark County. These responsibilities focus on alleviating the potential for flooding and protecting the lives and property of existing residents, future residents and visitors within the District's Service Area. The initial phases of the District's program succeeded in preparing a Master Plan, uniform design criteria, regulatory standards, and constructing facilities. As these areas have progressed, the District, along with other agencies and member entities in the County, has oriented its efforts towards assuring adequate maintenance of flood control facilities and conveyance systems. This orientation is consistent with the vital role maintenance plays in all comprehensive flood control programs. This Operations and Maintenance Manual has been prepared through the District with the support and cooperation of each affected member entity. It represents a commitment to uniform flood control system standards and establishes a blueprint for a cost effective and consistent maintenance program throughout the District's service area.

2.20 AUTHORITY

Nevada Revised Statute (NRS) 543 mandates that the District shall undertake programs for both construction and maintenance of flood control facilities. A commitment to building and maintaining flood control facilities within Clark County is reiterated in the District's Uniform Regulations for the Control of Drainage (Uniform Regulations) which states that capital improvements, operation, and maintenance are all interrelated parts of the District's overall flood control program. In accordance with NRS 543.340(4) and the Uniform Regulations, the District prepared an Operations and Maintenance Manual, which was adopted by the District Board on November 8, 1990. To reflect fiscal implications and experience gained, the manual was updated in 1995, 1999, 2003, 2005, and 2007.

2.30 RESPONSIBILITY

The District was formed, in part, to fund and coordinate the construction and maintenance of facilities to alleviate flooding and protect the life and property of citizens within the boundaries of the District. It is the responsibility of the District to prepare and update the Master Plan for the control of floods, and manage the Regional Fund for the Control of Floods in a manner consistent with NRS 543.

2.40 APPROACH

The maintenance program must assure that the flood control projects funded by the District are maintained at a level which maximizes their useful life and assures that facilities operate to design capacity. As an interconnected network of conveyances and structures, failure of any flood control facility to operate properly may affect the performance of the overall system within a specific watershed.

Flood control facilities require regular maintenance if they are to be functional, visually attractive, and last through their design life. Accordingly, the development of a maintenance program is just as critical to the overall success of a comprehensive flood control effort as basin planning and regulation enforcement. As stormwater and flood control programs begin to address nonpoint pollution/water quality issues, the maintenance program will play an even greater role by enabling cost effective reductions in pollutant loadings to receiving waters. Finally, visibility of the program to the public, which a comprehensive maintenance program affords, is an important factor in demonstrating that flood control management is truly a full-time commitment and not simply a priority only after a storm event. The primary objectives of the District's maintenance program are:

- To develop a complete physical feature inventory for the system.
- To establish overall policies and levels of service.
- To develop operating procedures.

It is also critical that ongoing inspection and reporting procedures continue to assure all systems are ready when needed.

Due to the multiple jurisdictions involved with maintenance of the flood control system, a commitment to this program from all member entities within the service area of the Regional Flood Control District was essential. This commitment was made through the Maintenance Technical Committee during the development of the manual in 1990. It was also recognized that coordination of this maintenance program with state transportation programs was critical. The level and consistency of the long range commitment has a direct impact on how effective the resulting maintenance system becomes. This commitment begins with a credible **Operations and Maintenance Manual**.

An essential building block for a successful flood control maintenance program in Clark County is a complete physical feature inventory of the system. It is also important to note that no maintenance program is ever truly "complete". Rather, these programs are constantly evolving as inventories are defined and standards/costs are further refined. A similar evolution is anticipated for this program. The flexibility to adjust to this evolutionary process has been built into this manual.

**CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
OPERATIONS AND MAINTENANCE MANUAL**

**CHAPTER 3
POLICY STATEMENT**

It is important that a maintenance policy statement be adopted which reflects the objectives of both the elected officials and the operations staff charged with its implementation. The initial policy document was prepared and reviewed by District staff and the Maintenance Committee. Following input from the group, it was reviewed by the respective Public Works Directors of all member entities and further revised to reflect their input. The document was then reviewed by the Technical Advisory Committee (TAC) and the Citizens Advisory Committee (CAC) before final adoption by the Board on November 8, 1990. To reflect fiscal implications and experience gained, the document is updated on a regular basis. The final adopted policy statement is as follows:

3.10 GOAL

Comply with the provisions of NRS 543.340 (4) and assure that facilities in the Master Plan are maintained in a manner that maximizes their useful life and ensures their operation at design capacity during a storm event.

3.20 POLICIES

1. Flood control facilities identified in the Master Plan are eligible for District maintenance funding.
2. Facilities funded through the District shall be inspected on an annual basis, as a minimum, to assure proper maintenance has been provided.
3. In cases where funded maintenance by the lead member entity is not performed to the standards specified, the District shall perform or cause to be performed the maintenance necessary to assure proper operations of the facility. Costs incurred by the District shall be deducted from the amount authorized in the maintenance agreement between the lead member entity and the District.
4. Flood control facilities improved or constructed after adoption of this policy, must be designed in accordance with District criteria and standards to be eligible for maintenance funding.

5. Access to the facility must be guaranteed to the lead member entity and the District in order to be eligible for maintenance funding.
6. Maintenance and repairs to flood control facilities will be performed in a manner that will minimize the degradation of water quality.
7. The maintenance requirements applied to these facilities shall be based on the standards contained in the District's **Operations and Maintenance Manual**.
8. The lead member entity must develop an annual work plan to be eligible for maintenance funds. Upon completion of the work, the member entity must certify that the work was completed in accordance with the standards contained in the District's **Operations and Maintenance Manual**.
9. Maintenance funding is available only for repair, restoration, rehabilitation, or maintenance of existing facilities and is not intended to supplement the District's capital improvement program. For example, if the intent of the field activity is to increase the designed capacity of a facility or conveyance, then that function is capital in nature.
10. Copies of plans and specifications must be furnished to the District for review and approval prior to finalizing design when maintenance projects are awarded through a bid process. This review will be for the purpose of ensuring compliance with the District's Master Plan and regional objectives and will be used to update the inventory of existing facilities. As-built plans or record drawings will be provided to the District upon project completion and prior to project closeout.
11. Expenditures for repair and replacement of existing flood control Master Plan facilities which undergo catastrophic damage of one-half (1/2) mile or less will be classified as maintenance. These expenditures will be made from funds budgeted in the Facilities Maintenance Fund.
12. Expenditures for repair and replacement of existing flood control Master Plan facilities which undergo catastrophic damage of more than one-half (1/2) mile will generally be classified as capital improvements. Requests for capital improvement funds must be programmed as a capital improvement project in accordance with District Policies and Procedures.
13. Expenditures for removal of debris and sediment captured or deposited in a debris basin, detention basin or a linear flood control facility will be classified as maintenance. Necessary repairs to a debris or detention basin will also be classified as maintenance. These expenditures will be made from funds budgeted in the Facilities Maintenance Fund.

14. Expenditures for repair and replacement of non-improved or “earth lined” flood control facilities and features will be classified as maintenance. These expenditures will be made from funds budgeted in the Facilities Maintenance Fund.
15. A member entity may consider another option in lieu of repairing or rehabilitating facilities that have not been improved to Master Plan design specifications. This option is to build/implement the long-term solution for the damaged facility. Expediting the implementation of the Master Plan may be a viable alternative that maximizes the use of available resources. This should be considered as an alternative if the long-term solution can be implemented in a timely manner. Requests for capital improvement funds to implement a Master Plan project must be programmed as a capital improvement project in accordance with District Policies and Procedures.
16. Funds may be provided by the District for maintenance of Master Plan facilities by outside contractors under conditions when the use of such an approach is deemed the most efficient and cost effective by the lead member entity.
17. If a member entity receives funds from other sources for maintenance and repair of drainage and flood control facilities paid for by the District, the funds will be paid to the District. Examples of other sources include, but are not limited to, Federal Emergency Management Agency (FEMA) funds for repairs resulting from a designated disaster, and funding from developers for maintenance and repair of District facilities.
18. The District will not be responsible for any fines and/or penalties caused by the actions or inactions of the member entity’s employees, consultants, contractors, or agents.
19. Bridge structures, generally speaking, are not eligible for District funding unless it can be shown that the flood carrying aspects of the regional facility causes a safety or maintenance problem.

**PERFORMANCE
STANDARD**

**CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT**

ACTIVITY NUMBER 25	NAME CLEAN & INSPECT DETENTION/DEBRIS BASINS	DATE 01/11/07
DESCRIPTION & PURPOSE Inspection and removal, by loader (including hauling and disposal), of sediment and debris deposited in detention and debris basins to restore full capacity and original shape.		
AUTHORIZED BY Maintenance Supervisor		LIMITS ON WORK
PERFORMANCE CRITERIA Remove sediment bi-annually or when debris basins or dams detention capacity is significantly reduced. Clean out is normally justified when the sedimentation reaches 1 to 2 feet in depth or as established by the design.		

CREW SIZE	WORK METHOD
<ul style="list-style-type: none"> • 1 Foreman • 3 Equipment Operators • 1 Maintenance Worker • • 5 TOTAL 	<ol style="list-style-type: none"> 1. Obtain safety equipment, materials and tools necessary for the day's work. 2. Begin applicable safety procedures and/or traffic control. 3. Prepare removal and disposal sites for access. 4. Stockpile material for removal. 5. Load material and haul to proper disposal site. 6. Shape dam or basin to desired line and grade. 7. Grade disposal site as necessary. 8. Clean up work site as necessary.
EQUIPMENT	
<ul style="list-style-type: none"> • 1 Pickup • 1 Loader • 2* Dump Trucks • 	
MATERIAL	AVERAGE DAILY PRODUCTION
<ul style="list-style-type: none"> • Disposal Fees • • • 	1000 Cubic Yards/day
NOTES: *Schedule sufficient trucks to insure maximum utilization of excavation equipment.	

**PERFORMANCE
STANDARD**

**CLARK COUNTY
REGIONAL FLOOD CONTROL DISTRICT**

ACTIVITY NUMBER 60	NAME REPAIR INLET / OUTLET STRUCTURES	DATE 01/11/07
DESCRIPTION & PURPOSE Repair of catch basins, grates, inlets, control gates, outfalls, weirs, manholes, sumps, and other spot structures to restore elements to their original operational condition.		
AUTHORIZED BY Maintenance Supervisor		LIMITS ON WORK
PERFORMANCE CRITERIA Based on detailed inspection of repair, replace components, or entire structure as conditions warrant. Plan repair of five percent (5%) of system structures per year.		

CREW SIZE	WORK METHOD
<ul style="list-style-type: none"> • 1 Foreman • 2 Maintenance Workers • • • 3 TOTAL 	<ol style="list-style-type: none"> 1. Obtain necessary safety equipment, tools, and materials. 2. Initiate applicable safety procedures and traffic control. 3. Remove and clean area of damage/failure. 4. Repair as necessary to original condition and test operation as appropriate. 5. Clean up work site as necessary.
EQUIPMENT	
<ul style="list-style-type: none"> • 1 Pickup • 1 Compressor w/accessories • • 	
MATERIAL	AVERAGE DAILY PRODUCTION
<ul style="list-style-type: none"> • Concrete • Aggregates • Miscellaneous parts, as required • 	1 Each/day
NOTES:	

**CLARK COUNTY REGIONAL FLOOD CONTROL DISTRICT
OPERATIONS AND MAINTENANCE MANUAL**

**CHAPTER 5
EMERGENCY FUNDING PROCEDURES**

5.10 EMERGENCY FUNDING PROCEDURES

5.11 Purpose

This element of the Operations and Maintenance Manual provides the member entities with procedures to perform emergency restoration and rehabilitation immediately following a flood event. A principal role of the District shall be to support the member entities efforts to: (1) secure funding from state, federal, member entity reserves and private sources; and (2) facilitate required immediate repairs to regional flood control facilities without delay.

Projects eligible for District emergency restoration and rehabilitation funding are those included in the member entity's approved or amended Maintenance Work Program.

5.12 Procedures

If the governing body elects to declare an emergency, then the District, in accordance with NRS 332.112 (Emergency Contracts) will authorize and process emergency purchase orders to the maximum limit of unexpended funds upon written request by the member entity.

**Las Vegas Valley MS4 Permit
Supplemental Information Related to
Las Vegas Valley Runoff and Water Quality
December 19, 2007**

Lower Las Vegas Wash Channel Stabilization

Rising community concern prompted the creation of the Las Vegas Wash Coordination Committee (LVWCC) in the late 1990s, charging a stakeholder group of local, state and federal agencies, as well as concerned citizens, with the task of protecting and enhancing the Wash. Once formed, the LVWCC created an internal committee, resourcing several agencies already working closely with local water issues, to serve as a managing arm. This is known as the Management Advisory Committee (MAC). The MAC is comprised of representatives from the cities of Henderson, Las Vegas, and North Las Vegas, Clark County, Clark County Regional Flood Control District, Clark County Water Reclamation District, Clean Water Coalition, and Southern Nevada Water Authority. The co-permittees for the Las Vegas Valley NPDES permit are also represented on the MAC. Together these community agencies invested their resources to create an aggressive strategy for Wash enhancement and began working to stabilize and enhance the valuable environmental resources of the Las Vegas Wash. Since 2000, approximately \$75 million has been invested in studies and capital improvements towards this mission.

A key part of the LVWCC strategy for the Wash is to construct erosion control structures throughout the reach between the wastewater treatment plants and Lake Las Vegas. Ten of the planned 22 erosion control structures are now in place along the 12 miles of waterway, in addition to three structures constructed by the National Park Service below Northshore Drive (i.e., below Lake Las Vegas). The weirs have substantially improved the Wash's ability to sustain severe storm events without major damage or flooding. In addition, the Wash has benefited from a 75-80 percent total sediment reduction, improving water quality in both the Wash and Lake Mead. Bank stabilization activities have progressed steadily, thanks in large part to the efforts of Bureau of Reclamation work crews. Seventy percent of the bank stabilization project is now complete.

Additional information can be found at www.lvwash.org. EPA also has information on this project at <http://www.epa.gov/nps/success/state/nv.htm>.

Las Vegas Valley Watershed Advisory Committee

Protecting the quality of and maximizing existing and future Colorado River resources and intra-Nevada resources available to Southern Nevada is important to meeting its purveyor members' municipal supply needs. The treatment, reuse, and discharge of water from point and non-point sources in the Las Vegas Valley must be recognized and managed as critical elements in southern Nevada's long-term water resource planning. The Las Vegas Valley Watershed Advisory Committee (LVVWAC) was recently formed by agreement amongst the Southern Nevada Water Authority (SNWA); Clean Water Coalition (CWC); Las Vegas Valley Water District; Cities of Las Vegas, North Las Vegas, and Henderson; Clark County; Clark County

Water Reclamation District and the Clark County Regional Flood Control District (CCRFCD). The co-permittees for the Las Vegas Valley NPDES permit are also represented on the LVVWAC. The LVVWAC will provide a forum to develop a cohesive direction and an integrated approach to addressing water quality and quantity issues in the Las Vegas Valley and Lake Mead.

This agreement will allow the LVVWAC to create a Regional Water Quality Plan (RWQP) that includes water quality goals developed by the LVVWAC. The RWQP will coordinate all existing plans, policies, documents, and efforts related to water quality in the Las Vegas Valley watershed and Lake Mead, and will be a forward-looking document that makes projections and recommends policy direction regarding emerging water quality and quantity issues. After the RWQP is developed by the LVVWAC, it will be presented for adoption by the governing bodies of the parties to this agreement.

The agreement requires that an Annual Operating Plan be prepared by the SNWA, the CWC and the CCRFCD detailing operational level tactics on how the agencies will implement projects to achieve the water quality goals adopted in the RWQP.

The first meeting of the LVVWAC will be held in early 2008. A holistic approach to the entire Las Vegas Valley watershed, addressing quality and quantity issues, will be the best forum to discuss non-point sources of pollution.

Drought Ordinance

The Clark County Drought Ordinance affects water use and landscaping requirements within the jurisdictions of each of the MS4 Permittees. Turf limits restrict or prohibit the amount of grass to be planted at new properties. The restrictions prohibiting types of grass that can be planted apply to all property owners. Restrictions are based on the drought stage in effect at the time a building permit is issued. The Las Vegas Valley is currently in the Drought Alert Status.

Development Type	No Drought	Drought Watch	Drought Alert
Single-family homes	50 percent of a front yard can be grass. This does NOT include a driveway or parking area.	Same as No Drought. New turf prohibited in common areas of neighborhoods, except for privately-owned parks with an area greater than 10 feet.	No new turf allowed in front yards. On side and rear yard, new turf shall not exceed 50 percent of the gross area or 100 sq. feet, whichever is greater, provided no turf area dimension is less than 10 feet. Maximum of 5,000 sq. feet turf.
Multifamily (apartments, condos)	30 percent of an area set aside for landscaping can be grass. This does NOT include parking lots or driveways	New turf prohibited in common areas, except for privately-owned parks with an area greater than 10 feet.	New turf prohibited in common areas or front yards except for privately-owned parks with an area greater than 10 feet.
Non-residential	30 percent of an area	New turf prohibited,	Same as Drought

developments	set aside for landscaping can be grass. This does NOT include parking lots or driveways.	except for major schools, parks or cemeteries.	Watch
Golf Courses	Limited to a maximum of 90 acres for 18 holes and 10 acres for driving ranges.	New turf limited to 50 percent of turf permitted during No Drought.	Same as Drought Watch
Prohibited types of grass	N/A	Planting cool-season grasses such as tall fescue and ryegrass prohibited from May through August. Planting of warm season grasses (i.e. bermuda and zoysia) is permitted.	Same as Drought Watch

The drought ordinance, and especially being in a Drought Alert status, has a beneficial impact on non-point sources of pollution. The grass areas are smaller and typically are not directly connected to the urban drainage network. Therefore, herbicides, pesticides, and fertilizers will not find a direct path to the streets and into the urban drainage network.

Regional Flood Control Facilities

The mission of the Clark County Regional Flood Control District is to improve the protection of life and property for existing residents, future residents, and visitors from the impacts of flooding. The Regional Flood Control District developed a comprehensive Master Plan in 1986 and every five years thereafter has updated the plan. The plan calls for 858 miles of channels and storm drains and 136 detention basins. To date the District has invested over \$1 billion and has completed approximately one-half of the identified flood control improvements. Due to the steep mountainous slopes, high velocities (in some cases up to 30 feet/sec), and the need to keep flood flows in designated rights-of ways, the plan calls for the majority of the conveyance system to be armored (e.g., concrete lined). The construction of these flood control projects eliminates the channel erosion that would otherwise occur, and that occurred naturally prior to improvement. The same design criteria used for the regional system are also used for the local, smaller drainage, network. Without the current comprehensive plan and consistent criteria, the erosion and transportation of sediment would result in poorer non-point water quality.

Arid Southwest Conditions

The arid Southwest is distinct and vastly different from the majority of the United States. This area experiences infrequent rainfalls, has low average annual precipitation (4.5 inches per year in the Las Vegas Valley), and the majority of most watersheds consists of federal lands that have and will continue to have the propensity to deliver major debris and/or sediment flows. Best Management Practices in this area may need to be different than the rest of the United States in order to meet the standard of Maximum Extent Practicable.

Las Vegas Valley consists of a relatively flat urbanized valley floor surrounded on all sides by active alluvial fans on which new development is occurring. These fans are formed over time by the natural erosion of sediment from the steep surrounding mountain ranges and the subsequent deposition of that sediment on the fan area. Because the upstream areas around the valley are and will continue to be undeveloped federal lands, these natural processes of erosion and deposition will continue to occur and strongly influence runoff characteristics in the urban area. When the natural washes flow, they take on the characteristics of a chocolate milk shake moving fast through the washes. A case in point is the Virgin River by the City of Mesquite, Nevada. The winter rains of 2004-2005 caused a considerable amount of sediment to be transported from Southern Utah and caused the river to take a new path and damaged more than 80 homes in Mesquite. The City of Mesquite plans to armor the ephemeral washes that drain through this community to the Virgin River. This is necessary because of the erosive effect that flood flows have on the natural system. At the same time, the U.S. Fish and Wildlife Service regards the natural washes as a sediment source needed by protected species in the river. There appears to be a conflict between the goals of these two federal programs: the Endangered Species Act strives to protect and enhance habitat and may require sediment transport; and the NPDES program strives to reduce sediment loading in the nation's waterways. These conflicting objectives can make compliance by local agencies a challenge.

May 15, 2008
Mr. Clifford Lawson
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701



Subject: Municipal Separate Storm Sewer System Progr.
NPDES Permit No. NV0021911
Proposed MS4 Program Revisions in Response to EPA Audit

Dear Mr. Lawson:

The Las Vegas Valley Municipal Separate Storm Sewer System (MS4) Permittees have made great strides toward development and implementation of enhancements to the MS4 permit program to meet requirements specified in Nevada Division of Environmental Protection's (NDEP) letter of May 2, 2007 (May 2 letter). Even with the significant progress to date, the process has been more complex and time consuming than anticipated at the time of our last progress report to you dated January 8, 2008 (January 8 letter). For that reason, I am providing an updated progress report with this letter. My intent is to document our progress, outline additional activities anticipated and provide a schedule to achieve the requirements outlined in the May 2 letter.

The four areas of the MS4 permit program identified in your May 2 letter are:

- Construction Site Runoff Management Program
- Post-Construction Runoff Management Program
- Industrial Runoff Management Program
- Operation and Management of Treatment Systems and Controls

Brief status reports are provided below on progress in enhancing the Construction and Post-Construction runoff management programs. Attachments provide more detail on activities that have been performed over the past six months. Enhancements to the Industrial Runoff Management Program (industrial programs) and Operation and Management of Treatment Systems and Controls were adequately addressed in our January 8 letter, and are not discussed further herein. Clark County presented a plan and schedule regarding industrial programs with the January 8 letter. An update on their progress is provided as an attachment to this letter.

Overview

As mentioned in our January 8 letter the Permittees have adopted two overall strategies. First, working groups consisting of representatives of the Permittee organizations were created to address the details of the various possible program enhancements for the Construction Site Program and the Post-Construction Program. These working groups were organized in June 2007 and have been meeting regularly since then to address specific issues as described in the sections below.

Mr. Clifford Lawson

January 8, 2008

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Second, a stakeholder involvement process was initiated in September 2007 to assure that recommended program enhancements would be feasible and implementable, and would have community support. The Stormwater Stakeholder Working Group (SSWG), formed with representatives of many sectors of the community including developers, environmental groups, consulting engineers, and members of the Stormwater Quality Management Committee (SQMC), has taken the lead in developing recommended policies and procedures for the Construction Site Program and the Post-Construction Program. This is consistent with EPA's establishment of Public Outreach/Involvement as one of the six minimum control measures for Phase 2 communities. The SSWG has been meeting monthly since January 2008. The SSWG's first order of business was to develop and adopt the following fundamental goal:

"To comply with the MS4 permit by developing construction and post construction program enhancements that are:

- Clear, simple and effective
- Consistent
- Cost effective
- Consensus based
- Fiscally and environmentally responsible
- Sensible for the Las Vegas Valley"

Based on this goal the SSWG will continue to work to develop specific locally acceptable recommendations for meeting all of the general objectives specified by NDEP for ordinances/regulations, programs, policies, etc. These recommendations will be forwarded to the SQMC for action.

Once again, I would like to stress that the Permittees are committed to meeting the objectives for implementing ordinances, programs and policies as set by NDEP; the stakeholders group will be used to ensure that the specifics of those ordinances, programs and policies are appropriate for the Las Vegas Valley region and will receive community support.

Construction Site Runoff Management Program

The Permittees formed the Construction Program Working Group (CPWG) in order to address the issues raised in the May 2 letter regarding construction site stormwater programs. The CPWG is comprised of representatives of each Permittee, and was tasked with recommending modifications to local regulations and construction site runoff management programs. The CPWG has been meeting since June 2007. From January through April, 2008 the SSWG has worked with input from the CPWG to effectively cover the construction program topics of:

Regulatory authority: Each permittee has developed a draft stormwater ordinance. They are general ordinances that give the controlling entity authority to implement and enforce a City-wide stormwater quality program. The SSWG has reviewed and generally accepted drafts by Las Vegas and Henderson. A draft ordinance by North Las Vegas were recently made available for review. Clark County's ordinance is still

in development. These draft ordinances are based on EPA's model ordinance and will apply to construction on sites with an area of one acre or greater. Draft ordinances can be provided upon request. Each entity's internal process and adoption schedule have been reported in the attachments to this letter and summarized as follows:

- City of Las Vegas: September 3, 2008
- City of Henderson: September 2, 2008
- City of North Las Vegas: September 17, 2008
- Clark County: County departments continue to coordinate and develop a schedule for adoption. Clark County will report their schedule to NDEP by June 19, 2008. See attachments for further detail on Clark County's construction program development.

Site plan review: Consensus was reached that each jurisdiction would condition issuance of grading and construction permits on proof of fee payment and coverage under the State's general permit for construction activity. This can be implemented immediately. In addition, submittal of a BMP checklist will be required as a part of the permit application documents. The BMP checklist will be formulated as part of the development of a BMP guidance document discussed below. No formal BMP design review will be performed at the time of permit application in favor of a more intense inspection program as further discussed below.

Inspection and enforcement: The current inspection program involves inspection at construction sites for violations of current ordinances that restrict discharges of pollutants to the municipals separate storm sewer system (MS4). In Clark County, Las Vegas and North Las Vegas initial inspections are performed by Clark County Department of Air Quality and Environmental Management (CCDAQEM) air quality inspectors. Instances of active discharge of pollutants to the MS4 from construction sites are reported to the appropriate jurisdiction for enforcement action. In Henderson, these inspections are performed by quality control inspectors as part of routine site inspections. Violations are routed for automatic notification and re-inspection. Failure to resolve could result in delayed site progress due to suspended inspections or fines.

In the proposed program improvements, the use of CCDAQEM inspectors in the formal construction site inspection process will be eliminated. CCDAQEM inspectors will continue to have a means to report infractions through the complaint process detailed below. Using Henderson's model, each jurisdiction has developed and presented to the SSWG construction site inspection flow charts (attached) which detail their inspection process. Public Works and Building Department inspectors, aided with the BMP checklist, will perform stormwater inspections within their respective jurisdiction as an added component of routine site inspection. Supported by new ordinance language, sites will be inspected not only for active discharges to the MS4 but also for the potential to discharge (i.e. absence of or poorly installed and maintained BMPs), effective waste management onsite, and effective erosion and sediment control practices. Every effort will be made to resolve minor

infractions through close coordination between the inspector and the site operator. Resolution of infractions will be verified by repeat inspections. Inspectors will have the authority to review Storm Water Pollution Prevention Plans (SWPPP) if site conditions warrant at their discretion. Failure to resolve minor infractions or observance of major violations (e.g. active discharges) will result in immediate and progressively increasing enforcement action including suspension of further inspections, stop work orders and fines. Failure to resolve issues and egregious neglect for compliance may result in notification of State representatives whereby compliance pressure can be further asserted. Appeals will first be to the inspector's supervisor and could ultimately rest with each jurisdiction's governing board. It was agreed by the SSWG that a key component vital to the success of execution of this program is education base in part on the guidance manual; not only of the site operators, but as importantly, the inspectors to ensure consistency.

Implementation of the new inspection and enforcement processes is dependent upon ordinance adoption. Each entity's internal process and implementation schedules have been reported in the attachments to this letter and summarized as follows:

- City of Las Vegas: September 3, 2008
- City of Henderson: September 2, 2008
- City of North Las Vegas: September 17, 2008
- Clark County: County departments continue to coordinate and develop procedures and a schedule for implementation. Clark County will report their schedule to NDEP by June 19, 2008. See attachments for further detail on Clark County's construction program development.

Complaint process: Each entity already has citizen complaint and tracking processes in place. Complaints involving construction site pollution will be forwarded to the site inspection department at the appropriate jurisdiction and inserted into the inspection and enforcement process mentioned above.

BMP guidance development: It is the intent of the Clark County Regional Flood Control District (District), as a regional SQMC member, to coordinate through the SQMC and SSWG the development of a uniform guidance document for stormwater issues related to construction sites and new permanent development. Work has begun on the construction site aspects of the document. The document will provide site operators the means to understand expectations, implement inspect and maintain appropriate BMPs in the proper manner. This will aid in their success in the program by avoiding inspection related delays while protecting the environment. This document will also be a tool for inspectors. Construction elements of this guidance document can be developed and made available for distribution by September 2008.

Post-Construction Runoff Management Program

The Permittees formed the Development Guidelines Working Group (DGWG) in order to address the issues raised in the May 2 letter regarding post-construction runoff from new

Mr. Clifford Lawson

January 8, 2008

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development and significant redevelopment. The DGWG has been meeting since June 2007. With their work to address construction site issues essentially complete, the SSWG, with the support of the DGWG, began to focus on development of the post-construction program at their May 13, 2008 meeting. The attached "Las Vegas Valley MS4 Permit Post-Construction Runoff Program Development - Summary and Status Report to Nevada Division of Environmental Protection" details the work performed by the DGWG which will be used along with the fundamental goal stated above to guide and support the forthcoming work by the SSWG. The post-development program plan and implementation schedule, which will be complete by November 2008, will include such components as:

- A strategy from implementing a program that consists of a combination of structural and/or non-structural BMPs;
- Identification of effective structural and non-structural measures appropriate for the local environment;
- Ordinance and/or regulatory mechanisms required to support post development programs;
- Planning, design review and construction inspection procedures;
- Inventory, tracking and maintenance requirements, responsibilities and procedures;
- Design guidance document development;
- The role of regional conveyances and detention basins;
- Training and education needs and opportunities;
- Methods to estimate expected load reductions

After the post-development program plan is developed, an implementation schedule will be prepared and submitted to NDEP for review. It is currently anticipated that full implementation of the post-construction program could require 12 to 24 months after the elements of the plan have been determined and approved by NDEP.

Let me or any of the other Permittees know if you have any questions or concerns regarding our plan for improving the Las Vegas Valley MS4 permit program in response to your direction.

Respectfully submitted,

Kevin Eubanks, P.E.

Assistant General Manager, Clark County Regional Flood Control District
Chairman Alternate, Stormwater Quality Management Committee

ATTACHMENTS

CITY OF LAS VEGAS
CURRENT STATUS OF PLAN AND SCHEDULE TO ADDRESS
EPA/NDEP STORMWATER PROGRAM AUDIT FINDINGS

Construction Site Runoff Management Program (Construction)

The following requirements were specified in the NDEP letter of Final Findings dated May 2, 2007.

- (a) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;

The CLV has drafted stormwater ordinance (Municipal Code) using the EPA model ordinance as a guide that:

- Authorizes the CLV to require Best Management Practices (BMPs) at construction (and commercial/industrial) sites to control erosion, sediment, and other pollutants
- Requires construction sites to control wastes
- Empowers the City to inspect and enforce

The draft ordinance was reviewed by the external stakeholders and comments were discussed in March and April 2008 Stakeholder Working Group meeting. The draft will be revised based on the comments and discussion. The CLV will send the final draft to the City Attorney for examination in May or June 2008. CLV may also draft resolution that provides for new fees to pay for the Construction program and fines or penalties as enforcement tools.

The City draft ordinance does not list or mandate specific BMPs. The Stormwater Quality Management Committee, through the stakeholders, is developing a guidance manual that will be used to identify the types of BMPs that will be allowed in the Las Vegas Valley, and their installation and maintenance requirements. The ordinance and the guidance manual will require erosion and sediment controls to be identified as part of a comprehensive plan to be implemented with soil disturbance activities, sanctions in the event of non-compliance, and other items to ensure a complete regulatory mechanism.

- (b) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

The stormwater ordinance and the regional guidance manual will require erosion and sediment controls to be implemented and maintained during soil disturbance activities. Other BMPs to be required may include, but are not limited, to good housekeeping measures, vehicle maintenance activities, and runoff control measures.

- (c) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

The CLV has ordinances in place that require owners to maintain their property in a manner that minimizes the potential for pollutants leave the boundaries of the site. The new stormwater ordinance will strengthen that authority.

- (d) Procedures for site plan review which incorporate consideration of potential water quality impacts;

Similar to the requirements of the Truckee Meadows Regional Stormwater Quality Management Program, the City will require prospective contractors/builders to submit proof of submission of an NOI and a plan for BMPs (checklist) before any construction may commence through the issuance of a grading permit.

- (e) Procedures for receipt and consideration of information submitted to the public;

The CLV has processes in place to receive and consider the information submitted by the public. The CLV directs incoming information to the Environmental Division or Environmental Officer for proper action. The Environmental Officer will handle information related to the Construction program.

- (f) Procedures for site inspection and enforcement of control measures.

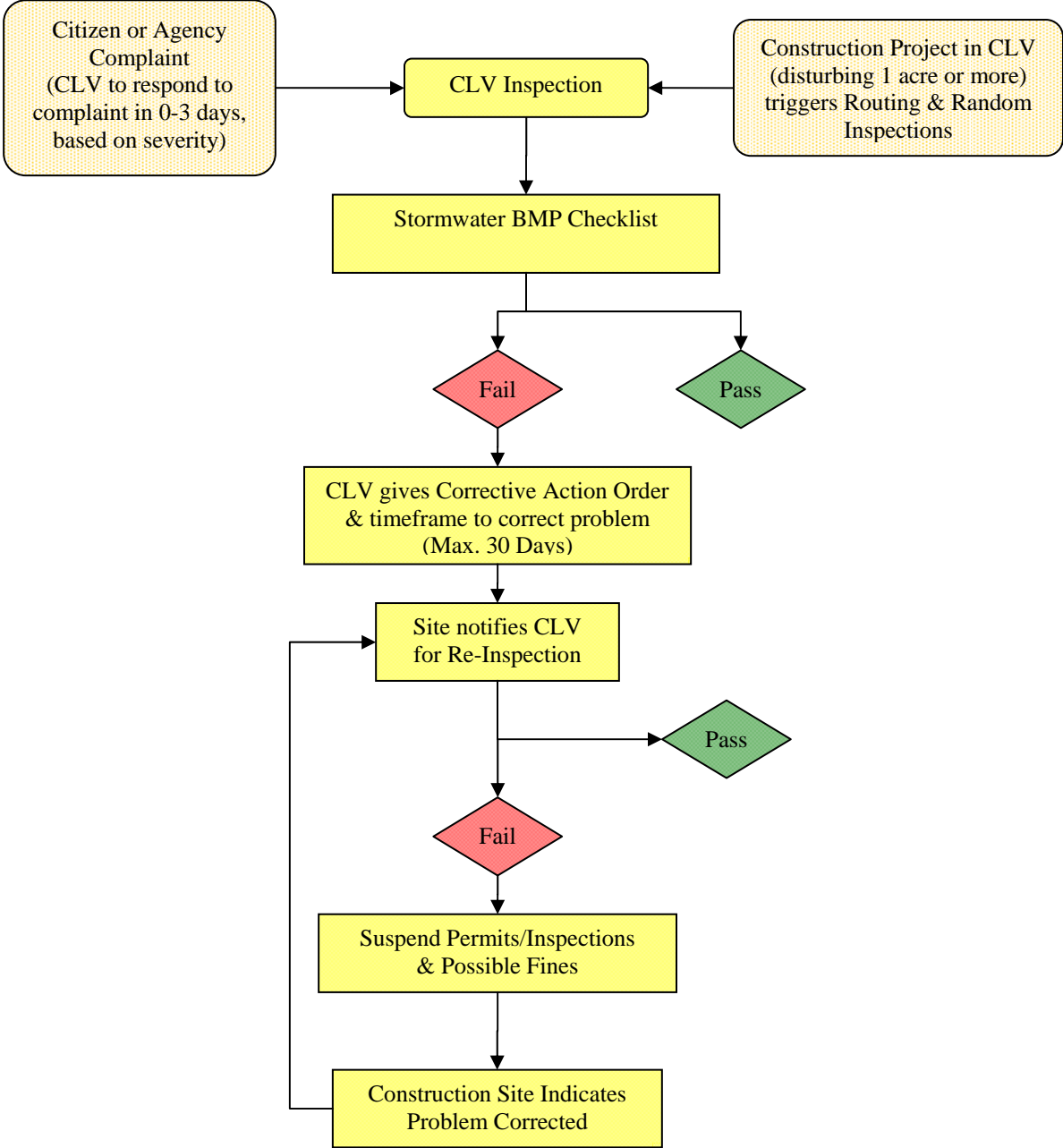
CLV Off Site Inspection and Testing inspectors will inspect private construction projects for compliance with the CLV Construction/BMP program. CLV Construction Management personnel will do the same at public projects. Inspections will assess the installation, maintenance, and capability of the installed BMP's to minimize to the maximum extent practicable (MEP) the discharge of pollutants to the MS4. See attached draft CLV Inspection Flowchart.

Inspectors will review BMP's such as housekeeping measures, perimeter and onsite erosion control and sediment transport measures, and pollutant control measures. BMP's must be maintained on a regular basis and be adequate for preventing to the MEP pollutants from leaving the site and minimizing onsite erosion and sediment transport. If there is evidence that a BMP does not meet the requirements outlined in the guidance manual, or is not adequate for the site conditions the CLV will issue a corrective action order to the site operator. The order will include a deadline for compliance. The CLV will re-inspect to ensure compliance

The CLV will have a formal enforcement plan that will include appeal pathways. See attached draft plan.

The CLV plans to obtain City Council for approval for the ordinance and any supporting resolutions on or before September 3, 2008. While the basic program elements have been developed there is a need for additional discussions with the stakeholders concerning funding issues, a final review of the ordinance needs to be completed by both stakeholders and the City Attorney, a business impact statement needs to be developed and put out for comments pursuant to NRS 237, and council briefings need to be scheduled.

City of Las Vegas Construction Site Stormwater Runoff Management Program Inspection Flowchart



CITY OF HENDERSON
CURRENT STATUS OF PLAN AND SCHEDULE TO ADDRESS
EPA/NDEP STORMWATER PROGRAM AUDIT FINDINGS

Construction Site Runoff Management Program

The following requirements were specified in the NDEP letter of Final Findings dated May 2, 2007.

- (g) An ordinance or other regulatory mechanism to require erosion and sediment controls, as well as sanctions to ensure compliance, to the extent allowable under State or local law;

A draft stormwater ordinance was created using the EPA model ordinance as a guide. The draft ordinances were reviewed by the external stakeholders, city staff, and by the City Attorney's Office. Comments were discussed in March/April 2008 stakeholder working group. The draft was revised based on the comments and discussion will be sent for final review to the CAO and stakeholders in May 2008. The Stakeholder Working Group is in the process of creating a guidance manual that will be used to identify the types of best management practices (BMP's) that will be allowed in the Las Vegas Valley, and their installation and maintenance requirements. The ordinance and the guidance manual will require erosion and sediment controls to be identified as part of a comprehensive plan to be implemented with soil disturbance activities, sanctions in the event of non-compliance, and other items to ensure a complete regulatory mechanism. The City has included the departments and divisions in the process of developing the regulatory mechanism to ensure an understandable and enforceable document.

- (h) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

The stormwater ordinance and the regional guidance manual will require erosion and sediment controls to be implemented and maintained during soil disturbance activities. Other BMP's to be required may include, but are not limited, to good housekeeping measures, vehicle maintenance activities, and runoff control measures.

- (i) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

Currently, the City has ordinances in place that require owners to maintain their property in a manner that minimizes the potential for pollutants leave the boundaries of the site. This ordinance has been used to enforce housekeeping measures on construction sites, developed property, and undeveloped properties. It is expected that the current ordinance will be used in conjunction with the stormwater quality regulatory mechanism to minimize the potential for adverse impacts to water quality.

- (j) Procedures for site plan review which incorporate consideration of potential water quality impacts;

The City has developed a review process in conjunction with the MS4 co-permittees and external stakeholders that requires inspections of proposed construction sites to verify the installation of best management practices prior to ground disturbance activities being permitted. This process is patterned after the program currently in place for the Truckee Meadows Regional Stormwater Quality Management Program. Site operators are responsible for submitting a Notice of Intent and checklist of BMP's being used on a site with the grading permit application, then scheduling a stormwater inspection prior to issuance of the grading permit. The inspector will use the checklist and the SWPPP that is maintained on the construction site to verify that the selected BMP's are installed according to the regional guidance manual. Once the inspection is passed, the grading permit is issued and soil disturbance activities can commence.

- (k) Procedures for receipt and consideration of information submitted to the public;

The City already has a process in place to receive and consider the information submitted by the public. All incoming information is added to a database that includes the nature of the inquiry, action taken by the City, and resolution. The City is in the process of updating the customer relations process with a centralized database, called the Customer Relations Module (CRM), which will automatically route incoming calls, e-mails, letters, and request for information to the appropriate division, and person, for resolution. It is expected that Public Works will be one of the first departments in the City to implement the CRM by July 2008.

- (l) Procedures for site inspection and enforcement of control measures.

The stormwater quality inspections will take place in conjunction with the scheduled inspections for grading activities, offsite improvements, and building inspections. The stormwater quality inspections assess the installation, maintenance, and capability of the installed BMP's on a construction site to minimize to the maximum extent practicable (MEP) the discharge of pollutants to the MS4. Stormwater quality inspections for a site are scheduled by the site operator prior to the grading permit being issued, and then automatically by the KIVA database 45 days after the last passing inspection, thereafter, until it has been determined that the site is stabilized and/or construction activity is completed. When a site is scheduled, it is put on a list of pending stormwater quality inspections so that such inspection can be coordinated to take place in conjunction with the inspection of grading activities, offsite improvements, and building inspections. The stormwater inspections are usually conducted within 15 days after being placed on the list.

The inspectors will review BMP's such as housekeeping measures, perimeter and onsite erosion control and sediment transport measures, and pollutant control measures. The BMP's must be maintained on a regular basis and be adequate for preventing to the MEP pollutants from leaving the site and minimizing onsite erosion and sediment transport. If

there is evidence that a BMP does not meet the requirements outlined in the guidance manual, or is not adequate for the site conditions a violation letter is sent to the site operator.

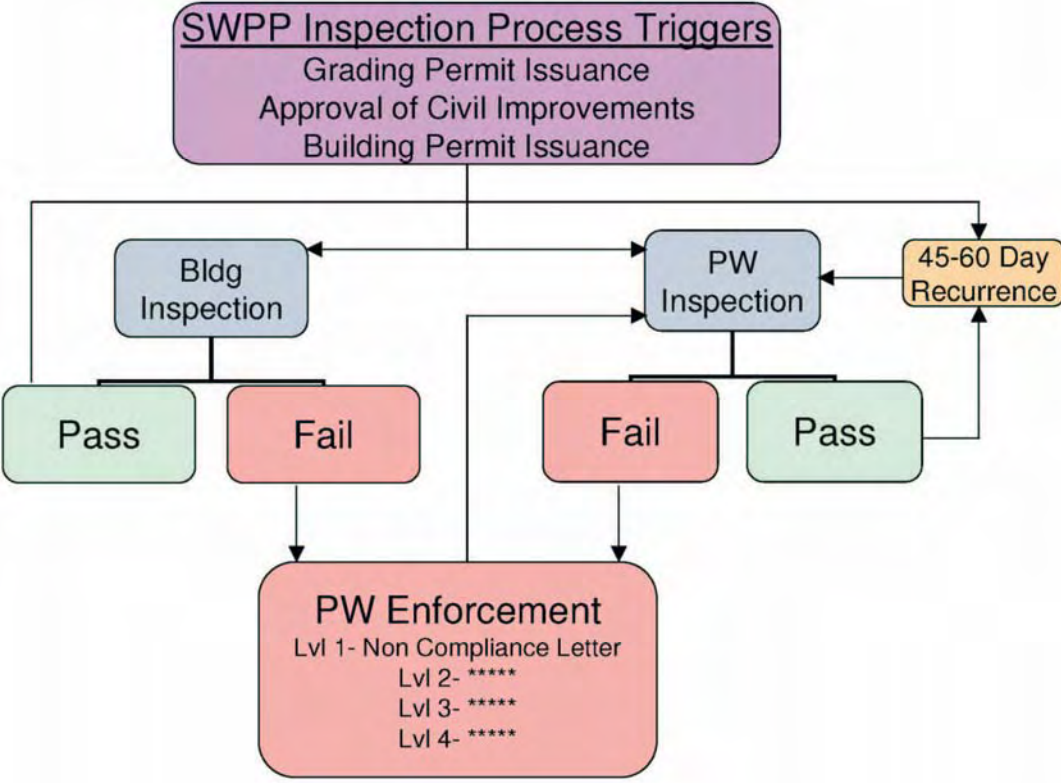
A re-inspection of a construction site is required if the stormwater quality inspection results in a fail. Once a week the Stormwater Quality Program Manager or his designee will run the QC Storm Pollutant Letters KIVA report, which generates notification letters to the construction site operators of sites that failed a stormwater quality inspection. The letter provides a general description of the problems found during the inspection, the location of the inadequate control measures, and the requirements for scheduling a re-inspection of the site. The letter also outlines the procedure for appealing the results of an inspection. Included with the letter will be a copy of the brochure *Stormwater Pollution – What you should know for General Construction and Site Supervision*, which outlines the general BMP's for controlling pollutants in runoff from construction sites. The construction site operator has 14 days to bring the site into compliance and schedule a re-inspection, or appeal the findings of the inspection. During the re-inspection the inspectors will meet with the construction site operator or his designee to review the violations outlined in the letter, review the site's Stormwater Pollution Prevention Plan (SWPPP), make sure that the violations have been brought into compliance and the SWPPP revised, and that there are no other outstanding issues on the site. The inspector will also answer any questions that the construction site operator may have regarding the program prior to or during the re-inspection.

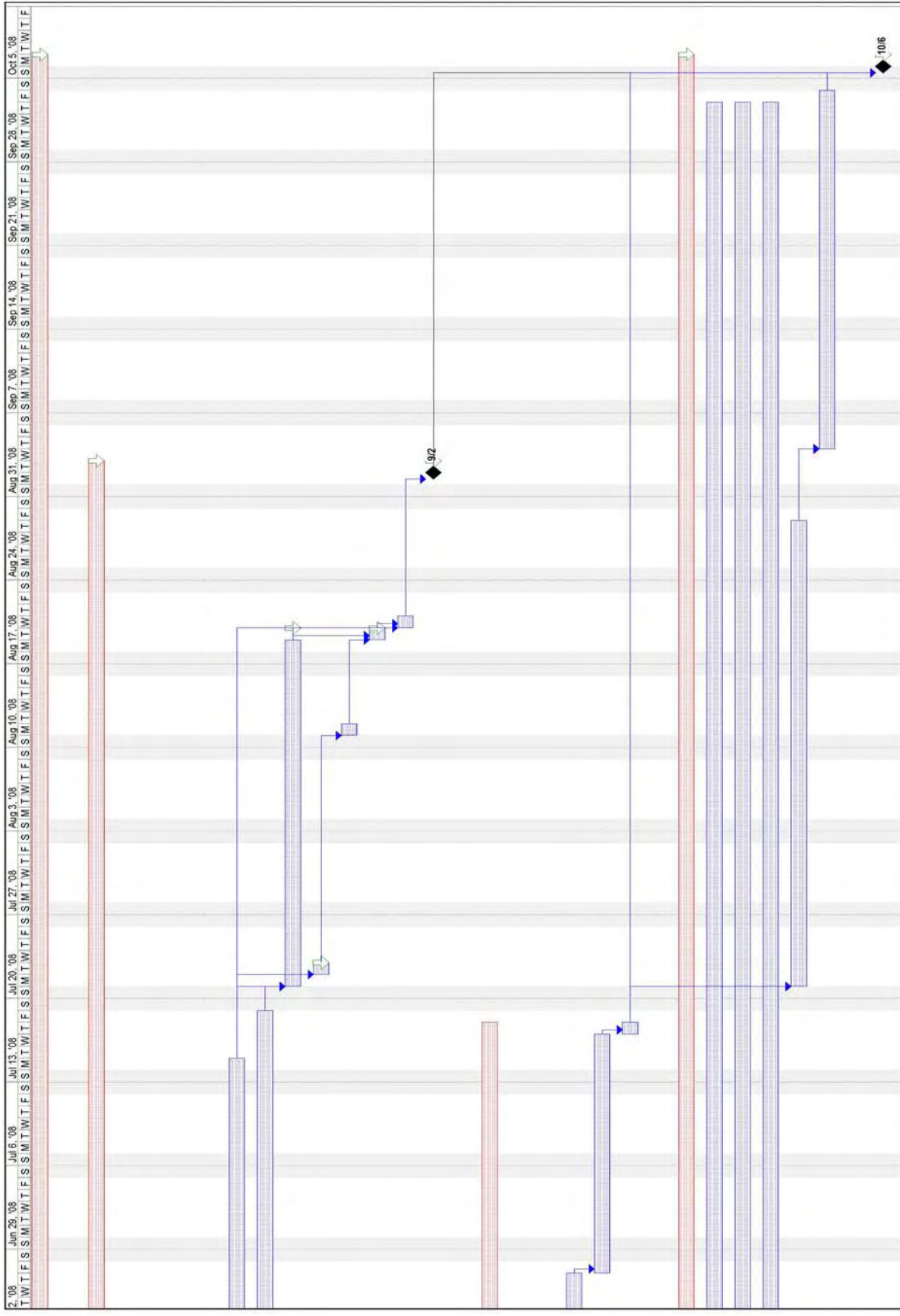
In the event of an appeal, the construction site operator may request a meeting with the inspector or senior inspector for the area. The meeting will allow the operator and the inspector to review the BMP's in the field with respect to the site conditions and fully discuss the inspection findings. The inspector or senior inspector can reverse or reinforce the findings of the inspection, the operator and inspector can work out a settlement to bring the site into compliance, or the appeal can be forwarded to the Stormwater Quality Program Manager (SQPM) or his designee in the event that a settlement cannot be reached. The SQPM will review the inspection report and findings, meet with the inspector or senior inspector, then meet the site operator in the field to review the BMP's in place and field conditions. The SQPM can reverse or reinforce the findings of the inspection, the operator and SQPM can work out a settlement to bring the site into compliance, or the appeal can be forwarded through the process outlined in the stormwater quality program ordinance. During the appeal process sanctions against the site for non-compliance will be deferred the appeal process runs its course. If the site operator is found in non-compliance, the site must be brought into compliance and a re-inspection scheduled within 7 days after the end of the appeal process.

The City of Henderson plans to implement the program elements described above as one package to the City Council for approval on or before September 2, 2008. While the basic program elements have been developed there is a need for additional discussions with the stakeholders concerning funding issues, a final review of the ordinance needs to be completed by both stakeholders and the City attorney, a business impact statement needs to be developed and put out for comments pursuant to NRS 237, and council

briefings need to be scheduled. Attached with this description is a schedule of events with dates that need to occur prior to the September 2, 2008 City Council meeting. The City is moving forward to adopt and implement the program as one package to minimize the potential for confusion that may occur by adopting parts of the program at different times to meet the checklist items in the NDEP letter dated May 2, 2008.

City of Henderson
Construction Site Stormwater Runoff Management Program
Inspection Flowchart





ID	Task Name	Duration	Start	Finish	Predecessors	4/27/08	May 4, 08	May 11, 08	May 18, 08	May 25, 08	Jun 1, 08	Jun 8, 08	Jun 15, 08	Jun						
						M	T	W	T	F	S	S	M	T	W	T	F	S	S	M
1	Construction Site Inspection Program Process	105 days	Tue 5/13/08	Mon 10/6/08																
2																				
3	Stormwater Ordinance Process	81 days	Tue 5/13/08	Tue 9/2/08																
4	Complete Draft Ordinance	3 days	Tue 5/13/08	Thu 5/15/08																
5	CAO Review of Draft Ordinance	11 days	Fri 5/16/08	Fri 5/30/08 4																
6	Stakeholder Review of Draft Ordinance	11 days	Fri 5/16/08	Fri 5/30/08 4																
7	Address Comments on Ordinance	10 days	Mon 6/2/08	Fri 6/13/08 5,6																
8	CAO Review of Final Ordinance	21 days	Mon 6/16/08	Mon 7/14/08 7																
9	Complete Draft Business Impact Statement	23 days	Wed 6/18/08	Fri 7/18/08																
10	Publish BIS in Home News	21 days	Mon 7/21/08	Mon 8/18/08 9,8																
11	Send Ordinance to CC Committee Meeting	1 day	Tue 7/22/08	Tue 7/22/08 8																
12	Ordinance Agenda Review by City Manager Meeting	1 day	Mon 8/11/08	Mon 8/11/08 11																
13	Send BIS to CC Committee Meeting	1 day	Tue 8/19/08	Tue 8/19/08 10,12																
14	Read Ordinance into Title	1 day	Wed 8/20/08	Wed 8/20/08 10,8,13																
15	Adopt Stormwater Ordinance	1 day	Tue 9/2/08	Tue 9/2/08 14																
16																				
17	BMP Guidance Manual Process	48 days	Tue 5/13/08	Thu 7/17/08																
18	Prepare Draft BMP Guidance Manual	11 days	Tue 5/13/08	Tue 5/27/08																
19	Review Draft BMP Guidance Manual	10 days	Wed 5/28/08	Tue 6/10/08 18																
20	Address Comments	12 days	Wed 6/11/08	Thu 6/26/08 19																
21	Review Final BMP Guidance Manual	14 days	Fri 6/27/08	Wed 7/16/08 20																
22	Finalize BMP Guidance Document	1 day	Thu 7/17/08	Thu 7/17/08 21																
23																				
24	Inspection, Tracking, and Reporting Process	105 days	Tue 5/13/08	Mon 10/6/08																
25	Building KIVA Inspection Trigger	105 days	Tue 5/13/08	Thu 10/2/08																
26	Building KIVA Inspection Final	105 days	Tue 5/13/08	Thu 10/2/08																
27	Add Building Department Inspection to current KIVA report	105 days	Tue 5/13/08	Thu 10/2/08																
28	Create Inspector Training Program	29 days	Mon 7/21/08	Thu 8/28/08 22																
29	Inspector Training	22 days	Thu 9/4/08	Fri 10/3/08 28																
30																				
31	Implement Construction Site Inspection Program	1 day	Mon 10/6/08	Mon 10/6/08 28,22,15																

Project Construction Inspection Program
Date: Thu 5/15/08

Task Progress Summary External Tasks Deadline
Split Milestone Project Summary External Milestone

CITY OF NORTH LAS VEGAS
CURRENT STATUS OF PLAN AND SCHEDULE TO ADDRESS
EPA/NDEP STORMWATER PROGRAM AUDIT FINDINGS

The following is City of North Las Vegas' status of and schedule for NDEP-mandated improvements to our stormwater quality program, which have been and are being developed through the Construction Site, Development Guidelines, Detention Basin, and Stakeholders Working Groups.

Construction Site Program

The Stakeholder group is currently wrapping up discussions on Construction. We are drafting an ordinance that authorizes the City to require Best Management Practices (BMPs) at construction sites to control erosion, sediment, and other pollutants; requires construction sites to control wastes, and incorporates a provision to allow for the inspection and enforcement of the ordinance.

The ordinance is currently being review by our attorney's office and the Stakeholder Working Group. In the future, it is our desire to incorporate into the ordinance fines and possibly new fees to pay for the Stormwater Program. The ordinance will need to get approval from our City Attorney's Office and possibly a financial impact analysis and public process (if fees/fines are included) before City Council approval. We expect Council approval on or before September 17, 2008.

North Las Vegas will require contractors/builders to submit proof of submission of a Notice Of Intent and a BMPs checklist to be used on the site before issuance of a grading permit. North Las Vegas will begin requiring Construction Site BMPs once the Las Vegas Valley BMP Manual is finalized and the ordinance is passed. North Las Vegas Offsite Inspectors will perform inspections and enforcement in accordance with the ordinance.

Post-Construction Program

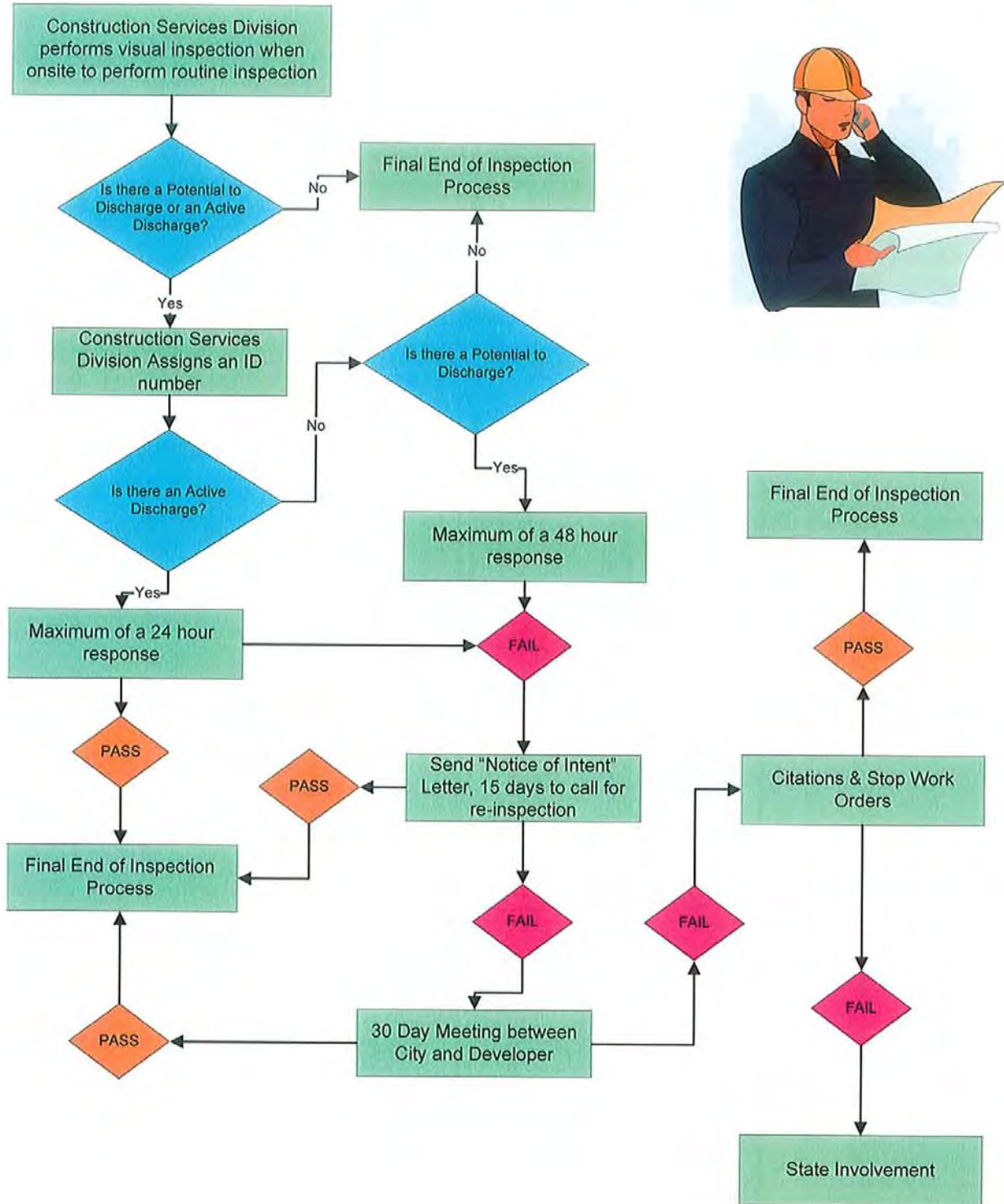
The Stakeholder group is about to begin discussions on Post-Construction issues. North Las Vegas is obligated to draft and adopt a policy or ordinance that will authorizes the City to require structural and/or non-structural BMPs for post-construction in areas of new development and substantial redevelopment and requires long-term operation and maintenance of these Post-Construction BMPs. We believe the accountability and expense for long-term maintenance of any post-construction BMPs should be with private entities, not North Las Vegas.

North Las Vegas will not list/require specific BMPs in our ordinance; rather, specific BMPs and BMP maintenance requirements will be listed in a post-construction BMP manual to be developed by the Stormwater Quality Committee. North Las Vegas' Post Construction Program will include BMPs to control runoff from commercial, industrial, and residential areas; planning procedures and design standards; BMP fact

sheets/guidance manuals to include site design, tracking and maintenance for structural BMPs; training and education; and, estimates of expected reductions in loads.

The schedule for the implementation is highly dependent on how quickly the Stakeholder Working Group proceeds. Considering the complexity of the issues to be resolved, it is likely to be at least spring 2009 before the Post-Construction Program is fully implemented.

CNLV Inspection Process for Stormwater Compliance

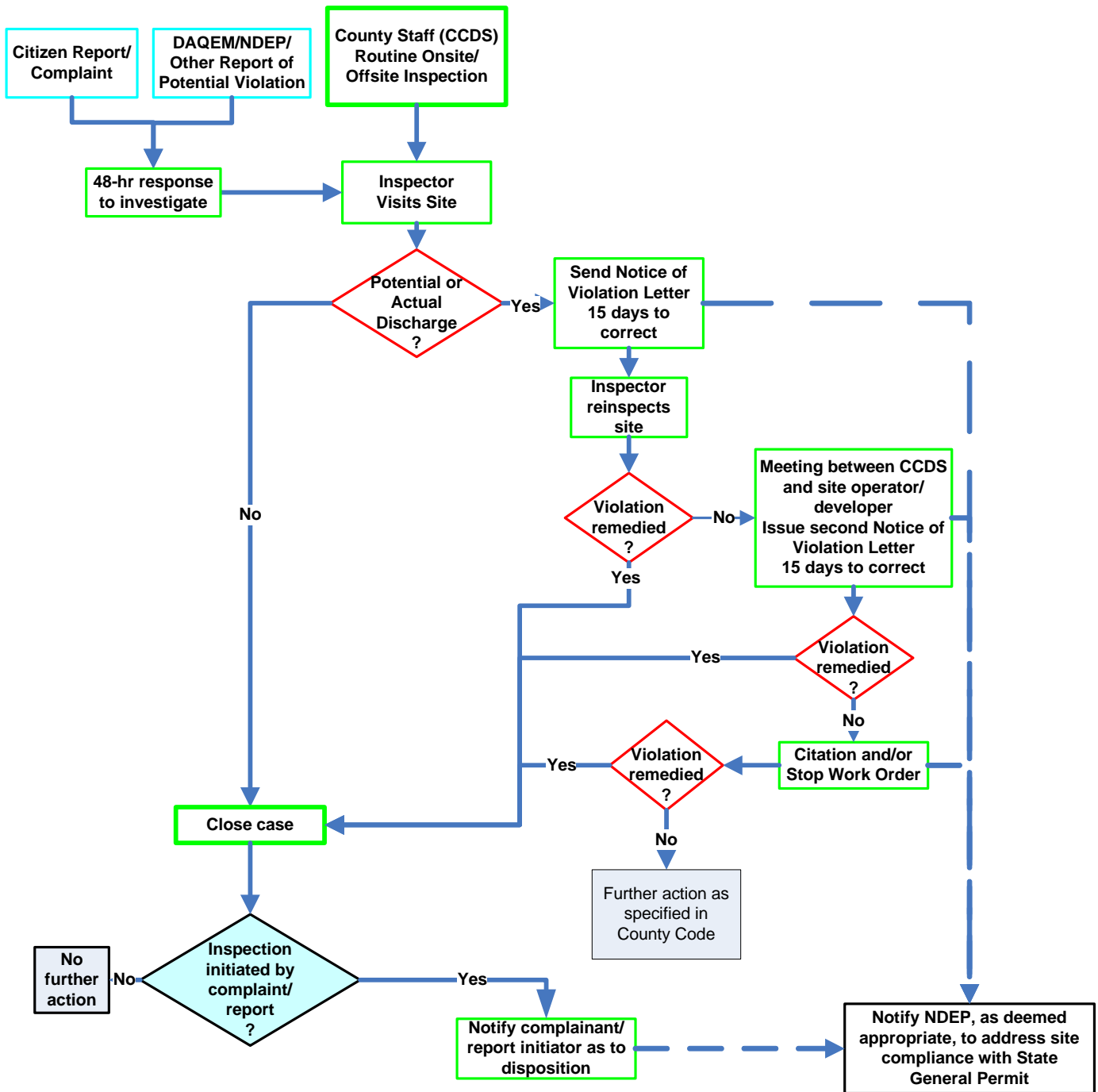


CLARK COUNTY
CURRENT STATUS OF PLAN TO ADDRESS
EPA/NDEP STORMWATER PROGRAM AUDIT FINDINGS
Construction Site Runoff Management Program

Clark County is currently reviewing the local cities' draft construction site stormwater management programs and those programs from other southwestern communities, and a preliminary draft County ordinance is in internal review. It is anticipated that the County ordinance will follow the City of Henderson's basic model. To ensure consistency among inspectors, the County must also formalize an inspection checklist and the BMP guidelines/guidance manual, both of which are being crafted collectively by the MS4 permittees, so that the adopted County code can provide line-item-specific language on inspection requirements. The ordinance will also specify an inspection fee schedule, which will account for costs associated with inspection of the projects. Being a part of the ordinance, fee schedules would be negotiated with stakeholders as a "package" in the standard approval process steps mandated for any draft ordinance; including requiring a business impact statement, public comment period, public hearing, and adoption elements.

It is anticipated that the County will have a draft ordinance for initial public and stakeholder comment by June 15, 2008. The draft ordinance and timetable for ordinance adoption and program implementation will be provided by Clark County to NDEP by June 19, 2008, under a separate cover from this report. Additionally, the current draft flow chart for construction site inspection and enforcement actions is attached.

Clark County Construction Site Stormwater Inspection and Enforcement Process for Potential and Actual Pollutant Discharges to the Storm Drain System



DRAFT: MAY 14, 2008

**Las Vegas Valley MS4 Permit
Post-Construction Runoff Program Development
Development Guidelines Working Group**

**Summary and Status Report to
Nevada Division of Environmental Protection
June 19, 2008**

NDEP Requirements

The MS4 Permittees agreed that certain enhancements to the Post-Construction Runoff Management Program were necessary to comply with the requirements in NDEP letter dated May 2, 2007. The Permittees' letter of June 12, 2007 listed the following activities to be performed:

- (a) Develop and implement strategies which include a combination of structural and/or non-structural BMPs appropriate for the Permittees' community
- (b) Use an ordinance or other regulatory mechanism to address post-construction runoff from new development and redevelopment projects to the extent allowable under State or local law
- (c) Ensure adequate long-term operation and maintenance of BMPs

Incorporate controls that provide for or address:

- (d) Runoff from commercial and residential areas
- (e) Planning procedures
- (f) Design standards, BMP fact sheets or guidance manuals that include site design
- (g) Tracking and maintenance for structural BMPs
- (h) Training and education
- (i) Estimates of expected reductions in loads

Unique Factors

Factors unique to the arid southwest, and to the Las Vegas Valley in particular, with respect to developing a post-construction stormwater management program for new development and significant redevelopment (ND&SR) include the following conditions:

- Mean annual rainfall of approximately 4.2 inches
- Infrequent rainfall, with an average of 15 days of measurable rainfall per year, only 11 of which produce the minimum of 0.10 inches needed to generate significant runoff
- Isolated thunderstorms produce the heaviest rainfall, and typically cover only a few square miles for less than 3 hours
- Undeveloped land is desert on alluvial fans, which produces naturally high sediment loads due to minimal vegetation, erodible soils, and highly shifting natural channels
- Las Vegas Valley continues to be one of the fastest growing urban areas in the nation, so post-construction programs will apply to a considerable area of future development

- The majority of new development consists of housing and associated commercial development, and large hotel/casino resorts.
- The majority of significant redevelopment consists of new hotel/casinos and high-rise residential in the vicinity of the Las Vegas Strip.
- Most new urban landscaping consists primarily of xeriscape, with limited use of turf and limitations to outdoor watering requirements

Development Guidelines Working Group

In order to develop a valley-wide program for post-construction stormwater management for ND&SR, the Permittees formed the Development Guidelines Working Group (DGWG) to research and recommend technical and management strategies related to development of a Post-Construction Program by the Permittees. The DGWG reports directly to the SQMC, and also informs the Stormwater Stakeholder Working Group that has partnered with the SQMC to determine how to comply with and implement the construction- and post-construction-related programmatic changes mandated by the NDEP requirements.

The DGWG is comprised of engineers, planners, and environmental specialists from the five MS4 Permittees who possess varied types of expertise in the fields of site design, construction engineering, erosion control, environmental management, and urban planning. The DGWG has convened approximately 15 meetings since June 2007, at which 12 to 18 members have been in attendance per meeting. The creation of this working group has ensured appropriate local government staffs are fully informed on the local and regional stormwater issues so that they can, in turn, effectively bring these issues to the attention of their respective managements, to the SQMC, and to the SSWG.

The DGWG has identified and explored several local government post-construction program options, has evaluated how these options would affect and/or require changes to current procedures or regulatory mechanisms for implementation, and has prepared recommendations and prepared issue summaries for consideration by the SQMC and the SSWG. An overview of the issues are provided below, each of which is linked to the NDEP requirements, as specified above. A complete description of these issues and the rationales for suggesting specific options to the SQMC are provided in a working draft report entitled, “*Supporting Information for Preparation of the Proposed Post-Construction Program for New Development and Significant Redevelopment*,” (which can be viewed at:

http://breccia.ccrfcd.org/pdf_arch1/NPDES/SSWGWebDocs/2008_01_18%20DGWG_WorkingDraft.pdf).

The majority of this information has been presented to the SQMC for review and is in the process of being provided to the SSWG for its deliberation on the proposed Post-Construction Program components.

Objectives for Managing Quality and Quantity of Runoff from ND&SR (a, d).

The DGWG has developed recommended program objectives for site- and development-level runoff quality (e.g., maximum extent practicable, numerical pollutant limits) and quantity (e.g., local BMP design storm, pre-development versus post-development runoff peak and volume targets, water quality goals).

Issues of Scale (f). The DGWG has developed recommendations on the areal extent (e.g., 1-acre site, on-lot, watershed-based) for which the MS4 Permittees will require and plan for BMP implementation.

Post-construction Program Implementation Philosophy (g). The DGWG has developed recommendations on the level of detail the MS4 Permittees should prescribe (i.e., performance-, specification- or guidance-based) to developers, engineers and planners for which BMPs will be employed at a given site or condition.

Possible criteria to evaluate BMPs (a, d, f, h). The DGWG has developed a set of criteria that need to be evaluated to determine the viability of a given BMP. In general, these criteria are based on effectiveness (i.e., will it work?), feasibility (i.e., can we implement it?) and costs (i.e., can we afford it?). The DGWG reviewed and evaluated twenty-eight potential structural and non-structural BMPs that could be effective in arid environments such as the Las Vegas Valley and prepared recommendations.

Who will own, construct, and maintain structural BMPs (c, g). The DGWG has evaluated the likely options for the ownership, construction, maintenance, and monitoring issues surrounding the requirements for localized BMPs.

New ordinances or other regulatory mechanisms (b). The DGWG has assessed and evaluated the need for and management and administrative consequences of establishing new ordinances to implement a post-construction program. Each MS4 Permittee is evaluating these individually, and the SSWG is evaluating them collectively.

Integration and coordination with related existing programs and policies (a, b, d, e). The DGWG has reviewed existing local ordinances and development codes (e.g., standards for landscape and parking lot design) and other municipal and regional regulatory mechanisms (e.g., CCRFCD Hydrologic Criteria and Drainage Design Manual) for potential conflicts or obstacles to implementing recommended structural and non-structural post-construction program elements. Also in evaluation are ordinances and regulatory mechanisms that may be complimentary and/or already support the program, post-construction planning measures currently employed in the region (e.g., LEED, low-impact development) appropriate for and implementable in the Las Vegas Valley MS4 region, and those processes being implemented in other Southwest U.S. communities (e.g., Phoenix, Tucson, Maricopa and Pima Counties).

Existing activities to integrate into overall post-construction program (a, b, c, d, e, h). The DGWG has identified existing practices that, either as-is or with some enhancement, will be considered for inclusion in the overall Post-Construction Program. The Permittees and Las Vegas Valley residents are currently participating in or employing

many BMPs for stormwater runoff management. Some of these were addressed in the EPA audit, although several were not. Linked to the NDEP requirements specified above, these include:

- Street sweeping (a, d)
- Storm drain cleaning (a, c, d, g)
- Stormwater system inspections (“Wash Walks”) (a, d)
- Sediment removal (source control) from regional detention basins (c, g)
- Storm drain inlet marking (h)
- Public outreach/public service announcements (h)
- Turf removal incentive program/xeriscaping guidance/drought ordinances (a, b, d, h)
 - Highlighted in the EPA publication, *“Water-Efficient Landscaping: Preventing Pollution and Using Resources Wisely”*
- Open space planning (d, e)
- Construction and operation of new regional detention basins (a, d)
- Hard-lining of erodible channels (a, d)
- Las Vegas Wash erosion control structures (a, d)
 - Resulting in the 2006 delisting of TSS from the EPA 303(d) list
 - Highlighted on the EPA website as, *“Section 319 Nonpoint Source Success Story-Nevada: Best Management Practices Drastically Reduce Sediment and Restore Water Quality in Las Vegas Wash ”*
- Desert dumping controls (b)
- Good housekeeping code for commercial and industrial sites (b)
- Promulgation of Green Building, Low Impact Design, and other sustainable development principles by planning departments (e)
- Formation of Las Vegas Valley Watershed Advisory Committee to integrate all water quality planning in the Valley (e)
- Household hazardous waste pickup(a)

The DGWG will continue to meet throughout the SSWG/SQMC process of debating and adopting Post-Construction Program elements, thereby acting as a technical resource and as a means of coordinating with the internal departments in each Permittee.

Stormwater Stakeholder Working Group Role in Post-Construction Program Development

The Stormwater Stakeholder Working Group first met in January 2008, at which time it began its efforts on construction-related issues. The SSWG discussion on the Post-Construction Runoff Program for ND&SR was initiated at May SQMC meeting. The SSWG is in the process of addressing the following issues:

- Making a philosophical choice of program direction
- Setting objectives for water quality and quantity management
- Assessing runoff quality/quantity approaches for post-construction site conditions
- Determining BMPs suitable for our climate
- Addressing site design and structural BMP issues with respect to:
 - Who designs and approves them

- Where they are located (public lands vs. private property)
- Who builds them
- Who maintains them
- How they are inspected
- Who pays for their design, construction/installation, maintenance, and monitoring
- Evaluating proposed ordinances and other regulatory mechanisms
- Addressing the potential impacts of changed planning policies and guidelines on community services (e.g., plan reviews, inspections), developers, and land values
- Inventorying and integrating current local sustainability efforts, such as LEED, SNHBA Green Building Initiative, and other LID efforts
- Overseeing preparation of a Post-Construction BMP Guidance Manual
- Evaluating education/outreach efforts to industry (e.g., guidance manual, training) and the general public
- Establishing measurable goals to gauge permit compliance and program effectiveness.

It is anticipated that the SSWG will require 6 to 9 months from May 2008 to address all the issues above, and others that are raised during the program development process.

Issues to be Addressed and Timetable to Implement

Ordinance development. It is expected that each entity will draft post-construction ordinances, and will study the feasibility of adopting EPA's model stormwater ordinance to assist in accomplishing this. It is anticipated that for each MS4 entity the ordinance approval process for this stormwater program element will take a parallel, although not concurrent, path as are the construction/industrial stormwater ordinances. Thus, with SSWG input, it is anticipated that draft ordinances will be available for public comment and business impact analyses by fall 2008 and will be adopted by each respective council/board by summer 2009.

In the interim, the SQMC and SSWG, and each MS4 Permittee individually will:

- Determine the specific changes to ordinances, policies, or guidelines that will be required to implement the recommended planning measures, and prepare draft language for new or revised ordinances, policies or guidelines
- Determine how new ordinances will affect site plan review and permitting process with respect to
 - Staff and staffing requirements
 - Construction inspection of structural BMP
 - Operation and maintenance plans
- Assess these proposed ordinances against current regulations and programs
 - LVVWAC, LVWCC, LMWTF programs
 - Open space and conservation plans
 - Compare to SNWA programs
 - Drought ordinance
 - Water conservation program
- Determine whether a regional agency can provide long-range planning authority, or whether this can be achieved only at the local level
- Assess the need for and framework of a funding mechanism

Measurable goals. Evaluate and establish measurable goals intended to gauge permit compliance and program effectiveness, to include:

- Tracking implementation over time
- Measuring progress in implementing the BMP
- Tracking total numbers of BMPs implemented
- Tracking program/BMP effectiveness
- Tracking environmental improvement

Clark County Stormwater Industrial Inspections Program Expansion
Under the National Pollution Discharge Elimination System
Las Vegas Valley Municipal Separate Storm Sewer System (MS4) Permit

Report to Nevada Division of Environmental Protection
May 15, 2008

Background

In the audit conducted by the US Environmental Protection Agency (EPA) on the implementation of the stormwater management program in the Las Vegas Valley, it was concluded,

“Clark County has not implemented a program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities that are contributing a substantial pollutant loading to the MS4.”

Subsequent to that report, the Nevada Division of Environmental Protection (NDEP), in its letter to the MS4 permittees dated May 2, 2007, the following requirements for Clark County:

- To develop an inventory and plan for the industrial facilities that are or may be contributing a substantial loading to the MS4
- To revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities

Inspection Personnel Planning and Support

For industrial sites in unincorporated Clark County, the approach to implement this program since 2004 has in large part been through collaboration with the Clark County Department of Air Quality and Environmental Management (DAQEM) and the Clark County Water Reclamation District (CCWRD) through an Interlocal Contract. This partnership will continue for the foreseeable future. This contract was primarily to inspect all industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (herein referred to as “313 sites”) as listed on the EPA’s Toxic Release Inventory (TRI), and to perform these inspections at a cost not to exceed \$15,000 per fiscal year.

At its May 6, 2008 meeting, the Clark County Board of County Commissioners approved an expanded Interlocal Contract with CCWRD to conduct and report on inspection of industrial sites. This includes the allocation of funds to \$160,000 through June 30, 2010, in order to satisfy the NDEP requirements. The goals and objectives of this contract include:

- Supporting DAQEM in developing a tiered, prioritized list of industrial facilities and sites that need stormwater system compliance inspections
- Conducting inspections, including follow-up inspections when necessary
- Maintaining records of inspections and other relevant information

- Developing standard operating procedures to facilitate all aspects of the industrial facility inspection program
- Developing, conducting, and participating in training for inspectors and the industrial community

County Ordinance

In order to better implement a full-scale industrial stormwater inspection, compliance, and enforcement program changes to current and/or the creation of new Clark County ordinances are needed. The Stormwater Ordinance currently in the process of being drafted will include both industrial and construction site inspection and enforcement elements. The estimated timetable for the approval of this ordinance, which includes the steps of completing the draft, for conducting a business impact analysis to include public comment, for the formal public hearing process, and for final approval by the BCC will be reported to NDEP by June 19, 2008.

Prioritizing Industrial Facilities for Inspection

DAQEM, with support from CCWRD, is implementing a multifaceted strategy for expansion of the industrial stormwater inspection and reporting program. This first step involves categorizing the industries, facilities, and sites to be inspected, to include those:

- 1) Currently being inspected under other programs, but have not previously been reported with respect to stormwater pollution mitigation (e.g., grease interceptors)
- 2) That can be inspected in the near-term and/or at little or no addition cost with respect to the current interlocal contract, and
- 3) That can be inspected in the longer term, likely to incur significant additional costs

These categories are summarized in Table 1. Details regarding each category currently being implemented follow, along with the progress made to date.

Table 1. Summary of Approaches to Expand Stormwater Industrial Inspection Program*

Timetable to Implement	Inspection Approach/ Industry Category	Activities/Level of Effort to Perform	Estimated # Facilities
Immediate (or ongoing)	Grease trap inspections	CCWRD desktop data compilation	~2000
	Dovetailing with on other ongoing environmental inspection programs	Coordinate with respective facility (e.g., McCarran Airport, Nellis AFB) ES&H manager; significant effort in coordination and data review, but not so for actual on-site inspection time	2 to 4 very large facilities (1)
Near-term (6 to 24 months)	All identified 313 sites	CCWRD to inspect all sites on TRI website	<5 (4)
	CCWRD pretreatment sites	CCWRD to identify facilities also appropriate for stormwater inspections; effort level less than current inspections	10 to 20 (7)
	NPDES industrial permit holders	CCWRD and DAQEM to identify most critical facilities to inspect ; inspection effort equivalent to those completed.	~20
	Municipal landfills/hazardous waste facilities	DAQEM to identify any appropriate facilities in landfill, recycling, and similar categories	<5

	Transportation and other priority facilities	DAQEM and CCWRD to identify most critical facilities to inspect	~50
	School bus yards	DAQEM to determine jurisdictional issues and inspection approach	3 (1)
Long-term (2 to 5 years)	Industrial park approach	Significant time to be expended identifying industrial park locations and appropriate industries within the park to inspect, and in notifying/coordinating with owners to perform inspections	Several dozen businesses
	Corporate Yards	DAQEM to work with County departments to determine inspection and reporting approaches	~15
	Federal facilities	DAQEM to work with NDEP and respective facility to determine jurisdictional issues/inspection approach	~5
	Review large- and small-quantity generators lists	DAQEM and CCWRD to identify most critical facilities to inspect	10 to 50
	Review CCFD business licensing forms	DAQEM to confer with CCFD to identify most likely facilities to inspect.	~25

* Text in **BOLD** indicates elements of the strategy under implementation and sites inspected to date

Reporting Immediate or Ongoing Inspections

Grease trap/sand-oil interceptor inspections. CCWRD will, on a quarterly basis, report the grease trap and sand-oil interceptor inspections it performs as part of its wastewater pretreatment inspection program. These inspections are a valid stormwater pollution mitigation strategy, for which the grease interceptor program underway in the Las Vegas Valley is singled out by EPA on its website as an example of an effective stormwater illicit discharge detection and elimination program (see http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=3).

The initial quarterly Grease and Sand/Oil Interceptor Inspections Report, covering October 1 through December 31, 2007, is provided as a spreadsheet in Attachment 1. This report documents over 350 inspections during this 3-month time period.

Dovetail with Ongoing Inspection Programs. While conducting a routine wastewater pretreatment inspection of Nellis AFB, the CCWRD inspector also conducted a cursory stormwater inspection of the base with its Environmental Engineer. Included in the inspection report of the base were copies of the AFB's stormwater awareness training module, its standardized stormwater inspection checklists, and a list of the building and other facilities throughout the base regularly inspected for stormwater permit compliance. Similar interactions and collaborations are planned for the Clark County Department of Aviation facilities (i.e., airports managed by Clark County in the Las Vegas Valley) and other facilities as they are identified.

Near-term Inspection Strategy

Inspections of "313 Sites". The first round of inspections of 313 sites in unincorporated Clark County was completed as noted with the visits to the facilities listed in Table 2. A timetable for initiating the next round of visits to each of the 313 sites listed on the TRI webpage will be incorporated into the overall inspection program strategy as outlined in

Table 1. It should be noted that a perennial challenge of conducting inspections of facilities listed on the EPA TRI webpage is that the webpage is not regularly maintained and several of the sites have been found to either no longer be in operation or are otherwise unable to be located at the addresses provided.

Table 2. Most recently Inspected Clark County 313 Sites

313 Site	Address
Meadow Gold Dairies	6350 E. Centennial Pkwy, N Las Vegas 89115
Service Rock Products, Inc	Cactus and Pollock Rd
MCC Uniflex	115 Grier Rd, Las Vegas 89119
Rebel Oil Co., Inc.	5054 N. Sloan Rd, Las Vegas 89115

CCWRD Pretreatment Sites. In this permit year (2007-2008), CCWRD, based on operational knowledge of its inspection staff, has begun to inspect its pretreatment facilities for stormwater compliance that are determined to have the potential to contribute a significant pollutant load to the MS4. Table 3 identifies these facilities. It should be noted that the facilities in Table 3 are either “non-filers” (i.e., they have not filed notices of intent [NOIs] with NDEP under its general industrial permit), or have not been listed in the NDEP database as having filed an NOI (see later discussion on the NOI database).

It should also be noted here that two of the facilities listed in Table 3, RC White (Arville) Transportation Center (i.e., a CCSD bus yard) and Nellis AFB, are also facilities listed in other categories of the inspection prioritization strategy outlined in Table 1. This is evidence of the robust strategy Clark County is employing to “develop an inventory...for the industrial facilities that are or may be contributing a substantial loading to the MS4.”

Table 3. CCWRD Pretreatment Inspection Sites Inspected for Stormwater Compliance

Facility	Address
Baker Commodities	5725 Range Rd, Las Vegas
Ken's Foods, Inc.	8925 Kens Ct, Las Vegas 89139
RC White (Arville) Transportation Center	4499 S Arville St, Las Vegas 89103
Nevada Linen Supply	3960 Mesa Vista Dr, Las Vegas 89118
American Soft Gel Products	7440 S. Dean Martin Ave, Suite 206
Nellis AFB	6020 Beale Ave, Las Vegas 89191
Western Linen Services	4575 S Procyon Ave, Las Vegas 89103

Clark County School District (CCSD) Bus Yards. While CCSD facilities are exempt by Nevada Revised Statutes from having to file an NOI for stormwater management, its facilities are not exempt from inspection for compliance with stormwater regulations. Therefore, as part of its pretreatment inspection program, the CCWRD inspector visited the RC White (Arville) Transportation Center, which is a bus yard owned and operated by CCSD. In addition to CCWRD completing the inspection and CCSD effectively addressing to the inspection findings in a timely manner, DAQEM has offered to make a stormwater pollution awareness presentation to CCSD management. The results of the inspection and the letter offering this training are provided in Attachment 2. Other CCSD bus yards within unincorporated Las Vegas Valley will also be considered for future inspections.

NPDES-permitted Facilities in NDEP Database. DAQEM evaluated the NPDES-permitted industries by reviewing the NDEP website <http://ndep.nv.gov/bwpc/industrialnoi/signin.aspx> containing all permits (i.e., NOIs) within the Las Vegas Valley MS4 at. A list of these facilities is presented in Table 4. The locations of these facilities have been plotted on a map of the area in Figure 1.

Table 4. Facilities in NDEP Stormwater NOI Database in Unincorporated Clark County

Parcel #	Facility	Address	Location/Township
140-21-304-004	Holton Truck Lines	3640 Meikle Ln	Sunrise Manor
123-32-301-014	DBA King Auto Parts	5001 Copper Sage St	Unincorp. County
162-22-402-001	CLS Transportation	4744 Paradise Rd	Paradise
162-32-810-005	Merillat Industries	6405 Ensworth St	Paradise
161-28-801-001	Clark Station	5640 Stephanie St	Whitney
161-10-601-001	Sunrise Station	6350 (6300) Vegas Valley Dr	Sunrise Manor
126-36-301-001	Lone Mountain Pit	10811 W Washburn Rd	Unincorp. County
140-17-402-007	Cool Transports Inc	4466 E Carey Ave	Sunrise Manor
162-30-801-013	Omega Products Corp	5576 Wynn Rd	Paradise
140-21-301-001	Pabco Gypsum	1990 (1973) N Nellis Blvd	Sunrise Manor
162-19-203-011	Pan Western Corp	4755 W University Ave	Paradise
140-17-703-004	Precast Concrete Co	2755 N Nellis Blvd	Sunrise Manor
162-08-803-003	Prime Fabrication & Supply	3130 Westwood Dr	Winchester
162-30-801-015	Federal Sign	3900 W Dewey Dr	Paradise
162-01-402-005	Taylor Hall US Army Reserve Center	2901 E Sahara Ave	Las Vegas
177-04-802-001	UPS 335	335 E Arby Ave	Enterprise
161-12-000-001	Sunrise Landfill Cover	7901 (7900) Vegas Valley Dr	Unincorp. County
162-20-302-002	Bus Maintenance Facility	3200 W Tompkins Ave	Paradise
162-20-302-011	Bus Maintenance Facility	3200 W Tompkins Ave	Paradise
163-36-601-037	Cind R Lite	6085 S Decatur Blvd	Spring Valley
140-17-703-005	Nevada Construction Clean Up Inc	2745 N Nellis Blvd	Sunrise Manor
191-19-101-008	Sierra Ready Mix	13890 S Decatur Blvd	Unincorp. County
176-23-701-009	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-23-801-002	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-23-801-011	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-26-501-003	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
140-16-310-043	Evergreen Recycling Center	5491 Accurate Dr	Sunrise Manor
140-05-201-012	Las Vegas Western Warehouse	4495 Copper Sage St	Sunrise Manor
162-29-401-003	Auburn Fibers	3585 W Diablo Dr	Paradise
140-05-101-009	Fed Ex Freight West	4610 N Lamb Blvd	Sunrise Manor
140-17-311-014	Cary Industrial Park	2612 Abels Ln	Sunrise Manor
161-31-311-003	DHL Express	6180 S Pearl St	Paradise
123-34-201-004	Beasley Plant	5355 Beesley Dr	Unincorp. County
161-31-310-017	General Electric	6295 S Pearl St	Paradise
123-32-301-014	Las Vegas Metals Recycling	5001 Copper Sage St	Unincorp. County
162-30-201-004	Young Electric Sign	5119 Cameron St	Paradise
123-27-601-008	Vegas Valley Auto Wrecking	6019 N Hollywood Blvd	Unincorp. County
162-17-204-001	Cinder Cone Mine	3660 (3333) Cinder Ln	Paradise
162-27-301-001	Mccarran International Airport	5757 Wayne Newton Blvd	Paradise
161-15-401-002	Central & Advanced Treatment Plants	5857 E Flamingo Rd	Whitney
161-10-701-003	Abbies Auto Wrecking	6361 (6351) Vegas Valley Dr	Sunrise Manor
163-15-101-001	Wells Cargo	7770 Spring Mountain Rd	Spring Valley
191-19-401-002	Sloan Plant	14575 Arville St	Unincorp. County

163-16-401-005	Desert Breeze Water Resource Center	4085 S Tomsik St	Spring Valley
123-26-201-003	Davis Auto Wrecking	6020 N Hollywood Blvd	Unincorp. County
162-32-301-005	Granite World	6280 S Valley View Blvd A	Paradise
176-23-701-015	Arden Terminal	6400 W Richmar Ave	Enterprise
177-03-501-001	USPS Vehicle Maintenance Facility	1001 E Sunset Rd	Paradise
123-32-101-004	Ev-Con Recycling Facility	4560 E Hammer Ln	Unincorp. County
163-36-801-039	Yellow Transportation	5049 W Post Rd	Spring Valley
123-27-601-004	Prostar Drop Boxes LLC	6131 N Hollywood Blvd	Unincorp. County
176-23-410-009	Ready Mix Inc	6501 W Richmar Ave	Enterprise
17727801016	South (Cactus) Plant	1001 E. Cactus	Enterprise

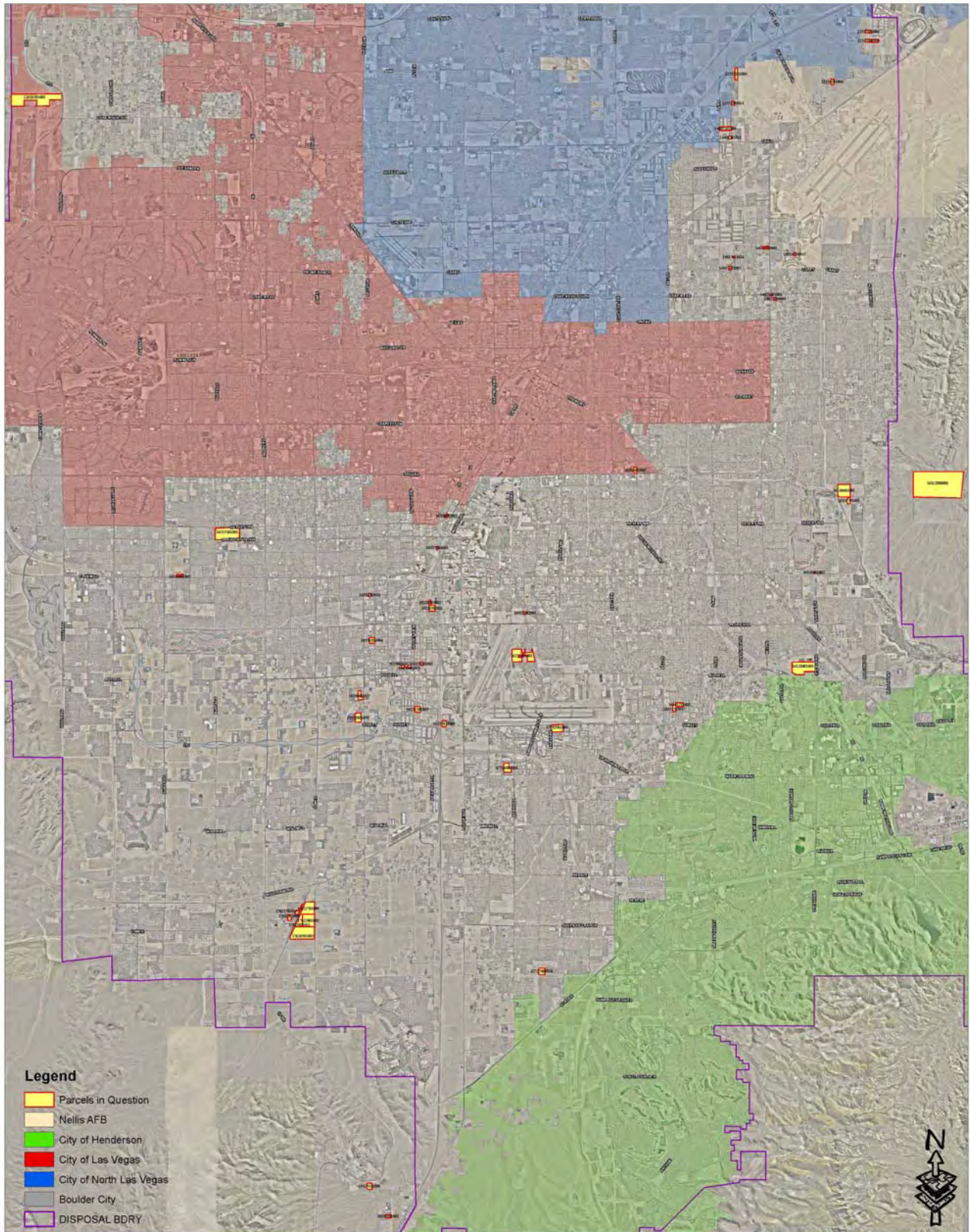


Figure 1. Locations of facilities in NDEP stormwater NOI database in unincorporated Clark County

Development of Stormwater Industrial Inspections Standard Operating Procedures (SOP) and Awareness Training Materials

SOP Development. In order to better define the stormwater industrial inspection, violation, and enforcement processes a flow diagram and an accompanying SOP was drafted (Attachment 3). As the program continues to develop and the routine steps in the process become evident the CCWRD inspection staff and DAQEM will formalize additional, more detailed SOPs.

Inspection Form Development. In addition, a more extensive on-site inspection form has been developed to better guide the inspector through each inspection, thereby both ensuring consistency and thoroughness among inspections, and reducing the time required to report the results of each inspection. This form has been incorporated into the inspection process and was employed at the start of the 2007-2008 permit year.

Awareness Training. A draft industrial stormwater training module has been developed by DAQEM which will be a template for the training of managers and employees at industrial facilities covered under the NPDES Industrial Stormwater Permit, as well as for other industry and governmental professionals. It is anticipated that this training program will compliment the presentation developed by DAQEM entitled, "Stormwater Management for Construction Sites" currently being used by DAQEM instructors in the Dust Class, and will ultimately help industrial facilities avoid stormwater-related violations.

Attachment 1

Grease and Sand/Oil Interceptor Inspections Report, Clark County Water Reclamation District, October 1 – December 31, 2007

TYPE	ACCT NAME	ADDRESS	ZIP	COMP	LOCATION	INSP DATE
PSND	Palms Hotel & Casino	4321 W Flamingo Rd	89147	YES	TRASH COMPACTOR	10/31/2007
PSND	Charleston Auto Care Plaza	10127 W Charleston Blvd	89117	YES	COMMON 10127 W CHARLESTON	11/30/2007
PSND	Charleston Auto Care Plaza	10127 W Charleston Blvd	89117	YES	COMMON 10177 W CHARLESTON	11/30/2007
PGRS	Werner Center	4200 W Russell Rd	89118	YES	SUITE 115-TACOS EL NOPAL	10/15/2007
PGRS	Pt Pub	582 E Silverado Ranch Blvd	89123	YES	PT PUB	10/10/2007
PGRS	Rhino Mart	780 E Pyle Ave	89123	YES	CAR WASH	10/29/2007
PSND	Snackers II (681989 Lvvdw)	9430 Peace Wy	89147	YES	SNACKERS II	12/19/2007
PGRS	Sysco Food Service	6201 E Centennial Pkwy	89115	YES	FACILITY GREASE TRAP	10/17/2007
PSND	Sysco Food Service	6201 E Centennial Pkwy	89115	YES	MAINT. SHOP	10/17/2007
PSND	Tire Works	9590 W Tropicana Ave	89147	YES	TIRE WORKS	12/17/2007
PGRS	Charleston Auto Plaza	10267 W Charleston Blvd	89141	YES	KENTUCKY FRIED CHICKEN	11/29/2007
PGRS	Charleston Auto Plaza	10267 W Charleston Blvd	89141	YES	TACO BELL	11/30/2007
PGRS	Taco Bell	6461 Boulder Hwy	89122	YES	TACO BELL	10/10/2007
PGRS	Food 4 Less	4965 E Sahara Ave	89104	YES	FOOD 4 LESS	12/20/2007
PGRS	Molly Malones Irish Pub	11930 Southern Highlands Pkwy	89135	YES	MOLLY MALONES IRISH PUB	11/27/2007
PGRS	Senior Recreation Center	953 E Sahara Ave	89109	YES	SENIOR RECREATION CENTER	11/19/2007
PGRS	Commercial Center	9755 W Russell Rd	89148	YES	CLUB KITCHEN	10/15/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	PHO NOG	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	SUSHI YAKAHOMA	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	NO	SUSHI YAKAHOMA	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	HAMBURGER MARYS	10/2/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	WAKO	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	ELI WOODS/ISLAND GRILL	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	EL CHONCHO	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	CHINA STAR	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	JACK IN THE BOX	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	STE 18/19 I TOY	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	O.J. BIBINGKAHAN	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	PLAZA CAFE	12/6/2007
PGRS	Windmill Valley Plaza	8140 S Eastern Ave	89123	YES	SUITES 1-2	11/5/2007
PGRS	Target	4155 S Grand Canyon Dr	89147	YES	TARGET DELI	12/19/2007
PSND	Enterprise Leasing Co West	8290 Arville St	89117	YES	CARWASH	11/9/2007
PSND	Red Rock Country Club - Mtn Golf Cart Barn	2250 Red Springs Dr	89135	YES	CART MAINT BLDG	12/14/2007
PGRS	Tropicana Partners 2 Llc	9837 W Tropicana Ave	89135	YES	TIMBERS BAR AND GRILL	12/18/2007
PSND	Sears Grand	4355 S Grand Canyon Dr	89147	YES	AUTO CENTER	12/19/2007
PGRS	Hualapai Rochelle Partners L L C	4280 S Hualapai Wy	89147	YES	STE 108-BUFFALO WILD WING	12/19/2007
PSND	Automotive Center	9530 W Tropicana Ave	89135	YES	JUST BRAKES	12/17/2007
PSND	Automotive Center	9530 W Tropicana Ave	89135	YES	SUN AUTO	12/17/2007
PGRS	Faith Lutheran Jr/Sr High School	2015 S Hualapai Wy	89117	YES	SCHOOL KITCHEN	11/30/2007
PSND	Faith Lutheran Jr/Sr High School	2015 S Hualapai Wy	89117	YES	MAINT SHOP	11/30/2007
PGRS	Fire Station #28	10820 W Sahara Ave	89135	YES	KITCHEN	12/14/2007
PSND	Fire Station #28	10820 W Sahara Ave	89135	YES	SERVICE BAY	12/14/2007
PGRS	Shooters Bar And Grill	4465 E Sahara Ave	89104	YES	SHOOTERS BAR AND GRILL	12/29/2007
PGRS	Panda Express	2625 S Eastern Ave	89109	YES	PANDA EXPRESS	11/29/2007
PGRS	Vegas Valley Plaza	2755 S Nellis Blvd	89121	YES	HAWAIIAN BARBEQUE STE 1	12/19/2007
PGRS	Red Rock Station Casino	11011 W Charleston Blvd	89135	YES	LOADING DOCK	12/7/2007
PGRS	Red Rock Station Casino	11011 W Charleston Blvd	89135	YES	LOADING DOCK	12/7/2007
PGRS	Apache Plaza	4235 S Fort Apache Rd	89135	YES	MONTESANO PIZZA	12/20/2007
PGRS	Apache Plaza	4235 S Fort Apache Rd	89135	YES	SUITE 250-BAJIO REST	12/20/2007
PSND	Apache Plaza	4295 S Fort Apache Rd	89147	YES	BRAKE TEAM	12/20/2007
PGRS	Apache Plaza	4295 S Fort Apache Rd	89147	YES	SPORT CLIPS	12/20/2007
PGRS	Tropicana-Tee Pee Shopping Ctr	9575 W Tropicana Ave	89135	YES	SHANGHAI EXPRESS	12/18/2007
PGRS	Apache Plaza	4199 S Fort Apache Rd	89147	YES	FAT BURGER	12/20/2007
PGRS	Smiths Food And Drug	10100 W Tropicana Ave	89147	YES	DELI	12/18/2007
PGRS	Headstart Preschool	2845 Mohawk St	89146	YES	SCHOOL KITCHEN	12/12/2007
PGRS	Siena Town Center	10170 W Tropicana Ave	89135	YES	BOUNTY HUNTER	12/18/2007
PGRS	Siena Town Center	10180 W Tropicana Ave	89135	YES	CAGWT102	12/19/2007
PGRS	Grand Canyon Commercial	9730 W Tropicana Ave	89147	YES	SUITE 140 MAMA LUIGI'S	12/17/2007
PGRS	Hualapai Peace Retail Ctr	4520 S Hualapai Wy	89135	YES	LAHAINA GRILL...03/09/06	12/19/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	YES	SUITE D	10/25/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	NO	SUITE C	10/29/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	NO	SUITE D	10/29/2007
PSND	Siena Auto Spa	9780 W Tropicana Ave	89147	YES	SIENA AUTO SPA	12/17/2007
PGRS	Grand Canyon Commercial	9700 W Tropicana Ave	89147	YES	I LOVE BBQ#100	12/17/2007
PGRS	Popeyes Chicken & Biscuits	4225 S Fort Apache Rd	89147	YES	POPEYE'S CHICKEN	12/20/2007
PSND	Princeton Auto Sales	3105 E Sahara Ave	89104	YES	PRINCETON AUTO SALES	12/12/2007
PGRS	Butterfly Square	545 E Sahara Ave	89104	YES	KARONA GRILL	10/15/2007

PGRS	Butterfly Square	545 E Sahara Ave	89104	YES	KARONA GRILL	11/19/2007
PGRS	Embassy Suites	3600 Paradise Rd	89169	YES	CAFE	10/10/2007
PSND	Reliable Auto Sales	1815 E Sahara Ave	89104	YES	AUTO SALES SHOW N SELL	12/17/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	TRAMPS	10/2/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	BUFFALO	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	NO	TRAMPS	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	NO	MILANO'S III	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	MILANO'S III	10/1/2007
PGRS	Embassy Suites	4315 Swenson St	89119	YES		10/8/2007
PGRS	Las Vegas Convalescent Ctr	2832 S Maryland Pkwy	89109	YES	LV CONVALESCENT CENTER	12/5/2007
PSND	Unlv	4505 S Maryland Pkwy	89109	YES	WEST SHOP	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	DINNER COMMON	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	BEAM HALL	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	STUDENT UNION	10/3/2007
PSND	Unlv	4505 S Maryland Pkwy	89109	YES	NATATORIUM NORTH-EAST	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	BOOK N BEAN CAFE	10/3/2007
PGRS	Club Paradise	4416 Paradise Rd	89109	YES	KITCHEN	10/8/2007
PGRS	Del Taco	1197 E Tropicana Ave	89119	YES		10/1/2007
PGRS	Valley High School #552	2839 Burnham Ave	89109	YES	SCHOOL KITCHEN	12/7/2007
PSND	Valley High School #552	2839 Burnham Ave	89109	YES	AUTO SHOP	12/7/2007
PGRS	Sunrise City Shopping Ctr	2797 S Maryland Pkwy	89109	YES	PIZZA HUT	11/15/2007
PGRS	Sunrise City Shopping Ctr	2797 S Maryland Pkwy	89109	YES	GOLDILOCKS	11/15/2007
PSND	Econo Lube And Tune	3450 Boulder Hwy	89121	YES	SIGNATURE LINCOLN	12/4/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	HOT SHOTS/STE 22-24	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	LA PACHANGA MEX/STE 1-2	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	BEST THAI FOOD/STE 32-33	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	FUJI JAPANESE REST/STE 30	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	BIG JOHNS/STE 27-29	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	OLD PHILADELPHIA/STE 6	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	ILOPONGO SALVADOR STE 3-4	10/8/2007
PGRS	Petes Place	3095 Fremont St	89104	YES	PETES PLACE	11/30/2007
PSND	Metro Hyundai	2025 E Sahara Ave	89104	YES	METRO HYUNDAI	12/5/2007
PSND	Pete Findlay Oldsmobile	3024 Fremont St	89104	YES	SERVICE BAY	12/12/2007
PSND	Magic	3184 Fremont St	89104	YES	MAGIC	12/4/2007
PSND	Magic	3184 Fremont St	89104	YES	ALL TUNE & LUBE	12/4/2007
PSND	Fletcher Jones Toyota Body Shop	3131 Fremont St	89104	YES	FLETCHER JONES TOYOTA BS	12/4/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	KOREA HOUSE	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	LOTUS	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	EL SINALOENSE	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	CUE CLUB	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	PENG CHINESE STE A18	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	JONG GI	11/15/2007
PSND	Speedee Mart (025230 Lvwwd)	569 E Sahara Ave	89104	YES	CAR WASH	11/15/2007
PGRS	Sahara Avenue Saloon	3345 E Sahara Ave	89104	YES	SAHARA AVENUE SALOON	12/5/2007
PGRS	Circle K Store #1365	3200 Fremont St	89104	YES	C-STORE	12/4/2007
PSND	Ted Wiens Firestone-2	3352 Fremont St	89104	YES	TED WIENS FIRESTONE-2	12/13/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	KOREAN CAFE	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	SAHARA KOREA	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	TOKYO	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	BIRRIERIA JALISCO	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	JIN MEE	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	MIJORI	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	ELEPHANT	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	LA BARC	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	KOMOL	11/15/2007
PSND	United Nissan	3025 E Sahara Ave	89104	YES	SERVICE BAY	12/5/2007
PGRS	Eureka Casino	595 E Sahara Ave	89104	YES	EUREKA CASINO	11/16/2007
PGRS	Kentucky Fried Chicken Store X527009	1990 N Nellis Blvd	89115	YES	KENTUCKY FRIED CHICKEN	10/10/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D7 TRASH COMPACTOR	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	WOLFGANG PUCKS	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	NEW RESTAURANT PAD	10/25/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	EAST SIDE GOLD GARAGE	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	AIRFIELD OPS BLDG	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	SWEEPER WASH AREA	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	PRICKLY PEAR BAR & GRILL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	RUBY'S REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	RUBY'S REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE EAST	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C.C. FIRE STATION S/O	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	AIRPORT COORDINATOR S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BRIDGE ROTUNDA TRASH COMP	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	NORTH 40 CARWASH	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 2 - S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	N/E GRAY HALL TRASH COMP	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GATE D-36 TRASH COMPACTOR	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	N/W GRAY HALL TRASH COMP	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	DON ALAHANDRO'S MEXICAN	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHARTER INTERNATIONAL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHARTER INTERNATIONAL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BURGER KING	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BURGER KING	10/25/2007

PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	FLATBREAD	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BIG APPLE REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHILIS	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHEERS BAR & GRILL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE FOOD COURT	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE FOOD COURT	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE WEST	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE WEST	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	PRICKLY PEAR BAR & GRILL	10/25/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GSE CARWASH	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GSE TRASH	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE TRASH COMPACTOR	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 2 TRASH COMPACTR	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 1-ZERO LEVEL S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D36 TRASH COMPACTOR	11/20/2007
PGRS	University Plaza	1131 E Tropicana Ave	89119	YES	SUITE D - THANG HUONG	10/25/2007
PGRS	University Plaza	1131 E Tropicana Ave	89119	NO	SUITE D - THANG HUONG	10/3/2007
PGRS	El Pollo Loco #6019	2375 E Sahara Ave	89104	YES	POLLO LOCO	11/29/2007
PSND	Big O Tire Service	3415 S Maryland Pkwy	89109	YES	BIG O TIRE SERVICE	12/12/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	SERVICE BAY	12/11/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	SERVICE BAY	12/11/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	CAR WASH	12/11/2007
PSND	Pat Clark Pontiac	2575 E Sahara Ave	89104	YES	SERVICE BAY	12/5/2007
PSND	Pat Clark Pontiac	2575 E Sahara Ave	89104	YES	CAR WASH	12/5/2007
PGRS	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	FURRS	11/30/2007
PSND	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	KMART	11/30/2007
PGRS	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	KMART	11/30/2007
PGRS	Spotlight Lounge	975 E Sahara Ave	89104	YES	SPOTLIGHT LOUNGE	11/16/2007
PSND	Pete Findlay Oldsmobile	3112 Fremont St	89104	YES	CAR WASH	12/12/2007
PGRS	Starboard Tack	2601 Atlantic St	89121	YES	STARBOARD TACK	11/30/2007
PSND	Checker Auto Parts	2755 E Sahara Ave	89104	YES	SERVICE BAY	11/30/2007
PGRS	Leatherbys Family Creamery	577 E Sahara Ave	89104	YES	LEATHERBYS FMLY CREAMERY	11/30/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	KING & I	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	P T'S PUB	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	FLOMAR'S CORNER CAFE	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	NO	FLOMAR'S CORNER CAFE	10/3/2007
PGRS	Vegas Market #4	777 E Twain Ave	89109	YES	DELI	10/8/2007
PGRS	Sam Ash L L C	2747 S Maryland Pkwy	89109	YES	ACTIVE FIXTURE	11/16/2007
PGRS	Richard C White Transportation Ctr	4493 Arville St	89103	YES	SCHOOL KITCHEN	10/29/2007
PSND	Richard C White Transportation Ctr	4493 Arville St	89103	YES	BUS WASH	10/29/2007
PSND	Richard C White Transportation Ctr	4493 Arville St	89103	YES	BUS SERVICE BAY	10/29/2007
PSND	Cadillac Of Las Vegas	2711 E Sahara Ave	89104	YES	CADILLAC OF LAS VEGAS	12/17/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	SERVICE BAY	11/30/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	CAR WASH	11/30/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	SERVICE BAY	11/30/2007
PGRS	Play It Again Sam	4120 Spring Mountain Rd	89146	YES		10/10/2007
PSND	Drive Time Car Sales	3333 Fremont St	89104	YES	CAR WASH	12/4/2007
PSND	Drive Time Car Sales	3333 Fremont St	89104	YES	SERVICE BAY	12/4/2007
PGRS	Windmill Park	2207 E Windmill Ln	89123	YES	LONG JOHN SILVERS/A&W	10/10/2007
PSND	A-Allied Automotive	4047 W Desert Inn Rd	89146	YES	SERVICE BAY	10/10/2007
PSND	24 Hour Fitness Center	2605 S Eastern Ave	89109	YES	HARLEY DAVIDSON	11/29/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES		12/19/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES	ELEPHANT BAR	12/18/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES	ELEPHANT BAR	11/15/2007
PSND	Marsh Jim American Corp	2445 E Sahara Ave	89104	YES	MARSH JIM AMERICAN CORP	11/30/2007
PSND	Marsh Jim American Corp	2445 E Sahara Ave	89104	YES	MARSH JIM AMERICAN CORP	12/13/2007
PSND	Desert Chrysler Jeep	2580 S Eastern Ave	89109	YES	DESERT CHRYSLER JEEP	12/17/2007
PGRS	New Orleans Square	900 Karen Ave	89109	YES	SUITE D114-FILIPIANA	11/19/2007
PGRS	New Orleans Square	900 Karen Ave	89109	YES	SUITE C101-108	11/15/2007
PGRS	Airport Center	5030 Paradise Rd	89119	YES	DELI - BLDG D	10/4/2007
PGRS	Corporate Catering	3824 Paradise Rd	89109	YES		10/5/2007
PGRS	Eastwind Center L L C	2381 E Windmill Ln	89123	YES	DREAMERS	10/10/2007
PGRS	Eastwind Center L L C	2381 E Windmill Ln	89123	YES	CHOP STIX	10/10/2007
PSND	Budget Rentals (091139 Lvvwd)	5188 Paradise Rd	89119	YES		10/4/2007
PGRS	Mcdonalds/Chevron Terrible Herbst	1195 E Sahara Ave	89104	YES	MCDONALDS/CHEVRON	11/15/2007
PGRS	Retail Center	2685 S Eastern Ave	89109	YES	JACK IN THE BOX #7210	11/29/2007
PSND	Enterprise Rent A Car	2465 E Sahara Ave	89104	YES	ENTERPRISE RENT A CAR	12/13/2007
PGRS	West Flamingo Centre	4755 W Flamingo Rd	89103	NO	SUITE E - EL TACO FRESCO	10/31/2007
PSND	Cambridge Car Wash(034341 Lvvwd)	3600 Cambridge St	89109	YES	CAMBRIDGE CAR WASH	10/19/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	WET BAR & CAFE	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	ALOHA KITCHEN	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	CAPRIOTTI'S	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	EAST BOY	10/2/2007
PGRS	Las Vegas University Gardens	4632 S Maryland Pkwy	89109	YES	SUITE 7	10/10/2007
PGRS	Howard Johnson Airport Inn	5100 Paradise Rd	89119	YES		10/1/2007
PSND	Gaudin Ford	2121 E Sahara Ave	89104	YES	SERVICE BAY	12/3/2007
PSND	Gaudin Ford	2121 E Sahara Ave	89104	YES	BODY SHOP	12/3/2007
PGRS	Wendys Of Las Vegas Inc	2601 S Eastern Ave	89109	YES	WENDY'S	11/29/2007
PGRS	Palm Parkway Associates	2075 Palm St	89104	YES	LUCKY NICKEL	12/5/2007
PSND	Palm Parkway Associates	2075 Palm St	89104	YES	BLDG 2, SUITE O	12/5/2007

PGRS	Gemco Shopping Center	5825 W Sahara Ave	89146	YES	SUITES A-C - THE TAVERN	12/13/2007
PGRS	West Coast Ppty's Irr Tr Etal	900 Karen Ave	89109	YES	SUITE H102-106	11/19/2007
PGRS	West Coast Ppty's Irr Tr Etal	900 Karen Ave	89109	YES	SUITE H109-110	11/19/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	KUNG FU	10/16/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	CHICKEN QUICK	10/10/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	DONT ASK LOUNGE	10/10/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	SHANGHAI NOON	10/10/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	COACH'S DELI	12/27/2007
PSND	Hertz Rent-A-Car	5300 Rent A Car Rd	89119	YES	CARWASH	10/3/2007
PSND	Avis Rent-A-Car	5164 Rent A Car Rd	89119	YES	SERVICE BAY	10/4/2007
PSND	Avis Rent-A-Car	5164 Rent A Car Rd	89119	YES	CAR WASH	10/4/2007
PSND	Payless Car Rental	5175 Rent A Car Rd	89119	YES		10/4/2007
PSND	Thrifty Car Rental	5233 Rent A Car Rd	89119	YES		10/4/2007
PGRS	Del Taco #324	5915 W Sahara Ave	89146	YES	DEL TACO #324	12/13/2007
PGRS	Orchids Garden	5485 W Sahara Ave	89102	YES	CHOWS CUISINE	12/13/2007
PSND	Sav Mor Rent A Car	5101 Rent A Car Rd	89119	YES		10/3/2007
PSND	Enterprise Rent A Car	5811 W Sahara Ave	89146	YES	5811 W SAHARA AVE	12/13/2007
PSND	Ahern Rental	4241 S Arville St	89103	NO	WASH RACK	10/29/2007
PSND	Ahern Rental	4241 S Arville St	89103	NO	WASH RACK	10/30/2007
PGRS	Adelson Nathan Hospice	4141 Swenson St	89119	YES	KITCHEN	10/5/2007
PGRS	Thomas And Mack Center	4505 S Maryland Pkwy	89154	YES	FOOD COURT	10/1/2007
PGRS	Thomas And Mack Center	4505 S Maryland Pkwy	89154	YES	REDD ROOM	10/1/2007
PGRS	Arville Street Equity Properties	4970 S Arville St	89118	YES	AFFAIRS CATERING STE 104	11/9/2007
PGRS	Ohs Convenience Store	4646 Swenson St	89119	YES	C-STORE	10/1/2007
PGRS	Sahara Lamb Shopping Center	4225 E Sahara Ave	89104	YES	STE 4225-17-LOOSE CABOOSE	12/28/2007
PGRS	Twain Swenson Plaza	3640 Swenson St	89109	YES	SUITE 121 EXPRESS WOK	10/24/2007
PGRS	Burger King	4815 W Flamingo Rd	89103	YES		11/1/2007
PGRS	Burger King	4815 W Flamingo Rd	89103	NO		11/1/2007
PGRS	Marie Callendar	4875 W Flamingo Rd	89103	YES		11/1/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	YES	RUSSIAN RESTAURANT	12/31/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	NO	RUSSIAN RESTAURANT	11/2/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	YES	P.T.'S PUB	11/5/2007
PGRS	St Tropez Hotel	455 E Harmon Ave	89109	NO	KITCHEN	10/2/2007
PGRS	Thunderbird Plaza	3603 N Las Vegas Blvd	89115	YES	#103 COACH DELI	10/10/2007
PGRS	Spring Mountain Wynn Investments	3900 Spring Mountain Rd	89146	YES	SCHLOTSKY'S	10/10/2007
PSND	Payless Rent A Car	4700 Paradise Rd	89109	YES		10/2/2007
PGRS	Sahara Rainbow Center	2550 S Rainbow Blvd	89146	YES	OPA SUITE W2	12/7/2007
PGRS	Sahara Rainbow Center	2550 S Rainbow Blvd	89146	YES	HO HO HO - SUITE W5-W4	12/7/2007
PSND	Auto Serve Mall	3216 Fremont St	89104	YES	COMMON-#3216	12/4/2007
PSND	Auto Serve Mall	3216 Fremont St	89104	YES	COMMON - #3220	12/4/2007
PSND	Cadillac Of Las Vegas West	5185 W Sahara Ave	89146	YES	SERVICE BAY	12/1/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	GOTO BULALO BAKERY	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	NO	HASH HOUSE	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	ALOHA KITCHEN	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	JOE'S PIZZA	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	HASH HOUSE	12/21/2007
PSND	Abc Auto Repair Inc	4585 W Nevso Dr	89103	YES		10/30/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	LIFETIME BRAKES	10/15/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	TJ AUTO REPAIR	10/23/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	DISCOUNT TIRE	10/10/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		10/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	NO	NATIONAL CAR CARE	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	NO	HODGES AUTOMOTIVE	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	CHRISS AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	DCX AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	DECATUR AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	FREAK'S MERCEDES	12/12/2007
PSND	Johnny Riberio	4755 W Nevso Dr	89103	YES	HONDA ACURA	10/29/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	CAR WASH	12/1/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	SERVICE BAY	12/1/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	SERVICE BAY	12/1/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	SERVICE BAY	12/1/2007
PGRS	Atrium Suites	4255 Paradise Rd	89109	YES	HOLIDAY INN CAFE	10/5/2007
PGRS	Pete Michelin	4380 S Decatur Blvd	89103	YES	SUITE D - SCOUNDRELS	10/31/2007
PGRS	Pete Michelin	4380 S Decatur Blvd	89103	YES	SUITE D - SCOUNDRELS	10/31/2007
PGRS	Hard Rock Cafe	4475 Paradise Rd	89109	YES		10/5/2007
PSND	Docs Car Wash #2 (#539521)	2515 S Bruce St	89109	YES	CAR WASH BAY	12/5/2007
PSND	Docs Car Wash #2 (#539521)	2515 S Bruce St	89109	YES	CAR WASH BAY	12/5/2007
PGRS	Sahara Eastern Retail Center	2425 E Sahara Ave	89109	YES	SUITES 3-4	12/17/2007
PGRS	Sahara Eastern Retail Center	2425 E Sahara Ave	89109	YES	SUITE 2	12/18/2007
PSND	Towbin Hummer	5555 W Sahara Ave	89146	YES		12/11/2007

PSND	Car Spa Inc #10 (Lvvwd #541432)	6045 W Sahara Ave	89146	YES	CAR WASH	12/11/2007
PSND	Car Spa Inc #10 (Lvvwd #541432)	6045 W Sahara Ave	89146	YES	CAR WASH	12/11/2007
PGRS	Dragon Buffet	230 N Nellis Blvd	89110	YES		10/10/2007
PGRS	Tropicana Gardens	3510 E Tropicana Ave	89121	YES	SUITE K	10/8/2007
PSND	Purrfect Auto Service	180 N Nellis Blvd	89110	YES		10/10/2007
PGRS	Albertsons #6024	2835 S Nellis Blvd	89121	YES	DELI	12/19/2007
PGRS	Albertsons #6024	2835 S Nellis Blvd	89121	YES	BUTCHER SHOP	12/19/2007
PGRS	Vegas Valley Plaza	2875 S Nellis Blvd	89142	YES	SUITE 2-ALBERTOS MEX FOOD	12/18/2007
PGRS	Vegas Valley Plaza	2875 S Nellis Blvd	89142	NO	SUITE 2-ALBERTOS MEX FOOD	12/18/2007
PGRS	Marine Corps League Leathernecks	4360 Spring Mountain Rd	89102	YES	CLUB KITCHEN	10/10/2007
PSND	Dons Di Classic Mart	991 E Desert Inn Rd	89109	YES	SERVICE BAY	10/10/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	SUITE B-13 AL'S AUTO	10/30/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	SUITE B-18 SILVER STAR	10/30/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	CAR AND RV WASH	10/30/2007
PSND	Texaco Express Lube	2785 S Nellis Blvd	89142	YES		12/19/2007
PGRS	Turtle Stop Nellis	2885 S Nellis Blvd	89115	NO	FOOD COURT	12/19/2007
PGRS	Food For Less	2545 S Eastern Ave	89104	YES	FOOD 4 LESS	11/29/2007
PSND	Nevada Child Seekers	3100 Fremont St	89104	YES	SERVICE BAY	12/4/2007
PGRS	Smith's Food And Drug	8150 S Eastern Ave	89123	YES	BUTCHER SHOP	11/5/2007
PGRS	Smith's Food And Drug	8150 S Eastern Ave	89123	YES	DELI	11/5/2007
PSND	The Sign Company Llc	781 E Tropicana Ave	89119	YES	SERVICE BAY	10/5/2007
PSND	The Sign Company Llc	781 E Tropicana Ave	89119	YES	CAR WASH	10/5/2007
PGRS	Fatburger Restaurant	2845 S Nellis Blvd	89115	YES		12/31/2007
PGRS	Mcdonald's	8120 S Eastern Ave	89123	YES		11/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	MAIN KITCHEN	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	PINK TACO/AJ'S/NOBU/BEACH	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	EMPLOYEE DINING	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	TRASH	10/5/2007
PGRS	Hooters	5675 W Sahara Ave	89146	YES		12/13/2007
PGRS	Big Tyme Chevron Food Mart	4919 W Sahara Ave	89146	YES		12/7/2007
PGRS	Black Angus Restaurant	5125 W Sahara Ave	89146	YES		12/10/2007
PGRS	Womens Prison	4376 Smiley Rd	89115	YES	PRISON KITCHEN	10/10/2007
PSND	Newport Motors	3275 E Sahara Ave	89104	YES		12/13/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	SNACK BAR	12/14/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	RRGC KITCHEN	12/14/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	RRGC KITCHEN	12/14/2007
PSND	Enterprise Car Rental(113647 LVVWD)	3745 Boulder Hwy	89121	YES		12/11/2007
PGRS	Vons #2396	1131 E Tropicana Ave	89119	YES		10/3/2007
PGRS	Vegas Valley Plaza	2775 S Nellis Blvd	89142	YES	HUNGRY HOWIES	12/18/2007
PGRS	Siverado Ranch Centre	9715 S Maryland Pkwy	89123	YES	ALBERTSONS DELI	10/29/2007
PSND	Siverado Ranch Centre	9715 S Maryland Pkwy	89123	YES		10/29/2007
PGRS	Burger King	2599 S Nellis Blvd	89122	YES		12/20/2007
PGRS	Krung Thai Restaurant	4130 S Decatur Blvd	89103	YES		10/31/2007
PGRS	Rapid Cash	4921 W Sahara Ave	89146	YES		12/7/2007
PGRS	Chopstix Express	2625 S Decatur Blvd	89146	YES		12/10/2007
PGRS	Red Robins Restaurant	2575 S Decatur Blvd	89146	YES		12/10/2007
PGRS	Silverado Ranch Plaza	9821 S Eastern Ave	89123	YES	SUITE A MAMA FRESCOS	10/10/2007

Attachment 2

**Letter Report from CCSD to DAQEM on
Status in to Resolving Issues Identified in Inspection of School Bus Yard**

and

DAQEM Letter to CCSD in Response



CERTIFIED: #7002 2030 0006 3989 5611

September 11, 2007

Mr. Mark Silverstein
Senior Planner – Water Quality
Department of Air Quality & Environmental Management
Clark County
500 S Grand Central Parkway
PO Box 555210
Las Vegas, NV 89155-5210

**SUBJECT: STORMWATER INSPECTION
R.C. WHITE TRANSPORTATION CENTER**

Dear Mr. Silverstein:

This letter is in response to the Storm Water Status inspection of the R.C. White (Arville) Transportation Center, conducted, by the Clark County Water Reclamation office, on July 12, 2007. Most of the deficiencies noted in the inspection report have been addressed but at least two items will require additional time, i.e. construction of shade covers and the drums associated with the ongoing groundwater remediation project. The following is a list of the issues addressed in the inspection and the Clark County School District (CCSD) response.

Issue: Drums of chemicals associated with the old chiller unit of the CCSD's Food Kitchen. These drums will be removed from this area and moved to the HazMat storage area for disposal. This should be done within the next two weeks.

Issue: Trash through out the site. The grounds crew of the CCSD has cleaned up and removed all of the trash along the north fence, beneath the steps (drivers area) and in other locations throughout the facility. The areas that collect a significant amount of trash will be monitored and cleaned on a regular basis.

Issue: Unlabeled drums. The unlabeled drums have either been labeled or removed from use. Those drums that were open have been closed with lids or bungs. The 55 gallon drums located in the southeast corner of the facility are part of the UST groundwater remediation project being conducted by Converse Consultants and contain purge water from the sampling of the monitoring wells on site. Converse will have the drums emptied and removed from the site as soon as possible.

Issue: Drum without containment. Those drums that contain petroleum products on the north side of the maintenance building have been placed inside secondary containment pallets to prevent any spills from reaching the environment. It has been recommended that a cover be constructed to prevent rainwater from reaching the containment pallets.

Issue: Used oil filters in the dumpsters. The Transportation Department is in the process of purchasing an oil filter-crushing machine that will reduce the volume of the filters, which then will be stored in 55-gallon drums to await disposal.

Issue: Open dumpsters. The lids on all of the dumpsters are closed. All personnel have been instructed to keep the lids closed when not in use.

Issue: Draining transmissions and old engines. These have been collected and removed by an off-site contractor. In the future these items will be relocated to the south end of the warehouse where a cover will be constructed. A work order for the construction of this cover has been submitted to the Planning and Engineering Department for design. Construction could begin within 6 months depending on the approval process.

Issue: Scrap Metal Dumpster. This dumpster will be relocated to the area that will have the cover once it is constructed. In the mean time, the company that supplies the dumpsters will provide dumpsters that are clean prior to delivery. Shop personnel will be instructed that only scrap metal will be placed in the dumpster so that no petroleum products are deposited within the dumpster.

Issue: Open battery compartment on a bus. This was corrected for this bus and inspections will be conducted by shop personnel to ensure it does not happen again.

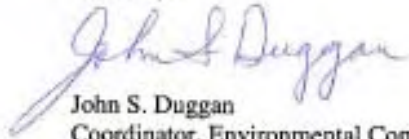
Issue: Spilled petroleum products throughout the facility. A better system to clean up the spills, from more frequent sweeping of the yard to clean up of the adsorbent material ("kitty litter") will be pursued.

Issue: Future bus yards. It will be recommended that current "best management practices" for storm water control be incorporated into the original design of all future transportation facilities.

Mr. Mark Silverstein
September 11, 2007
Page 3

If you have any questions regarding this response, please call me at (702) 799-0990 or e-mail me at duggajs@gw.ccsd.net.

Sincerely,



John S. Duggan
Coordinator, Environmental Compliance

JSD:mbd

c: Dave Broxterman
Ron Despenza
Paul Gerner
Richard Karvosky
Jan Villaire
Frank Giordano
Mike Groom
Rory Lorenzo



Department of Air Quality & Environmental Management

500 S Grand Central Parkway 1st Fl • Box 585210 • Las Vegas NV 89155-5210
(702) 455-5642 • Fax (702) 393-0894

Laura Wallenmeyer, Director • Alan Pinkerton, Deputy Director

September 17, 2007

Mr. Paul Gerner
Associate Superintendent for Facilities
Clark County School District - Facilities Division
4828 South Pearl St
Las Vegas, Nevada 89121

Dear Mr. Gerner:

Clark County Department of Air Quality & Environmental Management extends its sincere thanks to the School District, and in particular to Mr. John Duggan, for your pro-active response in addressing storm water management issues identified in the R.C. White Transportation Center during a recent inspection. We find the actions outlined in Mr. Duggan's September 11 letter most satisfactory.

Your willingness to join us in solving the problem is most welcomed, particularly the invitation to assist in ensuring storm water management is adequately considered in the design of future transportation facilities.

The importance of attention to storm water management has become elevated due to deficiencies identified in an audit by the U.S. Environmental Protection Agency. All Las Vegas Valley storm water permittees are actively engaged in addressing the deficiencies to make our community a safer and more livable place.

Our Water Quality Team has prepared a PowerPoint presentation, intended for mid and upper level agency staff that provides an overview and orientation to what is storm water management and why it is important to our community. It is approximately 30 minutes in length, and if you are interested, we would be pleased to present it to the School District staff. To make arrangements you can work through Mark Silverstein (455-4738).

Thank you again for being such a great partner in the management of storm water!

Sincerely,

Laura Wallenmeyer
Director

cc: Phil Resenquist
Rob Mrowka
Mark Silverstein ✓
Kevin Eubanks, Regional Flood Control

BOARD OF COUNTY COMMISSIONERS
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Attachment 3 Draft Industrial Stormwater Inspection, Violation, and Enforcement Process Flow Diagram and Standard Operating Procedure



**Department of Air Quality and Environmental Management
Water Quality Section
Industrial Stormwater Inspection
Standard Operating Procedure**

Purpose: The purpose of this SOP is to identify the steps that need to be taken in order to complete a standard industrial stormwater inspection.

Scope: This SOP is to be applied to all industrial facilities within the unincorporated portions of the Las Vegas Valley watershed that are identified as:

1. Municipal landfills
2. Hazardous waste treatment, disposal, and recovery facilities
3. Industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (herein referred to as "313 sites"), and
4. Industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the MS4

Responsible Person: Mark Silverstein, Senior Planner – Water Quality
Kate Hoffmann, Planner – Water Quality

QA/QC: To be conducted and developed by the responsible parties based on the industrial stormwater inspection criteria and program management

Procedure: To be conducted for each industrial stormwater inspection:

1. Prioritize facilities, including CCWRD pretreatment sites, for inspection
2. Is the facility identified in NDEP database? Identify and record SIC/NAICS code and parcel number. <http://ndep.nv.gov/bwpc/industrialnoi/signin.aspx>
 - a. Facility has notice of intent on file with NDEP (Skip to number 5)
 - b. Facility does not have notice of intent on file with NDEP (Continue in numerical order)
3. Is the facility a non-filer?
 - a. Yes (Skip to number 5)
 - b. No
 - i. Is the facility exempt?
 1. Yes – this is a low priority facility to be addressed at a future date, along with a long-range approach.
 2. No (Continue in numerical order)
4. Does the facility have a potential to pollute?
 - a. Yes (Continue in numerical order)
 - b. No (See 3.b.1)
5. Report the facility to NDEP
6. Schedule inspection with facility contact
7. Mail copy of inspection form at least one week prior to inspection
8. Conduct inspection
9. Within two weeks of inspection, submit completed form to DAQEM
10. Actual or potential to pollute violation?

- a. Yes (Continue in numerical order)
- b. No (Skip to number 27)
11. Was there evidence of an active or recent discharge?
 - a. Yes (Continue in numerical order)
 - b. No (Skip to number 17)
12. Does the inspector suspect that there are hazardous materials involved in the violation?
 - a. Yes (Continue in numerical order)
 - b. No (Skip to number 16)
13. Report the facility immediately to CCPRO/CCFD/Risk Management/NDEP/SNHD
14. CCPRO/CCFD/Risk Management/NDEP identifies remedial actions to be taken
15. CCPRO/CCFD/Risk Management/NDEP enforces remedial actions to be taken (Skip to step 25)
16. Report facility conditions to DAQEM and NDEP
17. Are there any minor violations at the site? Do the facility conditions warrant a NOV?
 - a. Yes (Skip to number 19)
 - b. No (Continue in numerical order)
18. CCWRD arranges to reinspect the facility. Repeat steps 8-15.
19. DAQEM to issue a Notice of Violation
20. Within 5 business days, the facility must submit plans to remedy the violation
21. Inspector re-inspects facility
22. Were the violations remedied?
 - a. Yes (Skip to number 26)
 - b. No (Continue in numerical order)
23. DAQEM to issue a second Notice of Violation
24. Repeat steps 19-21 and continue in numerical order OR after second violation is issued, report facility to CCPRO/NDEP for possible legal action
25. DAQEM to monitor activities and direct inspectors if and when to re-inspect
26. Within 2 weeks of inspection, submit completed inspection form to DAQEM
27. DAQEM enters results of the inspection into the county database
28. Summary of inspections and results created by DAQEM/CCWRD for inclusion in the MS4 annual report

Training/Qualifications:

Write a short description of how the person doing this SOP will be trained?

Records/Forms:

Attach link to the inspection forms

Document Control/ Maintenance:

How will this SOP be controlled and maintained?

Date of last revision?

References:

Attach any references

Attachments:

Attach link to flow chart

CITY OF HENDERSON INDUSTRIAL SITE INSPECTION PROGRAM

Foreword

Activities that take place at industrial facilities, such as material handling and storage, are often exposed to outside elements. As runoff from rain, snowmelt, or irrigation comes into contact with these materials, it transports pollutants to nearby storm sewer systems, rivers, lakes, or coastal waters. Stormwater pollution is a significant source of water quality problems for the nation's waters. The Environmental Protection Agency (EPA) identifies 11 categories of stormwater discharges associated with industrial activity in the *National Water Quality Inventory: 2000 Report to Congress*. Of the 11 categories listed urban runoff/storm sewers was ranked as the fourth leading source of impairment in rivers, third in lakes, and second in estuaries.

The National Pollutant Discharge Elimination System (NPDES) program includes an industrial stormwater permitting component to minimize the impact of stormwater discharges from industrial facilities. Operators of industrial facilities included in one of the 11 categories of stormwater discharges associated with industrial activity that discharge or have the potential to discharge stormwater to a municipal separate storm sewer system (MS4) or directly to waters of the United States require authorization under a NPDES industrial stormwater permit. Nevada is authorized to implement the Stormwater NPDES permitting program for state, regional, and local entities; however, the EPA remains the permitting authority on land in Indian Reservations. Construction activity is one of the 11 industrial categories, but because of the nature of its operations it's discussed separately from the other 10 categories and is managed under a separate inspection program. The definition of an MS4 according to 40 CFR 122.26(b)(8) is as follows:

A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States.

(ii) Designed or used for collecting or conveying stormwater;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2."

For additional information on NPS pollutants and solutions for reducing their impact on the environment please visit the EPA website at <http://www.epa.gov/owow/nps>.

Introduction

The City of Henderson is required to create a program to monitor and control pollutants in stormwater discharges to public storm systems from municipal landfills, hazardous waste treatment facilities, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the City determines are contributing a substantial pollutant loading to the public storm sewer system. The requirement is part of the National Pollutant Discharge Elimination System (NPDES) Permit for Discharges from Municipal Separate Storm Sewer Systems (MS4 Permit) entered with the Nevada Division of Environmental Protection (NDEP).

This paper will outline the identification process for industrial facilities that need inspection, inspection procedures, the process for informing the facility operator of violations and the requirements for establishing and maintaining control measures for discharges during the term of the permit, scheduling and completing re-inspections, and enforcement action in the event of non-compliance.

Identify Facilities for Inspection

The first priority of the City is to identify the industrial facilities that need to be inspected for stormwater discharges. Municipal landfills, hazardous waste treatment facilities, disposal and recovery facilities, industrial facilities that are subject to section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the City determines are contributing a substantial pollutant loading to the public storm sewer system are required to be inspected according to the current MS4 Permit.

The facilities within the Basic Management Incorporated (BMI) Complex, which are subject to section 313 of Title III of SARA, are currently included in the City's Utility Service's Pre-Treatment program. These facilities are actually located on Clark County land within City boundaries, but are inspected through an existing Inter-local agreement with Clark County Department of Air Quality and Environmental Management (DAQEM) since the sewer service for the facilities are connected to the City of Henderson system. These are the only facilities that currently fall under SARA, but any future facility included in this category with City jurisdiction will be included in the inspection process.

The inspection program also includes facilities that are inspected annually by the Building and Fire Safety Department –Fire Safety Division inspectors. These facilities store, handle, and use materials in their normal operations in amounts that require an

annual fire inspection in order to renew their fire safety permit. Facilities that have storage and handling areas exposed to the elements and process materials that may be transported by runoff during a storm event may contribute a substantial loading to the MS4. Therefore, the Fire Safety Inspectors conduct the stormwater quality inspections of these industrial facilities as specified by the City's MS4 permit. The annual inspections that are conducted by the Fire Safety Inspectors include facilities in all of the EPA industrial categories. A list of industrial facilities requiring stormwater quality inspections can be obtained from the Public Works Department-Land Development Division or the Building and Fire Safety Department –Fire Safety Division.

The City will determine whether a new business is included in the industrial site inspection program during the inspections that take place as part of the application process for a new or reissued business license. The Utility Services – Regulatory Programs Division and Fire Safety Inspectors conduct the inspections for new business licenses. During the inspections the inspectors will review the facilities for an amount and type of materials that may contribute a substantial load to the MS4. They will also review the storage areas, loading/ unloading areas, and industrial processes for exposure to rainfall or runoff. If it is determined that there is the potential for a discharge to the MS4, the facility will be added to the list for annual inspections.

Inspection Procedures

For facilities that require a stormwater inspection by the City of Henderson, the inspection of onsite control measures takes place as part of the annual fire safety inspections. The inspections assess the potential for discharge to the MS4 due to the amount and type of materials, handling and storage areas, and industrial process areas that are exposed to rainfall or runoff. The inspectors will observe whether areas are covered by shelters or contained within structures. If the areas are exposed Best Management Practices (BMP's) must be in place that prevents a pollutant discharging into the MS4 with site runoff. BMP's include temporary or permanent control measures to retain or filter runoff leaving a facility and policies and procedures for spill and leak control, clean-up, housekeeping, employee training, and other measures to minimize the potential for materials from leaving a facility. The inspection process will review the facility's management practices for compliance with local ordinances and regulatory mechanisms. The control measures on a facility must be adequate for preventing the pollutants from leaving the site and must be maintained on a regular basis. . The inspector will also inspect the perimeter of the site, drop inlets, drainage swales and channels, and other components of the MS4 to determine if a discharge has taken place. If there is evidence that a discharge of a pollutant has occurred then it may be judged that the current control measures in place are not adequate. The inspector's judgment will be based on experience and training. The inspectors will be provided training on a regular basis to ensure that they are familiar with changes in requirements, new and improved control measures, or changes to the inspection program.

Industrial Facility Operator Notification

A re-inspection of an industrial facility is required if the initial inspection of the control measures resulted in a fail. The inspector will provide a copy of the inspection form to the facility operator with a description of the violations found in the inspection, a timeline for fixing the violations, and a deadline for scheduling a re-inspection. The inspector will be available to answer any questions or address concerns regarding the violations, the requirements necessary to come into compliance, and the responsibilities of the facility operator.

Site Re-Inspection Procedures

During the re-inspection the inspectors will meet with the industrial facility operator or his designee to review the violations outlined in the inspection form, make sure that the violations have been brought into compliance, and that there are no other outstanding issues on the site. The inspector will also answer any questions that the operator may have regarding the program prior to or during the re-inspection. Once the facility is brought into compliance the inspection is complete.

Record Keeping

The Public Works Department-Land Development Division is responsible for ensuring that the records, databases, and files for the City of Henderson stormwater quality program are up to date and readily available. The results of the storm water inspections are entered into KIVA and are tracked under the fire inspection permit number for each facility. They are also recorded on the City of Henderson Fire Inspection report that is on file at Building and Fire Safety Department - Fire Safety Inspections Division. A report summarizing the results of the inspection program is available on KIVA and will be to the presented to the Stormwater Quality Committee on a semi-annual basis and all results will be included in the annual report.

Inspector Training

In-house training is provided to the inspectors to familiarize them with the general requirements outlined in the MS4 Permit, inspection procedures, acceptable BMP's, and the regulatory mechanism for enforcement of the stormwater quality program. The training consists of a PowerPoint presentation and handouts to take notes, and a question and answer session. The presentations are updated annually based on input from the inspectors concerning conditions unique to the City identified in the field and any changes to the program requirements. The Public Works Department staff responsible for the program is available to accompany the fire safety inspectors during inspections or to answer any questions.

Legal Authority

Following is a discussion of the legal authority that allows the City to enter industrial facilities to inspect pollutant control measures and best management practices, require compliance with the ordinances, and enforce the ordinances for lack of compliance or the discharge of pollutants to the MS4.

International Fire Code

Facilities with an operational permit for hazardous materials from the Building and Fire Safety Department that requires an annual inspection by the Fire Safety Division are subject to a storm water quality inspection. The following sections of the 2006 International Fire Code (IFC) provide the legal authority for City to enter these facilities to conduct stormwater inspections and require best management practices to be implemented to prevent pollutants from leaving a site to the Maximum Extent Practicable:

Chapter 2703.3 states, “Hazardous materials in any quantity shall not be released into a sewer, storm drain, ditch, drainage canal, lake, river or tidal waterway, or upon the ground, sidewalk, street, highway, or into the atmosphere.” There are exceptions to this part of the code for materials released in accordance with federal, state, or local governing regulations and permits.

Henderson Municipal Code

Section 14.09.040 - Wastewater Discharge Regulations (HMC)

A. It is unlawful for any user to discharge or cause to be discharged into the publicly owned treatment works, the stormwater system, or the waters of the state any wastewater which are prohibited by federal, state, and/or local regulations, and/or that the Director has determined may have an adverse or harmful effect upon any part of the publicly owned treatment works, any person who operates or maintains the publicly owned treatment works, treatment plant effluent quality, any public or private property, or may otherwise endanger the public or local ecological systems or tend to create a nuisance. The Director, in determining the acceptability of specific wastewaters, shall consider the nature of the wastewater and the adequacy and nature of the publicly owned treatment works to accept such wastewater.

D. It shall be prohibited for rainwater, storm water, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, water from yard fountains or water features, ponds or lawn sprays or other non-potable water as determined by the City to be discharged to the publicly owned treatment works without prior authorization. The Director may approve the discharge of such water only when, in the opinion of the City, there is no other reasonable method of disposal available. If authorization is granted for the discharge of such water into the publicly owned treatment works, the user shall pay an applicable user charge, fees and meet all conditions as required. No discharge of wastewater in any form, or stormwater, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be made into the storm water system or waters of the

State of Nevada within the City of Henderson that would cause a violation of the NPDES stormwater permit.

Based upon the passage in the HMC, the City has the right to pursue enforcement action for the discharge of a pollutant to the MS4. Enforcement actions that can be taken are outlined in the following section.

Enforcement

Once a week the Stormwater Quality Program Manager, or his designee, will review the Fire Storm Water Pollution Prevention Report that identifies the outstanding re-inspections for industrial facilities inspection program. The report generates a list of facilities that have failed the initial stormwater inspection. If there is no response within the date identified on the initial inspection report SQPM will take steps to ensure that the site comes into compliance through the following enforcement matrix.

Action	Failed Inspection Notification	Operational Permits not Renewed	Citations and Fines	Stop Work Order	State Involvement
Violation					
No Control Measures	X	X			
Inadequate Control Measures	X	X			
Poor Housekeeping	X	X			
Pollutant Discharge to MS4	X	X	X		
No Response to 1st Notification	X	X	X		
No Response to 2nd Notification	X	X	X		
No Response to 3rd Notification	X	X	X	X	X

The notifications to the industrial site operator will take place immediately following the inspection. The facility operator receives a copy of the inspection report that includes a description and locations of any violations found during the inspection, the requirements for scheduling a re-inspection of the site, and a description of the enforcement actions that the City may be taking. The facility operator is responsible for addressing the violations in the time specified and scheduling a re-inspection.

Complaint Calls

The Public Works Department is responsible for any phone calls from the public concerning discharges from industrial facilities. The phone calls will be logged in the Complaint Database maintained by the Public Works-Land Development Division. An investigation will be conducted for each complaint and the findings and results documented in the database. If enforcement is necessary, Code Enforcement staff will cite the owners/operators responsible for the industrial facility.

APPENDIX D

Municipal Codes



APPENDIX D

MUNICIPAL CODES

- **Clark County**
- **City of Henderson**
- **City of Las Vegas**
- **City of North Las Vegas**

CLARK COUNTY CODE

Title 24 WATER, SEWAGE AND OTHER UTILITIES **Chapter 24.40 STORMWATER SYSTEM DISCHARGE**

24.40.010 Definitions.

The following words and phrases used in this chapter shall have the meanings hereinafter set forth in this section:

(a) "Discharge permit" means any permit issued by the state of Nevada pursuant to Chapter 445A of the Nevada Revised Statutes.

(b) "Storm sewer" means any sewer designed or intended to convey only stormwater, surface runoff, street wash waters, and drainage, and not intended for sanitary sewage and industrial wastes other than unpolluted cooling water. The portion of a sewer intended to carry stormwater only, which begins at the gutter and grating where water enters said sewer, through the sewer and other conduits to the outlet structure where the water enters a channel or natural watercourse.

(c) "Stormwater system" means all constructed facilities and natural watercourses and drainage ways, under the ownership or within the jurisdiction of the county, used for collecting and conducting stormwater to, through and from drainage areas to the point of final outlet, including, but not limited to, any and all of the following: inlets, conduits and appurtenant features, creeks, channels, catch basins, ditches, streams, culverts, washes, retention or detention basins and pumping stations.

(d) "Stormwater facilities" means various stormwater and drainage works within the county which may include inlets, conduits, pipes, pumping stations, manholes, structures, channels, other structural components and equipment designed to transport, move, or regulate stormwater. (Ord. 1957 § 1 (part), 1997)

24.40.020 Discharge of wastewater to stormwater system prohibited.

It shall be unlawful for any person to discharge or cause to be discharged any wastewater in any form, other than stormwater, into the stormwater system, stormwater facilities, storm sewer, or, onto the curb, gutter, highway, or other area which may drain to the stormwater system, within the county without first obtaining a discharge permit from the state of Nevada. (Ord. 1957 § 1 (part), 1997)

24.40.030 Discharge of pollutant to storm sewer prohibited.

It shall be unlawful for any person to discharge or cause to be discharged any pollutant, as defined in NRS 445A.400, into the stormwater system, stormwater facilities, or storm sewer, or, onto the curb, gutter, highway, or other area which may drain to the stormwater system within the county, without first obtaining a discharge permit from the state of Nevada. (Ord. 1957 § 1 (part), 1997)

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24.40.040 Discharge of solid or viscous material to stormwater system prohibited.

It shall be unlawful for any person to discharge or cause to be discharged any solid or viscous material which could cause an obstruction to the flow, or cause an interference to the operation of the stormwater system, stormwater facilities, or storm sewer; or any waste which is capable of damage or hazard to the stormwater facilities, including structures, equipment; or personnel of the county. (Ord. 1957 § 1 (part), 1997)

24.40.050 Violation -- Penalties.

(a) Any person who violates or aids or abets in the violation of any provision of Sections 24.40.020 to 24.40.040, inclusive, is guilty of a misdemeanor and upon conviction shall be punished by imprisonment in the county jail for not more than six months, or by a fine of not more than one thousand dollars, or by both imprisonment and fine. A separate offense shall be deemed committed on each day during or on which a violation occurs or continues.

(b) In addition to the penalty provided in subsection (a) of this section, the county may recover from the person actual damages to the county resulting from the violation of Sections 24.40.020 to 24.40.040, inclusive. (Ord. 1957 § 1 (part), 1997)

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Title 14 UTILITY SERVICES

Chapter 14.09 PRETREATMENT REGULATIONS

14.09.040 Wastewater discharge regulations.

A. It is unlawful for any user to discharge or cause to be discharged into the publicly-owned treatment works, the stormwater system, or the waters of the state any wastewater which is prohibited by federal, state, and/or local regulations, and/or that the director has determined may have an adverse or harmful effect upon any part of the publicly-owned treatment works, any person who operates or maintains the publicly-owned treatment works, treatment plant effluent quality, any public or private property, or may otherwise endanger the public or local ecological systems or tend to create a nuisance. The director, in determining the acceptability of specific wastewaters, shall consider the nature of the wastewater and the adequacy and nature of the publicly-owned treatment works to accept such wastewater.

B. The following discharges are expressly prohibited:

1. Any pollutants which create a fire or explosive hazard in the publicly-owned treatment works, including, but not limited to, waste streams with a closed-cup flashpoint of less than sixty degrees Celsius (one hundred forty degrees Fahrenheit) using the test methods specified in 40 CFR 261.21.

a. Prohibited materials include, but are not limited to gasoline, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohol, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, and/or sulfides.

b. At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system (or at any point in the system), be more than five percent nor any single reading over ten percent of the lower explosive limit (LEL) of the meter.

2. Any wastewater having a pH less than 5.5 standard units (s.u.) or having any corrosive properties capable of causing damage or hazard to structures, equipment or personnel of the system, except an effluent excursion not to fall below a pH of 5.0 s.u.

3. Any wastewater having a pH greater than 10.5 s.u. or high enough alkalinity to cause encrustations on wastewater walls or other adverse effects on the publicly-owned treatment works, except an excursion not to exceed a pH of 11.0 s.u..

4. Any pollutants, including oxygen demanding pollutants in sufficient quantity or concentration released in a discharge which will cause interference with the publicly-owned treatment works.

5. Any solid or viscous substances of such size or quantity that may cause obstruction to the flow or be detrimental to the publicly-owned treatment works, such as, but not limited to: asphalt, dead animals, offal, ashes, sand, mud, straw, industrial process shavings, metal, glass, rags, feathers, tar, plastics, diapers, wood, whole blood, paunch manure, bones, hair and/or fleshings, entrails, paper, dishes, paper cups, milk containers, or other similar paper products, either whole or ground.

6. Any petroleum oil, non-biodegradable cutting oil or products of mineral oil origin, which may cause interference or pass-through.

7. Any pollutant or malodorous liquids, gases or solids which either singly or by interaction are capable of creating a public nuisance or, hazard to health, life and the environment, or be detrimental to the publicly-owned treatment works.

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8. Any substance, which may cause the publicly-owned treatment works' effluent or treatment residues, sludges or scums to be unsuitable for reclamation and reuse or to interfere with the reclamation process.
9. Any substance with objectionable color or discoloration not removed in the treatment process, such as, but no limited to, dye waste and vegetable tanning solutions.
10. Any wastewater having a temperature which will inhibit biological activity in the publicly-owned treatment works resulting in interference; but in no case, wastewater with a temperature at the introduction into the publicly-owned treatment works which exceeds forty degrees Celsius (one hundred four degrees Fahrenheit). If, in the opinion of the city, lower temperatures of such wastes could harm either the wastewaters, sewage treatment process or equipment; have an adverse effect on the receiving streams or otherwise endanger life, health of property; or constitute a nuisance, the city may prohibit such discharges.
11. Any wastewater at a flow rate which may interfere with collection sewer capacity or upset the publicly-owned treatment works.
12. Any wastewater containing any radioactive wastes or isotopes of such half-life or concentration which exceed federal, state, or local regulations.
13. Any water added for the purpose of diluting wastes that would otherwise exceed applicable maximum concentration limitations.
14. Discharges with concentrations exceeding national categorical pretreatment standards promulgated by federal, state, and local regulations.
15. Any material, which affects the survival, growth or reproduction of organisms, used in whole effluent toxicity test.
16. Discharge constituents in excess of those listed in pollutant daily maximum concentration table below:

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**Table 14.09.040a
Pollutant Daily Maximum Concentrations**

Pollutant	Maximum Influent Concentration (mg/L)	Pretreatment Standard (mg/L)
Non-priority Pollutants		
Aluminum	5.000	-----
Barium	1.000	-----
Boron	0.750	-----
Cobalt	0.500	-----
Fluoride	1.000	-----
Iron	5.000	25.000
Lithium	2.500	-----
Manganese	1.000	5.300
Molybdenum	0.100	-----
Total Petroleum Hydrocarbons		100
Vanadium	0.100	-----
Organic Priority Pollutants		
Total Volatile Organics	0.100	-----
Total Phenols	0.100	0.350
Other Priority Pollutants		
Antimony	0.150	1.500
Arsenic	0.100	0.420
Asbestos	0.001	-----
Beryllium	0.100	-----
Cadmium	0.010	0.050
Chromium	0.100	0.540
Copper	0.500	1.800
Cyanide	0.040	0.210
Lead	0.200	1.000
Mercury	0.002	0.010
Nickel	0.500	1.900
Selenium	0.010	0.040
Silver	0.050	0.500
Thallium	0.020	0.050
Zinc	2.000	5.000
<p>Note: The limitations imposed under this chapter may be exceeded when said limitation is unattainable based on best available technology as determined by the city, with the approval of the director as in accordance with the 40 CFR as amended (40 CFR 401.12(b)).</p> <p>Biochemical oxygen demand (BOD) in excess of three hundred mg/L shall be surcharged.</p> <p>Total system suspended solids (TSS) in excess of three hundred mg/L shall be surcharged.</p>		

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C. It is unlawful for any user to discharge or cause to be discharged any trucked or hauled waste into the publicly-owned treatment works, unless such discharge is approved by the director.

D. It shall be prohibited for rainwater, storm water, groundwater, street drainage, subsurface drainage, roof drainage, yard drainage, water from yard fountains or water features, ponds or lawn sprays or other non-potable water as determined by the city to be discharged to the publicly-owned treatment works without prior authorization. The director may approve the discharge of such water only when, in the opinion of the city, there is no other reasonable method of disposal available. If authorization is granted for the discharge of such water into the publicly-owned treatment works, the user shall pay an applicable user charge, fees and meet all conditions as required. No discharge of wastewater or stormwater in any form, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be made into the storm water system or waters of the state of Nevada that would cause a violation of the NPDES storm water permit.

E. No user shall discharge or cause to be discharged without prior approval any substance directly into a publicly-owned treatment works manhole, a private manhole which discharges to the publicly-owned treatment works, or any other opening into the publicly-owned treatment works except through an approved wastewater connection. Upon written application by the user, the director may authorize the user temporary permission for such discharge into the publicly-owned treatment works.

F. A significant industrial user who introduces wastewater into the publicly-owned treatment works, must submit upon request a salinity control plan. This plan shall contain a description of the chemicals and materials used that contribute to the total dissolved solids concentration and the source control measures that will be incorporated to consistently reduce the total dissolved solids concentration to less than one thousand two hundred mg/L or the lowest concentration to be reasonably practical as is determined by the director. In the event the user does not consistently reduce the total dissolved solids concentration to the required concentration, the director may require the user to submit another salinity control plan with additional control measures.

G. A user who is affected by director discharge determination(s) shall have the right to appeal the determination in a manner as outlined in Chapter 14.21 of this title, and to have such appeal finally decided before any criminal proceeding may be instituted against such user. (Ord. 2536 § 62, 2006)

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Title 19 DEVELOPMENT CODE (ZONING)

Chapter 19.9 SUBDIVISION DESIGN AND IMPROVEMENTS

19.9.13 Streets.

A. Alignment. Streets shall be aligned in accordance with the master streets and highways plan. Street layouts and alignments shall be subject to the transportation and circulation standards of Section 19.10.9.

B. Street and Right-of-Way Widths.

1. Minimum Standards. The minimum widths of public and private streets and rights-of-way shall be as follows:

Street Type	Right-of-Way Width (Feet)	Pavement Width [1] (Feet)	
		No On-Street Parking	On-Street Parking
Cul-de-Sac	See Section 19.9.13(B)(2).		
Minor Local/Interior Subdivision	See Section 19.9.13(B)(2).		
Minor or Industrial Collector	60	36	49
Secondary Arterial	80 [3]	[2]	[2]
Primary Arterial	100 [4]	[2]	[2]
Controlled Access Arterial	120 [5]	[2]	[2]

Note:

[1] Pavement width measured from face of curb to face of curb.

[2] Per standard drawings/specifications and master streets and highways plan.

[3] Where a secondary arterial street intersects another secondary arterial or larger street, each secondary arterial or larger street right-of-way shall be increased in width to accommodate dual left- and right-turn lanes, as specified in the standard drawings/specifications.

[4] Where a primary arterial street intersects a secondary arterial or larger street, each arterial right-of-way shall be increased to a one hundred twenty-foot width for six hundred sixty feet in each direction from the intersection as specified in the standard drawings/specifications to accommodate dual left- and right-turn lanes.

[5] Where a controlled access arterial street intersects a secondary arterial or larger street, each arterial right-of-way shall be increased to a one hundred forty-foot width for six hundred sixty feet in each direction from the intersection as specified in the standard drawings/ specifications to accommodate dual left- and right-turn lanes.

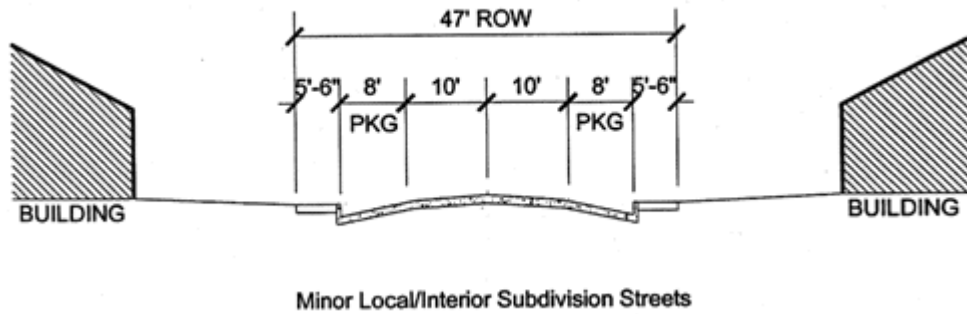
2. Options for Minor Local/Interior Subdivision Streets. The following design options shall be allowed for minor local streets and interior subdivision streets, including cul-de-sacs:

Right-of-Way Width (Feet)	Pavement Width [1] (Feet)	Parking Lanes: Sides of Street	Parking Lanes: Width [1]	Sidewalks: Sides of Street	Sidewalks: Width
47	36	2	8	2	5

Note:

[1] Pavement and parking lane widths measured from face of curb.

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In addition to the street width design options described above, a single-family subdivision with attached or detached housing product is permitted to have streets that provide a minimum twenty-four-foot-wide flowline when all of the following are provided:

- a. Fire lanes (including signage, curb painting, and stenciling) shall be complete before the issuance of any certificates of occupancy;
 - b. The subdivision shall be gated;
 - c. The streets shall be privately owned and maintained;
 - d. The project shall contain no cul-de-sacs, dead-ends or stub streets;
 - e. Guest parking shall be provided in locations approved by the fire chief and the community development director;
 - f. All purchasers shall sign a disclaimer at the close of escrow acknowledging the prohibition of on street parking;
 - g. The codes, covenants and restrictions (CC&Rs) shall be irrevocably written and recorded so that the maintenance and enforcement of the on-street parking prohibition is the responsibility of the Homeowners' Association (HOA) for the life of the project. The CC&Rs shall clearly state that the HOA officers are responsible for the enforcement of the on-street parking prohibition and are personally liable for any penalties, including citations, for the failure to follow through with their responsibilities.
3. Subdivision Boundary Streets. Subdivision boundary streets shown on the master streets and highways plan shall be dedicated for one-half of the otherwise required width, and one-half the otherwise required street improvement section shall be required.
4. Half-Streets. Half-streets shall not be permitted within the interior of a subdivision. They shall be permitted along the exterior boundaries of subdivisions when they are major streets or when the need is dictated by traffic, topography or drainage factors. Where a dedicated half-street or alley abutting the proposed subdivision exists, the other half shall be dedicated to make the street or alley complete. In the event that the abutting half-street is unimproved or partially unimproved, the developer shall be required to construct a half-street or complete the partially improved half-street, which for the purposes of this section shall consist of:
- a. Curb and gutter, streetlights, sidewalk, one eight-foot-wide parking lane, and two twelve-foot-wide travel lanes for fifty-one-foot and narrower rights-of-way.
 - b. Curb and gutter, streetlights, sidewalk, one nine-foot-wide parking lane, and two fifteen-foot-wide travel lanes for fifty-two to eighty-foot rights-of-way.
 - c. As prescribed by the public works director for all other rights-of-way.
5. Waiver of Street Width Standards. The city council, upon recommendation of the public works director and the planning commission, may waive or modify otherwise required street width standards upon finding that such waivers or modifications are justified by compensating benefits, such as public open space, recreational amenities or enhanced landscaping and that adequate provision for utilities service and emergency vehicle access are provided.
6. Private Driveways and Drive Aisles. Multifamily, commercial, and industrial developments served by private driveways or drive aisles shall comply with the paving materials, width, and location standards of this Section 19.9.13. In nonresidential districts,

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driveways approaching an intersection shall comply with Section 19.10.1. In residential districts, all driveways shall be at least six feet from the point of curvature of any intersection, per Standard Drawing Nos. 222 and 222A, unless this requirement is waived by the public works director. Private driveways and drive aisles shall comply with the fire code when the fire chief determines that they are necessary for fire apparatus access.

Commentary: This provision does not exempt developments from compliance with any fire code adopted by the city.

7. Direct Access to Collector and Larger Streets Restricted. Unless otherwise approved by the public works director, no direct vehicular access onto any minor or industrial collector, secondary arterial or primary arterial or larger street shall be permitted from any lot zoned RS-1A, RS-2, RS-4, RS-6, RM-8 or RM-10. Access to lots zoned RS-1A, RS-2, RS-4, RS-6, RM-8 or RM-10 shall be by minor local or interior subdivision streets or alleys only. Unless otherwise approved by the public works director, each RS-1A and RS-2 lot existing prior to adoption of this Development Code that fronts on and directly accesses a street shown on the master streets and highways plan shall provide a circular drive to access that street.

C. Street Jogs. Streets shall not have centerline offsets of less than one hundred twenty-five feet unless approved by the public works director.

D. Reverse or Compound Curves. The minimum tangent on reverse or compound curves on all streets, except local streets, shall be one hundred feet.

E. Cul-de-Sacs. In addition to the right-of-way and pavement width standards of this section, cul-de-sac streets shall comply with the following standards.

1. Length. The maximum length of a cul-de-sac shall be six hundred feet, measured from the center of the intersection to the center of the turnaround. Cul-de-sac lengths in excess of six hundred feet shall require approval of the fire chief.

2. Number of Lots. No more than twenty lots may be located on a cul-de-sac street. Cul-de-sacs that serve more than twenty lots shall require approval of the fire chief.

F. Block Length.

1. Blocks shall not exceed one thousand two hundred feet in length between intersections except where topography, traffic or other conditions require longer blocks.

2. Neighborhood roadways shall be designed with elements to reduce cut-through traffic and speeding. The neighborhood shall be designed to discourage long blocks. Design elements such as cul-de-sacs, curved streets, traffic circles and short-segmented streets shall be used.

G. Intersections.

1. Minimum tangent distances between right-of-way lines shall be as shown in the standard drawings.

2. At intersections of major streets or a major and minor street, sight visibility zones shall be provided in accordance with Standard Drawing No. 201.2.

3. Any median opening providing access to a public or private street may be closed or channelized with a median in order to restrict the public or private street to right-turn-only movements as determined by the director of public works to reduce the risk of any potential traffic hazards.

H. Drainage.

1. Drainage System

a. The subdivider shall provide the necessary means to assure complete drainage in and adjacent to the subject property by making use of state or city stormwater systems, natural watercourses or constructed channels. The subdivider shall submit to the public works

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director sufficient information in the form of maps and profiles prepared by a surveyor or engineer to indicate the proper drainage of the runoff to natural drainage courses or into city or state drain systems. If surface runoff drainage is proposed across lands intended to be used as private lots, rights-of-way and easements shall be indicated on the proposed plat. The location and width of easements shall be indicated on the plat to be recorded and marked "public drainage easements with the minimum width being twenty feet." If deemed necessary by the Public Works Director, temporary or permanent improvements shall be provided. The design of the improvements shall be determined by an engineer in accordance with the latest edition of the "Clark County Regional Flood Control District Hydrologic Criteria and Drainage Design Manual." The construction of all improvements shall be in accordance with the latest edition of the Uniform Standard Drawings and specifications for the Clark County Area, Nevada.

b. No discharge of any pollutant, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) shall be made into the stormwater system or waters of the state of Nevada within the city of Henderson without first obtaining the appropriate NPDES permit from the state of Nevada or the U.S. Environmental Protection Agency.

2. Valley Gutters and Under-Drains. Valley gutters with a minimum width of eight feet or under-drains are required across intersections. The construction of valley gutters or under-drains shall comply with the Uniform Standard Drawings and Specifications for the Clark County Area, Nevada. Valley gutters will not be allowed to cross eighty-foot-wide or larger streets. Drainage will be placed in appropriately sized pipes at those points and discharged to existing stormwater systems or drained to daylight.

3. Drainage Pipe. No public storm water drainage pipe shall be less than eighteen inches in diameter. All public storm water drainage pipe shall be corrosive-resistant and have a design life of at least fifty years.

4. Curb and Gutter. Curbs and gutters shall conform to the Uniform Standard Drawings and Specifications for the Clark County Area, Nevada.

a. Rolled Curbs and Gutters—Private Streets. A thirty-inch rolled curb and gutter may be used on privately owned and maintained streets, provided that all sidewalks abutting the rolled curb and gutter are constructed with a minimum thickness of five inches of Class B concrete, and all meter covers in the sidewalk area are the traffic-bearing type.

I. Alleys.

1. Alleys not less than twenty feet wide may be provided in commercial and industrial districts except where other definite and assured provision is made for service access, such as off-street loading, unloading, and parking that is adequate for the proposed uses.

2. If alleys are provided in residential developments, they shall be at least twenty-four feet wide except in the ELO district where they may be allowed as per Section 19.6.5(j)(7).

J. Street Names.

1. All street names and addresses shall conform to the Henderson standard for street naming and addressing, as adopted by the city council.

2. The subdivider shall purchase and install street signs in accordance with city standards.

K. Access Streets. All access streets shall be constructed in compliance with the standard drawings and Standard Specifications, as approved by the public works director and fire chief.

L. Gating and Restricting Access to Streets, Driveways and Alleys. The following restrictions apply to all residential, commercial, and industrial development except for a single-family home with its own separately gated driveway.

1. No street, driveway or alley, whether publicly or privately owned or maintained, shall be gated or otherwise restricted with regard to vehicular or pedestrian (traffic) access without specific permission from the city council. As used in this section, the term, gate, shall refer to any electronically operated barrier or similar device that would allow access or passage to a certain person, group of people or type of traffic and not to the general public or to transient traffic.

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2. Permission to restrict access from public streets to private streets or to gate or otherwise restrict access to private streets, driveways, and alleys may be granted through the planned unit development (PUD) process (Section 19.2.7) at the time the subdivision and road are first designed and approved. If such design does not result in a restriction of access to any existing street, the citizen's traffic advisory board need not review the plans. If, however, the restriction of access on a proposed street would result in restricting access to an existing street, the applicant shall first follow the procedures described below for gating an existing street.

3. Public streets or alleys shall not be gated.

4. In the event that one or more property owners wish to restrict access on an existing public street or to gate or otherwise restrict access on an existing private street or alley, said property owners shall initiate an application through the city clerk, and the city clerk shall forward the application to the city council for acceptance or rejection. The application shall be signed by every property owner whose lot or condominium directly abuts the street and every owner of properties on cul-de-sacs or loop streets that are primarily accessed by the street. The fee for such application shall be the same as for an application for vacation of street right-of-way. If rejected, the application shall be void, the fee shall be refunded, and no reapplication shall be accepted by the city clerk for the same or substantially the same proposal for a period of one hundred eighty days. If accepted, the city council shall remand the application to the citizen's traffic advisory board and planning commission for their reviews. The applicants shall cause a traffic study to be performed in accordance with the specifications of the city's traffic engineer, and the results of the study, along with any police and fire department requirements, shall be included in a plan presented to the citizen's traffic advisory board. The citizen's traffic advisory board shall forward the results of their review to the planning commission, which shall then make a recommendation to the city council. Upon receipt of the planning commission's recommendation, the city council shall conduct a public hearing and make its final determination on the application. If denied, no reapplication shall be accepted by the city clerk for the same or substantially the same proposal for a period of one hundred eighty days.

5. Access to either public or private streets, driveways, and alleys may be restricted using a permanent barrier if approved by the city council. Such restriction shall be for all vehicles with the exception of emergency vehicles that may require passage as an option. The city council's decision to allow restricted access to a street shall be based on the restriction enhancing the health, safety, and welfare of the general public, and not solely to help isolate or segregate a segment of the population or an organization.

6. It is the intent of this subsection that no street, driveway or alley access restriction shall be authorized until all traffic and emergency access studies and all functional and aesthetic designs are completed, reviewed by the planning commission, and approved by the city council. Furthermore, the citizen's traffic advisory board shall also review all such proposals for streets already in existence at the time of the application.

(Ord. 2573 § 5, 2007; Ord. 2567 § 7 (part), 2007; Ord. 2263 § 4, 2004; Ord. 2254 § 9 (part), 2004; Ord. 2061 § 9 (part), 2001)

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Title 14 PUBLIC SERVICES

Chapter 14.17 WASTEWATER COLLECTION AND TREATMENT

LVMC 14.17.025 Definitions

(66) “Storm drain” means a conveyance structure for carrying storm and surface waters and drainage water excluding wastewater.

(67) “Stormwater” means uncontaminated water resulting from precipitation; irrigation with drinking water; or clean groundwater.

Stormwater Discharges are discussed in Paragraphs D and E.

14.17.120 Discharge of certain materials expressly prohibited.

(A) It is unlawful for any user to discharge or cause to be discharged into the system any of the following materials in concentrations sufficient to cause pass through or interference, or in concentrations that violate any regulation promulgated in accordance with Section 307(b), (c) or (d) of the Act;

(1) Gasoline, mercury, total identifiable chlorinated hydrocarbons, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, solvents, pesticides or jet fuel;

(2) Acids, caustics, sulfides, concentrated chloride and fluoride compounds and substances which will react with water to form acidic products;

(3) Liquids, solids or gases which, by reason of their nature or quantity, are flammable, reactive, explosive, corrosive or radioactive or by interaction with other materials could result in a fire, explosion or injury;

(4) Wastewater from industrial facilities that contain floatable fats, wax, grease or oils;

(5) Non-biodegradable cutting oils, commonly called soluble oil, which form persistent water emulsions;

(6) Floatable material which is readily removable;

(7) Any waste with a closed-cup flashpoint of less than one hundred forty degrees Fahrenheit (sixty degrees Celsius) using the test methods specified in 40 CFR 261.21.

(B) Except as expressly allowed in a wastewater contribution permit, it is unlawful for any user to discharge or cause to be discharged into the system any of the following materials:

(1) Solid or viscous material which could cause an obstruction to the flow or cause an interference to the operation of the system or the City's storm drain system, including without

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limitation grease, garbage with particles that are greater than one-half of an inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, feathers, ashes, cinders, sand, spent lime, stone marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas tar, asphalt residues, residues from the refining or processing of fuel, lubricating oil, mud, glass grinding or polishing wastes, any wastewater that has a pH of less than 5.0 or more than 11.0 or any wastewater that has any other corrosive property that is capable of causing damage or hazard to the structures, equipment, or personnel of the City;

(2) Toxic pollutants in a sufficient quantity to injure or interfere with any wastewater treatment process, constitute a hazard or cause injury to human, animal or plant life or cause to be exceeded any limitation that is set forth in this Chapter;

(3) Noxious or malodorous liquids, gases or solids in a sufficient quantity, either alone or by interaction with other materials, to create a nuisance or which result in toxic gases, vapors or fumes within the system in a quantity that may cause acute worker health and safety problems;

(4) Any material in a sufficient quantity to interfere with any wastewater treatment process, render any product thereof unsuitable for reclamation and reuse or cause the City to be in non-compliance with the sludge use or disposal criteria, guidelines or regulations in connection with Section 405 of the Act, the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act or other Federal or State criteria that are applicable to the sludge management method that is being used;

(5) Material which will cause the City to be in violation of its NPDES permit or any applicable Federal and State statute, rule or regulation;

(6) Wastewater that contains pigment which is not removed in the ordinary wastewater treatment process and which creates a visual contrast with the material appearance of the City's discharge when it is observed at the point of the discharge;

(7) Wax, grease or oil concentration of mineral or petroleum origin (nonliving sources) of more than one hundred milligrams per liter, whether emulsified or not, or which contain substances which may solidify or become viscous at temperatures between thirty-two degrees Fahrenheit and one hundred fifty degrees Fahrenheit (zero degree Celsius and sixty-five degrees Celsius) at the point of its discharge into the system;

(8) Total fat, wax, grease or oil concentration of animal or vegetable origin (biodegradable living sources) of more than two hundred fifty milligrams per liter, whether emulsified or not, or which contain substances which may solidify or become viscous at temperatures between forty degrees Fahrenheit and one hundred degrees Fahrenheit (four degrees Celsius and thirty-seven degrees Celsius) at the point of its discharge into the system.

(9) Waste containing substances that may precipitate, solidify or become viscous at temperatures between forty degrees Fahrenheit and one hundred degrees Fahrenheit (four degrees Celsius and thirty-seven degrees Celsius) at the point of its discharge into the system;

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(10) Wastewater that has a heat content in such a quantity that the temperature of the wastewater at the introduction into the wastewater treatment plant exceeds one hundred four degrees Fahrenheit (forty degrees Celsius);

(11) Pollutants, including without limitation oxygen-demanding pollutants, that are released at a flow rate or a pollutant concentration which will cause or contribute to an interference with the wastewater treatment process;

(12) Single pass cooling water; provided, however, that the blowdown or bleedoff from cooling towers or other evaporative coolers may be accepted into the system as long as it does not exceed one-third of the makeup of the water and is expressly authorized in the user's wastewater contribution permit;

(13) Wastewater which constitutes a hazard or causes injury to human, animal or plant life or creates a public nuisance;

(14) Recognizable portions of the human or animal anatomy;

(15) Wastewater which constitutes a hazard or causes injury to human, animal or plant life or creates a nuisance;

(16) Water that is added for the purpose of diluting wastes which would otherwise exceed the applicable maximum concentration limitations;

(17) Excessive amounts of organic phosphorous type compounds;

(18) Excessive amounts of deionized water, steam condensate or distilled water;

(19) Rainwater, stormwater, groundwater, street drainage, surface drainage, roof drainage, yard drainage, water from yard fountains, ponds, lawn sprays or any other uncontaminated water;

(20) Industrial waste which does not comply with the applicable Federal pretreatment standards, as the same are set forth in Section 307(b) and (c) of the Act and any applicable regulation thereunder, including without limitation those that are promulgated in 40 CFR Chapter I, Subpart N, Parts 401 to 471. The most stringent standards will apply whenever Federal, State and local standards overlap.

(C) In no case shall LVMC 14.17.120(B) be interpreted to allow a discharge that is not in compliance with any regulation promulgated in accordance with Section 307(b), (c) or (d) of the Act.

(D) It is unlawful for any person to discharge wastewater in any form, other than stormwater, into the storm drains of the City of Las Vegas.

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(E) It is unlawful for any person to discharge any pollutant, as defined in the Act, into surface waters within the City of Las Vegas without first obtaining an NPDES permit from the State of Nevada or the U.S. Environmental Protection Agency.

(F) At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system, or at any point in the system, exceed five percent, nor shall any single reading exceed ten percent of the lower explosive limit of the meter.

(Ord. 3713 § 14, 1993; Ord. 3447 § 102, 1989)

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Title 13 PUBLIC SERVICES

Chapter 13.28 WASTEWATER COLLECTION AND TREATMENT

Stormwater Discharges are discussed in Paragraphs D and E.

13.28.120 Discharge of certain materials expressly prohibited.

A. It is unlawful for any user to discharge or cause to be discharged into the system any of the following materials in concentrations sufficient to cause pass through or interference, or in concentrations that violate any regulation promulgated in accordance with Section 307(b), (c) or (d) of the Clean Water Act:

1. Gasoline, mercury, total identifiable chlorinated hydrocarbons, kerosene, naphtha, benzene, toluene, xylene, ethers, alcohols, ketones, aldehydes, peroxides, chlorates, perchlorates, bromates, carbides, hydrides, solvents, pesticides or jet fuel;
2. Acids, caustics, sulfides, concentrated chloride and fluoride compounds and substances which will react with water to form acidic products;
3. Liquids, solids or gases which, by reason of their nature or quantity, are flammable, reactive, explosive, corrosive, or radioactive or by interaction with other materials could result in a fire, explosion or injury;
4. Wastewater from industrial facilities that contain floatable fats, wax, grease or oils;
5. Nonbiodegradable cutting oils, commonly called soluble oil, which form persistent water emulsions;
6. Floatable material which is readily removable;
7. Any waste with a closed-cup flashpoint of less than 140 degrees Fahrenheit (60 degrees Celsius) using the test methods specified in 40 CFR 261.21.

B. Except as expressly allowed in a wastewater contribution permit, it is unlawful for any user to discharge or cause to be discharged into the system any of the following materials:

1. Solid or viscous material which could cause an obstruction to the flow or cause an interference to the operation of the system or the city's storm drain system, including without limitation grease, garbage with particles that are greater than one-half of an inch in any dimension, animal guts or tissues, paunch manure, bones, hair, hides or fleshing, entrails, feathers, ashes, cinders, sand, spent lime, stone marble dust, metal, glass, straw, shavings, grass clippings, rags, spent grains, spent hops, waste paper, wood, plastics, gas tar, asphalt residues, residues from the refining or processing of fuel, lubricating oil, mud, glass grinding or polishing wastes, any wastewater that has a pH of less than 5.0 or more than 11.0 or any wastewater that has any other corrosive property that is capable of causing damage or hazard to the structures, equipment, or personnel of the city;

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2. Toxic pollutants in a sufficient quantity to injure or interfere with any wastewater treatment process, constitute a hazard or cause injury to human, animal or plant life, or cause any limitation that is set forth in this chapter to be exceeded;
3. Noxious or malodorous liquids, gases or solids in a sufficient quantity, either alone or by interaction with other materials, to create a nuisance or which result in toxic gases, vapors or fumes within the system in a quantity that may cause acute worker health and safety problems;
4. Any material in a sufficient quantity to interfere with any wastewater treatment process, render any product thereof unsuitable for reclamation and reuse or cause the city of Las Vegas or Clark County sanitation district to be in noncompliance with the sludge use or disposal criteria, guidelines, or regulations in connection with Section 405 of the Act, the Solid Waste Disposal Act, the Clean Air Act, the Toxic Substances Control Act, or other federal or state criteria that are applicable to the sludge management method that is being used;
5. Material which will cause the city of Las Vegas or Clark County sanitation district to be in violation of its NPDES permit or any applicable federal and state statute, rule or regulation;
6. Wastewater that contains pigment which is not removed in the ordinary wastewater treatment process and which creates a visual contrast with the material appearance of the city's discharge when it is observed at the point of the discharge;
7. Wax, grease or oil concentration of mineral or petroleum origin (non-living sources) of more than 100 milligrams per liter, whether emulsified or not, or which contain substances which may solidify or become viscous at temperatures between 32 degrees Fahrenheit and 150 degrees Fahrenheit (0 degree Celsius and 65 degrees Celsius) at the point of its discharge into the system;
8. Total fat, wax, grease, or oil concentration of animal or vegetable origin (biodegradable living sources) of more than 250 milligrams per liter, whether emulsified or not, or which contain substances which may solidify or become viscous at temperatures between 40 degrees Fahrenheit and 100 degrees Fahrenheit (4 degrees Celsius and 37 degrees Celsius) at the point of its discharge into the system;
9. Waste containing substances that may precipitate, solidify or become viscous at temperatures between 40 degrees Fahrenheit and 100 degrees Fahrenheit (4 degrees Celsius and 37 degrees Celsius) at the point of its discharge into the system;
10. Wastewater that has a heat content in such a quantity that the temperature of the wastewater at the introduction into the wastewater treatment plant exceeds 104 degrees Fahrenheit (40 degrees Celsius);
11. Pollutants, including without limitation oxygen demanding pollutants, that are released at a flow rate or a pollutant concentration which will cause or contribute to an interference with the wastewater treatment process;

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12. Single pass cooling water; provided, however, that the blow down or bleed off from cooling towers or other evaporative coolers may be accepted into the system as long as it does not exceed one-third of the makeup of the water and is expressly authorized in the user's wastewater contribution permit;

13. Wastewater which constitutes a hazard or causes injury to human, animal, or plant life or creates a public nuisance;

14. Recognizable portions of the human or animal anatomy;

15. Wastewater which constitutes a hazard or causes injury to human, animal, or plant life or creates a nuisance;

16. Water that is added for the purpose of diluting wastes which would otherwise exceed the applicable maximum concentration limitations;

17. Excessive amounts of organic phosphorous type compounds;

18. Excessive amounts of deionized water, steam condensate or distilled water;

19. Rainwater, stormwater, groundwater, street drainage, surface drainage, roof drainage, yard drainage, water from yard fountains, ponds, lawn sprays or any other uncontaminated water;

20. Industrial waste which does not comply with the applicable federal pretreatment standards, as the same are set forth in Section 307 (b) and (c) of the Act and any applicable regulations thereunder, including without limitation those that are promulgated in 40 CFR Chapter I, Subpart N, Parts 401 to 471. The most stringent standards will apply whenever federal, state and local standards overlap.

C. In no case shall Section 13.28.120B be interpreted to allow a discharge that is not in compliance with any regulation promulgated in accordance with Section 307(b), (c) or (d) of the Act.

D. It is unlawful for any person to discharge any waste water in any form, other than stormwater, into the storm drains of the city.

E. It is unlawful for any person to discharge any pollutant, as defined in the Act, into surface waters within the city without first obtaining an NPDES permit from the state of Nevada or the U. S. Environmental Protection Agency.

F. At no time shall two successive readings on an explosion hazard meter, at the point of discharge into the system or at any point in the system, exceed five percent, nor shall any single reading exceed ten (10) percent of the lower explosive limit of the meter. (Ord. 1098 § 2 (part), 1993: prior code § 4.14.120)

NEW ORDINANCES

- **Clark County**
- **City of Las Vegas**
- **City of North Las Vegas**
- **City of Henderson**

DRAFT OF THE STORMWATER ORDINANCE (July 7, 2008)

Authority.

This Code is enacted pursuant to the powers granted and limitation imposed by laws of the state of Nevada, including the statutory authority granted in Nevada Revised Statutes (NRS) Chapter 278.

Applicability.

The provisions of this Code shall apply to all pollutants, stormwater, or urban use water discharged from any developed and undeveloped lands within unincorporated Clark County (County), including land owned by local, county, state or federal agencies unless explicitly exempted by the County, Nevada Division of Environmental Protection (NDEP), U.S. Environmental Protection Agency (EPA), or by permit.

Purpose and Intent.

General. The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of the County through the regulation of non-storm water (see definition of storm water in the "Definitions" section) discharges to the municipal separate storm sewer system (MS4) to the maximum extent practicable as required by federal, state and local law in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit (MS4 Permit) issued by the NDEP.

The objectives of this ordinance are to:

1. Regulate the contribution of pollutants to the MS4 that would cause a violation of the MS4 Permit;
2. Prohibit Illicit Connections and Discharges to the MS4;
3. Establish legal authority to carry out all inspection, surveillance and monitoring procedures and enforcement procedures and activities necessary to ensure compliance with this ordinance.

Compliance required.

No discharge of pollutants, stormwater, or urban use water from any developed and undeveloped lands shall be allowed until:

- A. All applicable development review and approval processes have been followed;
- B. All applicable approvals have been obtained;
- C. All required permits or authorizations to proceed have been issued.

Conflicting Provisions.

A. Conflict with State or Federal Regulations. If the provisions of the Code are inconsistent with those of the state or federal government, the more restrictive provision will control, to the extent permitted by law.

B. Conflict with Other County Regulations. If the provisions of the Code are inconsistent with one another or if they conflict with provisions found in other adopted ordinances, resolutions or regulations of the County, the more restrictive provision will control.

C. Conflict with Private Agreements. It is not the intent of the Code to interfere with, abrogate or annul any easement, covenant, deed restriction or other agreement between private parties. If the provisions of the Code impose a greater restriction than imposed by a private agreement, the provisions of this Code will control. If the provisions of a private agreement impose a greater restriction than the Code, the provisions of the private agreement will control. The county shall not be responsible for monitoring or enforcing private agreements.

Responsibility for Enforcement.

The Director of Public Works shall have primary responsibility for enforcing provisions of this Code pertaining to construction activities associated with public land and infrastructure, illicit discharges to the storm water system, and best management practices (BMPs) pertaining to street cleaning and stormwater system maintenance. The Director of Development Services shall have primary responsibility for enforcing provisions of this Code pertaining to the construction activities associated with private land and infrastructure and of post-construction BMPs in site design of new development and substantial redevelopment projects. The Director of Air Quality and Environmental Management shall have primary responsibility for enforcing provisions of this Code pertaining to activities associated with industrial and commercial uses. The General Manager of the Water Reclamation District shall have primary responsibility for enforcing provisions of this code pertaining to illicit connections, potable water, and wastewater discharges. Other officers, persons, or entities acting in the beneficial interest of or in the employ of the county as authorized by the County Manager shall share responsibility for enforcing provisions of this Code.

Severability.

The provisions of this Code are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Code or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Code.

Ultimate Responsibility.

The standards set forth herein and promulgated pursuant to this Code are minimum standards; therefore this Code does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Discharge Prohibitions.

A. Prohibition of Illicit Discharges.

1. No discharge of wastewater or stormwater in any form, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be made into the storm water system or waters of the State of Nevada that would cause a violation of the NPDES storm water permit.
2. No discharge of any pollutant, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) shall be made into the stormwater system or waters of the state of

Nevada within the County without first obtaining the appropriate NPDES permit from the state of Nevada or the U.S. Environmental Protection Agency.

3. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:
 - a. Those discharges allowed in the “National Pollutant Discharge Elimination System Permit for Discharges from Municipal Separate Storm Sewer Systems”, Permit No. NV0021911 issued by the NDEP on June 19, 2003;
 - b. Discharges specified in writing by the County as being necessary to protect public health and safety.
 - c. Dye testing is an allowable discharge, but requires a verbal notification to the County prior to the time of the test.
 - d. The prohibition shall not apply to any non-stormwater discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the County, NDEP or EPA; provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations; and provided that written approval has been granted for any discharge to the MS4.

B. Prohibition of Illicit Connections.

1. The construction, use, maintenance or continued existence of illicit connections to the storm drain system that includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection;
2. A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

Suspension of MS4 Access.

A. Suspension due to Illicit Discharges in Emergency Situations.

The County may, without prior notice, suspend access to the MS4 by developed and undeveloped lands, or by property owners or operators, when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, health or welfare of persons, MS4, Waters of the State of Nevada, or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency the County may take such steps as deemed necessary to prevent or minimize damage to the environment, health or welfare of persons, MS4, Waters of the State of Nevada, or Waters of the United States.

Comment [DoIT1]: Emergency is defined in HMC as an event declared by County Commissioners or County Manager. Is there other wording that can be substituted.

B. Suspension due to the Detection of Illicit Discharge.

Any developed and undeveloped lands, or property owners or operators, discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The authorized enforcement agency will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement agency for a reconsideration and hearing.

1. A person shall be in violation of this Code if the person reinstates MS4 access to premises terminated pursuant to this Code, without the prior approval of the County.

Industrial or Construction Activity Discharges.

Comment [DoIT2]: Do we need to cover post construction as a separate item in this and subsequent sections. - YES

A. NPDES Permit Required.

Any persons or facility operators subject to an industrial or construction activity NPDES stormwater discharge permit issued by NDEP shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the County prior to the allowing of discharges to the MS4.

B. Renewable Fire Permit Required

Any persons or facility operators subject to maintaining a permit under Chapter 27 of the International Fire Code shall comply with all provisions of said chapter. Proof of compliance with said permit may be required in a form acceptable to the County prior to the allowing of discharges to the MS4.

Comment [DoIT3]: Wording concerning enforcement and compliance for industrial facilities under the 2006 IFC.

Monitoring of Discharges.

A. Applicability.

This section applies to all facilities that have stormwater discharges associated with industrial activity, including construction activity.

B. Access to Facilities.

1. The County shall be permitted to enter and inspect facilities subject to regulation under this Code as often as may be necessary to determine compliance. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the County.
2. Facility operators shall allow the County ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of a permit to discharge stormwater, and the performance of any additional duties as defined by local, state and federal law.
3. The County shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the County to conduct monitoring and/or sampling of the facility's storm water discharge.
4. The County has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.
5. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the County and shall not be replaced. The costs of clearing such access shall be borne by the operator.
6. Unreasonable delays in allowing the County access to a permitted facility is a violation of a storm water discharge permit and of this Code. A person who is the operator of a facility with a permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement agency reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this Code.

7. If the County has been refused access to any part of the premises from which stormwater is discharged, and is able to demonstrate probable cause to believe that there may be a violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the County may seek issuance of a search warrant from any court of competent jurisdiction.

Requirements to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices.

A. Required BMPs.

The County shall require temporary or permanent BMPs for any activity, operation, facility, or development that may cause or contribute to pollution or contamination of stormwater, the MS4, Waters of the State of Nevada, or Waters of the U.S. The owner or operator responsible for said activity, operation, facility, or development shall provide, at their own expense, reasonable protection from accidental or intentional discharge of prohibited materials or other wastes into the MS4 to the maximum extent practicable through the use of BMPs. The use of BMPs shall not absolve any owner or operator from complying with any requirement set forth in this Code or state and federal permits.

1. Compliance with all terms and conditions of a valid NPDES permit issued by NDEP or the U.S. EPA authorizing the discharge of stormwater to the system shall be deemed compliance with the provisions of this Section.
2. The BMPs for all new development and substantial redevelopment after adoption of this Code shall follow established local guidelines referenced in the Manual whenever possible.
3. The BMP's used shall be identified on the stormwater pollution prevention plan (SWPPP) that follow established federal, state, and local guidelines as necessary for compliance with requirements of the NPDES permit issued by NDEP.
4. The BMPs used shall be identified on the erosion and sediment control plan that is required for each new development and substantial redevelopment project subject to this Code approved by the County. The erosion and sediment control plan shall contain, but is not limited to, the following elements:
 - a. Description of potential discharges and discharge points of the site.
 - b. Description of materials stored and handled onsite.
 - c. BMPs used to minimize to the maximum extent practicable pollutants from discharging from the site.
 - d. Procedures to prevent and respond to discharges, including as necessary, inspection and maintenance of temporary and permanent BMPs, handling and transfer of materials, control of site runoff, employee training, and measures and equipment necessary for emergency response and follow-up.
5. The perpetual maintenance of BMPs located on private land shall be at the sole responsibility and expense of the property owner or operator.

Comment [DoIT4]: This will reference the manual to be developed by the SQMC through the upcoming stakeholder process. Also, how should industrial activity

B. Inadequate BMPs.

If at any time the County determines that the BMPs are inadequate to provide reasonable protection from accidental or intentional discharge of prohibited materials or other wastes to the maximum extent practicable for any activity, operation, facility, or development that may cause or contribute to pollution or contamination of storm water, the MS4, Waters of the State of Nevada,

or Waters of the U.S the owner or operator responsible for said property or premise may be required to implement additional BMPs at their own expense to prevent the potential or further discharge of pollutants.

Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation (unless other permitted in writing), and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Comment [DoIT5]: Look for consistency in language regarding water course, wash, etc. We need to create language and definitions specific to our area.

Notification of Spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the MS4, Waters of the State, or Waters of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Department of Public Works in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Department of Public Works within five business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

Enforcement.

A. Notice of Potential to Discharge Violation.

Whenever an authorized agent of the County finds that an owner or operator has inadequate, or failed to install, BMPs on private property or at a permitted construction, industrial or commercial site as required by this Ordinance, the County may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

1. That violating practices or operations shall cease and desist;
2. The mitigation of inadequate or the implementation of source control or treatment BMPs;
3. A re-inspection of the site to ensure that any inadequate BMPs are mitigated or new BMPs are installed that meet the requirements for compliance of this code; and
4. Payment of re-inspection fees and/or fines pursuant to Clark County Code to cover administrative and mitigation costs.

The notification letter shall provide a description of the BMPs found to be in non-compliance and set forth a deadline within which such mitigation or installation of said BMPs must be completed. The notice shall advise that a re-inspection be scheduled within 14 days of receipt of the notification and the contact information for scheduling such re-inspections. Said notice shall further advise that, should the violator fail to complete the work within the established deadlines, additional notifications and enforcement actions shall be implemented as described in the following matrices:

Construction Site:

Action	County	Stop	Stop	County	Citations	State
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	Notification Letter	Current Inspections	Work Order	Mitigation		Involvement
Violation						
No Control Measures	X					
Inadequate Control Measures	X					
Poor Housekeeping	X					
No Response to 1st Notification Letter (certified)	X	X	X			
No Response to 2nd Notification Letter (certified)	X	X	X	X	X	X

Industrial or Commercial Site:

Action	County Notification Letter	County Mitigation	Citations	State Involvement
Violation				
No Control Measures	X			
Inadequate Control Measures	X			
Poor Housekeeping	X			
No Response to 1st Notification Letter (certified)	X			
No Response to 2nd Notification Letter (certified)	X	X	X	X

The 2nd and subsequent notification letters shall provide a description of the BMPs found to be in non-compliance and set forth a deadline within which such mitigation or installation of said BMPs must be completed. The notice shall advise that a re-inspection be scheduled within 7 days of the receipt and the contact information for scheduling such re-inspections; as well as a description of the enforcement actions that the County is taking due to the lack of response.

B. Notice of Discharge Violation.

Whenever an authorized agent of the County finds that an owner or operator has allowed pollutants to be discharged from private property or at a permitted construction site in violation of this Ordinance, the County shall order compliance immediately, followed by written notice of violation to the responsible person. Such notice may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;
4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property;
5. Payment of a fine to cover administrative and remediation costs pursuant to Clark County Code;
6. The implementation of source control or treatment BMPs; and
7. Payment of re-inspection fees and/or fines pursuant to Clark County Code to cover administrative and mitigation costs.

The notification letter shall provide a description of the discharge found to be in non-compliance and set forth a deadline within which such mitigation of said discharge must be completed. The notice shall advise that a re-inspection be scheduled within 7 days of the receipt of the notification and the contact information for scheduling such re-inspections. Said notice shall further advise that, should the violator fail to complete the work within the established deadlines, additional notifications and enforcement actions shall be implemented as described in the following matrices:

Construction

Action	County Notification Letter	Stop Current Inspections	Stop Work Order	County Mitigation	Citations	State Involvement
Violation						
Pollutant Discharge to MS4	X	X				
No Response to 1st Notification Letter	X	X	X			
No Response to 2nd Notification Letter (certified)	X	X	X	X	X	X

Industrial or Commercial

Action	County Notification Letter	County Mitigation	Citations	State Involvement
Violation				
Pollutant Discharge to MS4	X			
No Response	X			

to 1 st Notification Letter				
No Response to 2 nd Notification Letter (certified)	X	X	X	X

The 2nd and subsequent notification letters to the construction, industrial or commercial site owner/operator will include a description of the violation, the required mitigation measures, and the requirements for scheduling a re-inspection of the site within 3 days of the receipt of the notification and the contact information for scheduling such re-inspections; as well as a description of the enforcement actions that the County is taking due to the lack of response.

Appeal of Notice of Violation.

A. Notice of Potential to Discharge Violation.

Any person receiving a Notice of Potential to Discharge Violation may appeal the determination of the authorized agent of the County. The notice of appeal must be received within 5 business days from the date of the Notice of Potential to Discharge Violation. Hearing on the appeal before the Development Services Director or designee (construction sites) or the Air Quality and Environmental Management Director (industrial and commercial sites) or designee shall take place within 10 business days from the date of receipt of the notice of appeal. The decision of the Director or designee shall be final.

B. Notice of Discharge Violation.

Any person receiving a Notice of Discharge Violation may appeal the determination of authorized agent of the County. The notice of appeal must be received within 5 business days from the date of the Notice of Discharge Violation. Hearing on the appeal before the Development Services Director (construction sites) or the Air Quality and Environmental Management Director (industrial and commercial sites) or designee shall take place within 10 business days from the date of receipt of the notice of appeal. The decision of the Director or designee shall be final.

Enforcement Measures After Appeal.

If a violation has not been corrected pursuant to the requirements set forth in a notice of violation, or, in the event of an appeal, within 7 days of upholding the decision of the Development Services Director or designee (construction sites) or the Air Quality and Environmental Management Director (industrial and commercial sites) upholding the decision of the authorized agent of the County, then representatives of the County shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the County or designated contractor to enter upon the premises for the purposes set forth above.

Cost of Abatement of the Violation.

Within days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. Any person violating any of the provisions of this article shall become liable to the County by reason of such

Comment [DoIT6]: Time frames to be established by CAO. At least two weeks.

violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of percent per annum shall be assessed on the balance beginning on the ___ st day following discovery of the violation.

Injunctive Relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Alternative Compensatory Actions

In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, cleanup, etc. |

Comment [DoIT7]: Review for language and consistency with respect to HMC

Violations Deemed A Public Nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance by the County, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken. |

Comment [DoIT8]: Should language from Title ___ be used for consistency?

Criminal Prosecution.

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of ___ dollars per violation per day and/or imprisonment for a period of time not to exceed ___ days. The authorized enforcement agency may recover all attorney's fees court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses. |

Comment [DoIT9]: Pull language from Title ___ or other parts of HMC for penalties.

Remedies Not Exclusive.

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies. |

Comment [DoIT10]: What is meant by remedies? Specific with regards to enforcement actions or a catch all for best management practices.

Definitions.

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency. Employees or designees of the director of the municipal agency designated to enforce this ordinance.

Best Management Practices (BMPs). Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity. Activities subject to NPDES Construction Permits. Effective March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Dirt. Means loose earth, ashes and manure, but exclusive of sand and gravel that is to be used in construction work.

Garbage. Means putrescible animal and vegetable wastes, other than source-separated recyclables, that result from the handling, storage, sale, preparation, cooking, and serving of food and that have been discarded or abandoned.

Hazardous Waste. Means any waste or combination of wastes, including without limitation solids, semisolids, liquids or contained gases, which:

1. Because of its quantity or concentration or its physical, chemical or infectious characteristics may:

a. Cause or significantly contribute to an increase in mortality or serious irreversible or incapacitating illness; or

b. Pose a substantial hazard or potential hazard to human health, public safety or the environment when it is given improper treatment, storage, transportation, disposal or other management;

2. Is identified as hazardous waste by the Nevada Department of Conservation and Natural Resources as a result of studies undertaken for the purpose of identifying hazardous wastes. The term includes, but is not limited to, toxins, corrosives, flammable materials, irritants, strong sensitizers and materials which generate pressure by decomposition, heat or otherwise.

Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section X of this ordinance.

Illicit Connections. An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or, Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

Municipal Separate Storm Sewer System (MS4).

A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains: (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States; (ii) Designed

or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.”

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. Means a permit issued by the Nevada Division of Environmental Protection (NDEP) under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

Overflow or “Overflowing Solid Waste. Means solid waste of non-residential customers that is deposited on the ground outside of a solid waste container, or excess solid waste that has been piled onto a solid waste container that is already full to such an extent that the excess solid waste will spill onto the ground in the emptying process, requiring more than minimal manual cleanup of waste from the ground.

Person. Means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Refuse. Means those discarded materials that have no useful physical, chemical, or biological properties after serving their original purpose and that cannot be reused or recycled for the same or other purposes.

Rubbish. Means nonputrescible wastes, other than source-separated recyclables, that have been discarded or abandoned such as paper, cardboard, automobiles, cans, wood, glass, bedding, crockery and similar materials.

Sewage Waste. Means any solid or semi-solid waste, including biosolids, sludge, screenings and grit.

Storm Drainage System. Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Stormwater. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan. A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to

Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

Wastewater. Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

Adoption of Ordinance.

This ordinance shall be in full force and effect __ days after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed. PASSED AND ADOPTED this ____ day of _____, 19__, by the following vote:

Comment [DoIT11]: Insert County language.

DRAFT

CITY OF HENDERSON PRELIMINARY DRAFT OF THE STORMWATER ORDINANCE

Authority.

This Code is enacted pursuant to the powers granted and limitation imposed by laws of the state of Nevada, including the statutory authority granted in Nevada Revised Statutes (NRS) Chapter 278.

Applicability.

The provisions of this Code shall apply to all pollutants, stormwater, or urban use water discharged from any developed and undeveloped lands within the City of Henderson (City), including land owned by local, county, state or federal agencies unless explicitly exempted by the City, Nevada Division of Environmental Protection (NDEP), U.S. Environmental Protection Agency (EPA), or by permit.

Purpose and Intent.

General. The purpose of this ordinance is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of non-storm water discharges to the multiple separate storm sewer system (MS4) to the maximum extent practicable as required by federal, state and local law in order to comply with requirements of the National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit (MS4 Permit) issued by the NDEP.

4. Specific. The objectives of this ordinance are to:
 1. Regulate the contribution of pollutants to the MS4 that would cause a violation of the MS4 Permit;
 2. Prohibit Illicit Connections and Discharges to the MS4;
 3. Establish legal authority to carry out all inspection, surveillance and monitoring procedures and enforcement procedures and activities necessary to ensure compliance with this ordinance;

Commentary.

Whenever a provision of this Code requires additional explanation to clarify its intent, a commentary is included. These commentaries are intended solely as a guide for administrative officials and the public to use in interpreting the ordinance. (Ord. 2061 § 9 (part), 2001)

Compliance required.

No discharge of pollutants, stormwater, or urban use water from any developed and undeveloped lands shall be allowed until:

- A. All applicable development review and approval processes have been followed;
- B. All applicable approvals have been obtained;
- C. All required permits or authorizations to proceed have been issued.

Word Usage and Construction of Language.

A. Meanings and Intent. All provisions, terms, phrases, and expressions contained in this Code shall be construed according to the purpose and intent set out in Section **XXX**

Comment [DoIT1]: Identify Section In this Code

B. Headings, Illustrations, and Text. In case of any difference of meaning or implication between the text of the Development Code and any heading, drawing, table, figure, commentary block or illustration, the text shall control.

C. Lists and Examples. Unless otherwise specifically indicated, lists of items or examples that use terms such as “including” and “such as,” or similar language, are intended to provide examples, not to be exhaustive lists of all possibilities.

D. Computation of Time. References to days are calendar days unless otherwise stated. The time in which an act is to be done shall be computed by excluding the first day and including the last day. If the last day is a Saturday, Sunday or a holiday observed by the city, that day shall be excluded.

E. References to Other Regulations, Publications and Documents. Whenever reference is made to a resolution, ordinance, statute, regulation or document, it shall be construed as a reference to the most recent edition of such regulation (as amended), resolution, ordinance, statute, regulation or document, unless otherwise specifically stated.

F. Delegation of Authority. Whenever a provision appears requiring the head of a department or another officer or employee of the city to perform an act or duty, that provision shall be construed as authorizing the department head or officer to delegate that responsibility to others.

G. Technical and Non-Technical Terms. Words and phrases shall be construed according to the common and approved usage of the language, but technical words and phrases that may have acquired a peculiar and appropriate meaning in law shall be construed and understood according to such meaning.

H. Public Officials and Agencies. All public officials, bodies and agencies to which references are made are those of the City of Henderson, unless otherwise indicated.

I. Mandatory and Discretionary Terms. The words “shall,” “will” and “must” are always mandatory. The words “may” and “should” are advisory and discretionary terms.

J. Conjunctions. Unless the context clearly suggests the contrary, conjunctions shall be interpreted as follows:

1. “And” indicates that all connected items, conditions, provisions or events apply;
2. “Or” indicates that one or more of the connected items, conditions, provisions or events may apply.

K. Tenses and Plurals. Words used in one tense (past, present or future) include all other tenses, unless the context clearly indicates the contrary. The singular includes the plural, and the plural includes the singular.

Conflicting Provisions.

A. Conflict with State or Federal Regulations. If the provisions of the Code are inconsistent with those of the state or federal government, the more restrictive provision will control, to the extent permitted by law.

B. Conflict with Other City Regulations. If the provisions of the Code are inconsistent with one another or if they conflict with provisions found in other adopted ordinances, resolutions or regulations of the city, the more restrictive provision will control.

C. Conflict with Private Agreements. It is not the intent of the Code to interfere with, abrogate or annul any easement, covenant, deed restriction or other agreement between private parties. If the provisions of the Code impose a greater restriction than imposed by a private agreement, the provisions of this Code will control. If the provisions of a private agreement impose a greater restriction than the Code, the provisions of the private agreement will control. The city shall not be responsible for monitoring or enforcing private agreements.

Responsibility for Enforcement.

The Director of Public Works, shall have primary responsibility for enforcing provisions of this Code pertaining to construction activities associated with public land and infrastructure. The Director of Building and Safety shall have primary responsibility for enforcing provisions of this Code pertaining to the construction activities associated with private land and infrastructure, and activities associated with industrial and commercial uses. The Director of Utility Services shall have primary responsibility for enforcing provisions of this code pertaining to illicit connections, potable water, and wastewater discharges. The Community Development Director shall have primary responsibility for enforcing provisions of this Code pertaining to the inclusion of post construction best management practices (BMP's) in site design of new development and substantial redevelopment projects. Other officers, persons, or entities acting in the beneficial interest of or in the employ of the city as authorized by the Director of Public Works shall share responsibility for enforcing provisions of this Code.

Severability.

The provisions of this Code are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Code or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Code.

Ultimate Responsibility.

The standards set forth herein and promulgated pursuant to this Code are minimum standards; therefore this Code does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Discharge Prohibitions.

A. Prohibition of Illicit Discharges.

1. No discharge of wastewater or stormwater in any form, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be made into the storm water system or waters of the State of Nevada that would cause a violation of the NPDES storm water permit.
2. No discharge of any pollutant, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.) shall be made into the stormwater system or waters of the state of Nevada within the City of Henderson without first obtaining the appropriate NPDES permit from the state of Nevada or the U.S. Environmental Protection Agency.

3. The commencement, conduct or continuance of any illegal discharge to the storm drain system is prohibited except as described as follows:
 - a. Those discharges allowed in the “National Pollutant Discharge Elimination System Permit for Discharges from Municipal Separate Storm Sewer Systems”, Permit No. NV0021911 issued by the NDEP on June 19, 2003;
 - b. Discharges specified in writing by the City as being necessary to protect public health and safety.
 - c. Dye testing is an allowable discharge, but requires a verbal notification to the City prior to the time of the test.
 - d. The prohibition shall not apply to any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the City, NDEP or EPA; provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations; and provided that written approval has been granted for any discharge to the MS4.

B. Prohibition of Illicit Connections.

1. The construction, use, maintenance or continued existence of illicit connections to the storm drain system that includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection, that are in violation of Title 14 of the Henderson Municipal Code (HMC);
2. A person is considered to be in violation of this ordinance if the person connects a line conveying sewage to the MS4, or allows such a connection to continue.

Suspension of MS4 Access.

A. Suspension due to Illicit Discharges in Emergency Situations.

The City may, without prior notice, suspend access to the MS4 by developed and undeveloped lands, or by property owners or operators, when such suspension is necessary to stop an actual or threatened discharge that presents or may present imminent and substantial danger to the environment, health or welfare of persons, MS4, Waters of the State of Nevada, or Waters of the United States. If the violator fails to comply with a suspension order issued in an emergency the City may take such steps as deemed necessary to prevent or minimize damage to the environment, health or welfare of persons, MS4, Waters of the State of Nevada, or Waters of the United States.

Comment [DoIT2]: Emergency is defined in HMC as an event declared by Mayor, Council, City Manager. Is there other wording that can be substituted.

B. Suspension due to the Detection of Illicit Discharge.

Any developed and undeveloped lands, or property owners or operators, discharging to the MS4 in violation of this ordinance may have their MS4 access terminated if such termination would abate or reduce an illicit discharge. The authorized enforcement agency will notify a violator of the proposed termination of its MS4 access. The violator may petition the authorized enforcement agency for a reconsideration and hearing.

1. A person shall be in violation of this Code if the person reinstates MS4 access to premises terminated pursuant to this Code, without the prior approval of the City.

Industrial or Construction Activity Discharges.

A. NPDES Permit Required.

Any persons or facility operators subject to an industrial or construction activity NPDES storm water discharge permit issued by NDEP shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the City prior to the allowing of discharges to the MS4.

B. Renewable Fire Permit Required

Any persons or facility operators subject to maintaining a permit under Chapter 27 of the International Fire Code shall comply with all provisions of said chapter. Proof of compliance with said permit may be required in a form acceptable to the City of Henderson prior to the allowing of discharges to the MS4.

Comment [DoIT3]: Do we need to cover post construction as a separate item in this and subsequent sections.

Comment [DoIT4]: Wording concerning enforcement and compliance fro industrial facilities under teh 2006 IFC.

Monitoring of Discharges.

A. Applicability.

This section applies to all facilities that have storm water discharges associated with industrial activity, including construction activity.

B. Access to Facilities.

1. The City shall be permitted to enter and inspect facilities subject to regulation under this Code as often as may be necessary to determine compliance. If a discharger has security measures in force which require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access to representatives of the City.
2. Facility operators shall allow the City ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of records that must be kept under the conditions of a permit to discharge storm water, and the performance of any additional duties as defined by local, state and federal law.
3. The City shall have the right to set up on any permitted facility such devices as are necessary in the opinion of the City to conduct monitoring and/or sampling of the facility's storm water discharge.
4. The City has the right to require the discharger to install monitoring equipment as necessary. The facility's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure stormwater flow and quality shall be calibrated to ensure their accuracy.
5. Any temporary or permanent obstruction to safe and easy access to the facility to be inspected and/or sampled shall be promptly removed by the operator at the written or oral request of the City and shall not be replaced. The costs of clearing such access shall be borne by the operator.
6. Unreasonable delays in allowing the City access to a permitted facility is a violation of a storm water discharge permit and of this Code. A person who is the operator of a facility with a permit to discharge storm water associated with industrial activity commits an offense if the person denies the authorized enforcement agency reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by this Code.
7. If the City has been refused access to any part of the premises from which stormwater is discharged, and is able to demonstrate probable cause to believe that there may be a

violation of this ordinance, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with this Code or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then the City may seek issuance of a search warrant from any court of competent jurisdiction.

Requirements to Prevent, Control, and Reduce Storm Water Pollutants by the Use of Best Management Practices.

A. Required BMP's.

The City shall require temporary or permanent BMP's for any activity, operation, facility, or development that may cause or contribute to pollution or contamination of storm water, the MS4, Waters of the State of Nevada, or Waters of the U.S. The owner or operator responsible for said activity, operation, facility, or development shall provide, at their own expense, reasonable protection from accidental or intentional discharge of prohibited materials or other wastes into the MS4 to the maximum extent practicable through the use of BMP's. The use of BMP's shall not absolve any owner or operator from complying with any requirement set forth in this Code or state and federal permits.

1. Compliance with all terms and conditions of a valid NPDES permit issued by NDEP or the U.S. EPA authorizing the discharge of stormwater to the system shall be deemed compliance with the provisions of this Section.
2. The BMP's for all new development and substantial redevelopment after adoption of this Code shall follow established local guidelines referenced in the **Manual** whenever possible.
3. The BMP's used shall be identified on the stormwater pollution prevention plan (SWPPP) that follow established federal, state, and local guidelines as necessary for compliance with requirements of the NPDES permit issued by NDEP.
4. The BMP's used shall be identified on the erosion and sediment control plan that is required for each new development and substantial redevelopment project subject to this Code approved by the City. The erosion and sediment control plan shall contain, but is not limited to, the following elements:
 - a. Description of potential discharges and discharge points of the site.
 - b. Description of materials stored and handled onsite.
 - c. BMP's used to minimize to the maximum extent possible pollutants from discharging from the site.
 - d. Procedures to prevent and respond to discharges, including as necessary, inspection and maintenance of temporary and permanent BMP's, handling and transfer of materials, control of site runoff, employee training, and measures and equipment necessary for emergency response and follow-up.
5. The perpetual maintenance of BMP's located on private land shall be at the sole responsibility and expense of the property owner or operator.

Comment [DoIT5]: This will reference the manual to be developed by the SQMC through the upcoming stakeholder process. Also, how should industrial activity

B. Inadequate BMP's.

If at any time the City determines that the BMP's are inadequate to provide reasonable protection from accidental or intentional discharge of prohibited materials or other wastes to the maximum extent practicable for any activity, operation, facility, or development that may cause or contribute to pollution or contamination of storm water, the MS4, Waters of the State of Nevada, or Waters of the U.S the owner or operator responsible for said property or premise may be required to

implement additional BMP's at their own expense to prevent the potential or further discharge of pollutants.

Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Comment [DoIT6]: Look for consistency in language regarding water course, wash, etc. We need to create language and definitions specific to our area.

Notification of Spills.

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into storm water, the MS4, Waters of the State, or Waters of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and cleanup of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the Department of Public Works in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Department of Public Works within five business days of the phone notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three years.

Enforcement.

A. Notice of Potential to Discharge Violation.

Whenever an authorized agent of the City finds that an owner or operator has inadequate, or failed to install, Best Management Practices (BMP's) on private property or at a permitted construction site as required by this Ordinance, the City may order compliance by written notice of violation to the responsible person. Such notice may require without limitation:

1. That violating practices or operations shall cease and desist;
2. The mitigation of inadequate or the implementation of source control or treatment BMPs;
3. A re-inspection of the site to ensure that any inadequate BMP's are mitigated or new BMP's are installed that meet the requirements for compliance of this code; and
4. Payment of re-inspection fees and/or fines to cover administrative and mitigation costs.

The notification letter shall provide a description of the BMP's found to be in non-compliance and set forth a deadline within which such mitigation or installation of said BMP's must be completed. The notice shall advise that a re-inspection be scheduled within 14 days of receipt of the notification and the contact information for scheduling such re-inspections. Said notice shall further advise that, should the violator fail to complete the work within the established deadlines, additional notifications and enforcement actions shall be implemented as described in the following matrix:

Action	City Notification Letter	Stop Current Inspections	Stop Work Order	City Mitigation	Citations	State Involvement
Violation						
No Control	X					

Measures						
Inadequate Control Measures	X					
Poor Housekeeping	X					
No Response to 1st Notification Letter	X	X				
No Response to 2nd Notification Letter (certified)	X	X				
No Response to 3rd Notification Letter (certified)	X	X	X	X	X	X

The 2nd and subsequent notification letters shall provide a description of the BMP's found to be in non-compliance and set forth a deadline within which such mitigation or installation of said BMP's must be completed. The notice shall advise that a re-inspection be scheduled within 7 days of the receipt and the contact information for scheduling such re-inspections; as well as a description of the enforcement actions that the City is taking due to the lack of response.

B. Notice of Discharge Violation.

Whenever an authorized agent of the City finds that an owner or operator has allowed pollutants to be discharged from private property or at a permitted construction site in violation of this Ordinance, the City shall order compliance immediately, followed by written notice of violation to the responsible person. Such notice may require without limitation:

1. The performance of monitoring, analyses, and reporting;
2. The elimination of illicit discharges;
3. That violating discharges, practices, or operations shall cease and desist;
4. The abatement or remediation of storm water pollution or contamination hazards and the restoration of any affected property; and
5. Payment of a fine to cover administrative and remediation costs; and
6. The implementation of source control or treatment BMPs.

The notification letter shall provide a description of the discharge found to be in non-compliance and set forth a deadline within which such mitigation of said discharge must be completed. The notice shall advise that a re-inspection be scheduled within 7 days of the receipt of the notification and the contact information for scheduling such re-inspections. Said notice shall further advise that, should the violator fail to complete the work within the established deadlines, additional notifications and enforcement actions shall be implemented as described in the following matrix:

Action	City Notification Letter	Stop Current Inspections	Stop Work Order	City Mitigation	Citations	State Involvement
Violation						
Pollutant Discharge to	X	X				

MS4						
No Response to 1st Notification Letter	X	X	X			
No Response to 2nd Notification Letter (certified)	X	X	X	X	X	
No Response to 3rd Notification Letter (certified)	X	X	X	X	X	X

The 2nd and subsequent notification letters to the construction site owner/operator will include a description of the violation, the required mitigation measures, and the requirements for scheduling a re-inspection of the site; as well as a description of the enforcement actions that the City is taking due to the lack of response.

Appeal of Notice of Violation.

A. Notice of Potential to Discharge Violation.

Any person receiving a Notice of Potential to Discharge Violation may appeal the determination of the authorized agent of the City. The notice of appeal must be received within 14 days from the date of the Notice of Potential to Discharge Violation. Hearing on the appeal before the Public Works Director or designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the Public Works Director or designee shall be final.

B. Notice of Discharge Violation.

Any person receiving a Notice of Discharge Violation may appeal the determination of authorized agent of the City. The notice of appeal must be received within 7 days from the date of the Notice of Discharge Violation. Hearing on the appeal before the Public Works Director or designee shall take place within 15 days from the date of receipt of the notice of appeal. The decision of the Public Works Director or designee shall be final.

Enforcement Measures After Appeal.

If a violation has not been corrected pursuant to the requirements set forth in a notice of violation, or, in the event of an appeal, within 7 days of upholding the decision of the Public Works Director or designee upholding the decision of the authorized agent of the City, then representatives of the City shall enter upon the subject private property and are authorized to take any and all measures necessary to abate the violation and/or restore the property. It shall be unlawful for any person, owner, agent or person in possession of any premises to refuse to allow the City or designated contractor to enter upon the premises for the purposes set forth above.

Cost of Abatement of the Violation.

Within days after abatement of the violation, the owner of the property will be notified of the cost of abatement, including administrative costs. The property owner may file a written protest objecting to the amount of the assessment within days. If the amount due is not paid within a timely manner as determined by the decision of the municipal authority or by the expiration of the time in which to file an appeal, the charges shall become a special assessment against the property and shall constitute a lien on the property for the amount of the assessment. Any person violating any of the provisions of this article shall become liable to the city by reason of such

Comment [DoIT7]: Time frames to be established by CAO. At least two weeks.

violation. The liability shall be paid in not more than 12 equal payments. Interest at the rate of percent per annum shall be assessed on the balance beginning on the ___ st day following discovery of the violation.

Injunctive Relief.

It shall be unlawful for any person to violate any provision or fail to comply with any of the requirements of this Ordinance. If a person has violated or continues to violate the provisions of this ordinance, the authorized enforcement agency may petition for a preliminary or permanent injunction restraining the person from activities which would create further violations or compelling the person to perform abatement or remediation of the violation.

Alternative Compensatory Actions

In lieu of enforcement proceedings, penalties, and remedies authorized by this Ordinance, the authorized enforcement agency may impose upon a violator alternative compensatory actions, such as storm drain stenciling, attendance at compliance workshops, cleanup, etc.

Comment [DoIT8]: Review for language and consistency with respect to HMC

Violations Deemed A Public Nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Ordinance is a threat to public health, safety, and welfare, and is declared and deemed a nuisance by the City, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

Comment [DoIT9]: Should language from title 5 be used for consistency?

Criminal Prosecution.

Any person that has violated or continues to violate this ordinance shall be liable to criminal prosecution to the fullest extent of the law, and shall be subject to a criminal penalty of _____ dollars per violation per day and/or imprisonment for a period of time not to exceed _____ days. The authorized enforcement agency may recover all attorney's fees court costs and other expenses associated with enforcement of this ordinance, including sampling and monitoring expenses.

Comment [DoIT10]: Pull language from Title 19 or other parts of HMC for penalties.

Remedies Not Exclusive.

The remedies listed in this ordinance are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the authorized enforcement agency to seek cumulative remedies.

Comment [DoIT11]: What is meant by remedies? Specific with regards to enforcement actions or a catch all for best management practices.

Definitions.

For the purposes of this ordinance, the following shall mean:

Authorized Enforcement Agency. employees or designees of the director of the municipal agency designated to enforce this ordinance.

Best Management Practices (BMPs). schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act. The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Construction Activity. Activities subject to NPDES Construction Permits. Effective March 2003, NPDES Storm Water Phase II permits will be required for construction projects resulting in land disturbance of 1 acre or more. Such activities include but are not limited to clearing and grubbing, grading, excavating, and demolition.

Dirt. Means loose earth, ashes and manure, but exclusive of sand and gravel that is to be used in construction work.

Garbage. Means putrescible animal and vegetable wastes, other than source-separated recyclables, that result from the handling, storage, sale, preparation, cooking, and serving of food and that have been discarded or abandoned.

Hazardous Waste. Means any waste or combination of wastes, including without limitation solids, semisolids, liquids or contained gases, which:

1. Because of its quantity or concentration or its physical, chemical or infectious characteristics may:

a. Cause or significantly contribute to an increase in mortality or serious irreversible or incapacitating illness; or

b. Pose a substantial hazard or potential hazard to human health, public safety or the environment when it is given improper treatment, storage, transportation, disposal or other management;

2. Is identified as hazardous waste by the Nevada Department of Conservation and Natural Resources as a result of studies undertaken for the purpose of identifying hazardous wastes. The term includes, but is not limited to, toxins, corrosives, flammable materials, irritants, strong sensitizers and materials which generate pressure by decomposition, heat or otherwise.

Hazardous Materials. Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge. Any direct or indirect non-storm water discharge to the storm drain system, except as exempted in Section X of this ordinance.

Illicit Connections. An illicit connection is defined as either of the following: Any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the storm drain system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the storm drain system and any connections to the storm drain system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency or, Any drain or conveyance connected from a commercial or industrial land use to the storm drain system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Industrial Activity. Activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26 (b)(14).

Multiple Separate Storm Sewer System (MS4).

A conveyance or system of conveyances including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains: (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law)...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the Clean Water Act that discharges into waters of the United States; (ii) Designed

or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.”

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit. means a permit issued by the Nevada Division of Environmental Protection (NDEP) under authority delegated pursuant to 33 USC § 1342(b) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable on an individual, group, or general area-wide basis.

Non-Storm Water Discharge. Any discharge to the storm drain system that is not composed entirely of storm water.

Overflow or “Overflowing Solid Waste. Means solid waste of non-residential customers that is deposited on the ground outside of a solid waste container, or excess solid waste that has been piled onto a solid waste container that is already full to such an extent that the excess solid waste will spill onto the ground in the emptying process, requiring more than minimal manual cleanup of waste from the ground.

Person. means any individual, association, organization, partnership, firm, corporation or other entity recognized by law and acting as either the owner or as the owner's agent.

Pollutant. Anything which causes or contributes to pollution. Pollutants may include, but are not limited to: paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, ordinances, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; wastes and residues that result from constructing a building or structure; and noxious or offensive matter of any kind.

Premises. Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

Refuse. Means those discarded materials that have no useful physical, chemical, or biological properties after serving their original purpose and that cannot be reused or recycled for the same or other purposes.

Rubbish. Means nonputrescible wastes, other than source-separated recyclables, that have been discarded or abandoned such as paper, cardboard, automobiles, cans, wood, glass, bedding, crockery and similar materials.

Sewage Waste. Means any solid or semi-solid waste, including biosolids, sludge, screenings and grit.

Storm Drainage System. Publicly-owned facilities by which storm water is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

Storm Water. Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.

Stormwater Pollution Prevention Plan. A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to

Stormwater, Stormwater Conveyance Systems, and/or Receiving Waters to the Maximum Extent Practicable.

Wastewater. Any water or other liquid, other than uncontaminated storm water, discharged from a facility.

Adoption of Ordinance.

This ordinance shall be in full force and effect __ days after its final passage and adoption. All prior ordinances and parts of ordinances in conflict with this ordinance are hereby repealed. PASSED AND ADOPTED this ____ day of _____, 19__, by the following vote:

Comment [DoIT12]: Insert City language.

LAS VEGAS MUNICIPAL CODE CHAPTER 14.18
STORMWATER REGULATIONS

Purpose/Intent.

The purpose of this Chapter is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of non-stormwater discharges to the system to the maximum extent practicable. This Chapter establishes methods for controlling the introduction of pollutants into the system in order to comply with requirements of the City's NPDES permit process. The objectives of this Chapter are to:

- (A) Regulate the contribution of pollutants to the system by stormwater discharges by any person;
- (B) Prohibit Illicit Connections and Discharges to the system;
- (C) Establish legal authority to carry out all inspection, surveillance, monitoring procedures and enforcement activities necessary to ensure compliance with this Chapter;
- (D) Establish civil, administrative and criminal penalties for violations of the provisions of this Chapter; and
- (E) Provide procedures for complying with the requirements that are placed upon the City by other governmental agencies.

Definitions.

Except where the context otherwise requires, the following definitions shall govern the construction of this Chapter:

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“Act” means the provisions of the Clean Water Act, as amended and as set forth in 33 U.S.C. §§ 1251 et seq., together with all guidelines, limitations and standards that are promulgated by the EPA pursuant to the Act.

“Best Management Practices” or “BMP” means a structural or non-structural device, facility, measure, source control practice, or any activity, along with any required documentation thereof, that helps to achieve compliance with any discharge requirement set forth in this Chapter.

“CFR” means the Code of Federal Regulations, a codification of regulations issued by the executive departments and agencies of the Federal Government.

“Construction Activity” means activities subject to NPDES Construction Permits as defined in 40 CFR, Section 122.26.

“Director” means the Director of Public Works of the City, or an authorized agent or representative of the Director.

“Discharge” means the introduction of any liquid, solid, gaseous, or radioactive substance into the system.

“Hazardous materials” means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

“Illicit discharge” means any direct or indirect non-stormwater discharge to the system, except as allowed for in this Chapter.

“Illicit connection” means:

(A) Any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the system including but not limited to any

conveyances which allow any non-stormwater discharge including sewage, industrial wastewater, and wash water to enter the system and any connections to the system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the Director, or

(B) Any drain or conveyance connected from a commercial or industrial land use to the system which has not been documented in plans, maps, or equivalent records and approved by the Director.

“Industrial Activity” means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26.

“Maximum extent practicable” means the technology-based discharge standard to reduce pollutants in stormwater discharges that was established by the §402(p) of the Act.

“NDEP” means the Division of Environmental Protection of the Nevada Department of Conservation and Natural Resources.

“Non-stormwater” means any discharge to the system that is not composed entirely of stormwater.

“NPDES permit” means a National Pollutant Discharge Elimination System permit that is issued by NDEP pursuant to Section 402 of the Act, authorizing a person to discharge pollutants into the waters of the United States.

“Person” means any natural or artificial person, male, female or neuter, singular or plural, including without limitation any individual, firm, company, municipal or private corporation, association, society, institution, enterprise or governmental agency or entity.

“Pollutant” means anything which causes or contributes to pollution, which may include, but is not limited to paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage,

litter, or other discarded or abandoned objects; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; sediment, wastes and residues that result from disturbing land or constructing a building or structure; and noxious or offensive matter of any kind.

“Premises” means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

“Release” means any significant spill, leak, or release of any non-stormwater, whether intentional or unintentional, other than that which is allowed by an NPDES permit.

“Spill” means any significant spill, leak, or release of any non-stormwater, whether intentional or unintentional, other than that which is allowed by an NPDES permit.

“Stormwater” means runoff resulting from precipitation, irrigation, or normal residential activity.

“Stormwater Pollution Prevention Plan” means a document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to the system to the Maximum Extent Practicable.

“Surface waters” means “navigable waters” as that term is defined in the Act.

“System” means any publicly-owned facility by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and human-made or altered drainage channels, reservoirs, and other drainage structures.

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Applicability.

This Chapter shall apply to all water entering the system generated on any developed and undeveloped lands unless explicitly exempted by the Director or NDEP.

Responsibility for Administration.

The Director shall administer, implement, and enforce the provisions of this Chapter. Any powers granted or duties imposed upon the Director may be delegated in writing by the Director to persons or entities acting in the beneficial interest of or in the employ of the City.

Severability.

The provisions of this Chapter are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Chapter or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Chapter.

Ultimate Responsibility.

This Chapter specifies minimum standards; therefore this Chapter does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.

Persons Outside City Boundaries.

The City is authorized to regulate stormwater discharges from persons who or premises that are located outside of the corporate boundaries of the City but are tributary to the system, consistent with any interlocal agreement. The requirements of this Chapter shall apply to each such person. The Director is authorized to inspect and monitor the facilities of each such person in order to determine its compliance with this Chapter.

Discharge Prohibitions.

Prohibition of Illicit Discharges.

(A) It is unlawful for any person to discharge or cause to be discharged into the system any material other than stormwater, unless the discharge has been authorized by NDEP and approved by the Director, pursuant to the following exceptions:

(1) Water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to the system, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning and swamp cooler condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, fire fighting activities, and any other water source not containing pollutants providing that NDEP has not determined these sources to be substantial contributors of pollutants.

(2) Dechlorinated swimming pool water (less than one mg/L chlorine) provided that a suitable connection to the sanitary sewer is not available, as determined by the Director, and permission to discharge swimming pool water into the system has first been obtained from the Director.

(3) Discharges specified in writing by NDEP as being necessary to protect public health and safety.

(4) Non-toxic dye testing provided that a verbal notification is made to the Director prior to the time of the test.

(B) It is unlawful for any person to discharge or cause to be discharged into any surface waters within the City any pollutant, as defined in the Act, without first obtaining from NDEP an NPDES permit authorizing the discharge, when such a permit is required by the Act.

Prohibition of Illicit Connections.

(A) The construction, use, maintenance or continued existence of illicit connections to the system is prohibited, which expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(B) A person is considered to be in violation of this Chapter if the person connects a line conveying sewage to the system, or allows such a connection to continue.

(C) It is unlawful for any person to remove any manhole cover, or to discharge or cause to be discharged any stormwater or non-stormwater directly into a manhole or other opening in the system that has not been authorized for stormwater discharge, unless such discharge is approved by the Director. The Director may require a written application by the person and the payment of the applicable fees and charges that have been established by the City Council pursuant to LVMC 14.18.??.

Suspension of System Access.

(A) The Director shall have the full power and authority to immediately and effectively halt or prevent, through whatever means and procedures are deemed reasonably necessary, and after informal notice to the discharger, any discharge of pollutants into the system which appears to present an imminent endangerment to the

health or welfare of any person or the environment, or which discharge threatens property or the proper operation of the system, or which places or threatens to place the City in violation of its NPDES permit. In implementing such measure or measures, the personnel of the City, any party with which the City has contracted for such purpose; or a duly authorized representative of any other government agency shall have immediate access to the premises on which such condition exists. The Director may prohibit the approach to the premises on which such condition exists by any person, vehicle, vessel or thing, and all persons who are not actually employed in the abatement of such condition or in the preservation of life or property on, or in the vicinity of, such premises may be excluded from such premises. The affected person or persons shall have the opportunity to respond, after the fact, to any action taken pursuant to this Section by requesting a hearing in the manner that is set forth in Subsections (D) and (E) of the Section.

(B) Any person who is notified of a system access suspension pursuant to this Section shall immediately cease and desist the discharge of all non-stormwater from its facilities into the system.

(C) If a person fails to comply voluntarily with the system access suspension order, the Director may take such action as may be reasonably necessary in order to ensure immediate compliance with such order, including without limitation the immediate blockage or the disconnection of the person's connection to the system.

(D) In addition, the Director, in the event of any violation of this Chapter by any person, may serve such person with a notice of an intended order of system access suspension which states the reasons therefor, notifies the person of its opportunity for a hearing with respect thereto and establishes the proposed effective date of the intended order.

(E) Any person who has been notified of a system access suspension under this Section may file with the Director a request for a hearing with respect thereto; provided, however, that the filing of such a request shall not stay the existing or proposed system access suspension.

(F) If a hearing is requested with respect to an existing or proposed system access suspension, the Director shall hold a hearing with respect to such system access suspension within fourteen days after receipt of the request. Within two working days following the close of the hearing, the Director shall make a determination concerning whether to affirm, to terminate or conditionally to terminate the system access suspension. Reasonable notice of the hearing shall be given to such person no less than five working days prior to the date of the hearing.

(G) The Director may terminate a system access suspension under this Section upon proof of the compliance by the person with applicable requirements, which compliance ends the emergency nature of the hazard that had caused the Director to initiate the system access suspension; provided, however, that the Director must be satisfied that the person will henceforth comply with all of the discharge requirements that are set forth in this Section, the City's rules and regulations that relate to the discharge of stormwater and any lawful order that is issued pursuant to this Chapter.

NPDES Industrial or Construction Activity Discharges.

Any person subject to an NPDES permit for stormwater associated with industrial activity or an NPDES permit for stormwater associated with construction activity shall possess such permit prior to performing any activity on any premises within the City subject to such permit. Proof of said permit may be required in a form acceptable to the Director prior to allowing activity subject to such permit to commence on the premises.

Monitoring of Discharges.

(A) Whenever it is necessary to make an inspection to monitor or enforce any of the provisions of, or to perform any duty imposed by, this Chapter or other applicable law, or whenever the Director has reasonable cause to believe that there exists upon any

premises any violation of the provisions of this Chapter or other applicable law or any condition which makes such premises hazardous, unsafe or dangerous, the Director is authorized to enter such premises at all reasonable times and inspect the same and perform any duty that is imposed upon the Director by this Chapter or other applicable law, subject to the following conditions:

(1) If the premises are occupied, the Director shall first present proper credentials to the occupant and request entry after explaining the reasons therefor and the purpose of the inspection; or

(2) If the premises are unoccupied, the Director shall first make a reasonable effort to locate the owner or other person who has the care or control of such premises and request entry after explaining the reasons therefor and the purpose of the inspection. If such entry is refused or cannot be obtained because the owner or other person who has the care or control of such premises cannot be found after due diligence, the Director may have recourse to every remedy that is provided by law to effect lawful entry and to inspect such premises.

(B) Notwithstanding the provisions of Subsection (A) of this Section, if the Director has reasonable cause to believe that the non-stormwater discharge conditions on or emanating from the premises are so hazardous, unsafe or dangerous as to require immediate inspection and action in order to safeguard the public health or safety, the Director shall have the right immediately to enter and inspect such premises and may use any reasonable means that may be required in order to effect such entry and make such inspection, whether the premises are occupied or unoccupied and whether or not formal permission to enter and inspect has been obtained.

(C) It shall be unlawful for any person to fail or refuse, after a proper demand has been made upon that person in accordance with Subsection (B) of this Section, promptly to permit the Director to enter such premises and to make any inspection that is provided for by Subsection (B). In addition to any criminal penalty that may be imposed

upon any person who violates this Subsection (C), such person's system access may be suspended as provided for in LVMC 14.18.??.

(D) Any person subject to this Chapter shall consent and agree to the entry at all reasonable times by the Director or designated personnel upon the premises that are described in such permit for any of the following purposes:

(1) To inspect all areas of the person's facilities that have the potential to influence the characteristics of the non-stormwater that is, or may be, discharged to the system;

(2) To inspect, sample and take flow measurements of the discharge from such person's facilities and to examine records in the performance of the Director's authorized duties;

(3) To set up on such person's property such devices as may be necessary or appropriate in order to conduct sampling, inspections, compliance monitoring, flow measuring or metering operations, or any combination thereof;

(4) To inspect and copy any record, report, test result or other information that is required to carry out the provisions of this Chapter; and

(5) To photograph or otherwise create a record of any waste, waste container, vehicle, waste treatment process, discharge location or violation that is discovered during any such inspection.

(E) If a person has instituted security measures that require proper identification and clearance before entry upon its premises, such person shall make all arrangements with its security guards that may be necessary in order that, upon presentation of their credentials, the duly designated personnel of the City shall be permitted to enter upon the premises without delay for the purpose of performing their authorized duties.

Requirements to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices.

(A) The Director may require temporary or permanent Best Management Practices at any construction, commercial or industrial site, or for any activity or operation which has the potential to cause or contribute to non-stormwater discharges into the system, as determined by the Director. When required by the Director, a person shall provide, at their own expense, protection from the accidental or intentional release of non-stormwater discharges into the system to the maximum extent practicable through the use of BMPs.

(1) Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater to the system shall be deemed compliance with the provisions of this Section. These BMPs shall be part of a stormwater pollution prevention plan (SWPPP) as necessary for compliance with requirements of the NPDES permit.

(B) The Director may require permanent Best Management Practices for any post-construction development which has the potential to cause or contribute to non-stormwater discharges into the system, as determined by the Director. When required by the Director, a person shall provide, at their own expense, protection from the accidental or intentional release of non-stormwater discharges into the system to the maximum extent practicable through the use of BMPs.

(1) The perpetual maintenance of post-construction development BMPs shall be at the sole expense of the person.

(C) If the Director determines that existing Best Management Practices are ineffective at preventing the accidental or intentional release of non-stormwater discharges into the system, the Director may require additional BMPs to satisfy the provisions provided for in Subsection A or Subsection B of this Section. The use of

BMPs shall not absolve any person from complying with any requirement set forth in this Chapter.

(D) Upon written notification from the Director, a person shall provide secondary containment for prohibited material or other substances that are regulated by this Chapter, as determined by the Director. Secondary containment for such material shall be provided and maintained at the person's sole cost and expense.

(E) Upon written notification from the Director, a person shall submit to the Director and implement a spill prevention and control plan, including, without limitation, plans for the secondary containment system and operating procedures. This spill prevention and control plan shall contain, but is not limited to, the following elements:

- (1) Description of potential discharges;
- (2) Description of stored chemicals;
- (3) Procedures for promptly notifying the Director of any spill or any discharge that would violate any provision of this Chapter;
- (4) Procedures to prevent spills, including as necessary, inspection and maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents);
- (5) Procedures and practices for responding to spills, including as necessary measures and equipment for emergency response and follow-up practices to minimize any damage.

(F) If at any time the Director determines that a spill prevention and control plan is inadequate, such plan shall be modified and implemented as specified by the Director.

Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

Notification of Spills.

(A) In the event that a spill or release enters the system, the person from whose premises the spill or release emanates shall immediately notify the Director of the incident by telephone. The notification shall include the location or locations of the spill or release, the type or types of material that was spilled or released, the concentration and volume thereof and the corrective actions, if any, that have been taken.

(B) Within five days following the spill or release, the person shall submit to the Director a detailed written report that describes the cause of the spill or release, the corrective action that was taken and the measures that the person will take to prevent future occurrences. Such notification shall not relieve the person of the liability for fines that may result from the spill.

Enforcement.

(A) The Director may rely on any appropriate evidence to determine noncompliance with this Chapter.

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(B) In the case of noncompliance with this Chapter, the Director may proceed with any one or more of the following actions:

- (1) Issue a notice of violation;
 - (2) Assess noncompliance fees;
 - (3) Revocation of City permits, licenses and agreements pertaining to work on the premises;
 - (4) Issue a cease and desist order requiring any person who caused or is responsible for the release to cease the release within a specified time;
 - (5) Issue a cleanup and abatement order requiring any such person to clean up and abate the release within a specified time;
 - (6) Cause the release to be cleaned up and abated, and thereafter recover the costs thereof from the person or persons who are responsible for the release;
- or
- (7) Any other action as provided for in any provision of the Chapter.

(C) The payment of noncompliance fees by the user or any other person shall not preclude the Director from undertaking any other enforcement procedure that is specified in this Chapter.

Reconsideration.

(A) Any person who is affected by any decision, action or determination made by the Director in the interpretation or the implementation of the provisions of this Chapter may file with the Director a written request for the reconsideration of such

decision, action or determination. The person requesting reconsideration must file the request within thirty days after receipt of notice of the decision, action or determination, and must set forth in detail the facts that support the request for reconsideration. Such facts must include a statement that sets forth any newly discovered relevant fact that was not known or was unavailable to the person requesting reconsideration at the time of the initial decision, action or determination. The Director shall render a written decision with respect to the request within thirty days after receipt thereof.

(B) Each request for reconsideration shall be accompanied by the fee, if any, that has been established by the City Council pursuant to LVMC 14.18.?? for the filing of such a request. Any such fee may, in the sole discretion of the Director, be refunded if the Director's ruling with respect to such request is in favor of the person who made the request.

(C) If the ruling of the Director with respect to a request for reconsideration is unacceptable to the person who made such request, the person may, within ten working days after the date of its receipt of the notification of the Director's ruling, file a written appeal to the City Council.

(D) Each appeal shall be accompanied by the fee, if any, that has been established by the City Council pursuant to LVMC 14.18.?? for the filing of an appeal. Any such fee may, in the sole discretion of the City Council, be refunded if the City Council's ruling with respect to such appeal is in favor of the person who filed the appeal.

(E) The appeal shall be heard by the City Council within forty-five days after the date on which the appeal was filed, and the City Council shall make a final ruling with respect to the appeal within forty-five days after the hearing is concluded.

Liability for Civil Penalties.

(A) In the event of any violation by any provision of this Chapter, for which violation the Director is authorized by this Chapter to issue a compliance order pursuant to this Section, the Director is authorized to commence a civil action against such person for appropriate relief, including without limitation civil penalties or a temporary and permanent injunction against the perpetuation of such violation, or both, or to impose administrative penalties upon such person for such violation in accordance with LVMC 14.17.??.

(B) A person shall be liable for civil penalties pursuant to Subsection (A) of this Section for failure to comply with any of the provisions of this Chapter.

(C) Before commencing a civil action against a person pursuant to this Section, the Director shall issue an order that requires the person to comply with this Chapter and advises person that, upon failure to comply with the order, the Director is authorized to bring a civil action in accordance with this Section.

(D) Any order which the Director issues pursuant to this Section shall be in writing and shall be delivered in person to the person, or served by registered or certified mail that is addressed to the person at the person's last known address, return receipt requested, shall state with reasonable specificity the nature of the violation in respect of which the order is issued and shall specify a period in which compliance therewith is required. The period for compliance shall not exceed thirty days, in the case of a violation of an interim compliance schedule or operation and maintenance requirement, and shall not exceed the period that the Director determines is reasonable, in the case of a violation of a final deadline. In determining the period for compliance, the Director shall consider the seriousness of the violation and any good faith effort on the part of the user or other person to comply with the applicable requirements.

(E) In any civil action that is brought by the Director for enforcement of the provisions of this Chapter, the Director shall seek the imposition of a civil penalty upon the person against whom the action is brought in an amount that is not less than one thousand dollars nor more than twenty-five thousand dollars for each day that each such violation continues. In determining the amount of a civil penalty that is to be imposed, following a finding by the court of liability, the court shall consider the circumstances,

extent and gravity of the violation in respect of which the action is brought, the economic benefit, if any, that has inured to the person as the result of the violation, any history of similar violations, the degree of culpability of the person, any good faith effort on the part of the person to comply with the applicable requirements, the potential economic impact of the penalty upon the person, and such other matters as justice may require.

(F) The civil and administrative penalties that are provided for in this Section and in LVMC 14.18.??, respectively, and the seeking or imposition thereof, shall be in addition to, and not in substitution for, any criminal penalty that may be imposed for the violation that forms the subject matter of any such civil or administrative relief and in addition to, and not in substitution for the invocation of any of the provisions of this Chapter as the result of the violation.

Imposition of Administrative Penalties.

(A) Whenever, on the basis of the information that is available, the Director finds that any person is in violation of any of the provisions of this Chapter, the Director may assess an administrative penalty in an amount that is not less than five hundred dollars nor more than ten thousand dollars for each day that each such violation continues, unless a different administrative penalty for any of such violations is established in the schedule of fees and charges that has been established by the City Council pursuant to LVMC 14.18.??.

(B) Before assessing any administrative penalty pursuant to this Section, the Director shall give the person upon whom such penalty is to be imposed written notice of the proposed assessment and the opportunity to request, within thirty days after the date on which such notice is received by it, a hearing with respect to the proposed order of assessment.

(C) In determining the amount of any penalty assessed pursuant to this Section, the Director shall consider the nature, circumstances, extent and gravity of the violation in respect of which the penalty is proposed to be assessed; the economic benefit,

if any, that has inured to the person as the result of such violation; any good faith effort on the part of the person to comply with the applicable requirements; the potential economic impact of the penalty upon the user or other person; any history of similar violations; the degree of culpability of the user or other person; and such other matters as justice may require.

(D) An order which imposes an administrative penalty pursuant to this Section shall become final:

(1) Thirty days after its issuance; or

(2) If a hearing has been requested pursuant to Subsection (B) of this Section, upon the Director's issuance of a decision following the hearing.

(E) The failure of a person to pay any administrative penalty that is imposed by the Director pursuant to this Section within thirty days after the imposition thereof shall be grounds for any remedy that is available under this Chapter for terminating the person's ability to discharge or cause to be discharged stormwater or non-stormwater from its facilities into the system.

Unpaid Fees Constitute Lien.

Any fee, assessment or penalty that is imposed pursuant to this Chapter which remains unpaid for a period that exceeds thirty days after the same became due shall, upon the expiration of such thirty-day period, constitute a perpetual lien on and against the premises which are subject to such fee, assessment or penalty as well as constituting a debt that is owing to the City by the person upon whom such fee, assessment or penalty is imposed and the owner of record of such premises, if such owner is someone other than the person. The City may bring a civil action in any court of competent jurisdiction to recover such fee, assessment or penalty, or any combination thereof, together with interest thereon, and may enforce such lien by recording a notice thereof with the County Recorder upon the expiration of such thirty-day period and foreclosing the same against

the premises that are subject to such lien in the same manner as is provided by the laws of the State for the foreclosure of mechanics' liens.

Schedule of Fees and Charges—Established.

(A) In order to provide for the recovery by the City of its costs that are related to the discharge of stormwater and non-stormwater into the system and for the enforcement of the provisions of this Chapter, or both, the City Council shall establish a schedule of fees and charges. Such schedule, which shall be subject to periodic revision, may establish a specific amount for any fee, charge, assessment, penalty or other cost that is related to the discharge of stormwater and non-stormwater to the system or the enforcement of the provisions of this Chapter, or both, including without limitation:

- (1) Inspection fees??;
- (2) Application fees??;
- (3) Plan review fees??;
- (4) Monitoring fees??;
- (5) ??;
- (6) Administrative penalties; and
- (7) Fees for filing requests for reconsideration and appeals.

(B) Except as may be otherwise provided in this Chapter, whenever any fee, charge, assessment or penalty that is required by this Chapter to be paid is based upon an estimated value or an estimated quantity, the Director shall make such determination in accordance with generally recognized practices.

Schedule of Fees and Charges—Due Upon Receipt.

All fees, charges, assessments and penalties that are imposed pursuant to the provisions of this Chapter or the approved schedule of fees and charges that is established in accordance with LVMC 14.18.?? shall be due and payable upon delivery of notice thereof, or upon mailing such notice to the last known mailing address of the person or entity responsible for payment thereof. All such fees, charges, assessments and penalties shall be and become delinquent thirty days after delivery or mailing of the notice described above.

City to Keep Account of Fees, Charges and Penalties Received.

The City shall keep a permanent and accurate account of all fees, charges, assessments and penalties that are received by it under this Chapter, which account shall include the name and address of each person who paid any such fee, charge, assessment or penalty or on whose behalf the same was paid, the date of such payment and amount thereof and the purpose for which the same was paid.

Delinquency Charges.

Whenever a delinquency charge has not been specifically provided for in this Chapter, any fee, charge or assessment that becomes delinquent shall have added to it a basic delinquency charge that is equal to ten percent of the fee, charge or assessment that became delinquent, and thereafter an additional delinquency charge shall accrue on the total amount that is due, including the ten percent basic delinquency charge, at the rate of ten percent per month compounding, but the amount of the delinquent fee, charge or assessment, as increased by delinquency charges, shall not exceed twice the amount of the original fee, charge or assessment. In addition to the delinquency charges described in this Section, the City may also assess the collection costs, including, without limitation, attorneys' fees and court costs, that the City may incur in collecting the fee, charge or assessment and the delinquency charges.

Actions to Collect—Prayer for Injunction.

Any action that is brought by the City for the purpose of collecting any fee, charge, assessment or penalty that is provided for in this Chapter may include a prayer for an injunction to prevent repeated and recurring violations of this Chapter.

Violation--Penalty.

(A) Any person who negligently or wilfully violates any of the provisions of this Chapter is guilty of a misdemeanor, and each day during which such violation continues constitutes a separate offense.

(B) Any person who negligently or wilfully introduces or causes to be introduced into the system any non-stormwater which such person knew, or with the exercise of reasonable diligence would have known, could cause personal injury or property damage or, unless such action is necessary in order for such person to comply with all applicable Federal, State and local requirements or permits, which causes any violation of any condition of any permit that has been issued to the City pursuant to the Act is guilty of a misdemeanor, and each day during which such person continues to introduce or cause to be introduced such non-stormwater into the system shall constitute a separate offense.

(C) Any person who knowingly makes a false statement, representation or certification of any material fact in any application, record, report, plan or other document that is filed or required to be maintained pursuant to this Chapter or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method that is required by this Chapter to be maintained is guilty of a misdemeanor.

(D) Whenever in this Chapter any act is prohibited or is made or declared to be unlawful or an offense or a misdemeanor, or whenever in this Chapter the doing of any

act is required or the failure to do any act is made or declared to be unlawful or an offense or a misdemeanor, the doing of any such prohibited act or the failure to do any such required act shall constitute a misdemeanor and upon conviction thereof, shall be punished by a fine of not more than one thousand dollars or by imprisonment for a term of not more than six months, or by any combination of such fine and imprisonment. Any day of any violation of this Chapter shall constitute a separate offense.

Cost of Abatement of the Violation.

Any person who discharges or causes to be discharged any non-stormwater into the system shall be liable to the City for all damages, cleanup costs, monitoring costs and other associated costs that result therefrom.

Alternate Compensatory Actions.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Chapter, the Director may impose upon a violator alternative compensatory actions, as determined by the Director.

Violations Deemed A Public Nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Chapter is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.

Remedies Not Exclusive.

The remedies listed in this Chapter are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Director to seek cumulative remedies.

DISCUSSION NOTES:

- **Authority for criminal prosecution**
- **Authority to impose specific fees rather than simply establish them, similar to permits, applications, surcharges, etc in LVMC 14.17 (Schedule? Resolution? eg: Does plan review, etc need to be specified as required tasks for us to have the authority to impose?)**

NORTH LAS VEGAS MUNICIPAL CODE
STORMWATER REGULATIONS

Purpose/Intent.

The purpose of this Chapter is to provide for the health, safety, and general welfare of the citizens of the City through the regulation of non-storm water discharges to the system to the maximum extent practicable. This Chapter establishes methods for controlling the introduction of pollutants into the system in order to comply with requirements of the City's National Pollutant Discharge Elimination System (NPDES) permit process. The objectives of this Chapter are to:

- (A) Regulate the contribution of pollutants to the system by stormwater discharges by any person;
- (B) Prohibit Illicit Connections and Discharges to the system;
- (C) Establish legal authority to carry out all inspection, surveillance, monitoring procedures and enforcement activities necessary to ensure compliance with this Chapter;
- (D) Establish civil, administrative and criminal penalties for violations of the provisions of this Chapter; and
- (E) Provide procedures for complying with the requirements that are placed upon the City by other governmental agencies.

Definitions.

Except where the context otherwise requires, the following definitions shall govern the construction of this Chapter:

“Act” means the provisions of the Clean Water Act, as amended and as set forth in 33 U.S.C. §§ 1251 et seq., together with all guidelines, limitations and standards that are promulgated by the EPA pursuant to the Act.

“Best Management Practices” or “BMP” means a structural or non-structural device, facility, measure, source control practice, or any activity, along with any required documentation thereof that helps to achieve compliance with any discharge requirement set forth in this Chapter.

“CFR” means the Code of Federal Regulations, a codification of regulations issued by the executive departments and agencies of the Federal Government.

“Construction Activity” means activities subject to NPDES Construction Permits as defined in 40 CFR, Section 122.26.

“Director” means the Director of Public Works, or an authorized agent or representative of the Director.

“Discharge” means the introduction of any liquid, solid, gaseous, or radioactive substance into the system.

“Hazardous materials” means any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

“Illicit discharge” means any direct or indirect non-stormwater discharge to the system, except as allowed for in this Chapter.

“Illicit connection” means:

(A) Any drain or conveyance, whether on the surface or subsurface, which allows an illicit discharge to enter the system including but not limited to any conveyances which allow any non-stormwater discharge including sewage, industrial

wastewater, and wash water to enter the system and any connections to the system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by the Director, or

(B) Any drain or conveyance connected from a commercial or industrial land use to the system which has not been documented in plans, maps, or equivalent records and approved by the Director

“Industrial Activity” means activities subject to NPDES Industrial Permits as defined in 40 CFR, Section 122.26.

“Maximum extent practicable” means the technology-based discharge standard to reduce pollutants in stormwater discharges that was established by the §402(p) of the Act.

“NDEP” means the Division of Environmental Protection of the Nevada Department of Conservation and Natural Resources.

“Non-stormwater” means any discharge to the system that is not composed entirely of stormwater.

“NPDES permit” means a National Pollutant Discharge Elimination System permit that is issued by NDEP pursuant to Section 402 of the Act, authorizing a person to discharge pollutants into the waters of the United States.

“Pollutant” means anything which causes or contributes to pollution, which may include, but is not limited to, paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; sediment, wastes and residues that result from disturbing land or constructing a building or structure; and noxious or offensive matter of any kind.

“Premises” means any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking strips.

“Release” means any significant spill, leak, or release of any non-stormwater, whether intentional or unintentional, other than that which is allowed by an NPDES permit.

“Spill” means any significant spill, leak, or release of any non-stormwater, whether intentional or unintentional, other than that which is allowed by an NPDES permit.

“Stormwater” means runoff resulting from precipitation, irrigation, or normal residential activity.

“Stormwater Pollution Prevention Plan” means a document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to the system to the Maximum Extent Practicable.

“Surface waters” means “navigable waters” as that term is defined in the Act.

“System” means any publicly-owned facility by which stormwater is collected and/or conveyed, including but not limited to any roads with drainage systems, municipal streets, gutters, curbs, inlets, piped storm drains, pumping facilities, retention and detention basins, natural and man-made or altered drainage channels, reservoirs, and other drainage structures.

Applicability.

This Chapter shall apply to all water entering the system generated on any developed and undeveloped lands unless explicitly exempted by the Director or NDEP.

Responsibility for Administration.

The Director shall administer, implement, and enforce the provisions of this Chapter. Any powers granted or duties imposed upon the Director may be delegated in writing by the Director to persons or entities acting in the beneficial interest of or in the employ of the City.



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Severability.

The provisions of this Chapter are hereby declared to be severable. If any provision, clause, sentence, or paragraph of this Chapter or the application thereof to any person, establishment, or circumstances shall be held invalid, such invalidity shall not affect the other provisions or application of this Chapter.



Ultimate Responsibility.

This Chapter specifies minimum standards; therefore this Chapter does not intend nor imply that compliance by any person will ensure that there will be no contamination, pollution, nor unauthorized discharge of pollutants.



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Property Outside City Boundaries

The City is authorized to regulate stormwater discharges from premises that are located outside of the corporate boundaries of the City but are tributary to the system, consistent with any interlocal agreement. The requirements of this Chapter shall apply to each such property. The Director is authorized to inspect and monitor the facilities in order to determine its compliance with this Chapter.



Discharge Prohibitions.

Prohibition of Illicit Discharges.

(A) It is unlawful to discharge or cause to be discharged into the system any material other than stormwater, unless the discharge has been authorized by NDEP and approved by the Director, pursuant to the following exceptions:

(1) Waterline flushing or other possible water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to the system, foundation or footing drains (not including active groundwater dewatering systems), air conditioning and swamp cooler condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wet-land flows, fire fighting activities, and any other water source not containing pollutants providing that NDEP has not determined these sources to be substantial contributors of pollutants.

(2) Dechlorinated swimming pool water (less than one mg/L chlorine) provided that a suitable connection to the sanitary sewer is not available, as determined by the Director, and permission to discharge swimming pool water into the system has first been obtained from the Director.

(3) Discharges specified in writing by NDEP as being necessary to protect public health and safety.

(4) Non-toxic dye testing provided that a written notification is made to the Director prior to the time of the test.

(B) It is unlawful for any person to discharge or cause to be discharged into any surface waters within the City any pollutant, as defined in the Act, without first obtaining from NDEP a NPDES permit authorizing the discharge, when such a permit is required by the Act.

Prohibition of Illicit Connections.

(A) The construction, use, maintenance or continued existence of illicit connections to the system is prohibited, which expressly includes, without limitation,

illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection.

(B) A person is considered to be in violation of this Chapter if the person connects a line conveying sewage to the system, or allows such a connection to continue.

(C) It is unlawful for any person to remove any manhole cover, or to discharge or cause to be discharged any storm water or non-storm water directly into a manhole or other opening in the system that has not been authorized for stormwater discharge, unless such discharge is approved by the Director. The Director may require a written application by the person and the payment of the applicable fees.



Suspension of System Access.

(A) The Director shall have the full power and authority to immediately and effectively halt or prevent, through whatever means and procedures are deemed reasonably necessary, and after informal notice to the discharger, any discharge of pollutants into the system which appears to present an imminent endangerment to the health or welfare of any person or the environment, or which discharge threatens property or the proper operation of the system, or which places or threatens to place the City in violation of its NPDES permit. In implementing such measure or measures, the personnel of the City, any party with which the City has contracted for such purpose; or a duly authorized representative of any other government agency shall have immediate access to the premises on which such condition exists. The Director may prohibit the approach to the premises on which such condition exists by any person, vehicle, vessel or thing, and all persons who are not actually employed in the abatement of such condition or in the preservation of life or property on, or in the vicinity of, such premises may be excluded from such premises. The affected person or persons shall have the opportunity to respond, after the fact, to any action taken pursuant to this Section by requesting a hearing in the manner that is set forth in Subsections (D) and (E) of this Section.

(B) Any person who is notified of a system access suspension pursuant to this Section shall immediately cease and desist the discharge of all non-stormwater from its facilities into the system.

(C) If a person fails to comply voluntarily with the system access suspension order, the Director may take such action as may be reasonably necessary in order to ensure immediate compliance with such order, including without limitation the immediate blockage or the disconnection of the person's connection to the system.

(D) In addition, the Director, in the event of any violation of this Chapter by any person, may serve such person with a notice of an intended order of system access suspension which states the reasons therefor, notifies the person of its opportunity for a hearing with respect thereto and establishes the proposed effective date of the intended order.

(E) Any person who has been notified of a system access suspension under this Section may file with the Director a request for a hearing with respect thereto; provided, however, that the filing of such a request shall not stay the existing or proposed system access suspension.

(F) If a hearing is requested with respect to an existing or proposed system access suspension, the Director shall hold a hearing with respect to such system access suspension within fourteen days after receipt of the request. Within two working days following the close of the hearing, the Director shall make a determination concerning whether to affirm, to terminate or conditionally terminate the system access suspension. Reasonable notice of the hearing shall be given to such person no less than five working days prior to the date of the hearing.

(G) The Director may terminate a system access suspension under this Section upon proof of the compliance by the person with applicable requirements, which compliance ends the emergency nature of the hazard that had caused the Director to initiate the system access suspension; provided, however, that the Director must be

satisfied that the person will henceforth comply with all of the discharge requirements that are set forth in this Section, the City's rules and regulations that relate to the discharge of stormwater and any lawful order that is issued pursuant to this Chapter.



NPDES Industrial or Construction Activity Discharges.

Any person or operation subject to an NPDES permit for stormwater associated with industrial activity or an NPDES permit for stormwater associated with construction activity shall possess such permit prior to performing any activity on any premises within the City subject to such permit. Proof of said permit may be required in a form acceptable to the Director prior to allowing activity subject to such permit to commence on the premises.



Monitoring of Discharges.

(A) Whenever it is necessary to make an inspection to monitor or enforce any of the provisions of, or to perform any duty imposed by, this Chapter or other applicable law, or whenever the Director has reasonable cause to believe that there exists upon any premises any violation of the provisions of this Chapter or other applicable law or any condition which makes such premises hazardous, unsafe or dangerous, the Director is authorized to enter such premises at a reasonable time and inspect the same and perform any duty that is imposed upon the Director by this Chapter or other applicable law, subject to the following conditions:

- (1) If the premises are occupied, the Director shall first present proper credentials to the occupant and request entry after explaining the reasons therefor and the purpose of the inspection; or
- (2) If the premises are unoccupied, the Director shall first make a

reasonable effort to locate the owner or other person who has the care or control of such premises and request entry after explaining the reasons therefor and the purpose of the inspection. If such entry is refused or cannot be obtained because the owner or other person who has the care or control of such premises cannot be found after due diligence, the Director may have recourse to every remedy that is provided by law to effect lawful entry and to inspect such premises.

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(B) Notwithstanding the provisions of Subsection (A) of this Section, if the Director has reasonable cause to believe that the non-stormwater discharge conditions on or emanating from the premises are so hazardous, unsafe or dangerous as to require immediate inspection and action in order to safeguard the public health or safety, the Director shall have the right immediately to enter and inspect such premises and may use any reasonable means that may be required in order to effect such entry and make such inspection, whether the premises are occupied or unoccupied and whether or not formal permission to enter and inspect has been obtained.

(C) It shall be unlawful for any person to fail or refuse, after a proper demand has been made upon that person in accordance with Subsection (B) of this Section, promptly to permit the Director to enter such premises and to make any inspection that is provided for by Subsection (B). In addition to any criminal penalty that may be imposed upon any person who violates this Subsection (C), such person's system access may be suspended.

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(D) Any person subject to this Chapter shall consent and agree to the entry at all reasonable times by the Director or designated personnel upon the premises that are described in such permit for any of the following purposes:

(1) To inspect all areas of the person's facilities that have the potential to influence the characteristics of the non-stormwater that is, or may be, discharged to the system;

(2) To inspect, sample and take flow measurements of the discharge from such person's facilities and to examine records in the performance of the Director's authorized duties;

(3) To set up on such person's property such devices as may be necessary or appropriate in order to conduct sampling, inspections, compliance monitoring, flow measuring or metering operations, or any combination thereof;

(4) To inspect and copy any record, report, test result or other information that is required to carry out the provisions of this Chapter; and

(5) To photograph or otherwise create a record of any waste, waste container, vehicle, waste treatment process, discharge location or violation that is discovered during any such inspection.

(E) If a person has instituted security measures that require proper identification and clearance before entry upon its premises, such person shall make all arrangements with its security guards that may be necessary in order that, upon presentation of their credentials, the duly designated personnel of the City shall be permitted to enter upon the premises without delay for the purpose of performing their authorized duties.



Requirements to Prevent, Control, and Reduce Stormwater Pollutants by the Use of Best Management Practices

(A) The Director may require temporary or permanent Best Management Practices at any construction, commercial or industrial site, or for any activity or operation which has the potential to cause or contribute to non-stormwater discharges into the system, as determined by the Director. When required by the Director, protection from the accidental or intentional release of non-stormwater discharges into the system to

the maximum extent practicable through the use of BMPs shall be provided at the expenses of the site operator/developer.

(1) Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of stormwater to the system shall be deemed compliance with the provisions of this Section. These BMPs shall be part of a stormwater pollution prevention plan (SWPPP) as necessary for compliance with requirements of the NPDES permit.

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(B) If the Director determines that existing Best Management Practices are ineffective at preventing the accidental or intentional release of non-stormwater discharges into the system, the Director may require additional BMPs to satisfy the provisions provided for in Subsection A of this Section. The use of BMPs shall not absolve compliance with any requirement set forth in this Chapter.

(D) Upon written notification from the Director, secondary containment for prohibited material or other substances that are regulated by this Chapter shall be provided. Secondary containment for such material shall be provided and maintained at the site operator/developer's sole cost and expense.

(E) Upon written notification from the Director, the site operator/developer must submit and implement a spill prevention and control plan, including, without limitation, plans for the secondary containment system and operating procedures. This spill prevention and control plan shall contain, but is not limited to, the following elements:

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- (1) Description of potential discharges;
- (2) Description of stored chemicals;
- (3) Procedures for promptly notifying the Director of any spill or any discharge that would violate any provision of this Chapter;
- (4) Procedures to prevent spills, including as necessary, inspection and

maintenance of storage areas, handling and transfer of materials, loading and unloading operations, control of plant site runoff, worker training, building of containment structures or equipment, measures for containing toxic organic pollutants (including solvents);

(5) Procedures and practices for responding to spills, including as necessary measures and equipment for emergency response and follow-up practices to minimize any damage

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(F) If at any time the Director determines that a spill prevention and control plan is inadequate, such plan shall be modified and implemented as specified by the Director.



Watercourse Protection.

Every person owning property through which a watercourse passes, or such person's lessee, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, the owner or lessee shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.



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Notification of Spills.

(A) In the event that a spill or release enters the system, the person from whose premises the spill or release emanates shall immediately notify the Director of the incident by telephone. The notification shall include the location or locations of the spill

or release, the type or types of material that was spilled or released, the concentration and volume thereof and the corrective actions, if any, that have been taken.

(B) Within five days following the spill or release, the person shall submit to the Director a detailed written report that describes the cause of the spill or release, the corrective action that was taken and the measures that the person will take to prevent future occurrences. Such notification shall not relieve the person of the liability for fines that may result from the spill.

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Enforcement.

(A) The Director may rely on any appropriate evidence to determine noncompliance with this Chapter.

(B) In the case of noncompliance with this Chapter, the Director may proceed with any one or more of the following actions:

- (1) Issue a notice of violation;
- (2) Assess noncompliance fees;
- (3) Revocation of City permits, licenses and agreements pertaining to work on the premises;

(4) Issue a cease and desist order requiring any person who caused or is responsible for the release to cease the release within a specified time;

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(5) Issue a cleanup and abatement order requiring any such person to clean up and abate the release within a specified time;

(6) Cause the release to be cleaned up and abated, and thereafter recover the costs thereof from the person or persons who are responsible for the release;
or

(7) Any other action as provided for in any provision of the Chapter.

(C) The payment of noncompliance fees by the user or any other person shall not preclude the Director from undertaking any other enforcement procedure that is specified in this Chapter.



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Reconsideration.

(A) Any person who is affected by any decision, action or determination made by the Director in the interpretation or the implementation of the provisions of this Chapter may file with the Director a written request for the reconsideration of such decision, action or determination. The person requesting reconsideration must file the request within thirty days after receipt of notice of the decision, action or determination, and must set forth in detail the facts that support the request for reconsideration. Such facts must include a statement that sets forth any newly discovered relevant fact that was not known or was unavailable to the person requesting reconsideration at the time of the initial decision, action or determination. The Director shall render a written decision with respect to the request within thirty days after receipt thereof.

(B) Each request for reconsideration shall be accompanied by the fee, if any, that has been established for the filing of such a request. Any such fee may, in the sole discretion of the Director, be refunded if the Director's ruling with respect to such request is in favor of the person who made the request.

(C) If the ruling of the Director with respect to a request for reconsideration is unacceptable to the person who made such request, the person may, within ten working days after the date of its receipt of the notification of the Director's ruling, file a written appeal to the City Council.

(D) Each appeal shall be accompanied by the fee, if any, that has been established by the City Council pursuant to NLVMC 16.08.150 for the filing of an

appeal. Any such fee may, in the sole discretion of the City Council, be refunded if the City Council's ruling with respect to such appeal is in favor of the person who filed the appeal.

(E) The appeal shall be heard by the City Council within forty-five days after the date on which the appeal was filed, and the City Council shall make a final ruling with respect to the appeal within forty-five days after the hearing is concluded.

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Liability for Civil Penalties.

(A) In the event of any violation by any provision of this Chapter, for which violation the Director is authorized by this Chapter to issue a compliance order pursuant to this Section, the Director is authorized to commence a civil action against such person for appropriate relief, including without limitation civil penalties or a temporary and permanent injunction against the perpetuation of such violation, or both, or to impose administrative penalties upon such person for such violation.

(B) A person shall be liable for civil penalties pursuant to Subsection (A) of this Section for failure to comply with any of the provisions of this Chapter.

(C) Before commencing a civil action against a person pursuant to this Section, the Director shall issue an order that requires the person to comply with this Chapter and advises person that, upon failure to comply with the order, the Director is authorized to bring a civil action in accordance with this Section.

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(D) Any order which the Director issues pursuant to this Section shall be in writing and shall be delivered in person to the person, or served by registered or certified mail that is addressed to the person at the person's last known address, return receipt requested, shall state with reasonable specificity the nature of the violation in respect of which the order is issued and shall specify a period in which compliance therewith is required. The period for compliance shall not exceed thirty days, in the case of a violation of an interim compliance schedule or operation and maintenance requirement, and shall not

exceed the period that the Director determines is reasonable, in the case of a violation of a final deadline. In determining the period for compliance, the Director shall consider the seriousness of the violation and any good faith effort on the part of the user or other person to comply with the applicable requirements.

(E) In any civil action that is brought by the Director for enforcement of the provisions of this Chapter, the Director shall seek the imposition of a civil penalty upon the person against whom the action is brought in an amount that is not less than one thousand dollars nor more than twenty-five thousand dollars for each day that each such violation continues. In determining the amount of a civil penalty that is to be imposed, following a finding by the court of liability, the court shall consider the circumstances, extent and gravity of the violation in respect of which the action is brought, the economic benefit, if any, that has inured to the person as the result of the violation, any history of similar violations, the degree of culpability of the person, any good faith effort on the part of the person to comply with the applicable requirements, the potential economic impact of the penalty upon the person, and such other matters as justice may require.

(F) The civil and administrative penalties that are provided for in this Section and the seeking or imposition thereof, shall be in addition to, and not in substitution for, any criminal penalty that may be imposed for the violation that forms the subject matter of any such civil or administrative relief and in addition to, and not in substitution for the invocation of any of the provisions of this Chapter as the result of the violation.

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Imposition of Administrative Penalties.

(A) Whenever, on the basis of the information that is available, the Director finds that any person is in violation of any of the provisions of this Chapter, the Director may assess an administrative penalty in an amount that is not less than five hundred dollars nor more than ten thousand dollars for each day that each such violation continues, unless a

different administrative penalty for any of such violations is established in the schedule of fees and charges that has been established.

(B) Before assessing any administrative penalty pursuant to this Section, the Director shall give the person upon whom such penalty is to be imposed written notice of the proposed assessment and the opportunity to request, within thirty days after the date on which such notice is received by it, a hearing with respect to the proposed order of assessment.

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(C) In determining the amount of any penalty assessed pursuant to this Section, the Director shall consider the nature, circumstances, extent and gravity of the violation in respect of which the penalty is proposed to be assessed; the economic benefit, if any, that has inured to the person as the result of such violation; any good faith effort on the part of the person to comply with the applicable requirements; the potential economic impact of the penalty upon the user or other person; any history of similar violations; the degree of culpability of the user or other person; and such other matters as justice may require.

(D) An order which imposes an administrative penalty pursuant to this Section shall become final:

(1) Thirty days after its issuance; or

(2) If a hearing has been requested pursuant to Subsection (B) of this Section, upon the Director's issuance of a decision following the hearing.

(E) The failure of a person to pay any administrative penalty that is imposed by the Director pursuant to this Section within thirty days after the imposition thereof shall be grounds for any remedy that is available under this Chapter for terminating the person's ability to discharge or cause to be discharged stormwater or non-stormwater from its facilities into the system.

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Unpaid Fees Constitute Lien.

Any fee, assessment or penalty that is imposed pursuant to this Chapter which remains unpaid for a period that exceeds thirty days after the same became due shall, upon the expiration of such thirty-day period, constitute a perpetual lien on and against the premises which are subject to such fee, assessment or penalty as well as constituting a debt that is owing to the City by the person upon whom such fee, assessment or penalty is imposed and the owner of record of such premises, if such owner is someone other than the person. The City may bring a civil action in any court of competent jurisdiction to recover such fee, assessment or penalty, or any combination thereof, together with interest thereon, and may enforce such lien by recording a notice thereof with the County Recorder upon the expiration of such thirty-day period and foreclosing the same against the premises that are subject to such lien in the same manner as is provided by the laws of the State for the foreclosure of mechanics' liens.



Schedule of Fees and Charges—Established.

(A) In order to provide for the recovery by the City of its costs that are related to the discharge of stormwater and non-stormwater into the system and for the enforcement of the provisions of this Chapter, or both, the City Council shall establish a schedule of fees and charges. Such schedule, which shall be subject to periodic revision, may establish a specific amount for any fee, charge, assessment, penalty or other cost that is related to the discharge of stormwater and non-stormwater to the system or the enforcement of the provisions of this Chapter, or both, including without limitation:

- (1) Inspection fees??;
- (2) Application fees??;
- (3) Plan review fees??;
- (4) Monitoring fees??;
- (5) ??;

- (6) Administrative penalties; and
- (7) Fees for filing requests for reconsideration and appeals.

(B) Except as may be otherwise provided in this Chapter, whenever any fee, charge, assessment or penalty that is required by this Chapter to be paid is based upon an estimated value or an estimated quantity, the Director shall make such determination in accordance with generally recognized practices.

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Schedule of Fees and Charges—Due Upon Receipt.

All fees, charges, assessments and penalties that are imposed pursuant to the provisions of this Chapter or the approved schedule of fees and charges that is established in accordance with this ordinance shall be due and payable upon delivery of notice thereof, or upon mailing such notice to the last known mailing address of the person or entity responsible for payment thereof. All such fees, charges, assessments and penalties shall be and become delinquent thirty days after delivery or mailing of the notice described above.

City to Keep Account of Fees, Charges and Penalties Received.

The City shall keep a permanent and accurate account of all fees, charges, assessments and penalties that are received by it under this Chapter, which account shall include the name and address of each person who paid any such fee, charge, assessment or penalty or on whose behalf the same was paid, the date of such payment and amount thereof and the purpose for which the same was paid.

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Delinquency Charges.

Whenever a delinquency charge has not been specifically provided for in this Chapter, any fee, charge or assessment that becomes delinquent shall have added to it a basic delinquency charge that is equal to ten percent of the fee, charge or assessment that became delinquent, and thereafter an additional delinquency charge shall accrue on the total amount that is due, including the ten percent basic delinquency charge, at the rate of ten percent per month compounding, but the amount of the delinquent fee, charge or assessment, as increased by delinquency charges, shall not exceed twice the amount of the original fee, charge or assessment. In addition to the delinquency charges described in this Section, the City may also assess the collection costs, including, without limitation, attorneys' fees and court costs, that the City may incur in collecting the fee, charge or assessment and the delinquency charges.

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Actions to Collect—Prayer for Injunction.

Any action that is brought by the City for the purpose of collecting any fee, charge, assessment or penalty that is provided for in this Chapter may include a prayer for an injunction to prevent repeated and recurring violations of this Chapter.

Violation--Penalty

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(A) Any person who negligently or wilfully violates any of the provisions of this Chapter is guilty of a misdemeanor, and each day during which such violation continues constitutes a separate offense.

(B) Any person who negligently or wilfully introduces or causes to be introduced into the system any non-stormwater which such person knew, or with the exercise of reasonable diligence would have known, could cause personal injury or property damage or, unless such action is necessary in order for such person to comply with all applicable

Federal, State and local requirements or permits, which causes any violation of any condition of any permit that has been issued to the City pursuant to the Act is guilty of a misdemeanor, and each day during which such person continues to introduce or cause to be introduced such non-stormwater into the system shall constitute a separate offense.

(C) Any person who knowingly makes a false statement, representation or certification of any material fact in an application, record, report, plan or other document that is filed or required to be maintained pursuant to this Chapter or who knowingly falsifies, tampers with or renders inaccurate any monitoring device or method that is required by this Chapter to be maintained is guilty of a misdemeanor.

(D) Whenever in this Chapter any act is prohibited or is made or declared to be unlawful or an offense or a misdemeanor, or whenever in this Chapter the doing of any act is required or the failure to do any act is made or declared to be unlawful or an offense or a misdemeanor, the doing of any such prohibited act or the failure to do any such required act shall constitute a misdemeanor and upon conviction thereof, shall be punished by a fine of not more than one thousand dollars or by imprisonment for a term of not more than six months, or by any combination of such fine and imprisonment. Any day of any violation of this Chapter shall constitute a separate offense.



Cost of Abatement of the Violation.

Any person who discharges or causes to be discharged any non-stormwater into the system shall be liable to the City for all damages, cleanup costs, monitoring costs and other associated costs that result therefrom.



Alternate Compensatory Actions.

In lieu of enforcement proceedings, penalties, and remedies authorized by this Chapter, the Director may impose upon a violator alternative compensatory actions, as determined by the Director.



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Violations Deemed A Public Nuisance.

In addition to the enforcement processes and penalties provided, any condition caused or permitted to exist in violation of any of the provisions of this Chapter is a threat to public health, safety, and welfare, and is declared and deemed a nuisance, and may be summarily abated or restored at the violator's expense, and/or a civil action to abate, enjoin, or otherwise compel the cessation of such nuisance may be taken.



Remedies Not Exclusive.

The remedies listed in this Chapter are not exclusive of any other remedies available under any applicable federal, state or local law and it is within the discretion of the Director to seek cumulative remedies.

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APPENDIX E

Stormwater Monitoring Program – Dry Weather Data for MS4 Program History



APPENDIX E

STORMWATER MONITORING PROGRAM - DRY WEATHER DATA FOR MS4 PROGRAM HISTORY

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)	Lead (mg/L)		
Western Tributary at Cheyenne	08/27/91	0.7	25.9	< 3	4	930	8.5	0.07	0.46	0.20	0.72		< 0.05	1.1	1.8	< 0.01	< 0.01	< 0.002		
	04/06/92	1.0				1,350	8.6				2.50					< 0.01				
	09/13/92	1.7	26.2	< 3	6	3,420	8.3	< 0.05	< 0.05	< 0.05	1.80		< 0.05	< 1.0	1.8-2.8	< 0.01	< 0.01	< 0.002		
	03/07/93	4.4	29.1			1,370	8.6				2.70					< 0.01				
	08/23/93	0.9	29.0	< 3	21	1,085	8.4	0.25	< 0.05	< 0.05	0.38		0.13	< 1.0	1.4	< 0.01	< 0.01	< 0.002		
	04/03/94	1.6	8.6			1,260	8.6				1.3					< 0.01				
	08/28/94	6.0	22.4	< 3	18	735	8.3	0.06	< 0.05	< 0.05	0.50		< 0.05	1.5	2.1	< 0.01	< 0.01	< 0.002		
	03/26/95	5.7	10.1			1,340	8.3				2.40					< 0.01				
	08/28/95	2.0	21.9	< 3	4	1,225	7.8	0.07	< 0.05	< 0.05	< 0.40		< 0.05	1.0	1.4	< 0.01	< 0.01	< 0.002		
	09/10/96	0.9	27.3	< 3	22	1,515	8.4	< 0.05	< 0.05	< 0.05	1.10		< 0.05	< 1.0	2.1	< 0.01		< 0.001		
	09/24/97	1.5	20.3	< 3	9	1,195	8.5	0.13	0.01	< 0.01	2.60		< 0.05	1.2	3.8	< 0.01		< 0.1		
	No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program																			
		Median	1.6	24.1	< 3	9	1,260	8.4	0.07	< 0.05	< 0.05	1.30		< 0.05	1.0	1.9	< 0.01	< 0.01	< 0.002	
	Average	2.4	22.1	< 2	12	1,402	8.4	0.09	0.09	0.05	1.47		< 0.04	< 0.9	2.1	< 0.01	< 0.01	< 0.016		

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)
Western Tributary at Cheyenne	08/27/91	< 0.0002	< 0.005	0.022	< 0.01	< 0.04		< 0.005	0.46	0.006				< 6	16	20	1.2
	04/06/92								0.54	< 0.005							
	09/13/92	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04			0.024	0.41	< 0.005			< 6	14	18	0.8
	03/07/93									0.54	< 0.005						
	08/23/93	< 0.0002	< 0.005	0.049	< 0.01	< 0.02	< 0.005	< 0.005	0.44	< 0.005				< 6	16	25	9.7
	04/03/94								0.44	0.01							
	08/28/94	< 0.0002	< 0.005	0.113	< 0.01	< 0.01	< 0.005	< 0.005	0.25	< 0.005				< 6	22	23	6.0
	03/26/95								0.51	0.006							
	08/28/95	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	< 0.005	< 0.005	0.59	< 0.005				< 6	23	20	0.9
	09/10/96			< 0.020					0.45	< 0.005				< 6	< 10	16	6.1
09/24/97			< 0.020					0.67	< 0.005				< 6	< 10	20	4.3	
No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program																	
	Median	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.02	< 0.005	< 0.005	0.46	< 0.005				< 6	16	20	4.3
	Average	< 0.0002	< 0.005	0.032	< 0.01	< 0.02	< 0.003	0.007	0.48	< 0.004				< 3.0	14	20	4.1

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)
Western Tributary at Cheyenne	08/27/91	< 0.01		0.05	1,500	12,500	< 16						
	04/06/92	< 0.01		0.20		30		500					
	09/13/92	< 0.01		0.10	1,230	700	1,050						
	03/07/93	0.20		< 0.10	15,680	70		1,100					
	08/23/93	0.20		0.10	1,920	950,024	5,700						
	04/03/94	< 0.01		< 0.10	19,860	55		4,650					
	08/28/94	< 0.01		< 0.01	1,120	2,650	8,100		7				
	03/26/95	< 0.01		< 0.10	1,805	1,300	170	9,000					
	08/28/95	< 0.01		0.28	1,783	1,700	2,550		3.6				
	09/10/96	< 0.01	< 1.0	0.10	1,720	1,750	305		< 2.2			0	0
09/24/97	< 0.01	< 1.0	0.26	0,032	1,950	1,400		3.7			0	0	
No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program													
	Median	< 0.01	< 1.0	0.10	1.75	1,700	1,225	2,875	3.7			0	0
	Average	0.04	< 0.5	0.11	4.67	88,430	2,410	3,813	3.9			0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)	Lead (mg/L)	
Flamingo at Swenson	06/24/91	0.7	23.5		4	2,500	7.4	< 0.05	< 0.05		9.20		< 0.05	9.4	18.5	< 0.01	< 0.01		
	07/14/91	0.8	25.6	< 3	9	2,700	7.8	0.07	0.05		10.00		< 0.05	5.0	14.7	0.01	< 0.01	< 0.002	
	08/26/91	0.7	25.5	< 3	8	2,575	7.8	< 0.05	< 0.05	< 0.05	8.50		< 0.05	< 1.0	9.0	< 0.01	0.014	< 0.002	
	09/13/92	3.6	26.2	< 3	5	2,730	8.3	0.11	< 0.05	< 0.05	6.65		< 0.05	< 1.0	6.7-7.7	< 0.01	< 0.01	< 0.01	
	08/23/93	1.5	26.2	< 3	12	2,540	8.1	0.07	< 0.05	< 0.05	4.35		0.12	< 1.0	5.4	< 0.01	< 0.01	< 0.002	
	04/03/94	2.6				2,705	8.0				8.20					< 0.01			
	08/28/94	4.0	28.6	< 3	40	2,645	8.1	0.07	0.05	< 0.05	8.90		< 0.05	1.0	10.4	< 0.01	< 0.01	0.015	
	03/26/95	3.7	21.0			2,800	8.1				8.90					< 0.01			
	08/28/95	2.0	27.7	< 3	7	2,635	8.3	0.06	< 0.05	< 0.05	6.80		< 0.05	< 1.0	7.8	< 0.01	< 0.01	< 0.002	
	09/10/96	2.6	30.4	< 3	12	2,470	8.4	0.08	0.07	0.09	2.90		0.08	1.3	4.2	< 0.01		< 0.001	
	09/24/97	9.4	27.2	< 3	16	1,835	8.4	0.13	< 0.01	< 0.01	4.30		< 0.05	0.5	5.3	< 0.01		< 0.1	
	No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program										No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program								
	Median	2.6	26.2	< 3	9	2,635	8.1	0.07	< 0.05	< 0.05	8.20		< 0.05	< 1.0	7.8	< 0.01	< 0.01	< 0.002	
	Average	2.9	26.2	< 2	13	2,558	8.1	0.07	< 0.03	< 0.04	7.15		< 0.04	2.1	9.1	< 0.01	< 0.01	< 0.009	

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)
Flamingo at Swenson	06/24/91	< 0.0002	< 0.005	0.025	< 0.01	< 0.04			0.60	< 0.005						10	0.7
	07/14/91	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04		< 0.005	0.61	0.006			< 6	15	13	1.2	
	08/26/91	< 0.0002	< 0.005	0.033	< 0.01	< 0.04			0.006	0.70	< 0.005		< 6	11	10	0.9	
	09/13/92	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04		< 0.005	0.80	< 0.005			< 6	13	10	0.4	
	08/23/93	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.02	< 0.015	0.004	0.70	< 0.005			< 6	16	18	3.6	
	04/03/94								0.64	0.005							
	08/28/94	< 0.0002	< 0.005	0.015	< 0.01	< 0.01	0.01	< 0.01	0.76	< 0.005			< 6	23	13	12.6	
	03/26/95								0.76	< 0.005							
	08/28/95	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	0.0075	< 0.005	0.75	0.006			< 6	13.5	12.5	0.6	
	09/10/96			< 0.020					0.58	< 0.005			< 6	10	18	2.7	
	09/24/97			0.021					0.68	< 0.005			< 6	< 10	7.5	1.7	
No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program																	
	Median	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04	0.010	< 0.005	0.70	< 0.005			< 6	13	13	1.2	
	Average	< 0.0001	< 0.003	< 0.016	< 0.005	< 0.014	0.008	< 0.004	0.69	< 0.003			< 3.000	13	12	2.7	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)
Flamingo at Swenson	06/24/91	< 0.005		0.03	2.700	< 16	< 16						
	07/14/91	0.03		0.09	3.500	< 16	< 16						
	08/26/91	< 0.01		0.08	3.200	9,000	< 16						
	09/13/92	< 0.01		0.10	3.420	500	200						
	08/23/93	0.10		< 0.10	1.900	300,250	1,875	500					
	04/03/94	< 0.01		< 0.10	14.590	190		9,500					
	08/28/94	< 0.01		< 0.01	3.190	2,690	1,300		< 2				
	03/26/95	< 0.01		< 0.10	2.910	500	350	5,000					
	08/28/95	< 0.01		0.03	2.920	2,900	1,250		< 2.2				
	09/10/96	< 0.01	< 1.0	0.05	2.650	4,700	335		2			0	0
	09/24/97	< 0.01	< 1.0	0.25	0.058	900	230		< 2.2			0	0
No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program													
	Median	< 0.01	< 1.0	0.09	2.920	900	283	5,000				0	0
	Average	0.02	< 0.50	0.07	3.731	29,241	556	5,000	< 1.30			0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)	Lead (mg/L)	
	06/24/91	3.7	22.4	< 3	3	3,400	8.1	< 0.05	< 0.05		3.90		< 0.05			< 0.01	< 0.01		
	07/14/91	3.9	23.3	< 3	13	3,400	8.2	0.10	< 0.05	< 0.05	3.60		< 0.05	< 1.0	4.3	< 0.01	< 0.01	< 0.002	
	08/26/91	6.2	25.4	< 3	15	3,225	8.3	< 0.05	< 0.05	< 0.05	4.10		< 0.05	< 1.0	4.5	< 0.01	< 0.01	< 0.002	
	04/07/92	9.6				3,310	7.8				4.10					< 0.01			
	09/13/92	12.5	24.0	< 3	13	3,450	8.2	< 0.05	< 0.05	< 0.05	1.40		< 0.05	< 1.0	1.4-2.4	< 0.01	< 0.01	< 0.01	
	03/07/93	8.3	21.2			3,640	8.7				4.60					< 0.01			
	08/23/93	5.4	29.6	< 3	18	3,270	8.3	0.06	< 0.05	< 0.05	4.10		0.08	< 1.0	5.1	< 0.01	< 0.01	< 0.002	
	04/03/94	5.0	14.5			3,710	8.2				4.45					< 0.01			
	08/28/94	27.0	25.6	< 3	21	3,300	8.4	< 0.05	< 0.05	< 0.05	3.95		< 0.05	< 1.0	5.0	< 0.01	0.01	< 0.002	
	03/26/95	25.0	20.5			3,780	8.4				5.20					0.01			
	08/28/95	18.0	27.0	< 3	8	3,290	8.5	0.07	0.05	< 0.05	3.30		< 0.05	< 1.0	4.3	< 0.01	< 0.01	< 0.002	
	09/10/96	7.6	31.0	< 3	25	3,490	8.6	< 0.05	< 0.05	< 0.05	3.00		< 0.05	< 1.0	3.5	< 0.01		< 0.001	
	09/24/97	15.3	20.5	< 3	19	1,840	8.3	0.09	0.07	< 0.05	2.90		< 0.05	1.2	4.1	0.016		< 0.1	
				No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program										No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program					
	1/18/01*		9.0			3,470	8.4		0.02	0.02	6.13	< 0.08	< 0.08	0.1	6.2	0.008	0.005		
	4/25/01*	0.4	24.5			3,010	8.4			0.01	3.94	< 0.08	< 0.08	0.1	4.0	0.014	0.002		
	7/30/01*	0.3	26.8			3,250	8.6			0.01	3.61	< 0.08	< 0.08		3.6	0.012	0.002		
	10/24/01*	7.1	14.9			3,400	9.2		0.02	0.02	4.42	< 0.08	< 0.08		4.4	0.009			
	1/23/02*	6.0																	
	4/24/02*	6.2																	
	7/24/02*	5.6	29.2		31	3,060	8.4		0.007	0.218	2.88	< 0.08	< 0.08	1.3	2.9	0.003	0.003		
	10/23/02*	6.0	15.0			3,200	8.2		0.024	0.084	4.25	< 0.08	0.17	0.05	4.4	0.005	0.003	0.00056	
Flamingo Wash at Nellis Blvd (FW_0)	1/22/03*		10.4			3,200	8.1		0.031	0.055	4.39	< 0.08	< 0.08		4.4	0.009	0.002		
	4/23/03*		16.4			2,910	8.3		0.023		4.24	< 0.08	< 0.08		4.2	0.013	0.001		
	7/23/03*		26.1			3,140	7.9		0.006	0.030	3.50		0.04	0.7	4.2	0.013	0.069	< 0.002	
	10/22/03*		17.3			3,210	6.1		0.008	< 0.050	4.90	< 0.08	< 0.05	0.5	5.4	0.005	0.056	< 0.002	
	1/21/04*		8.9			3,240	8.2		0.011	< 0.050	5.10	< 0.08	< 0.05	0.4	5.5	< 0.010	0.032	< 0.002	
	4/21/04*		14.9			3,100	8.1		0.008	< 0.050	4.10	< 0.08	< 0.05	0.4	4.5	< 0.010	0.031	< 0.002	
	7/21/04*		22.9			2,980	8.0		0.008	< 0.010	4.00	NA	< 0.08		5.3	0.003	0.001	0.0005	
	10/27/04*		14.7			3,070	8.2		NA	NA	4.90	NA	NA	NA		0.150	< 0.001	< 0.0005	
	1/26/05*		14.6			2,310	8.2		0.036	0.110	4.60	< 0.08	0.13	1.1		< 0.010	< 0.001	0.0033	
	4/19/05*		13.1			3,090	8.2		0.009	< 0.010	5.90	< 0.08	< 0.08	0.7		0.005	0.002	0.0014	
	7/20/2005*		25.3			2,910	8.1		0.005	< 0.050	3.80	< 0.08	< 0.08	0.5		< 0.010	< 0.001	< 0.0005	
	10/26/2005*		15.0			1,260	8.1		0.056	0.050	< 0.08	< 0.08	0.12	0.7		0.007	0.003	0.0007	
	1/19/2006*			No Sample Taken for 01/19/06 Dry Weather Monitoring Program										No Sample Taken for 01/19/06 Dry Weather Monitoring Program					
	4/18/2003*		12.5			2,900	8.5		0.004		4.80	< 0.08				0.002	0.001	< 0.0005	
	7/27/2006*		25.5			2,900	8.1	<	0.050	0.022	4.74	0.17	< 0.08	0.5	0.2	0.003	0.001	< 0.002	
	10/25/2006*		15.9			3,700	8.2		NA	0.046	4.74	< 0.08	< 0.08	0.3	0.3	0.002	0.005	0.0003	
	1/23/2007*		9.4			2,800	8.3	<	0.002	< 0.001	5.87	< 0.08	< 0.08	< 1.0	< 0.2	0.001	0.002	< 0.002	
	4/18/2007*		14.0			3,100	8.2		0.006	< 0.001	4.29	0.10	< 0.10	0.8	0.8	0.002	0.001	0.0002	
	7/18/2007		25.1			2,500	8.1		0.016	0.017	4.29	< 0.10	0.13	< 0.1		0.002	0.001	< 0.0002	
	10/24/2007		16.1			3,000	8.2		0.007	0.019	6.32	< 0.10	< 0.10	< 0.2		0.002	0.003	ND	
	1/22/2008		10.4			2,800	8.2		0.003	0.011	4.74	< 0.10	0.12	< 0.1		0.002	0.002	< 0.0002	
	4/23/2008		15.8			2,900	8.1		0.005	< 0.010	4.07	< 0.10	< 0.10	0.7		0.033	0.009	0.009	
	Median	6.2	17.3	< 3.0	17	3,170	8.2	< 0.05	< 0.02	< 0.05	4.25	< 0.04	< 0.08	< 0.72	4.30	< 0.010	< 0.003	< 0.002	
	Average	9.0	19.2	< 1.5	17	3,088	8.2	< 0.05	< 0.03	0.04	4.18	< 0.05	< 0.08	< 0.68	3.70	0.012	0.009	0.006	

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

(2) Discharge values for Flamingo at Nellis taken from USGS streamgage records, average daily flow, for 8/27/91 - 8/28/95

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
Flamingo Wash at Nellis Blvd (FW_0)	06/24/91	< 0.0002	< 0.005	0.022	< 0.01	< 0.04			1.20	< 0.005						5	0.8	
	07/14/91	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04		< 0.005	1.20	< 0.005				< 6	10	15	5.2	
	08/26/91	< 0.0002	< 0.005	0.025	< 0.01	< 0.04		< 0.005	1.20	< 0.005				< 6	< 10	13	5.8	
	04/07/92								1.20	< 0.005								
	09/13/92	< 0.0002	< 0.005	0.025	< 0.01	< 0.04		0.008	0.09	< 0.005				< 6	13	10	2.0	
	03/07/93								1.20	< 0.005								
	08/23/93	< 0.0002	< 0.005	0.088	< 0.01	< 0.02	< 0.02	0.006	1.15	< 0.005				< 6	11	15	6.3	
	04/03/94								1.25	< 0.005								
	08/28/94	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	0.02	< 0.025	1.10	< 0.005				< 6	16	15	1.2	
	03/26/95								1.30	< 0.005								
	08/28/95	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	0.0135	< 0.005	1.25	< 0.005				< 6	19	18	0.4	
	09/10/96			< 0.020					1.10	< 0.005				< 6	< 10	13	1.0	
	09/24/97			< 0.025					0.75	< 0.005				< 6	11.5	15	5.7	
		n			No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program													
		1/18/01*			0.017		0.016		0.006									1.8
		4/25/01*			0.015		0.014		0.008									2.0
		7/30/01*			0.011		0.015		0.006									1.1
		10/24/01*			0.011		0.008		0.009									2.6
		1/23/02*																
		4/24/02*																
		7/24/02*			0.001		0.016	0.016	0.009									2.2
		10/23/02*			0.011		0.015	0.014	0.007									2.2
		1/22/03*			0.012		0.010	0.015	0.005									1.1
		4/23/03*			0.015		0.007	0.015	0.005									3.2
		7/23/03*			0.010		0.009	< 0.005	0.006									1.4
		10/22/03*			< 0.020		0.019	< 0.005	0.005									0.7
		1/21/04*			< 0.020		< 0.010	< 0.005	0.007									1.3
		4/21/04*			< 0.020		< 0.010	< 0.005	0.005									1.2
		7/21/04*			0.016		0.013	0.014	0.005									9.0
		10/27/04*			0.038		< 0.005	< 0.001	0.007									9.7
	1/26/05*			0.074		< 0.005	0.0134	< 0.001									10.0	
	4/19/05*			0.082		0.014	0.0162	0.007									14.0	
	7/20/2005*			< 0.020		< 0.010	0.0132	0.009										
	10/26/2005*			0.012		0.0062	0.0063	0.004										
	1/19/2006*			No Sample Taken for 01/19/06 Dry Weather Monitoring Program														
	4/18/2003*			0.007		0.019	0.020	0.005										
	7/27/2006*			0.009		0.0023	0.132	0.006									3.4	
	10/25/2006*			0.009		0.0099	0.014	0.006									5.6	
	1/23/2007*			0.004		0.0013	0.016	0.004									0.6	
	4/18/2007*			0.001		0.0016	0.015	0.005									1.7	
	7/18/2007			0.008		0.0012	0.014	0.006									1.5	
	10/24/2007			0.012		0.0014	0.016	0.005									1.7	
	1/22/2008			0.009		0.0056	0.017	0.005									3.6	
	4/23/2008			< 0.001		0.0012	0.015	0.005									0.4	
	Median	< 0.0002	< 0.005	0.016	< 0.010	< 0.010	0.015	0.006	1.20	< 0.005				< 6	11	15	1.950	
	Average	< 0.0002	0.003	0.020	0.005	0.013	0.018	0.006	1.08	0.003				3	11	13	3.340	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)	
	06/24/91	< 0.005		0.04	3.900	< 16	< 16							
	07/14/91	< 0.005		0.08	3.700	< 16	< 16							
	08/26/91	< 0.01		0.05	3.900	1,600	< 16							
	04/07/92	< 0.01		0.04		2,400		8,000						
	09/13/92	< 0.01		0.10	3.400	550	190							
	03/07/93	0.10		< 0.10	1.310	14		300						
	08/23/93	< 0.01		< 0.10	5.650	12,100	85							
	04/03/94	< 0.01		< 0.10	10.650	1,220		3,150						
	08/28/94	< 0.01		< 0.01	3.875	11,115	1,800		10					
	03/26/95	< 0.01		< 0.10	4.210	30	50	1,600						
	08/28/95	< 0.01		0.23	3.760	650	100		2.1					
	09/10/96	< 0.01	< 1.0	0.23	6.750	1,900	150		< 2.2			0	0	
	09/24/97	< 0.01	< 1.0	0.26	0.063	6,150	2,615		< 2.2			0	0	
	No Sample Taken for 1998, 1999, or 2000 Dry Weather Monitoring Program													
	1/18/01*				4.0	17								
	4/25/01*				3.5	60								
	7/30/01*				3.8	250								
	10/24/01*				3.8	617								
	1/23/02*													
	4/24/02*													
	7/24/02*				3.5	300						0	0	
	10/23/02*				3.7	670						0	1	
Flamingo Wash at Nellis Blvd (FW_0)	1/22/03*				3.6	110						0	0	
	4/23/03*				3.5	< 400						0	0	
	7/23/03*				3.7	4,800						0	0	
	10/22/03*				3.8	430						0	0	
	1/21/04*				3.8	< 200						0	0	
	4/21/04*				3.6	450						0	0	
	7/21/04*				3.6	16,600								
	10/27/04*				3.6	593								
	1/26/05*				2.9	4,000								
	4/19/05*				3.6	< 200								
	7/20/2005*									4			1	
	10/26/2005*										1			
	1/19/2006*				No Sample Taken for 01/19/06 Dry Weather Monitoring Program									
	4/18/2006*					4,200				0	0	0	0	
	7/27/2006*					4,600				3	0	0	0	
	10/25/2006*					< 100				3	0	1	2	
	4/18/2007*					4,200				4	0	1	0	
	7/18/2007				3.6	21,000								
	10/24/2007				3.4	< 4,000								
	1/22/2008				3.4									
	4/23/2008				3.4	< 1,000				6	3		4	
	Median	< 0.010	< 1.0	0.10	3.660	634	92.5	2,375	2	4	0	0	0	
	Average	0.012	0.5	0.10	3.841	2,960	501	3,263	4	3	1	0	1	

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease		TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)	Lead (mg/L)	
				<	(mg/L)															
Duck Creek at Russell or Patrick or Sunset	06/23/91	0.8	22.0	<	3	20	6,700	8.2	< 0.05	< 0.05	< 0.01	4.20		< 0.05	< 1.0	5.2	< 0.01	< 0.01	< 0.002	
	08/26/91																			
	09/13/92	9.8	24.7	<	3	7	3,370	8.3	< 0.05	< 0.05	< 0.05	1.70		< 0.05	< 1.0	1.7-2.7	< 0.01	< 0.01	< 0.01	
	08/23/93	3.3	24.2	<	3	15	5,710	8.2	0.06	< 0.05	< 0.05	3.20		< 0.05	< 1.0	4.2	< 0.01	< 0.01	< 0.002	
	04/03/94	4.4					5,865	8.2				3.90					< 0.01			
	08/28/94	2.0	22.3	<	3	31	5,375	8.0	< 0.05	< 0.05	< 0.05	8.90		< 0.05	1.0	9.9	< 0.01	0.013	< 0.002	
	03/26/95	3.4	19.1				6,210	7.9				11.00					< 0.01			
	08/28/95	3.0	23.1	<	3	15	5,815	8.2	< 0.05	0.055	< 0.05	9.70		< 0.05	< 1.0	10.7	< 0.01	< 0.01	< 0.002	
	09/10/96	2.2	27.9	<	3	14	4,490	8.1	< 0.05	< 0.05	< 0.05	8.70		< 0.05	< 1.0	9.2	< 0.01		< 0.001	
	09/24/97	4.1	24.4	<	3	27	4,185	8.1	0.09	0.01	0.05	8.90		< 0.05	1.3	10.2	< 0.01		< 0.1	
	09/24/98	6.6		<	3	17	3,510				< 0.02	7.80	< 0.10	< 0.05	0.7	8.5	0.01		< 0.1	
	11/04/99	5.1		<	3	11	3,540				< 0.02	6.41	< 0.20	< 0.05	< 0.2	6.4	< 0.01		< 0.1	
	11/05/99	5.1		<	3	26	2,620				< 0.02	6.26	< 0.20	< 0.05	0.4	6.7	< 0.01		< 0.1	
	10/03/00	3.3			4.5	< 10	4,920				0.02	9.20	< 2.00	< 0.05	1.7	10.90	< 0.01		< 0.1	
	10/04/00	3.3		<	3	13	4,920				0.02	8.52	< 2.00	0.083	< 0.2	8.52	< 0.01		< 0.1	
	10/17/00*																			
	12/18/00*	2.5		<	3	< 10	4,780					7.70	10.30	< 0.50	< 0.05	0.7	10.95	< 0.01		< 0.1
	1/18/01*		9.0				5,060	8.2		0.013	0.12	6.10	< 0.08	< 0.08	0.3	6.10	0.013	0.0026	0.00057	
	4/25/01*		21.0				5,140	8.3			0.02	4.69	< 0.08	< 0.08	0.2	4.69	0.017	0.002		
	7/30/01*	5.3	25.9				5,160	8.1			0.02	4.24	< 0.08	< 0.08		4.24	0.014	0.0018		
	10/24/01*	6.6	18.7				5,050	8.5		0.030	0.02	5.43	< 0.08	< 0.08		5.43	0.012			
	1/23/02*	6.5																		
	4/24/02*	5.1																		
	7/24/02*	5.5	26.8				5,020	8.1		0.02		3.89	< 0.08	< 0.08	0.9	3.9				
	10/23/02*	6.2	20.9				5,140	8.2		0.02	0.03	5.39	< 0.08	0.26	0.7	5.7	0.0034	0.0028		
	1/22/03*		10.4				5,150	7.9	0.06	0.04	0.05	5.77	< 0.08	< 0.08		5.8	0.0067	0.0018		
	4/23/03*		4.6			29	5,000	7.9		0.02		5.28	< 0.08	< 0.08		5.3	0.0081	0.0012		
	7/23/03*		25.7				5,220	7.9		0.01		4.90		< 0.05	0.8	5.7	0.0028	0.0011	< 0.002	
	10/22/03*																			
	1/21/04*		10.0				NA	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4/21/04*		15.0				NA	NS		NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Median	4.4	22.0	<	3	15	5,055	8.1	< 0.05	< 0.03	< 0.03	5.9	< 0.08	< 0.05	< 0.9	5.9	< 0.010	< 0.0027	< 0.010		
Average	4.5	19.8	<	2	18	4,915	8.1	< 0.04	< 0.02	0.45	6.3	0.20	0.04	0.6	7.1	0.007	0.004	0.022		

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
Duck Creek at Russell or Patrick or Sunset	06/23/91	< 0.0002	< 0.005	0.030	< 0.01	< 0.04		0.044	3.40	< 0.005				< 6	24	13	3.9	
	08/26/91																	
	09/13/92	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.04		0.026	1.70	< 0.005				< 6	17	15	1.2	
	08/23/93	< 0.0002	< 0.005	0.026	< 0.01	< 0.02	0.021	0.051	3.00	< 0.005				< 6	16	13	1.8	
	04/03/94								2.70	0.0065								
	08/28/94	< 0.0002	< 0.005	< 0.020	0.011	0.01	0.046	0.041	2.90	0.008				< 6	23	15	0.9	
	03/26/95								3.00	< 0.005								
	08/28/95	< 0.0002	< 0.005	0.024	< 0.01	< 0.01	0.0455	0.03	3.20	0.005				< 6	14	5	0.7	
	09/10/96			< 0.020					3.00	< 0.005				< 6	11	13	2.3	
	09/24/97			< 0.020					2.70	< 0.005				< 6	18.5	7.5	2.8	
	09/24/98			< 0.020					2.60		0.018	< 0.10	< 0.02					
	11/04/99			< 0.020					2.50		< 0.01	< 0.10	< 0.02					
	11/05/99			< 0.020					2.50		< 0.01	< 0.10	< 0.02					
	10/03/00			< 0.020					2.80		0.01	0.10	0.02					
	10/04/00			< 0.020					2.80		< 0.01	< 0.10	< 0.02					
	10/17/00*																	
	12/18/00*			< 0.020					2.50		< 0.01	< 0.10	< 0.02					
	1/18/01*						0.028		0.051									13.8
	4/25/01*						0.022		0.052									2.4
	7/30/01*						0.013		0.054									1.4
	10/24/01*								0.041									0.5
	1/23/02*																	
	4/24/02*																	
	7/24/02*						0.03	0.0236	0.043									1.3
	10/23/02*				0.006	< 0.01	0.021	0.0233	0.055									1.0
	1/22/03*				0.008		0.014	0.0230	0.05									5.7
	4/23/03*				0.006	< 0.01	0.011	0.0224	0.046									12.7
7/23/03*				< 0.020		0.013	< 0.005	0.051									1.8	
10/22/03*																		
1/21/04*				NA		NA	NA	NA									NS	
4/21/04*				NA		NA	NA	NA									10.2	
	Median	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.02	0.023	0.048	2.80	< 0.005	0.010	< 0.10	< 0.020	< 6	17	13	2	
	Average	0.0001	0.003	0.013	0.006	0.017	0.026	0.045	2.75	0.004	0.008	0.058	0.012	3	18	12	4	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)
Duck Creek at Russell or Patrick or Sunset	06/23/91	< 0.005		0.04	7.600	< 16	< 16						
	08/26/91					1,400							
	09/13/92	< 0.01		< 0.10	7.100	800	3,300						
	08/23/93	0.15		< 0.10		235	2,600						
	04/03/94	< 0.01		< 0.10		125		1,500					
	08/28/94	< 0.01		0.01	6.900	550	1,300		5				
	03/26/95	< 0.01		< 0.10	6.300	2,400	1,700	5,000					
	08/28/95	< 0.01		0.16	6.320	260	950		7				
	09/10/96	< 0.01	< 1.0	0.08	6.295	650	1,250		< 2.2			0	0
	09/24/97	< 0.01	< 1.0	0.24	0.048	665	1,350		< 2.2			0	1
	09/24/98					210	1,000		< 2.2	0	0	0	0
	11/04/99					50	240			0	0	0	0
	11/05/99					110	80			0	0	0	0
	10/03/00					50	210			0	0	0	0
	10/04/00					500	5,000			0	0	0	0
	10/17/00*					280	300						
	12/18/00*					50	300			1	1	0	0
	1/18/01*					6.120	93						
	4/25/01*					6.020	0						
	7/30/01*					6.070	233						
	10/24/01*					6.010	337,503						
	1/23/02*												
	4/24/02*												
	7/24/02*					5.820	1,440					0	0
	10/23/02*					6.080	2,850					0	0
	1/22/03*					5.790	80					0	0
	4/23/03*					6.130						0	0
	7/23/03*					6.000	5,100					0	0
	10/22/03*												
	1/21/04*					NS	NS						
4/21/04*					5.860	NS							
	Median	< 0.01	< 1.0	< 0.10	6.080	260	1,000	3,250	2.2	0	0	0	0
	Average	0.021	0.500	0.081	5.910	14,226	1,384	3,250	3.1	0	0	0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)
Duck Creek at Callahan or Broadbent	06/23/91	1.3	17.7	< 3	19	5,800	8.3	< 0.05	< 0.05	< 0.25	0.90		< 0.05	< 1.0	1.9	< 0.01	< 0.01
	08/26/91																
	04/06/92	5.5				6,450	8.0				2.80					< 0.01	
	09/13/92	1.6	25.6	< 3	84	6,030	8.0	< 0.05	< 0.05	0.07	6.80		0.07	< 1.0	6.8-7.8	< 0.01	< 0.01
	03/07/93	0.7	22.2			5,760	7.6				17.00					< 0.01	
	08/23/93	1.4	22.2	< 3	26	5,570	8.0	< 0.05	< 0.05	< 0.05	9.90		< 0.05	< 1.0	10.9	< 0.01	< 0.01
	04/03/94	2.2	15.8			4,255	7.9				9.90					< 0.01	
	08/28/94	3.0	23.5	< 3	31	5,255	8.1	< 0.05	< 0.05	< 0.05	4.00		< 0.05	< 1.0	5.0	< 0.01	< 0.01
	03/26/95	7.0	18.9			6,760	7.9				4.00					0.017	
	08/28/95	5.0	24.8	< 3	7	5,335	8.2	< 0.05	< 0.05	< 0.05	3.80		< 0.05	< 1.0	4.8	< 0.01	< 0.01
	09/10/96		27.4	< 3	16	5,470	8.3	< 0.05	< 0.05	< 0.05	4.10		< 0.05	< 1.0	4.6	< 0.01	
	09/24/97	13.2	25.2	< 3	28	4,235	8.2	0.10	0.01	0.05	4.90		< 0.05		1.2	6.6	< 0.01
	09/24/98	7.5		< 3	47	3,750				< 0.02	4.70	< 0.10	< 0.05		1.0	5.6	< 0.01
	11/04/99	11.1		< 3	10	3,240				< 0.02	9.60	< 0.20	< 0.05	< 0.2	9.6	< 0.01	
	11/05/99	11.1		< 3	27	2,400				< 0.02	9.90	< 0.20	< 0.05	0.4	10.3	< 0.01	
	10/03/00	20.0		< 3	< 10	4,930				< 0.02	5.94	< 2.00	< 0.05	0.3	6.3	< 0.01	
	10/17/00			< 3	12	5,020				< 0.02	5.86	< 1.00	0.073	1.0	6.9	< 0.01	
	12/18/00	18.1		< 3	< 10	5,070				4.90	6.58	< 0.50	< 0.05	0.7	7.3	< 0.01	
	7/21/04*	26.8	26.8			4,830	8.2		NA	NA	6.00	NA	0.17	0.9		0.0029	0.0014
	10/27/04*	15.0	15.0			6,100	7.7		NA	NA	4.10	< 0.08	NA	NA		< 0.002	< 0.001
	1/26/05*	15.7	15.7			NA	NS		NS	NS	NS	NS	NS	NS		NS	NS
	4/19/05*	13.7	13.7			NA	8.3		0.01	< 0.01	< 0.08	< 0.08	< 0.08	0.4		< 0.002	0.025
	7/20/2005*		26.7			4,880	8.1		0.01	0.04	6.00	< 0.08	< 0.08	0.6		< 0.01	< 0.001
	10/26/2005*		16.4			4,150	8.2		0.02	< 0.02	< 0.08	< 0.08	0.17	0.5		< 0.01	< 0.001
	1/19/2006*		9.6			5,200	8.2		0.02		6.60	< 0.08				1.0	1.3
	4/18/2006*		17.9			5,200	8.2		0.02		7.50	< 0.08				0.8	1.1
	7/27/2006*		27.2			4,500	7.7		0.00	0.00	5.42	< 0.08	< 0.08	< 0.2		0.0012	0.0008
	10/25/2006*		19.2			5,800	8.4		< 0.01	0.02	6.77	< 0.08	< 0.08	0.3		0.0011	0.001
	1/23/2007*		16.6			5,000	7.8		0.00	< 0.01	6.55	< 0.08	< 0.08	0.4		0.001	0.001
	4/18/2007*		20.3			5,100	7.9		0.01	< 0.01	7.23	< 0.10	< 0.10	0.8		< 0.001	0.001
	7/18/2007		32.4			3,900	8.1		0.01	0.02	6.77	< 0.10	< 0.10	0.4		0.0008	0.001
	10/27/2007		25.0			5,400	7.5		0.01	0.01	6.77	< 0.10	< 0.10	0.5		ND	0.0008
1/22/2008		17.4			4,400	8.2		0.01	< 0.01	6.77	< 0.10	< 0.10	< 0.1		0.0019	0.0011	
4/23/2008		22.5			5,200	7.8		0.01	0.01	7.00	< 0.10	< 0.10	< 0.1		0.0014	7	
	Median	7.5	21.3	< 3	19	5,100	8.1	< 0.05	< 0.01	< 0.02	6.28	< 0.05	< 0.07	< 0.6	6.6	< 0.01	< 0.001
	Average	9.5	21.0	< 2	24	5,000	8.0	< 0.04	< 0.02	0.23	6.07	< 0.13	< 0.08	< 0.6	7.0	< 0.06	< 0.473

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
Duck Creek at Callahan or Broadbent	06/23/91	< 0.002	< 0.0002	< 0.005	0.026	< 0.01	< 0.04		0.047	2.70	< 0.005				< 6	9	8	2.6	
	08/26/91																		
	04/06/92									2.80	< 0.005								
	09/13/92	< 0.01	< 0.0002	< 0.005	0.030	< 0.01	< 0.04		0.062	3.00	< 0.005				< 6	19	13	38.0	
	03/07/93									3.00	< 0.005								
	08/23/93	< 0.002	< 0.0002	< 0.005	0.038	< 0.01	< 0.02	0.07	0.05	3.10	< 0.005				< 6	20	10	3.2	
	04/03/94									3.05	< 0.005								
	08/28/94	< 0.002	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	< 0.025	0.045	2.80	0.005				< 6	22	15	2.4	
	03/26/95									2.60	0.005								
	08/28/95	< 0.002	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	0.019	0.035	2.90	0.0065				< 6	17.5	10	0.4	
	09/10/96	< 0.001			< 0.020					2.85	< 0.005				< 6	< 10	13	2.5	
	09/24/97	< 0.1			< 0.020					2.40	< 0.005				< 6	15.5	10	2.4	
	09/24/98	0.11			< 0.020					2.20		< 0.01	0.1	< 0.02					
	11/04/99	< 0.1			< 0.020					2.70		< 0.01	< 0.1	< 0.02					
	11/05/99	< 0.1			< 0.020					2.50		< 0.01	< 0.1	< 0.02					
	10/03/00	< 0.1			< 0.020					2.50		< 0.01	< 0.1	< 0.02					
	10/17/00	< 0.1			< 0.020					2.50		< 0.01	< 0.1	< 0.02					
	12/18/00	< 0.1			< 0.020					2.40		< 0.01	< 0.1	< 0.02					
	7/21/04*	< 0.0005				0.0095		0.02	0.0259	0.042									1.8
	10/27/04*	< 0.0005				< 0.005		0.027	NA	0.058									NS
	1/26/05*	NS				NS		NS	NS	NS									NS
	4/19/05*	< 0.0005				< 0.005		0.02	0.0216	0.053									0.7
	7/20/2005*	< 0.0005				< 0.005		< 0.01	0.021	0.054									16.7
	10/26/2005*	< 0.0005				< 0.005		< 0.01	0.0221	0.043									2.2
	1/19/2006*	0.2				0.0022		0.019	0.0168	0.057									19.5
	4/18/2006*	< 0.0005				0.02		0.023	0.027	0.049									1.2
	7/27/2006*	< 0.0005				0.10		0.0031	0.0184	0.059									1.3
	10/25/2006*	< 0.0005				0.0038		0.014	0.0192	0.054									1.6
	1/23/2007*	< 0.0005				< 0.005		0.0015	0.023	0.049									0.5
	4/18/2007*	< 0.0005				< 0.005		0.0014	0.022	0.049									0.9
7/18/2007	< 0.0002				< 0.005		0.0012	0.021	0.046										
10/27/2007	ND				ND		0.0017	0.021	0.066									0.6	
1/22/2008	< 0.0004				< 0.01		0.0079	0.021	0.036									1.3	
4/23/2008	< 0.0002				< 0.5		0.0016	0.0172	0.069									1.8	
	Median	< 0.001	< 0.0002	< 0.005	< 0.020	< 0.01	< 0.01	0.021	0.050	2.70	< 0.005	< 0.01	< 0.10	< 0.02	< 6	18	10	1.8	
	Average	< 0.023	< 0.0001	< 0.003	< 0.022	< 0.01	< 0.01	0.023	0.051	2.71	< 0.003	< 0.01	< 0.06	< 0.01	< 3	15	11	5.1	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)	
	06/23/91	0.005		0.03	6.600	< 16	< 16							
	08/26/91					2,300								
	04/06/92	< 0.01		0.20		500		1,700						
	09/13/92	< 0.01		< 0.10	7.400	760	1,050							
	03/07/93	< 0.01		< 0.10	5.900	4		500						
	08/23/93	0.10		< 0.10		150	20,500							
	04/03/94	0.10		< 0.10	5.900	110		6,650						
	08/28/94	< 0.01		< 0.01	6.800	650	5,500	< 2						
	03/26/95	< 0.01		< 0.10	6.820	500	500	16,000						
	08/28/95	< 0.01		0.08	6.210	950	1,800		3					
	09/10/96	< 0.01	< 1.0	0.08	6.055	1,100	327		< 2.2			0	0	
	09/24/97	< 0.01	< 1.0	0.35	0.055	500	650		< 2.2			0	1	
	09/24/98					370	600		< 2.2	0	0	0	0	
	11/04/99					300	240			0	0	0	0	
	11/05/99					700	110			0	0	0	0	
	10/03/00					500	500			0	0	0	0	
Duck Creek at Callahan or Broadbent	10/17/00					300	24,000			0	0	0	0	
	12/18/00					80	500			0	0	0	0	
	7/21/04*				6.000	2,800								
	10/27/04*				7.020	< 200								
	1/26/05*				NS	NS								
	4/19/05*				6.030	< 200								
	7/20/2005*				5.980	2,300			2	0	1	0	0	
	10/26/2005*				5.380	1,917			0	1	0	0	0	
	1/19/2006*				5.730	210			0	0	0	0	0	
	4/18/2006*				5.680	< 200			0	0	0	0	0	
	7/27/2006*				5.950	1,800			1	0	0	0	0	
	10/25/2006*				5.590	1,400			5	0	0	0	0	
	1/23/2007*				5.975	< 10			3	0	0	0	2	
	4/18/2007*				3.840	210			4	0	1	0	0	
	7/18/2007				5.681	12,100								
	10/27/2007				6.237	< 1,000								
	1/22/2008				5.663	< 400								
	4/23/2008				5.984	< 400								
		Median	< 0.01	< 1.0	< 0.10	5.978	500	550	4,175	< 2.2	0	0	0	0
		Average	< 0.02	< 0.5	< 0.09	5.770	1,022	4,020	6,213	< 1.5	1	0	0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)							
Las Vegas Creek	07/14/91	1.1	27.0	3	10	1,450	8.7	0.08	0.46	0.36	0.85	<	0.05	1.7	2.5	<	0.01	<	0.01					
	08/27/91	0.8	23.3	<	3	4	1,420	8.7	0.13	0.13	1.30	<	0.05	<	1.0	1.5	<	0.01	<	0.01				
	04/06/92	0.8				2,110	8.3				4.80					<	0.01							
	09/13/92	2.1	28.1	<	3	8	1,640	8.5	0.05	0.11	0.08	2.10		0.51	<	1.0	2.1-3.1	0.01	<	0.01				
	03/07/93	14.8	23.4				1,660	8.5				3.80					<	0.01						
	08/23/93	3.2	26.1	<	3	13	1,275	8.6	0.22	<	0.05	0.06	1.50		0.07	<	1.0	2.5	<	0.01	<	0.01		
	04/03/94	1.1	15.8				2,030	8.1				1.80					<	0.01						
	08/28/94	1.0	23.9	<	3	61	1,540	8.3	0.07	0.13	0.10	<	0.50		0.49	3.0	3.5	<	0.01	<	0.01			
	03/26/95	0.9	16.2				1,790	8.4				3.00					<	0.01						
	08/28/95	3.0	25.4	<	3	<	4	1,435	8.5	0.08	0.07	0.09	0.75	<	0.05	1.1	1.9	<	0.01	<	0.01			
	09/10/96	2.9	27.4	<	3		9	1,565	8.7	0.07	0.06	0.09	1.00	<	0.05	<	1.0	1.5	<	0.01				
	09/24/97	1.4	25.2	<	3		27	1,385	8.2	0.13	0.1	0.08	1.30		0.1	1.8	3.1	0.016						
	09/24/98	8.0		<	3		179	1,430			0.06	1.90	<	0.10	<	0.05	0.5	2.4	<	0.01				
	11/04/99	2.0		<	3		6	1,100			0.04	1.86	<	0.20	<	0.05	<	0.2	1.9	<	0.01			
	11/05/99	4.3		<	3		12	660			0.08	1.54	<	0.20	<	0.05	0.28	1.8	<	0.01				
	10/03/00	2.2		<	3	<	10	1,870			0.16	3.65	<	2.00	<	0.05	0.49	4.1	<	0.01				
	10/04/00	2.2		<	3		66	1,960			0.15	2.91	<	2.00	<	0.05	0.43	3.3	0.016					
	10/17/00*																							
	12/18/00*	1.1		<	3	<	10	2,070			0.04	3.58	<	0.50	<	0.05	0.51	4.1	<	0.01				
	1/18/01*		10.5					3,210	8.4	0.023	0.03	4.71	<	0.08	<	0.08	0.40	4.7	0.01		0.0032			
	4/25/01*		23.7					3,200	8.4		0.01	3.64		0.12	<	0.08	0.50	3.8	0.014		0.0025			
	7/30/01*	2.2	29.0					3,200	8.6		0.03	1.97		0.18	<	0.08	2.2	0.01		0.0019				
	10/24/01*	3.1	18.1					3,230	9.2	0.03	0.06	2.26	<	0.08	<	0.08	2.3	0.012		0.002				
	1/23/02*	2.9																						
	4/24/02*	3.4																						
	7/24/02*	3.3	29.2				2,800	8.7	0.06	0.018	0.02	2.46	<	0.08	<	0.08	2.60	2.5	0.0038		0.0024			
	10/23/02*	2.7	13.9				3,130	8.3	0.05	0.021	0.03	3.45	<	0.08	<	0.17	1.20	3.6	0.003		0.0027			
	1/22/03*		10.7				2,990	8.4		0.032	0.05	3.29	<	0.08	<	0.08		3.3	0.0054		0.0018			
	4/23/03*		19.0				3,210	8.6		0.013	0.01	3.17	<	0.08	<	0.08		3.2	0.0044		0.0011			
	7/23/03*		26.7				2,940	8.1		0.007	0.09	1.90			0.038	0.92	2.8				0.013			
10/22/03*		16.4				2,930	8.0		0.008	0.03	3.30	<	0.08	<	0.05	0.74	4.0			0.004				
1/21/04*		7.2				3,050	8.3		0.015	<	0.02	4.20	<	0.08	<	0.05	0.59	4.8		<	0.002			
4/21/04*		15.5				3,490	8.1		0.01	0.01	3.30	<	0.08	<	0.05	0.48	3.8			<	0.002			
	Median	2.2	23.4	<	3	10	1,995	8.4	0.07	0.03	0.06	2.36	<	0.08	0.05	<	0.83	3.1	<	0.01	<	0.0030		
	Average	3.0	20.9	<	2	31	2,192	8.4	0.09	0.07	0.07	2.53	<	0.19	0.08	0.88	3.0	0.01		0.0037				

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

(2) Discharge values for Flamingo at Nellis taken from USGS streamgauge records, average daily flow, for 8/27/91 - 8/28/95

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
Las Vegas Creek	07/14/91	0.005	< 0.0002	< 0.005	0.023	< 0.01	< 0.04		< 0.005	0.61	< 0.005				6	35	35	2.3	
	08/27/91	0.002	< 0.0002	< 0.005	0.029	< 0.01	< 0.04		< 0.005	0.65	0.005				< 6	19	30	0.7	
	04/06/92									0.76	< 0.005								
	09/13/92	< 0.01	< 0.0002	< 0.005	0.022	< 0.01	< 0.04		< 0.005	0.91	< 0.005				< 6	22	23	2.7	
	03/07/93									0.58	< 0.005								
	08/23/93	< 0.002	< 0.0002	< 0.005	0.093	< 0.01	< 0.02	< 0.015	< 0.005	0.46	< 0.005				< 6	22	25	2.1	
	04/03/94									0.61	< 0.005								
	08/28/94	0.003	< 0.0002	< 0.005	0.035	< 0.01	< 0.01	< 0.005	< 0.005	0.53	< 0.005				< 6	41	28	12.4	
	03/26/95									0.65	< 0.005								
	08/28/95	< 0.002	< 0.0002	< 0.005	0.024	< 0.01	< 0.01	< 0.005	< 0.005	0.59	< 0.005				< 6	29	25	1.3	
	09/10/96	< 0.001			0.027					0.41	< 0.005				< 6	17	21	4.4	
	09/24/97	< 0.1			0.030					0.53	< 0.005				< 6	14	20	7.1	
	09/24/98	< 0.1			0.049					0.40		0.01	< 0.1	< 0.02					
	11/04/99	< 0.1			< 0.020					0.46		< 0.01	< 0.1	< 0.02					
	11/05/99	< 0.1			0.021					0.39		< 0.01	< 0.1	< 0.02					
	10/03/00	< 0.1			0.024					0.62		< 0.01	< 0.1	0.024					
	10/04/00	< 0.1			0.027					0.65		< 0.01	< 0.1	< 0.02					
	10/17/00*																		
	12/18/00*	< 0.1			< 0.020					0.63		< 0.01	< 0.1	< 0.02					
	1/18/01*	0.00069				0.019		0.013		0.0044									7.9
	4/25/01*					0.021		0.01		0.0067									2.3
	7/30/01*					0.013		0.011		0.0062									5.0
	10/24/01*	0.0011				0.026		0.008		0.0072									1.3
	1/23/02*																		
	4/24/02*																		
	7/24/02*	0.0006				0.012		0.011	0.0104										1.8
	10/23/02*	0.00066				0.012		0.011	0.016	0.0057									2.1
	1/22/03*					0.013		0.007	0.011	0.0047									2.4
	4/23/03*					0.006		0.0064	0.0114	0.0046									1.6
	7/23/03*	0.00096				0.023		0.0073	< 0.005	0.0062									2.7
10/22/03*	0.0011				0.015		0.014	< 0.005	0.0065									12.0	
1/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.0069										2.2	
4/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.0075										1.1	
	Median	< 0.002	< 0.0002	< 0.005	0.022	< 0.01	< 0.01	< 0.005	< 0.005	0.60	< 0.005	< 0.01	< 0.10	< 0.02	< 6	22	25	2.3	
	Average	0.017	0.0001	0.003	0.023	0.01	0.01	0.006	0.005	0.58	< 0.003	0.006	0.050	0.012	< 3	25	26	3.8	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)
Las Vegas Creek	07/14/91	< 0.005		0.07	2.100	< 16	< 16						
	08/27/91	< 0.01		0.11	2.100	800	< 16						
	04/06/92	< 0.01		0.25		1,300		13,000					
	09/13/92	< 0.01		< 0.10	3.180	4,650	1,650						
	03/07/93	0.10		0.10	7.160	70		1,300					
	08/23/93	0.10		< 0.10		6,650	1,550						
	04/03/94	< 0.01		< 0.10	9.320	425		10,500					
	08/28/94	< 0.01		< 0.01	2.160	2,300	3,150		5				
	03/26/95	< 0.01		0.10	0.682	230	170	5,000					
	08/28/95	< 0.01		0.08	1.970	1,550	3,150		4.1				
	09/10/96	< 0.01	< 1.1	0.08	1.924	6,650	1,500		< 2.2			0	0
	09/24/97	< 0.01	< 1.0	0.15	0.051	155,500	27,500		3.7			0	0
	09/24/98					3,200	1,800		< 2.2	1	0	0	0
	11/04/99					110	2,300			0	0	0	0
	11/05/99					170	1,700			1	0	0	0
	10/03/00						3,000	3,000		0	0	0	0
	10/04/00						300	9,000		0	0	0	0
	10/17/00*						2,400	5,000					
	12/18/00*						28	900		0	0	0	0
	1/18/01*					3.810	507						
	4/25/01*					9.740	107						
	7/30/01*					9.780	2,700						
	10/24/01*					2.280	1,667						
	1/23/02*												
	4/24/02*												
	7/24/02*					3.310	2,180					0	0
	10/23/02*					3.740	1,200					0	0
	1/22/03*					3.400	260					0	0
	4/23/03*					3.880	240					0	0
	7/23/03*					3.590	83,000					0	0
	10/22/03*					3.500	94,000					0	0
	1/21/04*					3.580	< 200					0	0
4/21/04*					3.980	547					0	0	
	Median	< 0.01	< 1.1	0.10	3.450	1,200	1,750	7,750	3.7	0	0	0	0
	Average	0.021	0.525	0.091	3.762	12,128	3,899	7,450	3.0	0	0	0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)
	09/24/97	42.5	25.2	< 3	16	2,395	8.4	0.07	< 0.01	0.01	4.00		< 0.05	1.1	5.1	< 0.01	
	09/23/98	54.1		< 3	55	2,280				0.02	5.70	< 0.10	< 0.05	1.7	7.3	< 0.01	
	11/04/99	10.0		< 3	26	1,880				0.04	4.47	< 0.20	< 0.05	< 0.2	4.5	< 0.01	
	11/05/99	10.0		< 3	39	1,340				< 0.02	4.65	< 0.20	< 0.05	0.6	5.3	< 0.01	
	10/03/00	18.4		< 3	< 10	3,700				< 0.02	5.45	< 2.00	< 0.05	0.3	5.7	< 0.01	
	10/04/00	18.4		< 3	< 10	3,600				< 0.02	4.42	< 2.00	< 0.05	0.4	4.9	< 0.01	
	12/18/00	31.6		< 3	< 10	3,570				< 0.02	5.31	< 0.50	< 0.05	0.4	5.7	< 0.01	
	7/21/04*		23.8			3,200	8.2		0.01	0.11	2.40	NA	0.05	1.1		< 0.002	0.001
	10/27/04*		13.4			3,560	8.4		NA	NA	4.30	NA	NA	NA		< 0.002	< 0.001
	1/26/05*		14.1			1,730	8.2		0.04	0.39	2.60	< 0.08	0.38	2.7		< 0.002	< 0.001
	4/19/05*		15.2			3,470	8.5		0.01	0.02	4.30	< 0.08	< 0.08	0.96		0.0033	0.0023
Las Vegas Wash at Desert Rose	7/20/2005*		26.7			3,200	8.0		0.01	< 0.02	2.00	< 0.08	0.13	0.68		< 0.002	< 0.001
	10/26/2005*		15.2			500	7.7		0.06	0.05	< 0.08	< 0.08	0.16	0.73		0.0088	< 0.001
	1/19/2006*		9.6			3,300	8.3		0.01		4.40	< 0.08				0.0034	0.0008
	4/18/2006*		13.6			2,600	8.3		0.01		2.60	< 0.08				0.0021	0.0001
	7/27/2006*		26.8			3,200	8.6		< 0.01	0.06	2.71	0.20	< 0.08	0.92		0.0024	0.0005
	10/25/2006*		15.4			3,900	8.1		NA	0.08	4.06	0.11	< 0.08	0.89		0.0028	0.001
	1/23/2007*		8.0			3,300	8.4		0.01	0.03	4.97	0.08	< 0.08	0.64		0.0029	0.0009
	4/18/2007*		15.6			3,100	8.0		0.02	0.03	3.16	0.10	< 0.08	1.4		0.0031	0.0006
	7/18/2007		26.5			2,300	8.1		0.005	0.02	1.72	0.19	0.12	0.56		0.0014	0.0006
	10/27/2007		16.5			4,000	8.4		0.005	0.02	4.74	< 0.10	0.11	0.39		0.0014	0.0007
	1/22/2008		10.0			3,300	8.3		0.009	0.01	4.74	< 0.10	0.28	< 0.10		0.0015	0.0009
	4/23/2008		17.6			3,400	8.1		0.005	< 0.01	3.16	< 0.10	< 0.10	0.42		0.0016	0.0004
		Median	18.4	15.4	< 3	16	3,200	8.3	0.07	< 0.01	0.02	4.30	< 0.10	< 0.08	0.66	5.3	< 0.0029
	Average	26.4	17.2	< 2	22	2,905	8.2	0.07	< 0.01	< 0.05	3.73	< 0.18	< 0.08	0.81	5.5	< 0.0032	0.0007

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
	09/24/97	< 0.1			0.023					0.96	< 0.005				< 6	< 10	10	2.5	
	09/23/98	< 0.1			0.026					1.00		< 0.01	< 0.1	< 0.02					
	11/04/99	< 0.1			0.030					0.91		< 0.01	< 0.1	< 0.02					
	11/05/99	< 0.1			0.025					0.94		< 0.01	< 0.1	< 0.02					
	10/03/00	< 0.1			< 0.020					1.30		< 0.01	< 0.1	< 0.02					
	10/04/00	< 0.1			< 0.020					1.30		< 0.01	< 0.1	< 0.02					
	12/18/00	< 0.1			< 0.020					1.20		< 0.01	< 0.1	< 0.02					
	7/21/04*	0.0005			0.011		0.01	0.0093	0.0061									2.9	
	10/27/04*	< 0.0005			0.034		< 0.005	NA	0.0074									3.1	
	1/26/05*	0.011			0.130		< 0.005	0.0064	4.4									132.0	
	4/19/05*	< 0.0005			0.008		0.01	0.0114	< 0.001									1.5	
Las Vegas Wash at Desert Rose	7/20/2005*	< 0.0005			0.055		< 0.005	0.0061	< 0.001									1.8	
	10/26/2005*	< 0.0005			0.019		< 0.005	0.0062	0.034									140.0	
	1/19/2006*	< 0.0005			0.010		0.0069	0.0079	< 0.001									3.1	
	4/18/2006*	0.00052			0.029		0.0086	0.0074	0.057									1.3	
	7/27/2006*	0.0002			0.005		0.0021	0.0092	0.008									3.0	
	10/25/2006*	0.0003			0.009		< 0.005	0.0093	0.0065									2.7	
	1/23/2007*	0.0003			0.006		0.0014	0.013	0.0064									1.2	
	4/18/2007*	< 0.0002			0.008		0.002	0.0096	0.0069									1.8	
	7/18/2007	0.0003			0.007		0.0014	0.0082	0.0062									5.3	
	10/27/2007	ND			0.015		0.0015	0.012	0.0072									4.4	
	1/22/2008	< 0.00002			< 0.005		0.005	0.014	0.0076									1.9	
	4/23/2008	< 0.00002			< 0.500		0.0012	0.0111	0.0060									1.4	
		Median	< 0.0005			0.020		0.005	0.0093	0.0067	1.00	< 0.005	< 0.01	< 0.1	< 0.02	< 6	< 10	10	2.7
		Average	< 0.0166			< 0.032		< 0.004	0.0094	0.2851	1.09	< 0.005	< 0.01	< 0.1	< 0.02	< 6	< 10	10	18.2

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)
	09/24/97	< 0.01	< 1.0	0.25	0.067	500	850		< 2.2			0	0
	09/23/98					900	1,050		< 2.2	0	0	0	0
	11/04/99					1,300	1,300			3	0	0	0
	11/05/99					700	240			3	0	0	0
	10/03/00					900	3,000			0	0	0	0
	10/04/00					900	2,400			0	0	0	0
	12/18/00					700	2,400			0	1	0	0
	7/21/04*				3.850	9,100							
	10/27/04*				4.060	1,683							
	1/26/05*				2.560	3,600							
	4/19/05*				4.040	< 200							
Las Vegas Wash at Desert Rose	7/20/2005*				3.750	4,600				3		1	
	10/26/2005*				1.740	16,800				1	1		
	1/19/2006*				3.720	450							
	4/18/2006*				3.090	< 200							
	7/27/2006*				3.940	3,400				2	0	0	0
	10/25/2006*				3.660	17,200				5	0	0	0
	1/23/2007*				3.951	< 100				5	0	0	2
	4/18/2007*				3.493	3,600				5	0	2	1
	7/18/2007				3.558	3,900				X	X	X	X
	10/27/2007				3.917	2,600				X	X	X	X
	1/22/2008				4.093	< 1,000				X	X	X	X
	4/23/2008				4.131	< 1,000				X	X	X	X
		Median	< 0.01	< 1.0	0.25	3.750	1,000	1,300		< 2.2	3	0	0
	Average	< 0.01	< 0.5	0.25	3.389	3,221	1,606		< 1.1	2	0	0	0

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)		TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)	
Sloan Channel	09/23/98	1.0		< 3	23	1,220					0.04	1.10	< 0.10	< 0.05	2.2	3.3	0.01		
	No Sample Taken for 1999 Dry Weather Monitoring Program																		
	10/03/00	0.01		< 3	13	760					0.15	< 1.00	< 1	< 0.05	1.2	1.2	< 0.01		
	10/04/00	0.01		< 3	12	750					0.12	< 0.50	< 10	< 0.05	1.3	1.3	< 0.01		
	10/17/00*	0.01																	
	1/18/01*		7.0				1,880	8.1		0.09	0.08	2.97	< 0.08	0.96	1.6	3.9	0.004	0.0035	
	4/25/01*		18.2				1,970	8.1			0.01	2.45	< 0.08	0.16	0.9	2.6	0.0083	0.0034	
	7/30/01*	0.15	22.9				2,150	8.0			0.03	1.33	0.21	0.11		1.5	0.0066	0.0028	
	10/24/01*	0.20	15.0				1,770	8.5				2.96	< 0.08	< 0.08		3.0	0.0066	0.0054	
	1/23/02*	0.25																	
	4/24/02*	0.25																	
	7/24/02*	0.25	29.3				1,660	9.0	0.10	0.009	0.03	1.12	< 0.08	< 0.08	20.4	1.1	0.0056	0.0049	
	10/23/02*	0.20	17.5				1,750	8.9	0.05	0.01	0.03	2.85	< 0.08	0.17	0.8	3.0	0.0027	0.0063	
	1/22/03*		7.5				1,810	8.4		0.028	0.05	3.72	< 0.08	< 0.08		3.7		0.0049	
	4/23/03*		11.9				1,710	8.0		0.041	0.02	2.35	0.09	0.19		2.5	0.0039	0.0024	
	7/23/03*		31.0				1,750	9.3		0.007	0.01	1.40		< 0.05	1.0	2.4	0.0069	0.0034	
	10/22/03*		21.7				1,900	8.9		0.018	0.02	3.90	< 0.08	< 0.05	0.7	4.6	< 0.010	0.0058	
	1/21/04*		8.6				1,990	9.3		0.024	< 0.02	4.40	< 0.08	< 0.05	0.8	5.2	< 0.010	0.0042	
	4/21/04*		15.9				2,000	8.7		0.018	< 0.02	4.50	< 0.08	0.055	0.4	4.9	< 0.010	< 0.001	
	7/21/04*		33.3				1,950	9.6		0.008	< 0.01	4.00	NA	< 0.08	0.5		0.004	0.0039	
	10/27/04*		NS				NA	NS		NA	NA	4.90	NA	NA	NA		NS	NS	
	1/26/05*		NS				NA	NS		0.036	0.11	4.60	< 0.08	0.13			NS	NS	
	4/19/05*		11.4				2,210	8.4		0.009	< 0.01	5.30	< 0.08	< 0.08	0.7		0.0025	0.0054	
	7/20/05*		23.0				1,320	8.2		0.01	0.03	1.70	< 0.08	0.13	1.7		< 0.010	< 0.001	
	10/26/05*						NA			NS	NS	NS	NS	NS	NS		NS	NS	
	1/19/06*		NS				NA	NS		NS	NS	NS	NS	NS	NS		NS	NS	
	4/18/06*		17.1				1,400	9.2		0.0043		1.40					0.0022	1.5	
	7/27/06*		31.1				2,900	9.4		0.003	0.05	3.16	< 0.08	0.52	25.0		0.018	0.0034	
	10/25/06*		13.1				2,900	8.4		NA	0.02	5.65	< 0.08	< 0.08	< 0.2		0.0017	0.0036	
	1/23/07*		6.4				2,400	8.5		0.014	< 0.01	5.65	< 0.08	< 0.08	< 0.2		0.0009	0.0036	
	4/18/07*		9.1				2,500	8.4		0.008	0.01	6.32	< 0.08	< 0.10	< 0.1		0.0018	0.0038	
	7/18/07*		25.5				2,200	8.7		0.015	0.02	0.58	< 0.10	0.13	1.3		0.0022	0.004	
10/24/07*		13.6				3,900	8.6		0.013	0.05	1.17	< 0.10	< 0.10	0.4		0.0044	0.0013		
1/22/08*		12.6				2,300	8.8		0.007	0.01	5.42	< 0.10	0.29	< 0.1		0.0011	0.0039		
4/23/08		15.7				2,300	8.5		0.009	0.01	5.64	< 0.10	< 0.10	< 1.0		0.0044	0.0037		
	Median	0.20	15.8	< 3.0	13	1,950	8.5	0.08	0.010	0.02	2.97	< 0.08	< 0.08	0.85	2.96	< 0.0050	0.0038		
	Average	0.23	17.4	< 1.5	16	1,976	8.7	0.08	0.018	0.04	3.15	0.27	0.13	2.80	2.96	0.0050	0.0036		

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)	
Sloan Channel	09/23/98	< 0.1			0.020					0.60		0.01	< 0.1	< 0.02					
	No Sample Taken for 1999 Dry Weather Monitoring Program																		
	10/03/00	< 0.1			< 0.020					0.30		< 0.01	< 0.1	< 0.02					
	10/04/00	< 0.1			0.028					0.24		< 0.01	< 0.1	< 0.02					
	10/17/00*																		
	1/18/01*				0.006		0.0086		0.032										1.4
	4/25/01*				0.012		0.006		0.034										3.3
	7/30/01*				0.008		0.006		0.033										3.2
	10/24/01*	0.0006			0.012				0.018										2.6
	1/23/02*																		
	4/24/02*																		
	7/24/02*	0.00059			0.011		0.0013	0.00638	0.014										3.1
	10/23/02*						0.0028	0.00747	0.014										1.3
	1/22/03*						0.0042	0.00776	0.019										0.1
	4/23/03*				0.005		0.0025	0.00595	0.024										2.3
	7/23/03*	< 0.001			0.007		< 0.01	< 0.005	0.011										1.3
	10/22/03*	< 0.001			< 0.020		< 0.01	< 0.005	0.019										1.8
	1/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.02										2.2
	4/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.016										0.5
	7/21/04*	< 0.0005			0.010		< 0.005	0.0087	0.013										2.2
	10/27/04*	NS			NS		< 0.005	NS	NS										NS
	1/26/05*	NS			NS		NS	NS	NS										NS
	4/19/05*	< 0.0005			< 0.005		NS	0.0099	0.017										7.8
	7/20/05*	< 0.0005			0.066		< 0.005	0.0046	0.0084										1.7
	10/26/05*	NS			NS		NS	NS	NS										NS
	1/19/06*	NS			NS		NS	NS	NS										NS
	4/18/06*	0.022			0.019		0.006	0.0064	0.0076										3.5
	7/27/06*	0.0011			0.024		0.002	0.0108	0.012										2.9
	10/25/06*	< 0.0005			0.008		0.002	0.0103	0.015										0.7
	1/23/07*	< 0.0005			0.006		< 0.005	0.012	0.014										1.1
4/18/07*	< 0.0002			< 0.005		< 0.0008	0.012	0.017										0.4	
7/18/07*	< 0.0002			< 0.005		< 0.0008	0.013	0.016										1.0	
10/24/07*	ND			0.020		0.001	0.02	0.014										1.2	
1/22/08*	< 0.0002			< 0.005		0.002	0.013	0.015										1.2	
4/23/08	< 0.0002			< 0.005		< 0.001	0.0112	0.016										1.0	
	Median	< 0.001			0.011		0.005	0.0082	0.016	0.30		< 0.01	< 0.10	< 0.02				1.51	
	Average	< 0.009			0.013		0.003	0.0081	0.017	0.38		0.01	0.05	0.01				1.98	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)	
Sloan Channel	09/23/98					162	225		< 2.2	0	0	0	0	
						No Sample Taken for 1999 Dry Weather Monitoring Program								
	10/03/00					1,600	9,000			1	0	1	0	
	10/04/00					1,700	9,000			1	0	0	0	
	10/17/00*					300	2,200							
	1/18/01*				2.530	257								
	4/25/01*				2.550	680								
	7/30/01*				2.710	260								
	10/24/01*				3.950	1,103								
	1/23/02*													
	4/24/02*													
	7/24/02*				2.150	5,800						0	0	
	10/23/02*				2.290	5,000						0	0	
	1/22/03*				2.300	1,390						0	0	
	4/23/03*				2.320	300						0	1	
	7/23/03*				2.510	36,000						0	1	
	10/22/03*				2.440	2,400						0	0	
	1/21/04*				2.560	<	200					0	0	
	4/21/04*				2.550		633					0	0	
	7/21/04*				2.370		NA							
	10/27/04*						NS							
	1/26/05*						NS							
	4/19/05*				2.770		553							
	7/20/05*				1.802		24,000				10	0	3	1
	10/26/05*										0	0	0	0
	1/19/06*					NS	NS				0	0	0	0
	4/18/06*				1.888	<	200				3	0	1	0
	7/27/06*				3.550		3,600				3	0	0	0
	10/25/06*				2.950		6,667				5	1	0	0
	1/23/07*				2.990	<	2,000				5	1	0	2
4/18/07*				3.057		330				4	0	1	0	
7/18/07*				3.271		9,600								
10/24/07*				4.072		4,500								
1/22/08*				2.987	<	2,000								
4/23/08				3.069		487								
	Median				2.56	1390	5,600		< 2.2	3	0	0	0	
	Average				2.73	4,056	5,106		< 2.2	3	0	0	0	

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease		TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho-	Total	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total	Copper (mg/L)	Chromium (mg/L)			
				Phosphate (mg/L)	Phosphate- Phosphorous (mg/L)					Nitrogen (mg/L)											
Meadows Detention Basin	10/25/00*		14.2			1380	8.20			0.100	0.13	1.28	< 0.08	0.16	0.60	1.88	0.0049	<	0.0020		
	1/18/01*		1.0			1870	8.44			0.030	0.03	4.38	< 0.08	< 0.08	0.50	4.88	0.0053		0.0029		
	4/25/01*		15.0			1280	8.29				0.05	1.37	0.18	0.30	1.30	2.67	0.0070		0.0024		
	7/30/01*		24.0			1220	9.00				0.23	0.70	< 0.08	< 0.08		0.70	0.0084		0.0018		
	10/24/01*		20.1			1640	8.32			0.020	0.02	4.40	< 0.08	< 0.08		4.40	0.0097	<	0.0020		
	1/23/02*		5.5			1730	9.01			0.010	0.01	4.30	< 0.08	< 0.08		4.30	0.0061		0.0029		
	4/24/02*		17.5			650	8.30			0.280	0.55	< 0.08	< 0.08	1.24	4.40	4.40	0.0077		0.0021		
	7/24/02*		29.6			930	9.33			0.090	0.22	< 0.08	< 0.08	< 0.08	2.90	2.90	0.0070		0.0023		
	10/23/02*		22.8			1450	9.27			0.050	0.08	2.38	< 0.08	0.18	1.20	3.58	0.0039		0.0025		
	1/22/03*		8.8			1770	8.41			0.030	0.06	3.94	< 0.08	< 0.08		3.94	0.0064		0.0013		
	4/23/03*		15.5			1620	8.32			0.040		2.90	< 0.08	< 0.08		2.90	0.0100	<	0.0020		
	7/23/03*		28.0			1280	7.90			0.008	0.08	1.70			0.032	1.50	3.20	0.0240		0.0034	
	10/22/03*		17.3			1290	8.09			0.115	0.31	3.40	< 0.08	< 0.08	0.82	4.22	0.0890		0.0011		
	1/21/04*		7.5			1920	8.27			0.007	0.05	5.00	< 0.08	< 0.08	1.20	6.20	0.0042	<	0.0020		
	4/21/04*		14.2			1960	7.46			0.007	0.03	5.10	< 0.08	< 0.08	1.20	6.30	<	0.0020	<	0.0020	
	7/21/04*		26.1			1350	8.52			NS	NS	NS	NS	NS	NS	NS	0.0120		0.0010		
	10/27/04*		16.6			1490	8.09			NS	NS	3.40	< 0.08	NS	NS	NS	<	0.0020	<	0.0010	
	1/26/05*		14.7			820	7.64			0.080	0.56	3.70	0.53	1.10	6.30		0.0430		0.0071		
	4/19/05*		15.1			2040	8.14			0.004	<	0.01	6.20	< 0.08	< 0.08	0.71		0.0032		0.0031	
	7/20/05*		6.6			1540	8.81			0.005		0.05	2.00	< 0.08	< 0.08	1.50		0.0100	<	0.0010	
	10/26/05*		10.4			1630	8.20			0.610	0.05	<	0.08	< 0.08	0.03	2.00		0.0051	<	0.0010	
	1/19/06*		6.4			2000	8.26			<	0.010		5.42	0.14				0.0025		0.8000	
	4/18/06*		22.9			1700	8.77			0.005		6.00	<	0.08				0.0094		1.0000	
	7/27/06*		25.1			1300	8.44			0.036		0.089	1.11	0.12	0.15	1.10		0.0060		0.0005	
	10/25/06*		25.5			500	8.09			NA	0.047	0.90	ND	<	0.08	<	0.20	0.0011		0.0007	
	1/23/07*		0.4			2000	8.30			0.003	<	0.01	5.19	ND	<	0.08	1.00	0.0016		0.0006	
	4/18/07*		8.4			1600	8.21			0.044		0.064	2.94	<	0.10	<	0.10	1.50	0.0053		0.0007
	7/18/07*		23.1			1100	8.67			0.007		0.038	0.58	<	0.10	0.13	1.30	0.0055		0.0011	
	10/24/07*		14.7			900	8.25			0.063		0.065	1.17	<	0.10	<	0.10	0.36	0.0008		ND
	1/22/08*		4.0			2000	8.22			0.003	<	0.010	4.52	<	0.10	0.29	<	0.10	0.0020		0.0008
4/23/08		11.4			1700	7.47			0.002		0.025	1.87	2.00	<	0.10	0.87	0.0037		0.0004		
	Median		15.0			1,540	8.29			0.03	0.05	2.92	<	0.08	<	0.08	1.20	3.94	0.0055	<	0.002
	Average		15.2			1,473	8.34			0.06	0.11	2.86	<	0.15	0.16	1.47	3.76	0.0101		0.064	

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)
Meadows Detention Basin	10/25/00*	0.0005			0.021		0.007	0.005	< 0.0050									1.52
	1/18/01* <	0.0010			0.011		0.008	< 0.005	0.0021									0.50
	4/25/01*	0.0007			0.029		0.006	< 0.005	0.0041									3.45
	7/30/01*	0.0024			0.024		0.007	< 0.005	0.0039									8.02
	10/24/01*	0.0016			0.029		0.0055	< 0.005	0.0050									8.35
	1/23/02*	0.0012			0.021		0.009	0.0073	< 0.0050									3.53
	4/24/02*	0.0006			0.019		0.005	0.0023	0.0056									7.30
	7/24/02*	0.0007			0.023		0.006	0.0029	0.0027									4.05
	10/23/02* <	0.0010			0.012		0.007	0.0054	0.0041									2.08
	1/22/03* <	0.0010			0.015		0.0059	0.0063	0.0028									0.75
	4/23/03*	0.0007			0.013		< 0.001	0.055	0.0027									0.83
	7/23/03*	0.0015			0.023		0.006		0.0033									2.62
	10/22/03*	0.00083			0.041		0.007		0.0034									1.69
	1/21/04*	0.0013			0.330		0.0067		0.0047									1.13
	4/21/04* <	0.0010		<	0.020		< 0.01		< 0.0050									0.77
	7/21/04* <	0.0005			0.028		0.0057	0.007	0.0027									2.15
	10/27/04* <	0.0005			0.037		< 0.005	NA	< 0.0013									2.40
	1/26/05*	0.0110			0.210		< 0.005	0.003	< 0.0013									68.50
	4/19/05* <	0.0005			0.012		0.009	0.0085	0.0033									0.90
	7/20/05* <	0.0005			0.055		< 0.005	0.0061	< 0.0013									3.22
	10/26/05* <	0.0005			0.019		< 0.005	0.0062	0.0340									9.51
	1/19/06* <	0.0005			0.010		0.0069	0.0079	< 0.0013									0.83
	4/18/06*	0.00052			0.029		0.0086	0.0074	0.0570									12.40
	7/27/06*	0.0003			0.012		0.0012	0.0040	0.0038									2.66
	10/25/06* <	0.0005			0.045		0.0021	0.0013	0.0047									3.41
	1/23/07* <	0.0005			0.005		0.001	0.0079	0.0028									0.74
	4/18/07*	0.0003			0.020		0.0013	0.0059	0.0031									1.66
	7/18/07*	0.0003			0.008		ND	0.0043	0.0036									3.91
	10/24/07*	ND			0.140		0.001	0.0028	0.0016									0.20
	1/22/08* <	0.00002		<	0.005		0.0029	0.0084	0.0024									0.42
4/23/08 <	0.00002		<	0.001		0.0008	0.006	0.002									1.59	
	Median	0.0006			0.021		0.006	0.0057	0.0033									2.15
	Average	0.0010			0.041		0.005	0.0070	0.0058									5.20

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)	
			Petroleum Hydrocarbons (mg/L)											
Meadows Detention Basin	10/25/00*				1.929									
	1/18/01*				2.49	95								
	4/25/01*				1.851	1,490								
	7/30/01*				1.53	1,300								
	10/24/01*				2.20	665								
	1/23/02*				2.33	50								
	4/24/02*				1.038	190								
	7/24/02*				1.366	16,500						0	0	
	10/23/02*				1.63	5,300						0	0	
	1/22/03*				2.37	10						0	0	
	4/23/03*				2.18	<	400					0	0	
	7/23/03*				1.853		64,000					0	1	
	10/22/03*				1.832		2,200					0	0	
	1/21/04*				2.510		387					0	0	
	4/21/04*				2.58		600					0	0	
	7/21/04*				1.774		18,100							
	10/27/04*				2.14		NA							
	1/26/05*				0.565		413							
	4/19/05*				2.70	<	200							
	7/20/05*				2.07		1,580				5	1	1	0
	10/26/05*				2.26		5,400				4	1	0	0
	1/19/06*				2.611	<	200				0	0	0	0
	4/18/06*				2.29		1,360				2	1	0	0
	7/27/06*				1.809		80,000				0	1	0	1
	10/25/06*				3.64		4,200				3	0	0	0
	1/23/07*				2.608	<	667				4	0	0	2
4/18/07*				2.357		1,360				4	0	1	0	
7/18/07*				1.803		29,800								
10/24/07*				1.242	<	50								
1/22/08*				2.585	<	100								
4/23/08				2.338		220								
	Median				2.18	680				4	1	0	0	
	Average				2.08	8,381				3	1	0	0	

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease (mg/L)	TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho- Phosphate (mg/L)	Total Phosphate- Phosphorous (mg/L)	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total Nitrogen (mg/L)	Copper (mg/L)	Chromium (mg/L)		
Monson Channel	10/25/00*		21.3			3920	8.5		0.040	0.04	1.11	< 0.08	< 0.08	0.80	1.91	0.0092	< 0.0020		
	1/18/01*		12.1			4660	8.6		0.010	0.01	5.05	< 0.08	< 0.08	0.60	5.65	0.0096	0.0026		
	4/25/01*		21.0			4590	8.4			0.01	3.77	0.14	< 0.08	1.20	4.05	0.017	< 0.0020		
	7/30/01*		27.8			4580	8.1			0.02	3.57	0.11	< 0.08		3.68	0.015	0.0022		
	10/24/01*		23.3			4540	8.6		0.010	0.01	4.16	< 0.08	< 0.08		4.16	0.013	0.0019		
	1/23/02*		6.3			5250	8.3		0.010	0.01	8.12	0.09	< 0.08		8.21	< 0.002	< 0.0020		
	4/24/02*		21.3			4300	8.1		0.020	0.01	5.46	0.14	0.13	1.00	6.46	< 0.002	< 0.0020		
	7/24/02*		27.6			4230	8.3		0.010	0.03	2.81	< 0.08	< 0.08	1.20	3.01	0.0026	0.0027		
	10/23/02*		23.5			4360	8.5	<	0.010	0.03	4.20	< 0.08	0.17	0.20	4.40	0.004	0.0027		
	1/22/03*		10.8			4570	8.2		0.030	0.05	4.80	< 0.08	< 0.08		4.80	0.0045	0.0017		
	4/23/03*		20.2			4560	8.5		0.020		4.53	< 0.08	< 0.08		4.53	0.0036	< 0.0020		
	7/23/03*		26.8			4550	7.8		0.007		3.10		0.08	0.58	3.68	0.0046	< 0.0020		
	10/22/03*		19.7			4630	8.2		0.015	<	0.08	5.20	< 0.08	< 0.08	0.54	5.74	< 0.002	< 0.0020	
	1/21/04*		10.0			4610	8.1		0.017	<	0.08	5.40	< 0.08	< 0.08	0.42	5.82	< 0.002	< 0.0020	
	4/21/04*		15.0			4710	8.1		0.013		0.03	4.80	< 0.08	< 0.08	0.32	5.12	< 0.002	< 0.0020	
	7/21/04*		22.1			4530	7.9		0.016	<	0.01	4.30	< 0.08	< 0.08	3.70		0.0022	< 0.001	
	10/27/04*		16.6			4520	8.2		NA		NA	5.00	< 0.08	NA	NA		< 0.002	< 0.001	
	1/26/05*		14.7			4310	8.2		0.026		0.02	4.90	< 0.08	< 0.08	0.46		< 0.002	< 0.001	
	4/19/05*		15.1			2210	8.2		NS		NS	NS	NS	NS	NS		NS	NS	
	7/20/05*		25.3			4520	8.0		0.011	<	0.01	4.30	< 0.08	0.09	0.74		< 0.002	< 0.0020	
	10/26/05*		19.6			4340	8.0		0.020	<	0.01	<	0.08	< 0.08	0.35	0.44	<	0.002	0.0004
	1/19/06*		12.4			4600	8.2		0.007			6.40	< 0.08				<	0.0079	0.0007
	4/18/06*		18.0			5000	8.5		0.005			2.98	0.12				0.0057	0.0009	
	7/27/06*		28.1			4400	8.2		0.006		0.04	4.52	0.21	0.11	0.69		0.003	0.0009	
	10/25/06*		17.0			5200	8.2		NA		0.01	5.65	< 0.08	< 0.08	0.36		0.0015	0.0008	
	1/23/07*		9.8			4400	8.2	<	0.002	<	0.01	5.42	< 0.08	< 0.08	1.00		0.0018	0.0007	
	4/18/07*		15.9			4400	8.3		0.003	<	0.01	5.42	< 0.10	< 0.10	0.31		0.0021	0.0007	
	7/18/07*		29.6			3200	8.1		0.015		0.02	3.84	0.11	0.16	0.14		0.053	0.0006	
	10/24/07*		21.3			4800	8.5		0.014		0.02	5.65	< 0.10	< 0.10	0.25		0.001	0.0007	
	1/22/08*		16.1			3900	8.6		0.004		0.01	3.84	0.14	0.14	<	0.10	0.002	0.0006	
4/23/08		18.4			4300	7.9		0.006		0.01	<	0.10	4.06	<	0.10	0.003	0.0006		
	Median		19.6			4,530	8.2		0.011	0.01	4.53	< 0.08	< 0.08	0.50	4.53	0.0024	< 0.0018		
	Average		18.9			4,409	8.2		0.013	0.02	4.28	< 0.23	< 0.10	0.70	4.75	0.0062	< 0.0015		

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	
Monson Channel	10/25/00*	0.001			0.022		0.016	0.023	0.0089									
	1/18/01*	< 0.001			0.011		0.018	< 0.005	0.012									
	4/25/01*	< 0.001			0.017		0.018	< 0.005	0.016									
	7/30/01*	0.001			0.016		0.017	< 0.005	0.015									
	10/24/01*	0.002			0.019		0.012	< 0.005	0.012									
	1/23/02*	< 0.001					< 0.01	0.0228	0.026									
	4/24/02*	< 0.001					< 0.01	0.0202	0.030									
	7/24/02*	0.001			0.008		0.019	0.022	0.013									
	10/23/02*	< 0.001			0.006		0.018	0.0226	0.020									
	1/22/03*	0.001			0.009		0.014	0.0234	0.018									
	4/23/03*	< 0.001					0.0082	0.0239	0.014									
	7/23/03*	< 0.001			0.008		0.011	< 0.005	0.019									
	10/22/03*	< 0.001			< 0.020		0.025	< 0.005	0.017									
	1/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.020									
	4/21/04*	< 0.001			< 0.020		< 0.01	< 0.005	0.021									
	7/21/04*	< 0.0005			0.012		0.016	0.021	0.017									
	10/27/04*	< 0.0005			< 0.005		< 0.005	< 0.001	0.019									
	1/26/05*	< 0.0005			0.040		< 0.005	0.0213	0.021									
	4/19/05*	NS			NS		NS	NS	NS									
	7/20/05*	< 0.0005			< 0.005		< 0.005	0.0211	0.019									
	10/26/05*	< 0.0005			< 0.005		0.0012	0.0217	0.014									
	1/19/06*	< 0.0005			0.002		0.015	0.0229	0.012									
	4/18/06*	< 0.0005			< 0.005		0.019	0.029	0.012									
	7/27/06*	0.0011			0.001		0.0024	0.0222	0.016									
	10/25/06*	0.0002			0.007		0.013	0.0216	0.016									
	1/23/07*	< 0.0005			0.003		< 0.010	0.025	0.013									
	4/18/07*	< 0.0002			< 0.005		< 0.0008	0.025	0.014									
	7/18/07*	< 0.0002			0.006		0.001	0.024	0.015									
	10/24/07*	ND			ND		ND	0.026	0.014									
	1/22/08*	< 0.0002			< 0.005		0.007	0.024	0.015									
4/23/08	< 0.0002			< 0.500		< 0.008	0.019	0.012										
	Median	0.0006			0.008		0.010	0.022	0.016									
	Average	0.0007			0.030		0.011	0.017	0.016									

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Turbidity (NTU)	Phenol (mg/L)	Total Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)	Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)	
Monson Channel	10/25/00*	0.13				4.42									
	1/18/01*	0.37				5.18	20								
	4/25/01*	1.20				5.03	545								
	7/30/01*	2.26				5.01	20								
	10/24/01*	2.27				5.01	230								
	1/23/02*	2.95				5.80	20								
	4/24/02*	0.96				5.65	660								
	7/24/02*	3.10				4.74	15						0	0	
	10/23/02*	1.20				3.96	2,220						0	0	
	1/22/03*	4.56				4.97	185						0	0	
	4/23/03*	0.72				1.27	260						0	0	
	7/23/03*	0.42				4.92	8,600						0	0	
	10/22/03*	1.15				5.00	2,300						0	0	
	1/21/04*	0.29				4.97	<200						0	0	
	4/21/04*	0.40				5.14	740						0	0	
	7/21/04*	1.49				5.06	<	400							
	10/27/04*	0.90				4.91		700							
	1/26/05*	17.90				4.72	<	200							
	4/19/05*	0.37				5.11	<	200							
	7/20/05*	0.85				5.01		13,100			3	0	1	0	0
	10/26/05*	1.02				4.88		9,200			0	1	0	0	0
	1/19/06*	0.77				5.09	<	200			0	0	0	0	0
	4/18/06*	0.77				5.03	<	200			0	0	0	0	1
	7/27/06*	13.90				4.98		6,400			2	0	0	0	0
	10/25/06*	1.35				5.01		7,800			3	1	0	0	0
	1/23/07*	0.63				4.93	<	400			4	0	0	0	2
	4/18/07*	0.44				4.98	<	100			4	0	1	0	0
	7/18/07*	1.46				4.75		3,800							
	10/24/07*	1.19				4.76	<	1,000							
	1/22/08*	1.67				4.77		1,360							
4/23/08	0.66				4.83	<	400								
	Median	1.02				4.98	400			3	0	0	0	0	
	Average	2.17				4.84	2,113			2	0	0	0	0	

DRY WEATHER MONITORING DATA 1991-2008

Location	Date	Q (cfs)	Temp (Deg C)	Oil & Grease		TSS (mg/L)	TDS (mg/L)	pH *	MBAS (mg/L)	Ortho-	Total	NO3-N (mg/L)	NO2-N (mg/L)	NH3-N (mg/L)	TKN (mg/L)	Total	Copper (mg/L)	Chromium (mg/L)
				Phosphate (mg/L)	Phosphate- Phosphorous (mg/L)					Nitrogen (mg/L)								
Burns Street	7/27/2006*		26.6			4500	8.4			0.004	0.017	6.55	< 0.08	< 0.08	0.26		0.001	0.030
Channel	10/25/2006*		22.0			5400	8.6	<		0.010	0.026	0.08	< 0.08	< 0.08	0.46		0.001	0.016
	1/23/2007*		18.2			3800	8.4			0.003	< 0.010	6.55	< 0.08	< 0.08	0.41	<	0.002	0.013
	4/18/2007*		21.7			3700	8.2			0.017	0.015	8.35	< 0.01	< 0.01	< 0.10	<	0.001	0.0078
	7/18/2007		28.5			3300	8.2			0.015	0.012	7.68	< 0.1	< 0.1	0.16		0.011	0.013
	10/27/2007		25.9			4900	8.3			0.016	0.016	6.32	< 0.1	0.11	0.48		ND	0.015
	1/22/2008		20.4			4300	8.4			0.007	0.018	6.32	< 0.1	0.12	< 0.10	<	0.001	0.024
	4/23/2008		23.2			4200	8.2			0.008	0.020	6.54	< 0.1	< 0.10	< 0.10		0.001	0.018
	Median		22.6			4250	8.3			0.009	0.017	6.55	< 0.09	< 0.09	0.21		0.001	0.016
	Average		23.3			4263	8.3			0.009	0.016	6.05	< 0.04	< 0.06	0.24		0.002	0.017
1991-2008 Median (All Sites)		3.4	20.2	<	3.0	13.0	3,140	8.2	0.06	0.016	0.030	4.20	< 0.08	< 0.08	0.75	4.3	< 0.010	< 0.002
2007-2008 Median (All Sites)			18.0			3,300	8.2			0.008	0.016	4.74	< 0.100	0.10	0.30		< 0.002	0.001

Notes:

(1) In cases where measured constituent concentrations were less than detection limits, 1/2 of the detection limit was used to compute the average concentration.

When this approach resulted in a computed average value which was less than the detection limit, the average value was reported as "<DL".

* Sample was taken by SNWA

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Lead (mg/L)	Mercury (mg/L)	Cadmium (mg/L)	Zinc (mg/L)	Silver (mg/L)	Nickel (mg/L)	Selenium (mg/L)	Arsenic (mg/L)	Boron (mg/L)	Cyanide (mg/L)	Copper Dissolved (mg/L)	Lead Dissolved (mg/L)	Zinc Dissolved (mg/L)	BOD (mg/L)	COD (mg/L)	Apparent Color (ACU)	Turbidity (NTU)
Burns Street	7/27/2006*	< 0.0005			0.003		0.002	0.013	0.050									1.14
Channel	10/25/2006*	< 0.0005			0.003		0.010	0.010	0.043									0.66
	1/23/2007*	< 0.0005			0.002		< 0.005	0.011	0.038									1.02
	4/18/2007*	< 0.0002			< 0.005		< 0.001	0.010	0.033									0.33
	7/18/2007	< 0.0002			< 0.005		< 0.001	0.011	0.037									0.50
	10/27/2007	ND			ND		ND	0.012	0.040									0.42
	1/22/2008	< 0.0004			< 0.01		0.007	0.013	0.034									1.60
	4/23/2008	0.0002			< 0.50		0.001	0.011	0.037									4.31
	Median	< 0.0004			0.005		0.002	0.011	0.038									0.84
	Average	< 0.0002			0.038		0.003	0.011	0.039									1.25
1991-2008 Median (All Sites)	< 0.001	< 0.0002	< 0.005	< 0.020	< 0.010	0.009	0.011	< 0.009	0.960	< 0.005	< 0.010	< 0.100	< 0.020	< 6	16	15	1.77	
2007-2008 Median (All Sites)	< 0.0002			< 0.008		0.002	0.013	0.013									1.460	

DRY WEATHER MONITORING DATA 1991-2008 (continued)

Location	Date	Phenol (mg/L)	Total		Conductance (mmhos)	Fecal Coliform (MPN/100 mL)	Fecal Streptococcus (MPN/100 mL)	Total Coliform (MPN/100 mL)	Salmonella (MPN/100 mL)	VOC's (# detects)	SOC's (# detects)	Pesticides (# detects)	Herbicides (# detects)					
			Petroleum Hydrocarbons (mg/L)	Total Chlorine (mg/L)														
Burns Street	7/27/2006*				5.72	880				1	0	1	0					
Channel	10/25/2006*				5.49	420				4	0	0	0					
	1/23/2007*				5.18	< 200				3	0	0	2					
	4/18/2007*				4.98	< 100				3	0	1	0					
	7/18/2007				5.14	4,700												
	10/27/2007				4.97	< 1,000												
	1/22/2008				3.15	< 400												
	4/23/2008				5.36	< 200												
	Median				5.16	410				3	0	1	0					
	Average				5.00	869				3	0	1	1					
<hr/>																		
1991-2008 Median (All Sites)	<	0.010	<	1.000	<	0.100		3.720	665	1,025	4,650	<	2.20	1	0	0	0	0
2007-2008 Median (All Sites)								3.615	1,000					5	0	0	0	0

APPENDIX F

Stormwater Monitoring Program – Wet Weather Data for MS4 Program History



APPENDIX F

STORMWATER MONITORING PROGRAM- WET WEATHER

- **Wet Weather Data for MS4 Program History**
- **Summary of Detention Basin Monitoring for Pollutant Removal Effectiveness-July 2005 through June 2008**
- **Analysis of Long-Term Trends in MS4 Water Quality Data**

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
	08/30/92		26.3	3.5	92	1,110		7.2	2.67	< 0.05	0.29	3.9		0.66	9.8	13.68	0.024		< 0.01	< 0.010	
	10/24/92		17.3	3	66	760		7.3	1.02	0.18	0.50	2.9		0.73	6.2	9.1	0.017		< 0.01	< 0.010	
	02/08/93		12.0	3	950	300		7.9	0.24	0.26	0.55	1.1		0.3	1.1	2.2	0.018		0.024	0.018	
	05/14/93	839	26.4	3.5	110	600		7.2	1.64	0.19	0.51	2.4		1.3	5.5	7.9	0.015		< 0.01	0.009	
	08/04/93	211	26.0	3	840	980		7.6	1.13	0.06	0.88	2.1		1.4	6.6	8.7	0.033		0.027	0.022	
	02/04/94	181	8.2	5.7	3,720	400	465	7.5	0.44	2.34	2.10	1.1		1.1	16	17.1	0.092		0.05	0.150	
	03/25/94	353	12.9	10	2,800	520	2,530		0.73	0.75	1.40	1.2		1.1	6.7	7.9	0.058		0.033	0.076	
Western Tributary at Civic Center	07/19/94		23.6	< 3	81	400	535	7.8	1.49	0.11	0.23	1.4		0.47	< 1	2.4	0.016		< 0.01	0.006	
	08/09/94	4	29.5	< 3	5,550	370	525	7.9	0.35	0.18	0.87	1.4		0.47	2.7	4.1	0.052		0.035	0.140	
	01/24/95	624	9.7	< 3	880	5,210	187	8	0.24	0.06		4.5		< 0.05	< 1	5.5	0.012		< 0.01	< 0.100	
	05/24/95		19.7	5.5	125	300	488	7.5	1.35	0.08	0.32	1.2		0.6	4.9	6.1	0.023		< 0.01	0.020	
	08/12/95	583	27.5	3.7	450	690	633	7.2	1.50	0.09	0.83	0.9		0.6	7.2	8.1	0.042		0.013	0.025	
	03/13/96			4	510	780		7.5		0.45	0.97	1.7		0.9	6.2	2.6	0.041				
	11/21/96	163	15.6	< 3	2,500	290	498	7.8	< 0.05	0.59	2.80	1.7		0.8	11	12.7	0.038			< 0.100	
	07/28/97		25.7	6.1	890	380	588	7.7	1.84	0.11	0.30	1.6		1.2	4.8	6.4	0.100			0.170	
	09/01/97			4.2	290	580		7.5	1.75	< 0.01	0.33	1		0.9	7.2	8.2	0.044			< 0.100	
	Median	282	21.7	3.5	675	550	525	7.5	1.13	0.15	0.55	1.5		0.8	6.2	7.9	0.036	N/A	0.012	0.025	
	Average	370	20	3.8	1,241	854	717	7.6	1.09	0.34	0.86	1.9		0.8	6.1	7.7	0.039	N/A	0.018	0.053	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved Zinc mg/L	Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL	
Western Tributary at Civic Center	08/30/92	< 0.0002	< 0.005	0.055		< 0.01	< 0.04		< 0.025	0.42	0.029	85	559	313	60	0.09				
	10/24/92	< 0.0002	< 0.005	0.074		< 0.01	< 0.04		< 0.025	0.25	0.009	31	210	90	45	0.04				
	02/08/93	< 0.0002	< 0.005	0.270		< 0.01	< 0.04	< 0.005	0.01	0.14	< 0.005	25	98	25	750	0.1				
	05/14/93	< 0.0002	< 0.005	0.078		< 0.01	< 0.04	< 0.005	0.005	0.27	0.01	63	220	200	70	0.1				
	08/04/93	< 0.0002	< 0.005	0.180		< 0.01	0.021	< 0.005	0.011	0.05	0.008	83	390	400	130	0.2				
	02/04/94	0.0008	< 0.005	0.440		< 0.01	0.023	< 0.02	0.027	0.23	< 0.005	57	475	750	950	0.1				
	03/25/94	< 0.0002	< 0.005	0.320		< 0.01	0.02	< 0.005	0.016	0.17	< 0.005	59	310	1,000	1,200	0.04				
	07/19/94	< 0.0002	< 0.005	0.050		< 0.01	0.011	< 0.005	< 0.005	0.16	0.009	110	215	150	44	0.08				
	08/09/94	< 0.0002	< 0.005	0.240		< 0.01	0.025	< 0.005	0.05	0.19	< 0.005	19	300	75	6.5	< 0.01				
	01/24/95	< 0.0002	< 0.005	0.057		< 0.01	< 0.01	< 0.005		2.40	0.007	< 6	23	10	100	0.10	<	1.1	< 1.1	
	05/24/95	< 0.0002	< 0.005	0.094		< 0.01	0.011	< 0.005	< 0.005	0.18	0.01	35	215	40	68	0.02	< 1			
	08/12/95	< 0.0002	< 0.005	0.200		< 0.01	0.02	< 0.005	0.007	0.28	0.03	77	345	250	11	< 0.10		< 2.3	< 2.3	
	03/13/96			0.120						0.27	0.009	52	250	100	32					
	11/21/96			0.240						0.19	< 0.005	45	400	80	5,600	< 0.01	< 1			
	07/28/97			0.630						0.21	< 0.005	36	930	110	600	< 0.01	< 1			
	09/01/97			0.160						0.25	0.052	38	160	128	160	0.019				
	Median	<	0.0002	< 0.005	0.170		< 0.01	0.022	< 0.005	0.011	0.22	0.009	49	275	119	85	0.08	< 1	1.7	1.7
	Average	<	DL	< DL	0.201		< DL	0.018	< DL	0.014	0.35	0.012	51	316	233	614	0.06	< DL	< DL	< DL

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects
Western Tributary at Civic Center	08/30/92	< 0.10	< 160,000			> 16							
	10/24/92	< 0.10	130,000			300,000							
	02/08/93	< 0.10	30,000	5,000		22,000	30,000						
	05/14/93	< 0.10	5,000,000	240,000	13,000	1,700,000	160,000	50,000					
	08/04/93	< 0.10	30,000	110,000	500,000	160,000	500,000	700,000					
	02/04/94	< 0.10	3,000	500		90,000	28,000						
	03/25/94	< 0.10	< 2	8,000	8,000	50,000	230,000	90,000	< 2.0				
	07/19/94	0.10		> 160,000	1,600,000		50,000	140,000	8.0				
	08/09/94	0.10		80,000	2,300		130,000	50,000	< 2.0				
	01/24/95	< 0.01			5,000			22,000	< 2.0				
	05/24/95	< 0.01			> 160,000			> 160,000	2.0				
	08/12/95	< 0.01						> 1,600	6.0				
	03/13/96	0.05	5,000				11,000		< 2.2				
	11/21/96	< 0.01	40,000				50,000		< 2.2	0			1 (2,4-D)
	07/28/97	< 0.10	160,000				90,000		5.1	0			1
	09/01/97		160,000				90,000		< 2.2	0			1
	Median	< 0.10	40,000	80,000	13,000	90,000	130,000	70,000	2.2	0			1
Average	< DL	512,546	86,214	326,900	233,001	161,143	151,700	2.7	0			1	

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L	
	08/30/92	75	27.1	4	550	830		7.2	3.10	0.06	1.10	1.8		0.42	9.5	11.3	0.010		0.019	0.072		
	10/24/92	204	17.5	3.9	500	530		7.3	1.89	0.55	< 0.05	1.8		1.2	8.8	10.6	0.190		0.057	0.280		
	10/28/92	76	18.1	< 3	460	440		7.4	1.12	0.18	0.51	1.4		0.33	3.7	5.1	0.055		0.019	0.071		
	02/08/93	454	11.1	64	300	190		7.8	0.17	0.25	0.55	0.7		0.22	1.1	1.8	0.019	< 0.01	0.036			
	05/14/93	138	26.9	7.2	220	490		7.1	1.34	0.36	1.00	0.1		2.3	6.5	6.6	0.027	< 0.01	0.026			
	08/04/93	34	30.7	< 3	560	1,070		7.1	1.41	0.12	0.96	1.5		2.4	10	11.5	0.078		0.021	0.078		
	02/04/94	114	8.2	4.8	1,050	320	984	7.6	0.83	0.87	1.50	1.3		0.92	5.3	6.6	0.047		0.018	0.057		
	09/19/94		22.0	5.4	230	880	950	7.3	1.00	0.78	1.50	4.3		1.7	13	17.3	0.057		0.015	0.053		
	03/11/95	23	13.4	4.1	93	150	1,150	7.6	0.25	0.21	0.36	0.4		0.2	1.6	2	< 0.010	< 0.01	0.017			
	05/24/95	24	26.5	12	330	270	680	7.5	0.87	0.21	1.15	1.4		0.7	7.2	8.6	0.098		0.023	0.140		
	08/20/95	4	26.7	3.9	42	520	883	7.3	1.55	0.20	0.55	1.1		0.3	5	6.1	0.024	< 0.01	0.008			
Las Vegas Creek at Pecos or Lena	05/24/96		17.8	15	490	500	500	7	4.74	6.50	7.00	3.4		1.9	10	11.9	0.070					
	07/15/96	148	27.0	23	480	470		7.4		0.68	0.94			1.2	8.5	8.7	0.091		< 0.100			
	02/24/98		12.0	< 3	200	100		8	< 0.50	0.20	0.46	0.58		0.3	< 1	0.6	0.013		< 0.100			
	03/26/98		15.2	< 3	1,390	200	570	8.2	0.73	0.54	0.85	0.56		0.23	3.2	3.8	0.012		< 0.100			
	09/22/99			3.5	950	100					0.61	0.68		0.322	2.9	3.58	0.049	< 0.010	< 0.100	< 0.100		
	02/12/03			< 3	110	130	200	7.4	0.36			0.71	< 0.1		1.9	2.61	0.020	< 0.010	0.0044	0.008	< 0.100	
	07/25/03				880	580						2.7	0.23		18	20.93	0.066	< 0.010		0.043	< 0.100	
	08/16/03				1,570	580				0.29	2.40	1.4	0.13		10	11.53	0.220	< 0.010		0.120	< 0.100	
	08/16/04			< 5	3,020	340	401	7.6	0.22	0.15	1.70	2.4	< 0.5		8.9	11.3	0.170	< 0.010	0.0041	0.099	< 0.020	
	01/03/05			5	51	120	177	7.7	0.41	0.10	0.20	0.5	< 0.1		0.97	1.47	0.020	< 0.010	0.0036	0.006	< 0.020	
	Median		76	18	4	480	440	625	7.4	0.87	0.23	0.94	1.35	0.13	0.56	6.50	6.60	0.049	< 0.010	0.013	0.072	< 0.100
	Average		118	20	9	642	420	650	7.5	1.19	0.68	1.23	1.44	0.14	0.92	6.48	7.81	0.064	< 0.005	0.015	0.066	< 0.037

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL	
					Zinc mg/L	Zinc mg/L															
Las Vegas Creek at Pecos or Lena	08/30/92	< 0.0002	< 0.005	0.320	< 0.01	< 0.04	< 0.01	< 0.04	< 0.025	0.43	0.032	80	760	300	275	0.10					
	10/24/92	0.006	< 0.005	0.960	< 0.01	< 0.04	< 0.01	< 0.04	< 0.025	0.26	0.024	69	500	120	340	0.10					
	10/28/92	< 0.0002	< 0.005	0.280	< 0.01	< 0.04	< 0.01	< 0.04	< 0.025	0.22	0.015	35	195	5	300	0.03					
	02/08/93	< 0.0002	< 0.005	0.290	< 0.01	< 0.04	< 0.01	< 0.04	< 0.005	< 0.005	0.08	< 0.005	27	230	15	180	0.10				
	05/14/93	< 0.0002	< 0.005	0.150	< 0.01	< 0.02	< 0.01	< 0.02	< 0.005	< 0.005	0.27	0.011	86	400	320	90	0.20				
	08/04/93	< 0.0002	< 0.005	0.380	< 0.01	0.02	< 0.01	0.02	0.017	0.015	0.30	0.011	115	690	560	65	0.10				
	02/04/94	0.0003	< 0.005	0.230	< 0.01	< 0.02	< 0.01	< 0.02	< 0.01	0.008	0.15	0.006	57	360	100	350	0.10				
	09/19/94	< 0.0002	< 0.005	0.300	< 0.01	0.026	< 0.01	0.026	< 0.005	0.008	0.40	0.016	99	720	500	20	0.06				
	03/11/95	< 0.0002	< 0.005	0.075	< 0.01	< 0.01	< 0.01	< 0.01	< 0.005	< 0.005	0.10	< 0.005	10	85	50	62	< 0.10		< 1	< 1	
	05/24/95	< 0.0002	< 0.005	0.590	< 0.01	0.016	< 0.01	0.016	< 0.005	0.007	0.13	0.005	34	295	30	270	0.02	< 1	< 1	< 1	
	08/20/95	< 0.0002	< 0.005	0.120	< 0.01	0.011	< 0.01	0.011	< 0.005	0.007	0.19	< 0.005	29	245	200	0.10		< 1	< 1	< 1	
	05/24/96			0.430							0.30	0.01	265	550	175	8	0.09				
	07/15/96			0.350							0.19	< 0.005	58	380	300	190	< 0.01				
	02/24/98			0.073							0.06	< 0.005	17	100	15	132	< 0.01	< 1	< 1	< 1	
	03/26/98			0.110							0.08	< 0.005	27	130	30	720	< 0.01	< 1	< 1	< 1	
	09/22/99			0.288	< 0.200						0.06										
	02/12/03	< 0.0002	0.0011	0.090	< 0.200	< 0.0005	< 0.005	< 0.005	< 0.005	< 0.002	< 0.05										
	07/25/03			0.450	0.042						0.22										
	08/16/03			1.000	0.020						0.15										
	08/16/04	0.00021	< 0.0025	0.850	0.021	< 0.0025	0.036	< 0.025	0.015	0.14											
	01/03/05	< 0.0002	< 0.0005	0.070	< 0.020	< 0.0005	< 0.005	< 0.010	< 0.002	0.06											
	Median	< 0.0002	< 0.005	0.290	0.032	< 0.010	0.020	< 0.005	0.008	0.15	0.006	57	360	120	185	0.10	< 1	< 1	< 1	< 1	
	Average	0.0005	0.002	0.353	0.049	0.004	0.016	0.005	0.008	0.18	0.010	67	376	181	214	0.07	< 0.50	< 0.50	< 0.50	< 0.50	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects		
	08/30/92	< 0.10	160,000			> 16									
	10/24/92	< 0.10	700,000			500,000									
	10/28/92	< 0.10	80,000			500,000									
	02/08/93	< 0.10	17,000	8,000	13,000	160,000	30,000	5,000							
	05/14/93	< 0.10	5,000,000	1,700,000	300,000	6,000,000	1,300,000	3,000,000							
	08/04/93	< 0.10	5,000,000	300,000	1,300,000	160,000	1,700,000	3,000,000							
	02/04/94	< 0.10	2,200	2,400		35,000	1,300								
	09/19/94	< 0.01			900,000			160,000	< 2.0						
	03/11/95	< 0.01			24,000			160,000	22.0						
	05/24/95	< 0.01			160,000			> 160,000	< 2.0						
	08/20/95	0.20			28,000			90,000	7.0						
Las Vegas Creek at Pecos or Lena	05/24/96		11,000			> 16,000		160.0			1				
	07/15/96	< 0.01	3,000,000			80,000		9.2			0		0		
	02/24/98	0.10	5,000			13,000		< 2.2			0		1		
	03/26/98	< 0.10	160,000			90,000		< 2.2			1		4		
	09/22/99		8,000			170,000				1e			0		
	02/12/03		5,000			90,000				1a	0	4	g,k,n,x	0	
	07/25/03		900,000			500,000				1k	4	7		2	
	08/16/03		1,600,000			240,000				2k,l	0	7		0	
	08/16/04		> 1,600,000			220,000				1a	0	5	ii,jj,kk,vv	3	y,uu,xx
	01/03/05		1,300			11,000				0.0	0	8	ii,jj,pp,vv.zz,1,3	3	hh,uu,xx
	Median	< 0.10	160,000	154,000	160,000	160,000	665,000	160,000	4.6	1.0	0	7		1	
	Average	0.051	1,073,500	502,600	389,286	516,766	757,825	939,286	25	1	1	6		1	

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
	08/30/92	30	27.1	< 3	120	4,590		7.8	0.64	< 0.05	0.12	3.5		0.06	2.6	4.5	< 0.010		< 0.01	< 5.000	
	10/24/92	73	17.7	< 3	130	4,670		7.6	0.62	0.06	0.16	3.8		0.42	3.7	7.5	< 0.010		< 0.01	< 0.010	
	02/08/93	43	11.5	< 3	23	4,700		8.1	< 0.10	< 0.05	0.06	4.6		< 0.1	< 1	5.6	< 0.010		< 0.01	< 0.004	
	08/04/93	15	27.5	< 3	150	5,150		7.3	0.54	< 0.05	0.13	4.1		0.68	3.1	7.2	< 0.010		< 0.01	< 0.004	
	02/04/94	22	9.0	< 3	4,430	3,360	7,380	7.5	0.15	2.26	1.30	4.5		0.69	4.3	8.8	0.044		0.045	0.031	
	03/25/94	22	17.3	< 3	240	3,990	17,480	7.7	0.23	0.11	0.20	< 2		0.4	3.4	5.4	0.016		0.01	0.006	
	07/19/94	38	23.0	< 3	280	3,350	4,930	7.3	2.25	0.07	0.37	4.1		2.3	5.5	9.6	0.025		0.01	0.007	
	01/24/95	21	9.4		360	230	2,520	8	0.30	0.11		1		0.2	1.5	2.5	0.022		< 0.01	< 0.100	
	02/20/96			4	2,170	2,910		7.4		0.33	1.00	3.6		1	8.1	9.1	0.062				
	07/14/96	177	29.1		1,270	2,450	2,900	7.1		0.65	5.60	2.3		1.2	11	13.3	0.046			< 0.100	
	04/02/97		12.3	< 3	170	1,660	2,050	7.2	0.77	< 0.05	0.38	3.2		1	5.2	8.4	0.016			< 0.100	
	07/22/97		24.8		375	6,540	2,960	389	7.5		0.41	< 1		0.6	6.8	7.8	0.140			< 0.100	
	02/03/98		12.0	< 3	2,020	2,290	290	7.5	< 0.50	0.09	1.34	3.8		0.6	5.2	9	< 0.010			0.120	
Duck Creek at Boulder Highway	09/08/98	171		< 3	5,720	1,520					1.20	2.2		0.44	13	2.33	0.240	0.023		0.220	< 0.100
	06/02/99	10		< 3	50	1,100					0.58	2.38		0.79	4.73	7.11	0.040	< 0.010		< 0.100	< 0.100
	09/22/99			< 3	210	870					0.44	1.86		0.401	2.45	4.31	< 0.010	< 0.010		< 0.100	< 0.100
	02/16/00			< 3	1,920	1,240					2.29	3.04		0.885	6.9	9.94	0.150	< 0.010		< 0.100	< 0.100
	08/30/00	108		< 3	4,360	1,300					3.60	1.78		0.261	4.9	6.68	0.240	< 0.010		< 0.100	< 0.100
	07/06/01	242		< 3	8,420	1,610					7.50	2		< 0.05	11	13	0.240	< 0.010		0.150	< 0.100
	02/12/03	489		< 3	2,580	1,270	1,580	7.4	0.23	0.08	2.70	1.3	< 0.5		9.7	11	0.094	< 0.010	0.0091	0.040	< 0.100
	07/24/03				1,080	3,290						2.8	1.8		6.2	10.8	< 0.200	< 0.020		0.019	< 0.200
	08/16/04			5	3,960	1,920	2,320	7.2	0.28	0.09	1.70	3.6	2.6		11	17.2	0.280	0.530	0.045	0.046	< 0.020
	09/09/04			< 5	26,300	2,040	2,080	7.7	0.22	0.04	2.40	2.4	< 0.4		8.9	11.3	0.094	< 0.010	0.067	0.077	0.020
	Median	41	18	< 3	1,270	2,290	2,320	7.5	0.30	0.08	1.00	2.8	1.2	0.6	5.2	8.4	0.044	< 0.010	< 0.010	0.100	< 0.100
	Average	104	18	< 3	3,152	2,542	3,993	7.5	0.50	0.25	1.59	2.8	1.21	0.63	6.1	8.4	0.082	< 0.060	0.019	0.165	< 0.048

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL		
					Zinc mg/L	Zinc mg/L																
Duck Creek at Boulder Highway	08/30/92	< 0.0002	< 0.005	0.053		< 0.01	< 0.04		0.06	2.70	0.013	19	99	100	55	0.02						
	10/24/92	< 0.0002	< 0.005	0.038		< 0.01	< 0.04		0.038	2.50	0.007	21	125	225	55	0.5						
	02/08/93	< 0.0002	< 0.005	0.097		< 0.01	< 0.04	< 0.025	0.042	2.30	< 0.005	< 6	30	25	14	0.1						
	08/04/93	< 0.0002	< 0.005	0.035		< 0.01	< 0.02		0.037	3.00	< 0.005	77	230	200	34	0.02						
	02/04/94	0.0002	< 0.005	0.200		< 0.01	0.027	< 0.02	0.1	1.50	< 0.005	28	175	225	650	0.1						
	03/25/94	< 0.0002	< 0.005	0.053		< 0.01	< 0.01		0.019	0.046	1.80	< 0.005	15	89	60	70	< 0.01					
	07/19/94	< 0.0002	< 0.005	0.073		< 0.01	0.01	< 0.01	0.034	1.60	0.011	67	445	60	45							
	01/24/95	0.0002	< 0.005	0.110		< 0.01	< 0.01	< 0.005		0.08	0.009	12	90	30	120	< 0.10		<	1	<	1	
	02/20/96			0.160						1.20	0.03	50	245	30	14	< 0.01	<	1				
	07/14/96			0.210						1.60	< 0.005	110	780	200	3,800	< 0.01						
	04/02/97			0.083						0.79	0.006	40	280	150	72	< 0.01	<	1				
	07/22/97			0.190						1.60	0.022	20	170	150	2,300	< 0.01	<	1				
	02/03/98			0.340						1.20	< 0.005	48	190	75	370	< 0.01	<	1				
	09/08/98			0.730	< 0.020					0.72												
	06/02/99			0.130	< 0.020					0.77												
	09/22/99			0.079	< 0.020					0.46												
	02/16/00			0.500	< 0.020					0.77												
	08/30/00			0.910	< 0.020					0.56												
	07/06/01			0.850	0.029					0.79												
	02/12/03	< 0.0002	0.0011	0.270	< 0.020	< 0.0005	0.031	< 0.05	0.089	0.33												
	07/24/03			0.140	< 0.040					1.30												
	08/16/04	< 0.0002	0.003	0.530	0.025	< 0.0025	0.05	< 0.025	0.063	0.70												
	09/09/04	< 0.0002	0.0016	0.480	< 0.020	0.0130	0.12	< 0.025	0.19	0.84												
	Median	< 0.0002	< 0.005	0.160	< 0.020	< 0.010	0.031	0.023	0.053	1.20	0.006	28	175	100	70	0.02	<	1	<	1	<	1
	Average	< 0.0001	< 0.002	0.289	< 0.014	0.005	0.029	0.012	0.070	1.27	0.009	39	227	118	585	0.07	<	1	<	1	<	1

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects	
Duck Creek at Boulder Highway	08/30/92	< 0.10	50,000			> 16								
	10/24/92	< 0.10	50,000			30,000								
	02/08/93	< 0.10	400	800		3,000	13,000							
	08/04/93	< 0.10	1,700,000	1,400,000	1,300,000	160,000	160,000	3,000,000						
	02/04/94	< 0.10	1,100	2,300	220	8,000	2,300	230						
	03/25/94	< 0.10	3,000		3,000	13,000		30,000	< 2.0					
	07/19/94	< 0.10	900,000	300,000	500,000	240,000	240,000	240,000	2.0					
	01/24/95	< 0.01			5,000			17,000	< 2.0					
	02/20/96		3,000			13,000			5.0					
	07/14/96	< 0.01	5,000,000			500,000			2.2		0		0	
	04/02/97	0.00	7,000			90,000			4.0		0		3	
	07/22/97	0.40	22,000			17,000			9.2		0		1	
	02/03/98	< 0.10	1,100			50,000			2.2		0		1	
	09/08/98		17,000			24,000			2.2		0		0	
	06/02/99		7,900			130,000				1 (acetone)	0		0	
	09/22/99		160,000			35,000				1a	0		0	
	02/16/00		8,000			80,000				1a	0		0	
	08/30/00		110,000			90,000				0	0		0	
	07/06/01		900,000			300,000				2a,b	0		2	f
	02/12/03		30,000			160,000				1a	0	3	g,m,x	0
07/24/03		1,600,000			80,000				1.0	0	7		0	
08/16/04		900			70,000				1a	0	2	ii,kk	0	y,hh
09/09/04		900,000			> 160,000				1a	0	2	kk,pp	1	uu
Median	< 0.10	26,000	151,150	5,000	75,000	86,500	30,000	2.2	1	0	3		0	
Average	< 0.07	521,427	425,775	361,644	102,410	103,825	657,446	3.0	0	0	4		1	

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L	
Flamingo Wash at Nellis	10/24/92	115	18.0	< 3	1,710	1,270		7.4	1.51	0.18	1.20	2.3		1.4	7.6	9.9	0.100		0.038	0.079		
	02/08/93	160	12.3	< 3	1,130	130		8.2	< 0.05	0.46	0.66	0.4		0.13	< 1	1.4	0.020		0.031	0.019		
	06/05/93	41	17.7		3.9	1,420	1,520		7.5	1.84	0.44	3.2		1.1	4.9	8.1	0.059		0.031	0.051		
	08/05/93	57	26.1	< 3	5,910	2,290		7.6	1.18	0.06	1.20	4.3		1.9	6.6	10.9	0.067		0.04	0.086		
	02/04/94	45	9.0		5.3	620	1,180	2,300	7.4	0.69	0.61	0.68	2.6		1	3.7	6.3	0.046		0.011	0.014	
	03/25/94	79	17.4		6.5	3,860	1,140	7,570	7.4	0.78	0.84	1.80	< 0.5		0.8	7.1	7.6	0.094		0.048	0.100	
	07/19/94		24.4		7	6,710	1,200	1,501	7.4	3.49	0.19	2.10	3		2.5	6.1	9.1	0.130		0.05	0.130	
	08/19/94	37	26.0		3.8	4,750	1,060	2,080	7.7	0.05	< 0.05	1.00	2		0.82	9.1	11.1	0.094		0.043	0.125	
	01/24/95	125	9.3		4.5	1,960	600	389	7.9	0.22	0.08		1.3		0.3	2.6	3.9	0.061		0.028	< 0.100	
	05/24/95	30	18.3	< 3	255	1,160	1,302	1,302	7.5	0.71	0.06	0.32	2.1		0.4	3.1	5.2	0.027		< 0.01	0.018	
	08/12/95	335	26.4		7.2	1,050	1,010	1,003	7.2	1.70	0.14	1.50	< 0.3		1	9.3	9.6	0.069		0.017	0.049	
	01/31/96				18	560	1,920		7	1.99	0.44	1.30	5.1		2.5	13	18.1	0.070			0.130	
	11/21/96	184	17.3	< 3	2,620	440	3,830	3,830	7.8	< 0.05	0.15	1.50	1		0.6	3.8	4.8	0.057			< 0.100	
	09/25/97		19.7	< 3	324	580	710	710	7.3	1.75	0.57	0.66	0.5		0.3	2.7	3.2	0.026			< 0.100	
	02/04/98		11.2		5.2	1,800	680	240	7.6	0.92	0.22	2.94	1.7		0.8	19	20.7	0.065			0.120	
	02/24/98		12.0	< 3	660	380			7.8	< 0.50	0.08	0.88	0.98		0.3	2.2	3.2	0.020			< 0.100	
	02/12/03	538		< 3	1,900	260	415	415	7.6	0.33	0.15	1.05	0.97	< 0.1		3.2	4.17	0.039	< 0.010	0.0063	0.030	< 0.100
	04/14/03	411			3,410	505	650	650	7.4	< 0.05			1.23	0.13		7.6	8.96	0.100	< 0.010	34	0.047	< 0.100
	07/24/03	120			2,230	790							1.8	< 0.5		6.6	8.4	0.170	< 0.010		0.074	< 0.100
	08/16/03	366			19,200	810					0.34	1.00	2	< 0.2		5.4	7.4	0.320	< 0.010		0.120	< 0.100
08/13/04			< 5	18,800	940	1,020	1,020	7.2	0.06	0.11	5.00	2.2	< 0.2		16	2.2	0.270	< 0.020	< 0.1	0.410	< 0.020	
08/16/04			< 5	5,760	1,040	1,210	1,210	7.3	0.59	0.09	3.20	2.6	0.092		11	14.53	0.220	< 0.010	0.066	0.220	< 0.020	
	Median	120	17.7	3.9	1,930	975	1,115	7.5	0.70	0.17	1.20	1.9	0.17	0.8	6.4	7.85	0.068	< 0.010	0.038	0.100	< 0.100	
	Average	181	17.6	4.1	3,938	950	1,730	7.5	0.91	0.26	1.52	1.89	0.12	0.99	6.9	8.13	0.097	< 0.006	2.298	0.092	< 0.037	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved					Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL
					Zinc mg/L	Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L										
Flamingo Wash at Nellis	10/24/92	0.0002	< 0.005	0.430		< 0.01	< 0.04		< 0.025	0.49	0.008	54	555	175	750	0.02			
	02/08/93	< 0.2	< 0.005	0.180		< 0.01	< 0.04	< 0.025	0.015	0.09	< 0.005	< 6	57	15	700	0.1			
	06/05/93	0.0002	< 0.005	0.260		< 0.01	< 0.02	< 0.015	0.016	0.58	< 0.005	56	375	320	390	< 0.01			
	08/05/93	< 0.0002	< 0.005	0.270		< 0.01	0.03		0.027	0.97	0.008	85	415	320	200	0.02			
	02/04/94	< 0.0002	< 0.005	0.088		< 0.01	< 0.02	< 0.01	0.008	0.41	< 0.005	37	185	100	190	0.1			
	03/25/94	0.0004	< 0.005	0.370		< 0.01	0.032	< 0.015	0.031	0.37	0.008	55	395	1,000	1,400	0.01			
	07/19/94	0.0004	< 0.005	0.550		< 0.01	0.054	< 0.01	0.032	0.44	0.013	22	630	150	0.2	0.13			
	08/19/94	0.0002	< 0.005	0.440		< 0.01	0.026	< 0.005	0.031	0.35	< 0.005	40	465	150	950	< 0.10			
	01/24/95	< 0.0002	< 0.005	0.260		< 0.01	0.016	< 0.005		0.18	< 0.005	33	155	25	510	0.10		< 1.1	< 1.1
	05/24/95	< 0.0002	< 0.005	0.094		< 0.01	0.011	0.007	< 0.005	0.50	0.007	19	115	35	180	0.01	< 1		
	08/12/95	< 0.0002	< 0.005	0.370		< 0.01	0.027	< 0.005	0.009	0.34	< 0.005	78	450	250	8	< 0.10		< 1	< 1
	01/31/96			0.860						0.71	0.03	116	660	230	520	0.02	< 1		
	11/21/96			0.280						0.12	< 0.005	18	220	30	3,300	< 0.01	< 1		
	09/25/97			0.130						0.30	< 0.005	42	160	60	280	< 0.01	1.5		
	02/04/98			0.360						0.22	< 0.005	63	570	75	2,200	< 0.01	< 1		
	02/24/98			0.150						0.13	< 0.005	13	98	15	740	< 0.01	< 1		
	02/12/03	< 0.0002	0.00073	0.170	0.100	< 0.0500	0.015	< 0.05	0.012	< 0.05									
	04/14/03	< 0.0002	< 0.00250	0.450	< 0.020	0.0057	0.038	< 0.04	0.014	0.18									
	07/24/03			1.100	0.023					0.24									
	08/16/03			1.500	< 0.020					0.27									
08/13/04	0.00031	< 0.05000	< 0.010	1.900	< 0.0050	0.5	< 0.025	< 0.012	0.56										
08/16/04	0.0026	0.00300	1.100	0.026	< 0.0025	0.062	< 0.025	0.027	0.28										
Median	< 0.0002	< 0.005	0.320	0.025	< 0.010	0.030	< 0.015	0.016	0.32	0.005	41	385	125	515	0.02	< 1	< 1	< 1	
Average	< 0.0070	< 0.0038	0.428	0.345	0.006	0.058	0.009	0.017	0.352	0.006	46	344	184	770	0.04	< 0.7	< 0.5	< 0.5	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects	
Flamingo Wash at Nellis	10/24/92	< 0.10	80,000			80,000								
	02/08/93	< 0.10	1,700	3,000		90,000	30,000							
	06/05/93	< 0.10	8,000	28,000	5,000	50,000	160,000	90,000						
	08/05/93	< 0.10	300,000	500,000	50,000	90,000	160,000	90,000						
	02/04/94	< 0.10	1,300	500	2,300	22,000	1,300	500						
	03/25/94	< 0.10	24,000	30,000	30,000	160,000	160,000	90,000	< 2.0					
	07/19/94	< 0.10		1,600,000	500,000		500,000	170,000	13.0					
	08/19/94	< 0.10	170,000	80,000	140,000	300,000	130,000	130,000	8.0					
	01/24/95	< 0.01			3,000			22,000	8.0					
	05/24/95	< 0.01			160,000			90,000	2.0					
	08/12/95	< 0.01			> 160,000			> 1,600	2.0					
	01/31/96		13,000			3,000			< 2.0		0		0	
	11/21/96	< 0.01	240			738			< 2.2		0		0	
	09/25/97		90,000			160,000			< 2.2		0		0	
	02/04/98	0.10	5,000			50,000			< 2.2		2		1	
	02/24/98	0.20	13,000			17,000			< 2.2		1		1	
	02/12/03		7,000			17,000				1a	0	9	g,h,j,o,q,s,t,u,x	0
	04/14/03		130,000			70,000				1d		8	g,h,k,o,x,z,aa,bb	0
	07/24/03		1,600,000			170,000				2	0	3		0
	08/16/03		300,000			10,000			0.0	1	0	0		0
08/13/04	>	1,600,000			170,000				2k,l	0	2	ii, kk	0	
08/16/04	>	1,600,000			900,000				1a	0	3	ii,kk,pp	2	y,uu
Median	< 0.10	52,000	30,000	50,000	75,000	160,000	90,000	2.2	1	0	3		0	
Average	< 0.1	330,180	320,214	116,700	131,097	163,043	76,011	3.3	1	0	4		0	

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
	08/30/92	500	24.5	< 3	17,800	230		8	0.26	< 0.05	2.20	1.6		0.07	8.3	9.9	0.270		0.19	0.220	
	02/08/93	181	11.1	< 3	3,670	140		8.3	< 0.05	1.50	3.90	0.3		0.11	< 1	1.3	0.092		0.063	0.060	
	07/19/94		24.1	3.2	77	290	486	7.5	1.81	0.41	0.42	0.8		0.97	2.8	3.6	0.021	< 0.01	0.010		
	09/19/94		22.7	3	120	930	888	7.6	2.60	1.20	2.70	5.2		1.6	4.1	9.3	0.029		0.014	0.022	
	01/24/95	5	9.5	< 3	1,190	210	274	8.2	0.14	0.41		0.8		0.06	< 1	1.8	0.035		0.019	< 0.100	
	11/21/96	30	17.0	< 3	1,980	150	575	8.2	< 0.05	0.52	1.90	0.8		0.3	2.1	2.9	0.033			< 0.100	
	08/10/97		17.5	< 3	4,800	260		8.5	0.60	0.37	1.48	2		0.2	5.2	7.2	0.029			< 0.100	
	02/24/98		12.0	< 3	1,460	88		8.4	< 0.50	0.61	6.04	0.59		0.2	1.7	2.3	< 0.010			< 0.100	
C-1 Channel at Warm Springs	02/16/00			< 3	610	62					2.15	0.49		0.362	1.9	2.39	0.071	< 0.010		< 0.100	< 0.100
	08/16/00	76		5.2	1,170	380					1.50	4.12		1.13	6.1	10.22	0.150	0.034		< 0.100	< 0.100
	02/25/03	9		< 3	187	100	139	7.7	0.19			0.44	< 0.1		0.92	1.36	0.025	< 0.010	0.0089	0.0055	< 0.100
	09/04/03	29			3,850	440					6.80	1.7	< 0.1		10	11.53	< 0.200	< 0.010		0.0900	< 0.100
	11/12/03	156			110	150				0.26	0.38	0.61	< 0.1		2.4	3.01	0.024	0.038		0.0045	< 0.020
	11/07/04			< 5	810	80	93	8.4	0.05	1.40	1.50	0.2	< 0.1		1.4	1.62	0.042	< 0.010	0.016	0.0170	< 0.020
	Median	53	17.3	< 3	1,180	180	380	8.2	0.22	0.47	2.03	0.80	0.10	0.25	2.25	3.0	0.034	< 0.010	0.02	0.095	< 0.100
	Average	123	17.3	< 2.1	2,702	251	409	8.1	0.66	0.63	2.48	1.40	0.05	0.50	3.42	4.89	0.066	< 0.015	0.045	0.052	< 0.037

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL	
					Zinc mg/L	Zinc mg/L															
	08/30/92	0.0014	< 0.005	0.890		< 0.01	0.21		0.12	0.27	0.015	13	88	30	8,500	0.02					
	02/08/93	< 0.0002	< 0.005	0.370		< 0.01	0.077	< 0.025	0.021	0.09	< 0.005	< 6	81	30	1,900	0.10					
	07/19/94	< 0.0002	< 0.005	0.083		< 0.01	0.017	< 0.005	< 0.005	0.10	0.006	27	190	200	26	0.08					
	09/19/94	< 0.0002	< 0.005	0.200		< 0.01	0.022	< 0.005	0.008	0.23	0.009	105	560	400	18	0.02					
	01/24/95	0.0002	< 0.005	0.180		< 0.01	0.068	< 0.005		0.06	0.007	7	60	25	380	0.10		< 1.1	< 1.1		
	11/21/96			0.230						0.07	< 0.005	< 6	58	32	840	< 0.01	< 1.1				
	08/10/97			0.200						0.15	< 0.005	8	230	< 3	4,400	< 0.01					
	02/24/98			0.170						0.09	< 0.005	13	120	20	850	< 0.01	< 1				
C-1 Channel at Warm Springs	02/16/00			0.320	< 0.200					0.00											
	08/16/00			0.490	< 0.020					0.12											
	02/25/03	< 0.0002	< 0.0005	0.080	0.100	< 0.0005	0.0071	< 0.005	0.0025	< 0.05											
	09/04/03			0.450	< 0.020					0.11											
	11/12/03			0.080	0.083					< 0.05											
	11/07/04	< 0.0002	< 0.0005	0.150	< 0.020	< 0.0005	0.0200	< 0.010	0.0055	< 0.05											
	Median	< 0.0002	< 0.005	0.200	< 0.052	0.01	0.022	< 0.005	0.007	0.09	0.006	11	104	30	845	0.02	< 1.1	< 1.1	< 1.1	< 1.1	
	Average	0.0003	< 0.0019	0.278	< 0.052	< 0.004	0.060	< 0.005	0.027	0.098	0.006	22	173	92	2,114	0.04	< DL	< DL	< DL	< DL	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects
	08/30/92	< 0.10	90,000			> 16							
	02/08/93	< 0.10	3,000			30,000							
	07/19/94	< 0.10		11,000	30,000		80,000	300,000	4.0				
	09/19/94	< 0.01			30,000			90,000	8.0				
	01/24/95	< 0.01			1,700			13,000	< 2.0				
	11/21/96	< 0.01	240			1,230			< 2.2	0			1 (2,4-D)
	08/10/97	< 0.10	3,000			50,000			9.2	0			1
	02/24/98	0.10	5,000			24,000			< 2.2	0			2
C-1 Channel at Warm Springs	02/16/00		13,000			30,000				1d	0		0
	08/16/00		30,000			90,000				1a	1 (diazinon)		1 (2, 4-D)
	02/25/03		8,000			2,400				0	0	5 g,h,l,o,x	0
	09/04/03		17,000			30,000				0	0	0	0
	11/12/03		24,000			16,000				4	0	4	0
	11/07/04		5,000			17,000				0	0	1 ii	0
	Median	< 0.10	8,000	11,000	30,000	24,000	80,000	90,000	3.1	0	0	3	0
	Average	0.04	18,022	11,000	20,567	26,422	80,000	134,333	4.1	1	0	3	1

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
	10/24/92	32	17.8	< 3	280	100		7.9	0.21	0.41	0.43	0.5		0.2	1.1	1.6	0.028		0.019	0.020	
	02/08/93	56	10.5	< 3	830	130		8.2	< 0.10	0.64	4.70	0.4		0.14	< 1	1.4	0.017		0.021	0.018	
	07/19/94	24	23.4		6,540	430	611	7.3	0.61	0.09	2.10	2.3		1.2	1.7	4	0.068		0.057	0.063	
	08/09/94	5	24.1	< 3	16,200	440	598	7.9	0.31	0.09	2.00	1.3		0.14	2.7	4	0.049		0.031	0.086	
	08/19/94	2	23.1	< 3	4,010	390	626	8	< 0.05	< 0.05	0.82	2		0.37	3.1	5.1	0.040		0.035	0.037	
	01/24/95		10.0	< 3	3,540	230	3	8.1	0.22	0.08		8.7		0.7	2.5	11.2	0.064		0.058	< 0.100	
	08/12/95	5	27.3	3	3,390	510	620	7.4	0.75	0.24	3.10	< 0.2		0.4	8	8.2	0.056		0.035	0.029	
	11/21/96	63	16.9	< 3	5,230	240	413	8	< 0.05	0.51	1.70	1.1		0.5	3.7	4.8	0.033		< 0.100	< 0.100	
Sloan Channel (Range Wash) at Charleston	07/22/97		27.0	1,060	230	200	297	8.1		0.44	0.13	0.9		1	2.5	3.4	0.029		< 0.100	< 0.100	
	08/08/97			3.7	1,500	240		7.9	1.53	0.08	0.47	2		2.5	6.1	8.1	0.150			0.210	
	08/14/98	30		< 3	4,060	330					1.00	2.5		0.66	5.8	8.3	0.110	0.011		< 0.100	< 0.100
	02/16/00			< 3	1,970	200					1.71	1.74		0.485	3.9	5.64	0.012	< 0.010		< 0.100	< 0.100
	02/26/01			< 3	220	110					0.33	0.64		0.278	1.3	1.94	0.029	< 0.010		0.011	< 0.001
	02/12/03	99		< 3	79	110	172	7.2	0.31	0.18	0.26	0.73	< 0.1		2	2.73	0.018	< 0.010	0.0043	0.0060	< 0.100
	10/20/04			< 5	270	180	263	7.9	0.56	0.30	0.53	0.9	< 0.1		2.6	3.5	0.028	0.013		0.0095	< 0.020
	Median	30	23.1	< 3	1,970	230	413	7.9	0.31	0.21	0.91	1.1	0.10	0.5	2.6	4.0	0.033	< 0.010	0.033	0.063	< 0.100
	Average	35	20.0	< 77	3,223	256	400	7.8	0.42	0.26	1.38	1.7	0.05	0.7	3.2	4.9	0.049	0.008	0.033	0.052	< 0.032

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Zinc mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL		
					Zinc mg/L	Zinc mg/L																
	10/24/92	< 0.0002	< 0.005	0.170		< 0.01	< 0.04		< 0.025	0.08	0.005	12	74	10	0	< 0.01						
	02/08/93	< 0.0002	< 0.005	0.110		< 0.01	< 0.04	< 0.005	0.01	0.08	< 0.005	< 6	46	15	600	0.2						
	07/19/94	< 0.0002	< 0.005	0.310		< 0.01	0.046	< 0.01	0.049	0.24	0.007	28	135	100	3	0.04						
	08/09/94	0.0002	< 0.005	0.170		< 0.01	0.028	< 0.005	0.061	0.93	< 0.005	15	295	75	1	< 0.01						
	08/19/94	< 0.0002	< 0.005	0.150		< 0.01	0.026	0.027	0.027	0.24	< 0.005	10	115	150	1,350	< 0.01						
	01/24/95	< 0.0002	< 0.005	0.290		< 0.01	0.044	< 0.005		0.11	0.01	14	97	15	1,100	0.10		<	1.2	<	1.2	
	08/12/95	< 0.0002	< 0.005	0.300		< 0.01	0.03	< 0.005	0.018	0.20	< 0.005	59	375	250	63	0.10		<	1.4	<	1.4	
	11/21/96			0.200						0.15	< 0.005	17	140	37	1,600	< 0.01	<	1				
Sloan Channel (Range Wash) at Charleston	07/22/97			0.260						0.12	< 0.005	26	130	200	240	< 0.01	<	1				
	08/08/97			0.620						0.18	0.33	41	310	150	600	0.012						
	08/14/98			0.440	< 0.020					0.24												
	02/16/00			0.054	< 0.020					0.10												
	02/26/01			0.120	< 0.020					0.00												
	02/12/03	< 0.0002	< 0.0005	0.075	< 0.020	< 0.0005	< 0.0005	< 0.050	0.0026	< 0.05												
	10/20/04	0.0002	< 0.005			< 0.0005	0.0087	< 0.010	0.0047	0.10												
	<																					
	Median	< 0.0002	< 0.005	0.185	< 0.020	< 0.010	0.030	< 0.008	0.022	0.12	< 0.005	16	133	88	420	0.01	<	1	<	1.3	<	1.3
	Average	< 0.0001	< 0.0023	0.234	< 0.010	< 0.004	0.025	0.009	0.023	0.19	0.037	23	172	100	556	0.05	<	DL	<	DL	<	DL

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects
	10/24/92	< 0.10	5,000			130,000							
	02/08/93	< 0.10	1,300		1,400	24,000		50,000					
	07/19/94	< 0.10	28,000	23,000	23,000	22,000	30,000	30,000	12.0				
	08/09/94	< 0.10		170,000	30,000		70,000	23,000	< 2.0				
	08/19/94	< 0.10	30,000	80,000	130,000	23,000	35,000	9,000	170.0				
	01/24/95	< 0.01			3,000			17,000	4.0				
	08/12/95	< 0.01			> 160,000			> 1,600	< 14.0				
	11/21/96	< 0.01	240			9,300			< 2.2		1 Prometon		1 (2,4-D)
Sloan Channel	07/22/97	< 0.10	90,000			90,000			< 2.2		0		1
(Range Wash) at	08/08/97		5,000			160,000			< 2.2		0		0
Charleston	08/14/98		3,000			160,000			< 2.2	1 (acetone)	0		1 (2,4-D)
	02/16/00		11,000			30,000				1a	0		0
	02/26/01		5,000			50,000				1a	0		0
	02/12/03		5,000			80,000				1a	0	9 g,h,I,j,k,l,u,v,x	
	10/20/04		17,000			30,000				1a	0	4 ii,jj,pp,zz	1 uu
	Median	< 0.10	5,000	80,000	26,500	40,000	35,000	20,000	2.2		0	7	1
	Average	< DL	16,712	91,000	57,900	67,358	45,000	21,767	25		0	7	1

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
	04/02/97		12.6	< 3	480	1,060	1,549	7.1	0.63	0.55	0.91	3.3		1.3	8.5	11.8	0.024			< 0.100	
	07/28/97		26.6	1,180	400	1,200	1,092	7.6	1.34	0.04	0.52	2.1		0.8	3.9	6	0.023			< 0.100	
	02/04/98			< 3	2,590	980		7.7	0.60	0.17	1.97	0.63		0.7	7.3	7.9	0.065				0.180
	02/24/98		12.0		5,580	540		7.9	< 0.50	0.09	1.46	1		0.2	< 1	1	< 0.010				0.180
	04/24/99	112		3.8	1,240	1,000					0.93	2.8		0.5	7.45	10.25	< 0.010	< 0.010		< 0.100	< 0.100
	04/30/99	550		< 3	1,870	440					1.83	1.9		0.78	8.73	1.9	0.130	< 0.010		< 0.100	< 0.100
	02/21/00			5.1	1,910	100					2.10	0.64		0.179	3.2	3.84	0.012	< 0.010		< 0.100	< 0.100
	10/23/00	312		4.55	1,390	2,430					1.20	3.48		0.601	7.4	10.88	0.090	< 0.010		< 0.100	< 0.100
	02/26/01	400		< 3	2,940	1,250					1.70	2.64		0.404	4.9	7.54	0.055	< 0.010		0.029	0.001
	11/24/01	75		14.5	630	1,590					0.86	2		1.61	7.8	11.8	0.012	< 0.010		< 0.100	< 0.100
	09/11/02	83		< 3	110	1,300	1,570	7.1	2.18		0.49	3.9	< 2.5	1.13	5.4	9.3	0.098	0.110	< 0.01	0.010	< 0.100
Las Vegas Wash @ Desert Rose (USGS)	02/12/03	400		5	5,980	1,180	819	7.7	< 0.05	0.13	2.40	1.5	< 0.2		4.7	6.2	0.110	< 0.010	0.015	0.096	< 0.100
	02/25/03	775		8							0.44			0.379	3	3	0.390		0.0094	0.014	
	07/19/03				500	1,330						0.63	1.2		7.7	9.53	0.075	0.020		0.020	< 0.100
	02/21/04				340	660	274	7.5	0.48		0.42	1.8	< 0.2		2.9	4.7	0.027	< 0.010	< 0.01	0.077	< 0.020
	11/09/04			< 5		1,500	1,730	6.7	< 0.05		0.77	165	< 0.1		2.5	170	0.029		0.018	0.031	
	02/04/05			< 5	1,730	290	428	7.9	< 0.05	0.22	1.20	0.7	< 0.1			2.2	0.019	< 0.010	< 0.0001	0.047	< 0.020
	07/24/05			< 5	1,160	390	535	7.6	0.12	0.04	0.77	1.5	6.5		4.1	10.6	0.110	0.022	0.023	0.046	0.046
	10/05/06					298	446		0.09	0.19	0.75	1.1	ND		2		0.690	0.013	15	0.016	ND
	01/05/08			NA	1,520	536	846	7.6	0.81	0.56	3.30	1.9	< 0.2	NA	12		0.100	0.024	0.017	0.017	< 0.0005
	Median	356	12.6	5	1,390	1,000	833	7.6	0.49	0.17	0.93	1.9	0.2	0.7	4.9	7.7	0.060	< 0.010	0.015	0.087	< 0.100
	Average	338	17.1	83	1,786	951	929	7.5	0.55	0.22	1.26	10.4	1.2	0.7	5.3	16.0	0.103	< 0.017	1.677	0.056	< 0.036

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL
				Zinc mg/L	Zinc mg/L														
	04/02/97			0.180						0.52	0.015	77	290	150	230	0.01		4.3	
	07/28/97			0.150						0.57	0.007	35	240	180	220	< 0.01	<	1	
	02/04/98			0.550						0.37	< 0.005	74	260	25	1,660	0.01			
	02/24/98			0.320						0.21	< 0.005	10	90	10	1,050	< 0.01	<	1	
	04/24/99			0.280	< 0.020					0.55									
	04/30/99			0.540	< 0.020					0.36									
	02/21/00			0.833	< 0.020					0.25									
	10/23/00			0.540	0.032					0.57									
	02/26/01			0.280	0.039					0.24									
	11/24/01			0.071	0.035					0.70									
	09/11/02	< 0.0002	0.0069	0.180	0.220	< 0.0005	0.019		0.0055	0.41									
Las Vegas Wash @	02/12/03	< 0.0002	0.0028	0.390	< 0.020	< 0.0005	0.045	< 0.05	0.034	< 0.05									
Desert Rose (USGS)	02/25/03		0.00055	0.190			0.012		0.0059	0.22									
	07/19/03			0.250	0.052					0.33									
	02/21/04	< 0.0002	< 0.00050	0.890	0.400	0.0006	< 0.05	< 0.025	0.0051	0.24									
	11/09/04	< 0.0002	< 0.00061	0.360		< 0.0005	0.024	< 0.05	0.0083	0.11									
	02/04/05	< 0.0002	< 0.00500	2.700	0.004	< 0.0050	< 0.05	< 0.05	< 0.02	0.10									
	07/24/05	< 0.0002	0.00077	4.600	0.380	< 0.0050	0.035	< 0.01	0.0099	0.16									
	10/05/06	ND	ND	0.730	0.020		0.017		0.006	0.12									
	01/05/08	< 0.0002	0.00053	0.590	0.091	< 0.0005	0.012	< 0.005	0.0076	0.27					NA				
	Median	< 0.0002	0.0007	0.375	0.034	0.0005	0.024	< 0.038	0.008	0.26	0.006	55	250	88	640	< 0.01	<	1	
	Average	< 0.0001	0.0018	0.731	0.094	0.001	0.024	< 0.016	0.010	0.32	0.007	49	220	91	790	< DL	<	2	

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects
	04/02/97		7,500			90,000			< 2.0		1		4
	07/28/97	< 0.10	1,600,000			1,600,000			< 2.2				
	02/04/98		8,000			28,000			< 2.2		2		1
	02/24/98		2,400			8,000			< 2.2		1		1
	04/24/99									1 (acetone)	0		1 (2,4-D)
	04/30/99									2 ***	0		1 (2,4-D)
	02/21/00									1a			0
	10/23/00										0		0
	02/26/01		2,200			220,000				1a	0		0
	11/24/01									1a	0		0
	09/11/02		300,000			500,000							
Las Vegas Wash @	02/12/03		500,000			22,000				1a	0	4	g,j,o,x
Desert Rose (USGS)	02/25/03		30,000			30,000				0	0		
	07/19/03									1	0	0	0
	02/21/04		1,600			33,000				1a	0	0	0
	11/09/04		16,000			5,000				0			
	02/04/05		500			28,000				3(qq,ss,tt)	0	2	pp,zz
	07/24/05		1,600,000			170,000				2(a,k)	0	0	2 (hh,uu)
	10/05/06		300,000			50,000				14	1	5	0
	01/05/08		3,000			28,000				14	0	1	0
	Median	< 0.10	12,000			31,500			< 2.2	1	0	5	0
	Average	< DL	312,229			200,857			< DL	2	0	1	1

Wet Weather Monitoring Data, 1992-2008

Location	Date	Q cfs	Temp Deg. C	Oil & Grease mg/L	TSS mg/L	TDS mg/L	Specific Conductance umho/cm	Lab pH units	MBAS mg/L	Ortho- Phosphate mg/L	Total Phosphate- Phosphorous mg/L	NO3-N mg/L	NO-2 mg/L	NH3-N mg/L	TKN mg/L	Total Nitrogen mg/L	Copper mg/L	Dissolved Copper mg/L	Chromium mg/L	Lead mg/L	Dissolved Lead mg/L
Monson Channel	02/12/03			12	11,600	740	940	7.5	0.79	0.98	2.32	1.3	0.56		8.6	10.46	0.053	< 0.050	0.0079	0.034	< 0.500
	07/31/03				800	170						2.9	0.18		7.9	10.98	0.058	< 0.010		0.120	< 0.100
	11/12/03				210	540				0.36	0.69	4.8	0.25		0.69	5.74	0.028	0.035		0.009	< 0.020
	10/20/04			< 5	460	350	479	0.011	0.95	0.27	0.80	1.3	0.14		4.9	6.35	0.051	< 0.010	8.7	0.019	< 0.020
	Median			9	630	445	710	4	0.87	0.36	0.80	2.10	0.22		6.40	8.41	0.052	< 0.023	4.354	0.027	< 0.060
Average			7	3,268	450	710	4	0.87	0.54	1.27	2.58	0.28		5.52	8.38	0.048	0.018	4.354	0.046	0.080	
Meadows Detention Basin	02/12/03			7	100	110	153	7.4	0.37	0.19	0.32	0.6	< 0.1		1.6	2.2	0.026	< 0.010	0.0053	0.012	< 0.100
	07/25/03				490	310						3.3	< 0.1		7.6	10.9	0.110	< 0.010		0.040	< 0.100
	12/11/03				94	140	150	7.8	0.29	0.20	0.84	1.8	< 0.2		2.2	2.72	0.031	< 0.010	0.00055	0.014	< 0.020
	11/07/04			< 5	73	120	140	7.4	0.69	1.40	0.34	0.6	< 0.1		2.2	2.8	0.024	< 0.010	0.0041	0.011	< 0.020
	01/03/05			5	31	47	67	7.7	0.32	0.10	0.18	0.2	< 0.1		0.67	0.87	0.019	< 0.010	< 0.005	0.006	< 0.020
Median			5	94	120	145	7.6	0.34	0.20	0.33	0.60	< 0.10		2.20	2.72	0.026	< 0.010	0.005	0.012	< 0.020	
Average			5	158	145	128	7.6	0.42	0.47	0.42	1.30	0.06		2.85	3.90	0.042	0.005	0.003	0.017	0.026	
Lake Las Vegas	02/12/03	560			11,100	1,160	1,650	7.5	< 0.05	3.00	4.30	5.02	0.52		9.6	15.14	0.082		0.043	0.092	
	12/28/04			< 5	1,970	1,120	1,560	7.6	0.05	0.49	2.30	4.7	0.49		5.5	10.6	< 0.010	< 0.010	0.033	0.050	< 0.020
	02/11/05			< 5	1,360	910	1,290	7.6	0.09	0.93	0.67	4.6	< 0.05		2.3	6.9	0.041	< 0.010	0.023	0.031	< 0.020
	10/25/05				2,480	590				0.58	2.40		1.9				0.056	0.014	0.057		0.109
	10/14/06				3,600	1,250	1,720	7.3	ND	0.13	1.30	3.4	0.62		2.3		0.120	0.007	70	0.130	0.001
	04/16/07				78	1,730	2,460	8.3	ND	0.15	0.15	14	ND		0.97		0.150	0.011	2.5	0.002	ND
	07/24/07			1.7	178	1,420	1,930	7.4	0.62	0.15	0.13	8.4	< 0.5	NA	1.4		0.026	0.015	0.0031	0.0041	< 0.0005
	08/01/07			< 5	74	1,430	1,900	8	< 0.05	0.26	0.14	12	< 1.0	NA	1.1		0.023	0.022	0.0025	0.0031	0.0029
	08/27/07			2.9	3,140	732	1,030	7.5	0.11	1.40	2.20	2.8	< 0.5	NA	5		0.006	0.0076	0.024	< 0.0005	< 0.0005
	09/22/07			2.1	1,440	574	838	7.6	< 0.05	1.30	1.90	2.9	< 0.2	NA	4.3		0.051	0.011	0.028	0.016	< 0.0005
01/27/08			ND	98	1,620	2,260	7.5	< 0.05	0.44	0.26	45	< 0.0	NA	1.8		0.003	0.006	0.0027	0.002	< 0.0005	
Median	560		< 4	1,440	1,160	1,685	7.6	0.05	0.49	1.30	4.86	0.50		2.3	10.6	0.041	0.011	0.028	0.010	0.001	
Average	560		< 4	2,320	1,140	1,664	7.6	0.12	0.80	1.43	10.28	0.47		3.4	10.9	0.051	0.010	6.611	0.033	0.015	
Las Vegas Wash at Pabco Rd.	09/11/02	320		< 3	60	1,450	1,950	7.3	< 0.45		0.32	9.90	< 2.5		3.2	13.1	0.015	0.017	0.0045	0.0024	< 0.100
	10/27/02	218		< 3	10	1,490	2,230	8.0			0.29	9.86			1.2	11.06	0.012	0.0082	0.0031	0.0006	< 0.0005
	Median	269		3	35	1,470	2,090	7.7	0.451		0.31	9.9	2.50		2.2	12.1	0.014	0.013	0.004	0.002	0.050
Average	269		1.5	35	1,470	2,090	7.7	0.226		0.31	9.9	1.25		2.2	12.1	0.014	0.013	0.004	0.002	0.008	
2007-2008 Median	N/A	N/A	2.50	809	1,076	1,465	7.6	0.08	0.50	1.08	5.65	< 0.35	N/A	3.05	N/A	0.025	0.013	0.010	0.004	< 0.0005	
2007-2008 Average	N/A	N/A	2.30	1,075	1,052	1,401	7.6	0.28	0.69	1.32	12.17	< 0.22	N/A	4.27	N/A	0.035	0.014	0.013	0.007	0.0007	
1992-2008 Median	104	18	< 3	950	580	710	7.6	0.50	0.20	0.96	1.80	< 0.20	0.60	4.90	7.20	0.044	< 0.010	0.017	0.071	< 0.1000	
1992-2008 Average	177	19	25	2,323	956	1,370	7.5	0.75	0.43	1.40	3.66	0.60	0.76	5.32	8.38	0.072	< 0.022	1.393	0.103	< 0.0700	

Notes:

- (1) In situ pH used for 3/25/94 Western Trib
- (2) Phenol values are Lab measurements when both lab and in-situ measurements are available
- (3) In computing median values, concentrations below detection limits were assumed to equal the detection limit
- (4) Concentrations less than the detection limit were assumed to be 1/2 the detection limit for purposes of computing average values.
- (5) Pesticides tested are atrazine, chlorpyrifos (Dursban), metachlor, malathion, prometon, and simazine.
- (6) SOC detection limits dropped and the new detection limit is indicated in the "Notes" section, after each name.
- * Denotes grab sample taken from bottle X
- ** Denotes grab sample taken from flow stream while bottle X is filling
- *** VOCs detected were carbon disulfide and acetone

- (a) VOC detected is Acetone
- (b) VOC detected is 2-Butanone
- (d) VOC detected is Chloroform
- (e) VOC detected is Trichlorofluoromethane
- (f) Herbicide detected is 2, 4-D and MCPP
- (g) SOC detected is Butylbenzylphthalate, 0.5 ug/L
- (h) SOC detected is Caffeine, 0.05 ug/L

- (i) SOC detected is Di-(2-Ethylhexyl)adipate, 0.6 ug/L.
- (j) SOC detected is Di-n-Butylphthalate, 0.5 ug/L.
- (k) SOC detected is Phenanthrene, 0.02 ug/L
- (l) SOC detected is Pyrene, 0.05 ug/L
- (m) SOC detected is Simazine, 0.05 ug/L
- (n) SOC detected is Dimethylphthalate, 0.5 ug/L
- (o) SOC detected is Diethylphthalate, 0.5 ug/L

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Mercury mg/L	Cadmium mg/L	Dissolved		Silver mg/L	Nickel mg/L	Selenium mg/L	Arsenic mg/L	Boron mg/L	Cyanide mg/L	BOD mg/L	COD mg/L	Color ACU	Turbidity NTU	Phenol mg/L	Petroleum Hydrocarbons	TPH (diesel) MPN/100 mL	TPH (gasoline) MPN/100 mL
				Zinc mg/L	Zinc mg/L														
Monson Channel	02/12/03	< 0.0002	0.00090	0.330	< 0.100	< 0.0005	0.015	< 0.02	0.02	0.028									
	07/31/03			0.210	< 0.020					0.29									
	11/12/03			0.130	0.180					0.26									
	10/20/04	< 0.0002	0.00055		0.033	< 0.0005	0.011	< 0.02	0.009	0.24									
	Median	< 0.0002	0.001	0.210	< 0.067	< 0.001	0.013	< 0.020	0.015	0.250									
	Average	0.0001	0.001	0.223	0.068	0.0003	0.013	0.010	0.015	0.205									
Meadows Detention Basin	02/12/03	< 0.0002	0.00074	0.100	< 0.020	< 0.0005	0.0051	< 0.005	0.0025	< 0.05									
	07/25/03			0.510	0.090					0.13									
	12/11/03	< 0.00021	0.00053	0.150	0.150	< 0.0005		< 0.005	< 0.002	0.05									
	11/07/04	< 0.0002	< 0.0005	0.140	0.041	< 0.0005	< 0.005	< 0.01	0.0021	0.07									
	01/03/05	< 0.0002	< 0.0025	0.070	< 0.020	< 0.0025	< 0.025	< 0.01	< 0.002	< 0.05									
	Median	< 0.0002	0.0006	0.140	< 0.041	< 0.0005	0.0051	< 0.008	0.0021	< 0.052									
Average	0.0001	0.0007	0.194	0.060	0.0005	0.0067	0.0038	0.0017	0.060										
Lake Las Vegas	02/12/03	< 0.0002	< 0.0025	0.350		< 0.0025	0.06												
	12/28/04	< 0.0002	< 0.0050	0.270	< 0.020	< 0.0005	0.056	< 0.15	0.032	0.51									
	02/11/05	< 0.0002	0.6100	0.170	< 0.020	< 0.0005	0.035	< 0.01	0.017	0.33									
	10/25/05			0.210	0.109										2,140				
	10/14/06	ND	0.00120	0.450	ND	1.0000	0.094	ND	0.049	0.37									
	04/16/07	ND	ND	0.087	0.030	ND	0.0093	ND	0.0093	0.70									
	07/24/07	< 0.0002	< 0.00050	0.080	0.025	< 0.0005	0.01	< 0.005	0.013	0.56					NA				
	08/01/07	< 0.0002	< 0.00050	0.062	0.054	< 0.0005	0.01	< 0.005	0.0088	0.58					NA				
	08/27/07	< 0.0002	< 0.00050	0.170	< 0.005	< 0.0005	< 0.005	< 0.005	0.023	0.36					NA				
	09/22/07	< 0.0002	< 0.01000	0.170	< 0.005	< 0.0100	0.016	< 0.001	0.017	0.26					NA				
	01/27/08	< 0.0002	< 0.00050	0.048	0.027	< 0.0005	< 0.005	< 0.0054	0.0095	0.75					NA				
Median	< 0.0002	< 0.0012	0.170	0.025	< 0.0005	0.013	< 0.005	0.017	0.51										
Average	< 0.0001	0.0690	0.188	0.030	0.112	0.030	0.013	0.020	0.49										
Las Vegas Wash at Pabco Rd.	09/11/02	< 0.0002	< 0.0005	0.051	0.058	< 0.0005	0.014		0.0038	0.59									
	10/27/02	< 0.0002	< 0.0005	0.065	0.058	< 0.0005	0.0083	< 0.005	0.0086	0.59									
	Median	< 0.0002	< 0.0005	0.058	0.058	< 0.0005	0.011	0.005	0.0062	0.59									
Average	0.0001	0.0003	0.058	0.058	0.0003	0.011	0.003	0.0062	0.59										
2007-2008 Median	< 0.0002	0.0005	0.125	0.0260	< 0.001	0.010	0.005	0.011	0.460										
2007-2008 Average	< 0.0001	0.0011	0.187	0.0337	0.001	0.009	0.003	0.013	0.463										
1992-2008 Median	< 0.0002	< 0.0050	0.210	< 0.024	< 0.010	0.025	< 0.009	0.013	0.24	< 0.005	35	230	100	235	0.020	1	1.10	1.10	
1992-2008 Average	0.0025	0.0107	0.344	< 0.087	0.018	0.035	0.016	0.022	0.422	0.013	45	283	159	738	0.059	1	1.22	1.22	

(p) SOC detected is Alachlor, 0.05 ug/L
(q) SOC detected is Benzopyrene, 0.02 ug/L
(s) SOC detected is Metolalchlor, 0.05 ug/L
(t) SOC detected is Propachlor, 0.05 ug/L
(u) SOC detected is Benzo(g,h,i)Perylene, 0.05 ug/L
(v) SOC detected is Benzo(k)Fluoranthene, 0.02 ug/L
(x) SOC detected is Di(2-Ethylhexyl)phthalate, 0.6 ug/L

(y) Pesticide detected is Diazinon
(z) SOC detected is Heptachlor, 0.04 ug/L
(aa) SOC detected is Lindane, 0.02 ug/L
(bb) SOC detected is Metribuzin, 0.05 ug/L
(cc) VOC detected is chlorodibromomethane
(dd) VOC detected is bromodichloromethane
(ee) VOC detected is Total THM

(hh) Herbicide detected is 2, 4-D
(ii) SOC detected is Di (2-Ethylhexyl) phthalate
(jj) SOC detected is Caffeine
(kk) DOC detected Diethylphthalate
(pp) SOC detected is butylbenzylphthalate
(qq) VOC detected is chloroform
(ss) VOC detected is bromodichloromethane

Wet Weather Monitoring Data, 1992-2008 (continued)

Location	Date	Total Chlorine mg/L	Fecal Coliform MPN/100 mL	Fecal* Coliform MPN/100 mL	Fecal** Coliform MPN/100 mL	Fecal Strep. MPN/100 mL	Fecal* Strep. MPN/100 mL	Fecal** Strep. MPN/100 mL	Salmonella MPN/100 mL	VOC # of detects	Pesticides # of detects	SOC # of detects	Herbicides # of detects		
Monson Channel	02/12/03		28,000			28,000				1a	0	4	g,h,o,x	0	
	07/31/03		1,600,000			1,600,000				1	1	8		0	
	11/12/03		50,000			220,000				1	0	4		0	
	10/20/04		50,000			160,000				1a	0	3	ii,kk,pp	3	hh, uu, xx
	Median		50,000			190,000				1a	0	4		0	
Average		432,000			502,000					0	5		1		
Meadows Detention Basin	02/12/03		7,000			30,000				1a	0	5	g,h,k,p,x	0	
	07/25/03		160,000			1,600,000				1	0	8		1	
	12/11/03		2,200			17,000				0	0	2		0	
	11/07/04		9,000			50,000				1a		8	ii,jj,kk,yy,zz,1,2,3,	1	uu
	01/03/05		11,000			9,000				0	0	7	ii,jj,pp,vv,zz,1,3	1	hh
Median		9,000			30,000				1a	0	7		1		
Average		37,840			341,200				1a	0	6		1		
Lake Las Vegas	02/12/03		1,600,000			300,000									
	12/28/04		7,000			17,000				4(ii,kk,qq,tt)	0	2	kk,pp	1	uu
	02/11/05		50,000			50,000				3(a,qq,tt)	1	4		0	
	10/25/05		220,000			5,000									
	10/14/06		220,000			50,000				12	0	0		1	
	04/16/07		23			110				5	0	1		0	
	07/24/07	>	1,600,000			500,000				9	0	2		2	
	08/01/07		5,000			16,000				5	0	1		0	
	08/27/07		900,000			110,000				4	0	0		4	
	09/22/07		1,600,000			110,000				3	0	1		0	
	01/27/08		11,000			17,000				7	0	1		0	
Median		220,000			50,000				5	0	4	1	0		
Average		564,820			106,828				6	0	1		1		
Las Vegas Wash at Pabco Rd.	09/11/02		1,600,000			900,000									
	10/27/02									4(d,cc,dd,ee)	0	2	ij	0	
	Median		1,600,000			900,000					0	2		0	
Average		1,600,000			900,000				4	0	2		0		
2007-2008 Median			455,500			69,000				6	0	1		0	
2007-2008 Average			686,500			130,167				7	0	1		1	
1992-2008 Median	<	0.10	24,000	55,000	30,000	50,000	105,000	90,000	<	2	1	0	5	3	0
1992-2008 Average		0.08	443,511	263,173	223,809	203,657	228,112	323,514		10	3	0	5	3	1

(tt) VOC detected is total THM
 (uu) Herbicide detected is 2,4-DB
 (vv) SOC detected is pyrene
 (xx) Pesticide detected is Dicamba
 (yy) VOC detected is p-Dichloropropane
 (zz) SOC detected is phenanthrene

(1) SOC detected is Di-(2-Ethylhexyl) adipate
 (2) SOC detected is Di-n-Butylphthalate
 (3) SOC detected is fluoranthene
 (4) Pesticide detected is dieldrin

**Las Vegas Valley MS4 NPDES Permit
Storm Water Management Plan**

**Wet Weather Data Analysis
April 13, 2004**

Sampling Sites	1992 to 2005	Constituents													
		Copper	Lead	Zinc	Total P	Ortho-P	Boron	TSS	TDS	NO3	NO2	TKN	Total N	Fecal Coliform	Fecal Streptococci
Las Vegas Creek	Median	0.049	0.072	0.290	0.94	0.23	0.15	480	440	1.35	0.13	6.50	6.60	160,000	160,000
	Mean	0.064	0.066	0.353	1.23	0.68	0.18	642	420	1.44	0.14	6.48	7.81	502,600	516,766
	Min	0.01	0.008	0.075	0.05	0.06	0.05	42	100	0.1	0.1	1	0.6	2,200	13,000
	Max	0.22	0.28	1	7	6.5	0.43	3,020	1,070	4.3	0.23	10	20.93	5,000,000	1,700,000
Duck Creek	Median	0.044	0.1	0.16	1	0.08	1.2	1,270	2,290	2.8	1.2	5.2	8.4	26,000	75,000
	Mean	0.082	0.165	0.289	1.59	0.25	1.266	3,152	2,542	2.8	1.21	6.1	8.4	521,427	102,410
	Min	0.01	0.004	0.038	0.06	0.04	0.08	23	230	1	0.4	1	2.5	400	16
	Max	0.28	5	0.85	7.5	2.26	3	26,300	5,150	3.04	2.6	9.7	17.2	5,000,000	500,000
Flamingo Wash	Median	7.85	0.1	0.32	1.2	0.17	0.32	1,930	975	1.9	0.17	6.4	7.85	52,000	75,000
	Mean	8.13	0.092	0.416	1.52	0.26	0.352	3,938	950	1.89	0.12	6.9	8.13	330,180	131,097
	Min	1.4	0.018	0.094	0.32	0.05	0.05	255	440	0.3	0.092	1	1.4	240	738
	Max	14.53	0.41	1.5	2.94	0.84	0.97	19,200	2,290	5.1	0.5	13	14.53	1,600,000	900,000
C-1 Channel	Median	0.034	0.095	0.185	0.91	0.21	0.12	1,180	1,180	0.8	0.1	2.3	3	8,000	24,000
	Mean	0.066	0.052	0.234	1.38	0.26	0.19	2,702	2,702	1.4	0.05	3.42	4.89	18,022	26,422
	Min	0.01	0.0045	0.075	0.05	0.05	0	77	77	0.38	0.1	0.92	1.3	240	16
	Max	0.27	0.22	0.62	0.64	0.64	0.93	17,800	17,800	6.8	0.1	10	11.53	90,000	90,000
Sloan Channel	Median	0.04	0.063	0.185	1	0.18	0.14	1,970	230	1.1	0.1	2.6	4	5,000	40,000
	Mean	1.914	0.052	0.234	1.44	0.25	0.19	3,223	256	1.7	0.05	3.2	4.9	22,791	65,471
	Min	0.012	0.006	0.054	0.26	0.05	0.05	79	100	0.4	0.1	1	1.4	240	9,300
	Max	28	0.21	0.62	4.7	0.64	0.93	16,200	440	8.7	0.1	6.1	11.2	90,000	160,000
Las Vegas Wash at Desert Rose	Median	0.055	0.1	0.32	1.06	0.15	0.33	1,390	1,120	2	0.2	5.2	7.5	8,000	30,000
	Mean	1.77	0.61	0.512	1.2	0.2	0.339	1,846	1,053	12.1	0.5	5.4	16.3	224,382	233,091
	Min	0.01	0.14	0.071	0.42	0.04	0.05	110	100	0.7	0.1	1	1	500	5,000
	Max	29	0.18	2.7	2.4	0.55	0.57	5,980	2,430	3.48	2.5	8.73	10.88	1,600,000	1,600,000
Monson Channel	Median	0.052	0.027	0.21	0.33	0.36	0.25	630	445	0.8	0.22	6.4	8.41	50,000	190,000
	Mean	0.048	0.046	0.223	0.42	0.54	0.205	3,268	450	1.27	0.28	5.52	8.38	432,000	502,000
	Min	0.028	0.009	0.13	0.18	0.27	0.028	210	170	0.69	0.14	0.69	5.74	28,000	28,000
	Max	0.058	0.12	0.33	0.84	0.98	0.29	11,600	740	2.32	0.56	8.6	10.98	1,600,000	1,600,000
Meadows Detention Basin	Median	0.006	0.012	0.14	0.33	0.2	0.052	94	120	0.6	0.1	2.2	2.72	9,000	30,000
	Mean	0.042	0.017	0.194	0.42	0.47	0.06	158	145	1.3	0.06	2.85	3.9	37,840	341,200
	Min	0.019	0.006	0.07	0.18	0.1	0.05	31	47	0.18	0.1	0.67	2.2	2,200	9,000
	Max	0.026	0.04	0.51	0.84	1.4	0.13	490	310	0.84	0.2	7.6	10.9	160,000	1,600,000



To: Las Vegas Valley Stormwater Quality Management Committee **Date: August 25, 2008**

From: Chip Paulson **Reference: 1700649.01180201**

Subject: Summary of Detention Basin Monitoring for Pollutant Removal Effectiveness - July 2005 through June 2008

Introduction

This memorandum summarizes monitoring results from the Detention Basin Pollutant Removal Effectiveness Monitoring Program conducted for the Las Vegas Valley Municipal Separate Storm Sewer (MS4) NPDES program for July 2005 through June 2008. The objective of this program is to determine whether existing regional detention basins in Las Vegas Valley are effective in reducing pollutant concentrations in storm waters tributary to Las Vegas Wash. It is noted that a separate analysis is being performed to evaluate sediment removal benefits provided by existing detention basins. Aspects of the detention basin monitoring program are described in the current Storm Water Management Plan and the 2007-2008 Annual Report for the MS4 NPDES permit.

Events Sampled to Date

Table 1 summarizes the runoff events sampled as of June 30, 2008. For each runoff event at each detention basin, inflow and outflow samples were collected and analyzed. Table 2 lists the constituents that were analyzed for each sample.

Table 1. Detention Basin Monitoring Events

Location	Date
Meadows Detention Basin	July 29, 2005 October 18, 2005 October 14, 2006 August 1, 2007 August 27, 2007
Lower Las Vegas Wash Detention Basin	October 18, 2005 June 7, 2006 October 5, 2006 October 14, 2006 April 16, 2007 July 24, 2007 August 1, 2007
Location	Date
Upper Flamingo Wash Detention Basin	October 18, 2005 October 25, 2005 July 18, 2006 October 14, 2006 April 16, 2007 August 1, 2007 August 27, 2007 September 22, 2007 January 1, 2008

Table 2. Constituents Analyzed in Detention Basin Samples

Category	Constituents
Conventional	Total Dissolved Solids (TDS), Total Suspended Solids (TSS), Turbidity
Nutrients	Total Phosphorus, Orthophosphate, Nitrate
Metals	Copper, Lead, Zinc (Total and Dissolved)
Bacteria	Fecal Coliforms, Fecal Streptococci

Sample Collection and Analysis Procedures

Detention basin inflow and outflow samples were collected using automated sampling equipment. The sampling operation was activated when the stage in the associated channel exceeded a predetermined level. Up to 24 bottles in the carousel of the automated sampler were filled at 7-minute intervals. Composite samples were prepared from the aliquots in the individual sampler bottles by taking equal amounts of water from each sampler bottle from the carousel and

combining those aliquots into a larger bottle. Flow meters are not installed at the detention basin sampling sites so it was not possible to prepare flow weighted composite samples. Because inflow will become mixed in the detention basin, this approach was considered adequate for obtaining average inflow and outflow concentrations. The larger bottle was agitated to further mix the samples, and was then used to fill each laboratory-prepared sample collection bottle for the various constituents to be analyzed.

It was necessary to collect grab samples at the Upper Flamingo Wash Detention Basin during the storm of October 25, 2005. At this location there was sufficient flow to sample, but the actuator for the automated sampler was not automatically activated due to the height of the actuator being above the water level in the channel. Grab samples were also taken April 16, 2007, August 1, 2007, August 27, 2007, September 22, 2007, and January 1, 2008 because the sampling equipment was damaged due to vandalism. In both cases multiple grab samples were collected and composited at both the inflow and outflow sampling sites. It was also necessary to collect a grab sample at the Lower Las Vegas Wash Detention Basin during the storms of June 7, 2006 and July 24, 2007. Flow depths were not sufficient to activate the automated samplers, but it was decided to collect grab samples because so few storms had occurred during the sampling period.

Conditions at Detention Basins

Meadows Detention Basin – The design of the Meadows Detention Basin inflow and outflow structures directs base flows and small storm flows into a permanent wetland area with two small ponds (see Figure 1). Small storm flows will flush water out of the wetland and ponds, and could potentially mobilize constituents that have accumulated in the ponds during non-storm periods. Under these conditions the basin would be expected to have minimal benefits for downstream water quality. During large flows in which substantial ponding occurs in the basin, effects of poor quality water stored in the existing ponds would be minimized after first-flush conditions have passed and more treatment could be expected. The extent and density of wetland vegetation has increased significantly over the 3-year monitoring period.

Upper Flamingo Wash Detention Basin – At the time sampling occurred for the 2005 and 2006 storms, a private sand and gravel operation was actively working in the detention basin storage area (see Figure 2). This created significant disturbed area and piles of mined sand and gravel. Runoff entering the basin could have picked up sediment and related constituents from the mining area, increasing concentrations in the detention basin outflow compared to normal conditions.

Lower Las Vegas Wash Detention Basin – No unusual conditions are known to have existed during sampling at this detention basin. However, the inflow monitoring station was located upstream of a long section of unlined channel entering the detention basin. It is possible that this section of channel could change the pollutant concentrations of the flow that actually enters the detention basin. The possibility of moving the inflow sampling point further downstream will be investigated if the detention basin monitoring program is continued.



Figure 3. Lower Las Vegas Wash Detention Basin Inflow Sampling Location

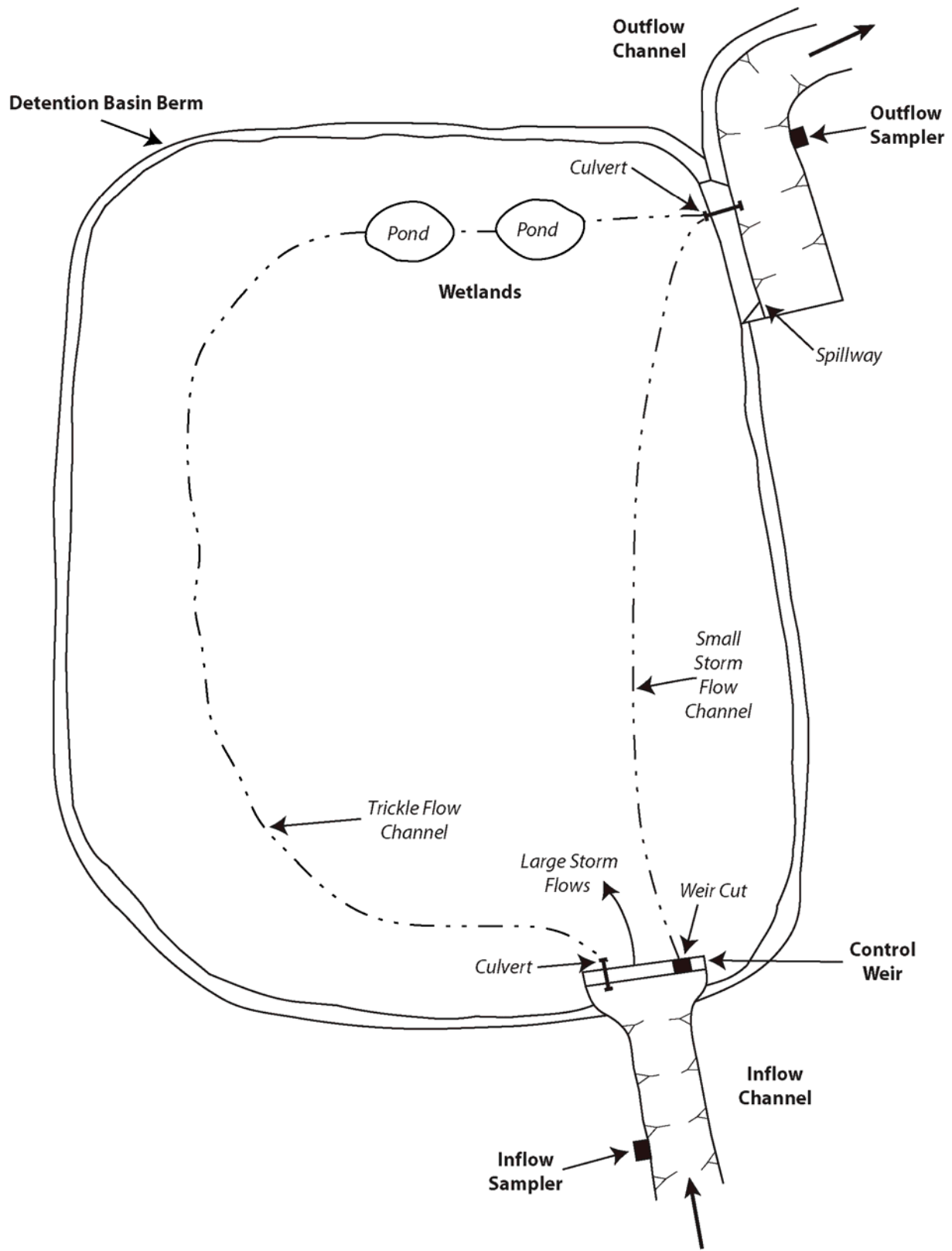


Figure 1. Meadows Detention Basin Conceptual Layout



Figure 2. Upper Flamingo Detention Basin

Data Analysis

Detention basin monitoring data for the three-year period suggests that existing regional detention basins provide moderate benefits for reducing certain constituent concentrations. However, the results can vary widely from storm to storm and from site to site.

The data analysis for this report includes:

- Data summary table (Table 6) – organized by location, date, and parameter
- Bar charts, one for each parameter (Figures 4-17) – organized by location and date
- Probability plots, one for each parameter (Figures 18-31) – all locations and dates combined
- Concentration change scatter plots, one for each parameter (Figures 32-45) – inflow concentration versus percent reduction in concentration, all locations and dates combined

Probability plots present the percent of time a measured concentration is less than a given value. When inflow and outflow concentration data are plotted together they can quickly indicate if an inflow dataset has higher or lower concentrations than an outflow dataset. They can also indicate

if BMPs are performing better over a certain range of inflow concentration. In these plots, inflow and outflow data from the same sample are not necessarily paired together; the plots show the overall trends in inflow and outflow concentrations. The probability plots demonstrate that the particulate constituents (TSS, Total Metals, Total Phosphorus) have consistently lower concentrations in detention basin outflows than in detention basin inflows. The probability plots suggest the following constituents generally did not show consistent constituent removal through the detention basins: TDS, Dissolved Copper, Orthophosphate, Fecal Coliform, Fecal Streptococci. The probability plots also indicate that for selected constituents the best removal generally occurs under the following inflow conditions:

- Turbidity at concentrations less than 100 NTU
- TSS at concentrations over the full range of measured values up to 6,000 mg/L
- Total Copper at concentrations less than 0.04 mg/L
- Total Lead at concentrations greater than 0.006 mg/L
- Dissolved Lead at concentrations greater than 0.005 mg/L
- Total Zinc at concentrations greater than 0.08 mg/L
- Dissolved Zinc at concentrations greater than 0.006 mg/L
- Nitrate at concentrations greater than 1.4 mg/L
- Total Phosphorus at concentrations greater than 0.3 mg/L

The concentration change scatter plots show the percent reduction in concentration between inflow and outflow for the individual storm events. A positive percent reduction shows removal of the constituent through the detention basin while a negative percent reduction shows an increase of constituent concentration through the detention basin. It is noted that EPA and other researchers are tending away from use of percent reduction as a measure of BMP performance because it can be highly dependent on the inflow pollutant concentration. Nonetheless, that statistic is used here as a general indication of how well the detention basins are removing the constituents of concern. In general the concentration change scatter plots do not show consistent removal of the constituents through the detention basins, and they reinforce the results for the analysis of the bar charts and probability plots. Table 3 shows the median value (i.e., half of the data points are above and half are below this value) for percent reduction for each constituent in all of the detention basins combined.

Although there are still not enough samples at each location to perform meaningful statistical analyses, some overall observations are possible. Table 4 lists the detention basin most effective at reducing concentrations of each constituent. Meadows Detention Basin and Lower Las Vegas Wash Detention Basin were found to be the most effective overall of the three basins sampled. In the case of dissolved copper, dissolved lead, orthophosphorus and fecal coliforms, none of the detention basins showed any consistent effectiveness in pollutant removal.

Table 3. Median Percent Concentration Reduction Between Detention Basin Inflow and Outflow

Constituent	Median Percent Concentration Reduction
TSS	19
TDS	-2
Turbidity	3
Total Copper	14
Dissolved Copper	-14
Total Lead	0
Dissolved Lead	0
Total Zinc	5
Dissolved Zinc	0
Nitrate	0
Ortho Phosphorus	-9
Total Phosphorus	5
Fecal Coliform	-36
Fecal Strep	43

Table 4. Most Effective Detention Basins by Constituent

Constituent	Detention Basin with Most Effective Concentration Reduction Performance
TSS	Meadows
TDS	Lower Las Vegas Wash
Turbidity	Meadows
Total Copper	Meadows
Dissolved Copper	None
Total Lead	Meadows
Dissolved Lead	None
Total Zinc	Meadows
Dissolved Zinc	Lower Las Vegas Wash
Nitrate	Lower Las Vegas Wash
Ortho Phosphorus	None
Total Phosphorus	Meadows
Fecal Coliform	None
Fecal Strep	Lower Las Vegas Wash, Upper Flamingo Wash

Table 5 summarizes the occurrence of changing constituent concentrations (decrease, increase and no change) between detention basin inflow and outflow samples.

Table 5. Summary of Occurrence of Constituent Concentration Changes Between Detention Basin Inflows and Outflows

Sample Set	Percentage of Occurrences		
	Decreasing Concentration	Increasing Concentration	No Change in Concentration
All Samples (all storms, all sites, all constituents)	47%	42%	11%
Primarily Particulate Constituents (TSS, TP, Total Cu, Total Pb, Total Zn, Turb)	54%	41%	5%
Primarily Dissolved Constituents (TDS, OP, NO ₃ , Diss Cu, Diss Pb, Diss Zn, Fecal Col, Fecal Strep)	41%	42%	17%
Metals – Total Fraction	51%	44%	5%
Metals – Dissolved Fraction	33%	33%	33%
Nutrients (TP, OP, NO ₃)	56%	36%	8%
Sediment Related Constituents (TSS, Turb)	54%	46%	0%
Bacteria (Fecal Col, Fecal Strep)	42%	50%	8%
Meadows Detention Basin Only	50%	43%	7%
Lower Las Vegas Wash DB Only	43%	46%	11%
Upper Flamingo Wash DB Only	49%	37%	14%

The following conclusions can be drawn from the results in Table 5.

- Overall, the three existing detention basins sampled to date are somewhat effective at reducing concentrations of the constituents analyzed.
- As expected, data demonstrates that detention basins are more effective at removing particulate constituents than dissolved constituents. Concentrations of primarily particulate constituents were reduced in 54 percent of the sample events, whereas concentrations of primarily dissolved constituents were reduced in only 41 percent of the sample events.
- Detention basins reduced the total metal concentrations in half of the sample sets while the dissolved metal concentrations were only reduced in 33 percent of the samples sets.
- Surprisingly, sediment-related constituents (TSS and turbidity) were only reduced in 54 percent of the sample sets. This may be related in part to gravel mining in Upper Flamingo Detention Basin. Based on inspection and maintenance reports, detention basins are effective in removing sediment from inflows. However, the initial sampling data suggests that suspended (fine) sediment and associated particulates are not removed as effectively, possibly due to resuspension of previously deposited material.

- Meadows Detention Basin and Upper Flamingo Wash Detention Basin reduced constituent concentrations in approximately half of the sample sets. However, Meadows Detention Basin had a higher percentage of increasing the constituent concentrations (43 percent) than did Upper Flamingo Wash Detention Basin (37 percent). Storms occurring one week apart were sampled at Upper Flamingo Wash Detention Basin. The basin showed significantly better performance in reducing constituent concentrations during the second storm; 12 constituents showed reduced concentrations or no change in the second storm, compared to 6 constituents showing reduced concentrations or no change in the first storm. This difference in performance may be evidence of the first flush effect during the first storm, or it may be due to differing effects of gravel mining occurring in the basin area.

Summary

Although there is not enough data to perform significant statistical analyses some overall conclusions can be made. Detention basin monitoring data for 2005-2008 suggest that existing regional detention basins provide moderate benefits for reducing certain constituent concentrations. These benefits apply more significantly to constituents occurring primarily in particulate form, and results can vary widely from storm to storm and from site to site.

Of the constituents analyzed the detention basins were most effective at removing sediment-related constituents (TSS, Turbidity, Total Phosphorus). There was some decrease in the total metal concentrations, whereas dissolved metal and bacteria concentrations were not consistently reduced.

In general, Meadows Detention Basin was the most effective at decreasing the constituent concentrations analyzed, closely followed by the Upper Flamingo Wash Detention Basin. This probably reflects the effects of better basin design for water quality benefits at Meadows Detention Basin, such as the presence of wetland vegetation and a long low-flow path. The Lower Las Vegas Wash Detention Basin showed some reduction in constituent concentrations but at a lower percentage of occurrences than the other two basins.

Table 6. Data Summary

Date	Basin	TDS (mg/L)		TSS (mg/L)		Turbidity (NTU)		Total Copper (mg/L)		Dissolved Copper (mg/L)		Total Lead (mg/L)		Dissolved Lead (mg/L)		Total Zinc (mg/L)		Dissolved Zinc (mg/L)	
		Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
10/18/05	Lower Las Vegas	180	150	1,090	1,220	1,100	1,070	0.033	0.023	0.022	0.0043	0.014	0.0089	0.013	<0.0005	0.13	0.08	0.094	<0.005
6/7/06	Lower Las Vegas	404	384	257	403	285	420	0.042	0.0051	0.036	0.046	0.0072	0.0088	0.0062	0.0082	0.17	0.14	0.17	0.13
10/5/06	Lower Las Vegas	436	268	191	219	174	173	0.029	0.036	0.0026	0.013	0.0036	0.0046	<0.0005	<0.0005	0.094	0.13	0.011	0.009
10/14/06	Lower Las Vegas	144	246	1,990	2,500	2,140	2,030	0.038	0.041	0.0033	0.0034	0.019	0.031	<0.0005	<0.0005	0.16	0.18	<0.005	<0.005
4/16/07	Lower Las Vegas	256	260	105	165	156	143	0.035	0.036	0.024	0.019	0.0034	0.0035	<0.0005	<0.0005	0.076	0.076	0.026	0.023
7/24/07	Lower Las Vegas	526	516	218	466	474	492	0.023	0.023	0.013	0.013	0.0081	0.0091	<0.0050	<0.0050	0.059	0.067	<0.005	<0.005
8/1/07	Lower Las Vegas	162	260	1760	1230	1170	524	0.089	0.028	0.0074	0.0083	0.016	0.0029	<0.00050	<0.00050	0.210	0.081	<0.005	0.0077
7/29/05	Meadows Detention Basin	210	300	300	140	131	100	0.16	0.087	<0.002	0.0048	0.05	0.015	<0.0005	<0.0005	0.45	0.23	0.0059	0.018
10/18/05	Meadows Detention Basin	51	110	110	76	70	43	0.033	0.046	0.038	0.042	0.022	0.0074	0.022	0.0064	0.015	0.11	0.145	0.105
10/14/06	Meadows Detention Basin	72	474	194	44	115	42	0.062	0.017	0.0073	0.005	0.032	0.0036	<0.0005	<0.0005	0.28	0.058	0.011	0.026
8/1/07	Meadows Detention Basin	162	250	240	194	165	153	0.042	0.040	0.0086	0.012	0.0088	0.0086	0.00057	0.00068	0.17	0.150	0.039	0.051
8/27/07	Meadows Detention Basin	364	174	519	256	0.029	0.023	0.011	0.009	0.0036	0.014	0.0012	0.0005	0.0013	0.001	0.49	0.18	0.029	0.023
10/18/05	Upper Flamingo Wash	82	150	140	170	129	199	0.04	0.026	0.034	0.042	0.0041	0.0036	0.0034	0.003	0.22	0.065	0.215	0.057
10/25/05	Upper Flamingo Wash	150	150	460	350	434	472	0.038	0.021	0.0074	0.0053	0.0063	0.0067	<0.0005	<0.0005	0.061	0.058	<0.005	<0.005
7/18/06	Upper Flamingo Wash	770	354	5,830	27	2,090	26	0.036	0.0088	0.0028	0.0088	0.022	<0.0005	<0.00005	<0.00005	0.18	0.017	<0.005	0.011
10/14/06	Upper Flamingo Wash	174	122	886	960	728	778	0.023	0.043	0.0036	0.0038	0.013	0.013	<0.0005	<0.0005	0.095	0.11	<0.005	<0.005
4/16/07	Upper Flamingo Wash	342	468	210	160	78	127	0.07	0.089	0.017	0.022	0.0056	0.0064	<0.0005	<0.0005	0.210	0.270	0.063	0.096
8/1/07	Upper Flamingo Wash	266	226	2,690	696	1770	566	0.0072	0.018	0.0055	0.043	0.0011	0.0088	<0.005	<0.0005	<0.020	0.08	0.017	<0.005
8/27/07	Upper Flamingo Wash	198	160	1,340	129	964	151	0.007	0.006	0.0049	0.0037	<0.0005	<0.0005	<0.0005	<0.0005	0.024	0.025	<0.0005	<0.0005
9/22/07	Upper Flamingo Wash	104	110	315	1,800	207	1252	0.018	0.014	0.0130	0.016	0.004	0.0038	0.0036	0.011	0.064	0.042	0.059	0.080
1/5/08	Upper Flamingo Wash	60	180	194	288	55	173	0.034	0.057	0.011	0.024	0.0032	0.0052	<0.0005	<0.0005	<0.1	0.130	<0.0020	<0.020

Date	Basin	Nitrate-N (mg/L)		Ortho-P (mg/L)		Total P (mg/L)		F. Coliform (MPN/100 mL)		F. Strep (MPN/100 mL)	
		Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
10/18/05	Lower Las Vegas	1.5	1.3	0.156	0.183	0.79	0.72	22,000	30,000	90,000	110,000
6/7/06	Lower Las Vegas	4.6	4.3	0.056	0.37	0.51	0.42	2,400	800	90,000	30,000
10/5/06	Lower Las Vegas	16	1.4	0.36	0.45	0.3	0.34	24,000	3,000	24,000	24,000
10/14/06	Lower Las Vegas	0.9	1.8	0.04	0.03	1.2	1.2	16,000	22,000	110,000	22,000
4/16/07	Lower Las Vegas	1.80	1.80	0.29	0.47	0.4	0.45	50	1,600	24,000	2,400
7/24/07	Lower Las Vegas	4.0	4.0	1.25	1.45	1.3	0.57	>1,600,000	>1,600,000	240,000	50,000
8/1/07	Lower Las Vegas	1.5	1.8	1.90	0.88	0.96	0.61	160000	240000	170000	90,000
7/29/05	Meadows Detention Basin	0.15	<0.1	0.015	0.071	0.58	0.55	>1,600,000	>1,600,000	11,000	30,000
10/18/05	Meadows Detention Basin	0.22	0.51	0.072	0.084	0.24	0.38	30,000	>1,600,000	17,000	90,000
10/14/06	Meadows Detention Basin	0.6	0.5	0.22	0.11	0.59	0.28	30,000	50,000	30,000	170,000
8/1/07	Meadows Detention Basin	2.3	2.2	0.71	0.67	0.76	0.75	110000	160000	17,000	160,000
8/27/07	Meadows Detention Basin	<0.44	1.10	0.48	0.66	0.82	0.84	>1,600,000	>1,600,000	NA	NA
10/18/05	Upper Flamingo Wash	0.34	0.61	0.069	0.075	0.29	0.29	500	9,000	28,000	11,000
10/25/05	Upper Flamingo Wash	1.5	1.2	0.102	0.08	0.4	0.3	24,000	2,400	9,000	5,000
7/18/06	Upper Flamingo Wash	2.7	1.2	0.22	0.02	1.7	0.19	2,400	160,000	500	90,000
10/14/06	Upper Flamingo Wash	0.8	0.5	0.26	0.11	1	0.75	17,000	50,000	30,000	5,000
4/16/07	Upper Flamingo Wash	2.2	3.0	0.58	0.41	0.89	0.88	1,600	300	30,000	17,000
8/1/07	Upper Flamingo Wash	1.2	1.3	3.1	0.93	2.1	0.74	30,000	16,000	300,000	50,000

Date	Basin	Nitrate-N (mg/L)		Ortho-P (mg/L)		Total P (mg/L)		F. Coliform (MPN/100 mL)		F. Strep (MPN/100 mL)	
		Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow	Inflow	Outflow
8/27/07	Upper Flamingo Wash	1.5	1.3	0.156	0.183	0.79	0.72	22,000	30,000	90,000	110,000
9/22/07	Upper Flamingo Wash	4.6	4.3	0.056	0.37	0.51	0.42	2,400	800	90,000	30,000
1/5/08	Upper Flamingo Wash	16	1.4	0.36	0.45	0.3	0.34	24,000	3,000	24,000	24,000

Assumptions: concentrations reported as less than the method detection limit were assumed to be equal to the method detection limit for statistical analyses.

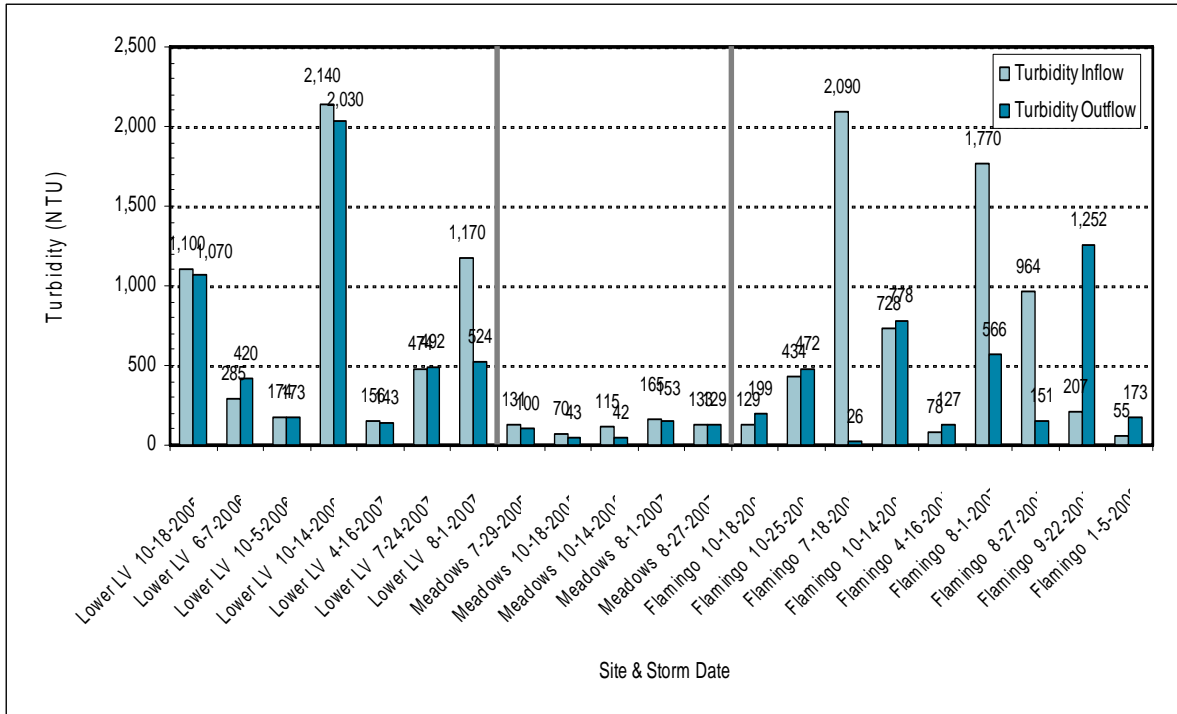


Figure 4. Turbidity Bar Chart

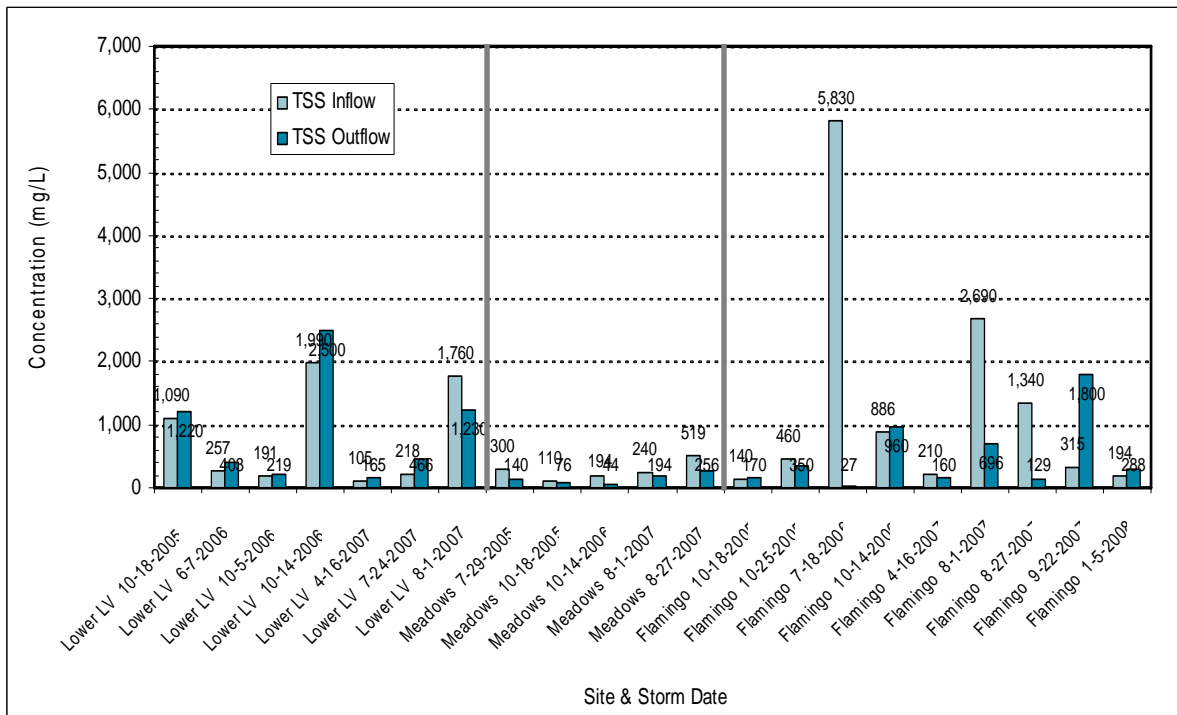


Figure 5. TSS Bar Chart

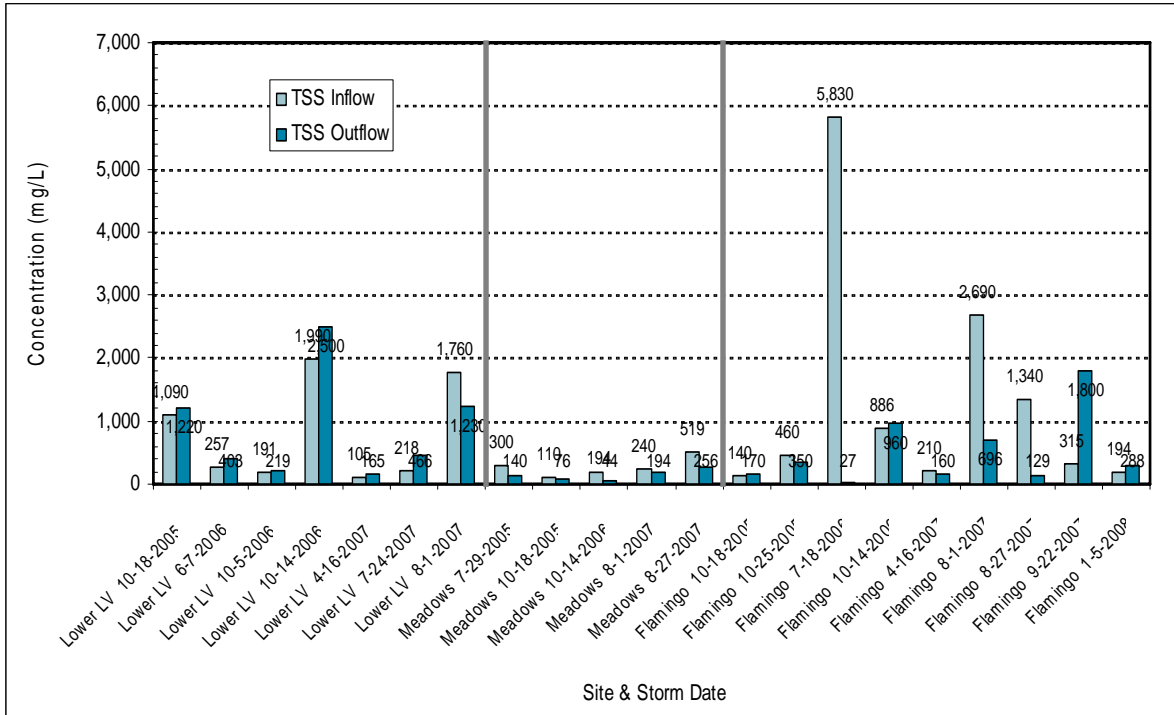


Figure 6. TDS Bar Chart

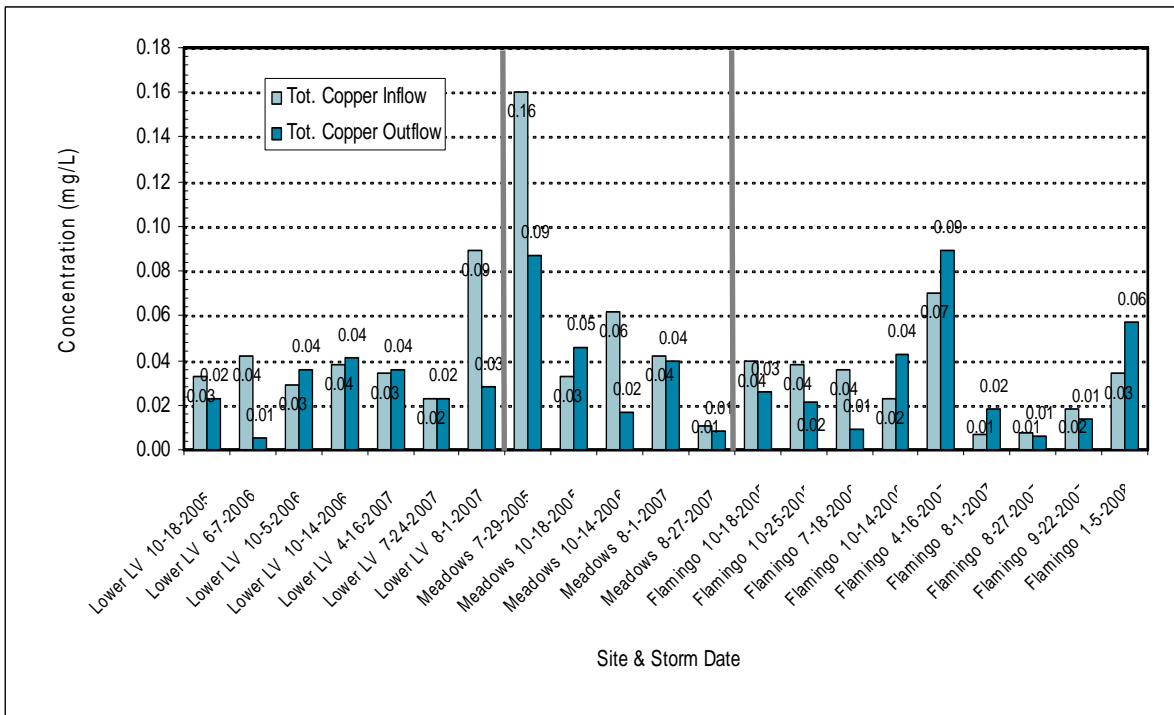


Figure 7. Total Copper Bar Chart

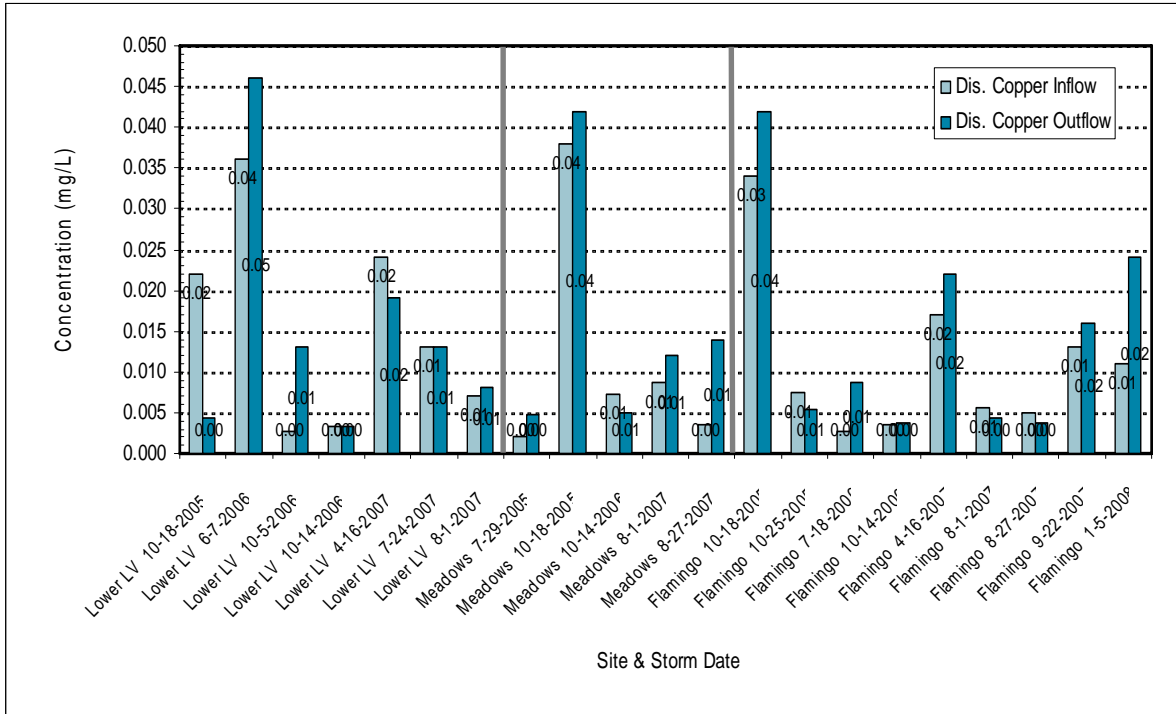


Figure 8. Dissolved Copper Bar Chart

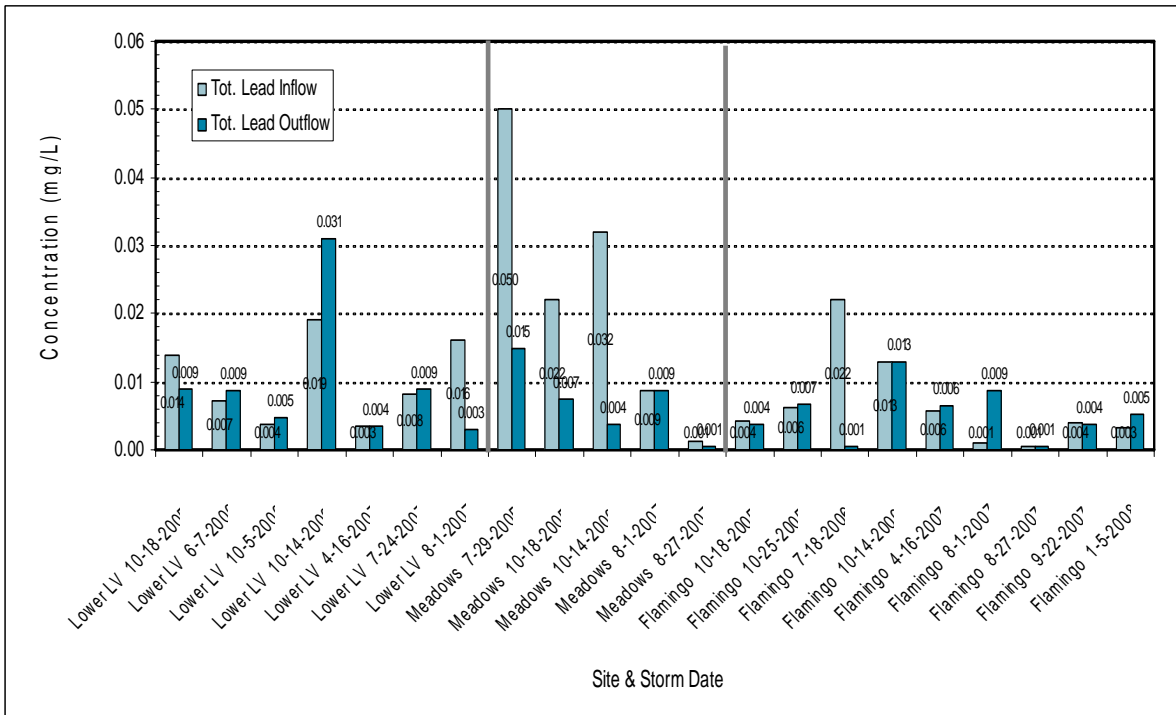


Figure 9. Total Lead Bar Chart

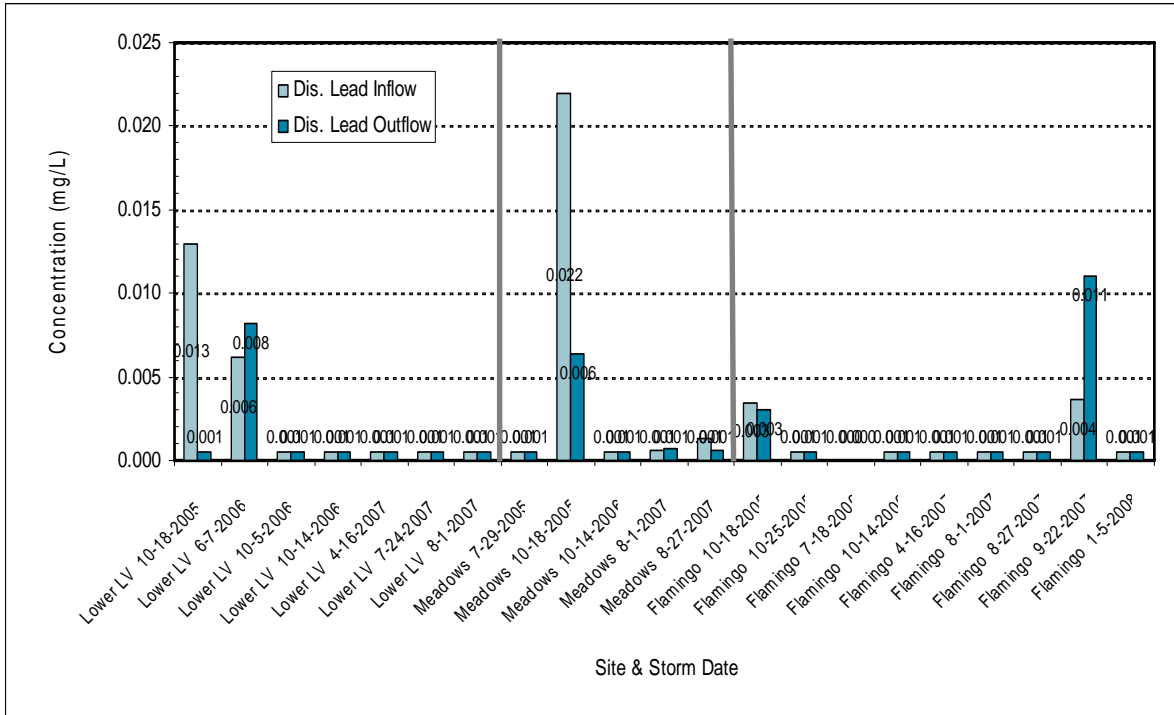


Figure 10. Dissolved Lead Bar Chart

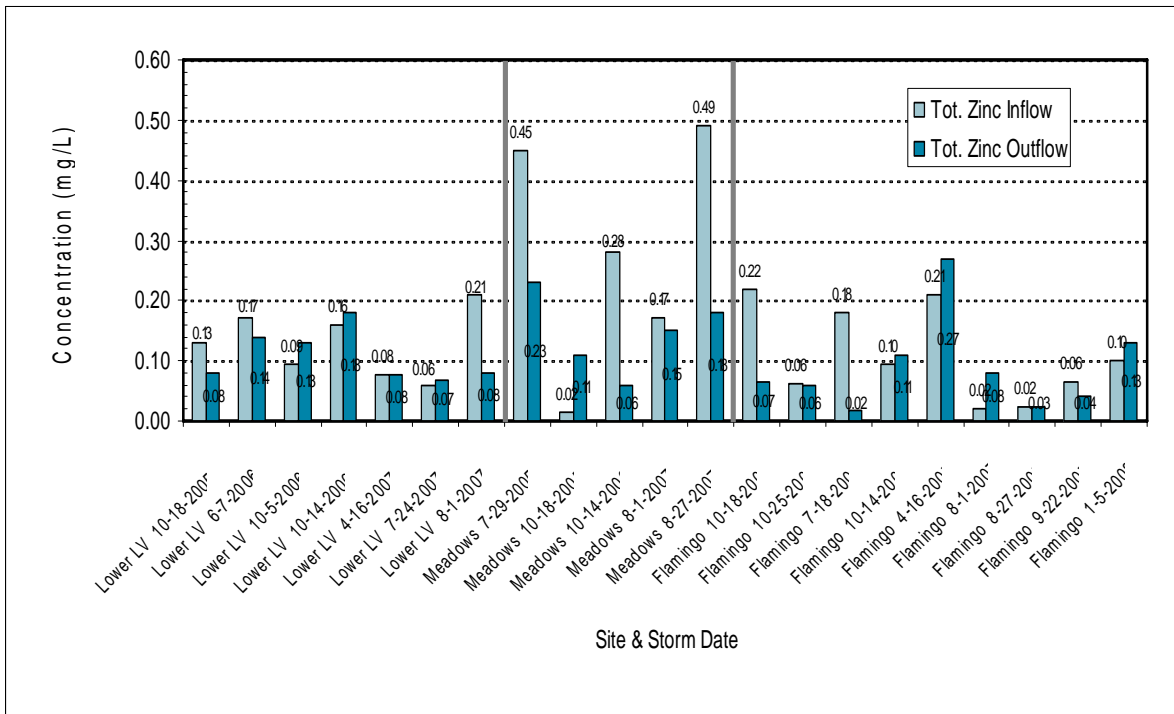


Figure 11. Total Zinc Bar Chart

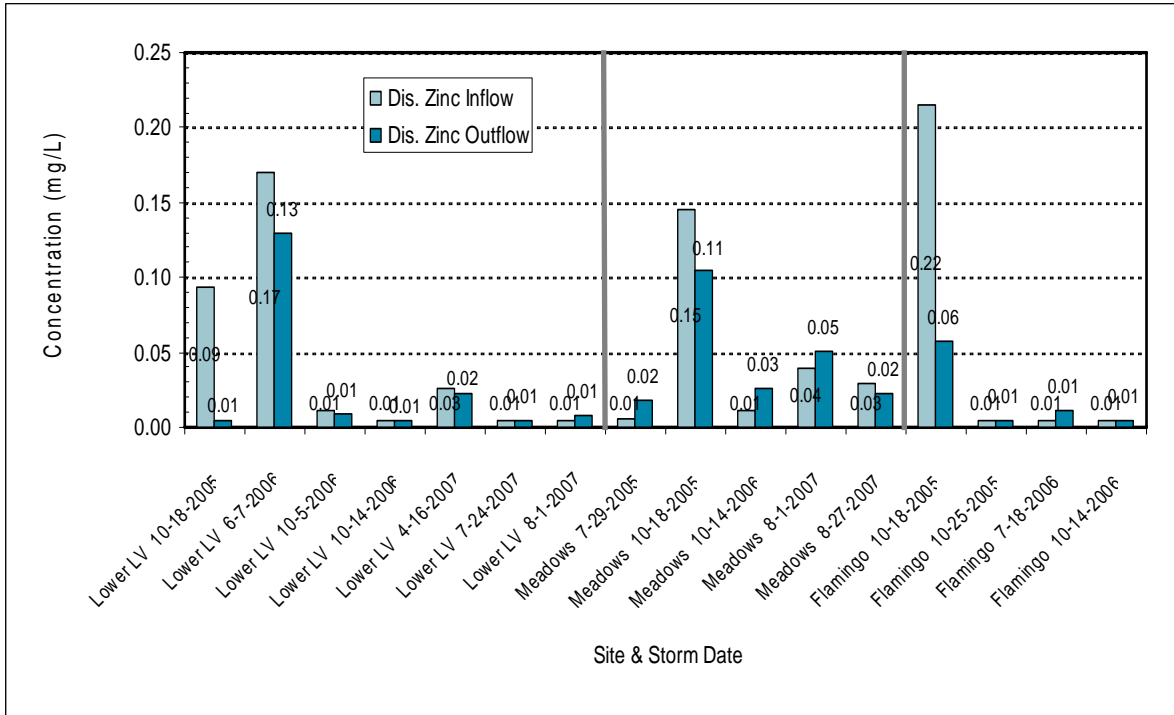


Figure 12. Dissolved Zinc Bar Chart

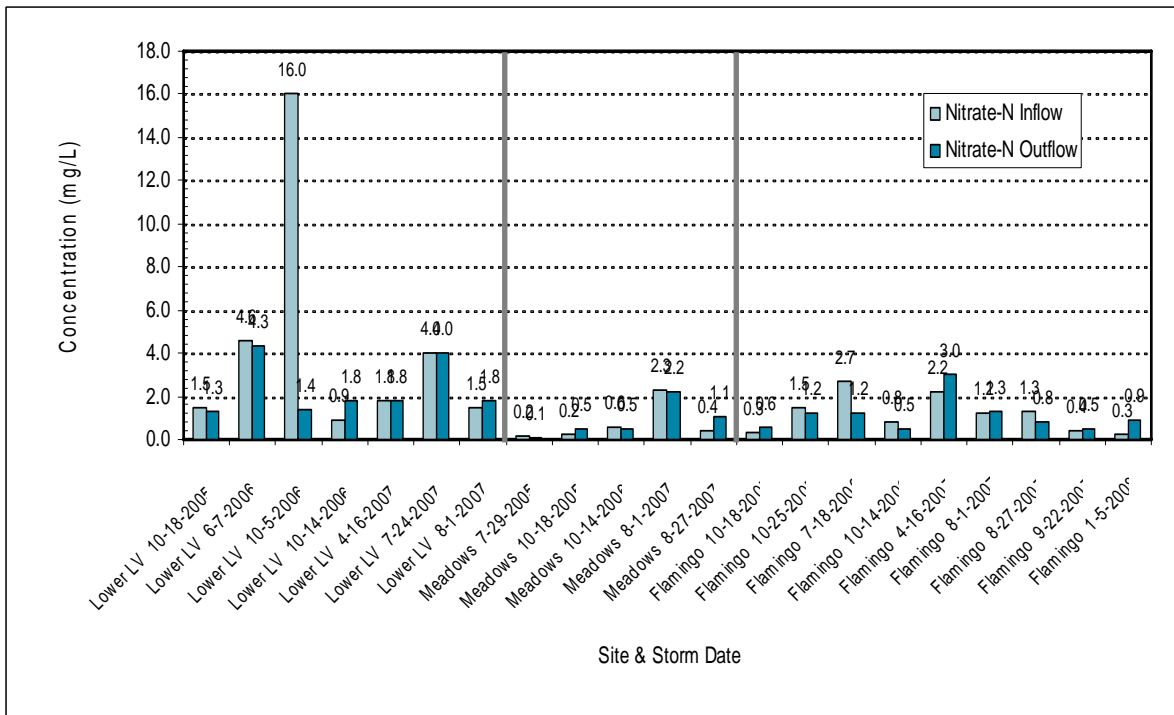


Figure 13. Nitrate-N Bar Chart

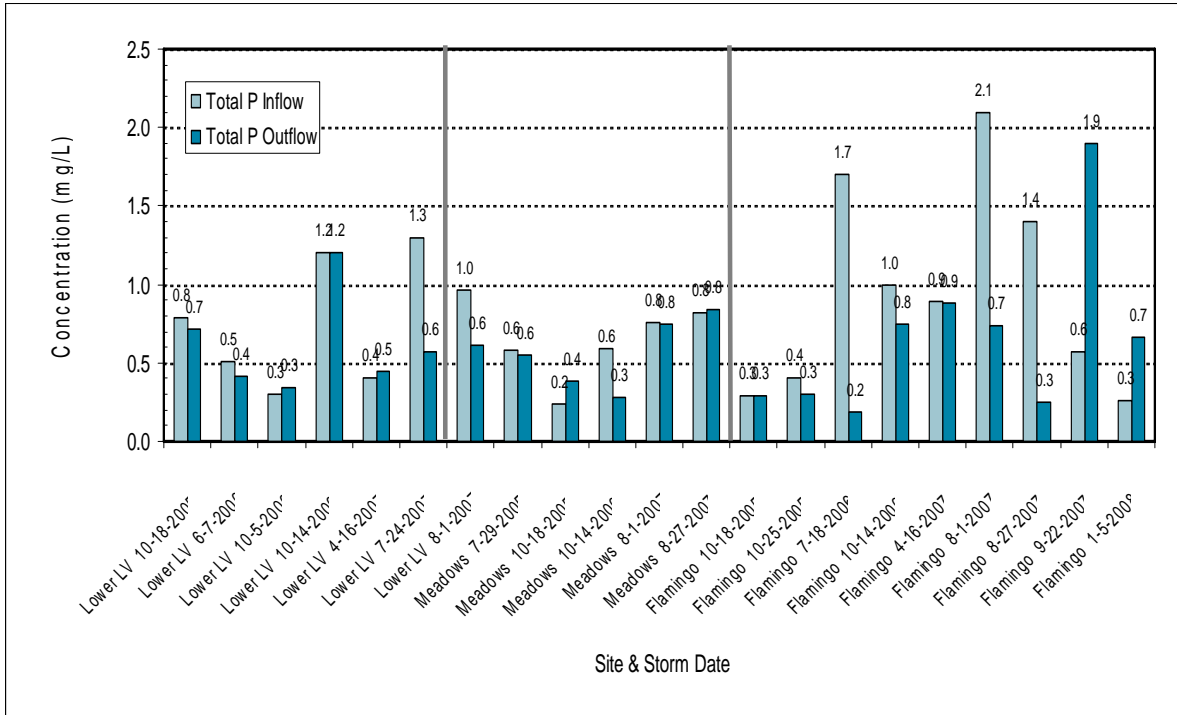


Figure 14. Total Phosphorus Bar Chart

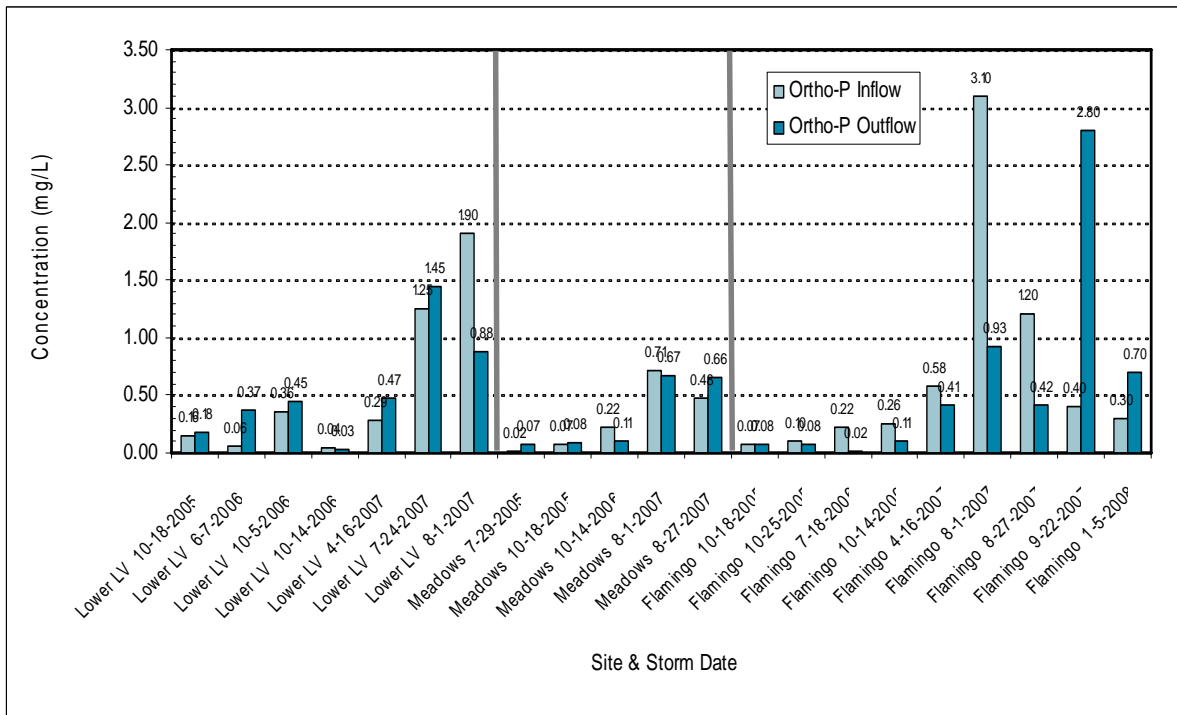


Figure 15. Orthophosphorus-P Bar Chart

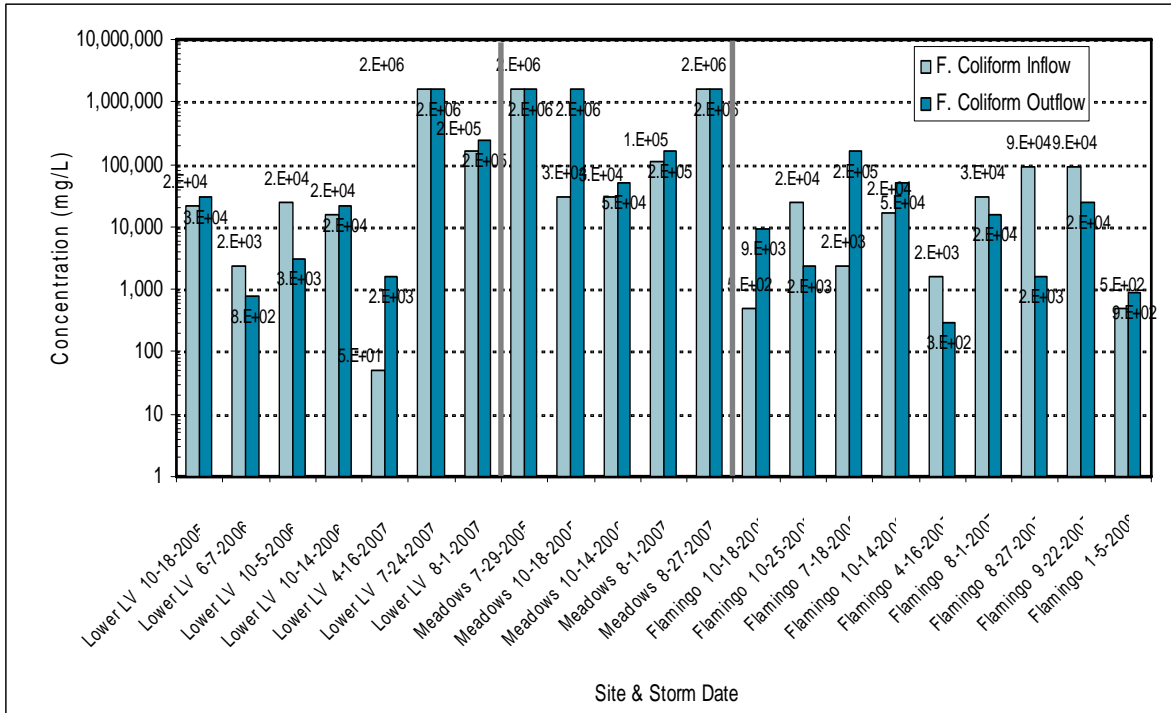


Figure 16. Fecal Coliform Bar Chart

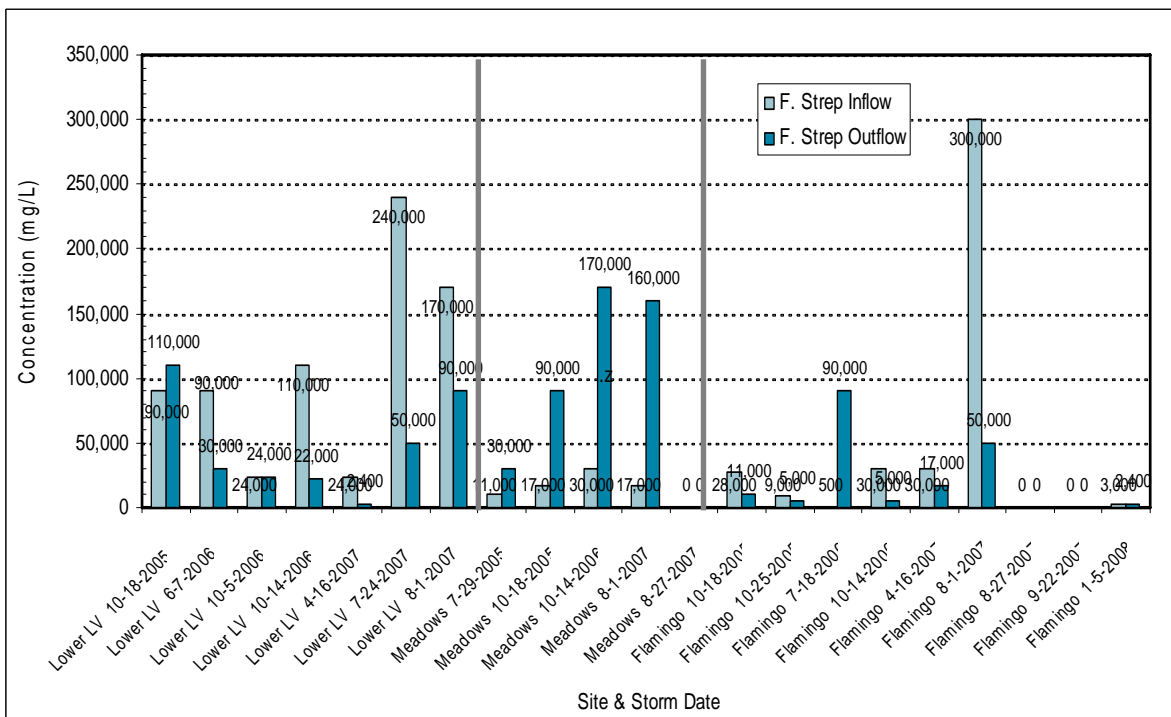


Figure 17. Fecal Streptococcus Bar Chart

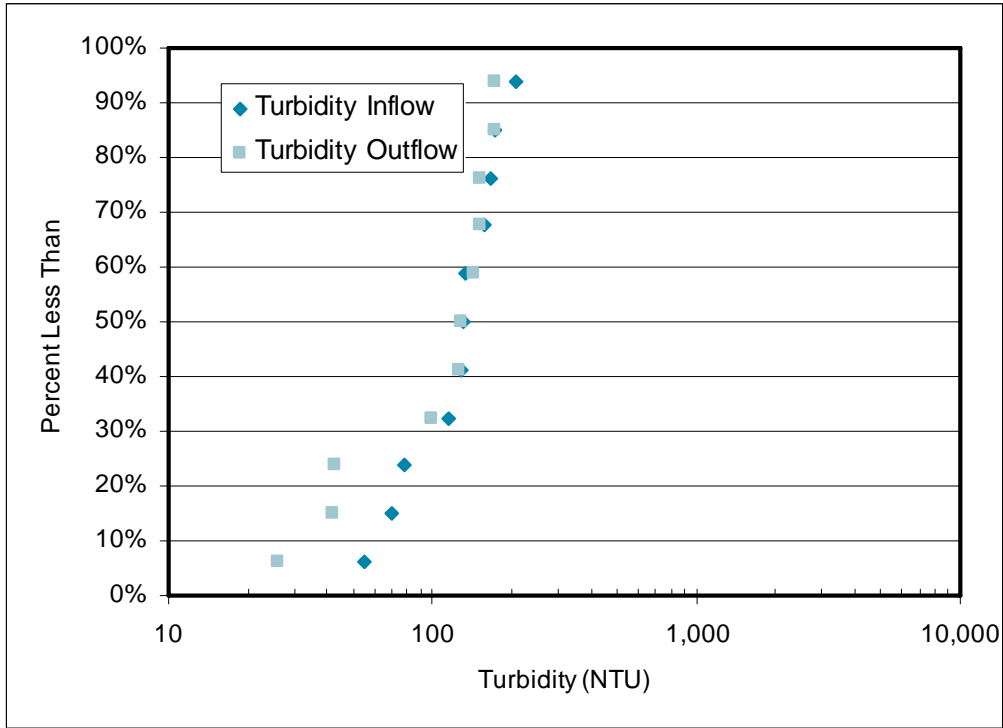


Figure 18. Turbidity Probability Plot

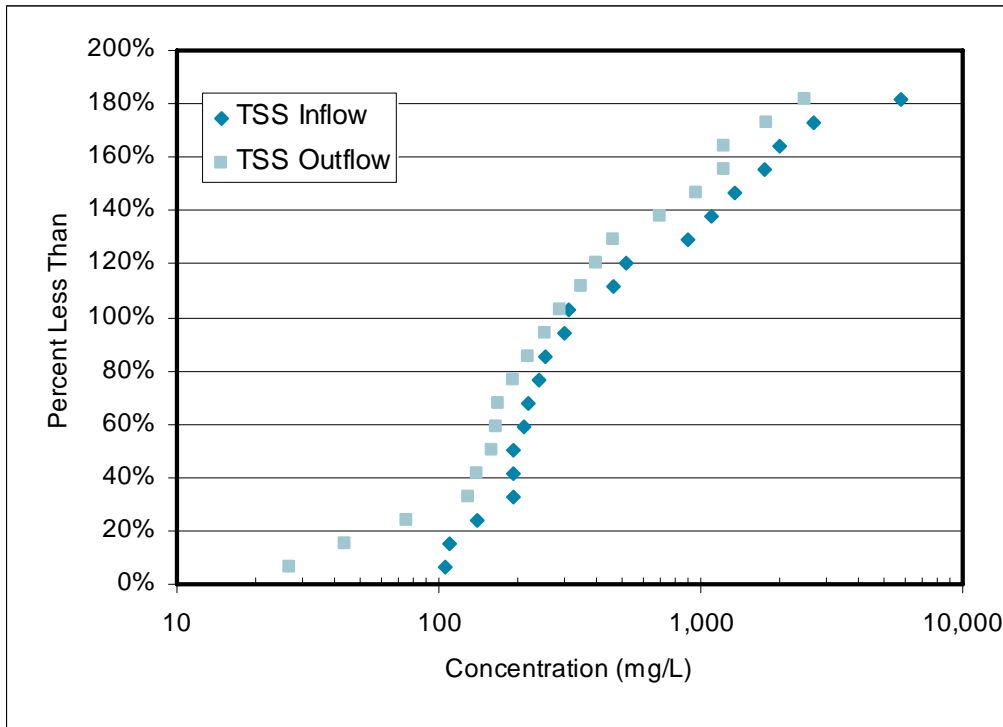


Figure 19. TSS Probability Plot

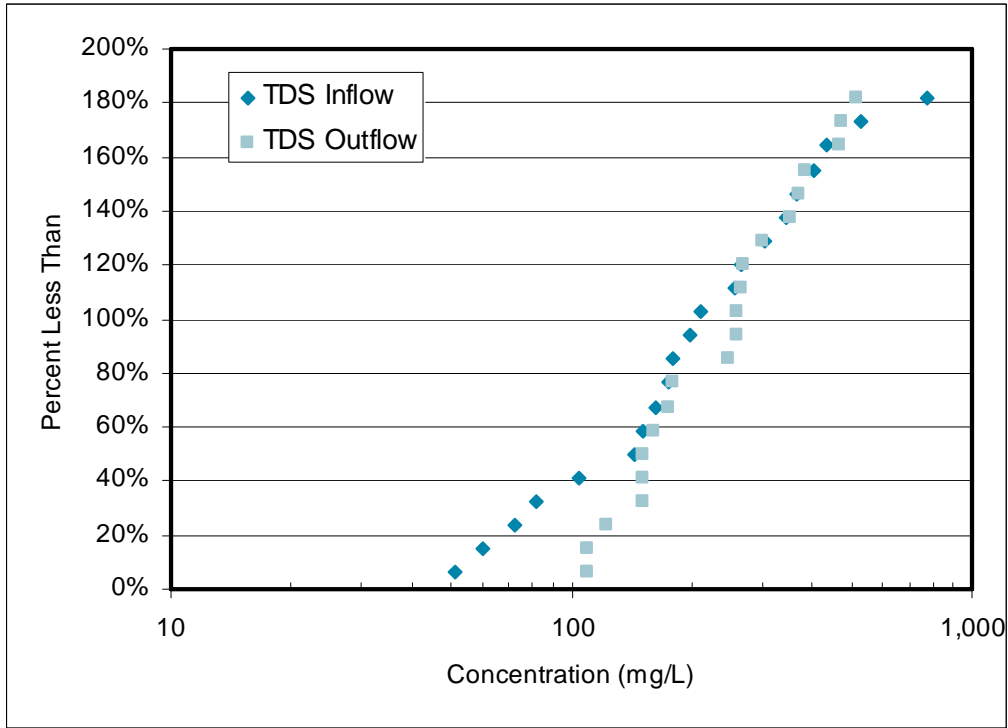


Figure 20. TDS Probability Plot

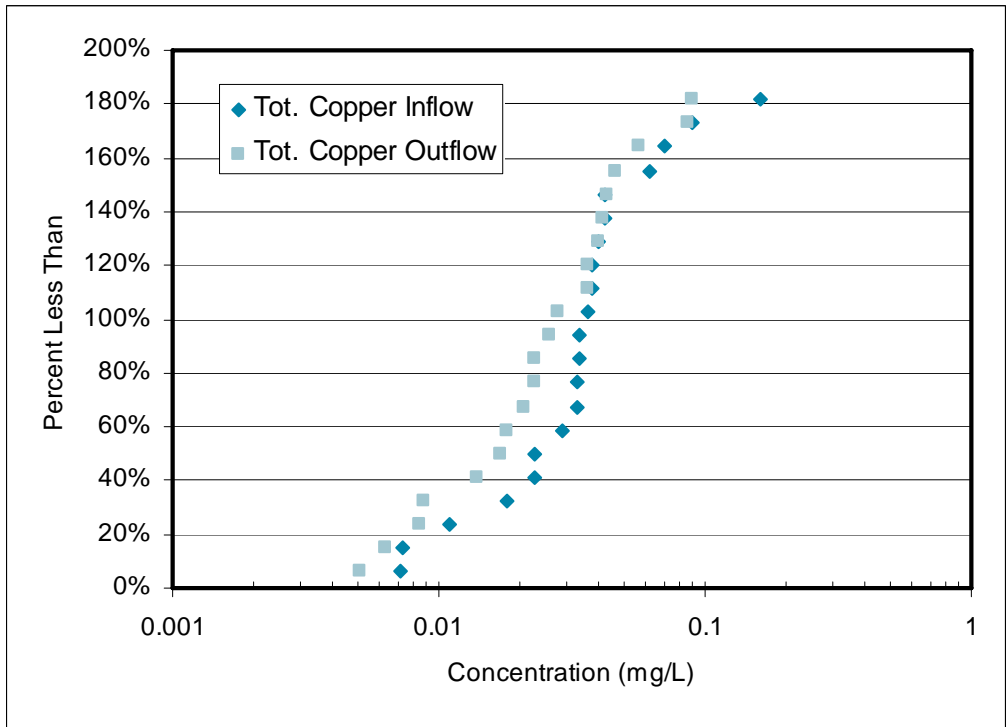


Figure 31. Total Copper Probability Plot

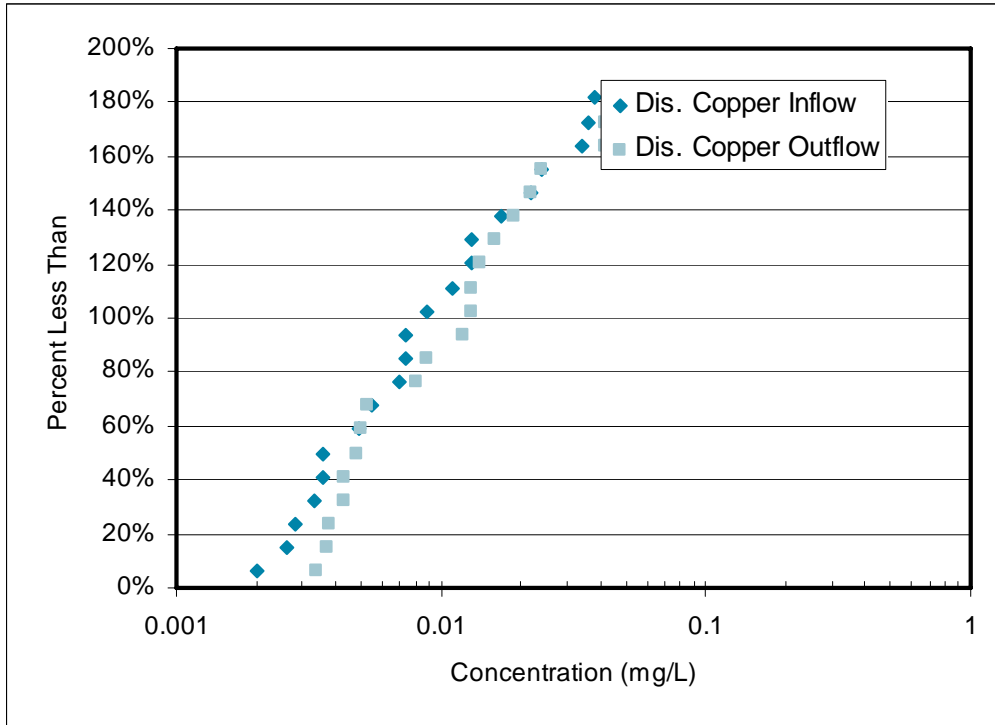


Figure 22. Dissolved Copper Probability Plot

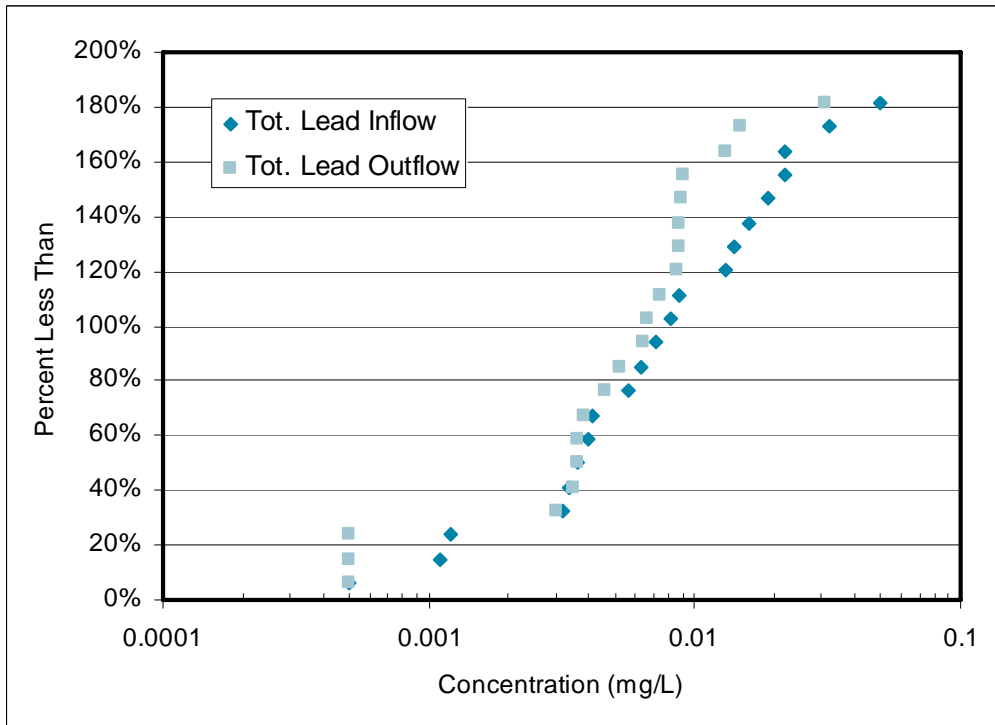


Figure 23. Total Lead Probability Plot

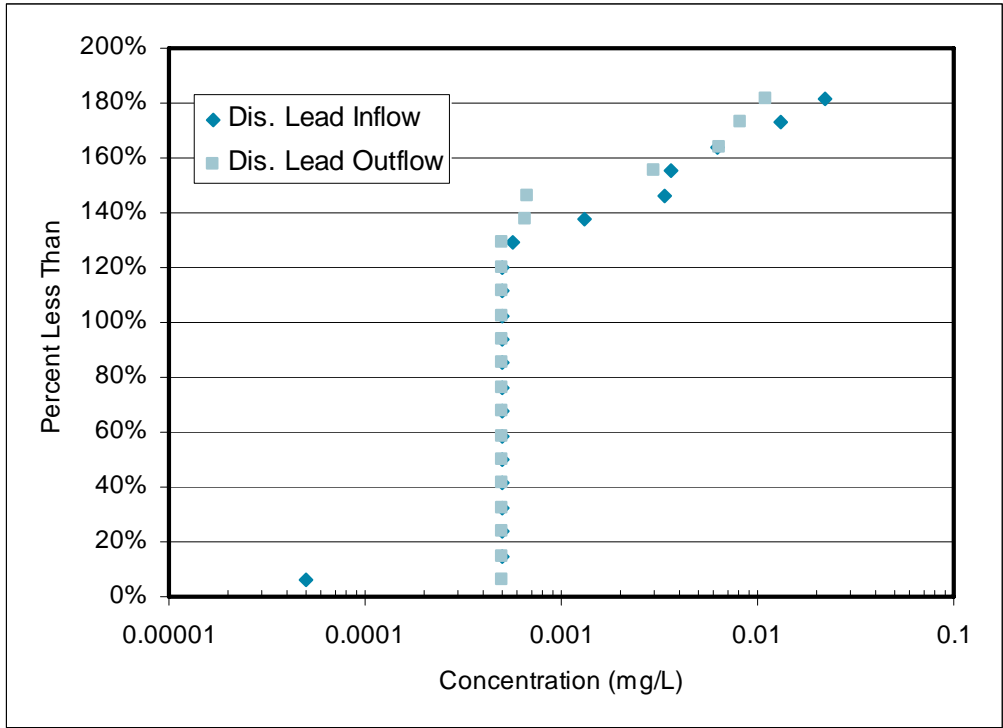


Figure 24. Dissolved Lead Probability Plot

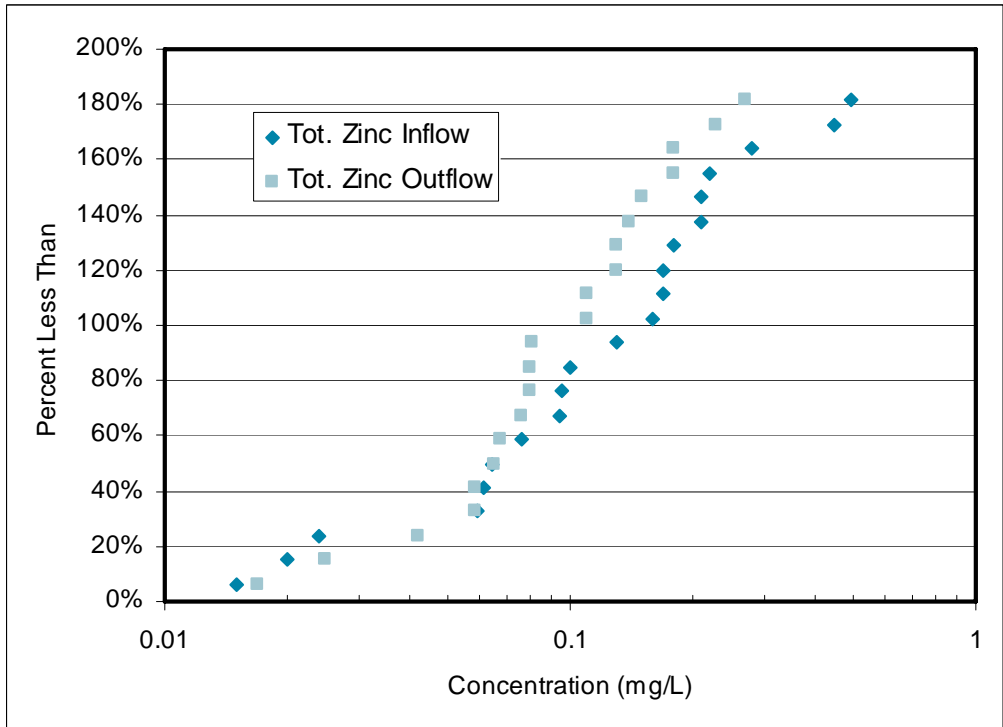


Figure 4. Total Zinc Probability Plot

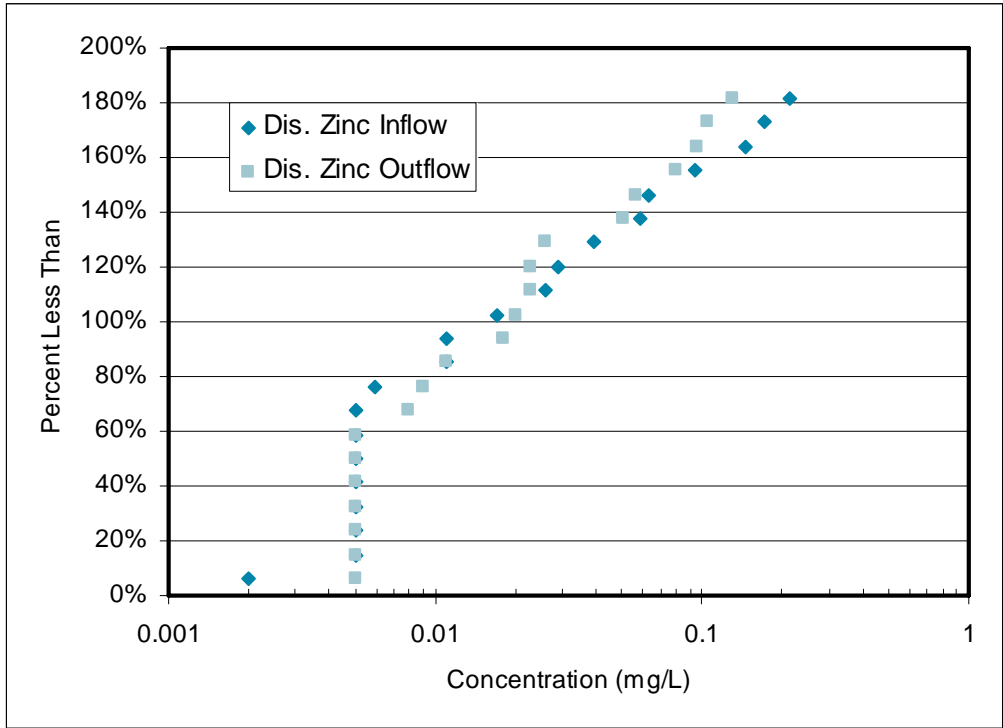


Figure 26. Dissolved Zinc Probability Plot

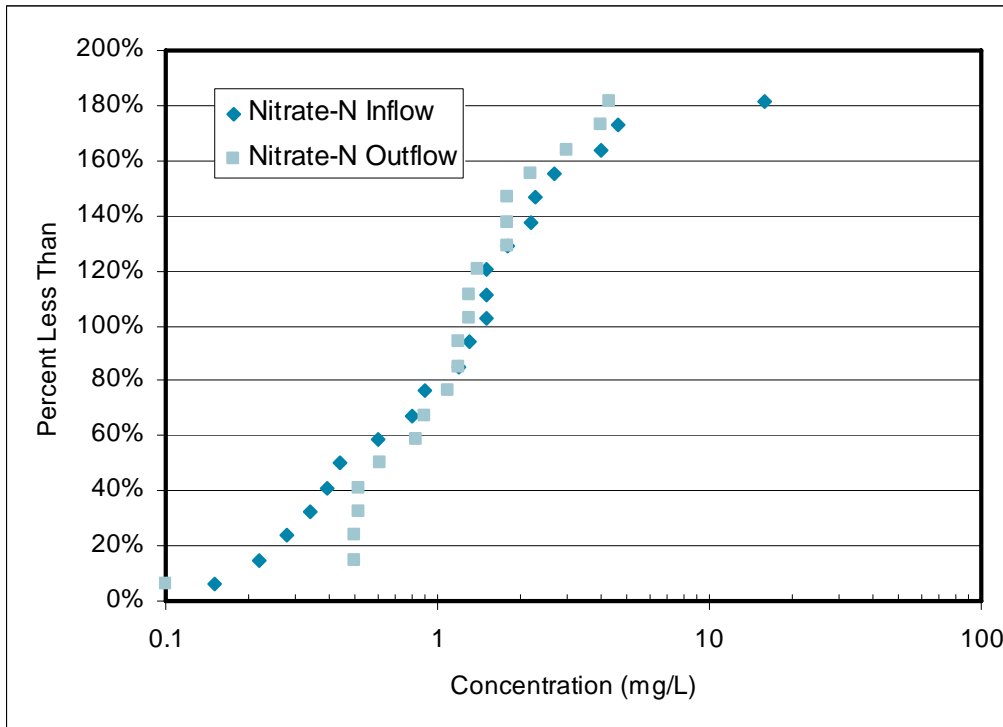


Figure 27. Nitrate-N Probability Plot

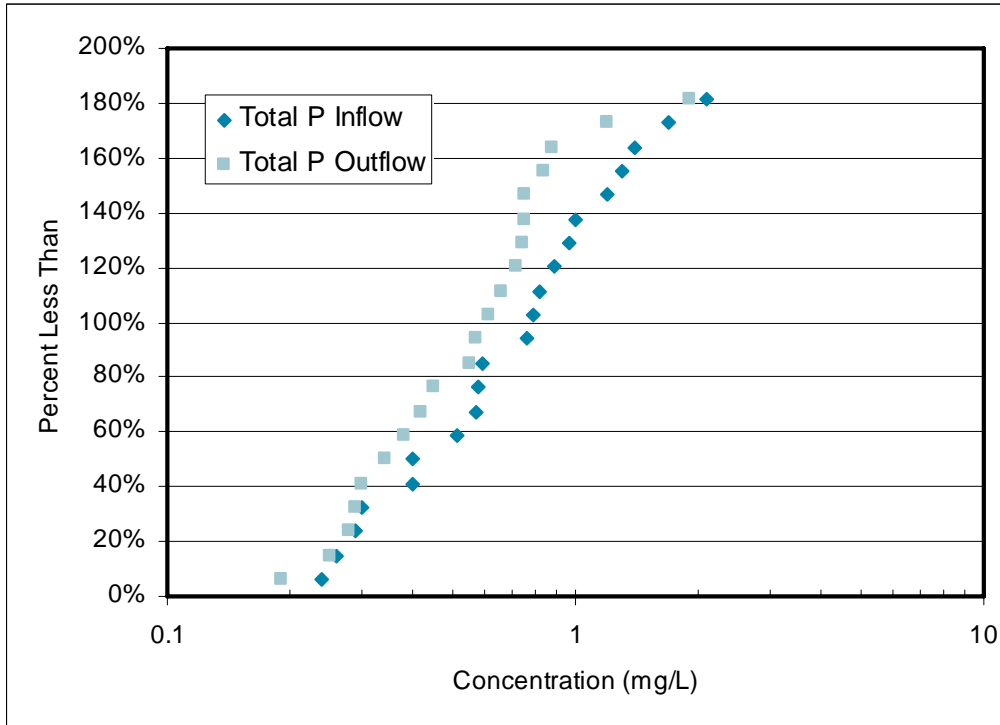


Figure 28. Total Phosphorus Probability Plot

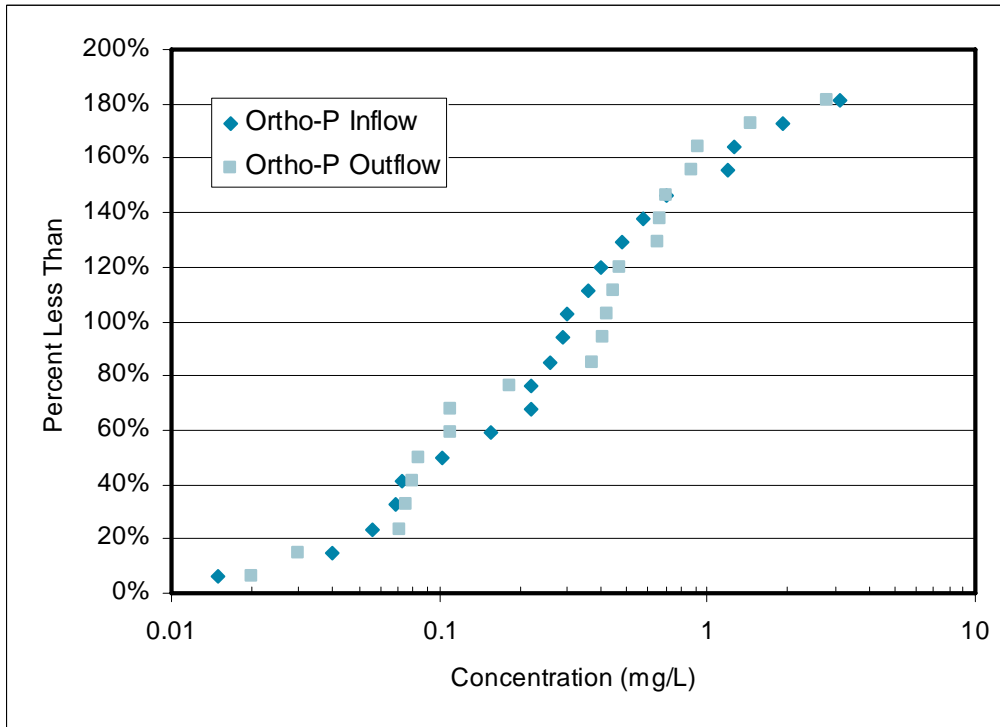


Figure 29. Orthophosphorus-P Probability Plot

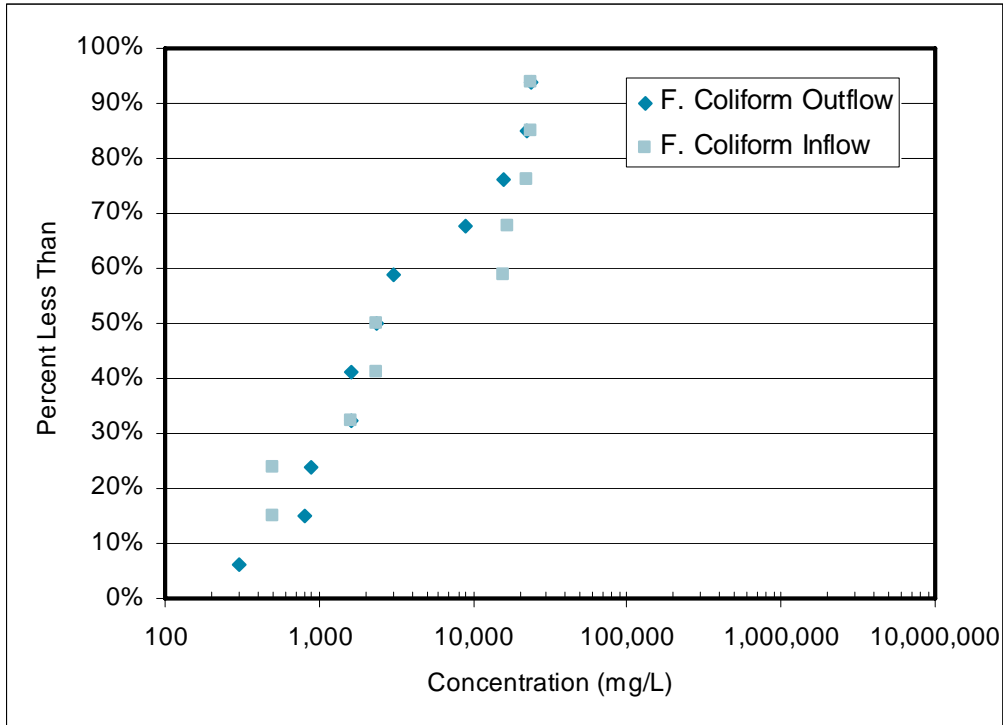


Figure 30. Fecal Coliform Probability Plot

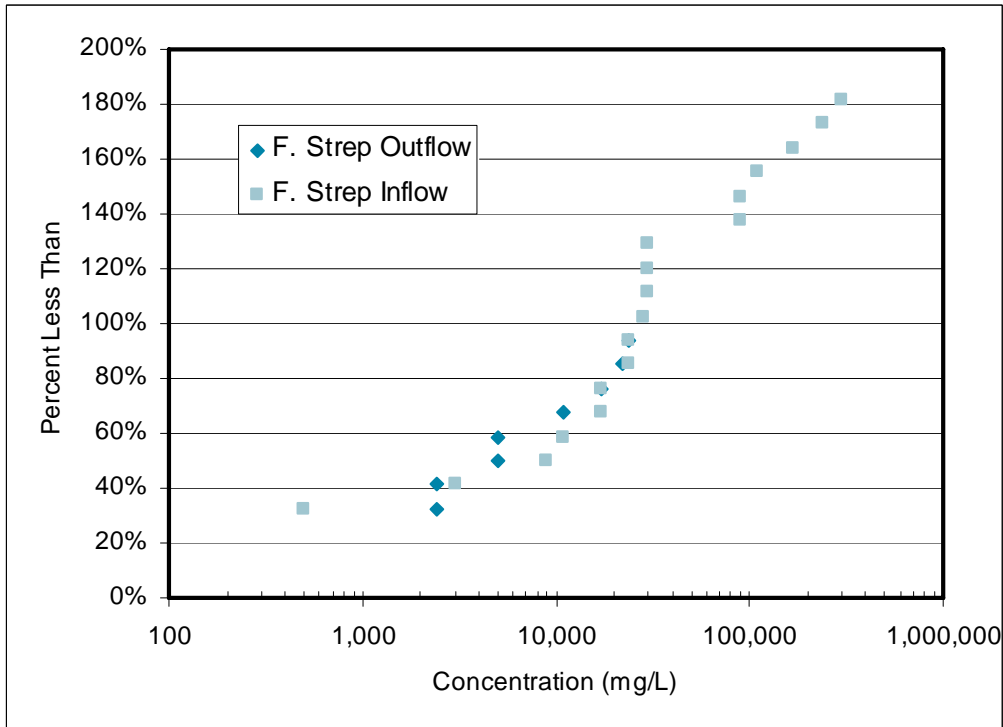


Figure 31. Fecal Streptococcus Probability Plot

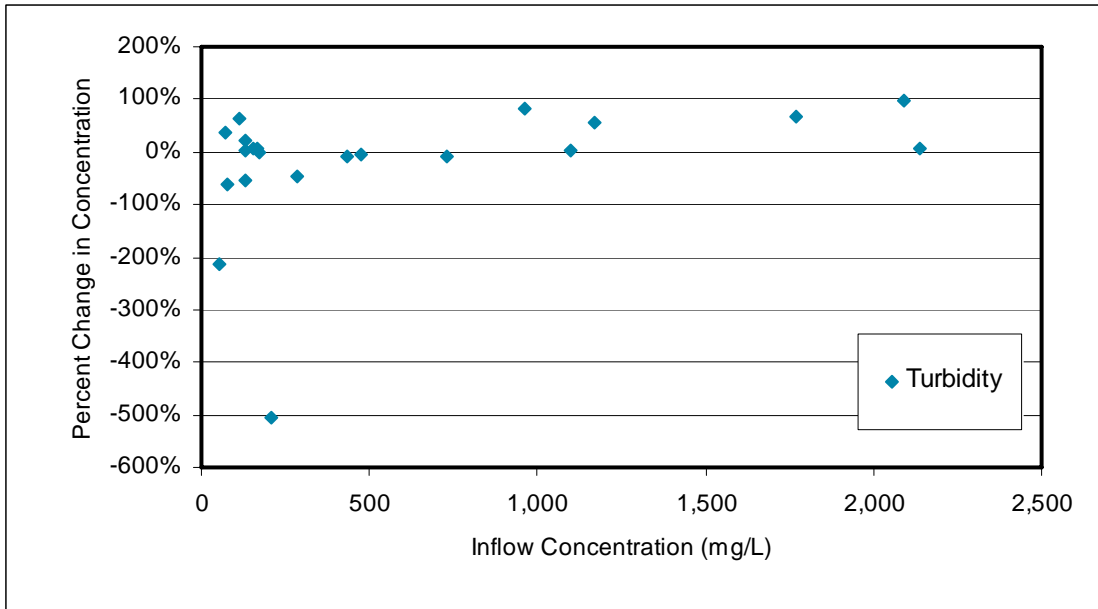


Figure 32. Turbidity Change Scatter Plot

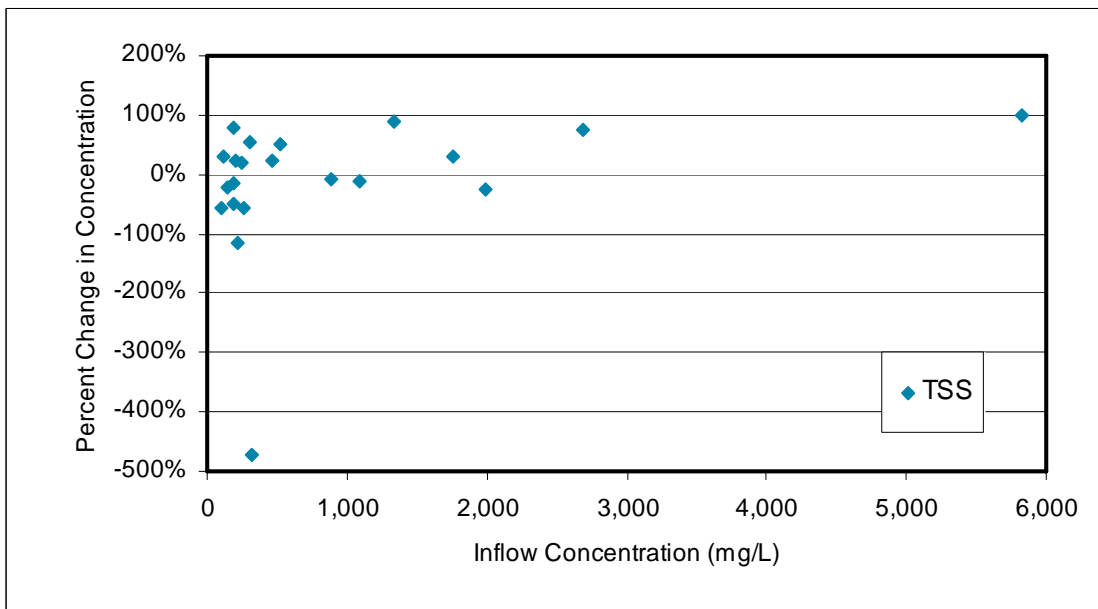


Figure 33. TSS Concentration Change Scatter Plot

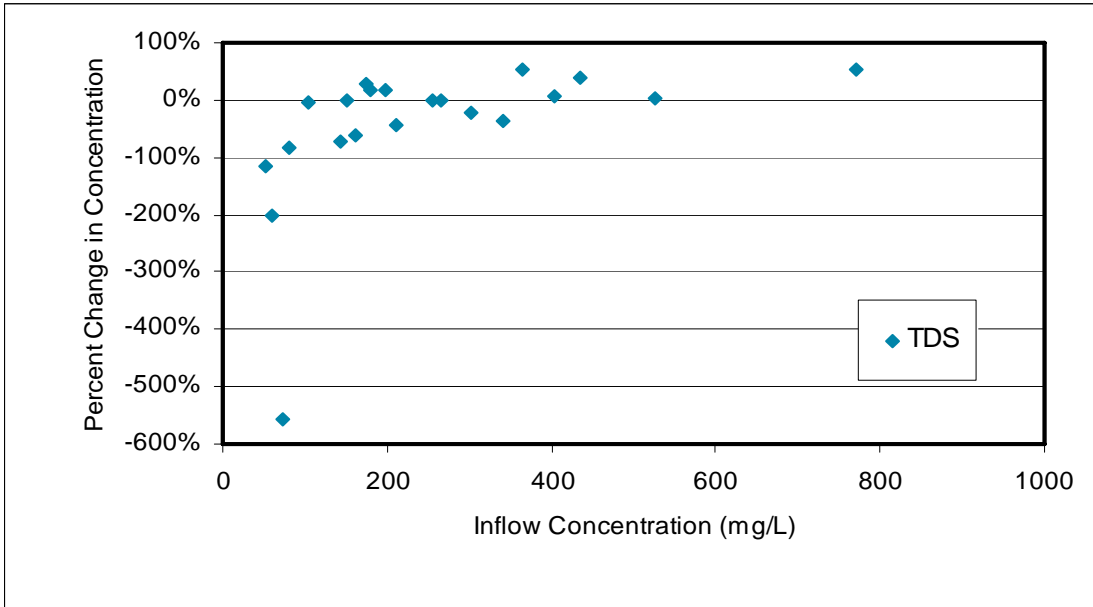


Figure 34. TDS Concentration Change Scatter Plot

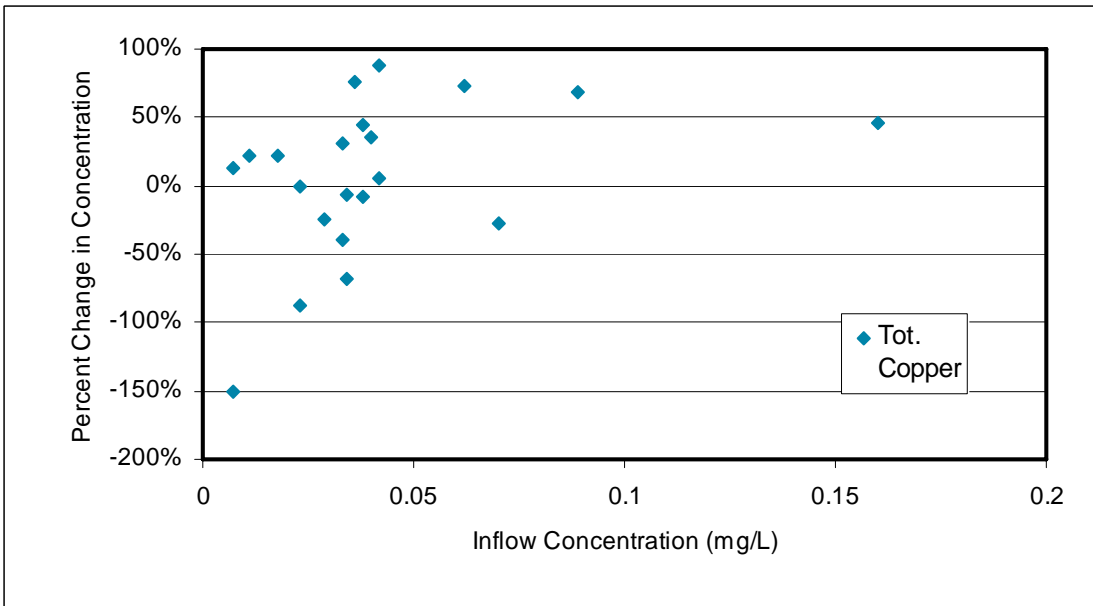


Figure 35. Total Copper Concentration Change Scatter Plot

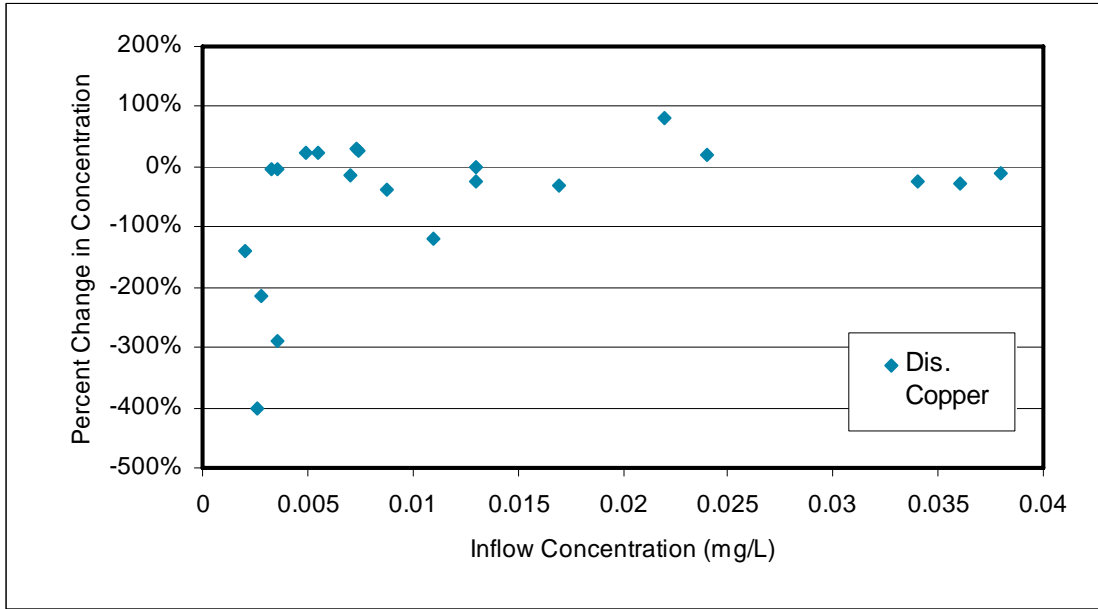


Figure 36. Dissolved Copper Concentration Change Scatter Plot

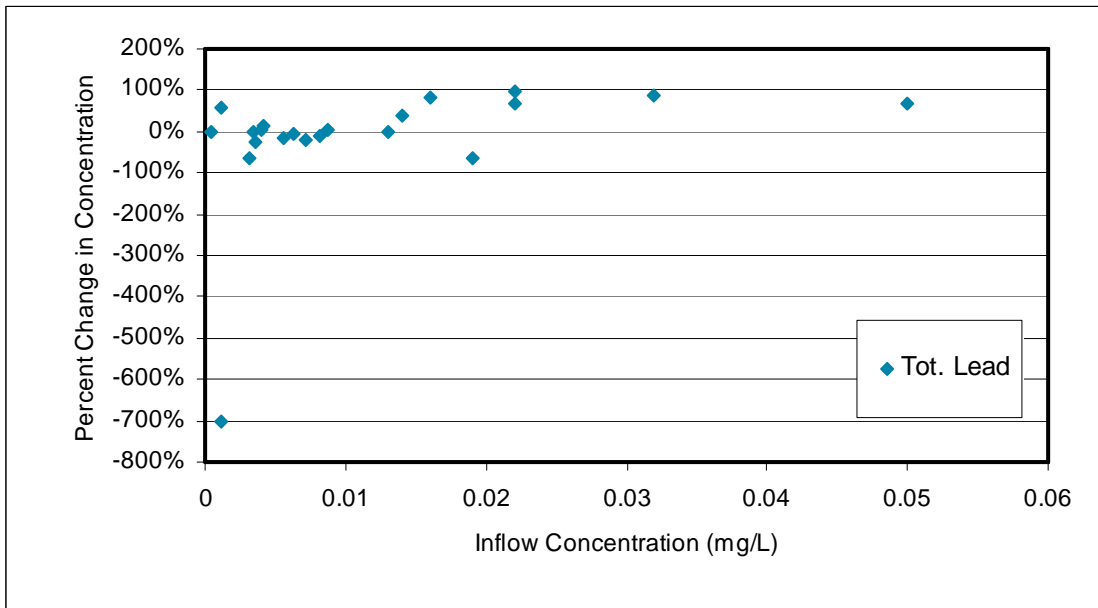


Figure 37. Total Lead Concentration Change Scatter Plot

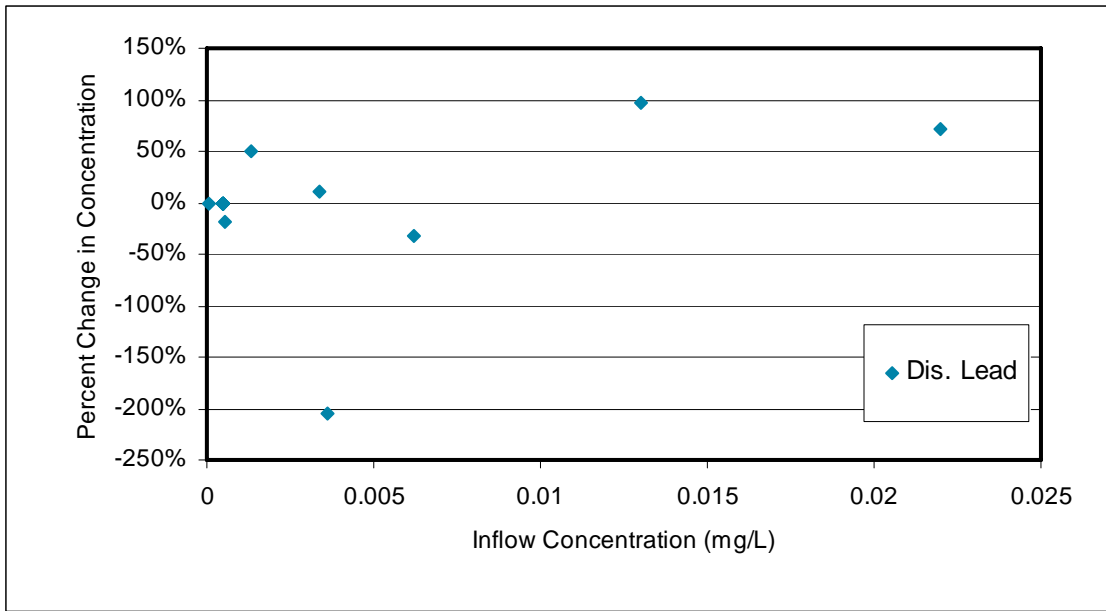


Figure 38. Dissolved Lead Concentration Change Scatter Plot

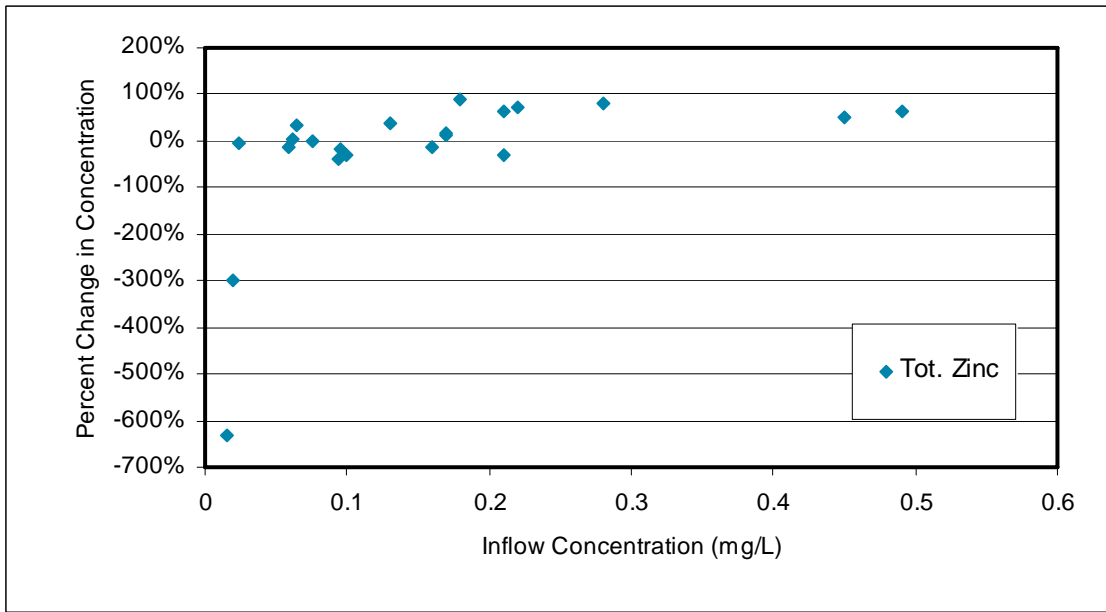


Figure 39. Total Zinc Concentration Change Scatter Plot

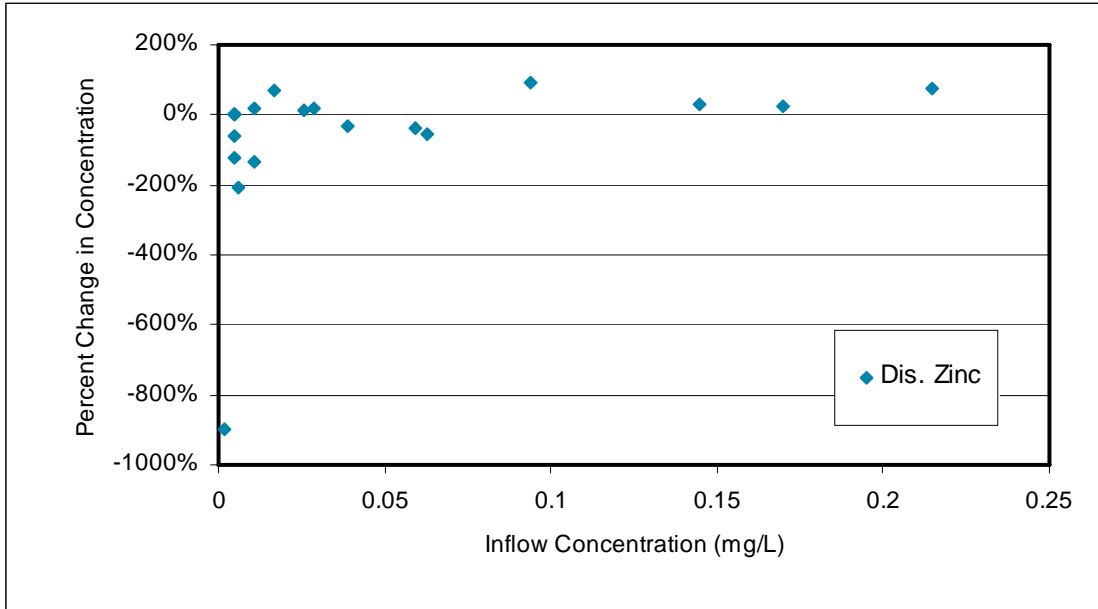


Figure 40. Dissolved Zinc Concentration Change Scatter Plot

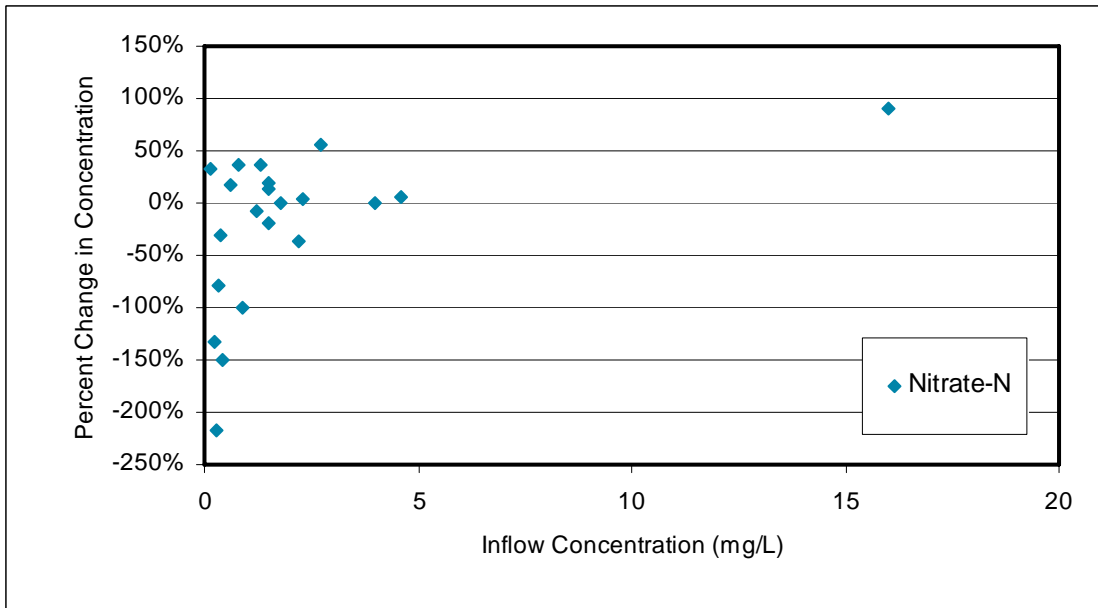


Figure 41. Nitrate-N Concentration Change Scatter Plot

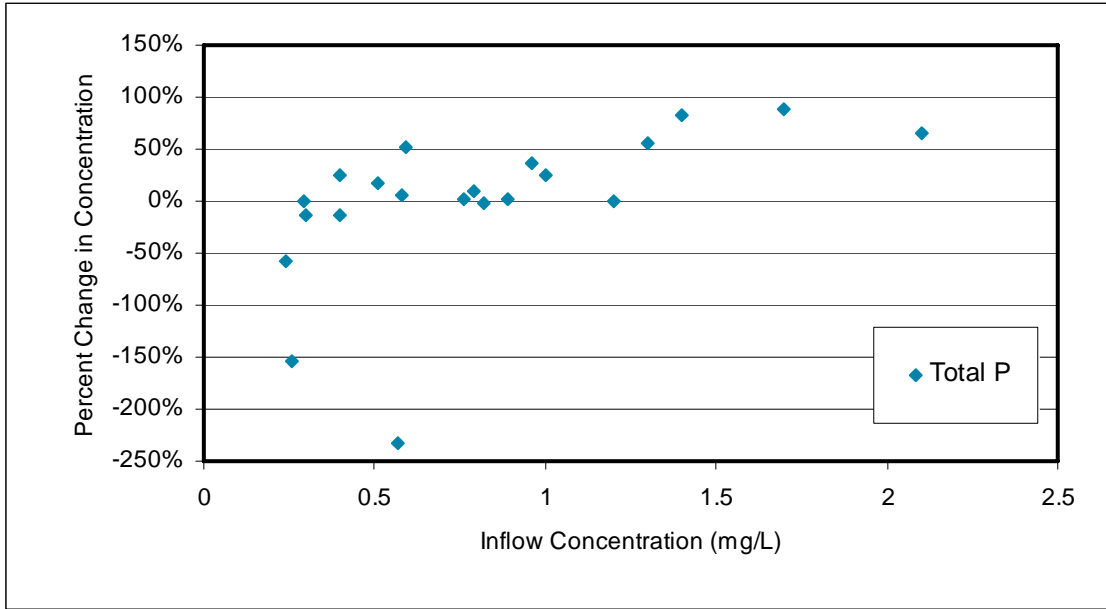


Figure 42. Total Phosphorus Concentration Change Scatter Plot

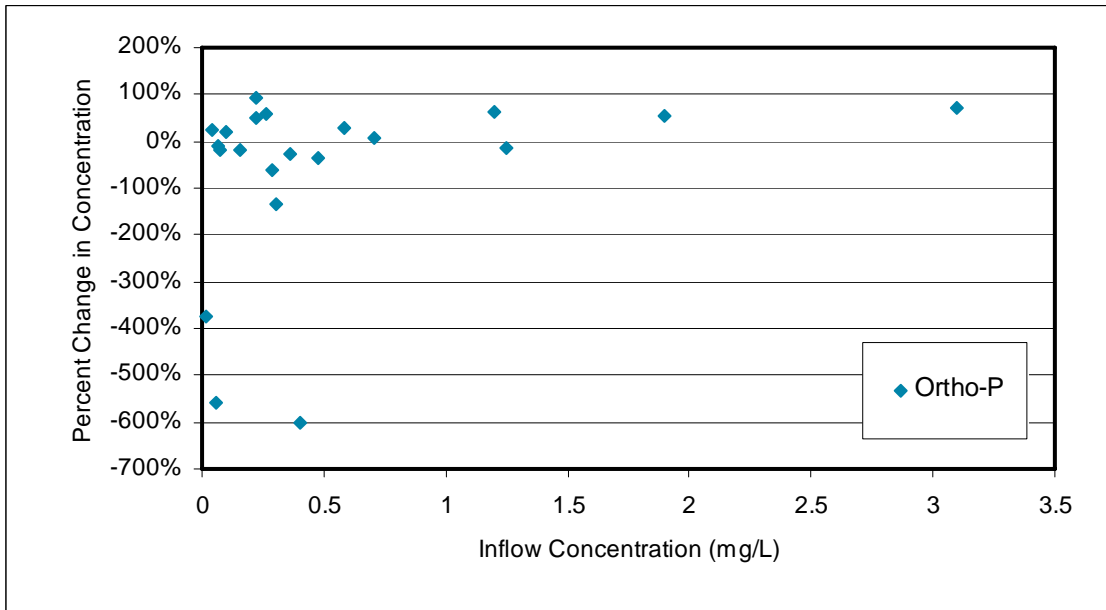


Figure 43. Orthophosphorus-P Concentration Change Scatter Plot

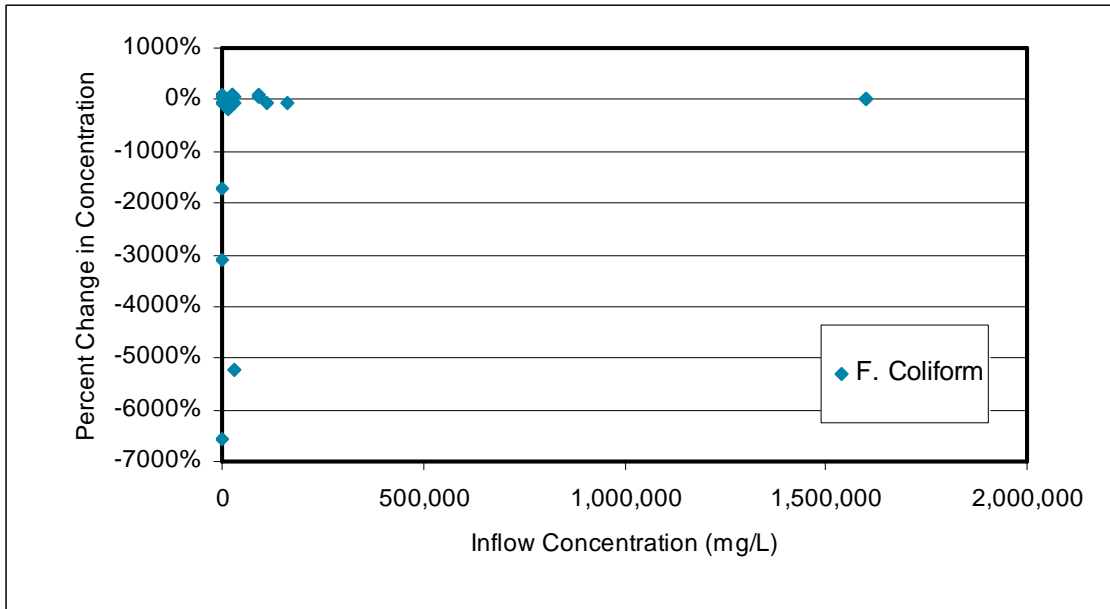


Figure 44. Fecal Coliform Concentration Change Scatter Plot

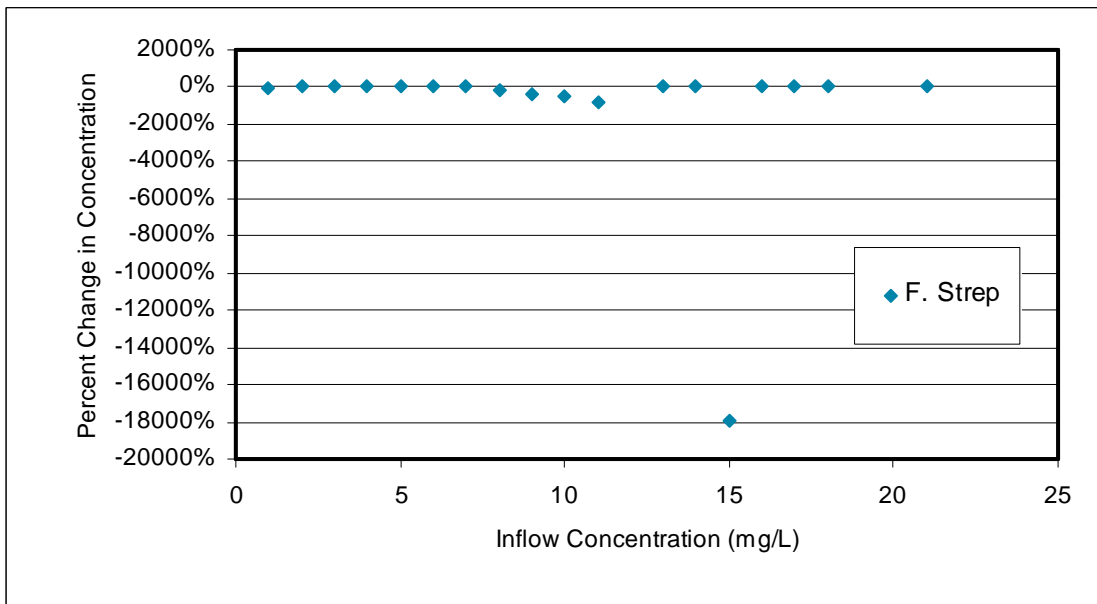


Figure 45. Fecal Streptococcus Concentration Change Scatter Plot



To: Las Vegas Valley Stormwater Quality Management Committee **Date: August 25, 2008**
From: Chip Paulson **Reference: 1700649.01180201**
Subject: Analysis of Long-Term Trends in MS4 Water Quality Data

This technical memorandum summarizes analyses of long-term water quality and streamflow data associated with the Las Vegas Valley MS4 permitting program. The analysis was performed to provide information to the Stormwater Quality Management Committee and Stormwater Stakeholders Working Group on pollutants of concern, possible impacts of development on water quality, and long-term trends in the data. Analyses were based on water quality data collected for the MS4 monitoring program between 1991 and 2008, and on other publicly available streamflow and population data.

Trends in Development

Information for changes in acreage of developed land in the Las Vegas Valley watershed was not sought. Population was used as a measure of changes in extent of development. Figure 1 shows the population increase for Clark County during the period from 1980 to 2006. Although this includes areas in the County that are outside Las Vegas Valley, the majority of growth has occurred in the Valley and it can be assumed that the County-wide rate of growth is representative of that in the Valley.

At the beginning of the MS4 permit period in 1991, County population was about 820,000. In 2006 the population had increased to about 1.9 million, an increase of 130 percent. Accounting for an increase in density in the urban core of Las Vegas, a rate of increase in the range of 100 to 120 percent in developed area in Las Vegas Valley probably occurred over this same period.

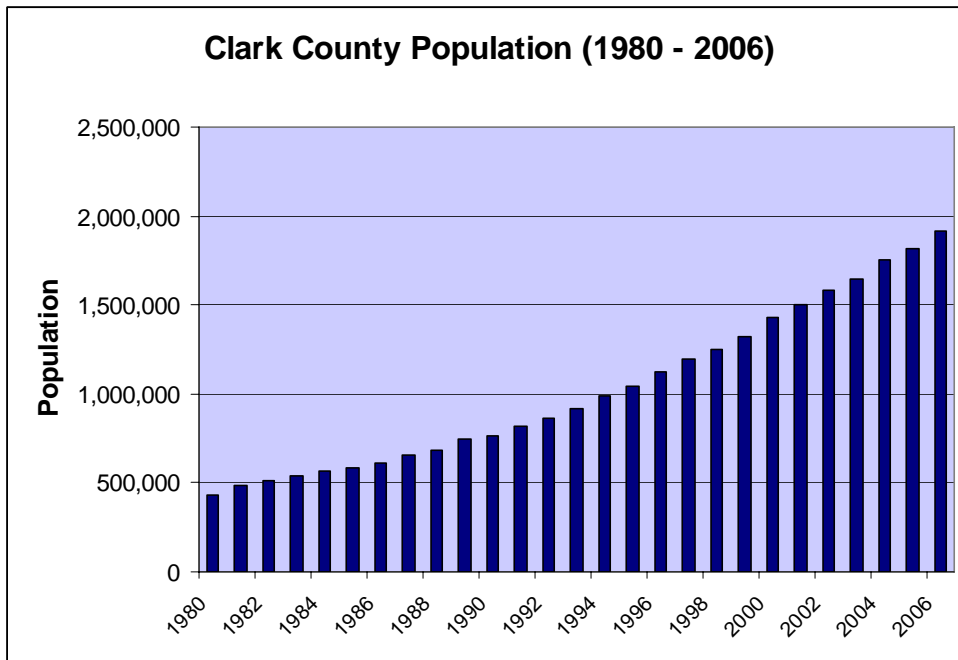


Figure 1

Trends in Streamflow

Increased area of urban development would, in theory, increase the rates and volumes of streamflow occurring during both wet weather and dry weather conditions. Average annual streamflow in Las Vegas Wash near Lake Las Vegas and in Flamingo Wash near the confluence with Las Vegas Wash was plotted to see if trends could be observed. These plots are shown in Figures 2 and 3.

At both locations average annual streamflow is shown to have increased significantly over time. Average annual streamflow is comprised of a combination of storm runoff, dry weather flows from urban and other sources, resurfacing groundwater, and in the case of lower Las Vegas Wash, wastewater treatment plant effluent. Wastewater treatment plant effluent has increased in direct response to population growth. Resurfacing groundwater has probably increased in areas adjacent to Las Vegas Wash, particularly in the Henderson area, as a result of increased applied water for landscape irrigation. This factor strongly influences dry weather streamflows at the lower Las Vegas Wash gage locations, lower Duck Creek and lower Pittman Wash. The Flamingo Wash gage data plotted in Figure 3 is less influenced by this effect. Urbanization is generally thought to increase dry weather flows due to miscellaneous factors such as over-watering of lawns, car washing, pool draining, dewatering for construction, and similar activities. This influence may be contributing to the trends see in Figures 2 and 3.

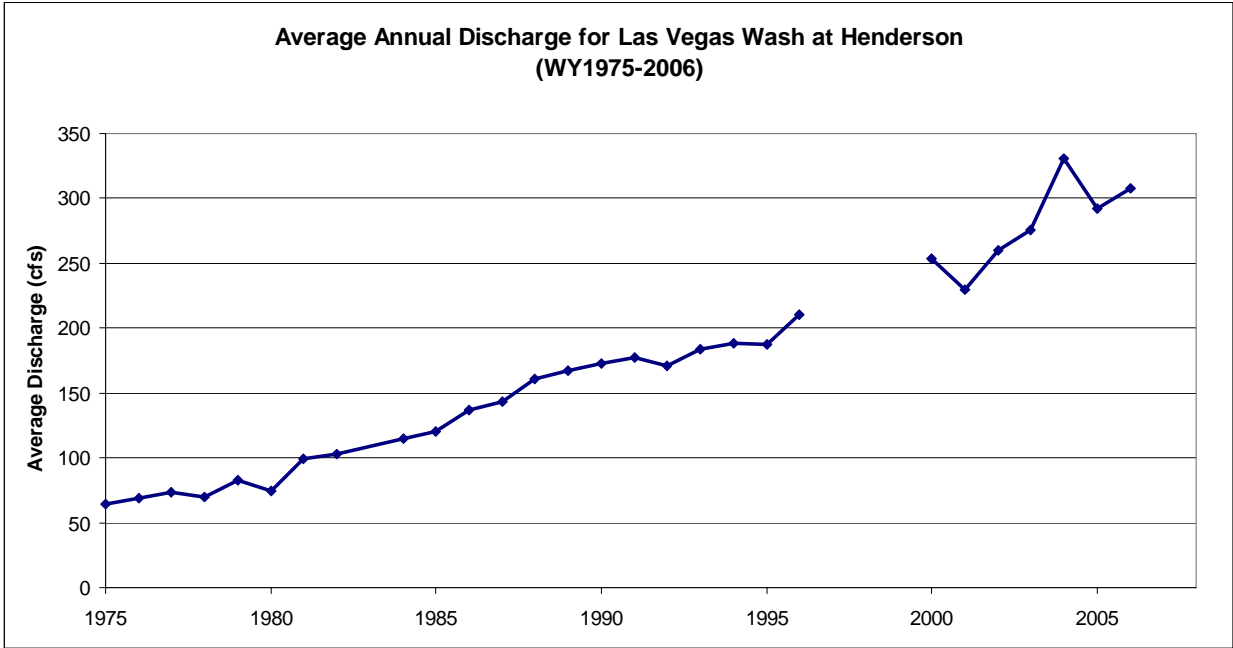


Figure 2

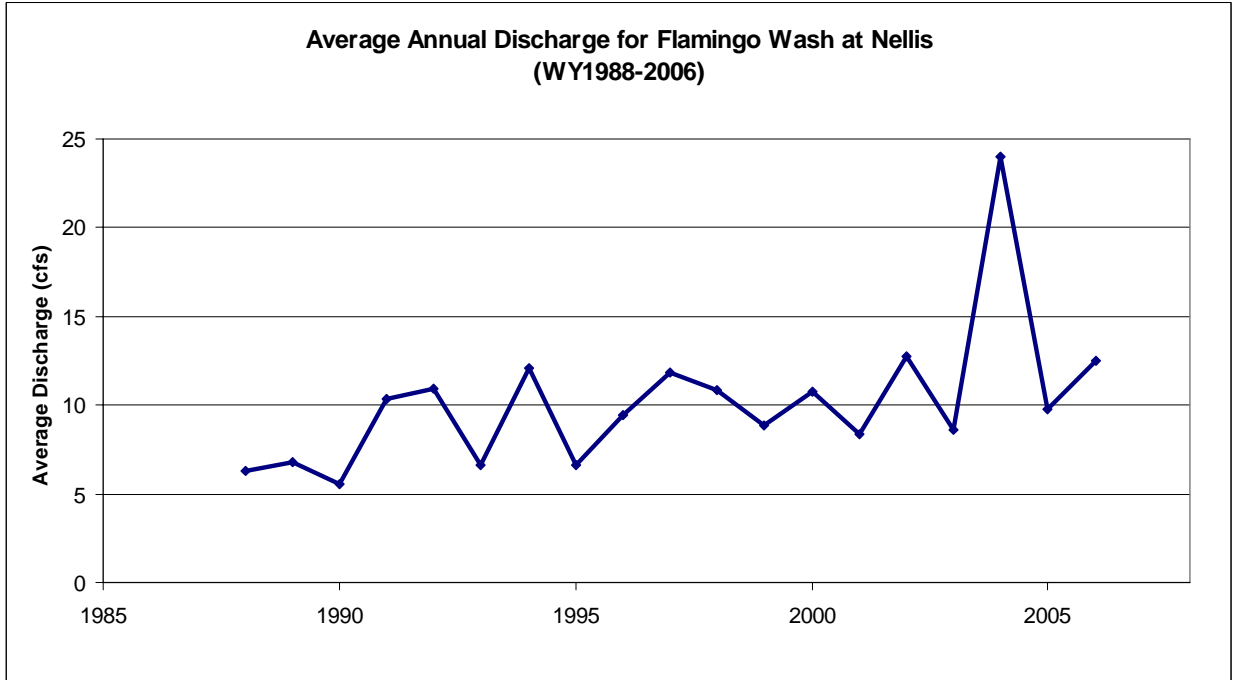


Figure 3

Base flows were subtracted from the total annual runoff at the lower Las Vegas Wash gaging station (which has been relocated several times due to failures during high flow events) to compute the annual storm runoff. This is shown in Figure 4. It is seen that annual storm flow is also increasing over time, demonstrating the effect of urban development on storm runoff. In

2002 MWH reviewed annual storm runoff and rainfall data to determine whether the apparent increase in storm runoff was due to increased rainfall over the sampling period or to an increase in the percentage of rainfall that is converted to runoff. It was found that annual rainfall totals did not show an upward trend, but the ratio of annual runoff to annual rainfall did show an upward trend. This supports the conclusion that the percentage of rainfall converted to runoff in the Las Vegas Valley watershed is increasing as the level of development increases.

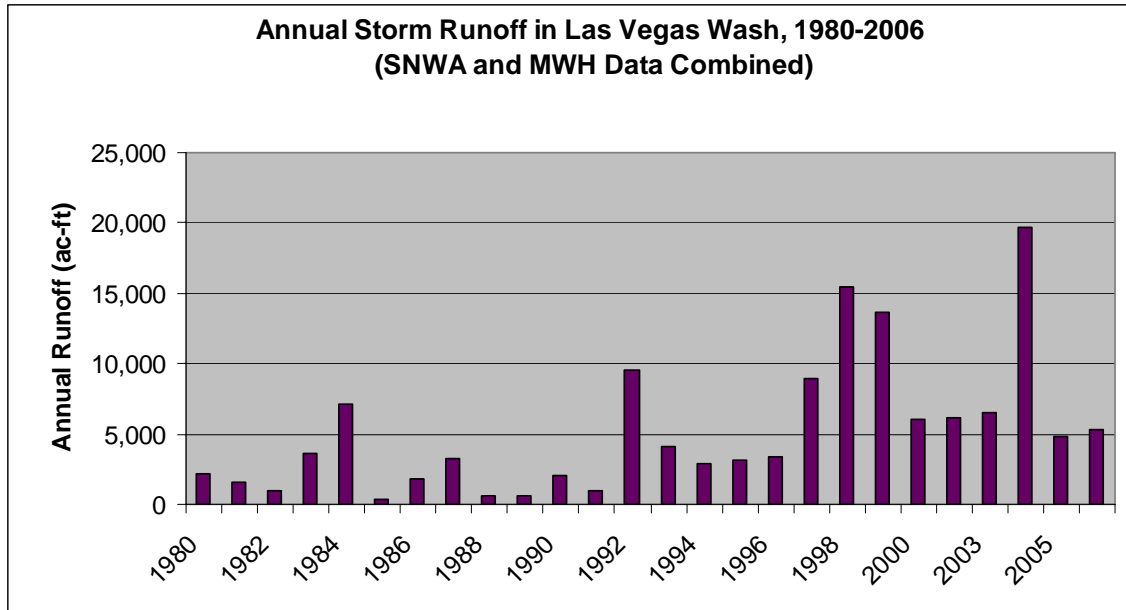


Figure 4

Taken together, the limited analysis of streamflow data presented above suggests that “hydromodification” – i.e., a change in the hydrologic regime of low flows and/or storm flows – has occurred and is continuing to occur in Las Vegas Valley as a result of a number of aspects of urban development. Figure 5 shows the approximate distribution of storm flows, wastewater treatment plant discharges, and miscellaneous non-point base flows comprising average annual flow in lower Las Vegas Wash. Each of these flow components has been affected by past urbanization in the Valley.

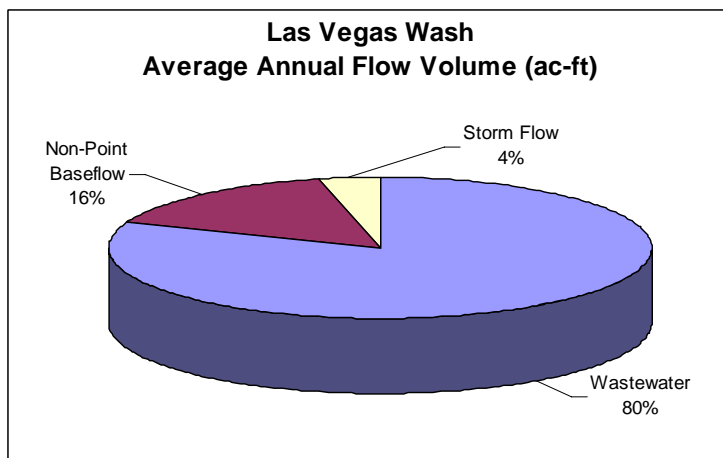


Figure 5

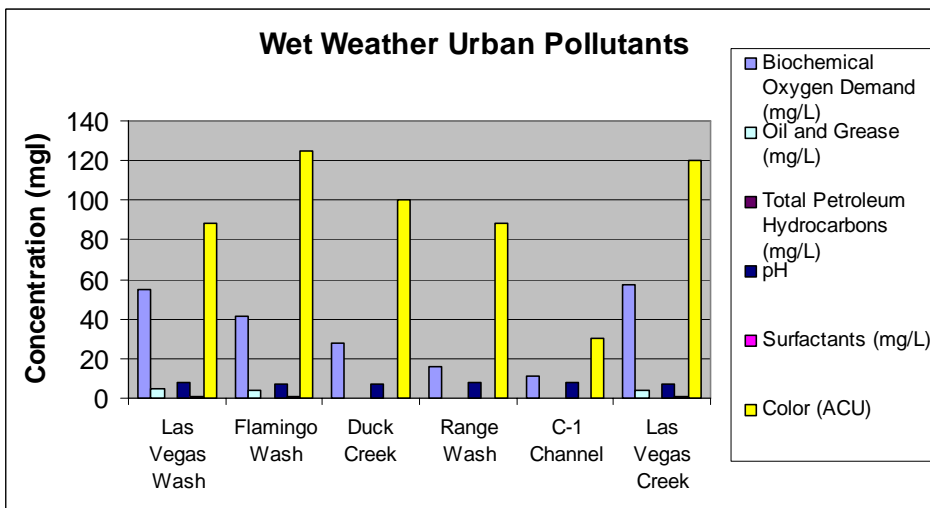
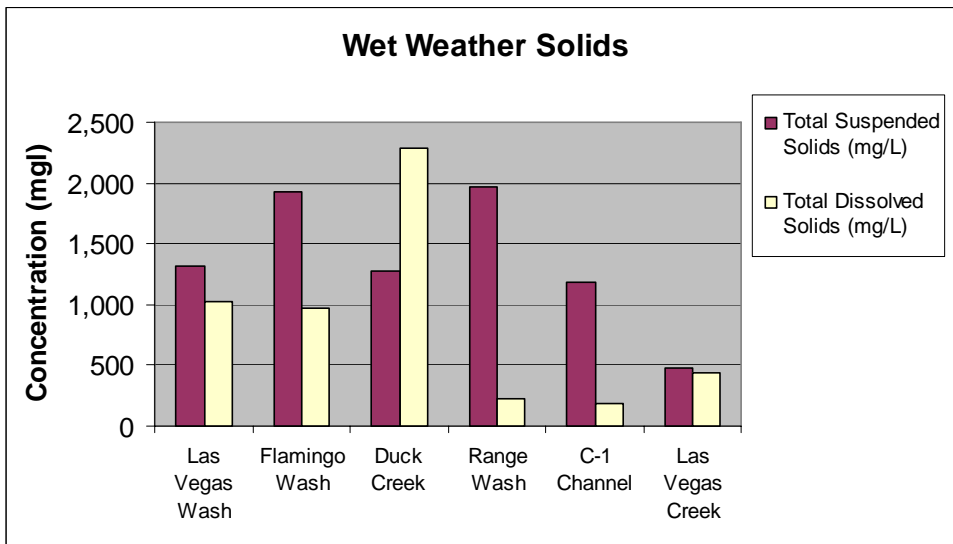
Wet Weather Water Quality by Watershed

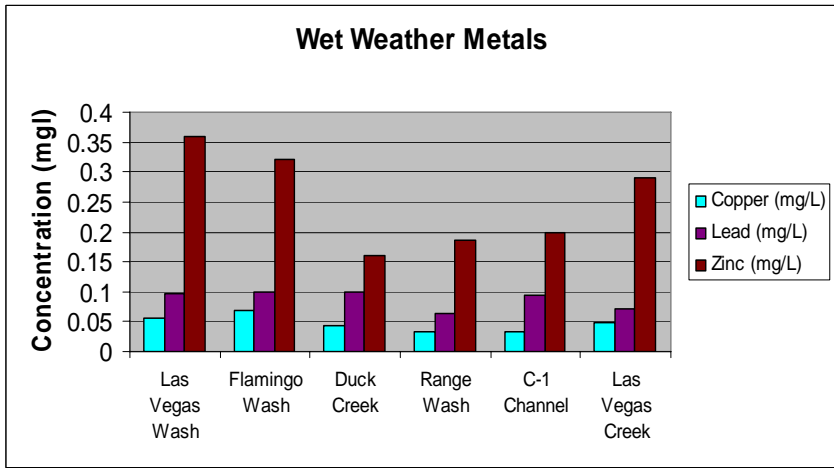
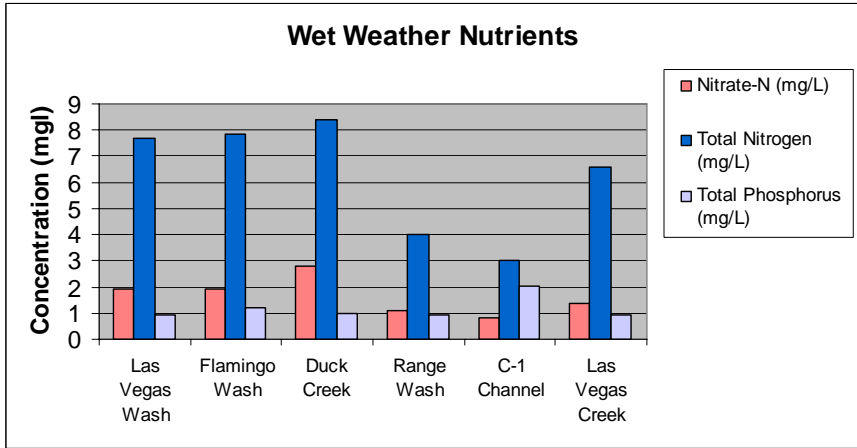
Wet weather water quality concentration data was plotted by major watershed to determine visually whether there was a relationship between extent of urban development in the watershed and pollutant concentration. Figures 6-9 show median concentrations of data collected over the period of MS4 sampling. The approximate order of watersheds in terms of development, from most developed to least developed, is:

1. Las Vegas Creek
2. Flamingo Wash
3. Duck Creek
4. Las Vegas Wash
5. C-1 Channel
6. Range Wash

This is a qualitative assessment, because most runoff that was sampled was generated by storms that occurred over the urban portions of the respective watersheds, not the undeveloped areas.

Figures 6-9





In general the more urbanized watersheds have higher concentrations of urban-generated pollutants, but all watersheds contribute pollutant concentrations that exceed background levels.

Relationship Between Wet Weather Concentration and Development

Concentrations of selected urban pollutants were plotted against time and population to determine whether concentrations have increased as development has increased. Figures 10 – 14 show these plots, and show that the significant increase of development in Las Vegas Valley over the past 15 years has not resulted in an increase in concentration of any of the constituents investigated.

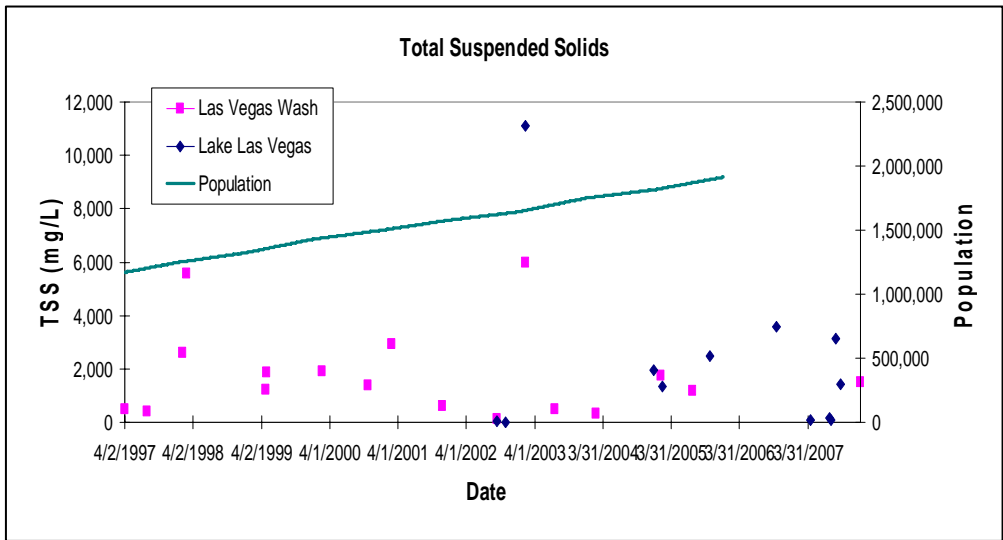


Figure 10

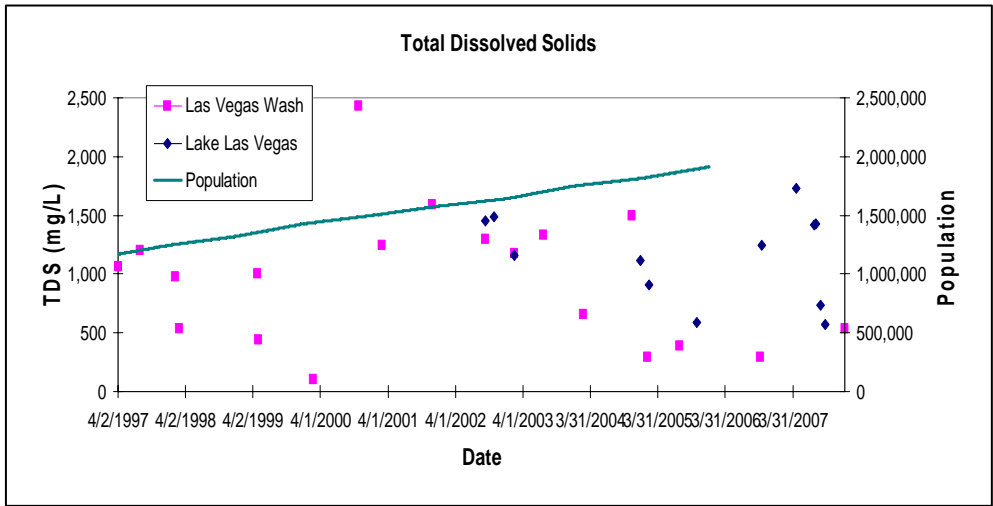


Figure 11

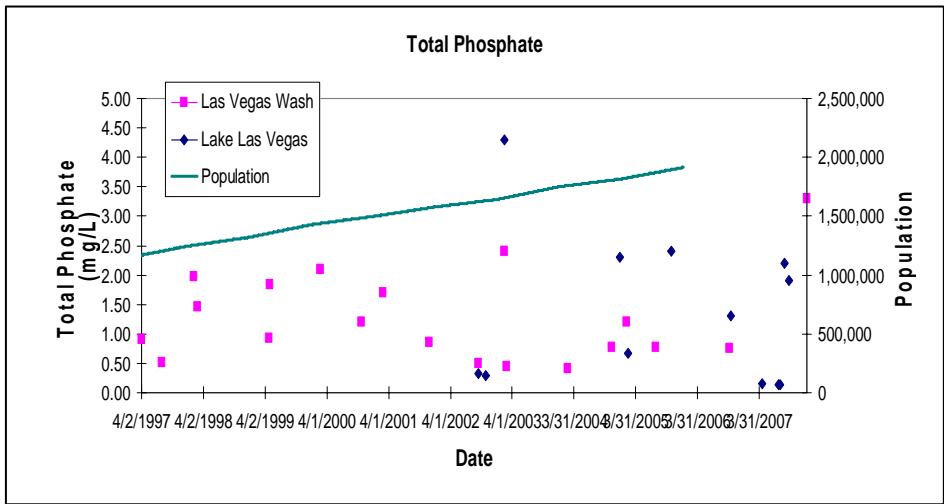


Figure 12

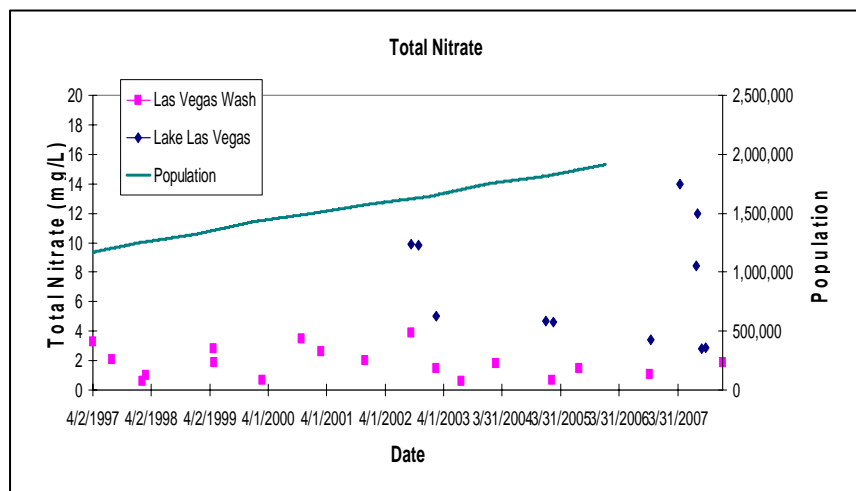


Figure 13

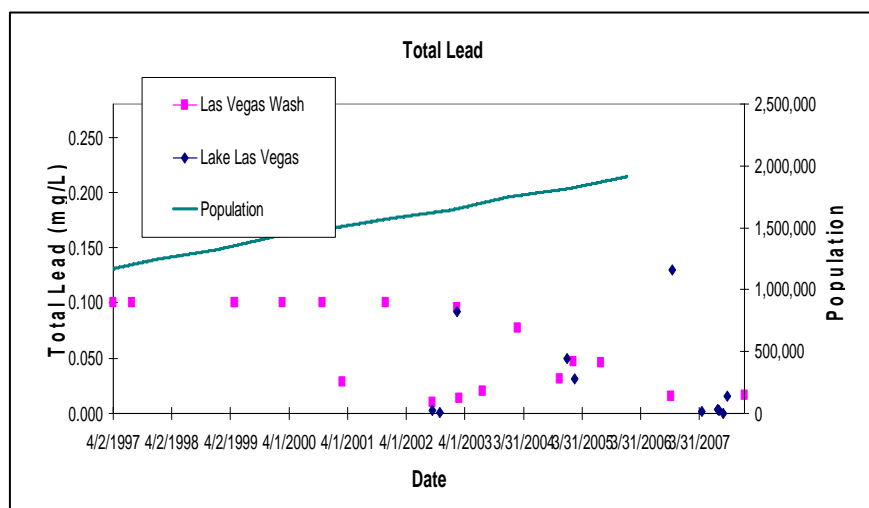


Figure 14

Wet Weather Concentrations Versus Flow Rate

Concentrations of selected pollutants in wet weather sampling were plotted against flow rate to determine whether there is a positive or negative relationship between concentration and discharge. The flow-weighted concentration for each wet weather sample was plotted against both average discharge during the sample collection period and peak discharge during the sample collection period. Both approaches showed the same basic relationships.

The plots in Figures 15-20 show flow-weighted concentration plotted against discharge for 6 representative constituents and monitored outfalls. Table 1 presents the results for the 6 constituents at all monitored outfalls. The overall results can be summarized as follows:

- TSS, total phosphorus and other largely particulate constituents show a general positive correlation to discharge. This is consistent with the suspected higher suspended sediment transport at higher flow rates.
- TDS, nitrate and other dissolved constituents show a general negative correlation to discharge. This is probably due to the dilution provided at high flows.
- Metals, which have both particulate and dissolved fractions, show no consistent correlation to discharge.
- TSS and TDS show the strongest correlations across all sites, but even these have anomalies in the data sets (e.g., for TSS, low concentrations at high discharges, and for TDS, high concentrations at high discharges).

Table 1. Correlation Between Flow-Weighted Concentration and Discharge

Outfall	TSS	TDS	T Phos	Nitrate	Copper	Lead
Las Vegas Wash						
Average Q	+	-	+	-	+	x
Peak Q	+	-	+	-	x	x
Range Wash						
Average Q	-	-	x	-	-	x
Peak Q	-	-	x	x	-	-
C-1 Channel						
Average Q	+	-	-	x	+	+
Peak Q	+	x	-	x	+	+
Flamingo Wash						
Average Q	x	-	x	x	+	x
Peak Q	x	-	x	x	+	x
Duck Creek						
Average Q	+	-	+	x	x	x
Peak Q	+	-	+	x	x	+
Las Vegas Creek						
Average Q	x	-	x	x	x	x
Peak Q	x	-	x	x	x	x
Western Tributary						
Average Q	x	x	x	-	-	x
Peak Q	x	x	x	-	-	x
Synthesis						
Average Q	+	-	+	-	x	x
Peak Q	+	-	+	-	x	x

+ = positive correlation
 - = negative correlation
 x = no correlation

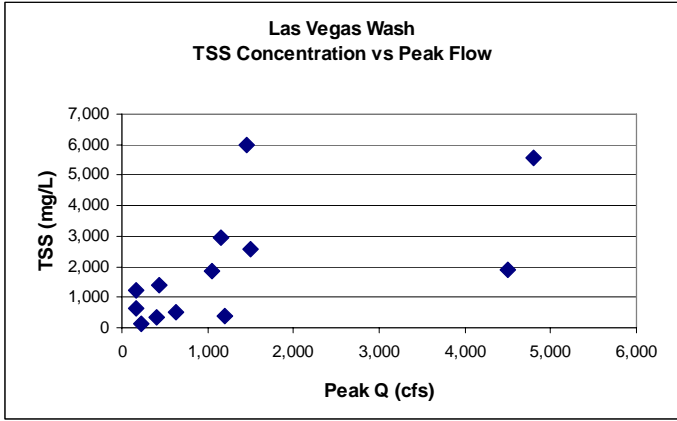


Figure 15

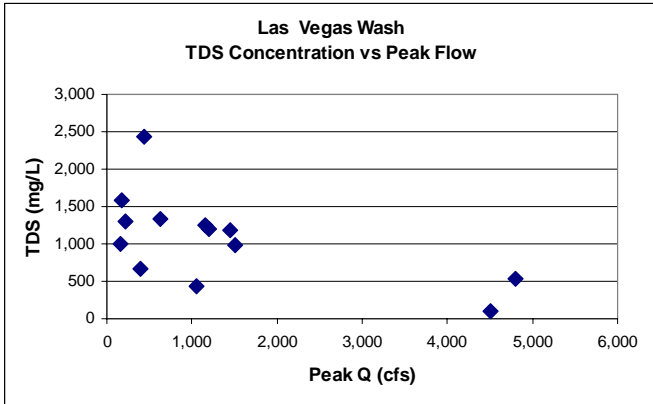


Figure 16

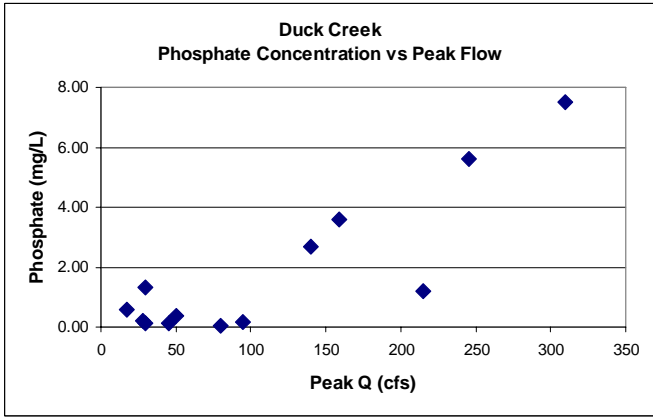


Figure 17

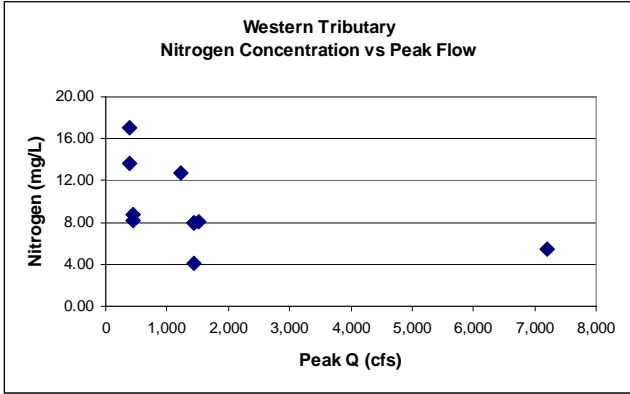


Figure 18

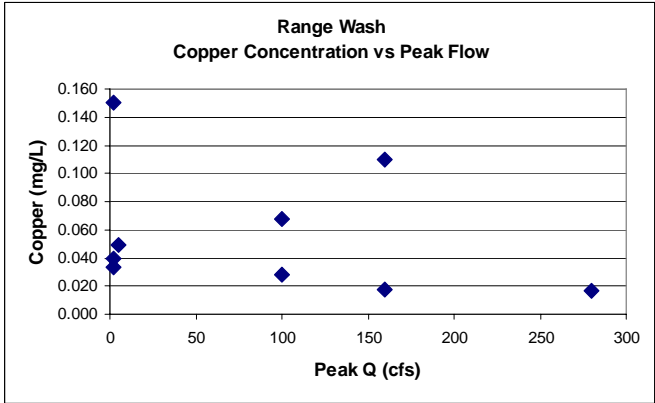


Figure 19

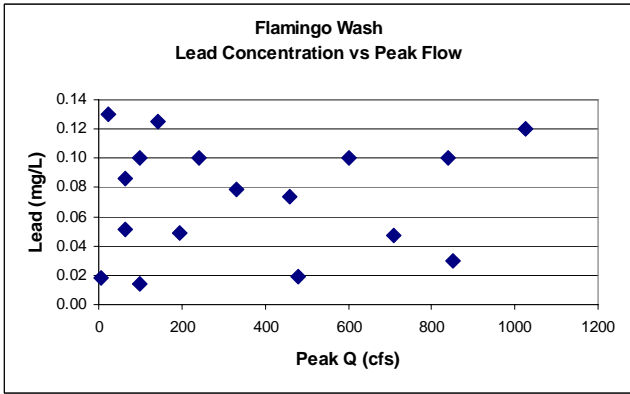


Figure 20

The relationship between concentration and antecedent dry period was investigated at selected sites (Las Vegas Wash, Flamingo Wash and Duck Creek) for the 6 selected parameters analyzed in the previous section. The theory was that longer antecedent dry periods before rainfall events would lead to greater pollutant wash-off and a seasonal first-flush effect. The limited available data does not demonstrate this effect. Table 2 summarizes the results, and Figures 21-24 show representative plots of concentration versus antecedent dry days (i.e., days since the last measurable rainfall in the tributary watershed). Sometimes concentration is positively correlated to antecedent dry days as expected (e.g., total copper on Las Vegas Wash), while at other locations concentration is unexpectedly negatively correlated to antecedent dry days (e.g., TSS on Duck Creek). Most commonly there is no consistent relation to antecedent dry period. This suggests that individual storm characteristics such as intensity and location have more influence on water quality an antecedent dry period.

Table 2. Correlation Between Flow-Weighted Concentration and Antecedent Dry Days

Outfall	TSS	TDS	T Phos	Nitrate	Copper	Lead
Las Vegas Wash	x	+	-	x	+	x
Flamingo Wash	x	x	x	x	x	x
Duck Creek	-	-	-	-	x	x
Synthesis	x	x	-	x	x	x

+ = positive correlation
 - = negative correlation
 x = no correlation

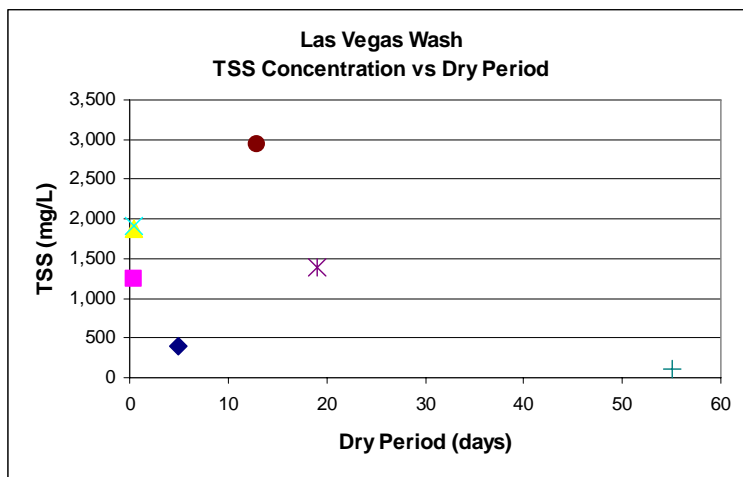


Figure 21

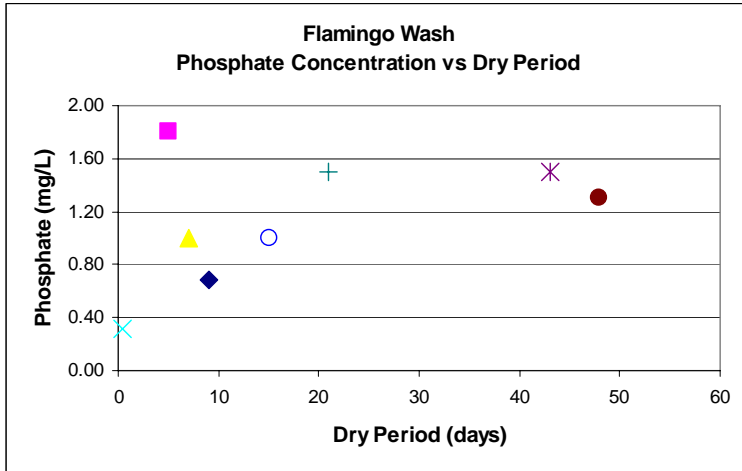


Figure 22

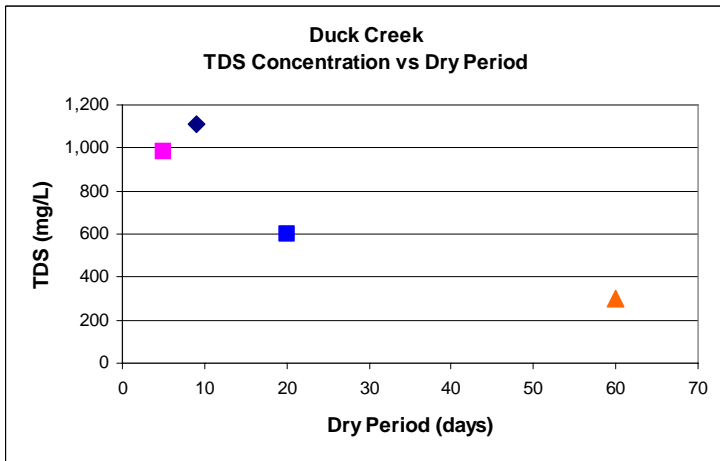


Figure 23

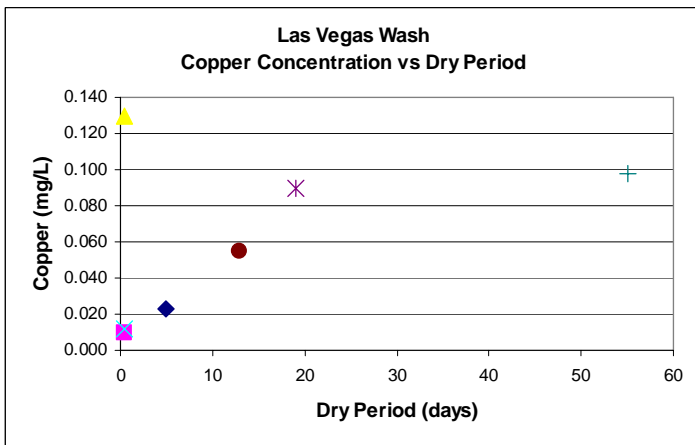


Figure 24

Dry Weather Concentration Trends With Development

Dry weather concentration data collected for Las Vegas Wash at Desert Rose was plotted against time and Clark County population to determine whether the data demonstrates an effect of increased urban development in the Las Vegas Valley watershed. The Desert Rose site was selected because it is upstream of the influence of wastewater discharges and most resurfacing groundwater. Representative results are shown in Figures 25-27. None of the 6 representative constituents analyzed (TSS, TDS, total phosphorus, nitrate, total lead, and total zinc) showed a significant positive correlation between concentration and population. There is no evidence in this data that urbanization is increasing concentrations of these constituents.

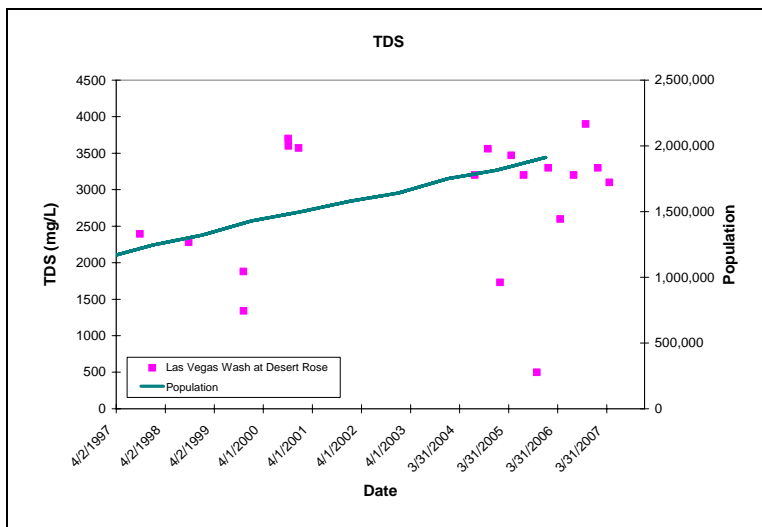


Figure 25

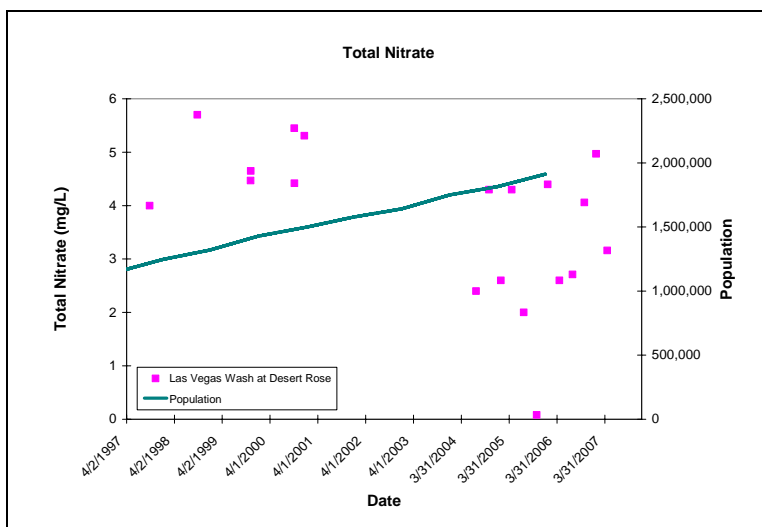


Figure 26

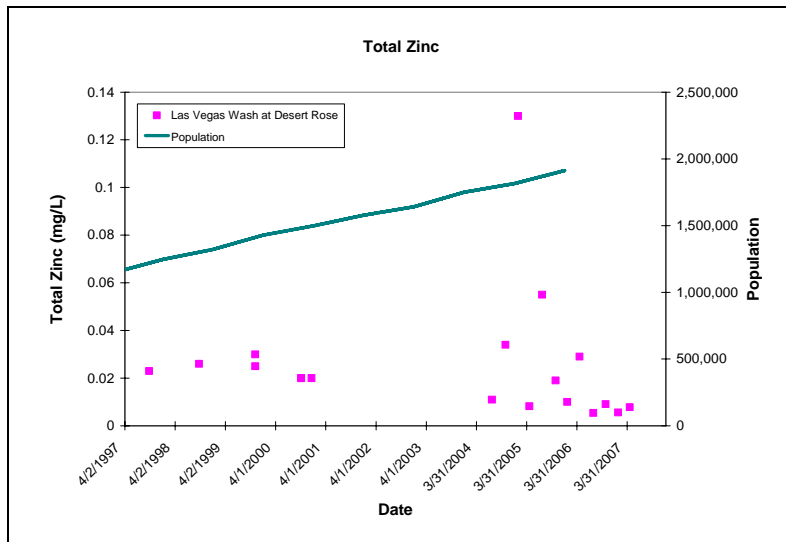


Figure 27

Pollutant Load Increases With Increased Development

Preceding sections show that: (1) dry weather and wet weather concentrations have remained fairly consistent over the past 15 despite over 100 percent increase in urban development in the Las Vegas Valley watershed; and (2) dry weather and wet weather flows have increased in response to this increase in development. Thus, although concentrations have not increased, pollutant loads delivered to lower Las Vegas Wash, Las Vegas Bay and Lake Mead have increased.

Increases in average pollutant loads delivered by Lower Las Vegas Wash were estimated by computing theoretical pollutant loads in 1991 and 2007 for dry and wet weather conditions. These are called “theoretical” loads because:

- wet weather flows were estimated assuming average hydrologic conditions based on Figure 4;
- dry weather flows were estimated as the difference between total annual flows from Figure 3 and wet weather flows; and
- pollutant concentrations were estimated using the median value for the entire period of record at all sites.

Calculations of estimated flow volumes in Lower Las Vegas Wash in 1991 and 2007 are provided in Table 3. Calculations of estimated pollutant loads in 1991 and 2007 are provided in Table 4. Load calculations are only estimates, and provide the order of magnitude of annual pollutant loads and the change in load that has occurred during the period of the MS4 permit.

The following conclusions can be drawn from this analysis:

- Although concentrations have not increased significantly, pollutant loads to lower Las Vegas Wash have increased significantly over the period of the MS4 permit due to increases in wet and dry weather flow volumes.
- Pollutants more strongly associated with wet weather flows (e.g., TSS, phosphorus, metals) have experienced a greater increase in loads than those more strongly associated with dry weather flows (e.g., TDS, nitrate).

Table 3. Summary of Lower Las Vegas Wash Flows

Parameter	1991	2007
Total Average Annual Flow (cfs)	180	330
Total Average Annual Flow (af)	130,320	238,920
% Increase in Total Flow		83%
Total Storm Runoff in an Average Hydrologic Year (af)	2,500	7,500
% Increase in Storm Flow		200%
Total Dry Weather Runoff (af)	127,820	231,420
% Increase in Dry Flow		81%

Table 4. Calculation of Pollutant Loads

Constituent	Wet Weather			Dry Weather			Total	
	Median Conc. (mg/l)	1991 Annual Load (lbs)	2007 Annual Load (lbs)	Median Conc. (mg/l)	1991 Annual Load (lbs)	2007 Annual Load (lbs)	1991 Annual Load (lbs)	2007 Annual Load (lbs)
TSS	950	44,966	134,897	13	615	1,846	45,581	136,743
TDS	580	27,453	82,358	3140	148,624	445,871	176,076	528,229
Total Phosphorus	0.96	45	136	0.03	1.4	4.3	47	141
OrthoPhosphate	0.2	9	28	0.016	0.8	2.3	10	31
Nitrate	1.6	76	227	4.2	199	596	275	824
Total Copper	0.044	2	6	0.01	0.5	1.4	3	8
Total Lead	0.071	3	10	0.001	0.05	0.14	3	10

Note: Detection limit is shown for Cu and Pb; median is less than DL

APPENDIX G

Public Outreach and Education Program



APPENDIX G

PUBLIC OUTREACH AND EDUCATION PROGRAM

School Presentations
2007-2008

	Elementary School	Students	Teachers	Grade	Contact	Phone Number	Time	Date	Special
56	Will Beckley E.S. 3223 S. Glenhurst Las Vegas, NV 89121	100	5	3rd	Daneen Lee	799-7700 / 204-0050	1:00pm-2:00pm	6-Jul	
57	Myrtle Tate E.S. 2450 N. Lincoln Rd. Las Vegas, NV 89115	70	3	3rd	Vivian Quimen	757-839-4050 / 799-7360	2:30pm-3:00pm	9-Jul	**VHS**
58	Frank Lamping E.S. 2551 Summit Grove Dr. Henderson, NV 89012	60	3	2nd	Kathy Zoner	799-1330	10:00am-10:30am	10-Jul	
59	John Tartan E.S. 3030 E. Tropical Pkwy. N. Las Vegas, NV 89081	160	8	2nd 3rd	Janette Bates Jessica Graham	799-4701	2:00pm-3:00pm	11-Jul	
60	Myrtle Tate E.S. 2450 N. Lincoln Rd. Las Vegas, NV 89115	70	3	3rd	Vivian Quimen	757-839-4050 / 799-7630	2:30pm-3:00pm	16-Jul	**VHS**
61	D'Vorre & Hal Ober E.S. 3035 Desert Marigold Ln. Las Vegas, NV 89135	120	5	3rd	Stephanie Brown	799-6077 / 373-2209	1:00pm-2:00pm	17-Jul	**VHS**
62	John Tartan E.S. 3030 E. Tropical Pkwy. N. Las Vegas, NV 89081	240	12	2nd	Janette Bates	799-4701	9:30am-10:30am	18-Jul	
63	Aggie Roberts E.S. 227 Charter Oak St. Henderson, NV 89074	110	5	3rd	Sharleen	799-1320	2:00pm-3:00pm	23-Jul	
64	John Tartan E.S. 3030 E. Tropical Pkwy. N. Las Vegas, NV 89081	220	11	3rd	Jessica Graham	799-4701	1:30pm-2:30pm	24-Jul	
65	Frank Lamping E.S. 2551 Summit Grove Dr. Henderson, NV 89012	140	7	2nd	Kathy Zoner	799-1330	10:00am-11:00am	25-Jul	

School Presentations
2007-2008

66	Ira J. Earl E.S. 1463 Marion Dr. Las Vegas, NV 89110	360	23	1st - 3rd	Jennifer Brinkley	799-7310	10:00am-11:00am	30-Jul	
67	J. Marlin Walker (International School) 850 Scholar St. Henderson, NV 89002	160	8	3rd	Magdalen Davis	799-0570 mldavis1@interact.ccsd.net	1:30pm-2:45pm	31-Jul	Spanish VHS
July TOTAL = 12 schools		1,810	93						
68	Don E. Hayden 150 W. Rome Blvd. N. Las Vegas, NV 89086	180	9	3rd	Merrill Young	799-3870 myoung2@interact.ccsd.net	1:00pm-2:00pm	7-Aug	
August TOTAL = 1 school		180	9						
Total = 13 schools		1,990	102						

School Presentations
2007-2008

	Elementary School	Students	Teachers	Grade	Contact	Phone Number	Time	Date	Special
1	Ulis Newton E.S. 571 Greenway Rd. Henderson, NV 89015	140	6	3rd	Shanni Steadman	799-0500	9:30am-10:35am	11-Sep	
2	J.M. Ullom E.S. 4869 E. Sun Valley Dr. Las Vegas, NV 89121	150	7	2nd	Amelia Goroff	799-7780	1:45pm-2:45pm	12-Sep	*VHS*
3	Montessori Visions Academy 3551 E. Sunset Rd. Las Vegas, NV 89120	140 50 primary 75 elementary	15	PK-5th	Mandy Frier	451-9801	9:00am-11:30am	18-Sep	
4	C.P. Squires E.S. 1312 E. Tonopah Ave. N. Las Vegas, NV 89030	120	6	3rd	Katie Omera	799-7169 / 603-520-8665	1:00pm-2:00pm	21-Sep	
5	William G. Bennett E.S. 2750 S. Needles Hwy. Laughlin, NV 89029	180	10	1st-3rd	Jennifer Barkwitz	702-373-2573 / 702-298-3378	9:30am-11:30am	25-Sep	**Laughlin**
6	Aggie Roberts E.S. 227 Charter Oak St. Henderson, NV 89074	160	8	2nd	Amy Seals	799-1320x3033	10:00am-11:10am	28-Sep	
September TOTAL = 6		890	52						
7	Steve Cozine E.S. 5335 Coleman St. N. Las Vegas, NV 89031	140	7	3rd	Jody Alsman	799-0690 jealsman@interact.ccsd.net	1:30pm-2:30pm	2-Oct	
8	Mountain View E.S. 5436 E. Kell Ln. Las Vegas, NV 89156	100	6	3rd	Danielle Rayos	799-7350 / 493-9663	2:00pm-2:30pm	9-Oct	
9	Sue H. Morrow E.S. 1070 Featherwood Ave. Henderson, NV 89015	120	6	3rd	Amy Dixon	799-3550	2:00pm-3:00pm	15-Oct	

School Presentations
2007-2008

10	Herbert A. Derfelt E.S. 1900 S. Lisa Ln. Las Vegas, NV 89117	80	4	3rd	Cristina Lyman	799-4370	2:30pm-3:00pm	17-Oct	
11	E.W. Griffith E.S. 324 Essex East Dr. Las Vegas, NV 89107	175	10	1st-5th	Julie Hurst	799-4200 / 232-4092	9:00am-11:30am	25-Oct	**BETTY**
October TOTAL = 5		615	33						
12	Ollie Detwiler E.S. 1960 Ferrell St. Las Vegas, NV 89106	140	7	3rd	Vickie Cooper	799-1830	8:30am-9:30am	6-Nov	
13	Elizabeth Wilhelm E.S. 609 W. Alexander Rd. N. Las Vegas, NV 89032	140	6	3rd	Lluvia Weltmer	799-1750	1:30pm-2:30pm	7-Nov	40's pod
14	Nate Mack E.S. 3170 Laurel Ave. Henderson, NV 89014	100	5	3rd	Kelly Right	799-7760	1:00pm-2:00pm	8-Nov	
15	Eva G. Simmons E.S. 2328 Silver Clouds Dr. N. Las Vegas, NV 89031	150	7	2nd-3rd	Beth O'Brian	799-1891	9:30am-10:30am	15-Nov	
16	D'Vorre & Hal Ober E.S. 3035 Desert Marigold Ln. Las Vegas, NV 89135	120	6	3rd	Melissa Lamoine	799-6077	1:30pm-2:30pm	29-Nov	*VHS*
November TOTAL = 5		650	31						
17	Eva G. Simmons E.S. 2328 Silver Clouds Dr. N. Las Vegas, NV 89031	150	7	2nd-3rd	Beth O'Brian	799-1891	9:30am-10:30am	13-Dec	
December TOTAL = 1		150	7						
18	O.K. Adcock E.S. 6350 Hyde Ave. Las Vegas, NV 89107	110	5	3rd	Julie Blizard	799-4185 / 340-2872	2:00pm-2:30pm	15-Jan	

School Presentations
2007-2008

19	Roger Gehring E.S. 1155 E. Richmar Ave. Las Vegas, NV 89123	130	6	3rd	Jenny Fisher	799-6899	1:00pm-2:00pm	16-Jan	
20	CVT Gilbert E.S. 2101 W. Cartier Ave. N. Las Vegas, NV 89032	20	1	3rd	Mary Elliot	799-4730 Stacy: 328-5810	9:30am-10:00am	22-Jan	*Show Shoot*
21	P.A. Diskin E.S. 4220 Ravenwood Las Vegas, NV 89147	110 65	5 3	3rd 2nd	Deborah Branson Laurie Sawdey	799-5930 799-5930 / 524-5595 lsawdey@interact.ccsd.net	1:00pm-2:30pm	29-Jan	*VHS*
22	Gordon McCaw E.S. 57 Lynn Ln. Henderson, NV 89015	120	5	3rd	Tipen Richert	799-8930	2:00pm-3:00pm	31-Jan	*VHS*
January TOTAL = 5		490	22						
23	Cyril Wengert E.S. 2001 Winterwood Blvd. Las Vegas, NV 89142	135	8	2nd	Jennifer Hamtton	799-8600	9:30am-10:30am	1-Feb	
24	Glen C. Taylor E.S. 2655 Siena Heights Dr. Henderson, NV 89052	150	7	3rd	Karen Massanari	799-6892	1:30pm-2:30pm	6-Feb	
25	Sandy Searles Miller E.S. 4851 E. Lake Mead Blvd. Las Vegas, NV 89115	120	6	2nd	Jan Barraza	799-8830	1:30pm-2:30pm	7-Feb	*BETTY*
26	O.K. Adcock E.S. 6350 Hyde Ave. Las Vegas, NV 89107	100	5	2nd	Susan Mazy	799-4185x3057	10:00am-11:00am	12-Feb	*VHS*
27	Roger Gehring E.S. 1155 E. Richmar Ave. Las Vegas, NV 89123	115	7	2nd	Corren Wulz	799-6899 cawulz@interact.ccsd.net	1:35pm-2:05pm	13-Feb	
28	Roberta C. Cartwright E.S. 1050 E. Gary Ave. Las Vegas, NV 89123	145	7	3rd	Lynn Dunn	799-1350	10:00am-11:05am	19-Feb	

School Presentations
2007-2008

29	Reynaldo Martinez E.S. 350 E. Judson Ave. N. Las Vegas, NV 89030	110	6	2nd	Claudia Garcia	799-3800 / 443-5404	10:00am-10:30am	27-Feb	
30	P.A. Diskin E.S. 4220 Ravenwood Las Vegas, NV 89147	68	3	2nd	Laurie Sawdey	799-5930 / 524-5595 lsawdey@interact.ccsd.net	1:00pm-1:30pm	28-Feb	*VHS* No material needed
February TOTAL = 8		943	49						
31	J.T. McWilliams E.S. 1315 Hiawatha Rd. Las Vegas, NV 89108	120	6	2nd	Amanda Lunar	799-4770 / 638-8266	10:00am-11:00am	4-Mar	
32	Sunrise Acres E.S. 211 28th St. Las Vegas, NV 89101	180	8	2nd	Jonathan Synold	799-7912 / 406-0185 jsynold@interact.ccsd.net	1:00pm-2:00pm	7-Mar	
33	Joseph Thiriot E.S. 5700 W. Harmon Ave. Las Vegas, NV 89103	120	6	2nd	Cheryl Berk	799-2550 / 630-4817	1:00pm - 2:00pm	11-Mar	*Channel behind school*
34	Steve Schorr E.S. 11420 Placid St. Las Vegas, NV 89183	140	8	2nd	Linda Dillan	799-1380 / 340-6555	10:30am-11:30am	25-Mar	
35	Gwendolyn Woolley E.S. 3955 Timberlake Dr. Las Vegas, NV 89115	260	13	3rd	Tracy Satterfield	799-4970 / 203-246-1770 tsatterfield@interact.ccsd.net	9:30am-10:40am	27-Mar	
36	Elizabeth Wilhelm E.S. 609 W. Alexander Rd. N. Las Vegas, NV 89032	140	7	2nd	Lynette Williams	799-1750 lwilliams@interact.ccsd.net	10:30am-11:30am	28-Mar	
March TOTAL = 6		960	48						
37	Lomie G. Heard E.S. 42 Baer Dr. NAFB 89115	100	5	3rd	Barbara Niess	799-4920 baniess@interact.ccsd.net	2:00pm-2:30pm	2-Apr	*AFB*

School Presentations
2007-2008

38	D'Vorre & Hal Ober E.S. 3035 Desert Marigold Ln. Las Vegas, NV 89135	120	7	2nd	Tania Casten	799-6077	1:30pm-2:30pm	3-Apr	
39	Neil C. Twitchell E.S. 2060 Desert Shadow Trail Henderson, NV 89012	160	8	3rd	Veronica Drazba	799-6860	9:15am-9:45am	8-Apr	
40	Ethel W. Staton E.S. 1700 Sageberry Dr. Las Vegas, NV 89144	154	7	3rd	Eileen Gilligan	799-6720 emgilligan@interact.ccsd.net	9:15am-10:20am	9-Apr	
41	Dr. Claude G. Perkins E.S. 3700 Shadow Tree St. N. Las Vegas, NV 89032	130	6	2nd	Donetta Chubbs	799-1805 donetta_m._chubbs@interact.ccsd.net	9:30am-10:30am	15-Apr	
42	Richard C. Priest E.S. 4150 Fuselier Dr. N. Las Vegas, NV 89032	140 (each) 420 total	7 (each) 21 total	1st-3rd	Anette Quint	799-6200 / 271-1895	9:15am-10:45am	16-Apr	
43	Clyde C. Cox E.S. 3855 Timberlake Dr. Las Vegas, NV 89115	280	15	2nd	Natalie Allen-Riggle	799-4990	2:00pm-3:00pm	17-Apr	
44	J. Marlan Walker International 850 Scholar St. Henderson, NV 89002	150	8	2nd	Misty Tyler	799-0570 / 580-7606	1:30pm-2:30pm	22-Apr	*VHS*
45	Stanford E.S. 5350 Harris Ave. Las Vegas, NV 89110	120	5	3rd	Christy Connley	799-7272	9:30am-10:30am	23-Apr	
46	Linda Rankin Givens E.S. 655 Park Vista Dr. Las Vegas, NV 89138	150	7	3rd	Jerri Jacobs	799-1430x3110 / 306-2777 jerijacobs@interact.ccsd.net	2:00pm-2:30pm	29-Apr	*MP Room*
April TOTAL = 10		1,784	89						
47	Martin Luther King Jr. E.S. 2260 Betty Ln. Las Vegas, NV 89156	80	5	2nd	Elsie Chevedden	799-7390	1:00pm-2:00pm	6-May	

School Presentations
2007-2008

48	Green Valley Christian School 711 Valle Verde Dr. Henderson, NV 89014	30	2	3rd	Patty Dewey	454-4056 / 682-3370 pdewey@gvchristian.com	1:30pm-2:00pm	7-May	*May also include 2nd grade*
49	Dr. Claude G. Perkins E.S. 3700 Shadow Tree St. N. Las Vegas, NV 89032	200	8	1st&3rd	Donetta Chubbs Mary Jo Wagner	799-1805 donetta_m_chubbs@interact.ccsd.net mjwagner@interact.ccsd.net	8:45am-11:15am	23-May	*Career Day*
May TOTAL = 3		310	15						
50	Aggie Roberts E.S. 227 Charter Oak St. Henderson, NV 89074	120	6	3rd	Sharleen	799-1320	2:00pm-3:00pm	18-Jun	
June TOTAL = 1		120	6						
51	Eileen B. Brookman 6225 E. Washington Ave. Las Vegas, NV 89110	100	6	2nd	Mary Ann Stone	799-7250 / 513-235-9150	2:15pm-2:45pm	7-Jul	
July TOTAL		100	6						
Total = 50 Schools		7,012	358						

School Survey Report

7/2007 - 6/2008

1. Was the flood safety awareness presentation understood by your students?

Value 1 - 0.00% Value 2 - 0.00% Value 3 - 0.83% value 4 - 22.31% value 5 - 76.86%

2. How would you rate the presentation style and the ability of the presenter to keep the students intrest?

Value 1 - 0.00% Value 2 - 0.00% Value 3 - 0.00% value 4 - 13.22% value 5 - 82.64%

3. Did the presentation cover the topics you anticipated?

Value 1 - 0.00% Value 2 - 0.00% Value 3 - 2.48% value 4 - 9.09% value 5 - 88.43%

4. Did you believe, as a result of the presentation, that your students would be deterred from playing in floodwater and/or flood control facilities?

Yes - 98.35% No - 1.65%

5. Did you believe, as a result of the presentation, that your students understand the negative effects of chemicals and pollution in rainwater runoff?

Yes - 94.21% No - 5.79%

6. Did you believe, as a result of the presentation, that your students whow what they and their families can do to better protect the environment and Lake Mead?

Yes - 95.04% No - 4.96%

7. Do you delieve you students spoke with their familiy members about the dangers of driving though flooded areas and cautioned them to make good decisions?

Yes - 91.74% No - 8.26%

8. As an instructor, did you find the presentation informative?

Yes - 100.00% No - 0.00%

9. Have you or your family watched The Flood Channel program on cable channel 4?

Yes - 32.23% No - 67.77%

10. Are there any other topics you would like included in this presentation?

Yes - 8.26% No - 91.74%

Comments

Great Show!

Mrs. M did a great job of holding the attention of a large group of students!

Good and informative presentation.

Nice! Students really enjoyed it.

Very effective presentation!

Good presentation!

Stress staying out of washes more.

Great job!

Well prepared presenter. She was very knowledgeable.

It was a very informative presentation. It was well paced and students got to see demonstrations and answer questions. Thanks!

Overall presenter did an excellent job! My only suggestion would be to be a little more patient with the students. Relax and not rush. Again overall great presentation!!

Maybe break up some of the talk with videos/visual aids to keep students interest through the whole conversation.

basins are used for baseball/soccer fields.

Awsome presenter!!

Presenter needs to be on time and ready for presentation.

Being on time is important as classes are waiting.

Thank you! Great as usual!

Erosion and how important vegetation is.

Good presenter!

Movie is great - students react to people shown in flooded cars - maybe add more pictures of what's actually found in water - love the calendar & booklets & pencils. Thanks.

Thank you for coming. It's an important topic the students need to know about.

Thank you!

Are playgrounds washes?

KerriAnne did a great job & kept the kids interested and presented on their level. Thank you!

Ms. "M" was a great presenter and taught our students numerous important facts that they were not previously aware of. Thank you!

Very informative!! Thank you!

She was very informative and did a great presentation.

It was great!

A slogan or writing prompt to check understanding.
Thank you.

Very good presentation! Very informative.

How to speak to family about flood control.
Include a SASE - or stamp the back of their paper with postage already paid by you.

Awesome!

Maybe samples of water (pollution).
She was great!

Thank you! The final activity was perfect for getting your message across! Thanks for your patience and expertise.

Informative video.

Wonderful presentation!

More pictures to show the flood, channels, gutters (kids were unsure of this) and the areas where the water collects.
Students were really interested in the topic - more pictures and explanations would be great.
Thank you!

Great presentation!
Very kid-friendly!

Great handouts & materials; Info. presented at students level. Thank you Mrs. M. Interest level maintained.

Good job!

The presentation was enjoyable and informative. Mrs. M did a good job!

Thank you for visiting our school and sharing this valuable information.

She was fantastic - thank you for coming.

Thank you for your time! It was a very informative and interesting presentation.

Great presentation - very informative!!

The presentation was wonderful!!

Engaging, informative presentation. Please contact us again.

Very informative. Thanks.

Always great to have you come! Great handouts!

It was awesome!

Thanks!

Thank you for coming!

Show more about harmful chemicals - ex. acid eating through -
The students loved the sponges! Could you give 1 to each teacher for science demo?

Thanks - It was great!

Mrs. M. was very enthusiastic and well prepared. Great management too!

Thank you for a well done and effective presentation. Mrs. M. was excellent.

She always does a very fine job!

Mrs. M. did a great job. She kept the students' interest and related well with them.

How do they clean water for our homes?

Great speaker (Mrs M) took control of the classes and kept them engaged.

Great Presentation!

Nicely done - the students had a lot of questions!

Great presenter! The students were engaged.

Great job! Thanks!

Erosion.
Excellent, kid-friendly presentation!

Great presentation. Nice review of information at the end.

"Where does flood water go after floods?" "What areas flood faster?"
"How do you protect your homes? - questions from the class
Thank you!

Very informative!

Excellent presentation & materials for students.

The presentation was fabulous! Thanks.

It was an excellent presentation, and we all learned a lot! Thank you for coming!

Thank you for the Flood Program. Reaching the students about this will affect changes that will protect our children families and our environment.

Thank you!

Presenter should say "why not" instead of "how come." good presentation.

Great information, thanks for coming.

Excellent preparation - wonderful speaker - great with the students.

Thanks for bringing contaminated flood water. Can you bring a few chemicals/items; such as oil, glass and a few dangerous items?

Good pacing; video looks great this year! Thanks also for the handouts.

We really appreciate you coming to the school - the presentation was excellent.

Instead of saying not to drive maybe alternate routes parents are still going to drive or avoid flooding areas.

Good.

Great job.

Great presentation, great speaker, kept the students' attention.

Great job! Great Presenter! She really related well with the students.



Clark County Regional Flood Control District

2007 Flood Awareness Survey

Summary of Results

December 2007

**Prepared by:
Pamela S. Gallion, M. Ed.
Director, Cannon Survey Center**

RESEARCH METHODOLOGY

The Clark County Regional Flood Control District (CCRFCD) contracted with the UNLV Cannon Survey Center (CSC) to conduct a flood awareness survey with residents of Clark County. Computer Assisted Telephone Interviewing (CATI) methodology was used for this survey. After a pilot testing session during the last week in September, 2007, the telephone survey was conducted during the period between October 1 and October 26, 2007, the calls were made on various days of the week between the hours of 11:00 a.m. and 8:00 p.m. Each individual interview lasted between 5 and 7 minutes and a total of 700 interviews were completed. Using 2007 figures for Clark County obtained from the Nevada State Demographer there are approximately 1,417, 344 adults over the age of 18 residing in Clark County. A sample size of 700 yields a margin of error of +/- 3.7% at the 95% confidence level.

In order to obtain a representative sample of the area, numbers were purchased from Survey Sampling, Inc. (SSI). SSI has been providing scientific samples for research since 1977. A list of 6,646 numbers was obtained that included both listed and unlisted working numbers in Clark County.

Random-digit-dialing techniques were used to select respondent households with information developed using the most current telephone exchange data available. (Telephone exchanges may be thought of as the three-digit "prefix" included in any telephone number.) The sampling service maintains a database of "working blocks", where a "block" is a set of 100 contiguous numbers identified by the first two digits of the last four digits of a telephone number. For example, in the telephone number 346-7300, "73" is the block. After the blocks were verified to contain residential phone numbers, phone numbers were randomly generated from each block. This procedure allowed the inclusion of unlisted numbers and any newly listed numbers that have not been included in the most recently published telephone directories.

The interviewers made up to seven (7) attempts on each number. These attempts were made at different times of the day and different days of the week.

In addition, all respondents were given the opportunity to complete the survey at another time. Research has shown that offering respondents the opportunity to schedule a pre-planned telephone interview at a later point in time can greatly increase cooperation and willingness to participate in the study.

The Cannon Survey Center has 16 interviewing stations. The interviewing staff, which is comprised of a demographically diverse group of 30 interviewers, received training in interviewing techniques and survey methodology prior to making any calls. The CSC utilizes Sawtooth Technology software for its CATI system.

Prior to the work on the survey, the Cannon staff attended a survey specific training session. Training included a refresher session that covered the following topics: a) interviewer roles and responsibilities; b) importance of maintaining strict confidentiality and general principles of survey administration; c) interviewing procedures, including how to probe survey questions and specific guidelines for probing for numbers, precoded questions and any open-ended questions; d) how to maximize respondent cooperation; e) operation of CATI software and f) general administration procedures. Survey interviewers also received detailed training regarding the specifics of this study which included a project overview, study-specific interviewing procedures, and a detailed discussion of the questionnaire contents. Professional staff members were provided with a detailed explanation of any term or questions that needed a precise definition or clarification, such as the definition of “flooded street.” These definitions were programmed into the CATI system and available to the interviewers on the pages that they need them.

In addition to either the director and/or the data collection supervisor, all interviewers were monitored by phone room supervisors. One field supervisor or senior interviewer was present at all times during the data collection period to assure the quality and integrity of the data collection process. The phone room supervisor was able to instantaneously address any problems that might arise in the field.

At the conclusion of the interviewing phase, data were cleaned and then analyzed using SPSS 14.0 software. The software is a comprehensive statistical software system that aids the data analysis process at many levels, with procedures ranging from data listings, tabulations, and descriptive to complex statistical analyses. Graphics for screening data, understanding and interpreting analyses, and communicating results are integrated with the statistical procedures.

In addition, in order to include the responses of Non-English speaking respondents, the survey instrument was translated into Spanish. All calls that were coded as a language barrier were turned over to experienced native speaking Spanish interviewers, who then made follow-up calls in an attempt to complete the interview. There were 120 calls initially coded as a language barrier. From this sub-list of 120 Spanish speaking respondents, 84 interviews were completed. This represents 70% of the sub-set and approximately 12% of the completed interviews.

From the sample of 5304 numbers 3198, numbers were eligible- 2099 of the numbers could not be used because they were coded as “non-working or disconnected numbers” (N = 1096), “fax or data lines” (N = 367) “business/government/other organization” (N = 525), and various other codes (N = 111). These disposition codes are defined by the American Association of Public Opinion Researchers (AAPOR). From the list of 3198 eligible names, 700 surveys were completed, Calculating the response rate using AAPOR, Response Rate 4 (RR4)¹ which is the number of complete and partial interviews divided by the number of interviews (complete or partial) plus the number of non-interviews (refusal and break-off plus non-contacts others) plus all cases of unknown eligibility and an estimate of what proportion of the cases of unknown eligibility actually are eligible yields a response rate of 338%. The disposition of all numbers is provided in the table below.

¹ Response Rate 4: $RR4 = \frac{I + P}{(I + P) + (R + NC + O) + e(UH + UO)}$
2007 Flood Awareness Survey
Cannon Survey Center
University of Nevada, Las Vegas

Table 1: Call Dispositions

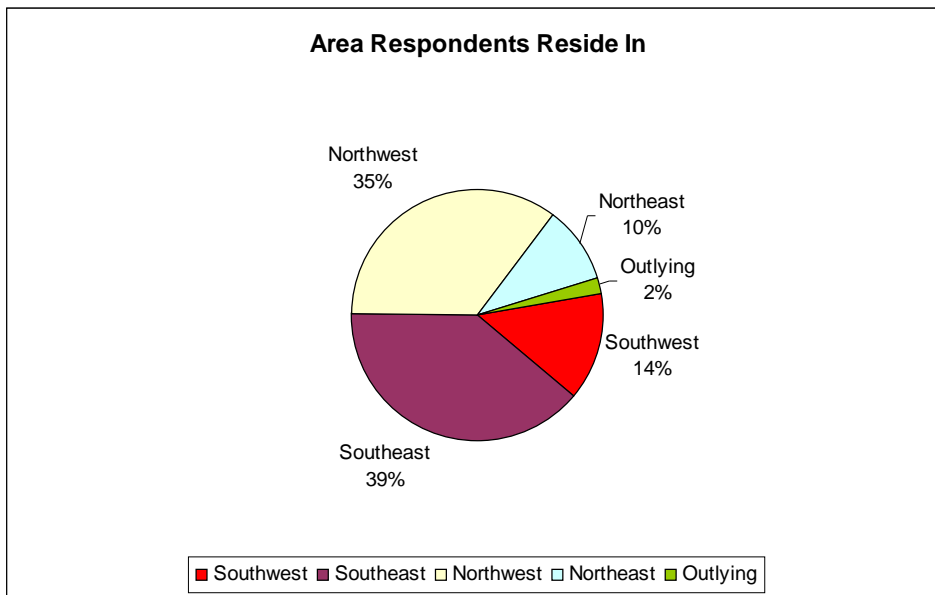
Complete	700
Partial	6
Eligible: Refusal, Household Level	177
Eligible: Refusal, Known Respondent	8
Eligible: Break-off	97
Eligible: Respondent Never Available	31
Eligible: Ans. Mach, Message	39
Eligible: Ans. Mach, No Message	396
Eligible: Phys/Mentally Unable	34
Eligible: Language Unable	76
Eligible: Misc. Unable	24
Busy	107
No Answer	667
Ans. Mach (Don't Know if HU)	258
Technical Phone Problems	56
Fax/Data Line	367
Non-working Number	343
Disconnected Number	753
Number Changed	5
Cell Phone	22
Call Forwarding	13
Business/Government/Other Org	526
Group Quarter	1
No Eligible Respondent	11
Quota Filled	61
Callback, Resp Not Selected	61
Callback, Respondent Selected	28
Spanish Speaker	120
Never Call	317
TOTAL ATTEMPTED	5304
Not Attempted	1342
TOTAL SAMPLE	6646

PROJECT SUMMARY

Characteristics of the Sample:

As in previous administrations of the survey, five demographic variables were used to create the sub-sets for data analysis. They are “area of Clark County respondent resides in”, “length of time in Clark County”, “age”, “level of education” and “gender”. In addition, a sub-set of 84 respondents, (12% of the total) was created by administering the survey in Spanish to non-English speaking respondents.

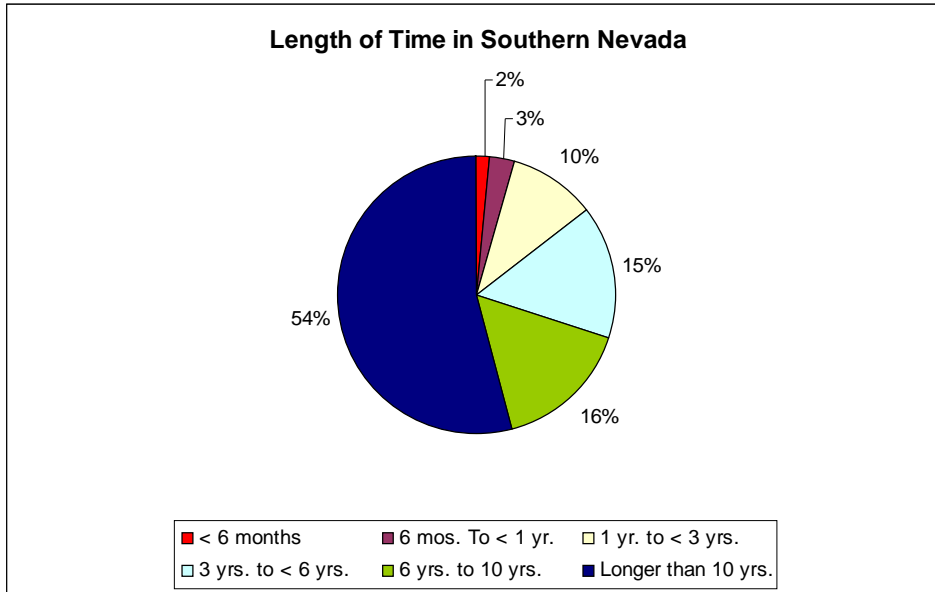
Area of Residency²



As can be seen from the graph above, 39% of respondents live in the Southeast section of Clark County (36%, 2006), 35% are from the Northwest (30%, 2006), 10% are from the Northeast (17%, 2006), and 14% are from the Southwest (15%, 2006) region of Clark County. Respondents residing in outlying areas such as Mesquite, Boulder City, and Logandale represent 2 % of the completed surveys (2 %, 2006).

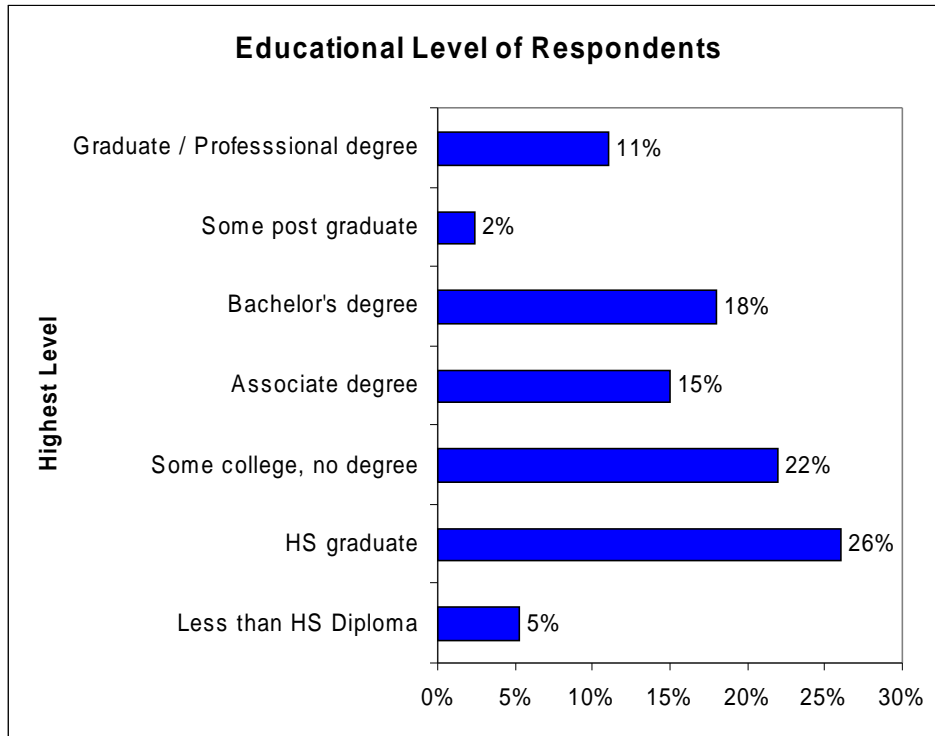
² Percentages do not add up to 100%, refusals (3%) are not illustrated.

Length of Time Respondent Has Lived in Southern Nevada



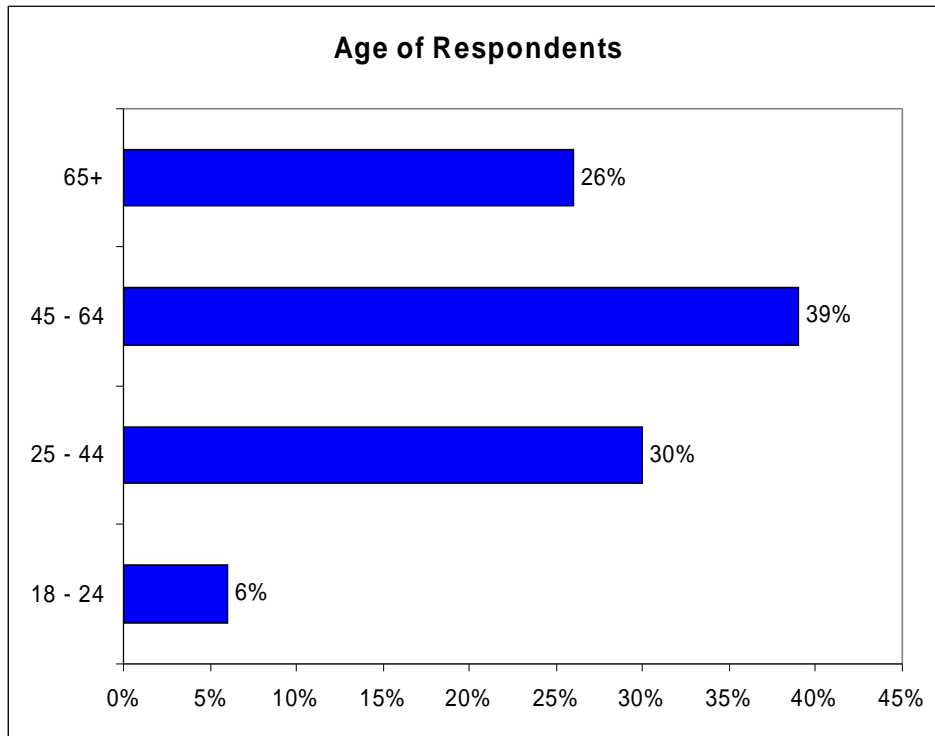
As the graph above indicates, more than half of the respondents (54%) are long time residents of Southern Nevada having lived here longer than 10 years. This is followed by 16% of respondents who have lived here for between 6 and 10 years and 15% who have lived in Southern Nevada between 3 and 6 years. Ten percent have resided in Southern Nevada between 1 and 3 years, and only a very small percentage (5%) indicated that they have lived in Southern Nevada a year or less with 3% indicating that they have lived here between 6 months and a year, and 2% indicated that they have lived here 6 months or less. These percentages are similar to those obtained in last year's administration of the survey and differ by less than one percentage point across all variables.

Educational Level of Respondents



The graph above represents the educational level of the survey participants. As is indicated, the response with the highest incidence is the 26% of respondents who have graduated from high school as their highest level of education; this is followed by 22% of respondents who have attended some college but have not obtained a degree and 18% of respondents who have obtained a Bachelor's degree. The percentage of respondents with less than a high school diploma (5%) is lower than last years data (8%, 2006); the number of respondents who have obtained a post graduate degree is similar to last year (11%, 2007, 10%, 2006) The other levels of education remain fairly constant to data obtained in past administrations of this survey, with 2% who indicated that they have completed some post graduate work and 15% have obtained an Associate degree.

Age and Gender



*Percentage exceeds 100% due to rounding

Age variables were created that match census variables should there ever be a need to make a comparison. When looking at the age of the respondents, the graph above shows that the largest number of respondents (39%) fall between the ages of 45 and 64. Twenty-six percent (26%) of respondents fell into the oldest age stratum (65+), and 30% were between the ages of 25 and 44. Only 6% of respondents were between the ages of 18 and 24. The median age was 52. This is the same as last year's median age, in addition the mean age was 52 and the data produced bimodal results for age (59 years and 38 years).

Gender Distribution

- 40% Male
- 60% female

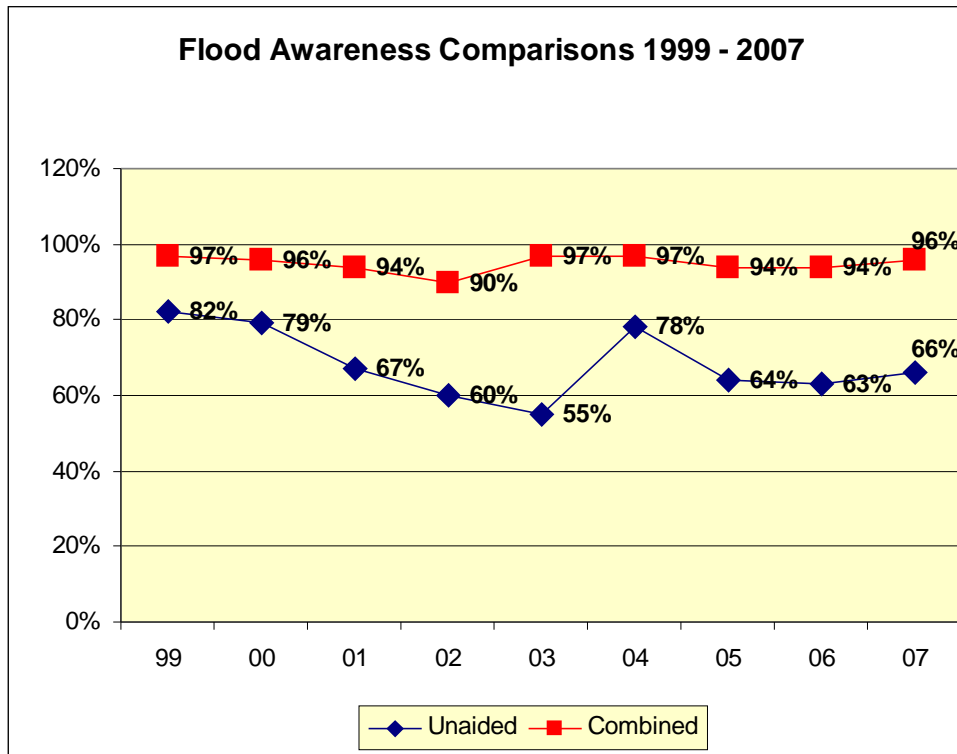
Awareness of Flooding and Weather Related Natural Disasters

Unaided Awareness: The respondents are not told which Clark County Agency that the survey is being conducted for unless they ask and then the information is provided at the conclusion of the survey. This is to intentionally keep the slate clean for the first question in the survey which is “Are you aware of any weather related dangers that can occur in the area?” Seventy-eight percent (N = 548) (78%, 2006) of respondents reported that they were aware of weather related dangers that can occur in the area. These 548 respondents form the sub-set from which the unaided awareness of flooding data is determined. This group was asked the follow-up question “What types of weather related dangers are you aware of that can occur in the area?” From this group 460 were able to answer “flood” or “flash flood” unaided. This represents 84% of the sub-set and 66% of the entire sample who were able to mention “flood” unprompted. These percentages for unaided awareness are somewhat higher than the percentages obtained during the 2006 administration of the survey (81% of the sample and 63% of the subset).

Aided Awareness: Respondents who reported that they were not aware of any weather related natural disasters that can occur in Clark County (N = 147) and respondents who did not mention “floods” or “flash floods” in the unprompted question (N = 88), or those that had no response (N = 5) were asked directly “Are you aware that flash flooding occurs in the area?” Eighty-seven (87%) percent (N = 209) of respondents from this sub-set were aware that flash flooding can occur. This represents a slight increase in aided awareness from the 2006 data (86%).

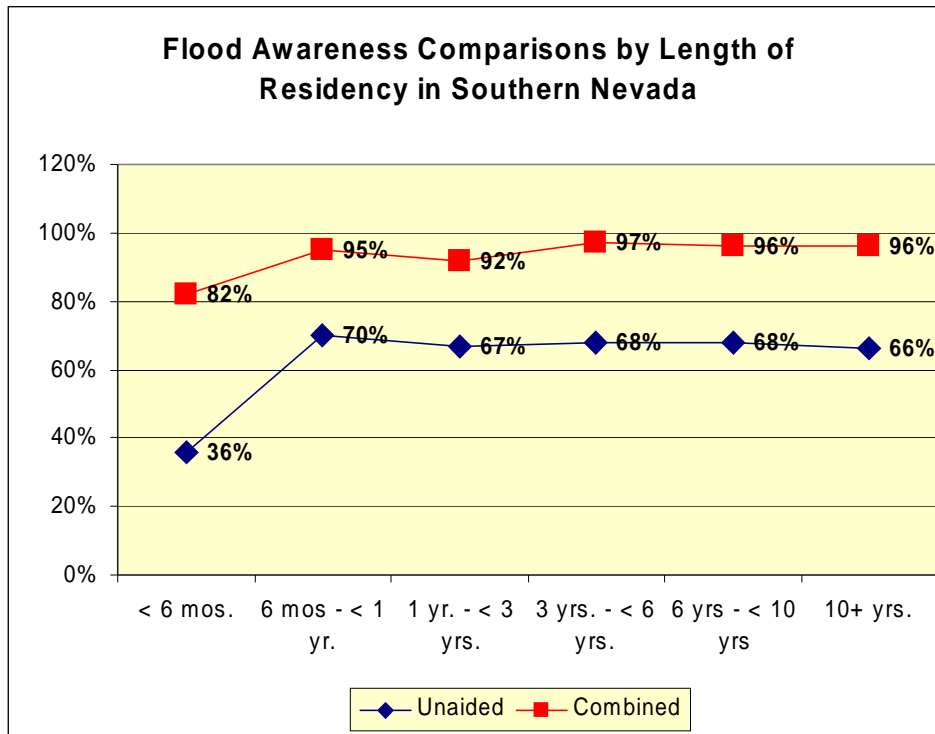
Combined/Total Awareness: When looking at the total number of respondents (N = 669) in both the prompted (N = 209) and unprompted questions (N = 460), 96 percent of respondents are aware that flooding can occur in Clark County. This figure is up 2 percentage points from the 2006 data (94% awareness).

Awareness of Flooding Comparisons 1999 – 2007



As is indicated by the graph above, the combined awareness (total of prompted and unprompted responses), continues to remain very high and there was an increase in both categories of flood awareness from the data that was collected in 2006. In last years administration of the survey 94% of respondents were able to mention “flood” or “flash flooding” either aided or unaided, this percentage rose to 96% this year. Similarly, 63% of the respondents were able to answer “flood” or “flash flooding” unaided during last years administration of the survey and this percentage rose to 66% this year.

Awareness of Flooding Among Sub-Populations: Length of Time in Southern Nevada



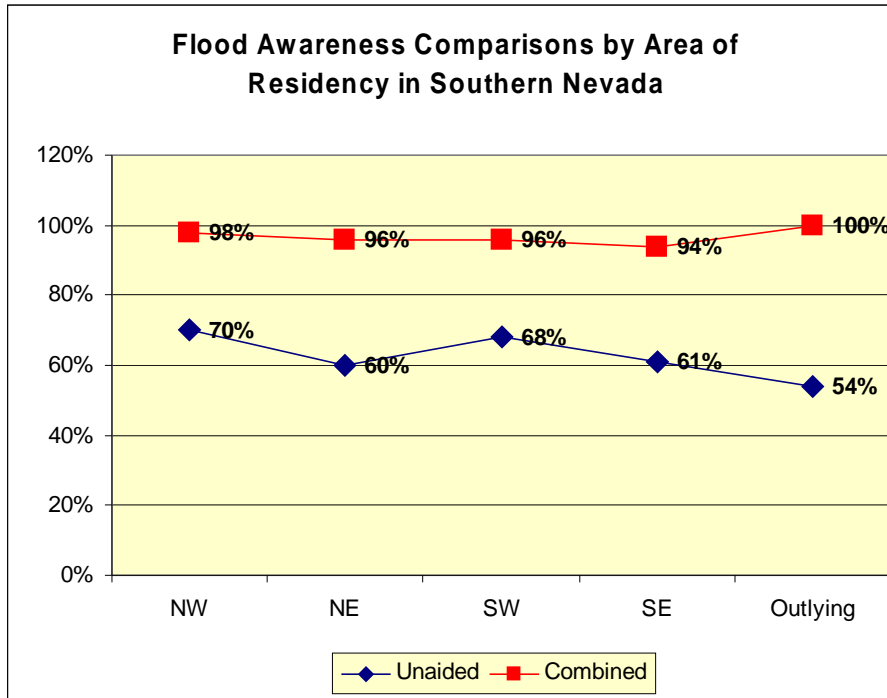
The graph above displays the differences in responses by the length of time that the respondent has lived in Southern Nevada. The graph indicates a consistently high percentage of respondents who have lived here at least three years are able to mention “floods” or “flash flooding” in an aided or unaided situation (combined). Ninety-seven percent (97%) of respondents who have lived in Southern Nevada between three and six years were able to mention “floods” or “flash flooding” as a weather related danger in an aided or unaided manner; this was the highest occurrence when looking at the data by this strata, however 96% of those who have lived here at least six years were also able to mention “floods” or “flash flooding” in the aided or unaided question.

When looking at unaided awareness by the length of time that the respondent has resided in Southern Nevada, the data is fairly consistent after about 3 years of residency in the area. At that point 67% are aware in an unprompted manner of the flooding that can occur in the Valley.

There are some differences in the responses of the newest residents to Nevada between this year's data and the 2006 data. In the unaided category only 36% of those who have lived in Southern Nevada for less than six months could mention "flood" or "flash flooding" unaided, this compared to 45% who could do so during the 2006 administration of the survey. However, when looking at combined awareness, 82% of the respondents from this group were able to mention "flood" or "flash flooding" as compared to 70% who could do the same last year.

Combined awareness rose several percentage points between the 2006 data and this year's data in several of the length of residency categories. As reported above combined awareness rose from 70% to 82% in the group of respondents who have lived in Southern Nevada for less than six months. For those who have lived here between six months and a year the percentage of combined awareness rose 12 percentage points from 82% in 2006 to 95% in 2007. Likewise, the percentage of combined awareness rose from 86% in 2006 to 92% in 2007 among respondents who have lived in Southern Nevada between one and three years.

Awareness of Flooding Among Sub-Populations: Area of Southern Nevada



When looking at the data by the area of residency, the combined awareness is fairly consistent, the percentages remain high, and the data shows an increase in combined awareness in four (4) of the five (5) geographic areas. Ninety-eight percent (98%) of the respondents living in the NW area of the Valley were able to mention “flood” or “flash flooding” in the combined manner (97%, 2006). In the Northeast and Southwest 96 percent were able to mention “flood” or “flash flooding” in the combined manner, this in the Northeast is up from 92 percent in 2006 and up in the Southwest from 93 percent in 2006. Combined awareness was down in the Southeast. Last year nearly all (99%) of the respondents were able to “flood” or “flash flooding” in the combined manner; this year that percentage dropped to 94%

When looking at unaided awareness the highest incidence occurs in the Northwest where 70 percent of the respondents were able to mention “Flood” or “flash flooding” unaided. This is an increase from the 67 percent who were able

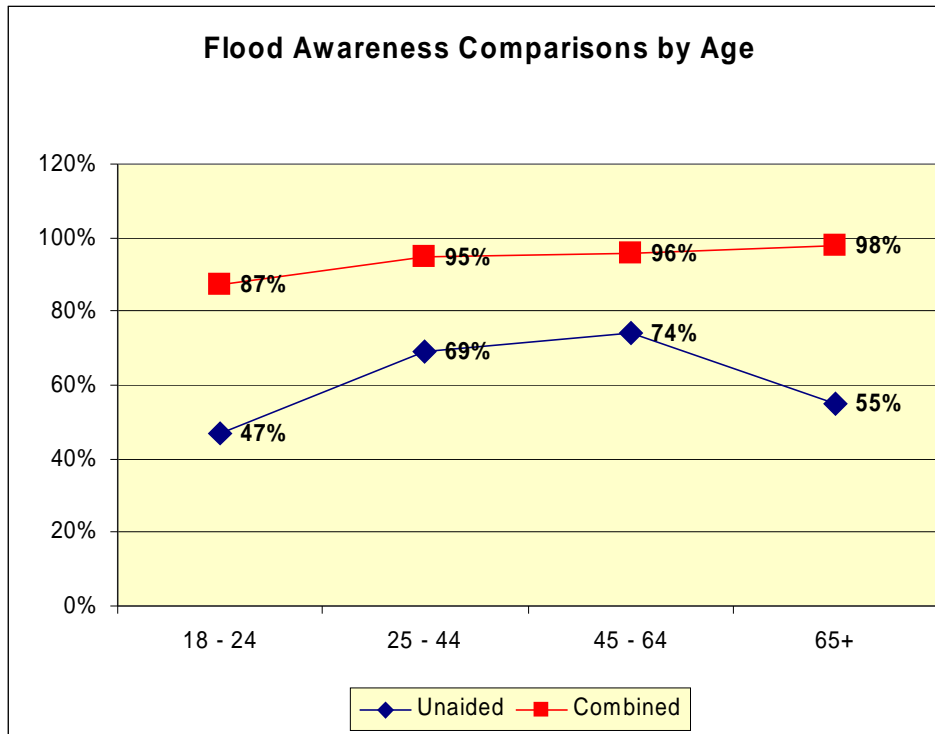
to do the same during the 2006 administration of the survey. Among the other areas, 60 percent of respondents from the Northeast (62%, 2006), 68 percent from the Southwest (68%, 2006) and 61 percent from the Southeast (66%, 2006) were able to mention “flood” or “flash flooding” unaided.

When looking at the responses from those living in the outlying areas (N = 11) 54 percent mentioned “flood” or “flash flooding” unaided and all (100%) did so in the combined manner.

To identify the area boundaries used to create the area subset for this study, a zip-code map and accompanying table are located at the back of the report.³

³ Please pages 72 (Table 14) and 73, Zip map.
2007 Flood Awareness Survey
Cannon Survey Center
University of Nevada, Las Vegas

Awareness of Flooding Among Sub-Populations: Age



As in past administrations of this survey, the youngest members of the sample were the least likely to mention “flood” or “flash flood” either aided or unaided. Forty-seven percent (47%) of 18 to 24 year olds were able to mention “floods” or “flash flooding” unaided, this is down 7 percentage points from the percent who were able to do the same last year (54%, 2006); 87 percent were able to do so in the combined situation, this is similar to last year’s combined awareness (88%). The highest unaided incident was among 45 to 64 year old respondents. Seventy-four percent (74%) of this subset were able to mention “flood” or “flash flooding” unaided, and 96 percent were able to do so in the combined situation. In the 65+ group combined awareness is up from 95% in 2006 to 98 percent in 2007. This is the highest occurrence for combined awareness. However, unaided awareness dropped slightly from 58 percent in 2006 to 55 percent in 2007. Awareness was up in both categories among the 25 – 44 year olds. Combined awareness is up to 95 percent from last years 92 percent as is unaided awareness (63% 2006, 69% 2007).

Awareness of Flooding Among Sub-Populations: Gender

There is not much difference in flood awareness based on respondent gender. Sixty-six percent (66%) of males and 65 percent of females could mention “floods” or “flash flooding” unaided. In the combined situation 97% of males and 95% of females could mention “floods” or “flash flooding”

Other Weather Related Natural Disasters Mentioned

Respondents who answered that they were aware of weather related natural disasters that can occur in Southern Nevada (N = 460) were asked unprompted to name the types of weather related disasters that they were aware of. Respondents could name more than one weather related natural disaster. The following table shows the responses that were mentioned other than “flood” or “flash flood”.

Table 2: Other Types of Disasters Mentioned

Type or Disaster	Percent 2007 ⁴	Percent 2006
Dust / Sand Storms / High Winds	55%	18%
Heavy Rains / Thunder Storms	29%	16%
Heat	35%	14%
Fire / Lightning	26%	9%
Earthquakes	9%	7%
Unable to Specify	2%	.5%
Other	3%	N/A

⁴ All percents are valid percents based on the subset that responded yes to knowing that weather related natural disasters can occur in the area.

The table above indicates the other weather related natural disasters that were mentioned. The list of responses generated this year does not differ from the list generated in the previous year's administrations of the survey; however the percentage of respondents that named each has increased substantially for most of the categories.

In addition to the CCRFD's flood awareness campaign several other county agencies and other organizations have media campaigns promoting environmental awareness and the data shows an overall increase in awareness about environmental issues among residents of Southern Nevada. For example, more than half (55%) mentioned dust, storms or high winds this year as compared to only 18% who did the same last year. The percentage that mentioned heat (35%) rose from 14 percent who did the same last year, this coming after a particularly hot summer. The percentage of respondents who mentioned fire/lightning also rose from 9 percent in 2007 to 26 percent in 2007. This may have been precipitated by the California wildfires that were occurring during the last week of data collection.

Flood Related Issues

All respondents were asked a series of questions to assess general knowledge of flood related issues. The table below shows the overall frequency results. Respondents were asked to “agree”, “somewhat agree” somewhat disagree”, or “disagree” with each of the statements. The “agree” and “somewhat agree” responses were combined for the “% agree” score that is reported in the table below.

Table 3: Flood Related Issues

Flood Related Issue	% Agree	% Agree
	2007	2006
I know about the dangers of flash flooding	97%	95%
I know about the time of year flash flooding is most likely to occur in the area	84%	81%
I know about safety precautions relating to flash flooding	89%	87%
I know about the resources available to learn more about flash flooding	63%	56%
I know ways in which flooding is being controlled in the area	79%	73%
I know about the availability of flood insurance	77%	74%

The data shows that every one of the flood related issue questions had an increase this year. The item with the biggest increase (7 percentage points) was “I know about the resources available to learn more about flash flooding” (56% 2006, 63% 2007). The item that continues to have the highest response is “I know about the dangers of flash flooding”. The percentage of respondents who agreed with this statement rose from 95 percent (2006) to 97 percent. Nearly all residents in Southern Nevada are aware of the dangers of flash flooding. Residents are also more aware of the ways in which flooding is being controlled in the area. In the 2006 administration of the survey, 73 percent indicated

awareness. This year that percentage rose to 80%. Respondents are also more aware of the resources available to learn more about flash flooding (63% 2007, 56% 2006). There was an increase in all of the flood related issues. Following are the results for each of the six items in this section.

I Know About the Dangers of Flash Flooding

Ninety-seven percent (97%) of all respondents indicated that they know about the dangers of flash flooding. When looking at this data among the sub-populations there is not much variation in the responses. When looking at the data by the area of Southern Nevada that the respondent resides in, there is not much variation in the data and all areas had at least 95 percent of respondents agreeing with the statement. In the Northwest, nearly all (99%) of the respondents indicated that they know about the dangers of flash flooding. This was the highest occurrence. In the Southwest 95 percent indicated that they know about the dangers of flash flooding as did 97 percent in the Southeast and 96% in the Northeast. All 11 respondents from outlying areas reported knowing about the dangers of flash flooding.

When looking at the data by the length of time that the respondent has resided in Southern Nevada, there is not much variance with the exception of respondents who have lived here for less than six months. However, there was a general increase in awareness this year. Among respondents who have lived in the Valley between 6 months and a year 95 percent indicated awareness this year (2007) as compared to 82 percent who indicated awareness in 2006, this is an increase of 13 percentage points. Among respondents who have lived in the Valley less than 6 months, 82 percent are aware of the dangers of flash floods this is up 12 percentage points from last year. Among the other length of residency strata at least 93 percent of all respondents reported knowing about the dangers of flash flooding with the highest occurrence among those who have lived here between six to ten years (99%).

The percentages of all groups are as follows:

- Less than 6 months – 82%
- 6 months to less than a year 95%
- 1 year to less than 3 years – 93%
- 3 years to less than 6 years – 97%
- 6 to 10 years – 99%
- More than 10 years – 98%

The age variable did also not produce much variance. In all age strata a minimum of 95 percent of respondents reported that they are aware of the dangers of flash flooding (18 – 44). Among respondents in the 45 – 64 age strata 99 percent are aware of the dangers of flash flooding and 98 percent of the 65 and older respondents indicated the same.

There was also not much difference based on gender. Ninety-eight percent (98%) of males agreed with the statement as compared to 96 percent of females.

I Know About the Time of Year Flash Flooding Is Most Likely To Occur In Southern Nevada

Eighty-four percent (84%) of all respondents reported that they know about the time that flash flooding is most likely to occur. This is up three percentage points from last year. There is some variation in the sub-populations, when looking at the data by the length of time the respondent has resided in the area. Only 50 percent of respondents (64%, 2006) who have lived here between 6 months and a year agreed with the statement. For those who have live in Southern Nevada for less than 6 months (N = 11) 64 percent agreed with the statement. After residing in the area for at least a year the percentage of respondents who know about the time of year that flash flooding is most likely to occur increases with the length of time the respondent has lived in the area. Sixty-nine percent (69%) of the respondents who have lived in the area between one and three years indicated that they are aware of when flooding is most likely

to occur, this percentage increases to 83 percent among the respondents who have lived in the area for three to six years. Eighty-eight percent (88%) of respondents who have lived in the area for six years or longer also reported knowing the time of year when flooding is most likely to occur.

When looking at the data by the area that the respondent resides in, the percentage of agreement was between 78 and 87 percent with the lowest incidence in the Southwest portion of the area (Northeast, 2007) and the highest incidence in the Southeast (Northwest, 2006). In the other areas, 83% of respondents in the Northwest and 85% of respondents in the Northeast indicated that they knew the time of year that flash flooding was most likely to occur.

The youngest respondents were less likely to agree with this statement than older respondents. Seventy-nine percent (79%) of 18 to 24 year old respondents agreed with this statement, however, this is up 16 percentage points from last year (63%, 2006). In the other age strata between 82 and 89 percent of the respondents indicated that they know about the time of year that flash flooding is most likely to occur.

Eighty-five percent (85%) of males agreed with the statement and 84 percent of females agreed with the statement. These figures indicate an increase in four percentage points from last years data.

I Know About Safety Precautions Relating to Flash Flooding

Eighty-nine percent (89%) of all respondents knew about safety precautions relating to flash flooding. This is up slightly from last year (87%, 2006). The percentages were very high in all of the area strata; however, respondents that live in the Southeast (93%) were the most likely of any of the subsets to know about safety precautions relating to flash flooding while respondents living in the Southwest (86%) were the least likely. In the Northwest 87 percent of respondents reported they know about safety precautions relating to flash flooding, while in the Northeast 90 percent indicated the same.

When looking at the data by the length of time that the respondent has lived in the Valley, the highest occurrence was 92 percent. This percentage applies to all respondents who have lived in the area six years or longer. Among the respondents who have lived here the shortest period of time, 83 percent of those who have lived here less than six months and 75 percent of those who have lived here between six months and a year indicated that they know about safety precautions relating to flooding. Eighty-one percent (81%) of those who have lived here three to 6 years and 86 percent of those who have lived here between six and ten years also reported they are aware of the safety precautions relating to flooding.

When looking at the data by age, 79% of respondents in the 18 – 24 age group indicated that they know about safety precautions relating to flash flooding; this is the lowest occurrence. Eighty-eight percent of those in the 24 – 44 age stratum indicated the same, this is an increase of 11 percentage points from last years data (77% 2006) The highest occurrences were in the 45 -64 age group (93%) and in the 65+ age group (91%).

Ninety percent (90%) of males knew about the safety precautions relating to flash flooding and 88 percent of females knew the same.

I Know About Resources Available to Learn More about Flash Flooding

Sixty-three percent (63%) of all respondents know about the resources available to learn more about flash flooding. This is the item in the series with the lowest overall agreement; however, there is an increase by seven (7) percentage points from last years data (56% 2006). Respondents who live in the Northwest were the most likely to know (67%) about the resources available to learn more about flash flooding. The lowest occurrence was in the Northeast where 56 percent of the respondents reported knowing about the resources available to learn more about flash flooding. In the Southwest and the Southeast 62 percent of respondents were aware of the same.

Twenty-seven percent (27%) of those who have lived in the area less than 6 months were aware of the resources available to learn more about flash flooding, this was the lowest incidence based on length of time in the area. This is, however, an increase of 7 percentage points from last years data (20% 2006). Respondents that have lived in the area the longest (10+ years) were the most likely (69%) to know about the resources available to learn more about flash flooding. The responses from the groups in this subset are as follows:

- Less than 6 months – 27% (+7 percentage points)
- 6 months to less than a year - 50% (+14 percentage points)
- 1 year to less than 3 years – 53% (+ 11 percentage points)
- 3 years to less than 6 years – 53% (- 2 percentage points)
- 6 years to 10 years – 67% (+ 26 Percentage points)
- More than 10 years – 69% (+ 9 percentage points)

There was not much variation in responses based on age; in all of the age categories between 59 and 66 percent of respondents knew about flood related resources. However this range of responses is considerably and significantly lower than the responses from the 2006 survey (77% - 95%)

Sixty-one percent (61%) of males know about the resources available to learn more about flash flooding, while 65% of females know the same.

I Know About Ways Flash Flooding Is Being Controlled In the Area

Seventy-nine percent (79%) of all respondents (73%, 2006) know about ways in which flooding is being controlled in the area. This is an increase of 6 percentage points from the number who were aware of such last year. There were some differences among the sub-groups. For the most part, the longer that the respondent has lived in Southern Nevada, the more knowledgeable he/she is about flood related issues. For example, only 38 percent of residents who have lived in Southern Nevada for less than 6 months know about the ways that floods are controlled in the area, this percentage more than doubles (83%) for residents who have lived here 10 years or longer. While there was a slight decrease from 40 percent in 2006 to 38 percent on flood control awareness among the newest

residents (less than six months), there was a substantial increase (23 percentage points) in awareness among the residents who have been in the area for six (6) months to less than a year (47% 2006, 70% 2007). The responses from the age strata are as follows:

- Less than 6 months – 38% (40%, 2006)
- 6 months to less than 1 year – 70% (47%, 2006)
- 1 year to less then 3 years – 65% (52%, 2006)
- 3 years to less than 6 years – 75% (66%, 2006)
- 6 years to 10 years – 84% (74%, 2006)
- Longer than 10 years – 83% (83%, 2006)

When looking at the data by age, the youngest respondents (18 – 24) were the least likely (66%) to be aware of the ways that flooding is controlled in the area while the respondents between the ages of 45 and 64 were the most likely to be aware of the same (85%). Eighty-percent (80%) of the respondents 65 and older and 72% of those between the ages of 25 and 44 indicated awareness of the ways in which flooding is controlled in the area.

Respondents in the Northeast were the least likely (69%) to know about the ways that flooding is controlled in the area. During last years administration of the survey respondents in the Northeast were also the least likely to know the ways that flooding is controlled, however there is an increase by 8 percentage points from last year (61%) to this year (69%). The responses in the other geographic areas were very similar, 82% aware in the Southwest, and 81% aware in both the Southeast and the Northwest.

Eighty percent (80%) of males and 79% of females know about the ways that flash flooding is controlled in the area.

I Know About the Availability of Flood Insurance

Seventy-seven percent (77%) of respondents indicated that they know about the availability of flood insurance. This is up 3 percentage points from last year (74%). Respondents in the Northwest areas were the most likely (80%) to

know about the availability of flood insurance. In other areas, 77% of respondents in the Southwest, 78% of the respondents from the Southeast, and 69% in the Northeast were aware of the same. These numbers show a slight increase from last years data in all of the categories with the exception of the Northwest area which remained constant at 69%.

Respondents who have lived here less than 6 months were the least likely (36%) to know about the availability of flood insurance. This percentage is 9 points lower than last year's percentage. Conversely, respondents who have lived here the longest (10 years or longer) were the most likely to know about the availability of flood insurance (82%). In the other variables based on the length of time that the respondent has lived in Southern Nevada between 65 and 78 percent of respondents were aware of the same.

The youngest respondents (18 – 24) were the least likely to know about the availability of flood insurance (71%) however there is a substantial increase in the percentage of 18 – 24 year olds who know about the availability of flood insurance between 2006 when only 50% were aware and 2007 (71%). Eighty-three percent (83%) of respondents who are between 45 and 64 and those 65 and older know about the availability of flood insurance. This was the highest occurrence. Seventy-five percent (75%) of the respondents over age 64 and 71% of those between the ages of 25 and 44 also indicated knowing about the availability of flood insurance.

Seventy-six percent (76%) of males and 77 percent of females knew about the availability of flood insurance. The data on gender is also similar to the data collected last year.

Sources for Information

In the next section of the survey respondents were asked to respond “yes” or “no” to a list that was read to them of possible sources where they learned about flash flooding. The following table presents the data in rank order.

Table 4: Rank order of sources for obtaining flood information

Rank	Source	% 2007	% 2006	% 2005
1	Television	90%	87%	87%
2	Newspaper	60%	60%	58%
3	Radio	60%	56%	47%
4	Friends / Relatives	54%	59%	48%
5	Billboards	51%	46%	39%
6	Brochure	21%	24%	26%
7	CCRFCD Website	20%	19%	5%
8	Welcome Home Magazine	6%	8%	5%

As in past years, television (90%, +3) is the main source where respondents learn about flash flooding. Newspapers (60%) also continues to be in the top three ways that respondents are getting flood related information, 60% also indicated that they obtain information about floods from the radio. There was a decrease of 4 percentage points in the number of respondents that indicated that their friends and relatives were a source of information about flooding (59%, 2006, 54% 2007). Billboards as a source for flood information (51%) showed an increase by several percentage points (+ 5), but the percentage of those that indicated that *Welcome Home Magazine* was a source for flood information decreased slightly from 8% to 6%. Twenty percent (20%) indicated that they had learned about flash flooding from the CCRFCD website (19% 2006). Brochures as a source for flood information were down slightly, but only by 3 percentage points (21%, 2007, 24% 2006).

When looking at each of the information sources the following can be said about the demographic profile of the respondents most likely to obtain information from that source.⁵

a. Brochure: female (22%), between the ages of 45 and 64 (24%) who has lived Southern Nevada between three and six years (24%) and currently resides in the Northeast (25%) area

b. Billboard: male (54%) between the ages of 18 and 24 (66%) who has lived in Southern Nevada ten years or longer (53%) and currently resides in the Southeast (56%) area.

c. Television: female (91%) between the ages of 45 and 64 (92%) who has lived in Southern Nevada ten years or longer (94%) and currently resides in the Northwest (92%) area.

d. Radio: male (62%) between the ages of 18 and 44 (69%) who has lived in Southern Nevada between six and ten years (66%) and currently resides in the Northeast (65%) area.

e. Newspaper: male (61%) aged 65 or older (70%) who has lived in Southern Nevada 10 years or longer (63%) and currently resides in the Southwest (64%) area.

f. Welcome Home Magazine: female (7%) between the ages of 18 and 24 (8%) who has lived in Southern Nevada for six months to less than a year (10%) and currently resides in the Northeast (10%) area.

⁵ Due to the small number of responses in outlying areas, they were omitted from the profile. The percentage reported is the highest within each subset not the entire sample.

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g. CCRFCD Website: male (21%) between the ages of 18 and 24 (26%) who has lived in Southern Nevada at least 6 years (21%) and currently resides in the Southeast (21%) area.⁶

h. Friends and/or relatives: female (58%) between the ages of 18 and 24 (63%) who has lived in Southern Nevada six months to less than one year (70%) and currently resides in the Northwest (56%) area.

School Age Children

In order to assess the effectiveness of flood awareness information aimed at school aged children, additional questions were asked of respondents who indicated that they had a child(ren) in elementary school. Nineteen percent (19%) of the respondents indicated that they have a child(ren) in elementary school (N = 124). This sample is large enough to be statistically relevant. These respondents were asked two follow-up questions: *did your children bring information about flood awareness home from school in the past year*, and *have your children talked to you about flood safety that he/she learned at school*. Twenty-three percent (23%) of those with elementary-aged child(ren) indicated that their children did bring materials about flood awareness home in the past year. This is an increase of 5 percentage points from last year (18%, 2006). Nineteen percent (19%) indicated that their child(ren) talked about flood safety that was learned at school. This is a slight decrease from last year's data (21%, 2006).

⁶ Please note that there was only a 2 percentage point difference between any of the area categories
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Hundred Year Flood Zone

Do you know if you live in a hundred year flood zone?

Ten percent (10%) of respondents (N = 72) reported that they live in a flood zone. This mirrors the data collected in 2006. Forty-eight percent (48%) reported that they do not live in a hundred year flood zone, and 42% are not sure whether or not they live in a flood zone.

Do you know how to find out if you live in a flood zone?

Forty-two percent (42%) of the respondents reported that they know how to find out whether or not they live in a flood zone. This is down 11 percentage points from the 53% that knew the same last year. The profile of the typical respondent who knows how to find out if he/she lives in a flood zone is a male (47%) who is 64 or older (46%) who lives in the Southwest (90%) part of the Valley. There is a significant relationship between the area of town that the respondent resides in and knowing how to find out if it is in a flood zone.⁷ In the Southeast 64% of the respondents know how to determine if they live in a flood zone, while in both the Northwest and Northeast only about 10% know how to find out if they live in a flood zone. In addition, once a respondent has resided in the area for at least three (3) years approximately 44% indicated knowing how to determine if they live in a flood zone or not. Prior to living here for three (3) years, approximately 38% of the respondents indicated knowing how to determine if they live in a flood zone.

⁷ Pearson Chi-Square .000.
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Flood Insurance Issues

This series of questions was asked of all respondents. In addition to asking whether the respondent was aware if flood insurance is available to everyone, respondents were also asked if flood insurance was only available to those living in a flood zone, if flood insurance will only cover the structure of a residence, whether flood insurance will cover the contents of a residence, whether flood insurance costs the same whether or not the residence is in a flood zone, and whether there was a requirement to buy flood insurance if the residence is in a flood zone. The table below shows the percentage who responded correctly.

Table 5: Flood insurance issues

Issue	% Correct 2007	% Correct 2006
Flood insurance is available to everyone	60%	60%
Flood insurance will only cover structural damage	34%	26%
Flood insurance is only available to those living in a flood zone	58%	53%
Flood insurance available to cover damage to the contents of a residence	59%	58%
Flood insurance costs the same regardless of whether or not the residence is in a flood zone	51%	52%
If you live in a flood zone you must buy flood insurance	39%	39%

Item 1, “*flood insurance is available to everyone*” mirrored last year’s data (60%) and was the item with the most correct responses. Item 2 (*flood insurance will only cover structural damage only*) and item 4 (*flood insurance will cover both structure and content*) are similar in content but the results are different. Whereas 59% correctly responded to item 4, only 34% responded correctly to item 2.

However, there was an eight (8) point increase in awareness between this year

and last year in the number who responded correctly to “*flood insurance will only cover structural damage*” (34% 2007, 26% 2006). There was also no increase in the number of respondents who are aware that flood insurance is available to everybody, not just those who live in a flood zone this number remained constant (60% 2007, 60% 2006).

About half (51%) also knew that flood insurance costs are dependent on the location of the residence. Mirroring last years data, 39% know that if you live in a flood zone you must buy flood insurance.

As in previous administrations of this survey, this section of the survey had a very high percentage of “don’t know” responses on each of the items. All of them had at least 16% “don’t know” responses. The items with the highest percentage of “don’t know” responses were: flood insurance will only cover damage to the structure of a residence (34% “don’t know”), the cost of flood insurance is the same regardless of whether or not the residence is in a flood zone (29% “don’t know”), and flood insurance is available to cover damage to the contents of a residence (26% “don’t know”).

While these high percentages of don’t know responses are indicative of an area in which public awareness needs to be increased, there has been an overall decrease in the number of don’t know responses this year. Whereas last year each item had at least 21% don’t know responses, this year that percentage dropped to 16%. In addition, last year 40% of the respondents answered don’t know to “*flood insurance will only cover damage to the structure of a residence*” and this year that percentage dropped to 34% don’t know. Similarly, don’t know responses dropped from 35% in 2006 to 29% this year for the item: “*the cost of flood insurance is the same regardless of whether or not the residence is in a flood zone*” and also dropped from 29% last year to 26% this year for the item: “*flood insurance is available to cover damage to the contents of a residence*”.

Flood insurance is available to everyone.

Sixty percent of all respondents agreed that flood insurance is available to everyone. This was the highest incidence and it mirrors last year's data (60% 2006). Respondents who reside in the Southeast (64%) and Southwest (60%) were the most likely to agree with the statement. In addition, 58% of respondents in the Northwest and 57% in the Northeast agreed with the statement.

When looking at the data by length of time in Clark County, there are some slight differences. Respondents who have lived in Southern Nevada for less than six (6) months were the least likely (55%) to respond correctly to this statement. Among those who have lived in the area between 6 months and a year, 60% responded correctly. Sixty-three percent (63%) of those who have lived here 1 year to less than three years responded correctly as did 64% of those who have lived here between 3 years to less than 6 years. In addition, 58% of those who have lived in Southern Nevada for 6 – 10 years knew that flood insurance is available to everyone, as did 60% of those who have lived here longer than 10 years.

Similar to last year, the youngest respondents (18-24) were the most likely (69%) to correctly respond to the statement. Those in the oldest age stratum (65+) were the least likely to respond correctly (56%) In the other age groups, 60% of the 45-64 year olds responded correctly as did 64% of the 25 to 44 year olds.

There was no difference in the responses based on gender. Sixty percent (60%) of both males and females know that flood insurance is available to everyone.

Flood insurance will only cover damage to the structure of a residence.

Only 26% of the respondents were able to answer this question correctly in 2006. There has been an increase of eight (8) percentage points in awareness for this item this year (34% 2007). In addition last year 40% of

respondents did not know how to answer this question, and this year the percentage who could not respond dropped all the way to 16%.

When looking at the data by the sub-groups, the youngest respondents (18-24) were the most likely to respond incorrectly (50%) however they were the most likely to provide an answer (24% responded don't know). Among the oldest respondents (65+) 43% responded "don't know" while a third (33%) responded incorrectly and 24% responded correctly. Respondents in the 25 – 44 age group were the most likely to respond correctly (39%) while 31% of those in the 45 – 64 age group also responded correctly.

When looking at the data by area there was not much variance, approximately a third of respondents in the Southwest, Southeast and Northwest knew that flood insurance would cover more than structural damage, while in the Northeast 28% knew the same.

There were some differences in the data based on length of time the respondent has resided in the area. The highest number of correct responses was the 44% of respondents who have lived in Southern Nevada for 1 to less than 3 years and the 32% of respondents who have lived here for longer than 10 years. The lowest incidence or correct responses was from the 18% of respondents who have lived in the area for less than 6 months. In the other length of residency strata approximately a quarter of the respondents were able to correctly answer the question.

Males (33%) were slightly more likely than females (31%) to respond correctly to the statement.

Flood insurance is only available to those who live in a flood zone.

There was an increase in the percentage of residents who correctly responded with the statement this year (58% 2007, 53%, 2006,) thus indicating more awareness that flood insurance is *not* only available to those who live in a flood zone.

There is some variance in the responses based on area. The highest occurrence was in the southeast where 61% know that you do not have to live in

a flood zone to have flood insurance; this was followed closely by 60% of those in the Southwest who were aware of the same. The lowest incidence was in the Northeast, where 48% responded correctly. In the Northwest, 58% know that flood insurance *is* available to those who do not live in a flood zone.

When looking at the data by the length of time the respondent has lived in the area, in each group at least 45% responded correctly with the lowest incidence of correct responses (45%) in the group of respondents that have lived in the area between 6 months and a year; this was followed closely by the 46% of those who have lived here 6 months or less. Those that responded correctly most often (61%) have lived in Southern Nevada between one (1) and three (3) years. Fifty-seven percent (57%) of all respondents who have lived here at least three (3) years correctly responded to the statement.

When looking at the data by the age variable 88% of the youngest respondents (18-24) responded correctly; their responses were similar to the oldest respondents (65+) where 57% responded correctly. Sixty-five percent (65%) of the 45 – 65 year olds responded correctly; this was the highest occurrence. Fifty-one percent (51%) of those between the ages of 25-44 know that you do not have to live in a flood zone to obtain flood insurance.

Males were more likely (64%) than females (55%) to respond correctly.

Flood insurance is available to cover damage to the contents of a residence.

Overall 59 percent of respondents correctly agreed with the statement that flood insurance is available to cover damage to the contents of a residence. This is similar to the data collected last year (58%, 2006). When looking at the area that the respondent resides in there is not much disparity in the responses, in all of the geographic areas between 56% and 61% have knowledge that flood insurance is available to cover damage to the contents of a residence.

There was some disparity based on the length of time that the respondent has lived in the area. Respondents who have lived here between 6 months and a year were the most likely to agree (80%) with the statement while those who

have lived here less than 6 months were the least likely (45%). In the other “length or residency” groups between 55% and 72% responded correctly. When looking at the data by age, 64% of the respondents between the ages of 25 and 64 knew that flood insurance is available to cover damage to the contents of a residence. The oldest respondents (65+) were the least likely (48%) to respond correctly. Fifty-eight percent (58%) of respondents between the ages of 18 to 24 also reported knowing that the contents of a residence can be covered from flood damage.

Male respondents (62%) were more likely than female respondents (57%) to know that flood insurance is available to cover the contents of a residence.

The cost of flood insurance is the same regardless of whether or not the residence is in a flood zone.

Fifty-one percent (51%) of respondents disagreed with the statement indicating they know that the cost of flood insurance is *not* the same regardless of whether or not the residence is in a flood zone. This is similar to the percentage that responded correctly last year (52%). The youngest respondents (18 - 24) were the least likely (34%) respondents from any of the age groups to respond correctly to this statement; those between the ages of 45 - 64 were the most likely to respond correctly (60%). When looking at the data by the area that the respondent lives in, the Northeast had the lowest incidence of correct responses (37%), while the Northwest had the highest (56%). About half of the respondents in the other area groups responded correctly.

Sixty percent of respondents who have lived in Nevada between 6 months and a year correctly answered this question (highest incidence of correct answers) compared to 45% of those who have lived in the area between 3 and 6 years (lowest incidence of correct answers). Fifty-four percent (54%) of the residents who have lived here at between 1 and 3 years and 53% who have been here longer than 10 years knew that the cost of flood insurance is dependent of the area of the residence.

Males (57%) were more likely than females (48%) to respond correctly.

If you live in a flood zone you must buy flood insurance.

Thirty-nine percent of respondents knew that if you live in a flood zone you must purchase flood insurance. This data mirrors the data collected in 2006. When looking at the data by the age sub-group, the 25 – 44 year olds were the most likely to respond correctly (44%), and those in the youngest age group (32%) were the least likely (32%) to respond correctly. In the other age groups 38% of the 45 - 64 year olds and 36% of the respondents 65 and older responded correctly.

Those respondents who have lived here the longest (37%) and those who have lived here less than 6 months (36%) were among the least likely to respond correctly to this question. This is similar to the way respondents answered in 2006. The highest incidence of correct responses was the 45% from the group who has lived in the area between 6 months and a year.

When looking at the data by area of town, there was not much disparity in the responses. Between 38% and 41% of the respondents from each of the geographic areas know that if you live in a flood zone you must purchase flood insurance.

Females (42%) were more likely than males (34%) to know that you must buy flood insurance if you live in a flood zone.

Do you have flood insurance?

Since flood insurance is available to everyone, not just those who live in a flood zone, this question was asked of all respondents. Ten percent (10%) of all respondents (N = 70) reported that they have flood insurance. Of the 72 respondents who reported that they live in a flood zone and are therefore required to purchase flood insurance, only 10 respondents reported that they have flood insurance. This represents 14 percent of those that live in a flood zone and are required to have flood insurance that actually have it.

Flood insurance is a separate policy from homeowners insurance to cover flood damage from a weather related event. Do you have such a policy?

This question was added this year to try to determine if respondents are truly cognizant of what flood insurance is. All respondents were read the above definition of flood insurance. After being read the definition of flood insurance 72 respondents (10%) indicated that they have flood insurance. Of these 72 respondents 53 responded “yes” to both questions. Eighty-four (84) respondents changed their answer after hearing a definition of flood insurance. Fourteen (14) of those who responded “yes” to the question “do you have flood insurance” changed their responses to “no” or “not sure” after hearing the definition. Sixty (60) of those who responded “no” to the first question changed their responses to “yes” or “not sure” after hearing the definition of flood insurance, and 10 who responded “don’t know” to the first question changed their responses to “no” after hearing a definition for flood insurance.

Experience with Flooded Roads

For the next part of the survey, respondents were read a definition of a flooded street (*a street or road where water covers the street from curb to curb, and you can't see the pavement*) and then asked if either as a driver or as a passenger of a vehicle they had ever encounter a flooded street while on a road. Seventy-three percent (N = 511) of respondents reported that they had encountered a flooded street. This percentage mirrors last year’s data (73%). Respondents who had encountered a flooded street were read four statements and asked which one best described their response to encountering a flooded street.

- (1) Turned back and took an alternate route
- (2) Waited for the water to go down and then drove through it
- (3) Drove through it and made it
- (4) Drove through it and got stuck

Statements 1 and 2 are considered good or appropriate choices, while Statements 3 and 4 are considered poor or inappropriate choices.

Respondents who answered that they drove through it and made it or drove through it and got stuck were asked to define why they made that choice.

Good or Appropriate Choices

Sixty-seven percent (67%) of respondents made a good or appropriate choice when encountering a flooded road in Clark County. This is similar to the 68% that did the same in 2006 and the 67 percent who did so in 2005. By far the largest percentage of respondents who made a good or appropriate choice (62%) “turned back and took an alternate route”. Four percent (4%) “waited for the water to go down then drove through it”. These are similar to the responses that were obtained in the 2006 administration of the survey.

Those who have lived in the area for three (3) to six (6) years were the most likely to turn around and take an alternate route (70%) while the lowest incidence was the 58% of those who have lived here between six (6) and ten (10) years who indicated the same. Those who turned around and took an alternate route are more likely to live in the Northeast (70%) than in any other part of the Valley (Northwest 63%, Southwest 48%, Southeast 66 %). When looking at the responses by age in the 18 – 24 age group 71% turned around and took an alternate route this was the highest occurrence and in direct contrast to last years data when this group produced the lowest occurrence (48%). In the 25 – 44 age group 65% turned around and took an alternate route as did 63% in the 45 – 64 age group and 57% in the 65+ age group. The responses of females (66%) who would turn around and take an alternate route was higher than those of males (57%%).

Among the 22 respondents who indicated that they would wait for the water to go down then drive through it, ten (10) were from the Southeast part of the Valley, 17 have lived in the area longer than ten years, 12 are female and eight (8) are between the ages of 45 and 64.

Poor or Inappropriate Choices

Thirty percent (29% 2006) of respondents made a poor or inappropriate choice when encountering a flooded street or road in Clark County.⁸ From this group of 158 respondents, 146 drove through it and made it (92%) while 12 individuals drove through it and got stuck (8%). Those that drove through it and got stuck were most likely to be female (N = 7, 58%), At least 45 years of age (N = 10, 83%) live in the Northwest (N = 7, 58%), and have lived in the area 10 years or longer (N = 10, 82%)

The 158 individuals who made a poor or inappropriate choice when encountering a flooded street were asked why. The most often cited reason why a poor choice was made was “didn’t think it was unsafe to do so” (66%). This is up 8 percentage points from those that didn’t think it was unsafe to do so in 2006 (58%). Nine percent (9%) were “in a hurry” (11%, 2006), 5% “didn’t know any better” (7%, 2006), and 7% thought “it would be fun” (3% 2006).

When looking at the answers of the 105 respondents that indicated that they didn’t know it was unsafe to drive through flood water, 38% (N = 40) were between the ages of 45 -64. They have lived in the area longer than 10 years (60%, N = 60). Fifty-one percent were female and 49% were male.

⁸ Two percent of respondents reported that they did not remember what they did when encountering a flooded road or street.

Streets “are” or “are not” a part of the flood control system.

The data shows that the awareness that “streets are a part of the flood control system” is consistent with the data collected for the past several years. This year 65% of respondents were aware that this is true as compared to 63% in 2006 and 62% in 2005 who were aware of the same. Twenty-five percent (25%) of respondents did not know that streets are a part of the flood control system, while 11% responded that they “didn’t know”.

There were some differences in responses among the sub-groups. Among the group of males who answered the survey, 69% knew that streets are a part of the flood control system, this compared to 61% of females who were aware of the same.

Respondents in the 45 – 64 age group were the most aware that streets are a part of the flood control system (71%), while those in the youngest age group (18 – 24) were the least likely (58%) to know the same. There is some variance in the data based on the length of time that the respondent has lived in the area. Respondents who have lived here one year or less were the most aware (68%) that streets are a part of the flood control system, respondents who have lived here between six and 10 years were the least aware (60%).

“Some” or “All” of the urban runoff that travels through the flood control system drains into Lake Mead.

This question was added to the survey in 2006. This is the first year that comparative data is available. Last year 20% of the respondents were unable to answer this question, this year that percentage dropped to 17%, however, the percentage who answered that “all” of the urban runoff that travels through the flood control system drains into Lake Mead remained fairly constant (37% 2007, 38% 2006). This year 46% answered that “some” of the runoff drains into Lake Mead as compared to 40% who answered the same in 2006.

Within the age groups, 50% of youngest respondents (18-24) correctly answered this question; this was the highest occurrence as it was last year when 46% of the 18 – 24 year olds answered that “all” of the urban runoff that travels

through the flood control system drains into Lake Mead. In the other age groups 31% of those aged 65 and older, 38% between the ages of 45 - 64 and 40% between the ages of 25 – 45 answered that “all” of the urban runoff drains into Lake Mead.

When looking at the data by how long the respondent has lived in the area about 25% of all respondents who have lived in the area at least a year answered that “all” of the urban runoff travels to Lake Mead. Only 16% of those who have lived here less than a year responded the same.

Males (46%) were more likely than females (30%) to respond correctly.

The urban runoff and rainwater that travels through the flood control system is “treated” “untreated”.

Last year the wording of this question was changed and the results yielded a 20 percentage point decline in the number of respondents who could correctly answer that the urban runoff that travels through the flood control system is untreated. In an attempt to see if it was the question wording that caused the decline the question was asked both ways this year and it is apparent that the wording of the 2006 question did produce lower results. The original question that was asked prior to 2006 and to half of the respondents (N = 349) this year was *“the stormwater and urban runoff and rainwater that travels through the flood control channels and storm drains is [treated] or [untreated]”*. Fifty-seven percent (57%) of the respondents who received the question this way responded correctly. This is up 13 percentage points from last year (44%) and closer to the 2006 responses when 64% knew that urban runoff and rainwater that travels through the flood control system is untreated.

Three-hundred and fifty-one (351) respondents were asked the question in the manner that it was written in 2006 *“the urban runoff and rainwater that travels through the flood control system is [treated] or [untreated]”*. When asked this way only 49% answered that the runoff and rainwater is untreated, similar to the 44% who responded to the question as such in 2006.

All respondents who knew that the urban runoff was untreated (N = 371) were asked a follow up question to assess any changes in behavior apparent from having the knowledge. The follow-up question was “*as a result of knowing that urban runoff and rainwater are NOT treated have you changed any behaviors that would help protect the environment*”? One-hundred and thirty-four (134) respondents have changed a behavior as a result of having this knowledge. This number represents 39% of those respondents who know that urban runoff is untreated. The 134 respondents who reported that they had changed a behavior were asked what behavior that they had changed.

Table 6: Behavior changes- knowing urban runoff is untreated

<i>Rank</i>	<i>Behavior Change</i>	<i>Percent 2007</i>	<i>Percent 2006</i>
1	Proper disposal of general waste	63%	46%
2	Proper disposal of chemicals	44%	41%
3	Proper disposal of oil	33%	33%
4	Proper clean/up disposal of pet waste	22%	22%
5	Use of a commercial car wash	21%	24%
6	Use of organic fertilizers	14%	19%
7	Reporting of clogged storm drains	13%	N/A
8	Other	10%	29%

Similar to last years results there has again been an increase in the activities that respondents are doing as a result of knowing that urban runoff is untreated. As in last year’s administration of the survey, the respondents were not read the list above, but their answers were coded into the above categories by the interviewer based on the response. Many of the behavior changes reported by the respondents were in the manner in which they are disposing of waste, from general waste to chemicals. Forty-four percent (44%) of respondents indicated that they are disposing of chemical waste properly; this is

up 3 percentage points from last year (41%, 2006). Up 17 percentage points from 46% in 2006 to 63% in 2007 is the percentage of respondents that reported that they are disposing of general waste properly. A third (33%) of the respondents indicated that they are disposing of oil properly, this mirrors last years data (33%, 2006) also mirroring last years data is the 22% of respondents that are properly cleaning up and disposing of pet waste.

A couple of items had slightly lower responses this year. The number of respondents that indicated they are using a commercial car wash dropped from 24% in 2006 to 21% in 2007, and the number of respondents reporting that they use organic fertilizers dropped from 19% in 2006 to 14% in 2007. However, 13% reported that they are reporting clogged storm drains whereas nobody indicated doing so in past administrations of the survey.

Ten percent (10%) of the respondents indicated that they are doing some "other" activity as a result of knowing that urban runoff and rainwater is not treated these responses include: *"not using any chemicals"*, *picking up others waste*", and *"drain pool water into the sewer system"*. Several of the "other" (N = 6) responses had to do with water conservation.

All respondents were asked the following three questions which were new to the survey last year, thus this is the first year comparative data is available.

(1) If you knew what to do, would you be willing to change your behavior if you know it would improve water quality?

Similar to the results produced last year 89% of respondents indicated that they would be willing to make a behavior change to improve water quality if they knew what to do (90% 2006). Females (91%) are more willing to make a change than males (88%). When looking at the data by the age variables there is no too much variance. Among the 18-24 year olds, 90% indicated that they would change a behavior, this compared to 87% of those aged 65 or older who are willing to do the same. Only 3% (N = 20) are not willing to make a behavior change to improve water quality and 8% are not sure whether or not they would make a behavior change to improve water quality.

(2) Would you like to know more about how to keep the environment clean?

Sixty-four percent (64%) of respondents indicated that they would like to know more about how to keep the environment clean; this is down from the 73% who reported the same in 2006. There is a statistically significant relationship between age and the desire to know more about how to keep the environment clean.⁹ Fifty-eight percent (58%) of the 18 – 24 year olds in the sample want more information on keeping the environment clean, this is down considerably from the 80% that wanted the same last year. However in the 24 – 44 age group 74% want more environmental information as do 68% in the 45 – 64 age group. The lowest occurrence is the 53% of those aged 65 or older who want to know more about how to keep the environment clean. Among female respondents, 67% indicated that they want more information, this compared to 61% of males who want more information on how to keep the environment clean.

(3) Where would you like to go to get information on how to keep the environment clean?

This question was asked open ended to respondents who indicated that they would like more information on how to keep the environment clean (N = 450). The table below shows the most often given responses to this open ended question.

Table 7: Preferred sources for environmental information

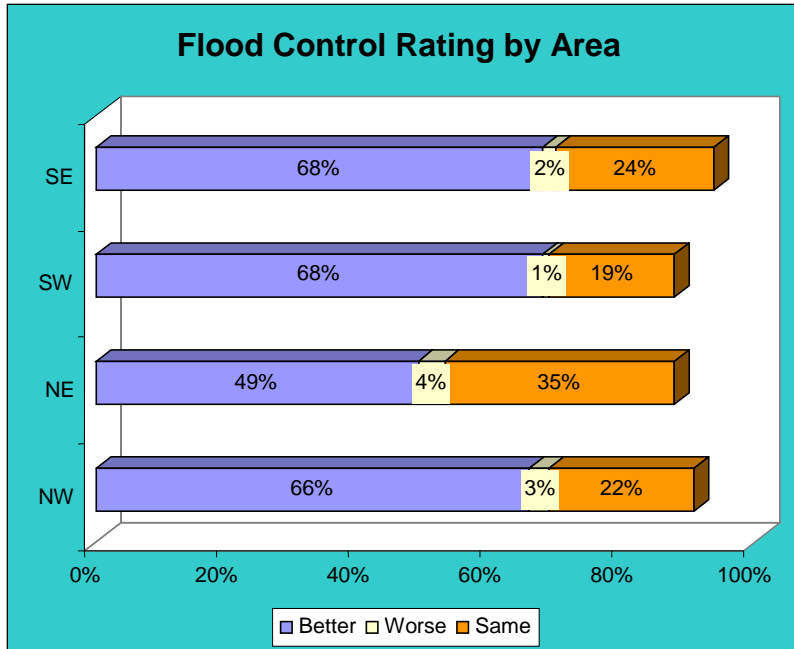
Rank	Source of Information	Frequency	Percent (%)
1	Internet/Website/Email	194	43%
2	TV/Radio	75	17%
3	Mail	71	16%
4	Brochures/Flyers	31	7%
5	Newspaper/Magazines	22	5%
5	Government source	20	4%
7	Don't Know	12	3%
8	Other	8	2%

⁹ Pearson Chi-Square .000.
2007 Flood Awareness Survey
Cannon Survey Center
University of Nevada, Las Vegas

The most mentioned source for receiving environmental information was the Internet mentioned by 194 respondents (43%). This was followed by 17% who prefer to receive information via television or the radio and 16% who would like the information mailed to them either directly or as an insert with a utility bill. Seven percent (7%) mentioned brochures or flyers and 5% indicated that they would prefer to receive information on how to keep the environment clean via newspapers or magazines. Twenty individuals mentioned some kind of government source including the CCRFCD, the County, the water district, and the post office. Responses in the other category included: “any public announcement”, “grocery store” and “schools”.

Since you became a resident of Southern Nevada, do you think the way flood control is being handled in our valley has gotten better, gotten worse, or stayed about the same?

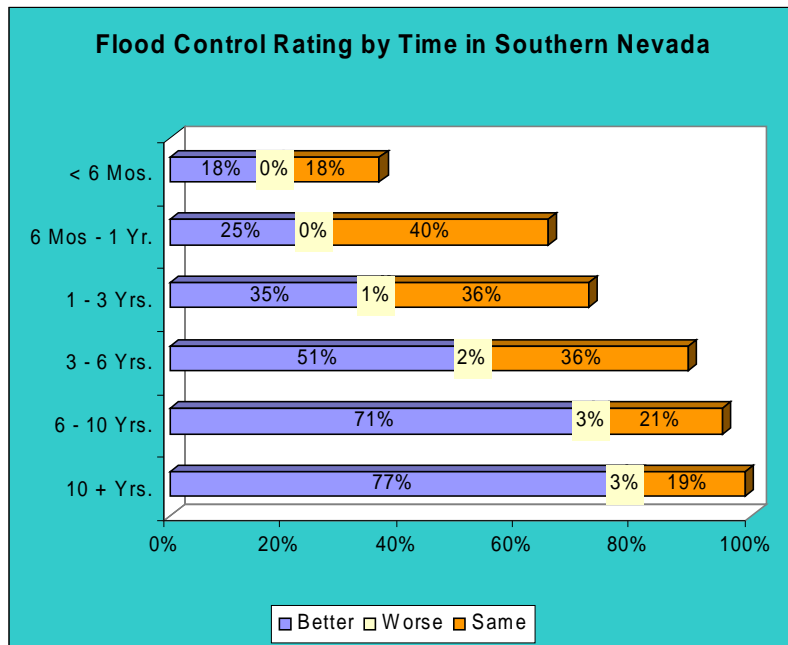
Sixty-five percent (65%) of respondents feel that since the time that they have become residents of Southern Nevada the way that flood control is handled has gotten better. Twenty-four percent (24%) think that it has stayed the same and 9 percent are not sure. Only 2 percent of respondents think that the way flood control is handled has got worse. These figures are similar to last year’s figures.



The graph¹⁰ above depicts the flood control rating by area. As the graph shows, there is not much variance in the answers from respondents who live in the Southeast, Southwest, and Northwest. Approximately two thirds of all residents in these areas have indicated that flood control has gotten better since moving here. Respondents in the Northeast are the least likely (49%) to agree that the way that floods are being controlled has gotten better. Only a very small percentage in any of the areas has indicated that flood control has gotten worse with the highest incidence in the Northeast (4%). Between 19% (SW) and 35% (NE) of respondents in all areas think that the way that floods are being controlled has stayed about the same since residing in Southern Nevada.

¹⁰ The total percentage in this graph and the following two graphs do not add up to 100%, the missing percentages represent the “not sure” responses.

Flood Control Rating by Length of Time Resided in Southern Nevada

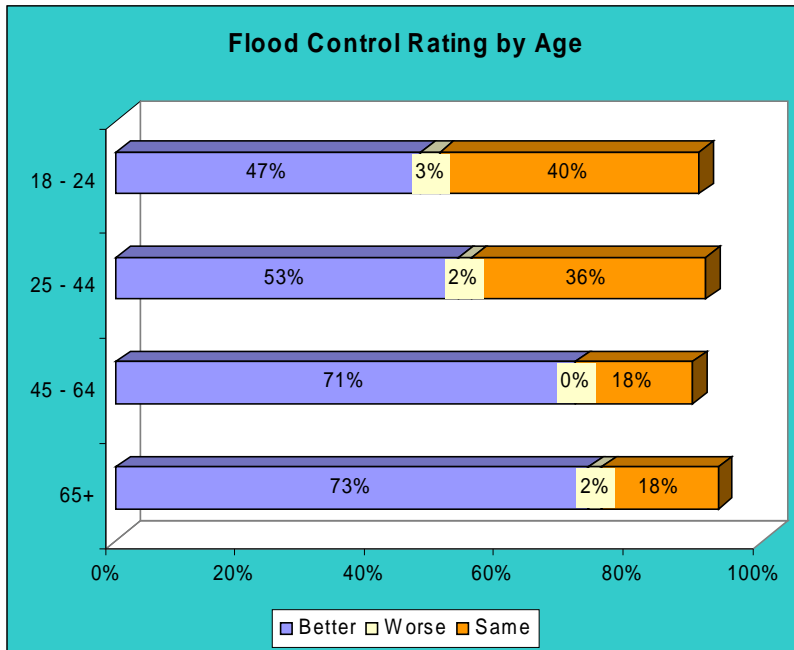


The graph¹¹ above shows the flood control rating by the length of time that the respondent has resided in Southern Nevada. As is indicated above, those respondents who have lived here 10 years or longer were the most likely (77%) to think that the way that flood control is being handled has gotten better. It is not a surprise that those who have lived here for less than six (6) months would not have much of a time frame from which to judge flood control, however 18% of respondents in this group did answer that flood control has gotten better since residing in Southern Nevada. Sixty-four percent (64%) of respondents in this group answered that they were “not sure”. Only 3% or fewer of respondents in any of the groups indicated that flood control has gotten worse since moving here. There is a statistically significant relationship between the length of time that a respondent has lived in Southern Nevada and the ability to rate flood control.¹²

¹¹ Percentages do not add up to 100%, “not sure” responses are not included on the graph.

¹² Pearson Chi-Square .000.

Flood Control Rating by Age



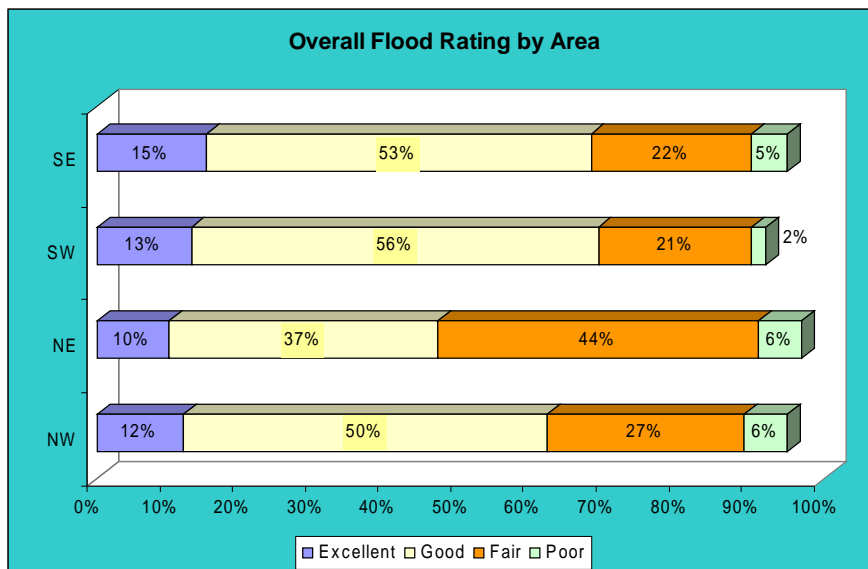
Respondents in the 65 + age group were the most likely (73%) to think that flood control has gotten better since living here. This was the highest incidence among any of the age strata. In the 18 – 24 age stratum, 47% thought that flood control has gotten better, this was the lowest incidence. In the other groups 71% of those aged 45 - 64 and 53% of those between the ages of 25 and 44 thought that flood control has gotten better. Again, only a very small percentage indicated flood control had gotten worse. The youngest respondents (18 – 24) were the most likely (40%) to think that flood control has stayed about the same since becoming a resident of southern Nevada. There is a statistically significant relationship between the respondent’s age and the ability to rate changes in flood control since residing here.¹³ This may be because many in this group are native to Southern Nevada.

¹³ Pearson Chi-Square .000.
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Overall, how would you rate the way flood control is being handled in Southern Nevada?

The survey results show overall that 63% of respondents positively rate the way that flood control is being handled in Southern Nevada; 13% gave flood control an “excellent” rating, while 50% gave flood control a “good” rating. The 61% overall rating is similar to last years overall rating (61%). Twenty-five percent (25%) rated flood control “fair”, while 6% gave flood control a “poor” rating. Six percent (6%) of the respondents did not know how to rate flood control overall.

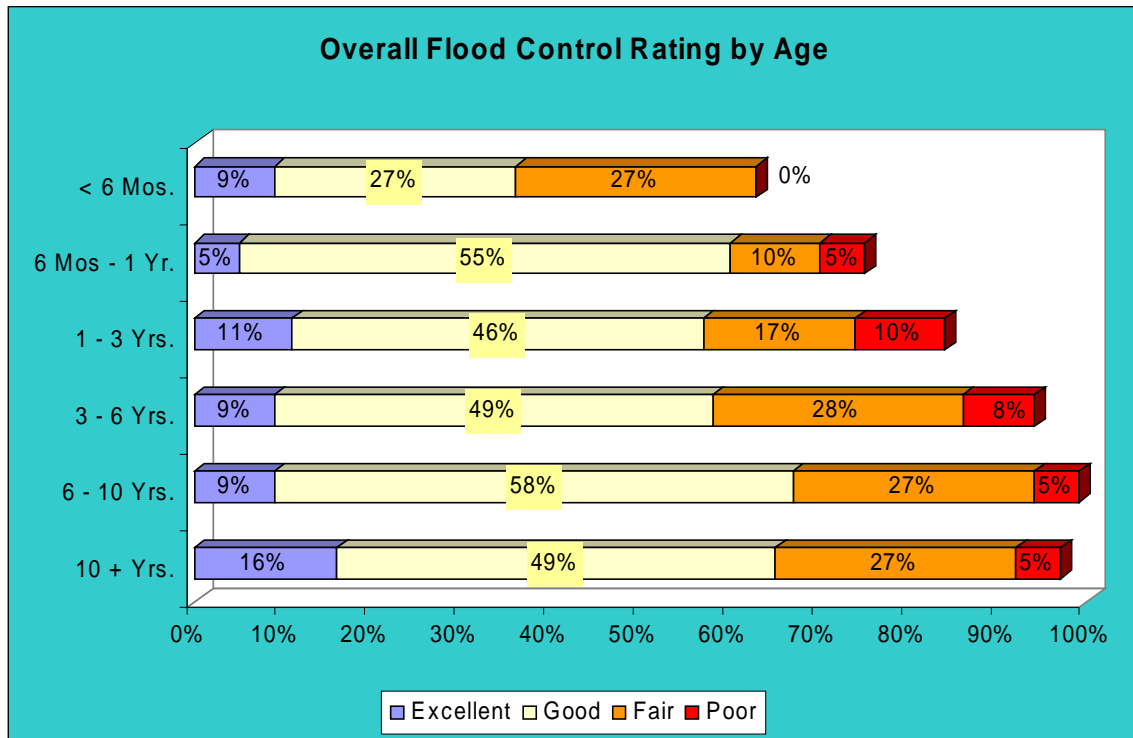
Overall Flood Control Rating by Area



When looking at the graph above¹⁴ which depicts the data by area, there is not much disparity in the answers from those that live in the Southeast, Southwest, and Northwest. In the Northwest, Southwest, and Southeast at least 62% of respondents rated flood control as “good” or “excellent”. Respondents in the Northeast were the least likely (52%) to rate flood control as “good” or “excellent”. These results are similar to those obtained last year.

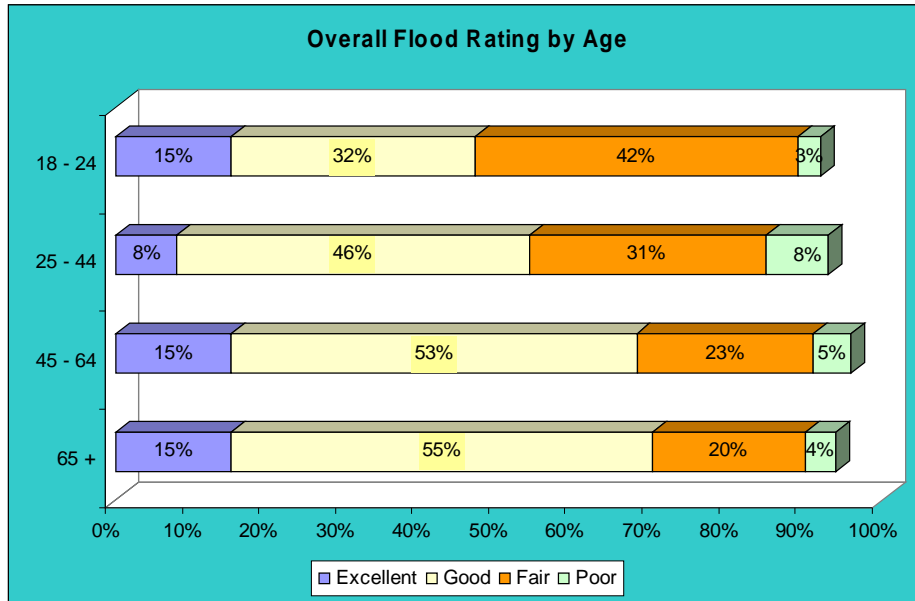
¹⁴ The total percentage in this graph and the following two graphs do not add up to 100%, the missing percentages represent the “don’t know” responses.

Flood Control Rating by Length of Time Resided in Southern Nevada



The graph above depicts the data by the length of time the respondent has lived in the area. As is indicated those who have lived here less than six months had difficulty responding to an overall rating and 36% percent answered that they “did not know”. When looking at the other length of residency variables, 57% of the respondents who have lived in the area between one and three years rated overall flood control positively. Once a respondent has lived in the area in excess of six years 66% rate overall flood control positively.

Flood Control Rating by Age



The graph above, which depicts the data by the age of the respondent, shows that the older the respondent is, the more likely he/she is to rate flood control overall, as “good” or “excellent”. Seventy-one percent (71%) of the respondents aged 65 and older positively rated overall flood control, this is up 6 percentage points from last year. In the 45 – 64 age group 68% rated flood control positively, while in the 25 – 44 age group 54% did the same. The lowest incidence was the 47% of 18 – 24 year olds who positively rated overall flood control. In all age strata less than 10% rated overall flood control poorly. The highest incidence was 8% of 25 – 45 year olds.

Cable Television / Flood Channel

Respondents were asked if they have cable television. Those respondents who answered yes (77%) were then asked if they had ever watched the Flood Channel on cable channels 2 or 4. Thirty-eight percent (38%) of those respondents that have cable television reported that they have watched the Flood Channel. This is down somewhat from the 41% of respondents in 2006 that indicated that they have watched the Flood Channel but it does represent 205 respondents. Those respondents who had watched the Flood Channel were asked (unprompted) what they remember most from watching it. The following table provides the rank order of responses.

Table 8: Rank order – remembered most from watching Flood Channel

Rank	Item	% 2007	% 2006	% 2005
1	Dangers of flash flooding	48%	40%	42%
2	Safety precautions	43%	29%	19%
3	Unable to specify	21%	29%	19%
4	Where to learn more about flooding	16%	4%	6%
4	Ways floods are controlled	13%	14%	9%
6	Other ₁	13%	9%	7%
7	Time of year flooding occurs	11%	3%	N/A
8	How to protect the environment	4%	N/A	N/A
9	Availability of flood insurance	2%	2%	N/A

1. Other responses include: “amount of trash in the basin”, “cars floating”, “the license plate billboards”, “and the Alexander Road videos”

As can be seen from the table above, what respondents remembered the most from watching the Flood Channel is the dangers of flash flooding. Further the percentage of respondents that recall learning about the dangers of flash flooding has increased from 40% in 2006 to 48% in 2007. There has also been a large increase in the percentage of respondents who remember learning about safety precautions that can be taken regarding flooding. In 2006, 29%

remembered about such safety precautions, while in 2007 that percentage rose 14 percentage points to 43%. There was also a large increase 12 percentage points) in the number of respondents who learned where to find out more about flooding by watching the Flood Channel Sixteen percent (16%) recalled such this year compared to only 4% who did the same last year.

The percentage of respondents who learned about the time of year that flooding occurs also rose from 3% in 2006 to 11% in 2007. One new category was added t his year and that was “how to protect the environment” 4% indicated that they learned ways to protect the environment by watching the Flood Channel.

Themes Remembered from Watching the Flood Channel

A new question was added this year, it was *“Can you identify the specific themes of any Flood channel programs that you have watched. This would be an entire program devoted to a single topic.”* This question was asked of those who indicated that they have watched the Flood Channel (N = 205). Thirty-eight (38) respondents remembered a specific theme this represents 19% of the group that has watched the Flood channel. Many of the responses were generic such as “flood control” “flood safety” and “flood rescues”. Among those that remembered a specific theme were:

“call when sewers are back-up or contain debris”

“how quickly floods can change life and take life”

“containment of water construction projects”

“the license plates”

“dual use of parks and flood control”

“cars are not boats”

“community groups pulling weeds from a flood control area”

“how to get out of a car in a flood”

Demographic Profile of Flood Channel Viewers:

The longer a respondent lives in the area the more likely he/she is to have watched The Flood Channel. Forty-three percent (43%) of those who have lived in the area for at least 6 years reported that they watch the Flood Channel, this is the highest occurrence. For respondents who have lived here 3 to 6 years the percentage drops to 32% and continues dropping down to 13% for those respondents who have lived in Southern Nevada less than 6 months. Last year the percentage of respondents who have lived here for less than 6 months that have watched the flood channel was less than one percent (1%).

There is not much disparity in the data based on the area of residency watching the Flood Channel. Among those 42% in the Southwest, 37% in the Southeast, and the 40% in the Northwest indicated that they watch the Flood Channel, while in the Northeast that percentage falls to 26%.

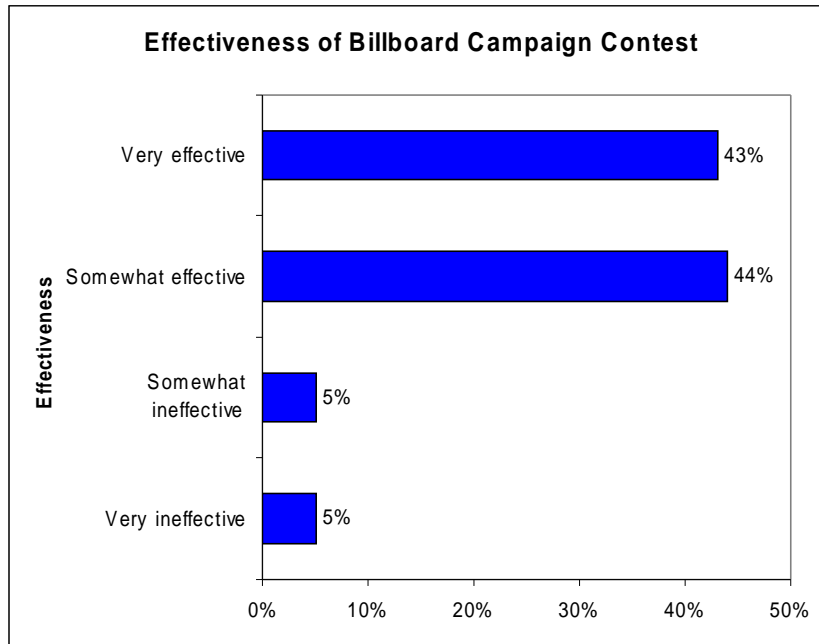
When looking at other demographic variables, those that have watched the Flood Channel are most likely to have completed some post graduate work (69%) or have obtained a post graduate degree (47%). The data produced from this variable is different than last year when the respondent most likely to have watched the Flood Channel was a high school graduate (32%).

Further, Flood Channel watchers are between the ages of 45 and 64 (46%), and they are slightly more likely to be male (39%) than female (38%).

Flood Safety License Plate Billboard Contest

Two new questions were added this year (1) are you aware of the Flood Safety License Plate Billboard Contest and for those who said yes (2) do you think that the billboard campaign contest is an effective way to communicate flood control safety to the community. If necessary, respondents were informed that the contest is held the first three weeks of July and that they can go to the CCRFCD website during that time and submit up to three entries.

Thirty-one percent were aware of the contest. These respondents were asked to rate the effectiveness of the contest as a way to communicate flood safety to the community.



1. Bars do not add up to 100%, "not sure" responses not depicted (3%)

Most respondents (87%) think that the Billboard Campaign Contest is effective, of these 43% think that it is "very effective" and 44% think the Billboard Contest is "somewhat effective. Ten percent (10%) do not think the contest is effective, of these 5% think that the contest is "somewhat ineffective" and 5% think it is "very ineffective".

Spanish Speaking Respondents

Characteristics of Respondents:

Twelve percent (12%) of the surveys were conducted with Spanish speaking respondents (N=84). The typical Spanish speaking respondent in this survey was female (53%) between the ages of 25 – 44 (43%) and has graduated from high school (43%). Twenty-five percent (25%) have lived in the area between 3 and 6 years and 16% are long-term residents and have been in the area 10 years or longer. Only 4 percent have been in Southern Nevada 6 months or less.

While last year 24% of respondents in this subset refused to provide a zip code, this year all respondents from this subset provided a zip code. The highest incidence was the 35% that indicated that they live in the Southeast, this followed by 29% who live in the Northwest part of the Valley. In addition 13% live in the Northeast and 14% in the Southwest.

Unaided and aided awareness:

Eighty-six percent (86%) of respondents in the Spanish speaking subgroup (78% in the overall sample) were aware of weather related dangers that can occur in the area. This is up considerably from the 67% who were aware of the same in 2006. Of these, 50 respondents were able to mention “flood” or “flash floods” unprompted. This represents 60% of the subset as compared to 48% of those who mentioned flood or flash flooding during last year’s administration of the survey. When prompted, an additional 30 respondents were aware that flash flooding can occur in the area, thus combined awareness for the Spanish speaking subset was 95%. Combined awareness in the Spanish subset is up 13 percentage points this year (82% 2006).

Flood Related Issues

Table 9: Flood Related Issues: Spanish Speakers vs. English Speakers

Flood Related Issue	% Agree	% Agree	+/- ¹⁵
	English	Spanish	Spanish
I know about the dangers of flash flooding	97%	95%	+17
I know about the time of year flash flooding is most likely to occur in the area	85%	81%	+32
I know about safety precautions relating to flash flooding	90%	88%	+46
I know about the resources available to learn more about flash flooding	66%	44%	+22
I know ways in which flooding is being controlled in the area.	80%	70%	+51
I know about the availability of flood insurance	77%	68%	+32

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2006 data and this year's Spanish responses. While last year there was a large disparity between the answers in the two groups, indicative of the Spanish speaker's general lack of knowledge on flood related issues, this year there have been huge increases in the Spanish subset's awareness of flood related issues and for the most part closed those gaps.

This year, the percentage of Spanish speaking respondents that indicated that they know the ways in which flooding is being controlled in the area went up 51 percentage points from 19% in 2006 to 70% and is much more in line with the results of the English speaking subset.

There was also a large gain of 46 percentage points in the percentage of respondents that know about safety precautions relating to flash flooding (88%

¹⁵ This column shows the differences in the Spanish results between 2006 and 2007. This format is used for Tables 9 through 12.

2007, 42% 2006) again putting the Spanish data much more on line with the English data.

The issue with the biggest gap in knowledge between the Spanish and English speaking subsets is knowledge about the resources available to learn more about flash flooding; 66% of respondents in the English speaking subset indicated that they know this as compared to 44% in the Spanish speaking subset that indicated that they know the same.

Sources of Information

In the next section of the survey respondents were asked to respond “yes” or “no” to a list that was read to them of possible sources for learning about flash flooding. Again the gap between responses from this sub-set and the English speaking subset got closer this year.

Table 10: Sources of obtaining flood information

Source	% English	% Spanish	+/- Spanish
Television	90%	92%	+4
Newspaper	62%	50%	+26
Friends / Relatives	53%	56%	-2
Radio	59%	61%	+17
Billboards	52%	44%	+8
Brochure	21%	25%	+2
CCRFCD Website	20%	20%	+12
Welcome Home Magazine	7%	5%	-9

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2006 data and this year’s Spanish responses. Among both subsets television is the best way to deliver flood information as is indicated by the high percentage in both groups that reported

that they had learned about flooding via that medium. In the Spanish speaking subset 92% indicated that they have learned about flash flooding from watching television as compared to 90% in the English speaking subset. Newspapers as a source have the biggest disparity among responses. Whereas 62% of the English speaking subset indicated that the newspaper is a source for obtaining flood information 50% in the Spanish speaking subset indicated the same, however, there was a 26 percentage point increase in the percentage of Spanish speakers who indicated that they obtain flood information from the newspaper between this year (50%) and last year (24%).

Radio as a source for obtaining flood information increased by 17 percentage points between this year and last in the Spanish subset (61% 2007, 44% 2006). In addition, the use of the CCRFCD website as a source for flood information rose 12 percentage points in the Spanish subset from 8% in 2006 to 20% in 2007. The same percentage (20%) of respondents in both the English and Spanish speaking subsets use the CCRFCD website as a site for flood information.

Cable Television and the Flood Channel

Sixty eight percent (N = 56) of Spanish speaking respondents have cable television compared to 77% of the English speaking respondents. Last year only 48% of the Spanish speaking respondents indicated that they had cable television thus there is an increase between last year and this year of 19% points in the number of Spanish speakers who reported that they have cable television.

From the group with cable television 16 respondents reported to have ever watched the Flood Channel. This represents 29% of the subset as compared to 39% of the English speaking respondents who have ever watched the Flood Channel. However, only 15% of the Spanish subset reported to have ever watched the Flood Channel in 2006, thus nearly a 50% increase in the subset.

Flood Insurance Issues

Table 11: Flood Insurance Issues: Spanish Speakers vs. English Speakers

Flood Related issue	%	%	+/-
	English Speakers	Spanish Speakers	Spanish
Flood insurance is available to everyone	60%	64%	+16
Flood insurance will only cover the structure of a residence	61%	25%	0
Flood insurance is only available to those who live in a flood zone	61%	37%	-7
Flood insurance is available to cover damage to the contents of a residence	58%	66%	+9
The cost of flood insurance is the same regardless of whether or not the residence is in a flood zone	53%	43%	-1
If you live in a flood zone you must buy flood insurance	35%	66%	+8

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2006 data and this year's Spanish responses. There was a 16 percentage point increase between last year and this year in the number of Spanish speakers who correctly responded that "flood insurance is available to everyone, this is 4 percentage points higher than the English subset. In addition more Spanish speakers than English speakers were aware that "flood insurance is available to cover damage to the contents of a residence (66% Spanish, 58% English). In addition there is a large disparity between the Spanish and English speakers on the item "if you live in a flood zone you must buy flood insurance. Whereas on 35% of the English speakers

responded correctly, 66% of the Spanish speakers did the same. This was similar to the responses in 2006 (Spanish 56%, English 35%). The disparity in responses is the opposite for the item “flood insurance is only available to those who live in a flood zone” Sixty-one percent of the English speakers responded correctly to this item compared to only 37% of the Spanish speakers. In addition the percentage of Spanish speakers who responded correctly to this item dropped 7 percentage points from 44% in 2006 to 37% this year.

Experience with Flooded Roads:

Fifty-eight percent (N = 49) of Spanish speaking respondents reported that they had at some time encountered a flooded street or road either as a driver or passenger in Southern Nevada; this compared to seventy-five percent (75) of the English speaking respondents that reported the same. Fifty-nine percent (59% of the respondents in the Spanish group made a good or appropriate choice and turned around and took an alternate route or waited for the water to go down before driving through it; this is up from 50% of the Spanish speakers who made an appropriate choice during the 2006 administration of the survey. Sixty-seven percent (67%) of the English speaking respondents made an appropriate choice when encountering a flooded road.

Among those that made an inappropriate choice, 31% drove through the water and made it, 6% drove through it and got stuck, and 4% did something else or do not remember what they did.

Streets “Are” or “Are Not” a part of the flood control system

- 65% of English speaking respondents answered correctly.
- 62% of Spanish speaking respondents answered correctly.
 - This is an increase of 25 percentage points from 2006 (37%).

“Some” or “All” runoff and rainwater drains into Lake Mead

- 37% of English speaking respondents answered correctly
- 35% of Spanish speaking respondents answered correctly
 - This is a decrease of 9 percentage points from 2006 (44%).

The urban runoff and rainwater that travels through the flood control system is “treated” or “untreated”.¹⁶

- 51% of English speaking respondents answered correctly
- 40% of Spanish speaking respondents answered correctly
 - This is an increase of 10 percentage points from 2006 (30%)

Table 12: Behavior changes- knowing urban runoff is untreated

<i>Behavior Change</i>	<i>% English Speakers</i>	<i>% Spanish Speakers</i>	<i>+/ - Spanish</i>
Proper disposal of general waste	59%	89%	+35
Proper disposal of chemicals	36%	32%	+7
Use a commercial carwash	17%	41%	+23
Proper disposal of oil	36%	14%	0
Proper clean/up disposal of pet waste	25%	5%	-3
Use of organic fertilizers	17%	0%	-7%
Report clogged storm drain	13%	9%	N/A

¹⁶ The percentages reported are the combination from both ways that the survey was asked. There was no difference in responses in the Spanish subset based on which version of the question they were read.

The table above shows the differences in the responses of the English speaking respondents and the Spanish speaking respondents and the increase or decrease in percentage points between the 2006 data and this year's Spanish responses. As is indicated above, a very large percentage (89%) of the Spanish speaking respondents properly disposed of general waste; this is compared to 59% of the English speaking respondents. This is an increase of 35 percentage points and it was the highest incidence in both groups. Thirty-two percent (32%) of the Spanish speakers also properly disposed of chemicals (36% English speakers), and 41% used a commercial car wash (17% English speakers). The increase in the use of a commercial car wash is up 23 percentage points in the Spanish sub group (41% 2007, 18% 2006). Fourteen percent (14%) of Spanish speakers indicated that they properly disposed of oil as compared to 36% of the English speaking subgroup. Only 5% of the Spanish speakers indicated that they properly dispose of pet waste this represents only one (1) individual. Twenty-five percent (25%) of the English speakers reported that they properly clean up and dispose of pet waste. None of the respondents in the Spanish sub group reported using organic fertilizers, this compared to 17% from the English speaking sub group who reported using organic fertilizers as a result of knowing that urban runoff is untreated. Reporting of a clogged storm drain was a new category this year. Thirteen percent (13%) of English speakers and 9% of Spanish speakers did so in 2007.

If you knew what to do, would you be willing to change your behavior if you know it would improve water quality?

- Eighty-nine percent (89%) of English speaking respondents are willing to change a behavior to improve water quality
- Ninety-five percent (95%) of Spanish speaking respondents are willing to change a behavior to improve water quality.

- This is an increase of 10 percentage points from last year (85% 2006)

Would you like to know more about how to keep the environment clean?

- Sixty-two percent (62%) of English speaking respondents would like to know more about how to keep the environment clean.
 - This is a decrease of 8 percentage points from last year (70% 2006).
- Eighty-five percent (85%) of Spanish speaking respondents would like to know more about how to keep the environment clean.
 - This is a decrease of 12 percentage points from last year (97% 2006).

Where would you like to get information on how to keep the environment clean?

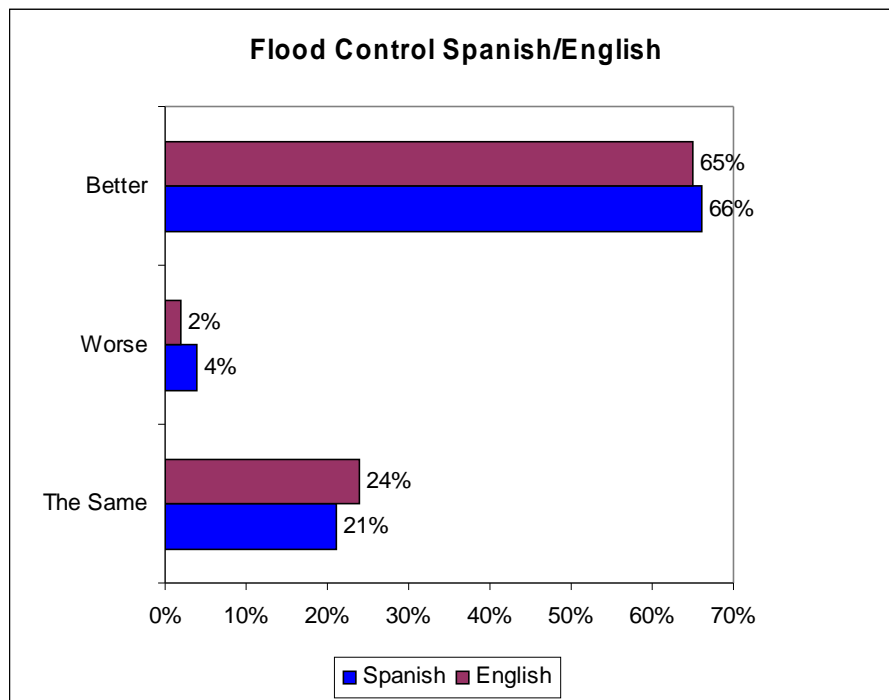
Table 13: Sources for environmental information

Rank	Source of Information	Percent (%)
1	TV	35%
2	Mail	31%
3	Internet/Website/Email	21%
4	Brochure/Flyer/Bulletin	18%
4	Library	2%
6	Newspaper	2%%

The table above shows the most often given responses to this open ended question. There are some differences in the data collected this year and in 2006. For example, in last years administration of the survey schools (21%) and the grocery store (18%) were the two most cited sources where the Spanish speakers indicated that they would like to get environmental information. This year these items were not mentioned by this group.

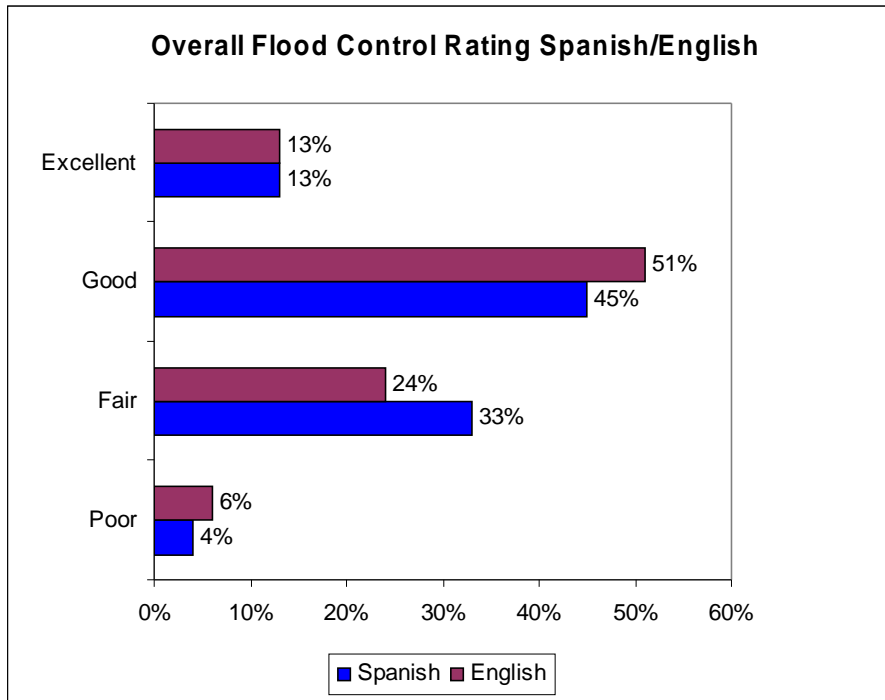
The response given most often from the Spanish sub group was TV, given by 35% of those who want additional environmental information. This was followed by 31% who prefer to get this information sent to them and 21% who prefer the internet or the CCRFCD website. Last year only 2% of this subset indicated that they prefer to receive such information via the Internet.

Flood Control Rating:



When asked “since you became a resident of Southern Nevada, do you think the way flood control is being handled in our valley has gotten better, gotten worse or stayed about the same” the responses of both the Spanish and English speaking respondents were very similar. Sixty-six percent of the Spanish speakers and 65% of the English speakers think that flood control has gotten better since moving to Southern Nevada. Similar to last year about a quarter of both subsets (24% English, 21% Spanish) think that flood control is about the same since residing here. In the Spanish subset 4% think flood control has gotten worse as do 2% in the English subset.

Overall Flood Control Rating:



1. Bars do not add up to 100%, "don't know" responses not depicted.

Fifty-eight percent (58%) of the Spanish speaking respondents rated flood control overall positive; this is up from the 45% who rated overall flood control positively in 2006. Among these 45% rated flood control good and 13% rated flood control over excellent. Thirty-seven percent (37%) from the Spanish subset rated flood control overall negative (33% fair, 4% poor).

Among the English speaking subset, 64% rated flood control overall positive, (51% good, 13% excellent) 30% rated it negatively and of these 24% thought overall flood control was fair and 6% thought it was poor.

Conclusions

In general, the tendencies for the survey this year indicate an overall increase in most of the subject areas; this is especially true of the data collected on Spanish speaking respondents. Overall, awareness of flooding as a weather related natural disaster remains extremely high. Combined/total awareness remains high with 96% of respondents indicating that they are aware that flooding or flash flooding is a weather related disaster that can occur in Southern Nevada. This is an increase of two (2) percentage points over last year (94%, 2006). Whereas last year the data indicated that after about three years of residency in Southern Nevada respondents have assimilated the flood awareness message, and a preponderance of residents (96%) were aware of flooding. This year combined awareness was very high among all residents who have lived in the area at least six months. At 6 months combined awareness was measured at 95% and at least 92% of all respondents who have lived here at least 6 months are aware of flooding as a natural weather disaster. Eighty-two percent of the newest residents (those who have lived here less than 6 months) were also aware of flooding as a natural weather related disaster. This is up 12 percentage points from 70% who were aware of the same last year.

A statistically significant relationship was found between a respondents age and unaided awareness of flash flooding and floods. Unaided awareness among 18 – 24 year olds was relatively high at 87%, yet when looking at unaided awareness among respondents who are 65 years or older, that percentage rose to 98%. This is significant using Pearson's Chi-square at .000.

Awareness of the flood related issues that have been assessed since 1999¹⁷ remain consistently high and there was at least a 2 percentage point increase for each of the items. Residents in Southern Nevada “know about the dangers of flash flooding” (97%, +2) and about “the time of year that flash flooding occurs (84%, +3). These figures have remained constant for the past

¹⁷ See Table 3, page 19.
2007 Flood Awareness Survey
Cannon Survey Center
University of Nevada, Las Vegas

two years as have the percentage of respondents who know “about safety precautions relating to flash flooding (89%, +2).

The issue with the biggest increase between 2006 and 2007 was “I know about the resources available to learn more about flash flooding” this issue consistently measured at just over 50% in awareness and that number has remained constant for the previous two years at 56%. This year the percentage of respondents who are aware of the resources available to learn more about flash flooding increased by 7 percentage points to 63%. It is apparent that the put into increasing the percentage of people who know about how to learn more about flash flooding was successful.

Southern Nevada’s newest residents are aware of the ways that flash flooding is being controlled in the area. Awareness on this item increased substantially (23 percentage points) from 47% in 2006 to 70% in 2007.

Although awareness of flood insurance issues for the most part increased this year, the items in this section still yield lower results than that of the other flood related issues. Many respondents were still not able to provide an answer to this series of questions; but whereas last year sometimes 40% of the respondents could not provide an answer this year that percentage fell to 34%. More effort should be put forth to provide information about flood insurance to the public to increase overall awareness. For example, only 39% of the respondents knew that if you live in a flood zone you must purchase flood insurance. This is the same percentage as reported last year. The item with the biggest percentage of increase was “flood insurance will only cover damage to the structure of a residence”. Last year only 26% responded correctly to this item; this year that percentage increased by 8 percentage points to 34%.

Sixty-seven percent (67%) of respondents made a good or appropriate choice when encountering a flooded road in Clark County. This is similar to the 68% that did the same in 2006 and the 67 percent who did so in 2005. By far the largest percentage of respondents who made a good or appropriate choice (62%) “turned back and took an alternate route”. Four percent (4%) “waited for

the water to go down then drove through it". These are similar to the responses that were obtained in the 2006 administration of the survey.

In one series of the questions asks the respondents were asked if they would like to know more about how to keep the environment clean, 64% indicated that they would. This is down 9 percentage points from the 73% who wanted more environmental information last year. Respondents were further asked to indicate how they would like to go to get information on keeping the environment clean. Unprompted, 43% said they would like to receive information via the internet. This is up 12 percentage points from the 31% who answered internet unprompted last year. This may be a way for the District to provide information not only about keeping the environment clean, but also information about flood insurance.

Similar to last years results there has again been an increase in the activities that respondents are doing as a result of knowing that urban runoff is untreated. As in last year's administration of the survey, the respondents were not read the list above, but their answers were coded into the above categories by the interviewer based on the response. Many of the behavior changes reported by the respondents were in the manner in which they are disposing of waste, from general waste to chemicals.

The data collected in this year's 2007 Flood Awareness Survey indicates that the District's Public Information Program has had success in prompting residents to make behavior changes to help protect the environment. Similar to the results produced last year, 89% of respondents indicated that they would be willing to make a behavior change to improve water quality if they knew what to do (90% 2006). Females (91%) are more willing to make a change than males (88%). When looking at the data by the age variables there is not too much variance. Among the 18-24 year olds, 90% indicated that they would change a behavior, this compared to 87% of those aged 65 or older who are willing to do the same. Only 3% (N = 20) are not willing to make a behavior change to improve water quality and 8% are not sure whether or not they would make a behavior change to improve water quality.

Respondents have reacted positively to the Flood Safety License Plate Billboard Contest. Thirty-one percent (31%) were aware of the contest and of these 87% think that the Billboard Campaign Contest is an effective way to communicate flood safety to the community. The District should continue this effort.

Spanish Speakers Subset

Based on last years findings that Spanish speakers scored lower on most flood awareness issues, effort was put forth by the District to target this population with information about floods and flash flooding. The efforts were very successful, and the scores of the Spanish speaking respondents increased on almost every one of the issues. In some instances their responses were higher that the responses of those who speak English.

For example, 86% of respondents in the Spanish speaking sub-group (78% in the overall sample) were aware of weather related dangers that can occur in the area. This is up considerably from the 67% who were aware of the same in 2006. Of these, 50 respondents were able to mention “flood” or “flash floods” unprompted. This represents 60% of the subset as compared to 48% of those who mentioned flood or flash flooding during last year’s administration of the survey. When prompted, an additional 30 respondents were aware that flash flooding can occur in the area, thus combined awareness for the Spanish speaking subset was 95%. Combined awareness in the Spanish subset is up 13 percentage points this year (82% 2006).

The item with the biggest increase was “I know ways in which flooding is being controlled in the area”. This year, the percentage of Spanish speaking respondents that indicated that they know the ways in which flooding is being controlled in the area went up 51 percentage points from 19% in 2006 to 70% and is much more in line with the results of the English speaking subset.

There was also a large gain of 46 percentage points in the percentage of respondents who know about safety precautions relating to flash flooding (88%

2007, 42% 2006) again putting the Spanish data much more on line with the English data.

In addition, a very large percentage (89%) of the Spanish speaking respondents properly disposed of general waste; this is compared to 59% of the English speaking respondents. This is an increase of 35 percentage points and it was the highest incidence in both groups.

Awareness levels in excess of 90% are extremely difficult to achieve in marketing brand awareness, and the District has achieved such and done so consistently for the past several years. The efforts and programs in place should continue, including the Flood Safety License Plate Billboard Contest. The modifications aimed at Spanish speaking residents were hugely successful and should also be continued as should Clark County's newest residents be targeted to receive information about flooding.

Addendum 1: Zip table and map

Table 14: Zip codes by area

Number	Zip	Area
7	89148	Southwest
14	89147	Southwest
7	89146	Southwest
7	89146	Southwest
6	89139	Southwest
9	89135	Southwest
5	89118	Southwest
24	89117	Southwest
7	89113	Southwest
12	89103	Southwest
11	89102	Southwest
5	89183	Southeast
12	89142	Southeast
8	89141	Southeast
17	89123	Southeast
17	89122	Southeast
27	89121	Southeast
12	89120	Southeast
7	89119	Southeast
4	89109	Southeast
21	89104	Southeast
22	89074	Southeast
19	89052	Southeast
11	89044	Southeast
20	89015	Southeast
14	89014	Southeast
11	89012	Southeast
1	89009	Southeast
16	89002	Southeast
1	89011	Outlying
1	89006	Outlying
9	89005	Outlying
7	89149	Northwest
9	89145	Northwest
6	89144	Northwest
4	89143	Northwest
5	89138	Northwest
16	89134	Northwest

28	89131	Northwest
11	89130	Northwest
25	89129	Northwest
12	89128	Northwest
35	89108	Northwest
12	89107	Northwest
8	89084	Northwest
5	89081	Northwest
23	89031	Northwest
14	89156	Northeast
20	89115	Northeast
19	89110	Northeast
9	89106	Northeast
12	89101	Northeast
21	89032	Northeast
16	89030	Northeast
1	89915	Unable to Identify
1	89404	Unable to Identify
1	89184	Unable to Identify
1	89178	Unable to Identify
1	89170	Unable to Identify
3	89169	Unable to Identify
1	89090	Unable to Identify

Zip Code Map



Addendum 2

2007 Survey Instrument

Hello, my name is [YOUR NAME] I am calling from UNLV. We are conducting a short survey on behalf of a Clark County public agency. We are not selling anything, or asking for donations. All of your responses will remain confidential, and your responses are valuable to our research.

May I please speak with a Clark County resident in your household who is at least 18 years of age or older and has celebrated the most recent birthday in your household?

[IF RESPONDENT ASKS, THE SURVEY WILL TAKE APPROXIMATELY FIVE TO SEVEN MINUTES DEPENDING ON HIS OR HER RESPONSES.]

[IF RESPONDENT ASKS, THE NAME OF THE AGENCY WILL BE REVEALED AT THE END OF THE SURVEY.]

[THE TOPIC OF THE SURVEY IS "WEATHER RELATED DANGERS" DO NOT BE ANY MORE SPECIFIC THAN THAT]

INTERVIEWER: Press 1, AND THEN CLICK NEXT TO CONTINUE

Question Q16dem3

Interviewer record gender

[40.1]Male

[59.9]Female

Question QA

Can you please tell me your zip code?

INTERVIEWER TYPE "9999" for refuse

Question Qb

How long have you lived in Southern Nevada?

[1.6]Less than 6 months

[2.9]6 months to less than 1 year

[10.3]1 year to less than 3 years

[15.1]3 years to less than 6 years

[16.0]6 to 10 years

[54.1]Longer than 10 years

DK

Refuse

Question Q1

Are you aware of any weather related dangers that can occur in the area?

- [78.3] Yes
- [21] No
- [.7] Not Sure

Question Q2unaided

What types of weather related dangers are you aware of that can occur in the area?

[INTERVIEWER: DO NOT READ THE CATEGORIES USE FOR CODING PURPOSES ONLY]

- [65.7] Floods / Flash Floods
- [36] Dust storms / High winds
- [19] Heavy Rain / Thunder Storms
- [23] Heat
- [16.9] Fire / Lightening
- [6.1] Earthquake
- [1.3] Unable to specify
- [2.4] Other

Question Q2aided

Are you aware that flash flooding can occur?

- [87.1] Yes
- [12.5] No
- [.4] D/K

Question Q3know

Now I'm going to read a few statements and I'll like to know if you "Agree", "Somewhat Agree", "Disagree" or "somewhat Disagree" with each.

I KNOW . . .

- [97.1] about the dangers of flash flooding
- [84.1] about the time of year flash flooding is most likely to occur
- [89.3] about safety precautions relating to flash flooding
- [63.2] about resources available to learn more about flash flooding
- [79.1] about ways in which flooding is controlled in the area
- [76.7] about the availability of flood insurance

Question Q4sour

From the list I am going to read, please tell me either "YES" or "NO" if you have learned about flash flooding from that source.

- [21] Brochure

[51.1] Billboard
[89.9] Television
[59.6] Radio
[60.1] Newspaper
[6.3] Welcome Home Magazine
[19.6] Clark County Regional Flood Control District Website
[53.6] Friends and/or other relatives

Question Q5kid

Do you have children in elementary school?

[INTERVIEWER: That's kindergarten through 5th grade]

[19.1] Yes
[80.9] No

Question q5kid2

Did your school age child(ren) bring information about flood awareness home from school within the past year?

[23.1] Yes
[66.4] No
[10.4] Not Sure

Question Q5kid3

Has your child talked to you about flood safety that he/she learned at school?

[19.4] Yes
[76.1] No
[4.5] Not Sure

Question Q100zone

Do you live in a 100 year flood zone?

[10.3] Yes
[47.9] No
[41.9] Not sure

Question Q100zone2

Do you know how to find out if you live in a 100 year flood zone?

[42.4] Yes
[50.7] No
[6.9] Not Sure
Refuse

Question Q6insur

How much do you agree or disagree with the following statements about flood insurance?

[60.3] Flood insurance is available to everyone

[60.7] Flood insurance will only cover damage to the structure of a residence

[58.4] Flood insurance is only available to those who live in a flood zone

[59] Flood insurance is available to cover damage to the contents of a residence

[51.5] The cost of flood insurance is the same regardless of whether or not the residence is in a flood zone

[38.8] If you live in a flood zone you must buy flood insurance

Question Q100zone3

Do you have flood insurance?

[10.0] Yes

[83.1] No

[6.9] Don't Know

Question Q100zone4

Flood insurance is a separate policy from homeowners insurance to cover flood damage from a weather related event. Do you have such a policy?

[10.3] Yes

[76.7] No

[12.7] Not sure

Question Q7flsT

INTERVIEWER: READ THE FOLLOWING VERBATIM BEFORE ASKING THE QUESTION: [For the next two questions, a flooded street or road is defined as one where water covers the street from curb to curb and you can't see the pavement.]

Have you ever encountered a flooded street or road as either a driver or a passenger of a vehicle while on a road?

[73] Yes

[27] No

Not Sure

Refuse

Question Q7FLST2

Thinking back to the last time you came to a flooded street, which of the following statements best describes what you or the driver did?

[INTERVIEWER: ONLY READ THE FIRST FOUR 'RED' CHOICES]

- [62.2] Turned back and took an alternate route
- [4.3] Waited for the water to go down, and then drove through it
- [28.6] Drove through it and made it
- [2.3] Drove through it and got stuck
- [1.6] Don't remember
- [1.0] Other
- Refuse

Question QFLST3

Why did you drive through it?

[INTERVIEWER: DO NOT READ RESPONSES, USE FOR CODING ONLY]

- [8.9] I was in a hurry
- [66.5] Didn't think it was unsafe to do so
- [5.7] Thought it would be fun to do
- [5.1] Didn't know any better
- [.6] Not sure
- [13.3] Other
- Refuse

Question Q8FC

I am going to read a couple of statements please tell me which one is true?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

- [64.6] Streets ARE a part of the flood control system
- [24.6] Streets are NOT a part of the flood control system
- [10.9] Don't know
- Refuse

Question Q9RW

Which of the following statements is true?

[INTERVIEWER READ THE FIRST TWO 'RED" CHOICES ONLY!]

- [45.9] SOME of the urban runoff and rainwater that travels through the flood control system drains into Lake Mead
- [36.7] ALL of the urban runoff and rainwater that travels through the flood control system drains into Lake Mead
- [17.4] Don't know
- Refuse

Question Q9URBAN1

Which of the following statements is true?

[INTERVIEWER READ THE FIRST TWO 'RED' CHOICES ONLY!]

[25.9] The storm water and urban runoff and rainwater that travels through the flood control channels and storm drains is treated

[56.7] The storm water and urban runoff and rainwater that travels through the flood control channels and storm drains is untreated

[17.4] Don't know

Refuse

Question Q9URBAN2

Which of the following statements is true?

[INTERVIEWER READ THE FIRST TWO 'RED' CHOICES ONLY!]

[32.1] The urban runoff and rainwater that travels through the flood control system is treated

[49.3] The urban runoff and rainwater that travels through the flood control system is NOT treated

[18.6] Don't know

Refuse

Question Qrw3

As a result of knowing that the urban runoff and rainwater are NOT treated, have you changed any behaviors that would help protect the environment?

[38.8] Yes

[54.8] No

[6.4] Not Sure

Refuse

Question Q9rw4

What have you done as a result?

[INTERVIEWER: DO NOT READ CATEGORIES USE FOR CODING ONLY]

[8.4] Proper disposal of chemicals

[12.1] Proper disposal of general waste

[6.1] Proper disposal of oil

[4.1] Proper disposal/clean up of pet waste

[4.0] Use of a commercial car wash

[2.4] Use of organic fertilizers

[2.4] Reporting of clogged storm drains

[.6] Unable to specify

[2.0] Other

Question Q10beh

If you knew what to do, would you be willing to change your behavior if you knew it would improve water quality?

- [38.8] Yes
- [54.8] No
- [6.4] Not Sure
- Refuse

Question Q11info

Would you like to know more about how to keep the environment clean?

- [64.3] Yes
- [27] No
- [8.7] Not sure
- Refuse

Question Q11info2

Where would you like to go to get information on how to keep the environment clean?

Question Q13rate

Since you have lived in Southern Nevada, do you think the way flood control is being handled in the area has gotten better, worse, or stayed about the same?

- [64.9] Better
- [2.4] Worse
- [24] Stayed about the same
- [8.6] Not Sure
- [.1] Refuse

Question Q14rate

Overall, how would you rate the way flood control is being handled in Southern Nevada?

Would you say. . .

- [13] Excellent
- [50.1] Good
- [25.4] Fair
- [5.7] Poor
- [5.6] Not Sure
- [.1] Refuse

Question Q15tv

Do you have cable television?

- [76.9] Yes
- [22.4] No

- [.4] Don't know
- [.3] Refuse

Question Q15tv2

Have you ever watched the "THE FLOOD CHANNEL" on Cable channels 2 or 4?

- [38.1] Yes
- [61] No
- [.9] Not Sure
- Refuse

Question Q15tv4

What do you remember most from watching the program?

[INTERVIEWER: DO NOT READ RESPONSES - USE FOR CODING ONLY & SELECT ALL THAT APPLY]

- [48.3] The dangers of flash flooding
- [10.7] Time of year flooding occurs
- [43.4] Safety precautions that can be taken
- [15.6] Where to learn more about flooding
- [12.7] Ways flooding is controlled
- [2.4] Availability of flood insurance
- [4.4] How to protect the environment
- [13.1] Other
- [21.5] Not Sure
- Refuse

Question Q15tv5

Can you identify the specific themes of any Flood Channel Programs that you have watched? This would be an entire program devoted to a single topic.

INTERVIEWER: IF YES RECORD OPEN ENDED RESPONSE IN THE BOX

- [18.5] Yes
- [70.7] No
- [10.7] Not Sure
- Refuse

Question QBILLBOARD1

Are you aware of the Flood Safety License Plate Billboard Contest?

- [31.1] Yes
- [68.1] No
- [.8] Not Sure

Question Qbillboard2

Do you think that the billboard campaign contest is an effective way to communicate flood safety to the community?

INTERVIEWER READ RESPONSES EXCEPT DK/REFUSE

Would you say. . .

- [43] Yes, very effective
- [43.9] Yes, somewhat effective
- [5.3] No, somewhat ineffective
- [5.3] No, very ineffective
- [2.6] Not Sure
- Refuse

Question Q16DEM1

I just have a couple more questions for statistical purposes only.

[INTERVIEWER: TYPE IN "999" FOR REFUSE

Could you please tell me in what year you were born?

Question Q16dem2

What is the highest level of education that you have completed?

- [5.3] Less than HS graduate
- [26] HS graduate
- [21.6] Some college/trade school
- [14.7] Two year college
- [17.9] Four year college
- [2.4] Post graduate work
- [10.9] Post graduate degree
- [.1] Don't know
- [1.1] Refuse

Question QEnd

Thank respondent for their time and wish them a nice day.

Addendum 3

Spanish Survey Instrument

Hola, mi nombre es _____ estoy llamando de Universidad de Las Vegas. Estamos haciendo un corte estudio de parte del Departamento del condado de Clark una agencia pública. No estamos vendiendo nada o pregunto por ninguna donación. Todas sus respuestas son confidenciales, y sus respuestas son muy importantes para este estudio.

Por favor puede hablar con un residente del condado Clark y ha celebrado su cumpleaños mas reciente?

1. Cual es su sexo?

Masculino
Femenina

2. Cual es su zona postal?

Ponga "99999" si no tiene respuesta

3. Cuanto tiempo tiene viviendo en el sur de Nevada?

Menos de 6 meses
6 meses o más pero menos de 1 año
1 año o más pero menos de 3 años
3 años o más pero menos de 6 años
6 -10 años
Mas de 10 años
No se
Negar la pregunta

4. Esta usted consciente de los peligros del clima que pueden ocurrir en su área?

Si
No
No se
Negar la pregunta

5. Que tipo de peligros del clima sabe usted que pueden ocurrir en su área?

Inundación
Tormenta de polvo / vientos fuertes
Lluvia / Tormenta
Calor
Fuego / Relámpagos
Terremotos

No puede especificar
Otro

6. Esta consciente que inundaciones pueden ocurrir?

Si
No
No se
Negar la pregunta

7. Ahora, voy a leer unas declaraciones y quiero saber si usted- “esta de acuerdo”, “mas o menos”, “ no esta de acuerdo”, “mas o menos no esta de acuerdo”, “No se”, “Negar la pregunta”, con cada uno. Yo se...

De los peligros de inundaciones
Mas o menos el tiempo del año que inundaciones ocurren
De las precauciones de seguridad racionad a inundaciones
De los recursos adonde puedo aprender de inundaciones
Como aprender deferente maneras de controlar inundaciones en el área
Del seguro para inundación disponible

8. De la lista que voy a leer por favor diga “si” o “no” si ha aprendido de inundaciones por estos recursos.

Si, No, No se, Negar la pregunta
Folleto
Cartelera
Televison
Radio
Periodico
La revista “Bienvenidos A su Casa”
Internet del Condado de Clark para inundaciones
Familia o amigos

9. Tiene hijos atendiendo primaria?

Guardería hasta quinto grado
Si
No
Negar la pregunta

10. Sus hijos que van a la escuela trajieron información sobre inundaciones a la casa en el ultimo año?

Si
No
No se
Negar la pregunta

11. La han hablado sus hijos de precauciones de seguro que pueden tomar para inundación que aprendieron en la escuela?

Si

No

No se

Negar la pregunta

12. Vive usted en una zona de inundación

Si

No

No se

Negar la pregunta

13. Sabe usted como puede saber si vive en una zona de inundación?

Si

No

No se

Negar la pregunta

14. Cuanto esta de acuerdo o no esta de acuerdo con estas siguiente declaraciones de seguro para inundación? De acuerdo, Mas o menos acuerdo, un poco de acuerdo, no esta de acuerdo, no se, negar la pregunta.

Seguro de inundación esta disponible para todos.

Seguro de inundación solo cubre danos a propiedades residenciales

Seguro de inundación es solo disponible para los que viven en zonas a donde ocurren inundaciones.

Seguro de inundación es disponible para cubrir danos de una residencia y lo que con tiene la residencia.

Seguro de inundación cuesta lo mismo sin tener en cuenta si la residencia esta o no esta en zona de inundación

Si vive usted en una zona de inundación tiene que comprar el seguro de inundación.

15. Tiene usted seguro de inundación?

Si

No

No se

Negar la pregunta

16. Seguro de inundación es aparte de seguro para su residencia y cobre destrozos de inundación por eventos relacionados a clima. Tiene usted esta polise?

Si
No
No se
Negar la pregunta

17. Alguna vez encontró una calle inundada con agua como el conductor o pasajero de un vehículo cuando en la calle?

Si
No
No se
Negar la pregunta

18. Se puede acordar de la última vez que esta calle inundada de agua cual de estas declaraciones describe lo que usted o el conductor ha hecho?

Se dio vuelta y se fue por otra calle
Espero que el agua se bajo y después manejo a través de la calle.
Manejo bien a través de la calle
Manejo a través la calle y se quedo parado por el agua
No me acuerdo
Otro
Negar la pregunta

19. Por que manejo por la calle inundada de agua?

Estava de prisa
No pensaba que fuera peligroso
Pensaba que fuera algo divertido para hacer
No supe que era mejor
No esta seguro
No se
Otro
Negar la pregunta

20. Voy ha leer unas declaraciones por favor diga cual es verdad?

Calles son parte del sistema de control para inundación
Calles NO son parte del sistema de control para inundación
No se
Negar la pregunta

21. Cual de estas declaraciones son verdad?

Alguna agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead
Toda el agua del urbano derrame y lluvia camina por el sistema de control de inundación y se desagua en el lago Mead.
No se
Negar la pregunta

22. Cual de estas declaraciones son verdad?

El agua del urbano derrame y lluvia va por el sistema de control para inundación es tratado.

El agua del urbano derrame y lluvia va por el sistema de control para inundación no es tratado.

No se

Negar la pregunta

23. Sabiendo por el resultado que el agua del urbano derrame y lluvia no es tratado, ha cambiado su comportamiento para proteger el ambiente?

Si

No

No se

Negar la pregunta

24. Que ha hecho usted como un resultado?

Propiamente dispone de químicos

Propiamente dispone de basura

Propiamente dispone de aceite

Propiamente dispone de basura de animales

Usar lavado público de autos

Reportar desagües de lluvia que están obstruidos

25. Si usted supiera que hacer, fuera dispuesto a cambiar sus maneras para mejorar la calidad del agua?

Si

No

No se

Negar la pregunta

26. Usted quisiera saber mas de cómo puede ayudar para mantener el ambiente?

Si

No

No se

Negar la pregunta

27. Adonde quisiera ir usted para información de cómo mantener el ambiente limpio?

28. Como usted vive en el sur de Nevada, piensa que la manera que controlan la inundación se ha mejorado, esta peor, o se ha quedado igual?

Mejor

Peor

Quedado igual

No se

Negar la pregunta

29. Sobre todo, como piensa que han manejado el sistema de inundación en el sur de Nevada?

Excelente

Bien

Igual

Mal

No se

Negar la pregunta

30. Tiene cable en su televisión?

Si

No

No se

Negar la pregunta

31. Alguna vez ha mirado en canal de “El Canal De Inundación” en canales de cable 2 o 4?

Si

No

No se

Negar la pregunta

32. De que se recuerda mas mirando el programa?

Los peligros de la inundación

Los tiempos del ano que ocurre inundaciones

Las precauciones de seguro que pueden tomar

Adonde ir para aprender de inundación

Maneras que controlan inundaciones

Como proteger el ambiente

Otro

No se

Negar la pregunta

33. Puede identificar específicamente temas de cualquier programa del canal de inundación que avisto? Esto fuera un programa entero a un solo tópico.

34. Esta de acuerdo de la placa licencia para el cuidado de inundación en un cartelero que tiene un concurso?

Si

No

No se

Negar la pregunta

Tengo dos mas preguntas por razones del estudio.

35. Por favor me dice que ano nació usted?

36. Cual es en nivel de educación que ha cumplido?

Parte de la escuela secundaria

Todos los estudios de la escuela secundaria

Algunos Estudios Universitarios/Técnicos

Dos anos de Universidad

Cuatro anos de Universidad

Trabajo de postgraduado

Titulo de postgraduado

No se

Negar la pregunta

Muchas gracias por contestar las preguntas para el estudio y tenga buen día.

Addendum 4: SPSS Frequency File/Flood Data 2007

Frequency Tables

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	281	40.1	40.1	40.1
	Female	419	59.9	59.9	100.0
	Total	700	100.0	100.0	

Area recode

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Southwest	97	13.9	14.5	14.5
	Southeast	263	37.6	39.4	53.9
	Northwest	237	33.9	35.5	89.4
	Northeast	71	10.1	10.6	100.0
	Total	668	95.4	100.0	
Missing	Outlying	11	1.6		
	Unable to identify	21	3.0		
	Total	32	4.6		
Total		700	100.0		

How long have you lived in Southern Nevada

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than 6 months	11	1.6	1.6	1.6
	6 months to less than 1 yr	20	2.9	2.9	4.4
	1 year to less than 3 years	72	10.3	10.3	14.7
	3 years to less than 6 years	106	15.1	15.1	29.9
	6 to 10 years	112	16.0	16.0	45.9
	Longer than 10 years	379	54.1	54.1	100.0
	Total	700	100.0	100.0	

Are you aware of any weather related dangers that can occur in the area

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	548	78.3	78.3	78.3
	No	147	21.0	21.0	99.3
	Not Sure	5	.7	.7	100.0
	Total	700	100.0	100.0	

Aware of Floods / Flash Floods

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	240	34.3	34.3	34.3
	Yes	460	65.7	65.7	100.0
	Total	700	100.0	100.0	

Aware of Dust Storms/ High Winds

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	448	64.0	64.0	64.0
	Yes	252	36.0	36.0	100.0
	Total	700	100.0	100.0	

Aware of Heavy Rain / Thunder Storms

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	567	81.0	81.0	81.0
	Yes	133	19.0	19.0	100.0
	Total	700	100.0	100.0	

Aware of Heat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	539	77.0	77.0	77.0
	Yes	161	23.0	23.0	100.0
	Total	700	100.0	100.0	

Aware of Fire / Lightening

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	582	83.1	83.1	83.1
	Yes	118	16.9	16.9	100.0
	Total	700	100.0	100.0	

Aware of earthquake

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	657	93.9	93.9	93.9
	Yes	43	6.1	6.1	100.0
	Total	700	100.0	100.0	

Unable to specify

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	691	98.7	98.7	98.7
	Yes	9	1.3	1.3	100.0
	Total	700	100.0	100.0	

Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	683	97.6	97.6	97.6
	Yes	17	2.4	2.4	100.0
	Total	700	100.0	100.0	

Are you aware that flash flooding can occur.

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	209	29.9	87.1	87.1
	No	30	4.3	12.5	99.6
	D/K	1	.1	.4	100.0
	Total	240	34.3	100.0	
Missing	System	460	65.7		
Total		700	100.0		

I know about the dangers of flash flooding

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	659	94.1	94.1	94.1
Somewhat agree	21	3.0	3.0	97.1
Disagree	11	1.6	1.6	98.7
Don't Know	9	1.3	1.3	100.0
Total	700	100.0	100.0	

I know about the time of year flash flooding is most likely to occur

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	532	76.0	76.0	76.0
Somewhat agree	57	8.1	8.1	84.1
Somewhat disagree	10	1.4	1.4	85.6
Disagree	50	7.1	7.1	92.7
Don't Know	51	7.3	7.3	100.0
Total	700	100.0	100.0	

I know about safety precautions relating to flash flooding

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	578	82.6	82.6	82.6
Somewhat agree	47	6.7	6.7	89.3
Somewhat disagree	6	.9	.9	90.1
Disagree	38	5.4	5.4	95.6
Don't Know	31	4.4	4.4	100.0
Total	700	100.0	100.0	

I know about resources available to learn more about flash flooding

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	351	50.1	50.1	50.1
Somewhat agree	92	13.1	13.1	63.3
Somewhat disagree	16	2.3	2.3	65.6
Disagree	131	18.7	18.7	84.3
Don't Know	110	15.7	15.7	100.0
Total	700	100.0	100.0	

I know about ways in which flooding is controlled in the area

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	467	66.7	66.7	66.7
Somewhat agree	87	12.4	12.4	79.1
Somewhat disagree	15	2.1	2.1	81.3
Disagree	71	10.1	10.1	91.4
Don t Know	60	8.6	8.6	100.0
Total	700	100.0	100.0	

I know about availability of flood insurance

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	478	68.3	68.3	68.3
Somewhat agree	59	8.4	8.4	76.7
Somewhat disagree	12	1.7	1.7	78.4
Disagree	79	11.3	11.3	89.7
Don t Know	72	10.3	10.3	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Brochure

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	147	21.0	21.0	21.0
No	549	78.4	78.4	99.4
Don t Know	4	.6	.6	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Billboard

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	358	51.1	51.1	51.1
No	339	48.4	48.4	99.6
Don t Know	3	.4	.4	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Television

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	629	89.9	89.9	89.9
No	70	10.0	10.0	99.9
Don t Know	1	.1	.1	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Radio

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	417	59.6	59.6	59.6
No	279	39.9	39.9	99.4
Don t Know	4	.6	.6	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Newspaper

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	421	60.1	60.1	60.1
No	276	39.4	39.4	99.6
Don t Know	3	.4	.4	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Welcome Home Magazine

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	44	6.3	6.3	6.3
No	644	92.0	92.0	98.3
Don t Know	12	1.7	1.7	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Clark County Regional Flood Control District Website

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	137	19.6	19.6	19.6
No	559	79.9	79.9	99.4
Don t Know	4	.6	.6	100.0
Total	700	100.0	100.0	

Have learned about flash flooding from Friends and/or other relatives

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	375	53.6	53.6	53.6
No	323	46.1	46.1	99.7
Don't Know	2	.3	.3	100.0
Total	700	100.0	100.0	

Do you have children in elementary school

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	134	19.1	19.1	19.1
No	566	80.9	80.9	100.0
Total	700	100.0	100.0	

Did your school age child(ren) bring information about flood awareness home from school within the past year

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	31	4.4	23.1	23.1
No	89	12.7	66.4	89.6
Not Sure	14	2.0	10.4	100.0
Total	134	19.1	100.0	
Missing System	566	80.9		
Total	700	100.0		

Has your child talked to you about flood safety that he/she learned at school

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	26	3.7	19.4	19.4
No	102	14.6	76.1	95.5
Not Sure	6	.9	4.5	100.0
Total	134	19.1	100.0	
Missing System	566	80.9		
Total	700	100.0		

Do you live in a 100 year flood zone

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	72	10.3	10.3	10.3
No	335	47.9	47.9	58.1
Not sure	293	41.9	41.9	100.0
Total	700	100.0	100.0	

Do you know how to find out if you live in a 100 year flood zone

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	297	42.4	42.4	42.4
No	355	50.7	50.7	93.1
Not Sure	48	6.9	6.9	100.0
Total	700	100.0	100.0	

Flood insurance is available to everyone

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	366	52.3	52.4	52.4
Somewhat agree	55	7.9	7.9	60.3
Somewhat disagree	27	3.9	3.9	64.2
Disagree	136	19.4	19.5	83.7
Don t Know	114	16.3	16.3	100.0
Total	698	99.7	100.0	
Missing Refuse	2	.3		
Total	700	100.0		

Flood insurance will only cover damage to the structure of a residence

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Agree	188	26.9	26.9	26.9
Somewhat agree	52	7.4	7.4	34.4
Somewhat disagree	34	4.9	4.9	39.3
Disagree	186	26.6	26.6	65.9
Don t Know	238	34.0	34.1	100.0
Total	698	99.7	100.0	
Missing Refuse	2	.3		
Total	700	100.0		

Flood insurance is only available for those who live in a flood zone

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	130	18.6	18.6	18.6
	Somewhat agree	30	4.3	4.3	22.9
	Somewhat disagree	19	2.7	2.7	25.6
	Disagree	389	55.6	55.7	81.4
	Don t Know	130	18.6	18.6	100.0
	Total	698	99.7	100.0	
Missing	Refuse	2	.3		
Total		700	100.0		

Flood insurance is available to cover damage to the contents os a residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	358	51.1	51.3	51.3
	Somewhat agree	54	7.7	7.7	59.0
	Somewhat disagree	15	2.1	2.1	61.2
	Disagree	88	12.6	12.6	73.8
	Don t Know	183	26.1	26.2	100.0
	Total	698	99.7	100.0	
Missing	Refuse	2	.3		
Total		700	100.0		

The cost of flood insurance is the same regardless of whether or not the residence is in a flood zone

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	119	17.0	17.0	17.0
	Somewhat agree	17	2.4	2.4	19.5
	Somewhat disagree	20	2.9	2.9	22.3
	Disagree	339	48.4	48.6	70.9
	Don t Know	203	29.0	29.1	100.0
	Total	698	99.7	100.0	
Missing	Refuse	2	.3		
Total		700	100.0		

If you live in a flood zone you must buy flood insurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Agree	245	35.0	35.1	35.1
	Somewhat agree	26	3.7	3.7	38.8
	Somewhat disagree	16	2.3	2.3	41.1
	Disagree	297	42.4	42.6	83.7
	Don t Know	114	16.3	16.3	100.0
	Total	698	99.7	100.0	
Missing	Refuse	2	.3		
Total		700	100.0		

Do you have flood insurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	70	10.0	10.0	10.0
	No	582	83.1	83.1	93.1
	Don t Know	48	6.9	6.9	100.0
	Total	700	100.0	100.0	

Flood insurance is a separate policy from homeowners insurance to cover flood damage from a weather related event. Do

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	72	10.3	10.3	10.3
	No	537	76.7	76.7	87.0
	Not sure	89	12.7	12.7	99.7
	Refuse	2	.3	.3	100.0
	Total	700	100.0	100.0	

q7flst

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	511	73.0	73.0	73.0
	No	189	27.0	27.0	100.0
	Total	700	100.0	100.0	

Thinking back to the last time you came to a flooded street, which of the following statements best describes what you

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	695	99.3	99.3	99.3
i pulled a couple of people out of the water.	1	.1	.1	99.4
looked outside and saw the flooding at someone swam in the water.	1	.1	.1	99.6
THE POLICE DROVE MY CARE THRU THE WATER FOR ME	1	.1	.1	99.9
Wait for a boat	1	.1	.1	100.0
Total	700	100.0	100.0	

Thinking back to the last time you came to a flooded street, which of the following statements best describes what you

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid				
Turned back and took an alternate route	318	45.4	62.2	62.2
Waited for the water to go down, then drove through it	22	3.1	4.3	66.5
Drove through it and made it	146	20.9	28.6	95.1
Drove through it and got stuck	12	1.7	2.3	97.5
Don t remember	8	1.1	1.6	99.0
Other	5	.7	1.0	100.0
Total	511	73.0	100.0	
Missing				
System	189	27.0		
Total	700	100.0		

Why did you drive through it

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	680	97.1	97.1	97.1
because i was caught in traffic & i was stuck	1	.1	.1	97.3
because it was low enough.	1	.1	.1	97.4
FLOOD STARTED WHILE IN ROUTE!	1	.1	.1	97.6
high truck shallow water	1	.1	.1	97.7
house was flooded needed to get to kids	1	.1	.1	97.9
i couldn't see how deep the water was.	1	.1	.1	98.0
I DID NOT HAVE A CHOICE	1	.1	.1	98.1
I have a 4 wheeler	1	.1	.1	98.3
I was able to still see parts of the road. It was not completely flooded.	1	.1	.1	98.4
I was working there and had to go through it.	1	.1	.1	98.6
it wasd dark & i did not see the water til too late	1	.1	.1	98.7
no alternate route	1	.1	.1	98.9
no other way to go	1	.1	.1	99.0
there wasn't much water.	1	.1	.1	99.1
was blocked by traffic	1	.1	.1	99.3
was hit suddenly	1	.1	.1	99.4
was in spaggetti bowl	1	.1	.1	99.6
was in traffic w/ person in front of them and behind them	1	.1	.1	99.7
went because cars was sucessful going through	1	.1	.1	99.9
what I was driving ram pickout 33 inch tires	1	.1	.1	100.0
Total	700	100.0	100.0	

Why did you drive through it

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	I was in a hurry	14	2.0	8.9	8.9
	Didn t think it was unsafe to do so	105	15.0	66.5	75.3
	Thought it would be fun to do	9	1.3	5.7	81.0
	Didn t know any better	8	1.1	5.1	86.1
	Not sure	1	.1	.6	86.7
	Other	21	3.0	13.3	100.0
	Total	158	22.6	100.0	
Missing	System	542	77.4		
Total		700	100.0		

Streets are/are not part of the flood control system

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Streets are a part of the flood control system	452	64.6	64.6	64.6
	Streets are NOT a part of the flood control system	172	24.6	24.6	89.1
	Don t know	76	10.9	10.9	100.0
	Total	700	100.0	100.0	

Some/All of the urban runoff drains into lake mead

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Some urban runoff drained into lake mead	321	45.9	45.9	45.9
	All of the urban runoff and rainwater that travels through	257	36.7	36.7	82.6
	DK	122	17.4	17.4	100.0
	Total	700	100.0	100.0	

Runoff is treated/untreated 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Runoff is treated	91	13.0	25.9	25.9
	Runoff is untreated	199	28.4	56.7	82.6
	DK	61	8.7	17.4	100.0
	Total	351	50.1	100.0	
Missing	System	349	49.9		
Total		700	100.0		

Runoff is treated/untreated 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Runoff is treated	112	16.0	32.1	32.1
	Runoff is untreated	172	24.6	49.3	81.4
	DK	65	9.3	18.6	100.0
	Total	349	49.9	100.0	
Missing	System	351	50.1		
Total		700	100.0		

As a result of knowing that the urban runoff and rainwater are NOT treated, have you changed any behaviors that would help the environment?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	134	19.1	38.8	38.8
	No	189	27.0	54.8	93.6
	Not Sure	22	3.1	6.4	100.0
	Total	345	49.3	100.0	
Missing	System	355	50.7		
Total		700	100.0		

What have you done as a result

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	687	98.1	98.1	98.1
Don't overfill the swimming pool or run extra water from the faucets. We don't waste water.	1	.1	.1	98.3
don't waste water	1	.1	.1	98.4
drain pool water into sewer drain	1	.1	.1	98.6
having reverse osmosis.	1	.1	.1	98.7
i have my own water system.	1	.1	.1	98.9
I used water for other uses	1	.1	.1	99.0
no use of chemicals	1	.1	.1	99.1
not littering, keeping gutters clean	1	.1	.1	99.3
picked up others waste	1	.1	.1	99.4
recycling	1	.1	.1	99.6
save water.	1	.1	.1	99.7
use natural products.	1	.1	.1	99.9
water & lawn conservation of water	1	.1	.1	100.0
Total	700	100.0	100.0	

Proper disposal of chemicals

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	641	91.6	91.6	91.6
Yes	59	8.4	8.4	100.0
Total	700	100.0	100.0	

Proper disposal of general waste

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid No	615	87.9	87.9	87.9
Yes	85	12.1	12.1	100.0
Total	700	100.0	100.0	

Proper disposal of oil

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	657	93.9	93.9	93.9
	Yes	43	6.1	6.1	100.0
	Total	700	100.0	100.0	

Proper disposal/clean up of pet waste

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	671	95.9	95.9	95.9
	Yes	29	4.1	4.1	100.0
	Total	700	100.0	100.0	

Use of commercial car wash

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	672	96.0	96.0	96.0
	Yes	28	4.0	4.0	100.0
	Total	700	100.0	100.0	

Use of organic fertilizers

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	681	97.3	97.3	97.3
	Yes	19	2.7	2.7	100.0
	Total	700	100.0	100.0	

Reporting of clogged storm drains

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	683	97.6	97.6	97.6
	Yes	17	2.4	2.4	100.0
	Total	700	100.0	100.0	

Unable to specify

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	696	99.4	99.4	99.4
	Yes	4	.6	.6	100.0
	Total	700	100.0	100.0	

Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	No	686	98.0	98.0	98.0
	Yes	14	2.0	2.0	100.0
	Total	700	100.0	100.0	

If you knew what to do, would you be willing to change your behavior if you knew it would improve water quality

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	626	89.4	89.4	89.4
	No	20	2.9	2.9	92.3
	Not Sure	54	7.7	7.7	100.0
	Total	700	100.0	100.0	

Would you like to know more about how to keep the environment clean

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	450	64.3	64.3	64.3
	No	189	27.0	27.0	91.3
	Not sure	61	8.7	8.7	100.0
	Total	700	100.0	100.0	

Since you have lived in Southern Nevada, do you think the way flood control is being handled in the area has gotten better

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Better	454	64.9	64.9	64.9
	Worse	17	2.4	2.4	67.3
	Stayed about the same	168	24.0	24.0	91.3
	Not Sure	60	8.6	8.6	99.9
	Refuse	1	.1	.1	100.0
	Total	700	100.0	100.0	

Overall, how would you rate the way flood control is being handled in Southern Nevada Would you say. . .

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Excellent	91	13.0	13.0	13.0
Good	351	50.1	50.1	63.1
Fair	178	25.4	25.4	88.6
Poor	40	5.7	5.7	94.3
Not Sure	39	5.6	5.6	99.9
Refuse	1	.1	.1	100.0
Total	700	100.0	100.0	

Do you have cable television

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	538	76.9	76.9	76.9
No	157	22.4	22.4	99.3
Don t know	3	.4	.4	99.7
Refuse	2	.3	.3	100.0
Total	700	100.0	100.0	

Have you ever watched the

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Yes	205	29.3	38.1	38.1
No	328	46.9	61.0	99.1
Not Sure	5	.7	.9	100.0
Total	538	76.9	100.0	
Missing System	162	23.1		
Total	700	100.0		

The dangers of flash flooding

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 0	601	85.9	85.9	85.9
The dangers of flash flooding	99	14.1	14.1	100.0
Total	700	100.0	100.0	

Time of year flooding occurs

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	678	96.9	96.9	96.9
	The dangers of flash flooding	22	3.1	3.1	100.0
	Total	700	100.0	100.0	

Safety precautions that can be taken

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	611	87.3	87.3	87.3
	The dangers of flash flooding	89	12.7	12.7	100.0
	Total	700	100.0	100.0	

Where to learn more about flooding

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	668	95.4	95.4	95.4
	The dangers of flash flooding	32	4.6	4.6	100.0
	Total	700	100.0	100.0	

Ways flooding is controlled

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	674	96.3	96.3	96.3
	The dangers of flash flooding	26	3.7	3.7	100.0
	Total	700	100.0	100.0	

Availability of flood insurance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	695	99.3	99.3	99.3
	The dangers of flash flooding	5	.7	.7	100.0
	Total	700	100.0	100.0	

How to protect the environment

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	691	98.7	98.7	98.7
	The dangers of flash flooding	9	1.3	1.3	100.0
	Total	700	100.0	100.0	

Other

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	673	96.1	96.1	96.1
	The dangers of flash flooding	27	3.9	3.9	100.0
	Total	700	100.0	100.0	

Not Sure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	0	656	93.7	93.7	93.7
	The dangers of flash flooding	44	6.3	6.3	100.0
	Total	700	100.0	100.0	

Can you identify the specific themes of any Flood Channel Programs that you have watched. This would be an entire progr

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	38	5.4	18.5	18.5
	No	145	20.7	70.7	89.3
	Not Sure	22	3.1	10.7	100.0
	Total	205	29.3	100.0	
Missing	System	495	70.7		
Total		700	100.0		

Are you aware of the Flood Safety License Plate Billboard Contest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	114	16.3	31.1	31.1
	No	250	35.7	68.1	99.2
	Not Sure	3	.4	.8	100.0
	Total	367	52.4	100.0	
Missing	System	333	47.6		
Total		700	100.0		

Do you think that the billboard campaign contest is an effective way to communicate flood safety to the community

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes, very effective	49	7.0	43.0	43.0
	Yes, somethat effective	50	7.1	43.9	86.8
	No, somewhat ineffective	6	.9	5.3	92.1
	No, very ineffective	6	.9	5.3	97.4
	Not Sure	3	.4	2.6	100.0
	Total	114	16.3	100.0	
Missing	System	586	83.7		
Total		700	100.0		

Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 - 24	38	5.4	5.6	5.6
	25 - 44	203	29.0	29.8	35.4
	45 - 64	263	37.6	38.6	74.0
	65+	177	25.3	26.0	100.0
	Total	681	97.3	100.0	
Missing	Refuse	19	2.7		
Total		700	100.0		

What is the highest level of education that you have completed

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Less than HS graduate	37	5.3	5.3	5.3
HS graduate	182	26.0	26.0	31.3
Some college/trade school	151	21.6	21.6	52.9
Two year college	103	14.7	14.7	67.6
Four year college	125	17.9	17.9	85.4
Post graduate work	17	2.4	2.4	87.9
Post graduate degree	76	10.9	10.9	98.7
Don t know	1	.1	.1	98.9
Refuse	8	1.1	1.1	100.0
Total	700	100.0	100.0	

Any questions regarding this research project or summarized results or for further information please contact:

Pamela S. Gallion
 Cannon Survey Center
 University of Nevada, Las Vegas
 4505 Maryland Parkway Box 455008
 Las Vegas, Nevada 89154-5008
 (702) 895-0486
 Email: pam.gallion@unlv.edu

APPENDIX H

BMP Reports From Co-Permittees



APPENDIX H

BMP REPORTS FROM CO-PERMITTEES STORM CHANNEL INSPECTION REPORTS



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dlc@co.clark.nv.us

July 31, 2008

Mr. Chip Paulson
Montgomery Watson Harza
1801 California Street, 29th Floor
Denver, Colorado 80202-1244

2007-2008 ANNUAL REPORT INFORMATION LAS VEGAS VALLEY NPDES MUNICIPAL STORMWATER DISCHARGE PERMIT

Dear Mr. Paulson:

I am writing in response to your request for information for the 2007-2008 Annual Report for the Las Vegas Valley Municipal Stormwater Discharge NPDES Permit. The following information is provided for the period July 1, 2007, through June 30, 2008.

Structural and Source Control Measures:

Storm Drain Inlet and Catch Basin Cleaning Activities:

The County began the Fiscal Year with a total of 9348 drain inlets and catch basins within the permit area.

The number of drain inlets and catch basins inspected during the permit year was 9409.

The number of drain inlets and catch basins cleaned out during the permit year was 9409.

The volume or weight of material removed from inlets and catch basins is not recorded.

The County is continuing its review of operational practices and database management systems.

The County believes that the goals of the drain inlet cleaning BMP to inspect/clean 20 percent of drop inlets a minimum of once per year were exceeded for the 2007-08 permit year.

Street Sweeping Activities:

The County began the Fiscal Year with a total of 2542 curb miles in the sweeping program within the permit area.

The number of curb miles swept during the permit year was 82,030 miles.

The volume or weight of material collected by street sweepers was 30,544 cubic yards.

The County believes that the goals of the street sweeping BMP to sweep curbed-and-paved public streets in urban areas once every 30 days were exceeded for the 2007-08 permit year.

Mr. Chip Paulson

**2007-2008 ANNUAL REPORT INFORMATION LAS VEGAS VALLEY NPDES MUNICIPAL
STORMWATER DISCHARGE PERMIT**

July 31, 2008

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Detention Basins Inspected and Cleaned:

Clark County currently maintains sixteen detention basins in the Las Vegas Valley during the permit period.

All basins were inspected a minimum of two times during the permit period.

The detention basins list includes:

- Upper Blue Diamond Detention Basin
- Blue Diamond Turning Basin
- Desert Inn Detention Basin
- Lower Duck Creek Detention Basin
- Upper Duck Creek Detention Basin
- F-1 Debris Basin
- F-2 Debris Basin
- F-4 Debris Basin
- R-4 Detention basin
- Upper Flamingo Wash Detention Basin
- Lakes Detention Basin
- Las Vegas Range Confluence Detention Basin
- Red Rock Detention Basin
- Tropicana Wash Detention Basin
- Van Buskirk A Detention Basin
- Van Buskirk C Detention Basin

The Upper Blue Diamond Detention Basin had 20 cubic yards of debris removed.

The Desert Inn Detention Basin had 5 cubic yards of debris removed.

The Tropicana Detention Basin had 74 cubic yards of sediment and debris from storms removed.

The Lower Duck Creek Detention Basin had 54 cubic yards of debris removed.

The Upper Duck Creek Detention Basin had 30 cubic yards of debris removed.

The Upper Flamingo Wash Detention Basin had 420 cubic yards of debris removed.

The Lakes Detention Basin has 194 cubic yards of debris removed.

The Tropicana Detention Basin had 117 cubic yards of debris removed.

The total sediment and debris removed for the fiscal year is 840 cubic yards.

Mr. Chip Paulson

**2007-2008 ANNUAL REPORT INFORMATION LAS VEGAS VALLEY NPDES MUNICIPAL
STORMWATER DISCHARGE PERMIT**

July 31, 2008

Page 3

The Upper Flamingo Wash Detention Basin increased capacity project under contract with the United States Army Corps of Engineers (USACOE), has been completed.

Other departments provide additional report information. Should you have any questions or concerns, or wish to discuss any of these items further, please call me at (702) 455-7540. The office hours are Monday through Friday, 6:30 a.m. to 3:00 p.m.

Sincerely,



Gil Suckow
Senior Construction Management Inspector
Maintenance Management Division

GS:djt

cc: Mark Silverstein, DAQEM
D. Cederburg, Director of Public Works
L. Henley, Construction Management
L. Cameron Harper, Maintenance Management Division



CITY OF HENDERSON
240 Water Street
P. O. Box 95050
Henderson, NV 89009

August 21, 2008

Mr. Chip Paulson, P.E.
Montgomery Watson Harza
1801 California Street, 29th Floor
Denver, CO 80202-1244

RE: Revised NPDES Stormwater Discharge Permit Annual Report

This is to provide you with information from the City of Henderson for the NPDES Stormwater Discharge Permit Annual report for the period July 2007 to June 2008.

Drop Inlet and Storm Drain Maintenance

The objective outlined in the 2004 - 2005 Annual Report is to determine the total number of drop inlets in the system, then inspect and maintain 20-percent of the total every year. During the 2005 - 2006 reporting period, the City hired additional maintenance staff and equipment to meet the drop inlet maintenance objectives. The material collected during the drop inlet and street sweeping duties are delivered to the same drop off point. The maintenance staff has completed inspecting and cleaning the public drop inlets within the City limits approximately 2 years ahead of schedule. The goals of the drop inlet cleaning program were met for the 2007 – 2008 reporting period and the City is ahead of schedule for inspecting and cleaning the entire system.

Total Drop Inlets in Public System, FY2008 = 1909
Drop Inlets Maintained = 330

Street Sweeping

The objective outlined in the 2004 – 2005 Annual Report is to sweep the curbed and paved public streets once every 30 days. The City has seven street sweepers in operation, the same as in past years, and is currently sweeping the public streets once every 25 days on average. On average, the goals of the street sweeping program were met for the 2007 – 2008 reporting period.

Total Curbing in System = 1612 miles
Sweeper Centerline Miles = 39,673 miles
Material Removed = 2682 cubic yards

Flood Control Facilities Inspection and Maintenance

The objective outlined in the 2004 – 2005 Annual Report is to visually inspect the channels and detention basins within the City boundaries semi-annually as part of the Illicit Discharge and Detection Program. The semi-annual inspections take place during the Fall and Spring of each reporting period. Please see the semi-annual wash reports included in a separate section of the Annual Report for the results of the inspections. The City also inspects and maintains the regional flood control facilities on a regular basis under a maintenance agreement with the Clark County Regional Flood Control District. Sediment, debris, and trash found during the semi-annual and regularly scheduled inspections are logged in the inspection reports and maintenance is scheduled. Sediment and other material removed from storm drains, drop inlets, and lined channels are deposited at our Warm Springs maintenance yard. From there it is transferred to the landfill at Apex. Uncontaminated sediment removed from unlined channels is placed on the side of the channel. Attached are a spreadsheet identifying the channels and detention basins that were maintained and the volume of material removed from those that underwent maintenance activity, and the total volume of material removed as part of the 2007 – 2008 flood control inspection and maintenance program.

Construction Site Inspection Program

The objectives outlined in the 2004 – 2005 Annual Report is to develop and maintain an construction site inspection program as required by the Las Vegas Valley MS4 NPDES permit. The Public Works Department – Quality Control Division currently inspects active construction sites for compliance with local ordinances concerning the discharge of pollutants. Of the inspections completed 895 (81%) sites inspected revealed no potential to violate code and general compliance with State and local construction site requirements; 24 (2%) revealed potential to violate code or actually had violations to the code, and 190 (17%) of the inspections were closed out with no further inspection required or cancelled. The problems identified in the inspections were corrected at each site.

Modifications to be implemented in the next fiscal year is to incorporate the Building Department inspectors as part of the program, use feedback from the inspectors to update the training based on experiences from the last year, and update ordinances and other regulatory mechanisms to require erosion and sediment controls. The City will continue to meet with staff and the co-permittees to implement program improvements in the coming year. Please find a summary of the Construction Site Monitoring Program included with this report.

Industrial Facility Monitoring and Control Program

The objectives outlined in the 2004 – 2005 Annual Report is to develop and maintain an industrial facility monitoring and control program as required by the Las Vegas Valley MS4 NPDES permit. The City's industrial facility inspection program was started in January 2008. Building and Fire Safety Department - Fire Safety inspectors currently inspect approximately 115 facilities identified as having the potential to discharge pollutants under the industrial facility inspection program. The identification of facilities, inspection procedures, and enforcement of the industrial inspection program are based on the hazardous materials requirements in the 2006

International Fire Code. Initial training for the inspectors was provided in use feedback from the inspectors to update the training based on experiences from the last year, and update ordinances and other regulatory mechanisms to require erosion and sediment controls. The City will continue to meet with staff and the co-permittees to implement program improvements in the coming year. Please find a summary of the Construction Site Monitoring Program included with this report.

Local Ordinances

There were no changes to the City stormwater ordinances during the 2007 – 2008 reporting period.

BMP Implementation

The City of Henderson responsibility for the Year 3 measurable goals are outlined below:

- Implement street sweeping program developed in Year 1.
- Implement drop inlet and storm drain system cleaning program developed in Year 1.
- Conduct semi-annual field inspections of channels and detention basins.

Enforcement Actions

We received 8 citizen reports of NPDES violations during the report period. Following is a short description of the complaint and the action taken:

Complaint 1

A citizen called about oil in the gutter on Dutchman Avenue. Field crews investigated and found that a car hydraulic system had leaked fluid into the street. A sweeper was dispatched to clean the gutter, no drop inlets were impacted.

Complaint 2

A citizen called about a concrete contractor dumping washout into the gutter. Code Enforcement investigated the complaint, but found no active dumping at the time of investigation. The project manager at Pulte Homes was informed of the violation by the site contractor.

Complaint 3

Citizen reported that a neighbor is repairing cars, then washing oil and other debris into the gutter. Code Enforcement was sent to investigate and talked with the home owner. He had repaired his car recently and mopped up the oil with a rag, which was then properly disposed of in the garbage. No violation was identified.

Complaint 4

A citizen reported that a neighbor had discharged gas and oil into the street. Support Services field crews investigated and found no active discharge, but there was oil residue in the gutter. Field crews put absorbent on the residue and dispatched a sweeper to clean up.

Complaint 5

A business owner reported that a business was washing oil and grease into the street to the State Division of Environmental Resources (080331-01), which was then forwarded to the City. Utility Services, Pre-Treatment Division staff investigated the complaint but could not verify that a discharge took place. Further investigation indicated that standing water in the parking lot of the business had an oily sheen, but it was unclear if the residue is from daily use or washing.

Complaint 6

A citizen reported that a neighbor was steam cleaning car engines in driveway and the water was discharging to the street. Utility Services, Pre-Treatment Division staff investigated the complaint but found no evidence of discharge.

Complaint 7

A citizen reported that a business was dumping sodium hydroxide into the gutter. An investigation was conducted by field crews and Code Enforcement that found evidence of pollutant discharge in the parking lot and gutter, but no active discharge was taking place. Code Enforcement spoke with the business owner about proper BMP's and how a pollutant discharge was a violation of City ordinance. During the conversation an engine block was being prepared for cleaning in the back lot. The opportunity was taken to educate the staff and manager about BMP's.

Complaint 8

Citizen reported that contractors working in neighboring house discharged paint and glue into drop inlet. A field investigation found evidence of the discharge in the drop inlet, but the contractors were not present in area. Field staff cleaned the drop inlet and Code Enforcement was notified of the findings of the investigation.

Public Outreach

City of Henderson Public Works staff attended booths at the City Hall in the Mall event in November and the Project GREEN/City of Henderson Earth Day event in April. Outreach materials were handed out from the booths and staff was available to answer questions.

Partially Completed Storm Drains

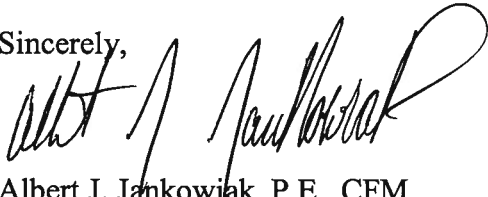
The City of Henderson has a number of partially completed storm drains; however, none of them are designed specifically to cause the water to infiltrate. In some cases, the discharge is to the natural ground where it evaporates, percolates, or supports vegetation.

Drinking Water Discharges

A report on drinking water discharges was submitted separately to the EPA.

Please let me know if you require any additional information or detail for the completion of your report.

Sincerely,

A handwritten signature in black ink, appearing to read "Albert J. Jankowiak". The signature is fluid and cursive, with a large loop at the end.

Albert J. Jankowiak, P.E., CFM
Project Engineer II
City of Henderson

cc: Kevin Eubanks, CCRFCD
Jonna Sansom, City of Henderson

**FLOOD CONTROL FACILITIES
INSPECTION AND MAINTENANCE
PROGRAM**

Fiscal Year 2008 Sweeper report and Drop Inlet inspection Program

Sweeper Miles traveled	79,345	6,612 average per month
Sweeper Hours	5,464	455.3 average per month
Cubic Yards	2,682	223.5 average per month

Overall Average to complete sweeper routes

Working days	13.6
Calendar Days	24.5

Drop Inlets Cleaned and Inspected	330	27.5 average per month
Don't Pollute stickers installed	83	13.8 average per month

CHANNEL NAME	MASTER PLAN FACILITY ID	COH MAINTENANCE		
		MWP FACILITY NUMBER	MAINTENANCE EXPENDITURE (\$)	MATERIAL REMOVED (CY)
C-1 CHANNEL	CICH 0000-0674	HEN 01	\$ 37,575.22	204
GREENWAY CHANNEL	C1GW 0000-0081	HEN 02	\$ 19,141.13	768
VAN WAGENEN CHANNEL	PTVW 0000-0184	HEN 03	\$ -	
GIBSON CHANNEL	PTGB 0000-0249	HEN 04	\$ 5,371.20	4
LOWER PITTMAN CHANNEL	PTDC 0013-0237	HEN 05	\$ 28,938.04	91
UPPER PITTMAN CHANNEL	PTWA 0000-0476	HEN 06	\$ 4,307.07	
UPRR CHANNEL	PTRW 0000-0131	HEN 07	\$ 7,969.85	72
SANDWEDGE CHANNEL	PTSW 0000-0129	HEN 08	\$ -	
WHITNEY RANCH CHANNEL	WWDC 0000-0069	HEN 09	\$ 1,112.86	
DUCK CREEK CHANNEL	DCWA 0646-0669	HEN 10	\$ 3,454.13	
MISSION HILLS DETENTION	C1CH 0674-0882	HEN 11	\$ -	
RAILROAD EAST CHANNEL	PTRE 0000-0157	HEN 12	\$ 14,270.93	277
McDONALD RANCH CHANNEL	PTMR 0000-0479	HEN 13	\$ -	
DRAKE CHANNEL	C1DC 0000-0101	HEN 14	\$ 2,172.19	
I-515 CHANNEL	PTIS 0000-0198	HEN 15	\$ -	
EASTERN CHANNEL	PTEA 0000-0209	HEN 16	\$ 1,383.93	48
WESTERN INTERCEPTOR	C1CH 0871-0972	HEN 17	\$ -	
EQUESTRIAN DETENTION BASIN	C1EQ 0152-0297	HEN 18	\$ 477.36	
SUNRIDGE CHANNEL	PTPW 0060-0262	HEN 19	\$ 1,390.16	
PITTMAN WASH RAILROAD	PTRR 0000-0116	HEN 20	\$ 2,433.40	
PITTMAN PARK DETENTION BASIN	PTWA 0055	HEN 21	\$ 9,496.34	80
PITTMAN WASH BURNS CHANNEL	PTBR 0029-0160	HEN 22	\$ 3,008.90	
PITTMAN WASH BLACK MOUNTAIN	PTBM 0000-0045	HEN 23	\$ -	
PITTMAN PECOS CHANNEL	PTPE 0000-0166	HEN 24	\$ -	
BLACK MOUNTAIN DETENTION BASIN	C1CH 1012-1138	HEN 25	\$ -	
EAST C-1 DETENTION BASIN	C1DC 0226-0303	HEN 26	\$ 2,814.25	
McCULLOUGH HILL DETENTION BASIN	PTPW 0307-0309	HEN 27	\$ 106,325.00	
PIONEER DETENTION BASIN	PTVW 0185	HEN 28	\$ 1,868.02	4
PITTMAN EAST DETENTION BASIN	PTEA 0291-0495	HEN 29	\$ -	
SAGUARO PARK/DOWNS CHANNEL	C1EQ 0000-0151	HEN 30	\$ -	

FACILITY NAME	MASTER PLAN FACILITY ID	COH MAINTENANCE		
		MWP FACILITY NUMBER	MAINTENANCE EXPENDITURE (\$)	MATERIAL REMOVED (CY)
C-1 CHANNEL - US 95	C1US 0000-0078	HEN 31	\$ 2,974.55	64
C-1 CHANNEL BOULDER HIGHWAY	C1BH 0000-0302	HEN 32	\$ 7,235.69	60
UPPER PITTMAN WASH SOUTH	PTWA 0982	HEN 33	\$ -	
PITTMAN STEPHANIE	PTST 0000-0170	HEN 34	\$ -	
PITTMAN DESERT WILLOW	PTDW 0000-0069	HEN 35	\$ -	
PITTMAN FOOTHILLS DRIVE	PTFD 0000-0111	HEN 36	\$ -	
PITTMAN LAKE MEAD	PTLM 0000-0078	HEN 37	\$ -	
PITTMAN VALLE VERDE	PTVV 0000-0005	HEN 38	\$ -	
PITTMAN GAS LINE	PTGL 0000	HEN 39	\$ -	
PITTMAN PIONEER DETENTION	PTPD 0000-0063	HEN 40	\$ -	
PITTMAN WEST HORIZON	PTWH 0000-0011	HEN 41	\$ -	
PITTMAN/ANTHEM PARKWAY	PTAP 0000-0191	HEN 42	\$ -	
PITTMAN HORIZON RIDGE	PTHR 0043-0067	HEN 43	\$ -	
PITTMAN HORIZON RIDGE RCB	PTHR 0139	HEN 44	\$ -	
PITTMAN ANTHEM CHANNEL & DET. B	PTAN 0000-0280	HEN 45	\$ -	
PITTMAN REUNION DRIVE	PTRD 0000-0055	HEN 46	\$ -	
PITTMAN GREEN VALLEY	PTGV 0028-0073	HEN 47	\$ -	
PITTMAN SEVEN HILLS	PTSH 0000-0084	HEN 48	\$ -	
C-1 CHANNEL US 95 TRIB 1	C1U1 0000-0062	HEN 49	\$ 907.00	
C-1 CHANNEL FOUR KIDS	C1FK 0000-0039	HEN 50	\$ -	
C-1 CHANNEL FOUR KIDS CULVERT	C1FK 0073	HEN 51	\$ -	
LAKE LAS VEGAS MAGIC WAY CULVERT	LLMW 0129	HEN 52	\$ -	
LAKE LAS VEGAS MAGIC WAY CHANNE	LLMW 0203	HEN 53	\$ -	
PITTMAN HAMPTON ROAD	PTHD 0000-0020	HEN 54	\$ -	
PITTMAN ANTHEM DRIVE	PTAD 0055	HEN 55	\$ -	
PITTMAN WASH SOUTHEAST	PTSE 0135	HEN 56	\$ -	
PITTMAN WASH WILDERNESS STUDY	PTWS 0000	HEN 57	\$ -	
TOTALS			\$ 264,627.22	1672

Chip and Gari,

The following is the City of Las Vegas report on street sweeping activities and detention basin cleaning.

All City streets are on a schedule to be swept once every two weeks, however many streets are swept more frequently due to a greater need (e.g., mature trees, poor drainage, excessive random trash, high customer demands) We have approximately 5,200 miles curb lane miles, and our total miles swept is approximately 220,000 miles per year. Excluding miles counted for parking lot, garage and special event sweeping (e.g., parade cleanup), on average we sweep all public streets approximately once every 10 calendar days.

For FY08, we reported 220,244 miles swept, and 46,356 cubic yards of trash processed through the two CLV transfer stations

We removed sediment from the Oakey Detention Basin. The volume amount was approximately 1500 cubic yards or 0.93 acre-ft.

The attached spreadsheet contains the construction site inspection conducted after receiving the DAQEM complaint.

There will be another e-mail to report the industrial inspection and illicit discharge. If you have any question, please do not hesitate to call.

Thank you,

Cheng,

Mayor
Michael L. Montandon

Council Members
William E. Robinson
Stephanie S. Smith
Shari Buck
Robert L. Eliason



City Manager
Gregory E. Rose

Your Community of Choice

Public Works Department - Majed A. Al-Ghafry, Director
Development & Flood Control
2266 Civic Center Drive • North Las Vegas, Nevada 89030
Telephone: (702) 633-1200 • Fax: (702) 649-4696 • TDD: (800) 326-6868
www.cityofnorthlasvegas.com

November 5, 2007

Chip Paulson
Montgomery Watson Harza
1800 California Street, Suite 2900
Denver, Co 80202

Re: NPDES Quarterly Report
Street, Drop Inlet and Detention Basin Cleaning

Dear Mr. Paulson:

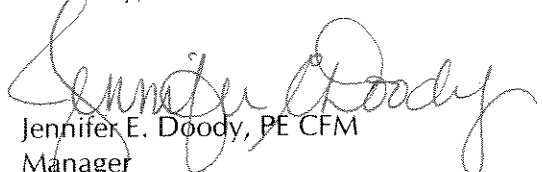
This letter is to serve as the City of North Las Vegas' quarterly report on street, drop inlet and detention basin cleaning activities. The following is a summary of the work that was completed during the period of July 2007 to Septmeber 2007.

Street Cleaning:	19,737 street miles were swept and 4,603 cubic yards of waste was removed.
Drop Inlet Cleaning:	79 drop inlets were cleaned and 567 cubic feet of waste was removed.
Detention Basins:	2 detention basins were cleaned and 97 cubic yards of waste was removed.

Additionally, there were 347 Industrial Stormwater Inspections performed and 2 Illicit Discharge Report responses.

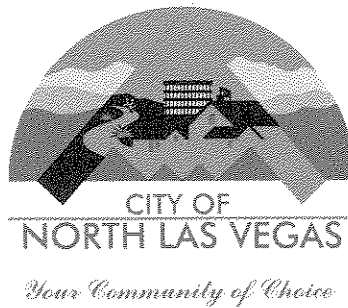
Please let me know if you should have any questions regarding this information at (702) 633-1223.

Sincerely,


Jennifer E. Doody, PE CFM
Manager
Development and Flood Control Division

Mayor
Michael L. Montandon

Council Members
William E. Robinson
Stephanie S. Smith
Shari Buck
Robert L. Eliason



City Manager
Gregory E. Rose

Public Works Department - Dr. Qiong Liu, P.E., PTOE, Acting Director
Development & Flood Control
2266 Civic Center Drive • North Las Vegas, Nevada 89030
Telephone: (702) 633-1200 • Fax: (702) 649-4696 • TDD: (800) 326-6868
www.cityofnorthlasvegas.com

January 28, 2008

Chip Paulson
Montgomery Watson Harza
1800 California Street, Suite 2900
Denver, Co 80202

Re: NPDES Quarterly Report
Street, Drop Inlet and Detention Basin Cleaning

Dear Mr. Paulson:

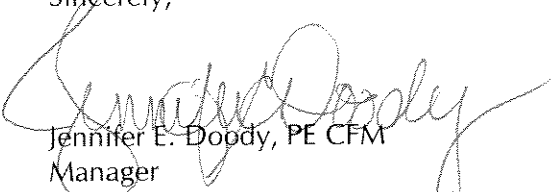
This letter is to serve as the City of North Las Vegas' quarterly report on street, drop inlet and detention basin cleaning activities. The following is a summary of the work that was completed during the period of October 2007 to December 2007.

Street Cleaning:	28,849 street miles were swept and 7,124 cubic yards of waste was removed.
Drop Inlet Cleaning:	32 drop inlets were cleaned and 475 cubic feet of waste was removed.
Detention Basins:	2 detention basins were cleaned and 277 cubic yards of waste was removed.

Additionally, there were 263 Industrial Stormwater Inspections performed and 7 Illicit Discharge Report responses.

Please let me know if you should have any questions regarding this information at (702) 633-1223.

Sincerely,


Jennifer E. Doody, PE CFM
Manager
Development and Flood Control Division

Mayor
Michael L. Montandon

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April 28, 2008

Chip Paulson
Montgomery Watson Harza
1800 California Street, Suite 2900
Denver, Co 80202

Re: NPDES Quarterly Report
Street, Drop Inlet and Detention Basin Cleaning

Dear Mr. Paulson:

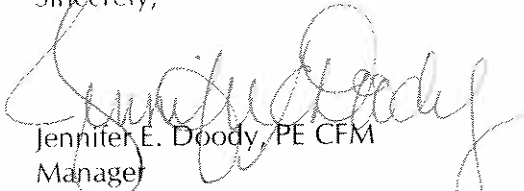
This letter is to serve as the City of North Las Vegas' quarterly report on street, drop inlet and detention basin cleaning activities. The following is a summary of the work that was completed during the period of January 2008 to March 2008.

Street Cleaning:	25,616 street miles were swept and 5,741 cubic yards of waste was removed.
Drop Inlet Cleaning:	17 drop inlets were cleaned and 722 cubic feet of waste was removed.
Detention Basins:	1 detention basins was cleaned and 12 cubic yards of waste was removed.

Additionally, there were 235 Industrial Stormwater Inspections performed and 3 Illicit Discharge Report responses.

Please let me know if you should have any questions regarding this information at (702) 633-1223.

Sincerely,



Jennifer E. Doody, PE CFM
Manager
Development and Flood Control Division

	04-05	05-06	06-07	07-08
Total number of Drop Inlets in the System	1,250	1,367	2,634	2,766
Total number of Drop Inlets inspected	37	39	228	128
% of Drop Inlets Inspected/Cleaned	3%	2.85%	9%	5%
Total Street Miles in the City			1,230	1,292
Total Street Miles Swept	36,801	49,272	87,168	74,202
Were the streets swept once/30 days?	yes	yes	yes	yes
Total Debris Removed from System	7,260	10,446	22,750	19,618
Total Illicit Discharge Report Responses		28	41	12
Total Industrial Inspections		179	1,444	845

Quarter	Number of Drop Inlets Cleaned	Amount of Debris Removed (cu ft)	Street Miles Swept	Amount of Debris Removed (cu yds)	Number of Detention Basins Cleaned	Amount of Debris Removed (cu yds)	Illicit Discharge Report Responses	Industrial Stormwater Inspections Performed
06/04 to 09/04	8	0	7,862	1,586	0	0		
10/04 to 12/04	7	32	9,027	1,843	0	0		
01/05 to 03/05	20	245	8,792	1,707	0	0		
04/05 to 06/05	2	180	11,120	1,667	0	0		
07/05 to 09/05	13	174	11,847	2,374	2	50		
10/05 to 12/05	2	5	12,385	2,157	3	169		
01/06 to 03/06	0	0	13,274	2,225	4	391		
04/06 to 06/06	24	190	11,766	2,410	2	302	28	179
07/06 to 09/06	23	356	16,233	3,131	0	0	21	335
10/06 to 12/06	19	135	19,926	4,166	2	0	0	376
01/07 to 03/07	134	1,163	26,000	6,123	5	1,019	14	455
04/07 to 06/07	52	316	25,009	5,889	2	452	6	278
07/07 to 09/07	79	567	19,737	4,603	2	97	2	347
10/07 to 12/07	32	475	28,849	7,124	2	277	7	263
1/08 to 3/08	17	722	25,616	5,741	1	12	3	235

Mayor
Michael L. Montandon

Council Members
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City Manager
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**Public Works Department - Dr. Qiong Liu, P.E., P.T.O.E., Director
Development & Flood Control**

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www.cityofnorthlasvegas.com

July 22, 2008

Chip Paulson
Montgomery Watson Harza
1800 California Street, Suite 2900
Denver, Co 80202

Re: NPDES Quarterly Report
Street, Drop Inlet and Detention Basin Cleaning

Dear Mr. Paulson:

This letter is to serve as the City of North Las Vegas' quarterly report on street, drop inlet and detention basin cleaning activities. The following is a summary of the work that was completed during the period of April 2008 to June 2008.

Street Cleaning:	26,053 street miles were swept and 5,764.5 cubic yards of waste was removed.
Drop Inlet Cleaning:	66 drop inlets were cleaned and 2,264 cubic feet of waste was removed.
Detention Basins:	3 detention basins were cleaned and 86 cubic yards of waste was removed.

Additionally, there were 455 Industrial Stormwater Inspections performed and 0 Illicit Discharge Report responses.

Please let me know if you should have any questions regarding this information at (702) 633-1223.

Sincerely,


Jennifer E. Doody, PE CFM
Manager
Development and Flood Control Division

	04-05	05-06	06-07	07-08
Total number of Drop Inlets in the System	1,250	1,367	2,634	2,690
Total number of Drop Inlets inspected	37	39	228	194
% of Drop Inlets Inspected/Cleaned	3%	2.85%	9%	7%
Total Street Miles in the City			1,230	1,292
Total Street Miles Swept	36,801	49,272	87,168	100,255
Were the streets swept once/30 days?	yes	yes	yes	yes
Total Debris Removed from System	7,260	10,446	22,750	27,733
Total Illicit Discharge Report Responses		28	41	12
Total Industrial Inspections		179	1,444	1,300

Quarter	Number of Drop Inlets Cleaned	Amount of Debris Removed (cu ft)	Street Miles Swept	Amount of Debris Removed (cu yds)	Number of Detention Basins Cleaned	Amount of Debris Removed (cu yds)	Illicit Discharge Report Responses	Industrial Stormwater Inspections Performed
06/04 to 09/04	8	0	7,862	1,586	0	0		
10/04 to 12/04	7	32	9,027	1,843	0	0		
01/05 to 03/05	20	245	8,792	1,707	0	0		
04/05 to 06/05	2	180	11,120	1,667	0	0		
07/05 to 09/05	13	174	11,847	2,374	2	50		
10/05 to 12/05	2	5	12,385	2,157	3	169		
01/06 to 03/06	0	0	13,274	2,225	4	391		
04/06 to 06/06	24	190	11,766	2,410	2	302	28	179
07/06 to 09/06	23	356	16,233	3,131	0	0	21	335
10/06 to 12/06	19	135	19,926	4,166	2	0	0	376
01/07 to 03/07	134	1,163	26,000	6,123	5	1,019	14	455
04/07 to 06/07	52	316	25,009	5,889	2	452	6	278
07/07 to 09/07	79	567	19,737	4,603	2	97	2	347
10/07 to 12/07	32	475	28,849	7,124	2	277	7	263
1/08 to 3/08	17	722	25,616	5,741	1	12	3	235
4/08 to 6/08	66	2,264	26,053	5,765	3	86	0	455

**CLARK COUNTY
FALL CHANNEL REPORT**

November 19, 2007

Chip Paulson
Montgomery Watson Harza
1801 California Street, 29th Floor
Denver, Colorado 80202

NPDES FALL 2007 SEMI-ANNUAL INSPECTION REPORT

Dear Mr. Paulson:

Provided for your use is the Fall 2007 Semi-annual NPDES Stormwater Discharge Inspection Report.

Should you have any additional questions or concerns, please call me at 702-455-7540. The office hours are Monday through Friday, 6:30 a.m. to 3:00 p.m.

Sincerely,

Gil Suckow
Senior Construction Management Inspector
Maintenance Management Division

GS:slh

Attachments

cc: Les Henley
Cameron Harper

Clark County

Storm Channel Inspection Report Fall 2007



LAS VEGAS VALLEY MS4 NPDES PERMIT

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART I – INSPECTION SUMMARY

During the period October 22, 2007, through November 15, 2007, Gil Suckow, Clark County Public Works, inspected open channels and detention basins located within the Las Vegas Valley under the jurisdiction of Clark County.

The purpose of the inspections was to inspect the channels and basins looking for illicit discharges or illegal connections along the facilities that contain dry weather flow.

Inspections are required to be conducted semi-annually by the Las Vegas NPDES Municipal Stormwater Permit. Co-permittees to this permit include the Clark County Regional Flood Control District, City of North Las Vegas, City of Las Vegas, City of Henderson, Clark County, and the Nevada Division of Transportation.

Weather during the period was generally clear to partly cloudy. Temperatures ranged from the upper seventies to mid forties.

The report identifies the channels and detention basins that were inspected and observations made. The report has been distributed throughout the Public Works Department to make them aware of the findings. Each division, as necessary, will determine follow-up actions.

Part II of the report identifies the channels and detention basins that were inspected (in alphabetical order). Part III of the report details the inspection findings. The attached map shows all of the storm conveyances that affect the County. Part IV identifies potential problems observed, actions taken and recommended follow-up activities.

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART II – CHANNELS/BASINS INSPECTED

Duck Creek Channel

Interstate-15 to the Wetlands boundary at Broadbent Blvd.

Flamingo Wash

Red Rock Detention Basin to the confluence of the Las Vegas Wash.

Las Vegas Wash

Lake Mead Boulevard to Owens Avenue; and,

Charleston Boulevard to Flamingo Rd.

Las Vegas Range Wash

Lamb Boulevard to the confluence of the Las Vegas Wash.

Tropicana Wash

Blue Diamond Turning Basin to the Confluence of the Flamingo Wash

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART III – INSPECTION FINDINGS

Duck Creek Channel

Las Vegas Blvd to the Wetlands boundary at Broadbent Blvd.

There was intermittent minor dry weather flow along the Duck Creek channel. The Lower Duck Creek Detention Basin was dry. The channel has groundwater discharge downstream of Tomiyasu Lane from a groundwater pump. Duck Creek Channel was under construction from Robindale Rd to Eastern Ave.

Flamingo Wash

Red Rock Detention Basin to the confluence of the Las Vegas Wash.

The Red Rock Detention basin was dry. Minor dry weather flow was observed along the Red Rock Channel to the Upper Flamingo Wash Detention Basin. Minor dry weather flow was observed along the Flamingo Wash channel to the Imperial Palace. The Flamingo Wash channel has dry weather flow from several casino groundwater-pumping facilities, which continued with minor inflows to the confluence of the Las Vegas Wash.

Several portions of the Flamingo Wash were under construction including those portions from Palos Verdes St to Cambridge.

Las Vegas Wash

Lake Mead Boulevard to Owens Ave.

There was minor dry weather flow from the Lake Mead structure.

Charleston Boulevard to Flamingo Rd.

There was dry weather flow along the wash.

Las Vegas Range Wash

Lamb Boulevard to the confluence of the Las Vegas Wash.

There was intermittent dry weather flow. The Confluence Detention Basin was dry. The Southern Nevada Water Authority (SNWA) Sloan Pumping Station was discharging a low volume of flow from their facility.

Tropicana Wash

Blue Diamond Turning Basin to the Confluence of the Flamingo Wash.

There was intermittent dry weather flow.

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART IV – POTENTIAL PROBLEMS OBSERVED, ACTIONS TAKEN AND RECOMMENDED FOLLOW-UP ACTIVITIES

Flamingo Wash

Construction activity was taking place along several sections of the Flamingo Wash. Partial BMP's were in place or No apparent BMP's were noted and all were referred to the Nevada Department of Environmental Protection (NDEP).

- Harmon Ave - 400 ft East of Jones Blvd – North Side - Drains to Flamingo Wash North Fork - PLC 163-24-201-005 – Partial BMP's.
- Flamingo Wash - Paradise Rd to Palos Verdes St – 300 ft North of Flamingo Rd - PCL 162-15-401-009 – Partial BMP's.
- Flamingo Wash - Swenson St to Cambridge Ave – 300 ft North of Flamingo Rd - PCL162-15-813-000 – Partial BMP's.
- Flamingo Wash – Spencer St to Tioga Way – PCL 162-14-501-02 – No apparent BMP's.
- Flamingo Wash – 1200 ft East of Eastern Ave – North Side of Channel – PCL 162-13-201-040 – No apparent BMP's.
- Flamingo Wash – Flamingo Rd & McLeod Dr – North East Corner – Drains to Flamingo Wash Van Buskirk Channel NE Corner - PCL 162-13-801-016 - Partial BMP's.

Duck Creek Channel

Construction activity was taking place along several sections of the Duck Creek Channel. Partial BMP's were in place or No apparent BMP's were noted and all were referred to NDEP.

- Las Vegas Blvd & Pebble Rd 1800 ft West – L5 Vegas – South Side - PCL 177-20-512-000 – No Apparent BMP's
- Las Vegas Blvd & Le Baron Ave – South Side – Eldorado Resorts Corp – - PCL 177-29-605-012 – Partial BMP's
- Richmar Ave & Giles pie St - SW Corner - PCL 177-21-417-006 – Partial BMP's
- Spencer St & Sur Este – East Side - Duck Creek Channel Improvements – Partial BMP's
- Eldorado Rd East of Spencer – Sprint Underground LLC – Burnham 1214 Power

Feeder – No Apparent BMP's

- Eldorado & Duck Creek Channel – Eldorado Estates – PCL 177-11-501-038 – No Apparent BMP's
- Pecos Rd & Warm Springs – South West Corner – PCL-177-12-519-000 – Partial BMP's
- Russell Rd & Annie Oakley Dr - North East Corner - PCL 161-30-816-001 – No Apparent BMP's
- Russell Rd & Palm Ave - SE Corner - PCL 161-32-102-001 – No Apparent BMP's
- Russell Rd & Nellis Blvd @ Duck Creek - PCL 161-28-401-017 – Partial BMP's
- Boulder Hwy & Desert Horizons Dr - North Side of Duck Creek – PCL 161-27-701-016 - PCL 161-27-701-015 – No Apparent BMP's
- Russell Rd & Hollywood Blvd @ Duck Creek South Side - PCL 161-27-701-016 – No Apparent BMP's
- Broadbent Blvd & Wetlands Park – Flamingo Trail Project - PCL 161-23-301-003 – No Apparent BMP's
- Tropicana Ave & Steptoe St – South East Corner - PCL 161-27-510-018 - No Apparent BMP's
- Tropicana Ave & Stephanie St – South Side – PCL 161-28-510-019 - No Apparent BMP's

Las Vegas Range Wash

- Alexander Rd 1300 ft East of Lamb Blvd – South side – PCL 140-08-111-001 – Potential violation - Referred to Department of Air Quality and Environmental Management (DAQEM)

Tropicana Wash

Construction activity was taking place along several sections of the Tropicana Wash. PartialNo apparent BMP's were noted and all were referred to NDEP.

- Multiple parcels in the area South of I-215, between Durango Rd and Decatur Blvd.



Department of Public Works

500 S Grand Central Pky • Box 554000 • Las Vegas NV 89155-4000
(702) 455-6000 • Fax (702) 455-6040

Denis Cederburg, P.E., Director • E-Mail: dic@co.clark.nv.us

May 1, 2008

Mr. Chip Paulson
Montgomery Watson Harza
1801 California Street, 29th Floor
Denver, Colorado 80202

NPDES SPRING 2008 SEMI-ANNUAL INSPECTION REPORT

Dear Mr. Paulson:

Provided for your use is the Spring 2008 Semi-annual NPDES Stormwater Discharge Inspection Report.

Should you have any additional questions or concerns, please call me at 702-455-7540. The office hours are Monday through Friday, 6:30 a.m. to 3:00 p.m.

Sincerely,

Gil Suckow
Senior Construction Management Inspector
Maintenance Management Division

GS:djt

Attachments

cc: Denis Cederburg, Director, Public Works
Les Henley, Deputy Director, Public Works
L. Cameron Harper, Manager, Maintenance Management Division

Clark County

Storm Channel Inspection Report Spring 2008



LAS VEGAS VALLEY MS4 NPDES PERMIT

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART I – INSPECTION SUMMARY

During the period April 7, 2008, through April 29, 2008, Gil Suckow, Clark County Public Works, inspected open channels and detention basins located within the Las Vegas Valley under the jurisdiction of Clark County.

The purpose of the inspections was to inspect the channels and basins looking for illicit discharges or illegal connections along the facilities that contain dry weather flow.

Inspections are required to be conducted semi-annually by the Las Vegas NPDES Municipal Stormwater Permit. Co-permittees to this permit include the Clark County Regional Flood Control District, City of North Las Vegas, City of Las Vegas, City of Henderson, Clark County, and the Nevada Division of Transportation.

Weather during the period was generally clear to partly cloudy. Temperatures ranged from the upper eighties to mid forties.

The report identifies the channels and detention basins that were inspected and observations made. The report has been distributed throughout the Public Works Department to make them aware of the findings. Each division, as necessary, will determine follow-up actions.

Part II of the report identifies the channels and detention basins that were inspected (in alphabetical order). Part III of the report details the inspection findings. The attached map shows all of the storm conveyances that affect the County. Part IV identifies potential problems observed, actions taken and recommended follow-up activities.

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART II – CHANNELS/BASINS INSPECTED

Duck Creek Channel

Interstate-15 to the Wetlands boundary at Broadbent Boulevard.

Flamingo Wash

Red Rock Detention Basin to the confluence of the Las Vegas Wash.

Las Vegas Wash

Charleston Boulevard to Flamingo Road.

Las Vegas Range Wash

Lamb Boulevard to the confluence of the Las Vegas Wash.

Tropicana Wash

Blue Diamond Turning Basin to the Confluence of the Flamingo Wash.

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART III – INSPECTION FINDINGS

Duck Creek Channel

Las Vegas Blvd to the Wetlands boundary at Broadbent Boulevard.

There was intermittent minor dry weather flow along the Duck Creek channel. The Lower Duck Creek Detention Basin was dry. The channel has groundwater discharge downstream of Tomiyasu Lane from a groundwater pump. Duck Creek Channel was under construction from Robindale Road to El Dorado Lane and from Silverado Ranch Road to Las Vegas Boulevard.

Flamingo Wash

Red Rock Detention Basin to the confluence of the Las Vegas Wash.

The Red Rock Detention basin was dry. Minor dry weather flow was observed along the Red Rock Channel to the Upper Flamingo Wash Detention Basin. Minor dry weather flow was observed along the Flamingo Wash channel to the Imperial Palace. The Flamingo Wash channel has dry weather flow from several casino groundwater-pumping facilities, which continued with minor inflows to the confluence of the Las Vegas Wash.

Several portions of the Flamingo Wash were under construction including those portions from Paradise Road to Palos Verdes Street and Swenson Street to Cambridge Street.

Las Vegas Wash

Charleston Boulevard to Flamingo Road.

There was dry weather flow along the wash.

Las Vegas Range Wash

Lamb Boulevard to the confluence of the Las Vegas Wash.

There was intermittent dry weather flow. The Confluence Detention Basin was dry.

Tropicana Wash

Blue Diamond Turning Basin to the Confluence of the Flamingo Wash.

There was intermittent dry weather flow.

LAS VEGAS VALLEY MS4 NPDES PERMIT

PART IV – POTENTIAL PROBLEMS OBSERVED, ACTIONS TAKEN AND RECOMMENDED FOLLOW-UP ACTIVITIES

Flamingo Wash

Construction activity was taking place along several sections of the Flamingo Wash. Partial BMP's were in place or No apparent BMP's were noted and all were referred to the Nevada Department of Environmental Protection (NDEP).

- Harmon Avenue - 400 feet East of Jones Boulevard – North Side - Drains to Flamingo Wash North Fork - PLC 163-24-201-005 – Partial BMP's.
- Flamingo Wash – Russell Road and Hualapai Way – West – PCL 16425010003 – Partial BMP's.
- Russell Road and I-215 – North Side – PCL 163-29-810-001 – No Apparent BMP's.
- Flamingo Wash - Paradise Road to Palos Verdes Street – 300 feet North of Flamingo Road - PCL 162-15-401-009 – Partial BMP's.
- Flamingo Wash - Swenson Street to Cambridge Street – 300 feet North of Flamingo Road - PCL162-15-813-000 – Partial BMP's.
- Flamingo Wash – 1200 feet East of Eastern Avenue – North Side of Channel – PCL 162-13-201-040 – No apparent BMP's.
- Flamingo Wash – Flamingo Road and McLeod Drive – North East Corner – Drains to Flamingo Wash Van Buskirk Channel North East Corner - PCL 162-13-801-016 - Partial BMP's.

Duck Creek Channel

Construction activity was taking place along several sections of the Duck Creek Channel. Partial BMP's were in place or No apparent BMP's were noted and all were referred to NDEP.

- Las Vegas Boulevard to Silverado Ranch Road, West of Giles pie Street - Duck Creek Channel Improvements – Partial BMP's
- Richmar Avenue and Giles pie Street – South West Corner - PCL 177-21-417-006 – Partial BMP's.

- Spencer Street and Sur Este Avenue - East Side - Duck Creek Channel Improvements – Partial BMP's.
- Eldorado Lane and Duck Creek Channel – Eldorado Estates – PCL 177-11-501-038 – No Apparent BMP's.
- Eastern Avenue and Eldorado Lane – South East Corner – PCL 177-12-201-002 – No Apparent BMP's.
- Green Valley Parkway and Patrick Lane – South West Corner – PCL 161-31-702-022 – No Apparent BMP's.
- Pecos Road and Warm Springs Road – South West Corner – PCL-177-12-519-000 – Partial BMP's.
- Boulder Highway and Desert Horizons Drive - North Side of Duck Creek – PCL 161-27-712-150 – No Apparent BMP's.
- Russell Road and Hollywood Boulevard – South Side of Duck Creek - PCL 161-27-801-005 – No Apparent BMP's.

Las Vegas Range Wash

- Lamont Avenue and San Miguel Road – South East Corner – PCL 140-05-816-054 – No apparent BMP'S.

Tropicana Wash

Construction activity was taking place along several sections of the Tropicana Wash. Partial BMP's were in place or No apparent BMP's were noted and all were referred to NDEP.

- Multiple parcels in the area South of I-215, between Durango Road and Decatur Boulevard.
- Harmon Avenue and Bermuda Road, North Side – PCL 162-21-615-003 – No Apparent BMP's.



CITY OF HENDERSON
240 Water Street
P. O. Box 95050
Henderson, NV 89009

December 19, 2007

Mr. Chip Paulson, P.E.
MWH
1801 California Street, Suite 2900
Denver, CO 80202

RE: NPDES FALL 2007 CHANNEL INSPECTION REPORT

Dear Mr. Paulson:

During the period of time between July 1 and December 31, 2007, the NPDES Fall channel inspections were conducted. The following is a summary of our observations:

LOWER PITTMAN WASH CHANNEL:

The inspections found a steady flow of water at various locations in the system:

1. 36" RCP at Warm Springs Road, nuisance flow from Warm Springs Road.
2. 18" RCP west bank at Warm Springs Road, nuisance flow.
3. Sunset Road Bridge, west side 14-inch PVC with flap gate. Heavy flow of ground water.
4. 8-inch weep holes at the Whitney Channel interconnect with a constant ground water flow.
5. Constant ground water flow from Whitney Channel into the Lower Pittman Wash Channel.
6. Lower Pittman at Stephanie, north side 10-inch PVC with a flap gate. Heavy flow of ground water.

UPPER PITTMAN CHANNEL:

The inspections found a steady flow of water at various locations in the system:

1. Groundwater discharging from under the UPRR Bridge (River Mile PTWA 0106).
2. Groundwater discharging from 18-inch pipe at Arroyo Grande Park (River Mile PTWA 047).

EAST C-1 DETENTION BASIN

The inspections found damage to the spillway of the detention basin:

1. Repair damaged concrete at the spillway (C1DC 0303).

There was no water stored in the detention basin at this time.

PIONEER DETENTION BASIN

The inspections found trash and sediment, and damage to the fence, at various locations in the detention basin:

1. Minor trash and sediment located at the outlet and low flow channel of the detention basin (River Mile PTVW 0185). This will be removed during the next scheduled maintenance.

There was no water stored in the detention basin at this time.

ARROYO GRANDE PARK DETENTION BASIN

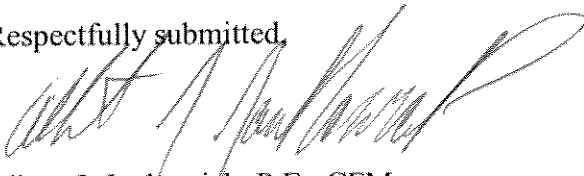
The inspections found no vegetation, sediment, or debris build-up in the detention basin.

There was no water stored in the detention basin at this time. However, the low flow channel conveys a steady flow of water to the Lower Pittman Channel System.

The remaining channels and detention basins in the system were inspected and found to be clean and dry with no maintenance required by City outside of the regularly scheduled inspections.

If you have any questions with the above information, please give me a call at 267-3024.

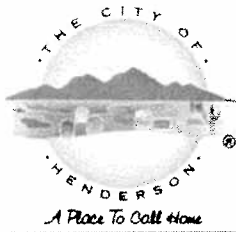
Respectfully submitted,



Albert J. Jankowiak, P.E., CFM
Project Engineer II
Public Works-Land Development

cc: Robert Murnane, Director Public Works
Curt Chandler, Land Development Manager

**COH SPRING
CHANNEL REPORT**



CITY OF HENDERSON
240 Water Street
P. O. Box 95050
Henderson, NV 89009

September 29, 2008

Mr. Chip Paulson, P.E.
MWH
1801 California Street, Suite 2900
Denver, CO 80202

RE: NPDES SPRING 2008 CHANNEL INSPECTION REPORT

Dear Mr. Paulson:

During the period of time between January 1 and June 30, 2008, the NPDES Spring channel inspections were conducted. The following is a summary of our observations:

DUCK CREEK CHANNEL:

The inspections found the channel to have some erosion and significant vegetation growth:

1. Remove vegetation and reshape unlined channel at next scheduled maintenance (River Mile DCWA 0669).

LOWER PITTMAN WASH CHANNEL:

The inspections found a steady flow of water at various locations in the system:

1. 36" RCP at Warm Springs Road, nuisance flow from Warm Springs Road.
2. 18" RCP west bank at Warm Springs Road, nuisance flow.
3. Sunset Road Bridge, west side 14-inch PVC with flap gate. Heavy flow of ground water.
4. 8-inch weep holes at the Whitney Channel interconnect with a constant ground water flow.
5. Constant ground water flow from Whitney Channel into the Lower Pittman Wash Channel.
6. Lower Pittman at Stephanie, north side 10-inch PVC with a flap gate. Heavy flow of ground water.

UPPER PITTMAN CHANNEL:

The inspections found a steady flow of water at various locations in the system:

1. Groundwater discharging from under the UPRR Bridge (River Mile PTWA 0106).
2. Groundwater discharging from 18-inch pipe at Arroyo Grande Park (River Mile PTWA 047).

SANDWEDGE CHANNEL:

The inspections found the channel to have some erosion and significant vegetation growth:

1. Remove vegetation and reshape unlined channel at next scheduled maintenance (River Mile PTSW 0000-0129).

EAST C-1 DETENTION BASIN

The inspections found damage to the spillway of the detention basin:

1. Repair damaged concrete at the spillway (C1DC 0303).

There was no water stored in the detention basin at this time.

MISSION HILLS DETENTION BASIN

The inspections found trash and sediment at various locations in the detention basin:

1. Minor trash and sediment located at the outlet Western Interceptor (River Mile C1CH 0871). This will be removed during the next scheduled maintenance.

There was no water stored in the detention basin at this time.

PIONEER DETENTION BASIN

The inspections found trash and sediment, and damage to the fence, at various locations in the detention basin:

1. Minor trash and sediment located at the outlet and low flow channel of the detention basin (River Mile PTVW 0185). This will be removed during the next scheduled maintenance.

There was no water stored in the detention basin at this time.

ARROYO GRANDE PARK DETENTION BASIN

The inspections found no vegetation, sediment, or debris build-up in the detention basin.

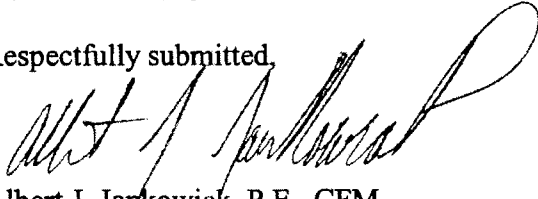
There was no water stored in the detention basin at this time. However, the low flow channel conveys a steady flow of water to the Lower Pittman Channel System.

The remaining channels and detention basins in the system were inspected and found to be clean and dry with no maintenance required by City outside of the regularly scheduled inspections.

Mr. Chip Paulson
September 29, 2008
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If you have any questions with the above information, please give me a call at 267-3024.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Albert J. Jankowiak". The signature is written in a cursive style with a large, looping initial "A".

Albert J. Jankowiak, P.E., CFM
Project Engineer II
Public Works-Land Development

cc: Robert Murnane, Director Public Works
Jonna Sansom, Engineering Services Manager

City of Las Vegas

Storm Channel Inspection Report Fall 2007



NPDES Municipal Separate Storm Sewer System Permit

RECEIVED

JAN - 4 2008

PART I: INSPECTION SUMMARY

On October 17 and 25, 2007, City of Las Vegas Department of Public Works staff visually inspected exposed storm channels and detention basins located within the City of Las Vegas, primarily focusing on those where dry weather flow persisted. John Solvie and Oh-Sang Kwon performed the inspections on October 17, 2007. John Solvie and Keith Letus performed the inspections on October 25, 2007.

The inspections were performed by visually observing open channel sections and looking for evidence of non-stormwater discharges. Emphasis was placed on those areas that had a reasonable potential of containing illicit discharges, exfiltration from the sanitary sewer system or other sources of non-stormwater. Also looked for were heavy sediment loads that may be associated with construction site runoff.

Weather conditions all days included sunny skies and light breezes. The high temperature was 76 ° F on October 17 and 84 ° F on October 25. There was no measurable rainfall immediately prior to the inspection days.

The report identifies the channels and detention basins that were inspected and the observations that were made. The Upper Las Vegas Wash Detention Basin, while located within the corporate boundaries of the City of Las Vegas, is not included in the inspections, as the City of North Las Vegas is responsible for both inspecting and maintaining this basin. The Beltway Channel, also located within the corporate boundaries of the City of Las Vegas, is no longer inspected for purposes of this report as Clark County is currently responsible for both inspecting and maintaining this channel.

The report has been internally distributed to the City Engineer Division and the Streets & Sanitation Division to make them aware of the findings. Follow-up actions by these Divisions will be determined and executed at their discretion.

Parts II and III of the report identifies the channels and detention basins that were inspected (in alphabetical order) and the dates they were inspected. Parts IV and V of the report details the inspection findings for each channel and detention basin including which ones contained exposed dry weather flow. Part VI of the report details actions taken and recommended follow-up activities. The attached map shows the majority of major above-ground and below-ground storm conveyances within the City of Las Vegas.

Storm channel inspections are conducted semi-annually as specified in the Las Vegas Valley Storm Water Management Plan for Municipal Separate Storm Sewer System. Current co-permittees of the Clark County NPDES Municipal Separate Storm Sewer System Permit, which became effective on June 19, 2003, include the Clark County Regional Flood Control District, City of Las Vegas, City of North Las Vegas, City of Henderson and Clark County.

PART II: CHANNELS INSPECTED

CHANNEL (Date Inspected)	PORTION INSPECTED
Angel Park / Summerlin Channel (10/25/07)	1) East/west channel located on the north side of Alta Dr, from the 215 Beltway to Town Center Dr 2) North/south channel located on the west side of Anasazi Dr, from Banbury Cross Dr to Summerlin Pkwy 3) East/west channel located on the south side of Summerlin Pkwy, from Anasazi Dr to Town Center Dr 4) Box culvert outlet located on the east side of Rampart Blvd, between Canyon Run Dr & Summerlin Pkwy (adjacent to the 2 nd hole on the Angel Park Par 3 "Cloud Nine" Golf Course)
Buffalo Channel (10/17/07)	North/south channel located between Buffalo Dr & Tenaya Way, from Washington Ave to the Gowan South Detention Basin
Capella Storm Drain (10/25/07)	Bubble up outlet on the north side of Capella Ave, located between Valley View Blvd & Procyon St (surface street flow continues eastward to the Freeway Channel at Sirius Ave)
Cedar Creek (10/25/07)	East/west channel located between Bonanza Rd & Stewart Ave, from Pecos Rd to Las Vegas Wash
Cheyenne Channel (10/17/07)	East/west channel located on the south side of Cheyenne Ave, from approximately 400' west of Spring Shadow Rd to the Gowan South Detention Basin
Freeway Channel (10/25/07)	North/south channel located on the west side of I-15, from the Desert Inn Arterial to Kings Way
Gilmore Channel (10/17/07)	1) East/west channel located along the south side of Gilmore Ave, extending one block east of Cliff Shadows Pkwy 2) East/west channel along the Gilmore Ave right-of-way, from the 215 Beltway to Lone Mountain Detention Basin
Gowan North Channel (10/17/07)	East/west channel located just south of Lone Mountain Rd, extending southward to the intersection of Alexander Rd and Durango Dr, the extending eastward to Buffalo Dr

CHANNEL (Date Inspected)	PORTION INSPECTED
Las Vegas Creek (10/25/07)	<ol style="list-style-type: none"> 1) East/west channel located on the south side of Alta Dr, from Bedford Rd to Valley View Blvd 2) East/west channel, turning into a north/south channel located east of Valley View Blvd, from Alta Dr to Meadows Detention Basin (inside the LVVWD property) 3) Large opening located on the southeast side of the US-95 / I-15 interchange 4) Opening located on the southeast side of US-95 and F St 5) Opening located on the southwest side of US-95 and the railroad tracks 6) North/south channel located on the east side of Veterans Memorial Dr, just north of Bonanza Way 7) Confluence of Las Vegas Creek and Las Vegas Wash
Las Vegas Wash (10/25/07)	North/south channel located between Pecos Rd and Nellis Blvd, from Owens Ave (just east of Stevens St) to Charleston Blvd (just west of Nellis Blvd)
Langtry Channel (10/25/07)	North/south channel located between Langtry Dr & Starks Dr, from Bonanza Rd to Washington Ave
Red Rock / Hualapai Collector (10/25/07)	North/south channel located on the east side of Hualapai Way and east/west channel located on the north side of Desert Inn Rd, extending one block northward and one block eastward of the Hualapai / Desert Inn intersection
US-95 Channels (10/17/07)	North/south channels located alongside US-95, from Kyle Canyon Rd to Vegas Dr
Miscellaneous channels (10/17/07 & 10/25/07)	Confirmed dry or underground miscellaneous channels throughout the City of Las Vegas

PART III: BASINS INSPECTED

BASIN <i>(Date Inspected)</i>	PORTION INSPECTED
Angel Park Detention Basins <i>(10/25/07)</i>	1) South side of Vegas Dr, just east of Rampart Blvd 2) West side of Durango Dr, at Westcliff Dr
Cam 10 Detention Basin <i>(10/17/07)</i>	West of 215 Beltway, north of Ann Rd
Elkhorn Springs Detention Basin <i>(10/17/07)</i>	West side of Buffalo Dr, between Sunny Springs Ln and Golden Talon Ave
Fort Apache Detention Basin <i>(10/17/07)</i>	Southwest side of Bath Dr and Fort Apache Rd
Gowan Detention Basins <i>(10/25/07)</i>	1) East side of Tenaya Way, from Cheyenne Ave to Peak Dr 2) East side of Tenaya Way, from Buckskin Ave to Gowan Rd 3) East side of Tenaya Way, from Gowan Rd to Alexander Rd
Lone Mountain Detention Basin <i>(10/25/07)</i>	North side of Gowan Rd, between Hualapai Way & Jensen St
Lone Mountain – Beltway Detention Basin <i>(10/17/07)</i>	Northwest, southwest and southeast sides of Lone Mountain Rd and the 215 Beltway
Meadows Detention Basin <i>(10/25/07)</i>	Southeast of US-95 and Valley View Blvd, inside the LVVWD property.
Mojave / US-95 Detention Basin <i>(10/25/07)</i>	North side of US-95, from Mojave Rd to 30 th St
Oakey Detention Basin <i>(10/17/07)</i>	West side of Torrey Pines Dr, from Oakey Blvd to O'Bannon Dr
Rainbow Detention Basin <i>(10/25/07)</i>	East and west side of Rainbow Blvd, just south of US-95
Rancho Alta Mira Detention Basin <i>(10/17/07)</i>	South side of Brookmere Dr & Blue Royal Dr
Rancho Detention Basin <i>(10/17/07)</i>	West side of Centennial Center Blvd, just south of Tropical Pkwy

BASIN <i>(Date Inspected)</i>	PORTION INSPECTED
Summerlin 5 Detention Basin <i>(10/17/07)</i>	West of Desert Foothills Dr, between Far Hills Ave & Alta Dr
Summerlin Village 7 Detention Basin <i>(10/17/07)</i>	North side of Village Center Cir and Trails Center Dr (Trails Park)
Village 26 Detention Basin <i>(10/17/07)</i>	West side of the 215 Beltway, south of Cheyenne Ave

PART IV: CHANNEL INSPECTION FINDINGS

ANGEL PARK / SUMMERLIN CHANNEL

- The exposed portions of the channel west of Town Center Dr are lined with concrete (to the 215 Beltway). The exposed channel east of Town Center Dr is an earthen wash to the Angel Park Detention Basin.
- There was minor flow in the exposed portions of the channel 1) along Alta Dr, and 2) where the channel becomes exposed on Anasazi Dr to Town Center Dr where it percolates into the ground. The water appeared clean.
- Algae was noted in the channel where the channel daylighted at Anasazi Dr and Banburry Cross Dr.
- Minor flow was noted in the channel at Town Center Dr.
- The box culvert outlet located adjacent to the 2nd hole on the Angel Park Par 3 "Cloud Nine" Golf Course had a minor flow, which entered a sediment trap. The water appeared clean. No odor was noted.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

BUFFALO CHANNEL

- The channel contained low intermittent flow throughout the channel. The water appeared clean and dissipated before reaching Gowan South Detention Basin.
- There was minor graffiti at various locations in the channel.
- The channel contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

CAPELLA STORM DRAIN

- The bubble up outlet located on the north side of Capella Ave, between Valley View Blvd & Procyon St, was dry.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

CEDAR CREEK

- The flow was low and constant throughout the channel. The water appeared clean.

- The channel contained minor algae on the bottom of the channel. No vegetation was noted.
- The channel contained very minor graffiti at various locations.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

CHEYENNE CHANNEL

- One of the expansion joints was deteriorating just west of Grand Canyon Dr. A photo was taken and sent to City of Las Vegas Flood Control.
- Deteriorating concrete was noted underneath Rampart Blvd and Soft Breezes Dr. Photos were taken and sent to City of Las Vegas Flood Control.
- Trickle flow entered the channel Rampart Blvd, which flowed continuously to the Gowan South Detention Basin. No sediment was noted at the entrance to the basin. The water appeared clean.
- There was graffiti underneath the underpasses.
- The channel contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

FREEWAY CHANNEL

- The water in the channel was very slow moving from Desert Inn Rd to Sirius Ave. The water appeared clean. Moderate sediment, trash, vegetation and debris were noted in the channel. The remainder of the channel was dry.
- The channel contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

GILMORE CHANNEL

- The channel on the west side of the 215 Beltway was dry.
- The channel on the east side of the 215 Beltway contained a low continuous flow to the Lone Mountain Detention Basin.
- During the previous inspection, it was noted that one of the bollards inside the channel on the east side of the 215 Beltway had been pulled out of the ground. The bollard has been replaced.

- The channel contained no visible evidence of illegal connections, illicit discharges or excessive debris.

GOWAN NORTH CHANNEL

- There was a minor intermittent flow entering the channel between Durango Dr and Buffalo Dr. The water appeared clean. The channel was dry from Durango Dr to Lone Mountain Rd.
- The channel contained no visible evidence of illegal connections, illicit discharges or excessive debris.

LANGTRY CHANNEL

- The flow was low and continuous. The water appeared clean.
- The channel joints showed signs of significant separation.
- The channel contained minor graffiti.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

LAS VEGAS CREEK

- The flow was low and continuous throughout the creek with minor algae. The water appeared clean.
- Construction activity continues inside Meadows Detention Basin and inside the Las Vegas Valley Water District property on the south side of US-95. The channel is enclosed between Meadows Detention Basin and US-95. The LVVWD property and the Meadows Detention Basin is becoming a public park.
- Moderate vegetation, minor algae, minor sediment and minor debris were noted inside the channel at the opening on the southeast side of the US-95 / I-15 interchange. A duck with eleven chicks were swimming in the channel. The water appeared clean.
- The channel at the opening on the southeast side of US-95 and F St was clean and contained minor flow. The water appeared clean.
- The channel at the opening next to the railroad tracks was clean and contained minor flow. The water appeared clean.
- The channel opening at Veterans Memorial Pkwy was clean and contained minor flow. The water appeared clean.

- The creek contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

LAS VEGAS WASH

- The flow was moderate & constant throughout the wash. The wash contained moderate algae and moderate vegetation. The water appeared clean.
- There was graffiti underneath the underpasses.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

MISCELLANEOUS CHANNELS

- No problems noted.

RED ROCK / HUALAPAI COLLECTOR

- There was a minor trickle on the east end of the channel originating from the neighborhood to the north. The water appeared clean.
- The channel contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

US-95 CHANNELS

- The channels were clean.
- The channels contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

PART V: BASIN INSPECTION FINDINGS

ANGEL PARK DETENTION BASINS

Angel Park North Basin

- The basin contained minor vegetation.
- The grate located on the northeast side of the basin was dry.
- The basin was dry and contained no visible evidence of illegal connections, excessive sediment or excessive debris.

Angel Park South Basin

- The basin contained little to no vegetation.
- A low flow channel has been dug along the bottom of the basin.
- The grate located on the southeast side of the basin contained trickle flow and minor graffiti. The water appeared clean.
- The small outlet structure on the east side of the basin was clean.
- The basin was dry and contained no visible evidence of illegal connections, excessive sediment or excessive debris.

CAM 10 DETENTION BASIN

- The basin was dry and clean. The outlet grate was clean.
- Chains between many of the concrete bollards surrounding the basin have been forcibly removed. The eye hooks have been broken off the bollards.
- The basin was dry and contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

ELKHORN SPRINGS DETENTION BASIN (Sunny Springs Park)

- The inlet grates located on the north, southeast and the east sides of the basin and the outlet grate located on the east side of the basin contained standing water. The water appeared clean. A water level sensor is located inside the outlet grate.
- Minor sediment was noted inside the inlet grate on the east side of the basin, and the inlet grate on the southeast side of the basin.

- Minor vegetation was noted in front of the inlet grate on the north side of the basin.
- A bolt was broken off from the outlet trash rack on the east side of the basin.
- There are areas of erosion in the basin adjacent to the north grate caused by runoff from Betsy Rhodes Elementary School, which is located next to the basin.
- The basin was dry and contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

FORT APACHE DETENTION BASIN

- Minor debris and sediment were noted inside the basin.
- Erosion was noted on the inlet ramp.
- Minor nuisance water from the Beltway Channel was flowing into the basin and in the bottom of the basin.
- Minor debris was noted on the outlet grate.
- The basin contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

GOWAN DETENTION BASINS

Gowan North Upper Detention Basin

- Minor vegetation was noted inside the basin.
- The inlet grate located at the northwest corner of the basin was clean and contained trickle flow. All of the water was flowing into the low flow diversion grate. The water appeared clean.
- The outlet grate located on the south side of the basin was clean. The low flow exit pipe contained minor flow.
- Moderate to large vegetation was noted in certain parts of the basin.
- Some of the chains have been removed between the bollards surrounding the basin and some of the bollards have been undermined from erosion and are tilting into the basin.
- The basin contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

Gowan North Lower Detention Basin

- The basin continues to be used as a soccer field.
- Moderate vegetation was noted in the abandoned low flow channel.
- The inlet grate located on the southeast corner of the basin was clean. There was standing water and minor sediment in the inlet pipe. The water appeared clean. The fence located on the side of the grate was broken.
- The inlet grate located on the southwest corner of the basin was dry and clean. A large chunk of concrete is broken off of the structure itself. A photo was taken and sent to City of Las Vegas Flood Control.
- The outlet grate located on the north side of the basin was clean and contained minor flow. The water appeared clean.
- The basin contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

Gowan South Detention Basin

- There was minor nuisance flow entering the basin at Cheyenne Channel. The water appeared clean.
- There was minor nuisance flow inside the exit grate. The water appeared clean. No garbage or debris was noted.
- A pressurized canister of refrigerant was noted inside the base. See Part VI for follow-up activities.
- There was minor vegetation growing inside the basin.
- The channel contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

LONE MOUNTAIN DETENTION BASIN

- Construction of the ball park is complete on the south of the basin.
- The basin contained little to no vegetation.
- The Gilmore Channel inlet ramp on the west side contained minor nuisance flow, which ran down the low-flow channel on the north side of the channel. The water appeared clean. The bottom of the ramp contained very minor sediment and debris.

- The inlet ramp on the south side of the basin was clean and dry.
- The inlet pipe on the southeast corner of the lower basin was clean and dry.
- The concrete inlet structure located on the west side of the basin contained minor sediment.
- The concrete outflow grate located on the northeast side of the basin was clean and dry.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

LONE MOUNTAIN – BELTWAY DETENTION BASIN

- The basin is very large and was still under construction at the time of the inspection.
- The large basin located on the west side of the 215 beltway is still used as a gravel pit.
- The basin was dry.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

MEADOWS DETENTION BASIN

- Work continues on converting the basin into a park by the LVVWD. The basin contains ponds, trees and vegetation, which has grown significantly since the last inspection.
- The inlet structure and outlet structure were clean. Part of the berm adjacent to the inlet structure has been cut back. A photo was taken and sent to City of Las Vegas Flood Control.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

MOJAVE / US-95 DETENTION BASIN

- The basin was dry.
- The low flow channel was dry and full of sediment and debris, which did not appear to be construction related.
- A large pile of decorative rock is being stockpiled in the southeast end of the basin.

- The basin contained very heavy vegetation where nuisance water enters at the southwest corner, presumably because the water no longer flows through the low flow channel.
- The entrance gate is significantly bent.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

OAKLEY DETENTION BASIN

- The basin contained little to no vegetation.
- Both inlet gates were chained and padlocked closed.
- The inlet grate located on the northwest side of the basin contained minor nuisance flow, standing water, minor sediment and graffiti. The water appeared clean.
- The inlet grate located on the southwest side of the basin contained minor standing water, minor sediment, and graffiti. The water appeared clean.
- The exit grate located on the northeast side of the basin contained minor nuisance flow. The water appeared clean. Debris covered the bottom 1/3 of the grate.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

RAINBOW DETENTION BASINS

Rainbow East Detention Basin

- The basin contained very minor vegetation.
- There was noticeable erosion on the walls of the basin. City of Las Vegas Flood Control was notified.
- A truck bed liner was sitting in the bottom of the basin, which was also noted during the previous inspection.
- The inlet structure on the northwest side of the basin was dry and contained moderate sediment. The manhole cover from an adjacent storm drain was not bolted down and came off, apparently during the last storm event. The cover was placed back on the manhole but is not bolted down.
- The two inlet structures on the south side of the basin were clean and contained minor nuisance. The water appeared clean.

- The outlet structure located on the east side of the basin contained very minor nuisance flow and minor debris. The water appeared clean.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

Rainbow West Detention Basin

- There was significant erosion on the walls. A photo was taken and sent to City of Las Vegas Flood Control.
- The bottom portion of the outlet grate was covered with debris.
- The inlet structure contained minor sediment.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

RANCHO ALTA MIRA DETENTION BASIN

- The basin is a small park.
- Minor landscaping rocks were collecting at the outlet grate.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

RANCHO DETENTION BASIN

- The inlet & outlet were clean.
- Major construction was being conducted inside the basin.
- The basin contained minor vegetation. Heavy vegetation and heavy erosion were noted at the inlet ramp.
- The inlet ramp located at the southwest corner of the basin was clean and dry.
- The inlet located on the northwest side of the basin contained standing water due to the outlet being sandbagged to prevent water from entering the basin (construction related). The water appeared clean. Minor vegetation was noted in front of the inlet structure.
- One of the two inlet pipes located on the northeast side of the basin are being re-plumbed to the outlet structure.

- The outlet grate located on the southeast side of the basin was dry.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

SUMMERLIN 5 DETENTION BASIN

- Approximately nine acres of the inside of the basin is still a plant nursery / staging area for Howard Hughes Corporation. Water tanks are located inside the basin. The temporary structure is still inside the basin. The basin was not entered because of the “no trespassing private property” signs posted around the outside of the basin.
- Apart from the plant nursery, the basin was dry.
- There was evidence of numerous bonfires in the channel west of the basin. The propane canisters that were noted in the channel during the previous inspection have been removed.
- A burned out car was noted west of the basin. LVMPD was notified.
- The basin contained no visible evidence of illegal connections, illicit discharges or excessive sediment.

SUMMERLIN VILLAGE 7 DETENTION BASIN

- The basin is a park with baseball fields.
- The outlet pipe on the east side of the basin contained rocks.
- Irrigation water was ponding in front of the outlet pipe and in other areas of the basin, apparently from over-watering.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

VILLAGE 26 DETENTION BASIN

- The basin was dry.
- The basin contained little to no vegetation, except for a grove of replanted Yucca plants from the adjacent Pulte Homes development that is under construction.
- The basin contained landscaping, block walls and paving as a demonstration project for the adjacent Pulte Homes development that is under construction. A photo was taken and sent to City of Las Vegas Flood Control.

- One of the horizontal bars was missing from the exit grate located on the north side of the channel. The inside of the grate contained minor rocks and trash.
- The basin contained no visible evidence of illegal connections, illicit discharges, excessive sediment or excessive debris.

PART VI: ACTIONS TAKEN AND RECOMMENDED FOLLOW-UP ACTIVITIES

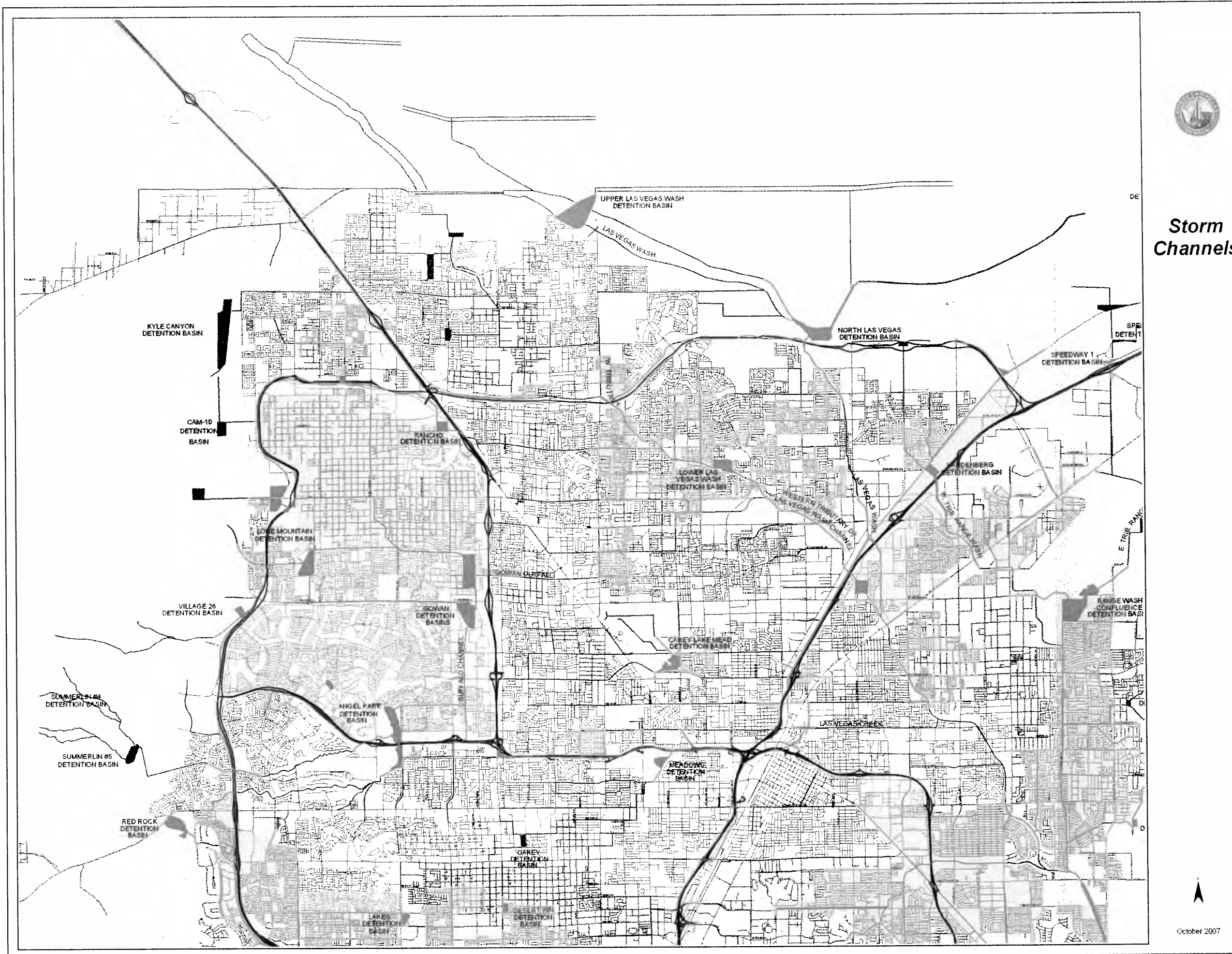
The canister of pressurized refrigerant that was noted in Gowan South Detention Basin has been hauled away by H2O Environmental.

The report has been internally distributed to the City Engineer Division and the Streets & Sanitation Division to make them aware of the findings. Follow-up actions by these Divisions will be determined and executed at their discretion.

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Storm Channels



City of Las Vegas

Storm Channel Inspection Report Spring 2008



NPDES Municipal Separate Storm Sewer System Permit

PART I: INSPECTION SUMMARY

On April 9 and 10, 2008, City of Las Vegas Department of Public Works staff visually inspected exposed storm channels and detention basins located within the City of Las Vegas, primarily focusing on those where dry weather flow persisted. John Solvie and Scott Schiefer of the Environmental Division performed the inspections.

The inspections were performed by visually observing open channel sections and looking for evidence of non-stormwater discharges. Emphasis was placed on those areas that had a reasonable potential of containing illicit discharges, exfiltration from the sanitary sewer system or other sources of non-stormwater. Also looked for were heavy sediment loads that may be associated with construction site runoff.

Weather conditions all days included sunny skies and high winds. The high temperature was 69° F on April 9 and 74° F on April 10. No measurable rainfall had fallen immediately prior to the inspection days.

Parts II and III of the report identify the channels and detention basins/tributaries that were inspected, the inspection findings and recommended follow-up activities. The attached map identifies the majority of major above-ground and below-ground storm conveyances within the City of Las Vegas.

The Upper Las Vegas Wash Detention Basin, while located within the corporate boundaries of the City of Las Vegas, is not included in the inspections, as the City of North Las Vegas is responsible for both inspecting and maintaining this basin. The Beltway Channel, also located within the corporate boundaries of the City of Las Vegas, is not inspected for purposes of this report as Clark County is responsible for both inspecting and maintaining this channel.

The report has been internally distributed to the City Engineer Division and the Streets & Sanitation Division. Follow-up actions by these Divisions will be determined and executed at their discretion.

Storm channel inspections are conducted semi-annually as specified in the Las Vegas Valley Storm Water Management Plan for Municipal Separate Storm Sewer System. Current co-permittees of the Clark County NPDES Municipal Separate Storm Sewer System Permit, which became effective on June 19, 2003, include the Clark County Regional Flood Control District, City of Las Vegas, City of North Las Vegas, City of Henderson and Clark County.

PART II: CHANNELS INSPECTED

Channel / Wash	ANGEL PARK / SUMMERLIN CHANNEL Alta Drive Segment	ANGEL PARK / SUMMERLIN CHANNEL Anasazi Drive Segment	ANGEL PARK / SUMMERLIN CHANNEL Summerlin Parkway Segment
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Segment Inspected	East/west channel located on the north side of Alta Dr, from the 215 Beltway to Town Center Dr	North/south channel located on the west side of Anasazi Dr, from Banburry Cross Dr to Summerlin Pkwy	East/west channel located on the south side of Summerlin Pkwy, from Anasazi Dr to the Angel Park Detention Basin
Dry Weather Flow	Minor flow. The water appeared clean.	Minor flow. The water appeared clean.	Minor flow to just past Town Center Dr where it percolated into the ground. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	Minor algae was noted where the channel daylights at Banburry Cross Dr	*
Graffiti	*	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	ANGEL PARK / SUMMERLIN CHANNEL Angel Park Golf Course Segment	BUFFALO CHANNEL Washington to Vegas Segment	BUFFALO CHANNEL Vegas to Lake Mead Segment
Date Inspected	April 10, 2008	April 9, 2008	April 9, 2008
Segment Inspected	Box culvert outlet located on the east side of Rampart Blvd, between Canyon Run Dr & Summerlin Pkwy (adjacent to the 2nd hole on the Angel Park Par 3 "Cloud Nine" Golf Course)	North/south channel located between Buffalo Dr & Tenaya Way, from Washington Ave to Vegas Dr	North/south channel located between Buffalo Dr & Tenaya Way, from Vegas Dr to Lake Mead Blvd
Dry Weather Flow	Minor flow. The water appeared clean.	Minor intermittent flow. The water appeared clean.	Minor intermittent flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	Minor	Minor
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	BUFFALO CHANNEL Lake Mead to Smoke Ranch Segment	BUFFALO CHANNEL Smoke Ranch to Gowan DB Segment	CAPELLA STORM DRAIN
Date Inspected	April 9, 2008	April 9, 2008	April 10, 2008
Segment Inspected	North/south channel located between Buffalo Dr & Tenaya Way, from Lake Mead Blvd to Smoke Ranch Rd	North/south channel located between Buffalo Dr & Tenaya Way, from Smoke Ranch Rd to the Gowan South Detention Basin	Bubble up outlet on the north side of Capella Ave, located between Valley View Blvd & Procyon St flowing eastward on surface streets to the Freeway Channel at Sirius Ave
Dry Weather Flow	Minor intermittent flow. The water appeared clean.	Minor intermittent flow. The water appeared clean.	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	Minor	Minor	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	CEDAR CREEK	CHEYENNE CHANNEL Spring Shadow to Grand Canyon Segment	CHEYENNE CHANNEL Grand Canyon to Rampart Segment
Date Inspected	April 10, 2008	April 9, 2008	April 9, 2008
Segment Inspected	East/west channel located between Bonanza Rd & Stewart Ave, from Pecos Rd to Las Vegas Wash	East/west channel located on the south side of Cheyenne Ave, from approximately 400' west of Spring Shadow Rd to the Grand Canyon Dr fire access bridge	East/west channel located on the south side of Cheyenne Ave, from the Grand Canyon Dr fire access bridge to Rampart Blvd
Dry Weather Flow	Low continuous flow throughout the channel. The water appeared clean.	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	Minor trash in the rip rip section.	*
Vegetation / Algae	Minor algae throughout	*	*
Graffiti	*	Underneath the overpasses	Underneath the overpasses
Other Observations	Construction underway on the north side of the channel (entire length)	*	Grate in block wall on the south side of the channel adjacent to "The Original Pancake House" @ 8260 W Cheyenne Ave has fallen down. Four dead rabbits were lying in the channel just west of Rampart Blvd.
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	CHEYENNE CHANNEL Rampart to Soaring Gulls Segment	CHEYENNE CHANNEL Soaring Gulls to Soft Breezes Segment	CHEYENNE CHANNEL Soft Breezes to Buffalo Segment
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Segment Inspected	East/west channel located on the south side of Cheyenne Ave, from Rampart Blvd to Soaring Gulls Dr	East/west channel located on the south side of Cheyenne Ave, from Soaring Gulls Dr to Soft Breezes Dr	East/west channel located on the south side of Cheyenne Ave, from Soft Breezes Dr to Buffalo Dr
Dry Weather Flow	Trickle flow entered the channel at Rampart Blvd and Soft Breezes Dr, which dissipated a short distance downstream. The water appeared clean.	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	Underneath the overpasses	Underneath the overpasses	Underneath the overpasses
Other Observations	The deteriorating concrete underneath Rampart Blvd that was noted during the last inspection has been repaired.	*	The deteriorating concrete underneath Soft Breezes Dr that was noted during the last inspection has been repaired.
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	CHEYENNE CHANNEL Buffalo to Gowan DB Segment	FREEWAY CHANNEL	GILMORE CHANNEL
Date Inspected	April 9, 2008	April 10, 2008	April 9, 2008
Segment Inspected	East/west channel located on the south side of Cheyenne Ave, from Buffalo Dr to the Gowan South Detention Basin	North/south channel located on the west side of I-15, from the Desert Inn Arterial to Kings Way	East/west channel located along the south side of Gilmore Ave, from west of Cliff Shadows Pkwy to the Lone Mountain Detention Basin
Dry Weather Flow	*	*	Minor intermittent flow west of the 215 Beltway. Minor flow on the east side of the 215 Beltway from Shadow Peak St to the Lone Mountain Detention Basin. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	Minor sediment. Did not appear to be construction related.	*
Debris / Trash	*	Minor debris and trash	*
Vegetation / Algae	*	Minor vegetation	*
Graffiti	Underneath the overpasses	*	*
Other Observations	*	*	Construction underway to extend the channel northwesterly from Cliff Shadows Pkwy
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	GOWAN NORTH CHANNEL North/South Segment	GOWAN NORTH CHANNEL East/West Segment	HOLMBY CHANNEL
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Segment Inspected	North/south channel located west of Durango Dr, from Durango Dr to Alexander Rd	East/west channel located south of Alexander Rd, from Durango Dr to Buffalo Dr	East/west channel located between Charleston Blvd and Del Rey Ave, from Monte Cristo Way to Rainbow Blvd
Dry Weather Flow	*	Minor intermittent flow east of Durango Dr. The water appeared clean.	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	Minor	*
Other Observations	Large water hose extended from a Frehner Construction stationary water tank adjacent into the covered portion of the channel underneath Lone Mountain Dr	*	*
Environmental Div. Follow-up Activities	Informed CLV Environmental Officer about Frehner Construction water truck hose	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	LANGTRY CHANNEL	LAS VEGAS CREEK Alta Drive Segment	LAS VEGAS CREEK Springs Preserve Segment
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Segment Inspected	North/south channel located between Langtry Dr & Starks Dr, from Bonanza Rd to Washington Ave	East/west channel located on the south side of Alta Dr, from Bedford Rd to Valley View Blvd	East/west channel, turning into a north/south channel located east of Valley View Blvd, from Alta Dr to Meadows Detention Basin (inside the Springs Preserve)
Dry Weather Flow	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	Minor debris	*	*
Vegetation / Algae	Minor algae	Minor vegetation and minor algae	*
Graffiti	Minor	Minor	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	LAS VEGAS CREEK Freeway Interchange Opening	LAS VEGAS CREEK F Street Opening	LAS VEGAS CREEK Railroad Tracks Opening
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Segment Inspected	Opening located on the southeast side of the US-95 / I-15 interchange	Opening located on the southeast side of US 95 and F St	Opening located on the southwest side of US 95 and the railroad tracks
Dry Weather Flow	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor sediment. Did not appear to be construction related.	*	*
Debris / Trash	Minor debris	*	*
Vegetation / Algae	Minor algae	Minor algae	Minor algae
Graffiti	*	*	Minor
Other Observations	*	Small unidentifiable electronic device was noted in the tributary box culvert in the south wall of the opening. Photo taken.	*
Environmental Div. Follow-up Activities	*	Photo forwarded to CLV Flood Control and CCRFCD for identification and possible action.	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	LAS VEGAS CREEK Veterans Memorial Drive Segment	LAS VEGAS CREEK Las Vegas Wash Confluence	LAS VEGAS WASH Owens to Lamb Segment
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Segment Inspected	North/south channel located on the east side of Veterans Memorial Dr, just north of Bonanza Way	Confluence of Las Vegas Creek and Las Vegas Wash	North/south channel from Owens Ave (just east of Stevens St) to Lamb Blvd (just north of Washington Ave)
Dry Weather Flow	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	Minor construction dumping on west side of wash, between Owens Ave and Lamb Blvd
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	Minor algae	*	Minor to moderate vegetation
Graffiti	*	*	Underneath the overpasses
Other Observations	*	*	The entrance chain at Owens Rd was down. The tributary entrance grate on north side of wash, east of Lamb Blvd, was down.
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	LAS VEGAS WASH Lamb to Washington Segment	LAS VEGAS WASH Washington to Bonanza Segment	LAS VEGAS WASH Bonanza to Stewart Segment
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Segment Inspected	North/south channel from Lamb Blvd (just north of Washington Ave) to Washington Ave (just west of Greenbank St)	North/south channel from Washington Ave (just west of Greenbank St) to Bonanza Rd (east of Marion Dr)	North/south channel from Bonanza Rd (east of Marion Dr) to Stewart Ave (west of Nellis Blvd)
Dry Weather Flow	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.	Low continuous flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	Couches and trash on south side of wash, just west of Bonanza Rd	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	Minor to moderate vegetation	Minor to moderate vegetation	Minor to moderate vegetation
Graffiti	Underneath the overpasses	Underneath the overpasses	Underneath the overpasses
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART II: CHANNELS INSPECTED

Channel / Wash	LAS VEGAS WASH Stewart to Charleston Segment	RED ROCK / HUALAPAI COLLECTOR	US-95 CHANNELS
Date Inspected	April 10, 2008	April 10, 2008	April 9, 2008
Segment Inspected	North/south channel from Stewart Ave (west of Nellis Blvd) to Charleston Blvd (west of Nellis Blvd)	North/south channel located on the east side of Hualapai Way and east/west channel located on the north side of Desert Inn Rd, extending one block northward and one block eastward of the intersection	North/south channels located alongside US-95, from Kyle Canyon Rd to Vegas Dr
Dry Weather Flow	Low continuous flow. The water appeared clean.	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	Minor debris and trash
Vegetation / Algae	Minor to moderate vegetation	*	*
Graffiti	Underneath the overpasses	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	ANGEL PARK NORTH DETENTION BASIN	ANGEL PARK NORTH DETENTION BASIN Northeast Outlet Structure	ANGEL PARK SOUTH DETENTION BASIN
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	South side of Vegas Dr, just east of Rampart Blvd	Grated outlet structure located on the northeast side of basin	West side of Durango Dr, at Westcliff Dr
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	Moderate vegetation
Graffiti	*	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	ANGEL PARK SOUTH DETENTION BASIN Southeast Inlet Structure	ANGEL PARK SOUTH DETENTION BASIN Lower East Outlet Pipe	ANGEL PARK SOUTH DETENTION BASIN Upper East Outlet Structure
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	Grated inlet structure located on the southeast side of basin	Small outlet pipe located on the east side of the basin at the base of the screw valve	Grated outlet structure located on the upper east side of the basin
Dry Weather Flow	Trickle flow. The water appeared clean.	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor. Did not appear to be construction related.	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	CAM 10 DETENTION BASIN	CAM 10 DETENTION BASIN Northeast Outlet Structure	ELKHORN SPRINGS DETENTION BASIN
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	West of 215 Beltway, north of Ann Rd	Grated outlet structure located on the northeast side of the basin	West side of Buffalo Dr, between Sunny Springs Ln and Golden Talon Ave (Sunny Springs Park)
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	The bollard chains and eyehooks that were noted in the last inspection as being forcibly removed have been repaired. Another bollard chain has been cut adjacent to the south access gate.	*	Areas of erosion on the northwest wall caused by runoff from Betsy Rhodes Elementary School
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	ELKHORN SPRINGS DETENTION BASIN North Inlet Structure	ELKHORN SPRINGS DETENTION BASIN South Inlet Structure	ELKHORN SPRINGS DETENTION BASIN East Inlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Grated inlet structure located on the north side of the basin	Grated inlet structure located on the south side of the basin	Grated inlet structure located on the east side of the basin
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	Minor rocks inside the structure	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	Coolant odor noted	*
Environmental Div. Follow-up Activities	*	Traced coolant odor upstream through adjacent residential neighborhood but was unable to locate the source	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	ELKHORN SPRINGS DETENTION BASIN East Outlet Structure	FORT APACHE DETENTION BASIN	FORT APACHE DETENTION BASIN Southwest Inlet Ramp
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Grated outlet structure located on the east side of the basin	Southwest side of Bath Dr and Fort Apache Rd	Inlet ramp located on the southwest side of the basin
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor rocks inside the structure	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	Bolt missing from the trash rack	*	Increasing erosion was noted on the inlet ramp
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	FORT APACHE DETENTION BASIN Southeast Outlet Structure	GOWAN NORTH UPPER DETENTION BASIN	GOWAN NORTH UPPER DB Northwest Inlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Grated outlet structure located on the southeast side of the basin	East side of Tenaya Way, from Gowan Rd to Alexander Rd	Grated inlet structure located on the northwest side of the basin
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor sediment inside the structure. Did not appear to be construction related.	*	*
Debris / Trash	Minor debris inside the structure	*	*
Vegetation / Algae	*	Minor vegetation	*
Graffiti	*	*	*
Other Observations	*	The bollard chains that were noted in the last inspection as being missing replaced. Some of the bollards have undermined by erosion and are tilting into the basin.	One of the grates was propped open with a large rock
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	GOWAN NORTH UPPER DB South Outlet Structure	GOWAN NORTH LOWER DETENTION BASIN	GOWAN NORTH LOWER DB Southeast Inlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Grated outlet structure located on the south side of the basin	East side of Tenaya Way, from Buckskin Ave to Gowan Rd (Buckskin Park soccer field)	Inlet structure located on the southeast side of the basin
Dry Weather Flow	Minor standing water. The water appeared clean.	*	Minor flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor sediment inside the structure. Did not appear to be construction related.	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	Grass soccer fields	*
Graffiti	*	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	GOWAN NORTH LOWER DB Southwest Inlet Structure	GOWAN NORTH LOWER DB North Outlet Structure	GOWAN SOUTH DETENTION BASIN
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Fenced inlet structure located on the southwest side of the basin	Grated outlet structure located on the north side of the basin	East side of Tenaya Way, from Cheyenne Ave to Peak Dr
Dry Weather Flow	*	Minor standing water. The water appeared clean.	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	Minor trash in the rip rap near the Cheyenne Channel inlet
Vegetation / Algae	*	*	Moderate vegetation
Graffiti	*	*	*
Other Observations	The large chunk of concrete that was noted as missing during the last inspection has been replaced	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	GOWAN SOUTH DETENTION BASIN Buffalo Channel Inlet Ramp	GOWAN SOUTH DETENTION BASIN Cheyenne Channel Inlet Ramp	GOWAN SOUTH DETENTION BASIN Northeast Outlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Buffalo Channel inlet ramp located on the south side of the basin	Cheyenne Channel inlet ramp located on the west side of the basin	Grated outlet structure located on the northeast side of the basin
Dry Weather Flow	*	*	Minor flow. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	Minor inside the grated structure
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	LONE MOUNTAIN DETENTION BASIN	LONE MOUNTAIN DETENTION BASIN Gilmore Channel Inlet Ramp	LONE MOUNTAIN DETENTION BASIN West Inlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	North side of Gowan Rd, between Hualapai Way & Jensen St	Gilmore Channel inlet ramp located on the west side of the basin	Inlet structure located on the west side of the basin
Dry Weather Flow	*	Minor flow. The water appeared clean.	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	Minor sediment. Did not appear to be construction related.	*
Debris / Trash	*	Minor debris	*
Vegetation / Algae	*	*	*
Graffiti	*	*	Minor
Other Observations	Erosion noted on the west wall of the basin	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	LONE MOUNTAIN DETENTION BASIN Southeast Inlet Pipe	LONE MOUNTAIN DETENTION BASIN North Outlet Structure	LONE MTN - BELTWAY DETENTION BASIN
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Inlet pipe located on the southeast side of the basin	Grated outlet structure located on the north side of the basin	Northwest, southwest and southeast sides of Lone Mountain Rd and the 215 Beltway
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	Minor sediment. Did not appear to be construction related.	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	*	Facility is an operating gravel pit. Erosion noted on walls.
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	MEADOWS DETENTION BASIN	MEADOWS DETENTION BASIN Las Vegas Creek Inlet Structure	MOJAVE / US-95 DETENTION BASIN
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	Southeast of US-95 and Valley View Blvd, inside the Springs Preserve	Las Vegas Creek inlet structure located on the south side of the basin	North side of US-95, from Mojave Rd to 30th St
Dry Weather Flow	*	Dark stagnant standing water adjacent to the inlet structure	Ponding water due to the flow bypassing the low flow channel. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	Minor sediment in the low flow channel diverting the flow. Did not appear to be construction related.
Debris / Trash	*	*	*
Vegetation / Algae	*	*	Large vegetation that was noted during previous inspection has been removed
Graffiti	*	*	*
Other Observations	Springs Preserve wetlands project	*	Decorative rock being stockpiled in the southeast end of the basin. The bent entrance gate that was noted during the last inspection has been replaced.
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	OAKEY DETENTION BASIN	OAKEY DETENTION BASIN Southwest Inlet Structure	OAKEY DETENTION BASIN Northwest Inlet Structure
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	West side of Torrey Pines Dr, from Oakey Blvd to O'Bannon Dr	Grated inlet structure located on the southwest side of the basin	Grated inlet structure located on the northwest side of the basin
Dry Weather Flow	*	Minor standing water. The water appeared clean.	Minor flow and standing water. The water appeared clean.
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	Minor sediment. Did not appear to be construction related.	Minor sediment. Did not appear to be construction related.
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	Moderate	Moderate
Other Observations	*	Black residue noted outside the structure, which appeared to have been caused by the dislodging of stagnant sediment during a storm event	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	OAKEY DETENTION BASIN Northeast Outlet Structure	RAINBOW EAST DETENTION BASIN	RAINBOW EAST DETENTION BASIN Northwest Inlet Structure
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	Grated outlet structure located on the northeast side of the basin	East side of Rainbow Blvd, just south of US-95	Grated inlet structure located on the northwest side of the basin
Dry Weather Flow	Minor standing water. The water appeared clean.	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	Erosion noted on the walls of the basin	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	RAINBOW EAST DETENTION BASIN South Inlet Structures	RAINBOW EAST DETENTION BASIN East Outlet Structure	RAINBOW WEST DETENTION BASIN
Date Inspected	April 10, 2008	April 10, 2008	April 10, 2008
Location	Grated inlet structures located on the south side of the basin	Grated outlet structure located on the east side of the basin	West side of Rainbow Blvd, just south of US-95
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	*	Significant erosion on south wall, some of which as collapsed. Silt fencing was collapsing along the south wall of the basin (US-95 expansion project construction site).
Environmental Div. Follow-up Activities	*	*	Notified NDEP by telephone of the construction site BMP issue

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	RAINBOW WEST DETENTION BASIN South Inlet Structure	RAINBOW WEST DETENTION BASIN North Outlet Structure	RANCHO ALTA MIRA DETENTION BASIN
Date Inspected	April 10, 2008	April 10, 2008	April 9, 2008
Location	Grated inlet structure located on the south side of the basin	Grated outlet structure located on the north side of the basin	South side of Brookmere Dr & Blue Royal Dr (neighborhood park)
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor sediment inside the structure. Did not appear to be construction related.	*	*
Debris / Trash	*	Bottom portion of the grate was covered with debris	*
Vegetation / Algae	*	*	Grass
Graffiti	*	*	*
Other Observations	*	*	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	RANCHO ALTA MIRA DETENTION BASIN Outlet Structure	RANCHO DETENTION BASIN	RANCHO DETENTION BASIN Southwest Inlet Ramp
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Grated outlet structure located in the center of the basin	West side of Centennial Center Blvd, just south of Tropical Pkwy	Inlet ramp located on the southwest side of the basin
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	Minor sediment inside the structure. Did not appear to be construction related.	*	*
Debris / Trash	*	*	Moderate debris
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	Major construction inside the basin ongoing	*
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	RANCHO DETENTION BASIN West Inlet Ramp	RANCHO DETENTION BASIN Northwest inlet Structure	RANCHO DETENTION BASIN Southeast Outlet Structure
Date Inspected	April 9, 2008	April 9, 2008	April 9, 2008
Location	Inlet ramp located on the west side of the basin	Inlet structure located on the northwest side of the basin	Grated outlet structure located on the southeast side of the basin
Dry Weather Flow	*	Standing water due to construction sandbagging. The water appeared clean.	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	*	*
Graffiti	*	*	*
Other Observations	*	Under construction	Under construction
Environmental Div. Follow-up Activities	*	*	*

* None noted

PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	SUMMERLIN 5 DETENTION BASIN	SUMMERLIN 26 DETENTION BASIN	SUMMERLIN 26 DETENTION BASIN Northeast Outlet Structure
Date Inspected	April 10, 2008	April 9, 2008	April 9, 2008
Location	West of Desert Foothills Dr, between Far Hills Ave & Alta Dr	West side of the 215 Beltway, south of Cheyenne Ave	Grated outlet structure located on the northeast side of the basin
Dry Weather Flow	*	*	*
Illegal Connections	*	*	*
Illicit Discharges	*	*	*
Illegal Dumping	*	*	*
Sediment / Rocks	*	*	*
Debris / Trash	*	*	*
Vegetation / Algae	*	Minor vegetation	*
Graffiti	*	*	*
Other Observations	Approximately 9 acres of the basin is a plant nursery / staging area for Howard Hughes Corporation. Large water tanks are located inside the basing for irrigating the plant nursery. The basin is still the property of Howard Hughes Corporation and "no trespassing - private property" signs are posted around the basin.	A plant nursery and block wall/paving demonstration project for Pulte Homes is located inside the basin (activity permitted per CLV Flood Control). The basin contained evidence of major ATV activity.	One of the horizontal grate bars has been removed
Environmental Div. Follow-up Activities	*	*	*

* None noted

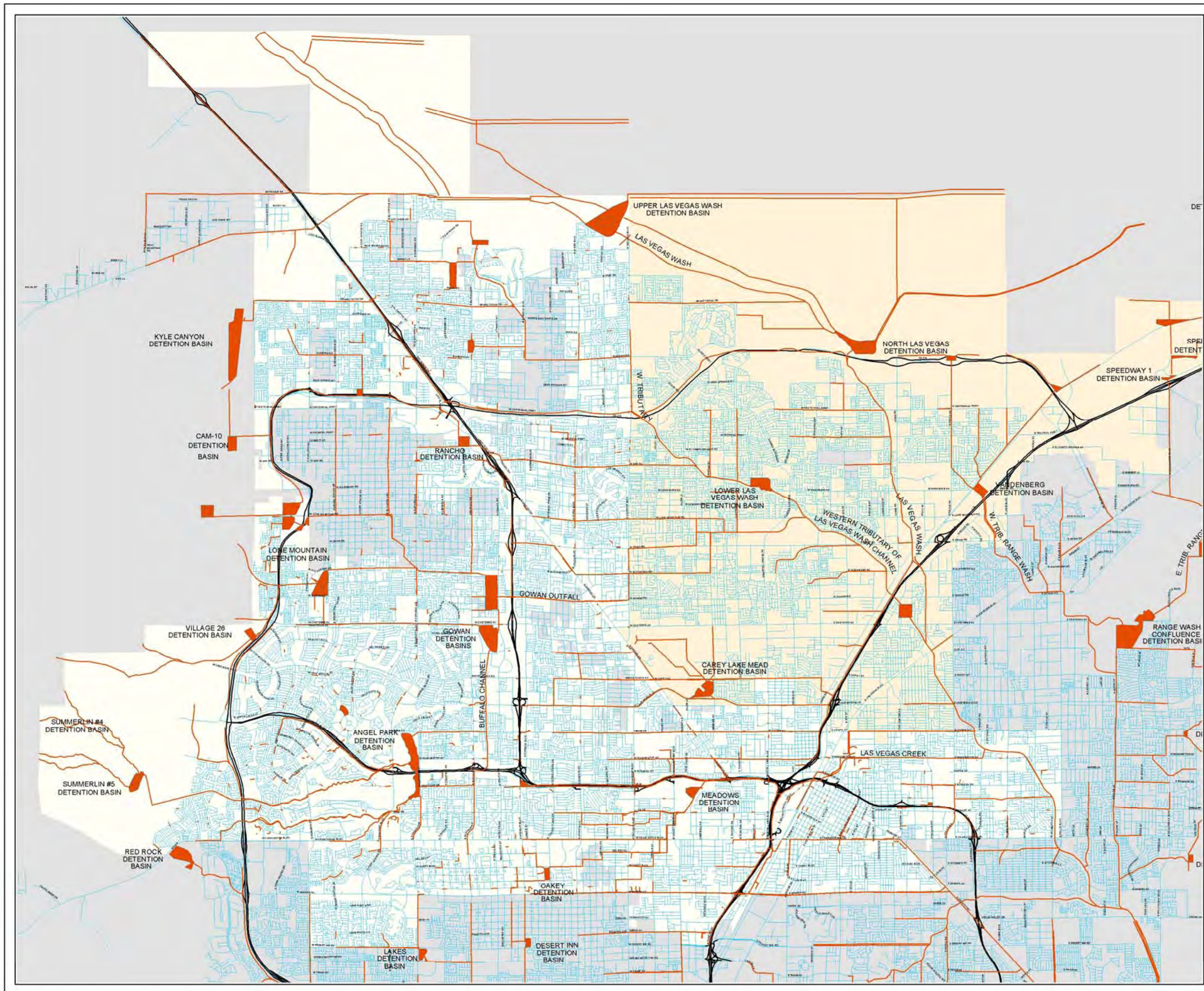
PART III: BASINS / BASIN TRIBUTARIES INSPECTED

Basin / Basin Tributary	SUMMERLIN VILLAGE 7 DETENTION BASIN	SUMMERLIN VILLAGE 7 DB South Outlet Pipe
Date Inspected	April 10, 2008	April 10, 2008
Location	North side of Village Center Cir and Trails Center Dr (Trails Park)	Outlet pipe located on the south side of the basin
Dry Weather Flow	*	*
Illegal Connections	*	*
Illicit Discharges	*	*
Illegal Dumping	*	*
Sediment / Rocks	*	Moderate rocks inside the outlet pipe
Debris / Trash	*	*
Vegetation / Algae	Grass (ball fields)	*
Graffiti	*	*
Other Observations	*	*
Environmental Div. Follow-up Activities	*	*

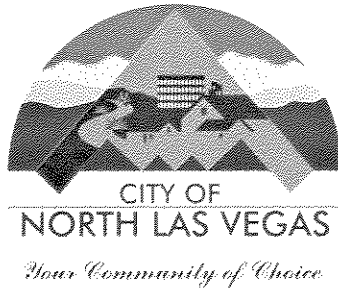
* None noted



Storm Channels



April 2008



City of North Las Vegas

Storm Channel Inspection Report Fall 2007

Clark County NPDES Municipal Separate Storm Sewer System Permit

Permit Number NV0021911

PART I: INSPECTION SUMMARY

On October 15th and 16th and 17th, 2007 Doug Robinson, Heavy Equipment Operator for the City of North Las Vegas performed the semi-annual inspection of the Las Vegas Wash channels, tributaries, and detention basins in the Central Region under jurisdiction of the City of North Las Vegas. Visual inspections were performed on the exposed storm water channel sections and the detention basins. The main purpose for the inspection was to look for illegal discharges to the storm water collection system.

This report has been internally distributed to the Roadway Operations Division and the Operations Division of the Utilities Department and Development and Flood Control Division of Public Works. The responsible sections will perform follow-up actions to remediate noted comments.

Storm channel inspections are conducted semi-annually as specified in the Las Vegas Valley Storm Water Management Plans for Municipal Separate Storm Sewer System (September 2003). Co-permittees of the Clark County NPDES Municipal Separate Sewer System permit, which became effective on June 19, 2003, including the Clark County Regional Flood Control District, Clark County, Henderson, City of Las Vegas, City of North Las Vegas and the Nevada Department of Transportation.

There were no illegal discharges detected during these inspections.

PART II: CHANNELS / BASINS INSPECTED

CHANNEL / BASIN (Date Inspected)	PORTION INSPECTED
Las Vegas Wash - Middle LVMD October 15, 2007	North/South channel between Lake Mead Boulevard and Decatur Boulevard
Lower Las Vegas Wash Detention Basin LVMD 2050 October 16, 2007	Detention Basin located between Camino Al Norte and Clayton Street
Cheyenne Peaking Basin LVMD 1645 October 15,2007	Detention Basin located between Cheyenne Avenue and Gowan Road.
Las Vegas Wash - N Channel LVNC October 15,2007	North/south channel between just south of Cheyenne Avenue and I-15
King Charles - N Channel LVKC October 15, 2007	East/west channel between Alexander Road and the King Charles Channel.
Las Vegas - King Charles Channel LVKC October 15, 2007	North/south channel between Gowan Road/I-15 and Craig Road
Upper Las Vegas Wash LVUP October 16, 2007	North/south channel between Craig Road and La Madre Street
Range Wash - West Tributary RWWE October 16, 2007	North/south channel between Craig Road and Vandenberg Detention Basin
Vandenberg Detention Basin RWWE 0170 October 16, 2007	Detention Basin located between Donovan Way and I-15
Range Wash - Railroad Channel RWRR October 16,2007	North/south channel between Vandenberg Detention Basin and northside of the Union Pacific Railroad tracks
Tributary to Western Tributary at Alexander Road October 15, 2007	West/east channel between North 5 th Street and Las Vegas Wash - Middle

CHANNEL / BASIN (Date Inspected)	PORTION INSPECTED
Tributary to Western Tributary at Craig Road October 15, 2007	West/east channel between Alexander Road and Las Vegas Wash - Middle
Gowan Outfall Facilities GOOF October 16, 2007	West/east channel between Ferrell Street and Las Vegas Wash - Middle
Las Vegas - Brooks LVBR October 15, 2007	West/east channel between North 5 th Street and west side of the Union Pacific Railroad tracks
Freeway Channel LV15 October 15, 2007	South/north channel between Lake Mead Boulevard and Gowan Road.
Las Vegas Wash - Smoke Ranch LVSR October 15, 2007	West/east channel between Losee Road and Freeway Channel
Las Vegas Wash - Colton LVCL October 15, 2007	West/east channel from the westside of Losee Road and Freeway channel
Carey - Lake Mead Detention Basin LVLM 0223 October 16,2007	Detention Basin located Between Carey Avenue and Lake Mead Boulevard
North Las Vegas Detention Basin LVUP 0405 Unable to access - Area fenced off	Detention Basin located between 215 & Elkhorn Road
Range Wash - Las Vegas Wash Diversion Levee LVRW 0293 October 17, 2007	East/west levee Nellis Air Base property and the North Las Vegas Detention Basin
Upper Las Vegas Wash Detention Basin LVUP 0910 October 17, 2007	Detention Basin located between Jones Boulevard and Decatur Boulevard
Kyle Canyon Detention Basin LVMD 3315 October 17, 2007	Detention Basin located between Nickelson Street and Mainwal Boulevard

PART III: INSPECTION RESULTS

LAS VEGAS WASH - MIDDLE CHANNEL

- At intersection of Lake Mead Boulevard and Pecos Road:
Great condition; Minimal flow from the City of Las Vegas.
- Halfway between Lake Mead Boulevard and Carey Avenue:
Great condition; Minimal flow from the City of Las Vegas. Minor erosion on banks and vegetation removal on west bank where culverts discharge into channel.
- At intersection of Carey Avenue:
Great condition; Minimal flow from the City of Las Vegas.
- Halfway between Carey Avenue and Las Vegas Boulevard:
Fair condition; Minimal flow from the City of Las Vegas. Vegetation in channel needs to be removed. Channel needs to be reshaped and maintenance roads rebuilt. Section of Fence missing on east side between swap meet parking lot and channel.
- At intersection of Las Vegas Boulevard North:
Great condition; Minimal flow from the City of Las Vegas. Sediment buildup underneath bridge needs to be removed.
- Cartier Drain/Channel south of intersection of Las Vegas Boulevard North:
Fair condition; Minimal flow. Vegetation/debris needs to be removed. Channel drains to "A" Channel east of Belmont Street.
- Cartier Drain/Channel at Belmont Street:
Good condition; no flow. Homeless have encamped resulting in trash on the east and west sides of channel.
- Halfway between Las Vegas Boulevard North and Cheyenne Avenue:
Good condition; Minimal flow from the City of Las Vegas. Minor erosion on banks and maintenance roads are in need of repair.
- At intersection of Cheyenne Avenue:
Great condition; Moderate (not excessive) flow from the City of Las Vegas.
- At intersection of Civic Center Drive:
Great condition; Moderate (not excessive) flow from the City of Las Vegas.
- At intersection of Interstate 15 overpass:
Great condition; Moderate (not excessive) flow emanating from channel paralleling I-15 south from the City of Las Vegas. Channel paralleling I-15 to the north has no flow. Gate entrance at the north end of Bullock replaced since Spring inspection.

- Losee Road:
Great condition; Slight nuisance flow from businesses irrigation runoff.
- At Alexander Road:
Great condition; Slight nuisance flow from businesses irrigation runoff. Three sections of chain link fencing repaired since spring inspection.
- At intersection of Craig Road:
Great condition; Slight nuisance flow from businesses and residential irrigation runoff.
- At Commerce Street:
Great condition; slight nuisance flow.
- At intersection of Camino Al Norte:
Great condition; slight nuisance flow from businesses and residential irrigation runoff along Camino Al Norte.

LOWER LAS VEGAS WASH DETENTION BASIN

- Basin dry; No signs of illegal discharge
- Concrete apron on top south side of dam shifting with major separation.
- Stem wall on downstream south side of dam pushed out eight (8) inches.
- Minor sediment build-up and minor trash/debris at basin outflow grates.
- Chain between ballard posts at east end of Hammer replaced since spring inspection.
- Construction in basin for park/soccer field was completed in June.

CHEYENNE PEAKING BASIN

- Basin dry; Minor vegetation.
- No signs of illegal discharge.
- Moderate nuisance water flow in channel.
- Minor debris in concrete lined portion of channel.

LAS VEGAS WASH – N CHANNEL

- Fair condition, vegetation growing in bottom of channel Gowan to Cheyenne.

- No signs of illegal discharge.
- Tree growing in concrete lined portion just south of Cheyenne bridge.

KING CHARLES – N CHANNEL

- Great condition, channel dry.
- No signs of illegal discharge.

LAS VEGAS – KING CHARLES CHANNEL

- Great condition, channel dry.
- Three sections of chain link fencing with holes.
- No signs of illegal discharge.

UPPER LAS VEGAS WASH

- Good condition, channel dry.
- No signs of illegal discharge.

RANGE WASH – WEST TRIBUTARY

- Good condition, channel dry.
- Concrete in channel on both east & west sides half way between Craig & Lone Mountain.
- No signs of illegal discharge.

VANDENBERG DETENTION BASIN

- Basin dry.
- No signs of illegal discharge.
- Minor vegetation and sediment buildup in and around outflow area.

RANGE WASH – RAILROAD CHANNEL

- Channel dry.
- No signs of illegal discharge.

TRIBUTARY TO WESTERN TRIBUTARY AT ALEXANDER ROAD

- Channel dry.
- No signs of illegal discharge.

TRIBUTARY TO WESTERN TRIBUTARY AT CRAIG ROAD

- Channel dry.
- No signs of illegal discharge.

GOWAN OUTFALL CHANNEL

- At intersection of Camino Al Norte:
Great condition; Channel dry; Three sections of chain link fencing with holes from Camion Al Norte to convergence with NLV02.
- At intersection of Clayton Avenue:
Great condition; Channel dry; Between Simmons & Clayton two sections of chain link fencing with holes.
- At intersection of Simmons Street:
Great condition; Channel dry; Top of stem wall pushing out approximately 3" on north side 50' west of Simmons.
- At intersection of Ferrell Street:
Great condition; Channel dry; Hole in north side of fence 200' east of Ferrell.

LAS VEGAS – BROOKS

- Great condition; Channel dry.
- No signs of illegal discharge.

FREEWAY CHANNEL

- Channel has moderate flows from the City of Las Vegas.
- No illegal discharge.
- NDOT maintains channel south of Cheyenne Avenue to Lake Mead Boulevard.

LAS VEGAS WASH – SMOKE RANCH

- Channel has moderate flows.
- No illegal discharge.
- Vegetation removed since spring inspection.

LAS VEGAS WASH – COLTON

- Fair condition; Slight nuisance flows from commercial irrigation along Losee Road and Colton Avenue. Trees/vegetation need to be removed between Losee Road and the railroad.
- No signs of illegal discharge.

CAREY – LAKE MEAD DETENTION BASIN

- Basin dry with minor vegetation.
- Outflow grate covered with debris.
- Trees and bushes growing around inflow on Lake Mead side.
- Trees/weeds at inlet to basin from airport removed since spring inspection.
- No signs of illegal discharge.

NORTH LAS VEGAS DETENTION BASIN

- Unable to inspect basin; Access area has been fenced off since spring inspection.

RANGE WASH – LAS VEGAS WASH DIVERSION LEVEE

- Basin dry.
- No signs of illegal discharge.
- No excessive build-up of sediment.
- Trash/debris in diversion channel.

UPPER LAS VEGAS WASH DETENTION BASIN

- Basin dry.
- No signs of illegal discharge
- No excessive build-up of sediment.
- Graffiti on walls of monitoring station, outflow grate and on the down stream side of the dam.

KYLE CANYON DETENTION BASIN

- Basin dry with minor vegetation.
- No signs of illegal discharge.
- Minor debris in lined portion of channel.

PART IV: ACTIONS TAKEN AND RECOMMENDED FOLLOW-UP ACTIVITIES

As noted in Part I, this report has been internally distributed to the Roadway Operations Division and the City Operations Division of the Utilities Department and the Development and Flood Control Division of Public Works. The responsible divisions will perform follow-up actions to remediate noted comments.

Since October of 2006, Roadway Operations Division has taken responsibility for performing the semi-annual inspections of the Las Vegas Wash channels, tributaries, and detention basins in the Central Region under the jurisdiction of the City of North Las Vegas.

The City will perform the next semi-annual inspection of the Las Vegas Wash channels, tributaries, and detention basins in the Central Region under jurisdiction of the City of North Las Vegas in April 2008.

If you have any questions, please call me at (702) 208-6705

Respectfully,

Phillip Davis
Roadway Operations Supervisor

CC: Dennis Scott, Roadway Operations Assistant Manager
Bryant Hill, Roadway Operations Supervisor
Jennifer Doody P.E., Flood Control Division Manager
Kirk Medina, Utilities Manager
Thomas Rura, Pretreatment Supervisor



City of North Las Vegas

Storm Channel Inspection Report Spring 2008

Clark County NPDES Municipal Separate Storm Sewer System Permit

Permit Number NV0021911

Part I: Inspection Summary

On April 22 and April 23, Doug Robinson, Heavy Equipment Operator for the City of North Las Vegas, performed the semi-annual inspection of the Las Vegas Wash channels, tributaries, and detention basins in the central region under jurisdiction of the City of North Las Vegas. Doug was accompanied by Irene Contreras, Senior Office Assistant, Roadway Operations, who administers the CCRFCD MWP annual budget. Visual inspections were performed on the exposed storm water channel sections and the detention basins. The main purpose for the inspection was to look for illegal discharges to the storm water collection system.

This report will be distributed to the Roadway Operations Division, the Operations Division of the Utilities Department, and the Development and Flood Control Division of Public Works. The responsible sections will perform follow-up actions to correct noted comments.

Storm channel inspections are conducted semi-annually as specified in the Las Vegas Valley Storm Water Management Plans for Municipal Separate Storm Sewer System (September 2003). Co-permittees of the Clark County NPDES Municipal Separate Sewer System permit, which became effective on June 19, 2003, include the Clark County Regional Flood Control District, Clark County, Henderson, City of Las Vegas, City of North Las Vegas, and the Nevada Department of Transportation.

There were no illegal discharges detected during these inspections.

Part II: Channels/Basins Inspected

Channel / Basin (Date Inspected)	Portion Inspected
Las Vegas Wash - Middle LVMD April 22, 2008	North/South channel between Lake Mead Boulevard and Decatur Boulevard
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Las Vegas - Brooks LVBR April 23, 2008	West/east channel between North 5 th Street and west side of the Union Pacific Railroad tracks
Freeway Channel (NDOT maintained) LV15 April 22, 2008	South/north channel between Lake Mead Boulevard and Gowan Road.
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Upper Las Vegas Wash Detention Basin LVUP 0910 April 23, 2008	Detention Basin located between Jones Boulevard and Decatur Boulevard
Kyle Canyon Detention Basin LVMD 3315 April 23, 2008	Detention Basin located between Nickelson Street and Mainwal Boulevard
Las Vegas Wash LVMD April 22, 2008	Unlined channel from Lake Mead to Owens.

Part III: Inspection Results

NLV01, Las Vegas Wash, "N" Channel

- Lots of debris and vegetation next to CCSN all the way to the end.
Tree growing in "N" Channel on the south side of Cheyenne.
Remove vegetation at the end of Ferret Falls.
Trees and vegetation at underpass at I-15.
Lowflow channel at outflow needs cleaning.
Graffiti at NW inflow at Vandenberg.
No illegal discharges.

NLV02, Las Vegas Wash Middle

- Vegetation, carts entire length of Cartier Channel at Crawford and Ellis.
Debris, trash, vegetation, small trees where it dead-ends into NLV02.
Needs mowed, heavy vegetation, lots of graffiti, trash.
Eroded embankment between Carey and Cartier Channel.
Lots of graffiti at underpass at Carey.
Trash and vegetation at Carey and Lake Mead.
Lower maintenance road needs lots of grading, very rough, both sides, erosion.
Hole in block wall 300 yards north of Lake Mead, east side.
Culvert covered with dirt 300 yards north of Lake mead, east side.
Clean out box culvert at west side of channel between Lake Mead and Carey.
Channel needs re-shaping and needs to be brought more toward center.
LVB at Poker Palace - heavy vegetation, debris, erosion.
Road maintenance needed between LVB and Cheyenne.
Small homeless camp on the east side.
Major road erosion.
Lots of graffiti on the west side.
Minor trash, debris at Aunt Hatties, north of Colton off Losee.
Off Losee overpass - minor debris, chair, trash.
Minor graffiti on pillars.
Chain link fence down on west side.
2 holes in fence at underpass on the east side of I-15 NB.
500 yards north of Losee, major erosion on west side of upper road.
Debris, sweep, and spray vegetation ½ mile up.
Gate to nowhere broken about ½ mile north of Losee, east side.
Hole in fence 40 feet beyond.
Vegetation on upper road, east side.
Big hole in fence about 200 yards south of Craig overpass, west side.
Hole in fence 100 yards south of Craig overpass, east side.
Hole in fence 100 yards north of Craig overpass, west side.
Vegetation 100 yards south of N5th, east side.
Vegetation in channel on the south side at Camino al Norte overpass.
No illegal discharges.

NLV03, Las Vegas Wash - King Charles Channel

- Minor vegetation on upper road.
Minor debris further north by RR tracks.
Hole in gate on Donovan, next to DMV.
Further north, under RR tracks, lots of trash.
Lots of debris on upper road, east side.
Homeless encampment.
No illegal discharges.

NLV04, Vandenberg Detention Basin

- Lots of debris ½ mile north of Craig.
Lots of debris on ramp access.
No illegal discharges.

NLV05, North Las Vegas Detention Basin

- No problems, no illegal discharges.

NLV06, Upper Las Vegas Wash Detention Basin

- No problems, no illegal discharges.

NLV07, Carey/Lake Mead Detention Basin

- Outflow drain needs cleaning.
Airport inflow need dirt removed.
No illegal discharges.

NLV08, Gowan Outfall Channel

- Red diamond bollard down at east end of San Miguel at San Mateo.
1/4 mile west of Fairway Villas, hole in fence, north and south sides.
Holes in fence 2/10 miles east of Camino al Norte, north and south sides.
Hole in fence 1/10 mile further north on north side.
Hole in fence 1/10 mile further.
No illegal discharges.

NLV09, Kyle Canyon Detention Basin

- Broken gate at south end of access road.
Minor erosion in collectors.
No illegal discharges.

NLV10, Upper Las Vegas Wash

- No Problems, no illegal discharges.

NLV11, Clayton Street Channel

- Concrete broken out 100 yards north of Hammer, east side at Clayton.
No illegal discharges.

NLV12, Lower Las Vegas Wash Detention Basin

- Gate with chunk of concrete stuck to bottom pole, opposite of retaining wall repair.
Erosion at this gate area needs to be repaired.
Minor erosion at east end.
No illegal discharges.

NLV13, Western Trib - Ranch House Road to LLWDB

- Hole in fence, north side, east of Simmons at Hammer.
Minor debris in channel.
Minor barrier out of place before 5 foot drop-off.
Replace drop off signage.
Weeds on upper maintenance road.
Minor debris in channel at Simmons between Ferrell.
Minor debris and couch in channel between Allen and El Campo Grande.
Gate missing on nature trail between 300 yards east of Tropical.
Weeds north side of upper maintenance road at Tropical.
No illegal discharges.

NLV14, Tributary to the Western Trib @ Craig Road

- Hole in chain link east of Commerce
No illegal discharges.

NLV15, Las Vegas Wash - Smoke Ranch

- Overgrown with weeds at Miller Channel at Losee
Remove vegetation entire channel east of control tower, hand work (Airport property).
No illegal discharges

NLV16, Tropical Road Channel East

- Debris at underpass on Craig Road.
Hole in fence 200 yards north of Craig at drain, west side.
Hole in fence 400 yards north of Craig, east side.
Hole in fence 450 yards north of Craig, west side.
Hole in fence 100 yards south of Lone Mountain, east side.
Drain hole filled with dirt north of Washburn.
Broken gate at Ann underpass, north side of Tropical.
Broken fence 1/4 mile north of Tropical, east side.
Minor debris at underpass at Hammer.
Hole in fence 100 feet north of Centennial, west side.
Hole in fence 1/10 miles west and east side north of Centennial.
Box culverts have lots of debris in them at Centennial at Lawrence.
Fix half gate west side of Centennial at Lawrence.
No illegal discharges.

NLV17, Range Wash - Las Vegas Wash Diversion

- No problems, no illegal discharges.

NLV18, Cheyenne Peaking Basin

- Minor vegetation control needed on the west side.
No illegal discharges.

NLV19, Lake Mead/Owens Pipeline

- ☐ Lots of graffiti at the underpass at Pecos and LVB.
- Minor debris at the underpass.
- Cement embankment breaking away.
- Vegetation overgrown 200 yards south of Lake Mead, east side.
- Homeless encampment 200 yards south of Lake Mead, east side.
- Debris, chair, frame, carts, mattress, etc., throughout channel from Lake Mead to Owens.
- Fence hole needs fixing east of Owens.
- No illegal discharges.

Part IV: Actions Taken and Recommended Follow-up Activities

As noted in Part I, this report will be distributed to the Roadway Operations Division, the Operations Division of the Utilities Department, and the Development and Flood Control Division of Public Works. The responsible divisions will perform follow-up actions to correct noted comments.

Since October of 2006, the Roadway Operations Division has taken responsibility for performing the semi-annual inspections of the Las Vegas Wash channels, tributaries, and detention basins in the central region under the jurisdiction of the City of North Las Vegas.

The City will perform the next semi-annual inspection of the Las Vegas Wash channels, tributaries, and detention basins in the central region under jurisdiction of the City of North Las Vegas in October 2008.

If you have any questions, please call me at 289-2500.

Respectfully,

Bryant Hill
Supervisor, Roadway Operations

cc: Dennis Scott, Assistant Manager, Roadway Operations
Phillip Davis, Supervisor, Roadway Operations
Jennifer Doody, P.E., Manager, Development and Flood Control
Kirk Medina, Utilities, Manager
Thomas Rura, Pretreatment Supervisor



**LAS VEGAS VALLEY
WATER DISTRICT**

1001 South Valley View Boulevard
Las Vegas, NV 89153
(702) 870-2011 • lvvwd.com

January 11, 2007

Kevin Eubanks
Assistant General Manager
Clark County Regional Flood Control District
600 S. Grand Central Pkwy
Las Vegas, NV 89106-4511

**RE: LAS VEGAS STORM WATER PERMIT NV 0021911
2007 Annual Report of Potable Water Discharges**

The attached table provides required information on discharge events greater than 100,000 gallons recorded for the Southern Nevada Water System (SNWS) and the Las Vegas Valley Water District (reporting for, and on behalf of, the City of Las Vegas) for the period: January 1, 2007 through December 31, 2007.

The Las Vegas Valley Water District conducted one (1) reservoir draining during 2007 which resulted in the discharge of reportable quantities of water to the storm drain system (see attached summary).

In addition, there were fifty (50) seasonal well start-up reportable discharge events greater than 100,000-gallons (see attached summary). Field Screening techniques were used by trained personnel to determine Turbidity (TSS), chlorine residual and pH (in those instances where dechlorination or acids/bases were used).

Maintenance and pipeline repair activities throughout the Las Vegas Valley during 2007 resulted in the discharge of an estimated 19,548,320 gallons of water to the storm drain system. Information on this activity has been included with the attached discharge summary. If there are any questions, please do not hesitate to contact my office.

Thank you,

Steven Ross, CHMM, CEM, CFPS
Environmental Health and Safety Analyst
Las Vegas Valley Water District

Attachment: 2007 Annual Water Discharge Report

Municipal Stormwater Permit NV0021911
Water Production Division
Las Vegas Valley Water District

ANNUAL REPORT

Potable Water Discharges Greater Than 100,000 Gallons
Discharge Events Report for the Period January 1, 2007 to December 31, 2007

Date	Facility Name/Location	Amount (Gallon)	BMP*	Cl ² (mg/L)	TSS (NTU)	pH
1/16/2007	BO NO 1/GALLERIA DR & N. STEPHANIE ST	1,222,000	1,7	0.00	0.00	7.5
1/16/2007	BO NO 2/GALLERIA DR & N. STEPHANIE ST	2,132,700	1,7	0.00	0.00	7.4
1/16/2007	BO NO 3/GALLERIA DR & N. STEPHANIE ST	2,522,000	1,7	0.00	0.00	7.5
1/16/2007	BO NO 4/GALLERIA DR & N. STEPHANIE ST	2,090,700	1,7	0.00	0.00	7.2
1/16/2007	BO NO 5/GALLERIA DR & N. STEPHANIE ST	1,033,900	1,7	0.00	0.00	7.4
1/16/2007	BO NO 7/GALLERIA DR & N. STEPHANIE ST	524,900	1,7	0.00	0.00	7.4
1/16/2007	BO NO 8/GALLERIA DR & N. STEPHANIE ST	3,632,000	1,7	0.00	0.00	7.2
2/5/2007	5050 STEPTOE	600,000	2,8	0.00	N/A	N/A
2/8/2007	2500 BLK LAS VEGAS BLVD S.	600,000	2,8	0.00	N/A	N/A
5/1/2007	WELL 17/4201 W. BONANZA RD.	182,580	2,3	0.00	8.00	0.0
5/1/2007	WELL 26/4505 W. BONANZA RD.	355,840	2,3	0.00	14.00	0.0
5/1/2007	WELL 34/3700 W. ALTA DR.	197,750	2,3	0.00	9.00	0.0
5/1/2007	WELL 68/3700 W. ALTA DR.	158,700	2,3	0.00	4.00	0.0
5/1/2007	WELL 80/3700 W. ALTA DR.	547,760	2,3	0.00	4.00	0.0
5/1/2007	WELL 83/1001 S. VALLEY VIEW BLVD.	118,400	2,3	0.00	5.00	0.0
5/2/2006	WELL 14/3700 W. ALTA DR.	142,800	2,3	0.00	13.00	0.0
5/2/2007	WELL 79/3700 W. ALTA DR.	589,820	2,3	0.00	15.00	0.0
5/3/2007	WELL 79/3700 W. ALTA DR.	2,349,000	2,3	0.00	VARIOUS	0.0
5/29/2007	WELL 18A/1201 N. RAINBOW BLVD.	171,150	2,3	0.00	25.00	0.0
5/29/2007	WELL 93/7851 VEGAS DR.	157,635	2,3	0.00	7.00	0.0
5/29/2007	WELL 95/3400 N. FORT APACHE RD.	149,045	2,3	0.00	7.00	0.0
5/29/2007	WELL 118/8691 WESTERN SADDLE AVE.	771,210	2,3	0.00	5.50	0.0
5/29/2007	WELL 120/3399 N. DURANGO DR.	1,796,450	2,3	0.00	10.00	0.0
5/29/2007	WELL 121/3269 N. DURANGO DR.	297,840	2,3	0.00	8.00	0.0
5/30/2007	WELL 69/3235 N. BUFFALO DR.	217,560	2,3	0.00	6.00	0.0
5/30/2007	WELL 92/3525 N. VALADEZ ST.	515,760	2,3	0.00	1.50	0.0
5/30/2007	WELL 94/7580 CONSTANTINOPLE	261,600	2,3	0.00	14.00	0.0
5/30/2007	WELL 98/8745 W. CRAIG RD.	130,696	2,3	0.00	8.00	0.0
5/30/2007	WELL 101/3650 N. PIONEER WAY	541,440	2,3	0.00	4.00	0.0
5/30/2007	WELL 103/3949 N. TENAYA WAY	284,760	2,3	0.00	6.00	0.0
5/30/2007	WELL 104/1904 REDWOOD ST.	427,810	2,3	0.00	13.00	0.0
5/30/2007	WELL 105/1150 N. PIONEER WAY	120,320	2,3	0.00	8.00	0.0
5/30/2007	WELL 114/8699 W. GOWAN RD.	339,390	2,3	0.00	6.00	0.0
5/30/2007	WELL 115/8551 W. GOWAN RD.	261,075	2,3	0.00	4.00	0.0
5/31/2007	WELL 22A/2305 N. BUFFALO	204,204	2,3	0.00	6.50	0.0
5/31/2007	WELL 23A/2305 N. BUFFALO	104,500	2,3	0.00	3.00	0.0
5/31/2007	WELL 28/3595 N. TORREY PINES DR.	162,470	2,3	0.00	13.00	0.0
5/31/2007	WELL 29/3595 N. TORREY PINES DR.	149,260	2,3	0.00	9.40	0.0
5/31/2007	WELL 33/6501 W. GOWAN RD.	256,500	2,3	0.00	27.00	0.0
5/31/2007	WELL 52/5925 W. SMOKE RANCH RD.	110,550	2,3	0.00	13.00	0.0
5/31/2007	WELL 72/3465 N. BUFFALO DR.	239,980	2,3	0.00	7.00	0.0
5/31/2007	WELL 77/6415 W. LAKE MEAD BLVD.	208,880	2,3	0.00	7.00	0.0
5/31/2007	WELL 85/6415 W. LAKE MEAD BLVD.	550,940	2,3	0.00	9.00	0.0

Date	Facility Name/Location	Amount (Gallon)	BMP*	Cl ² (mg/L)	TSS (NTU)	pH
5/31/2007	WELL 88/7300 W. PEAK DR.	130,200	2,3	0.00	4.00	0.0
5/31/2007	WELL 89/1201 S. TORREY PINES	165,300	2,3	0.00	7.00	0.0
5/31/2007	WELL 116/6899 PEAK DR.	191,520	2,3	0.00	8.00	0.0
5/31/2007	WELL 117/3198 RONEMUS DR.	123,250	2,3	0.00	2.00	0.0
5/31/2007	WELL 1A/900 S. JONES BLVD.	418,560	2,3	0.00	10.00	0.0
6/1/2007	WELL 51/6055 W. SMOKE RANCH RD.	157,320	2,3	0.00	11.00	0.0
6/1/2007	WELL 52/5925 W. SMOKE RANCH RD.	211,600	2,3	0.00	7.00	0.0
6/1/2007	WELL 73/6701 W. SMOKE RANCH RD.	106,920	2,3	0.00	6.30	0.0
6/1/2007	WELL 119/8690 W. CHEYENNE AVE.	275,400	2,3	0.00	15.00	0.0
6/1/2007	AR 100/ NO ADDRESS	1,818,100	2,3	0.00	VARIOUS	0.0
6/5/2007	WELL 18A/1201 N. RAINBOW BLVD.	279,720	2,3	0.00	3.00	0.0
7/17/2007	WELL 5A/6752 W. VEGAS DR.	3,679,000	2,3	0.00	VARIOUS	0.0
7/27/2007	4700 BLK WESTBURY	132,120	2,8	0.00	N/A	N/A
8/3/2007	CHARLESTON HIEGHTS RESERVOIR	4,300,000	1,3,7	0.09	0.01	7.6
9/11/2007	WELL 73/6701 W. SMOKE RANCH RD.	113,400	2,3	0.00	2.40	0.0
9/14/2007	WELL 75/5915 N. CIMARRON RD.	242,150	2,3	0.00	7.00	0.0
9/25/2007	WELL 90/3311 N. EL CAPITAN	190,530	2,3	0.00	12.00	0.0
9/28/2007	WELL 75/5915 N. CIMARRON RD.	150,800	2,3	0.00	4.00	0.0
11/20/2007	ROBINDALE & DECATUR	535,000	2,8	0.00	N/A	N/A
11/21/2007	6400 BLK E VEGAS VALLEY DR	223,000	2,8	0.00	N/A	N/A
12/6/2007	WELL 18A/1201 N. RAINBOW BLVD.	198,289	2,3	0.00	VARIOUS	0.0
12/27/2007	AR 93/7851 W. VEGAS DR.	435,150	2,3	0.00	VARIOUS	0.0
		41,509,204	Gallons			

Field Screening techniques were used to determine Turbidity (TSS), chlorine residual and pH (where dechlorination or acids/bases were used).

* List of Best Management Practices:

BMP	Description
1	Dechlorination of Discharge
2	Discharge to Improved Surface
3	Engineered Energy Dissipaters
4	Filter or Silt Fence
5	Sediment Barriers
6	Scheduling
7	Flow Rate Control
8	Emergency Repair



CITY OF HENDERSON
240 Water Street
P. O. Box 95050
Henderson, NV 89009

February 12, 2008

Robert Saunders, Associate Engineer
Bureau of Water Pollution Control
Nevada Division of Environmental Protection
333 West Nye Lane
Carson City, NV 89710

Subject: 2007 ANNUAL REPORT - Municipal Storm water Permit NV0021911

Background

On April 7, 2002, the Nevada Division of Environmental Protection (NDEP) authorized the discharge of drinking water under the Clark County Municipal Stormwater Permit. The authorization requires discharges greater than 100,000 gallons and reservoir draining or flushing to be reported annually to the Clark County Regional Flood Control District (CCRFCD) for inclusion in that agency's annual discharge monitoring report to NDEP.

Summary

In calendar year 2007, there were thirteen (13) reportable drinking water discharges within the Henderson City limits.

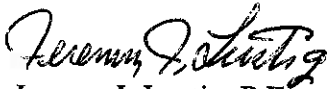
- On January 19, 2007, Reservoir 11 located at 1200 Norelatt Road was drained for a planned rehabilitation project. There was approximately 1,015,625 gallons of potable water discharged from Reservoir 11 using best management practices 6 and 7 to ensure that no erosion occurred to adjacent properties.
- On January 19, 2007, Reservoir 16 located at 2300 East Pebble Road was drained for a planned rehabilitation project. There was approximately 500,000 gallons of potable water discharged from Reservoir 16 using best management practices 6 and 7 to ensure that the discharge was controlled into the adjacent storm drain.
- On January 19, 2007, Reservoir 17 located at 2100 Benji was drained for a planned rehabilitation project. There was approximately 825,000 gallons of potable water discharged from Reservoir 17 using best management practices 6 and 7 to ensure that the discharge was controlled into the adjacent improved drainage culvert.
- On January 27-28, 2007 Reservoir 2 located at 400 Mona Lane was drained for a planned structural inspection. There was approximately 656,000 gallons of potable water discharged from Reservoir 2 using best management practices 6 and 7 to ensure that the discharge was controlled in the adjacent flood control channel.

- On January 28-29, 2007 Reservoir 1A located 400 Mona Lane was drained for a planned structural inspection. There was approximately 487,500 gallons of potable water discharged from Reservoir 1A using best management practices 6 and 7 to ensure that the discharge was controlled in the adjacent storm drain.
- On February 9, 2007 Reservoir 19 located at 11398 S. Eastern Avenue was drained for a planned structural inspection. There was approximately 1,000,000 gallons of potable water discharged from Reservoir 19 using best management practices 6 and 7 to ensure that the discharge was controlled into the adjacent improved drainage culvert.
- On February 15 -17, 2007, the Water Treatment Plant located at 414 S. Water Street was dewatered for annual maintenance and inspection. There was approximately 1,000,000 gallons of potable water discharged from 414 S. Water Street using best management practices 6 and 7 to ensure that the discharge was controlled by discharging into an overflow conduit.
- On March 9-11, 2007, BMI E. Basin located at 414 S. Water Street owned by Basic Management Inc. was drained for inspection and cleaning. There was approximately 50,000 gallons of raw water discharged from 414 S. Water Street using best management practices 6 and 7 to ensure that the discharge was controlled by discharging into an overflow conduit.
- On March 11-13 Reservoir 2A located at 400 Mona Lane was drained for a planned structural inspection. There was approximately 656,250 gallons of potable water discharged from Reservoir 2A using best management practices 6 and 7 to ensure that the discharge was controlled in the adjacent flood control channel.
- On March 31, 2007, BMI E. Basin located at 414 S. Water Street owned by Basic Management Inc. was overflowed. There was approximately 100,000 gallons of raw water discharged from 414 S. Water Street using best management practices 7 to ensure that the discharge was controlled by discharging into an overflow conduit.
- On April 6-8, 2007, BMI W. Basin located at 414 S. Water Street owned by Basic Management Inc. was drained for inspection and cleaning. There was approximately 50,000 gallons of raw water discharged from 414 S. Water Street using best management practices 6 and 7 to ensure that the discharge was controlled by discharging into an overflow conduit.
- On December 28-29, 2007, Reservoir 17A located at 2100 Benji was drained for a structural inspection. There was approximately 770,000 gallons of potable water discharged from Reservoir 17A using best management practices 6 and 7 to ensure that the discharge was controlled into the adjacent improved drainage culvert.

Robert Saunders
February 12, 2008
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- On December 31, 2007 – January 2, 2008, Reservoir R9 located at 2400 ft E. of 1750 Equestrian was drained for a structural inspection. There was approximately 1,340,625 gallons of potable water discharged from R9 using best management practices 6 and 7 to ensure that the discharge was controlled into the adjacent improved drainage culvert.

Sincerely,



Jeremy J. Lustig, P.E.
Water Operations Manager

JJL:vw
Enclosure

cc w/enc: Dennis B. Porter, Director of Utility Services, City of Henderson
Barney L. Rabold, Deputy Director of Utility Services, City of Henderson
Richard D. Mills, Manager of Water & Wastewater Operations, City of Henderson
Curt Chandler, Land Development Manager, City of Henderson
Kevin Eubanks, Clark County Regional Flood Control District
Chip Paulson, MWH
Leslie Long, PW-Environmental & Resources, City of North Las Vegas

**CITY OF HENDERSON
WATER AND WASTEWATER OPERATIONS
240 Water Street
Henderson, NV 89015**

DATE: December 31, 2007

TO: Richard D. Mills, Manager of Water & Wastewater Operations

FROM: Jeremy J. Lustig, Water Operations Manager

RE: **ANNUAL – POTABLE WATER DISCHARGES**
Las Vegas Valley Storm Water Permit NV 0021911

REPORT PERIOD ENDING: 12/31/07

SUMMARY OF DISCHARGE INFORMATION

START DATE	END DATE	FACILITY NAME	FACILITY ADDRESS	VOLUME (actual/est.)	BEST MGNT. PRACTICE(S)	CI	N.T.U	pH
1/19/07	1/19/07	R-11	1200 Norelatt Road	1,015,625	6,7	0.57	0.27	
1/19/07	1/19/07	R-16	2300 East Pebble Rd.	500,00	6,7	0.5	0.07	
1/19/07	1/19/07	R-17	2100 Benji	825,000	6,7	0.57	0.19	
1/27/07	1/28/07	R-2	400 Mona Lane	656,000	6,7	0.6	0.19	
1/28/07	1/29/07	R-1A	321 Horizon St.	487,500	6,7	0.8	0.24	
2/9/07	2/9/07	R-19	11398 S. Eastern Ave.	1,000,000	6,7	1.1		
2/15/07	2/17/07	WTP	414 Water St.	1,000,000	6,7	0 – 1.1	0.07-1.0	
3/9/07	3/11/07	BMI E. Basin	414 S. Water Street	50,000	6,7	0.0		
3/11/07	3/13/07	R-2A	400 Mona Lane	656,250	6,7	0.9		
3/31/07	3/31/07	BMI E. Basin	414 S. Water Street	100,000	7	0.0		
4/6/07	4/8/07	BMI W. Basin	414 S. Water Street	50,000	6,7	0.0		
12/28/07	12/29/07	R-17A	2100 Benji Drive	770,000	6,7	0.9	0.11	8.0
12/31/07	01/02/08	R-9	2400 ft. E of 1750 Equestrian	1,340,625	6,7	0.12	0.22	8.0

Field Testing techniques were used to determine Turbidity (TSS), chlorine residual and pH (if acids/bases were used) during discharges reported for this period.

List of Best Management Practices

BMP	DESCRIPTION
1	Dechlorination of Discharge
2	Discharge to Improved Surface
3	Engineered Energy Dissipaters
4	Filters or Silt Fence
5	Sediment Barriers
6	Scheduling
7	Flow Rate Control
8	Emergency Repair

BMP 1 DECHLORINATION

DEFINITION

Dechlorination is the process of neutralizing chlorine such that it is no longer an oxidizing agent and does not pose a threat to flora or fauna in receiving waters.

PURPOSE

To reduce residual chlorine levels from potable water system discharges following line repairs, line flushing or construction activities that require breaching potable water lines and subsequent disinfecting pursuant to State health code.

APPLICABILITY

Dechlorination is applicable only when levels of chlorine residual are (or will be) above 1 mg/L when discharged water leaves the immediate work area and enters a perennial surface water flow.

PLANNING CRITERIA

Planning should be devoted to the entire treatment process, especially the initial flow of water. When possible, allowing natural dechlorination over a period of time should be considered. Two dechlorinating points may be necessary with one being placed downstream of the first. Always test for effectiveness of the dechlorination process, as discharge conditions can change. Documentation of procedures and results should be kept.

METHODS AND MATERIALS

Chlorine residual in water can be neutralized using a number of common dechlorinating agents such as sulfur dioxide (SO₂), sodium bisulfate (NaHSO₃), sodium sulfite (Na₂SO₃) and sodium thiosulfate (Na₂S₂O₃/H₂O). The following table gives an example of the amounts of these chemicals required to neutralize various residual chlorine concentrations in 100,000 gallons of water.

Chlorine Concentration <i>mg/l</i>	Sulfur Dioxide	Sodium Bisulfate	Sodium Sulfate	Sodium Thiosulfate
1	0.8	1.2	1.4	1.2
2	1.7	2.5	2.9	2.4
10	8.3	12.5	14.6	12.0
50	41.7	62.6	73.0	60.0

*Except for residual chlorine concentration, all amounts are in pounds.

Typically, discharged waters are routed through a large container or retention area at which time the dechlorinating agent is dissolved into the flow. Other methods involve 'wind-rowing' the dechlorinating agent along the flow path, which allows longer contact time.

MAINTENANCE

The equipment used to dechlorinate flows generally doesn't require maintenance. While dechlorination is being conducted, the feed solution should be carefully monitored because potential demand from the solution feedwater can change. Dose and flow rates can be matched to specific conditions by throttling valves. Consistent and reliable treatment is crucial, so quality control is a must. Measure chlorine levels with accurate field testing equipment and test often.

EFFECTIVENESS

The effectiveness of the dechlorination process is excellent and has been widely proven in various field applications. Both methods described above are effective and may be used in succession when chlorine residual levels are high.

BMP 2 DISCHARGE TO IMPROVED SURFACES

DEFINITION

Controlled or uncontrolled (emergency) discharge to any surface which has been engineered to channelize and direct flows (e.g. asphalt surfaces, concrete curb/gutter or engineered storm water conveyance).

PURPOSE

This practice is used whenever possible to minimize entrainment of sediment and to eliminate erosive activity of flows.

APPLICABILITY

Discharge to improved surfaces can be applied during any discharge circumstance where engineered improvements are present within 500 feet of the source of discharge. Controlled flow rates (BMP 3-5) should also be utilized whenever possible.

PLANNING CRITERIA

Improved surfaces must be present at the discharge point and down gradient to the first occurrence of a storm water drop-inlet. Temporary fixtures (e.g. flexible hose or rigid pipe) are appropriate where necessary to convey water from the source to the nearest improved surface. For example, temporary piping may be incorporated at well sites where the well head is some distance from nearest off-site improvement, or reservoir sites where temporary pumps and hoses are used to complete the draining process.

METHODS AND MATERIALS

Where necessary, temporary fixtures are to be installed prior to initial discharge. All necessary traffic barricade plans must be approved and the appropriate agencies notified of discharge activities. Discharge rates to improved surfaces should generally be kept below 600 gallon/minute and will typically range from 200-400 gpm during scheduled work.

MAINTENANCE

Inspection of equipment must be performed at a frequency that assures discharge is only occurring onto improved surfaces. Inspection of entire flow route (to first occurrence of storm water drop-inlet) should be conducted at a minimum of once per shift.

EFFECTIVENESS

The effectiveness of this practice is excellent. There is typically little degradation of the quality of the discharged water, and this practice affords maximum control of the discharge when used in conjunction with other BMPs such as; energy dissipation (BMP 3), scheduling work during 'off-hours' (BMP 6) and/or flow rate control (BMP 7).

BMP 3 ENGINEERED ENERGY DISSIPATERS

DEFINITION

Any structure or device which through incorporation into a discharge stream; changes the direction of flow, separates the flow or allows the flow to pond or pool before being released, thereby reducing the destructive force of the flow of water.

PURPOSE

Energy dissipaters work in several different ways, but all serve to reduce the erosive forces or damaging effects of discharge flows upon the surrounding land.

APPLICABILITY

As energy dissipaters serve to reduce damaging effects of discharge flows, they are encouraged at every location where installation is feasible.

PLANNING CRITERIA

Most facilities have been designed or can be up-graded with engineered energy dissipation devices. Sites that have not been equipped or retrofit should be addressed as part of on-going capital improvements to the existing system.

METHODS AND MATERIALS

Three typical configurations for energy dissipation include:

Goosenecks – Large diameter pipe that is either temporarily or permanently attached to a water source at the point of discharge. The pipe is configured such that the water is forced to make a 180-degree turn before exiting the pipe. This effectively slows the discharge and provides an opportunity to direct the flow to improved surfaces and/or additional energy dissipation devices.

Concrete collars – Typically consists of prefabricated concrete rings that are placed on a poured-in-place concrete pad beneath a gooseneck. This creates a pool of water during discharge events that buffers and reduces discharge energy. Rings allow water to overflow increasing flow surface area, and further reducing velocity.

Riprap – Medium to large cobble loosely placed in channels and along flow routes to create a rough surface over which water flows. Riprap creates an erosion resistant surface that to a certain extent (size requirement for cobbles is a function of designed flow velocity) will eliminate scouring and reduce flow energy by protecting soil and causing flow variations along the channel.

MAINTENANCE

Routine inspection and repair/replacement of any damaged or ineffective equipment is required to ensure adequate effectiveness of this type of BMP.

EFFECTIVENESS

The effectiveness of this type of BMP is considered excellent if the BMP is installed and used properly. As described above, one or more of these BMPs can be incorporated into facility design. Retrofitting of existing facilities is also considered feasible in most cases.

BMP 4 FILTER OR SILT FENCE

DEFINITION

Filter or silt fences are a sediment barrier consisting of a previous sheet of synthetic polymer filter fabric attached to wire mesh fencing and supported by fence posts.

PURPOSE

Filter or silt fences are constructed to intercept and capture sediment by decreasing the velocity of surface runoff.

APPLICABILITY

All development, mine, construction sites, areas of erosion, reclamation sites, etc. may utilize filter or silt fence to reduce sediment transport. These barriers are temporary in nature and are limited to slowing and filtering sediment associated with surface storm water runoff, not concentrated, heavy flows.

PLANNING CRITERIA

Filter or silt fences are designed to intercept surface runoff on slopes of varying degree. Barriers should be constructed in series depending on the size of the contributing drainage area. A rule of thumb is approximately 100 feet of fence for every 0.25 acre of drainage area. Fences require regular maintenance to maintain functionality so access is necessary. Average usable life of filter or silt fences is six months to a year.

METHODS AND MATERIALS

Construction of filter or silt fences involves attaching filter fabric to wire mesh fencing and steel T-bar fence posts. Depending upon the specifics of the site, fence posts should be placed on three to six foot centers. A trench is constructed along the base of the fence and approximately eight inches of the filter fabric is buried both vertically and horizontally to "toe in" the fabric. The wire mesh and the filter fabric are securely attached on the uphill side of the fence posts. The trench is then backfilled and soil is compacted against the filter fabric.

MAINTENANCE

The filter or silt fence should be thoroughly inspected after each precipitation or storm event and immediately repaired. Sediment should be removed regularly to keep the barrier functional. Sediment should not be allowed to reach one-half the height of the fence. Excavated material must be disposed of properly, off site and never placed down slope.

EFFECTIVENESS

The effectiveness of filter or silt fences is excellent if they are installed properly and maintained regularly. Fence barriers will last longer than straw bale lines due to their greater strength and durability.

BMP 5 SEDIMENT BARRIERS

DEFINITION

Barriers construction to retain sediments.

PURPOSE

During periods of high runoff sediment barriers retain sediments by retarding flow and filtering.

APPLICABILITY

Usable in areas that has erosive soils and has a history of high sediment load during runoff. Sediment barriers are also applicable to development, mining, construction and reclamation sites.

PLANNING CRITERIA

Barriers are useful at storm drain inlets, across swales and ditches, drainages, as restraining dikes and berms, along property lines, and for other applications where the structure is of a temporary nature until permanent surface stabilization treatments are in place.

METHODS AND MATERIALS

1. Sandbag Sediment Barriers – Berms to direct or divert runoff flows, or as barriers to collect and store runoff. The following pertains to the installation of sandbag sediment barriers.
 - a) Install so that flow under or between bags is prevented.
 - b) The sandbags should be stacked in an interlocking fashion to provide additional strength for resisting the force of flowing water.
 - c) Sandbags should not be stacked more than three high without broadening the foundation using additional sandbags, or providing additional stability.
 - d) Sandbag sediment barriers should store the expected runoff.

2. Straw Bale Sediment Barriers – The following information applies to the installation of straw bale sediment barriers.
 - a) The service life of the barrier can be prolonged by using wire or nylon-tied bales rather than those tied with twine.
 - b) Bales should be laid on their sides and staked in place. At least two metal stakes should be driven through each bale and into the ground at least one foot. The first stake should be angled toward the previously placed bale and driven through both the first and second bale.

- c) Piping is a major cause of failure. The possibility of piping failure should be reduced by setting the straw bales in a trench excavated to a depth of at least six inches and by firmly tamping soil along the upstream face of the barrier.
- d) The functionality of straw bales can be increased by incorporating filter fabric or utilized with filter or silt fence.

MAINTENANCE

Inspect sediment barriers after every precipitation or storm event and replace damaged bags or bales. Straw bales are often a target for vandals and frequent inspection is usually required. They should be replaced when rotten or disintegrating. Remove deposited sediment from structures after each precipitation or storm event and dispose of the sediment off site.

EFFECTIVENESS

Sandbag or straw bale barriers are effective for temporary structures but require proper installation, regular maintenance and frequent repair.

BMP 6 SCHEDULING

DEFINITION

Scheduling as a Best Management Practice can be described as the practice of planning and scheduling for equipment start-up during 'off-hours' or those times when vehicular and/or pedestrian traffic will be least impacted by discharge activities. Staggering start-up operation or timing certain activities to lower duration/volume of discharges is also considered a Scheduling BMP.

PURPOSE

Scheduling considerations will serve to reduce the risk of property damage, injury or inconvenience to customers that result from nuisance flows in highly congested areas or in those areas where adequate storm drain infrastructure is no present.

APPLICABILITY

This practice is applicable at any facility where surface discharge to improved or unimproved surfaces may create traffic (vehicular or pedestrian) congestion or risk.

PLANNING CRITERIA

Discharges in areas where there is not adequate storm drainage infrastructure will be coordinated with appropriate agencies (Public Works). If necessary, discharges can be staggered to minimize 'peak effects' and/or scheduled during hours when vehicular and pedestrian traffic is expected to be lowest.

METHODS AND MATERIALS

This BMP requires that a start-up schedule be established and communicated with affected agencies. Operations personnel must notify the planner/scheduler of the need to stagger operations and/or make necessary shift changes at the time work in effected areas is scheduled. Discharges should generally be scheduled to occur after 6 p.m. and before 6 a.m. in accordance with standard Department of Transportation practices. All approved traffic management and barricade plans must be adhered to.

EFFECTIVENESS

The effectiveness of scheduling as a BMP has been shown to diminish or eliminate traffic related conflicts, customer complaints and other issues stemming from the presence of nuisance flows along roadways in effected areas.

BMP 7 FLOW RATE CONTROL

DEFINITION

Flow rate control is any practice that results in a restraint of discharge velocity.

PURPOSE

The purpose of Flow rate control is to minimize erosive effects of discharge flows, entrainment of sediment and soils in discharges and/or surface flooding due to excessive amounts of water being discharged over short periods of time. Flow rate control serves to decrease discharge velocity, by increasing the duration of a discharge event.

APPLICABILITY

Flow rate control is applicable at any location where the lack of improved storm water conveyance may result in discharge circumstances where erosion of unimproved surfaces or surface flooding would result in property damage or potential injury.

PLANNING CRITERIA

Consideration of flow rate control will be required at any location where discharge is to an unimproved surface, or where discharge will encounter unimproved surfaces and there is the potential to entrain and transport sediment and/or debris to the storm water conveyance system. Flow rate control may be used in conjunction with other BMPs such as filters or silt fences (BMP 4) or sediment barriers (BMP 5).

METHODS AND MATERIALS

Flow rate control is generally accomplished by utilizing various sizes of pumps, or by operating a various number of pumps during the discharge operation. Flow rates ranging from 200 gallons per minute (gpm) to 1000 gpm are achievable using various sizes of available equipment.

MAINTENANCE

Proper installation and use of the various pumps will be critical to the life of the equipment and the effectiveness of flow rate control. Equipment maintenance and routine inspections along the discharge route for evidence of erosion damage is required when using this BMP.

EFFECTIVENESS

Flow rate control can be both effective and efficient when all equipment is installed and used properly.

BMP 8 EMERGENCY REPAIR

DEFINITION

Emergency repair as a Best Management Practice is used any time there is an unforeseen and unplanned repair activity that requires and immediate isolation of break, an interruption of service and expedited repair.

PURPOSE

The purpose of this BMP is to allow Distribution and Operations personnel to take immediate and necessary measures to expedite repairs and return customers to service without unto constraint of regulatory liability.

APPLICABILITY

This practice will only be applicable in those instances where there is an unforeseen and unplanned repair activity that requires immediate isolation of the break, and where there is an interruption of service.

PLANNING CRITERIA

Emergency preparedness and readiness to respond to line breaks and other system failures is a requirement of any municipal water purveyor.

METHODS AND MATERIALS

Initial notification of a line break usually will come through Dispatch or Customer Service. Upon notification of an emergency, distribution will dispatch a facility locator or valve truck to the scene to make a verification of the breakage. System valving needs are established and immediate steps are taken to minimize or stop the flow of water. Several factors typically come into play when determining appropriate response and repair actions. Size of leak, size of line, number and type of customer effected and length of anticipated outage will effect actions taken. Standard operating procedures should be maintained and adhered to during any emergency event.

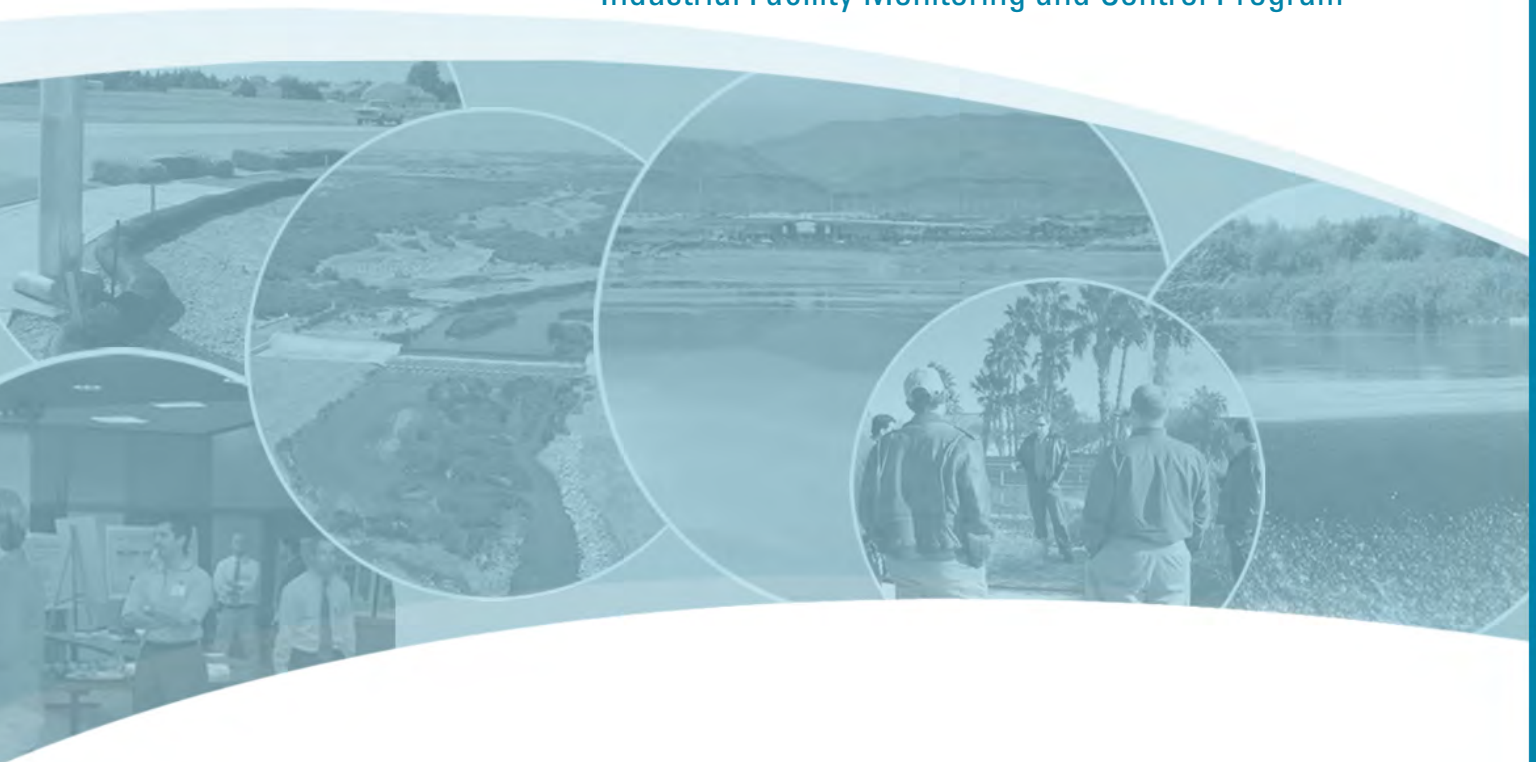
EFFECTIVENESS

The effectiveness of any planned response activity is typically given little regard until an emergency occurs and the response capability tested. Generally, municipalities have well established procedures for emergency events, and the equipment and financial resources to effectively deal with both small and large-scale emergencies.

APPENDIX I

Illicit Discharge Detection and Elimination Program, Spill Response Strategy

• Industrial Facility Monitoring and Control Program



APPENDIX I

ILLICIT DISCHARGE DETECTION AND ELIMINATION PROGRAM, SPILL RESPONSE STRATEGY

- **Industrial Facility Monitoring and Control Program**

**Las Vegas Valley Municipal Separate Storm Sewer System
NPDES Discharge Permit**

Illicit Discharge Detection and Elimination Program

Spill Response Strategy

July 2006

1.0 INTRODUCTION

This report presents the Spill Response Strategy adopted by the Las Vegas Valley Municipal Separate Storm Sewer System (MS4) NPDES Discharge Permit permittees. A Spill Response Strategy is part of the Illicit Discharge Detection and Elimination Program (IDDEP) required by the MS4 stormwater permit (paragraph 4.7.1.4) and the Las Vegas Valley Storm Water Management Plan (SWMP) (section 7.5).

The Spill Response Strategy addresses spills, intentional discharges, dumping, and other releases of hazardous materials and other non-stormwater liquids or solids to the drainage system in Las Vegas Valley. These problems are addressed by existing hazardous materials emergency response plans and standard operating procedures for spill response. Sanitary sewer overflows (SSOs) and adopted response procedures are addressed under the wastewater discharge permits held separately by each Las Vegas Valley municipality and issued by the Nevada Division of Environmental Protection (NDEP).

Emergency response organizations and local public works departments have existing spill response authority and established policies and procedures for responding to spills and discharges of various kinds, including those affecting the MS4 system. Therefore, these existing policies and procedures are relied upon for the IDDEP. As a result, this Spill Response Strategy does not develop or promote new plans or organizations to deal with illicit discharges to the MS4. Rather, the pertinent existing plans and programs are cited and briefly summarized. These include:

- State of Nevada Hazardous Materials Emergency Response Plan
- Clark County Hazardous Materials Emergency Response Plan
- Local Standard Operating Procedures

These plans and programs are updated regularly, and the most current versions are adopted for the MS4 program.

The emphases of the Spill Response Strategy for the IDDEP are: (1) to coordinate the activities among the various permittees and other affected agencies to assure a coordinated and integrated response to spills and other illegal discharges to the

stormwater system; and (2) to raise awareness among first responders of stormwater and environmental issues related to spill incidents.

All of the Las Vegas Valley municipalities contract with H2O Environmental for cleanup of substantial hazardous material spills. Their role is briefly described later in this document.

2.0 STATE OF NEVADA HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

The State of Nevada Hazardous Materials Emergency Response Plan (State Plan) (Nevada Division of Environmental Protection, May 25, 2005) establishes common guidelines for responding to hazardous materials incidents anywhere in the State of Nevada, with the objective of protecting life, property and the environment from risks associated with the discharge, release or misuse of hazardous materials. It serves as an appendix to the State Comprehensive Emergency Management Plan. The authority for the State Plan is derived from federal and state law.

The State Plan, developed and maintained by Nevada Division of Environmental Protection in cooperation with a State Hazardous Materials Emergency Response Plan Committee, defines state agency responsibilities for hazardous material spill training and response. It provides the framework for development of local hazardous materials emergency response plans by Local Emergency Planning Committees in districts throughout the state (see Section 3.0).

The State Plan provides the following information:

- Training and certification requirements for State personnel present at a hazardous materials incident;
- Requirements for notifying NDEP, local fire departments, State Office of Emergency Management, Nevada Highway Patrol and EPA in the event of a hazardous material spill;
- Response actions including roles and responsibilities of local, state and federal officials;
- A Nevada Hazmat Emergency Contact list.

The State Plan provides the foundation for the MS4 Spill Response Strategy, particularly with regard to notification requirements. The entire plan is available to emergency managers and the public on the internet at:

<http://ndep.nv.gov/bca/response>

3.0 CLARK COUNTY HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

A regional hazardous material response plan has been adopted by all of the Las Vegas Valley municipalities. This is referred to as the Clark County Hazardous Materials Emergency Response Plan (County Plan), and is developed by the Clark County Local

Emergency Planning Committee (LEPC). The County Plan provides the framework for responding to any illegal discharges or spills of hazardous chemicals to the storm sewer system. Each of the permittees has its own spill response procedures that are consistent with the regional plan, but the key local guidance document for hazardous spill response is the County Plan. This document summarizes the key elements of the County Plan, and references guidance documents published separately.

3.1 Relationship to Other Plans

The County Plan is authorized under and subject to conformity with the State Plan. It is part of the Clark County Emergency Operations Plan. The Comprehensive Emergency Management Plans for the cities of Las Vegas, North Las Vegas and Henderson refer to the LEPC County Plan for hazardous materials incident response.

3.2 County Plan Summary

The County Plan is Clark County's proactive approach to managing possible releases of hazardous substances to the environment. It is developed and maintained by the Local Emergency Planning Committee, a group serving the Clark County Local Emergency Planning District with broad representation including each of the MS4 permittees. The County Plan fulfills a federal requirement of the Superfund Amendments and Reauthorization Act of 1986 (SARA) under Title III, "Emergency Planning and Community Right-To-Know."

The current County Plan was finalized and published in January 2005. The LEPC meets regularly and performs annual updates of the County Plan to reflect current roles and responsibilities of each agency, best management practices, and other new information. The entire plan is available to emergency managers and the public on the internet at: http://www.co.clark.nv.us/administrative_services/oem/Plans.htm.

The County Plan provides guidance for hazardous materials emergency response preparedness, response, and prevention. It reflects the combined experience of local government officials, industry representatives, emergency managers, environmental managers, and members of the public actively engaged in hazardous materials preparedness, response and prevention. The guiding principle of the County Plan can be summarized as follows: The individuals in custody of hazardous material have primary responsibility of the material, but in the event those individuals lose control of the materials, the local government must take action to limit the effects on life, property, and the environment. The County Plan states that private industry is required to report releases of hazardous materials to the entities listed in the County Plan's telephone directory.

The County Plan includes the following sections:

- The Planning Standards section references pertinent state and federal guidance and local agreements related to hazardous materials spills, and provides an inventory of

likely hazards in Clark County including facilities, pipelines, railroads, etc. Locations of fixed facilities with extremely hazardous substances and the quantities of those substances are tabulated. The County Plan states that each facility is required to establish emergency response procedures that are submitted to local fire departments and other agencies. This section also more generally describes the quantities of materials transported on the various transportation corridors in Clark County.

- The Agency Duties section outlines responder roles and responsibilities including a description of the Incident Commander who is a designated fire department officer at the scene. The Incident Commander reports to a local Emergency Operations Center, if activated. The Clark County and City of Las Vegas fire departments have specially trained and equipped Hazardous Materials Response Teams to respond to chemical emergencies.
- The Telephone Directory section lists agency telephone numbers and contact personnel, emergency operations centers, hospitals, and reporting phone numbers for both emergency and non-emergency spills.

The Response section describes the organization of responders, methods for determining releases and the population affected. This section also describes the required notification of response agencies, hazardous materials incident classification levels, and scene management for response personnel including establishment of evacuation, decontamination, and hazard zones. Finally, this section also describes training on proper response to hazardous materials incidents. Clark County's hazardous materials response training is summarized in Section 3.4.

- The Warning Methods and Evacuation sections describe guidelines for notifying and evacuating citizens in an affected geographic area.
- The Resource Management section describes resources and available equipment for cleanup and disposal of materials.
- The Follow-Up section describes the proper documentation necessary after an incident to record information on the incident and its response.

The Table of Contents of the January 2005 Clark County Hazardous Materials Emergency Response Plan is included in Appendix A.

3.3 Responsible Local Agencies

The County Plan designates various responsible agencies when responding to hazardous material spills within each jurisdiction. These are defined as:

Incident Commander: designated representative of the local fire department

Unified Incident Command: fire department having jurisdiction, and law enforcement agency having jurisdiction

Lead Agency: Unincorporated Areas of Clark County - Clark County Fire Department
Local Cities – respective city fire departments
State Roads and Highways – Nevada Highway Patrol
State Lands – state agency with jurisdiction
Federal Lands – federal agency with jurisdiction

3.4 Training Within Clark County

First responders to hazardous material spills are normally members of local fire departments. Each fire department has training requirements for potential first responders that meet or exceed the minimum standards promulgated by the National Fire Protection Association (NFPA) and the Occupational Safety and Health Administration (OSHA). As noted above, the Clark County and City of Las Vegas fire departments have specially trained Hazardous Materials Response Teams that have received the necessary Hazardous Waste Operations and Emergency Response Standard (HAZWOPER) training.

The County Plan adopts minimum training standards that are consistent with NFPA and OSHA standards, and places the burden for training on local fire departments and other responding agencies. Exercises to test the Hazardous Materials Emergency Response Plan are conducted annually within Clark County jurisdictions. Exercises range from tabletop, to functional, to full-scale exercises. Multi-jurisdictional full-scale exercises may also be performed on an annual basis.

Hazardous materials training is an on-going activity within all of the Clark County jurisdictions. The training areas include awareness, operations, incident command, responder safety, decontamination, radiological monitoring, and emergency medical services. Courses are taught by both in-house personnel and by outside contractors. Courses are updated regularly.

Field staff of the Clark County Department of Public Works, City of Las Vegas Environmental Division and City of North Las Vegas Utilities Department/Environmental Division who may respond to hazardous materials incidents receive HAZWOPER training and required annual refresher courses. City of Henderson is in the process of implementing a HAZWOPER training program for its field crews.

Training for hazardous materials spill response focuses on issues related to public safety and the safety of emergency personnel. Additional awareness of stormwater and water quality issues on the part of first responders could be beneficial to protecting the environment. Although public safety must remain paramount, implementing spill response practices that prevent illicit discharges from entering drainage systems could

minimize impacts to the MS4. To address this situation, the permittees will implement a Spill Responders Stormwater Awareness Program consisting of the following elements:

- Prepare educational materials for typical first responders
- Distribute material at professional meetings, conferences, and meetings with key emergency management agency staff.

Implementation of this program will begin during the 2006-2007 MS4 permit year.

4.0 LOCAL PUBLIC WORKS STANDARD OPERATING PROCEDURES

4.1 Response

Staffs of Public Works Departments and associated divisions within local government are called to respond to spill incidents involving non-hazardous materials and small quantities (e.g., less than 25 gallons or 3 cubic yards) of hazardous materials. Local governments have adopted Standard Operating Procedures (SOPs) to guide first responders and clean-up crews in these cases. In most cases the SOPs are documented and published in guidance manuals and training procedures. In some cases SOPs represent best practices used by field staff in accordance with applicable policies and regulations. Where SOPs are not currently documented in writing, the MS4 permittees will encourage local agencies to develop SOP guidance documents for proper response and notification for spills of non-hazardous materials.

4.2 Training

Local public works field crews receive spill response training primarily through internal training activities conducted by experienced employees. As noted above, most field crews also receive basic HAZWOPER training as well. As with hazardous materials spill responders, public works crews would benefit from additional awareness of stormwater quality issues. Therefore, the Spill Responders Stormwater Awareness Program will be extended to these workers as well.

5.0 H2O ENVIRONMENTAL

H2O Environmental is a private contractor used by all of the entities in Las Vegas Valley to respond to and clean up hazardous material spills of all kinds. It guarantees response to spills anywhere in Las Vegas Valley within 45 minutes. H2O Environmental may be contacted by one of the MS4 permittees when available internal resources are insufficient or not properly trained to handle hazardous material spills. H2O Environmental is generally contacted for spills exceeding 25 gallons. All entities have standing agreements with H2O Environmental, which allow them to mobilize immediately in response to notification of a spill. Although other private contractors could be used, all entities currently rely on H2O Environmental for their spill cleanup needs.

H2O Environmental has 35 employees and an extensive inventory of equipment located in Las Vegas. Responsibilities include site cleanup and material disposal in accordance with all applicable environmental regulations and health and safety standards.

6.0 NOTIFICATION

Notification of parties that could be potentially affected by a hazardous materials spill is conducted in accordance with the guidelines adopted in the County Plan and local emergency response plans. Notification lists are updated at least annually. At the present time the County Plan does not recognize Clark County Regional Flood Control District (CCRFCDD) as an entity to be informed when hazardous materials are spilled to the environment. As Lead Agency for the MS4 stormwater permit, CCRFCDD should be notified in these cases. The LEPC will be informed of this suggested change to the County Plan.

7.0 SUMMARY OF LOCAL AGENCY RESPONSIBILITY FOR THE SPILL RESPONSE STRATEGY

Each local agency has specific responsibilities and procedures in place to implement the Spill Response Strategy, depending on its own administrative structure. The following table summarizes the primary municipal departments and agencies that could be involved in implementing various portions of the Spill Response Strategy for the MS4 IDDEP if illicit discharges are reported within their jurisdiction.

The large number of agencies and departments that could become involved in a significant illicit discharge incident in Las Vegas Valley points to the importance of coordination among these various organizations. An important element of the MS4 Spill Response Strategy is to promote improved coordination among spill response agencies. This will be accomplished through cross-entity communication at regular monthly Stormwater Quality Management Committee meetings, and through internal communications within entities initiated by MS4 permit coordinators for each permittee.

Summary of Primary Spill Response Strategy Responsibilities Within Each Permittee Jurisdiction

Spill Response Function	Clark County	City of Las Vegas	City of North Las Vegas	City of Henderson
Receive Spill Complaint	<ul style="list-style-type: none"> • SN Health District • CC Public Response Office • CC Public Works • CC Water Reclamation District • CC Police Department 	<ul style="list-style-type: none"> • SN Health District • CC Public Response Office • CLV Field Operations • CLV Environmental Division • CLV Police Department 	<ul style="list-style-type: none"> • SN Health District • CC Public Response Office • CNLV Utilities • CNLV Public Works • CNLV Code Enforcement • CNLV Police Department 	<ul style="list-style-type: none"> • SN Health District • CC Public Response Office • CH Utilities • CH Public Works • CH Police Department
First Responder	<ul style="list-style-type: none"> • SN Health District • Fire Departments • CC Water Reclamation District • CC Risk Management • CC Public Works 	<ul style="list-style-type: none"> • SN Health District • Fire Departments • CLV Field Operations • CLV Environmental Division 	<ul style="list-style-type: none"> • SN Health District • Fire Departments • CNLV Utilities/Environmental • CNLV Public Works/Streets 	<ul style="list-style-type: none"> • SN Health District • Fire Departments • CH Utilities
Clean-Up	<ul style="list-style-type: none"> • H2O Environmental • Fire Departments • CC Risk Management • CC Public Works 	<ul style="list-style-type: none"> • H2O Environmental • Fire Departments • CLV Field Operations 	<ul style="list-style-type: none"> • H2O Environmental • Private Contractor • CNLV Public Works/Streets 	<ul style="list-style-type: none"> • H2O Environmental • Fire Departments • CH Utilities • CH Public Works
Notifications	<ul style="list-style-type: none"> • Spill Owner • CC Water Reclamation District • Fire Departments • CC Risk Management 	<ul style="list-style-type: none"> • Spill Owner • CLV Environmental Division • Fire Departments 	<ul style="list-style-type: none"> • Spill Owner • CNLV Utilities/Environmental • CNLV Public Works/Streets • Fire Departments 	<ul style="list-style-type: none"> • Spill Owner • CH Utilities • Fire Departments

Notes:

1. CC = Clark County; SN = Southern Nevada; CLV = City of Las Vegas; CNLV = City of North Las Vegas; CH = City of Henderson
2. Fire Departments could respond to emergencies in neighboring jurisdictions, so are listed generally for each municipality
3. Only primary responsible agencies are listed; there can be overlap among agencies, and others may become involved in special cases.

APPENDIX A

CLARK COUNTY HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN

January 2005

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CLARK COUNTY
LOCAL EMERGENCY PLANNING COMMITTEE

HAZARDOUS MATERIALS EMERGENCY RESPONSE PLAN



MESQUITE
HENDERSON
LAS VEGAS
BOULDER CITY
CLARK COUNTY
NORTH LAS VEGAS

This Plan is a Clark County Local Emergency Planning Committee project coordinated by the Office of Emergency Management in cooperation with the participating agencies listed in the Agencies section of the plan.

January 2005

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**INDUSTRIAL FACILITY
MONITORING AND CONTROL
PROGRAM**



The City of Henderson
Industrial Facility Storm Water
Inspection Report
Run Date: 20-AUG-08

DRAFT

KIVAPROD

Total # of Inspections:	61
Total # Passing:	61
Total # Failing:	0

Total Insp. Time Spent:	781
% Passing:	100
% Failing:	0



The City of Henderson
Industrial Facility Storm Water
Inspection Report
Run Date: 20-AUG-08

DRAFT

KIVAPROD

Type	Permit Number	Permit Name	Result Code	Inspection Completion Date
FF10	2003480004	GREEN VALLEY COLLISION CENTER	PASS	06-25-2008
FF10	2003480006	AAA CUSTOMER CABINETS INC	PASS	03-07-2008
FF10	2003480038	DEL WEBB	PASS	08-01-2008
FF10	2003480066	AR IRON LLC	PASS	05-01-2008
FF10	2003480072	DESERT BMW OF HENDERSON	PASS	08-05-2008
FF10	2003480073	SUNSET COLLISION CENTER INC	PASS	04-14-2008
FF10	2003480081	ACME UNDERGROUND INC	PASS	06-10-2008
FF10	2003480089	FINDLAY VOLKSWAGEN	PASS	05-30-2008
FF10	2003480094	DUAINE'S AUTOMOTIVE INC.	PASS	05-21-2008
FF10	2003480095	HENDERSON HYUNDAI SUPERSTORE	PASS	03-27-2008

FINSDTL001 - FIRE CONSTRUCTION SITE MONITORING 20-AUG-08 15:30:26

Input Parameters:

Start Date: Start of date range using inspection completion date. (Enter day - 180 days.)

End Date: End of date range using inspection completion date.

Result Set:

Retrieves inspection type 7167, result code FAIL, and permit status OPEN. Retrieves inspection type 7167, result code PASS, and permit status OPEN. If a permit has multiple FAILS for inspection 7167, it only counts as one FAIL. The second page will display all FAIL, regardless of multiples for a permit number. The second page will display all PASS. Program units will sum multiples if an inspection is done multiple times on the same day.

Field Definitions:

Total # of Inspections: Total number of 7167 inspections. No multiples are counted.

Total # Passing: Total number of 7167 inspections with result code PASS. No multiples are counted.

Total # Failing: Total number of 7167 inspections with result code FAIL. No multiples are counted.

Total Insp. Summation of Inspections units for 7167 inspections. If there are multiple inspections, the inspection unit is taken from the inspection with the maximum inspection completion date.

% Passing: Percentage of 7167 inspections passing.

% Failing: Percentage of 7167 inspections failing.

Permits with Failing Inspections (multiples are displayed).

Type: Permit type.

Permit Number: Permit number.

Permit Name: Permit name.

of Failing Insp.: Number of inspections failed for permit.

CITY OF HENDERSON INDUSTRIAL FACILITY INSPECTION PROGRAM



Foreword

Industrial sites can be potential sources of urban pollutants and are particularly identified by the EPA for regulation under the NPDES stormwater discharge permit program

Purpose of Program

- Protect Water Quality
- Protect City Stormwater Infrastructure
- Help City maintain compliance with requirements in NPDES MS4 Permit issued by the Nevada Division of Environmental Protection
- Help industrial facility operators maintain compliance with requirements in the NPDES General Stormwater Permit issued by the Nevada Division of Environmental Protection

Minimum Program Requirements

- Prohibit through ordinance, order, or other regulatory mechanism illicit discharges to the municipal separate storm sewer system
- Require compliance with conditions in ordinances, permits, contracts, orders, or other regulatory mechanisms
- Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the prohibition of illicit discharges
- Track and report all inspection program activities

Industrial Facilities Covered

- Municipal landfills
- Hazardous waste treatment
- Disposal and recovery facilities
- Industrial facilities that are subject to Section 313 of the Title III of the Superfund Amendments and Reauthorization Act (SARA)
- Industrial facilities that the City determines may contribute a substantial pollutant loading to the municipal separate storm sewer system (MS4)

Regulatory Mechanism

2006 IFC – Chapter 27: Hazardous Materials

- Section 2703.3 - Release of Hazardous Materials:
Hazardous Materials in any quantity shall not be released into a sewer, storm drain, ditch, drainage canal, creek, stream, river, lake, or tidal waterway or on the ground, sidewalk, street, highway, or into the atmosphere.

Regulatory Mechanism

HMC Section 14.09.040-D

HMC Section 19.9.13-H

"No discharge of wastewater or stormwater in any form, as defined in the Federal Water Pollution Control Act (33 U.S.C. 1251 et seq.), shall be made into the storm water system or waters of the state of Nevada that would cause a violation of the NPDES storm water permit."

Proposed Program

- Inspect facilities that have a current renewable permit with the Fire Department for the use and storage hazardous materials
- Inspections of industrial facilities must occur at least once per year
- Documenting will be completed using current inspection forms
- Ensure that industrial facilities execute any required corrective action through follow up inspections and enforcement action, if necessary
- Tracking and reporting will be completed through KIVA

Inspection Procedures

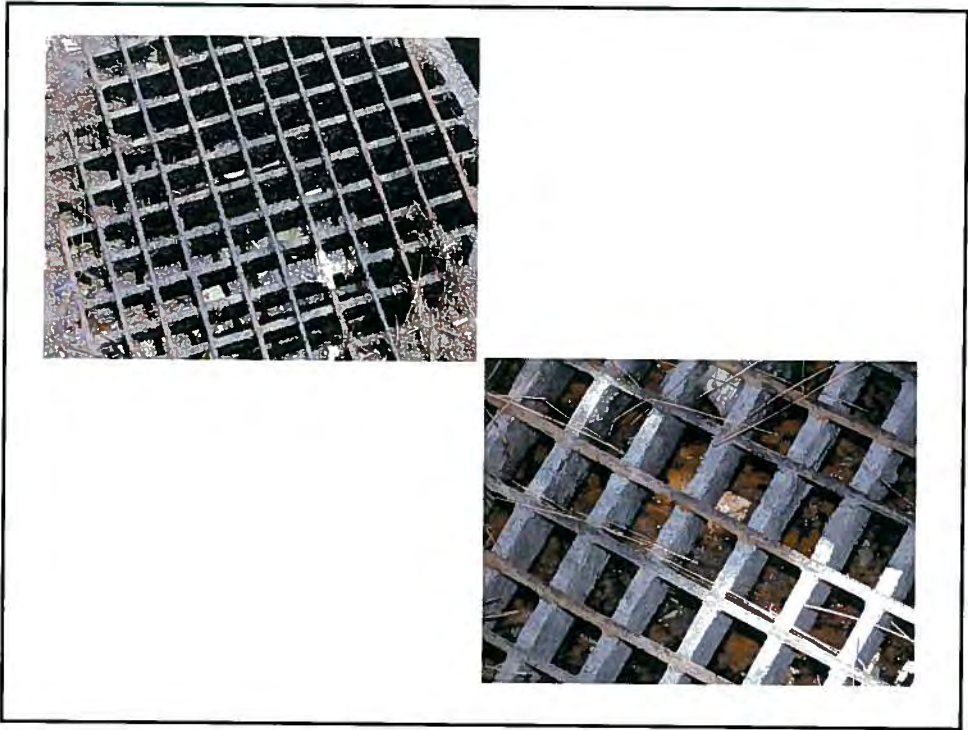
- Determine the location of drop inlets, washes and channels, site entrances, streets, and other areas of concern on and around the facility and look for evidence of pollutant discharge
- Determine the location of materials storage, handling, and disposal areas on the facility and ensure that they are adequately protected from direct rainfall and runoff
- Review facility for adequate housekeeping measures
- Schedule follow up inspections to ensure that the industrial facility executes any required corrective actions

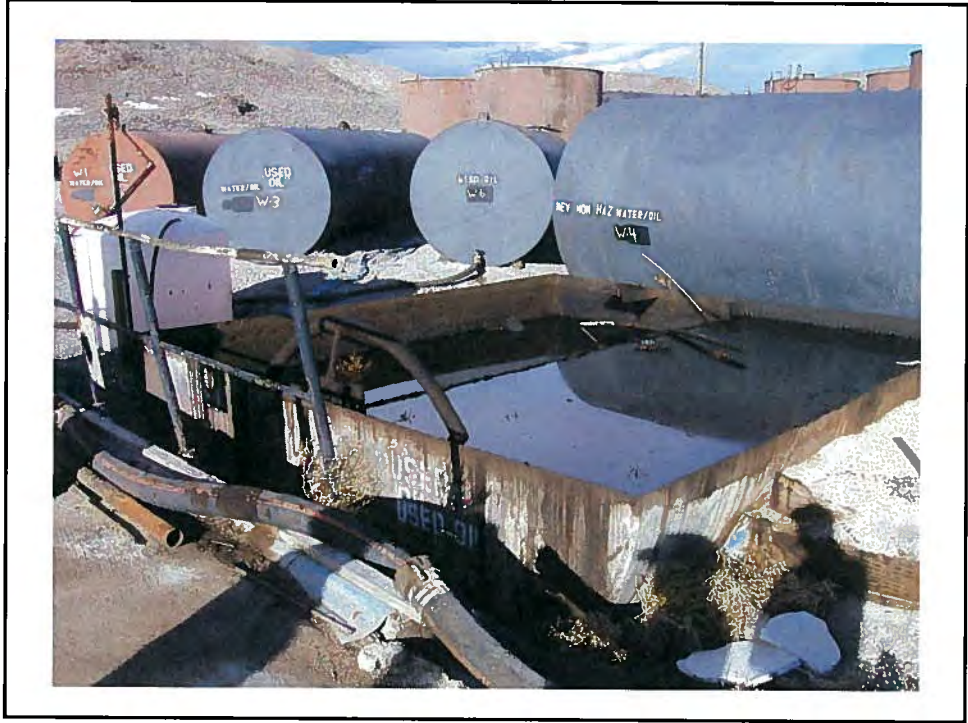
Record Keeping

- Document stormwater concerns on inspection form at time of inspection.
- Take pictures of areas of concern, unfamiliar control measures/BMP's, and good practices for training examples and flagrant violations.

Overview of Poor Best Management Practices













Overview of Good Best Management Practices







Best Management Practices

- Secondary containment for storage of materials
- Elevate materials above the ground
- Cover stored materials either temporarily or permanently
- Keep lids closed on waste containers when not in use
- Good Housekeeping

ENFORCEMENT ACTIONS

Name		Address			Phone Number	
Anonymous		528 Dutchman Avenue			NA	
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
528 Dutchman Avenue		Summerfield Unit 6A	15	19	190	17801616015
FEMA Panel	Major Cross Streets			Type of Complaint (See Note Below)		
	Warm Springs and Pabco			NPDES		
Problem						
Car hydraulic system leaked fluid into street and gutter. No storm drains were impacted.						
Proposed Solution						
Action Taken						
Fire Department responded and placed absorbent material on the leak. Al Jankowiak called street maintenance to schedule a street sweeper to clean the street and gutter.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	7/18/2007	988			
Additional Comments						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Bill Davidovich		2849 Sumter Valley Circle			702-614-2804	
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
		Sun City Anther Unit 4 Phase 2	207	9	429	191-12-211-025
FEMA Panel	Major Cross Streets			Type of Complaint (See Note Below)		
	Anthem Drive & Scotts Valley Drive			NPDES		
Problem						
Contractors are dumping concrete washout into the gutter.						
Proposed Solution						
Action Taken						
Called Code Enforcement and asked them to check into the complaint. Paul Shifrin called the project manager at Pulte Homes to tell him about the violation by his subcontractor.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	10/10/2007	992			
Additional Comments						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Ralph Stidham		854 Chaste Court			702-558-1527	
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
878 Chaste Court		Cinnamon Ridge Phas	150	3	255	17916217108
FEMA Panel	Major Cross Streets		Type of Complaint (See Note Below)			
	Burkholder & Cloudcrest		NPDES			
Problem						
Neighbor is purchasing, repairing, and selling cars from house. After repairs he is washing oil and other debris into gutter						
Proposed Solution						
Send field crews to inspect gutter and clean, if necessary.						
Action Taken						
Called Dan Parrott in Code Enforcement to investigate. Neighbor has been reported in past to business licensing for same issue. Sent Support Services to inspect gutter for oil discharge and clean as necessary.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	11/19/2007	994			
Additional Comments						
Code Enforcement talked with property owner. Owner has a car sales license and brings home cars on regular basis. He repaired his own car recently and mopped up oil with rag, then cleaned driveway. Code Enforcement identified no violation.						

Note: Any complaints involving pollution must contain "NPDES" in the complaint type

Any complaints regarding maintenance should contain "Maintenance" in the type

Name		Address			Phone Number	
Dodi Keraly		272 Grand Teton Drive			702	
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
273 Grand Teton Drive		Parkside Village Unit	12	2	99	17808314004
FEMA Panel	Major Cross Streets			Type of Complaint (See Note Below)		
	Silver Springs & Leisure			NPDES		
Problem						
Neighbor discharged gas and oil into street.						
Proposed Solution						
Action Taken						
Asked Support Services to investigate. There is an oil residue in the gutter that will be cleaned using absorbent material and sweeping.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	11/19/2007	995			
Additional Comments						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Anonymous		1251 American Pacific				
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
1251 American Pacific		Gibson Business Park	2		142	17815111013
FEMA Panel	Major Cross Streets			Type of Complaint (See Note Below)		
				NPDES		
Problem						
Report that either AAMCO or Hot Rod Café were washing grease and oil into the street. Utilities Pre Treatment could not verify this.						
Proposed Solution						
Action Taken						
WCC visited site after hours 3/31/08 and observed standing water in the parking lot that appeared to have an oily sheen on it.						
Flood Date	Received By	Date Received	Number			
	Chandler	3/31/2008	1000			
Additional Comments						
Received from State Division of Environmental Resources (#080331-01). Received in connection with a pretreatment complaint. Dave Ruegge investigated.						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Sammie Combs		1783 Antelope Valley Ave				
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
1783 Antelope Valley Ave		Inco Parcel	12	1	126	17821411008
FEMA Panel	Major Cross Streets		Type of Complaint (See Note Below)			
	Valle Verde and Paseo Verde		NPDES			
Problem						
Anonymous caller stated that residents at address was steam cleaning car engines in driveway which was discharging toxic water into the street and storm drain system						
Proposed Solution						
Action Taken						
Call was investigated by the Utility Services investigator. Based on visual inspection of the property and conversation with home owner, the anonymous tip cannot be substantiated.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	3/17/2008	1001			
Additional Comments						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Anonymous						
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
1180 Center Point Drive		Gibson Business Park	2		142	17815111007
FEMA Panel	Major Cross Streets		Type of Complaint (See Note Below)			
	Center Point and Pacific Center		NPDES			
Problem						
Dyna Flo is dumping sodium hydroxide into gutter.						
Proposed Solution						
Investigate complaint and notify business owner						
Action Taken						
Complaint was investigated by field crews and code enforcement. There is evidence of discharge in business parking lot and gutter, but no active discharge at time of investigation. Code Enforcement talk with business manager about proper BMP's.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	3/19/2008	1002			
Additional Comments						
During talk with manager an engine block was being prepared for cleaning in back lot. This allowed for investigators to educate the business staff and manager about BMP's and the HMC.						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

Name		Address			Phone Number	
Bill Gerads		Unknown			702-361-9996	
Address of complaint		Subdivision	Lot	Block	SAM Map	APN #
2610 Evening Sky Drive		Sun City Anthem Unit	114	5	430	19007119034
FEMA Panel	Major Cross Streets		Type of Complaint (See Note Below)			
	Sun City Anthem Drive and Anthem Park		NPDES			
Problem						
Contractors working at the address discharged paint and glue into the drop inlet located in front of 2602 Evening Sky.						
Proposed Solution						
Action Taken						
A field investigation was conducted and evidence of discharge found in drop inlet. The contractors were not present. Code Enforcement was informed of the violation. City drop inlet crews will clean the drop inlet.						
Flood Date	Received By	Date Received	Number			
	Al Jankowiak	5/14/2008	1003			
Additional Comments						
Al will talk with Code Enforcement about issuing a citation to the contractor.						

**Note: Any complaints involving pollution must contain "NPDES" in the complaint type
Any complaints regarding maintenance should contain "Maintenance" in the type**

APPENDIX J

Industrial Inspection Reports



APPENDIX J
INDUSTRIAL INSPECTION REPORTS

**Clark County Stormwater Industrial Inspections Program Expansion
Under the National Pollution Discharge Elimination System
Las Vegas Valley Municipal Separate Storm Sewer System (MS4) Permit**

**Report to Nevada Division of Environmental Protection
June 19, 2008**

Background

In the audit conducted by the US Environmental Protection Agency (EPA) on the implementation of the stormwater management program in the Las Vegas Valley, it was concluded,

“Clark County has not implemented a program to monitor and control pollutants in storm water discharges to the MS4 from industrial facilities that are contributing a substantial pollutant loading to the MS4.”

Subsequent to that report, the Nevada Division of Environmental Protection (NDEP), in its letter to the MS4 permittees dated May 2, 2007, the following requirements for Clark County:

- To develop an inventory and plan for the industrial facilities that are or may be contributing a substantial loading to the MS4
- To revise the industrial facility monitoring and control program to include any newly identified facilities, and commence monitoring activities at these industrial facilities

Inspection Personnel Planning and Support

For industrial sites in unincorporated Clark County, the approach to implement this program since 2004 has in large part been through collaboration with the Clark County Department of Air Quality and Environmental Management (DAQEM) and the Clark County Water Reclamation District (CCWRD) through an Interlocal Contract. This partnership will continue for the foreseeable future. This contract was primarily to inspect all industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (herein referred to as “313 sites”) as listed on the EPA’s Toxic Release Inventory (TRI), and to perform these inspections at a cost not to exceed \$15,000 per fiscal year.

At its May 6, 2008 meeting, the Clark County Board of County Commissioners approved an expanded Interlocal Contract with CCWRD to conduct and report on inspection of industrial sites. This includes the allocation of funds to \$160,000 through June 30, 2010, in order to satisfy the NDEP requirements. The goals and objectives of this contract include:

- Supporting DAQEM in developing a tiered, prioritized list of industrial facilities and sites that need stormwater system compliance inspections
- Conducting inspections, including follow-up inspections when necessary
- Maintaining records of inspections and other relevant information
- Developing standard operating procedures to facilitate all aspects of the industrial facility inspection program

- Developing, conducting, and participating in training for inspectors and the industrial community

County Ordinance

In order to better implement a full-scale industrial stormwater inspection, compliance, and enforcement program changes to current and/or the creation of new Clark County ordinances are needed. The Stormwater Ordinance currently in the process of being drafted will include both industrial and construction site inspection and enforcement elements. **The estimated timetable for the approval of this ordinance, which includes the steps of completing the draft, for conducting a business impact analysis to include public comment, for the formal public hearing process, and for final approval by the BCC is estimated to be December 31, 2008???**

Prioritizing Industrial Facilities for Inspection

DAQEM, with support from CCWRD, is implementing a multifaceted strategy for expansion of the industrial stormwater inspection and reporting program. This first step involves categorizing the industries, facilities, and sites to be inspected, to include those:

- 1) Currently being inspected under other programs, but have not previously been reported with respect to stormwater pollution mitigation (e.g., grease interceptors)
- 2) That can be inspected in the near-term and/or at little or no addition cost with respect to the current interlocal contract, and
- 3) That can be inspected in the longer term, likely to incur significant additional costs

These categories are summarized in Table 1. Details regarding each category currently being implemented follow, along with the progress made to date.

Table 1. Summary of Approaches to Expand Stormwater Industrial Inspection Program*

Timetable to Implement	Inspection Approach/ Industry Category	Activities/Level of Effort to Perform	Estimated # Facilities
Immediate (or ongoing)	Grease trap inspections	CCWRD desktop data compilation	~2000
	Dovetailing with on other ongoing environmental inspection programs	Coordinate with respective facility (e.g., McCarran Airport, Nellis AFB) ES&H manager; significant effort in coordination and data review, but not so for actual on-site inspection time	2 to 4 very large facilities (1)
Near-term (6 to 24 months)	All identified 313 sites	CCWRD to inspect all sites on TRI website	<5 (4)
	CCWRD pretreatment sites	CCWRD to identify facilities also appropriate for stormwater inspections; effort level less than current inspections	10 to 20 (7)
	NPDES industrial permit holders	CCWRD and DAQEM to identify most critical facilities to inspect; inspection effort equivalent to those completed.	~20
	Municipal landfills/hazardous waste facilities	DAQEM to identify any appropriate facilities in landfill, recycling, and similar categories	<5
	Transportation and other priority facilities	DAQEM and CCWRD to identify most critical facilities to inspect	~50
	School bus yards	DAQEM to determine jurisdictional issues and inspection approach	3 (1)

Long-term (2 to 5 years)	Industrial park approach	Significant time to be expended identifying industrial park locations and appropriate industries within the park to inspect, and in notifying/coordinating with owners to perform inspections	Several dozen businesses
	Corporate Yards	DAQEM to work with County departments to determine inspection and reporting approaches	~15
	Federal facilities	DAQEM to work with NDEP and respective facility to determine jurisdictional issues/inspection approach	~5
	Review large- and small-quantity generators lists	DAQEM and CCWRD to identify most critical facilities to inspect	10 to 50
	Review CCFD business licensing forms	DAQEM to confer with CCFD to identify most likely facilities to inspect.	~25

* Text in blue indicates elements of the strategy under implementation and sites inspected to date

Reporting Immediate or Ongoing Inspections

Grease trap/sand-oil interceptor inspections. CCWRD will, on a quarterly basis, report the grease trap and sand-oil interceptor inspections it performs as part of its wastewater pretreatment inspection program. These inspections are a valid stormwater pollution mitigation strategy, for which the grease interceptor program underway in the Las Vegas Valley is singled out by EPA on its website as an example of an effective stormwater illicit discharge detection and elimination program (see

http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=min_measure&min_measure_id=3.

The initial quarterly Grease and Sand/Oil Interceptor Inspections Report, covering October 1 through December 31, 2007, is provided as a spreadsheet in Attachment 1. This report documents over 350 inspections during this 3-month time period.

Dovetail with Ongoing Inspection Programs. While conducting a routine wastewater pretreatment inspection of Nellis AFB, the CCWRD inspector also conducted a cursory stormwater inspection of the base with its Environmental Engineer. Included in the inspection report of the base were copies of the AFB's stormwater awareness training module, its standardized stormwater inspection checklists, and a list of the building and other facilities throughout the base regularly inspected for stormwater permit compliance. Similar interactions and collaborations are planned for the Clark County Department of Aviation facilities (i.e., airports managed by Clark County in the Las Vegas Valley) and other facilities as they are identified.

Near-term Inspection Strategy

Inspections of "313 Sites". The first round of inspections of 313 sites in unincorporated Clark County was completed as noted with the visits to the facilities listed in Table 2. A timetable for initiating the next round of visits to each of the 313 sites listed on the TRI webpage will be incorporated into the overall inspection program strategy as outlined in Table 1. It should be noted that a perennial challenge of conducting inspections of facilities listed on the EPA TRI webpage is that the webpage is not regularly maintained and several of the sites have been found to either no longer be in operation or are otherwise unable to be located at the addresses provided.

Table 2. Most recently Inspected Clark County 313 Sites

313 Site	Address
Meadow Gold Dairies	6350 E. Centennial Pkwy, N Las Vegas 89115
Service Rock Products, Inc	Cactus and Pollock Rd
MCC Uniflex	115 Grier Rd, Las Vegas 89119
Rebel Oil Co., Inc.	5054 N. Sloan Rd, Las Vegas 89115

CCWRD Pretreatment Sites. In this permit year (2007-2008), CCWRD, based on operational knowledge of its inspection staff, has begun to inspect its pretreatment facilities for stormwater compliance that are determined to have the potential to contribute a significant pollutant load to the MS4. Table 3 identifies these facilities. It should be noted that the facilities in Table 3 are either “non-filers” (i.e., they have not filed notices of intent [NOIs] with NDEP under its general industrial permit), or have not been listed in the NDEP database as having filed an NOI (see later discussion on the NOI database).

It should also be noted here that two of the facilities listed in Table 3, RC White (Arville) Transportation Center (i.e., a CCSD bus yard) and Nellis AFB, are also facilities listed in other categories of the inspection prioritization strategy outlined in Table 1. This is evidence of the robust strategy Clark County is employing to “develop an inventory...for the industrial facilities that are or may be contributing a substantial loading to the MS4.”

Table 3. CCWRD Pretreatment Inspection Sites Inspected for Stormwater Compliance

Facility	Address
Baker Commodities	5725 Range Rd, Las Vegas
Ken's Foods, Inc.	8925 Kens Ct, Las Vegas 89139
RC White (Arville) Transportation Center	4499 S Arville St, Las Vegas 89103
Nevada Linen Supply	3960 Mesa Vista Dr, Las Vegas 89118
American Soft Gel Products	7440 S. Dean Martin Ave, Suite 206
Nellis AFB	6020 Beale Ave, Las Vegas 89191
Western Linen Services	4575 S Procyon Ave, Las Vegas 89103

Clark County School District (CCSD) Bus Yards. While CCSD facilities are exempt by Nevada Revised Statutes from having to file an NOI for stormwater management, its facilities are not exempt from inspection for compliance with stormwater regulations. Therefore, as part of its pretreatment inspection program, the CCWRD inspector visited the RC White (Arville) Transportation Center, which is a bus yard owned and operated by CCSD. In addition to CCWRD completing the inspection and CCSD effectively addressing to the inspection findings in a timely manner, DAQEM has offered to make a stormwater pollution awareness presentation to CCSD management. The results of the inspection and the letter offering this training are provided in Attachment 2. Other CCSD bus yards within unincorporated Las Vegas Valley will also be considered for future inspections.

NPDES-permitted Facilities in NDEP Database. DAQEM evaluated the NPDES-permitted industries by reviewing the NDEP website <http://ndep.nv.gov/bwpc/industrialnoi/signin.aspx> containing all permits (i.e., NOIs) within the Las Vegas Valley MS4 at. A list of these facilities is presented in Table 4. The locations of these facilities have been plotted on a map of the area in Figure 1.

Table 4. Facilities in NDEP Stormwater NOI Database in Unincorporated Clark County

Parcel #	Facility	Address	Location/Township
140-21-304-004	Holton Truck Lines	3640 Meikle Ln	Sunrise Manor
123-32-301-014	DBA King Auto Parts	5001 Copper Sage St	Unincorp. County
162-22-402-001	CLS Transportation	4744 Paradise Rd	Paradise
162-32-810-005	Merillat Industries	6405 Ensworth St	Paradise
161-28-801-001	Clark Station	5640 Stephanie St	Whitney
161-10-601-001	Sunrise Station	6350 (6300) Vegas Valley Dr	Sunrise Manor
126-36-301-001	Lone Mountain Pit	10811 W Washburn Rd	Unincorp. County
140-17-402-007	Cool Transports Inc	4466 E Carey Ave	Sunrise Manor
162-30-801-013	Omega Products Corp	5576 Wynn Rd	Paradise
140-21-301-001	Pabco Gypsum	1990 (1973) N Nellis Blvd	Sunrise Manor
162-19-203-011	Pan Western Corp	4755 W University Ave	Paradise
140-17-703-004	Precast Concrete Co	2755 N Nellis Blvd	Sunrise Manor
162-08-803-003	Prime Fabrication & Supply	3130 Westwood Dr	Winchester
162-30-801-015	Federal Sign	3900 W Dewey Dr	Paradise
162-01-402-005	Taylor Hall US Army Reserve Center	2901 E Sahara Ave	Las Vegas
177-04-802-001	UPS 335	335 E Arby Ave	Enterprise
161-12-000-001	Sunrise Landfill Cover	7901 (7900) Vegas Valley Dr	Unincorp. County
162-20-302-002	Bus Maintenance Facility	3200 W Tompkins Ave	Paradise
162-20-302-011	Bus Maintenance Facility	3200 W Tompkins Ave	Paradise
163-36-601-037	Cind R Lite	6085 S Decatur Blvd	Spring Valley
140-17-703-005	Nevada Construction Clean Up Inc	2745 N Nellis Blvd	Sunrise Manor
191-19-101-008	Sierra Ready Mix	13890 S Decatur Blvd	Unincorp. County
176-23-701-009	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-23-801-002	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-23-801-011	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
176-26-501-003	Rinker Blue Diamond Aggregate Quarry and Plant	9325 S Jones Blvd	Enterprise
140-16-310-043	Evergreen Recycling Center	5491 Accurate Dr	Sunrise Manor
140-05-201-012	Las Vegas Western Warehouse	4495 Copper Sage St	Sunrise Manor
162-29-401-003	Auburn Fibers	3585 W Diablo Dr	Paradise
140-05-101-009	Fed Ex Freight West	4610 N Lamb Blvd	Sunrise Manor
140-17-311-014	Cary Industrial Park	2612 Abels Ln	Sunrise Manor
161-31-311-003	DHL Express	6180 S Pearl St	Paradise
123-34-201-004	Beasley Plant	5355 Beesley Dr	Unincorp. County
161-31-310-017	General Electric	6295 S Pearl St	Paradise
123-32-301-014	Las Vegas Metals Recycling	5001 Copper Sage St	Unincorp. County
162-30-201-004	Young Electric Sign	5119 Cameron St	Paradise
123-27-601-008	Vegas Valley Auto Wrecking	6019 N Hollywood Blvd	Unincorp. County
162-17-204-001	Cinder Cone Mine	3660 (3333) Cinder Ln	Paradise
162-27-301-001	Mccarran International Airport	5757 Wayne Newton Blvd	Paradise
161-15-401-002	Central & Advanced Treatment Plants	5857 E Flamingo Rd	Whitney
161-10-701-003	Abbies Auto Wrecking	6361 (6351) Vegas Valley Dr	Sunrise Manor
163-15-101-001	Wells Cargo	7770 Spring Mountain Rd	Spring Valley
191-19-401-002	Sloan Plant	14575 Arville St	Unincorp. County
163-16-401-005	Desert Breeze Water Resource Center	4085 S Tomsik St	Spring Valley
123-26-201-003	Davis Auto Wrecking	6020 N Hollywood Blvd	Unincorp. County
162-32-301-005	Granite World	6280 S Valley View Blvd A	Paradise
176-23-701-015	Arden Terminal	6400 W Richmar Ave	Enterprise
177-03-501-001	USPS Vehicle Maintenance Facility	1001 E Sunset Rd	Paradise
123-32-101-004	Ev-Con Recycling Facility	4560 E Hammer Ln	Unincorp. County
163-36-801-039	Yellow Transportation	5049 W Post Rd	Spring Valley
123-27-601-004	Prostar Drop Boxes LLC	6131 N Hollywood Blvd	Unincorp. County
176-23-410-009	Ready Mix Inc	6501 W Richmar Ave	Enterprise
17727801016	South (Cactus) Plant	1001 E. Cactus	Enterprise

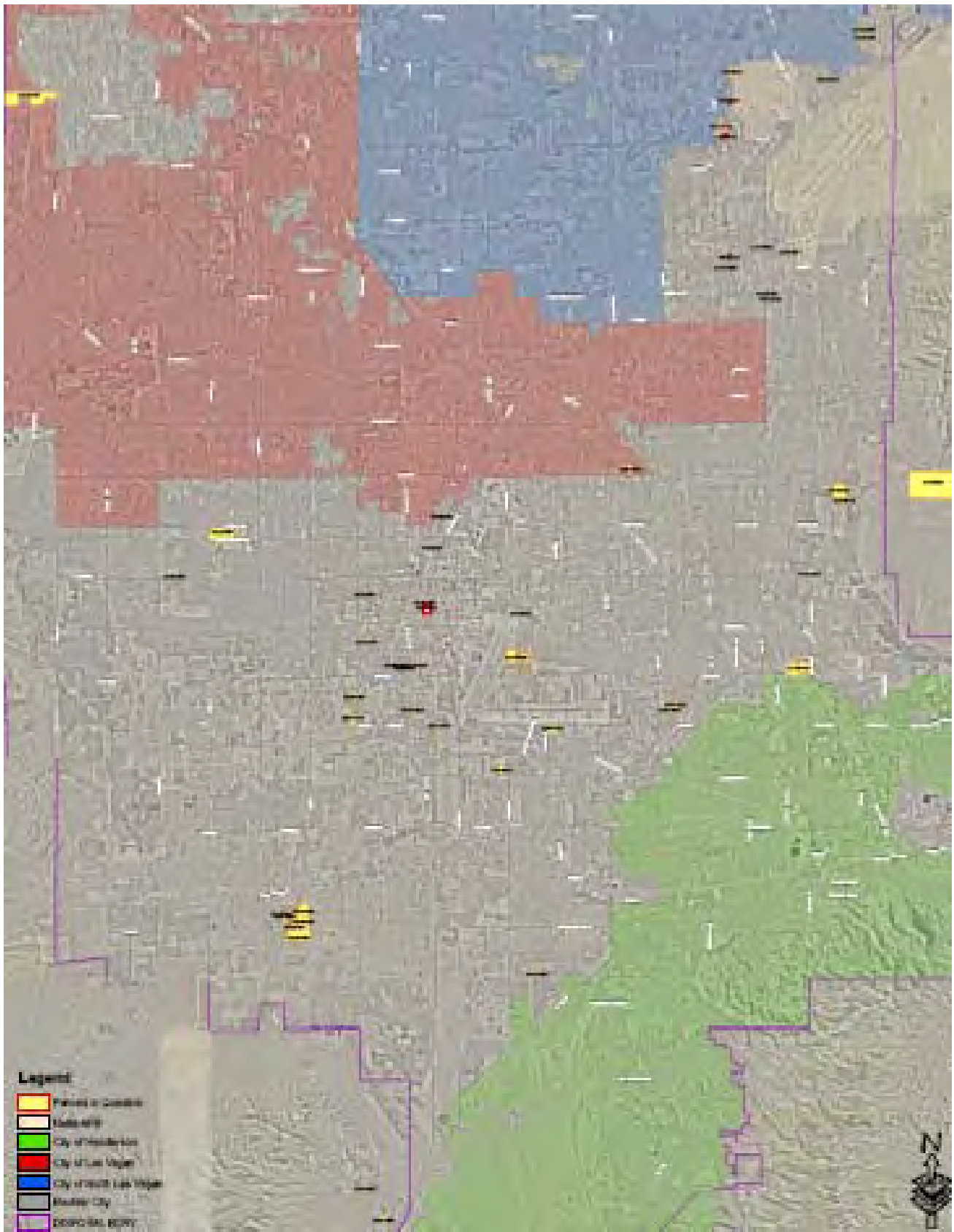


Figure 1. Locations of facilities in NDEP stormwater NOI database in unincorporated Clark County

Development of Stormwater Industrial Inspections Standard Operating Procedures (SOP) and Awareness Training Materials

SOP Development. In order to better define the stormwater industrial inspection, violation, and enforcement processes a flow diagram and an accompanying SOP was drafted (Attachment 3). As the program continues to develop and the routine steps in the process become evident the CCWRD inspection staff and DAQEM will formalize additional, more detailed SOPs.

Inspection Form Development. In addition, a more extensive on-site inspection form has been developed to better guide the inspector through each inspection, thereby both ensuring consistency and thoroughness among inspections, and reducing the time required to report the results of each inspection. This form has been incorporated into the inspection process and was employed at the start of the 2007-2008 permit year.

Awareness Training. A draft industrial stormwater training module has been developed by DAQEM which will be a template for the training of managers and employees at industrial facilities covered under the NPDES Industrial Stormwater Permit, as well as for other industry and governmental professionals. It is anticipated that this training program will compliment the presentation developed by DAQEM entitled, "Stormwater Management for Construction Sites" currently being used by DAQEM instructors in the Dust Class, and will ultimately help industrial facilities avoid stormwater-related violations.

Attachment 1

Grease and Sand/Oil Interceptor Inspections Report, Clark County Water Reclamation District, October 1 – December 31, 2007

TYPE	ACCT NAME	ADDRESS	ZIP	COMP	LOCATION	INSP DATE
PSND	Palms Hotel & Casino	4321 W Flamingo Rd	89147	YES	TRASH COMPACTOR	10/31/2007
PSND	Charleston Auto Care Plaza	10127 W Charleston Blvd	89117	YES	COMMON 10127 W CHARLESTON	11/30/2007
PSND	Charleston Auto Care Plaza	10127 W Charleston Blvd	89117	YES	COMMON 10177 W CHARLESTON	11/30/2007
PGRS	Werner Center	4200 W Russell Rd	89118	YES	SUITE 115-TACOS EL NOPAL	10/15/2007
PGRS	Pt Pub	582 E Silverado Ranch Blvd	89123	YES	PT PUB	10/10/2007
PGRS	Rhino Mart	780 E Pyle Ave	89123	YES	CAR WASH	10/29/2007
PSND	Snackers II (681989 Lvvdw)	9430 Peace Wy	89147	YES	SNACKERS II	12/19/2007
PGRS	Sysco Food Service	6201 E Centennial Pkwy	89115	YES	FACILITY GREASE TRAP	10/17/2007
PSND	Sysco Food Service	6201 E Centennial Pkwy	89115	YES	MAINT. SHOP	10/17/2007
PSND	Tire Works	9590 W Tropicana Ave	89147	YES	TIRE WORKS	12/17/2007
PGRS	Charleston Auto Plaza	10267 W Charleston Blvd	89141	YES	KENTUCKY FRIED CHICKEN	11/29/2007
PGRS	Charleston Auto Plaza	10267 W Charleston Blvd	89141	YES	TACO BELL	11/30/2007
PGRS	Taco Bell	6461 Boulder Hwy	89122	YES	TACO BELL	10/10/2007
PGRS	Food 4 Less	4965 E Sahara Ave	89104	YES	FOOD 4 LESS	12/20/2007
PGRS	Molly Malones Irish Pub	11930 Southern Highlands Pkwy	89135	YES	MOLLY MALONES IRISH PUB	11/27/2007
PGRS	Senior Recreation Center	953 E Sahara Ave	89109	YES	SENIOR RECREATION CENTER	11/19/2007
PGRS	Commercial Center	9755 W Russell Rd	89148	YES	CLUB KITCHEN	10/15/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	PHO NOG	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	SUSHI YAKAHOMA	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	NO	SUSHI YAKAHOMA	10/2/2007
PGRS	St Tropez Plaza	4501 Paradise Rd	89109	YES	HAMBURGER MARYS	10/2/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	WAKO	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	ELI WOODS/ISLAND GRILL	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	EL CHONCHO	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	CHINA STAR	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	JACK IN THE BOX	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	STE 18/19 I TOY	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	O.J. BIBINGKAHAN	12/6/2007
PGRS	Sahara Towne Square L L C	2650 S Maryland Pkwy	89109	YES	PLAZA CAFE	12/6/2007
PGRS	Windmill Valley Plaza	8140 S Eastern Ave	89123	YES	SUITES 1-2	11/5/2007
PGRS	Target	4155 S Grand Canyon Dr	89147	YES	TARGET DELI	12/19/2007
PSND	Enterprise Leasing Co West	8290 Arville St	89117	YES	CARWASH	11/9/2007
PSND	Red Rock Country Club - Mtn Golf Cart Barn	2250 Red Springs Dr	89135	YES	CART MAINT BLDG	12/14/2007
PGRS	Tropicana Partners 2 Llc	9837 W Tropicana Ave	89135	YES	TIMBERS BAR AND GRILL	12/18/2007
PSND	Sears Grand	4355 S Grand Canyon Dr	89147	YES	AUTO CENTER	12/19/2007
PGRS	Hualapai Rochelle Partners L L C	4280 S Hualapai Wy	89147	YES	STE 108-BUFFALO WILD WING	12/19/2007
PSND	Automotive Center	9530 W Tropicana Ave	89135	YES	JUST BRAKES	12/17/2007
PSND	Automotive Center	9530 W Tropicana Ave	89135	YES	SUN AUTO	12/17/2007
PGRS	Faith Lutheran Jr/Sr High School	2015 S Hualapai Wy	89117	YES	SCHOOL KITCHEN	11/30/2007
PSND	Faith Lutheran Jr/Sr High School	2015 S Hualapai Wy	89117	YES	MAINT SHOP	11/30/2007
PGRS	Fire Station #28	10820 W Sahara Ave	89135	YES	KITCHEN	12/14/2007
PSND	Fire Station #28	10820 W Sahara Ave	89135	YES	SERVICE BAY	12/14/2007
PGRS	Shooters Bar And Grill	4465 E Sahara Ave	89104	YES	SHOOTERS BAR AND GRILL	12/29/2007
PGRS	Panda Express	2625 S Eastern Ave	89109	YES	PANDA EXPRESS	11/29/2007
PGRS	Vegas Valley Plaza	2755 S Nellis Blvd	89121	YES	HAWAIIAN BARBEQUE STE 1	12/19/2007
PGRS	Red Rock Station Casino	11011 W Charleston Blvd	89135	YES	LOADING DOCK	12/7/2007
PGRS	Red Rock Station Casino	11011 W Charleston Blvd	89135	YES	LOADING DOCK	12/7/2007
PGRS	Apache Plaza	4235 S Fort Apache Rd	89135	YES	MONTESANO PIZZA	12/20/2007
PGRS	Apache Plaza	4235 S Fort Apache Rd	89135	YES	SUITE 250-BAJIO REST	12/20/2007
PSND	Apache Plaza	4295 S Fort Apache Rd	89147	YES	BRAKE TEAM	12/20/2007
PGRS	Apache Plaza	4295 S Fort Apache Rd	89147	YES	SPORT CLIPS	12/20/2007
PGRS	Tropicana-Tee Pee Shopping Ctr	9575 W Tropicana Ave	89135	YES	SHANGHAI EXPRESS	12/18/2007
PGRS	Apache Plaza	4199 S Fort Apache Rd	89147	YES	FAT BURGER	12/20/2007
PGRS	Smiths Food And Drug	10100 W Tropicana Ave	89147	YES	DELI	12/18/2007
PGRS	Headstart Preschool	2845 Mohawk St	89146	YES	SCHOOL KITCHEN	12/12/2007
PGRS	Siena Town Center	10170 W Tropicana Ave	89135	YES	BOUNTY HUNTER	12/18/2007
PGRS	Siena Town Center	10180 W Tropicana Ave	89135	YES	CAGWT102	12/19/2007
PGRS	Grand Canyon Commercial	9730 W Tropicana Ave	89147	YES	SUITE 140 MAMA LUIGI'S	12/17/2007
PGRS	Hualapai Peace Retail Ctr	4520 S Hualapai Wy	89135	YES	LAHAINA GRILL...03/09/06	12/19/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	YES	SUITE D	10/25/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	NO	SUITE C	10/29/2007
PGRS	Silverado Ranch Centere li	9845 S Maryland Pkwy	89119	NO	SUITE D	10/29/2007
PSND	Siena Auto Spa	9780 W Tropicana Ave	89147	YES	SIENA AUTO SPA	12/17/2007
PGRS	Grand Canyon Commercial	9700 W Tropicana Ave	89147	YES	I LOVE BBQ#100	12/17/2007
PGRS	Popeyes Chicken & Biscuits	4225 S Fort Apache Rd	89147	YES	POPEYE'S CHICKEN	12/20/2007
PSND	Princeton Auto Sales	3105 E Sahara Ave	89104	YES	PRINCETON AUTO SALES	12/12/2007
PGRS	Butterfly Square	545 E Sahara Ave	89104	YES	KARONA GRILL	10/15/2007
PGRS	Butterfly Square	545 E Sahara Ave	89104	YES	KARONA GRILL	11/19/2007
PGRS	Embassy Suites	3600 Paradise Rd	89169	YES	CAFE	10/10/2007
PSND	Reliable Auto Sales	1815 E Sahara Ave	89104	YES	AUTO SALES SHOW N SELL	12/17/2007

PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	TRAMPS	10/2/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	BUFFALO	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	NO	TRAMPS	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	NO	MILANO'S III	10/1/2007
PGRS	Paradise Plaza	4640 Paradise Rd	89109	YES	MILANO'S III	10/1/2007
PGRS	Embassy Suites	4315 Swenson St	89119	YES		10/8/2007
PGRS	Las Vegas Convalescent Ctr	2832 S Maryland Pkwy	89109	YES	LV CONVALESCENT CENTER	12/5/2007
PSND	Unlv	4505 S Maryland Pkwy	89109	YES	WEST SHOP	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	DINNER COMMON	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	BEAM HALL	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	STUDENT UNION	10/3/2007
PSND	Unlv	4505 S Maryland Pkwy	89109	YES	NATORIUM NORTH-EAST	10/3/2007
PGRS	Unlv	4505 S Maryland Pkwy	89109	YES	BOOK N BEAN CAFE	10/3/2007
PGRS	Club Paradise	4416 Paradise Rd	89109	YES	KITCHEN	10/8/2007
PGRS	Del Taco	1197 E Tropicana Ave	89119	YES		10/1/2007
PGRS	Valley High School #552	2839 Burnham Ave	89109	YES	SCHOOL KITCHEN	12/7/2007
PSND	Valley High School #552	2839 Burnham Ave	89109	YES	AUTO SHOP	12/7/2007
PGRS	Sunrise City Shopping Ctr	2797 S Maryland Pkwy	89109	YES	PIZZA HUT	11/15/2007
PGRS	Sunrise City Shopping Ctr	2797 S Maryland Pkwy	89109	YES	GOLDILOCKS	11/15/2007
PSND	Econo Lube And Tune	3450 Boulder Hwy	89121	YES	SIGNATURE LINCOLN	12/4/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	HOT SHOTS/STE 22-24	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	LA PACHANGA MEX/STE 1-2	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	BEST THAI FOOD/STE 32-33	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	FUJI JAPANESE REST/STE 30	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	BIG JOHNS/STE 27-29	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	OLD PHILADELPHIA/STE 6	10/8/2007
PGRS	Tropicana Plaza	3420 E Tropicana Ave	89121	YES	ILOPONGO SALVADOR STE 3-4	10/8/2007
PGRS	Petes Place	3095 Fremont St	89104	YES	PETES PLACE	11/30/2007
PSND	Metro Hyundai	2025 E Sahara Ave	89104	YES	METRO HYUNDAI	12/5/2007
PSND	Pete Findlay Oldsmobile	3024 Fremont St	89104	YES	SERVICE BAY	12/12/2007
PSND	Magic	3184 Fremont St	89104	YES	MAGIC	12/4/2007
PSND	Magic	3184 Fremont St	89104	YES	ALL TUNE & LUBE	12/4/2007
PSND	Fletcher Jones Toyota Body Shop	3131 Fremont St	89104	YES	FLETCHER JONES TOYOTA BS	12/4/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	KOREA HOUSE	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	LOTUS	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	EL SINALOENSE	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	CUE CLUB	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	PENG CHINESE STE A18	11/15/2007
PGRS	Sahara 250 Reno L L C Etal	953 E Sahara Ave	89104	YES	JONG GI	11/15/2007
PSND	Speedee Mart (025230 Lvwd)	569 E Sahara Ave	89104	YES	CAR WASH	11/15/2007
PGRS	Sahara Avenue Saloon	3345 E Sahara Ave	89104	YES	SAHARA AVENUE SALOON	12/5/2007
PGRS	Circle K Store #1365	3200 Fremont St	89104	YES	C-STORE	12/4/2007
PSND	Ted Wiens Firestone-2	3352 Fremont St	89104	YES	TED WIENS FIRESTONE-2	12/13/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	KOREAN CAFE	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	SAHARA KOREA	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	TOKYO	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	BIRRIERIA JALISCO	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	JIN MEE	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	MIJORI	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	ELEPHANT	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	LA BARC	11/15/2007
PGRS	Village Square	953 E Sahara Ave	89109	YES	KOMOL	11/15/2007
PSND	United Nissan	3025 E Sahara Ave	89104	YES	SERVICE BAY	12/5/2007
PGRS	Eureka Casino	595 E Sahara Ave	89104	YES	EUREKA CASINO	11/16/2007
PGRS	Kentucky Fried Chicken Store X527009	1990 N Nellis Blvd	89115	YES	KENTUCKY FRIED CHICKEN	10/10/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D7 TRASH COMPACTOR	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	WOLFGANG PUCKS	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	NEW RESTAURANT PAD	10/25/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	EAST SIDE GOLD GARAGE	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	AIRFIELD OPS BLDG	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	SWEEPER WASH AREA	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	PRICKLY PEAR BAR & GRILL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	RUBY'S REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	RUBY'S REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE EAST	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C.C. FIRE STATION S/O	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	AIRPORT COORDINATOR S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BRIDGE ROTUNDA TRASH COMP	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	NORTH 40 CARWASH	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 2 - S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	N/E GRAY HALL TRASH COMP	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GATE D-36 TRASH COMPACTOR	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	N/W GRAY HALL TRASH COMP	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	DON ALAHANDRO'S MEXICAN	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHARTER INTERNATIONAL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHARTER INTERNATIONAL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BURGER KING	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BURGER KING	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	FLATBREAD	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	BIG APPLE REST.	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHILIS	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	CHEERS BAR & GRILL	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE FOOD COURT	10/25/2007

PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE FOOD COURT	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE WEST	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D GATE WEST	10/25/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	PRICKLY PEAR BAR & GRILL	10/25/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GSE CARWASH	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	GSE TRASH	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	C GATE TRASH COMPACTOR	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 2 TRASH COMPACTR	11/20/2007
PSND	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	TERMINAL 1-ZERO LEVEL S/O	11/20/2007
PGRS	Mccarran International Airport	5757 Wayne Newton Blvd	89119	YES	D36 TRASH COMPACTOR	11/20/2007
PGRS	University Plaza	1131 E Tropicana Ave	89119	YES	SUITE D - THANG HUONG	10/25/2007
PGRS	University Plaza	1131 E Tropicana Ave	89119	NO	SUITE D - THANG HUONG	10/3/2007
PGRS	El Pollo Loco #6019	2375 E Sahara Ave	89104	YES	POLLO LOCO	11/29/2007
PSND	Big O Tire Service	3415 S Maryland Pkwy	89109	YES	BIG O TIRE SERVICE	12/12/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	SERVICE BAY	12/11/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	SERVICE BAY	12/11/2007
PSND	Chapmans LV Dodge(27377 LVVWD)	3470 Boulder Hwy	89121	YES	CAR WASH	12/11/2007
PSND	Pat Clark Pontiac	2575 E Sahara Ave	89104	YES	SERVICE BAY	12/5/2007
PSND	Pat Clark Pontiac	2575 E Sahara Ave	89104	YES	CAR WASH	12/5/2007
PGRS	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	FURRS	11/30/2007
PSND	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	KMART	11/30/2007
PGRS	K-Mart #4369 And Furr's Cafeteria	2975 E Sahara Ave	89104	YES	KMART	11/30/2007
PGRS	Spotlight Lounge	975 E Sahara Ave	89104	YES	SPOTLIGHT LOUNGE	11/16/2007
PSND	Pete Findlay Oldsmobile	3112 Fremont St	89104	YES	CAR WASH	12/12/2007
PGRS	Starboard Tack	2601 Atlantic St	89121	YES	STARBOARD TACK	11/30/2007
PSND	Checker Auto Parts	2755 E Sahara Ave	89104	YES	SERVICE BAY	11/30/2007
PGRS	Leatherbys Family Creamery	577 E Sahara Ave	89104	YES	LEATHERBYS FMLY CREAMERY	11/30/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	KING & I	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	P T'S PUB	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	YES	FLOMAR'S CORNER CAFE	10/3/2007
PGRS	University Plaza	1083 E Tropicana Ave	89119	NO	FLOMAR'S CORNER CAFE	10/3/2007
PGRS	Vegas Market #4	777 E Twain Ave	89109	YES	DELI	10/8/2007
PGRS	Sam Ash L L C	2747 S Maryland Pkwy	89109	YES	ACTIVE FIXTURE	11/16/2007
PGRS	Richard C White Transportation Ctr	4493 Arville St	89103	YES	SCHOOL KITCHEN	10/29/2007
PSND	Richard C White Transportation Ctr	4493 Arville St	89103	YES	BUS WASH	10/29/2007
PSND	Richard C White Transportation Ctr	4493 Arville St	89103	YES	BUS SERVICE BAY	10/29/2007
PSND	Cadillac Of Las Vegas	2711 E Sahara Ave	89104	YES	CADILLAC OF LAS VEGAS	12/17/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	SERVICE BAY	11/30/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	CAR WASH	11/30/2007
PSND	Fletcher Jones Toyota	3175 E Sahara Ave	89121	YES	SERVICE BAY	11/30/2007
PGRS	Play It Again Sam	4120 Spring Mountain Rd	89146	YES		10/10/2007
PSND	Drive Time Car Sales	3333 Fremont St	89104	YES	CAR WASH	12/4/2007
PSND	Drive Time Car Sales	3333 Fremont St	89104	YES	SERVICE BAY	12/4/2007
PGRS	Windmill Park	2207 E Windmill Ln	89123	YES	LONG JOHN SILVERS/A&W	10/10/2007
PSND	A-Allied Automotive	4047 W Desert Inn Rd	89146	YES	SERVICE BAY	10/10/2007
PSND	24 Hour Fitness Center	2605 S Eastern Ave	89109	YES	HARLEY DAVIDSON	11/29/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES		12/19/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES	ELEPHANT BAR	12/18/2007
PGRS	Elephant Bar	2797 S Maryland Pkwy	89109	YES	ELEPHANT BAR	11/15/2007
PSND	Marsh Jim American Corp	2445 E Sahara Ave	89104	YES	MARSH JIM AMERICAN CORP	11/30/2007
PSND	Marsh Jim American Corp	2445 E Sahara Ave	89104	YES	MARSH JIM AMERICAN CORP	12/13/2007
PSND	Desert Chrysler Jeep	2580 S Eastern Ave	89109	YES	DESERT CHRYSLER JEEP	12/17/2007
PGRS	New Orleans Square	900 Karen Ave	89109	YES	SUITE D114-FILIPIANA	11/19/2007
PGRS	New Orleans Square	900 Karen Ave	89109	YES	SUITE C101-108	11/15/2007
PGRS	Airport Center	5030 Paradise Rd	89119	YES	DELI - BLDG D	10/4/2007
PGRS	Corporate Catering	3824 Paradise Rd	89109	YES		10/5/2007
PGRS	Eastwind Center L L C	2381 E Windmill Ln	89123	YES	DREAMERS	10/10/2007
PGRS	Eastwind Center L L C	2381 E Windmill Ln	89123	YES	CHOP STIX	10/10/2007
PSND	Budget Rentals (091139 Lvwwd)	5188 Paradise Rd	89119	YES		10/4/2007
PGRS	Mcdonalds/Chevron Terrible Herbst	1195 E Sahara Ave	89104	YES	MCDONALDS/CHEVRON	11/15/2007
PGRS	Retail Center	2685 S Eastern Ave	89109	YES	JACK IN THE BOX #710	11/29/2007
PSND	Enterprise Rent A Car	2465 E Sahara Ave	89104	YES	ENTERPRISE RENT A CAR	12/13/2007
PGRS	West Flamingo Centre	4755 W Flamingo Rd	89103	NO	SUITE E - EL TACO FRESCO	10/31/2007
PSND	Cambridge Car Wash(034341 Lvwwd)	3600 Cambridge St	89109	YES	CAMBRIDGE CAR WASH	10/19/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	WET BAR & CAFE	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	ALOHA KITCHEN	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	CAPRIOTTI'S	10/2/2007
PGRS	University Square	4725 S Maryland Pkwy	89109	YES	EAST BOY	10/2/2007
PGRS	Las Vegas University Gardens	4632 S Maryland Pkwy	89109	YES	SUITE 7	10/10/2007
PGRS	Howard Johnson Airport Inn	5100 Paradise Rd	89119	YES		10/1/2007
PSND	Gaudin Ford	2121 E Sahara Ave	89104	YES	SERVICE BAY	12/3/2007
PSND	Gaudin Ford	2121 E Sahara Ave	89104	YES	BODY SHOP	12/3/2007
PGRS	Wendys Of Las Vegas Inc	2601 S Eastern Ave	89109	YES	WENDY'S	11/29/2007
PGRS	Palm Parkway Associates	2075 Palm St	89104	YES	LUCKY NICKEL	12/5/2007
PSND	Palm Parkway Associates	2075 Palm St	89104	YES	BLDG 2, SUITE O	12/5/2007
PGRS	Gemco Shopping Center	5825 W Sahara Ave	89146	YES	SUITES A-C - THE TAVERN	12/13/2007
PGRS	West Coast Pptys Irr Tr Etal	900 Karen Ave	89109	YES	SUITE H102-106	11/19/2007
PGRS	West Coast Pptys Irr Tr Etal	900 Karen Ave	89109	YES	SUITE H109-110	11/19/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	KUNG FU	10/16/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	CHICKEN QUICK	10/10/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	DONT ASK LOUNGE	10/10/2007
PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	SHANGHAI NOON	10/10/2007

PGRS	Centre At Spring Mountain	3811 Spring Mountain Rd	89102	YES	COACH'S DELI	12/27/2007
PSND	Hertz Rent-A-Car	5300 Rent A Car Rd	89119	YES	CARWASH	10/3/2007
PSND	Avis Rent-A-Car	5164 Rent A Car Rd	89119	YES	SERVICE BAY	10/4/2007
PSND	Avis Rent-A-Car	5164 Rent A Car Rd	89119	YES	CAR WASH	10/4/2007
PSND	Payless Car Rental	5175 Rent A Car Rd	89119	YES		10/4/2007
PSND	Thrifty Car Rental	5233 Rent A Car Rd	89119	YES		10/4/2007
PGRS	Del Taco #324	5915 W Sahara Ave	89146	YES	DEL TACO #324	12/13/2007
PGRS	Orchids Garden	5485 W Sahara Ave	89102	YES	CHOWS CUISINE	12/13/2007
PSND	Sav Mor Rent A Car	5101 Rent A Car Rd	89119	YES		10/3/2007
PSND	Enterprise Rent A Car	5811 W Sahara Ave	89146	YES	5811 W SAHARA AVE	12/13/2007
PSND	Ahern Rental	4241 S Arville St	89103	NO	WASH RACK	10/29/2007
PSND	Ahern Rental	4241 S Arville St	89103	NO	WASH RACK	10/30/2007
PGRS	Adelson Nathan Hospice	4141 Swenson St	89119	YES	KITCHEN	10/5/2007
PGRS	Thomas And Mack Center	4505 S Maryland Pkwy	89154	YES	FOOD COURT	10/1/2007
PGRS	Thomas And Mack Center	4505 S Maryland Pkwy	89154	YES	REDD ROOM	10/1/2007
PGRS	Arville Street Equity Properties	4970 S Arville St	89118	YES	AFFAIRS CATERING STE 104	11/9/2007
PGRS	Ohs Convenience Store	4646 Swenson St	89119	YES	C-STORE	10/1/2007
PGRS	Sahara Lamb Shopping Center	4225 E Sahara Ave	89104	YES	STE 4225-17-LOOSE CABOOSE	12/28/2007
PGRS	Twain Swenson Plaza	3640 Swenson St	89109	YES	SUITE 121 EXPRESS WOK	10/24/2007
PGRS	Burger King	4815 W Flamingo Rd	89103	YES		11/1/2007
PGRS	Burger King	4815 W Flamingo Rd	89103	NO		11/1/2007
PGRS	Marie Callendar	4875 W Flamingo Rd	89103	YES		11/1/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	YES	RUSSIAN RESTAURANT	12/31/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	NO	RUSSIAN RESTAURANT	11/2/2007
PGRS	Festival Shopping Center	4825 W Flamingo Rd	89103	YES	P.T.'S PUB	11/5/2007
PGRS	St Tropez Hotel	455 E Harmon Ave	89109	NO	KITCHEN	10/2/2007
PGRS	Thunderbird Plaza	3603 N Las Vegas Blvd	89115	YES	#103 COACH DELI	10/10/2007
PGRS	Spring Mountain Wynn Investments	3900 Spring Mountain Rd	89146	YES	SCHLOTSKY'S	10/10/2007
PSND	Payless Rent A Car	4700 Paradise Rd	89109	YES		10/2/2007
PGRS	Sahara Rainbow Center	2550 S Rainbow Blvd	89146	YES	OPA SUITE W2	12/7/2007
PGRS	Sahara Rainbow Center	2550 S Rainbow Blvd	89146	YES	HO HO HO - SUITE W5-W4	12/7/2007
PSND	Auto Serve Mall	3216 Fremont St	89104	YES	COMMON-#3216	12/4/2007
PSND	Auto Serve Mall	3216 Fremont St	89104	YES	COMMON - #3220	12/4/2007
PSND	Cadillac Of Las Vegas West	5185 W Sahara Ave	89146	YES	SERVICE BAY	12/11/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	GOTO BULALO BAKERY	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	NO	HASH HOUSE	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	ALOHA KITCHEN	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	JOE'S PIZZA	12/10/2007
PGRS	Sahara Decatur Plaza	2605 S Decatur Blvd	89146	YES	HASH HOUSE	12/21/2007
PSND	Abc Auto Repair Inc	4585 W Nevso Dr	89103	YES		10/30/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	LIFETIME BRAKES	10/15/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	TJ AUTO REPAIR	10/23/2007
PSND	Tropicana Car Care Associates	3540 E Tropicana Ave	89121	YES	DISCOUNT TIRE	10/10/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		10/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PGRS	Rio Hotel And Casino	3700 W Flamingo Rd	89103	YES		11/14/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	NO	NATIONAL CAR CARE	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	NO	HODGES AUTOMOTIVE	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	CHRISS AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	DCX AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	DECATUR AUTO	12/12/2007
PSND	National Car Care Center li	2695 S Decatur Blvd	89146	YES	FREAK'S MERCEDES	12/12/2007
PSND	Johnny Riberio	4755 W Nevso Dr	89103	YES	HONDA ACURA	10/29/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	CAR WASH	12/11/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	SERVICE BAY	12/11/2007
PSND	Towbin Motorcars	2550 S Jones Blvd	89146	YES	SERVICE BAY	12/11/2007
PGRS	Atrium Suites	4255 Paradise Rd	89109	YES	HOLIDAY INN CAFE	10/5/2007
PGRS	Pete Michelin	4380 S Decatur Blvd	89103	YES	SUITE D - SCOUNDRELS	10/31/2007
PGRS	Pete Michelin	4380 S Decatur Blvd	89103	YES	SUITE D - SCOUNDRELS	10/31/2007
PGRS	Hard Rock Cafe	4475 Paradise Rd	89109	YES		10/5/2007
PSND	Docs Car Wash #2 (#539521)	2515 S Bruce St	89109	YES	CAR WASH BAY	12/5/2007
PSND	Docs Car Wash #2 (#539521)	2515 S Bruce St	89109	YES	CAR WASH BAY	12/5/2007
PGRS	Sahara Eastern Retail Center	2425 E Sahara Ave	89109	YES	SUITES 3-4	12/17/2007
PGRS	Sahara Eastern Retail Center	2425 E Sahara Ave	89109	YES	SUITE 2	12/18/2007
PSND	Towbin Hummer	5555 W Sahara Ave	89146	YES		12/11/2007
PSND	Car Spa Inc #10 (Lvwwd #541432)	6045 W Sahara Ave	89146	YES	CAR WASH	12/11/2007
PSND	Car Spa Inc #10 (Lvwwd #541432)	6045 W Sahara Ave	89146	YES	CAR WASH	12/11/2007
PGRS	Dragon Buffet	230 N Nellis Blvd	89110	YES		10/10/2007
PGRS	Tropicana Gardens	3510 E Tropicana Ave	89121	YES	SUITE K	10/8/2007
PSND	Purfect Auto Service	180 N Nellis Blvd	89110	YES		10/10/2007
PGRS	Albertsons #6024	2835 S Nellis Blvd	89121	YES	DELI	12/19/2007
PGRS	Albertsons #6024	2835 S Nellis Blvd	89121	YES	BUTCHER SHOP	12/19/2007
PGRS	Vegas Valley Plaza	2875 S Nellis Blvd	89142	YES	SUITE 2-ALBERTOS MEX FOOD	12/18/2007
PGRS	Vegas Valley Plaza	2875 S Nellis Blvd	89142	NO	SUITE 2-ALBERTOS MEX FOOD	12/18/2007

PGRS	Marine Corps League Leathernecks	4360 Spring Mountain Rd	89102	YES	CLUB KITCHEN	10/10/2007
PSND	Dons Di Classic Mart	991 E Desert Inn Rd	89109	YES	SERVICE BAY	10/10/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	SUITE B-13 AL'S AUTO	10/30/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	SUITE B-18 SILVER STAR	10/30/2007
PSND	Gerkes R V Storage And Service	4770 W Nevso Dr	89103	YES	CAR AND RV WASH	10/30/2007
PSND	Texaco Express Lube	2785 S Nellis Blvd	89142	YES		12/19/2007
PGRS	Turtle Stop Nellis	2885 S Nellis Blvd	89115	NO	FOOD COURT	12/19/2007
PGRS	Food For Less	2545 S Eastern Ave	89104	YES	FOOD 4 LESS	11/29/2007
PSND	Nevada Child Seekers	3100 Fremont St	89104	YES	SERVICE BAY	12/4/2007
PGRS	Smith's Food And Drug	8150 S Eastern Ave	89123	YES	BUTCHER SHOP	11/5/2007
PGRS	Smith's Food And Drug	8150 S Eastern Ave	89123	YES	DELI	11/5/2007
PSND	The Sign Company Llc	781 E Tropicana Ave	89119	YES	SERVICE BAY	10/5/2007
PSND	The Sign Company Llc	781 E Tropicana Ave	89119	YES	CAR WASH	10/5/2007
PGRS	Fatburger Restaurant	2845 S Nellis Blvd	89115	YES		12/31/2007
PGRS	Mcdonald's	8120 S Eastern Ave	89123	YES		11/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	MAIN KITCHEN	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	PINK TACO/AJ'S/NOBU/BEACH	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	EMPLOYEE DINING	10/5/2007
PGRS	Hard Rock Hotel And Casino	4455 Paradise Rd	89109	YES	TRASH	10/5/2007
PGRS	Hooters	5675 W Sahara Ave	89146	YES		12/13/2007
PGRS	Big Tyme Chevron Food Mart	4919 W Sahara Ave	89146	YES		12/7/2007
PGRS	Black Angus Restaurant	5125 W Sahara Ave	89146	YES		12/10/2007
PGRS	Womens Prison	4376 Smiley Rd	89115	YES	PRISON KITCHEN	10/10/2007
PSND	Newport Motors	3275 E Sahara Ave	89104	YES		12/13/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	SNACK BAR	12/14/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	RRGC KITCHEN	12/14/2007
PGRS	Red Rock Country Club - Clubhouse	2250 Red Springs Dr	89135	YES	RRGC KITCHEN	12/14/2007
PSND	Enterprise Car Rental(113647 LVVWD)	3745 Boulder Hwy	89121	YES		12/11/2007
PGRS	Vons #2396	1131 E Tropicana Ave	89119	YES		10/3/2007
PGRS	Vegas Valley Plaza	2775 S Nellis Blvd	89142	YES	HUNGRY HOWIES	12/18/2007
PGRS	Siverado Ranch Centre	9715 S Maryland Pkwy	89123	YES	ALBERTSONS DELI	10/29/2007
PSND	Siverado Ranch Centre	9715 S Maryland Pkwy	89123	YES		10/29/2007
PGRS	Burger King	2599 S Nellis Blvd	89122	YES		12/20/2007
PGRS	Krung Thai Restaurant	4130 S Decatur Blvd	89103	YES		10/31/2007
PGRS	Rapid Cash	4921 W Sahara Ave	89146	YES		12/7/2007
PGRS	Chopstix Express	2625 S Decatur Blvd	89146	YES		12/10/2007
PGRS	Red Robins Restaurant	2575 S Decatur Blvd	89146	YES		12/10/2007
PGRS	Silverado Ranch Plaza	9821 S Eastern Ave	89123	YES	SUITE A MAMA FRESCOS	10/10/2007

Attachment 2

**Letter Report from CCSD to DAQEM on
Status in to Resolving Issues Identified in Inspection of School Bus Yard**

and

DAQEM Letter to CCSD in Response

DRAFT

CERTIFIED: #7002 2030 0006 3989 5611

September 11, 2007

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Dr. Walt Bullitt, Superintendent

Mr. Mark Silverstein
Senior Planner – Water Quality
Department of Air Quality & Environmental Management
Clark County
500 S Grand Central Parkway
PO Box 555210
Las Vegas, NV 89155-5210

**SUBJECT: STORMWATER INSPECTION
R.C. WHITE TRANSPORTATION CENTER**

Dear Mr. Silverstein:

This letter is in response to the Storm Water Status inspection of the R.C. White (Arville) Transportation Center, conducted, by the Clark County Water Reclamation office, on July 12, 2007. Most of the deficiencies noted in the inspection report have been addressed but at least two items will require additional time, i.e. construction of shade covers and the drums associated with the ongoing groundwater remediation project. The following is a list of the issues addressed in the inspection and the Clark County School District (CCSD) response.

Issue: Drums of chemicals associated with the old chiller unit of the CCSD's Food Kitchen. These drums will be removed from this area and moved to the HazMat storage area for disposal. This should be done within the next two weeks.

Issue: Trash through out the site. The grounds crew of the CCSD has cleaned up and removed all of the trash along the north fence, beneath the steps (drivers area) and in other locations throughout the facility. The areas that collect a significant amount of trash will be monitored and cleaned on a regular basis.

Issue: Unlabeled drums. The unlabeled drums have either been labeled or removed from use. Those drums that were open have been closed with lids or bungs. The 55 gallon drums located in the southeast corner of the facility are part of the UST groundwater remediation project being conducted by Converse Consultants and contain purge water from the sampling of the monitoring wells on site. Converse will have the drums emptied and removed from the site as soon as possible.

Issue: Drum without containment. Those drums that contain petroleum products on the north side of the maintenance building have been placed inside secondary containment pallets to prevent any spills from reaching the environment. It has been recommended that a cover be constructed to prevent rainwater from reaching the containment pallets.

Issue: Used oil filters in the dumpsters. The Transportation Department is in the process of purchasing an oil filter-crushing machine that will reduce the volume of the filters, which then will be stored in 55-gallon drums to await disposal.

Issue: Open dumpsters. The lids on all of the dumpsters are closed. All personnel have been instructed to keep the lids closed when not in use.

Issue: Draining transmissions and old engines. These have been collected and removed by an off-site contractor. In the future these items will be relocated to the south end of the warehouse where a cover will be constructed. A work order for the construction of this cover has been submitted to the Planning and Engineering Department for design. Construction could begin within 6 months depending on the approval process.

Issue: Scrap Metal Dumpster. This dumpster will be relocated to the area that will have the cover once it is constructed. In the mean time, the company that supplies the dumpsters will provide dumpsters that are clean prior to delivery. Shop personnel will be instructed that only scrap metal will be placed in the dumpster so that no petroleum products are deposited within the dumpster.

Issue: Open battery compartment on a bus. This was corrected for this bus and inspections will be conducted by shop personnel to ensure it does not happen again.

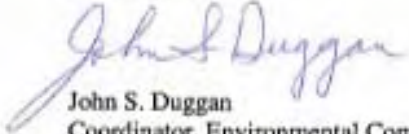
Issue: Spilled petroleum products throughout the facility. A better system to clean up the spills, from more frequent sweeping of the yard to clean up of the adsorbent material ("kitty litter") will be pursued.

Issue: Future bus yards. It will be recommended that current "best management practices" for storm water control be incorporated into the original design of all future transportation facilities.

Mr. Mark Silverstein
September 11, 2007
Page 3

If you have any questions regarding this response, please call me at (702) 799-0990 or e-mail me at duggajs@gw.ccsd.net.

Sincerely,



John S. Duggan
Coordinator, Environmental Compliance

JSD:mbd

c: Dave Broxterman
Ron Despenza
Paul Gerner
Richard Karvosky
Jan Villaire
Frank Giordano
Mike Groom
Rory Lorenzo



Department of Air Quality & Environmental Management

500 S Grand Central Parkway 1st Fl • Box 555210 • Las Vegas NV 89155-5210
(702) 455-8642 • Fax (702) 883-8884

Lewis Wallenmeyer, Director • Alan Peterson, Deputy Director

September 17, 2007

Mr. Paul Gerner
Associate Superintendent for Facilities
Clark County School District - Facilities Division
4828 South Pearl St
Las Vegas, Nevada 89121

Dear Mr. Gerner:

Clark County Department of Air Quality & Environmental Management extends its sincere thanks to the School District, and in particular to Mr. John Duggan, for your pro-active response in addressing storm water management issues identified at the R.C. White Transportation Center during a recent inspection. We find the actions outlined in Mr. Duggan's September 11 letter most satisfactory.

Your willingness to join us in solving the problem is most welcomed, particularly the invitation to assist in ensuring storm water management is adequately considered in the design of future transportation facilities.

The importance of attention to storm water management has become elevated due to deficiencies identified in an audit by the U.S. Environmental Protection Agency. All Las Vegas Valley storm water permittees are actively engaged in addressing the deficiencies to make our community a safer and more livable place.

Our Water Quality Team has prepared a PowerPoint presentation, intended for mid and upper level agency staff that provides an overview and orientation to what is storm water management and why it is important to our community. It is approximately 30 minutes in length, and if you are interested, we would be pleased to present it to the School District staff. To make arrangements you can work through Mark Silverstein (455-4728).

Thank you again for being such a great partner in the management of storm water!

Sincerely,

Lewis Wallenmeyer
Director

CC: Phil Rosenquist
Bob Mrowka
Mark Silverstein ✓
Kevin Eubanks, Regional Flood Control

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Attachment 3
Draft
Industrial Stormwater Inspection, Violation, and Enforcement
Process Flow Diagram and Standard Operating Procedure



Department of Air Quality and Environmental Management
Water Quality Section
Industrial Stormwater Inspection
Standard Operating Procedure

Purpose: The purpose of this SOP is to identify the steps that need to be taken in order to complete a standard industrial stormwater inspection.

Scope: This SOP is to be applied to all industrial facilities within the unincorporated portions of the Las Vegas Valley watershed that are identified as:

1. Municipal landfills
2. Hazardous waste treatment, disposal, and recovery facilities
3. Industrial facilities subject to Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (herein referred to as "313 sites"), and
4. Industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the MS4

Responsible Person: Mark Silverstein, Senior Planner – Water Quality
Kate Hoffmann, Planner – Water Quality

QA/QC: To be conducted and developed by the responsible parties based on the industrial stormwater inspection criteria and program management

Procedure: To be conducted for each industrial stormwater inspection:

1. Prioritize facilities, including CCWRD pretreatment sites, for inspection
2. Is the facility identified in NDEP database? Identify and record SIC/NAICS code and parcel number. <http://ndep.nv.gov/bwpc/industrialnoi/signin.aspx>
 - a. Facility has notice of intent on file with NDEP (Skip to number 5)
 - b. Facility does not have notice of intent on file with NDEP (Continue in numerical order)
3. Is the facility a non-filer?
 - a. Yes (Skip to number 5)
 - b. No
 - i. Is the facility exempt?
 1. Yes – this is a low priority facility to be addressed at a future date, along with a long-range approach.
 2. No (Continue in numerical order)
4. Does the facility have a potential to pollute?
 - a. Yes (Continue in numerical order)
 - b. No (See 3.b.1)
5. Report the facility to NDEP
6. Schedule inspection with facility contact
7. Mail copy of inspection form at least one week prior to inspection
8. Conduct inspection
9. Within two weeks of inspection, submit completed form to DAQEM
10. Actual or potential to pollute violation?
 - a. Yes (Continue in numerical order)

- b. No (Skip to number 27)
11. Was there evidence of an active or recent discharge?
 - a. Yes (Continue in numerical order)
 - b. No (Skip to number 17)
12. Does the inspector suspect that there are hazardous materials involved in the violation?
 - a. Yes (Continue in numerical order)
 - b. No (Skip to number 16)
13. Report the facility immediately to CCPRO/CCFD/Risk Management/NDEP/SNHD
14. CCPRO/CCFD/Risk Management/NDEP identifies remedial actions to be taken
15. CCPRO/CCFD/Risk Management/NDEP enforces remedial actions to be taken (Skip to step 25)
16. Report facility conditions to DAQEM and NDEP
17. Are there any minor violations at the site? Do the facility conditions warrant a NOV?
 - a. Yes (Skip to number 19)
 - b. No (Continue in numerical order)
18. CCWRD arranges to reinspect the facility. Repeat steps 8-15.
19. DAQEM to issue a Notice of Violation
20. Within 5 business days, the facility must submit plans to remedy the violation
21. Inspector re-inspects facility
22. Were the violations remedied?
 - a. Yes (Skip to number 26)
 - b. No (Continue in numerical order)
23. DAQEM to issue a second Notice of Violation
24. Repeat steps 19-21 and continue in numerical order OR after second violation is issued, report facility to CCPRO/NDEP for possible legal action
25. DAQEM to monitor activities and direct inspectors if and when to re-inspect
26. Within 2 weeks of inspection, submit completed inspection form to DAQEM
27. DAQEM enters results of the inspection into the county database
28. Summary of inspections and results created by DAQEM/CCWRD for inclusion in the MS4 annual report

Training/Qualifications:

Write a short description of how the person doing this SOP will be trained?

Records/Forms:

Attach link to the inspection forms

Document Control/ Maintenance:

How will this SOP be controlled and maintained?

Date of last revision?

References:

Attach any references

Attachments:

Attach link to flow chart

**Las Vegas Valley Municipal Separate Storm Sewer System Permit
Industrial Facility Monitoring and Control Program**

**Industrial Site Inspection Checklist in Clark County
Summary Sheet**

Facility Name/Address: NEVADA LINEN SUPPLY 3960 MESA VISTA DRIVE, LAS VEGAS, NV. 89118	
Type of Industry: COMMERCIAL LAUNDRY	Date / Time of Inspection: JULY 19, 2007 0900
Facility Contact Person: STEVEN STITH	<input checked="" type="checkbox"/> First Time Inspection <input type="checkbox"/> Re-inspection
Facility Contact Person Title/Phone: OWNER 454-1444	Inspector's Name: MARK PALSGROVE Phone #: 450-4436
Facility Environmental/Plant Manager (if different): Name: SAME Title: Phone:	Affiliation: CCWRD

Inspection Criteria <i>(Please explain any "Yes" box checked and attach photograph)</i>	Yes	No
1. Is there evidence of any process wastewater that has been or is being discharged from the site into the storm drain or public right-of-way?	✓	
2. Have any pollutants run off the site into the public right of way?		✓
3. Do any on-site pollutants have the potential to run off the site?	✓	
Actions Taken	Yes	No
1. Informed facility contact of need to correct problem	✓	
2. Observed facility contact correcting problem		✓
Comments: <i>(include location/description of problems observed/if enforcement is deemed necessary; continue on back)</i> FACILITY DISCHARGING RO REJECT WATER INTO ON-SITE STORM DRAIN PIPE. DOES NOT HAVE A STORMWATER PERMIT.		

	<p>Copies of this form should be faxed to Joe Boteilho, Clark County Public Response Office at (702) 455-2080 if local ordinance violations are observed or David Lloyd, Nevada Division of Environmental Protection at 486-2863 if onsite housekeeping practices need attention to prevent offsite impact.</p>
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INDUSTRIAL SITE STORMWATER INSPECTION CHECKLIST

Jurisdiction of Facility:

- Clark County (unincorporated) City of Henderson
 City of Las Vegas City of North Las Vegas

Type of Industrial Activity:

- Active/inactive mining operation(s)
 Hazardous waste treatment, storage, or disposal facility
 Landfill, land application site, open dump
 Recycling (metal scrap yard, battery reclaimer, salvage yard, automobile junkyard, other)
 Steam electric power generating facility
 Transportation facility:
 Vehicle maintenance shop (e.g., vehicle rehab., mechanical repair, painting, fueling, lubrication)
 Equipment cleaning operation
 Airport (including deicing operations)
 Section 313, Title III of SARA (1986)
 Other (facility with potential for substantial pollutant loading to storm sewer system)

Comments:

LAUNDRY FACILITY

Owner Information:

Name STEVEN SMITH
Address 3960 MESA VISTA DRIVE, LAS VEGAS, NV. 89118
Telephone number(s) 454-1444
Fax _____
E-mail _____

Operator Information (if different than above):

Name SAME AS ABOVE
Address _____
Telephone number(s) _____
Fax _____
E-mail address _____

Facility/Site Information:

Name SAME AS ABOVE
Address _____
Latitude/longitude of the site: _____ / _____
Approximate facility/site area: 2 acres

Legal Status of Facility: (circle one)

Private federal, state, county, city, other public, tribal, other: _____

This site is an: existing facility new facility new operator of existing facility

Facility structures (e.g., buildings, garages, storage tanks)

	Yes/No/ NA	Comments
Are structural control devices (BMPs) present and, if, so, designed to reduce pollution in stormwater runoff?	NO	
Are there process wastewater treatment units (including ponds)?	NO	
Are air treatment units (e.g., bag house) exposed to precipitation or runoff?	YES	SWAMP COOLERS,
Are surface water bodies (including wetlands) on the facility?	NO	
Are there vehicle and equipment maintenance areas?	NO	
Do physical features of the site influence stormwater runoff or contribute a dry weather flow?	YES	SLOPING, CURBING, DRAINS
Are employees trained/educated on maintenance programs and BMP on facility and stormwater structures?	NO	

Good Housekeeping Measures:

	Yes/No/ NA	Comments
Do areas of the facility contribute or potentially contribute pollutants to stormwater discharges (e.g., areas around trash dumpsters, storage areas, loading docks, and outdoor processing areas) are maintained in a clean and orderly manner?	YES	LOADING DOCK AREA SLOPED AWAY FROM BUILDING. TRASH DUMPSTERS UNCOVERED.
Are measures taken to eliminate or reduce exposure of garbage and refuse materials to precipitation or runoff prior to their disposal?	NO	SOME TRASH IS BAGGED - 20% IS NOT. LIDS ON DUMPSTERS NOT BEING USED.
Are employees trained/educated on good housekeeping measures?	NO	ONLY SUPERVISORY PERSONNEL

Spill Prevention and Response Measures:

	Yes/No/ NA	Comments
Can areas susceptible to pollutant spills potentially contribute pollution to stormwater discharges (i.e., are BMPs in place to prevent these occurrences)?	YES NO	TOLD TO GET SECONDARY CONTAINMENT PALLETS FOR WASTE STORAGE AREAS.
Are procedures in place to minimize/prevent contamination of stormwater from spills (e.g., daily inspection for equipment leaks; installation of secondary containment structures around liquid storage tanks and drums; installation of overfill prevention devices on pumps and tanks; modification of material handling techniques; routine inspection of drums, tanks and other containers)?	NOT NORMALLY	
Are drums, tanks, and other containers clearly labeled and properly sealed or closed?	NO	LABELING IS NEEDED ON SOME CONTAINERS.
Are hazardous waste containers that require special handling, storage, use, and disposal clearly marked?	NA	NO HAZARDOUS WASTE STORED.
Is a Spill Prevention and Response Measures Plan readily available to facility personnel?	NO	SUPERVISORY PERSONNEL - YES
Are materials available and equipment necessary for spill clean up?	YES	
Is an inventory maintained of spill cleanup materials and equipment?	NO	
Are employees trained/educated on spill prevention and response measures?	NO	SUPERVISORY PERSONNEL AND MAINTENANCE PERSONNEL - YES
Does pavement washwater where spills or leaks of toxic or hazardous materials have occurred contain detergents? Is the washwater properly disposed of?	NA	PARKING LOT NOT WASHED DOWN. STREET SWIPER TWICE A YEAR.

Erosion Control Measures:

	Yes/No/ NA	Comments
Are erosion prevention measures and controls in place to reduce soil erosion in areas of the facility that have ongoing erosion or potential for soil erosion (e.g., soil stabilization through vegetative cover; contouring slopes; paving; and installation of structural controls/BMPs.	NO	NO EROSION PROBLEMS
Are employees trained/educated on erosion control measures and BMPs?	NO	

Structural Controls:

	Yes/No/ NA	Comments
Are physical structures (e.g., oil/water separators, catch basins, sediment/settling ponds, grass swales, berms) installed, as necessary, to reduce pollutants in stormwater discharges?	NO	BERMS/CURBS TO A LIMITED DEGREE ONLY.
Are stormwater structural controls maintained and inspected on a regular basis to prevent failures that could result in a discharge of pollutants?	NO	
Are records maintained to document the estimated volumes of solids removed from catch basins, sediment ponds, and other similar control structures?	NA	
Are employees trained/educated on structural control BMPs?	NA	

Parking Lots:

	Yes/No/ NA	Comments
Are parking lots paved?	YES	
Are parking lots adequately cleaned/swept?	YES	SWEPT 2X A YEAR
Are BMPs in place to mitigate pollutants in the parking lot from entering the storm sewer?	NO	OTHER THAN SLOPE AND CURBING.

Non-stormwater Discharges Requiring BMPs:

	Yes/No/ NA	Comments
Are BMPs implemented if needed to minimize impacts of uncontaminated discharges?	NO	
Are non-stormwater sources (e.g., water used to wash vehicles, external building wash down water) combined with stormwater discharges from the facility and allowed to enter the separate storm sewer system? If so, are these authorized by NDEP*?	NO	

* Non-stormwater discharges that are significant contributors of pollutants shall be eliminated or authorized under a separate permit

Other inspection information/documentation:

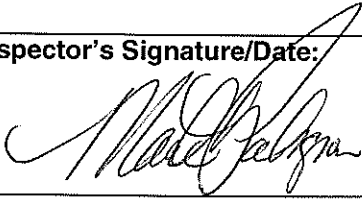
- Are additional pages/write-up attached? Yes / No
If yes, number of additional pages: 1
- Were photographs taken? NO
If yes, number of photos: _____
Provide photo frame number(s)/digital file ID(s) and description of each photo, below:

Photo Information/Comments:

Inspector(s) Affiliation

CLARK COUNTY WATER RECLAMATION DISTRICT

Inspector's Signature/Date:



7.19.07

Nevada Linen Supply
3960 Mesa Vista Drive
Las Vegas, Nevada 89118

Facility found to be discharging R.O. System reject water directly into a Storm Sewer System via an on-site drain located on the northwest corner of the facility. A dye test was performed to verify the flows direction and destination. Dyed water was viewed exiting a pipe (Above ground) to the front of the building, reentering a drain in a small section of the loading dock and flowing through a storm water manhole located in the parking lot.

The Reverse Osmoses Unit found discharging to the storm drain system is located inside the building in the utility room. The discharge of reject water is accomplished through a pipe, running outside and to the storm water drain at the rear of the building. The flow is said to be 2,200 gallons a day. It was said that this has been the mode of operation since opening the facility at this location.

Management personnel where asked if a Storm Water Discharge Permit had been issued to the facility for this discharge. They indicated that they did not know. A search of company files revealed no permit was on record with the company. I informed them that in my estimation a discharge permit was warranted and that the discharge of R.O Reject Water from their water treatment system was not allowed in the Storm Water System without a permit to do so, and perhaps not even with a discharge permit, and might instead be discharged under the facilities current Pretreatment Wastewater Discharge Permit to the publicly owned sewage collection system. I further instructed the facility management not to take steps towards this end until it is determined if such a discharge can be undertaken with a Storm Water Discharge Permit, as the introduction of this additional wastewater to the sewer system will require CCWRD Pretreatment Permit modifications. Facility management is eager to comply and to resolve this situation.

In addition, it was determined that de-scaling chemical is used in the swamp coolers located on the roof. During the maintenance of these evaporative units, water used in the units is drained to the roof tops and allowed to evaporate. This process will leave a residue of the chemical agent behind to be washed off during a rain event and discharged to the on-site storm drain collection system. An MSDS for this chemical additive was not available at the time of inspection. However, facility personnel contacted the chemical supply company and will forward an MSDS to this office as soon as possible.


Facility requires secondary containment pallets for waste materials and empty drums of acid located outside. Management was made aware of this requirement and stated they would correct the situation immediately.

**Las Vegas Valley Municipal Separate Storm Sewer System Permit
Industrial Facility Monitoring and Control Program**

**Industrial Site Inspection Checklist in Clark County
Summary Sheet**

Facility Name/Address: WESTERN LINEN SERVICES 4575 S. PROXYON AVE., LAS VEGAS, NV. 89103	
Type of Industry: COMMERCIAL LAUNDRY	Date / Time of Inspection: JULY 19, 2007 1000
Facility Contact Person: MARIA MAZA	<input checked="" type="checkbox"/> First Time Inspection <input type="checkbox"/> Re-inspection
Facility Contact Person Title/Phone: OPERATION MANAGER 702-597-5347	Inspector's Name: MARK PALSGROVE Phone #: 702-450-4436
Facility Environmental/Plant Manager (if different): Name: SAME Title: Phone:	Affiliation: CCWRD

Inspection Criteria <i>(Please explain any "Yes" box checked and attach photograph)</i>	Yes	No
1. Is there evidence of any process wastewater that has been or is being discharged from the site into the storm drain or public right-of-way?		✓
2. Have any pollutants run off the site into the public right of way?		✓
3. Do any on-site pollutants have the potential to run off the site?		✓
Actions Taken	Yes	No
1. Informed facility contact of need to correct problem		
2. Observed facility contact correcting problem		
Comments: <i>(include location/description of problems observed/if enforcement is deemed necessary; continue on back)</i>		

	<p>Copies of this form should be faxed to Joe Boteilho, Clark County Public Response Office at (702) 455-2080 if local ordinance violations are observed or David Lloyd, Nevada Division of Environmental Protection at 486-2863 if onsite housekeeping practices need attention to prevent offsite impact.</p>
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INDUSTRIAL SITE STORMWATER INSPECTION CHECKLIST

Jurisdiction of Facility:

- Clark County (unincorporated) City of Henderson
 City of Las Vegas City of North Las Vegas

Type of Industrial Activity:

- Active/inactive mining operation(s)
 Hazardous waste treatment, storage, or disposal facility
 Landfill, land application site, open dump
 Recycling (metal scrap yard, battery reclaimer, salvage yard, automobile junkyard, other)
 Steam electric power generating facility
 Transportation facility:
 Vehicle maintenance shop (e.g., vehicle rehab., mechanical repair, painting, fueling, lubrication)
 Equipment cleaning operation
 Airport (including deicing operations)
 Section 313, Title III of SARA (1986)
 Other (facility with potential for substantial pollutant loading to storm sewer system)

Comments:

LAUNDRY FACILITY

Owner Information:

Name REYNOLD DOLMAN
Address 4575 S. PROCVON AVE. LAS VEGAS, NV. 89103
Telephone number(s) 597-5347
Fax _____
E-mail _____

Operator Information (if different than above):

Name SAME AS OWNER
Address _____
Telephone number(s) _____
Fax _____
E-mail address _____

Facility/Site Information:

Name SAME AS OWNER
Address _____
Latitude/longitude of the site: _____ / _____
Approximate facility/site area: 1/4 acres

Legal Status of Facility: (circle one)

Private federal, state, county, city, other public, tribal, other: _____

This site is an: existing facility new facility new operator of existing facility

NPDES Permit Status:

	Yes/No/ NA	Comments
Does the business have a NPDES Industrial Stormwater Permit with NDEP for this facility? If yes, permit # (if available): _____ Expiration date: _____	NO	
If permitted, does the facility have a SWPPP?	NO	
Are site maps with BMPs and other relevant information available?	NO	

Has facility been previously inspected for stormwater compliance? Yes No

If yes, last inspection date: _____

If yes, briefly describe any noteworthy findings:

Name of the receiving water (closest named wash): _____

Distance/direction to receiving water: _____

Comments:

Description of Potential Pollutants and Sources:

Do outfalls from the facility contribute stormwater via discharges or off-site connections to the municipal separate storm sewer system? Yes No

Comments/descriptions of outfall(s):

Exposed Materials (materials handled, stored, processed, treated, or disposed of in a manner that allows for exposure to precipitation or runoff):

	Yes/No/ NA	Comments
Are exposed materials stored in drums, barrels, tanks, and similar containers properly closed/sealed, in good structural condition?	NA	CHEMICALS NOT STORED OUTSIDE.
Can exposed materials reasonably be expected to add pollutants to the storm sewer system from:	1) Rain events and related stormwater discharges?	NA
	2) Dry weather discharges?	NA
Are there processing, storage, material loading/unloading, and/or other areas where significant materials are exposed to precipitation or runoff?	NO	
Are employees trained/educated on BMPs for exposed materials?	NO	

Facility structures (e.g., buildings, garages, storage tanks)

	Yes/No/ NA	Comments
Are structural control devices (BMPs) present and, if, so, designed to reduce pollution in stormwater runoff?	NO NA	
Are there process wastewater treatment units (including ponds)?	NO	
Are air treatment units (e.g., bag house) exposed to precipitation or runoff?	.	
Are surface water bodies (including wetlands) on the facility?	NO	
Are there vehicle and equipment maintenance areas?	NO	
Do physical features of the site influence stormwater runoff or contribute a dry weather flow?	YES	SLOPE AND OUTSIDE CONCRETE CHANNELS.
Are employees trained/educated on maintenance programs and BMP on facility and stormwater structures?	NO	

Good Housekeeping Measures:

	Yes/No/ NA	Comments
Do areas of the facility contribute or potentially contribute pollutants to stormwater discharges (e.g., areas around trash dumpsters, storage areas, loading docks, and outdoor processing areas) are maintained in a clean and orderly manner?	YES YES	
Are measures taken to eliminate or reduce exposure of garbage and refuse materials to precipitation or runoff prior to their disposal?	YES	DUMPTER W/LID
Are employees trained/educated on good housekeeping measures?	YES	

Spill Prevention and Response Measures:

	Yes/No/ NA	Comments
Can areas susceptible to pollutant spills potentially contribute pollution to stormwater discharges (i.e., are BMPs in place to prevent these occurrences)?	YES	A SPILL IN THE LOADING DOCK DURING A RAIN EVENT WOULD RESULT IN A DISCHARGE OFF-SITE
Are procedures in place to minimize/prevent contamination of stormwater from spills (e.g., daily inspection for equipment leaks; installation of secondary containment structures around liquid storage tanks and drums; installation of overfill prevention devices on pumps and tanks; modification of material handling techniques; routine inspection of drums, tanks and other containers)?	NO	NOT A NORMAL PRACTICE AS FACILITY IS SAID TO NOT NORMALLY STORE CHEMICALS OUTSIDE.
Are drums, tanks, and other containers clearly labeled and properly sealed or closed?	NA	
Are hazardous waste containers that require special handling, storage, use, and disposal clearly marked?	NA	
Is a Spill Prevention and Response Measures Plan readily available to facility personnel?	YES	INSIDE FACILITY
Are materials available and equipment necessary for spill clean up?	YES	
Is an inventory maintained of spill cleanup materials and equipment?	NO	
Are employees trained/educated on spill prevention and response measures?	YES	
Does pavement washwater where spills or leaks of toxic or hazardous materials have occurred contain detergents? Is the washwater properly disposed of?	NA	

Erosion Control Measures:

	Yes/No/ NA	Comments
Are erosion prevention measures and controls in place to reduce soil erosion in areas of the facility that have ongoing erosion or potential for soil erosion (e.g., soil stabilization through vegetative cover; contouring slopes; paving; and installation of structural controls/BMPs.	NA	NO EROSION PROBLEMS
Are employees trained/educated on erosion control measures and BMPs?	NO	

Structural Controls:

	Yes/No/ NA	Comments
Are physical structures (e.g., oil/water separators, catch basins, sediment/settling ponds, grass swales, berms) installed, as necessary, to reduce pollutants in stormwater discharges?	NO	
Are stormwater structural controls maintained and inspected on a regular basis to prevent failures that could result in a discharge of pollutants?	NA	
Are records maintained to document the estimated volumes of solids removed from catch basins, sediment ponds, and other similar control structures?	NA	
Are employees trained/educated on structural control BMPs?	NO	

Parking Lots:

	Yes/No/ NA	Comments
Are parking lots paved?	YES	
Are parking lots adequately cleaned/swept?	NA	PARKING LOT COMMON TO OTHERS
Are BMPs in place to mitigate pollutants in the parking lot from entering the storm sewer?	NO	

Non-stormwater Discharges Requiring BMPs:

	Yes/No/ NA	Comments
Are BMPs implemented if needed to minimize impacts of uncontaminated discharges?	NO	ROOF RUN OFF WAS EVIDENT ABOUT THE ONLY SOURCE OF SWD.
Are non-stormwater sources (e.g., water used to wash vehicles, external building wash down water) combined with stormwater discharges from the facility and allowed to enter the separate storm sewer system? If so, are these authorized by NDEP*?	NO	

* Non-stormwater discharges that are significant contributors of pollutants shall be eliminated or authorized under a separate permit

Other inspection information/documentation:

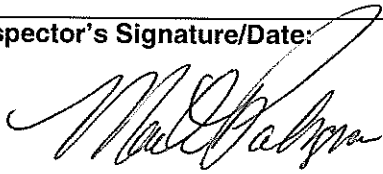
- Are additional pages/write-up attached? Yes (No)
If yes, number of additional pages: _____
- Were photographs taken? NO
If yes, number of photos: _____
Provide photo frame number(s)/digital file ID(s) and description of each photo, below:

Photo Information/Comments:

Inspector(s) Affiliation

CLARK COUNTY WATER RECLAMATION DISTRICT

Inspector's Signature/Date:



7.19.07

CERTIFIED: #7002 2030 0006 3989 5611

September 11, 2007

Mr. Mark Silverstein
Senior Planner – Water Quality
Department of Air Quality & Environmental Management
Clark County
500 S Grand Central Parkway
PO Box 555210
Las Vegas, NV 89155-5210

**SUBJECT: STORMWATER INSPECTION
R.C. WHITE TRANSPORTATION CENTER**

Dear Mr. Silverstein:

This letter is in response to the Storm Water Status inspection of the R.C. White (Arville) Transportation Center, conducted, by the Clark County Water Reclamation office, on July 12, 2007. Most of the deficiencies noted in the inspection report have been addressed but at least two items will require additional time, i.e. construction of shade covers and the drums associated with the ongoing groundwater remediation project. The following is a list of the issues addressed in the inspection and the Clark County School District (CCSD) response.

Issue: Drums of chemicals associated with the old chiller unit of the CCSD's Food Kitchen. These drums will be removed from this area and moved to the HazMat storage area for disposal. This should be done within the next two weeks.

Issue: Trash through out the site. The grounds crew of the CCSD has cleaned up and removed all of the trash along the north fence, beneath the steps (drivers area) and in other locations throughout the facility. The areas that collect a significant amount of trash will be monitored and cleaned on a regular basis.

Issue: Unlabeled drums. The unlabeled drums have either been labeled or removed from use. Those drums that were open have been closed with lids or bungs. The 55 gallon drums located in the southeast corner of the facility are part of the UST groundwater remediation project being conducted by Converse Consultants and contain purge water from the sampling of the monitoring wells on site. Converse will have the drums emptied and removed from the site as soon as possible.

Issue: Drum without containment. Those drums that contain petroleum products on the north side of the maintenance building have been placed inside secondary containment pallets to prevent any spills from reaching the environment. It has been recommended that a cover be constructed to prevent rainwater from reaching the containment pallets.

Issue: Used oil filters in the dumpsters. The Transportation Department is in the process of purchasing an oil filter-crushing machine that will reduce the volume of the filters, which then will be stored in 55-gallon drums to await disposal.

Issue: Open dumpsters. The lids on all of the dumpsters are closed. All personnel have been instructed to keep the lids closed when not in use.

Issue: Draining transmissions and old engines. These have been collected and removed by an off-site contractor. In the future these items will be relocated to the south end of the warehouse where a cover will be constructed. A work order for the construction of this cover has been submitted to the Planning and Engineering Department for design. Construction could begin within 6 months depending on the approval process.

Issue: Scrap Metal Dumpster. This dumpster will be relocated to the area that will have the cover once it is constructed. In the mean time, the company that supplies the dumpsters will provide dumpsters that are clean prior to delivery. Shop personnel will be instructed that only scrap metal will be placed in the dumpster so that no petroleum products are deposited within the dumpster.

Issue: Open battery compartment on a bus. This was corrected for this bus and inspections will be conducted by shop personnel to ensure it does not happen again.

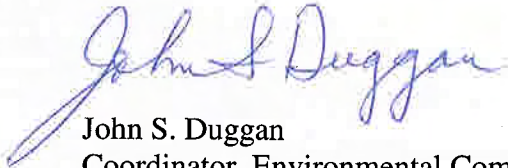
Issue: Spilled petroleum products throughout the facility. A better system to clean up the spills, from more frequent sweeping of the yard to clean up of the adsorbent material ("kitty litter") will be pursued.

Issue: Future bus yards. It will be recommended that current "best management practices" for storm water control be incorporated into the original design of all future transportation facilities.

Mr. Mark Silverstein
September 11, 2007
Page 3

If you have any questions regarding this response, please call me at (702) 799-0990 or e-mail me at duggajs@gw.ccsd.net.

Sincerely,



John S. Duggan
Coordinator, Environmental Compliance

JSD:mbd

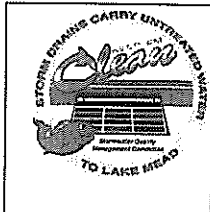
c: Dave Broxterman
Ron Despenza
Paul Gerner
Richard Karvosky
Jan Villaire
Frank Giordano
Mike Groom
Rory Lorenzo

**Las Vegas Valley Municipal Separate Storm Sewer System Permit
Industrial Facility Monitoring and Control Program**

**Industrial Site Inspection Checklist in Clark County
Summary Sheet**

Facility Name/Address: BAKER COMMODITIES 5725 RANGE RD. LAS VEGAS, NV.	
Type of Industry: GREASE RENDERING	Date / Time of Inspection: 9.20.07 0900
Facility Contact Person: GIL MORGAN	<input checked="" type="checkbox"/> First Time Inspection <input type="checkbox"/> Re-inspection
Facility Contact Person Title/Phone: 651-0258 GM	Inspector's Name: MARK PALSGROVE Phone #: 450-4436
Facility Environmental/Plant Manager (if different): Name: SAME Title: Phone:	Affiliation: CCWRD

Inspection Criteria <i>(Please explain any "Yes" box checked and attach photograph)</i>	Yes	No
1. Is there evidence of any process wastewater that has been or is being discharged from the site into the storm drain or public right-of-way?		✓
2. Have any pollutants run off the site into the public right of way?		✓
3. Do any on-site pollutants have the potential to run off the site?	✓	
Actions Taken	Yes	No
1. Informed facility contact of need to correct problem	✓	
2. Observed facility contact correcting problem		✓
Comments: <i>(include location/description of problems observed/if enforcement is deemed necessary; continue on back)</i>		



Copies of this form should be faxed to Joe Boteilho, Clark County Public Response Office at (702) 455-2080 if local ordinance violations are observed or David Lloyd, Nevada Division of Environmental Protection at 486-2863 if onsite housekeeping practices need attention to prevent offsite impact.

INDUSTRIAL SITE STORMWATER INSPECTION CHECKLIST

Jurisdiction of Facility:

- Clark County (unincorporated) City of Henderson
 City of Las Vegas City of North Las Vegas

Type of Industrial Activity:

- Active/inactive mining operation(s)
 Hazardous waste treatment, storage, or disposal facility
 Landfill, land application site, open dump
 Recycling (metal scrap yard, battery reclaimer, salvage yard, automobile junkyard, other)
 Steam electric power generating facility
 Transportation facility:
 Vehicle maintenance shop (e.g., vehicle rehab., mechanical repair, painting, fueling, lubrication)
 Equipment cleaning operation
 Airport (including deicing operations)
 Section 313, Title III of SARA (1986)
 Other (facility with potential for substantial pollutant loading to storm sewer system)

Comments:

WASTE DEEP FRY GREASE RENDERING.

Owner Information:

Name BAKER COMMODITIES
Address 5725 RANGE ROAD
Telephone number(s) 702-651-0258
Fax _____
E-mail _____

Operator Information (if different than above):

Name SAME AS ABOVE
Address _____
Telephone number(s) _____
Fax _____
E-mail address _____

Facility/Site Information:

Name SAME AS ABOVE
Address _____
Latitude/longitude of the site: _____ / _____
Approximate facility/site area: 10+12 acres

Legal Status of Facility: (circle one)

Private, Federal, state, county, city, other public, tribal, other: _____

This site is an: existing facility new facility new operator of existing facility

NPDES Permit Status:

	Yes/No/NA	Comments
Does the business have a NPDES Industrial Stormwater Permit with NDEP for this facility? If yes, permit # (if available): <u>NV R050000</u> Expiration date: <u>RENEWED 7/07</u>	YES	SITE ID: ISW-207
If permitted, does the facility have a SWPPP?	NO	
Are site maps with BMPs and other relevant information available?	NO	

Has facility been previously inspected for stormwater compliance? Yes / No

If yes, last inspection date: _____

If yes, briefly describe any noteworthy findings:

Name of the receiving water (closest named wash): UN-NAMED

Distance/direction to receiving water: ADJOINING PROPERTY - WEST PROPERTY LINE.

Comments: SMALL WASH ADJOINING PROPERTY.

Description of Potential Pollutants and Sources:

Do outfalls from the facility contribute stormwater via discharges or off-site connections to the municipal separate storm sewer system? Yes / No

Comments/descriptions of outfall(s):

Exposed Materials (materials handled, stored, processed, treated, or disposed of in a manner that allows for exposure to precipitation or runoff):

	Yes/No/NA	Comments
Are exposed materials stored in drums, barrels, tanks, and similar containers properly closed/sealed, in good structural condition?	NO	NOT ALL DRUMS ARE SEALED OR HAVE SECONDARY CONTAINMENT
Can exposed materials reasonably be expected to add pollutants to the storm sewer system from:	1) Rain events and related stormwater discharges?	MAYBE
	2) Dry weather discharges?	NO
Are there processing, storage, material loading/unloading, and/or other areas where significant materials are exposed to precipitation or runoff?		
Are employees trained/educated on BMPs for exposed materials?	NO	

Facility structures (e.g., buildings, garages, storage tanks)

	Yes/No/ NA	Comments
Are structural control devices (BMPs) present and, if, so, designed to reduce pollution in stormwater runoff?	YES	BERMS AROUND LARGE STORAGE AREAS.
Are there process wastewater treatment units (including ponds)?	NO	
Are air treatment units (e.g., bag house) exposed to precipitation or runoff?	NA	
Are surface water bodies (including wetlands) on the facility?	NO	
Are there vehicle and equipment maintenance areas?	YES	COVERED
Do physical features of the site influence stormwater runoff or contribute a dry weather flow?	YES	SLOPE OF AREA.
Are employees trained/educated on maintenance programs and BMP on facility and stormwater structures?	NO	

Good Housekeeping Measures:

	Yes/No/ NA	Comments
Do areas of the facility contribute or potentially contribute pollutants to stormwater discharges (e.g., areas around trash dumpsters, storage areas, loading docks, and outdoor processing areas) are maintained in a clean and orderly manner?	YES	POTENTIAL DISCHARGE - TRASH / LITER ALONG WEST FENCE. AREA SLOPES/ DRAINS TO THE WEST. MATERIALS MAY MIGRATE.
Are measures taken to eliminate or reduce exposure of garbage and refuse materials to precipitation or runoff prior to their disposal?	NO	ADVISED TO CLEAN GROUNDS/TRASH AREAS OF SOLID WASTES (GARBAGE)
Are employees trained/educated on good housekeeping measures?	NO	

Spill Prevention and Response Measures:

	Yes/No/ NA	Comments
Can areas susceptible to pollutant spills potentially contribute pollution to stormwater discharges (i.e., are BMPs in place to prevent these occurrences)?	YES	55 GALLON DRUMS OF SOAP NEAR PROPERTY BOUNDARIES. NO SECONDARY CONTAINMENT.
Are procedures in place to minimize/prevent contamination of stormwater from spills (e.g., daily inspection for equipment leaks; installation of secondary containment structures around liquid storage tanks and drums; installation of overfill prevention devices on pumps and tanks; modification of material handling techniques; routine inspection of drums, tanks and other containers)?	NO	ADVISED TO DO SO.
Are drums, tanks, and other containers clearly labeled and properly sealed or closed?	NOT ALL	MANY EMPTY DRUMS FOUND W/O LIDS.
Are hazardous waste containers that require special handling, storage, use, and disposal clearly marked?	NA	
Is a Spill Prevention and Response Measures Plan readily available to facility personnel?	YES	TO A LIMITED DEGREE. THEIR PLAN... CALL 911.
Are materials available and equipment necessary for spill clean up?	YES	SMALL SPILLS - CLAY LITTER. LARGE SPILLS - NONE
Is an inventory maintained of spill cleanup materials and equipment?	NO	
Are employees trained/educated on spill prevention and response measures?	YES	TRAINED NO - NO PRACTICE EDUCATED YES - TOLD HOW
Does pavement washwater where spills or leaks of toxic or hazardous materials have occurred contain detergents? Is the washwater properly disposed of?	NA	

Erosion Control Measures:

	Yes/No/ NA	Comments
Are erosion prevention measures and controls in place to reduce soil erosion in areas of the facility that have ongoing erosion or potential for soil erosion (e.g., soil stabilization through vegetative cover; contouring slopes; paving; and installation of structural controls/BMPs.	NO	PLACES ALONG WEST PROPERTY LINE SHOW CLEAR SOIL EROSION. NOTHING DONE/PRACTICED TO STOP IT.
Are employees trained/educated on erosion control measures and BMPs?	NO	

Structural Controls:

	Yes/No/ NA	Comments
Are physical structures (e.g., oil/water separators, catch basins, sediment/settling ponds, grass swales, berms) installed, as necessary, to reduce pollutants in stormwater discharges?	YES	AREA DRAINS DISCHARGE TO HOLDING TANK. PREVENTS MUCH RUN OFF.
Are stormwater structural controls maintained and inspected on a regular basis to prevent failures that could result in a discharge of pollutants? *	YES	PUMPED OUT AFTER RAIN EVENTS OR AFTER MANY AREA WASH DOWNS.
Are records maintained to document the estimated volumes of solids removed from catch basins, sediment ponds, and other similar control structures?	NO	
Are employees trained/educated on structural control BMPs?	YES	

Parking Lots:

	Yes/No/ NA	Comments
Are parking lots paved?	BOTH	EMPLOYEE PARKING - YES COMPANY TRUCKS - NO
Are parking lots adequately cleaned/swept?	YES	
Are BMPs in place to mitigate pollutants in the parking lot from entering the storm sewer?	NO	LIMITED DEGREE - PAVED PARKING NONE ON DIRTY PARKING LOT.

Non-stormwater Discharges Requiring BMPs:

	Yes/No/ NA	Comments
Are BMPs implemented if needed to minimize impacts of uncontaminated discharges?	YES	
Are non-stormwater sources (e.g., water used to wash vehicles, external building wash down water) combined with stormwater discharges from the facility and allowed to enter the separate storm sewer system? If so, are these authorized by NDEP*?	NO	

* Non-stormwater discharges that are significant contributors of pollutants shall be eliminated or authorized under a separate permit

Other inspection information/documentation:

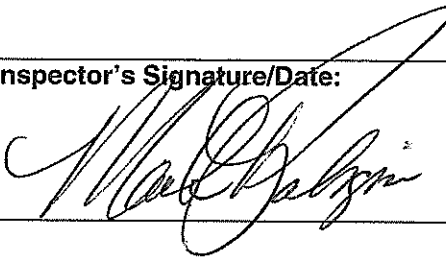
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If yes, number of additional pages: 5
- Were photographs taken?
If yes, number of photos: _____
Provide photo frame number(s)/digital file ID(s) and description of each photo, below:

Photo Information/Comments:

Inspector(s) Affiliation

CLARK COUNTY WATER RECLAMATION DISTRICT

Inspector's Signature/Date:

 9.20.07

Baker Commodities
5725 Range Road
Las Vegas, NV 89115

Facility maintains a wash rack area for trucks and for grease rendering bins. This area is not covered and contains two open 55 gallon drums of soap, as well as several empty drums with missing lids. Area contains one drain which is said to discharge to an underground storage tank. This tank is pumped out periodically by the facility and the contents treated through the facility treatment system. There is a small potential for the soaps to migrate off site if they were to spill. Either the spill could be washed off site on purpose or during a stormwater event if not cleaned up after a spill. There is no evidence that this has occurred. Just that there is a potential for this to happen. Facility management was told to add secondary containment for those drums in use and to place lids securely on those drums which are empty.

Trash and other debris litter the west fence (Property line). There are several places where it is obvious that rain water washes this debris under the fence and into the small wash adjacent to the property. Soil erosion is evident as well. There is no landscaping or any other attempt to stop or decrease the run off of storm water to the west side of the property. There is no evidence that any liquid wastes have been discharged off site via this route. Only garbage is seen in the eroded areas and under the fence. Facility was told to clean the fence line regularly and back fill the eroded areas, thereby eliminating a route under the fence by which trash can escape the site and into the wash.

Facility records show that a Storm Water Permit was paid for, but the actual permit could not be located. In addition, there are pollution prevention plans written up, but not much training of the employees in the plans measures is conducted. No where in the plan is storm water discharge prevention addressed. A copy of the plans 'Table of Contents' is attached. Facility advised that such a plan should be drafted and implemented immediately.

No other concerns noted.

Baker Commodities, Inc.
Loss Prevention Program

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SPILL PREVENTION CONTROL AND COUNTERMEASURE PLAN

**PART I
GENERAL INFORMATION**

1. Name of Facility: Baker Commodities, Inc.
2. Type of Facility: On-shore, Bulk Storage & Distribution
Terminal/Non Production
Subpart C – Onshore Production Facility
3. Location of Facility: 5725 Range Road
Las Vegas, Nevada 89115
4. Name and Address of Owner or Operator

Name: Baker Commodities Inc.

Address: 5725 Range Road
Las Vegas, Nevada 89115
5. Designated Person Accountable for Oil Spill Prevention at Facility

Name and Title: Mr. Gil Morgan, General Manager

MANAGEMENT APPROVAL

This SPCC Plan will be implemented as herein described and is in full compliance with the requirements listed in 40CFR Part 112 and with those requirements of the State of Nevada.

Signature: _____

Name: Mr. Mel Brown

Title: Division Manager

ENGINEER'S CERTIFICATION

I hereby certify that I have visited and examined the facility and being familiar with the provisions of 40 CFR, Part 112, attest that this SPCC Plan considers applicable industry standards and has been prepared in accordance with requirements of 40 CFR, Part 112, that the procedures for required inspections and testing have been established and, that the plan is adequate for the facility.

Tim A. Seeler, P.E.

Signature of Registered Professional Engineer

Date: September, 2006

Registration No.: 58036

State: New York

Owner: Baker Commodities Inc.
Location: Las Vegas Transfer Station - Las Vegas, Nevada
Prepared: September, 2006

NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER POLLUTION CONTROL
901 SOUTH STEWART STREET, SUITE 4001
CARSON CITY, NV 89701-5249
PHONE: (775) 687-9418

ANNUAL INVOICE

05/01/2007

TO: Mr. Gil Morgan
BAKER COMMODITIES INC
5725 RANGE RD
Las Vegas NV 89115

INVOICE: GENERAL PERMIT ANNUAL FEE FOR FISCAL YEAR 2008

FOR: Baker Commodities Inc

Industrial Stormwater General Permit

General Permit No.: NVR050000 Site ID: ISW - 207

Annual Fee Due: July 1, 2007

Total Amount Due: \$200

PLEASE MAKE CHECKS PAYABLE TO: Nevada Division of Environmental Protection

Notice of Termination forms are available at:
<http://ndep.nv.gov/bwpc/indnot.pdf>

If you have general questions about fees please call Stormwater Assistance at (775) 687-9417.

Additional information is available at:
<http://ndep.nv.gov/bwpc/storm01.htm>

PLEASE RETURN THIS STUB WITH PAYMENT

Bureau of Water Pollution Control Mail

New Billing Address or Contact

Annual Fee Payment for Fiscal Year 2008

Organization: _____

Baker Commodities Inc

Contact Name: _____

General Permit No.: NVR050000

Address: _____

Site ID: ISW - 207

City/State/Zip: _____

Amount Due: \$200

Phone: _____

5-8-07
Attn: Bev
Phon: Gil
1 of 2

Request for Check

Baker Commodities Inc. - Phoenix Division

Payable to: NEVADA DIVISION OF ENVIRONMENTAL PROTECTION
BUREAU OF WATER POLLUTION CONTROL
901 SOUTH STEWART STREET, SUITE 4001
CARSON CITY, NV 89701-5249
PHONE: (775) 687-9418

Item	Account	Center	Amount	
Annual fee payment			200	00
Total Check Amount:			200	00

Mail Prepared By: Cel J

Will Call Approved By: _____

Waiting

Date 5-8-07

Check Number _____

Grease and Sand/Oil Interceptor Inspections Report

7/7/2008 09:30:27 AM

ACCT #	ACCT NAME	TYPE	ADDRESS	CITY	ZIP	CONTACT	PHONE	COMPLIANCE	EQUIP #	LOCATION	W/O #	INSPECTOR	INSP DATE
5903462	101 CONVENTION CENTER	PGRS	101 CONVENTION CENTER DR	LAS VEGAS	89109			YES	CCCCD101	NIPPON RESTAURANT	209084	JRICE	2/19/2008
7401043	24 HOUR FITNESS CENTER	PSND	2605 S EASTERN AVE	LAS VEGAS	89109			YES	FFCOE260	HARLEY DAVIDSON	201872	JRICE	11/29/2007
0208330	25 CLUB	PGRS	4531 N LAS VEGAS BLVD	LAS VEGAS	89115			YES	TFCNB453	25 CLUB	217645	JRICE	5/27/2008
8500414	4 G PLAZA	PGRS	4235 E CHARLESTON BLVD	LAS VEGAS	89104			YES	GPEC0007	SUITE B-DAIRY QUEEN	222872	JRICE	6/23/2008
9901251	5 & DINER RESTAURANT	PGRS	8820 S EASTERN AVE	LAS VEGAS	89123			YES	FDREA882		164812	JRICE	9/27/2007
9300600	7-ELEVEN STORE #27700	PSND	5140 S MARYLAND PKWY	LAS VEGAS	89109			YES	SESMP514	PURRFECT AUTO	164518	JRICE	8/7/2007
7800338	A H A FAMILY L P	PGRS	4650 S MARYLAND PKWY	LAS VEGAS	89119			YES	DTSMP465		164479	JRICE	8/3/2007
7400580	A-ALLIED AUTOMOTIVE	PSND	4047 W DESERT INN RD	LAS VEGAS	89146			YES	AACDI404	SERVICE BAY	191834	NWILLIAM	10/10/2007
7400580	A-ALLIED AUTOMOTIVE	PSND	4047 W DESERT INN RD	LAS VEGAS	89146			NO	AACDI404	SERVICE BAY	163386	NWILLIAM	9/6/2007
	WORKORDER DETAILS:		163386 VIOLATION										
	WORKORDER DETAILS:		163386 PUMPING RECEIPTS										
7202364	AAMCO TRANSMISSIONS	PSND	3430 E SAHARA AVE	LAS VEGAS	89104			YES	ATESA024		164860	NWILLIAM	7/25/2007
7202364	AAMCO TRANSMISSIONS	PSND	3430 E SAHARA AVE	LAS VEGAS	89104			YES	ATESA024	AAMCO TRANSMISSIONS	222752	JRICE	6/20/2008
8903554	ABC AUTO REPAIR INC	PSND	4585 W NEVSO DR	LAS VEGAS	89103			YES	AARCN458		197108	JRICE	10/30/2007
8903554	ABC AUTO REPAIR INC	PSND	4585 W NEVSO DR	LAS VEGAS	89103			YES	AARCN458	ABC AUTO REPAIR INC	208912	NWILLIAM	1/23/2008
7701205	ABERLE, HEINRICH J	PSND	5947 BOULDER HWY	HENDERSON	89014			YES	NRPPB594	SUNLAND COLLISION	222219	NWILLIAM	6/23/2008
8301835	ADELSON NATHAN HOSPICE	PGRS	4141 SWENSON ST	LAS VEGAS	89119			YES	ANHSS009	KITCHEN	164242	NWILLIAM	10/5/2007
8301835	ADELSON NATHAN HOSPICE	PGRS	4141 SWENSON ST	LAS VEGAS	89119			YES	ANHSS009	KITCHEN	209267	NWILLIAM	2/20/2008
8300830	AHERN RENTAL	PSND	4241 S ARVILLE ST	LAS VEGAS	89103			NO	ARSAS424	WASH RACK	197502	NWILLIAM	10/29/2007
	WORKORDER DETAILS:		197502 VIOLATION										
	WORKORDER DETAILS:		197502 TIP OR BILLING COMPLAINTS										
	WORKORDER DETAILS:		197502 COUNT & INSPECT ALL										
8300830	AHERN RENTAL	PSND	4241 S ARVILLE ST	LAS VEGAS	89103			NO	ARSAS424	WASH RACK	197109	NWILLIAM	10/30/2007
	WORKORDER DETAILS:		197109 VIOLATION										
	WORKORDER DETAILS:		197109 SOLIDIFIED GREASE IN OUTLET TEE										
	WORKORDER DETAILS:		197109 PUMP INTERCEPTOR										
7501051	AIRPORT CENTER	PGRS	5030 PARADISE RD	LAS VEGAS	89119			YES	ACPPR043	DELI - BLDG D	164294	NWILLIAM	10/4/2007
7501051	AIRPORT CENTER	PGRS	5030 PARADISE RD	LAS VEGAS	89119			YES	ACPPR043	DELI - BLDG D	209319	NWILLIAM	3/10/2008
8801102	AIRPORT CHEYENNE VENTURE LLC	PGRS	955 GRIER DR	LAS VEGAS	89119			YES	ACVGD955	SUITE D - ORCHARD ST GRIL	164344	JRICE	9/25/2007
9705710	AKITA PLAZA	PGRS	3999 S LAS VEGAS BLVD	LAS VEGAS	89119			NO	APLVB399	MCDONALD'S	212304	JRICE	3/12/2008
	WORKORDER DETAILS:		212304 VIOLATION										
	WORKORDER DETAILS:		212304 MISSING INLET TEE										
	WORKORDER DETAILS:		212304 Replace										
9705710	AKITA PLAZA	PGRS	3999 S LAS VEGAS BLVD	LAS VEGAS	89119			YES	APLVB400	PANDA EXPRESS	213782	JRICE	3/25/2008
9705710	AKITA PLAZA	PGRS	3999 S LAS VEGAS BLVD	LAS VEGAS	89119			NO	APLVB400	PANDA EXPRESS	212305	JRICE	3/12/2008
	WORKORDER DETAILS:		212305 VIOLATION										
	WORKORDER DETAILS:		212305 SOLIDIFIED GREASE IN SAMPLE BOX										
	WORKORDER DETAILS:		212305 PUMP INTERCEPTOR										
9201427	ALBERTSONS #6024	PGRS	2835 S NELLIS BLVD	LAS VEGAS	89121			YES	ASNB0054	DELI	203451	NWILLIAM	12/19/2007
9201427	ALBERTSONS #6024	PGRS	2835 S NELLIS BLVD	LAS VEGAS	89121			YES	ASNB0055	BUTCHER SHOP	203452	NWILLIAM	12/19/2007
5903932	ALBERTSONS #6047	PGRS	2575 S MARYLAND PKWY	LAS VEGAS	89109			YES	AMSMP257	DELI	164093	NWILLIAM	8/20/2007
5903932	ALBERTSONS #6047	PGRS	2575 S MARYLAND PKWY	LAS VEGAS	89109			YES	AMSMP257	DELI	209171	JRICE	5/5/2008
9900474	ALBERTSONS #6089	PGRS	6885 E LAKE MEAD BLVD	LAS VEGAS	89156			YES	ASLM0015		222233	JRICE	6/12/2008
9906737	ALBERTSONS #6091	PGRS	5881 E CHARLESTON BLVD	LAS VEGAS	89142			YES	ASEC0019		222200	JRICE	6/18/2008
8401104	ALEXIS PARK RESORT HOTEL	PGRS	375 E HARMON AVE	LAS VEGAS	89109			YES	APRHH038	HOTEL CAFE	209105	JRICE	2/13/2008
7401999	ALLEN, STEVE W	PGRS	5889 E LAKE MEAD BLVD	LAS VEGAS	89156			YES	AELM0010	SUITE C	165164	NWILLIAM	7/27/2007
7401999	ALLEN, STEVE W	PGRS	5889 E LAKE MEAD BLVD	LAS VEGAS	89156			YES	AELM0010	SUITE C	221472	JRICE	6/9/2008
0403492	ANNIE OAKLEY RETAIL CENTER	PGRS	3980 E SUNSET RD	LAS VEGAS	89120			YES	AORCS398	AMBIANCE BAKERY & BISTRO	222850	JRICE	6/24/2008
7201263	ANTOKU TIMOTHY T & CAROL A ETAL	PGRS	1305 VEGAS VALLEY DR	LAS VEGAS	89109			YES	PDVVV130	MUGGLE INN	164414	JRICE	7/25/2007
7201263	ANTOKU TIMOTHY T & CAROL A ETAL	PGRS	1305 VEGAS VALLEY DR	LAS VEGAS	89109			YES	PDVVV131	MAGUAR PIZZA	164415	JRICE	7/25/2007
0402504	APACHE PLAZA	PSND	4295 S FORT APACHE RD	LAS VEGAS	89147			YES	APFAR429	BRAKE TEAM	204468	JRICE	12/20/2007
0402664	APACHE PLAZA	PGRS	4199 S FORT APACHE RD	LAS VEGAS	89147			YES	APSFA419	FAT BURGER	204487	JRICE	12/20/2007
0401899	APACHE PLAZA	PGRS	4235 S FORT APACHE RD	LAS VEGAS	89135			YES	APSFA424	MONTESANO PIZZA	204470	JRICE	12/20/2007
0401899	APACHE PLAZA	PGRS	4235 S FORT APACHE RD	LAS VEGAS	89135			YES	FFACW423	SUITE 250-BAJIO REST	204471	JRICE	12/20/2007

Grease and Sand/Oil Interceptor Inspections Report

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WORKORDER DETAILS: 163389 STOPPAGE

WORKORDER DETAILS: 163389 Inspect

0305260	AUTOMOTIVE CENTER	PSND	9530 W TROPICANA AVE	LAS VEGAS	89135	YES	ACWTA953	JUST BRAKES	204495	JRICE	12/17/2007
0305260	AUTOMOTIVE CENTER	PSND	9530 W TROPICANA AVE	LAS VEGAS	89135	YES	ACWTA954	SUN AUTO	204496	JRICE	12/17/2007
8101159	AVIS RENT-A-CAR	PSND	5164 RENT A CAR RD	LAS VEGAS	89119	YES	AVRAC002	SERVICE BAY	164296	NWILLIAM	10/4/2007
8101159	AVIS RENT-A-CAR	PSND	5164 RENT A CAR RD	LAS VEGAS	89119	YES	AVRAC003	CAR WASH	164297	NWILLIAM	10/4/2007
5903747	B J'S LOUNGE	PGRS	218 E TROPICANA AVE	LAS VEGAS	89109	YES	BJLET218	BJ'S LOUNGE	209106	JRICE	2/13/2008
0101071	BAHAMA BREEZE RESTAURANT	PGRS	375 HUGHES CENTER DR	LAS VEGAS	89109	YES	BBHC0005	BAHAMA BREEZE REST	209211	JRICE	3/6/2008
5903592	BAHNAN, JOE A	PGRS	605 E TWAIN AVE	LAS VEGAS	89169	YES	BJETA605	BAHNAN, JOE A	225193	NWILLIAM	5/22/2008
0103652	BAILEY'S SUPERMARKET	PGRS	4740 E OWENS AVE	LAS VEGAS	89142	YES	BSEOA474	BAILEY'S SUPERMARKET	217690	JRICE	5/12/2008
6700057	BALLYS GRAND HOTEL AND CASINO	PGRS	3645 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BGHLV641	SOUTH TOWER	212308	JRICE	3/19/2008
6700057	BALLYS GRAND HOTEL AND CASINO	PGRS	3645 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BGHLV642	SHOW ROOM	212309	JRICE	3/19/2008
6700057	BALLYS GRAND HOTEL AND CASINO	PGRS	3645 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BGHLV645	MAIN KITCHEN	212310	JRICE	3/19/2008
6700057	BALLYS GRAND HOTEL AND CASINO	PGRS	3645 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BGHLV646	FOOD COURT	212311	JRICE	3/19/2008
5903483	BARBARY COAST	PGRS	3595 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BCHC0001	BY UNDERGROUND PARKING	212306	JRICE	3/18/2008
5903483	BARBARY COAST	PGRS	3595 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	BCHC0002	BIG DIPPER- DOWNSTAIRS	212307	JRICE	3/18/2008
	WORKORDER DETAILS:		212307 VIOLATION								
	WORKORDER DETAILS:		212307 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212307 PUMP INTERCEPTOR								
5903483	BARBARY COAST	PGRS	3595 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BCHC0002	BIG DIPPER- DOWNSTAIRS	214012	JRICE	3/18/2008
8501999	BARCELONA MOTEL	PGRS	5011 E CRAIG RD	LAS VEGAS	89115	YES	BMEC0007	CAFE	165137	NWILLIAM	7/17/2007
8501999	BARCELONA MOTEL	PGRS	5011 E CRAIG RD	LAS VEGAS	89115	YES	BMEC0007	CAFE	217707	NWILLIAM	5/14/2008
5910078	BARLEY POPS	PGRS	3328 E CHARLESTON BLVD	LAS VEGAS	89104	YES	BPEC0005		164856	NWILLIAM	7/24/2007
5910078	BARLEY POPS	PGRS	3328 E CHARLESTON BLVD	LAS VEGAS	89104	YES	BPEC0005	BARLEY POPS	222748	JRICE	6/18/2008
9604569	BARRICATOS, FERMIN	PGRS	8615 W FLAMINGO RD	LAS VEGAS	89147	YES	FTWF0011	FAST TRACK CAFE	207236	NWILLIAM	2/12/2008
9604569	BARRICATOS, FERMIN	PGRS	8615 W FLAMINGO RD	LAS VEGAS	89147	YES	FTWF0011	FAST TRACK CAFE	214052	NWILLIAM	4/2/2008
9604569	BARRICATOS, FERMIN	PSND	8615 W FLAMINGO RD	LAS VEGAS	89147	YES	FTWF0012	FAST TRACK CAR WASH	207237	NWILLIAM	2/12/2008
9002409	BARRINGTON PROPERTIES L L C	PGRS	2955 E SUNSET RD	LAS VEGAS	89120	YES	BTESR295	SUITES 109-110 - DIANA'S	164796	NWILLIAM	7/19/2007
9201356	BAYSHORE INN	PGRS	1955 W CASINO DR	LAUGHLIN	89029	YES	BSICD195		169222	EHELAL	8/8/2007
9201356	BAYSHORE INN	PGRS	1955 W CASINO DR	LAUGHLIN	89029	YES	BSICD195		222348	EHELAL	6/18/2008
5903753	BELLAGIO	PGRS	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV301	BUTCHER SHOP	212445	NWILLIAM	3/25/2008
5903753	BELLAGIO	PGRS	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV308	CAFE BELLAGIO	212450	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV315	FRONT ROOF PLANTER	212455	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV315	FRONT ROOF PLANTER	198624	NWILLIAM	3/6/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV314	VILLA PUMP ROOM	212454	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV314	VILLA PUMP ROOM	198623	NWILLIAM	3/6/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV313	EAST POOL	212453	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV313	EAST POOL	198622	NWILLIAM	3/6/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV310	LIMO WASH	212452	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV310	LIMO WASH	198621	NWILLIAM	3/6/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV309	ROOF PLANTER	212451	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV307	THE VILLAS	212449	NWILLIAM	3/25/2008
5903753	BELLAGIO	PGRS	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV302	MAIN KITCHEN	212446	NWILLIAM	3/25/2008
5903753	BELLAGIO	PGRS	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV303	JASMINE/OLIVES	198616	NWILLIAM	3/6/2008
5903753	BELLAGIO	PGRS	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV303	JASMINE/OLIVES	212447	NWILLIAM	3/25/2008
5903753	BELLAGIO	PSND	3600 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	BHCLV304	LAKE DOCK	212448	NWILLIAM	3/25/2008
0401144	BELTWAY CORPORATE CENTER	PGRS	8975 S EASTERN AVE	LAS VEGAS	89119	YES	BCCEA895	MELTING POT	164583	JRICE	8/14/2007
0401144	BELTWAY CORPORATE CENTER	PGRS	8975 S EASTERN AVE	LAS VEGAS	89119	YES	BCCEA897	SUNRISE CAFE	164585	JRICE	8/14/2007
0307003	BELTWAY CORPORATE CENTER	PGRS	9055 S EASTERN AVE	LAS VEGAS	89119	YES	BJSEA905	BON JOUR FRNCH RESTAURANT	164586	JRICE	8/13/2007
0401144	BELTWAY CORPORATE CENTER	PGRS	8975 S EASTERN AVE	LAS VEGAS	89119	YES	BCCEA896	LOW CALZONE	164584	JRICE	8/14/2007
0102575	BELTWAY MARKETPLACE	PGRS	9230 S EASTERN AVE	LAS VEGAS	89123	YES	BWMSE923	SUITE 100 CHUCK E CHEESE	164817	JRICE	9/20/2007
0102575	BELTWAY MARKETPLACE	PGRS	9230 S EASTERN AVE	LAS VEGAS	89123	YES	BWMSE924	SUITE 100 - COCO'S	164818	JRICE	9/20/2007
8700671	BENNETT ELEMENTARY SCHOOL #900	PGRS	2750 S NEEDLES HWY	LAUGHLIN	89029	YES	WBENH275	SCHOOL KITCHEN	222404	EHELAL	6/18/2008

Grease and Sand/Oil Interceptor Inspections Report

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7001591	BEST QUALITY SAUSAGES	PGRS	5110 E WASHINGTON AVE	LAS VEGAS	89110	YES	FBQSE511	FIRST BEST QUAL. SAUSAGES	165175	NWILLIAM	7/18/2007
7001591	BEST QUALITY SAUSAGES	PGRS	5110 E WASHINGTON AVE	LAS VEGAS	89110	YES	FBQSE511	FIRST BEST QUAL. SAUSAGES	221483	NWILLIAM	6/5/2008
7500181	BEST VALUE INN	PGRS	169 E TROPICANA AVE	LAS VEGAS	89109	YES	BVIET169	COMMON-CARROWS/JEREMIAHS	209115	JRICE	2/22/2008
7800333	BIANCA PLAZA	PGRS	2947 INDUSTRIAL RD	LAS VEGAS	89109	YES	BPSIR294	SUITE 2973-C	200503	JRICE	2/13/2008
9407746	BIG BEND OF THE COLORADO RECREATION AREA	PSND	4020 NEEDLES HWY	LAUGHLIN	89029	YES	BBPNH402	MAINT SHOP	222347	EHELAL	6/18/2008
6800409	BIG O TIRE SERVICE	PSND	3415 S MARYLAND PKWY	LAS VEGAS	89109	YES	BOMP0003	BIG O TIRE SERVICE	191197	NWILLIAM	12/12/2007
6800409	BIG O TIRE SERVICE	PSND	3415 S MARYLAND PKWY	LAS VEGAS	89109	YES	BOMP0003	BIG O TIRE SERVICE	209184	JRICE	4/22/2008
6800409	BIG O TIRE SERVICE	PSND	3415 S MARYLAND PKWY	LAS VEGAS	89109	NO	BOMP0003		164155	NWILLIAM	8/8/2007
	WORKORDER DETAILS:		164155 VIOLATION								
	WORKORDER DETAILS:		164155 MISSING INLET TEE								
	WORKORDER DETAILS:		164155 Replace								
9500066	BIG TYME CHEVRON FOOD MART	PGRS	4919 W SAHARA AVE	LAS VEGAS	89146	YES	BTCWS031		203472	JRICE	12/7/2007
8002307	BITE OF INDIA	PGRS	2295 E TROPICANA AVE	LAS VEGAS	89119	YES	BOITA229		164504	JRICE	8/10/2007
9600382	BLACK ANGUS RESTAURANT	PGRS	5125 W SAHARA AVE	LAS VEGAS	89146	YES	BARWS033		203471	JRICE	12/10/2007
5903460	BLACKSTONE HOTEL	PGRS	4055 PALOS VERDES ST	LAS VEGAS	89119	YES	HOJEF598	HAMADA 598 E FLAMINGO	209224	NWILLIAM	4/24/2008
9100001	BLAIR HOUSE INC	PGRS	344 E DESERT INN RD	LAS VEGAS	89109	YES	BHEDI344	CAFE	209082	JRICE	2/15/2008
9202028	BOAT DOC (NLV #22827-1)	PSND	5435 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	BDELM543	SERVICE BAY	165165	NWILLIAM	7/27/2007
9202028	BOAT DOC (NLV #22827-1)	PSND	5435 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	BDELM543	SERVICE BAY	221473	JRICE	6/5/2008
7800734	BOBENHAUSEN, HEATHER	PSND	700 N NELLIS BLVD	LAS VEGAS	89110	NO	CPNB0012	700 N NELLIS BLVD	221504	NWILLIAM	6/12/2008
	WORKORDER DETAILS:		221504 VIOLATION								
	WORKORDER DETAILS:		221504 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		221504 PUMP INTERCEPTOR								
7401050	BOLERO PLAZA	PGRS	2300 E DESERT INN RD	LAS VEGAS	89109	YES	BPEDI230	ROSY'S SALOON	164413	JRICE	7/25/2007
0509987	BOMAS RESTAURANT	PGRS	8020 S DURANGO DR	LAS VEGAS	89135	YES	WPSDD809	BOMAS 8020	206072	JRICE	2/4/2008
0604014	BOSTON GOURMET PIZZA	PGRS	9755 W FLAMINGO RD	LAS VEGAS	89147	YES	BGPWF975	BOSTON GOURMET PIZZA	204488	JRICE	1/4/2008
0006715	BOULDER BUSINESS PARK	PGRS	6658 BOULDER HWY	LAS VEGAS	89122	YES	BBPBH665	SUITES 8-9 RUM RUNNER	165370	NWILLIAM	7/10/2007
0006715	BOULDER BUSINESS PARK	PSND	6658 BOULDER HWY	LAS VEGAS	89122	YES	BBPBH666	SUITE 1-2 SPENDLESS TIRE	165371	NWILLIAM	7/10/2007
0006715	BOULDER BUSINESS PARK	PSND	6658 BOULDER HWY	LAS VEGAS	89122	YES	BBPBH666	SUITE 1-2 SPENDLESS TIRE	222246	NWILLIAM	6/24/2008
0006715	BOULDER BUSINESS PARK	PGRS	6658 BOULDER HWY	LAS VEGAS	89122	YES	BBPBH665	SUITES 8-9 RUM RUNNER	222245	NWILLIAM	6/24/2008
7201689	BOULDER CROSSROADS	PGRS	5198 BOULDER HWY	LAS VEGAS	89122	YES	BCRBH519	CHILIS RESTAURANT	214955	EHELAL	4/4/2008
0601181	BOULDER MARKETPLACE	PGRS	6490 BOULDER HWY	LAS VEGAS	89122	YES	BMPBH649	VERIZON'S	222222	NWILLIAM	6/26/2008
0601181	BOULDER MARKETPLACE	PGRS	6490 BOULDER HWY	LAS VEGAS	89122	YES	BMPBH652	POPEYES CHICKEN	222225	NWILLIAM	6/26/2008
0601181	BOULDER MARKETPLACE	PSND	6490 BOULDER HWY	LAS VEGAS	89122	YES	BMPBH651	TIRE WORKS	222224	NWILLIAM	6/27/2008
0601181	BOULDER MARKETPLACE	PGRS	6490 BOULDER HWY	LAS VEGAS	89122	NO	BMPBH650	SIZZLER	222223	NWILLIAM	6/27/2008
	WORKORDER DETAILS:		222223 VIOLATION								
	WORKORDER DETAILS:		222223 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		222223 PUMP INTERCEPTOR								
5903947	BOULEVARD PLAZA	PGRS	3333 S MARYLAND PKWY	LAS VEGAS	89109	YES	BPMP0001	CAPOZZOLI'S RISTORANTE	164156	NWILLIAM	8/8/2007
5903947	BOULEVARD PLAZA	PGRS	3333 S MARYLAND PKWY	LAS VEGAS	89109	YES	BPMP0002	TACO'S COLIMA	209186	JRICE	4/22/2008
5903947	BOULEVARD PLAZA	PGRS	3333 S MARYLAND PKWY	LAS VEGAS	89109	YES	BPMP0002	TACO'S COLIMA	164157	NWILLIAM	8/8/2007
5903947	BOULEVARD PLAZA	PGRS	3333 S MARYLAND PKWY	LAS VEGAS	89109	YES	BPMP0001	CAPOZZOLI'S RISTORANTE	209185	JRICE	4/22/2008
9902129	BRADLANDS L L C	PSND	4035 FLOSSMOOR ST	LAS VEGAS	89115	YES	UERFS403	WAREHOUSE	165149	NWILLIAM	7/23/2007
9902129	BRADLANDS L L C	PSND	4035 FLOSSMOOR ST	LAS VEGAS	89115	YES	UERFS403	WAREHOUSE	217719	JRICE	5/16/2008
0004825	BREEZ RITE IN	PGRS	6451 BOULDER HWY	LAS VEGAS	89122	YES	JIBSB645	JACK IN THE BOX	222226	NWILLIAM	6/24/2008
9702038	BUBBLES CAR WASH(630017 LVVWD)	PSND	1315 E TROPICANA AVE	LAS VEGAS	89119	YES	BCWET131		164503	JRICE	8/8/2007
9904283	BUCA DE PEPPO	PGRS	412 E FLAMINGO RD	LAS VEGAS	89109	YES	BDPEF412		209212	NWILLIAM	5/6/2008
5912001	BUCK TAVERN	PGRS	1204 N NELLIS BLVD	LAS VEGAS	89110	YES	BTNB0026		165174	NWILLIAM	8/29/2007
5912001	BUCK TAVERN	PGRS	1204 N NELLIS BLVD	LAS VEGAS	89110	YES	BTNB0026	BUCK TAVERN	221482	NWILLIAM	6/5/2008
5912099	BUCKAROO AUTO SALES	PSND	4495 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	BASLV449	BUCKAROO AUTO SALES	217642	JRICE	5/23/2008
8801788	BUDGET RENT A CAR SOUTHERN CA	PSND	4744 PARADISE RD	LAS VEGAS	89109	YES	BRCPR042	BUDGET RENT A CAR	164263	NWILLIAM	9/12/2007
8801788	BUDGET RENT A CAR SOUTHERN CA	PSND	4744 PARADISE RD	LAS VEGAS	89109	YES	BRCPR042	BUDGET RENT A CAR	209288	JRICE	4/1/2008
7700280	BUDGET RENTALS (091139 LVVWD)	PSND	5188 PARADISE RD	LAS VEGAS	89119	YES	BRWPR045		164298	NWILLIAM	10/4/2007
7700280	BUDGET RENTALS (091139 LVVWD)	PSND	5188 PARADISE RD	LAS VEGAS	89119	YES	BRWPR045	BUDGET RENTALS	209323	NWILLIAM	3/10/2008
9606179	BULLFEATHERS LOUNGE	PGRS	3787 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	BLLM0001		164851	JRICE	7/13/2007

Grease and Sand/Oil Interceptor Inspections Report

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WORKORDER DETAILS: 212459 SOLIDIFIED GREASE IN OUTLET TEE

WORKORDER DETAILS: 212459 PUMP INTERCEPTOR

6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CCHLV283	TRASH COMPACTOR	212458	NWILLIAM	3/13/2008
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CCHLV287	ADVENTURE DOME	213807	JRICE	3/12/2008
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CCHLV289	MCDONALDS	212462	NWILLIAM	3/13/2008
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CCHLV289	MCDONALDS	198631	NWILLIAM	3/6/2008
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CCHLV288	STEAK HOUSE	212461	NWILLIAM	3/13/2008
	WORKORDER DETAILS:		212461 VIOLATION								
	WORKORDER DETAILS:		212461 MISSING OUTLET TEE								
	WORKORDER DETAILS:		212461 Replace								
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CCHLV288	STEAK HOUSE	213802	NWILLIAM	3/13/2008
6900012	CIRCUS CIRCUS HOTEL & CASINO	PGRS	2880 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CCHLV287	ADVENTURE DOME	212460	NWILLIAM	3/13/2008
	WORKORDER DETAILS:		212460 VIOLATION								
	WORKORDER DETAILS:		212460 MISSING INLET TEE								
	WORKORDER DETAILS:		212460 Replace								
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR390	MARRAKECH	209213	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR391	PICCOLI'S MEDITERRANEAN	209214	NWILLIAM	5/2/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR393	NICK & TONY'S	209216	NWILLIAM	5/2/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR392	YOLIE'S	220732	JRICE	5/23/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR392	YOLIE'S	209215	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR394	CITIBANK PARK	217231	JRICE	6/6/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	NO	CBPPR394	CITIBANK PARK	209258	JRICE	4/25/2008
	WORKORDER DETAILS:		209258 VIOLATION								
	WORKORDER DETAILS:		209258 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		209258 PUMP INTERCEPTOR								
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR395	THE PARK	209259	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR400	FIRE FLY	209264	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR399	DRAGON FLY	209263	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR398	SHALIMAR	209262	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR397	RUTHS CHRIS STEAKHOUSE	209261	JRICE	4/25/2008
8701027	CITIBANK PARK	PGRS	3900 PARADISE RD	LAS VEGAS	89109	YES	CBPPR396	JERSEY MIKES	209260	JRICE	4/25/2008
5912428	CITY STOP INC	PGRS	3320 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	CSNLV332	JACK IN THE BOX	164830	JRICE	7/17/2007
5912428	CITY STOP INC	PGRS	3320 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	CSNLV332	JACK IN THE BOX	217578	JRICE	5/15/2008
9203293	CLARK COUNTY FIRE STATION #23	PGRS	4250 E ALEXANDER RD	LAS VEGAS	89115	YES	CCFSA425	KITCHEN	164978	JRICE	7/16/2007
9203293	CLARK COUNTY FIRE STATION #23	PSND	4250 E ALEXANDER RD	LAS VEGAS	89115	YES	CCFSA426	SERVICE BAY	217628	JRICE	5/12/2008
9203293	CLARK COUNTY FIRE STATION #23	PSND	4250 E ALEXANDER RD	LAS VEGAS	89115	YES	CCFSA426	SERVICE BAY	164979	JRICE	7/16/2007
9203293	CLARK COUNTY FIRE STATION #23	PGRS	4250 E ALEXANDER RD	LAS VEGAS	89115	YES	CCFSA425	KITCHEN	217627	JRICE	5/12/2008
0007455	CLARK COUNTY FIRE STATION #31	PSND	2190 N HOLLYWOOD BLVD	LAS VEGAS	89104	YES	CCFSH219	CC FIRE STA. #31	222242	JRICE	6/13/2008
0007455	CLARK COUNTY FIRE STATION #31	PGRS	2190 N HOLLYWOOD BLVD	LAS VEGAS	89104	YES	CCFSH220	CC FIRE STA. #31	222243	JRICE	6/13/2008
0210794	CLARK COUNTY FIRE STATION #34 RHODES RANCH	PSND	8675 W OQUENDO RD	LAS VEGAS	89148	YES	CCFSO868	CLARK COUNTY FIRE ST #34	207271	NWILLIAM	1/29/2008
0210122	CLARK COUNTY FIRE STATION #38	PGRS	1755 SILVER HAWK AVE	LAS VEGAS	89123	YES	CFSSH038	STATION KITCHEN	164588	JRICE	7/27/2007
0210122	CLARK COUNTY FIRE STATION #38	PSND	1755 SILVER HAWK AVE	LAS VEGAS	89123	YES	CFSSH039	SERVICE BAY	164589	JRICE	7/27/2007
9200449	CLARK COUNTY LAUGHLIN GOVERNMENT CENTER	PGRS	50 E LAUGHLIN CIVIC DR	LAUGHLIN	89029	YES	CCLGC050	FIRE DEPT STATION KITCHEN	169226	EHELAL	8/8/2007
9200449	CLARK COUNTY LAUGHLIN GOVERNMENT CENTER	PSND	50 E LAUGHLIN CIVIC DR	LAUGHLIN	89029	YES	CCLGC051	FIRE DEPT.	169227	EHELAL	8/8/2007
9200449	CLARK COUNTY LAUGHLIN GOVERNMENT CENTER	PSND	50 E LAUGHLIN CIVIC DR	LAUGHLIN	89029	YES	CCLGC051	FIRE DEPT.	222353	EHELAL	6/18/2008
9200449	CLARK COUNTY LAUGHLIN GOVERNMENT CENTER	PGRS	50 E LAUGHLIN CIVIC DR	LAUGHLIN	89029	YES	CCLGC050	FIRE DEPT STATION KITCHEN	222352	EHELAL	6/18/2008
0301827	CLASSIC BODY SHOP	PSND	5785 S DURANGO DR	LAS VEGAS	89148	YES	CBSDR578	CLASSIC BODY SHOP	207269	NWILLIAM	1/29/2008
5903828	CLUB PARADISE	PGRS	4416 PARADISE RD	LAS VEGAS	89109	YES	CPSPR027	KITCHEN	164243	NWILLIAM	10/8/2007
5903828	CLUB PARADISE	PGRS	4416 PARADISE RD	LAS VEGAS	89109	YES	CPSPR027	KITCHEN	209268	NWILLIAM	2/19/2008
5903929	COLLEGE TOWN	PGRS	4800 S MARYLAND PKWY	LAS VEGAS	89119	YES	CTSMP480	SUITE A-B - STAKE OUT BAR	164478	JRICE	8/6/2007
7801152	COLLEGE TOWN I AND II L L C	PGRS	4700 S MARYLAND PKWY	LAS VEGAS	89119	YES	CTSMP470	SUITE 8 - DAD'S WINE BAR	164477	JRICE	8/6/2007
9802046	COLONNADE SQUARE AT PEBBLE	PGRS	8826 S EASTERN AVE	LAS VEGAS	89119	YES	CSPSE882	SUITE 100-101 THAI GARDEN	164809	JRICE	9/27/2007
0208993	COLONNADE SQUARE AT PEBBLE	PGRS	8878 S EASTERN AVE	LAS VEGAS	89123	NO	CSPSE889	SUITE 100-BONJOUR REST.	164810	JRICE	9/28/2007

Grease and Sand/Oil Interceptor Inspections Report

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WORKORDER DETAILS: 164810 VIOLATION
 WORKORDER DETAILS: 164810 MISSING INLET TEE
 WORKORDER DETAILS: 164810 Replace

0208993	COLONNADE SQUARE AT PEBBLE	PGRS	8878 S EASTERN AVE	LAS VEGAS	89123	YES	CSPSE900	SUITE 104-ROUNDTABLE	164811	JRICE	9/27/2007
0208993	COLONNADE SQUARE AT PEBBLE	PGRS	8878 S EASTERN AVE	LAS VEGAS	89123	YES	CSPSE889	SUITE 100-HAVANA GRILL	193717	JRICE	9/28/2007
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD210	A LEVEL	169223	EHELAL	8/9/2007
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD210	A LEVEL	222349	EHELAL	6/19/2008
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD212	ALL RESTAURANTS	169225	EHELAL	8/9/2007
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD212	ALL RESTAURANTS	222351	EHELAL	6/19/2008
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD211	ALL RESTAURANTS	222350	EHELAL	6/19/2008
8700672	COLORADO BELLE HOTEL AND CASINO	PGRS	2100 S CASINO DR	LAUGHLIN	89029	YES	CBLCD211	ALL RESTAURANTS	169224	EHELAL	8/9/2007
8802349	COMMERCE CORNER	PGRS	6000 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	CCSMR600	SUITE 1B-MAPLE TREE	209059	JRICE	1/29/2008
8802349	COMMERCE CORNER	PGRS	6000 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	CCSMR603	NANAY GLORIAS FILIPINO	209058	JRICE	1/29/2008
5910164	COMMERCIAL CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA954	KOREA HOUSE	164096	NWILLIAM	8/20/2007
5910164	COMMERCIAL CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA955	EL SINALOENSE	164097	NWILLIAM	8/22/2007
5910164	COMMERCIAL CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA956	CUE CLUB	164098	NWILLIAM	8/22/2007
0207458	COMMERCIAL CENTER	PGRS	9755 W RUSSELL RD	LAS VEGAS	89148	BOB	CCWRR975	7-ELEVEN	215457	NWILLIAM	4/9/2008
0207458	COMMERCIAL CENTER	PGRS	9755 W RUSSELL RD	LAS VEGAS	89148	BOB	CCWRR975	7-ELEVEN	211946	JRICE	1/28/2008
5910164	COMMERCIAL CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA958	JONG GI	164100	NWILLIAM	8/22/2007
0207458	COMMERCIAL CENTER	PGRS	9755 W RUSSELL RD	LAS VEGAS	89148	YES	DTWRR975	CLUB KITCHEN	207737	JRICE	1/28/2008
0207458	COMMERCIAL CENTER	PGRS	9755 W RUSSELL RD	LAS VEGAS	89148	YES	DTWRR975	CLUB KITCHEN	194794	JRICE	10/15/2007
5910164	COMMERCIAL CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA957	PENG	164099	NWILLIAM	8/22/2007
7500684	COMMUNITY LUTHERAN CHURCH	PGRS	3720 E TROPICANA AVE	LAS VEGAS	89121	YES	CLCET372	CHURCH DAY CARE	164929	JRICE	9/13/2007
7500684	COMMUNITY LUTHERAN CHURCH	PGRS	3720 E TROPICANA AVE	LAS VEGAS	89121	YES	CLCET373	CHURCH KITCHEN	164930	JRICE	9/13/2007
9900669	CONGRESSIONAL PROPERTIES LLC	PGRS	8255 W FLAMINGO RD	LAS VEGAS	89147	YES	SPPWF825		206054	NWILLIAM	1/22/2008
5912073	COOL POWER INC	PSND	4466 E CAREY AVE	LAS VEGAS	89115	YES	CPICA446	SERVICE BAY	165000	NWILLIAM	7/19/2007
5912073	COOL POWER INC	PSND	4466 E CAREY AVE	LAS VEGAS	89115	YES	CPICA446	SERVICE BAY	217669	JRICE	5/13/2008
7601592	CORPORATE CATERING	PGRS	3824 PARADISE RD	LAS VEGAS	89109	YES	ZTGPR011		164240	NWILLIAM	10/5/2007
7601592	CORPORATE CATERING	PGRS	3824 PARADISE RD	LAS VEGAS	89109	YES	ZTGPR011	CORPORATE CATERING	209257	JRICE	4/28/2008
0404593	COUNTRY CLUB AUTO SPA	PSND	9260 S EASTERN AVE	LAS VEGAS	89123	YES	CCASE926	CAR WASH	164819	JRICE	9/20/2007
5912100	COUNTY OF CLARK (FIRE STA #16)	PSND	150 N NELLIS BLVD	LAS VEGAS	89110	YES	CCNB0003	SERVICE BAY	165206	NWILLIAM	8/13/2007
5912100	COUNTY OF CLARK (FIRE STA #16)	PSND	150 N NELLIS BLVD	LAS VEGAS	89110	YES	CCNB0003	SERVICE BAY	221515	NWILLIAM	6/16/2008
8902536	COURTYARD BY MARRIOTT	PGRS	3275 PARADISE RD	LAS VEGAS	89109	YES	CBMPR005	CAFE	209083	JRICE	2/14/2008
9805399	COZYMELS MEXICAN RESTAURANT	PGRS	355 HUGHES CENTER DR	LAS VEGAS	89109	YES	CMHC003		207789	JRICE	3/6/2008
0606191	CRAIG & LAMB AUTO	PSND	4320 E CRAIG RD	LAS VEGAS	89115	YES	CLACR432	HONEST ONE AUTO	217701	JRICE	5/12/2008
8601243	CRAIG EAST CENTER	PGRS	4889 E CRAIG RD	LAS VEGAS	89115	YES	CECC0001	DORA MARIA	165138	NWILLIAM	7/13/2007
8601243	CRAIG EAST CENTER	PGRS	4889 E CRAIG RD	LAS VEGAS	89115	YES	CECC0001	DORA MARIA	217708	NWILLIAM	5/14/2008
8601243	CRAIG EAST CENTER	PSND	4889 E CRAIG RD	LAS VEGAS	89115	YES	CECC0002	CRAIG AUTO CENTER	217709	NWILLIAM	5/14/2008
8601243	CRAIG EAST CENTER	PSND	4889 E CRAIG RD	LAS VEGAS	89115	YES	CECC0002	CRAIG AUTO CENTER	165139	NWILLIAM	7/13/2007
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0004	FREIGHLINE BAR	165140	NWILLIAM	7/16/2007
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0007	MANHATTAN PIZZA	217713	NWILLIAM	5/16/2008
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0006	LA CEIBA	191189	NWILLIAM	7/16/2007
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0006	LA CEIBA	217712	NWILLIAM	5/16/2008
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	NO	CPEC0006	LA CEIBA	165142	NWILLIAM	7/16/2007
	WORKORDER DETAILS:		165142 VIOLATION								
	WORKORDER DETAILS:		165142 PUMPING RECEIPTS								
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0007	MANHATTAN PIZZA	165143	NWILLIAM	7/16/2007
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0005	PANAMENIAN RESTAURANT	217711	NWILLIAM	5/16/2008
8501998	CRAIGMONT PLAZA	PGRS	4955 E CRAIG RD	LAS VEGAS	89115	YES	CPEC0004	FREIGHLINE BAR	217710	NWILLIAM	5/16/2008
8900391	CREATIVE BEGINNINGS INC	PGRS	5245 E BONANZA RD	LAS VEGAS	89110	YES	CBIEB524		165195	NWILLIAM	7/18/2007
8900391	CREATIVE BEGINNINGS INC	PGRS	5245 E BONANZA RD	LAS VEGAS	89110	NO	CBIEB524	CREATIVE BEGINNINGS INC	221503	NWILLIAM	6/12/2008

WORKORDER DETAILS: 221503 VIOLATION

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WORKORDER DETAILS: 221503 SOLIDIFIED GREASE IN SAMPLE BOX

WORKORDER DETAILS: 221503 PUMP INTERCEPTOR

8900391	CREATIVE BEGINNINGS INC	PGRS	5245 E BONANZA RD	LAS VEGAS	89110	YES	CBIEB524	CREATIVE BEGINNINGS INC	222710	NWILLIAM	6/12/2008
9606096	CRITELLI, ANTHONY	PSND	3188 N NELLIS BLVD	LAS VEGAS	89115	YES	CCNNB318	JUAREZ TIRE SHOP	165155	JRICE	8/29/2007
9606096	CRITELLI, ANTHONY	PSND	3188 N NELLIS BLVD	LAS VEGAS	89115	YES	CCNNB318	JUAREZ TIRE SHOP	221463	JRICE	6/9/2008
7800343	CROWN AND ANCHOR PUB	PGRS	1350 E TROPICANA AVE	LAS VEGAS	89119	YES	CAPET135	CROWN & ANCHOR PUB	194798	JRICE	8/9/2007
8100638	DECATUR CENTER	PGRS	3466 S DECATUR BLVD	LAS VEGAS	89146	YES	TDCBS346	DECATUR CENTER	163438	JRICE	9/6/2007
8100638	DECATUR CENTER	PGRS	3466 S DECATUR BLVD	LAS VEGAS	89146	YES	TDCBS347	ALBETO'S	163439	JRICE	9/6/2007
8800108	DECATUR TWAIN CENTER	PGRS	3650 S DECATUR BLVD	LAS VEGAS	89103	YES	DTCBS365	SUITE 1-2 GARLIC CAFE	163412	NWILLIAM	9/10/2007
8800108	DECATUR TWAIN CENTER	PGRS	3650 S DECATUR BLVD	LAS VEGAS	89103	YES	DTCBS367	SUITE 26 ROMA PIZZA	163414	NWILLIAM	9/10/2007
8800108	DECATUR TWAIN CENTER	PGRS	3650 S DECATUR BLVD	LAS VEGAS	89103	YES	DTCBS366	SUITE 24-25 JOSHUA PUB	163413	NWILLIAM	9/10/2007
8902029	DEL FRISCOS #8640	PGRS	3925 PARADISE RD	LAS VEGAS	89109	YES	DFSPR392		208827	EHALEL	1/8/2008
8902029	DEL FRISCOS #8640	PGRS	3925 PARADISE RD	LAS VEGAS	89109	NO	DFSPR392		207790	EHELAL	1/18/2008
	WORKORDER DETAILS:		207790 VIOLATION								
	WORKORDER DETAILS:		207790 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		207790 PUMP INTERCEPTOR								
8902029	DEL FRISCOS #8640	PGRS	3925 PARADISE RD	LAS VEGAS	89109	YES	DFSPR392		208037	EHELAL	2/25/2008
5903878	DEL TACO	PGRS	1197 E TROPICANA AVE	LAS VEGAS	89119	YES	DTETA119		164302	JRICE	10/1/2007
5903878	DEL TACO	PGRS	1197 E TROPICANA AVE	LAS VEGAS	89119	YES	DTETA119	DEL TACO	209327	NWILLIAM	3/10/2008
8200012	DEL TACO #324	PGRS	5915 W SAHARA AVE	LAS VEGAS	89146	YES	DTWSA038	DEL TACO #324	203478	JRICE	12/13/2007
8400635	DEL TACO #380	PGRS	380 N NELLIS BLVD	LAS VEGAS	89110	YES	DTNB0011		165209	NWILLIAM	8/13/2007
8400635	DEL TACO #380	PGRS	380 N NELLIS BLVD	LAS VEGAS	89110	YES	DTNB0011	DEL TACO #380	221518	NWILLIAM	6/13/2008
0102129	DEL TACO #848	PGRS	4380 N NELLIS BLVD	LAS VEGAS	89115	YES	DTNN0073	DEL TACO #848	217647	JRICE	5/27/2008
9907369	DEL TACO #973	PGRS	2320 E SERENE AVE	LAS VEGAS	89119	YES	DTES0017		164590	JRICE	7/31/2007
0300728	DELEK LAND L L C	PGRS	9010 W FLAMINGO RD	LAS VEGAS	89118	YES	TECMF901	C-STORE	207231	NWILLIAM	2/14/2008
0300728	DELEK LAND L L C	PSND	9010 W FLAMINGO RD	LAS VEGAS	89118	YES	TECMF902	CAR WASH	207232	NWILLIAM	2/14/2008
5903487	DENNYS	PGRS	3771 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DSLVB377	DENNYS	212338	JRICE	3/14/2008
9201305	DENNY'S RESTAURANT	PGRS	310 N NELLIS BLVD	LAS VEGAS	89110	YES	DRNB0007		165207	JRICE	8/13/2007
9201305	DENNY'S RESTAURANT	PGRS	310 N NELLIS BLVD	LAS VEGAS	89110	YES	DRNB0007		221516	NWILLIAM	6/12/2008
7600156	DENNYS RESTAURANT #1056	PGRS	3081 S MARYLAND PKWY	LAS VEGAS	89109	YES	DRSMP308	DENNYS RESTAURANT	164129	NWILLIAM	8/27/2007
7600156	DENNYS RESTAURANT #1056	PGRS	3081 S MARYLAND PKWY	LAS VEGAS	89109	YES	DRSMP308	DENNYS RESTAURANT	209174	JRICE	4/1/2008
9605849	DESERT BREEZE PLAZA	PGRS	8665 W FLAMINGO RD	LAS VEGAS	89147	YES	DBPF0014		207235	NWILLIAM	2/13/2008
9605849	DESERT BREEZE PLAZA	PGRS	8665 W FLAMINGO RD	LAS VEGAS	89147	YES	DBPF0015	IHAW-IHAW STE 107	213064	NWILLIAM	2/13/2008
9605849	DESERT BREEZE PLAZA	PGRS	8665 W FLAMINGO RD	LAS VEGAS	89147	YES	DBPF0014		214060	NWILLIAM	2/28/2008
0307196	DESERT CAB COMPANY	PSND	4675 WYNN RD	LAS VEGAS	89119	YES	DCCWR468	AUTO REPAIR	211956	NWILLIAM	1/31/2008
0307196	DESERT CAB COMPANY	PSND	4675 WYNN RD	LAS VEGAS	89119	YES	DCCWR468	AUTO REPAIR	215669	NWILLIAM	4/11/2008
0511649	DESERT CANYON REHABILITATION HOSPITAL	PGRS	9175 W OQUENDO RD	LAS VEGAS	89118	YES	DCRH0918	DESERT CYN REHAB HOSP	212260	JRICE	3/31/2008
0511649	DESERT CANYON REHABILITATION HOSPITAL	PGRS	9175 W OQUENDO RD	LAS VEGAS	89118	YES	DCRH0918	DESERT CYN REHAB HOSP	212261	JRICE	3/31/2008
7500183	DESERT CHRYSLER JEEP	PSND	2580 S EASTERN AVE	LAS VEGAS	89109	YES	JPSEA258	DESERT CHRYSLER JEEP	201834	NWILLIAM	12/17/2007
9707587	DESERT INN AND DURANGO COMMERCIAL	PGRS	3399 S DURANGO DR	LAS VEGAS	89147	YES	DIADC341	SUITE G-H-VILLA PIZZA	207207	JRICE	2/7/2008
5900768	DESERT INN PLAZA	PGRS	3300 S DECATUR BLVD	LAS VEGAS	89146	YES	DIPDB330	SUITE 1 - MR GRILL	163411	NWILLIAM	9/6/2007
5909412	DESERT ROSE GOLF	PGRS	5483 CLUB HOUSE DR	LAS VEGAS	89142	NO	DRGCH548	CAFE	203465	NWILLIAM	6/17/2008
	WORKORDER DETAILS:		203465 VIOLATION								
	WORKORDER DETAILS:		203465 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		203465 PUMP INTERCEPTOR								
7801812	DESIGN WATER SYSTEMS	PSND	3448 S DECATUR BLVD	LAS VEGAS	89146	YES	RWCSD344	CAR WASH	163424	NWILLIAM	9/6/2007
0406494	DISCOUNT TIRE CO	PSND	6565 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	DTLMB656	SERVICE BAY	165309	JRICE	9/17/2007
0406494	DISCOUNT TIRE CO	PSND	6565 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	DTLMB656	SERVICE BAY	222191	NWILLIAM	6/20/2008
9100046	DOCS CAR WASH #2 (#539521)	PSND	2515 S BRUCE ST	LAS VEGAS	89109	YES	WCWSB251	CAR WASH BAY	201889	JRICE	12/5/2007
9100046	DOCS CAR WASH #2 (#539521)	PSND	2515 S BRUCE ST	LAS VEGAS	89109	YES	WCWSB252	CAR WASH BAY	201890	JRICE	12/5/2007
8902762	DOLLAR RENT A CAR	PSND	4775 SWENSON ST	LAS VEGAS	89119	YES	DRC0012	SERVICE BAY	164265	NWILLIAM	9/17/2007
8902762	DOLLAR RENT A CAR	PSND	4775 SWENSON ST	LAS VEGAS	89119	YES	DRC0012	SERVICE BAY	209290	JRICE	4/1/2008
9203020	DONS DI CLASSIC MART	PSND	991 E DESERT INN RD	LAS VEGAS	89109	YES	DCMDI991	SERVICE BAY	191196	NWILLIAM	10/10/2007
9203020	DONS DI CLASSIC MART	PSND	991 E DESERT INN RD	LAS VEGAS	89109	NO	DCMDI991	SERVICE BAY	164160	NWILLIAM	8/6/2007

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WORKORDER DETAILS: 164570 SOLIDIFIED GREASE IN SAMPLE BOX

WORKORDER DETAILS: 164570 PUMP INTERCEPTOR

7601595	EASTWIND CENTER L L C	PGRS	2381 E WINDMILL LN	LAS VEGAS	89123	YES	EWCEW013	CHOP STIX	191199	NWILLIAM	10/10/2007
7601595	EASTWIND CENTER L L C	PGRS	2381 E WINDMILL LN	LAS VEGAS	89123	YES	EWCEW012	VERRAZONO PIZZA	164569	NWILLIAM	7/30/2007
5912437	ECCO EQUIPMENT CORPORATION	PSND	4073 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	UBCCN407	EQUIP WASH RACK	165148	NWILLIAM	7/19/2007
5912437	ECCO EQUIPMENT CORPORATION	PSND	4073 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	UBCCN407	EQUIP WASH RACK	217718	JRICE	5/16/2008
5907559	ECONO LUBE AND TUNE	PSND	3450 BOULDER HWY	LAS VEGAS	89121	YES	ELNTB346	SIGNATURE LINCOLN	201854	NWILLIAM	12/4/2007
8902646	ECONO LUBE N TUNE INC/86	PSND	842 N NELLIS BLVD	LAS VEGAS	89110	YES	ELTN0015		165186	JRICE	8/27/2007
8902646	ECONO LUBE N TUNE INC/86	PSND	842 N NELLIS BLVD	LAS VEGAS	89110	YES	ELTN0015	ECONO LUBE N TUNE INC/86	221494	NWILLIAM	6/6/2008
8401205	EDGEWATER HOTEL AND CASINO	PGRS	2020 S CASINO DR	LAUGHLIN	89029	YES	EHLCD202	ALL RESTAURANTS	169228	EHELAL	8/9/2007
8401205	EDGEWATER HOTEL AND CASINO	PGRS	2020 S CASINO DR	LAUGHLIN	89029	YES	EHLCD202	ALL RESTAURANTS	222354	EHELAL	6/19/2008
8401205	EDGEWATER HOTEL AND CASINO	PGRS	2020 S CASINO DR	LAUGHLIN	89029	YES	EHLCD203	ALL RESTAURANTS	169229	EHELAL	8/9/2007
8401205	EDGEWATER HOTEL AND CASINO	PGRS	2020 S CASINO DR	LAUGHLIN	89029	YES	EHLCD203	ALL RESTAURANTS	222355	EHELAL	6/19/2008
5903741	EL MOROCCO MOTEL	PGRS	2975 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	EMLVB297	EL MOROCCO MOTEL	212339	JRICE	3/13/2008
6700154	EL POLLO LOCO #6019	PGRS	2375 E SAHARA AVE	LAS VEGAS	89104	YES	EPLES237	POLLO LOCO	201871	JRICE	11/29/2007
7302297	ELDORADO HIGH SCHOOL #352	PSND	1139 N LINN LN	LAS VEGAS	89110	YES	EHSLL113	AUTO SHOP	165184	NWILLIAM	7/18/2007
7302297	ELDORADO HIGH SCHOOL #352	PSND	1139 N LINN LN	LAS VEGAS	89110	YES	EHSLL113	AUTO SHOP	221492	NWILLIAM	6/9/2008
7302297	ELDORADO HIGH SCHOOL #352	PGRS	1139 N LINN LN	LAS VEGAS	89110	YES	EHSLL114	SCHOOL KITCHEN	221493	NWILLIAM	6/9/2008
7302297	ELDORADO HIGH SCHOOL #352	PGRS	1139 N LINN LN	LAS VEGAS	89110	YES	EHSLL114	SCHOOL KITCHEN	165185	NWILLIAM	7/18/2007
7401685	ELEPHANT BAR	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	IMRMP279		164103	JRICE	12/19/2007
7401685	ELEPHANT BAR	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	IMRMP279	ELEPHANT BAR	209147	JRICE	12/18/2007
7401685	ELEPHANT BAR	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	IMRMP279	ELEPHANT BAR	200517	NWILLIAM	11/15/2007
5903915	ELLIS ISLAND CASINO	PGRS	4180 KOVAL LN	LAS VEGAS	89109	YES	EICKL418	EIC CAFE	209095	JRICE	2/15/2008
5903915	ELLIS ISLAND CASINO	PSND	4180 KOVAL LN	LAS VEGAS	89109	YES	EICKL419	LOADING DOCK	209096	JRICE	2/15/2008
5903600	EMBASSY SUITES	PGRS	3600 PARADISE RD	LAS VEGAS	89169	YES	ESHPR007	CAFE	191187	NWILLIAM	10/10/2007
5903600	EMBASSY SUITES	PGRS	3600 PARADISE RD	LAS VEGAS	89169	YES	ESHPR007	CAFE	209191	JRICE	4/21/2008
5903600	EMBASSY SUITES	PGRS	3600 PARADISE RD	LAS VEGAS	89109	NO	ESHPR007	CAFE	164162	NWILLIAM	8/2/2007
	WORKORDER DETAILS:		164162 VIOLATION								
	WORKORDER DETAILS:		164162 GREASE SOLIDIFIED								
5903669	EMBASSY SUITES	PGRS	4315 SWENSON ST	LAS VEGAS	89119	YES	ESHS0010		164245	NWILLIAM	10/8/2007
5903669	EMBASSY SUITES	PGRS	4315 SWENSON ST	LAS VEGAS	89119	YES	ESHS0010	EMBASSY SUITES	209270	NWILLIAM	2/19/2008
9100730	EMERALD SPRINGS DBA CLARION HOTEL	PGRS	325 E FLAMINGO RD	LAS VEGAS	89109	YES	ESCHF325	HOLIDAY INN CAFE	209097	JRICE	2/20/2008
9605848	EMERGENCY ROADSIDE ASSISTANCE	PSND	4580 ALTO AVE	LAS VEGAS	89115	YES	ERAAA458	SERVICE BAY	165001	NWILLIAM	7/19/2007
9605848	EMERGENCY ROADSIDE ASSISTANCE	PSND	4580 ALTO AVE	LAS VEGAS	89115	YES	ERAAA458	SERVICE BAY	217670	JRICE	5/13/2008
0405043	ENCORE GROUP	PGRS	7272 S EL CAPITAN WY	LAS VEGAS	89148	YES	EGSEC727	ACES BAR & GRILL	207282	JRICE	1/28/2008
9802697	ENTERPRISE CAR RENTAL(113647 LVVWD)	PSND	3745 BOULDER HWY	LAS VEGAS	89121	YES	ECRBH374		203443	NWILLIAM	12/11/2007
9500993	ENTERPRISE INDUSTRIAL PARK	PSND	4204 PRODUCTION CT	LAS VEGAS	89115	YES	EIPPC420	4204 PRODUCTION CT	164980	JRICE	7/16/2007
9500993	ENTERPRISE INDUSTRIAL PARK	PSND	4204 PRODUCTION CT	LAS VEGAS	89115	NO	EIPPC421	4345 PRODUCTION CT	217630	NWILLIAM	5/8/2008
	WORKORDER DETAILS:		217630 VIOLATION								
	WORKORDER DETAILS:		217630 STOPPAGE								
	WORKORDER DETAILS:		217630 Inspect								
9500993	ENTERPRISE INDUSTRIAL PARK	PSND	4204 PRODUCTION CT	LAS VEGAS	89115	YES	EIPPC422	4221 PRODUCTION CT	217631	NWILLIAM	5/8/2008
9500993	ENTERPRISE INDUSTRIAL PARK	PSND	4204 PRODUCTION CT	LAS VEGAS	89115	YES	EIPPC420	4204 PRODUCTION CT	217629	NWILLIAM	5/8/2008
9500993	ENTERPRISE INDUSTRIAL PARK	PSND	4204 PRODUCTION CT	LAS VEGAS	89115	YES	EIPPC421	4345 PRODUCTION CT	217980	NWILLIAM	5/8/2008
0210837	ENTERPRISE LEASING CO WEST	PSND	8290 ARVILLE ST	LAS VEGAS	89117	YES	ELCWA029	CARWASH	163549	JRICE	11/9/2007
7702070	ENTERPRISE RENT A CAR	PSND	2465 E SAHARA AVE	LAS VEGAS	89104	YES	ERCES013	ENTERPRISE RENT A CAR	201829	NWILLIAM	12/13/2007
9705655	ENTERPRISE RENT A CAR	PSND	4517 W FLAMINGO RD	LAS VEGAS	89103	YES	ERCWF451	CAR WASH	197114	JRICE	11/5/2007
8300663	ENTERPRISE RENT A CAR	PSND	5811 W SAHARA AVE	LAS VEGAS	89146	YES	ERCWS581	5811 W SAHARA AVE	203479	JRICE	12/13/2007
5912032	ENTERPRISE RENT A CAR	PSND	1104 N NELLIS BLVD	LAS VEGAS	89110	YES	ERCN0022		165187	NWILLIAM	8/27/2007
5912032	ENTERPRISE RENT A CAR	PSND	1104 N NELLIS BLVD	LAS VEGAS	89110	YES	ERCN0022	ENTERPRISE RENT A CAR	221495	NWILLIAM	6/6/2008
5912429	ESCAPADES BAR AND GRILL	PGRS	4090 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	SBNB0016		165147	NWILLIAM	7/19/2007
5912429	ESCAPADES BAR AND GRILL	PGRS	4090 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	SBNB0016	ESCAPADES BAR & GRILL	217717	JRICE	5/16/2008
5910198	EUREKA CASINO	PGRS	595 E SAHARA AVE	LAS VEGAS	89104	YES	ECESA003		164102	JRICE	8/22/2007
5910198	EUREKA CASINO	PGRS	595 E SAHARA AVE	LAS VEGAS	89104	YES	ECESA003	EUREKA CASINO	209146	JRICE	5/5/2008

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5910198	EUREKA CASINO	PGRS	595 E SAHARA AVE	LAS VEGAS	89104	YES	ECESA003	EUREKA CASINO	200516	JRICE	11/16/2007	
9001990	EXCALIBUR HOTEL	PGRS	3850 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	EHCLV855	LOADING DOCK	214931	NWILLIAM	4/1/2008	
9001990	EXCALIBUR HOTEL	PGRS	3850 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	EHCLV855	LOADING DOCK	212487	NWILLIAM	4/1/2008	
	WORKORDER DETAILS:		212487 VIOLATION									
	WORKORDER DETAILS:		212487 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:		212487 PUMP INTERCEPTOR									
9001990	EXCALIBUR HOTEL	PGRS	3850 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	EHCLV856	TOWER I	212488	NWILLIAM	4/1/2008	
9001990	EXCALIBUR HOTEL	PGRS	3850 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	EHCLV858	TOWER II	212490	NWILLIAM	4/1/2008	
9001990	EXCALIBUR HOTEL	PGRS	3850 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	EHCLV857	TIME OFFICE	212489	NWILLIAM	4/1/2008	
9802457	FABULOUS FREDDY'S(643231 LVVWD)	PSND	4350 S DURANGO DR	LAS VEGAS	89147	YES	FFSDD035	CAR WASH	206042	NWILLIAM	1/25/2008	
9905525	FAIRFIELD GRAND DESERT RESORTS	PGRS	265 E HARMON AVE	LAS VEGAS	89109	YES	FGDRH026	KITCHEN	209108	JRICE	2/21/2008	
9905525	FAIRFIELD GRAND DESERT RESORTS	PSND	265 E HARMON AVE	LAS VEGAS	89109	YES	FGDTH028	PARKING GARAGE	209110	JRICE	2/21/2008	
9905525	FAIRFIELD GRAND DESERT RESORTS	PSND	265 E HARMON AVE	LAS VEGAS	89109	YES	FGDRH027	LOADING DOCK	209109	JRICE	2/21/2008	
0309159	FAITH LUTHERAN JR/SR HIGH SCHOOL	PGRS	2015 S HUALAPAI WY	LAS VEGAS	89117	YES	FLSHW201	SCHOOL KITCHEN	201244	NWILLIAM	11/30/2007	
0309159	FAITH LUTHERAN JR/SR HIGH SCHOOL	PSND	2015 S HUALAPAI WY	LAS VEGAS	89117	YES	FLSHW202	MAINT SHOP	201245	NWILLIAM	11/30/2007	
0309159	FAITH LUTHERAN JR/SR HIGH SCHOOL	PGRS	2015 S HUALAPAI WY	LAS VEGAS	89117	YES	FLSHW201	SCHOOL KITCHEN	206180	JRICE	1/8/2008	
0309159	FAITH LUTHERAN JR/SR HIGH SCHOOL	PGRS	2015 S HUALAPAI WY	LAS VEGAS	89117	YES	FLSHW201	SCHOOL KITCHEN	206182	JRICE	1/8/2008	
0309159	FAITH LUTHERAN JR/SR HIGH SCHOOL	PSND	2015 S HUALAPAI WY	LAS VEGAS	89117	YES	FLSHW202	MAINT SHOP	162890	JRICE	7/26/2007	
0605453	FARMERS BOYS RESTAURANT	PGRS	4324 N LAMB BLVD	LAS VEGAS	89115	SHLAINE	YES	FBRLB432	FARMERS BOYS RESTAURANT	218594	JRICE	5/13/2008
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV101	S/O UNDERGROUND PARKING	212497	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV103	UNDERGROUND PARKING	212498	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV105	GREASE INTERCEPTOR	212500	NWILLIAM	3/15/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV112	UNDERGROUND PARKING	212503	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV115	UNDERGROUND PARKING	212505	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV124	FOOD COURT GREASE TRAP	212512	NWILLIAM	3/15/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV123	UNDERGROUND PARKING	212511	NWILLIAM	3/14/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV122	ON-SITE CAR WASH	212510	NWILLIAM	3/14/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV121	UNDERGROUND PARKING	212509	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV119	UNDERGROUND PARKING	212508	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	FSMLV118	UNDERGROUND PARKING	212507	NWILLIAM	3/14/2008	
	WORKORDER DETAILS:		212507 VIOLATION									
	WORKORDER DETAILS:		212507 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:		212507 PUMP INTERCEPTOR									
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV118	UNDERGROUND PARKING	213806	NWILLIAM	4/21/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV117	UNDERGROUND PARKING	212506	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV114	PARKING GARAGE	212504	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV110	UNDERGROUND PARKING	212502	NWILLIAM	3/6/2008	
8100193	FASHION SHOW MALL I	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV104	UNDERGROUND PARKING	212499	NWILLIAM	3/6/2008	
0101410	FASHION SHOW MALL II	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV027	PARKING GARAGE	212491	NWILLIAM	3/14/2008	
0101410	FASHION SHOW MALL II	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	FSMLV028	PARKING GARAGE	212492	NWILLIAM	3/17/2008	
	WORKORDER DETAILS:		212492 VIOLATION									
	WORKORDER DETAILS:		212492 NO ACCESS TO GREASE TRAP - SAND/OIL									
	WORKORDER DETAILS:		212492 FIX OR REMOVE LID(S) FOR ACCESS									
0101410	FASHION SHOW MALL II	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV031	UNDERGROUND PARKING	212494	NWILLIAM	3/14/2008	
0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV035	TRASH COMPACTOR	213805	NWILLIAM	4/21/2008	
0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	FSMLV035	TRASH COMPACTOR	212496	NWILLIAM	3/14/2008	
	WORKORDER DETAILS:		212496 VIOLATION									
	WORKORDER DETAILS:		212496 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:		212496 PUMP INTERCEPTOR									
0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV126	FASHION SHOW MALL	212514	NWILLIAM	3/14/2008	

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0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	FSMLV125	FASHION SHOW MALL	212513	NWILLIAM	3/14/2008
	WORKORDER DETAILS:		212513 VIOLATION								
	WORKORDER DETAILS:		212513 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212513 PUMP INTERCEPTOR								
0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV125	FASHION SHOW MALL	213803	NWILLIAM	4/21/2008
0101410	FASHION SHOW MALL II	PGRS	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV033	FASHION SHOW MALL	212495	NWILLIAM	4/21/2008
0101410	FASHION SHOW MALL II	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV030	UNDERGROUND PARKING	212493	NWILLIAM	3/14/2008
0101410	FASHION SHOW MALL II	PSND	3200 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FSMLV028	PARKING GARAGE	213804	NWILLIAM	4/21/2008
9501991	FAST EDDIES(600426 LVVWD)	PSND	6720 W FLAMINGO RD	LAS VEGAS	89103	YES	FEWFR672	CAR WASH	163170	JRICE	9/18/2007
0109449	FAT 5 COML CENTER	PSND	4840 S FORT APACHE RD	LAS VEGAS	89147	YES	FCCFA005	4840 - PURRFECT AUTO	206913	JRICE	1/10/2008
9402033	FATBURGER RESTAURANT	PGRS	2845 S NELLIS BLVD	LAS VEGAS	89115	YES	FRNB0056		203456	NWILLIAM	12/31/2007
0308887	FAZOLI'S ITALIAN RESTAURANT	PGRS	5260 S FORT APACHE RD	LAS VEGAS	89148	YES	FIRFA019	FAZOLI'S ITALIAN REST	207715	JRICE	1/16/2008
0308887	FAZOLI'S ITALIAN RESTAURANT	PGRS	5260 S FORT APACHE RD	LAS VEGAS	89148	NO	FIRFA019	FAZOLI'S ITALIAN REST	207255	JRICE	1/16/2008
	WORKORDER DETAILS:		207255 VIOLATION								
	WORKORDER DETAILS:		207255 MISSING INLET TEE								
	WORKORDER DETAILS:		207255 Replace								
0006358	FAZOLI'S RESTAURANT	PGRS	9809 S EASTERN AVE	LAS VEGAS	89119	YES	FRSEA980	FAZOLI'S RESTAURANT	164620	JRICE	8/15/2007
9201400	FECCHINO, MICHAEL AND PAMELA FAM TR	PGRS	1325 E TROPICANA AVE	LAS VEGAS	89119	YES	FRETA132		164510	JRICE	8/8/2007
5912095	FERRARI WASH AND GAS (01292-02 NLVW)	PSND	4895 E CRAIG RD	LAS VEGAS	89115	YES	FWGEC048	CAR WASH	165144	NWILLIAM	7/17/2007
5912095	FERRARI WASH AND GAS (01292-02 NLVW)	PSND	4895 E CRAIG RD	LAS VEGAS	89115	YES	FWGEC049	CAR WASH	165145	NWILLIAM	7/13/2007
8801104	FESTIVAL SHOPPING CENTER	PGRS	4825 W FLAMINGO RD	LAS VEGAS	89103	YES	FSCFW482	RUSSIAN RESTAURANT	205482	NWILLIAM	12/31/2007
8801104	FESTIVAL SHOPPING CENTER	PGRS	4825 W FLAMINGO RD	LAS VEGAS	89103	NO	FSCFW482	RUSSIAN RESTAURANT	163477	NWILLIAM	11/2/2007
	WORKORDER DETAILS:		163477 VIOLATION								
	WORKORDER DETAILS:		163477 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		163477 PUMP INTERCEPTOR								
8801104	FESTIVAL SHOPPING CENTER	PGRS	4825 W FLAMINGO RD	LAS VEGAS	89103	YES	FSCFW484	P.T.'S PUB	163479	NWILLIAM	11/5/2007
5903643	FIESTA MARKET	PGRS	1195 E DESERT INN RD	LAS VEGAS	89109	YES	FMEDI119	DELI	164164	JRICE	7/25/2007
5903643	FIESTA MARKET	PGRS	1195 E DESERT INN RD	LAS VEGAS	89109	YES	FMEDI119	DELI	220710	NWILLIAM	5/28/2008
5903643	FIESTA MARKET	PGRS	1195 E DESERT INN RD	LAS VEGAS	89109	YES	FMEDI119	DELI	209193	JRICE	4/22/2008
0509975	FINDLAY CHEVROLET	PSND	6800 S TORREY PINES DR	LAS VEGAS	89118	YES	FCTPD680	FINDLAY CHEVROLET	212262	JRICE	3/31/2008
0309259	FIRE STATION #28	PGRS	10820 W SAHARA AVE	LAS VEGAS	89135	YES	CCFSS108	KITCHEN	203508	JRICE	12/14/2007
0309259	FIRE STATION #28	PSND	10820 W SAHARA AVE	LAS VEGAS	89135	YES	CCFSS109	SERVICE BAY	203509	JRICE	12/14/2007
9501319	FIRESTONE TIRES	PSND	3841 CRAIG RD	LAS VEGAS	89115	YES	FSECR384		217632	NWILLIAM	5/12/2008
9804507	FLAMINGO BUFFALO CENTER	PGRS	4011 S BUFFALO DR	LAS VEGAS	89147	YES	FBCSB002	#106, LO MAIN	207686	JRICE	1/18/2008
9804507	FLAMINGO BUFFALO CENTER	PGRS	4011 S BUFFALO DR	LAS VEGAS	89147	YES	FBCSB002	#106, LO MAIN	214045	NWILLIAM	1/15/2008
9804507	FLAMINGO BUFFALO CENTER	PGRS	4011 S BUFFALO DR	LAS VEGAS	89147	NO	FBCSB002	#106, LO MAIN	206030	NWILLIAM	1/15/2008
	WORKORDER DETAILS:		206030 VIOLATION								
	WORKORDER DETAILS:		206030 MISSING INLET TEE								
	WORKORDER DETAILS:		206030 Replace								
9703904	FLAMINGO BUFFALO CENTER	PGRS	4045 S BUFFALO DR	LAS VEGAS	89147	YES	FBCSB005	SUITE 110-112	206032	NWILLIAM	2/25/2008
9804507	FLAMINGO BUFFALO CENTER	PGRS	4011 S BUFFALO DR	LAS VEGAS	89147	NO	FBCSB003	#105, JERSEY MIKES SUB	206031	NWILLIAM	1/15/2008
	WORKORDER DETAILS:		206031 VIOLATION								
	WORKORDER DETAILS:		206031 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		206031 PUMP INTERCEPTOR								
9804507	FLAMINGO BUFFALO CENTER	PGRS	4011 S BUFFALO DR	LAS VEGAS	89147	YES	FBCSB003	#105, JERSEY MIKES SUB	214044	NWILLIAM	1/15/2008
0006665	FLAMINGO FORT APACHE CENTER	PGRS	9350 W FLAMINGO RD	LAS VEGAS	89147	YES	FPCF0018	SMITH FOOD	207223	NWILLIAM	3/4/2008
0006665	FLAMINGO FORT APACHE CENTER	PGRS	9350 W FLAMINGO RD	LAS VEGAS	89147	NO	FPCF0021	SHUCK'S TAVERN	207226	NWILLIAM	2/15/2008
	WORKORDER DETAILS:		207226 VIOLATION								
	WORKORDER DETAILS:		207226 MISSING INLET TEE								
	WORKORDER DETAILS:		207226 Replace								
0006665	FLAMINGO FORT APACHE CENTER	PGRS	9350 W FLAMINGO RD	LAS VEGAS	89147	YES	FPCF0019	SUITE 11, KOBE SUSHI	207224	NWILLIAM	2/12/2008
0006665	FLAMINGO FORT APACHE CENTER	PGRS	9350 W FLAMINGO RD	LAS VEGAS	89147	YES	FPCF0020	SUITE 14, LITTLE DUMPLING	207225	NWILLIAM	2/12/2008
0006665	FLAMINGO FORT APACHE CENTER	PGRS	9350 W FLAMINGO RD	LAS VEGAS	89147	YES	FPCF0021	SHUCK'S TAVERN	211020	NWILLIAM	3/3/2008
7801982	FLAMINGO HOTEL	PGRS	3555 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	FHHLV555	SOUTH DRIVE GT	212340	JRICE	3/21/2008

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WORKORDER DETAILS: 212470 PUMP INTERCEPTOR											
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV520	JOE'S STONE CRAB	212481	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV519	STEAK HOUSE	212480	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV518	TRASH COMPACTOR	212479	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CFSLV517	TRASH COMPACTOR	212478	NWILLIAM	3/19/2008
WORKORDER DETAILS: 212478 VIOLATION											
WORKORDER DETAILS: 212478 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 212478 PUMP INTERCEPTOR											
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV517	TRASH COMPACTOR	214001	NWILLIAM	3/20/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV516	SPAGO	212477	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV515	SPARE GT	212476	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV514	PLANET HOLLYWOOD	212475	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV512	THE PALMS	212474	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV511	TRASH COMPACTOR	212473	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV508	CHEESECAKE FACTORY	214007	NWILLIAM	3/20/2008
9201511	FORUM SHOPS AT CAESARS	PSND	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CFSLV507	CAR WASH	212469	NWILLIAM	3/19/2008
WORKORDER DETAILS: 212469 VIOLATION											
WORKORDER DETAILS: 212469 STOPPAGE											
WORKORDER DETAILS: 212469 Inspect											
9201511	FORUM SHOPS AT CAESARS	PSND	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV507	CAR WASH	214000	NWILLIAM	3/20/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CFSLV506	TRASH COMPACTOR	212468	NWILLIAM	3/19/2008
WORKORDER DETAILS: 212468 VIOLATION											
WORKORDER DETAILS: 212468 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 212468 PUMP INTERCEPTOR											
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV506	TRASH COMPACTOR	214004	NWILLIAM	3/20/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	CFSLV505	BERTALLINI	212467	NWILLIAM	3/19/2008
WORKORDER DETAILS: 212467 VIOLATION											
WORKORDER DETAILS: 212467 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 212467 PUMP INTERCEPTOR											
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV505	BERTALLINI	214002	NWILLIAM	3/19/2008
9201511	FORUM SHOPS AT CAESARS	PGRS	3500 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	CFSLV504	STAGE DELI	212466	NWILLIAM	3/19/2008
5909408	FOUR ACES BAR AND GRILL	PGRS	5866 BOULDER HWY	LAS VEGAS	89122	YES	FABGB586	FOUR ACES BAR & GRILL	222218	NWILLIAM	6/23/2008
5903882	FREE ZONE	PGRS	610 E NAPLES DR	LAS VEGAS	89119	YES	FZEND001		164266	NWILLIAM	9/17/2007
5903882	FREE ZONE	PGRS	610 E NAPLES DR	LAS VEGAS	89119	YES	FZEND001	FREE ZONE	209291	JRICE	4/15/2008
9407664	FRONTIER SHOPPING MALL	PGRS	4840 SPRING MOUNTAIN RD	LAS VEGAS	89103	YES	FMSM0042	SUITE 1 - RICE TO GO	163417	NWILLIAM	9/10/2007
9000904	FURNCHYAN CENTER	PGRS	1919 RINGE LN	LAS VEGAS	89156	YES	FYCRL191	SUITE 1 - PIZZA HUT	221475	JRICE	6/9/2008
9804032	GATEWAY BUSINESS PARK	PGRS	6346 S PECOS RD	LAS VEGAS	89120	YES	GBPPR634		222854	JRICE	6/26/2008
8000768	GAUDIN FORD	PSND	2121 E SAHARA AVE	LAS VEGAS	89104	YES	GFESA007	SERVICE BAY	201874	JRICE	12/3/2007
8000768	GAUDIN FORD	PSND	2121 E SAHARA AVE	LAS VEGAS	89104	YES	GFESA008	BODY SHOP	201875	JRICE	12/3/2007
8001739	GEMCO SHOPPING CENTER	PGRS	5825 W SAHARA AVE	LAS VEGAS	89146	YES	GSCWS037	SUITES A-C - THE TAVERN	203481	JRICE	12/13/2007
9203156	GERKES R V STORAGE AND SERVICE	PSND	4770 W NEVSO DR	LAS VEGAS	89103	YES	GRVSN477	SUITE B-13 AL'S AUTO	163481	JRICE	10/30/2007
9203156	GERKES R V STORAGE AND SERVICE	PSND	4770 W NEVSO DR	LAS VEGAS	89103	YES	GRVSN478	SUITE B-18 SILVER STAR	163482	JRICE	10/30/2007
9203156	GERKES R V STORAGE AND SERVICE	PSND	4770 W NEVSO DR	LAS VEGAS	89103	YES	GRVSN479	CAR AND RV WASH	163483	JRICE	10/30/2007
9406837	GLOBAL PLAZA WEST	PSND	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD365	AUTO TECH	207208	NWILLIAM	2/1/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD366	BREWSKI'S PUB	207209	NWILLIAM	2/1/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	NO	GPWDD367	MAMA JO'S	207210	NWILLIAM	2/1/2008
WORKORDER DETAILS: 207210 VIOLATION											
WORKORDER DETAILS: 207210 MISSING BAFFLE WALL TEE											
WORKORDER DETAILS: 207210 Replace											
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD367	MAMA JO'S	209851	NWILLIAM	2/1/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD368	LUCKY WOK	209853	NWILLIAM	3/2/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	NO	GPWDD368	LUCKY WOK	209852	NWILLIAM	2/1/2008
WORKORDER DETAILS: 209852 VIOLATION											
WORKORDER DETAILS: 209852 SOLIDIFIED GREASE IN SAMPLE BOX											

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Inspection ID	Business Name	City	Address	City	Zip	Inspection Status	Inspector	Business Address	Inspection Date	Inspector	Report Date
WORKORDER DETAILS: 209852 PUMP INTERCEPTOR											
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD370	GLOBAL PLAZA WEST STE 11	207213	NWILLIAM	2/1/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD369	LA LOUISIANNE	207212	NWILLIAM	2/1/2008
9406837	GLOBAL PLAZA WEST	PGRS	3655 S DURANGO DR	LAS VEGAS	89147	YES	GPWDD368	LUCKY WOK	207211	NWILLIAM	2/1/2008
9200192	GODFATHER'S PIZZA	PGRS	230 N NELLIS BLVD	LAS VEGAS	89110	NO	GPNB0006		165210	NWILLIAM	8/13/2007
WORKORDER DETAILS: 165210 VIOLATION											
WORKORDER DETAILS: 165210 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 165210 PUMP INTERCEPTOR											
5903476	GOLD KEY ENTERPRISES	PGRS	3061 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	GKS00001	STE 10	212344	JRICE	3/17/2008
5903476	GOLD KEY ENTERPRISES	PGRS	3061 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	GKS00002	STE 15 BIG DIPPER INSIDE	212345	JRICE	3/17/2008
5903553	GOLD KEY ENTERPRISES	PGRS	3053 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	GKS00003	IN FRONT OF OLD CASINO	212346	JRICE	3/17/2008
5903553	GOLD KEY ENTERPRISES	PGRS	3053 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	GKS00004	STE 22	212347	JRICE	3/17/2008
8401201	GOLDEN NUGGET-LAUGHLIN	PGRS	2300 S CASINO DR	LAUGHLIN	89029	YES	GNLCD230	HOTEL SOUTH	222361	EHELAL	6/19/2008
8401201	GOLDEN NUGGET-LAUGHLIN	PSND	2300 S CASINO DR	LAUGHLIN	89029	YES	GNLCD233	PARKING STRUCTURE	222364	EHELAL	6/19/2008
8401201	GOLDEN NUGGET-LAUGHLIN	PGRS	2300 S CASINO DR	LAUGHLIN	89029	YES	GNLCD231	JANES BAR & GRILL	222362	EHELAL	6/19/2008
8401201	GOLDEN NUGGET-LAUGHLIN	PGRS	2300 S CASINO DR	LAUGHLIN	89029	YES	GNLCD232	EMP DINING ROOM	222363	EHELAL	6/19/2008
5912077	GOODRICH SERVICES AUTO CENTER	PSND	1760 N NELLIS BLVD	LAS VEGAS	89115	YES	GSCN0033		165168	NWILLIAM	8/29/2007
5912077	GOODRICH SERVICES AUTO CENTER	PSND	1760 N NELLIS BLVD	LAS VEGAS	89115	YES	GSCN0033	GOODRICH SERVICES AUTO	221476	JRICE	6/9/2008
0208037	GOODYEAR TIRE CENTER	PSND	3625 S FORT APACHE RD	LAS VEGAS	89147	YES	GTCFA001	GOODYEAR TIRE CENTER	206915	JRICE	1/10/2008
9805401	GORDON BIRSCH BREWERY & RESTAURANT	PGRS	3987 PARADISE RD	LAS VEGAS	89109	YES	GBBPR012		207791	JRICE	3/6/2008
5910681	GORE, ROBERT	PSND	4640 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	GRELM464	TCA MOTORS	217673	NWILLIAM	5/30/2008
0108127	GOUDY'S IV (LVVWD 691033)	PSND	3480 S HUALAPAI	LAS VEGAS	89120	YES	GCWSH348	CAR WASH	206185	JRICE	1/8/2008
0406738	GRAND CANYON COMMERCIAL	PGRS	9730 W TROPICANA AVE	LAS VEGAS	89147	YES	GCCMW738	SUITE 140 MAMA LUIGI'S	204498	JRICE	12/17/2007
0505625	GRAND CANYON COMMERCIAL	PGRS	9700 W TROPICANA AVE	LAS VEGAS	89147	YES	GCCWT970	I LOVE BBQ#100	204509	JRICE	12/17/2007
0211914	GRAND CANYON PARKWAY	PGRS	4175 S GRAND CANYON DR	LAS VEGAS	89135	YES	GCPGC417	CHUCK E CHEESE'S	204472	JRICE	1/4/2008
0305815	GRAND CANYON PARKWAY	PSND	4245 S GRAND CANYON DR	LAS VEGAS	89147	YES	GCPSE424	SUITE 114	204474	JRICE	1/7/2008
0211914	GRAND CANYON PARKWAY	PGRS	4175 S GRAND CANYON DR	LAS VEGAS	89135	YES	GCPGC418	SUITE 100&103 SHARED	204473	JRICE	1/4/2008
0302682	GRAND CANYON PARKWAY	PSND	4145 S GRAND CANYON DR	LAS VEGAS	89135	YES	SGCDP415	S/O IN PARKING LOT	204481	JRICE	1/4/2008
0302682	GRAND CANYON PARKWAY	PGRS	4145 S GRAND CANYON DR	LAS VEGAS	89135	YES	SGCDP416	CLEOPATRAS/SHARES W/103	204482	JRICE	1/7/2008
0302682	GRAND CANYON PARKWAY	PGRS	4145 S GRAND CANYON DR	LAS VEGAS	89135	YES	SGCDP414	SONNY'S TAVERN 109-111	204480	JRICE	1/7/2008
0305815	GRAND CANYON PARKWAY	PGRS	4245 S GRAND CANYON DR	LAS VEGAS	89147	YES	GCPSE425	FOX NY DELI-STE 126&127	204475	JRICE	1/7/2008
0402340	GRAND FLAMINGO CENTRE	PGRS	9827 W FLAMINGO RD	LAS VEGAS	89147	YES	GFCWF970	JOES CRAB SHACK	204476	JRICE	1/3/2008
0604182	GRAND FLAMINGO CENTRE	PGRS	9809 W FLAMINGO RD	LAS VEGAS	89147	YES	GFWFR981	ZABA'S MEXICAN GRILL	204490	JRICE	1/2/2008
0604182	GRAND FLAMINGO CENTRE	PGRS	9809 W FLAMINGO RD	LAS VEGAS	89147	YES	GFWFR980	PICK UP STIX	204489	JRICE	1/2/2008
0510949	GRAND FLAMINGO CENTRE	PGRS	9719 W FLAMINGO RD	LAS VEGAS	89147	YES	SRWFR971	SAPPORO RESTAURANT	204483	JRICE	1/4/2008
0207402	GRAZIANO'S PIZZA RESTAURANT	PGRS	8410 W DESERT INN RD	LAS VEGAS	89117	YES	GPRDI841	GRAZIANOS PIZZA REST	206018	JRICE	1/31/2008
7000716	GREEK ISLES HOTEL CASINO	PGRS	305 CONVENTION CENTER DR	LAS VEGAS	89109	YES	GIHCC305	GREEK ISLES HOTEL CASINO	209085	JRICE	2/19/2008
8901245	GREEN ROOM RESTAURANT	PGRS	4490 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	GRSM0029		163418	NWILLIAM	9/12/2007
9707988	GREEN VALLEY GROCERY #38(634739 LVVWD)	PSND	3711 S FORT APACHE RD	LAS VEGAS	89147	YES	SZFR003		206917	JRICE	1/10/2008
0309965	GUISEPPE'S BAR AND GRILL	PGRS	6065 S DURANGO DR	LAS VEGAS	89135	YES	CPSDR606	GUISEPPE'S BAR/GRILLE	207272	JRICE	2/5/2008
5903460	HAMADA OF JAPAN	PGRS	598 E FLAMINGO RD	LAS VEGAS	89119	YES	HOJEF598	HAMADA 598 E FLAMINGO	164207	JRICE	8/30/2007
0006935	HAMADA OF JAPAN RESTAURANT	PGRS	365 E FLAMINGO RD	LAS VEGAS	89109	YES	HJRF365	HAMANDA OF JAPAN REST	207793	JRICE	3/6/2008
8700022	HAMLET PLAZA	PGRS	4777 E CHARLESTON BLVD	LAS VEGAS	89142	YES	HPEC0012	PARIS PIZZA	222874	JRICE	6/19/2008
8700022	HAMLET PLAZA	PGRS	4777 E CHARLESTON BLVD	LAS VEGAS	89142	YES	HPEC0013	LA PESTA DEL MAR	222875	JRICE	6/19/2008
9002265	HARD ROCK CAFE	PGRS	4475 PARADISE RD	LAS VEGAS	89109	YES	HRCPR032		164247	JRICE	10/5/2007
9002265	HARD ROCK CAFE	PGRS	4475 PARADISE RD	LAS VEGAS	89109	YES	HRCPR032	HARD ROCK CAFE	209272	NWILLIAM	5/7/2008
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR028	MAIN KITCHEN	164248	JRICE	10/5/2007
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	NO	HRHPR028	MAIN KITCHEN	209273	NWILLIAM	5/7/2008
WORKORDER DETAILS: 209273 VIOLATION											
WORKORDER DETAILS: 209273 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 209273 PUMP INTERCEPTOR											
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR029	TRASH	217955	NWILLIAM	5/28/2008
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	NO	HRHPR029	TRASH	209274	NWILLIAM	5/7/2008
WORKORDER DETAILS: 209274 VIOLATION											
WORKORDER DETAILS: 209274 MISSING INLET TEE											

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WORKORDER DETAILS: 209274 Replace

9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR031	PINK TACO/AJ'S/NOBU/BEACH	209276	NWILLIAM	5/7/2008
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR031	PINK TACO/AJ'S/NOBU/BEACH	164251	JRICE	10/5/2007
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR030	EMPLOYEE DINING	209275	NWILLIAM	5/7/2008
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR030	EMPLOYEE DINING	164250	JRICE	10/5/2007
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR029	TRASH	164249	JRICE	10/5/2007
9406057	HARD ROCK HOTEL AND CASINO	PGRS	4455 PARADISE RD	LAS VEGAS	89109	YES	HRHPR028	MAIN KITCHEN	217954	NWILLIAM	5/28/2008
5903506	HARLEY DAVIDSON CAFE	PGRS	3725 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MSLVB372	HARLEY DAVIDSON CAFE	212384	JRICE	3/14/2008
0105565	HARNEY MIDDLE SCHOOL	PGRS	1650 S LOS FELIZ ST	LAS VEGAS	89142	YES	HMSHB165	SCHOOL KITCHEN	222239	JRICE	6/13/2008
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD290	BUFFET	169244	EHELAL	8/9/2007
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD291	LOADING DOCK	169245	EHELAL	8/9/2007
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD292	RANGE KITCHEN	169246	EHELAL	8/9/2007
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD293	EDR KITCHEN	169247	EHELAL	8/9/2007
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD293	EDR KITCHEN	222373	EHELAL	6/19/2008
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD292	RANGE KITCHEN	222372	EHELAL	6/19/2008
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD291	LOADING DOCK	222371	EHELAL	6/19/2008
8900598	HARRAHS DEL RIO LAUGHLIN	PGRS	2900 S CASINO DR	LAUGHLIN	89029	YES	HRLCD290	BUFFET	222370	EHELAL	6/19/2008
7200623	HARRAHS HOTEL AND CASINO	PGRS	3475 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HHCLV475	MAIN CAFE	212348	JRICE	3/18/2008
7200623	HARRAHS HOTEL AND CASINO	PGRS	3475 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HHCLV477	MCDONALDS	212350	JRICE	3/18/2008
7200623	HARRAHS HOTEL AND CASINO	PSND	3475 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HHCLV476	LOADING DOCK	212349	JRICE	3/18/2008
9902866	HARTLAND AUTOMOTIVE SVC'S DBA JIFFYLUBE	PSND	4320 S DURANGO DR	LAS VEGAS	89102	YES	HASDD032	HARTLAND AUTOMOTIVE	206048	NWILLIAM	1/25/2008
9301686	HAWAIIAN MARKET PLACE	PGRS	3743 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HMPLV374		212351	JRICE	3/18/2008
9301686	HAWAIIAN MARKET PLACE	PGRS	3743 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HMPLV375		212352	JRICE	3/18/2008
9301686	HAWAIIAN MARKET PLACE	PGRS	3743 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HMPLV377		212354	JRICE	3/18/2008
9301686	HAWAIIAN MARKET PLACE	PSND	3743 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HMPLV378		212355	JRICE	3/18/2008
9301686	HAWAIIAN MARKET PLACE	PGRS	3743 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HMPLV376		212353	JRICE	3/18/2008
0405114	HEADSTART PRESCHOOL	PGRS	2845 MOHAWK ST	LAS VEGAS	89146	YES	HPSMS284	SCHOOL KITCHEN	203482	JRICE	12/12/2007
9704694	HERITAGE SPRINGS	PGRS	8720 W FLAMINGO RD	LAS VEGAS	89147	YES	ALWF0015		207220	NWILLIAM	2/12/2008
8101157	HERTZ RENT-A-CAR	PSND	5300 RENT A CAR RD	LAS VEGAS	89119	YES	HRAC0004	CARWASH	164304	NWILLIAM	10/3/2007
7401487	HIGHLANDER CENTER	PGRS	4350 N LAS VEGAS BLVD	LAS VEGAS	89191	YES	HCLVB435	DOTTY'S	217649	JRICE	5/23/2008
7401487	HIGHLANDER CENTER	PGRS	4350 N LAS VEGAS BLVD	LAS VEGAS	89191	YES	HCLVB436	SUITES A-D	217650	JRICE	5/23/2008
0102405	HIKARI JAPANESE RESTAURANT	PGRS	4175 S BUFFALO DR	LAS VEGAS	89147	YES	HJRSB012	HIKARI JAPANESE REST	206049	NWILLIAM	2/4/2008
0100190	HILTON GRAND VACATIONS	PGRS	2650 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HGVLV265	RECEIVING DOCK TRASH	200504	JRICE	2/14/2008
0100190	HILTON GRAND VACATIONS	PGRS	2650 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HGVLV266	WAVE BAR & GRILL	200505	JRICE	2/14/2008
0100190	HILTON GRAND VACATIONS	PGRS	2650 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	HGVLV267	LOADING DOCK TRASH CMPCTR	200506	NWILLIAM	1/2/2008
0207138	HOFBRAUHAUS RESTAURANT	PGRS	4510 PARADISE RD	LAS VEGAS	89109	YES	HBRPR037	HOFBRAUHAUS RESTAURANT	164267	NWILLIAM	9/18/2007
0207138	HOFBRAUHAUS RESTAURANT	PGRS	4510 PARADISE RD	LAS VEGAS	89109	YES	HBRPR037	HOFBRAUHAUS RESTAURANT	209292	JRICE	4/15/2008
5903638	HOLE IN THE WALL L L C	PGRS	4041 AUDRIE ST	LAS VEGAS	89109	YES	BTTAS040	BATTISTA'S	207788	JRICE	2/20/2008
9407069	HOME DEPOT #3303	PSND	1401 S LAMB BLVD	LAS VEGAS	89104	YES	HDSL B140	WAREHOUSE	222873	JRICE	6/23/2008
9407506	HOOTERS	PGRS	5675 W SAHARA AVE	LAS VEGAS	89146	YES	HRWSA036		203483	JRICE	12/13/2007
7301226	HOOTERS CASINO HOTEL LAS VEGAS	PGRS	115 E TROPICANA AVE	LAS VEGAS	89109	YES	SRHET115	HOOTERS HOTEL	209125	JRICE	2/22/2008
9500515	HOWARD HUGHES CENTER #3	PGRS	3960 HOWARD HUGHES PKWY	LAS VEGAS	89109	YES	HHPCW396		207792	JRICE	3/5/2008
8000670	HOWARD JOHNSON AIRPORT INN	PGRS	5100 PARADISE RD	LAS VEGAS	89119	YES	HJAIP044		164303	JRICE	10/1/2007
8000670	HOWARD JOHNSON AIRPORT INN	PGRS	5100 PARADISE RD	LAS VEGAS	89119	YES	HJAIP044	HOWARD JOHNSON ARPRT INN	209328	NWILLIAM	3/10/2008
0410011	HUALAPAI PEACE RETAIL CTR	PGRS	4520 S HUALAPAI WY	LAS VEGAS	89135	YES	HPCSH452	LAHAINA GRILL...03/09/06	204510	JRICE	12/19/2007
0303894	HUALAPAI ROCHELLE PARTNERS L L C	PGRS	4280 S HUALAPAI WY	LAS VEGAS	89147	YES	GVSHW428	STE 108-BUFFALO WILD WING	204477	JRICE	12/19/2007
5912608	HUGHES AVIATION SERVICES	PSND	5616 HAVEN ST	LAS VEGAS	89119	YES	HASHS056	SERVICE BAY 5614 HAVEN	209128	JRICE	2/27/2008
5912608	HUGHES AVIATION SERVICES	PSND	5616 HAVEN ST	LAS VEGAS	89119	YES	HASHS057	SERVICE BAY 5616 HAVEN	209129	JRICE	2/27/2008
8600771	HUSH PUPPY	PGRS	1820 N NELLIS BLVD	LAS VEGAS	89115	YES	HPNB0034		191190	JRICE	8/27/2007
8600771	HUSH PUPPY	PGRS	1820 N NELLIS BLVD	LAS VEGAS	89115	NO	HPNB0034		165169	JRICE	8/27/2007
	WORKORDER DETAILS:		165169 VIOLATION								
	WORKORDER DETAILS:		165169 MISSING OUTLET TEE								
	WORKORDER DETAILS:		165169 Replace								
8600771	HUSH PUPPY	PGRS	1820 N NELLIS BLVD	LAS VEGAS	89115	YES	HPNB0034	HUSH PUPPY	221477	JRICE	6/9/2008

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9601744	HYER DODD HALE AND ZAN P FAMILY TRUST	PSND	6126 S SANDHILL RD	LAS VEGAS	89120	YES	HZSH0005	MASTER TRANSMISSION	222855	JRICE	6/26/2008
9907756	I H O P	PGRS	352 N NELLIS BLVD	LAS VEGAS	89110	YES	IHPN0010		165211	NWILLIAM	8/21/2007
9907756	I H O P	PGRS	352 N NELLIS BLVD	LAS VEGAS	89110	YES	IHPN0010		221520	NWILLIAM	6/13/2008
9902187	I H O P RESTAURANT	PGRS	2450 E PEBBLE RD	LAS VEGAS	89119	YES	IHREP245		164813	JRICE	9/27/2007
9403041	ICE NIGHTCLUB	PGRS	200 E HARMON AVE	LAS VEGAS	89169	YES	INEHA200	KITCHEN	209098	JRICE	2/15/2008
8801807	IHOP	PGRS	5280 E CRAIG RD	LAS VEGAS	89115	YES	CVEC0009	KITCHEN	217643	NWILLIAM	5/15/2008
0511265	IMPERIAL AIR CARGO-LIFT STATION ACCT	PSND	206 E HACIENDA AVE	LAS VEGAS	89119	YES	IACEH206	HANGAR BAY	209116	JRICE	2/22/2008
5903482	IMPERIAL PALACE	PGRS	3535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	IPHC0001	FOR 5TH FL DINING PLAZA	212356	JRICE	3/21/2008
5903482	IMPERIAL PALACE	PGRS	3535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	IPHC0003	1ST LVL UNDERGRND PKG GAR	212358	JRICE	3/21/2008
5903482	IMPERIAL PALACE	PGRS	3535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	IPHC0002	FOR 5HT FL DINING PLAZA	212357	JRICE	3/21/2008
9300677	IN & OUT BURGERS	PGRS	4705 S MARYLAND PKWY	LAS VEGAS	89119	YES	IOBMP470		164268	NWILLIAM	9/18/2007
9300677	IN & OUT BURGERS	PGRS	4705 S MARYLAND PKWY	LAS VEGAS	89119	YES	IOBMP470		209293	JRICE	4/8/2008
0404592	IN AND OUT BURGER	PGRS	9240 S EASTERN AVE	LAS VEGAS	89123	YES	IOBEA924		164820	JRICE	9/20/2007
9300026	IN N OUT BURGER	PGRS	4888 DEAN MARTIN DR	LAS VEGAS	89103	YES	INOBI488		210961	NWILLIAM	2/13/2008
0001691	IN N OUT BURGER #181	PGRS	2085 S CASINO DR	LAUGHLIN	89029	YES	IOBCD208	IN & OUT BURGER #181	169248	EHELAL	8/8/2007
5903832	INDIA PALACE	PGRS	505 E TWAIN AVE	LAS VEGAS	89109	YES	IPET0003		164208	JRICE	9/12/2007
5903832	INDIA PALACE	PGRS	505 E TWAIN AVE	LAS VEGAS	89109	YES	IPET0003	INDIA PALACE	209225	NWILLIAM	4/22/2008
8101126	INQUIPCO	PSND	2730 N NELLIS BLVD	LAS VEGAS	89115	YES	ICNNB069	SERVICE BAY	165157	JRICE	8/29/2007
8101126	INQUIPCO	PSND	2730 N NELLIS BLVD	LAS VEGAS	89115	YES	ICNNB069	SERVICE BAY	221465	JRICE	6/9/2008
0201997	INSTANT REPLAY	PGRS	2940 S DURANGO DR	LAS VEGAS	89147	YES	IRSDR294	INSTANT REPLAY	206019	JRICE	3/4/2008
5907558	ISAACTOS L L C	PSND	2600 DALHART AVE	LAS VEGAS	89121	YES	PAFDA260	PARK AVE GARAGE	207693	NWILLIAM	3/25/2008
5907558	ISAACTOS L L C	PSND	2600 DALHART AVE	LAS VEGAS	89121	NO	PAFDA260	PARK AVE GARAGE	203448	NWILLIAM	1/9/2008
	WORKORDER DETAILS:		203448 VIOLATION								
	WORKORDER DETAILS:		203448 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		203448 PUMP INTERCEPTOR								
5907558	ISAACTOS L L C	PSND	2600 DALHART AVE	LAS VEGAS	89121	NO	PAFDA260	PARK AVE GARAGE	206438	NWILLIAM	1/10/2008
	WORKORDER DETAILS:		206438 VIOLATION								
9904360	ISLAMIC ACADEMY	PGRS	485 E ELDORADO LN	LAS VEGAS	89123	YES	IAEEL485	ACADEMY KITCHEN	164353	JRICE	9/25/2007
0105561	IVERSON ELEMENTARY SCHOOL #303	PGRS	1650 S HOLLYWOOD BLVD	LAS VEGAS	89142	YES	IESHB165	SCHOOL KITCHEN	222240	JRICE	6/13/2008
7601856	JACK IN THE BOX	PGRS	4385 N LAS VEGAS BLVD	LAS VEGAS	89115	NO	FMNB0019	JACK-IN-THE-BOX	217648	JRICE	5/29/2008
	WORKORDER DETAILS:		217648 VIOLATION								
	WORKORDER DETAILS:		217648 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		217648 PUMP INTERCEPTOR								
9802145	JACK IN THE BOX	PGRS	1610 N LAMB BLVD	LAS VEGAS	89115	YES	JBNLB061		217692	JRICE	5/13/2008
5907617	JACK IN THE BOX	PGRS	3790 E TROPICANA AVE	LAS VEGAS	89121	YES	JBETA379		164932	JRICE	9/13/2007
7500182	JACK IN THE BOX #7204	PGRS	4866 S MARYLAND PKWY	LAS VEGAS	89119	YES	JIBMP486		164480	JRICE	8/6/2007
7601360	JACK IN THE BOX #7207	PGRS	804 N NELLIS BLVD	LAS VEGAS	89110	YES	JBNB0013		165188	JRICE	8/27/2007
7601360	JACK IN THE BOX #7207	PGRS	804 N NELLIS BLVD	LAS VEGAS	89110	YES	JBNB0013	JACK IN THE BOX #7207	221496	NWILLIAM	6/9/2008
9602269	JACK IN THE BOX #7218	PGRS	3410 E SUNSET RD	LAS VEGAS	89120	YES	JBES0007		222856	JRICE	6/25/2008
9707529	JACK IN THE BOX #7219	PGRS	2365 E WINDMILL LN	LAS VEGAS	89123	YES	JIBEW010		164571	NWILLIAM	7/30/2007
9605400	JACK IN THE BOX #7225	PGRS	4145 S DURANGO DR	LAS VEGAS	89113	YES	JBSD0022		163000	JRICE	9/17/2007
9605400	JACK IN THE BOX #7225	PGRS	4145 S DURANGO DR	LAS VEGAS	89147	YES	JBSD0022		207238	JRICE	2/6/2008
9905873	JACK IN THE BOX #7246	PGRS	4345 E CHARLESTON BLVD	LAS VEGAS	89104	YES	JBEC0008		222876	JRICE	6/19/2008
9100115	JACKS OR BETTER BAR	PGRS	1645 N LAMB BLVD	LAS VEGAS	89115	YES	JKGPL064	JACKS OR BETTER BAR	164852	JRICE	7/13/2007
9100115	JACKS OR BETTER BAR	PGRS	1645 N LAMB BLVD	LAS VEGAS	89115	YES	JKGPL064	JACKS OR BETTER BAR	217606	NWILLIAM	5/13/2008
9201111	JAY'S WARM SPRINGS MARKET	PGRS	1777 E WARM SPRINGS RD	LAS VEGAS	89119	YES	JWSRM177	JAY'S WARM SPRNGS MARKET	164560	NWILLIAM	7/26/2007
8400642	JEFFY LUBE	PSND	430 E TWAIN AVE	LAS VEGAS	89109	YES	JLETA001	SERVICE BAY	164209	JRICE	9/10/2007
8400642	JEFFY LUBE	PSND	430 E TWAIN AVE	LAS VEGAS	89109	YES	JLETA002	SERVICE BAY	209227	NWILLIAM	4/15/2008
0602004	JEFFY LUBE	PSND	7215 S DURANGO DR	LAS VEGAS	89148	YES	JLSDD721	JEFFY LUBE	207284	JRICE	2/4/2008
8400642	JEFFY LUBE	PSND	430 E TWAIN AVE	LAS VEGAS	89109	YES	JLETA002	SERVICE BAY	164210	JRICE	9/10/2007
8400642	JEFFY LUBE	PSND	430 E TWAIN AVE	LAS VEGAS	89109	YES	JLETA001	SERVICE BAY	217232	JRICE	5/1/2008
8400642	JEFFY LUBE	PSND	430 E TWAIN AVE	LAS VEGAS	89109	YES	JLETA001	SERVICE BAY	209226	NWILLIAM	4/15/2008
9001776	JOHNNY RIBERIO	PSND	4755 W NEVSO DR	LAS VEGAS	89103	YES	JRWND475	HONDA ACURA	163484	JRICE	10/29/2007
9002027	JOYFUL HOUSE CHINESE RESTAURANT	PGRS	4601 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	JHSM0033		163419	NWILLIAM	9/13/2007

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0408486	JUST BRAKES	PSND	774 N NELLIS	LAS VEGAS	89110	YES	JBNNB774	JUST BRAKES	165197	NWILLIAM	8/10/2007
0408486	JUST BRAKES	PSND	774 N NELLIS	LAS VEGAS	89110	YES	JBNNB774	JUST BRAKES	221505	NWILLIAM	6/11/2008
9805756	K F C	PGRS	4065 S BUFFALO DR	LAS VEGAS	89103	YES	KFCB007		206033	NWILLIAM	1/15/2008
0006493	K F C	PGRS	1353 E SILVERADO RANCH BLVD	LAS VEGAS	89113	YES	KFCR135	KFC	164621	JRICE	7/27/2007
9709216	KENTUCKY FRIED CHICKEN	PGRS	2355 E WINDMILL LN	LAS VEGAS	89123	YES	KFCEW009		164572	NWILLIAM	7/30/2007
5912053	KENTUCKY FRIED CHICKEN	PGRS	1990 N NELLIS BLVD	LAS VEGAS	89115	NO	KFCN0039		165170	JRICE	8/27/2007
	WORKORDER DETAILS:	165170 VIOLATION									
	WORKORDER DETAILS:	165170 MISSING OUTLET TEE									
	WORKORDER DETAILS:	165170 Replace									
5912053	KENTUCKY FRIED CHICKEN STORE X527009	PGRS	1990 N NELLIS BLVD	LAS VEGAS	89115	YES	KFCN0039	KENTUCKY FRIED CHICKEN	191207	JRICE	10/10/2007
5912053	KENTUCKY FRIED CHICKEN STORE X527009	PGRS	1990 N NELLIS BLVD	LAS VEGAS	89115	YES	KFCN0039	KENTUCKY FRIED CHICKEN	221478	JRICE	6/9/2008
7301857	KEY LARGO	PGRS	377 E FLAMINGO RD	LAS VEGAS	89109	YES	KLEFR377	KEY LARGO	209099	JRICE	2/15/2008
9708978	KIDS TURF ACADEMY	PGRS	7885 W ROCHELLE AVE	LAS VEGAS	89103	YES	KTAWR788	KITCHEN	206050	NWILLIAM	1/29/2008
9708978	KIDS TURF ACADEMY	PGRS	7885 W ROCHELLE AVE	LAS VEGAS	89103	NO	KTAWR788	KITCHEN	207714	NWILLIAM	1/16/2008
	WORKORDER DETAILS:	207714 VIOLATION									
	WORKORDER DETAILS:	207714 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:	207714 PUMP INTERCEPTOR									
9708978	KIDS TURF ACADEMY	PGRS	7885 W ROCHELLE AVE	LAS VEGAS	89103	YES	KTAWR788	KITCHEN	214047	NWILLIAM	4/4/2008
0007832	KILROYS TAVERN	PGRS	4308 S GRAND CANYON DR	LAS VEGAS	89147	YES	KTSGC430	KILROY'S TAVERN	204478	JRICE	1/7/2008
5904886	KLONDIKE INN	PGRS	5191 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	KILVB519	KLONDIKE INN	209131	NWILLIAM	1/30/2008
7001106	K-MART #4369 AND FURRS CAFETERIA	PGRS	2975 E SAHARA AVE	LAS VEGAS	89104	YES	KMFES016	FURRS	201835	JRICE	11/30/2007
7001106	K-MART #4369 AND FURRS CAFETERIA	PSND	2975 E SAHARA AVE	LAS VEGAS	89104	YES	KMFES017	KMART	201836	JRICE	11/30/2007
7001106	K-MART #4369 AND FURRS CAFETERIA	PGRS	2975 E SAHARA AVE	LAS VEGAS	89104	YES	KMFES018	KMART	201837	JRICE	11/30/2007
9906661	KOPPER KEG RESTAURANT	PGRS	2375 E TORINO AVE	LAS VEGAS	89102	YES	KKRET237		164581	JRICE	7/26/2007
9904579	KRISPY KREME DONUTS	PGRS	9791 S EASTERN AVE	LAS VEGAS	89123	YES	KKDSE979		164622	JRICE	8/15/2007
9905905	KRUNG THAI RESTAURANT	PGRS	4130 S DECATUR BLVD	LAS VEGAS	89103	YES	KTRSD413		197124	NWILLIAM	10/31/2007
5904915	LA PLAYITA	PGRS	2238 N PECOS RD	LAS VEGAS	89115	YES	LPNPR223		164849	NWILLIAM	7/18/2007
5904915	LA PLAYITA	PGRS	2238 N PECOS RD	LAS VEGAS	89115	YES	LPNPR223	LA PLAYITA	217597	JRICE	6/2/2008
9605664	LAKE MEAD AUTO MALL	PSND	4580 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LMAM0004	#108	217674	NWILLIAM	6/3/2008
9605664	LAKE MEAD AUTO MALL	PSND	4580 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LMAM0005	# 109	217675	NWILLIAM	6/3/2008
9605664	LAKE MEAD AUTO MALL	PSND	4580 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LMAM0006	MAIN STREET AUTO SALES	217676	NWILLIAM	6/3/2008
0002305	LAKE MEAD SHATZ RETAIL	PGRS	6515 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	LMSR0013	JACK IN THE BOX	165310	JRICE	9/17/2007
0002305	LAKE MEAD SHATZ RETAIL	PGRS	6515 E LAKE MEAD BLVD	LAS VEGAS	89156	NO	LMSR0013	JACK IN THE BOX	222192	NWILLIAM	6/23/2008
	WORKORDER DETAILS:	222192 VIOLATION									
	WORKORDER DETAILS:	222192 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:	222192 PUMP INTERCEPTOR									
5912070	LAKE MEAD SHOP	PSND	4528 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LMSEB003	SERVICE BAY	217677	NWILLIAM	5/30/2008
9000151	LAKE MEAD TAVERN	PGRS	5841 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	LMTE0009		165171	NWILLIAM	7/27/2007
9000151	LAKE MEAD TAVERN	PGRS	5841 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	LMTE0009		221479	JRICE	6/5/2008
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW001	TACO BELL	164355	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW007	BOUNTY HUNTER	164361	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW006	LAS PALMAS VILLAGE	164360	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW002	BASKIN ROBBINS	164356	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW003	KANCH ENA EXPRESS	164357	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW004	VONS MARKET	164358	JRICE	9/26/2007
9603928	LAS PALMAS VILLAGE SHOPPING CENTER	PGRS	445 E WINDMILL LN	LAS VEGAS	89123	YES	LPVCW005	PIZZA HUT	164359	JRICE	9/26/2007
5912095	LAS VEGAS CAR WASH AND GAS (01292-02 NLVW)	PSND	4895 E CRAIG RD	LAS VEGAS	89115	YES	FWGEC048	CAR WASH	217714	NWILLIAM	5/16/2008

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5912095	LAS VEGAS CAR WASH AND GAS (01292-02 NLVW)	PSND	4895 E CRAIG RD	LAS VEGAS	89115	YES	FWGEC049	CAR WASH	217715	NWILLIAM	5/16/2008
5903673	LAS VEGAS CONVALESCENT CENTER	PGRS	2832 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVCCP283	LV CONVALESCENT CENTER	201877	JRICE	12/5/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP001	MAIN KITCHEN	169977	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP002	TRASH COMPACTOR	169978	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP001	MAIN KITCHEN	215192	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP003	TRUCK/CAR WASH	215193	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP005	TRASH COMPACTOR	169981	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP007	DOOR 21 CONCESSION STAND	169982	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP008	TRASH COMPACTOR	169983	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP009	DOOR COMPACTOR	215198	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP029	CONCESSION STAND	215216	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP029	CONCESSION STAND	170003	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP028	CONCESSION STAND	215215	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP028	CONCESSION STAND	170002	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP027	CONCESSION STAND	215214	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP026	GRILL WORKS/CONCES STND	215218	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP026	CONCESSION STAND	170000	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP025	FRONT ELEVATOR	215213	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP014	MAIN KITCHEN SOUTH	169989	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP013	MAIN KITCHEN SOUTH	215202	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP013	MAIN KITCHEN SOUTH	169988	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP012	TRASH COMPACTOR	215201	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP012	TRASH COMPACTOR	169987	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP011	TRASH COMPACTOR	169986	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP010	C-2 ELEVATOR PIT	215199	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP010	C-2 ELEVATOR PIT	216338	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP010	C-2 ELEVATOR PIT	169985	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP018	TRASH COMPACTOR	169992	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP017	SWEEPER TRUCK WASH	215205	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP017	SWEEPER TRUCK WASH	169991	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	NO	LVCCP016	DOOR 4 TRASH COMPACTOR	215204	JRICE	4/18/2008

WORKORDER DETAILS: 215204 VIOLATION
 WORKORDER DETAILS: 215204 SOLIDIFIED GREASE IN SAMPLE BOX

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WORKORDER DETAILS: 215204 PUMP INTERCEPTOR											
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP016	DOOR 4 TRASH COMPACTOR	216344	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP016	DOOR 4 TRASH COMPACTOR	169990	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP014	MAIN KITCHEN SOUTH	215203	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP025	FRONT ELEVATOR	169999	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP024	TRASH COMPACTOR	215212	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP024	TRASH COMPACTOR	169998	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP023	TRASH COMPACTOR	215211	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP023	TRASH COMPACTOR	169997	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	NO	LVCCP022	TRASH COMPACTOR	215210	JRICE	4/18/2008
WORKORDER DETAILS: 215210 VIOLATION WORKORDER DETAILS: 215210 SOLIDIFIED GREASE IN SAMPLE BOX WORKORDER DETAILS: 215210 PUMP INTERCEPTOR											
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP022	TRASH COMPACTOR	216336	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP022	TRASH COMPACTOR	169996	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP021	CONCESSION STAND	215209	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP021	CONCESSION STAND	169995	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP020	S2 PLAZA ELEVATOR PIT	215208	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP020	S2 PLAZA ELEVATOR PIT	169994	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP019	DOOR 40 TRASH COMPACTOR	215207	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP019	DOOR 40 TRASH COMPACTOR	169993	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP018	TRASH COMPACTOR	215206	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP008	TRASH COMPACTOR DOOR 35	215197	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP007	DOOR 21 CONCESSION STAND	215196	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP005	TRASH COMPACTOR	215195	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP004	N-1 CONCESSION STAND	215194	JRICE	4/18/2008
5903492	LAS VEGAS CONVENTION AUTHORITY	PSND	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP003	TRUCK/CAR WASH	169979	EHELAL	7/11/2007
5903492	LAS VEGAS CONVENTION AUTHORITY	PGRS	3150 PARADISE RD	LAS VEGAS	89109	YES	LVCCP002	MOJAVE GRILL/TRSH COMPTR	215217	JRICE	4/18/2008
6800015	LAS VEGAS COUNTRY CLUB	PGRS	3000 JOE W BROWN DR	LAS VEGAS	89109	YES	LVCCE300	SNACK BAR	209175	JRICE	4/2/2008
6800015	LAS VEGAS COUNTRY CLUB	PGRS	3000 JOE W BROWN DR	LAS VEGAS	89109	YES	LVCCE301	LVCC CAFE	209176	JRICE	4/2/2008
8602152	LAS VEGAS EXECUTIVE AIR TERMINAL	PGRS	275 E TROPICANA AVE	LAS VEGAS	89119	YES	LVEAT275	CAFE	209117	JRICE	2/22/2008
8602152	LAS VEGAS EXECUTIVE AIR TERMINAL	PSND	275 E TROPICANA AVE	LAS VEGAS	89119	YES	LVEAT276	SERVICE HANGARS	209118	JRICE	2/22/2008
9305322	LAS VEGAS HIGH SCHOOL #251	PGRS	6500 E SAHARA AVE	LAS VEGAS	89122	YES	LVHSS650	SCHOOL KITCHEN	222204	JRICE	6/17/2008
9305322	LAS VEGAS HIGH SCHOOL #251	PSND	6500 E SAHARA AVE	LAS VEGAS	89122	YES	LVHSS651	AUTO SHOP	222205	JRICE	6/17/2008
9305322	LAS VEGAS HIGH SCHOOL #251	PGRS	6500 E SAHARA AVE	LAS VEGAS	89122	YES	LVHSS652	SCHOOL CANWASH	222206	JRICE	6/17/2008
6900399	LAS VEGAS HILTON HOTEL	PGRS	3000 PARADISE RD	LAS VEGAS	89109	YES	LVHHP001	BENIHANA RESTAURANT	209177	JRICE	4/2/2008
6900399	LAS VEGAS HILTON HOTEL	PGRS	3000 PARADISE RD	LAS VEGAS	89109	YES	LVHHP004	COFFEE SHOP/BUFFET	209180	JRICE	4/2/2008

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6900399	LAS VEGAS HILTON HOTEL	PGRS	3000 PARADISE RD	LAS VEGAS	89109	YES	LVHHP003	SHOWROOM KITCHEN	209179	JRICE	4/2/2008
6900399	LAS VEGAS HILTON HOTEL	PGRS	3000 PARADISE RD	LAS VEGAS	89109	YES	LVHHP002	MAIN KITCHEN	209178	JRICE	4/8/2008
9605663	LAS VEGAS ICE CENTER	PGRS	9295 W FLAMINGO RD	LAS VEGAS	89147	YES	LVICF929		163003	JRICE	9/18/2007
9605663	LAS VEGAS ICE CENTER	PGRS	9295 W FLAMINGO RD	LAS VEGAS	89147	YES	LVICF929		211019	NWILLIAM	2/15/2008
9605663	LAS VEGAS ICE CENTER	PGRS	9295 W FLAMINGO RD	LAS VEGAS	89147	NO	LVICF929		207241	NWILLIAM	2/15/2008
	WORKORDER DETAILS:		207241 VIOLATION								
	WORKORDER DETAILS:		207241 MISSING INLET TEE								
	WORKORDER DETAILS:		207241 Replace								
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR448	JOHNNY ROCKETS	209277	NWILLIAM	2/20/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR449	JOES PIZZA	211249	NWILLIAM	2/21/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	NO	LVMPR449	JOES PIZZA	209278	NWILLIAM	2/20/2008
	WORKORDER DETAILS:		209278 VIOLATION								
	WORKORDER DETAILS:		209278 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		209278 PUMP INTERCEPTOR								
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR454	PARADISE CANTINA STE 1250	213058	NWILLIAM	2/20/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR453	KAIZEN SUSHI STE 1000	213057	NWILLIAM	2/20/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR452	KORENA BBQ STE 560	213056	NWILLIAM	2/20/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR451	RAINBOW BAR & GRILL	209280	NWILLIAM	2/20/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR451	RAINBOW BAR & GRILL	164255	NWILLIAM	1/10/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR450	ORIGIN INDIA RESTUARANT	211251	NWILLIAM	4/2/2008
9201579	LAS VEGAS MARKETPLACE	PGRS	4480 PARADISE RD	LAS VEGAS	89109	YES	LVMPR450	ORIGIN INDIA RESTUARANT	209279	NWILLIAM	2/20/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS601	SPEEDWAY CONCESSION REST	212794	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS602	TRASH COMPACTOR	212795	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS604	4U	212797	EHALEL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS607	4L	212800	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS606	4M	212799	EHALEL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS605	4Q	212798	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PSND	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS603	MAINTENANCE BLDG	212796	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS608	4I	212801	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS614	ELV 7	212807	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS613	ELV 5	212806	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS612	ORLEANS TOWER	212805	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	NO	LVBMS611	3B	212804	EHELAL	3/7/2008
	WORKORDER DETAILS:		212804 VIOLATION								
	WORKORDER DETAILS:		212804 MISSING INLET TEE								
	WORKORDER DETAILS:		212804 Replace								
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS611	3B	212860	EHALEL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS610	4A	212803	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS609	4E	212802	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS620	SPEEDWAY BAR	212809	EHELAL	3/7/2008
9503676	LAS VEGAS MOTOR SPEEDWAY	PGRS	6001 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	LVBMS615	1 O	212808	EHELAL	3/7/2008
8000892	LAS VEGAS STOR-IT LTD	PGRS	3380 S ARVILLE ST	LAS VEGAS	89103	YES	LVSIA338	SUITE F - BURGER KING	163420	NWILLIAM	9/14/2007
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVUGM461	SUITE 1	164482	JRICE	8/3/2007
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVUGM462	SUITE 7	191198	JRICE	10/10/2007
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	NO	LVUGM462	SUITE 7	164483	JRICE	8/3/2007
	WORKORDER DETAILS:		164483 VIOLATION								
	WORKORDER DETAILS:		164483 MISSING OUTLET TEE								
	WORKORDER DETAILS:		164483 Replace								
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVUGM465	SUITE 2 UNDER CONST	164486	JRICE	8/3/2007
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVUGM464	SUITE 14	164485	JRICE	8/3/2007
8000066	LAS VEGAS UNIVERSITY GARDENS	PGRS	4632 S MARYLAND PKWY	LAS VEGAS	89109	YES	LVUGM463	SUITE 12	164484	JRICE	8/3/2007
6900650	LAS VEGAS VALLEY WATER DIST	PSND	4100 E FLAMINGO RD	LAS VEGAS	89121	YES	VVWDF410	SERVICE BAY	222820	JRICE	6/20/2008
6900650	LAS VEGAS VALLEY WATER DIST	PSND	4100 E FLAMINGO RD	LAS VEGAS	89121	YES	VVWDF411	SERVICE BAY	222821	JRICE	6/20/2008
5904894	LAUGHING JACKALOPE MOTEL BAR AND GRILL	PGRS	3963 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	LJMLV396	LAUGHING JACKALOPE MOTEL	212359	JRICE	3/12/2008
0305008	LAUGHLIN BAY MARINA	PSND	4000 MARINA LAGOON DR	LAUGHLIN	89029	YES	LBMLD404	WASH BAY	222375	EHELAL	6/18/2008
0305008	LAUGHLIN BAY MARINA	PGRS	4000 MARINA LAGOON DR	LAUGHLIN	89029	YES	LBMLD406	RESTAURANT KITCHEN	222376	EHELAL	6/18/2008

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9001339	LAUGHLIN FIRE STATION	PSND	1920 W JAMES A BILBRAY PKWY	LAUGHLIN	89029	YES	LFSBP192	SERVICE BAY	169253	EHELAL	8/8/2007
9001339	LAUGHLIN FIRE STATION	PSND	1920 W JAMES A BILBRAY PKWY	LAUGHLIN	89029	YES	LFSBP192	SERVICE BAY	222379	EHELAL	6/18/2008
9201283	LAUGHLIN HIGH SCHOOL (#946)	PGRS	1900 COUGAR DR	LAUGHLIN	89029	NO	LHSCD190	SCHOOL KITCHEN	222380	ED HELAL	6/18/2008
	WORKORDER DETAILS:		222380 VIOLATION								
	WORKORDER DETAILS:		222380 MISSING BAFFLE WALL TEE								
	WORKORDER DETAILS:		222380 Replace								
9201283	LAUGHLIN HIGH SCHOOL (#946)	PSND	1900 COUGAR DR	LAUGHLIN	89029	YES	LHSCD191	AUTO SHOP	222381	EHELAL	6/18/2008
9804611	LAUGHLIN MOBIL MART	PSND	3020 NEEDLES HWY	LAUGHLIN	89029	YES	LMMNH302	CARWASH	169256	EHELAL	8/8/2007
9804611	LAUGHLIN MOBIL MART	PSND	3020 NEEDLES HWY	LAUGHLIN	89029	YES	LMMNH302	CARWASH	222382	EHELAL	6/18/2008
8700576	LAUGHLIN TOWN CENTER	PGRS	3100 NEEDLES HWY	LAUGHLIN	89029	YES	LCTNH310	ALBERTOS	169251	EHELAL	8/8/2007
8700576	LAUGHLIN TOWN CENTER	PGRS	3100 NEEDLES HWY	LAUGHLIN	89029	YES	LCTNH310	ALBERTOS	224479	EHELAL	6/24/2008
8700576	LAUGHLIN TOWN CENTER	PGRS	3100 NEEDLES HWY	LAUGHLIN	89029	NO	LCTNH310	ALBERTOS	222377	EHELAL	6/23/2008
	WORKORDER DETAILS:		222377 VIOLATION								
	WORKORDER DETAILS:		222377 SOLIDIFIED GREASE IN OUTLET TEE								
	WORKORDER DETAILS:		222377 PUMP INTERCEPTOR								
8700576	LAUGHLIN TOWN CENTER	PGRS	3100 NEEDLES HWY	LAUGHLIN	89029	YES	LCTNH311	VACANT	169252	EHELAL	8/8/2007
8700576	LAUGHLIN TOWN CENTER	PGRS	3100 NEEDLES HWY	LAUGHLIN	89029	YES	LCTNH311	VACANT	222378	EHELAL	6/18/2008
8801112	LAUGHLIN TOWN CENTER II	PGRS	3030 NEEDLES HWY	LAUGHLIN	89029	YES	LTCNH303	SUITE 800 MAMAS PIZZA	222383	EHELAL	6/18/2008
8801112	LAUGHLIN TOWN CENTER II	PGRS	3030 NEEDLES HWY	LAUGHLIN	89029	NO	LTCNH305	SUITE 1100 LUPE'S	222385	EHELAL	6/19/2008
	WORKORDER DETAILS:		222385 VIOLATION								
	WORKORDER DETAILS:		222385 SOLIDIFIED GREASE IN OUTLET TEE								
	WORKORDER DETAILS:		222385 PUMP INTERCEPTOR								
8801112	LAUGHLIN TOWN CENTER II	PGRS	3030 NEEDLES HWY	LAUGHLIN	89029	YES	LTCNH304	SUITE 900 - VACANT DMV	222384	EHELAL	6/18/2008
0403452	LAURICH PLAZA	PGRS	4170 S FORT APACHE RD	LAS VEGAS	89147	YES	OPHFA417	PANCAKE HOUSE...11/29/05	163004	JRICE	9/17/2007
0403452	LAURICH PLAZA	PGRS	4170 S FORT APACHE RD	LAS VEGAS	89147	YES	OPHFA417	PANCAKE HOUSE...11/29/05	206914	JRICE	1/10/2008
5912079	LAWLESS CENTER	PGRS	4100 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LCLM0002	4104 E LAKE MEAD BLVD	164848	NWILLIAM	7/27/2007
5912079	LAWLESS CENTER	PGRS	4100 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	LCLM0002	4104 E LAKE MEAD BLVD	217596	JRICE	6/2/2008
9710396	LAWRENCE MIDDLE SCHOOL #544	PGRS	4410 S JULIANO RD	LAS VEGAS	89119	YES	LMSSJ441	SCHOOL KITCHEN	163002	JRICE	9/17/2007
9710396	LAWRENCE MIDDLE SCHOOL #544	PGRS	4410 S JULIANO RD	LAS VEGAS	89119	YES	LMSSJ441	SCHOOL KITCHEN	207240	NWILLIAM	2/12/2008
9805400	LAWRYS PRIME RIB	PGRS	4043 HOWARD HUGHES PKWY	LAS VEGAS	89109	YES	LPRHH404		207794	JRICE	3/6/2008
7101395	LEATHERBYS FAMILY CREAMERY	PGRS	577 E SAHARA AVE	LAS VEGAS	89104	YES	LFCE002		164104	JRICE	8/22/2007
7101395	LEATHERBYS FAMILY CREAMERY	PGRS	577 E SAHARA AVE	LAS VEGAS	89104	YES	LFCE002	LEATHERBYS FMLY CREAMERY	209148	JRICE	5/5/2008
7101395	LEATHERBYS FAMILY CREAMERY	PGRS	577 E SAHARA AVE	LAS VEGAS	89104	YES	LFCE002	LEATHERBYS FMLY CREAMERY	200518	EHELAL	11/30/2007
0304998	LEES LIQUOR STORE & RETAIL CENTER	PGRS	9355 W FLAMINGO RD	LAS VEGAS	89135	YES	LLCWF935	EGG WORKS.....02/25/05	163001	JRICE	9/18/2007
0304998	LEES LIQUOR STORE & RETAIL CENTER	PGRS	9355 W FLAMINGO RD	LAS VEGAS	89135	YES	LLCWF935	EGG WORKS.....02/25/05	207239	NWILLIAM	2/15/2008
7000017	LEVY, GILBERT TRUST	PGRS	501 E TWAIN AVE	LAS VEGAS	89109	YES	RRPT0002	MAX BETTS FUNHOG RANCH	164224	JRICE	9/12/2007
7000017	LEVY, GILBERT TRUST	PGRS	501 E TWAIN AVE	LAS VEGAS	89109	YES	RRPT0002	MAX BETTS FUNHOG RANCH	209241	JRICE	4/28/2008
5903934	LIBERACE CENTER AND MUSEUM	PGRS	1775 E TROPICANA AVE	LAS VEGAS	89119	YES	LCMET177	LIBERACE MUSEUM	164511	JRICE	8/9/2007
5903934	LIBERACE CENTER AND MUSEUM	PGRS	1775 E TROPICANA AVE	LAS VEGAS	89119	YES	LCMET178	GOODTIME BAR & GRILL	164512	JRICE	8/9/2007
9601258	LIFE CARE CENTER OF PARADISE VALLEY	PGRS	2325 E HARMON AVE	LAS VEGAS	89121	YES	LCCHA232	KITCHEN	164481	JRICE	7/25/2007
5912104	LOMIE G HEARD ELEMENTARY #318	PGRS	42 BAER DR	LAS VEGAS	89110	YES	LHENA318	SCHOOL KITCHEN	217651	JRICE	5/23/2008
9406442	LONE STAR STEAKHOUSE AND SALOON	PGRS	210 N NELLIS BLVD	LAS VEGAS	89110	YES	LSSN0005		165212	NWILLIAM	8/21/2007
9406442	LONE STAR STEAKHOUSE AND SALOON	PGRS	210 N NELLIS BLVD	LAS VEGAS	89110	YES	LSSN0005		221521	NWILLIAM	6/13/2008
9802468	LONG JOHN SILVERS/A&W	PGRS	734 N NELLIS BLVD	LAS VEGAS	89110	YES	LJSAW734		165198	NWILLIAM	8/10/2007
9802468	LONG JOHN SILVERS/A&W	PGRS	734 N NELLIS BLVD	LAS VEGAS	89110	YES	LJSAW734		221506	NWILLIAM	6/11/2008
0604948	LOWES HOME IMPROVEMENTS	PSND	2465 N NELLIS BLVD	LAS VEGAS	89122	YES	LHINB246	LOWES HOME IMPROVEMENTS	225190	JRICE	5/30/2008
9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	LHCLV391	LOADING DOCK TRASH COMP.	212515	NWILLIAM	3/31/2008
9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	LHCLV395	EAST TOWER ROOM SERVICE	214905	NWILLIAM	3/31/2008
9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	LHCLV395	EAST TOWER ROOM SERVICE	212516	NWILLIAM	3/31/2008
	WORKORDER DETAILS:		212516 VIOLATION								
	WORKORDER DETAILS:		212516 MISSING INLET TEE								
	WORKORDER DETAILS:		212516 Replace								
9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	LHCLV396	MAIN KITCHEN	212517	NWILLIAM	3/31/2008

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WORKORDER DETAILS: 212517 VIOLATION
 WORKORDER DETAILS: 212517 MISSING INLET TEE
 WORKORDER DETAILS: 212517 Replace

9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	LHCLV396	MAIN KITCHEN	214906	NWILLIAM	3/31/2008	
9301079	LUXOR HOTEL & CASINO	PGRS	3900 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	LHCLV399	POOL SNACK BAR	212518	NWILLIAM	3/31/2008	
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148	YES	KMRFA611	SUITE 100-KHOURY MEDITERR	207744	JRICE	1/18/2008	
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148	NO	KMRFA611	SUITE 100-KHOURY MEDITERR	215470	NWILLIAM	4/10/2008	
WORKORDER DETAILS: 215470 VIOLATION												
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148	MARTIN	YES	LSSFA610	EMPIRE BAGEL #304	211951	JRICE	1/18/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148	MARTIN	YES	LSSFA610	EMPIRE BAGEL #304	215469	NWILLIAM	4/10/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148		YES	LSSFA611	LYDEN SQUARE #302	215467	NWILLIAM	4/10/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148		YES	LSSFA613	LITTLE GEISHA #200	211954	JRICE	1/18/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148		YES	LSSFA613	LITTLE GEISHA #200	215468	NWILLIAM	4/10/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148	JOHN	YES	LSSFA612	LA MADONNA #112	211953	JRICE	1/18/2008
0407079	LYNDEN SQUARE	PGRS	6105 S FORT APACHE RD	LAS VEGAS	89148		YES	LSSFA611	LYDEN SQUARE #302	211952	JRICE	1/18/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV702	RAIN FOREST KITCHEN	212360	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV703	FOOD COURT	212361	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV705	FOOD COURT	214040	NWILLIAM	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV705	FOOD COURT	212363	JRICE	3/20/2008
WORKORDER DETAILS: 212363 VIOLATION												
WORKORDER DETAILS: 212363 SOLIDIFIED GREASE IN SAMPLE BOX												
WORKORDER DETAILS: 212363 PUMP INTERCEPTOR												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV706	FOOD COURT	214039	NWILLIAM	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV711	NORTH DOCK	212369	JRICE	3/20/2008
WORKORDER DETAILS: 212369 VIOLATION												
WORKORDER DETAILS: 212369 SOLIDIFIED GREASE IN OUTLET TEE												
WORKORDER DETAILS: 212369 PUMP INTERCEPTOR												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV711	NORTH DOCK	214041	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV710	NORTH DOCK	212368	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV709	GT	212367	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV708	GT	212366	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV707	FOOD COURT	212365	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV706	FOOD COURT	212364	JRICE	3/20/2008
WORKORDER DETAILS: 212364 VIOLATION												
WORKORDER DETAILS: 212364 SOLIDIFIED GREASE IN SAMPLE BOX												
WORKORDER DETAILS: 212364 PUMP INTERCEPTOR												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV713	NORTH DOCK	212371	JRICE	3/20/2008
WORKORDER DETAILS: 212371 VIOLATION												
WORKORDER DETAILS: 212371 MISSING INLET TEE												
WORKORDER DETAILS: 212371 Replace												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV713	NORTH DOCK	214037	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV712	NORTH DOCK	212370	JRICE	3/20/2008
WORKORDER DETAILS: 212370 VIOLATION												
WORKORDER DETAILS: 212370 SOLIDIFIED GREASE IN OUTLET TEE												
WORKORDER DETAILS: 212370 PUMP INTERCEPTOR												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV712	NORTH DOCK	214038	JRICE	3/27/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV720	THEME PARK NE	212378	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV719	POOL GRILL	212377	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV718	GRAND GARDEN	212376	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV717	GRAND GARDEN	212375	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV716	GRAND GARDEN	212374	JRICE	3/20/2008
WORKORDER DETAILS: 212374 VIOLATION												
WORKORDER DETAILS: 212374 MISSING OUTLET TEE												
WORKORDER DETAILS: 212374 Replace												
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		YES	MGMLV716	GRAND GARDEN	214034	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109		NO	MGMLV715	MANSION KITCHEN	212373	JRICE	3/20/2008
WORKORDER DETAILS: 212373 VIOLATION												

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WORKORDER DETAILS: 212373 SOLIDIFIED GREASE IN SAMPLE BOX

WORKORDER DETAILS: 212373 PUMP INTERCEPTOR

9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV726	THEME PARK SE	212383	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV725	GT	212382	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MGMLV723	CONFERENCE CENTER	212381	JRICE	3/20/2008
	WORKORDER DETAILS:	212381 VIOLATION									
	WORKORDER DETAILS:	212381 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:	212381 PUMP INTERCEPTOR									
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV723	CONFERENCE CENTER	214033	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PSND	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV722	THEME PARK SE	212380	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV721	THEME PARK EAST	212379	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV715	MANSION KITCHEN	214035	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MGMLV714	NORTH DOCK	212372	JRICE	3/20/2008
	WORKORDER DETAILS:	212372 VIOLATION									
	WORKORDER DETAILS:	212372 SOLIDIFIED GREASE IN OUTLET TEE									
	WORKORDER DETAILS:	212372 PUMP INTERCEPTOR									
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV714	NORTH DOCK	214036	JRICE	3/20/2008
9300617	M G M GRAND HOTEL	PGRS	3799 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MGMLV704	FOOD COURT	212362	JRICE	3/20/2008
9201581	MACAYO RESTAURANT	PGRS	1375 E TROPICANA AVE	LAS VEGAS	89119	YES	MRETA137		164514	JRICE	8/8/2007
5912105	MADE IN LAS VEGAS L L C	PGRS	884 N NELLIS BLVD	LAS VEGAS	89110	YES	PHNB0017	PIZZA HUT	221499	NWILLIAM	6/9/2008
5910155	MAGIC	PSND	3184 FREMONT ST	LAS VEGAS	89104	YES	ARSFS318	MAGIC	201847	NWILLIAM	12/4/2007
5910155	MAGIC	PSND	3184 FREMONT ST	LAS VEGAS	89104	YES	ARSFS319	ALL TUNE & LUBE	201848	NWILLIAM	12/4/2007
8500328	MAIN GATE PLAZA	PGRS	4725 E CRAIG RD	LAS VEGAS	89115	YES	MGPCR472	HANGAR 47	165146	NWILLIAM	7/16/2007
8500328	MAIN GATE PLAZA	PGRS	4725 E CRAIG RD	LAS VEGAS	89115	YES	MGPCR472	HANGAR 47	217716	NWILLIAM	5/19/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV401	MAIN LOADING DOCK	212519	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV402	MAIN KITCHEN	212520	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV403	THE HOTEL	214929	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV422	CONVENTION CENTER SE	212540	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV421	CONVENTION CENTER SE	212539	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV420	ARENA LOADING DOCK - 2	212538	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV419	ARENA LOADING DOCK - 1	212537	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV418	ARENA KITCHEN	212536	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV417	CONVENTION CENTER NORTH	212535	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV416	CONVENTION CENTER NORTH	212534	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV415	CONVENTION CENTER SOUTH	212533	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV414	4 SEASONS POOL	212532	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	MBRLV425	CONVENTION CENTER SW	212543	NWILLIAM	3/27/2008
	WORKORDER DETAILS:	212543 VIOLATION									
	WORKORDER DETAILS:	212543 SOLIDIFIED GREASE IN SAMPLE BOX									
	WORKORDER DETAILS:	212543 PUMP INTERCEPTOR									
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV425	CONVENTION CENTER SW	214928	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV424	CONVENTION CENTER SW	212542	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV423	CONVENTION CENTER SE	212541	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV413	4 SEASONS KITCHEN	212531	NWILLIAM	3/27/2008

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5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV412	4 SEASONS TRASH COMPACTOR	212530	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV411	4 SEASONS KITCHEN	212529	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV410	4 SEASONS VALET	212528	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV409	COFFEE SHOP (NOT IN USE)	212527	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV408	HOTEL CAR WASH	212526	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV407	VALET GARAGE	212525	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV406	HOUSE OF BLUES SHOWROOM	212524	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	MBRLV405	HOUSE OF BLUES	212523	NWILLIAM	3/27/2008
	WORKORDER DETAILS:		212523 VIOLATION								
	WORKORDER DETAILS:		212523 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212523 PUMP INTERCEPTOR								
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV405	HOUSE OF BLUES	214927	NWILLIAM	3/28/2008
5904892	MANDALAY BAY RESORT & CASINO	PSND	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MBRLV404	HOUSE OF BLUES	212522	NWILLIAM	3/27/2008
5904892	MANDALAY BAY RESORT & CASINO	PGRS	3950 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	MBRLV403	THE HOTEL	212521	NWILLIAM	3/27/2008
	WORKORDER DETAILS:		212521 VIOLATION								
	WORKORDER DETAILS:		212521 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212521 PUMP INTERCEPTOR								
0203083	MANDALAY PLACE RETAIL CENTER	PGRS	3930 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MPRLV393	STE 120,121A,121B-SHARED	214921	NWILLIAM	3/27/2008
0203083	MANDALAY PLACE RETAIL CENTER	PGRS	3930 S LAS VEGAS BLVD	LAS VEGAS	89119	NO	MPRLV393	STE 120,121A,121B-SHARED	212559	NWILLIAM	3/27/2008
	WORKORDER DETAILS:		212559 VIOLATION								
	WORKORDER DETAILS:		212559 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212559 PUMP INTERCEPTOR								
0203083	MANDALAY PLACE RETAIL CENTER	PGRS	3930 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MPRLV395	RM RESTAURANT STE 200A	212561	NWILLIAM	3/27/2008
0203083	MANDALAY PLACE RETAIL CENTER	PSND	3930 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	MPRLV394	LOADING DOCK	212560	NWILLIAM	3/27/2008
7800342	MARDI GRAS INN	PGRS	3500 PARADISE RD	LAS VEGAS	89109	YES	MGIPR006	CAFE	164176	NWILLIAM	8/2/2007
7800342	MARDI GRAS INN	PGRS	3500 PARADISE RD	LAS VEGAS	89109	YES	MGIPR006	CAFE	209194	NWILLIAM	4/21/2008
8801058	MARIE CALLENDAR	PGRS	4875 W FLAMINGO RD	LAS VEGAS	89103	YES	MCFRW487		197128	JRICE	11/1/2007
9201528	MARINE CORPS LEAGUE LEATHERNECKS	PGRS	4360 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	MCLSM436	CLUB KITCHEN	192383	NWILLIAM	10/10/2007
9201528	MARINE CORPS LEAGUE LEATHERNECKS	PGRS	4360 SPRING MOUNTAIN RD	LAS VEGAS	89102	NO	MCLSM436	CLUB KITCHEN	163421	NWILLIAM	9/13/2007
	WORKORDER DETAILS:		163421 VIOLATION								
	WORKORDER DETAILS:		163421 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		163421 PUMP INTERCEPTOR								
9201528	MARINE CORPS LEAGUE LEATHERNECKS	PGRS	4360 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	MCLSM436	CLUB KITCHEN	197058	NWILLIAM	9/8/2007
7501032	MARK I APARTMENTS	PGRS	1020 E DESERT INN RD	LAS VEGAS	89109	YES	MAEDI102	VESUVIO'S	164152	NWILLIAM	8/27/2007
7501032	MARK I APARTMENTS	PGRS	1020 E DESERT INN RD	LAS VEGAS	89109	YES	MAEDI102	VESUVIO'S	209181	JRICE	4/1/2008
8802761	MARKS PLAZA	PGRS	2311 S CASINO DR	LAUGHLIN	89029	YES	MPLCD311	MINATO	169260	EHELAL	8/8/2007
8802761	MARKS PLAZA	PGRS	2311 S CASINO DR	LAUGHLIN	89029	YES	MPLCD311	MINATO	222386	EHELAL	6/18/2008
8802761	MARKS PLAZA	PGRS	2311 S CASINO DR	LAUGHLIN	89029	YES	MPLCD312	SUITE H-8 JOE'S PIZZA	222387	EHELAL	6/18/2008
5901802	MARRIOTT RESIDENCE HOTEL	PGRS	3400 PARADISE RD	LAS VEGAS	89109	YES	MRMPR340	CAFE	191147	NWILLIAM	9/17/2007
5901802	MARRIOTT RESIDENCE HOTEL	PGRS	3400 PARADISE RD	LAS VEGAS	89109	NO	MRMPR340	CAFE	164177	NWILLIAM	8/2/2007
	WORKORDER DETAILS:		164177 VIOLATION								
	WORKORDER DETAILS:		164177 SOLIDIFIED GREASE IN OUTLET TEE								
	WORKORDER DETAILS:		164177 PUMP INTERCEPTOR								
5901802	MARRIOTT RESIDENCE HOTEL	PGRS	3400 PARADISE RD	LAS VEGAS	89109	YES	MRMPR340	CAFE	209195	JRICE	4/21/2008
9604101	MARRIOTT SUITES	PGRS	325 CONVENTION CENTER DR	LAS VEGAS	89109	YES	MSCCD325	CAFE	209086	JRICE	2/19/2008
7401972	MARSH JIM AMERICAN CORP	PSND	2445 E SAHARA AVE	LAS VEGAS	89104	YES	JMAES012	MARSH JIM AMERICAN CORP	201833	JRICE	11/30/2007

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7401972	MARSH JIM AMERICAN CORP	PSND	2445 E SAHARA AVE	LAS VEGAS	89104	YES	JMAES012	MARSH JIM AMERICAN CORP	205880	NWILLIAM	12/13/2007
0102696	MARYLAND AND KATIE RETAIL	PGRS	3825 S MARYLAND PKWY	LAS VEGAS	89109	YES	MKRMP382	PANDA EXPRESS	164216	JRICE	8/28/2007
0102696	MARYLAND AND KATIE RETAIL	PGRS	3825 S MARYLAND PKWY	LAS VEGAS	89109	NO	MKRMP382	PANDA EXPRESS	209233	JRICE	4/17/2008
	WORKORDER DETAILS:		209233 VIOLATION								
	WORKORDER DETAILS:		209233 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		209233 PUMP INTERCEPTOR								
0102696	MARYLAND AND KATIE RETAIL	PGRS	3825 S MARYLAND PKWY	LAS VEGAS	89109	YES	MKRMP382	PANDA EXPRESS	220756	JRICE	5/23/2008
0102696	MARYLAND AND KATIE RETAIL	PGRS	3825 S MARYLAND PKWY	LAS VEGAS	89109	YES	MKRMP382	PANDA EXPRESS	216347	JRICE	5/23/2008
8800295	MARYLAND CROSSING LTD	PGRS	3975 S MARYLAND PKWY	LAS VEGAS	89121	YES	MCLMP397	THAI PLACE	164211	JRICE	9/7/2007
8800295	MARYLAND CROSSING LTD	PGRS	3975 S MARYLAND PKWY	LAS VEGAS	89121	YES	MCLMP397	THAI PLACE	209228	NWILLIAM	4/22/2008
8800295	MARYLAND CROSSING LTD	PGRS	3975 S MARYLAND PKWY	LAS VEGAS	89121	YES	MCLMP399	DELI - CLOSED	209230	NWILLIAM	4/23/2008
8800295	MARYLAND CROSSING LTD	PGRS	3975 S MARYLAND PKWY	LAS VEGAS	89121	YES	MCLMP399	DELI - CLOSED	164213	JRICE	9/7/2007
8800295	MARYLAND CROSSING LTD	PGRS	3975 S MARYLAND PKWY	LAS VEGAS	89121	YES	MCLMP398	TAQUERIA SANTA CRUZ	164212	JRICE	9/7/2007
5903914	MARYLAND SQUARE SHOPPING CENTER	PGRS	3651 S MARYLAND PKWY	LAS VEGAS	89109	YES	MSSCS366	ILLEGAL GT, 1160 E TWAIN	164179	NWILLIAM	8/8/2007
5903914	MARYLAND SQUARE SHOPPING CENTER	PGRS	3651 S MARYLAND PKWY	LAS VEGAS	89109	YES	MSSCS367	LATORTA LOCA	164180	NWILLIAM	8/8/2007
5903914	MARYLAND SQUARE SHOPPING CENTER	PGRS	3661 S MARYLAND PKWY	LAS VEGAS	89109	YES	MSSCS366	ILLEGAL GT, 1160 E TWAIN	209196	JRICE	4/16/2008
5903914	MARYLAND SQUARE SHOPPING CENTER	PGRS	3661 S MARYLAND PKWY	LAS VEGAS	89109	YES	MSSCS367	LATORTA LOCA	209197	JRICE	4/16/2008
5903965	MARYLAND TWAIN SHOPPING CENTER	PGRS	1155 E TWAIN AVE	LAS VEGAS	89109	YES	MSCT0016	VON'S	164218	JRICE	8/28/2007
5903965	MARYLAND TWAIN SHOPPING CENTER	PGRS	1155 E TWAIN AVE	LAS VEGAS	89109	YES	MSCT0017	TACO BELL	209236	JRICE	4/17/2008
5903965	MARYLAND TWAIN SHOPPING CENTER	PGRS	1155 E TWAIN AVE	LAS VEGAS	89109	YES	MSCT0017	TACO BELL	164219	JRICE	8/28/2007
5903965	MARYLAND TWAIN SHOPPING CENTER	PGRS	1155 E TWAIN AVE	LAS VEGAS	89109	YES	MSCT0016	VON'S	209235	JRICE	4/17/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV423		217598	JRICE	6/5/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV424		217599	JRICE	6/5/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV426		217601	JRICE	6/5/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV428		217603	JRICE	6/5/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV427		217602	JRICE	6/5/2008
0604278	MATEO MOTORS	PSND	4230 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MMLMV425		217600	JRICE	6/5/2008
5909527	MAVERICK TRUCK STOP	PGRS	3225 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MTNB0003	MAVERICK CAFE	164839	JRICE	7/19/2007
5909527	MAVERICK TRUCK STOP	PGRS	3225 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MTNB0003	MAVERICK CAFE	217587	JRICE	5/22/2008
5909527	MAVERICK TRUCK STOP	PSND	3225 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MTNB0004	MAVERICK SERVICE BAY	164840	JRICE	7/19/2007
5909527	MAVERICK TRUCK STOP	PSND	3225 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MTNB0004	MAVERICK SERVICE BAY	217588	JRICE	5/22/2008
5910186	MAYTAG LAUNDRY CENTER	PGRS	3515 E CHARLESTON BLVD	LAS VEGAS	89104	YES	MLCC0006	CANCUN CAFE	164858	NWILLIAM	7/25/2007
5910186	MAYTAG LAUNDRY CENTER	PGRS	3515 E CHARLESTON BLVD	LAS VEGAS	89104	YES	MLCC0006	CANCUN CAFE	222750	JRICE	6/18/2008
9603202	MCCARRAN CENTER #2	PGRS	600 E WARM SPRINGS RD	LAS VEGAS	89123	YES	MCCWS600	SUITE 110-SUBWAY/WINCHELL	164351	JRICE	9/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE001	D7 TRASH COMPACTOR	200469	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE007	TERMINAL 2 TRASH COMPACTR	200475	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE015	PRICKLY PEAR BAR & GRILL	164331	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE014	RUBY'S REST.	200482	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE014	RUBY'S REST.	164330	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE013	D GATE EAST	200481	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE012	C.C. FIRE STATION S/O	200480	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE011	AIRPORT COORDINATOR S/O	200479	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT	PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE010	BRIDGE ROTUNDA TRASH COMP	200478	JRICE	11/20/2007

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5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE009	NORTH 40 CARWASH	200477	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE008	TERMINAL 2 - S/O	200476	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE025	N/E GRAY HALL TRASH COMP	200493	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE024	GATE D-36 TRASH COMPACTOR	200492	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE023	N/W GRAY HALL TRASH COMP	200491	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE022	DON ALAHANDRO'S MEXICAN	200490	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE021	CHARTER INTERNATIONAL	200489	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE021	CHARTER INTERNATIONAL	164337	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE020	BURGER KING	200488	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE020	BURGER KING	164336	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE019	FLATBREAD	200487	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE031	WOLFGANG PUCKS	200499	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE030	NEW RESTAURANT PAD	200498	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE029	EAST SIDE GOLD GARAGE	200497	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE028	EAST SIDE GOLD GARAGE	200496	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE027	AIRFIELD OPS BLDG	200495	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE026	SWEEPER WASH AREA	200494	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE019	BIG APPLE REST.	164335	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE018	CHILIS	200486	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE018	CHEERS BAR & GRILL	164334	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE017	C GATE FOOD COURT	200485	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE017	C GATE FOOD COURT	164333	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE016	D GATE WEST	200484	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE016	D GATE WEST	164332	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE015	PRICKLY PEAR BAR & GRILL	200483	JRICE	10/25/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE006	TERMINAL 1-ZERO LEVEL S/O	200474	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE002	D36 TRASH COMPACTOR	200470	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PSND	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE003	GSE CARWASH	200471	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE004	GSE TRASH	200472	JRICE	11/20/2007
5912416	MCCARRAN INTERNATIONAL AIRPORT PGRS	5757 WAYNE NEWTON BLVD	LAS VEGAS	89119	YES	MIAPE005	C GATE TRASH COMPACTOR	200473	JRICE	11/20/2007
9805402	MCCORMICK AND SCHMICKS	PGRS	335 HUGHES CENTER DR	LAS VEGAS	89109	YES	MSHC0002	214220	JRICE	3/6/2008
9805402	MCCORMICK AND SCHMICKS	PGRS	335 HUGHES CENTER DR	LAS VEGAS	89109	NO	MSHC0002	207795	JRICE	3/7/2008

WORKORDER DETAILS: 207795 VIOLATION
 WORKORDER DETAILS: 207795 SOLIDIFIED GREASE IN SAMPLE BOX

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WORKORDER DETAILS: 207795 PUMP INTERCEPTOR

0000247	MCDONALDS	PGRS	5811 E CHARLESTON BLVD	LAS VEGAS	89142	YES	MDEC0017	MCDONALDS	222201	JRICE	6/18/2008
8400565	MCDONALDS	PGRS	3700 PARADISE RD	LAS VEGAS	89109	YES	MDRPR009	MCDONALDS	209231	JRICE	4/21/2008
6800014	MCDONALDS	PGRS	3815 S MARYLAND PKWY	LAS VEGAS	89121	YES	MDSMP381	MCDONALDS	209232	JRICE	4/17/2008
6800014	MCDONALDS	PGRS	3815 S MARYLAND PKWY	LAS VEGAS	89121	YES	MDSMP381	MCDONALDS	164215	JRICE	8/28/2007
8400565	MCDONALDS	PGRS	3700 PARADISE RD	LAS VEGAS	89109	YES	MDRPR009	MCDONALDS	164214	JRICE	8/28/2007
8200689	MCDONALDS	PGRS	836 N NELLIS BLVD	LAS VEGAS	89110	YES	MDNB0014	MCDONALDS	165189	JRICE	8/27/2007
8200689	MCDONALDS	PGRS	836 N NELLIS BLVD	LAS VEGAS	89110	NO	MDNB0014	MCDONALDS	221497	NWILLIAM	6/3/2008

WORKORDER DETAILS: 221497 VIOLATION

WORKORDER DETAILS: 221497 SOLIDIFIED GREASE IN SAMPLE BOX

WORKORDER DETAILS: 221497 PUMP INTERCEPTOR

8200689	MCDONALDS	PGRS	836 N NELLIS BLVD	LAS VEGAS	89110	YES	MDNB0014	MCDONALDS	222337	NWILLIAM	6/3/2008
9405044	MCDONALD'S	PGRS	8120 S EASTERN AVE	LAS VEGAS	89123	YES	MDSEA812	MCDONALD'S	164803	JRICE	11/5/2007
9700392	MCDONALDS #270159	PGRS	6680 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	MELM0014	MCDONALDS	222186	JRICE	6/12/2008
9703906	MCDONALDS #270180	PGRS	4215 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MCIDL421	MCDONALDS	217653	JRICE	5/27/2008
9802458	MCDONALDS #3845	PGRS	8635 SPRING MOUNTAIN RD	LAS VEGAS	89117	YES	MCSM0082	MCDONALDS	207214	NWILLIAM	1/31/2008
9804488	MCDONALDS AND CHEVRON	PGRS	4075 S BUFFALO DR	LAS VEGAS	89147	YES	MACSB006	MCDONALDS AND CHEVRON	206034	NWILLIAM	1/15/2008
0001503	MCDONALDS AND CHEVRON	PGRS	1343 E SILVERADO RANCH BLVD	LAS VEGAS	89119	YES	MCESR134	MCDONALD'S & CHEVRON	164623	JRICE	7/27/2007
7700555	MCDONALDS/CHEVRON TERRIBLE HERBST	PGRS	1195 E SAHARA AVE	LAS VEGAS	89104	YES	MCTES005	MCDONALDS/CHEVRON	164105	JRICE	8/22/2007
7700555	MCDONALDS/CHEVRON TERRIBLE HERBST	PGRS	1195 E SAHARA AVE	LAS VEGAS	89104	YES	MCTES005	MCDONALDS/CHEVRON	209149	JRICE	5/5/2008
7700555	MCDONALDS/CHEVRON TERRIBLE HERBST	PGRS	1195 E SAHARA AVE	LAS VEGAS	89104	YES	MCTES005	MCDONALDS/CHEVRON	200519	JRICE	11/15/2007
9704080	MCDONALDS/TERRIBLE HERBST	PGRS	2886 S NELLIS BLVD	LAS VEGAS	89142	YES	MTHN0059	MCDONALDS	203466	NWILLIAM	1/8/2008
9704080	MCDONALDS/TERRIBLE HERBST	PGRS	2886 S NELLIS BLVD	LAS VEGAS	89142	YES	MTHN0059	MCDONALDS	221547	NWILLIAM	6/17/2008
0307170	MEINEKE AUTO REPAIR	PSND	1860 E SERENE AVE	LAS VEGAS	89123	YES	MMES0004	MEINEKE AUTO REPAIR	164595	JRICE	8/1/2007
8801802	MEMPHIS BBQ	PGRS	4379 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	MBNB0018	KITCHEN	217652	JRICE	5/28/2008
5910146	METRO HYUNDAI	PSND	2025 E SAHARA AVE	LAS VEGAS	89104	YES	MHESA006	METRO HYUNDAI	201878	JRICE	12/5/2007
9807109	METRO PIZZA EAST	PGRS	1395 E TROPICANA AVE	LAS VEGAS	89121	YES	MPETA139	METRO PIZZA EAST	164513	JRICE	8/8/2007
0306502	METROPOLIS LOFTS & FLATS	PSND	360 E DESERT INN RD	LAS VEGAS	89109	YES	MLFD1360	METROPOLIS LOFTS&FLATS	213059	JRICE	2/15/2008
7801153	MICHAEL A'S	PGRS	4680 S MARYLAND PKWY	LAS VEGAS	89119	YES	CRSMP468	MICHAEL A'S	164475	JRICE	8/3/2007
9201280	MIKE O'CALLAGHAN MIDDLE SCHOOL #335	PGRS	1450 RADWICK DR	LAS VEGAS	89110	YES	MOCMS145	SCHOOL KITCHEN	165356	JRICE	9/11/2007
9201280	MIKE O'CALLAGHAN MIDDLE SCHOOL #335	PGRS	1450 RADWICK DR	LAS VEGAS	89110	YES	MOCMS145	SCHOOL KITCHEN	222237	JRICE	6/13/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0001	TRASH COMPACTOR	212315	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0020	TRASH COMPACTOR	212334	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0019	TO DAI	212333	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0018	PRANA	212332	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0017	IBIZA	212331	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0016	BLUE NOTE	212330	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0015	OYSTER BAY	212329	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0014	TRASH COMPACTOR	212328	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0013	SHISHA & ANASTAZI	212327	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0012	BICE	212326	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PSND	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0023	PARKING GARAGE	212337	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0022	CASA BLANCA	212336	JRICE	3/28/2008

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0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0021	MERCHANTS HARBOR	212335	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0011	TRASH COMPACTOR	212325	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0010	COMMANDERS PALACE	212324	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0009	TRASH COMPACTOR	212323	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	DPAH0008	LOMBARDI'S & JOSEF'S	212322	JRICE	3/28/2008
	WORKORDER DETAILS:		212322 VIOLATION								
	WORKORDER DETAILS:		212322 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212322 PUMP INTERCEPTOR								
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0007	SEVILLA STEAK HOUSE	212321	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0006	LA SALSA & AROMA ITALIA	212320	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0003	HOTEL FOOD COURT	212317	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0004	TRASH COMPACTOR	212318	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0002	CHEESE BURGER @ OASIS	212316	JRICE	3/28/2008
0004729	MIRACLE MILE AT PLANET HOLLYWOOD	PGRS	3663 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	DPAH0005	TRASH COMPACTOR	212319	JRICE	3/28/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV101	MAIN KITCHEN	212548	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PSND	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV103	EVENTS CTR LOADING DOCK	212550	NWILLIAM	3/6/2008
8903858	MIRAGE HOTEL AND CASINO	PSND	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV105	EVENTS CTR LOADING DOCK	212552	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MHCLV106	THE VILLA'S KITCHEN	212553	NWILLIAM	3/18/2008
	WORKORDER DETAILS:		212553 VIOLATION								
	WORKORDER DETAILS:		212553 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212553 PUMP INTERCEPTOR								
8903858	MIRAGE HOTEL AND CASINO	PSND	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV111	LIMO WASH	212558	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MHCLV110	CARNEGIE DELI	212557	NWILLIAM	3/18/2008
	WORKORDER DETAILS:		212557 VIOLATION								
	WORKORDER DETAILS:		212557 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212557 PUMP INTERCEPTOR								
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV110	CARNEGIE DELI	214006	NWILLIAM	3/20/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV109	CALIFORNIA PIZZA	212556	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV108	SW GT - NOT IN USE	212555	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PSND	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV107	DOLPHIN HABITAT	212554	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV106	THE VILLA'S KITCHEN	214005	NWILLIAM	3/20/2008
8903858	MIRAGE HOTEL AND CASINO	PSND	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV104	HORTICULTURE/GREEN HOUSE	212551	NWILLIAM	3/18/2008
8903858	MIRAGE HOTEL AND CASINO	PGRS	3400 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MHCLV102	BANQUET KITCHEN	212549	NWILLIAM	3/18/2008
5912074	MOBILE CATERING LEASING L L C	PGRS	5560 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	MCLM0008	MOBILE CATERING	221467	JRICE	6/3/2008
0205294	MOLLY MALONES IRISH PUB	PGRS	11930 SOUTHERN HIGHLANDS PKWY	LAS VEGAS	89135	YES	MMPSH119	MOLLY MALONES IRISH PUB	163787	JRICE	11/27/2007
0003505	MONACO MIDDLE SCHOOL #276	PGRS	1870 N LAMONT ST	LAS VEGAS	89115	YES	MMSLS187	SCHOOL KITCHEN	217693	JRICE	5/14/2008
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV377	MKT CITY/ANDRES/DRAGOON	198717	NWILLIAM	3/24/2008
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MCHLV379	FOOD COURT	212546	NWILLIAM	3/24/2008
	WORKORDER DETAILS:		212546 VIOLATION								
	WORKORDER DETAILS:		212546 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212546 PUMP INTERCEPTOR								
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV380	BREW PUB	212547	NWILLIAM	3/24/2008
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV383	TRASH COMPACTOR	216493	NWILLIAM	3/24/2008
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	MCHLV382	DIABLO'S	216492	NWILLIAM	3/24/2008
	WORKORDER DETAILS:		216492 VIOLATION								
	WORKORDER DETAILS:		216492 STOPPAGE								
	WORKORDER DETAILS:		216492 Inspect								
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV382	DIABLO'S	216500	NWILLIAM	3/13/2008

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9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV380	BREW PUB	198720	NWILLIAM	3/24/2008	
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV379	FOOD COURT	215233	NWILLIAM	4/9/2008	
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV378	MAIN KITCHEN	198718	NWILLIAM	3/24/2008	
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV378	MAIN KITCHEN	212545	NWILLIAM	3/24/2008	
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	1	MCHLV379	FOOD COURT	214449	NWILLIAM	4/4/2008	
9406717	MONTE CARLO HOTEL AND CASINO	PGRS	3770 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	MCHLV377	MKT CITY/ANDRES/DRAGOON	212544	NWILLIAM	3/24/2008	
7702570	MOOSE'S BEACH HOUSE	PGRS	4770 S MARYLAND PKWY	LAS VEGAS	89109	YES	MBHMP477	KITCHEN	164487	JRICE	8/6/2007	
7702570	MOOSE'S BEACH HOUSE	PGRS	4770 S MARYLAND PKWY	LAS VEGAS	89109	YES	MBHMP478	KITCHEN	164488	JRICE	8/6/2007	
9902450	MORTONS OF CHICAGO	PGRS	400 E FLAMINGO RD	LAS VEGAS	89109	YES	MOCEF400		164217	JRICE	8/30/2007	
9902450	MORTONS OF CHICAGO	PGRS	400 E FLAMINGO RD	LAS VEGAS	89109	YES	MOCEF400		209234	JRICE	4/23/2008	
0101858	MOTOR CARGO	PSND	4624 E CRAIG RD	LAS VEGAS	89115	YES	MCECR462	SERVICE BAY	165132	NWILLIAM	7/17/2007	
0101858	MOTOR CARGO	PSND	4624 E CRAIG RD	LAS VEGAS	89115	YES	MCECR462	MOTOR CARGO	217702	JRICE	5/12/2008	
0204388	MOTURIS RV SALES	PSND	6590 BOULDER HWY	LAS VEGAS	89122	YES	MRVSB659	MOTURIS RV SALES	165344	NWILLIAM	7/10/2007	
0204388	MOTURIS RV SALES	PSND	6590 BOULDER HWY	LAS VEGAS	89122	YES	MRVSB659	MOTURIS RV SALES	222228	NWILLIAM	6/27/2008	
0303073	MOUNT HOOD PLAZA	PGRS	6330 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	MHPLM633	TIMBERS	222187	JRICE	6/12/2008	
0107441	MULLIGAN'S PUB	PGRS	6471 BOULDER HWY	LAS VEGAS	89122	YES	MPGBH647	MULLIGAN'S PUB	222227	NWILLIAM	6/26/2008	
9905372	MULLIGAN'S TAVERN	PGRS	1235 E PEBBLE RD	LAS VEGAS	89123	YES	MTEPR123		164596	JRICE	7/26/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	NO	NCCCD269	NATIONAL CAR CARE	203484	JRICE	12/12/2007	
	WORKORDER DETAILS:		203484 VIOLATION									
	WORKORDER DETAILS:		203484 PUMPING RECEIPTS									
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD270	HODGES AUTOMOTIVE	204452	JRICE	12/21/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD270	HODGES AUTOMOTIVE	204455	JRICE	12/21/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	NO	NCCCD270	HODGES AUTOMOTIVE	203485	JRICE	12/12/2007	
	WORKORDER DETAILS:		203485 VIOLATION									
	WORKORDER DETAILS:		203485 PUMPING RECEIPTS									
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD272	CHRIS AUTO	203487	JRICE	12/12/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD274	DCX AUTO	203489	JRICE	12/12/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD273	DECATUR AUTO	203488	JRICE	12/12/2007	
9000909	NATIONAL CAR CARE CENTER II	PSND	2695 S DECATUR BLVD	LAS VEGAS	89146	YES	NCCCD271	FREAK'S MERCEDES	203486	JRICE	12/12/2007	
0408995	NATIONAL GUARD ARMORY	PSND	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR649	CSMS2-1	165226	NWILLIAM	8/1/2007	
0408995	NATIONAL GUARD ARMORY	PSND	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR652	CSMS2-4	165229	NWILLIAM	8/1/2007	
0408995	NATIONAL GUARD ARMORY	PGRS	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR654	CSMS2-3	165231	NWILLIAM	8/1/2007	
0408995	NATIONAL GUARD ARMORY	PSND	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR653	CSMS2-5	165230	NWILLIAM	8/1/2007	
0408995	NATIONAL GUARD ARMORY	PSND	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR651	BATTERY ROOM	165228	NWILLIAM	8/1/2007	
0408995	NATIONAL GUARD ARMORY	PSND	6490 RANGE RD	LAS VEGAS	89115	YES	NGARR650	CSMS2-2	165227	NWILLIAM	8/1/2007	
8300157	NELLIS AIR FORCE BASE	PGRS	0 NELLIS	LAS VEGAS	89191	YES	NAFB0356	BURGER KING	165294	EHELAL	9/13/2007	
0306292	NELLIS AUTO CENTER	PSND	3275 N NELLIS BLVD	LAS VEGAS	89115	YES	WWNAC327	NELLIS AUTO CTR	164994	NWILLIAM	7/23/2007	
0306292	NELLIS AUTO CENTER	PSND	3275 N NELLIS BLVD	LAS VEGAS	89115	YES	WWNAC328	NELLIS AUTO CTR	217664	JRICE	5/28/2008	
0306292	NELLIS AUTO CENTER	PSND	3275 N NELLIS BLVD	LAS VEGAS	89115	YES	WWNAC328	NELLIS AUTO CTR	164995	NWILLIAM	7/23/2007	
0306292	NELLIS AUTO CENTER	PSND	3275 N NELLIS BLVD	LAS VEGAS	89115	YES	WWNAC327	NELLIS AUTO CTR	217663	JRICE	5/28/2008	
0608682	NELLIS CAB CO	PSND	4676 WYNN RD	LAS VEGAS	89119	CONTRERAS	YES	NCCWR468	AMBASSADOR LIMOUSINE	211965	NWILLIAM	1/31/2008
0608682	NELLIS CAB CO	PSND	4676 WYNN RD	LAS VEGAS	89119	CONTRERAS	YES	NCCWR468	AMBASSADOR LIMOUSINE	215455	NWILLIAM	4/9/2008
0100455	NELLIS CARTIER COMMERCIAL CENTER	PSND	5070 E CARTIER AVE	LAS VEGAS	89156	YES	ETRW507	ENTERPRISE TRUCK RENTAL	217671	JRICE	5/30/2008	
0210139	NELLIS CROSSING SHOPPING CENTER	PGRS	1292 S NELLIS BLVD	LAS VEGAS	89104	YES	NCCN0027	BAJA FRESH	221531	NWILLIAM	6/17/2008	
8800323	NELLIS CROSSING SHOPPING CENTER	PGRS	1250 S NELLIS BLVD	LAS VEGAS	89104	YES	NCCS125	INN ZONE TAVERN	221532	NWILLIAM	6/16/2008	
8701295	NELLIS EXPRESS VILLAGE	PGRS	4375 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	NEVLV017	SUITE 8	217654	JRICE	5/28/2008	
8701295	NELLIS EXPRESS VILLAGE	PGRS	4375 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	NEVLV043	SUITE 10	217655	JRICE	5/28/2008	
8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC391	3831 CRAIG RD	217633	NWILLIAM	5/12/2008	
8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC393	3826 CRAIG RD	217611	NWILLIAM	5/19/2008	
8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC396	3889 CRAIG RD	217635	NWILLIAM	5/12/2008	
8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC398	4230 CRAIG RD	217615	NWILLIAM	5/19/2008	
8701377	NELLIS INDUSTRIAL PARK	PSND	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC399	4513 N LAMB BLVD	217616	NWILLIAM	5/19/2008	
8701377	NELLIS INDUSTRIAL PARK	PSND	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC397	4505 ANDREWS	217614	NWILLIAM	5/19/2008	
8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC394	3820 CRAIG RD	217612	NWILLIAM	5/19/2008	

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8701377	NELLIS INDUSTRIAL PARK	PGRS	3900 E CRAIG RD	N LAS VEGAS	89030	YES	NIPEC392	3821 CRAIG RD	217634	NWILLIAM	5/12/2008
5911999	NELLIS PLAZA	PGRS	1000 N NELLIS BLVD	LAS VEGAS	89110	YES	NPNB0021		165190	NWILLIAM	8/27/2007
9304767	NEVADA CHILD SEEKERS	PSND	3100 FREMONT ST	LAS VEGAS	89104	YES	NCSFS310	SERVICE BAY	201856	NWILLIAM	12/4/2007
7500569	NEW ORLEANS SQUARE	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	NOSKA900	SUITE D114-FILIPIANA	200520	JRICE	11/19/2007
7500569	NEW ORLEANS SQUARE	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	NOSKA901	SUITE C101-108	164107	JRICE	8/20/2007
7500569	NEW ORLEANS SQUARE	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	NOSKA901	SUITE C101-108	209151	JRICE	5/6/2008
7500569	NEW ORLEANS SQUARE	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	NOSKA901	SUITE C101-108	200521	NWILLIAM	11/15/2007
7500569	NEW ORLEANS SQUARE	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	NOSKA900	SUITE D114-FILIPIANA	209150	JRICE	5/6/2008
9406443	NEW YORK NEW YORK	PGRS	3790 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	NYCLV792	ESPN	212562	NWILLIAM	3/25/2008
9406443	NEW YORK NEW YORK	PGRS	3790 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	NYCLV793	LOADING DOCK	214448	NWILLIAM	3/25/2008
9406443	NEW YORK NEW YORK	PGRS	3790 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	NYCLV793	LOADING DOCK	212563	NWILLIAM	3/25/2008
	WORKORDER DETAILS:		212563 VIOLATION								
	WORKORDER DETAILS:		212563 NO ACCESS TO GREASE TRAP - SAND/OIL								
	WORKORDER DETAILS:		212563 FIX OR REMOVE LID(S) FOR ACCESS								
9704713	NEWPORT MOTORS	PSND	3275 E SAHARA AVE	LAS VEGAS	89104	YES	NMESA022		201838	NWILLIAM	12/13/2007
0204389	OASIS SELF SERV CAR WASH LLC	PSND	3032 CANDELARIA DR	HENDERSON	89074	YES	OCWCD303	OASIS SELF SERV CAR WASH	164822	JRICE	9/20/2007
0001292	OFFICE MAX	PSND	2100 E SERENE AVE	LAS VEGAS	89123	YES	OMESA210	OFFICE MAX	164597	JRICE	7/31/2007
0005257	OLD TOWN SALOON	PGRS	2850 S CASINO DR	LAUGHLIN	89029	YES	OTSCD280	LAUGHLIN BAR	224927	EDHELAL	6/18/2008
0005257	OLD TOWN SALOON	PGRS	2850 S CASINO DR	LAUGHLIN	89029	NO	OTSCD280	LAUGHLIN BAR	222388	EDHELAL	6/18/2008
	WORKORDER DETAILS:		222388 VIOLATION								
	WORKORDER DETAILS:		222388 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		222388 PUMP INTERCEPTOR								
9300475	OLIVE GARDENS	PGRS	80 N NELLIS BLVD	LAS VEGAS	89110	YES	OGNB0002		221523	NWILLIAM	6/13/2008
0704377	OQUENDO DEVELOPMENT L L C	PGRS	5980 S FORT APACHE	LAS VEGAS	89135	YES	SRFAR598		218588	NWILLIAM	4/10/2008
8200836	ORCHIDS GARDEN	PGRS	5485 W SAHARA AVE	LAS VEGAS	89102	YES	CCWSA034	CHOWS CUISINE	203473	JRICE	12/13/2007
9603116	P T'S PUB	PGRS	3470 E SUNSET RD	LAS VEGAS	89120	YES	PTES0010		222860	JRICE	6/25/2008
0311272	PACIFIC PLAZA	PGRS	5061 E SAHARA AVE	LAS VEGAS	89122	YES	SNSCS506	TAQUIERIA SANTANDER	203467	NWILLIAM	6/17/2008
0703594	PALAZZO HOTEL CASINO	PGRS	3325 S LAS VEGAS BLVD	LAS VEGAS	89109	STEVE	PZLVB332	PALAZZO HOTEL CASINO	218365	JRICE	3/24/2008
8000952	PALM PARKWAY ASSOCIATES	PGRS	2075 PALM ST	LAS VEGAS	89104	YES	PPAPS207	LUCKY NICKEL	201859	NWILLIAM	12/5/2007
8000952	PALM PARKWAY ASSOCIATES	PSND	2075 PALM ST	LAS VEGAS	89104	YES	PPAPS208	BLDG 2, SUITE O	201860	NWILLIAM	12/5/2007
0001093	PALMS HOTEL & CASINO	PSND	4321 W FLAMINGO RD	LAS VEGAS	89147	YES	PHCWF435	TRASH COMPACTOR	163493	JRICE	9/6/2007
0001093	PALMS HOTEL & CASINO	PSND	4321 W FLAMINGO RD	LAS VEGAS	89147	YES	PHCWF435	TRASH COMPACTOR	197132	JRICE	10/31/2007
0311174	PANDA EXPRESS	PGRS	2625 S EASTERN AVE	LAS VEGAS	89109	YES	PESEA262	PANDA EXPRESS	201892	JRICE	11/29/2007
0501887	PARADISE AVIATION	PSND	5220 HAVEN ST	LAS VEGAS	89119	YES	PHACH522	HANGAR 1	209119	JRICE	2/27/2008
0501887	PARADISE AVIATION	PSND	5220 HAVEN ST	LAS VEGAS	89119	YES	PHACH523	HANGAR 2	209120	JRICE	2/27/2008
0501887	PARADISE AVIATION	PSND	5220 HAVEN ST	LAS VEGAS	89119	YES	PHACH524	HANGAR 3	209121	JRICE	2/27/2008
0501887	PARADISE AVIATION	PSND	5220 HAVEN ST	LAS VEGAS	89119	YES	PHACH525	HANGAR 4	209122	JRICE	2/27/2008
8701605	PARADISE BAY RESORT	PGRS	3896 SWENSON ST	LAS VEGAS	89119	YES	PWIS0008		164223	JRICE	9/6/2007
8701605	PARADISE BAY RESORT	PGRS	3896 SWENSON ST	LAS VEGAS	89119	YES	PWIS0008	PRADISE BAY RESORT	209240	JRICE	4/23/2008
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR021	LAS VEGAS DONUTS	164220	JRICE	9/10/2007
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR022	CAPRI PIZZA	164221	JRICE	9/10/2007
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR023	GHANDI	164222	JRICE	9/10/2007
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR023	GHANDI	209239	JRICE	4/23/2008
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR022	CAPRI PIZZA	209238	JRICE	4/23/2008
8600768	PARADISE CENTER	PGRS	4080 PARADISE RD	LAS VEGAS	89109	YES	PCFPR021	LAS VEGAS DONUTS	209237	JRICE	4/23/2008
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR038	TRAMPS	193924	NOBLE WI	10/2/2007
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	NO	PPCPR038	TRAMPS	164269	NWILLIAM	10/1/2007
	WORKORDER DETAILS:		164269 VIOLATION								
	WORKORDER DETAILS:		164269 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164269 PUMP INTERCEPTOR								
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR039	MILANO'S III	193925	NWILLIAM	10/1/2007
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	NO	PPCPR039	MILANO'S III	164270	NWILLIAM	10/1/2007
	WORKORDER DETAILS:		164270 VIOLATION								
	WORKORDER DETAILS:		164270 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164270 PUMP INTERCEPTOR								
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR040	BUFFALO	209296	JRICE	4/15/2008
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR040	BUFFALO	164271	NWILLIAM	10/1/2007

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5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR039	MILANO'S III	209295	JRICE	4/15/2008
5903662	PARADISE PLAZA	PGRS	4640 PARADISE RD	LAS VEGAS	89109	YES	PPCPR038	TRAMPS	209294	JRICE	4/15/2008
5903911	PARIS HOTEL AND CASINO	PSND	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV652	UNDERGROUND PARKING	212386	JRICE	3/19/2008
5903911	PARIS HOTEL AND CASINO	PGRS	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV653	SPORTS BOOK	212387	JRICE	3/19/2008
5903911	PARIS HOTEL AND CASINO	PGRS	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV655	BANGUETTE	212389	JRICE	3/19/2008
5903911	PARIS HOTEL AND CASINO	PGRS	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV657	MON AMI	212391	JRICE	3/19/2008
5903911	PARIS HOTEL AND CASINO	PGRS	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV656	BUTCHER	212390	JRICE	3/19/2008
5903911	PARIS HOTEL AND CASINO	PGRS	3655 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHCLV654	AU-SIN	212388	JRICE	3/19/2008
9709328	PARKVIEW PLAZA	PGRS	3935 S DURANGO DR	LAS VEGAS	89117	YES	PPSDD393	DAIRY QUEEN	207227	JRICE	2/6/2008
9709328	PARKVIEW PLAZA	PGRS	3935 S DURANGO DR	LAS VEGAS	89117	YES	PPSDD394	AMORE PIZZA	207228	JRICE	2/6/2008
9709328	PARKVIEW PLAZA	PGRS	3935 S DURANGO DR	LAS VEGAS	89117	YES	PPSDD395	P.T.'S PUB	207229	JRICE	2/6/2008
9709328	PARKVIEW PLAZA	PGRS	3935 S DURANGO DR	LAS VEGAS	89117	YES	PPSDD396	CHOW MEIN EXPRESS	207230	JRICE	2/6/2008
0307282	PARKWAY PROJECT	PGRS	1965 N NELLIS BLVD	LAS VEGAS	89115	YES	PPNNB196	1987 N NELLIS BLVD	217695	JRICE	5/29/2008
8601778	PARKWAY PROPERTIES	PGRS	1935 N NELLIS BLVD	LAS VEGAS	89115	YES	PPNB0036	1945 N NELLIS BLVD	217694	JRICE	5/29/2008
6900209	PAT CLARK PONTIAC	PSND	2575 E SAHARA AVE	LAS VEGAS	89104	YES	PCPES014	SERVICE BAY	201840	JRICE	12/5/2007
6900209	PAT CLARK PONTIAC	PSND	2575 E SAHARA AVE	LAS VEGAS	89104	YES	PCPES015	CAR WASH	201841	JRICE	12/5/2007
9201856	PATRICK AIRPORT PARK	PGRS	3095 E PATRICK LN	LAS VEGAS	89120	YES	APEPL309	STE15&16 BAKE IN THE SUN	215768	NWILLIAM	4/21/2008
8101160	PAYLESS CAR RENTAL	PSND	5175 RENT A CAR RD	LAS VEGAS	89119	YES	ARAC0003		164295	NWILLIAM	10/4/2007
8802365	PAYLESS RENT A CAR	PSND	4700 PARADISE RD	LAS VEGAS	89109	YES	PRCPR041		164273	NWILLIAM	10/2/2007
8802365	PAYLESS RENT A CAR	PSND	4700 PARADISE RD	LAS VEGAS	89109	YES	PRCPR041	PAYLESS RENT A CAR	209298	JRICE	4/1/2008
7702915	PECOS PLAZA SHOPPING CENTER	PGRS	3112 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	PPNB0002	3102 N LAS VEGAS BLVD	164842	JRICE	7/19/2007
7702915	PECOS PLAZA SHOPPING CENTER	PGRS	3112 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	PPNB0002	3102 N LAS VEGAS BLVD	217590	JRICE	5/22/2008
8802362	PEP BOYS	PSND	637 E SAHARA AVE	LAS VEGAS	89104	YES	PBESA004		164108	JRICE	8/20/2007
8802362	PEP BOYS	PSND	637 E SAHARA AVE	LAS VEGAS	89104	YES	PBESA004		200522	NWILLIAM	11/28/2007
8802362	PEP BOYS	PSND	637 E SAHARA AVE	LAS VEGAS	89104	YES	PBESA004	PEP BOYS	209152	NWILLIAM	4/17/2008
9605876	PEP BOYS SUPER CENTER	PSND	3490 E SUNSET	LAS VEGAS	89120	YES	PBES0011	SERVICE BAY	222857	JRICE	6/25/2008
7300090	PEPPERMILL COFFEE SHOP & LOUNGE	PGRS	2985 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PCSLV298	PEPPERMILL COFFEE SHOP	212385	JRICE	3/13/2008
7100088	PETE FINDLAY OLDSMOBILE	PSND	3112 FREMONT ST	LAS VEGAS	89104	YES	PFOFS311	CAR WASH	201857	NWILLIAM	12/12/2007
5910151	PETE FINDLAY OLDSMOBILE	PSND	3024 FREMONT ST	LAS VEGAS	89104	YES	PFOFM302	SERVICE BAY	201858	NWILLIAM	12/12/2007
9002258	PETE MICHELIN	PGRS	4380 S DECATUR BLVD	LAS VEGAS	89103	YES	PMSDB438	SUITE D - SCOUNDRELS	163495	NWILLIAM	10/31/2007
9002258	PETE MICHELIN	PGRS	4380 S DECATUR BLVD	LAS VEGAS	89103	YES	PMSDB438	SUITE D - SCOUNDRELS	197134	NWILLIAM	10/31/2007
5910096	PETES PLACE	PGRS	3095 FREMONT ST	LAS VEGAS	89104	YES	PPBFS309		164662	NWILLIAM	2/7/2008
5910096	PETES PLACE	PGRS	3095 FREMONT ST	LAS VEGAS	89104	YES	PPBFS309	PETES PLACE	201861	JRICE	11/30/2007
9505285	PF CHANGS BISTRO	PGRS	4165 PARADISE	LAS VEGAS	89109	YES	PFCBP025		164256	NWILLIAM	1/8/2008
9505285	PF CHANGS BISTRO	PGRS	4165 PARADISE	LAS VEGAS	89109	YES	PFCBP025		209281	NWILLIAM	5/6/2008
9604347	PHOENIX PLAZA #7	PGRS	3650 S JONES BLVD	LAS VEGAS	89103	YES	PPSJB366	BALKAN EXPRESS CAFE STE 2-3	216489	NWILLIAM	5/1/2008
9300525	PIAZZA NAPOLI CENTER I	PGRS	1955 E TROPICANA AVE	LAS VEGAS	89119	YES	PNCETA195	SERGIOS RESTAURANT	164517	JRICE	8/9/2007
9407582	PIAZZA NAPOLI CENTER II	PGRS	2055 E TROPICANA AVE	LAS VEGAS	89119	YES	PNCET205	TOTO'S	164515	JRICE	8/9/2007
9407582	PIAZZA NAPOLI CENTER II	PGRS	2055 E TROPICANA AVE	LAS VEGAS	89119	YES	PNCET206	CUBA CAFE	164516	JRICE	8/9/2007
5903464	PIEROS RESTAURANT	PGRS	355 CONVENTION CENTER DR	LAS VEGAS	89109	YES	PRCCD355	PIEROS RESTAURANT	209087	JRICE	2/19/2008
9805398	PIEROS TRATTORIA	PGRS	325 HUGHES CENTER DR	LAS VEGAS	89109	YES	PTHC0001		207796	JRICE	3/6/2008
0406490	PINE PLAZA	PGRS	6085 S FORT APACHE RD	LAS VEGAS	89113	YES	PPSFA608	WINNERS CIRCLE #100	207738	JRICE	1/17/2008
0406490	PINE PLAZA	PGRS	6085 S FORT APACHE RD	LAS VEGAS	89113	YES	PPSFA612	HOKAIDO SUSHI #150	207742	JRICE	1/17/2008
0406490	PINE PLAZA	PGRS	6085 S FORT APACHE RD	LAS VEGAS	89113	YES	PPSFA611	IGUANAS O RANAS #140	207741	JRICE	1/17/2008
0406490	PINE PLAZA	PGRS	6085 S FORT APACHE RD	LAS VEGAS	89113	YES	PPSFA609	WRAP HOUSE GRILL #180	207739	JRICE	1/18/2008
0406490	PINE PLAZA	PGRS	6085 S FORT APACHE RD	LAS VEGAS	89113	YES	PPSFA610	CHICKEN A GO GO STE #100	207740	JRICE	1/17/2008
8401202	PIONEER HOTEL CLUB & CASINO	PGRS	2200 S CASINO DR	LAUGHLIN	89029	NO	PHLDR220	ALL RESTAURANTS	222389	EHELAL	6/19/2008
	WORKORDER DETAILS:		222389 VIOLATION								
	WORKORDER DETAILS:		222389 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		222389 PUMP INTERCEPTOR								
0205454	PIT STOP II (LVVWD# 706028)	PSND	8120 S MARYLAND PKWY	LAS VEGAS	89123	YES	PSSMP812	CAR WASH	164573	NWILLIAM	7/18/2007
7500927	PIZZA HUT	PGRS	3101 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	PHNB0001		164841	JRICE	7/19/2007
5912105	PIZZA HUT	PGRS	884 N NELLIS BLVD	LAS VEGAS	89110	YES	PHNB0017		165191	JRICE	8/27/2007
7600885	PIZZA HUT	PGRS	4808 S MARYLAND PKWY	LAS VEGAS	89119	YES	PHSMP480		164489	JRICE	8/6/2007
7500927	PIZZA HUT	PGRS	3101 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	PHNB0001	PIZZA HUT	217589	JRICE	5/22/2008

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5903528	PLANET HOLLYWOOD RESORT AND CASINO	PGRS	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	AHLVB001	HOTEL KITCHEN	212299	JRICE	3/26/2008
5903528	PLANET HOLLYWOOD RESORT AND CASINO	PGRS	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	AHLVB003	P.F. CHANG'S REST.	212301	JRICE	3/26/2008
5903528	PLANET HOLLYWOOD RESORT AND CASINO	PSND	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	AHLVB004	S/O UNDERGROUND PARKING	212302	JRICE	3/26/2008
5903528	PLANET HOLLYWOOD RESORT AND CASINO	PGRS	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	PHLVB366	YOLO MEXICAN	218310	JRICE	3/26/2008
5903528	PLANET HOLLYWOOD RESORT AND CASINO	PSND	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	AHLVB005	S/O UNDERGROUND PARKING	212303	JRICE	3/26/2008
5903528	PLANET HOLLYWOOD RESORT AND CASINO	PGRS	3667 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	AHLVB002	HOTEL KITCHEN	212300	JRICE	3/26/2008
7500180	PLATINUM HOTEL & SPA	PSND	211 E FLAMINGO RD	LAS VEGAS	89109	YES	PHSEF211	PLATINUM HOTEL & SPA	209102	JRICE	2/20/2008
7500180	PLATINUM HOTEL & SPA	PGRS	211 E FLAMINGO RD	LAS VEGAS	89109	YES	PHSEF212	PLATINUM HOTEL & SPA	211250	JRICE	3/5/2008
7500180	PLATINUM HOTEL & SPA	PGRS	211 E FLAMINGO RD	LAS VEGAS	89109	YES	PHSEF212	PLATINUM HOTEL & SPA	214054	JRICE	3/25/2008
7500180	PLATINUM HOTEL & SPA	PGRS	211 E FLAMINGO RD	LAS VEGAS	89109	NO	PHSEF212	PLATINUM HOTEL & SPA	209103	JRICE	2/20/2008
	WORKORDER DETAILS:		209103 VIOLATION								
	WORKORDER DETAILS:		209103 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		209103 PUMP INTERCEPTOR								
7301149	PLAY IT AGAIN SAM	PGRS	4120 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	PSSM0014		192382	NWILLIAM	10/10/2007
7301149	PLAY IT AGAIN SAM	PGRS	4120 SPRING MOUNTAIN RD	LAS VEGAS	89146	NO	PSSM0014		163423	NWILLIAM	9/14/2007
	WORKORDER DETAILS:		163423 VIOLATION								
	WORKORDER DETAILS:		163423 SOLIDIFIED GREASE IN OUTLET TEE								
	WORKORDER DETAILS:		163423 PUMP INTERCEPTOR								
8600075	PLAZA DEL RIO	PGRS	6055 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	PDRLM605	MAMA MARIA BAKERY	165311	JRICE	9/17/2007
8600075	PLAZA DEL RIO	PGRS	6055 E LAKE MEAD BLVD	LAS VEGAS	89156	NO	PDRLM605	MAMA MARIA BAKERY	222193	NWILLIAM	6/20/2008
	WORKORDER DETAILS:		222193 VIOLATION								
	WORKORDER DETAILS:		222193 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		222193 PUMP INTERCEPTOR								
8600075	PLAZA DEL RIO	PGRS	6055 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	PDRLM606	CHINA CHOW	165312	JRICE	9/17/2007
8600075	PLAZA DEL RIO	PGRS	6055 E LAKE MEAD BLVD	LAS VEGAS	89156	NO	PDRLM606	CHINA CHOW	222194	NWILLIAM	6/23/2008
	WORKORDER DETAILS:		222194 VIOLATION								
	WORKORDER DETAILS:		222194 MISSING INLET TEE								
	WORKORDER DETAILS:		222194 Replace								
8600075	PLAZA DEL RIO	PGRS	6055 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	PDRLM607	P&S	222195	NWILLIAM	6/23/2008
0506512	POPEYES CHICKEN & BISCUITS	PGRS	4225 S FORT APACHE RD	LAS VEGAS	89147	YES	PCFAS422	POPEYE'S CHICKEN	204479	JRICE	12/20/2007
0601463	POST OP TAVERN	PGRS	9050 W POST RD	LAS VEGAS	89119	YES	POTPR905	POST OP TAVERN	207276	JRICE	2/1/2008
9200937	PRECISION TUNE AUTO CARE	PSND	5275 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	PTALM527		165172	NWILLIAM	7/27/2007
9200937	PRECISION TUNE AUTO CARE	PSND	5275 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	PTALM527		221480	JRICE	6/4/2008
8600408	PRECISION TUNE AUTOCARE	PSND	4350 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	ETSM0025		163415	NWILLIAM	9/12/2007
9304257	PREFERRED OUTLETS AT LAUGHLIN	PGRS	1955 S CASINO DR	LAUGHLIN	89029	YES	HOCOD195	CECILS DELI	222365	EHELAL	6/18/2008
9304257	PREFERRED OUTLETS AT LAUGHLIN	PSND	1955 S CASINO DR	LAUGHLIN	89029	YES	HOCOD199	LOADING DOCK	222369	EHELAL	6/18/2008
9304257	PREFERRED OUTLETS AT LAUGHLIN	PSND	1955 S CASINO DR	LAUGHLIN	89029	YES	HOCOD198	LOADING DOCK	222368	EHELAL	6/18/2008
9304257	PREFERRED OUTLETS AT LAUGHLIN	PGRS	1955 S CASINO DR	LAUGHLIN	89029	YES	HOCOD196	FOOD COURT	222366	EHELAL	6/18/2008
9304257	PREFERRED OUTLETS AT LAUGHLIN	PGRS	1955 S CASINO DR	LAUGHLIN	89029	YES	HOCOD197	TRASH COMPACTOR	222367	EHELAL	6/18/2008
8801799	PREMIER AUTO WASH (#520417)	PSND	4975 E CHARLESTON BLVD	LAS VEGAS	89104	YES	SCWC0014	(520417)	222878	JRICE	6/19/2008
7901016	PRINCESS LIQUIDATORS	PGRS	3455 BOULDER HWY	LAS VEGAS	89121	YES	PLSBH345	KITCHEN	164862	NWILLIAM	7/25/2007
7901016	PRINCESS LIQUIDATORS	PGRS	3455 BOULDER HWY	LAS VEGAS	89121	YES	PLSBH345	KITCHEN	222753	JRICE	6/20/2008
5900708	PRINCETON AUTO SALES	PSND	3105 E SAHARA AVE	LAS VEGAS	89104	YES	PASES310	PRINCETON AUTO SALES	201839	NWILLIAM	12/12/2007
0210184	PROP 1	PGRS	5025 S FORT APACHE RD	LAS VEGAS	89135	YES	RCFAR009	NAGOYA JAPANESE	207705	JRICE	1/16/2008
0210184	PROP 1	PGRS	5025 S FORT APACHE RD	LAS VEGAS	89135	YES	RCFAR010	CHINA GINGER	207706	JRICE	1/16/2008
0005010	PT PUB	PGRS	582 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	PTPSH001	PT PUB	193433	JRICE	10/10/2007
0005010	PT PUB	PGRS	582 E SILVERADO RANCH BLVD	LAS VEGAS	89123	NO	PTPSH001	PT PUB	164364	JRICE	9/24/2007
	WORKORDER DETAILS:		164364 VIOLATION								
	WORKORDER DETAILS:		164364 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164364 PUMP INTERCEPTOR								
0313958	PTS GOLD BAR	PGRS	6610 S FORT APACHE RD	LAS VEGAS	89135	YES	PGBFA661	PTS GOLD BAR	207280	JRICE	1/18/2008
9904226	PTS PUB	PGRS	1383 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	PTESR138		164624	JRICE	7/27/2007

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8500088	PT'S PUB	PGRS	4424 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	PPSM0028		163422	NWILLIAM	9/13/2007
0700189	PT'S PUB	PGRS	6235 S DECATUR BLVD	LAS VEGAS	89118	YES	PTPSD623	PT'S PUB	212257	JRICE	3/27/2008
8904269	PT'S PUB & MINI MART	PGRS	3435 N NELLIS BLVD	LAS VEGAS	89115	YES	PTMN0068		164993	NWILLIAM	7/23/2007
8904269	PT'S PUB & MINI MART	PGRS	3435 N NELLIS BLVD	LAS VEGAS	89115	YES	PTMN0068	PT'S PUB	217662	JRICE	5/28/2008
5912034	PURPLE SAGE PLAZA	PGRS	2162 N LAMB BLVD	LAS VEGAS	89115	YES	PSPLB216	SUITE C-CARNECERIA	217678	NWILLIAM	5/9/2008
5912034	PURPLE SAGE PLAZA	PGRS	2162 N LAMB BLVD	LAS VEGAS	89115	YES	PSPLB217	SUITE H-TEMPLO LA HERMOSA	217679	NWILLIAM	5/9/2008
5912034	PURPLE SAGE PLAZA	PSND	2162 N LAMB BLVD	LAS VEGAS	89115	YES	PSPLB218	EXPRESS AUTO CARE	217680	NWILLIAM	5/9/2008
5912034	PURPLE SAGE PLAZA	PGRS	2162 N LAMB BLVD	LAS VEGAS	89115	YES	PSPLB220	SUITE O-TACOS EL AUSENTE	217682	NWILLIAM	5/9/2008
5912034	PURPLE SAGE PLAZA	PGRS	2162 N LAMB BLVD	LAS VEGAS	89115	YES	PSPLB219	SUITE A-B LAMB BAR/GRILL	217681	NWILLIAM	5/9/2008
9201295	PURRFECT AUTO SERVICE	PSND	180 N NELLIS BLVD	LAS VEGAS	89110	YES	PANB0004		191201	NWILLIAM	10/10/2007
9201295	PURRFECT AUTO SERVICE	PSND	180 N NELLIS BLVD	LAS VEGAS	89110	YES	PANB0004		221524	NWILLIAM	6/13/2008
9201295	PURRFECT AUTO SERVICE	PSND	180 N NELLIS BLVD	LAS VEGAS	89110	NO	PANB0004		165215	NWILLIAM	8/21/2007
	WORKORDER DETAILS:		165215 VIOLATION								
	WORKORDER DETAILS:		165215 MISSING OUTLET TEE								
	WORKORDER DETAILS:		165215 Replace								
9907089	PUTTERS AT CHARLESTON	PGRS	5821 E CHARLESTON BLVD	LAS VEGAS	89122	YES	PCEC0018		222202	JRICE	6/18/2008
9500570	PUTTERS BAR AND GRILL	PGRS	4140 S DURANGO DR	LAS VEGAS	89147	YES	PBSD0021		206051	NWILLIAM	1/29/2008
8801823	QUAIL AIR CENTER	PSND	195 E RENO AVE	LAS VEGAS	89119	YES	QACRA196	HANGAR SERVICE BAY	209123	JRICE	2/22/2008
0401087	QUAIL AIR EXPANSION	PSND	181 E RENO AVE	LAS VEGAS	89119	YES	QACWH182	WYNN HANGAR	209124	JRICE	2/22/2008
8000561	QUALITY AUTO BODY	PSND	5000 JUDSON AVE	LAS VEGAS	89115	YES	USBAJ012	USA SMALL BUSINESS ADMIN	217687	NWILLIAM	5/9/2008
9903590	QUALITY AUTO SERVICE	PSND	4380 N LAMB BLVD	LAS VEGAS	89115	YES	ACSLB045	ARCO AM & PM	225212	JRICE	5/12/2008
7301062	QUICK #2 RADIATORS AND MUFFLER SHOP	PSND	3070 N NELLIS BLVD	LAS VEGAS	89115	YES	QRMN0061		164998	NWILLIAM	7/24/2007
7301062	QUICK #2 RADIATORS AND MUFFLER SHOP	PSND	3070 N NELLIS BLVD	LAS VEGAS	89115	YES	QRMN0061	QUICK RADIATORS & MUFFLER	217667	JRICE	5/30/2008
0414988	R AND L CARRIERS	PSND	4475 E LONE MOUNTAIN RD	LAS VEGAS	89115	YES	RRELM447	BLDG C.....03/08/06	165133	NWILLIAM	7/16/2007
0414988	R AND L CARRIERS	PSND	4475 E LONE MOUNTAIN RD	LAS VEGAS	89115	YES	RRELM447	BLDG C.....03/08/06	217703	JRICE	5/13/2008
0602937	RAINBOW BADURA	PGRS	6985 S RAINBOW BLVD	LAS VEGAS	89118	YES	RBSRB698	PANDA EXPRESS	211940	NWILLIAM	4/3/2008
0602937	RAINBOW BADURA	PGRS	6985 S RAINBOW BLVD	LAS VEGAS	89118	YES	RBSRB699	PUTTERS	211941	NWILLIAM	4/3/2008
0602937	RAINBOW BADURA	PGRS	6985 S RAINBOW BLVD	LAS VEGAS	89118	YES	RBSRB702	CAPRIOTTI'S	211944	NWILLIAM	4/3/2008
0602937	RAINBOW BADURA	PSND	6985 S RAINBOW BLVD	LAS VEGAS	89118	YES	RBSRB701	SINCLAIR CAR WASH	211943	NWILLIAM	4/3/2008
0602937	RAINBOW BADURA	PGRS	6985 S RAINBOW BLVD	LAS VEGAS	89118	YES	RBSRB700	POPEYES	211942	NWILLIAM	4/3/2008
9100350	RAINBOW CAR WASH (NLV #21882-01)	PSND	6315 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	RCWLM631	(21882-01)	222188	JRICE	6/12/2008
0600611	RAINBOW PATRICK OFFICE PARK	PGRS	6181 S RAINBOW BLVD	LAS VEGAS	89118	YES	RPOPW618	TERIYAKI HOUSE/#105	218319	NWILLIAM	4/29/2008
0513697	RAINBOW ROBINDALE PLAZA	PGRS	7775 S RAINBOW BLVD	LAS VEGAS	89119	YES	RRPRB777	OYSHI	212268	JRICE	3/27/2008
0513697	RAINBOW ROBINDALE PLAZA	PGRS	7775 S RAINBOW BLVD	LAS VEGAS	89119	YES	RRPRB778	HURRICANE GRILL	212269	JRICE	3/27/2008
0603346	RAINBOW VILLAGE	PGRS	7320 S RAINBOW BLVD	LAS VEGAS	89128	YES	RVSRB732	BBQ SHAK	213062	JRICE	2/14/2008
0409979	RAINBOW VILLAGE CENTER	PGRS	7835 S RAINBOW BLVD	LAS VEGAS	89119	YES	RVCSR787	NEW DAY CAFE	211939	NWILLIAM	4/3/2008
0106705	RALEYS CROSSROADS #1	PGRS	4955 S FORT APACHE RD	LAS VEGAS	89123	YES	RCCFA495	DOMINOS PIZZA/#108	207702	JRICE	1/16/2008
0106705	RALEYS CROSSROADS #1	PGRS	4955 S FORT APACHE RD	LAS VEGAS	89123	YES	RCCFA496	FOOTHILLS LOUNGE/#109	207703	JRICE	1/16/2008
0106705	RALEYS CROSSROADS #1	PGRS	4955 S FORT APACHE RD	LAS VEGAS	89123	YES	RCCFA497	BON APPETIT STE 1	207704	JRICE	1/16/2008
8900597	RAMADA EXPRESS	PGRS	2121 S CASINO DR	LAUGHLIN	89029	YES	RELCD212	ALL RESTAURANTS	169265	EHELAL	8/9/2007
8900597	RAMADA EXPRESS	PGRS	2121 S CASINO DR	LAUGHLIN	89029	YES	RELCD213	KITCHEN	169266	EHELAL	8/9/2007
8900597	RAMADA EXPRESS	PSND	2121 S CASINO DR	LAUGHLIN	89029	YES	RELCD214	TRAIN MAINT SHOP	169267	EHLEL	8/9/2007
9907203	RAPID CASH	PGRS	4921 W SAHARA AVE	LAS VEGAS	89146	YES	GAWSA032		203480	JRICE	12/7/2007
5912069	RED APPLE MARKET	PGRS	5482 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	RALM0007	RED APPLE MARKET	221468	JRICE	6/3/2008
9907268	RED ROBINS RESTAURANT	PGRS	2575 S DECATUR BLVD	LAS VEGAS	89146	YES	RRRS257		203490	JRICE	12/10/2007
9801957	RED ROCK COUNTRY CLUB - MEMBERSHIP CLUBHOUSE	PGRS	2250 RED SPRINGS DR	LAS VEGAS	89135	YES	RRGRS225	SNACK BAR	203504	JRICE	12/14/2007
9801957	RED ROCK COUNTRY CLUB - MEMBERSHIP CLUBHOUSE	PGRS	2250 RED SPRINGS DR	LAS VEGAS	89135	YES	RRGRS227	RRGC KITCHEN	203506	JRICE	12/14/2007
9801957	RED ROCK COUNTRY CLUB - MEMBERSHIP CLUBHOUSE	PGRS	2250 RED SPRINGS DR	LAS VEGAS	89135	YES	RRGRS226	RRGC KITCHEN	203505	JRICE	12/14/2007
0211390	RED ROCK COUNTRY CLUB - MTN GOLF CART BARN	PSND	2250 RED SPRINGS DR	LAS VEGAS	89135	YES	RRGCB224	CART MAINT BLDG	203503	JRICE	12/14/2007
0401107	RED ROCK STATION CASINO	PGRS	11011 W CHARLESTON BLVD	LAS VEGAS	89135	YES	RRSWC110	LOADING DOCK	201246	NWILLIAM	12/7/2007
0401107	RED ROCK STATION CASINO	PGRS	11011 W CHARLESTON BLVD	LAS VEGAS	89135	YES	RRSWC111	LOADING DOCK	201247	NWILLIAM	12/7/2007

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WORKORDER DETAILS: 217684 PUMP INTERCEPTOR

8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD270		169271	EHELAL	8/9/2007
8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD271	RIVER PALMS HTL & CASINO	222398	EHELAL	6/19/2008
8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD271		169272	EHELAL	8/9/2007
8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD270	RIVER PALMS HTL & CASINO	222397	EHELAL	6/19/2008
8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD272		169273	EHELAL	8/9/2007
8500086	RIVER PALMS HOTEL AND CASINO	PSND	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD275	CARWASH	169274	EHALEL	8/8/2007
8500086	RIVER PALMS HOTEL AND CASINO	PSND	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD275	CARWASH	222400	EHELAL	6/19/2008
8500086	RIVER PALMS HOTEL AND CASINO	PGRS	2700 S CASINO DR	LAUGHLIN	89029	YES	RPLCD272	RIVER PALMS HTL & CASINO	222399	EHELAL	6/19/2008
8401204	RIVERSIDE HOTEL AND CASINO	PSND	1650 S CASINO DR	LAUGHLIN	89029	YES	RHLCD502	CARWASH	222394	EHELAL	6/19/2008
8401204	RIVERSIDE HOTEL AND CASINO	PGRS	1650 S CASINO DR	LAUGHLIN	89029	YES	RHLCD504	SO TOWER SIDEWALK CAFE	169270	EHALEL	8/9/2007
8401204	RIVERSIDE HOTEL AND CASINO	PGRS	1650 S CASINO DR	LAUGHLIN	89029	YES	RHLCD504	SO TOWER SIDEWALK CAFE	222396	EHELAL	6/19/2008
8401204	RIVERSIDE HOTEL AND CASINO	PGRS	1650 S CASINO DR	LAUGHLIN	89029	YES	RHLCD503	MAIN	169269	EHALEL	8/9/2007
8401204	RIVERSIDE HOTEL AND CASINO	PGRS	1650 S CASINO DR	LAUGHLIN	89029	YES	RHLCD503	MAIN	222395	EHELAL	6/19/2008
9908554	RIVERSIDE RV PARK & BANK	PSND	1651 S CASINO DR	LAUGHLIN	89029	YES	RRVCD165	SHOP	222401	EHELAL	6/18/2008
9908554	RIVERSIDE RV PARK & BANK	PGRS	1651 S CASINO DR	LAUGHLIN	89029	YES	RRVCD167	CASA SERRANO	222403	EHELAL	6/18/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC001	FOOD COURT	212392	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC012	HOUND DOGGYS/NICKEL TOWN	212402	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	RHCCC011	ZISTORANE	212401	JRICE	3/26/2008
	WORKORDER DETAILS:		212401 VIOLATION								
	WORKORDER DETAILS:		212401 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		212401 PUMP INTERCEPTOR								
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC011	ZISTORANE	214447	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC010	EMP KITCHEN-INSIDE KITCHE	212400	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC009	RM SVC-INSIDE REC'G AREA	212399	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC008	BANQUET KITCHEN	212398	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC007	PAVILLION KITCHEN	212397	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC006	PAVILLION KITCHEN	212396	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC005	KADYS	212395	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC004	KRISTOFERS	212394	JRICE	3/26/2008
5903472	RIVIERA HOTEL	PGRS	2901 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	RHCCC002	FOOD COURT	212393	JRICE	3/26/2008
5910199	RIVIERA VEGAS MOBILE HME PK	PSND	2038 PALM ST	LAS VEGAS	89104	YES	RVMHP203	RIVIERA VEGAS MHP	164863	NWILLIAM	7/24/2007
5910199	RIVIERA VEGAS MOBILE HME PK	PSND	2038 PALM ST	LAS VEGAS	89104	YES	RVMHP203	RIVIERA VEGAS MHP	222754	JRICE	6/20/2008
9908834	ROAD RUNNER BAR AND GRILL	PGRS	2430 E PEBBLE RD	LAS VEGAS	89118	YES	RRBGP243		164814	JRICE	9/27/2007
9400649	ROADRUNNER SALOON	PGRS	6910 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	RSLM0018		222231	JRICE	6/12/2008
0203010	ROBERTO'S TACO	PGRS	10430 BERMUDA RD	LAS VEGAS	89123	NO	RTSBR430	ROBERTO'S TACO	224918	EDHELAL	6/23/2008
	WORKORDER DETAILS:		224918 VIOLATION								
9709535	ROUNDER'S RESTAURANT	PGRS	4455 S BUFFALO DR	LAS VEGAS	89147	YES	RRSBD014		206052	NWILLIAM	1/23/2008
8800004	RUNNING REBEL PLAZA	PGRS	4550 S MARYLAND PKWY	LAS VEGAS	89109	YES	RRPMP453	SUITE 23 N AND N ORIENTAL	164496	JRICE	8/7/2007
8800004	RUNNING REBEL PLAZA	PGRS	4550 S MARYLAND PKWY	LAS VEGAS	89109	YES	RRPMP455	SUITE D - EL PATIO MEX	164498	JRICE	8/7/2007
8800004	RUNNING REBEL PLAZA	PGRS	4550 S MARYLAND PKWY	LAS VEGAS	89109	YES	RRPMP456	CHIPOTLE - 4530 MARYLAND	164499	JRICE	8/7/2007
8800004	RUNNING REBEL PLAZA	PGRS	4550 S MARYLAND PKWY	LAS VEGAS	89109	YES	RRPMP454	SUITE 9-10 CAFE MITZ	164497	JRICE	8/7/2007
9601663	S & K MINI MART	PGRS	1625 N LAMB BLVD	LAS VEGAS	89115	YES	MMNLB025		164853	JRICE	7/13/2007
9601663	S & K MINI MART	PSND	1625 N LAMB BLVD	LAS VEGAS	89115	YES	MMNLB026		218591	NWILLIAM	6/20/2008
9601663	S & K MINI MART	PSND	1625 N LAMB BLVD	LAS VEGAS	89115	NO	MMNLB026		217608	NWILLIAM	5/13/2008
	WORKORDER DETAILS:		217608 VIOLATION								
	WORKORDER DETAILS:		217608 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		217608 PUMP INTERCEPTOR								
9601663	S & K MINI MART	PGRS	1625 N LAMB BLVD	LAS VEGAS	89115	YES	MMNLB025		217607	NWILLIAM	5/13/2008
9601663	S & K MINI MART	PSND	1625 N LAMB BLVD	LAS VEGAS	89115	YES	MMNLB026		164854	JRICE	7/13/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA954	KOREA HOUSE	200510	NWILLIAM	11/15/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA959	LOTUS	200515	NWILLIAM	11/15/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA958	JONG GI	209144	JRICE	5/8/2008
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA958	JONG GI	200514	NWILLIAM	11/15/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA957	PENG CHINESE STE A18	209143	JRICE	5/8/2008
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA957	PENG CHINESE STE A18	200513	NWILLIAM	11/15/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA956	CUE CLUB	200512	NWILLIAM	11/15/2007

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5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA955	EL SINALOENSE	209141	JRICE	5/8/2008
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA955	EL SINALOENSE	200511	NWILLIAM	11/15/2007
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA954	KOREA HOUSE	209140	JRICE	5/8/2008
5910164	SAHARA 250 RENO L L C ETAL	PGRS	953 E SAHARA AVE	LAS VEGAS	89104	YES	CCESA959	LOTUS	209145	JRICE	5/8/2008
5910173	SAHARA AVENUE SALOON	PGRS	3345 E SAHARA AVE	LAS VEGAS	89104	YES	SASES023	SAHARA AVENUE SALOON	201862	NWILLIAM	12/5/2007
9703106	SAHARA CONDO SOUTHWEST LLC	PSND	1314 N NELLIS BLVD	LAS VEGAS	89110	YES	NACN0028	SUITE 1	165176	NWILLIAM	8/28/2007
9703106	SAHARA CONDO SOUTHWEST LLC	PSND	1314 N NELLIS BLVD	LAS VEGAS	89110	YES	NACN0029	SUITE 3	221485	NWILLIAM	6/5/2008
9703106	SAHARA CONDO SOUTHWEST LLC	PSND	1314 N NELLIS BLVD	LAS VEGAS	89110	YES	NACN0029	SUITE 3	165177	NWILLIAM	8/28/2007
9703106	SAHARA CONDO SOUTHWEST LLC	PSND	1314 N NELLIS BLVD	LAS VEGAS	89110	YES	NACN0028	SUITE 1	221484	NWILLIAM	6/5/2008
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	YES	SDBPS260	GOTO BULALO BAKERY	203491	JRICE	12/10/2007
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	YES	SDBPS263	JOE'S PIZZA	203494	JRICE	12/10/2007
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	YES	SDBPS262	ALOHA KITCHEN	203493	JRICE	12/10/2007
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	YES	SDBPS261	HASH HOUSE	204042	JRICE	12/21/2007
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	NO	SDBPS261	HASH HOUSE	203492	JRICE	12/10/2007
	WORKORDER DETAILS:		203492 VIOLATION								
	WORKORDER DETAILS:		203492 MISSING INLET TEE								
	WORKORDER DETAILS:		203492 Replace								
8902005	SAHARA DECATUR PLAZA	PGRS	2605 S DECATUR BLVD	LAS VEGAS	89146	YES	SDBPS261	HASH HOUSE	205064	JRICE	12/21/2007
9100113	SAHARA EASTERN RETAIL CENTER	PGRS	2425 E SAHARA AVE	LAS VEGAS	89109	YES	SRCES010	SUITES 3-4	201843	NWILLIAM	12/17/2007
9100113	SAHARA EASTERN RETAIL CENTER	PGRS	2425 E SAHARA AVE	LAS VEGAS	89109	YES	SRCES011	SUITE 2	201844	NWILLIAM	12/18/2007
5903466	SAHARA HOTEL AND CASINO	PGRS	2535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SHCLV253	NASCAR CAFE	212403	JRICE	3/13/2008
5903466	SAHARA HOTEL AND CASINO	PGRS	2535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SHCLV254	COFFEE SHOP & BUFFET	212404	NWILLIAM	3/6/2008
5903466	SAHARA HOTEL AND CASINO	PGRS	2535 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SHCLV255	STEAKHOUSE-IN PARK GAR	212405	JRICE	3/13/2008
8700012	SAHARA LAMB SHOPPING CENTER	PGRS	4225 E SAHARA AVE	LAS VEGAS	89104	YES	SLCSAZ05	STE 4225-17-LOOSE CABOOSE	203457	NWILLIAM	12/28/2007
8900372	SAHARA RAINBOW CENTER	PGRS	2550 S RAINBOW BLVD	LAS VEGAS	89146	YES	SSBRC255	OPA SUITE W2	203500	JRICE	12/7/2007
8900372	SAHARA RAINBOW CENTER	PGRS	2550 S RAINBOW BLVD	LAS VEGAS	89146	YES	SSBRC256	HO HO HO - SUITE W5-W4	203501	JRICE	12/7/2007
9901729	SAHARA SQUARE SHOPS	PSND	2585 S MARYLAND PKWY	LAS VEGAS	89109	YES	SSSMP258	SAM ASHE	164114	JRICE	8/21/2007
9901729	SAHARA SQUARE SHOPS	PSND	2585 S MARYLAND PKWY	LAS VEGAS	89109	YES	SSSMP258	SAM ASHE	209169	NWILLIAM	4/17/2008
9901729	SAHARA SQUARE SHOPS	PGRS	2585 S MARYLAND PKWY	LAS VEGAS	89109	YES	SSSMP259	DOMINOS PIZZA	209170	JRICE	5/5/2008
9901729	SAHARA SQUARE SHOPS	PGRS	2585 S MARYLAND PKWY	LAS VEGAS	89109	YES	SSSMP259	DOMINO'S PIZZA	164115	JRICE	8/21/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP261	WAKO	201879	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP264	STE 18/19 I TOY	201882	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP266	CHINA STAR	201884	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP268	ELI WOODS/ISLAND GRILL	201886	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP267	EL CHONCHO	201885	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP265	JACK IN THE BOX	201883	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP263	PLAZA CAFE	201881	JRICE	12/6/2007
0208712	SAHARA TOWNE SQUARE L L C	PGRS	2650 S MARYLAND PKWY	LAS VEGAS	89109	YES	STSMP262	O.J. BIBINGKAHAN	201880	JRICE	12/6/2007
7201266	SAM ASH L L C	PGRS	2747 S MARYLAND PKWY	LAS VEGAS	89109	YES	SASMP274	ACTIVE FIXTURE	164109	JRICE	8/21/2007
7201266	SAM ASH L L C	PGRS	2747 S MARYLAND PKWY	LAS VEGAS	89109	YES	SASMP274	ACTIVE FIXTURE	209153	JRICE	4/24/2008
7201266	SAM ASH L L C	PGRS	2747 S MARYLAND PKWY	LAS VEGAS	89109	YES	SASMP274	ACTIVE FIXTURE	200523	JRICE	11/16/2007
9902654	SAMS CLUB #18-6261	PGRS	1910 E SERENE AVE	LAS VEGAS	89117	YES	SCES0004	SAM'S CLUB CAFE	164598	JRICE	7/30/2007
9902654	SAMS CLUB #18-6261	PSND	1910 E SERENE AVE	LAS VEGAS	89117	YES	SCES0006	SAM'S CLUB AUTO REPAIR	164600	JRICE	7/30/2007
9902654	SAMS CLUB #18-6261	PGRS	1910 E SERENE AVE	LAS VEGAS	89117	YES	SCES0005	SAM'S CLUB DELI	164599	JRICE	7/30/2007
0503968	SANDHILL & POST BUSINESS PARK	PGRS	3695 E POST RD	LAS VEGAS	89128	YES	SPBPP369	MR WOK FOODS	222861	JRICE	6/26/2008
5903936	SAPPHIRE GENTLEMEN'S CLUB	PGRS	3025 INDUSTRIAL RD	LAS VEGAS	89109	YES	SGCIR302	CLUB CAFE	209089	JRICE	2/13/2008
8201101	SAV MOR RENT A CAR	PSND	5101 RENT A CAR RD	LAS VEGAS	89119	YES	SRAC0001		164307	NWILLIAM	10/3/2007
7901000	SCHIFF INDUSTRIAL MALL	PSND	2912 S HIGHLAND DR	LAS VEGAS	89109	YES	SIMHD292	SUITE H-OSCAR AUTO REPAIR	209090	JRICE	2/13/2008
0303696	SEARS GRAND	PSND	4355 S GRAND CANYON DR	LAS VEGAS	89147	YES	SSGCD435	AUTO CENTER	204484	JRICE	12/19/2007
0206817	SENIOR RECREATION CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	ASESA953	SENIOR RECREATION CENTER	164094	NWILLIAM	8/20/2007
0206817	SENIOR RECREATION CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	ASESA953	SENIOR RECREATION CENTER	200508	JRICE	11/19/2007
0206817	SENIOR RECREATION CENTER	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	ASESA953	SENIOR RECREATION CENTER	209138	NWILLIAM	4/17/2008
0310768	SHOOTERS BAR AND GRILL	PGRS	4465 E SAHARA AVE	LAS VEGAS	89104	YES	ESTSA446	SHOOTERS BAR AND GRILL	203454	NWILLIAM	12/29/2007
0001654	SHORTLINE EXPRESS(667587 LVVWD)	PGRS	7095 S DURANGO DR	LAS VEGAS	89148	YES	SLESD031	C-STORE	207283	JRICE	2/4/2008
9501555	SHOWCASE MALL	PGRS	3785 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	SMLVB378	SEGA GAMEWORKS	212406	JRICE	3/17/2008
9501555	SHOWCASE MALL	PGRS	3785 S LAS VEGAS BLVD	LAS VEGAS	89119	YES	SMLVB379	FOOD COURT	212407	JRICE	3/17/2008

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0001280	SHUCK'S TAVERN	PGRS	2090 E SERENE AVE	LAS VEGAS	89123	YES	STES0007	SHUCK'S TAVERN	164606	JRICE	7/31/2007
0504552	SIENA AUTO SPA	PSND	9780 W TROPICANA AVE	LAS VEGAS	89147	YES	SASWS552	SIENA AUTO SPA	204499	JRICE	12/17/2007
0210689	SIENA COMMUNITY CENTER	PGRS	10525 SIENA MONTE AVE	LAS VEGAS	89135	YES	SCCSM105	KITCHEN	205996	JRICE	1/7/2008
0210688	SIENA GOLF CLUB MAINTENANCE FACILITY	PSND	4285 S HUALAPAI WY	LAS VEGAS	89135	YES	SGCFH428	CART SERVICE BAY	205978	JRICE	1/7/2008
0210688	SIENA GOLF CLUB MAINTENANCE FACILITY	PSND	4285 S HUALAPAI WY	LAS VEGAS	89135	YES	SGCFH428	CART SERVICE BAY	205979	JRICE	1/7/2008
9904440	SIENA GOLF CLUBHOUSE	PSND	10575 SIENA MONTE AVE	LAS VEGAS	89135	YES	SGCSM029	CART BARN	205995	JRICE	1/7/2008
9904440	SIENA GOLF CLUBHOUSE	PSND	10575 SIENA MONTE AVE	LAS VEGAS	89135	YES	SGCSM029	CART BARN	205997	JRICE	1/7/2008
0405211	SIENA TOWN CENTER	PGRS	10180 W TROPICANA AVE	LAS VEGAS	89135	YES	CAGWT102	CAGWT102	204497	JRICE	12/19/2007
0405210	SIENA TOWN CENTER	PGRS	10170 W TROPICANA AVE	LAS VEGAS	89135	YES	STCWT101	BOUNTY HUNTER	204501	JRICE	12/18/2007
0605571	SIERRA BUSINESS CENTER	PGRS	4310 E CRAIG RD	LAS VEGAS	89119	YES	SBCCR431	TACO BELL	218595	JRICE	5/13/2008
0603343	SIERRA BUSINESS CENTER	PGRS	4348 E CRAIG RD	LAS VEGAS	89115	NO	SBCCR434	STE 140-CARMENS MERCADO	218597	NWILLIAM	5/28/2008
	WORKORDER DETAILS:		218597 VIOLATION								
	WORKORDER DETAILS:		218597 STOPPAGE								
	WORKORDER DETAILS:		218597 Inspect								
0603343	SIERRA BUSINESS CENTER	PGRS	4348 E CRAIG RD	LAS VEGAS	89115	YES	SBCCR434	STE 140-CARMENS MERCADO	221322	NWILLIAM	6/9/2008
9906883	SIERRA VISTA H S #564	PGRS	8100 S ROBINDALE RD	LAS VEGAS	89113	YES	SVHSR810	SIERRA VISTA H S #564	211947	JRICE	2/9/2008
9906883	SIERRA VISTA H S #564	PSND	8100 S ROBINDALE RD	LAS VEGAS	89113	YES	SVHSR811	SIERRA VISTA H S #564	211948	JRICE	2/9/2008
8000068	SIGNATURE FLIGHT SUPPORT	PSND	6005 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SFSLV601	E HANGAR	209132	JRICE	2/26/2008
8000068	SIGNATURE FLIGHT SUPPORT	PSND	6005 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SFSLV604	C HANGAR	209135	JRICE	2/26/2008
8000068	SIGNATURE FLIGHT SUPPORT	PSND	6005 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SFSLV605	HARRAH'S	209136	JRICE	2/26/2008
8000068	SIGNATURE FLIGHT SUPPORT	PSND	6005 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SFSLV603	C HANGAR	209134	JRICE	2/26/2008
8000068	SIGNATURE FLIGHT SUPPORT	PSND	6005 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SFSLV602	E HANGAR	209133	JRICE	2/26/2008
0312576	SILVER CITY PLAZA	PGRS	3001 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SCPLV300	DENNYS RESTAURANT	209092	JRICE	2/14/2008
9403366	SILVERADO HIGH SCHOOL (940)	PSND	1650 SILVER HAWK AVE	LAS VEGAS	89123	YES	SHSSH165	AUTO SHOP	164601	JRICE	7/26/2007
9403366	SILVERADO HIGH SCHOOL (940)	PSND	1650 SILVER HAWK AVE	LAS VEGAS	89123	YES	SHSSH167	MAINT SHOP	164603	JRICE	7/26/2007
9403366	SILVERADO HIGH SCHOOL (940)	PGRS	1650 SILVER HAWK AVE	LAS VEGAS	89123	YES	SHSSH166	SCHOOL KITCHEN	164602	JRICE	7/26/2007
0002551	SILVERADO MARKET PLACE	PGRS	9850 S MARYLAND PKWY	LAS VEGAS	89123	YES	SMSMP985	VACANT	164625	JRICE	8/1/2007
0002551	SILVERADO MARKET PLACE	PGRS	9850 S MARYLAND PKWY	LAS VEGAS	89123	YES	SMSMP986	THAI HOUSE	164626	JRICE	8/1/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0001	PURRFECT AUTO, #101	164365	JRICE	9/24/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0006	T&M AUTOMOTIVE, #104	164370	JRICE	9/24/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0005	T&M AUTOMOTIVE, #104	164369	JRICE	9/24/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0004	NEWBY'S AUTOMOTIVE, #101	164368	JRICE	9/24/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0003	PROFESSIONAL BRAKES, #104	164367	JRICE	9/24/2007
0007494	SILVERADO RANCH AUTO PLAZA	PSND	544 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRAP0002	HUSKAR AUTOMOTUVE, #102	164366	JRICE	9/24/2007
0204726	SILVERADO RANCH CENTER	PGRS	1263 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	SRC00001	PANDA EXPRESS	164627	JRICE	7/27/2007
0007864	SILVERADO RANCH CENTER	PGRS	9770 S MARYLAND PKWY	LAS VEGAS	89123	YES	SRCSM977	SUITE 3 - SUSHI MON	164628	JRICE	8/2/2007
0412657	SILVERADO RANCH CENTERE II	PGRS	9845 S MARYLAND PKWY	LAS VEGAS	89119	YES	SRCMP984	SUITE D	196249	JRICE	10/25/2007
0412657	SILVERADO RANCH CENTERE II	PGRS	9845 S MARYLAND PKWY	LAS VEGAS	89119	NO	SRCMP985	SUITE C	164379	NWILLIAM	10/29/2007
	WORKORDER DETAILS:		164379 VIOLATION								
	WORKORDER DETAILS:		164379 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164379 PUMP INTERCEPTOR								
0412657	SILVERADO RANCH CENTERE II	PGRS	9845 S MARYLAND PKWY	LAS VEGAS	89119	NO	SRCMP984	SUITE D	164378	NWILLIAM	10/29/2007
	WORKORDER DETAILS:		164378 VIOLATION								
	WORKORDER DETAILS:		164378 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164378 PUMP INTERCEPTOR								
0304296	SILVERADO RANCH PLAZA (BLDG D)	PGRS	9890 S MARYLAND PKWY	LAS VEGAS	89123	YES	SRPMP989	SUITE 19 LAS PALMAS	164629	JRICE	8/15/2007
0513111	SILVERADO RANCH PLAZA	PGRS	467 E SILVERADO RANCH BLVD	LAS VEGAS	89119	YES	SRPSR467	STE 100 RETAPES LOUNGE	216442	NWILLIAM	4/29/2008
9907689	SILVERADO RANCH PLAZA	PGRS	9821 S EASTERN AVE	LAS VEGAS	89123	NO	SRSSSE982	SUITE A MAMA FRESCOS	164631	JRICE	8/15/2007
	WORKORDER DETAILS:		164631 VIOLATION								
	WORKORDER DETAILS:		164631 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164631 PUMP INTERCEPTOR								
9907689	SILVERADO RANCH PLAZA	PGRS	9821 S EASTERN AVE	LAS VEGAS	89123	YES	SRSSSE982	SUITE A MAMA FRESCOS	191205	JRICE	10/10/2007
0513111	SILVERADO RANCH PLAZA	PGRS	467 E SILVERADO RANCH BLVD	LAS VEGAS	89119	YES	SRPSR469	STE 165 FOX'S PIZZA	216488	NWILLIAM	4/29/2008
0513111	SILVERADO RANCH PLAZA	PGRS	467 E SILVERADO RANCH BLVD	LAS VEGAS	89119	YES	SRPSR468	MI MAMA'S SALADS STE 125	216487	NWILLIAM	4/29/2008

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9902128	SILVERADO RANCH STATION	PGRS	9701 S EASTERN AVE	LAS VEGAS	89123	YES	SRSEA970	COMMON G/T SUITE 7 & 6	164630	JRICE	8/16/2007
9902938	SIVERADO RANCH CENTRE	PGRS	9715 S MARYLAND PKWY	LAS VEGAS	89123	YES	SRCMP971	ALBERTSONS DELI	164376	NWILLIAM	10/29/2007
9902938	SIVERADO RANCH CENTRE	PSND	9715 S MARYLAND PKWY	LAS VEGAS	89123	YES	SRCMP972		164377	NWILLIAM	10/29/2007
0412469	SKY LAS VEGAS	PGRS	2700 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SLVLV270		215769	NWILLIAM	4/18/2008
0412469	SKY LAS VEGAS	PSND	2700 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SLVLV271		215770	NWILLIAM	4/18/2008
0412469	SKY LAS VEGAS	PSND	2700 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SLVLV272		215771	NWILLIAM	4/18/2008
9907281	SLOAN SELF SERV CARWASH(644214 LVVWD)	PSND	5790 E CHARLESTON BLVD	LAS VEGAS	89142	YES	SCEC0016		165219	JRICE	7/25/2007
9907281	SLOAN SELF SERV CARWASH(644214 LVVWD)	PSND	5790 E CHARLESTON BLVD	LAS VEGAS	89142	YES	SCEC0016		221528	NWILLIAM	6/16/2008
7401688	SLOTS A FUN	PGRS	2890 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SAFLV289	SLOTS A FUN	212564	NWILLIAM	3/13/2008
5903486	SMITH AND WOLLENSKY RESTAURANT	PGRS	3767 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	SWRLV376	SMTIH & WOLLENSKY REST	212408	JRICE	3/12/2008
0404250	SMITHS FOOD AND DRUG	PGRS	10100 W TROPICANA AVE	LAS VEGAS	89147	YES	SFDWT101	DELI	204500	JRICE	12/18/2007
9804500	SMITH'S FOOD AND DRUG	PGRS	4015 S BUFFALO DR	LAS VEGAS	89147	YES	SFDSB004		206036	NWILLIAM	1/14/2008
9305192	SMITH'S FOOD AND DRUG	PGRS	8150 S EASTERN AVE	LAS VEGAS	89123	YES	SFDSE815	BUTCHER SHOP	164804	JRICE	11/5/2007
9305192	SMITH'S FOOD AND DRUG	PGRS	8150 S EASTERN AVE	LAS VEGAS	89123	YES	SFDSE816	DELI	164805	JRICE	11/5/2007
9704973	SMITHS FOOD AND DRUG CENTER INC	PGRS	2385 E WINDMILL LN	LAS VEGAS	89123	YES	SFDEW014		164575	NWILLIAM	7/30/2007
7702916	SMOG BUSTERS	PGRS	3272 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	SBNLV327	ACTIVE PGRS	164843	JRICE	7/19/2007
7702916	SMOG BUSTERS	PGRS	3272 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	SBNLV327	SMOG BUSTERS	217591	JRICE	5/21/2008
9605751	SNACKERS CONVENIENCE(27114 LVVWD)	PGRS	3315 S VALLEY VIEW BLVD	LAS VEGAS	89102	YES	SCVV0009	C-STORE	163431	JRICE	8/31/2007
0008970	SNACKERS II (681989 LVVDW)	PSND	9430 PEACE WY	LAS VEGAS	89147	YES	SZPWY001	SNACKERS II	204485	JRICE	12/19/2007
8501266	SNAPPY CAR WASH	PSND	2225 N NELLIS BLVD	LAS VEGAS	89115	YES	SCWN0048	SNAPPY CAR WASH	217685	JRICE	5/30/2008
9804427	SONIC BURGER	PGRS	5725 E CHARLESTON BLVD	LAS VEGAS	89122	YES	SBEC0015		221533	NWILLIAM	6/16/2008
0605016	SONIC DRIVE-IN	PGRS	7245 S DURANGO DR	LAS VEGAS	89148	JACK	SDSDR724	SONIC DRIVE-IN	211945	JRICE	2/5/2008
0605016	SONICE DRIVE-IN	PGRS	7245 S DURANGO DR	LAS VEGAS	89148	JACK	SDSDR724	SONIC DRIVE-IN	215456	NWILLIAM	4/9/2008
0604788	SOUTHERN HILLS HOSPITAL	PGRS	9300 W SUNSET RD	LAS VEGAS	89148	YES	SHHWS930	KITCHEN	207277	NWILLIAM	2/5/2008
0604788	SOUTHERN HILLS HOSPITAL	PSND	9300 W SUNSET RD	LAS VEGAS	89148	YES	SHHWS931	LOADING DOCK	207278	NWILLIAM	2/5/2008
9805893	SPANISH COURT PLAZA L L C	PGRS	4375 S BUFFALO DR	LAS VEGAS	89117	YES	SCPSB013	CRYSTAL STEAKHOUSE	208913	NWILLIAM	1/6/2008
9805893	SPANISH COURT PLAZA L L C	PGRS	4375 S BUFFALO DR	LAS VEGAS	89117	NO	SCPSB013	CRYSTAL STEAKHOUSE	206053	NWILLIAM	1/23/2008
	WORKORDER DETAILS:		206053 VIOLATION								
	WORKORDER DETAILS:		206053 MISSING INLET TEE								
	WORKORDER DETAILS:		206053 Replace								
0507816	SPANISH TRAIL BUSINESS PARK	PGRS	4950 S RAINBOW BLVD	LAS VEGAS	89118	YES	STPRB495	STE 103/GOURMET PIZZA	212258	JRICE	3/31/2008
9804279	SPARKLES CAR WASH (LVVWD #648382)	PSND	3935 S BUFFALO DR	LAS VEGAS	89147	YES	SCWSB001		206035	NWILLIAM	1/14/2008
5910171	SPEEDEE MART (025230 LVVWD)	PSND	569 E SAHARA AVE	LAS VEGAS	89104	YES	SMESA569	CAR WASH	164113	JRICE	8/20/2007
5910171	SPEEDEE MART (025230 LVVWD)	PSND	569 E SAHARA AVE	LAS VEGAS	89104	YES	SMESA569	CAR WASH	209157	NWILLIAM	4/17/2008
5910171	SPEEDEE MART (025230 LVVWD)	PSND	569 E SAHARA AVE	LAS VEGAS	89104	YES	SMESA569	CAR WASH	200527	JRICE	11/15/2007
9701465	SPEEDWAY INDUSTRIAL PARK	PGRS	6755 SPEEDWAY BLVD	LAS VEGAS	89115	NO	SCCSB677	6825 SPEEDWAY BLDG B	216457	EHELAL	3/7/2008
	WORKORDER DETAILS:		216457 VIOLATION								
0410992	SPENCER CROSSINGS	PGRS	10475 SPENCER ST	LAS VEGAS	89135	YES	FITEC178	FIRESIDE INN TAVERN	164634	JRICE	7/21/2007
9201583	SPENCER SPRINGS CENTER LTD	PGRS	1725 E WARM SPRINGS RD	LAS VEGAS	89123	YES	WSSCE172	EL HERRADERO STE #5	164563	NWILLIAM	7/26/2007
9201583	SPENCER SPRINGS CENTER LTD	PGRS	1725 E WARM SPRINGS RD	LAS VEGAS	89123	YES	WSSCE173	SUPER DELI STE #8	164564	NWILLIAM	7/26/2007
9201583	SPENCER SPRINGS CENTER LTD	PGRS	1725 E WARM SPRINGS RD	LAS VEGAS	89123	YES	WSSCE175	CHRIS' PLACE STE 18	164566	NWILLIAM	7/26/2007
9201583	SPENCER SPRINGS CENTER LTD	PGRS	1725 E WARM SPRINGS RD	LAS VEGAS	89123	YES	WSSCE174	PIZZA MY DEAR STE 9	164565	NWILLIAM	7/26/2007
7001573	SPOTLIGHT LOUNGE	PGRS	975 E SAHARA AVE	LAS VEGAS	89104	YES	SLESA975		164112	JRICE	8/16/2007
7001573	SPOTLIGHT LOUNGE	PGRS	975 E SAHARA AVE	LAS VEGAS	89104	YES	SLESA975	SPOTLIGHT LOUNGE	200526	JRICE	11/16/2007
7001573	SPOTLIGHT LOUNGE	PGRS	975 E SAHARA AVE	LAS VEGAS	89104	YES	SLESA975	SPOTLIGHT LOUNGE	209156	JRICE	5/6/2008
9707783	SPRING MOUNTAIN DURANGO PLAZA	PGRS	3455 S DURANGO DR	LAS VEGAS	89117	YES	SMDPS345	ONE STOP	207216	JRICE	2/7/2008
9707783	SPRING MOUNTAIN DURANGO PLAZA	PGRS	3455 S DURANGO DR	LAS VEGAS	89117	YES	SMDPS346	ROBERTO'S	207217	JRICE	2/7/2008
5900762	SPRING MOUNTAIN PLAZA	PGRS	4550 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	SMPR0030	SUITE 4556-DEALERS LOUNGE	163432	JRICE	8/29/2007
5900762	SPRING MOUNTAIN PLAZA	PGRS	4550 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	SMPR0031	SUITE 4590-EL STEAK BUR	163433	JRICE	8/29/2007
5900762	SPRING MOUNTAIN PLAZA	PGRS	4550 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	SMPR0032	SUITE 5002-RONALDS DONUTS	163434	JRICE	8/29/2007

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8802363	SPRING MOUNTAIN WYNN INVESTMENTS	PGRS	3900 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	AMSM0013	SCHLOTSKY'S	191184	NWILLIAM	10/10/2007
7301759	SPRING MTN WYNN INVEST L L C	PSND	3445 S VALLEY VIEW BLVD	LAS VEGAS	89102	YES	WIVV0010	SERVICE BAY	163446	NWILLIAM	9/4/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0037	LIGHTHOUSE	163425	NWILLIAM	9/14/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0039	EMERGENCY ROOM	191185	NWILLIAM	9/6/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0038	CARL'S JR 4815 SPRING MTN	163426	NWILLIAM	9/14/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	NO	SCSM0039	EMERGENCY ROOM	163427	NWILLIAM	8/30/2007
	WORKORDER DETAILS:		163427 VIOLATION								
	WORKORDER DETAILS:		163427 NO BAFFLE WALL								
	WORKORDER DETAILS:		163427 NEW INSTALL								
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0041	ALBERTSONS	163429	NWILLIAM	8/30/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0042	PHO SOI 4745 SPRNG MT #A	163430	NWILLIAM	8/30/2007
8301750	SPRING OAKS RETAIL CENTER	PGRS	4755 SPRING MOUNTAIN RD	LAS VEGAS	89102	YES	SCSM0040	ALBERTSONS 4801 SPRING MT	163428	NWILLIAM	8/30/2007
9907064	SPRING OAKS RETAIL CENTER L P	PGRS	4725 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	SOSM0035	CON TAM	163435	JRICE	9/6/2007
9907064	SPRING OAKS RETAIL CENTER L P	PGRS	4725 SPRING MOUNTAIN RD	LAS VEGAS	89146	YES	SOSM0036	PHO SOI	163436	JRICE	9/6/2007
8801749	ST TROPEZ HOTEL	PGRS	455 E HARMON AVE	LAS VEGAS	89109	YES	STHEH045	KITCHEN	209299	JRICE	4/14/2008
8801749	ST TROPEZ HOTEL	PGRS	455 E HARMON AVE	LAS VEGAS	89109	NO	STHEH045	KITCHEN	164274	NWILLIAM	10/2/2007
	WORKORDER DETAILS:		164274 VIOLATION								
	WORKORDER DETAILS:		164274 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164274 PUMP INTERCEPTOR								
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR033	PHO NOG	164275	NWILLIAM	10/2/2007
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR033	PHO NOG	209300	JRICE	4/14/2008
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	NO	STPPR034	SUSHI YAKAHOMA	164276	NWILLIAM	10/2/2007
	WORKORDER DETAILS:		164276 VIOLATION								
	WORKORDER DETAILS:		164276 MISSING INLET TEE								
	WORKORDER DETAILS:		164276 Replace								
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR034	SUSHI YAKAHOMA	209301	JRICE	4/14/2008
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR034	SUSHI YAKAHOMA	193936	NWILLIAM	10/2/2007
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR035	HAMBURGER MARYS	209302	JRICE	4/14/2008
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR036	MARKET	209303	JRICE	4/14/2008
0207810	ST TROPEZ PLAZA	PGRS	4501 PARADISE RD	LAS VEGAS	89109	YES	STPPR035	HAMBURGER MARYS	164277	NWILLIAM	10/2/2007
9100091	STALLION MOUNTAIN COUNTRY CLUB	PGRS	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF550	SMG CAFE	222212	NWILLIAM	6/30/2008
9100091	STALLION MOUNTAIN COUNTRY CLUB	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF552	MAINT SHOP EAST	222214	NWILLIAM	6/30/2008
9100091	STALLION MOUNTAIN COUNTRY CLUB	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF553	MAINT SHOP WEST	222215	NWILLIAM	6/30/2008
9100091	STALLION MOUNTAIN COUNTRY CLUB	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF551	CART BARN	222213	NWILLIAM	6/30/2008
9100091	STALLION MOUNTAIN GOLF	PGRS	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF550	SMG CAFE	165337	JRICE	7/2/2007
9100091	STALLION MOUNTAIN GOLF	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF551	CART BARN	165338	JRICE	7/2/2007
9100091	STALLION MOUNTAIN GOLF	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF553	MAINT SHOP WEST	165340	JRICE	7/2/2007
9100091	STALLION MOUNTAIN GOLF	PSND	5500 E FLAMINGO RD	LAS VEGAS	89122	YES	SMGEF552	MAINT SHOP EAST	165339	JRICE	7/2/2007
6900249	STANLEY PLAZA L L C	PGRS	1745 N NELLIS BLVD	LAS VEGAS	89115	YES	SPSA0001	SUITES A-C	217697	JRICE	5/29/2008
6900249	STANLEY PLAZA L L C	PGRS	1745 N NELLIS BLVD	LAS VEGAS	89115	YES	SPSA0002	STANLEY PLAZA	217698	JRICE	5/29/2008
7100289	STARBOARD TACK	PGRS	2601 ATLANTIC ST	LAS VEGAS	89121	YES	SBTAS030	STARBOARD TACK	201842	JRICE	11/30/2007
0511062	STETSON RANCH PLAZA L L C	PGRS	5752 S FORT APACHE RD	LAS VEGAS	89135	YES	SRPFA575	STETSON RANCH RETAIL PLAZ	211950	JRICE	1/17/2008
5912091	STRAIGHT FROM PHILLY (VACANT)	PGRS	868 N NELLIS BLVD	LAS VEGAS	89110	YES	SPNB0016		165192	NWILLIAM	8/27/2007
5912091	STRAIGHT FROM PHILLY (VACANT)	PGRS	868 N NELLIS BLVD	LAS VEGAS	89110	YES	SPNB0016	STEAK OUT BAR	221500	NWILLIAM	6/9/2008
8801803	SUBWAY SANDWICHES & BASKIN ROBBINS	PGRS	1961 N NELLIS BLVD	LAS VEGAS	89115	YES	SSBN0038	BASKIN ROBBINS	217699	JRICE	5/29/2008
5912014	SULLY BAR	PGRS	1695 N NELLIS BLVD	LAS VEGAS	89115	YES	SBNB0032	SULLY BAR	217696	JRICE	5/29/2008
0703607	SUN AND ARVILLE INDUSTRIAL PARK	PSND	6375 S ARVILLE ST	LAS VEGAS	89118	YES	SAIPS637	SUN & ARVILLE INDUSTRIAL	214266	NWILLIAM	3/26/2008
0109124	SUN COUNTRY TIRE AND AUTO INC	PSND	8825 W FLAMINGO RD	LAS VEGAS	89147	YES	SCWF0016	SERVICE BAY	163006	JRICE	9/18/2007
0109124	SUN COUNTRY TIRE AND AUTO INC	PSND	8825 W FLAMINGO RD	LAS VEGAS	89147	YES	SCWF0016	SERVICE BAY	207244	NWILLIAM	2/14/2008
0500846	SUN WEST MARKETPLACE	PGRS	5750 E SAHARA AVE	LAS VEGAS	89117	YES	SWMES575	P DUBBS BBQ#108	221536	JRICE	6/11/2008
0500846	SUN WEST MARKETPLACE	PSND	5750 E SAHARA AVE	LAS VEGAS	89117	YES	SWMSA575	CAR WASH-GV GROCERY	221537	JRICE	6/11/2008

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0608625	SUN WEST MARKETPLACE	PGRS	5780 E SAHARA BLVD	LAS VEGAS	89117	YES	SWMSA576	BELLA ITALIA PIZZA	221538	JRICE	6/11/2008
0203583	SUN WEST PLAZA	PGRS	8879 S EASTERN AVE	LAS VEGAS	89120	YES	EPCMS887	KAKAO LATIN GRILL	164579	JRICE	8/14/2007
0203583	SUN WEST PLAZA	PSND	8879 S EASTERN AVE	LAS VEGAS	89120	YES	EPCMS888	THE BRAKE TEAM	164580	JRICE	8/14/2007
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP279	PIZZA HUT	164110	JRICE	8/21/2007
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP279	PIZZA HUT	200524	JRICE	11/15/2007
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP279	PIZZA HUT	209154	JRICE	4/24/2008
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP280	GOLDILOCKS	209155	JRICE	4/24/2008
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP280	GOLDILOCKS	200525	JRICE	11/15/2007
5903924	SUNRISE CITY SHOPPING CENTER	PGRS	2797 S MARYLAND PKWY	LAS VEGAS	89109	YES	SCSMP280	GOLDILOCKS	164111	JRICE	8/21/2007
9505283	SUNRISE FOOD MART(616304 LVVWD)	PSND	5780 E CHARLESTON BLVD	LAS VEGAS	89142	YES	SFMEC578	CAR WASH	165220	JRICE	7/25/2007
9505283	SUNRISE FOOD MART(616304 LVVWD)	PSND	5780 E CHARLESTON BLVD	LAS VEGAS	89142	YES	SFMEC578	CAR WASH	221529	NWILLIAM	6/16/2008
5903491	SUNRISE HOSPITAL AND MEDICAL CENTER	PGRS	3186 S MARYLAND PKWY	LAS VEGAS	89109	YES	SHMCM318	HOSPITAL KITCHEN	164416	JRICE	8/2/2007
5903491	SUNRISE HOSPITAL AND MEDICAL CENTER	PGRS	3186 S MARYLAND PKWY	LAS VEGAS	89109	YES	SHMCM319	LOADING DOCK	164417	JRICE	8/2/2007
8701339	SUNRISE MANOR SHOPPING CENTER	PGRS	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0063	SUITE 32, JOEY'S PIZZA	220667	JRICE	5/22/2008
8701339	SUNRISE MANOR SHOPPING CENTER	PGRS	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0067	SUITE 18, BARBER SHOP	225187	NWILLIAM	5/22/2008
8701339	SUNRISE MANOR SHOPPING CENTER	PGRS	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0068	SUITE 9/10, EL TORITO	225188	NWILLIAM	5/22/2008
8701339	SUNRISE MANOR SHOPPING CENTER	PSND	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0066	SUITE 1, HAMMERHEAD	220670	NWILLIAM	5/22/2008
8701339	SUNRISE MANOR SHOPPING CENTER	PGRS	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0064	SUITE 21, SUNRISE REST	220668	JRICE	5/22/2008
8701339	SUNRISE MANOR SHOPPING CENTER	PGRS	3310 S NELLIS BLVD	LAS VEGAS	89142	YES	SMCN0065	SUITE 6, LAUNDROMAT	220669	NWILLIAM	5/22/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB450	SCOUNDRELS EAST	165199	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB451	SMITHS FOOD AND DRUG	165200	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB452	APPLEBEES RESTAURANT	165201	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB453	PLAYAS DE MEXICO	221510	NWILLIAM	6/10/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB454	PIZZA HUT	221511	NWILLIAM	6/10/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB455	SUITE E-10	221512	NWILLIAM	6/10/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB456	WING STOP	221513	NWILLIAM	6/10/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB455	SUITE E-10	165204	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB454	PIZZA HUT	165203	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB453	PLAYAS DE MEXICO	165202	NWILLIAM	8/10/2007
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB451	SMITHS FOOD AND DRUG	221508	NWILLIAM	6/10/2008
8900392	SUNRISE MARKET PLACE	PGRS	450 N NELLIS BLVD	LAS VEGAS	89110	YES	SMPNB450	SCOUNDRELS EAST	221507	NWILLIAM	6/10/2008
9807259	SUNRISE PLAZA	PGRS	6895 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	SPLM0016	PIZZA HUT	222234	JRICE	6/12/2008
9807259	SUNRISE PLAZA	PGRS	6895 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	SPLM0017	MANDARIN EXPRESS	222235	JRICE	6/12/2008
5912003	SUNRISE RANCH BAR AND GRILL	PGRS	1602 N NELLIS BLVD	LAS VEGAS	89115	YES	FTNB0031		165166	NWILLIAM	8/29/2007
5912003	SUNRISE RANCH BAR AND GRILL	PGRS	1602 N NELLIS BLVD	LAS VEGAS	89115	YES	FTNB0031	SUNRISE RANCH BAR & GRILL	221474	JRICE	6/9/2008
9201379	SUNRISE RV AND BOAT STORAGE	PSND	5925 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	SRVLM592	SERVICE BAY	165314	JRICE	9/17/2007
9201379	SUNRISE RV AND BOAT STORAGE	PSND	5925 E LAKE MEAD BLVD	LAS VEGAS	89156	YES	SRVLM592	SERVICE BAY	222196	NWILLIAM	6/23/2008
9605774	SUNSET PECOS PLAZA L L C	PGRS	3460 E SUNSET RD	LAS VEGAS	89120	YES	PPES0008	SUITES D-H	222858	JRICE	6/25/2008
9605774	SUNSET PECOS PLAZA L L C	PGRS	3460 E SUNSET RD	LAS VEGAS	89120	YES	PPES0009	SUITES M-O	222859	JRICE	6/25/2008
8901879	SUNSET PLACE SHOPPING CENTER	PGRS	3720 E SUNSET RD	LAS VEGAS	89120	YES	SPSC0001	BLEACHERS BAR/GRILL	222862	JRICE	6/30/2008
8901879	SUNSET PLACE SHOPPING CENTER	PGRS	3720 E SUNSET RD	LAS VEGAS	89120	YES	SPSC0002	PIZZA HUT	222863	JRICE	6/30/2008
8901879	SUNSET PLACE SHOPPING CENTER	PGRS	3720 E SUNSET RD	LAS VEGAS	89120	YES	SPSC0003	PANCHOS MEX FOOD	222864	JRICE	6/30/2008
9503247	SUNSET RIDGE RETAIL CENTER	PGRS	2895 N GREEN VALLEY PKWY	HENDERSON	89014	YES	SRGVP289	TRILUSSIA ITALIAN REST	222865	JRICE	6/24/2008
0403989	SUNSET ROAD INDUSTRIAL CTR	PGRS	3360 W SUNSET RD	LAS VEGAS	89120	YES	SGISS336	SUPERIOR GRANITE #102	214267	NWILLIAM	3/26/2008
9100348	SUNSET SANDHILL PLAZA	PGRS	3827 E SUNSET RD	LAS VEGAS	89120	YES	SPES0013	SUITE C-E, AMLEE CHINESE	222868	JRICE	6/26/2008
9902945	SUNSET SANDS PLAZA	PGRS	3840 E SUNSET RD	LAS VEGAS	89120	YES	SSES0014	PANDA EXPRESS	222866	JRICE	6/24/2008
8801815	SUPER 8 MOTEL	PGRS	4435 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	SMLVB443	BLUEBERRY HILL REST.	217644	JRICE	5/27/2008
9800583	SUPER MERCADO DEL PUEBLO	PGRS	4884 E LAKE MEAD BLVD	LAS VEGAS	89115	YES	SMPLM488	MERCADO DEL PUEBLO	217686	NWILLIAM	6/3/2008
9503375	SUPER SUITES	PGRS	3625 BOULDER HWY	LAS VEGAS	89104	YES	SSSBH362	SIEGEL SUITES	203449	NWILLIAM	1/8/2008
9200153	SUPERIOR TIRE STORE	PSND	4445 E CHARLESTON BLVD	LAS VEGAS	89104	YES	STEC0009		222879	JRICE	6/19/2008
8700795	SUPERIOR TIRE STORE	PSND	3590 E TROPICANA AVE	LAS VEGAS	89121	YES	STSET359		164933	JRICE	9/28/2007
0104090	SYSCO FOOD SERVICE	PGRS	6201 E CENTENNIAL PKWY	LAS VEGAS	89115	YES	SFSCP620	FACILITY GREASE TRAP	165347	NWILLIAM	10/17/2007
0104090	SYSCO FOOD SERVICE	PSND	6201 E CENTENNIAL PKWY	LAS VEGAS	89115	YES	SFSCP621	MAINT. SHOP	165348	NWILLIAM	10/17/2007

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WORKORDER DETAILS: 212415 Replace											
5903485	THE PLAZA	PGRS	3759 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	TPLVB378	GINSENG BBQ	213799	JRICE	3/12/2008
WORKORDER DETAILS: 213799 VIOLATION											
WORKORDER DETAILS: 213799 MISSING OUTLET TEE											
WORKORDER DETAILS: 213799 Replace											
5903485	THE PLAZA	PGRS	3759 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	TPLVB378	GINSENG BBQ	212416	JRICE	3/12/2008
WORKORDER DETAILS: 212416 VIOLATION											
WORKORDER DETAILS: 212416 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 212416 PUMP INTERCEPTOR											
7001225	THE ROYAL RESORT	PGRS	99 CONVENTION CENTER DR	LAS VEGAS	89109	YES	RHCC099	CAFE	209088	JRICE	2/19/2008
0411850	THE SHOPS AT WARM SPRINGS	PGRS	7250 S DURANGO DR	LAS VEGAS	89148	YES	GCSDR725	SUITE 7 GRAND CHINA	206061	JRICE	2/11/2008
0411849	THE SHOPS AT WARM SPRINGS	PGRS	7150 S DURANGO DR	LAS VEGAS	89148	YES	TSWSD715	PUTTERS BAR & GRILL	206062	JRICE	2/11/2008
0411849	THE SHOPS AT WARM SPRINGS	PGRS	7150 S DURANGO DR	LAS VEGAS	89148	YES	TSWSD716	POPEYES CHICKEN	206063	JRICE	2/11/2008
0411849	THE SHOPS AT WARM SPRINGS	PGRS	7150 S DURANGO DR	LAS VEGAS	89148	YES	TSWSD718	CHARO CHICKEN	213060	NWILLIAM	2/11/2008
0411849	THE SHOPS AT WARM SPRINGS	PSND	7150 S DURANGO DR	LAS VEGAS	89148	YES	TSWSD717	JOKENS C-STORE/CARWASH	206064	JRICE	2/11/2008
0411850	THE SHOPS AT WARM SPRINGS	PGRS	7250 S DURANGO DR	LAS VEGAS	89148	YES	GCSDR726	ROTASIS PIZZA	206067	JRICE	2/12/2008
9401146	THE SIGN COMPANY LLC	PSND	781 E TROPICANA AVE	LAS VEGAS	89119	YES	CUSAT044	SERVICE BAY	164300	NWILLIAM	10/5/2007
9401146	THE SIGN COMPANY LLC	PSND	781 E TROPICANA AVE	LAS VEGAS	89119	YES	CUSAT044	SERVICE BAY	209325	NWILLIAM	3/10/2008
9401146	THE SIGN COMPANY LLC	PSND	781 E TROPICANA AVE	LAS VEGAS	89119	YES	CUSAT045	CAR WASH	164301	NWILLIAM	10/5/2007
9401146	THE SIGN COMPANY LLC	PSND	781 E TROPICANA AVE	LAS VEGAS	89119	YES	CUSAT045	CAR WASH	209326	NWILLIAM	3/10/2008
0403493	THE SIGNATURE AT MGM GRAND	PGRS	145 E HARMON AVE	LAS VEGAS	89109	YES	SMGMT145	KITCHENS/DELI/RM SVC	209111	JRICE	2/21/2008
0403493	THE SIGNATURE AT MGM GRAND	PSND	145 E HARMON AVE	LAS VEGAS	89109	YES	SMGMT146	LOADING DOCK	209112	JRICE	2/21/2008
0403493	THE SIGNATURE AT MGM GRAND	PGRS	145 E HARMON AVE	LAS VEGAS	89109	YES	SMGMT147		209113	JRICE	2/21/2008
8303466	THOMAS AND MACK CENTER	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89154	YES	TMCMP450	FOOD COURT	164279	JRICE	10/1/2007
8303466	THOMAS AND MACK CENTER	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89154	YES	TMCMP450	FOOD COURT	209304	JRICE	4/9/2008
8303466	THOMAS AND MACK CENTER	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89154	YES	TMCMP451	REDD ROOM	209305	JRICE	4/9/2008
8303466	THOMAS AND MACK CENTER	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89154	YES	TMCMP452	FOOD COURT	209306	JRICE	4/9/2008
8303466	THOMAS AND MACK CENTER	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89154	YES	TMCMP451	REDD ROOM	164280	JRICE	10/1/2007
8101252	THRIFTY CAR RENTAL	PSND	5233 RENT A CAR RD	LAS VEGAS	89119	YES	CCARC523		164299	NWILLIAM	10/4/2007
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TBPLV012	#118 COUNTRY CAFE	164982	JRICE	7/17/2007
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TBPLV012	#118 COUNTRY CAFE	217637	JRICE	5/14/2008
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TBPLV013	#126	217638	JRICE	5/14/2008
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	NO	TPLVB011	#103 COACH DELI	164984	JRICE	7/17/2007
WORKORDER DETAILS: 164984 VIOLATION											
WORKORDER DETAILS: 164984 ODOR COMPLAINT											
WORKORDER DETAILS: 164984 Inspect											
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TPLVB011	#103 COACH DELI	217639	JRICE	5/14/2008
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TPLVB011	#103 COACH DELI	191192	JRICE	10/10/2007
8801751	THUNDERBIRD PLAZA	PGRS	3603 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	TBPLV013	#126	164983	JRICE	7/17/2007
0003322	THUNDERBIRD PLAZA	PSND	3685 N LAMB BLVD	LAS VEGAS	89115	YES	TPLVB014	#100 PERFECT AUTO	217640	JRICE	5/14/2008
0003322	THUNDERBIRD PLAZA	PSND	3685 N LAMB BLVD	LAS VEGAS	89115	YES	TPLVB014	#100 PERFECT AUTO	164985	JRICE	7/17/2007
0512387	TIBERTI BLOOD COM CENTER	PGRS	8480 W DESERT INN RD	LAS VEGAS	89117	YES	SJWDI484	SUITE 1 - SEN OF JAPAN	206020	JRICE	1/31/2008
0512386	TIBERTI BLOOD COML CENTER	PGRS	8470 W DESERT INN RD	LAS VEGAS	89117	YES	TBCDI849	TC'S RIB CRIB STE H-3	206021	JRICE	1/31/2008
0512695	TIBERTI BLOOD COML CENTER	PGRS	8560 W DESERT INN RD	LAS VEGAS	89117	YES	TBCDI856	GEISHA STEAKHOUSE	209757	JRICE	3/25/2008
0512695	TIBERTI BLOOD COML CENTER	PGRS	8560 W DESERT INN RD	LAS VEGAS	89117	YES	TBCDI855	Q'DOBA MEXICAN GRILL	206022	JRICE	1/30/2008
0512695	TIBERTI BLOOD COML CENTER	PGRS	8560 W DESERT INN RD	LAS VEGAS	89117	NO	TBCDI856	GEISHA STEAKHOUSE	206023	JRICE	1/30/2008
WORKORDER DETAILS: 206023 VIOLATION											
WORKORDER DETAILS: 206023 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 206023 PUMP INTERCEPTOR											
0512695	TIBERTI BLOOD COML CENTER	PGRS	8560 W DESERT INN RD	LAS VEGAS	89117	NO	TBCDI856	GEISHA STEAKHOUSE	209755	JRICE	1/30/2008
WORKORDER DETAILS: 209755 VIOLATION											
WORKORDER DETAILS: 209755 SOLIDIFIED GREASE IN SAMPLE BOX											
WORKORDER DETAILS: 209755 PUMP INTERCEPTOR											
0512695	TIBERTI BLOOD COML CENTER	PGRS	8560 W DESERT INN RD	LAS VEGAS	89117	YES	TBCDI857	BAMBOO BISTRO	206024	JRICE	1/30/2008
0512610	TIBERTI BLOOD COML CENTER	PGRS	3220 S DURANGO DR	LAS VEGAS	89117	YES	TBCDI858	SUITE B-1 SABABA	206025	NWILLIAM	1/29/2008
0202084	TIBERTI BLOOD COMMERCIAL CTR	PGRS	8490 W DESERT INN RD	LAS VEGAS	89117	YES	TBCDI850	SUITE G3 - DRACO WINGS	206027	JRICE	1/31/2008
7301227	TIFFANY SQUARE	PGRS	4135 S MARYLAND PKWY	LAS VEGAS	89109	YES	TSSMP413	MEDITERRANEAN RESTAURANT	209284	NWILLIAM	2/21/2008

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7301227	TIFFANY SQUARE	PGRS	4135 S MARYLAND PKWY	LAS VEGAS	89109	YES	TSSMP413	MEDITERRANEAN RESTAURANT	211446	NWILLIAM	2/21/2008
0608630	TIRE WORKS	PSND	1925 N HOLLYWOOD BLVD	LAS VEGAS	89156	YES	TWNHB192	TIRE WORKS	225191	JRICE	6/13/2008
0106573	TIRE WORKS	PSND	9590 W TROPICANA AVE	LAS VEGAS	89147	YES	TWWTA959	TIRE WORKS	204508	JRICE	12/17/2007
7200614	TOM SAITTA'S CHRYSLER	PSND	3395 S VALLEY VIEW BLVD	LAS VEGAS	89102	YES	TBCVV339		163437	JRICE	8/31/2007
5909393	TONY BS BAR AND GRILL	PGRS	5890 BOULDER HWY	LAS VEGAS	89122	YES	TBBGB589	TONYS BS BAR & GRILL	222220	NWILLIAM	6/23/2008
9100171	TOWBIN HUMMER	PSND	5555 W SAHARA AVE	LAS VEGAS	89146	YES	TJEWS035		203495	JRICE	12/11/2007
9002155	TOWBIN MOTORCARS	PSND	2550 S JONES BLVD	LAS VEGAS	89146	YES	TMSJB255	CAR WASH	203496	JRICE	12/11/2007
9002155	TOWBIN MOTORCARS	PSND	2550 S JONES BLVD	LAS VEGAS	89146	YES	TMSJB257	SERVICE BAY	203498	JRICE	12/11/2007
9002155	TOWBIN MOTORCARS	PSND	2550 S JONES BLVD	LAS VEGAS	89146	YES	TMSJB256	SERVICE BAY	203497	JRICE	12/11/2007
0500238	TRALUCA RESTAURANT	PGRS	11860 SOUTHERN HIGHLANDS PKWY	LAS VEGAS	89135	YES	TRSH118	TRALUCA RESTAURANT	163788	JRICE	9/11/2007
9300055	TREASURE ISLAND	PGRS	3300 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	TILVB001	MAIN KITCHEN	212565	NWILLIAM	3/18/2008
9300055	TREASURE ISLAND	PSND	3300 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	TILVB004	GARAGE PARKING	212568	NWILLIAM	3/18/2008
9300055	TREASURE ISLAND	PGRS	3300 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	TILVB003	WEST END KITCHEN	212567	NWILLIAM	3/18/2008
9300055	TREASURE ISLAND	PGRS	3300 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	TILVB002	SOUTH KITCHEN	212566	NWILLIAM	3/18/2008
0300268	TROPICANA BELTWAY CENTER	PGRS	9310 W TROPICANA AVE	LAS VEGAS	89147	YES	WTABC935	COCO'S	207252	JRICE	2/5/2008
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE354	FAST GLASS	193716	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE361	MEINEKE	198392	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE361	MEINEKE	193718	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	NO	TCCAE360	DISCOUNT TIRE	164940	JRICE	9/28/2007
	WORKORDER DETAILS:		164940 VIOLATION								
	WORKORDER DETAILS:		164940 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164940 PUMP INTERCEPTOR								
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE360	DISCOUNT TIRE	193719	JRICE	10/10/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE359	GIBRALTER TRANSMISSION	164939	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	NO	TCCAE358	TJ AUTO REPAIR	164938	JRICE	9/28/2007
	WORKORDER DETAILS:		164938 VIOLATION								
	WORKORDER DETAILS:		164938 MISSING BAFFLE WALL TEE								
	WORKORDER DETAILS:		164938 Replace								
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	NO	TCCAE361	MEINEKE	164941	JRICE	9/28/2007
	WORKORDER DETAILS:		164941 VIOLATION								
	WORKORDER DETAILS:		164941 MISSING INLET TEE								
	WORKORDER DETAILS:		164941 Replace								
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE358	TJ AUTO REPAIR	198389	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE358	TJ AUTO REPAIR	193705	JRICE	10/23/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE357	PURRFECT AUTO	164937	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	NO	TCCAE356	LIFETIME BRAKES	164936	JRICE	9/28/2007
	WORKORDER DETAILS:		164936 VIOLATION								
	WORKORDER DETAILS:		164936 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164936 PUMP INTERCEPTOR								
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE356	LIFETIME BRAKES	198387	JRICE	9/28/2007
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	NO	TCCAE354	FAST GLASS	164934	JRICE	9/28/2007
	WORKORDER DETAILS:		164934 VIOLATION								
	WORKORDER DETAILS:		164934 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164934 PUMP INTERCEPTOR								
8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE356	LIFETIME BRAKES	193720	JRICE	10/15/2007

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8904353	TROPICANA CAR CARE ASSOCIATES	PSND	3540 E TROPICANA AVE	LAS VEGAS	89121	YES	TCCAE355	ATLAS AUTO	164935	JRICE	9/28/2007
8900597	TROPICANA EXPRESS INC	PGRS	2121 S CASINO DR	LAUGHLIN	89029	YES	RELCD212	ALL RESTAURANTS	222391	EHELAL	6/19/2008
8900597	TROPICANA EXPRESS INC	PGRS	2121 S CASINO DR	LAUGHLIN	89029	NO	RELCD213	KITCHEN	222392	EHELAL	6/19/2008
	WORKORDER DETAILS:		222392 VIOLATION								
	WORKORDER DETAILS:		222392 SOLIDIFIED GREASE IN OUTLET TEE								
	WORKORDER DETAILS:		222392 PUMP INTERCEPTOR								
8900597	TROPICANA EXPRESS INC	PSND	2121 S CASINO DR	LAUGHLIN	89029	YES	RELCD214	TRAIN MAINT SHOP	222393	EHELAL	6/19/2008
0209353	TROPICANA FORT APACHE PLAZA	PGRS	4855 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPR006	TROPICANA FT APACHE PLAZA	204502	JRICE	1/9/2008
0310431	TROPICANA FORT APACHE PLAZA	PGRS	4845 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPS483	ACAPULCO GRILL	204503	JRICE	1/9/2008
0310431	TROPICANA FORT APACHE PLAZA	PGRS	4845 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPS484	CAPRIOTTI'S	204504	JRICE	1/9/2008
0310431	TROPICANA FORT APACHE PLAZA	PGRS	4845 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPS485	GREKO PIZZA	206436	JRICE	1/10/2008
0310431	TROPICANA FORT APACHE PLAZA	PGRS	4845 S FORT APACHE RD	LAS VEGAS	89135	NO	TFAPS485	GREKO PIZZA	204505	JRICE	1/9/2008
	WORKORDER DETAILS:		204505 VIOLATION								
	WORKORDER DETAILS:		204505 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		204505 PUMP INTERCEPTOR								
0310431	TROPICANA FORT APACHE PLAZA	PGRS	4845 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPS486	YOGIS TERIYAKI	204506	JRICE	1/9/2008
0310431	TROPICANA FORT APACHE PLAZA	PSND	4845 S FORT APACHE RD	LAS VEGAS	89135	YES	TFAPS487	ENTERPRISE	204507	JRICE	1/9/2008
9200564	TROPICANA GARDENS	PGRS	3510 E TROPICANA AVE	LAS VEGAS	89121	YES	TGETA351	SUITE K	164942	JRICE	10/8/2007
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	THCLV381	TRASH COMPACTOR	214009	NWILLIAM	4/11/2008
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	THCLV381	TRASH COMPACTOR	212409	JRICE	3/19/2008
	WORKORDER DETAILS:		212409 VIOLATION								
	WORKORDER DETAILS:		212409 UNDERSIZED GREASE TRAP - SAND/OIL								
	WORKORDER DETAILS:		212409 NEW INSTALL								
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	THCLV382	BANQUET ROOM	214011	JRICE	3/20/2008
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	THCLV384	OUTSIDE POOL	212412	JRICE	3/19/2008
	WORKORDER DETAILS:		212412 VIOLATION								
	WORKORDER DETAILS:		212412 PUMPING RECEIPTS								
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	THCLV384	OUTSIDE POOL	214010	JRICE	3/19/2008
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	THCLV383	INSIDE POOL	212411	JRICE	3/19/2008
	WORKORDER DETAILS:		212411 VIOLATION								
	WORKORDER DETAILS:		212411 UNDERSIZED GREASE TRAP - SAND/OIL								
	WORKORDER DETAILS:		212411 NEW INSTALL								
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	THCLV383	INSIDE POOL	214008	NWILLIAM	4/14/2008
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	NO	THCLV382	BANQUET ROOM	212410	JRICE	3/19/2008
	WORKORDER DETAILS:		212410 VIOLATION								
	WORKORDER DETAILS:		212410 MISSING INLET TEE								
	WORKORDER DETAILS:		212410 Replace								
5904888	TROPICANA HOTEL	PGRS	3801 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	THCLV385	VALET AREA	212413	JRICE	3/19/2008
0302434	TROPICANA PARTNERS 2 LLC	PSND	9837 W TROPICANA AVE	LAS VEGAS	89135	YES	TBGT A983	MIDAS AUTO SERVICE	207708	JRICE	2/7/2008
0302434	TROPICANA PARTNERS 2 LLC	PGRS	9837 W TROPICANA AVE	LAS VEGAS	89135	YES	TBGT A984	TIMBERS BAR AND GRILL	207130	JRICE	12/18/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE341	HOT SHOTS/STE 22-24	164943	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE343	ILOPONGO SALVADOR STE 3-4	164945	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE347	BEST THAI FOOD/STE 32-33	164949	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE346	FUJI JAPANESE REST/STE 30	164948	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE345	BIG JOHNS/STE 27-29	164947	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE344	OLD PHILADELPHIA/STE 6	164946	JRICE	10/8/2007
5907590	TROPICANA PLAZA	PGRS	3420 E TROPICANA AVE	LAS VEGAS	89121	YES	TPTAE342	LA PACHANGA MEX/STE 1-2	164944	JRICE	10/8/2007
5903962	TROPICANA SPENCER	PGRS	1801 E TROPICANA AVE	LAS VEGAS	89119	YES	TSETA180	BADGER CAFE	164521	JRICE	8/10/2007
5903962	TROPICANA SPENCER	PGRS	1801 E TROPICANA AVE	LAS VEGAS	89119	YES	TSETA181	JOEY'S PIZZA	164522	JRICE	8/10/2007
0402627	TROPICANA-TEE PEE SHOPPING CENTER	PSND	9575 W TROPICANA AVE	LAS VEGAS	89135	YES	TPPCW957	MEINEKE MUFFLERS	207710	JRICE	12/18/2007
0402627	TROPICANA-TEE PEE SHOPPING CENTER	PGRS	9575 W TROPICANA AVE	LAS VEGAS	89135	YES	TPPCW958	SHANGHAI EXPRESS	207711	JRICE	12/18/2007
0402627	TROPICANA-TEE PEE SHOPPING CENTER	PGRS	9575 W TROPICANA AVE	LAS VEGAS	89135	YES	TPPCW958	SHANGHAI EXPRESS	162953	JRICE	12/18/2007
0502512	TRUMP INTERNATIONAL HOTEL TOWER	PGRS	2000 FASHION SHOW DR	LAS VEGAS	89109	YES	TIHFS200	TRUMP INTERNATIONAL HOTEL	218598	NWILLIAM	5/29/2008

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0502512	TRUMP INTERNATIONAL HOTEL TOWER	PSND	2000 FASHION SHOW DR	LAS VEGAS	89109	YES	TIHFS201	TRUMP INTERNATIONAL HOTEL	218599	NWILLIAM	5/28/2008
0502512	TRUMP INTERNATIONAL HOTEL TOWER	PGRS	2000 FASHION SHOW DR	LAS VEGAS	89109	YES	TIHFS203	TRUMP INTERNATIONAL HOTEL	218604	NWILLIAM	5/29/2008
9901893	TURTLE STOP	PGRS	8816 S EASTERN AVE	LAS VEGAS	89123	YES	SASEA881	TURTLE STOP	164815	JRICE	9/20/2007
9805206	TURTLE STOP #17	PGRS	3670 PARADISE RD	LAS VEGAS	89109	YES	TSSPR008		209205	JRICE	4/21/2008
9301298	TURTLE STOP NELLIS	PGRS	2885 S NELLIS BLVD	LAS VEGAS	89115	YES	TSSN0058	FOOD COURT	207694	NWILLIAM	2/7/2008
9301298	TURTLE STOP NELLIS	PGRS	2885 S NELLIS BLVD	LAS VEGAS	89115	NO	TSSN0058	FOOD COURT	203458	NWILLIAM	12/19/2007
	WORKORDER DETAILS:		203458 VIOLATION								
	WORKORDER DETAILS:		203458 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		203458 PUMP INTERCEPTOR								
0000593	TUSCANY SUITES HOTEL	PGRS	255 E FLAMINGO RD	LAS VEGAS	89109	YES	TSH00001	MARLYNS;BUFFET;DOCK/TRASH	209100	JRICE	2/20/2008
0000593	TUSCANY SUITES HOTEL	PGRS	255 E FLAMINGO RD	LAS VEGAS	89109	YES	TSH00003	PALAZZO STEAK HOUSE	209101	JRICE	2/20/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0010	TACOS LOS TORITOS	164226	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0011	BAGLEMAN	164227	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0011	BAGLEMAN	209244	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0016	ETHIOPIAN REST. & MARKET	209249	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0016	ETHIOPIAN REST. & MARKET	164232	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0015	HAIFA	209248	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0015	HAIFA	164231	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0014	TOGOSHI REMEN	209247	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0014	TOGOSHI REMEN	164230	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0013	MADISON AVE	209246	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0013	MADISON AVE	164229	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	NO	TCET0012	CARNICERIA	209245	JRICE	4/29/2008
	WORKORDER DETAILS:		209245 VIOLATION								
	WORKORDER DETAILS:		209245 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		209245 PUMP INTERCEPTOR								
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0012	CARNICERIA	217009	JRICE	4/29/2008
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0012	CARNICERIA	164228	JRICE	9/5/2007
8801421	TWAIN CENTER	PGRS	855 E TWAIN AVE	LAS VEGAS	89109	YES	TCET0010	TACOS LOS TORITOS	209243	JRICE	4/29/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0004	CARNICERIA RINCON LATINO	164233	JRICE	9/12/2007
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0004	CARNICERIA RINCON LATINO	209250	JRICE	4/28/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0004	CARNICERIA RINCON LATINO	220772	NWILLIAM	6/25/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0005	TAQUERIA VICTOR'S	164234	JRICE	9/12/2007
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0006	SICILIAN PIZZA	164235	JRICE	9/12/2007
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0007	TWAIN PLAZA	164236	JRICE	9/12/2007
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0008	ROBERTO'S	209254	JRICE	4/28/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0008	ROBERTO'S	164237	JRICE	9/12/2007
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0007	TWAIN PLAZA	209253	JRICE	4/28/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0006	SICILIAN PIZZA	209252	JRICE	4/28/2008
5903931	TWAIN PLAZA	PGRS	525 E TWAIN AVE	LAS VEGAS	89109	YES	TPET0005	TAQUERIA VICTOR'S	209251	JRICE	4/28/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0001	SUITE 131 RASCALO	164181	NWILLIAM	8/6/2007
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0001	SUITE 131 RASCALO	209198	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0002	SUITE 125 EL REY	164182	NWILLIAM	8/6/2007
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0007	SUITE 108 AXUM	220722	NWILLIAM	5/23/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0007	SUITE 108 FASOKA	209204	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0006	SUITE 113	220721	NWILLIAM	5/23/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0006	SUITE 113	209203	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	NO	TSPS0005	SUITE 117 CARNICERIA DEL	220720	NWILLIAM	5/23/2008
	WORKORDER DETAILS:		220720 VIOLATION								
	WORKORDER DETAILS:		220720 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		220720 PUMP INTERCEPTOR								
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0005	SUITE 117 CARNICERIA DEL	221363	NWILLIAM	5/23/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0005	SUITE 117 CARNICERIA DEL	209202	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0004	SUITE # 119	220719	NWILLIAM	5/23/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0004	SUITE # 119	209201	JRICE	4/30/2008

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8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0004	SUITE # 119	164184	NWILLIAM	8/6/2007
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	NO	TSPS0003	SUITE 121 EXPRESS WOK	220718	NWILLIAM	5/23/2008
	WORKORDER DETAILS:		220718 VIOLATION								
	WORKORDER DETAILS:		220718 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		220718 PUMP INTERCEPTOR								
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	NO	TSPS0003	SUITE 121 EXPRESS WOK	164183	NWILLIAM	8/6/2007
	WORKORDER DETAILS:		164183 VIOLATION								
	WORKORDER DETAILS:		164183 MOLD								
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0003	SUITE 121 EXPRESS WOK	209200	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0003	SUITE 121 EXPRESS WOK	191191	NWILLIAM	10/24/2007
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0002	SUITE 125 FAMILY DOLLAR	220717	NWILLIAM	5/23/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0002	SUITE 125 EL REY	209199	JRICE	4/30/2008
8700776	TWAIN SWENSON PLAZA	PGRS	3640 SWENSON ST	LAS VEGAS	89109	YES	TSPS0001	SUITE 131 RASCALO	220716	NWILLIAM	5/23/2008
5903661	UEHLING, TROY(RETAIL CENTER)	PGRS	4633 PARADISE RD	LAS VEGAS	89109	YES	ULGPR463	CAFE LUNA	209307	JRICE	4/15/2008
5910197	UNITED NISSAN	PSND	3025 E SAHARA AVE	LAS VEGAS	89104	YES	WBESA018	SERVICE BAY	201845	JRICE	12/5/2007
6700056	UNIVERSITY PLAZA	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	YES	UPCET113	SUITE D - THANG HUONG	194141	NWILLIAM	10/25/2007
6700056	UNIVERSITY PLAZA	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	YES	UPCET113	SUITE D - THANG HUONG	215756	NWILLIAM	4/14/2008
6700056	UNIVERSITY PLAZA	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	NO	UPCET113	SUITE D - THANG HUONG	164308	NWILLIAM	10/3/2007
	WORKORDER DETAILS:		164308 VIOLATION								
	WORKORDER DETAILS:		164308 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164308 PUMP INTERCEPTOR								
6700056	UNIVERSITY PLAZA	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	NO	UPCET113	SUITE D - THANG HUONG	209331	NWILLIAM	4/14/2008
	WORKORDER DETAILS:		209331 VIOLATION								
	WORKORDER DETAILS:		209331 TIP OR BILLING COMPLAINTS								
	WORKORDER DETAILS:		209331 COUNT & INSPECT ALL								
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	NO	UPTAE110	FLOMAR'S CORNER CAFE	164311	NWILLIAM	10/3/2007
	WORKORDER DETAILS:		164311 VIOLATION								
	WORKORDER DETAILS:		164311 SOLIDIFIED GREASE IN SAMPLE BOX								
	WORKORDER DETAILS:		164311 PUMP INTERCEPTOR								
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	YES	UPTAE110	FLOMAR'S CORNER CAFE	215754	NWILLIAM	4/14/2008
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	YES	UPTAE110	FLOMAR'S CORNER CAFE	194140	NWILLIAM	10/3/2007
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	YES	UPTAE109	P T'S PUB	209333	NWILLIAM	4/14/2008
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	YES	UPTAE109	P T'S PUB	164310	NWILLIAM	10/3/2007
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	NO	UPTAE108	KING & I	209332	NWILLIAM	4/14/2008
	WORKORDER DETAILS:		209332 VIOLATION								
	WORKORDER DETAILS:		209332 STOPPAGE								
	WORKORDER DETAILS:		209332 Inspect								
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	YES	UPTAE108	KING & I	164309	NWILLIAM	10/3/2007
7200040	UNIVERSITY PLAZA	PGRS	1083 E TROPICANA AVE	LAS VEGAS	89119	NO	UPTAE110	FLOMAR'S CORNER CAFE	209334	NWILLIAM	4/14/2008
	WORKORDER DETAILS:		209334 VIOLATION								
	WORKORDER DETAILS:		209334 STOPPAGE								
	WORKORDER DETAILS:		209334 Inspect								
5903884	UNIVERSITY SINCLAIR	PSND	1175 E FLAMINGO RD	LAS VEGAS	89109	YES	TRMFR117	CAR WASH	209283	NWILLIAM	2/21/2008
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP472	WET BAR & CAFE	164289	JRICE	10/2/2007
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP472	WET BAR & CAFE	209314	JRICE	4/8/2008
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP473	ALOHA KITCHEN	164290	JRICE	10/2/2007
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP473	ALOHA KITCHEN	215236	NWILLIAM	4/8/2008
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	NO	USSMP473	ALOHA KITCHEN	209315	JRICE	4/8/2008
	WORKORDER DETAILS:		209315 VIOLATION								
	WORKORDER DETAILS:		209315 MISSING INLET TEE								
	WORKORDER DETAILS:		209315 Replace								
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP474	CAPRIOTTI'S	164291	JRICE	10/2/2007
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP475	EAST BOY	164292	JRICE	10/2/2007
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP475	EAST BOY	209317	JRICE	4/8/2008
7801151	UNIVERSITY SQUARE	PGRS	4725 S MARYLAND PKWY	LAS VEGAS	89109	YES	USSMP474	CAPRIOTTI'S	209316	JRICE	4/8/2008
5903758	UNLV	PSND	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM451	WEST SHOP	164283	JRICE	10/3/2007
5903758	UNLV	PSND	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM451	WEST SHOP	209308	JRICE	4/11/2008

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5903758	UNLV	PSND	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM452	NATATORIUM NORTH-EAST	164284	JRICE	10/3/2007
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM455	STUDENT UNION	164285	JRICE	10/3/2007
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM456	DINNER COMMON	164286	JRICE	10/3/2007
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM458	BOOK N BEAN CAFE	209313	JRICE	4/11/2008
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM458	BOOK N BEAN CAFE	164288	JRICE	10/3/2007
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM457	BEAM HALL	209312	JRICE	4/11/2008
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM457	BEAM HALL	164287	JRICE	10/3/2007
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM456	DINNER COMMON	209311	JRICE	4/11/2008
5903758	UNLV	PGRS	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM455	STUDENT UNION	209310	JRICE	4/11/2008
5903758	UNLV	PSND	4505 S MARYLAND PKWY	LAS VEGAS	89109	YES	UNLVM452	NATATORIUM NORTH-EAST	209309	JRICE	4/11/2008
8801061	USA POSTAL SERVICE	PSND	1001 E SUNSET RD	LAS VEGAS	89119	YES	USPSS037	SERVICE BAY	164346	JRICE	9/21/2007
8801061	USA POSTAL SERVICE	PSND	1001 E SUNSET RD	LAS VEGAS	89119	YES	USPSS038	SERVICE BAY	164347	JRICE	9/21/2007
7000677	VACANT BUILDING	PSND	4100 E CHEYENNE AVE	LAS VEGAS	89115	YES	WBECA410	SERVICE BAY	164832	JRICE	7/16/2007
7000677	VACANT BUILDING	PSND	4100 E CHEYENNE AVE	LAS VEGAS	89115	YES	WBECA410	SERVICE BAY	217580	JRICE	5/12/2008
5903887	VALLEY HIGH SCHOOL #552	PGRS	2839 BURNHAM AVE	LAS VEGAS	89109	YES	VHCBA283	SCHOOL KITCHEN	201887	JRICE	12/7/2007
5903887	VALLEY HIGH SCHOOL #552	PSND	2839 BURNHAM AVE	LAS VEGAS	89109	YES	VHCBA284	AUTO SHOP	201888	JRICE	12/7/2007
9704416	VALLEY VIEW BUSINESS CENTER	PGRS	6280 S VALLEY VIEW BLVD	LAS VEGAS	89118	YES	VBCV628	SUITE#100 BIG DIPPER	218320	EHELAL	2/28/2008
7301150	VEGAS KING CO	PGRS	4181 PIONEER AVE	LAS VEGAS	89146	YES	VKCPA418		163442	JRICE	8/28/2007
7200629	VEGAS MARKET #4	PGRS	777 E TWAIN AVE	LAS VEGAS	89109	YES	VMET0009	DELI	164239	NWILLIAM	10/8/2007
7200629	VEGAS MARKET #4	PGRS	777 E TWAIN AVE	LAS VEGAS	89109	YES	VMET0009	DELI	209256	JRICE	4/28/2008
9201524	VEGAS VALLEY PLAZA	PGRS	2875 S NELLIS BLVD	LAS VEGAS	89142	YES	VPNB0057	SUITE 2-ALBERTOS MEX FOOD	207695	NWILLIAM	12/18/2007
0311589	VEGAS VALLEY PLAZA	PGRS	2755 S NELLIS BLVD	LAS VEGAS	89121	YES	VVPNB275	HAWAIIAN BARBEQUE STE 1	203463	NWILLIAM	12/19/2007
9807019	VEGAS VALLEY PLAZA	PGRS	2775 S NELLIS BLVD	LAS VEGAS	89142	YES	VVPN0052	DRAGON EXPRESS	203462	NWILLIAM	1/24/2008
9201524	VEGAS VALLEY PLAZA	PGRS	2875 S NELLIS BLVD	LAS VEGAS	89142	NO	VPNB0057	SUITE 2-ALBERTOS MEX FOOD	203460	NWILLIAM	12/18/2007
	WORKORDER DETAILS:		203460 VIOLATION								
	WORKORDER DETAILS:		203460 MISSING INLET TEE								
	WORKORDER DETAILS:		203460 Replace								
9807019	VEGAS VALLEY PLAZA	PGRS	2775 S NELLIS BLVD	LAS VEGAS	89142	YES	VVPN0051	HUNGRY HOWIES	203461	NWILLIAM	12/18/2007
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV202	VENETIAN HOTEL	212417	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV203	VENETIAN HOTEL	212418	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV204		212419	NWILLIAM	3/6/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV206		212421	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV211		212425	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV209		212424	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV208		212423	NWILLIAM	3/6/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV207		212422	JRICE	3/24/2008
5903481	VENETIAN HOTEL	PGRS	3355 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	VHCLV205		212420	JRICE	3/24/2008
0414897	VILLAGE PUB	PGRS	9732 W MAULE AVE	LAS VEGAS	89139	YES	VBWMS973	VILLAGE PUB	207746	JRICE	1/28/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA953	KOREAN CAFE	164116	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA953	KOREAN CAFE	209158	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA961	MIJORI	209166	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA961	MIJORI	200536	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA961	MIJORI	164124	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA960	ELEPHANT	209165	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA960	ELEPHANT	200535	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA959	JIN MEE	209164	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA959	JIN MEE	200534	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA956	KOMOL	209161	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA956	KOMOL	200531	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA956	KOMOL	164119	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA955	TOKYO	209160	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA955	TOKYO	200530	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA955	TOKYO	164118	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA954	SAHARA KOREA	209159	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA954	SAHARA KOREA	200529	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA954	SAHARA KOREA	164117	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA959	JIN MEE	164122	JRICE	8/16/2007

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5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA958	LA BARC	209163	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA958	LA BARC	200533	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA958	LA BARC	164121	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA957	BIRRIERIA JALISCO	209162	JRICE	5/7/2008
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA957	BIRRIERIA JALISCO	200532	NWILLIAM	11/15/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA957	BIRRIERIA JALISCO	164120	JRICE	8/16/2007
5910191	VILLAGE SQUARE	PGRS	953 E SAHARA AVE	LAS VEGAS	89109	YES	VSESA953	KOREAN CAFE	200528	NWILLIAM	11/15/2007
5912436	VON TOBEL MIDDLE SCHOOL #333	PGRS	2436 N PECOS RD	LAS VEGAS	89115	YES	VTMSP243	SCHOOL KITCHEN	164846	JRICE	7/13/2007
5912436	VON TOBEL MIDDLE SCHOOL #333	PGRS	2436 N PECOS RD	LAS VEGAS	89115	YES	VTMSP243	SCHOOL KITCHEN	217594	JRICE	6/2/2008
0200374	VONS #1970	PGRS	8540 W DESERT INN RD	LAS VEGAS	89117	YES	VMWDI854	VONS #1970	206026	JRICE	1/31/2008
9805101	VONS #2396	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	YES	VSETA113		164312	NWILLIAM	10/3/2007
9805101	VONS #2396	PGRS	1131 E TROPICANA AVE	LAS VEGAS	89119	NO	VSETA113		209335	NWILLIAM	4/14/2008
	WORKORDER DETAILS:		209335 VIOLATION								
	WORKORDER DETAILS:		209335 STOPPAGE								
	WORKORDER DETAILS:		209335 Inspect								
5907559	WALGREEN CO	PSND	300 WILMOT RD	LAS VEGAS	89121	YES	ELNTB345	ECONO SERVICE BAY	164861	NWILLIAM	7/25/2007
0400139	WALMART	PGRS	490 E SILVERADO RANCH BLVD	LAS VEGAS	89123	YES	WMSRE490	DELI	164371	JRICE	9/24/2007
0609403	WALMART LAMB	PGRS	1300 S LAMB BLVD	LAS VEGAS	89119	YES	PESLB130	STE 1A-PANDA EXPRESS	218593	NWILLIAM	5/28/2008
0609403	WALMART LAMB	PGRS	1300 S LAMB BLVD	LAS VEGAS	89119	YES	PESLB130	STE 1A-PANDA EXPRESS	222883	JRICE	6/23/2008
0407992	WALMART NEIGHBORHOOD MARKET	PGRS	6570 E LAKE MEAD BLVD	LAS VEGAS	89120	YES	WMELM647	WALMART DELI	222189	JRICE	6/12/2008
0505036	WALMART NEIGHBORHOOD MARKET	PGRS	1400 S LAMB BLVD	LAS VEGAS	89121	YES	WMSLB140	WALMART	222882	JRICE	6/23/2008
0203911	WALMART SUPER CENTER #01-5070	PSND	5200 S FORT APACHE RD	LAS VEGAS	89148	YES	WSCFA001	AUTO CENTER IN WALMART	207263	JRICE	1/16/2008
0203911	WALMART SUPER CENTER #01-5070	PGRS	5200 S FORT APACHE RD	LAS VEGAS	89148	YES	WSCFA002	MCDONALDS IN WALMART	207264	JRICE	1/16/2008
9702296	WALMART SUPER STORE #2593	PGRS	2310 E SERENE AVE	LAS VEGAS	89123	YES	WMSSS232		164608	JRICE	7/30/2007
9702296	WALMART SUPER STORE #2593	PGRS	2310 E SERENE AVE	LAS VEGAS	89123	YES	WMSSS234		164610	JRICE	7/30/2007
9702296	WALMART SUPER STORE #2593	PGRS	2310 E SERENE AVE	LAS VEGAS	89123	YES	WMSSS235		164611	JRICE	7/30/2007
9702296	WALMART SUPER STORE #2593	PSND	2310 E SERENE AVE	LAS VEGAS	89123	YES	WMSSS233		164609	JRICE	7/30/2007
9702296	WALMART SUPER STORE #2593	PSND	2310 E SERENE AVE	LAS VEGAS	89123	YES	WMSSS236		164612	JRICE	7/30/2007
5912080	WALMART SUPERCENTER AND SHOPS	PGRS	4350 N NELLIS BLVD	LAS VEGAS	89115	YES	WSNB0070	DELI	217657	JRICE	5/27/2008
5912080	WALMART SUPERCENTER AND SHOPS	PSND	4350 N NELLIS BLVD	LAS VEGAS	89115	YES	WSNB0072	TIRE & LUBE CENTER	217659	JRICE	5/27/2008
5912080	WALMART SUPERCENTER AND SHOPS	PGRS	4350 N NELLIS BLVD	LAS VEGAS	89115	YES	WSNB0071	CAFE	217658	JRICE	5/27/2008
9100310	WARM SPRINGS PLAZA	PGRS	7350 S EASTERN AVE	LAS VEGAS	89123	YES	WSPEA735	BALL PARK LOUNGE STE 101	164798	JRICE	9/20/2007
9100310	WARM SPRINGS PLAZA	PGRS	7350 S EASTERN AVE	LAS VEGAS	89123	YES	WSPEA738	HOUSE OF JOY	164801	JRICE	9/20/2007
9100310	WARM SPRINGS PLAZA	PGRS	7350 S EASTERN AVE	LAS VEGAS	89123	YES	WSPEA736	GIOVANNI'S PIZZA STE 110	164799	JRICE	9/20/2007
9100310	WARM SPRINGS PLAZA	PGRS	7350 S EASTERN AVE	LAS VEGAS	89123	YES	WSPEA737	ROBERTO'S TACO STE 118	164800	JRICE	9/20/2007
9802356	WATERFIELD MEMORY CARE COMMUNITY	PGRS	8880 W TROPICANA	LAS VEGAS	89147	YES	WMCCT888	CENTER KITCHEN	206186	JRICE	1/9/2008
8701026	WELLS FARGO TOWER	PGRS	3800 HOWARD HUGHES PKWY	LAS VEGAS	89109	YES	WFTHP380	TOWER CAFE	207798	JRICE	3/5/2008
0004768	WENDY'S	PGRS	3990 S DURANGO DR	LAS VEGAS	89146	YES	WRSDR399	WENDY'S	207233	JRICE	2/6/2008
9803527	WENDYS LAS VEGAS, INC	PGRS	9385 S EASTERN AVE	LAS VEGAS	89119	YES	WLVSE938		164618	JRICE	8/13/2007
9404485	WENDYS OF LAS VEGAS	PGRS	7355 S EASTERN AVE	LAS VEGAS	89119	YES	WLVEA735		164562	JRICE	8/14/2007
7601066	WENDYS OF LAS VEGAS	PGRS	4780 S MARYLAND PKWY	LAS VEGAS	89119	YES	WLVP478		164501	JRICE	8/6/2007
8401781	WENDYS OF LAS VEGAS INC	PGRS	990 N NELLIS BLVD	LAS VEGAS	89110	YES	WBNB0020		165193	JRICE	8/27/2007
8401781	WENDYS OF LAS VEGAS INC	PGRS	990 N NELLIS BLVD	LAS VEGAS	89110	YES	WBNB0020	WENDYS OF LAS VEGAS	221501	NWILLIAM	6/11/2008
8400004	WENDYS OF LAS VEGAS INC	PGRS	3251 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	WNLVB325	WENDYS	217592	JRICE	5/22/2008
8400004	WENDYS OF LAS VEGAS INC	PGRS	3251 N LAS VEGAS BLVD	LAS VEGAS	89115	YES	WNLVB325		164844	JRICE	7/19/2007
8000935	WENDYS OF LAS VEGAS INC	PGRS	2601 S EASTERN AVE	LAS VEGAS	89109	YES	WLVSE260	WENDY'S	201891	JRICE	11/29/2007
0004236	WERNER CENTER	PGRS	4200 W RUSSELL RD	LAS VEGAS	89118	YES	WCWRR420	SUITE 115-TACOS EL NOPAL	194791	JRICE	10/15/2007
7101552	WEST BEST FOOD INC	PGRS	3425 WYNN RD	LAS VEGAS	89102	YES	WBFWR342	GREASE TRAP NORTH	163443	JRICE	8/31/2007
7101552	WEST BEST FOOD INC	PGRS	3425 WYNN RD	LAS VEGAS	89102	YES	WBFWR343	GREASE TRAP SOUTH	163444	NWILLIAM	8/30/2007
8100340	WEST COAST PPTYS IRR TR ETAL	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	WCPKA900	SUITE H102-106	164125	JRICE	8/20/2007
8100340	WEST COAST PPTYS IRR TR ETAL	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	WCPKA900	SUITE H102-106	200537	JRICE	11/19/2007
8100340	WEST COAST PPTYS IRR TR ETAL	PGRS	900 KAREN AVE	LAS VEGAS	89109	YES	WCPKA901	SUITE H109-110	164126	JRICE	8/20/2007

Grease and Sand/Oil Interceptor Inspections Report

7/7/2008 09:30:27 AM

9703431	WOMENS PRISON	PGRS	4376 SMILEY RD	LAS VEGAS	89115	YES	WSPSR439	PRISON KITCHEN	165130	NWILLIAM	7/12/2007
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS101	CONVENTION KITCHEN AREA I	212426	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS102	RED 8, CHINESE KITCHEN	212427	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS103	LOADING DOCK TRASH COMPAC	212428	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS104	MASTER PANTRY/BUTCHER	212429	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS105	DOG KENNEL AREA	212430	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS106	TERRACE POINT CAFE	212431	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS107	COUNTRY CLUB KITCHEN	212432	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS108	MAIN KITCHEN	212433	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS109	BUFFET/CAFE TAMALOO	212434	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS110	GOLF CART MAINT.	212435	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS111	AQUA THEATRE	212436	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS112	SELF PARKING AREA	212437	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PGRS	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS114	SUGAR & SPICE, ITALIAN	212438	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS115	VALET TUNNEL	212439	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS116	TAKE TUNNEL	212440	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS117	GOLF COURSE MAINTENANCE	212441	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS118	GOLF COURSE MAINTENANCE	212442	JRICE	3/25/2008
7801983	WYNN LAS VEGAS HOTEL/CASINO	PSND	3131 S LAS VEGAS BLVD	LAS VEGAS	89109	YES	WLVBS119	AUTO DEALERSHIP	212443	JRICE	3/25/2008

**Las Vegas Valley Municipal Separate Storm Sewer System Permit
Industrial Facility Monitoring and Control Program**

Industrial Site Inspection Checklist

Facility Name / Address: MBI, Inc 1353 Arville	
Type of Industry: Medical supply	
Facility Contact Person: Darla, co-owner	Date / Time of Inspection: 12/19/07
Jurisdiction: (circle one) CH <u>CLV</u> CNLV CCWRD	Inspector Name / Phone: Sutton

Inspection Criteria	Yes	No
1. Is there evidence of any process wastewater that has been or is being discharged from the site into the storm drain or public right-of-way?		X
2. Were any violations of a local stormwater ordinance discovered during the inspection?		X
3. Were any problems discovered on-site that require mitigation by the industry?		X
Actions Taken	Yes	N/A
1. Informed facility contact of need to correct problem		X
2. Observed facility contact correcting problem		X
Actions Required	Yes	No
1. Notice of Violation		X
2. Other		X
Comments: (include location/description of problems observed; continue on back) Business collects & filters waste photo chemicals, has used filters hauled to recycles. No off-site discharges		

Regarding Table 8-1, facilities 1, 16, 30, 55 and 57 are within CLV jurisdiction. Facility 57 (Sparkletts Water Systems Aqua Vend) has been out of business for many years. The location is now a carpet distributing company. All other facilities were inspected during FY 07/08.

Regarding 8.1.1 - To our surprise, CLV has a TSD within its jurisdiction (MBI Incorporated). It was inspected during FY 07/08.

Please let me know if you require any further information.

John Solvie
City of Las Vegas
Industrial Waste Section
6005 E Vegas Valley Dr
Las Vegas, NV 89142-3415
Office: 702.229.6547 Fax: 702.641.9738
JSolvie@lasvegasnevada.gov

APPENDIX K

Post-Construction Program Material



APPENDIX K

POST-CONSTRUCTION PROGRAM MATERIAL

Chuck,

Thank you for the tally.

Maria,

For the LV Valley MS4 2007-2008 annual report, these are the construction sites inspected by the DAQEM staff for CLV, CNLV, and Clark County.

If you have any questions, please let me know.

Thanks,

Mark

Mark E. Silverstein
Senior Planner - Water Quality
Environmental Planning Division
Clark County Department of Air Quality and Environmental Management
500 So. Grand Central Parkway, 1st Fl.
P.O. Box 555210
Las Vegas, NV 89155-5210
702-455-4728
702-383-9994 (fax)
silverstein@co.clark.nv.us
Website: http://www.accessclarkcounty.com/daqem/epd/epd_index.html

};~{

From: Chuck Richter
Sent: Wednesday, July 30, 2008 10:14 AM
To: Mark Silverstein
Subject: SWPPP Inspections

Mark

We did the following SWPPP Inspections:

July 1, 2007 - June 30, 2008 = 3,856 Total

Let me know if you need additional info.

We do not have any stats on what was sent to County or cities for enforcement actions.

Kevin was sorting that information out from the inspections.

Chuck

"Conservation is a state of harmony between men and land." - Aldo Leopold

**Chuck Richter
Air Quality - Compliance Supervisor
Clark County Dept Air Quality & Environmental Mgmt
(702) 455-1624**

Chip,

Good afternoon.

For the annual report, based on the Development Services complaint and investigation tracking system, below find the following 9 sites in unincorporated Clark County that required inspection by Building Department staff based either on DAQEM AQ inspector reports or citizen complaints for Permit Year 07-08. All 9 cases have been closed.

10/03/07	Mesa Ridge Communities, LLC	no address
11/06/07	Swenson Construction, LLC	818 E. Flamingo Rd
11/07/07	Lapour Paradise, LLC	4025 Palos Verde St
12/04/07	Davis Brothers investments, Ltd	14333 Garza St
1/31/08	Vegas Grand, Ltd	888 E. Flamingo Rd
2/14/08	HRHH Hotel Casino, LCC	4455 Paradise Rd
2/20/08	Lotus Development, Corp.	1250 Pepper Ln
2/29/08	Magnotta Sandra	no address
3/26/08	Fairfield Resorts	3200 W. Twain Av

Let me know if you have any questions.

Thanks,

Mark

Mark E. Silverstein
Senior Planner - Water Quality
Environmental Planning Division
Clark County Department of Air Quality and Environmental Management
500 So. Grand Central Parkway, 1st Fl.
P.O. Box 555210
Las Vegas, NV 89155-5210
702-455-4728
702-383-9994 (fax)
silverstein@co.clark.nv.us
Website: http://www.accessclarkcounty.com/daqem/epd/epd_index.html
}::~{

**CONSTRUCTION SITE
INSPECTION PROGRAM**



The City of Henderson
Storm Water Pollution Prevention
Construction Site Monitoring Summary
Run Date (01-JUL-07 to 30-JUN-08)

KIVAPROD

Total # of Inspections:	1111
Total # Passing:	895
Total # Failing:	24
Total # Finaled:	187
Total # Cancelled:	3

Total Insp. Time Spent:	21930
% Passing:	80.56
% Failing:	2.16
% Finaled:	16.83
% Cancelled:	.27

Top Ten Permits with Failing Inspections

Type	Permit Number	Permit Name	# of Failing Insp.
PCVL	2005870062	GENEVA & KIEL	3
PCVL	2005870203	LONDON/NAPLES ESTATES	2
PCVL	2004870088	MILAN/NAPLES/TORONTO STREET IMPROVEMENTS	1
PCVL	2006870169	SOUTH EDGE VILLAGE 2 POD 2-2 UNIT 1	1
PCVL	2007870072	HORIZON GRANDE TRAILS	1
PCVL	2004870212	CALIXTO LEDON RESIDENCE	1
PCVL	2006870156	ORLEANS / TORONTO SUBDIVISION	1
PCVL	2005870038	BOULDER/RACETRACK PHASE II	1
PCVL	2006870161	IBEX MEDICAL OFFICE BUILDING	1
PCVL	2006870091	TALESERA	1

QINSSUM004 - QC CONSTRUCTION SITE MONITORING 13-AUG-08 08:20:58

Input Parameters:

Start Date: Start of date range using inspection completion date.
End Date: End of date range using inspection completion date.

Result Set:

Retrieves inspection type 2720, result code FAIL, and permit status OPEN. Checks this record against inspection type 2343 and 2341 to see if they have a PASS. Checks if inspection 2720 is FINAL. If 2343 and 2341 did not PASS and 2720 did not FINAL, then add record to number of inspections failed. Report is ordered by count of failing inspections which reside in the Top Ten Permits with Failing Inspectionst.

Field Definitions:

Total # of Inspections: Total number of 2720 inspections.
Total # Passing: Total number of 2720 inspections with result code PASS.
Total # Failing: Total number of 2720 inspections with result code FAIL.
Total # Finalized: Total number of 2720 inspections with result code FINAL.
Total # Cancelled: Total number of 2720 inspections with result code CANCEL.
Total Insp. Time Spent: Sum of inspections units. If no inspection units then sum workload units.
% Passing: Percentage of 2720 inspections passing.
% Failing: Percentage of 2720 inspections failing.
% Finalized: Percentage of 2720 inspections finalized.
% Cancelled: Percentage of 2720 inspections cancelled.

Top Ten Permits with Failing Inspections

Type: Permit type.
Permit Number: Permit number.
Permit Name: Permit name.
of Failing Insp.: Number of inspections failed for permit.

4-25-07

TRAINING

by Cheng Shih

"STORMWATER QUALITY MANAGEMENT" FOR THE LAS VEGAS VALLEY

- | | | | |
|-------------------------|----------------------------|--------------------------|-----------------------------|
| 1. TRACEE SCOTT | <i>Tracee Scott</i> | 27. JAGUER LOW | <i>Jaguer Low</i> |
| 2. STEFAN CRISTO | <i>Stefan Cristo</i> | 28. JIM GARVIN | <i>Jim Garvin</i> |
| 3. RICHARD GAGAN | <i>Richard Gagan</i> | 29. Hector M. Esqueda | <i>Hector M. Esqueda</i> |
| 4. GREG NAITU | <i>Greg Naitu</i> | 30. TROY CROSLAND | <i>Troy Crosland</i> |
| 5. Travis Black | <i>Travis Black</i> | 31. HAYLEY TAYLOR | <i>Hayley Taylor</i> |
| 6. Cassandra Smith | <i>Cassandra Smith</i> | 32. JAMES LORD | <i>James Lord</i> |
| 7. STEPHEN SHAFER | <i>Stephen Shafer</i> | 33. LARRY JUD | <i>Larry Jud</i> |
| 8. JAMES VEDRAL | <i>James Vedral</i> | 34. JAMES A. MCKENZIE | <i>James A. McKenzie</i> |
| 9. Franca Glasper | <i>Franca Glasper</i> | 35. Clyde Cassoult | <i>Clyde Cassoult</i> |
| 10. Bill SMIRK | <i>Bill Smirk</i> | 36. RAYMOND S. MILLER | <i>Raymond S. Miller</i> |
| 11. Leroy Williams | <i>Leroy Williams</i> | 37. MACON JACKEN | <i>Macon Jacken</i> |
| 12. Ray Caswell | <i>Ray Caswell</i> | 38. STEVEN COMBS | <i>Steven Combs</i> |
| 13. Rodney Jordan | <i>Rodney Jordan</i> | 39. LARRY PABST | <i>Larry Pabst</i> |
| 14. Billie Jenkins | <i>Billie Jenkins</i> | 40. SLYTER WINQUIST | <i>Slyter Winquist</i> |
| 15. John Murphy | <i>John Murphy</i> | 41. Tony Esposto | <i>Tony Esposto</i> |
| 16. Mark Hooper | <i>Mark Hooper</i> | 42. CHRIS J. CHRISTENSON | <i>Chris J. Christenson</i> |
| 17. DAMIAN BOYD | <i>Damian Boyd</i> | 43. TONY MORELLI | <i>Tony Morelli</i> |
| 18. GUY MONROE | <i>Guy Monroe</i> | 44. LEONARD E HOWARD | <i>Leonard E Howard</i> |
| 19. LEWIS RINIKEN | <i>Lewis Riniken</i> | 45. GREGORY GIBBONSON | <i>Gregory Gibbonson</i> |
| 20. JOEY BARRALOSA | <i>Joey Barralosa</i> | 46. David Bailey | <i>David Bailey</i> |
| 21. CHRIS FINBURG | <i>Chris Finburg</i> | 47. MICHAEL DUNN | <i>Michael Dunn</i> |
| 22. JORGE GAMBORA | <i>Jorge Gambora</i> | 48. IVA SMITH | <i>Iva Smith</i> |
| 23. KAWIKA A. STAFFORD | <i>Kawika A. Stafford</i> | 49. MICHAEL GASTON | <i>Michael Gaston</i> |
| 24. Antonio Guwara | <i>Antonio Guwara</i> | 50. DANUJ PARCH | <i>DanuJ Parch</i> |
| 25. William Hinkle | <i>William Hinkle</i> | 51. Stacy Ross | <i>Stacy Ross</i> |
| 26. William Mornis | <i>William Mornis</i> | 52. Tom Luckas | <i>Tom Luckas</i> |
| 27. James Photo | <i>James Photo</i> | 53. CHARLES HENDERSON | <i>Charles Henderson</i> |
| 28. William H. Ferguson | <i>William H. Ferguson</i> | 54. ANTHONY YRONG | <i>Anthony Yrong</i> |
| | | 55. Robert D. Bell | <i>Robert D. Bell</i> |

- 51. CHRIS POMPERY ~~Ch. Perry~~
- 52. Jose L. Limon ~~William~~
- 53. SEAN MANN ~~Sean Mann~~
- 54. Steven R. Garza ~~St. L. Garza~~
- 55. Michael Hall ~~Michael Hall~~
- 56. DAVID BESKE ~~David Beske~~
- 57. OZJAN MATTHEWS ~~Ozjan Matthews~~
- 58. Jerry Taylor ~~Jerry Taylor~~
- 59. William Logan Jr ~~William Logan Jr~~
- 60. Jay Perry ~~Jay Perry~~
- 61. RODNEY WILLIAMS ~~Rodney Williams~~
- 62. Edwin Jones ~~Edwin Jones~~
- 63. DARREN GIBB ~~Darren Gibb~~
- 64. CALVIN CLARK ~~Calvin Clark~~
- 65. Rick Wilson ~~Rick Wilson~~
- 66. DANNY FOWLER ~~Danny Fowler~~
- 67. DAVID L. MOORE ~~David L. Moore~~
- 68. Grant Strong ~~Grant Strong~~
- 69. JAMES BAILEY ~~James Bailey~~
- 70. Pret Lee ~~Pret Lee~~
- 71. Nick Demos ~~Nick Demos~~
- 72. Dan Johnson ~~Dan Johnson~~
- 73. BEN CABILES ~~Ben Cabiles~~
- 74. EMORY NITTIPAL ~~Emory Nittipal~~
- 75. Elliott Home ~~Elliott Home~~

SWPPPs
and
CONSTRUCTION SITE
STORMWATER POLLUTION
PREVENTION
IN THE LAS VEGAS VALLEY

***Why should I care and
what are my responsibilities?***

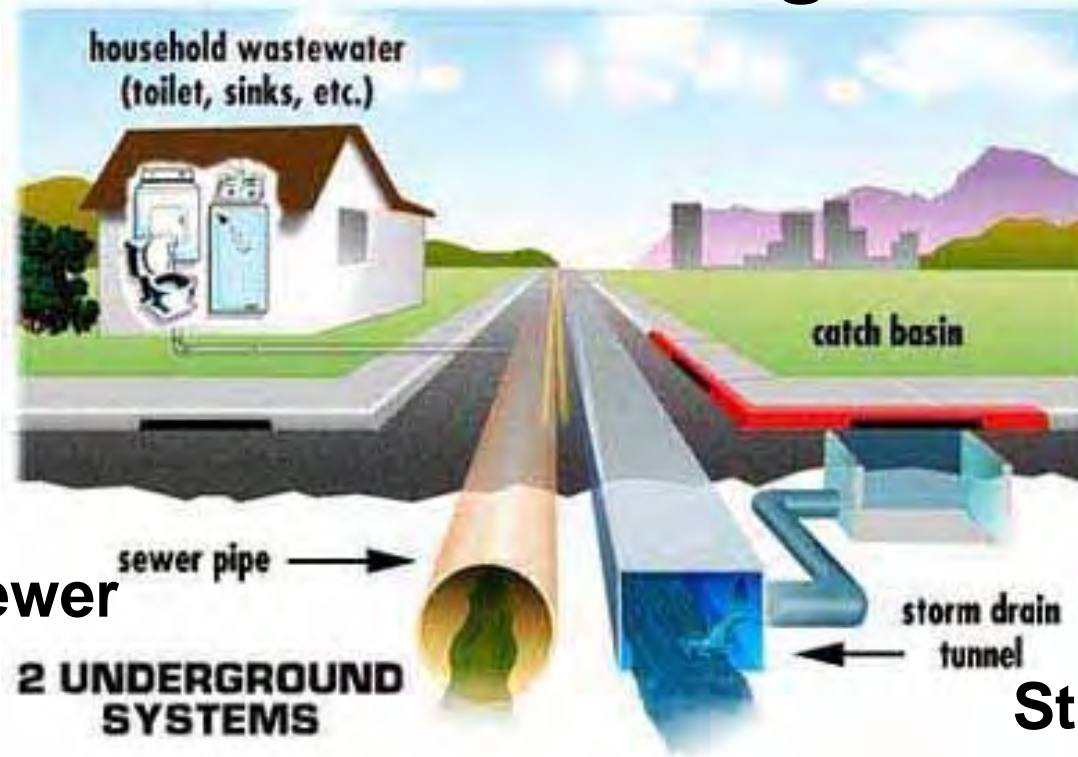
Why are Las Vegas Valley construction sites inspected for stormwater pollution compliance?

- **US Congress** – passed Federal Clean Water Act (CWA) in 1978
- **US EPA** required by CWA to protect US waters from stormwater pollution
- **State of NV** is authorized by EPA to control its own stormwater discharges
- **Nevada Division of Environmental Protection (NDEP):**

Issues 1 combined State permit to 5 local government entities in LV Valley:

- **Clark County, Clark County Regional Flood Control District, City of Henderson, City of Las Vegas, and City of North Las Vegas**
- NDEP stormwater permit requires these local entities to conduct construction site inspections in LV Valley
- **Each construction site** disturbing 1-acre or more of land is also required to be covered under the NDEP stormwater permit and to have a **SWPPP**

Why is stormwater pollution prevention needed in the Las Vegas Valley?



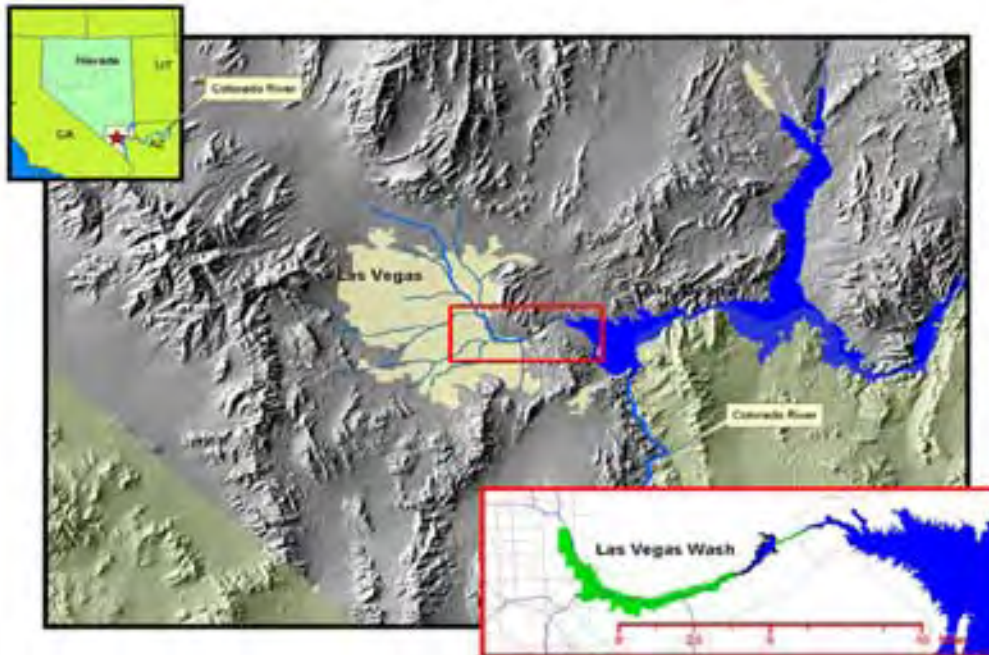
Sanitary sewer

Storm sewer

The Las Vegas Valley has two different sewer systems

All Las Vegas Valley storm sewer discharges drain untreated to Lake Mead

Las Vegas Valley drainages
flow to Lake Mead...



...where most of our
drinking water comes from!

How does untreated stormwater get channeled to Lake Mead?



From curbside...to drop inlet...to storm sewer channel...



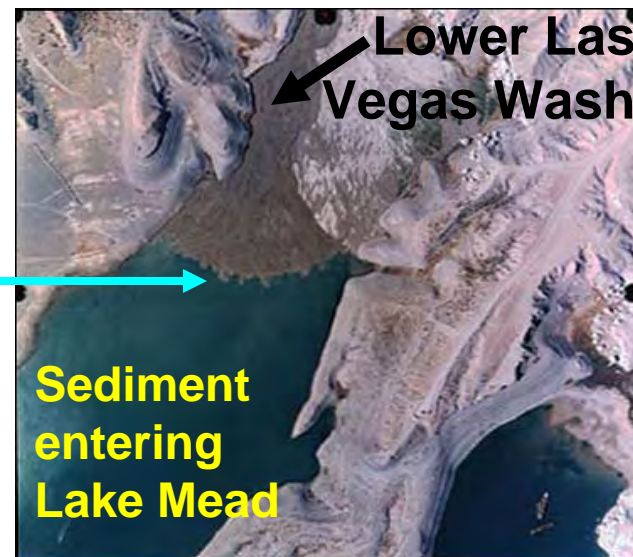
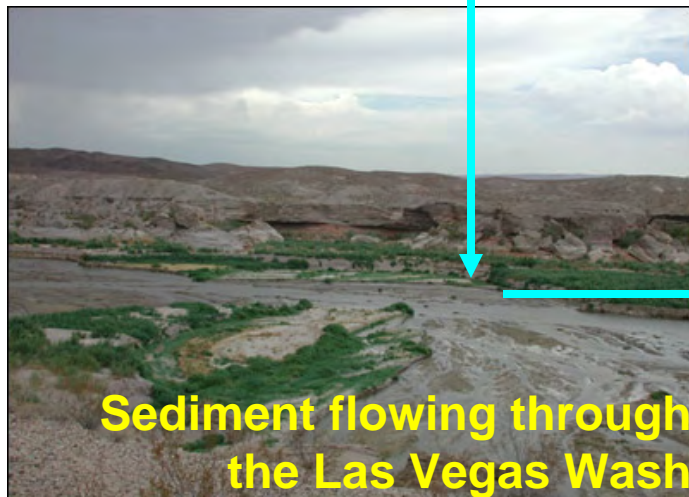
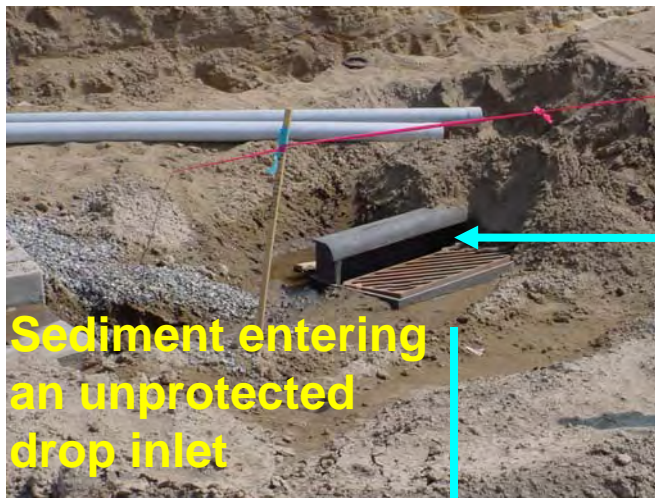
...to the Las Vegas Wash...

Lower Las Vegas Wash



...to Lake Mead

Why is construction site stormwater management necessary?



What construction site practices may cause stormwater pollution?

- **Discharging sediment off site to storm sewer**
- **Improper storage or discharge of hazardous substances from a site: paints, oils, solvents, thinners, glues, etc.**
- **Discharging waste stucco or concrete**
- **Allowing garbage or debris to leave the site**
- **On-site fuel spills that could be washed off site**
- **Sewage (from porta-potties) that leak and drain off site**
- **Purposely washing these pollutants onto streets or into storm drains**
- **Poorly designed, installed, or maintained BMPs**

What are BMPs?

(BMP = Best Management Practice)

BMPs are methods to prevent pollutants from occurring and/or from leaving a construction site in a rainstorm

Examples:

- **Street sweeping**
- **Trackout prevention**
- **Concrete washout areas**
- **Silt fence**
- **Straw wattles**
- **Covered trash bin**
- **Tarp-covered material stockpiles**
- **Hazardous materials containment**
- **Porta-potty management**
- **Gravel bags**

Trackout and Street Sweeping



Gravel pads, tire wash areas minimize trackout



Streets swept clean and well maintained

Sediment-filled street caused by trackout, by hosing down sidewalks, and by stormwater runoff



Concrete Washout



Concrete residue that will leave the site in a rainstorm



Designated concrete washout areas

Silt Fencing



Good
BMP

Properly installed fence

Poorly maintained fence



Poor
BMP



Good
BMP

Effective, but fence
installed backwards

Forgotten fence



Poor
BMP

Straw Wattles

**Good
BMP**



**Effectively placed
and properly staked**

**Poorly installed and
improperly used**



**Poor
BMP**

Construction Waste Management



**Good
BMP**

**Well-maintained,
covered dumpster**

**Improperly discarded
construction waste**



**No
BMP**

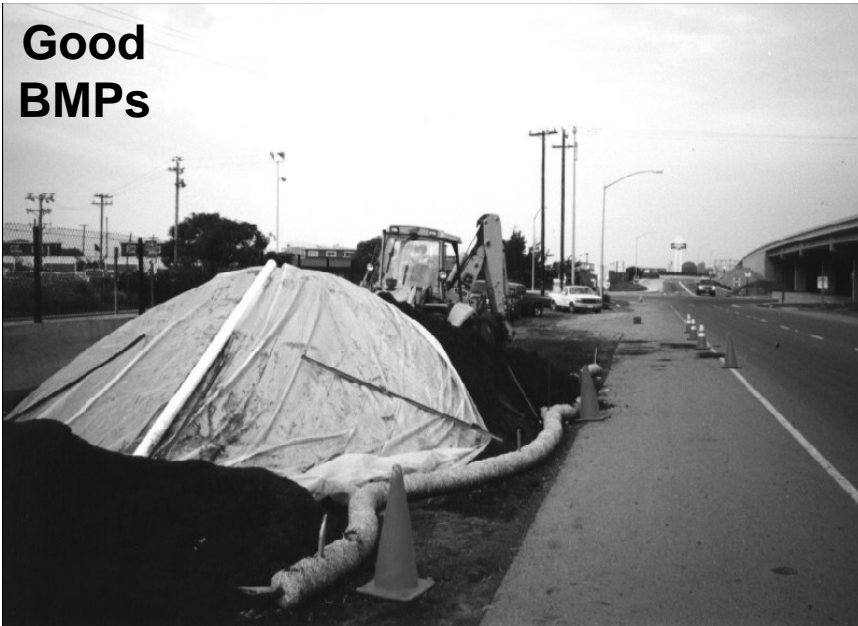


No BMP

**Uncontrolled
debris pile**

Stockpile Management

**Good
BMPs**



**Tarp-covered stockpile
with straw wattle**

**Poor housekeeping and
improper storage of
stockpiled materials**



**No
BMPs**

Hazardous Materials Management



Effective containment of potential chemical spills

Spillage from uncontained diesel tank will flow off site



Porta-potty Placement

Good BMP



Units at concrete washout area--one BMP with two uses

Unit in gutter is subject to leakage and tipping



No BMP

Good BMP



Unit out of gutter and behind a BMP

Unit in gutter and leaking



No BMP

Gravel Bags at Storm Drain Inlets ***Good BMPs***



Effective drain inlet BMPs

**Effective use of
gravel bag BMP**



Poorly maintained storm drain inlet BMPs



**Don't just
set them
and
forget
them!**



Are there allowable construction site discharges?

- Stormwater and approved *applied dust suppressant* can be discharged provided they do not carry pollutants or if they flow through filtering BMPs.
- However, BMPs are not to be place off-site in a public right-of-way except temporarily during street cleaning operations

**Remember,
clogged inlets
can also cause
street flooding!**



**But, do not sweep
trapped debris
down the drain!**

Who inspects construction sites for stormwater permit compliance?

- **DAQEM Air Quality Enforcement Officers** inspect Las Vegas Valley construction sites for stormwater compliance in:
 - **North Las Vegas**
 - **Las Vegas**
 - **Unincorporated Clark County**
- **Henderson performs its own inspections**
- **NDEP can also inspect at any construction site in Nevada**

Stormwater enforcement and violations

**Enforcement and violations handled separately by
each jurisdiction**

- **City of Las Vegas**
- **City of North Las Vegas**
- **City of Henderson**
- **Clark County (unincorporated LV Valley areas)**
- **NDEP – all sites in LV Valley**

*State of Nevada civil penalties – fines can be up to
\$25,000 for each day of the violation. (NRS 445A.700)*

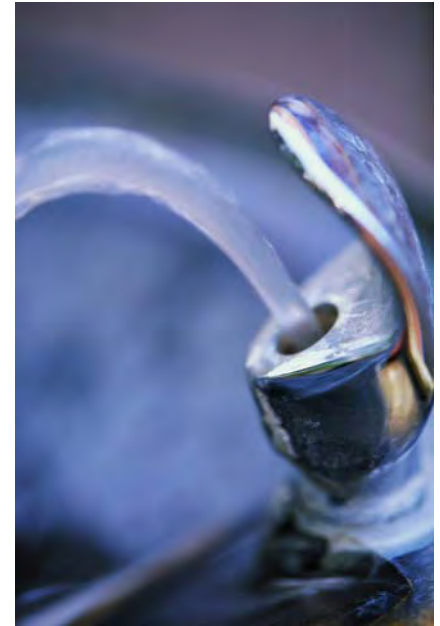
FAQs Handout

- **How to file for coverage under the State construction stormwater permit**
- **How to prepare a SWPPP**
- **Websites for more information**
- **Contacts for support and to get answers**



What happens in Vegas stays in Vegas!

**It's everyone's responsibility
to prevent stormwater pollution
in our valley**



APPENDIX L

Stakeholder Program Material



APPENDIX L

STAKEHOLDER PROGRAM MATERIAL

REGIONAL FLOOD CONTROL DISTRICT



Welcome

to the

Stormwater Stakeholders Open House

November 15, 2007

Learn about:

- Las Vegas Valley Stormwater Quality Issues
- Stormwater Program Enhancements Required
- How you can participate in developing new stormwater management programs

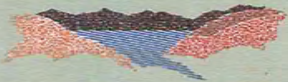
Sponsored by the:

Las Vegas Valley Stormwater Quality
Management Committee

and the

Clark County Regional Flood Control District





Las Vegas Valley Municipal Stormwater Permit Program Timeline



LIST OF ACRONYMS

EPA - Environmental Protection Agency
 MS4 - Municipal Separate Storm Sewer System
 NDEP - Nevada Division of Environmental Protection
 NPDES - National Pollutant Discharge Elimination System
 CCRFCD - Clark County Regional Flood Control District
 NDOT - Nevada Department of Transportation
 SQMCM - Las Vegas Valley Stormwater Quality Management Committee

REFERENCES

EPA, Overview of the Storm Water Program, June 1996 Available at: <http://www.epa.gov/npdes/pubs/owm0196.pdf>
 EPA, Phases of the NPDES Stormwater Program Available at: <http://pub.epa.gov/npdes/stormwater/swphases.cfm>
 Stormwater Quality Management Committee Available at: <http://www.lvsqmw.com>





Statement of the Issue

The Las Vegas Valley MS4 Program has been in place since 1991. The task is now to make revisions to the program based on the 2005 EPA Audit.

THE BACKGROUND

- We have had a stormwater quality (MS4) permit since 1991
- We have developed many programs and conducted many activities under our MS4 program for the past 16 years
- We have always coordinated closely with the state agency that oversees our program (NDEP)

THE PROBLEM

- EPA audited our program in 2005 and determined that there were significant deficiencies in the current program
- EPA and the State identified several specific improvements required in four program categories
- We have until June 2008 to implement these program improvements

THE SOLUTION

- The municipal Permittees have studied possible program improvements to meet EPA and State requirements
- Stakeholder involvement is needed to develop feasible programs with community support





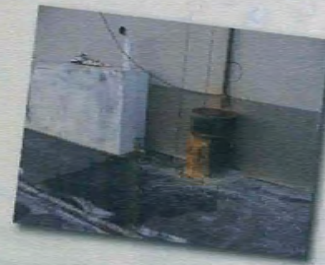
Development and Water Quality

EPA considers stormwater and dry weather (nuisance) flows from urban areas to be a significant contributor to non-point source pollution

CONSTRUCTION SITES

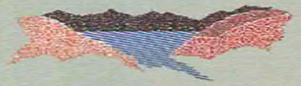


COMMERCIAL AND INDUSTRIAL SITES



URBAN LAND USES





Las Vegas Valley Municipal Stormwater Permit Program Activities

Public Education and Outreach

- Brochures
- “Don’t Pollute” Plaques
- Public Service Announcements
- Elementary School Presentations
- Flood Channel Program



Maintenance Programs

- Street Sweeping
- Drop Inlet Cleaning
- Detention Basin Maintenance



Monitoring

- Wet Weather Sampling
- Dry Weather Sampling



Industrial Facility Program

- Best Management Practices (BMPs)
- Industrial Site Inspections
- Coordinate with State Industrial Site Permit Program



Construction Site Program

- Best Management Practices (BMPs)
- Construction Site Inspections
- Contractor Education and Training
- Coordination with State Construction Site Permit Program



Illicit Discharge Detection Programs

- Drainage System Inspection
- Municipal Training Programs
- Industrial Site Inspections





EPA Audit Findings

A 2005 EPA audit of the Las Vegas Valley NPDES MS4 program identified many positive program attributes, but found significant deficiencies in four program components.



Construction

- Inadequate construction site inspection and enforcement program
- Lack of erosion and sediment control regulations



Post-Construction

- Lack of ordinances to minimize water quality effects of new development
- No requirement for permanent BMPs for new development and redevelopment



Industrial

Maintenance

- No list of industrial sites that could contribute significant pollution
- Inadequate plan for sediment removal from regional detention basins

The deficiencies in the Industrial and Maintenance programs are being resolved by members of the Stormwater Quality Management Committee (SQMC)





New Working Groups Formed by the SQMC to Address Key Issues

Development Guidelines Working Group

DGWG

Mission: To analyze alternatives for a program to reduce the impact of new development and significant redevelopment on runoff quality

Issues to be Resolved:

- Post-construction planning measures (e.g., Low Impact Development)
- Structural and non-structural runoff controls
- Long-term BMP maintenance
- New / revised ordinances, regulations and policies
- Impacts of changed policies on community services, developers and land values
- Planning at regional vs. local level

Construction Program Working Group

CPWG

Mission: To analyze alternatives for a program to reduce the impact of construction activities on runoff quality

Issues to be Resolved:

- An ordinance or regulatory mechanism to require erosion and sediment controls
- Requirements for construction site operators to implement appropriate erosion and sediment control BMPs
- Requirements for construction site operators to control waste
 - Procedures for site plan review
 - Procedures for receipt and consideration of information submitted by the public
 - Procedures for site inspection and enforcement of control measures

Detention Basin Working Group

DBWG

Mission: To determine the feasibility of retrofitting existing detention basins to address water quality.

Issues to be Resolved:

- Determine the feasibility of retrofitting an existing detention basin as a pilot program
- If feasible, develop retrofit designs and costs
- Implement retrofit and conduct runoff monitoring for water quality performance
- Determine whether additional basin retrofits are warranted

Stormwater Stakeholders Working Group

SSWG

Mission: To use a consensus-based process to develop program recommendations that meet the permit requirements and are acceptable to the community





Consequences of Non-Compliance

Non-compliance with the Las Vegas Valley NPDES Municipal Stormwater Discharge Permit constitutes a violation of the Clean Water Act and is grounds for enforcement action

Possible Consequences of Non-Compliance:

- Notice of Violation from EPA
- Fines
- Imprisonment
- Lawsuits
- Las Vegas Valley NPDES Municipal Stormwater Discharge Permit termination and/or modification
- Denial of Las Vegas Valley NPDES Municipal Stormwater Discharge Permit Renewal
- Stricter permit requirements in the future
- Heightened scrutiny by EPA and environmental advocacy groups

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From Washington, D.C.
September 14, 2007

No more warnings: Stormwater violations now lead to big fines



Department of Justice

FOR IMMEDIATE RELEASE
WEDNESDAY, MAY 10, 2006
WWW.USDOJ.GOV

ENRD
DOJ (202) 514-2007
TDD (202) 514-1888

\$3.5 Million Settlement with City of Dallas Requires Increased City Effort to Keep Stormwater Sewers Clean

WASHINGTON, D.C. – The City of Dallas, Texas has reached an agreement with the federal government requiring the City to spend in excess of \$3.5 million in a comprehensive effort to decrease the amount of pollution entering the city's stormwater system, the Department of Justice and Environmental Protection Agency (EPA) announced today. The settlement requires the City to construct two wetlands at an estimated cost of \$1.2 million—one along the Trinity River, and one along Cedar Creek near the Dallas Zoo—and to pay a civil penalty of \$800,000.

Today's settlement resolves allegations—first made by the federal government in an EPA order issued in February 2004—that the City failed to implement, adequately fund and adequately staff the City's stormwater management program. Under the agreement, the City is required to fill staff positions, inspect hundreds of industrial facilities and construction sites, and improve management systems at several facilities.

Case Study

- \$3.5 Million Settlement with City of Dallas
- Hard copies are available at the Stakeholders Open House and can be found on the web at:
http://www.usdoj.gov/opa/pr/2006/May/06_enrd_279.html





Where Do You Come In?

We need your help to find workable, effective options for NPDES MS4 program enhancements to address EPA's audit findings and maintain permit compliance



Join the Stormwater Stakeholders Working Group

The SSWG will consist of members of the public, key industries, and representatives from municipalities and public agencies

You decide your role

Option 1: Commitment to Participation

- January - June 2008 (estimated)
- Monthly Meetings
- Homework Assignments

Option 2: Information Only

Issues That May be Addressed by the SSWG

- Draft new and/or amended ordinances to authorize the post-construction runoff management program
- Develop fair and equitable methods for financing the post-construction program
- Recommend structural and non-structural BMP approaches addressing runoff quality from new commercial, industrial and residential areas
- Develop acceptable local government policies and procedures for approving development submittals
- Develop policies for assuring long-term BMP maintenance on private property
- Develop new and/or amended ordinances to establish erosion and sediment control measures at construction sites
- Recommend erosion and sediment control BMPs for construction sites





MWH

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