

F I N A L

Appendix A to I
Volume 3, Book 1

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C O Y O T E S P R I N G S
I N V E S T M E N T

P L A N N E D D E V E L O P M E N T P R O J E C T

Coyote Springs Investment Planned Development Project

Appendix A to I July 2008

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COYOTE SPRINGS INVESTMENT PLANNED DEVELOPMENT PROJECT

Appendix A to I



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Appendix A	Coyote Springs Investment Memorandum of Agreement
Appendix B	Office of the State Engineer of the State of Nevada Order 1169
Appendix C	May 2005 Informal Consultation Letter from USFWS to CSI
Appendix D	Muddy River Memorandum of Agreement Biological Opinion
Appendix E	Coyote Springs Development Agreement
Appendix F	Coyote Springs Water Resources General Improvement District Service Rules for Clark County
Appendix G	Land Lease Agreement Pursuant to the Nevada-Florida Land Exchange Authorization Act of 1988
Appendix H	Investigation of the Presence of Wetlands and Other Waters of the US within the Coyote Springs Area, Lincoln County, Nevada
Appendix I	Coyote Springs Lincoln County Stormwater Management Plan

APPENDIX I

Coyote Springs Lincoln County
Stormwater Management Plan

COYOTE SPRINGS INVESTMENT LLC

Storm Water Management Plan Lincoln County, NV

May 2007

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**Storm Water Management Plan
Lincoln County, NV**

May 2007

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1.0 INTRODUCTION

1.1 Purpose and Scope

This Master Storm Water Management Plan (SWMP) has been prepared as part of a storm water pollution prevention program. This SWMP is a programmatic plan for the construction and long-term operation and maintenance of Best Management Practices (BMP) for the 21,454 acres of private land owned by Coyote Springs Investment LLC (CSI) in Coyote Spring Valley, NY (Development Area).

The purpose of the SWMP is to prevent or mitigate potential contamination of surface or groundwater posed by storm water discharge from the Development Area. This document describes sources of potential water quality contamination from storm water runoff in the Development Area and offers a menu of BMPs and procedures that, when implemented, will manage storm water and minimize the risk of storm water pollutants from the Development Area degrading surface and groundwater quality.

1.2 Storm Water Regulations

In 1992, the U. S. Environmental Protection Agency (EPA) issued regulations governing the discharge of storm water under the federal National Pollutant Discharge Elimination System (NPDES). The NPDES program is a national program for administering and regulating Sections 307, 318, 402 and 405 of the Federal Clean Water Act. The purpose of the storm water regulations is to prevent the contamination of surface water by pollutants originating from construction, industrial, and new development activities. The regulations have been modified several times, to reflect new information gained through programmatic experience and to include additional industry and municipal sectors. The EPA has delegated the Nevada Division of Environmental Protection (NDEP) the authority to administer the NPDES program. NDEP is the primary water pollution control regulatory agency for the State of Nevada and is also authorized to issue Temporary Working in Waterway permits and Groundwater Discharge permits.

Owners of large Municipal Separate Storm Sewer Systems (MS4s), such as cities and counties, are required to obtain NPDES permits for discharge of storm water under Phase I of the MS4s program. Under Phase II of the program, NPDES coverage for Small MS4s (SMS4) in urban areas began in 2003. Operators of regulated SMS4s are required to design their systems to:

- Satisfy the appropriate water quality requirements of the Clean Water Act
- Protect Water Quality, and
- Reduce the discharge of pollutants to the Maximum Extent Practicable (MEP)

The Phase II rules require a SMS4 to contain six program elements that when implemented in concert are expected to result in the significant reduction of pollutants discharged to surface waters. These six program elements are:

- Construction Site Runoff Control
- Post Construction Runoff Control
- Pollution Prevention/Good Housekeeping
- Illicit Discharge Detection and Elimination
- Public Participation/Involvement, and
- Public Education and Outreach

This SWMP has been developed to guide the implementation of the six elements required for the CSI Development Area and subsequently protect water quality. The SWMP provides measurable milestones for each of the six elements. Annually these milestones will be assessed to determine progress and the milestones revised to guide program implementation for the next year.

The SMS4 program is designed to accommodate a general permit approach utilizing a Notice Of Intent (NOI) as the application. CSI plans to submit a NOI and provide this SWMP as supporting document with the NDEP. With regulatory oversight by NDEP, implementation of the SWMP and future program modifications as revealed by annual system assessment will ensure that surface water quality is protected. A copy of the SMS4 General Permit and Fact Sheet issued by NDEP are provided in Attachment A.

2.0 COYOTE SPRINGS GENERAL IMPROVEMENT DISTRICT

The Lincoln County General Improvement District (LCGID) has been established as the local governmental authority for the Development Area. The establishment of the LCGID, under NRS 318, will allow for the orderly transition from undeveloped land to a new community. As the new community is developed on these private lands, there will be a need to provide necessary public services. The LCGID plans to provide basic services for the following:

- Electric light and power,
- Mosquito and other pest abatement,
- Streets and alleys (including curbs gutters, sidewalks and landscaping),
- Storm drainage and flood control,
- Sanitary sewer facilities,
- Street lighting,
- Waste disposal,
- Recreation facilities,
- Water facilities,
- Weed control, and
- Preservation of threatened and endangered species.

The LCGID will prepare an annual budget for the operation and maintenance of the drainage and flood control improvements and other public services provided. Funding for these services will be provided via the LCGID taxing authority. NRS 318 allows the GILL to generate revenues on a permanent basis based on a general ad valorem tax assessed to the property owners. Until the LCGID is fully operational, CSI will be responsible for implementation of this SWMP. The CSI or LCGID Environmental Monitor will be the primary contact for coordination of activities related to implementation of this SWMP.

The milestones related to the governmental authority to be achieved by January 2008 are:

- Continue with efforts to implement the LCGID,
- Continue with efforts to implement the GID service plan recognizing proposed and authorized services to be provided, and
- Continue with implementation of the Coyote Springs Development Agreement with Lincoln County.

3.0 PROJECT DESCRIPTION

3.1 Project Location

The Development Area is located immediately northeast of the intersection of U.S. Highway 93 and the Clark County and Lincoln County line, Nevada (Attachment B). The site is approximately 55 miles north of Las Vegas, in a largely undeveloped portion of the county.

3.2 Project Phasing

The Coyote Springs Project Development Area will be constructed in phases consisting of approximately 2000 acres in each phase. The Development Area covers a total of 21,454 acres. The project will consist of residential homes, golf courses, commercial development, utility infrastructure, trails, parks and open space. Construction of the first phase will begin in the years 2010-2012, and continue over a 30-40 year period as determined by market demand. See Attachment C.

3.3 Site Drainage

The Development Area lies within the Pahrnatag Wash watershed. The immediate watershed is bound on the west by the Sheep Mountain Range, on the east by the Meadow Valley Mountains and the north by the Delamar Mountains. Surface water from the Sheep Mountain Range is conveyed onto the Development Area via varying size culverts under U.S. Highway 93. Surface water from Kane Springs Valley enters the Development Area via Kane Springs Wash. The Pahrnatag Wash Channel is a Water of the United States (WaUS) and is the receiving water from the Development Area and off-site water from the surrounding mountain ranges. Pahrnatag Wash, which conveys ephemeral flows, generally runs from north to south along the eastern boundary of the Development Area.

The depth to groundwater below the Development Area is greater than 390 feet. This depth has been documented through the construction of new wells immediately south of the Development Area within Clark County.

4.0 POTENTIAL SOURCES OF POLLUTION

A variety of pollutants can potentially contaminate storm water runoff from the Development Area. Pollutants gradually build up on streets, landscape areas and parking areas during dry weather, which are washed into storm drains during storm events.

The planned Coyote Spring Community in Southern Lincoln County is similar in size to several communities in northeastern Clark County. These communities provide insight into the future non-point source and related runoff. The typical sources of pollution include:

- Construction and land disturbing activities cause erosion and generate sediment,
- Garden or landscape chemicals (fertilizer and pesticides) release residual nitrogen and phosphorus,
- Vehicle operation and maintenance release hydrocarbons and metals (lead, copper, zinc, cadmium),
- Household chemicals and solid waste,
- Airborne deposition of particulates, and
- Industrial activities (chemical handling, storage, illegal dumping).

There is very limited data available for Lincoln County. Nearby however, northeastern Clark County receives an average of 15 storms per year and 12 of these storms generate precipitation greater than 0.10 inches, producing runoff. No storm water quality data is available for the various communities located in southern Lincoln County or northeastern Clark County. However, the California Storm Water BMP Handbook provides water quality data on storm event mean concentrations related to land use and the percent of impervious coverage. Land use categories include forest, agricultural and pasture, low/medium/high density residential, commercial and industrial. The medium density residential with 50 percent impervious is characteristic of the Development Area. The water quality data for this land use is presented in Table 1 below.

Table 1. Medium Density Residential Storm Water Quality Data

Primary Pollutant	Concentration mg/l
Total Suspended Solids	140
TKN	2.35
Nitrate/Nitrite	0.96
Phosphorus Total	0.47
Zinc	0.18
Cadmium	0.002
Copper	0.05
Lead	0.18

The pollutants listed in Table 1 may enter storm drains, conveyance channels, and subsequently Pahranaagat Wash Channel (WaDS). Implementation of the six program elements presented in this plan will significantly reduce the discharge of pollutants into Pahranaagat Wash Channel (WaDS).

5.0 STORM WATER MANAGEMENT AND POST-CONSTRUCTION RUNOFF CONTROL

Coyote Springs Investment LLC and the LCGID recognize the need to protect the surface and groundwater quality of the waters of the State of Nevada. In order to protect water quality and conserve water resources, the following goals have been established, which will guide treatment and reuse of storm water and domestic wastewater generated from the Development Area:

Goal 1: Domestic wastewater will be collected, provided tertiary treatment, disinfected, stored, and subsequently reused within the Development Area.

In order to accomplish this goal, a sewage collection system will convey domestic wastewater to two or three wastewater treatment facilities located in Lincoln and Clark County. The Clark County facility will have an initial capacity of 2.1 MGD, which will be expanded incrementally to a 6.5 MGD facility. The Lincoln County treatment facilities will be expandable for 1.5 to 4.5 MGD. These facilities will utilize technologies similar to Membrane Bioreactor technology and provide tertiary treatment. It is proposed the facilities will produce effluent with a CBOD and TSS of less than 1.0 mg/l respectively and Total Nitrogen in the range of 5.0-6.5 mg/l. This quality effluent is suitable for reuse on golf courses and landscape areas consistent with NDEP effluent reuse requirements.

Goal 2: The 2-year 6-hour storm volume generated from within the Development Area will be collected, pretreated, and to the extent practicable, retained for subsequent reuse or infiltration within the Development Area. Storm water retention will occur within golf courses, landscape areas and other open areas.

Treatment of the storm water flows will require the implementation of structural and institutional BMPs. The structural BMPs will be consistent with the requirements of the Coyote Springs Development Agreement and the Lincoln County Ordinance. The BMP design will be similar in nature to the Clark County Regional Flood Control District (CCRFCDD) Manual and other reference documents. Institutional BMPs, which will include street cleaning using the Clark County vacuum system, system monitoring and scheduled maintenance will ensure long term water quality treatment efficiency and reliability.

The following describes the integrated sub-regional storm water system that will be utilized to achieve Goal 2.

5.1 Integrated Sub-Regional Storm Water Facilities

CSI proposes to develop integrated sub-regional storm water control facilities, which addresses the following three (3) areas and related storm water flows:

1. Off-site alluvial fan storm water that crosses the Development Area between US Hwy 93 and the Pahrangat Wash Channel (WOUS),
2. On-site storm water generated from within the Development Area, and
3. Storm water generated from all off-site and on-site sources that will be conveyed through the Development Area via Pahrangat Wash.

The off-site and on-site storm water improvements will be designed consistent with the Development Agreement and the Lincoln County Ordinance, however natural materials and color will be used to avoid the standard engineered look. The CCRFCD Drainage Design Manual and EPA reference documents will also be considered and utilized during detailed design of the storm water facilities. Storm water facilities will be designed to control the potential impacts of the development on surface and groundwater quality as well as to preserve and promote the general health, welfare and economic wellbeing of the development.

In consideration of the large size of the Development Area (21,454 acres) and projected 30-40 year build-out timeframe, this document describes a programmatic plan, which will guide the future design and construction of the drainage and water quality treatment improvements. This programmatic plan provides a menu of structural BMPs that can be drawn from and evaluated to address the numerous site-specific conditions that may be encountered during build-out of the Development Area. As additional BMPs are identified, which are appropriate for the site-specific conditions, they will be incorporated into this plan. Attachment D provides a General Fact Sheet for each BMP identified in this programmatic plan. Each Fact Sheet provides a general description of the facility, water quality benefits if available, typical design criteria and a typical drawing of each BMP.

Detailed drainage studies and construction plans will be prepared for each project and provided to Lincoln County for review and issuance of required permits including grading.

A system schematic of the conceptual storm water drainage and water quality treatment plan is provided in Attachment E.

Off- Site Alluvial Fan Storm Water

The Development Area receives storm water runoff from the Sheep Mountains and alluvial fan west of Hwy 93. The off-site storm water runoff is conveyed via sheet flow and dry washes (desert dry wash habitat) to Hwy 93, which acts as a barrier to storm water conveyance. NDOT has constructed a ditch along Hwy 93 that collects and provides minimal detention of storm water flow. The low storm water flows are conveyed to culverts under Hwy 93, which enters dry washes or channels (desert dry wash habitat) and transports the storm water flow through the Development Area. The existing Hwy 93 culverts capacity determines the low flow rate received by each desert dry wash. High storm flows exceed the

Hwy 93 improvement capacity and overtops the road. Therefore, detention basins are proposed to resolve the following issues:

- The off-site flows are difficult to collect and route through the culverts if they are spread out in a sheet flow regime,
- It is undesirable to have large storm flows crossing over Hwy 93, a major highway, and
- The peak storm flows are large and without detention basins to attenuate flood flows, and would require the construction of concrete lined channels to allow for the cost-effective development of the Development Area.

The alluvial fan west of the CSI development area will generate a range of storm water flows depending on the recurrence interval of the storm. Drainage improvements will be designed to collect and convey the 10-year and 100-year storm events as required by the Lincoln County Ordinance. Proposed drainage improvements include:

- Up to eight (8) sub-regional detention basins may be constructed on the west side of Hwy 93 and north of the Clark and Lincoln County line. These detention basins will be designed to collect the storm flows from the west via a series of diversion berms and route the flows to a below ground detention basin. The detention capacity of each basin has not been determined at this time, but will be sufficient to control flows through the Development Area and protect US Hwy 93 and public safety and private property. The detention basins will be designed to meter out a maximum peak flow controlled via an orifice plate over the principal outlet constructed of reinforced concrete pipe. The metered discharge will be conveyed under Hwy 93 to the constructed conveyance channel designed to accommodate the metered flow. Sub-regional detention basins will probably be designed with principal outlet(s), sediment storage, trash racks, access roads, fencing, a flow monitoring station and emergency overflow weirs. Attachment F illustrates the conceptual design of the detention basins.
- Constructed conveyance channels and, as appropriate, existing undisturbed channels will transport the off-site storm flows from the sub-regional detention basins through the Development Area. The 10-year flow event will be conveyed in a low flow channel with over bank flow that varies in width necessary to convey the 100-year flow event. The channels will include a buffer area from each side of 100-year channel bank. These constructed conveyance channels will be constructed, stabilized and protected from erosion with native rock and revegetated with native plant species. Attachment G illustrates the conceptual cross-section of the channels.

On-Site Storm Water

It is the goal of this conceptual plan to retain the 2-year 6-hour storm volume generated from the Development Area. The retained storm water will be reused or infiltrated within the Development Area. Storm water retention will be achieved via the use of retention/infiltration basins, lakes or trenches located within golf courses, landscape areas and other open areas.

This programmatic plan offers a menu of structural BMPs that can be considered during development of site-specific construction plans for both hard surfaces (streets, parking areas)

and soft surfaces (golf course, landscape areas). These structural BMPs are described below and in the General Fact Sheets.

Hard Surface Collection. Treatment and Retention

- Collection system BMPs used to prevent erosion and direct storm water to constructed conveyance channels and treatment facilities will be designed to convey the 10-year 24-hour event and include:
 1. Curb and gutter,
 2. Road side ditch,
 3. Vegetated swales,
 4. Underground pipes (reinforced concrete, corrugated metal and plastic), and
 5. First flush diversion box.

- Pretreatment BMPs will be selected to address potential pollutants generated from specific development activities. Land use activities related to commercial-office development and residential streets and parking areas generate a nonnal concentration of pollutants found in storm water, whereas activities related to automotive repair, fleet storage and loading-unloading facilities generate a higher concentrations of hydrocarbon or trace metals. Pretreatment BMPs include:
 1. Drop inlet catch basins to remove trash and debris, and
 2. Sand-oil interceptors to remove trash, large diameter sediment and petroleum hydrocarbons.

- The following pretreatment storm flows will be conveyed to a retention facility located within a golf course or landscaped area. At select locations the pretreated storm flows will be released into a constructed conveyance channel and discharged to Pahranaagat Wash. Treatment BMPs include:
 1. Retention basins prior to reuse. Golf course ponds may also serve as retention basins. These basins are effective at removing fine-grained sediment, total phosphorus and nitrogen and trace metals. Retention basins may be integrated into golf courses, landscaped areas, and other open areas.
 2. Infiltration basins or trench for small areas. These systems are effective at removing sediment, total phosphorus and nitrogen and trace metals.
 3. Vegetated swales for storm water conveyance to retention basins or infiltration basins. These provide sediment removal and allow for infiltration.

- Storm water volumes that exceed retention facility capacities will be released into the constructed conveyance channels and discharge to Pahranaagat Wash.

Soft Surface Collection. Treatment and Retention

- Vegetated swales will be used on golf courses and landscaped areas for storm water conveyance to retention basins and provide sediment removal and allow for infiltration. Underground pipe systems will also convey storm water to the retention basins.
- Infiltration basins or trenches may be used to control surface water from isolated areas that cannot be conveyed to retention basins for reuse.
- Retention basin design volumes must accommodate the 2-year 6-hour storm event. Golf course ponds that contain treated effluent for reuse will be designed to retain the run-on for the 25-year, 24-hour storm in addition to the design volume for effluent storage and storm water retention.

The milestones related to drainage and post-construction storm water management activities to be completed during the initial stages of the development (anticipated in 2012) are:

- Identify and prioritize the critical drainage improvements that will be constructed initially to support the community's development;
- Prepare draft drainage reports and construction plans for the priority drainage improvements and provide the reports to the LCGID and Lincoln County for review and approval;
- Schedule construction of the priority drainage improvements consistent with the community's development; and
- Contractor/Developers will be required to incorporate structural BMPs into project-specific plans.

6.0 CONSTRUCTION SITE RUNOFF CONTROLS

Prior to implementation of construction, CSI will prepare a "Master Storm Water Pollution Prevention Plan" for the Development Area. The Master SWPPP was designed to comply with the NDEP General Permit (NVR 100000) for storm water discharges associated with Construction Activities and Small Construction Activities. Also covered in the permit are Industrial Activity from Temporary Concrete, Asphalt and Material Plants or Operations Dedicated to the permitted construction project.

The Master SWPPP will establish a programmatic plan for the Development Area, which covers 21,454 acres of private land. A majority of the information is transferable from project to project within the Development Area. The Master SWPPP will provide information on:

- Proposed construction activities and intended sequencing of major soil disturbing activities,
- Site maps,
- Erosion and sediment control,
- Storm water management,
- Materials storage and spill prevention and response,
- Inspection and maintenance procedures, and
- Training for all contractors and subcontracted workers.

Information specific to each project will be completed as new projects are approved for construction. Other general information contained in the Master SWPPP will be updated as needed to remain current.

Each contractor and subcontractor will be required to prepare a specific SWPPP for all approved construction projects consistent with the Master SWPPP. The project-specific SWPPPs must identify the contractor's Erosion Control Supervisor. The Erosion Control Supervisor will be required to coordinate the design and installation of all Temporary BMPs and waste management facilities, prior to initiating construction, with the CSI or LCGID Environmental Monitor. Any proposed amendments to the Master SWPPP must be presented to the CSI or LCGID Environmental Monitor for consideration and inclusion in the Master SWPPP if appropriate.

Upon initiation of construction in the Development Area, the following conceptual Master SWPPP program elements will be implemented:

- A training program with all contractors or subcontractors onsite workforce that presents the Master SWPPP and other regulatory permits or concerns;
- CSI or LCGID Environmental Monitor review of project specific SWPPP and inspection of construction BMP prior to soil disturbance and during construction; and
- Project tracking system for all inspections and findings.

7.0 LONG-TERM MONITORING AND MAINTENANCE MEASURES

Monitoring and maintenance of the integrated drainage and stormwater facilities will be implemented to ensure the effective operation of facilities and the long-term protection of water quality. In general, the program will include the monitoring and maintenance of all structural BMPs including detention and retention basins, collection system, inlet and outlet pipes to all structures, constructed conveyance channels and pretreatment improvements.

The approach of this monitoring and maintenance program is both preventative and corrective. Small maintenance problems will be identified and corrected immediately or scheduled for correction, and larger maintenance issues will be identified during routine, scheduled inspections that will allow for resolution in a timely manner. During the initial year of installation, more frequent monitoring of the various system components will occur. A Storm Event Monitoring Form (Attachment H) will be completed in conjunction with monitoring activities that take place after a significant storm. Information on the size and frequency of storm events can be compared with observed sediment collection and maintenance needs of various components of the storm water collection, conveyance, and treatment system and used to develop an effective and cost-efficient maintenance schedule.

7.1 Monitoring by System Function

A variety of BMPs are listed in this SWMP (Attachment D) regarding collection, pre-treatment and storm water treatment. Monitoring the various structures for specific function will aid in identifying potential problems and assist in developing an appropriate corrective action.

Collection Systems

The collection systems will consist of curb and gutter, underground pipes, and vegetated swales. The main purpose of these systems is to collect storm water runoff and convey it to a treatment BMP. The focus of monitoring of these systems is to inspect for potential obstructions to flow, or excessive erosion that could weaken the channel or cause failure and allow storm flows to migrate from the conveyance system and damage public and private property.

Treatment Systems

Treatment system BMPs include pretreatment improvements, detention and retention basins, infiltration basins and trenches and emergency bypass structures. These systems are designed to retain or detain certain volumes of water, attenuate high flows and release them at specified rates to lessen the impact on downstream facilities, or to provide bypass mechanisms through which high flows can be directed without impacting a treatment or pre-treatment facility. The focus of monitoring these systems is to inspect for potential obstructions that would limit the ability of the system to function as designed. Failure of a flow control structure or basin bank

could lead to flooding and impact public and private property. Accumulation of excess quantities of sediment in a basin would reduce the storage volume and operational efficiency of the basins. Obstruction of an outlet control device could lead to the detention of greater than anticipated volumes of water that could lead to potential berm failure. These BMPs provide a water quality benefit by removing pollutants from the storm water. The amount and types of pollutant removal will vary by system. Understanding the type of pollutant targeted for removal will help in monitoring these systems to maintain optimal performance.

7.2 Monitoring and Maintenance Requirements

Monitoring and maintenance requirements and frequency will vary by the type of BMP structure and frequency of storm events. Maintenance activities vary and will include the cleaning of sludge/silt/debris and litter as necessary, revegetation/replanting of damaged landscaping, and upkeep of drainage facilities to ensure conveyance systems operate as designed during storm events. Routine maintenance activities include removal of excess sediment from drop inlets catch basins, vegetation management, and debris/litter control. Non-routine maintenance activities may include bank stabilization along channels or berms, basin sediment removal, pipe inlet/outlet structure maintenance/replacement, and cleaning of infiltration trenches.

The following information provides general guidance regarding minimal monitoring and maintenance activities. Recommended maintenance activities and schedules provided by the manufacturer of any specific mechanical treatment device should be incorporated into the final maintenance program.

Inspection records of the system should be prepared after each field review.

Structural BMPs and Typical Maintenance Required

Curb and Gutter:

- a. Visually check for broken sections. Broken sections should be identified for replacement.
- b. Sweep or vacuum gutters to remove accumulated sediment and debris.

Under Ground Piping (Storm Drain Culverts):

- a. Visually inspect all pipe inlets and outlets for debris accumulation and damage. Remove all debris and sediment accumulation at pipe openings. Damaged inlet or outlet sections should be repaired to maintain pipe flow capacity.
- b. Visually inspect all concrete headwall structures for spalling, cracking, or other damage. Areas showing spalling should be wire brushed and sealed with an appropriate sealant. Minor cracks should be sealed. Headwalls with large cracks or significant damage should be replaced.
- c. Visually inspect conveyance channels upstream and downstream of inlets and outlets for erosion and scouring. Eroding channel sections should be stabilized

through the repair of any damaged sections and placement of channel protection (riprap, etc.).

Conveyance Channels and Vegetated Swales:

- a. All channels should be visually inspected for debris accumulation in the flow line or low flow channel. All large pieces of debris should be removed at the time of inspection.
- b. Areas of sedimentation or ponding should be identified for possible remedial work in the channel to ensure proper flow of water during storm events.
- c. should be visually inspected for erosion (gullies, sloughing of the banks), disturbances to the banks, differential settlement, and scour. Small disturbances and gullies should be identified for repair. Larger disturbances may require immediate attention by a qualified engineer to determine the possibility and severity of any structural damage.
- d. Vegetated swales should be inspected for bare areas that may need to be revegetated and sediment accumulation that may need to be removed.
- e. Vegetation in swales should be irrigated, fertilized, and mowed on a regular schedule to ensure proper functioning of the system. Fertilizer application should be consistent with the CSI and LCGID Chemical Application Management Plan (CHAMP).

Detention and Retention Basins:

- a. Basins should be inspected after each significant storm event for water depth and visual quality (sheen). The facility should be inspected and notation made as to the duration of time that water is ponding (the duration of time that the basin is holding water) during and immediately after storm events for the first year. Inspection records of the systems ponding duration should be prepared after each significant storm event. Refer to the Storm Event Monitoring Form in Attachment H.
- b. Basins should be inspected for sediment depth once water levels have receded after large storm events. Remaining storage capacity should be estimated. A sediment marker (e.g., graduated pipe or marking) can be placed in the inlet structure in an area not likely to be damaged by incoming storm flows and easily readable by maintenance personnel.
- c. Sediment should be removed when accumulation reaches 50 percent of the designed sediment storage depth, or if sediment accumulation inhibits facility operation.
- d. After accumulated sediment is removed, bare areas should be re-graded to original design condition and 'seeded or revegetated as appropriate for the operation of the basin.
- e. If sediments are stored, they must be stored at a site consistent with the SWPPP. The LCGID will establish a sediment storage facility consistent with local, state and federal solid or hazardous waste disposal requirements.

- f. Significant erosion control problems or failures will be improved or corrected to intended or original conditions.
- g. Desert riparian or wetland plants may propagate in retention basins. They may provide additional pollutant uptake within the constraints related to basin capacity considerations and aesthetic considerations. They should not be allowed to clog the inlet or outlet structures.

Basin Inlets, Outlets, and Overflow Structures:

- a. Basin inlets, outlets and overflow structures should be visually inspected for blockages and structural condition. All concrete structures should be inspected for cracks or other signs of deterioration. The area downstream of the inlet or outlet should be inspected for signs of scour or erosion.
- b. Visually inspect all outlet pipes for debris accumulation and damage. Remove all debris and sediment accumulation at pipe openings. Damaged outlet sections should be identified for repair to maintain pipe flow capacity.
- c. Embankments adjacent to the inlet, outlet, and overflow structures should be visually inspected for erosion, differential settlement, seepage, and scour. Evidence of any of these may require immediate attention by a qualified engineer to determine the possibility and severity of any structural damage.

Structural BMP Bypass Systems:

- a. BMP bypass systems (overflow weirs, bypass manholes and pipes, etc.) should be visually inspected for debris and sediment accumulation and damage. Large pieces of debris should be removed at the time of visual inspection. Manholes and other structures where sediment can accumulate should be included on a regular clean-out schedule. Damaged sections should be identified for repair.

Infiltration Trenches and Basins:

- a. The surface of infiltration trenches should be visually inspected for debris and sediment accumulation that could hinder the ability of the structure to infiltrate water. Debris should be removed at the time of inspection.
- b. Accumulated sediment in gravel infiltration trenches should be removed periodically. The gravel should be removed and cleaned or replaced with clean material to ensure proper functioning of the system.
- c. Accumulated sediment in infiltration basins should be periodically removed. Upon removal of the sediment, the bottom of the basin should be scarified to loosen the compacted soil to maintain the infiltration capabilities of the basin.

Drop Inlet Catch Basins and Pretreatment Devices:

- a. Visually inspect all structures for debris accumulation and damage. Remove all debris and sediment accumulation.
- b. Visually inspect all concrete collars and structures for damage. Damaged areas should be identified for repair.
- c. Drop inlet catch basins should be inspected for debris and sediment accumulation at least quarterly and after each major storm event. Sediment collection structures should be cleaned with a vacuum truck as needed but no less than twice a year. Some structures may require more frequent cleaning.
- d. Pre-treatment devices should be inspected and cleaned according to the manufacturer's recommendations.
- e. Inlet, outlet, and screening mechanisms in pre-treatment devices should be inspected for debris accumulation and damage. Damaged structures should be identified for repair. Oil absorbent pillows should be replaced annually or more frequently if use requires.

Insect Control

- a. The CSGID will monitor its storm water control structures for mosquito abatement. An EPA guidance document "Stormwater Structures and Mosquitoes" is included in Attachment I. Many of these measures are not applicable to these stormwater treatment facilities; however, appropriate measures will be developed in coordination with the Clark County Health Department.

Access and Safety

During monitoring and maintenance activities, only appropriately trained personnel shall be used. Certain monitoring and maintenance activities may require entrance into a confined space. Only persons certified to access confined spaces shall be used in those instances.

All ingress/egress routes, roads, and access points should be maintained in a manner that allows for the efficient maintenance of the storm water facilities. Trees and shrubs should be pruned or trimmed as necessary to maintain access to the stormwater detention basins.

7.3 Record Keeping and Revisions

A COPY of the SWMP will be maintained in the LCGID office. A checklist inspection record shall be completed for all monitoring activities (Attachment J). In addition, a detailed written log of all preventative and corrective maintenance performed at the stormwater facilities shall be kept, including copies of maintenance-related work orders. An example maintenance tracking form is provided in Attachment J.

Records of revisions to the plan, monitoring activities, and any corrective action taken will be retained for a period of at least five years from the date of the observations, corrective action, or report. The records shall include:

- Date and description of plan revisions and documentation of approvals of the revisions by the NDEP;
- The date, place, and time of the inspections or corrective action;
- The individual(s) who performed the inspection or corrective action; and
- A description of any corrective action.

The Storm Water Management Plan will be reviewed annually by the GID to determine if revisions to the Plan are appropriate. Any changes to the community design that have occurred over the previous year that could impact storm water runoff will be identified. If such changes have occurred, a qualified consultant or individual will be retained to evaluate the need to implement additional BMPs for the protection of storm water quality. The Plan will be revised and BMPs implemented as appropriate. No changes can be made to the Plan that would create a violation of any agency permits or approvals, or a violation of any federal, state, or local regulations. A copy of proposed changes to the Plan will be provided to NDEP for comment, at least 30 days prior to implementation of the changes.

8.0 PUBLIC EDUCATION AND OUTREACH

The SMS4 pennit requirements include development and implementation of Public Education and Outreach activities to infonn the general public of the importance of stonn water quality issues. The goal of these activities is to influence the behaviors of residents to reduce activities that have a negative impact on stonn water runoff quality and increase activities that have a positive effect on stonn water runoff quality.

To raise awareness of storm water quality issues, CSI proposes to development and implement the following program elements:

- Develop an infonnational brochure to distribute to new residents and property owners on the importance of the SWMP, need to protect water quality, and to address specific water quality issues, and
- Develop and implement a training program targeting construction industry organizations (developers, contractors, and contractor employees).

9.0 PUBLIC PARTICIPATION AND INVOLVEMENT

Critical elements in the successful implementation of the storm water management plan are public participation and involvement. Although the public was not involved in the preparation of this programmatic SWMP, the LCGID will involve the public going forward. A Public Notice will be published in the local newspaper and posted in public places advertising public meetings to solicit comments and input on the SWMP. At a minimum a review of the SWMP and related achievements will be conducted annually by the LCGID. These public meetings will provide opportunities for direct public involvement of all interested stakeholders in the ongoing implementation of the SWMP.

Measurable goals of the public participation process include:

- Public notice and conduct a hearing to review the SWMP and solicit comments for interested stakeholders.

10.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

In compliance with MS4s pennit requirements, LCGrn will develop, implement and enforce a program to detect and eliminate illicit discharges into the stonn sewer system. In order to effectively monitor and detect illicit discharges, LCGrn will continue to develop a detailed stonn sewer system map, which incorporates the addition of new stonn water improvements as they are constructed for each project. This map will include the location of all outfalls and location of all Waters of the United States (WOUS) that receive discharges from those outfalls. The map will be created at a minimum using USGS 7.5 minute quad maps, and depict the WOUS for the Development Area as verified by the Army Corps of Engineers. All new improvements must be constructed in accordance with plans approved and pennitted by Lincoln County and the LCGID.

The detection program will include dry weather field screening for non-stonn water flows. The stonn sewer system will be inspected a minimum of two times per year by visually observing open channel sections during dry periods looking for evidence of non-stonn water discharges. The LCGID staff will perfonn all inspections and will be trained to look for evidence of non-stonn water discharges while completing their nonnal duties.

The program will be reviewed and revised annually to evaluate the effectiveness of the detection program and adapt to changing conditions.

The LCGrn will establish an ordinance that prohibits non-stonn water discharges into the stonn sewer system and appropriate enforcement measures will be established. This infonnation will be included in the public infonnation brochure. The infonnation will include:

- The hazards associated with illegal discharges into the stonn sewer system;
- Written ordinances established prohibiting non-stonn water discharges into the stonn sewer system;
- Enforcement actions pursued against those who illicitly discharge into the stonn sewer system; and
- A means of reporting suspected discharges to the appropriate authorities.

Measurable goals of the illicit discharge detection and elimination program for implementation include:

- Maintain stonn sewer system map that includes all new project improvements,
- Establish a review process of all construction plans and on-site BMP monitoring for compliance, and
- Include in the public infonnation brochure infonnation on illegal discharges to the stonn sewer system.

11.0 YEAR ONE MEASURABLE GOALS

LCGID will evaluate the effectiveness of the structural and institutional BMPs to determine if they are reducing the discharge of pollutants to the maximum extent practicable. The program will also be evaluated based on achievement of the program's measurable goals. The determination of the effectiveness of the BMPs and attainment of the measurable goals will determine if modifications to the SWMP are necessary. Table 2 summarizes a list of measurable goals to be achieved during the initial year of implementation (Year One). During the annual review process, LCGID will identify the measurable goals to be achieved during the next calendar year and report the goals and any SWMP modifications to the NDEP.

Table 2. Year One Measurable Goals to be completed

Program Category	Measurable Goals
LEGAL AUTHORITY	<ul style="list-style-type: none"> • Continue efforts to establish GID service plan • Final LCGID Improvement Design and Construction Standards
STORM WATER MANAGEMENT AND POST-CONSTRUCTION RUNOFF	<ul style="list-style-type: none"> • Prioritize drainage improvements to support development • Prepare drainage report and construction plans and provide to Lincoln County for review • Schedule construction of priority improvements • Contractors to include BMPs in project plans
CONSTRUCTION SITE RUNOFF	<ul style="list-style-type: none"> • Implement contractor training program • Implement inspection of construction BMPs prior to soil disturbance and during construction • Implement project tracking system and record all inspections
MONITORING AND MAINTENANCE	<ul style="list-style-type: none"> • Implement monitoring program • Environmental Monitor implement SWPPP program
PUBLIC EDUCATION AND OUTREACH	<ul style="list-style-type: none"> • Develop and distribute information brochure
PUBLIC PARTICIPATION	<ul style="list-style-type: none"> • Public Notice and conduct workshop with stakeholders to solicit comments on draft SWMP and annual revisions
ILLICIT DISCHARGE AND ELIMINATION SYSTEM	<ul style="list-style-type: none"> • Maintain storm sewer system map and identify locations of discharge into waDS as constructed • Establish construction plan review process and monitoring procedures • Publish informational brochure describing the system and hazards of illicit discharges

12.0 REFERENCES

Clark County Comprehensive Planning, 2000. Northeast Clark County 208 Water Quality Management Plan Amendment, June 2000

Clark County Regional Flood Control District Drainage Design Manual, 1999

ATTACHMENTS

Attachment A

NDEP SMS4 Fact Sheet and General Permit

Nevada Division of Environmental Protection

FACT SHEET (pursuant to NAC 445A.236)

Permit Name:

General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems

Permit Number: NVS040000.

Location:

This permit will immediately effect all or portions of the following areas:

- Carson City
- Douglas County
- Lyon County
- City of Elko
- Nellis AFB
- Nevada Department of Transportation (Within in any regulated Municipal Separate Storm Sewer Systems).

Background:

Polluted storm water runoff is often transported to municipal separate storm sewer systems (MS4s) and ultimately discharged into local rivers and streams without treatment. EPA's Storm Water Phase II Rule establishes an MS4 storm water management program that is intended to improve the Nation's waterways by reducing the quantity of pollutants that storm water picks up and carries into storm sewer systems during storm events. Common pollutants include oil and grease from roadways, pesticides from lawns, sediment from construction sites, and carelessly discarded trash, such as cigarette butts, paper wrappers, and plastic bottles. When deposited into nearby waterways through MS4 discharges, these pollutants can impair the waterways, thereby discouraging recreational use of the resource, contaminating drinking water supplies, and interfering with the habitat for fish, other aquatic organisms, and wildlife. In 1990, EPA promulgated rules establishing Phase I of the National Pollutant Discharge Elimination System (NPDES) storm water program. The Phase I program for MS4s requires operators of "medium" and "large" MS4s, that is, those that generally serve populations of 100,000 or greater, to implement a storm water management program as a means to control polluted discharges from these MS4s. The Storm Water Phase II Rule extends coverage of the NPDES storm water program to certain "small" MS4s but takes a slightly different approach on how the storm water management program is developed and implemented.

A small MS4 is any MS4 not already covered by the Phase I program as a medium or large MS4. A small MS4 can be designated by the permitting authority as a *regulated* small MS4 in one of three ways:

1. Automatic Nationwide Designation

The Phase II Final Rule requires nationwide coverage of all operators of small MS4s that are located within the boundaries of a Bureau of the Census-defined "urbanized area" (VA) based on the latest decennial Census. Once a small MS4 is designated into the program based on the VA boundaries, it cannot be waived from the program if in a subsequent VA calculation the small MS4 is no longer within the VA boundaries. An automatically designated small MS4 remains regulated unless, or until, it meets the criteria for a waiver.

2. Potential Designation by the NPDES Permitting Authority - Required Evaluation

An operator of a small MS4 located outside of a VA may be designated as a regulated small MS4 if the NPDES permitting authority determines that its discharges cause, or have the potential to cause, an adverse impact on water quality. The Phase II Final Rule requires the NPDES permitting authority to develop a set of designation criteria and apply them, *at a minimum*, to all small MS4s located outside of a VA serving a jurisdiction with a population of at least 10,000 and a population density of at least 1,000-people/square mile.

3. Potential Designation by the NPDES Permitting Authority - Physically Interconnected

Under the final rule, the NPDES permitting authority is required to designate any small MS4 located outside of a UA that contributes substantially to the pollutant loadings of a *physically interconnected* MS4 regulated by the NPDES storm water program. The final rule does not set a deadline for designation of small MS4s meeting this criterion.

Operators of regulated small MS4s are required to design their programs to:

- Reduce the discharge of pollutants to the "maximum extent practicable" (MEP);
- Protect water quality; and
- Satisfy the appropriate water quality requirements of the Clean Water Act.

Implementation of the MEP standard will typically require the development and implementation of BMPs and the achievement of measurable goals to satisfy each of the six minimum control measures. The Phase II Rule defines a small MS4 storm water management program as a program comprising six elements that, when implemented in concert, are expected to result in significant reductions of pollutants discharged into receiving waterbodies.

The six MS4 program elements, termed "minimum control measures," are outlined below.

1. Public Education and Outreach- Distributing educational materials and performing outreach to inform citizens about the impacts polluted storm water runoff discharges can have on water quality.
2. Public Participation/Involvement - Providing opportunities for citizens to participate in program development and implementation, including effectively publicizing public hearings and/or encouraging citizen representatives on a storm water management panel.
3. Illicit Discharge Detection and Elimination - Developing and implementing a plan to detect and eliminate illicit discharges to the storm sewer system (includes developing a system map and informing the community about hazards associated with illegal discharges and improper disposal of waste).
4. Construction Site Runoff Control- Developing, implementing, and enforcing an erosion and sediment control program for construction activities that disturb 1 or more acres of land (controls could include silt fences and temporary storm water detention ponds).
5. Post-Construction Runoff Control- Developing, implementing, and enforcing a program to address discharges of post-construction storm water runoff from new development and redevelopment areas. Applicable controls could include preventative actions such as protecting sensitive areas (e.g., wetlands) or the use of structural BMPs such as grassed swales or porous pavement.
6. Pollution Prevention/Good Housekeeping - Developing and implementing a program with the goal of preventing or reducing pollutant runoff from municipal operations. The program must include municipal

staff training on pollution prevention measures and techniques (e.g., regular street sweeping, reduction in the use of pesticides or street salt, or frequent catch-basin cleaning).

The Phase II program for MS4s is designed to accommodate a general permit approach using a Notice of Intent (NOI) as the permit application. The operator of a regulated small MS4 must include in its permit application, or NOI, its chosen BMPs and measurable goals for each minimum control measure. To help permittees identify the most appropriate BMPs for their programs, EPA will issue a "menu," of BMPs to serve as guidance. NPDES permitting authorities can modify the EPA menu or develop their own lists.

The rule identifies a number of implementation options for regulated small MS4 operators. These include sharing responsibility for program development with a nearby regulated small MS4, taking advantage of existing local or State programs, or participating in the implementation of an existing Phase I MS4's storm water program as a co-permittee. These options are intended to promote a regional approach to storm water management coordinated on a watershed basis.

Permittees need to evaluate the effectiveness of their chosen BMPs to determine whether the BMPs are reducing the discharge of pollutants from their systems to the "maximum extent practicable" and to determine if the BMP mix is satisfying the water quality requirements of the Clean Water Act. Permittees also are required to assess their progress in achieving their program's measurable goals. While monitoring is not required under the rule, the NPDES permitting authority has the discretion to require monitoring if deemed necessary. If there is an indication of a need for improved controls, permittees can revise their mix of BMPs to create a more effective program.

Projected Impact:

Six entities that will be initially impacted by the Small MS4 General Permit include all or portions of the following areas:

1. *Carson City* - Automatic designation by EPA through Bureau of the Census VA designation.
2. *Lyon County* - Automatic designation by EPA through Bureau of the Census VA designation.
3. *Douglas County* - Automatic designation by EPA through Bureau of the Census VA designation.
4. *Nellis AFB* - Automatic designation by EPA through Bureau of the Census VA designation.
5. *Nevada Department of Transportation* - Automatic designation by EPA through Bureau of the Census VA designation.
6. *City of Elko* - An operator of a small MS4 located outside of a VA maybe designated as a regulated small MS4 if the NPDES permitting authority determines that its discharges cause, or have the potential to cause, an adverse impact on water quality. The Phase II Final Rule requires the NPDES permitting authority to develop a set of designation criteria and apply them to all small MS4s located outside of a VA serving a jurisdiction with a population of at least 10,000 and a population density of at least 1,000-people/square mile. NDEP has determined that the City of Elko will require coverage under this general permit because its discharges have the potential to cause an adverse impact on the Humbolt River water quality.

Hospitals, prisons, universities, and other facilities that exist in Nevada's regulated MS4 areas that are operators of "small municipal separate storm sewer systems" may be required to obtain coverage under this Small MS4 General permit.

Receiving Water Characteristics:

Variable depending on location

Permit Requirements:

This permit is in response to requirements of the Federal Clean Water Act and implementing federal regulations,

and is based on Best Management Practices (BMPs)

Rationale for Permit Requirements:

The conditions set in permit language are the minimum requirements to maintain and implement an effective stormwater program within the confines of U. S. EPA published rules (Title 40 of the Code of Federal Regulations Part 122) for use in storm water permits.

Prepared by: Clifford M. Lawson
Staff II Associate Engineer
October 4, 2002

General Permit

Permit No. NVS040000



General Permit for

from

System

Separate Storm Sewer

Systems

Authorization to Discharge under the National

Elimination System

In compliance with the provisions of the Clean Water Act, as amended, (33 U.S.C.

seq.), except as provided in Part 1.3 of operators of small

municipal separate storm sewer systems, located in an 1.1, and

the Nevada Revised Statutes, and who submit Notice of Intent and a

management plan in accordance with sections 3 and 4, are authorized to

discharge stormwater runoff from the United States in accordance with the conditions

and requirements set forth herein.

This permit becomes effective on December 9, 2002

This permit and the authorization to discharge expire at midnight, December 8, 2007

Signed and issued this 9th day of December, 2002.

Clifford M. Lawson
Bureau of

Control

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7. Definitions

1 Coverage under this Permit

1.1 Permit Area

This permit covers all of part of any Urbanized Area within the State of Nevada:

1.2 Eligibility

1.2.1 This permit authorizes discharges of storm water from small municipal separate storm sewer systems (MS4s), as defined in 40 CFR §122.26(b)(16). The permittee is authorized to discharge under the terms and conditions of this general permit if the permittee:

1.2.1.1 Operates a small MS4 within the permit area described in Section 1.1,

1.2.1.2 Is not a "large" or "medium" MS4 as defined in 40 CFR §122.26(b)(4) or (7), and

1.2.1.3 Submits a Notice of Intent (NOI) in accordance with Part 2 of this permit, and

1.2.1.4 Is located tully or partially within an urbanized area as determined by the latest Decennial Census by the Bureau of Census, or

1.2.1.5 Is a small MS4s located outside of a serving a jurisdiction with a population of at least 10,000 and has population density of at least 1,000 people per square mile as determined by the latest Decennial Census by the Bureau of Census, or

1.2.1.5 Is designated for permit authorization by the Nevada Division of Environmental Protection (Division) pursuant to 40 CFR §122.32.

1.2.2 The following are types of authorized discharges:

1.2.2.1 *Storm water discharges.* This permit authorizes storm water discharges to waters of the United States from the small MS4s identified in Section 1.2.1, except as excluded in Section 1.3.

1.2.2.2 *Non-storm water discharges.* The permittees are authorized to discharge the following non-storm water sources provided that the permitting authority has not determined these sources to be substantial contributors of pollutants to the permittees MS4:

- Water line flushing
- Landscapeirrigatlon

- 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.)
- Uncontaminated pumped ground water
- Discharges from potable water sources
- Foundation drains
- Air conditioning condensate
- 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
- Street wash water
- Discharges or flows from fire fighting activities

1.3 Limitations on Coverage

This permit does not authorize the following:

- 1.3.1 Discharges that are mixed with sources of non-storm water unless such non-storm water discharges are:
 - In compliance with a separate NPDES permit, or
 - Determined not to be a substantial contributor of pollutants to waters of the U.S.
- 1.3.2 Storm water discharges associated with industrial activity as defined in 40 CFR §122.26(b)(14)(i)-(ix) and (xi).
- 1.3.3 Storm water discharges associated with construction activity as defined in 40 CFR §122.26(b)(14)(x) or 40 CFR §122.26(b)(15).
- 1.3.4 Storm water discharges currently covered under another permit.
- 1.3.5 Discharges that would cause or contribute to instream exceedances of water quality standards. The permittees Storm Water Management Program (SWMP) must include a description of the BMPs that will be used to ensure that this will not occur. The Division may require corrective action or an

application for an individual permit or alternative general permit if an MS4 is determined to cause an instream exceedance of water quality standards.

1.3.6 Discharges of any pollutant into any water for which a Total Maximum Daily Load (TMDL) has been either established or approved by the Division unless the permittees discharge is consistent with that TMDL. This eligibility condition applies at the time the permittee submit a Notice of Intent for coverage. If conditions change after the permittee have permit coverage, the permittee may remain covered by the permit provided the permittee comply with the applicable requirements of Part 3. The permittee must incorporate any limitations, conditions and requirements applicable to the permittees discharges, including monitoring frequency and reporting required, into the permittees SWMP in order to be eligible for permit coverage. For discharges not eligible for coverage under this permit, the permittee must apply for and receive an individual or other applicable general NPDES permit prior to discharging.

1.3.7 Discharges that do not comply with the EPA's anti-degradation policy for water quality standards. EPA's anti-degradation policies can be obtained from the appropriate environmental office or their Internet sites.

1.4 Obtaining Authorization

1.4.1 To be authorized to discharge storm water from small MS4s, the permittee must submit a notice of intent (NOI) and a description of the permittees SWMP in accordance with the deadlines presented in Section 2.1 of this permit.

1.4.2 The permittee must submit the information required in section 2.2 on the latest version of the NOI form (or photocopy thereof) contained in Addendum #A. The permittees NOI must be signed and dated in accordance with section 6.7 of this permit.

Note: If the Division notifies dischargers (either directly, by public notice, or by making information available on the Internet) of other NOI form options that become available at a later date (e.g., electronic submission of forms), the permittee may take advantage of those options to satisfy the NOI use and submittal requirements of Section 2.

1.4.3 Unless notified by the Division to the contrary, dischargers who submit an NOI in accordance with the requirements of this permit are authorized to discharge storm water from small MS4s under the terms and conditions of this permit thirty (30) days after the date that the NOI is postmarked. The Division may deny coverage under this permit and require submittal of an application for an individual NPDES permit based on a review of the NOI or other information (see Section 6.16).

- 1.4.4 Where the operator changes, or where a new operator is added after submittal of an NOI under Part 2, a new NOI must be submitted in accordance with Part 2 prior to the change or addition.
- 1.4.5 The permittees shall remit an annual review and services fee in accordance with NAC 445A.232 starting July 1, 2004 and every year thereafter until the permit is terminated.
- 1.4.6 *Reapplication.* The permittees shall reapply not later than 180 days before this permit expires.
- 2 Notice of Intent Requirements
 - 2.1 Deadlines for Notification
 - 2.1.1 If the permittee are automatically designated under 40 CFR §122.32(a)(1) or designated by the permitting authority in this permit, then the permittees are required to submit an NOI and a description of the permittee's SWMP or apply for an individual permit by March 10, 2003.
 - 2.1.2 *Additional designations after the date of permit issuance.* If a permittee is designated as a regulated Small MS4 by the permitting authority after the date of permit issuance, then the permittee is required to submit an NOI and a description of the permittee's SWMP to the permitting authority within 180 days of notice.
 - 2.1.3 *Submitting a Late NOI.* The permittee are not prohibited from submitting an NOI after the dates provided in 2.1. If a late NOI is submitted, the permittees authorization is only for discharges that occur after permit coverage is granted. The permitting authority reserves the right to take appropriate enforcement actions for any unpermitted discharges.
 - 2.2 Contents of the Notice of Intent

The Notice(s) of Intent must be signed in accordance with Part 6.7 of this permit and must include the following information:

 - 2.2.1 *Information on the Permittee:*
 - 2.2.1.1 The name of the permittees municipal entity/tribe/state agency/federal agency, mailing address, and telephone number;
 - 2.2.1.2 An indication of whether the permittee are a Federal, State, or other public entity;

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

- 2.2.2.1 The Urbanized Area or Core Municipality (if the permittees are not located in an Urbanized Area) where the permittees' system is located; the name of the permittees' organization, or county (ies) where the permittees MS4 is located, and the latitude and longitude of an approximate center of the permittees MS4;
- 2.2.2.2 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. If the permittee have discharges to 303(d) waters, a certification that the permittees SWMP complies with the requirements of Part 3.1;
- 2.2.2.3 An indication of whether all or a portion of the MS4 is located on Indian Country lands.
- 2.2.2.4 If the permittees are relying on another governmental entity regulated under the storm water regulations (40 CFR 122.26 & 122.32) to satisfy one or more of the permittees' permit obligations (see Part 4.4), the identity of that entity (ies) and the element(s) they will be implementing.
- 2.2.2.5 Information on the permittees' chosen best management practices (BMPs) and the measurable goals for each of the storm water minimum control measures in Part 4.2 of this permit, the permittees timeframe for implementing each of the BMPs, and the person or persons responsible for implementing or coordinating the permittees' SWMP.

2.3 Where to Submit

The permittee are to submit the permittee's NOI, signed in accordance with the signatory requirements of Section 6.7 of this permit, to the Division 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 Co-Permittees under a Single NOI

The permittee may partner with other MS4s to develop and implement the permittees SWMP. The permittee may also jointly submit an NOI with one or more MS4s. Each MS4 must fill out the NOI form in Addendum #A. 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.* The permittee must:
 - 3.1.1.1 Determine whether storm water discharge from any part of the MS4 significantly contributes directly or indirectly to the listing of a waterbody on the 303(d) list (Le., impaired waterbody). If the permittee have discharges meeting this criteria, the permittee must comply with Part 3.1.2; if the permittee do not, Part 3.1 does not apply to the permittee.
 - 3.1.1.2 If the permittee have "303(d)" discharges described above, the permittee must also determine whether a TMDL has been developed and approved by the Division for the listed waterbody. If there is a TMDL, the permittee must comply with both Parts 3.1.2 and 3.1.3; if no TMDL has been approved, Part 3.1.3 does not apply until a TMDL has been approved.
 - 3.1.2 *Water Quality Controls for Discharges to Impaired Waterbodies.* The permittee's SWMP (SWMP) must include a section describing how the permittees program will control the discharge of the pollutants of concern and ensure the permittees discharges will not cause or contribute to instream exceedances of the water quality standards. This discussion must specifically identify measures and BMPs that will collectively control the discharge of the pollutants of concern.
 - 3.1.3 *Consistency with Total Maximum Daily Load (TMDL) Allocations.* If a TMDL has been approved for any waterbody into which the permittee discharge, the permittee must:
 - 3.1.3.1 Determine whether the approved TMDL is for a pollutant likely to be found in storm water discharges from the permittees MS4.
 - 3.1.3.2 Determine whether the TMDL includes a pollutant wasteload allocation (WLA) or other performance requirements specifically for storm water discharge from the permittees MS4.
 - 3.1.3.3 Determine whether the TMDL addresses a flow regime likely to occur during periods of storm water discharge.
 - 3.1.3.4 After the determinations above have been made and if it is found that the permittees MS4 must implement specific WLA provisions of the TMDL, assess whether the WLAs are being met through implementation of existing storm water control measures or if additional control measures are necessary.

- 3.1.3.5 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 WLA will be met.
- 3.1.3.6 Describe a monitoring program to determine whether the storm water controls are adequate to meet the WLA.
- 3.1.3.7 If the evaluation shows that additional or modified controls are necessary, describe the type and schedule for the control additions/revisions. Continue Parts 3.1.3.4-7 until two continuous monitoring cycles show that the WLAs are being met or that WQ standards are being met
- 3.2 Carson City Urbanized Area Discharges to Clear Creek
 - 3.2.1 Permittees within the Caron City Urbanized Area shall develop a separate Clear Creek Master Storm Water Management Program (CCSWMP). The CCSWMP must be developed, implemented, and enforced to reduce the discharge of pollutants to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries (and for those side slope boundaries deemed appropriate as dictated by individual site conditions) of a construction area, unless a sediment basin providing storage for a calculated volume of runoff from a 2 year, 24 hour storm or 3,600 cubic feet of storage per acre drained, shall be provided. The CCSWMP shall include the following:
 - 3.2.1.1 A detailed description of Management practices that will be implemented;
 - 3.2.1.2 A detailed description of control techniques to ensure no discharge of pollutants into Clear Creek;
 - 3.2.1.3 A detailed description of system design and engineering methods used to protect Clear Creek from the discharge of pollutants;
 - 3.2.1.4 A schedule of implementation for all short term and long activities describing program development, implementation and maintenance;
 - 3.2.1.5 A monitoring program to ensure the overall quality and health of Clear Creek;
 - 3.2.1.6 A listing and tracking program for all Industrial facilities that have the potential to discharge into Clear Creek;
 - 3.2.1.7 A inspection program that ensures no discharges into Clear Creek;
 - 3.2.1.8 and such other provisions as the permitting authority determines appropriate for the control of such pollutants.
 - 3.2.1.9 The CCSWMP shall be submitted to the Division for approval on or before September 10, 2003.
 - 3.2.2 The permittee may partner with other MS4s to develop and implement the permittees SWMP. The permittee may also jointly submit an NOI with one or

more MS4s. Each MS4 must fill out the NOI form in Addendum #A. The description of the permittees' SWMP must clearly describe which permittees are responsible for implementing each of the control measures

3.2.3 The permittees CCSWMP must include the following information and comply with each of the six minimum control measures described in Section 4.2 of this permit

4 Storm Water Management Programs

4.1 Requirements

4.1.1 The permittee must develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the permittees small MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act. The SWMP shall include management practices; control techniques and system, design, and engineering methods; and such other provisions as the permitting authority determines appropriate for the control of such pollutants. The permittees SWMP must include the following information and comply with each of the six minimum control measures described in Section 4.2 of this permit:

4.1.1.1 The management practices (BMPs) that the permittee or another entity will implement for each of the storm water minimum control measures;

4.1.1.2 The measurable goals for each of the BMPs including, as appropriate, the months and years in which the permittee will undertake required actions, including interim milestones and the frequency of the action; and

4.1.1.3 The person or persons responsible for implementing or coordinating the BMPs for the permittees' SWMP.

4.1.2 In addition to the requirements listed above, the permittee must provide a rationale for how and why the permittee selected each of the BMPs and measurable goals for the permittees' SWMP. The information required for such a rationale is given in Section 4.2 for each minimum measure. The permittee must develop and fully implement the permittee's program by December 10, 2007.

4.1.3 The SWMP shall be submitted to the Division for approval on or before September 10, 2003.

4.2 Minimum Control Measures

The six minimum control measures that must be included in the permittees' SWMP are:

4.2.1 Public Education and Outreach on Storm Water Impacts

4.2.1.1 *Permit requirement.* The permittee must implement a public education program to distribute educational materials to the community or conduct equivalent outreach activities about the impacts of storm water discharges on water bodies and the steps that the public can take to reduce pollutants in storm water runoff.

4.2.1.2 *Decision process.* The permittee must document the permittees' decision process for the development of a storm water public education and outreach program. The permittees' rationale statement must address both the overall public education program and the individual BMPs, measurable goals and responsible persons for the program. The rationale statement must include the following information, at a minimum:

- 4.2.1.2.1 How the permittee plan to inform individuals and households about the available steps reduce storm water pollution.
- 4.2.1.2.2 How the permittee plans to inform individuals and groups on how to become involved in the storm water program.
- 4.2.1.2.3 Who the selected target audiences are for the permittees' education program who are likely to have significant storm water impacts (including commercial, industrial and institutional entities) and why those target audiences were selected.
- 4.2.1.2.4 What the target pollutant sources are that the permittee's public education program is designed to address.
- 4.2.1.2.5 What the permittees' outreach strategy is, including the mechanisms (e.g., printed brochures, newspapers, media, workshops, etc.) the permittee will use to reach the permittees' target audiences, and how many people are expected to be reached by the outreach strategy over the permit term.
- 4.2.1.2.6 Who is responsible for overall management and implementation of the permittees' storm water public education and outreach program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.1.2.7 How will the permittee evaluate the success of this minimum measure, including how the selected the measurable goals for each of the BMPs.

4.2.2 Public Involvement/Participation

- 4.2.2.1 *Permit requirement.* The permittee must at a minimum, comply with State, and local public notice requirements when implementing a public involvement/participation program.
- 4.2.2.2 *Decision process.* The permittee must document the decision process for the development of a storm water public involvement/participation program. The permittees' rationale statement must address both the overall public involvement/participation program and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement must include the following information, at a minimum:
- 4.2.2.2.1 How the permittee have involved the public in the development and submittal of the permittees NOI and SWMP.
- 4.2.2.2.2 What is the permittees' plan to actively involve the public in the development and implementation of the program.
- 4.2.2.2.3 Who are the target audiences for the permittees' public involvement program, including a description of the types of ethnic and economic groups engaged. The permittee are encouraged to actively involve all potentially affected stakeholder groups, including commercial and industrial businesses, trade associations, environmental groups, homeowners associations, and educational organizations, among others.
- 4.2.2.2.4 What are the types of public involvement activities included in the permittees program. Where appropriate, consider the following types of public involvement activities:
- 4.2.2.2.4.1 Citizen representatives on a storm water management panel
- 4.2.2.2.4.2 Public hearings
- 4.2.2.2.4.3 Working with citizen volunteers willing to educate others about the program
- 4.2.2.2.4.4 Volunteer monitoring or stream/beach clean-up activities
- 4.2.2.2.5 Who is responsible for the overall management and implementation of the permittees storm water public involvement/participation program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.2.2.6 How the permittee will evaluate the success of this minimum measure, including how the permittee selected the measurable goals for each of the BMPs.

4.2.3 Illicit Discharge Detection and Elimination

4.2.3.1 *Permit requirement.* The permittee must:

- 4.2.3.1.1 Develop, implement and enforce a program to detect and eliminate illicit discharges (as defined in 40 CFR §122.26(b)(2)» into the permittees small MS4;
- 4.2.3.1.2 Develop, if not already completed, a storm sewer system map, showing the location of all outfalls and the names and location of all waters of the United States that receive discharges from those outfalls;
- 4.2.3.1.3 To the extent allowable under State, or local law, effectively prohibit, through ordinance, or other regulatory mechanism, non-storm water discharges into the permittees' storm sewer system and implement appropriate enforcement procedures and actions;
- 4.2.3.1.4 Develop and implement a plan to detect and address non-storm water discharges, including illegal dumping, to the permittees' system;
- 4.2.3.1.5 Inform public employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste; and
- 4.2.3.1.6 Address the following categories of non-storm water discharges or flows (Le., illicit discharges) only if the permittee identify them as significant contributors of pollutants to the permittees small MS4: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR §35.2005(20)», 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 (discharges or flows from fire fighting activities are excluded from the effective prohibition against non-storm water and need only be addressed where they are identified as significant sources of pollutants to waters of the United States).
- 4.2.3.1.7 The permittee may also develop a list of other similar occasional incidental non-storm water discharges (e.g. non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-storm water discharges must not be reasonably expected to be significant sources of pollutants to the Municipal Separate Storm Sewer System, because of either the nature of the discharges or conditions the permittee have established for allowing these discharges to the permittees MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs

on the wash water, etc.). The permittee must document in the SWMP any local controls or conditions placed on the discharges. The permittee must include a provision prohibiting any individual non-storm water discharge that is determined to be contributing significant amounts of pollutants to the MS4.

4.2.3.2 *Decision process.* The permittee must document the decision process for the development of a storm water illicit discharge detection and elimination program. The permittees rationale statement must address both the overall illicit discharge detection and elimination program and the individual BMPs, measurable goals, and responsible persons for the program. The rational statement must include the following information, at a minimum:

4.2.3.2.1 How the permittee will develop a storm sewer map showing the location of all outfalls and the names and location of all receiving waters. Describe the sources of information the permittee used for the maps, and how the permittee plans to verify the outfall locations with field surveys. If already completed, describe how the map was developed. Also, describe how the map will be regularly updated.

4.2.3.2.2 The mechanism (ordinance or other regulatory mechanism) the permittee will use to effectively prohibit illicit discharges into the MS4 and why the mechanism was chosen. If the permittee needs to develop this mechanism, describe the plan and the schedule to do so. If the permittees ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the program.

4.2.3.2.3 The permittees' plan to ensure through appropriate enforcement procedures and actions that the illicit discharge ordinance (or other regulatory mechanism) implemented.

4.2.3.2.4 The permittees' plan to detect and address illicit discharges to the system, including discharges from illegal dumping and spills. The permittees plan must include dry weather field screening for non-storm water flows and field tests of selected chemical parameters as indicators of discharge sources. The permittees plan must also address on-site sewage disposal systems that flow into the storm drainage system. The permittees description must address the following, at a minimum:

4.2.3.2.4.1 Procedures for locating priority areas which includes areas with higher likelihood of illicit connections (e.g., areas with older sanitary sewer lines, for example) or ambient sampling to locate impacted reaches.

4.2.3.2.4.2 Procedures for tracing the source of an illicit discharge, including the specific techniques that will be used to detect the location of the source.

4.2.3.2.4.3 Procedures for removing the source of the illicit discharge

4.2.3.2.4.4 Procedures for program evaluation and assessment.

4.2.3.2.5 How the permittee plan to inform pUblc employees, businesses, and the general public of hazards associated with illegal discharges and improper disposal of waste. Include in the 'permittees description how this plan will coordinate with the public education minimum measure and the pollution prevention/good housekeeping minimum measure programs.

4.2.3.2.6 Who is responsible for overall management and implementation of the storm water illicit discharge detection and elimination program and, if different, who is responsible for each of the BMPs identified for this program.

4.2.3.2.7 How the permittee will evaluate the success of this minimum measure, including how the permittee selected the measurable goals for each of the BMPs.

4.2.4 Construction Site Storm Water Runoff Control

4.2.4.1 *Permit requirement.* The permittee must develop, implement, and enforce a program to reduce pollutants in any storm water runoff to the permittees small MS4 from construction activities that result in a land disturbance of greater than or equal to one acre. Reduction of storm water discharges from construction disturbing less than one acre must be included in the program if that construction activity is part of a larger common plan of development or sale that would disturb one acre or more. If the NPDES permitting authority waives requirements for storm water discharges associated with small construction activity in accordance with § 122.26(b)(15)(i), the permittee are not required to develop, implement, and/or enforce a program to reduce pollutant discharges from such sites. The permittees program must include the development and implementation of, at a minimum:

4.2.4.1.1 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;

4.2.4.1.2 Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

4.2.4.1.3 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;

- 4.2.4.1.4 Procedures for site plan review which incorporate consideration of potential water quality impacts;
 - 4.2.4.1.5 Procedures for receipt and consideration of information submitted by the public; and
 - 4.2.4.1.6 Procedures for site inspection and enforcement of control measures.
- 4.2.4.2 *Decision process.* The permittee must document the decision process for the development of a construction site storm water control program. The permittees rationale statement must address both the overall construction site storm water control program and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement must include the following information, at a minimum:
- 4.2.4.2.1 The mechanism (ordinance or other regulatory mechanism) the permittee will use to require erosion and sediment controls at construction sites and why that mechanism was chosen. If the permittee needs to develop this mechanism, describe the plan and the schedule to do so. If the permittees ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the SWMP description.
 - 4.2.4.2.2 The permittees plan to ensure compliance with the erosion and sediment control regulatory mechanism, including the sanctions and enforcement mechanisms that will be used to ensure compliance. Describe the permittees procedures for when the permittee will use sanctions. Possible sanctions include non-monetary penalties (such a stop work orders), fines, bonding requirements, and/or permit denials for non-compliance.
 - 4.2.4.2.3 The permittees requirements for construction site operators to implement appropriate erosion and sediment control BMPs and control waste at construction sites that may cause adverse impacts to water quality. Such waste includes discarded building materials, concrete truck washouts, chemicals, litter, and sanitary waste.
 - 4.2.4.2.4 The permittees procedures for site plan review, including the review of pre-construction site plans, which incorporate consider of potential water quality impacts. Describe the permittees procedures and the rationale for how the permittee will identify certain sites for site plan review, if not all plans are reviewed. Describe the estimated number and percentage of site that will have pre-construction site plans reviewed.
 - 4.2.4.2.5 The permittees procedures for receipt and consideration of information submitted by the public. Consider coordinating this requirement with the permittees public education program.

- 4.2.4.2.6 The permittees procedures for site inspection and enforcement of control measures, including how the permittee will prioritize sites for inspection.
- 4.2.4.2.7 Who is responsible for overall management and implementation of the construction site storm water control program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.4.2.8 Describe how the permittee will evaluate the success of this minimum measure, including how the permittee selected the measurable goals for each of the BMPs.
- 4.2.5 Post-Construction Storm Water Management in New Development and Redevelopment
 - 4.2.5.1 *Permit requirement.* The permittee must:
 - 4.2.5.1.1 Develop, implement, and enforce a program to address storm water runoff from new development and redevelopment projects that disturb greater than or equal to one acre, including projects less than one acre that are part of a larger common plan of development or sale, that discharge into the permittees small MS4. The permittees program must ensure that controls are in place that would prevent or minimize water quality impacts;
 - 4.2.5.1.2 Develop and implement strategies which include a combination of structural and/or non-structural best management practices (BMPs) appropriate for the permittees community; and
 - 4.2.5.1.3 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
 - 4.2.5.1.4 Ensure adequate long-term operation and maintenance of BMPs.
 - 4.2.5.2 *Decision process.* The permittee must document the decision process for the development of a post-construction SWMP. The permittees rationale statement must address both the overall post-construction SWMP and the individual BMPs, measurable goals, and responsible persons for the program. The rational statement must include the following information, at a minimum:
 - 4.2.5.2.1 The permittees program to address storm water runoff from new development and redevelopment projects. Include in this description any specific priority areas for this program.
 - 4.2.5.2.2 How the permittees program will be specifically tailored for the local community, minimize water quality impacts, and attempt to maintain pre-development runoff conditions.

- 4.2.5.2.3 Any **non-structural** BMPs in the permittees program, including, as appropriate:
- 4.2.5.2.3.1 Policies and ordinances that provide requirements and standards to direct growth to identified areas, protect sensitive areas such as wetlands and riparian areas, maintain and/or increase open space (including a dedicated funding source for open space acquisition), provide buffers along sensitive water bodies, minimize impervious surfaces, and minimize disturbance of soils and vegetation;
 - 4.2.5.2.3.2 Policies or ordinances that encourage infill development in higher density urban areas, and areas with existing storm sewer infrastructure;
 - 4.2.5.2.3.3 Education programs for developers and the public about project designs that minimize water quality impacts; and
 - 4.2.5.2.3.4 Other measures such as minimization of the percentage of impervious area after development, use of measures to minimize directly connected impervious areas, and source control measures often thought of as good housekeeping, preventive maintenance and spill prevention.
- 4.2.5.2.4 Any structural BMPs in the permittees program, including, as appropriate:
- 4.2.5.2.4.1 Storage practices such as wet ponds and **extended-detention** outlet structures;
 - 4.2.5.2.4.2 Filtration practices such as grassed swales, bioretention cells, sand filters and filter strips; and
 - 4.2.5.2.4.3 Infiltration practices such as infiltration basins and infiltration trenches.
- 4.2.5.2.5 What are the mechanisms (ordinance or other regulatory mechanisms) The permittee will use to address **post-construction** runoff from new developments and redevelopments and why did the permittee chose that mechanism. If the permittee needs to develop a mechanism, describe the plan and the schedule to do so. If the permittees ordinance or regulatory mechanism is already developed, include a copy of the relevant sections with the program.
- 4.2.5.2.6 How the permittee will ensure the long-term operation and maintenance (O&M) of the selected BMPs. Options to help ensure that future O&M responsibilities are clearly identified include an agreement between the permittee and another party such as the post-development landowners or regional authorities.

- 4.2.5.2.7 Who is responsible for overall management and implementation of the post-construction SWMP and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.5.2.8 How the permittee will evaluate the success of this minimum measure, including how the permittee selected the measurable goals for each of the BMPs.
- 4.2.6 Pollution Prevention/Good Housekeeping for Municipal Operations
 - 4.2.6.1 *Permit requirement.* The permittee must:
 - 4.2.6.1.1 Develop and implement an operation and maintenance program that includes a training component and has the ultimate goal of preventing or reducing pollutant runoff from municipal operations; and
 - 4.2.6.1.2 Using training materials that are available from EPA, the Division, Tribe, or other organizations, the permittees program must include employee training to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance.
 - 4.2.6.2 *Decision process.* The permittee must document the decision process for the development of a pollution prevention/good housekeeping program for municipal operations. The permittees rationale statement must address both the overall pollution prevention/good housekeeping program and the individual BMPs, measurable goals, and responsible persons for the program. The rationale statement must include the following information, at a minimum:
 - 4.2.6.2.1 The permittees operation and maintenance program to prevent or reduce pollutant runoff from the permittees municipal operations. The permittees program must specifically list the municipal operations that are impacted by this operation and maintenance program. The permittee must also include a list of industrial facilities the permittee own or operate that are subject to the Division's Multi-Sector General Permit (MSGP) or individual NPDES permits for discharges of storm water associated with industrial activity that ultimately discharge to the permittees MS4. Include the Division permit number or a copy of the Industrial NOI form for each facility.
 - 4.2.6.2.2 Any government employee training program the permittee will use to prevent and reduce storm water pollution from activities such as park and open space maintenance, fleet and building maintenance, new construction and land disturbances, and storm water system maintenance. Describe any existing, available materials the permittee plans to use.

Describe how this training program will be coordinated with the outreach programs developed for the public information minimum measure and the illicit discharge minimum measure.

- 4.2.6.2.3 The permittees program description must specifically address the following areas:
 - 4.2.6.2.3.1 Maintenance activities, maintenance schedules, and long-term inspection procedures for controls to reduce floatables and other pollutants to the permittees MS4.
 - 4.2.6.2.3.2 Controls for reducing or eliminating the discharge of pollutants from streets, roads, highways, municipal parking lots, maintenance and storage yards, waste transfer stations, fleet or maintenance shops with outdoor storage areas, and salt/sand storage locations and snow disposal areas the permittee operates.
 - 4.2.6.2.3.3 Procedures for the proper disposal of waste removed from the permittees MS4 and the permittees municipal operations, including dredge spoil, accumulated sediments, floatables, and other debris.
 - 4.2.6.2.3.4 Procedures to ensure that new flood management projects are assessed for impacts on water quality and existing projects are assessed for incorporation of additional water quality protection devices or practices.
- 4.2.6.2.4 Who is responsible for overall management and implementation of the pollution prevention/good housekeeping program and, if different, who is responsible for each of the BMPs identified for this program.
- 4.2.6.2.5 How the permittee will evaluate the success of this minimum measure, including how the permittee selected the measurable goals for each of the BMPs.

4.3 Sharing Responsibility

Implementation of one or more of the minimum measures may be shared with another entity, or the entity may fully take over the measure. The permittee may rely on another entity only if:

- 4.3.1 The other entity, in fact, implements the control measure;
- 4.3.2 The particular control measure, or component of that measure, is at least as stringent as the corresponding permit requirement.
- 4.3.3 The other entity agrees to implement the control measure on the permittees behalf. Written acceptance of this obligation is required. This obligation must

be maintained as part of the description of the permittees SWMP. If the other entity agrees to report on the minimum measure, the permittee must supply the other entity with the reporting requirements contained in Section 5.3 of this permit. If the other entity fails to implement the control measure on the permittees behalf, then the permittee remain liable for any discharges due to that failure to implement.

4.4 Reviewing and Updating Storm Water Management Programs

4.4.1 *Storm Water Management Program Review:* The permittee must complete an annual review of the SWMP in conjunction with preparation of the annual report required under Part 5.3

4.4.2 *Storm Water Management Program Update:* The permittee may change the SWMP during the life of the permit in accordance with the following procedures:

4.4.2.1 Changes adding (but not subtracting or replacing) components, controls, or requirements to the SWMP may be made at any time upon written notification to the Permitting Authority.

4.4.2.2 Changes replacing an ineffective or unfeasible BMP specifically identified in the SWMP with an alternate BMP may be requested at any time. Unless denied by the Permitting Authority, changes proposed in accordance with the criteria below shall be deemed approved and may be implemented 60 days from submittal of the request. If request is denied, the permitting Authority will send the permittee a written response giving a reason for the decision. The permittees modification requests must include the following:

4.4.2.2.1 An analysis of why the BMP is ineffective or infeasible (including cost prohibitive),

4.4.2.2.2 Expectations on the effectiveness of the replacement BMP, and

4.4.2.2.3 An analysis of why the replacement BMP is expected to achieve the goals of the BMP to be replaced.

4.4.2.3 Change requests or notifications must be made in writing and signed in accordance with Part 6.7.

4.4.3 *Storm Water Management Program Updates Required by the Permitting Authority:* The Permitting Authority may require changes to the SWMP as needed to:

4.4.3.1 Address impacts on receiving water quality caused, or contributed to, by discharges from the Municipal Separate Storm Sewer System;

- 4.4.3.2 Include more stringent requirements necessary to comply with new Federal statutory or regulatory requirements; or
- 4.4.3.3 Include such other conditions deemed necessary by the Permitting Authority to comply with the goals and requirements of the Clean Water Act.
- 4.4.3.4 Changes requested by the Permitting Authority must be made in writing, set forth the time schedule for the permittee to develop the changes, and offer the permittee the opportunity to propose alternative program changes to meet the objective of the requested modification. All changes required by the Permitting Authority will be made in accordance with 40 CFR 124.5, 40 CFR 122.62, or as appropriate 40 CFR 122.63.
- 4.4.4 *Transfer of Ownership, Operational Authority, or Responsibility for Storm Water Management Program Implementation:* The permittee must implement the SWMP on all new areas added to the permittees portion of the municipal separate storm sewer system (or for which the permittee become responsible for implementation of storm water quality controls) as expeditiously as practicable, but not later than one year from addition of the new areas. Implementation may be accomplished in a phased manner to allow additional time for controls that cannot be implemented immediately.
 - 4.4.4.1 Within 90 days of a transfer of ownership, operational authority, or responsibility for SWMP implementation. the permittee must have a plan for implementing the SWMP on all affected areas. The plan may include schedules for implementation. Information on all new annexed areas and any resulting updates required to the SWMP must be included in the annual report.
 - 4.4.4.2 Only those portions of the SWMPs specifically required as permit conditions shall be subject to the modification requirements of 40 CFR 124.5. Addition of components, controls, or requirements by the permittee(s) and replacement of an ineffective or infeasible BMP implementing a required component of the SWMP with an alternate BMP expected to achieve the goals of the original BMP shall be considered minor changes to the SWMP and not modifications to the permit.

5 Monitoring, Recordkeeping, and Reporting

5.1 Monitoring

- 5.1.1 The permittee must evaluate program compliance, the appropriateness of identified best management practices, and progress toward achieving identified measurable goals. If the permittee discharges to a water for which a TMDL has been approved, the permittee will have additional monitoring requirements under Part 3.1.3.6.
- 5.1.2 When the permittee conducts monitoring at the permittees permitted small MS4, the permittee is required to comply with the following:
- 5.1.2.1 *Representative monitoring.* Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge.
- 5.1.2.2 *Test Procedures.* Test procedures for the analysis of pollutants shall conform to regulations (40 CFR, Part 136) published pursuant to Section 304(h) of the Act, *under* which such procedures may be required unless other procedures are approved by the Division.
- 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 Monitoring results must be **reported** on a Discharge Monitoring Report (DMR)
- 5.1.5 Analyses shall be performed by a State of Nevada certified laboratory. Results from this lab must accompany the Annual Reports
- 5.1.6 After considering monitoring data, stream flow, discharge flow and receiving water conditions, the Division, may for just cause, modify the monitoring frequency and/or sample type by issuing an order to the permittee

5.2 Record keeping

5.2.1 The permittee 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, copies of Discharge Monitoring Reports (DMRs), a copy of the NPDES permit, and records of all data used to complete the application (NOI) for this permit, for a period of at least three years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the permitting authority at any time.

5.2.2 The permittee must submit the records to the permitting authority only when specifically asked to do so. The permittee must retain a description of the SWMP required by this permit (including a copy of the permit language) at a location accessible to the permitting authority. The permittee must make the records, including the notice of intent (NOI) and the description of the SWMP, available to the public if requested to do so in writing.

5.3 Reporting

5.3.1 The permittee must submit annual reports to the Division by December 1 of each year of the permit term. The report must include:

5.3.1.1 The status of the permittees compliance with permit conditions, an assessment of the appropriateness of the identified best management practices, progress towards achieving the statutory goal of reducing the discharge of pollutants to the MEP, and the measurable goals for each of the minimum control measures;

5.3.1.2 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;

5.3.1.3 A summary of the storm water activities the permittee plans to undertake during the next reporting cycle (including an implementation schedule);

5.3.1.4 Proposed changes to the SWMP, including changes to any BMPs or any identified measurable goals that apply to the program elements; and

5.3.1.5 Notice that the permittee are relying on another government entity to satisfy some of the permit obligations (if applicable).

5.3.1.6 The permittees shall submit a stormwater monitoring plan for the following year on or before November 1 each year. The plan shall include the use of *Environmental Indicators* if appropriate.

- 5.3.1.7 A summary of inspections performed and enforcement activity taken during the report cycle.
- 5.3.1.8 If the permittee performs any additional monitoring beyond that required by the stormwater monitoring plan the results of such monitoring shall be reported
- 5.3.2 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 permittee must comply with all conditions of this permit. Any permit noncompliance constitutes a violation of CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

6.1.2 *Penalties for Violations of Permit Conditions.*

6.2 Continuation of the Expired General Permit

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 Reissuance or replacement of this permit, at which time the permittee must comply with the Notice of Intent conditions of the new permit to maintain authorization to discharge; or
- 6.3.2 Issuance of an individual permit for the permittees discharges; or
- 6.3.3 A formal permit decision by the permitting authority not to reissue this general permit, at which time the permittee must seek coverage under an alternative general permit or an individual permit.

6.3 Need to Halt or Reduce Activity Not a Defense

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

6.4 Duty to Mitigate

The permittee 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

The permittee must furnish to the permitting authority any information that is requested to determine compliance with this permit or other information.

6.6 Other Information

If the permittee becomes aware that the permittee has failed to submit any relevant facts in the permittees Notice of Intent or submitted incorrect information in the Notice of Intent or in any other report to the permitting authority, the permittee must promptly submit such facts or information.

6.7 Signatory Requirements

All Notices of Intent, reports, certifications, or information submitted to the permitting authority, or that this permit requires be maintained by the permittee shall be signed and certified as follows:

6.7.1 *Notices of Intent.* All Notices of Intent shall be signed by either a principal executive officer or ranking elected official. For purposes of this section, a principal executive officer of a Federal agency includes (1) the chief executive officer of the agency, or (2) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of EPA).

6.7.2 *Reports and other information.* All reports required by the permit and other information requested by the permitting authority or authorized representative of the permitting authority shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

- 6.7.2.1 *Signed authorization.* The authorization is made in writing by a person described above and submitted to the permitting authority.
- 6.7.2.2 *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.
- 6.7.3 *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 the permitting authority prior to or together with any reports, information, or notices of intent to be signed by an authorized representative.
- 6.7.4 *Certification.* Any person (as defined above in (6.7.2.1 and 6.7.2.2) signing documents under section 6.7 shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

6.8 Property Rights

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

The permittee 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 permittee to achieve compliance with the conditions of this permit and with the conditions of the SWMP. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. Proper operation and maintenance requires the operation of backup or auxiliary facilities or similar systems, installed by the permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

6.10 Inspection and Entry

The permittee must allow the permitting authority 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 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;

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

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

6.10.4 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

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

This permit is not transferable to any person except after notice to the permitting authority. The permitting authority 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 Act.

6.13 Anticipated Noncompliance

The permittee must give advance notice to the permitting authority of any planned changes in the permitted small 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 permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable State law or regulation under authority preserved by section 510 of the Act.

6.14.2 No condition of this permit releases the permittee from any responsibility or requirements under other environmental statutes or regulations.

6.15 Severability

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

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

6.17 Requiring an Individual Permit or an Alternative General Permit

6.17.1 *Request by permitting authority.* The permitting authority may require any person authorized by this permit to apply for and/or obtain either an individual NPDES permit or an alternative NPDES general permit. Any interested person may petition the permitting authority to take action under this paragraph. Where the permitting authority requires the permittee to apply for an individual NPDES permit, the permitting authority will notify the permittee 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 permittee 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 the appropriate Regional Office. The permitting authority may grant additional time to submit the application upon request of the applicant. If the permittee fail to submit in a timely manner an individual NPDES permit application as required by the permitting authority under this paragraph, then the applicability of this permit to the permittee is automatically terminated at the end of the day specified by the permitting authority 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 an individual permit. In such cases, the permittee must submit an individual application in accordance with the requirements of 40 CFR 122.33(b)(2), with reasons

supporting the request, to the permitting authority 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 *General permit termination.* When an individual NPDES permit is issued to a discharger otherwise sUbject to this permit, or the permittee are 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 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 the permitting authority.

6.18 Transfer of Ownership or Control

6.18.1 In the event of any change in control or ownership of storm drain systems covered by this permit, the permittee shall notify the succeeding owner or controller of the existence of this permit, by letter, a copy of which shall be forwarded to the Administrator. All transfer of permits shall be approved by the Division.

6.19 Availability of Reports

6.19.1 Except for data determined to be confidential under NRS 445A.665, all reports and plans prepared in accordance with the terms of this permit shall be available for public inspection at the office of the Division. As required by the Act, 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.

6.20 Furnishing False Information and Tampering with Monitoring Devices

6.20.1 Any person who knowingly makes any false statement, representation, or certification in any application, record, report, plan or other document filed or required to be maintained by the provisions of NRS 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.

6.21 Penalty for Violation of Permit Conditions

6.21.1 Nevada Revised Statutes 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.

6.22 Permit Modification, Suspension or Revocation

6.22.1 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:

6.22.1.1 Violation of any terms or conditions of this permit;

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

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

6.23 Liability.

6.23.1 Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable Federal, State or local laws, regulations, or ordinances.

6.24 Property Rights

6.24.1 The issuance of this permit does not convey any property rights, in either real or personal property, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of Federal, State or local laws or regulations.

6.25 Severability

6.25.1 The provisions of this permit are severable, and if any provision of this permit, or the application of any provisions 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.

7 Definitions

All definition contained in Section 502 of the Act 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.

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.

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.

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.

Discharge, when used without a qualifier, refers to "discharge of a pollutant" as defined at 40 CFR 122.2.

Illicit Connection means any man-made conveyance connecting an illicit discharge directly to a municipal separate storm sewer.

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 storm water, except discharges authorized under an NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges resulting from fire fighting activities.

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 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.

MEP is an acronym for "Maximum Extent Practicable," the technology-based discharge standard for Municipal Separate Storm Sewer Systems to reduce pollutants in storm water discharges that was established by CWA §402(p). A discussion of MEP as it applies to small MS4s is found at 40 CFR 122.34.

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 Dallas 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 Houston MS4 includes MS4s operated by the city of Houston, the Texas Department of Transportation, the Harris County Flood Control District, Harris County, and others).

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, storm water, 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 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.

NOI is an acronym for "Notice of Intent" to be covered by this permit and is the mechanism used to "register" for coverage under a general permit.

Permitting Authority means the Nevada Division of Environmental Protection.

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, storm water, 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" municipal separate storm sewer system. 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.

Storm Water is defined at 40 CFR 122.26(b)(13) and means storm water runoff, snowmelt runoff, and surface runoff and drainage.

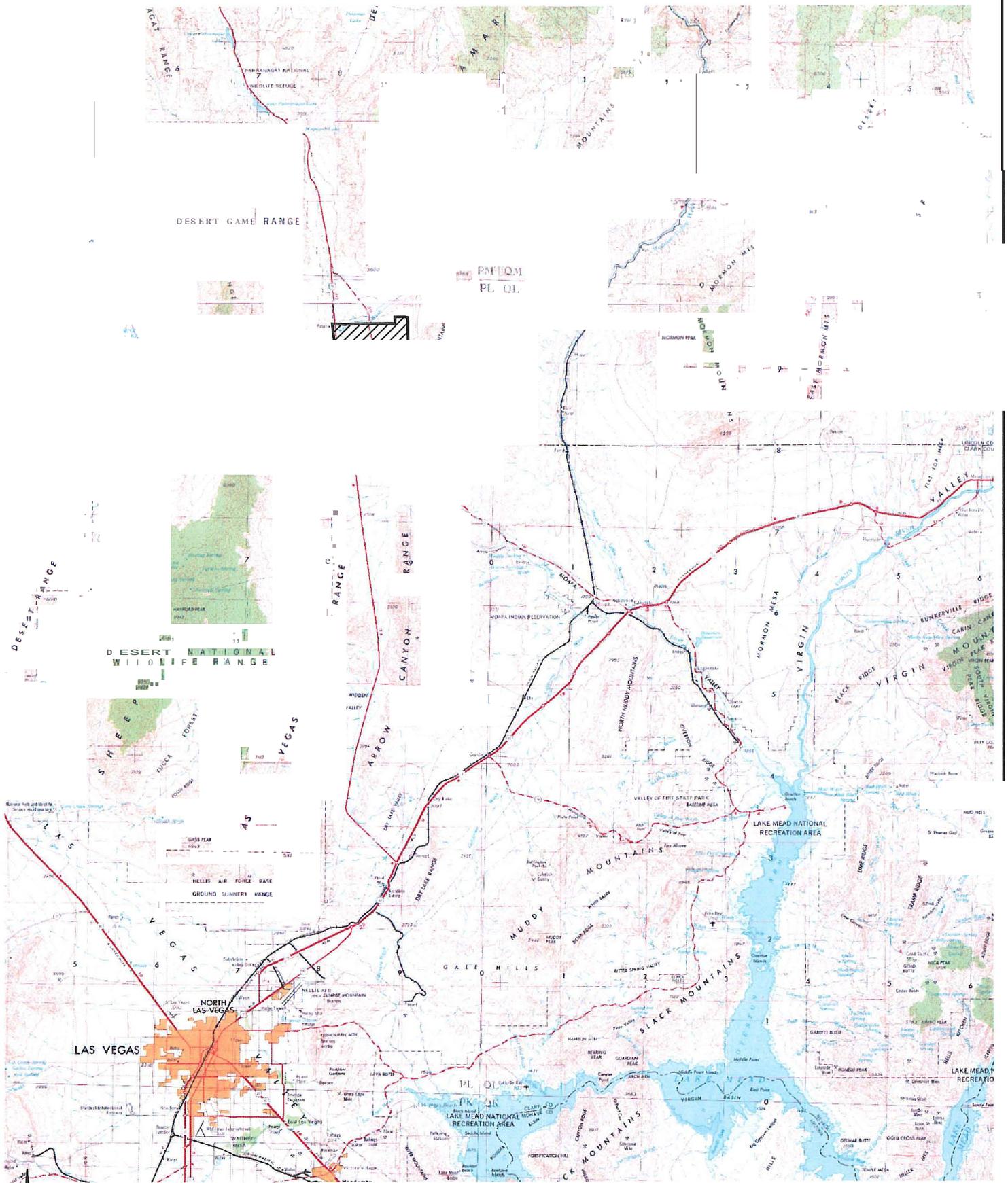
Storm Water Management Program (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system.

SWMP is an acronym for "Storm Water Management Program."

"The permittee" and "The permittees" as used in this permit is intended to refer to the permittee, the operator, or the discharger as the context indicates and that party's responsibilities (e.g., the city, the county, the flood control district, the U.S. Air Force, etc.).

Attachment B

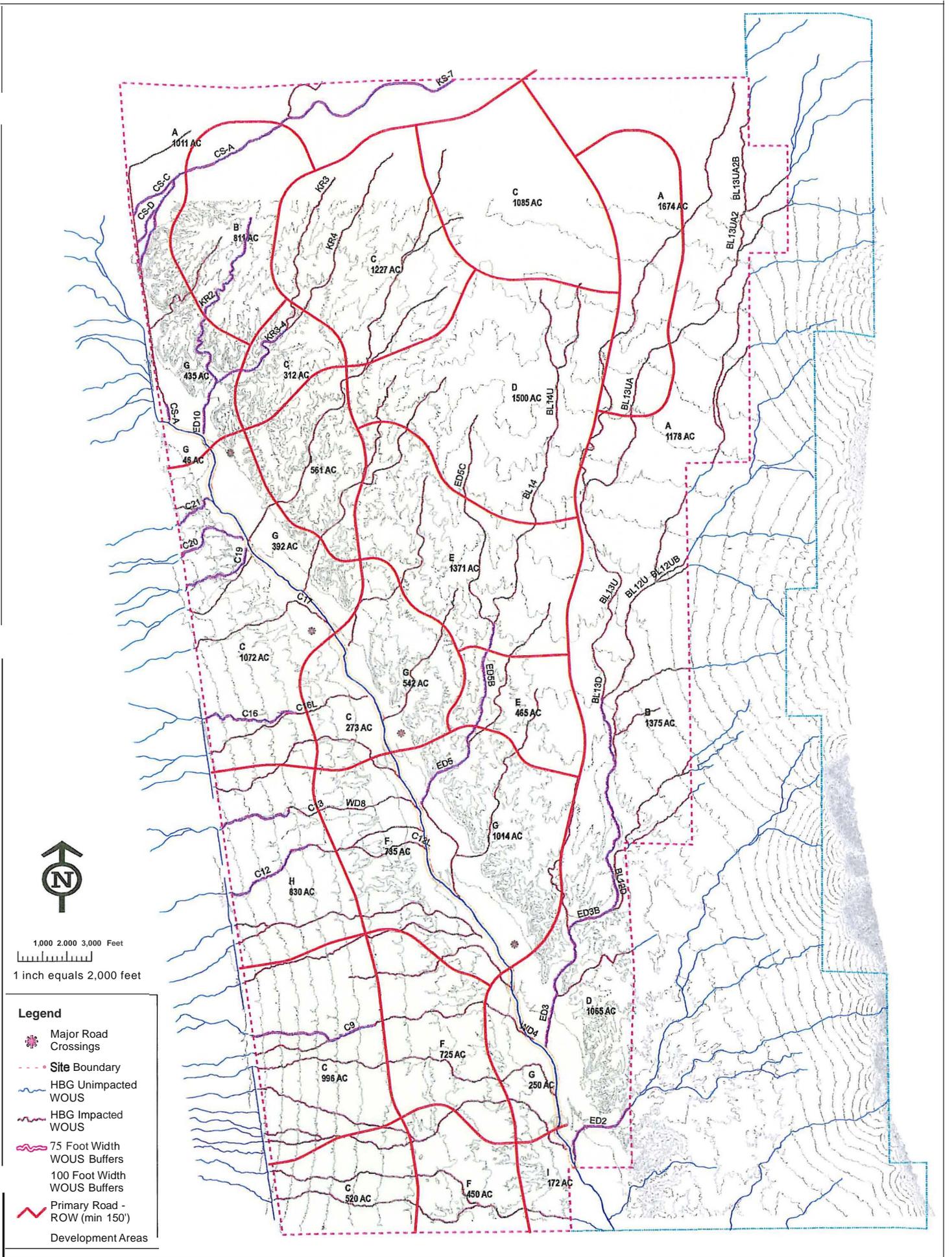
Location Map



LOCATION MAP

Attachment C

Development Area Map



Schematic of Carter & Burgess File Name: acad-lu-rev-041807.dwg with HBG WOUS and Buffers

Attachment 0

BMP Fact Sheets

INFILTRATION BASIN

Description of Facility

Infiltration basins are natural or open excavated depressions of varying size in the ground surface for storage and infiltration of storm water. These basins are effective where soils are very permeable to support infiltration. The purpose of the basin is to temporarily store the surface runoff for a selected design storm or runoff volume and to maintain or increase ground water infiltration through the bottom and sides of the basin.

Water Quality Benefits

Estimated long-term removal rates for infiltration basins are:

<u>Pollutant</u>	<u>Range of Long-Term Removal Efficiency</u>
Sediment	75 - 99%
Total Phosphorus	50 - 75%
Total Nitrogen	45 - 70%
Trace Metals	75 - 99%
BOD	70 - 90%
Bacteria	75 - 98%

Among the BMPs considered herein, infiltration basins most closely reproduce natural, predevelopment hydrologic conditions. Other benefits include reduction in downstream peak flows and runoff volumes, ground water recharge, low flow augmentation, and reduced downstream erosion potential.

Design Criteria

- A minimum of 4 feet should be provided below the bottom of the basin to bedrock or the water table.
- The minimum infiltration rate allowable for design is 0.3 inches/hour. A safety factor of 2.0 should be applied to the actual infiltration rate for facility sizing.
- Infiltration basins are generally utilized for small areas. The maximum allowable drainage area is 50 acres.
- Use of pretreatment measures to minimize basin clogging is recommended. These could include upstream vegetative controls to minimize soil erosion, a pre-settling basin to allow removal of floatable, settleable solids, and oil and grease, or water quality inlets on upstream storm drain lines. A sediment fore bay or riprap apron should be provided to dissipate velocity from inflow and spread the flow over the floor of the basin.
- The minimum storage volume should be equivalent to the 2 year-6 hour storm event from the impervious portions of the tributary drainage area.

- The minimum basin depth should be 3 feet. The maximum basin depth will be a function of the volume requirements and site conditions, and should not exceed 12 feet.
- The maximum ponding time (or dewatering time) is 72 hours.
- The basin bottom should be graded as flat as possible.
- The basin bottom and side slopes should be lined with a healthy stand of vegetation, or with a 6- to 12-inch layer of filter material or geotextile fabric.
- The basin should be provided with a bypass system or overflow device to allow for the passage of extreme storms.
- The potential for adverse impacts on local shallow ground waters should be considered in the siting and design process.

INFILTRATION TRENCH

Description of Facility

An infiltration trench is a shallow excavation (generally 2 to 10 feet in depth), which is backfilled with sand or graded aggregates. Storm water from impervious surfaces can be directed to these facilities for infiltration and limited detention. The surface of the trench can be covered with stone, gabions, sand, or grass with a surface inlet. Penneable soils are a prerequisite for this BMP.

Water Quality Benefits

Pollutant removal occurs through exfiltration of captured runoff into the soil layer. Removal mechanisms include sorption, precipitation, trapping, straining, and bacterial degradation or transfection. If trenches are sized to capture only low flows and initial first flush runoff volumes (the nonnal design condition), typical removal efficiencies can be expected in the following range.

<u>Pollutant</u>	<u>Range of Long-Tenn Removal Efficiency</u>
Sediment	75 - 90%
Total Phosphorus	50 - 70%
Total Nitrogen	45 - 60%
Trace Metals	75 - 90%
BOD	70 - 80%
Bacteria	75 - 90%

Design Criteria

- The maximum tributary watershed area should be 10 acres.
- Infiltration trenches should not be located in areas receiving high sediment loads; on fill sites; within 100 feet of water supply wells; or under buildings or pavement. They should be a minimum of 20 feet downslope and 100 feet upslope from building foundations.
- The trench depth is generally between 2 and 10 feet. The bottom should be level. The nonnal configuration is with a long, narrow excavation. The water table should be at least 2 feet below the bottom of the trench.
- The volume should be based on accepting the 2 year-6 hour-stonn event from the tributary impervious areas. Void spaces are assumed to be in the range of 30 to 40 percent.
- Backfill material may be 1/2- to 3-inch aggregate. The trench may be backfilled to within 3 inches of the ground surface.
- A minimum 20-ft wide vegetated buffer strip or other pretreatment measures should be provided to assist in removal of floatable, settleable solids, and oil and grease.

- A positive overflow pipe or bypass conveyance system should be provided for storm events that exceed the design storm.
- An observation well should be located in the center of the facility, constructed of 4- to 6-inch PVC.
- The trench bottom and walls should be lined with a permeable geotextile filter fabric with a minimum 12-inch overlap. Filter fabric may also be installed one foot below the ground surface to trap large sediment and debris in the event the overlying cover material is removed.
- Typical trench width is 18 to 36 inches.
- A minimum infiltration rate of 0.3 inches per hour should be obtainable to be effective. Use a safety factor of 2.0 when sizing the trench volume and dewatering time.
- The in-trench overflow drain should be formed of perforated or slotted pipe. Large pipes can be used to add to the storage in the trench. Typical perforations are 3/8-inch diameter holes with not less than 30 perforations per square foot of pipe. The pipe drain should be located a minimum of 2 feet above the trench bottom.

FIRST FLUSH DIVERSION SYSTEM

Description of Facility

First flush diversion systems are designed to convey the more polluted first flush storm water from their normal conveyance paths to water quality treatment improvements. The diverted first flush are not discharged to surface water, but are retained or stored until evaporation, infiltrated, reused or some other form of treatment or disposal.

Water Quality Benefits

First flush diversion is one of the most effective ways of enhancing storm water quality. Potentially polluted waters are separated from the cleaner flows, and thus whatever treatment or management systems are employed can deal with a smaller volume of water. Diversion systems can readily be installed in existing storm drain lines, as long as locations for off-line storage and treatment can be identified. First flush diversion systems are appropriate "pretreatment facilities" for other BMPs such as infiltration basins, infiltration trenches, and detention-retention basins.

Design Criteria

- The hydraulic capacity of the diversion structure should be set such that it does not represent a bottleneck to the storm drain system.
- The diversion line (i.e., first flush and low flows diverted out of the main storm drain line) should be designed to convey the runoff from the 2-year-6-hour storm event over the tributary area.
- The overflow baffle should be designed to pass the full storm drain design flow in case the diversion line is plugged or the treatment facility is full and backflowing to the diversion structure.
- The diversion structure should be provided with a manhole access for cleaning and inspection.

RETENTION BASIN

Description of Facility

A dry extended detention basin outlet control structure is modified to extend the detention time for low flows. This extended detention time leads to higher pollutant removal rates than other types of detention basins. Typical outlet control structures can be modified through use of devices which reduce outflow rates at low pond stages, but which preserve high outflow rates at high stages. A dry retention basin offer the same design consideration as the detention basin except the outlet control structures are modified to store the 2 year-6 hour storm event and bypass or release storm flows in excess of the design storage volume

Water Quality Benefits

Detention-Retention basins remove pollutants through the settling process. Sediments and the pollutants adhered to them, such as trace metals, are the constituents most effectively controlled by dry detention basins. If the storm water is detained for 24 hours or more, as much as 90 percent of particulate pollutant removal is possible. The majority of pollutant removal occurs within the first 6 hours of detention.

The degree of pollutant removal is dependent on whether a given pollutant is in particulate or soluble form. Some of the urban pollutants of greatest concern occur primarily in soluble forms (e.g., nitrate and orthophosphorus). Improved removal of soluble pollutants may be obtained by managing the shallow portion of the pond as a wetland to utilize natural biological removal processes. Long-term pollutant removal efficiencies for approximately 6 to 48 hours of detention time are estimated below.

	<u>Range of Long-Term Pollutant Removal Efficiency</u>
Sediment	60 - 90%
Total Phosphorus	15 - 50%
Total Nitrogen	25 - 40%
BOD/COD	25 - 50%
Trace Metals	30 - 90%
Hydrocarbons	50 - 70%

Design Criteria

- The treatment volume should be equivalent to the runoff volume produced by a 2-year, 6-hour storm over the tributary area. Additional "active storage" volume may need to be provided to meet flood control objectives.
- In general, pond depths should not exceed 6 feet, particularly in multi-use park or school sites.
- Pretreatment measures or a forebay should be provided at the pond inlet to capture incoming large sediment and debris.
- Side slopes should be a minimum of 3: 1 to provide bank stability.
- An overflow spillway should be provided to pass the full 100-year peak discharge.

VEGETATED SWALE

Description of Facility

This BMP utilizes vegetated (nonnally grass) channel surfaces for runoff conveyance to reduce flow velocities, enhance filtration, and remove runoff contaminants. Grassed swales consist of a mildly sloping cross section with check dams to increase infiltration and flow attenuation. Typical applications are along roadways in place of curb and gutter, and adjacent to large parking areas.

Water Quality Benefits

Vegetated swales generally provide reductions in sediment load and constituents, which typically adhere to sediments (e.g., heavy metals). Pollutants are removed by the filtering action of the grass, deposition in low velocity areas, and infiltration into the subsoil. Biofiltering action can reduce loads of soluble constituents if the height of the vegetation is sufficient as compared to the design flow depth and contact times are long. Low to moderate removal efficiencies reported.

Design Criteria

- The design flow should be limited to 5-10 cfs. The velocity should be limited to 2 ft/sec. The flow depth should be limited to 12 inches.
- Side slopes should not be steeper than 3:1. Longitudinal slopes should not exceed 4 percent. For slopes less than 2 percent, underdrains may be required.
- The minimum swale length for desirable water quality benefit is 100 feet.
- Below the design water depth, an erosion control blanket should be installed along with at least 4 inches of topsoil and the selected biofiltration mix. Above the design water depth, an erosion control seed mix with mulch or sod should be used. The top width-to-depth ratio should generally be 6:1 or greater.
- Check dams may be constructed of a variety of materials, varying from earthen benns to concrete. Check dam spacing should be selected to keep the longitudinal slope below 4 percent. Upstream ponding volume at the check dams should be limited to drain within 24 hours. Check dam height should not exceed 18 inches.

SAND-OIL INTERCEPTOR

Description of Facility

The oil-water separator is designed to remove sediment and hydrocarbon loadings from parking lot runoff or areas contributing potential oil or grease. The structures generally consist of multi-chambered underground vault, which can be installed in place of conventional catch basins. The first chamber acts as a sediment trap and the second chamber collects oil and grease floating on the surface of the water.

Water Quality Benefits

Sand-oil interceptors are designed to separate relatively heavy sediments and floating hydrocarbons from the runoff stream. Typical application areas include industrial machinery yards, vehicle storage yards, petroleum bulk storage areas, gas stations, retail merchandise stores, and fast food stores. They have no significant storage volume and operate on an essentially flow-through basis. As a result, they are not effective in controlling dissolved constituents or those not attached to the sediment particles.

Design Criteria

- Use for impervious areas of less than one acre.
- A temporary pool 3 to 4 feet deep should be created in the first chamber for gravity settling and capture of floatables.
- The second chamber also has a temporary pool, and is connected to the first chamber via submerged pipe inlets.
- The discharge from the vault is by an inverted pipe to prevent the release of floating hydrocarbons.
- Combined wet storage volume in the temporary pools in the first and second chambers should be sized based on 400 cubic feet per tributary acre. The remaining dry storage area must pass the design storm.
- Oil absorbent pillows may be installed in the second chamber to enhance hydrocarbon removal.
- Each chamber should be provided with removable covers or manhole access.
- The floor of each chamber should be sloped slightly away from the outlet to the next chamber to minimize resuspension of settled particles. Vertical baffles on the floor of the first and second chamber may also be effective in preventing resuspension.

SUBREGIONAL DETENTION BASIN

Description of Facility

The purpose of the detention basin is to temporarily store storm water runoff, control the discharged rate and subsequently reduce the peak discharge. The controlled discharge rate should be designed to the extent practicable to be contained within the down stream conveyance channel. The facility will reduce the potential for existing flooding and protect the development or control the increase in runoff caused by the development.

Water Quality Benefit

Storm water runoff over alluvial fans can generate large amounts of floating debris, flowing debris and fine and coarse detritus. This surge of heavy sediment and debris loads during storm events may clog culverts and channels. Detention basins aid in removing these heavy sediment loads and protecting drainage improvements.

Design Standards

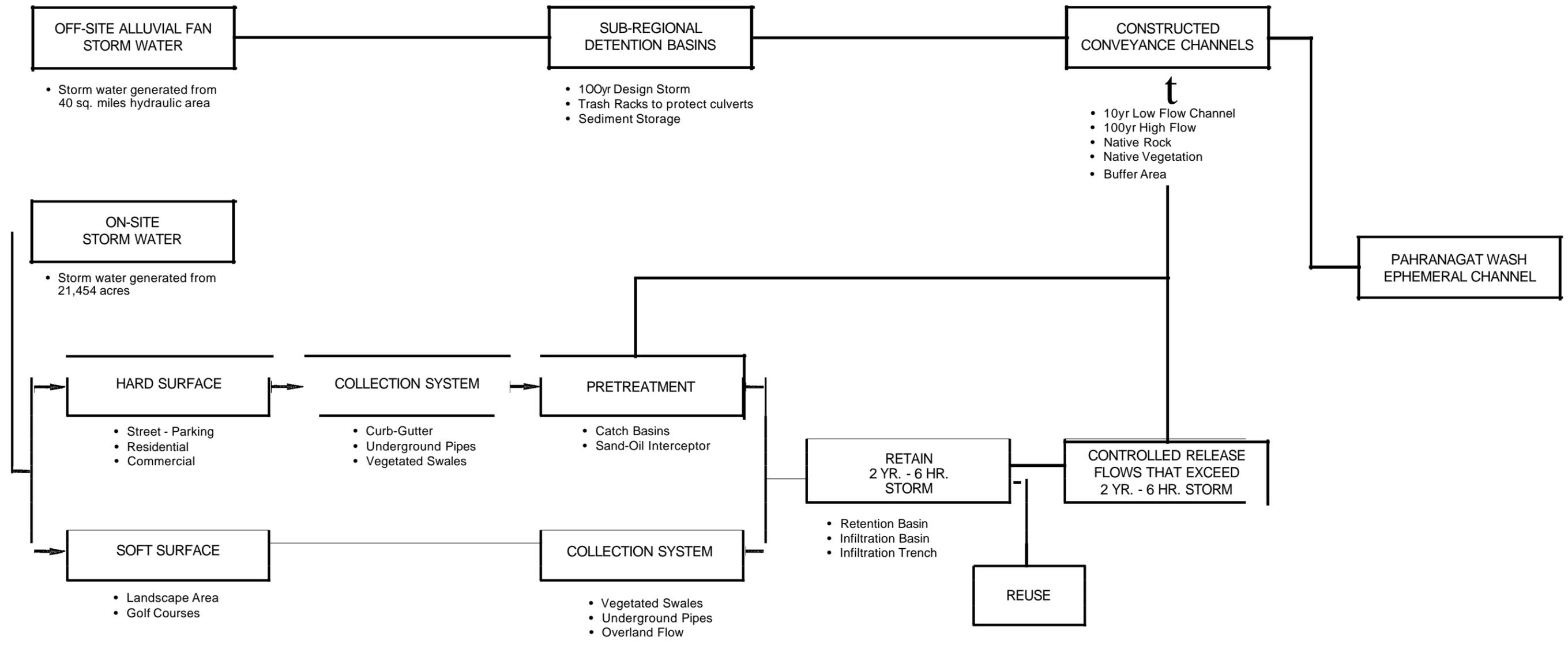
The standards address such improvements such as spillway sizing, sedimentation storage and outlet protection.

- Detention basin outlet sizing shall be based on the downstream channel capacity
- In-channel basins will be required to safely pass the PMF discharge as a minimum.
- Detention basins are required to properly function under all debris and sedimentation conditions
- Basins will be 90% drained within not more than 7 days from the end of the precipitation event.
- A minimum of 1.0 foot of freeboard is required over the emergency spillway design elevation
- Debris racks will be utilized to protect downstream culverts or channels
- Sediment storage will be determined by predictive model(s) (Universal Soil Loss Equation, Meyer-Peter, others) and included in the basins total storage volume
- Embankment protection will be considered

Attachment E

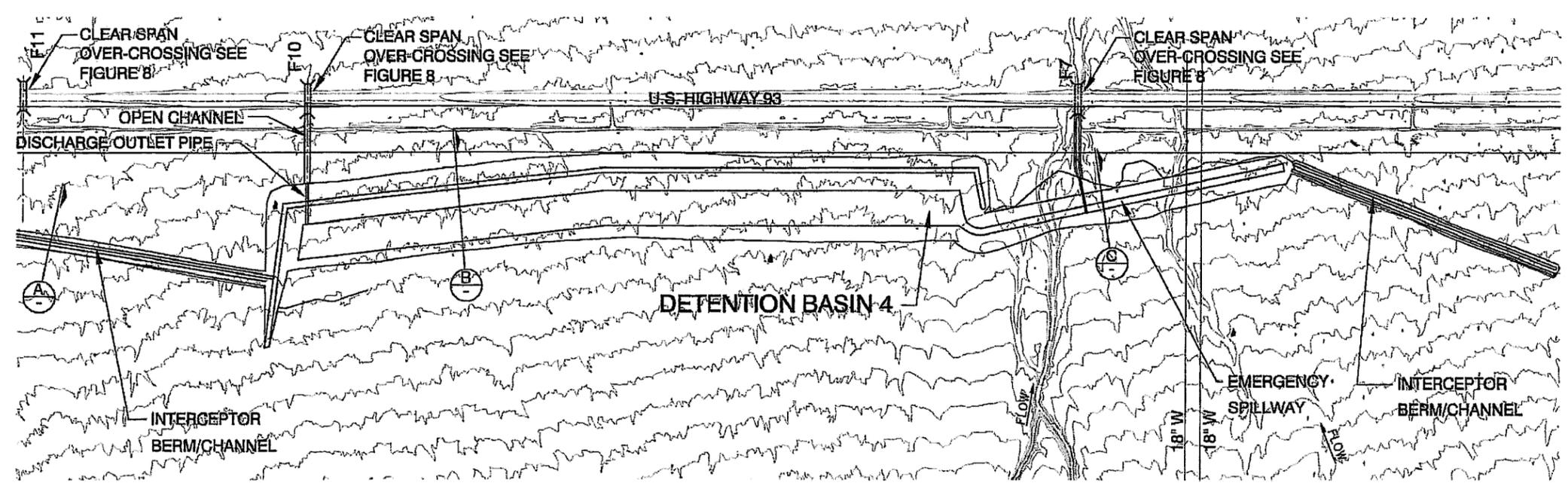
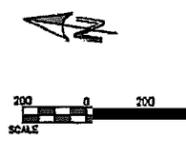
Storm Water Drainage and Water Quality Treatment Plan System Schematic

STORM WATER DRAINAGE AND WATER QUALITY TREATMENT PLAN SYSTEM SCHEMATIC LINCOLN COUNTY DEVELOPMENT AREA

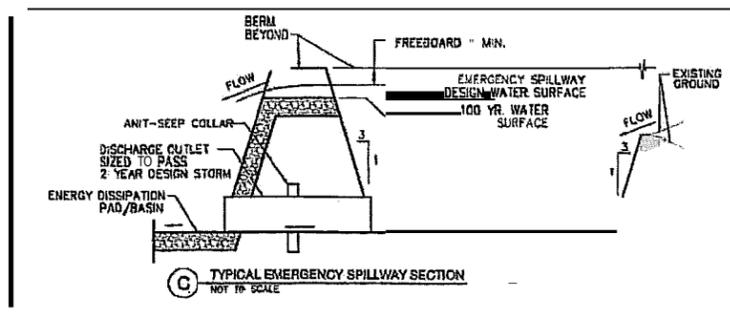
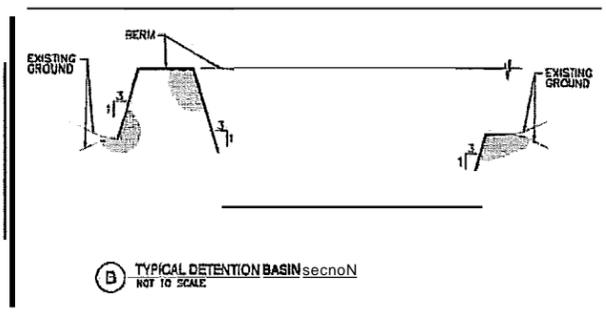
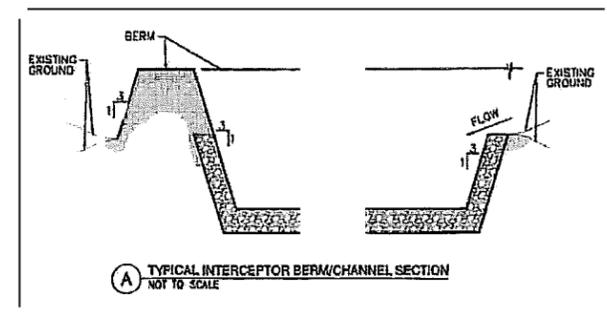


Appendix F

Conceptual Storm Water Drainage
and Water Quality Treatment Plan View
and Detention Basin Typical



NOTES:
 DISCHARGE OUTLET SIZED TO RELEASE FLOWS FROM DETENTION BASIN.



November 02, 2002

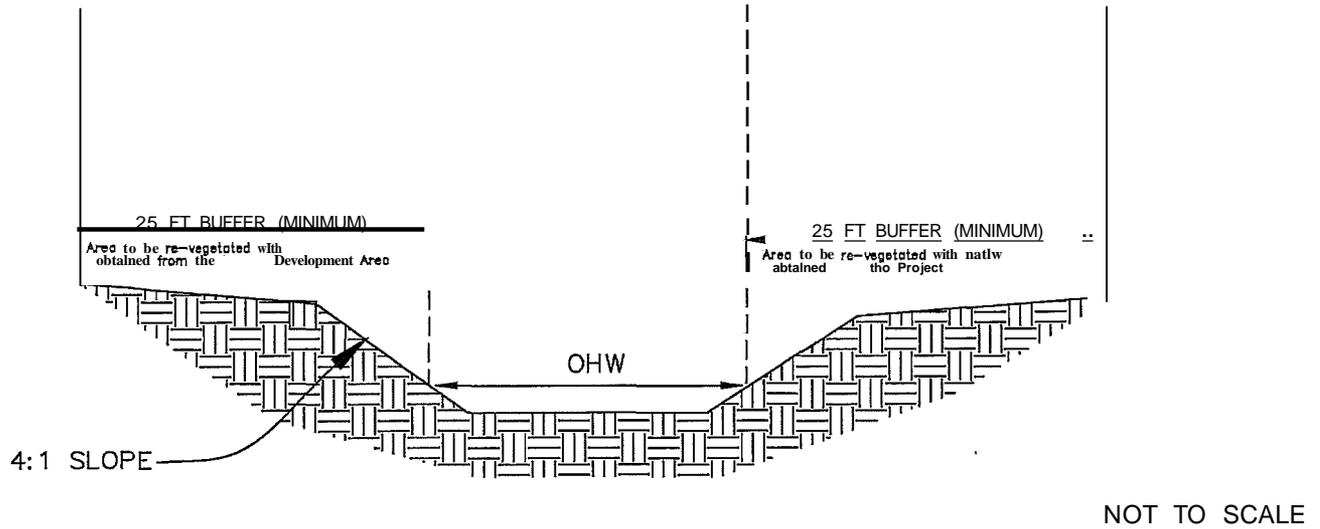
COYOTE SPRINGS
 WATERS OF THE UNITED STATES

Detention Basin 4 Typical

Appendix G

Conveyance Channel
(Desert Dry Wash Habitat) Cross-Section

SECTION VIEW



CSI Planned Development Project Draft EIS

Figure
Typical Design for Created
Dry Wash Drainage

Appendix H

Storm Event Monitoring Form

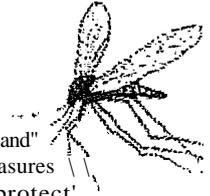
Appendix I

Stormwater Structures and Mosquitoes

Stormwater Structures & Mosquitoes

What is the a s t e s s u e .

Stormwater structures that temporarily or permanently retain runoff are receiving increasing attention as potential mosquito breeding areas. Mosquito-borne diseases such as West Nile virus, St. Louis encephalitis, and eastern and western equine encephalitis are human health concerns. Measures that lower mosquito production in stormwater structures are needed to protect public health.



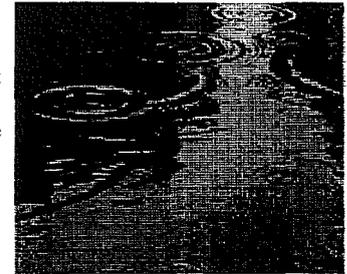
WHAT IS STORMWATER?

Stormwater is the rain or snowmelt that does not initially infiltrate into the ground and runs off of surfaces and is transported into nearby

If designed properly, stormwater structures should not promote mosquito breeding. Ensuring that these structures are properly designed and maintained is the key to limiting mosquito production.

HOW IS STORMWATER MANAGED?

Historically, stormwater controls were designed to quickly collect, store, and transport runoff away from developed areas into nearby streams to prevent flooding. However, it is now recognized that these systems alone are often not the ideal solution because they increase stream velocity by increasing the volume and velocity of water and amount of pollutants.



Today stormwater management promotes a variety of practices and controls that help to infiltrate runoff and reduce contact of runoff with pollutants. For example, infiltration practices (which can be cheaper and easier to maintain than traditional stormwater practices) involve using vegetated areas like swales and rain gardens (a.k.a. bioretention cells) to slow the velocity of water and allow for percolation into the ground. When properly designed and maintained, stormwater management practices are not conducive as habitat for mosquito breeding.

FACTS ABOUT MOSQUITOES

- ◊ There are approximately 3,500 mosquito species worldwide, about 200 of which are found in the United States.
- ◊ Only female mosquitoes transmit diseases; they need the blood of a host to breed.
- ◊ The preferred habitat for mosquitoes is stagnant or slow-moving water in pools of water (generally less than 3 feet in depth) that exist for at least 7 days and/or aquatic sites with dense floating vegetation regardless of the water depth.
- ◊ Depending upon species, the life cycle of a mosquito ranges from 1 week up to 3 months maximum.
- ◊ Mosquitoes include a wide variety of aquatic insects, including spiders.

WHAT SHOULD LOCAL AUTHORITIES DO?

Stormwater management should incorporate design, construction, management, and maintenance features into stormwater structures to reduce mosquito production (and therefore decrease or eliminate the need for insecticides) without compromising water quality functions.

Local authorities should properly inspect and maintain stormwater structures to ensure their continued effectiveness, reduce the need for costly pesticide applications, and prevent large outbreaks of mosquitoes.

However, it might still be necessary for state, county, or local governments to apply a limited amount of insecticides to control mosquitoes. Mosquito control officials use EPA-registered products that do not pose unreasonable risks to human health, wildlife, or the environment. Monitoring efforts that involve field inspections by mosquito control personnel determine when and where insecticide applications are needed. However, as with all pesticide use, the use of insecticides in stormwater structures should be minimized. Stormwater managers should work closely with mosquito control officials to help achieve this goal.



Basins

There are two main types of basins used to manage stormwater – dry detention and wet retention basins. Dry detention basins are designed to hold water during storm events and then release the

water 3 days. Because these systems are designed to hold water for only short periods of time, they are not suitable habitat for mosquitoes. The aquatic stages of many mosquito species 7-10 days in standing water.

Wet retention basins are designed to hold permanent pools of water. These systems are usually between 3 and 8 feet in depth. Most mosquitoes only breed in shallow standing water (i.e. less than 3 feet) or deeply vegetated waters so mosquito breeding should not occur.

There are several maintenance considerations associated with basins to make these sites unsuitable as mosquito habitats. Debris and sediment must be removed from inlets, outlets and the bottom of the pond; eroded areas must be repaired; bare ground must be seeded to prevent soil loss; and plants must be harvested as needed.



Created Wetlands

Wetlands are vegetated areas designed to contain shallow, slow moving water: While these two characteristics are typically preferred by mosquitoes, healthy wetlands can actually prevent

mosquito outbreaks. Mosquito breeding can be minimized through site design and management considerations that include mosquito predators such as fish and several types of aquatic insects.

Wetlands must be inspected for invasive plants, which must be removed; signs of erosion should be recognized and repaired; and inlets and outlets should be checked and accumulated debris or sediment should be removed.



Fountains

Fountains typically found near large buildings retain and slowly release stormwater.

These structures range in depth. Aerators can

be added to these fountains to agitate the water thereby deterring mosquitoes since they prefer standing water. Aerators should be checked regularly to ensure that they are working properly.

CONTACTS/RESOURCES

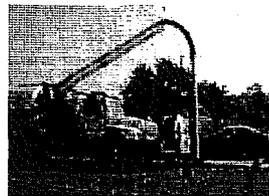
Stormwater

EPA's NPDES Stormwater Program <http://www.epa.gov/npdes/stormwater>
Stormwater Manager's Resource Center <http://www.stormwatercenter.net>

Mosquitoes/

Mosquito-borne Diseases

EPA's Website on Pesticides <http://www.epa.gov/pesticides/>
The American Mosquito Control Association <http://www.mosquito.org>
Centers for Disease Control and Prevention <http://www.cdc.gov>



Storm Sewer

Storm sewer systems include structures like catch basins. By design, catch basins, which are sumps located directly under storm drains, hold water. These

structures require maintenance to ensure that debris does not accumulate in the storm drain grate or the storage allowing mosquito breeding. Sometimes the only practical means of mosquito control involves the use of insecticides to kill the larvae.

Catch basins must be cleaned throughout the year to remove accumulated sediment. Screens and other devices used to remove debris must be checked regularly to ensure that they are working properly.



Rain Gardens

Rain gardens also known as bioretention cells, vegetated areas designed to retain and infiltrate stormwater. These areas are designed to not have standing water for more than a day or so except during very

large storm events. Therefore when properly designed and maintained, rain gardens should not support mosquito populations.

These areas have some maintenance requirements to ensure their continued effectiveness. Accumulated litter and debris must be removed regularly; areas must be mulched as necessary; grassed areas must be mowed; areas showing signs of soil erosion must be repaired; and dead and diseased vegetation must be removed and replaced with healthy vegetation.

Rain Barrels/ Cisterns



Rain barrels and cisterns allow homeowners to disconnect downspouts and divert runoff into a storage tank. These barrels decrease the volume of runoff and allow the owner to reuse the water for irrigation. Several precautions should be followed to prevent mosquito breeding, such as keeping barrels tightly closed, using debris screens to filter the water entering the barrel, and using the collected water within several days.

COMMONLY OVERLOOKED BREEDING AREAS: RESIDENTIAL BACKYARDS

Homeowners should check their property to eliminate mosquito breeding. Water can collect in unused flower pots, buckets, cups, old tires, etc. and these provide the perfect habitat for mosquitoes. What can homeowners do to deter mosquito breeding?

Pick up trash, such as paper cups, which may have collected in the yard.

Clear clogged rain gutters.

Cover containers, tires, wading pools, and all other items which can hold standing water for extended periods of time.

Change the water in bird baths and pet dishes regularly.

Appendix J

Inspection and Maintenance Record

CHECKLIST FOR OPERATION AND MAINTENANCE INSPECTION RECORD

Name of Project: **CSI**

Date of Inspection: _____

Type of Inspection: _____
 (Quarterly for 1st year, semi-annually (April 1st and October 1st) for 2nd year, in perpetuity)

System/Structure Inspected: _____

Location	Structure	Inspection	Remarks

For Detention/Retention Basins

Basin ID or Location: _____

Water Depth in Basin: _____ inches

Sediment Depth: _____ inches

Estimation of Remaining Storage Capacity: _____

PREVENTIVE AND CORRECTIVE MAINTENANCE LOG

Name of Project: CSI

System/Structure Type: —

System/Structure Location: —

Date	Type of Work	By