EFFLUENT MANAGEMENT PLAN

Mt. Rose Effluent Reuse Area

July 2008

Washoe County Department of Water Resources

Department of Water Resources

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1 INTRODUCTION

Washoe County has established a policy that treated wastewater effluent as a valuable resource and should be used beneficially. Reclaimed wastewater is particularly well suited for non-potable uses, such as landscape irrigation, that allow for the conservation of potable water.

In accordance with Nevada Administrative Code (NAC) 445A.275.1(b), the Nevada Division of Environmental Protection (NDEP) has the authority to issue permits for the use of reclaimed wastewater. NAC 445A.275.1(a) requires users of reclaimed wastewater to prepare Effluent Management Plans (EMPs) describing the practices for the application of the reclaimed water. NDEP has the regulatory oversight for the approval of Effluent Management Plans (EMPs).

In 1997, NDEP issued Washoe County Department of Water Resources discharge permit NEV97011 for the Arrow Creek subdivision. The permit authorized the use of treated effluent from Washoe County's South Truckee Meadows Water Reclamation Facility (STMWRF) for landscape irrigation at residential common areas and roadside landscaping. As part of the most recent renewal application, the permit was modified to incorporate Washoe County's effluent discharge under permits TNEV2007458 (Fisher Sand and Gravel, I-580 Project), TNEV2007337 (Summit Sierra shopping complex), NEV40024 (Bishop Manogue High School), and NEV96005 (South Valley Sports Complex). The combined permit forms the Mt. Rose Effluent Reuse Area (MRERA), or the "West" area.

The new combined permit allows for the application of treated effluent from Washoe County's South Truckee Meadows Water Reclamation Facility (STMWRF) for residential common areas, commercial sites, roadside landscaping, parks, schools, truck fill stations, and construction watering.

As the community continues to grow and additional properties within MRERA are developed, additional discharge locations may be identified. The consolidated permit is intended to be expandable to include these additional future discharge locations. This EMP will be updated to include additional discharge locations as they are added to the discharge permit.

This EMP defines the policies and procedures to be implemented for the application of STMWRF reclaimed water within the MRERA, as authorized by the NDEP discharge permit. This EMP was prepared in general accordance with the requirements of NDEP's *WTS-1B: General Criteria for Preparing an Effluent Management Plan.*

1.1 Project Area

MRERA consists of approximately 13,094 acres (20.5 square miles) of developed and undeveloped land located in southern Reno and unincorporated Washoe County. A map of the MRERA service area is provided in Figure 1. MRERA is developed with residences, commercial and industrial facilities, parks, schools, and transportation corridors. Many of the developed areas are master-planned developments containing landscaped common areas.

Within MRERA, there are currently 13 individual discharge locations. At these locations, reclaimed water is largely used for landscape irrigation and construction watering. The

discharge locations are tabulated in Appendix A, which provides the name of the property owner or operator, location, site use, and estimated reclaimed water application rates. The discharge locations are shown on Figure 2, which identifies the residential and commercial properties and roadway corridors that utilize reclaimed water for irrigation. Figure 3 identifies the layout of the reclaimed water distribution system and the location of reclaimed water meters.

Sites designated commercial utilize the reclaimed water for irrigation of onsite landscaping and for roadway landscaping. Sites designated residential utilize reclaimed water for irrigation of common area landscaping and roadway landscaping. Sites designated as parks and schools utilize the reclaimed water for irrigation of onsite landscaping, including turf grass. Sites designated as truck fills utilize the reclaimed water for filling water trucks. Roadway corridors utilize reclaimed water for irrigation of roadside landscaping. Construction sites utilize reclaimed water for construction watering purposes (e.g., dust control, compaction wetting, concrete batching, etc.)

As development occurs within the MRERA service area, additional sites will be served with reclaimed water. As new MRERA discharge locations are identified, they will be evaluated for their appropriateness and water demand. All future discharge locations will be developed in accordance with the requirements of this EMP, included in an update of this plan, and NDEP notified of the additional site.

1.2 Discharge Permit

NDEP permit No. NEV97011 was first issued for the Arrow Creek Subdivision discharge location. This permit was revised and expanded to include all discharge locations within the MRERA service area. A copy of the permit is provided in Appendix B.

2 EMERGENCY PROCEDURES AND CONTACTS

In the event of a release, site personnel are to implement the following actions:

1. Turn off the reclaimed water supply to the affected location (nearest control valve or meter box).

2. Contact appropriate maintenance personnel as follows: if the affected system is owned by Washoe County (distribution system), contact the Washoe County Department of Water Resources – Utilities Division; if the affected system is privately owned (individual irrigation systems), contact the property manager or owner.

3. Contact the Washoe County Department of Water Resources representative (whether the affected system is owned by Washoe County or privately owned) and provide the following information:

    - Time and date of release
    - Exact location of discharge and estimate of volume
    - Flow path of release
    - Name of waterbody release entered
    - Cause of release

- Steps taken to stop the release and any corrective or preventative actions taken.

Washoe County Department of Water Resources – Utilities Division:

Business Hours (775) 954-4600
After Hours (775) 954-4600

Washoe County Department of Water Resources Representative:

Mr. Joe Howard
4930 Energy Way
Reno, Nevada 89502
(775) 954-4623

3 RECLAIMED WATER SYSTEM

STMWRF is located near the north end of the South Truckee Meadows, near Huffaker Hills, and is the only source of reclaimed water used by the system. Treated effluent is pumped from STMWRF to the Huffaker Storage Reservoir. From the Huffaker Storage Reservoir, treated effluent is pumped to the Arrow Creek Tank, which provides system pressure.

Currently, STMWRF treated effluent is insufficient to meet the demand for reclaimed water in the MRERA service area. To meet current demands, water from Thomas Creek and White Creek are diverted to the storage reservoir. As plant flows increase, less creek water will be diverted to the storage reservoir.

After leaving the Huffaker Storage Reservoir, but prior to entering the distribution system, the reclaimed water passes through a sand filter and is disinfected with sodium hypochlorite. The disinfection dosing is adjusted to achieve a minimum free chlorine residual of 0.2 milligrams per liter (mg/l) throughout the distribution system.

3.1 STMWRF

STMWRF serves residential, commercial, and industrial properties in the southern Reno area and has a current treatment capacity of 3.0 million gallons per day (MGD) (average dry weather flow). STMWRF has a creek makeup water capacity of 3.0 MGD.

STMWRF operates under NDEP discharge permit No. NEV40024. The permit includes limitations on the effluent's water quality, as shown in Table 1 below.

Table 1: Permit Discharge Limits

Water Quality Parameter	Discharge Limit	
	30-Day Average	Daily Maximum
Flow (MGD)	3.0	3.52
$CBOD_5$ (mg/l)	30	45
TSS (mg/l)	30	45
Total Coliform (cfu)/100ml)	2.2	23
Nitrate (mg/l)	10	Monitor
pH (S.U.)	6.0 – 9.0	Monitor

Note: $CBOD_5$ indicates 5-day carbonaceous biochemical oxygen demand; TSS indicates total suspended solids; cfu indicates colony-forming units; ml indicates milliliters; mg/l indicates milligrams per liter, S.U. indicates standard units.

STMWRF, as it is currently configured, includes the following treatment processes and equipment:

- Headworks – screw lift, bar screen, mechanical fine screen
- Oxidation ditch – two 1,578,389 gallon tanks
- Secondary clarification – two 80-foot diameter tanks
- Tertiary filtration – eight 200 square-foot sand filter basins
- Disinfection – sodium hypochlorite
- Solids handling – sludge stabilization and dewatering at Truckee Meadows Water Reclamation Facility

3.1.1 STMWRF Effluent Quality

The observed STMWRF effluent quality for the period April 2003 through March 2006 is summarized in Table 2 below.

Table 2: Observed STMWRF Effluent Quality

Water Quality Parameter	Observed Mean
Influent Flow	1.96 MGD
Effluent Flows	2.47 MGD
$CBOD_5$	2.9 mg/l
TSS	3.1 mg/l
Fecal Coliform (Geometric Mean)*	1.5 cfu/100ml
Nitrate – N	2.4 mg/l
Ammonia – N	0.32 mg/l
Total Nitrogen	3.8 mg/l
pH (observed minimum/maximum)	7.1/8.0 S.U.

Note: Fecal coliform has been monitored in the past, but in accordance with the new STMWRF permit, total coliform will be monitored.

The table shows the plant effluent flows exceeded the influent flows. This is the due to the addition of creek water to meet the reclaimed water demand and, to a much smaller degree, the addition of groundwater from dewatering at STMWRF structures.

3.2 Effluent Storage

Treated effluent is pumped from STMWRF to the Field Creek Storage Reservoir. This in-ground lined reservoir was constructed in 1998 and has a total storage capacity of six million gallons (18.4 acre-feet). The reservoir is located adjacent to Arrow Creek Parkway, near the intersection with Geyser Road, and provides daily storage. The Arrow Creek Tank provides additional storage at the top of the distribution system and maintains system pressure. There is no storage at the individual discharge locations.

3.3 Distribution System

The distribution system consists of 8-inch and 12-inch PVC piping. The distribution system includes three pressure-reducing stations (PRVs) and is divided into two pressure zones. Each discharge location has a metered point-of-connection equipped with a totalizing flow meter and an isolation valve. Figure 3 shows the entirety of the reclaimed water distribution system.

4 CROSS CONNECTIONS

Cross connections are connections between the reclaimed water system (including irrigation systems) and potable water systems that serve as potential sources of contamination for the potable water system. Cross connections can be direct connections, such as pipes physically connecting the reclaimed water system and the potable water system; or indirect connections in which standing reclaimed water

contaminates the potable system during periods of low back pressure in the potable systems.

To avoid cross connections, direct connections between the reclaimed water distribution system and the potable water system or between individual reclaimed water irrigation systems and the potable water system will not be allowed. The building departments reviewing development plans are responsible for not allowing conditions where indirect cross connections might occur. Furthermore, Washoe County Department of Water Resources will review all irrigation plans for potential cross connection conditions.

To help avoid accidental cross connections during construction or repair operations, the reclaimed water system is constructed using piping that has been permanently colored purple. Reclaimed water distribution piping has been installed with a caution tape buried above the piping that indicates the piping buried below contains reclaimed water. Exposed fittings, meters, and piping are also colored purple and/or have signage indicating it contains reclaimed water. Contractors and maintenance personnel have been educated on the use of purple piping and equipment for reclaimed water systems and that purple colored piping should never be connected to a potable water system.

5 HEALTH AND SAFETY

5.1 Public Notification

The public will be notified of the use of reclaimed water by posting signs at the discharge locations. Signs will be located at driveway entrances to each property, in each roadway landscape island, roadway shoulders and medians, irrigated common areas, park parking lots and pedestrian entrances, and schools. In no case will sign spacing exceed 500 feet. Signs will be 8 inches tall by 12 inches wide and contain the following text:

TREATED WASTEWATER EFFLUENT
USED FOR IRRIGATION
DO NOT DRINK
AVOID CONTACT

An example of the sign is included in Appendix C.

5.2 Hygiene

Irrigation and application methods for the reclaimed water have been designed to reduce the potential for exposure of reclaimed water to the general public. Those most likely to come into contact with reclaimed water are workers maintaining landscaping and workers maintaining or repairing the distribution system and irrigation systems. These people are to receive the following instructions:

- Do not drink reclaimed water.
- Try to minimize contact with reclaimed water.
- Do not use reclaimed water for washing.
- Always wash hands and face with clean water and soap before eating, drinking, or smoking.
- Do not eat, drink, or smoke in areas where reclaimed water is used.
- Wear rubber gloves when working around reclaimed water.

- Always treat cuts and abrasions (disinfect and cover) immediately before continuing work around reclaimed water.
- Make sure the area is clear of people that might be sprayed before activating an irrigation system.
- Report any condition to your supervisor that you feel could pose a threat to workers or to the public.

6 RECLAIMED WATER CLASSIFICATION AND TYPE OF USE

6.1 Classification of Reclaimed Water

A Category A effluent has the criteria presented in Table 3 below.

Table 3: Category A Effluent

Access	Allowable Points-of-Use	Buffer Zones	Water Quality Criteria
Public access is uncontrolled. Human contact with reclaimed water can reasonably be expected to occur	Areas covered in all categories, plus parks, play grounds, commercial lawns, and residential lawns	None required	30-Day total coliform geometric mean is less than or equal to 2.2 MPN (or cfu)/100ml. Daily maximum: 23 MPN (or cfu)/100ml

STMWRF effluent meets the water quality criteria for a Category A effluent (refer to Section 3.1.1 for STMWRF effluent quality). As such, reclaimed water may be applied to the permitted sites. Additionally, no buffer zone between the points-of-use and areas of public access are required. While no access restrictions will be enforced, spray irrigation will be encouraged to occur in the late evening to early morning hours (9:00 PM to 5:00 AM).

6.2 Nitrogen Balance

According to NDEP's *WTS-1B: General Criteria for Preparing an Effluent Management Plan*, the EMP must include a nitrogen balance when the effluent total nitrogen concentration is greater than 10 mg/l. Concentrations less than 10 mg/l are assumed to result in a nitrogen-loading rate that is less than the nitrogen demand expressed by the irrigated vegetation.

According to Section 3.1.1, STMWRF effluent's mean total nitrogen concentration is 3.8 mg/l, which is less than the 10 mg/l criterion. Therefore, a nitrogen balance is not required. If future monitoring finds the effluent's mean annual total nitrogen concentration has increased to above 10 mg/l a nitrogen balance will be performed and this EMP updated accordingly.

6.3 Applications of Reclaimed Water

Reclaimed water will be used for irrigation at roadside landscaping, parks, schools, commercial facilities, commercial and residential common areas, and construction sites.

Reclaimed water will be discharged in several manners: spray irrigation, drip irrigation, at truck fills, and sprayed for construction use.

These uses will be conducted in accordance with the criteria established for Category A treated effluent. Irrigation and truck fill management plans are presented in Sections 9 and 10, respectively.

7 MONITORING REQUIREMENTS

7.1 Reclaimed Water

Washoe County will monitor the amount of reclaimed water discharged at each discharge location. Each discharge location connected to the distribution system is equipped with a flow totalizing flow meter. The meters are read and recorded monthly and the monthly usage determined by subtracting the previous month's reading.

In addition to monitoring reclaimed water usage, bacteriological activity will be monitored by collecting samples of the reclaimed water at the point of entry to the distribution system (STMWRF). The samples will be analyzed for total coliform by a State of Nevada certified laboratory.

7.2 Groundwater

Washoe County implemented a groundwater monitoring program when discharge permit NEV96005 was first issued for the South Meadows Business Park/Double Diamond Ranch reclaimed water system. The monitoring found no indication that the use of reclaimed water adversely impacted groundwater. In 2001, NDEP no longer required Washoe County monitor groundwater. No further groundwater monitoring is proposed under this EMP.

8 DISCHARGE REPORTS

Washoe County will submit Discharge Monitoring Reports (DMRs) to NDEP on a quarterly basis. A DMR will be prepared for each calendar month summarizing the monitoring results for that month. The DMRs will include the amount of water discharged (monthly, cumulative annual, and peak daily) and the measured bacteriological activity. A sample copy of a DMR is provided in Appendix D.

9 IRRIGATION MANAGEMENT PLAN

9.1 Soils

Soils information was obtained for MRERA from the USDA Soil Survey. Soil types for MRERA are shown on Figure 4, which includes descriptions of the soil types. Actual soil types might vary from what was defined for by the USDA Soil Survey database due to construction activities in which soils were amended, relocated, exported, or imported.

9.2 Irrigation Systems

This irrigation plan presents the policies and practices for the design and operation of irrigation systems.

Each irrigation system will be equipped with a totalizing flow meter. The flow meters will be read monthly and the readings recorded. Anomalous readings that suggest a broken line or some other malfunction that could result in a release of reclaimed water will be investigated. Hose bibs will not be allowed on irrigation systems, however lockable quick-connect devices colored purple will be allowed.

Reclaimed water will be applied to landscaping by two methods: spray irrigation and drip irrigation. These two irrigation methods are significantly different and require different strategies to minimize potential exposure to the public. Engineering and management controls to be implemented for the drip and spray irrigation systems are presented in the following sections.

Washoe County Department of Water Resources shall review all plans for proposed reclaimed water irrigation systems. All irrigation plans will be required to meet certain minimum standards. These standards are shown on the example drawings provided in Appendix E.

9.2.1 Spray Irrigation

In general, spray irrigation will be used for turf grass. While not required for Category A treated effluents, efforts will be made to minimize public exposure due to spray irrigation. To achieve this, irrigation will be encouraged to occur between the hours of 9:00 P.M. and 5:00 A.M. Irrigation during this period minimizes the likelihood the public will be present in the irrigation areas. Additionally, a wind monitoring system has been installed to automatically suspend irrigation during periods of high wind. This will reduce the potential for aerosolized reclaimed water to drift away from the irrigation area and enter areas of public use. The wind monitoring system consists of a combination of local and regional anemometers equipped with a variable set-point data logger and transmitter. The monitoring system will transmit a radio signal when the wind speeds continuously exceed 20 miles per hour (mph) for five minutes. Receivers located at pressure reducing stations will, upon receipt of the signal, actuate flow control solenoids to shut off the flow of reclaimed water to the irrigation systems. Irrigation will recommence when the wind speeds decrease and the transmitter sends the appropriate signal.

The individual spray irrigation systems will be designed so as to optimize the use of reclaimed water (i.e., appropriate sprinkler head spacing, spray nozzles selected for optimal watering rates, etc.). The intent is to develop irrigation systems that provide a consistent and even distribution of irrigation water that does not over water in some areas, while under water in others. Spray nozzles will be selected that have watering rates that do not exceed the soil's infiltration capacity.

Over pressure conditions tend to cause misting and aerosolization of irrigation water. Therefore, the reclaimed water irrigation systems will be operated within the pressure ranges specified by the spray nozzle manufacturers. This will be accomplished by installing pressures regulators at the control valves. Where it is not feasible to install pressure regulators, the irrigation valves can be throttled, which would lower the pressure at the spray nozzles.

The spray irrigation system will be operated so as to not cause ponding or runoff. Ponding and runoff are usually caused when too much water is applied during a daily cycle, or when the water is applied too fast. Irrigation schedules and rates will be set so as too minimize ponding and runoff. If ponding or runoff is detected during weekly

inspections, the irrigation schedule will be modified to either reduce the total amount applied or to spread out the irrigation (e.g., a 30-minute irrigation cycle can be separated into three 10-minute cycles with sufficient time in between to allow for infiltration).

All spray irrigation zones will be inspected weekly for broken lines, missing or broken spray nozzles, misaligned spray nozzles, and other conditions that would cause a release of reclaimed water.

Supplemental spot irrigation may be applied as needed provided the irrigation is applied by hand using a hose and spray nozzle and the supplemental irrigation does not result in an offsite discharge. Personnel must be onsite at all times while spot irrigating.

9.2.2 Drip Irrigation

Ponding and runoff are much less likely to occur with drip irrigation systems, which do not present the same level of potential public exposure as spray irrigation systems. However, irrigation cycles still need to be monitored to prevent excessive watering.

The individual drip irrigation systems will be designed so as to optimize the use of reclaimed water. The intent is to develop irrigation systems that provide a consistent and even distribution of irrigation water that does not over water in some areas, while under water in others. Drip irrigation nozzles will be selected for watering rates that are consistent with the soil type and plant demands.

Because drip irrigation systems keep the irrigation water below ground and physically separated from the public, it is acceptable to operate them any time of day.

All drip irrigation zones will be inspected weekly for broken lines and other conditions that would cause a release of reclaimed water.

9.3 Irrigation Requirements

The irrigation water demand for each existing discharge location was determined using historical consumption data. The demand for each discharge location is provided in Appendix A.

Storage of reclaimed water will not occur at any of the discharge locations. No additional treatment of reclaimed water will occur at the discharge locations.

10 TRUCK FILL MANAGEMENT PLAN

Reclaimed water is periodically used for dust control at construction sites. This use is consistent for reclaimed water that meets the requirements for a Category A treated effluent. Dust control is performed by spraying unpaved roads and areas to be graded with reclaimed water using water trucks.

The water trucks are filled at truck fill stations, which are established, as needed, by construction companies operating in the MRERA. As the MRERA develops, the need for reclaimed water for dust control is expected to diminish.

10.1 Truck Fill Stations

The truck fill stations are temporary facilities and are constructed on an as-needed basis by contractors operating in the MRERA area. The contractors must apply to the Washoe

County Department of Water Resources for a permit to construct and operate a reclaimed water truck fill station. Each truck fill station is required to be equipped with a totalizing flow meter, which is read monthly during periods of operation. The Washoe County Department of Water Resources will review the plans for each proposed truck fill to verify the design meets with the applicable standards.

Truck fill stations are to be graded so that runoff does not flow directly to a waterbody or to an area of public use. Water trucks filling at reclaimed truck fill stations are to have labels indicating the water is non-potable and not for human consumption. The filling process is to be continuously monitored to help prevent overfills.

10.2 Truck Fill Requirements

Water demands vary depending upon the type of construction activity occurring. Estimates of the current truck fill water demands are presented in Appendix A, which are based on historical use. The truck fill water demand is expected to decrease over time as the area becomes developed.

10.3 Dust Control Requirements

Users of reclaimed water for dust control will be informed of the following restrictions on the use of reclaimed water for dust control:

- Dust control activities are to be conducted in manner that does not cause ponding or runoff.
- Reclaimed water is be used in a manner that does not cause a direct release to waterbodies or storm drains.
- Reclaimed water is to be used in a manner that does not cause direct contact with people.
- Operators are to notify the Washoe County Department of Water Resources in the event of a release to a waterbody.

11 MISCELLANEOUS RECLAIMED WATER OPERATIONS

In addition to irrigation and truck fill operations, other activities using reclaimed water may occur that could require special operational requirements, such as construction watering activities. These activities are sufficiently different from irrigation and truck fill operations to warrant a special section to identify any management requirements pertinent to those operations. This section is intended to be a "living document" in that when new and unique use is identified and added to the list of reclaimed water uses, this section can be updated with specific management requirements for that use.

11.1 I-580 Construction Project

The I-580 construction project is unique in that reclaimed water is utilized for concrete batching, dust control (rock crushing), and construction watering. Furthermore, because of the significant demands and distance, onsite storage is necessary. Several temporary reclaimed water storage ponds have been constructed. For these reasons, the special handling requirements listed above for irrigation and truck fills are inadequate, and a site-specific effluent management plan was prepared for the I-580 Construction Project. A copy of the site-specific I-580 effluent management plan is provided in Appendix F.

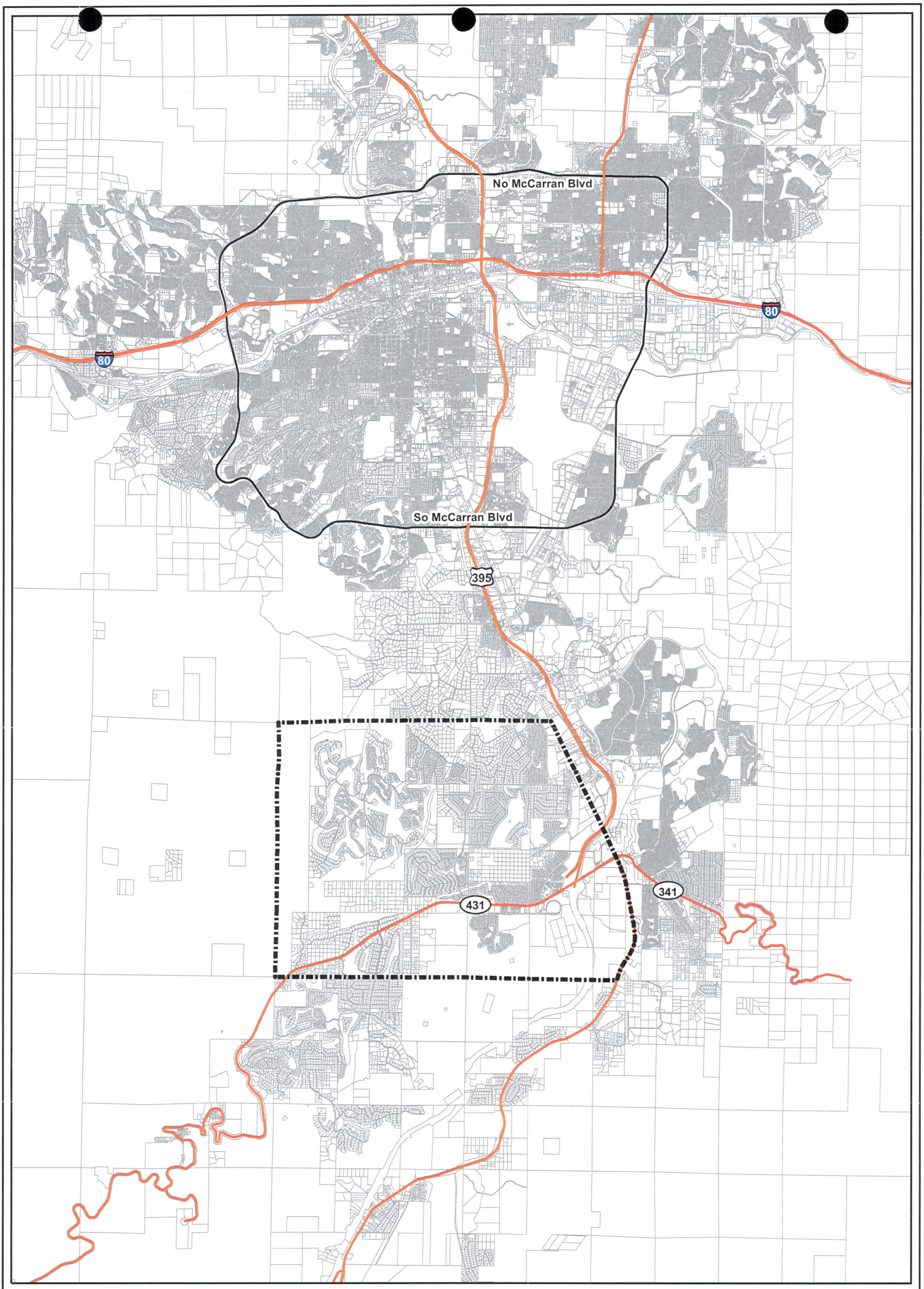

Figure 1
Mount Rose
Effluent Reuse Area
Site Map

Reuse Area Boundary

0 0.375 0.75 1.5 2.25 3 Miles

Department of Water Resources

Notes: The Scale and configuration of all Information shown heron are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Department of Water Resources.

November 2006

Department of Water Resources
Engineering Division
Washoe County
Nevada

4930 Energy Way
Reno, Nevada 89502
(775) 954-4600

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APPENDIX A

Discharge Locations

DISCHARGE LOCATIONS
Mt. Rose Effluent Reuse Area
Washoe County Department of Water Resources

Customer Name	Address/Location	Site Use	Estimated Annual Use (ac-ft)	Estimated Annual Use (MGD)
Southwest Pointe Assoc.	2650-A Arrow Creek Pkwy	Roadway Landscaping	0.7	0.001
Southwest Pointe Assoc.	2650-B Arrow Creek Pkwy	Roadway Landscaping	3.3	0.004
Southwest Pointe Assoc.	2900-A Arrow Creek Pkwy	Roadway Landscaping	13.5	0.018
Southwest Pointe Assoc.	2905-B Arrow Creek Pkwy	Roadway Landscaping	6.1	0.008
Southwest Pointe Assoc.	Loop Rd. & Effluent Tank Rd.	Roadway Landscaping	38.1	0.052
Washoe County Parks	Arrow Creek Park	Park	0.3	0.000
Washoe County Parks	South Valley Sports Complex	Park	85.0	0.115
Fallen Leaf	Wedge Parkway	Residential	44.3	0.060
Mountaingate	Arrow Springs Drive	Residential	9.2	0.013
Summit Sierra	Highway 395 and Highway 431	Commercial	33.0	0.045
Misc. Truck Fills	Various locations	Truck Fill	50.0	0.068
Fisher	I-580 Construction Site	Truck Fill/Construction	200.0	0.272
Bishop Manogue High School	110 Bishop Manogue Dr.	School	66.9	0.091
		Total	**550.4**	**0.747**

APPENDIX B

Discharge Permit

Permit No. NEV97011

Nevada Division of Environmental Protection

AUTHORIZATION TO DISCHARGE

In compliance with Chapter 445A of the Nevada Revised Statutes,

Washoe County Department of Water Resources
4930 Energy Way
Reno, Nevada 89520-0027

is authorized to discharge treated effluent for irrigation reuse in streetscapes, landscape sites, schools, parks and common areas, apartment complexes, a shopping center complex and other approved sites, and, for construction uses and dust control via truck fill stations and other metered points within:

ArrowCreek Subdivision, ArrowCreek Parkway and Loop Road
Southwest Pointe Association Properties
Washoe County Parks: ArrowCreek Park and South Valley Sports Complex
Fallen Leaf (17000 Wedge Parkway) and Mountain Gate Properties (400 Arrow Creek Parkway), Reno, Nevada 89511
Summit Sierra shopping complex US Hwy. 395 and SR 431(13925 S. Virginia Street, Suite 212, Reno, Nevada 89511
Bishop Manogue High School, 110 Bishop Manogue Dr., Reno, Nevada 89511
Fisher Sand & Gravel, I-580 truck fill stations and construction water and dust control reuses, off of SR 431, Reno, Nevada.
Washoe County Truck Fill Stations and other approved sites
Washoe County, Nevada

These sites are within drinking water protection areas and wellhead protedtion areas.

Latitude: 39° 24 - 27' 00 - 57"N ; Longitude: 119° 27 - 50' 00 - 30"W Ranges

to receiving waters named

groundwaters of the State via effluent percolation

in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Part I, II and III hereof.

This permit shall become effective on April 22, **2008**.

This permit and the authorization to discharge shall expire at midnight, April 22, **2013**.

Signed this 22nd day of April, 2008.

Icyl C. Mulligan, ES MS
Bureau of Water Pollution Control

C:\ARROWCREEK.WASHOECO.REUSE.WEST.PERMIT.08

PART I

Introduction: The permit for the ArrowCreek reuse sites (NEV97011 - originally issued December 2, 2002) has been expanded with this renewal to include additional new approved sites, all on the west side of US Highway 395 south of Reno, Nevada. The Permittee proposes to continue oversight of effluent irrigation at all sites currently identified, and for future Division approved sites. Reuse in the permitted areas are a combination of drip and spray irrigation. Annual reclaimed water usage for the entire area is estimated to be around 2000 acre-feet per year(AF/YR). Irrigation is mostly seasonal and weather dependent.

Reclaimed water is supplied by the South Truckee Meadows Water Reclamation Facility. This facility provides disinfected, denitrified reclaimed water that meets Category A quality (NAC 445A.276) (Below 10 mg/l N).

I.A. EFFLUENT LIMITATIONS, MONITORING REQUIREMENTS AND CONDITIONS

I.A.1. During the period beginning on the effective date of this permit, and lasting until the permit expires, the Permittee is authorized to discharge reclaimed water supplied by the South Truckee Meadows Water Reclamation Facility for irrigation reuse and for construction and dust control uses, at the Division approved named areas on the west side of US Highway 395.

I.A.2. Flow monitoring shall be recorded at the meter vault prior to reuse. Reclaimed water quality shall be in accordance with the limits set forth in NEV40024 for the South Truckee Meadows Water Reclamation Facility.[1]

The discharge shall be limited and monitored by the permittee as specified below:

TABLE I.1

PARAMETERS	EFFLUENT DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS	
	30-Day Average (Seasonal)	Monthly Maximum (seasonal)	Measurement Frequency	Sample Type
Flow, Million Gallons per Month[2] (MGM)	Monitor & Report	Monitor & Report	Continuous	Flow meter
Annual Application Volume[3]	2000 Acre-Feet/Year		Cumulative	Flow Meter
Total Coliform[1]	2.2 (CFU/ MPN)/100 ml	23 (CFU/MPN) 100 ml	Weekly	Discrete

1. Sample results to be obtained from NEV40024 and reported by Permittee.

2 Monthly Maximum based upon highest usage month determined from consumptive use balance + 10 % allowance and in accordance with the Effluent Management Plan.

3. To be submitted with the 4th Quarter DMR.

CFU = Colony Forming Units, MPN = Most Probable Number, ml = Milliliter

I.B. EFFLUENT MANAGEMENT

I.B.1. The irrigation storage, distribution and ancillary reuse facilities shall be operated in accordance with the Effluent Management Plans (EMPs) which must be approved by this Division prior to the use of treated effluent. The EMPs shall contain the information required to comply with this permit. It is recommended that the Permittee utilize "WTS-1B: General Criteria for Preparing an Effluent Management Plan" (NDEP 2000), as a guidance to prepare the EMP.

I.B.2. The Permittee shall provide a copy of a brief, but complete and understandable, document describing the possible hazards and proper hygiene of working with and around treated wastewater to all grounds keepers and other affected personnel. Copies shall be included in the EMP.

I.B.3. The Permittee shall calculate the Consumptive Use Balance for each month based upon the parameters listed in Appendix One of WTS-1B. The evaluation of the rates shall be included in the EMP.

The annual application volume limit and monthly maximum limit shall be determined from this balance. If the actual annual application volume or monthly maximum volume exceeds the calculated annual application limit or monthly maximum limit, the Permittee shall prepare a report which includes an evaluation of the application rates in the EMP, an explanation of conditions (overseeding, reseeding, extraordinary weather conditons, etc.) which lead to the exceedance, and any planned changes the Permittee deems necessary. This evaluation shall be submitted with the fourth quarter Discharage Monitoring Report (DMR).

I.B.4 The EMP shall detail the procedures for collecting monitoring samples (if applicable) required by this permit.

I.B.5. The effluent irrigation shall not cause objectionable odors on or off the sites.

I.B.6. The irrigation systems and ancillaries shall be constructed and operated in accordance with plans approved by the Division. All plans must be approved by the Division prior to the start of construction. All changes to the approved plans must be approved by the Division.

I.B.7. Irrigated areas shall be posted with conspicuous warning signs clearly stating that reclaimed water is utilized and to avoid contact. Ancillary equipment used for effluent shall be clearly marked to indicate use with effluent.

I.B.8. Any drinking water fountains at parks and schools and other facilities shall be covered during effluent irrigation.

I.B.9. Irrigation of the subject areas shall be performed in such a manner as to reduce standing water to a minimum and to prevent run-off. Overspray shall be prevented as much as practicable.

I.B.10. The Permittee shall provide documentation to the Division that the local water purveyor and local health agency have been notified of the Permittee's intent to use effluent at these facilities. The document shall describe the plan for complying with the cross-connection control requirements of the local water purveyor and County health agency. This documentation shall be received prior to effluent reuse at all new and existing sites as detailed in the schedule of compliance. **No potential for cross-connection shall exist between potable and reuse systems.**

I.B.11. All terms and conditions stated herein shall not supercede the requirements of the Nevada Division of Water Resources.

I.C. GENERAL CONDITIONS

I.C.1. There shall be no discharge of substances that would cause a violation of water quality standards of the State of Nevada.

I.C.2. The Permittee shall remit an annual review and services fee in accordance with NAC 445A.232 starting **July 1, 2008** and every year thereafter until the permit is terminated.

I.C.3. The Discharge Monitoring Reports (DMRs) must be signed by the facility's highest ranking officer. The first DMR submitted under this permit must include the written designation of the officer (required by Part III A.2) as the authorized representative to sign the DMRs. If the officer in responsible charge changes, a new designation letter must be submitted.

I.D. SCHEDULE OF COMPLIANCE

I.D.1. The Permittee shall implement and comply with the provisions of the following schedule of compliance after approval by the Administrator, including in said implementation and compliance, any additions or modifications which the Administrator may make in approving the schedule of compliance.

a. The Permittee shall achieve compliance with the effluent flow monitoring requirements upon issuance of the permit.

b. A revised Effluent Management Plan (EMP) shall be submitted to the Division within 90 days of permit issuance and submitted to the Compliance Coordinator at the address listed below.

c. For continued effluent reuse, the Permittee shall submit the cross-connection control documentation as required by part I.B.10. This documentation shall be submitted annually thereafter, due with the 4th Quarter Report. The cross-connection control inspections, including the annual shut down tests for the permitted cluster sites shall be conducted by an AWWA Certified Cross-Connection Control Specialist in conjunction with the Washoe County's Utility Services Department staff.

I.E. MONITORING AND REPORTING

I.E.1. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. Analysis shall be performed by a State of Nevada certified laboratory. Results from this lab must accompany the Discharge Monitoring Report.

I.E.2. **Reporting**

a. Annual Report - The fourth quarter report shall contain a plot of the date (x-axis) versus concentration (y-axis) for each analyzed constituent. The plot shall include data from the preceding five years, if available. Any data point from the current year that is greater than the limits in Part I.A. must be explained by a narrative.

b. The Fourth Quarter Report shall demonstrate that the facility has maintained compliance with the annual application volume. If the annual application volume exceeds the limit listed in Table I.1, an evaluation shall be submitted with the fourth quarter report in accordance with the requirements listed in permit condition I.B.3.

c. The Fourth Quarter Report shall contain all data required to be collected annually.

d. Quarterly Report - Monitoring results obtained during the previous three (3) months shall be summarized for each month and reported quarterly on a Discharge Monitoring Report (DMR) Form received in this office no later than the 28th day of the month following the end of each quarter. The first report is due on (July 28, 2008). An original signed copy of these, and all other reports required herein, shall be submitted to the State at the following address:

Division of Environmental Protection
Bureau of Water Pollution Control
ATTN: Compliance Coordinator
901 South Stewart Street, Suite 4001
Carson City, Nevada 89701

If the monthly maximum volume exceeds the limit listed in Table I.1, an evaluation shall be submitted with the fourth quarter report in accordance with the requirements listed in permit condition I.B.3.

I.E.3. **Definitions**

a. The "30-day average discharge" means the total discharge during a month divided by the number of samples in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day average discharge shall be determined by the summation of all the measured discharges divided by the number of samples during the period when the measurements were made.

b. The "daily maximum" is the highest measurement during the monitoring period.

c. The "30-day average concentration", other than for fecal coliform bacteria, means the arithmetic mean of measurements made during a month. The "30-day average concentration" for fecal coliform bacteria means the geometric mean of measurements made during a month. The geometric mean is the "n^{th}" root of the product of "n" numbers. Geometric mean calculations where there are non-detect results for fecal coliform shall use one-half the detection limit as the value for the non-detect results.

d. A "discrete" sample means any individual sample collected in less than 15 minutes.

e. For flow-rate measurements, a "composite" sample means the arithmetic mean of no fewer than six individual measurements taken at equal time intervals for 24 hours, or for the duration of discharge, whichever is shorter.

I.E.4. **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.

I.E.5. **Recording the Results**

For each measurement or sample taken pursuant to the requirements of this permit, the Permittee shall record and maintain at the facility, the following information:

a. the exact place, date, and time of sampling;
b. the dates the analyses were performed;
c. the person(s) who performed the analyses;
d. the analytical techniques or methods used; and
e. the results of all required analyses.

I.E.6. **Additional Monitoring by Permittee**

If the permittee monitors any pollutant at the location(s) designated herein more frequently than required by this permit, using approved analytical methods as specified above, the results of such monitoring shall be included in the calculation and reporting of the values required in the Discharge Monitoring Report Form. Such increased frequency shall also be indicated.

I.E.7. **Records Retention**

All records and information resulting from the monitoring activities required by this permit, including all records of analyses performed, calibration and maintenance of instrumentation, and recordings from continuous monitoring instrumentation shall be retained for a minimum of three (3) years, or longer if required by the Administrator.

I.E.8. **Modification of Monitoring Frequency and Sample Type**

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.

I.E.9. All laboratory analysis conducted in accordance with this discharge permit must have detection at or below the permit limits.

PART II

II.A. MANAGEMENT REQUIREMENTS

II.A.1. **Change in Discharge**

All discharges authorized herein shall be consistent with the terms and conditions of this permit. The discharge of any pollutant identified in this permit more frequently than or at a level in excess of that authorized shall constitute a violation of the permit. Any anticipated facility expansions, or treatment modifications which will result in new, different, or increased discharges of pollutants must be reported by submission of a new application or, if such changes will not violate the effluent limitations specified in this permit, by notice to the permit issuing authority of such changes. Any changes to the permitted treatment facility must comply with Nevada Administrative Code NAC 445A.283 to 445A.285. Pursuant to NAC 445A.263, the permit may be modified to specify and limit any pollutants not previously limited.

II.A.2. **Facilities Operation**

The Permittee shall at all times maintain in good working order and operate as efficiently as possible all treatment or control facilities, collection systems or pump stations installed or used by the Permittee to achieve compliance with the terms and conditions of this permit.

II.A.3. **Adverse Impact**

The Permittee shall take all reasonable steps to minimize any adverse impact to receiving waters resulting from noncompliance with any effluent limitations specified in this permit, including such accelerated or additional monitoring as necessary to determine the nature and impact of the noncomplying discharge.

II.A.4. **Noncompliance, Unauthorized Discharge, Bypassing and Upset**

a. Any diversion, bypass, spill, overflow or discharge of treated or untreated wastewater from wastewater treatment, conveyance facilities, or holding ponds under the control of the Permittee is prohibited except as authorized by this permit. In the event the Permittee has knowledge that a diversion, bypass, spill, overflow or discharge not authorized by this permit is probable, the permittee shall notify the Division immediately.

b. The Permittee shall notify the Division within twenty-four (24) hours of any diversion, bypass, spill, upset, overflow or release of treated or untreated discharge other than that which is authorized by the permit. A written report shall be submitted to the Administrator within five (5) days of diversion, bypass, spill, overflow, upset, or discharge, detailing the entire incident including:

(1) time and date of discharge;
(2) exact location and estimated amount of discharge;
(3) flow path and any bodies of water which the discharge reached;
(4) the specific cause of the discharge; and
(5) the preventive and/or corrective actions taken.

c. The following shall be included as information which must be reported within 24 hours: any unanticipated bypass which exceeds any effluent limitation in the permit; any upset which exceeds any effluent limitation in the permit; and violation of a limitation for any toxic pollutant or any pollutant identified as the method to control a toxic pollutant.

d. The Permittee shall report all instances of noncompliance not reported under Part II.A.4.b. at the time monitoring reports are submitted. The reports shall contain the information listed in Part II.A.4.b.

e. An "upset" means an incident in which there is unintentional and temporary noncompliance with the permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

f. In selecting the appropriate enforcement option, the Division shall consider whether or not the noncompliance was the result of an upset.

g. The burden of proof is on the Permittee to establish that an upset occurred.

In order to establish that an upset occurred, the Permittee must provide, in addition to the

information required under paragraph II.A.4.b. above, properly signed contemporaneous logs or other documentary evidence that:

(1) The facility was at the time being properly operated as required in paragraph II.A.2. above; and

(2) All reasonable steps were taken to minimize adverse impacts as required by paragraph II.A.3. above.

II.A.5. **Removed Substances**

Solids, sludges, filter backwash, or other pollutants removed in the course of treatment or control of wastewaters shall be disposed of in a manner such as to prevent any pollution from such materials from entering any navigable waters.

II.B. RESPONSIBILITIES

II.B.1. **Right of Entry**

The Permittee shall allow the Administrator and/or his authorized representatives, upon the presentation of credentials:

a. to enter upon the Permittee's premises where an effluent source is located or in which any records are required to be kept under the terms and conditions of this permit; and

b. at reasonable times, to have access to and copy any records required to be kept under the terms and conditions of this permit; to inspect any monitoring equipment or monitoring method required in this permit; and to perform any necessary sampling to determine compliance with this permit or to sample any discharge.

II.B.2. **Transfer of Ownership or Control**

In the event of any change in control or ownership of facilities from which the authorized discharge emanates, 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.

II.B.3. **Availability of Reports**

Except for data determined to be confidential under NRS 445A.665, all reports 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.

Part II.B.

II.B.4. **Furnishing False Information and Tampering with Monitoring Devices**

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 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, or who falsifies, tampers with or knowingly renders inaccurate any monitoring device or method required to be maintained under the provisions of NRS 445A.300 to 445A.730, inclusive, or by any permit, rule, regulation or order issued pursuant thereto, is guilty of a gross misdemeanor and shall be punished by a fine of not more than $10,000 or by imprisonment. This penalty is in addition to any other penalties, civil or criminal, provided pursuant to NRS 445A.300 to 445A.730, inclusive.

II.B.5. **Penalty for Violation of Permit Conditions**

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.705.

II.B.6. **Permit Modification, Suspension or Revocation**

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:

a. violation of any terms or conditions of this permit;

b. obtaining this permit by misrepresentation or failure to disclose fully all relevant facts; or

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

II.B.7. **Toxic Pollutants**

Notwithstanding Part II.B.6. above, if a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Act for a toxic pollutant which is present in the discharge and such standard or prohibition is more stringent than any limitation for such pollutant in this permit, this permit shall be revised or modified in accordance with the toxic effluent standard or prohibition and the Permittee so notified.

II.B.8. **Liability**

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.

II.B.9. **Property Rights**

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.

II.B.10. **Severability**

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.

PART III

III.A. OTHER REQUIREMENTS

III.A.1. **Reapplication**

If the Permittee desires to continue to discharge, he shall reapply not later than 180 days before this permit expires on the application forms then in use. The Permittee shall submit the reapplication fee required by NAC 445A.232 with the application.

III.A.2. **Signatures required on application and reporting forms.**

a. Application and reporting forms submitted to the department must be signed by one of the following:

(i) A principal executive officer of the corporation (of at least the level of Vice President) or his/her authorized representative who is responsible for the overall operation of the facility from which the discharge described in the application or reporting form originates;

(ii) A general partner of the partnership;

(iii) The proprietor of the sole proprietorship; or

(iv) A principal executive officer, ranking elected official or other authorized employee of the municipal, state, or other public facility.

b. Each application must contain a certification by the person signing the application that he is familiar with the information provided, that to the best of his knowledge and belief the information is complete and accurate and that he has the authority to sign and execute the application.

c. **Changes to Authorization**. If an authorization under paragraph b. of this section is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph b. of this section must be submitted to the Division prior to or together with any reports, information, or applications to be signed by an authorized representative.

III.A.3. **Holding Pond Conditions**

If any effluent is placed in ponds, such ponds shall be located, operated and constructed so as to:

a. contain with no discharge the once-in-a-twenty-five year 24 hour storm at said location;

Part III.A.3.

b. withstand the once-in-one-hundred year flood of said location without physical damages to berms and other pond structures;

c. prevent escape of wastewater by leakage other than as authorized by this permit; and

d. maintain freeboard at a minimum of 2 feet, unless otherwise approved by the Division.

APPENDIX C

Warning Sign

TREATED WASTEWATER EFFLUENT
USED FOR IRRIGATION

DO NOT DRINK

AVOID CONTACT

APPENDIX D

Sample DMRs

PERMITTEE NAME/ADDRESS
(Include Facility Name/Location if different)

NAME: Washoe County Department of Water Resources

ADDRESS: 4930 Energy Way
Reno, NV 89502

FACILITY: South Truckee Meadows WRF
LOCATION: ArrowCreek Common Area Landscape

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NDPES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2000-0015

NEV97011	
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
08	10	01	TO	08	10	31

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	Units	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	Units	No. Ex.	Frequency of Analysis	Sample Type
EFFLUENT FLOW	Sample Measurement	1.900	1.900*	MGM						31/31	
	Permit Requirement	M&R	M&R							CONTINUOUS	METER
TOTAL COLIFORM	Sample Measurement				<1	<1	<1	cfu/100 ml	0	5/31	
	Permit Requirement					2.2	23			WEEKLY	DISCRETE
	Sample Measurement				N/A						
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

Name/Title Principal Exec. Officer			TELEPHONE NUMBER	DATE
Rick Warner, Acting Engineering Manager, Department of Water Resources	I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information. I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. ¶ 1001 and 33 U.S.C. ¶ 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)	Signature of Principal Executive Officer or Authorized Agent	(775) 954-4600	08/01/26
TYPED OR PRINTED				YR/MO/DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) * monthly meter readings on reclaimed services.

PERMITTEE NAME/ADDRESS
(Include Facility Name/Location if different)

NAME: Washoe County Department of Water Resources

ADDRESS: 4930 Energy Way
Reno, NV 89502

FACILITY: South Truckee Meadows WRF
LOCATION: ArrowCreek Common Area Landscape

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NDPES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2000-0015

NEV97011	
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
08	11	01	TO	08	11	30

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING			QUALITY OR CONCENTRATION				No. Ex.	Frequency of Analysis	Sample Type
		AVERAGE	MAXIMUM	Units	MINIMUM	AVERAGE	MAXIMUM	Units			
EFFLUENT FLOW	Sample Measurement	0.669	0.669*	MGM						30/30	
	Permit Requirement	M&R	M&R							CONTINUOUS	METER
TOTAL COLIFORM	Sample Measurement				<1	<1	<2	cfu/100 ml	0	4/30	
	Permit Requirement					2.2	23			WEEKLY	DISCRETE
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

Name/Title Principal Exec. Officer			TELEPHONE NUMBER	DATE
Rick Warner, Acting Engineering Manager Department of Water Resources	I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information. I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. ¶ 1001 and 33 U.S.C. ¶ 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)	Signature of Principal Executive Officer or Authorized Agent	(775) 954-4600	08/01/26
TYPED OR PRINTED				YR/MO/DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) * monthly meter readings on reclaimed services

PERMITTEE NAME/ADDRESS
(Include Facility Name/Location if different)

NAME: Washoe County Department of Water Resources

ADDRESS: 4930 Energy Way
Reno, NV 89502

FACILITY: South Truckee Meadows WRF
LOCATION: ArrowCreek Common Area Landscape

NATIONAL POLLUTION DISCHARGE ELIMINATION SYSTEM (NDPES)
DISCHARGE MONITORING REPORT (DMR)

Form Approved
OMB No. 2000-0015.

NEV97011	
PERMIT NUMBER	DISCHARGE NUMBER

MONITORING PERIOD						
YEAR	MO	DAY		YEAR	MO	DAY
08	12	01	TO	08	12	31

NOTE: Read instructions before completing this form.

PARAMETER		QUANTITY OR LOADING AVERAGE	QUANTITY OR LOADING MAXIMUM	Units	QUALITY OR CONCENTRATION MINIMUM	QUALITY OR CONCENTRATION AVERAGE	QUALITY OR CONCENTRATION MAXIMUM	Units	No. Ex.	Frequency of Analysis	Sample Type
EFFLUENT FLOW	Sample Measurement	0.089	0.089*	MGM						31/31	
	Permit Requirement	M&R	M&R							CONTINUOUS	METER
FECAL COLIFORM	Sample Measurement				<1	<1	<1	cfu/100 ml	0	4/31	
	Permit Requirement					2.2	23			WEEKLY	DISCRETE
ANNUAL APPLICATION VOLUME	Sample Measurement				N/A		43.42	ac-ft/yr.	0	1/365	
	Permit Requirement						65			CUMULATIVE	METER
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										
	Sample Measurement										
	Permit Requirement										

Name/Title Principal Exec. Officer			TELEPHONE NUMBER	DATE
Rick Warner, Acting Engineering Manager, Department of Water Resources	I certify under penalty of law that I have personally examined and am familiar with the information submitted herein; and based on my inquiry of those individuals immediately responsible for obtaining the information. I believe the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. See 18 U.S.C. ¶ 1001 and 33 U.S.C. ¶ 1319. (Penalties under these statutes may include fines up to $10,000 and/or maximum imprisonment of between 6 months and 5 years.)	Signature of Principal Executive Officer or Authorized Agent	(775) 954-4600	08/01/26
TYPED OR PRINTED				YR/MO/DAY

COMMENT AND EXPLANATION OF ANY VIOLATIONS (Reference all attachments here) * monthly meter readings on reclaimed services

APPENDIX E

Sample Irrigation Plans

IRRIGATION SPECIFICATIONS

GENERAL

1. PLAN IS DIAGRAMMATIC ONLY. FINAL LOCATION OF LINES AND HEADS SHALL BE DETERMINED IN THE FIELD AND APPROVED BY THE OWNER'S REPRESENTATIVE. LINES SHALL BE IN A COMMON TRENCH WHEREVER POSSIBLE. THE POINT-OF-CONNECTION SHALL BE AS INDICATED ON THE PLAN.

2. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS AND ENSURE THAT ALL LOCAL CODES ARE MET.

3. THE CONTRACTOR SHALL APPLY AND PAY FOR ALL PERMITS REQUIRED FOR INSTALLATION OF THE IRRIGATION SYSTEM AS DEPICTED ON THESE PLANS.

4. CONTRACTOR SHALL VERIFY AVAILABLE FLOW AND PRESSURE DOWNSTREAM FROM THE POINT-OF-CONNECTION PRIOR TO SYSTEM INSTALLATION. CONTRACTOR SHALL NOTIFY OWNER'S REPRESENTATIVE IMMEDIATELY IF AVAILABLE FLOW IS LESS THAN REQUIRED TO RUN THE LARGEST ZONE. CONTRACTOR SHALL NOT PROCEED ANY FURTHER WITH INSTALLATION OF THE SYSTEM UNTIL NECESSARY DESIGN REVISIONS HAVE BEEN DETERMINED BY OWNER'S REPRESENTATIVE.

5. THE CONTRACTOR SHALL NOT WILLFULLY INSTALL THE SPRINKLER SYSTEM AS SHOWN ON THE DRAWINGS WHEN IT IS OBVIOUS IN THE FIELD THAT UNKNOWN OBSTRUCTIONS OR DIFFERENCES IN DIMENSIONS EXIST THAT MIGHT HAVE BEEN UNKNOWN DURING ENGINEERING. SUCH OBSTRUCTIONS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER'S AUTHORIZED REPRESENTATIVE. IN THE EVENT THIS NOTIFICATION IS NOT PERFORMED, THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ANY REVISIONS NECESSARY AT NO ADDITIONAL COST TO OWNER.

6. ALL SPRINKLER EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.

7. CONTRACTOR SHALL COORDINATE THE INSTALLATION OF ALL SPRINKLER MATERIALS, INCLUDING PIPE, WITH THE LANDSCAPE DRAWINGS TO AVOID INTERFERING WITH THE PLANTING OF TREES, SHRUBS, OR OTHER PLANTINGS.

8. ALL VALVES ARE TO BE LOCATED IN PLANTING AREAS WHEREVER POSSIBLE.

9. ALL ELECTRICAL WIRE FROM CONTROLLER TO VALVES SHALL BE 12 GAUGE UL DIRECT BURIAL OR LARGER AS REQUIRED BY LENGTH PER MANUFACTURER'S SPECIFICATIONS.

10. BACKFILL FOR TRENCHING SHALL BE COMPACTED TO A DRY DENSITY EQUAL TO THE UNDISTURBED ADJACENT SOIL AND SHALL CONFORM TO ADJACENT GRADES WITHOUT DIPS, HUMPS, OR OTHER IRREGULARITIES.

11. A MINIMUM OF TWO WORKING DAYS PRIOR TO PERFORMING ANY DIGGING, CALL UNDERGROUND SERVICE ALERT AT 1-800-227-2600 FOR INFORMATION ON THE LOCATION OF NATURAL GAS LINES, ELECTRICAL CABLES, TELEPHONE CABLES, ETC.

12. CONTRACTOR AGREES THAT, IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR WILL BE REQUIRED TO ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS.

13. INSTALL ALL PIPE AND CONTROL WIRES IN LANDSCAPE BEDS AND IN COMMON TRENCHES WHEREVER POSSIBLE.

14. INSTALL ALL PIPE AND CONTROL WIRE, WHICH RUNS UNDER PAVING, WITHIN SCH. 40 PVC SLEEVES 2" DIA. MINIMUM SIZE AS REQUIRED TO ALLOW INSTALLATION WITHOUT BINDING. PROVIDE (1) SLEEVE PER PIPE. PROVIDE SEPARATE SLEEVES FOR CONTROL WIRE.

15. CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE FOR COMPLETE DRAINAGE OF THE MAINLINES BY INSTALLING MANUAL DRAINS AS INDICATED ON PLAN AND AT ALL SYSTEM LOW POINTS.

FLUSHING AND TESTING

16. PIPING SHALL BE COMPLETELY FLUSHED OF FOREIGN PARTICLES BEFORE ATTACHING IRRIGATION COMPONENTS AND DRAIN VALVES.

17. AFTER FLUSHING, AND WHEN ALL VALVES AND QUICK COUPLERS ARE IN PLACE, ALL MAIN SUPPLY LINES SHALL BE TESTED AT 100 POUNDS PER SQUARE INCH (100 PSI) WITH VALVES CLOSED. MAINTAIN PRESSURE FOR A PERIOD OF NOT LESS THAN (4) CONSECUTIVE HOURS. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED.

18. AFTER FLUSHING, LATERAL PIPES SHALL BE TESTED WITH RISERS CAPPED AND DRAIN VALVES CLOSED. THE TEST SHALL BE MADE AT MAXIMUM OPERATING PRESSURE FOR A PERIOD OF NOT LESS THAN (1) HOUR. ALL JOINTS SHOWING LEAKS SHALL BE CLEANED, REMADE, AND TESTED. ALL TESTING SHALL BE DONE IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE PRIOR TO BACKFILLING OVER PIPING.

19. OPERATIONAL TESTING. PERFORM OPERATIONAL TESTING AFTER HYDROSTATIC TESTING IS COMPLETED. DEMONSTRATE TO THE OWNER'S REPRESENTATIVE THAT THE SYSTEM MEETS COVERAGE REQUIREMENTS (100%) AND THAT AUTOMATIC CONTROLS FUNCTION PROPERLY.

20. AFTER COMPLETION OF GRADING AND SOD PLACEMENT, CAREFULLY ADJUST SPRINKLER HEADS TO MEET HEIGHT INDICATED ON DRAWINGS.

SUBMITTALS

21. MATERIALS LIST. WITHIN (15) DAYS AFTER AWARD OF CONTRACT, SUBMIT TO OWNER'S REPRESENTATIVE (3) COPIES OF A COMPLETE MATERIAL LIST (PARTIAL LIST NOT ACCEPTABLE) OF ALL MATERIALS TO BE USED ON THE PROJECT, SPECIFYING MANUFACTURER, GRADE, TRADE NAME, CATALOG NUMBER, SIZE, ETC. THIS SHALL IN NO WAY BE CONSTRUED AS ALLOWING A SUBSTITUTION FOR ANY ITEM SPECIFIED ON THE PLANS. EQUIPMENT OR MATERIALS INSTALLED OR FURNISHED WITHOUT THE PRIOR WRITTEN APPROVAL OF THE OWNER'S REPRESENTATIVE MAY BE REJECTED AND THE CONTRACTOR REQUIRED TO REMOVE THE MATERIALS AT HIS OWN EXPENSE.

INSTALLATION AND PERFORMANCE OF APPROVED SUBSTITUTIONS ARE THE CONTRACTORS RESPONSIBILITY. ANY CHANGES REQUIRED FOR INSTALLATION OF ANY APPROVED SUBSTITUTION MUST BE MADE TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE WITHOUT ADDITIONAL COST TO OWNER.

22. PRIOR TO SYSTEM INSTALLATION CONTRACTOR SHALL VERIFY AND SUBMIT TO OWNER'S REPRESENTATIVE IN WRITING, AVAILABLE FLOW AND PRESSURE AT POINT-OF-CONNECTION AS DESCRIBED IN SPECIFICATION #4 ABOVE.

23. COMPLETE WARRANTY CARDS FOR AUTOMATIC CONTROLLER AND OTHER IRRIGATION MATERIAL (CONTROLLER KEYS, ETC.) SHALL BE DELIVERED TO OWNER.

24. CONTRACTOR SHALL PREPARE AND ISSUE TO THE OWNER (AT COMPLETION OF THE INSTALLATION) AN ANNUAL CHART INDICATING LOCATION, OPERATING DATES, CYCLES, AND TIME FOR EACH ZONE.

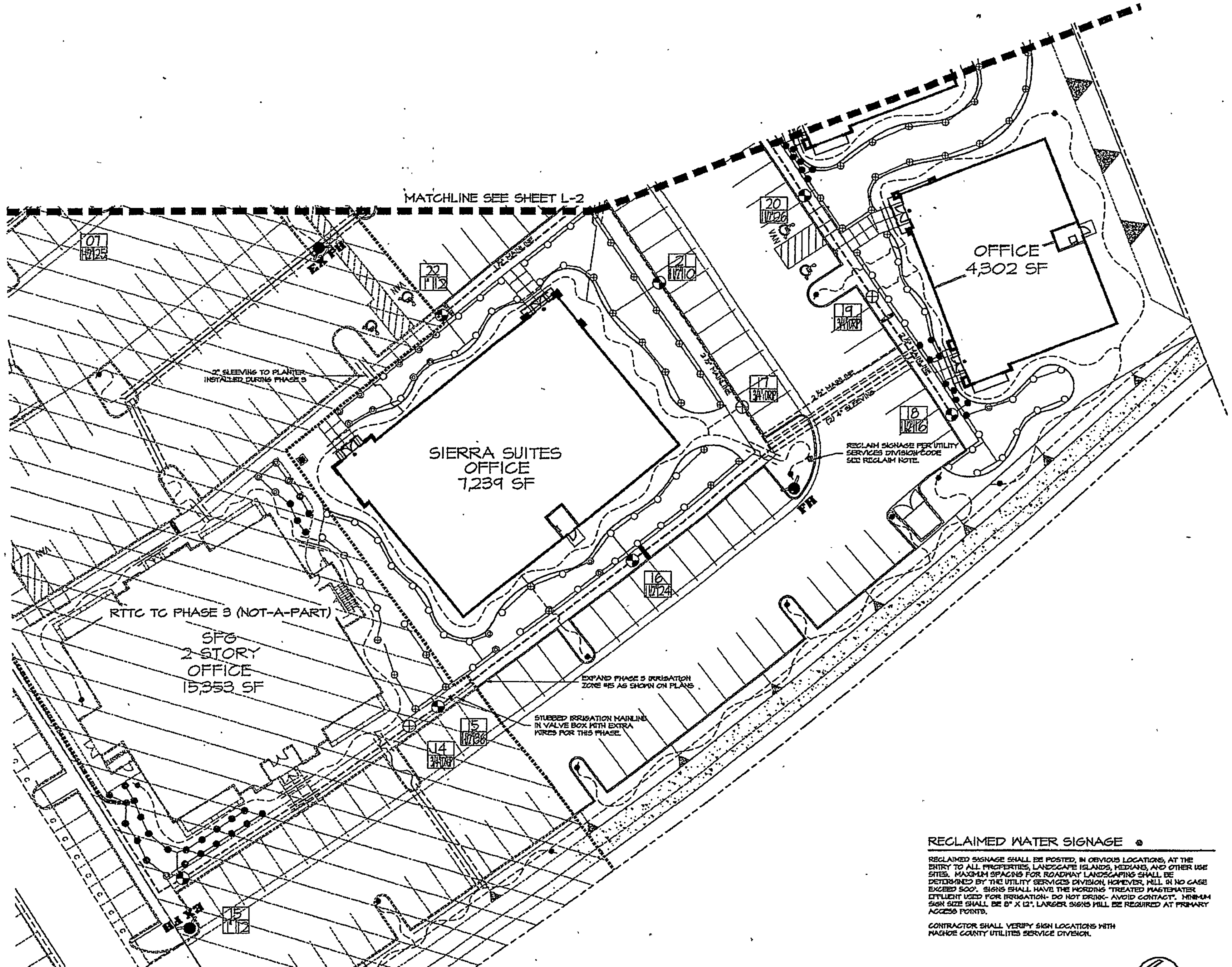
25. ASBUILT IRRIGATION DRAWINGS. CONTRACTOR SHALL FURNISH ASBUILTS OF THE COMPLETE IRRIGATION SYSTEM. PROCURE FROM OWNER'S REPRESENTATIVE FULL-SIZED SEPIAS OF CONTRACT DRAWINGS. CONSTRUCTION DRAWINGS SHALL BE ON THE CONSTRUCTION SITE AT ALL TIMES WHILE THE IRRIGATION SYSTEM IS BEING INSTALLED. CONTRACTOR SHALL MAKE A DAILY RECORD OF ALL WORK INSTALLED DURING EACH DAY. ACTUAL LOCATION OF VALVES AND ALL IRRIGATION AND DRAINAGE PIPING SHALL BE SHOWN ON THE PRINTS BY DIMENSIONS FROM EASILY IDENTIFIED PERMANENT FEATURES, SUCH AS BUILDINGS, CURBS, FENCES, WALKS OR PROPERTY LINES. DRAWINGS SHALL SHOW APPROVED MANUFACTURER'S NAME AND CATALOG NUMBER. THE DRAWINGS SHALL BE TO SCALE AND ALL INDICATIONS SHALL BE NEAT. ALL INFORMATION NOTED ON THE PRINT SHALL BE TRANSFERRED TO THE COPIES BY CONTRACTOR AND ALL INDICATIONS SHALL BE RECORDED IN A NEAT, ORDERLY WAY. THE RECORD SEPIA SHALL BE TURNED OVER TO THE OWNER'S REPRESENTATIVE AT OR BEFORE FINAL ACCEPTANCE/APPROVAL OF THE PROJECT.

GUARANTEE/FINAL ACCEPTANCE

26. CONTRACTOR SHALL UNCONDITIONALLY GUARANTEE THE IRRIGATION SYSTEM FOR A PERIOD OF ONE YEAR FROM THE DATE OF FINAL ACCEPTANCE. MANUFACTURER WARRANTIES SHALL ONLY EXCEED THIS GUARANTEE AND CONTRACTOR SHALL BE LIABLE FOR REPAIRS/REPLACEMENT OF FAILED MATERIAL/WORKMANSHIP.

MAINTENANCE

27. AFTER SYSTEM IS INSTALLED AND APPROVED, INSTRUCT OWNER'S DESIGNATED PERSONNEL IN COMPLETE OPERATION AND MAINTENANCE PROCEDURES. DRAIN ENTIRE SYSTEM AT END OF FIRST WATERING SEASON FOLLOWING INSTALLATION. TRAIN OWNER'S DESIGNATED PERSONNEL BY HAVING THEM ASSIST IN WINTERIZING PROCEDURE.



RECLAIMED WATER SIGNAGE

RECLAIMED SIGNAGE SHALL BE POSTED, IN OBVIOUS LOCATIONS, AT THE ENTRY TO ALL PROPERTIES, LANDSCAPE ISLANDS, MEDIANS, AND OTHER USE SITES. MAXIMUM SPACING FOR ROADWAY LANDSCAPING SHALL BE DETERMINED BY THE UTILITY SERVICES DIVISION, HOWEVER, WILL IN NO CASE EXCEED 500'. SIGNS SHALL HAVE THE WORDING "TREATED WASTEWATER EFFLUENT USED FOR IRRIGATION- DO NOT DRINK- AVOID CONTACT". MINIMUM SIGN SIZE SHALL BE 8" X 12". LARGER SIGNS WILL BE REQUIRED AT PRIMARY ACCESS POINTS.

CONTRACTOR SHALL VERIFY SIGN LOCATIONS WITH WASHOE COUNTY UTILITIES SERVICE DIVISION.

CALL BEFORE YOU DIG — USA UNDERGROUND SERVICE ALERT 800-227-2600

0 20' 40' 60'

Scale 1" = 20'

HANSEN LANDSCAPE ARCHITECTS, LLC
Park Planning & Landscape Architecture
1532 C Street · Sparks, NV 89431
Ph (775)322-6674 · Fax (775)322-9646 · E-mail: hlandarch@sbcglobal.com
Nevada License # 440, #543, #598, #632 · California License # LA 4914
Washington License # 583 · Idaho License # LA-231 · Virginia License #1080

REGISTERED LANDSCAPE ARCHITECT · RYAN W. HANSEN · 440 · STATE OF NEVADA

RECLAIM IRRIGATION PLAN
RTTC Town Center - Phase 4
TANAMERA COMMERCIAL DEVELOPMENT, LLC
Reno · Washoe Co. · Nevada

No.	Revision Date

H.A No. 71-045-07-06
Designed: GSB
Drawn: GSB
Checked: RWH
CAD File: 71-045-R1-213
Date: 10/24/06

Sheet **L-3** of 6

APPENDIX F

I-580 Effluent Management Plan

EFFLUENT MANAGEMENT PLAN
I-580 Extension Construction Project

1 INTRODUCTION

Washoe County has established a policy that treated wastewater effluent as a valuable resource and should be used beneficially. Such reclaimed water is particularly well suited for non-potable uses, such as dust control and construction watering, that allow for the conservation of potable water. This Effluent Management Plan (EMP) presents the facilities and procedures for utilizing reclaimed water from the Truckee Meadows Water Reclamation Facility (STMWRF) for construction water at the I-580 Extension Project. The I-580 Extension Project is the construction of the new Highway 395 bypass just south of Highway 431 (Mt. Rose Highway) in Reno, Nevada. Construction water will consist of spray applying water for dust control and to facilitate compaction of soil fill and for batching concrete.

1.1 Project Area

The project area consists of the I-580 Extension Project (Highway 395 Bypass corridor) from the Mt. Rose Highway interchange to the Galena Creek crossing, as shown on the attached drawing. The project site consists of rural land with very little nearby development.

1.2 Discharge Permit

STMWRF operates under Nevada Division of Environmental Protection permit No. NEV40024.

2 EMERGENCY PROCEDURES AND CONTACTS

In the event of a release, site personnel are to implement the following actions:

1. Turn off the reclaimed water supply to the affected location (nearest control valve, meter box, or pump).

2. Contact appropriate maintenance personnel as follows: if the affected system is owned by Washoe County (distribution system), contact the Washoe County Department of Water Resources – Utilities Division; if the affected system is owned by the construction contractor (any portion of the system downstream of the meter), contact the construction manager.

3. Contact the Washoe County Department of Water Resources representative (whether the affected system is owned by Washoe County or privately owned) and provide the following information:

    - Time and date of release
    - Exact location of discharge and estimate of volume
    - Flow path of release
    - Name of waterbody release entered

- Cause of release
- Steps taken to stop the release and any corrective or preventative actions taken.

Washoe County Department of Water Resources – Utilities Division:

Business Hours (775) 954-4600
After Hours (775) 954-4600

Washoe County Department of Water Resources Representative:

Mr. John Buzzone
4930 Energy Way
Reno, Nevada 89502
(775) 954-4725

Fisher Sand & Gravel Representative:

Mr. Mike Scronce
I-580 Extension Project Site
Reno, Nevada
(775) 229-9507 (cell)

3 RECLAIMED WATER SYSTEM

STMWRF is located near the north end of the South Truckee Meadows, near Huffaker Hills, and is the source of the reclaimed water. Treated effluent is pumped from STMWRF to the Huffaker Storage Reservoir. After leaving the Huffaker Storage Reservoir, but prior to entering the distribution system, the reclaimed water passes through a sand filter and is disinfected with sodium hypochlorite. The disinfection dosing is adjusted to achieve a minimum free chlorine residual of 0.2 milligrams per liter (mg/l) throughout the reclaimed water distribution system.

Reclaimed water for use at the I-580 Extension project will be obtained from a metered connection to the reclaimed water distribution system.

4 HEALTH AND SAFETY

4.1 Public Notification

Persons entering the site will be notified of the use of reclaimed water by posting signs at the truck fill stations visible on all side of the stations. Signs will be a minimum of 8 inches tall by 12 inches wide and contain the following text:

TREATED WASTEWATER EFFLUENT
DO NOT DRINK
AVOID CONTACT

4.2 Hygiene

While the reclaimed water is disinfected, there is a very small potential that the reclaimed water may contain harmful pathogens. The irrigation and application methods for the reclaimed water have been designed to reduce the potential for exposure of

reclaimed water to people. Those most likely to come into contact with reclaimed water are construction workers operating the water tucks and doing earthwork. These people are to receive the following instructions:

- Reclaimed water may contain disease-causing pathogens.
- Do not drink reclaimed water.
- Workers are encouraged to maintain current typhoid, hepatitis, and tetanus vaccinations.
- Try to minimize contact with reclaimed water.
- Do not use reclaimed water for washing.
- Always wash hands and face with clean water and soap before eating, drinking, or smoking.
- Do not eat, drink, or smoke in areas where reclaimed water is used.
- Wear rubber gloves when working around reclaimed water.
- Always treat cuts and abrasions (disinfect and cover) immediately before continuing work around reclaimed water.
- Make sure the area is clear of people that might be sprayed before activating a spray system.
- Report any condition to your supervisor that you feel could pose a threat to workers or to the public.

5 RECLAIMED WATER CLASSIFICATION AND TYPE OF USE

5.1 Classification of Reclaimed Water

A Category A effluent has the criteria presented in Table 3 below.

Table 3: Category A Effluent

Access	Allowable Points-of-Use	Buffer Zones	Water Quality Criteria
Public access is uncontrolled. Human contact with reclaimed water can reasonably be expected to occur	Areas covered in all categories, plus parks, play grounds, commercial lawns, and residential lawns	None required	30-Day total coliform geometric mean is less than or equal to 2.2 MPN (or cfu)/100ml. Daily maximum: 23 MPN (or cfu)/100ml

STMWRF effluent meets the water quality criteria for a Category A effluent (refer to Section 3.1.1 for STMWRF effluent quality). As such, reclaimed water may be applied to the site. Additionally, no buffer zone between the points-of-use and areas of public access are required.

6 MONITORING REQUIREMENTS

Washoe County will monitor the amount of reclaimed water applied using a flow totalizing flow meter. The meter will be read and recorded monthly. Monthly usage will be determined by subtracting the previous month's reading.

By permit, total coliform is monitored at the end of treatment, at the chlorine contact basin. All other monitoring is for internal management.

Washoe County will submit Discharge Monitoring Reports (DMRs) to NDEP on a quarterly basis. A DMR will be prepared for each calendar month summarizing the monitoring results for that month. The DMRs will include the amount of water discharged (monthly and cumulative annual) and the measured bacteriological activity.

7 CONSTRUCTION WATER MANAGEMENT PLAN

Reclaimed water will be used for dust control, to aid in the compaction of soil fill, and for batching concrete. This use is consistent with the uses allowed for a Category A treated effluent. Dust control and construction watering will be accomplished by spraying dust prone areas (predominantly construction access roads) and fill/grading areas with reclaimed water from water trucks. In addition, reclaimed water will be used to control dust at rock crushers. Water trucks will be filled at truck fill stations located onsite.

7.1 Truck Fill Stations

Two truck fill stations will be constructed onsite. Each truck fill station will consist of a storage pond, fill pump, and truck bay. A storage pond will be constructed for each truck fill station (see section on storage pond operation below). The truck fill pumps are gas-fired self-priming pumps that withdraw from the storage pond and discharge into the top of the water trucks. The fill pumps are manually started to fill each truck and will be shut off when not in use.

The truck bays will be located in such a manner that accidental spillage from the fill operations will drain back into the storage pond or to an area with a topography that confines any runoff onsite, as practical. The intent is to prevent any filling operations runoff from entering any waterway or from leaving the site.

The truck fill stations will be marked with signs indicating the use of reclaimed water.

7.2 Storage Pond Operation

Reclaimed water will be stored onsite in three storage ponds. Two of the ponds will be dedicated to truck fill stations and the third will be dedicated to the concrete batch plant and a rock crushing plant. The ponds will be lined and constructed with built-up sides or excavated below surface grade, depending upon site conditions. All transmission piping will be marked with purple paint to identify its use for reclaimed water.

The ponds will be filled manually, as need. Filling operations will be performed by two people (Ponds 1 and 2), one will operate the booster pumps at the metered connection and the third will monitor the level in the pond being filled. Communication between the two people will be via cell phone or two-way radio. Pond 3 will require three people to fill. One person will operate the booster pump at the meter connection, one person will operate the intermediate booster pump, and the third person will monitor the pond level. Again, communication will be via cell phone or two-way radio.

The meter connection will be housed inside a locked building and will include a booster pump. Reclaimed water will be conveyed from the meter connection site to the storage ponds via HDPE pipe placed above ground. The piping will be marked with purple paint to indicate its use for reclaimed water. The meter connection site will be posted with a sign indicating the use of reclaimed water.

7.3 Rock Crusher Operation

Rock crushers will be fitted with spray nozzles strategically located to control dust emissions. Water will be stored in small (500 gallon or less) day-tanks or will be supplied directly from a storage pond. When day-tanks are used, they will be refilled using water trucks. Signs will be posted at the rock crushing plants indicating the use of reclaimed water. Additionally, one of the rock crushers will also include sand washing to remove fines. The wash water will pass through a classifier and be recovered in a lined pond (adjacent to Pond 2). The wash water will be recycled.

7.4 Concrete Batch Plant Operation

The concrete batch plant (a dry-mix plant) will include a centralized dust control system utilizing reclaimed water. Reclaimed will be conveyed from Pond 2 to the batch plant via booster pump and HDPE piping. Reclaimed water will also be used in the concrete mix. Reclaimed water will be dispensed directly into the concrete trucks and mixed enroute to the application site.

7.5 Dust Control Requirements

The construction contractor will be informed of the following restrictions on the use of reclaimed water for dust control and construction water:

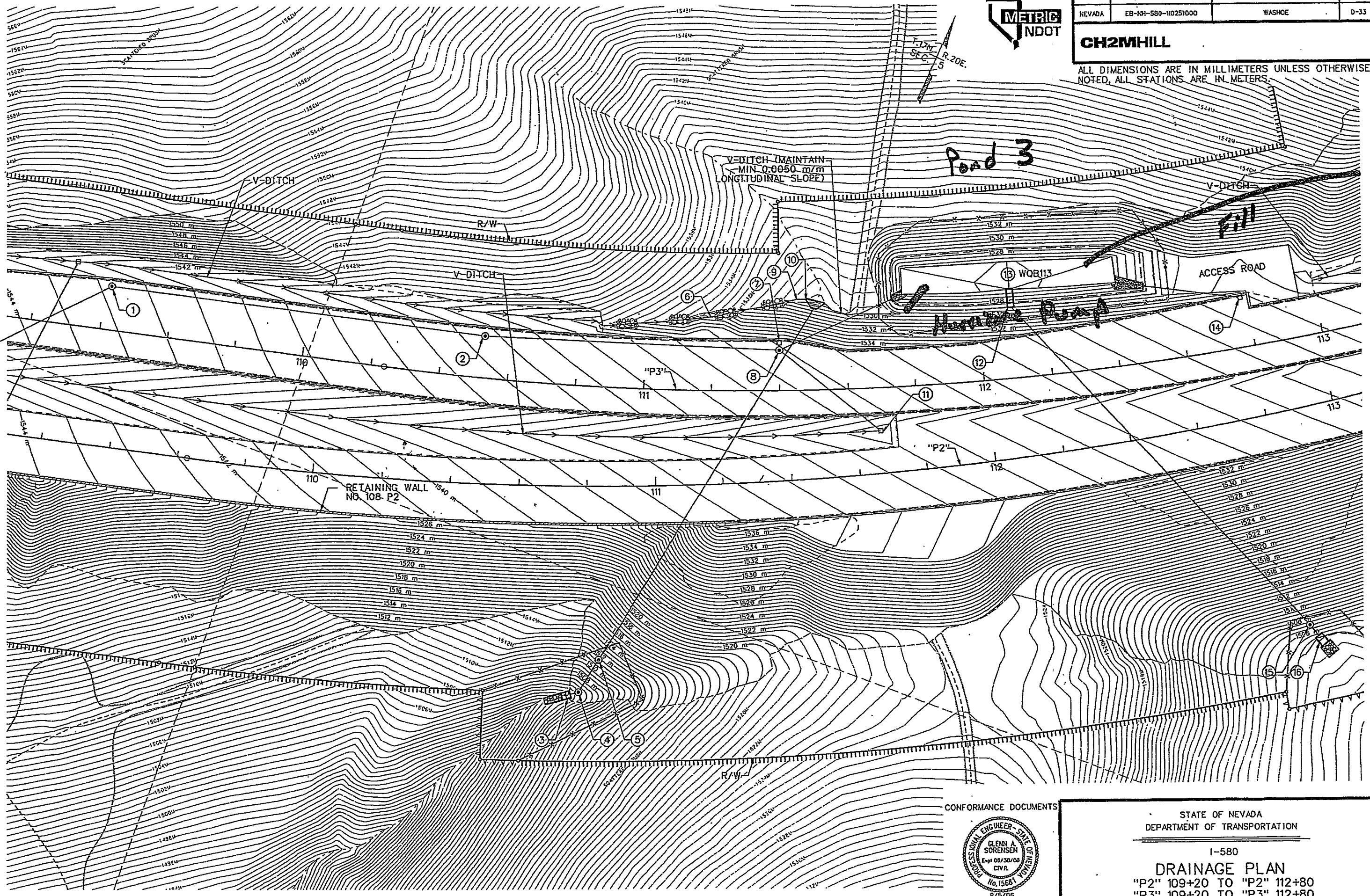
- Dust control activities are to be conducted in manner that does not cause ponding or runoff.
- Reclaimed water is be used in a manner that does not cause a direct release to waterbodies or storm drains.
- Reclaimed water is to be used in a manner that does not cause direct contact with people.
- Operators are to notify the Washoe County Department of Water Resources in the event of a release to a waterbody.
- Water trucks containing reclaimed water are to have labels indicating the contents are non-potable.

STATE	PROJECT NO.	COUNTY	SHEET NO.
NEVADA	EB-NH-580-1(025)000	WASHOE	D-33

METRIC NDOT

CH2MHILL

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED. ALL STATIONS ARE IN METERS.



CONFORMANCE DOCUMENTS

PROFESSIONAL ENGINEER - STATE OF NEVADA
GLENN A. SORENSEN
Expt 08/30/08
CIVIL
No. 15681
9/5/06

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

I-580

DRAINAGE PLAN
"P2" 109+20 TO "P2" 112+80
"P3" 109+20 TO "P3" 112+80

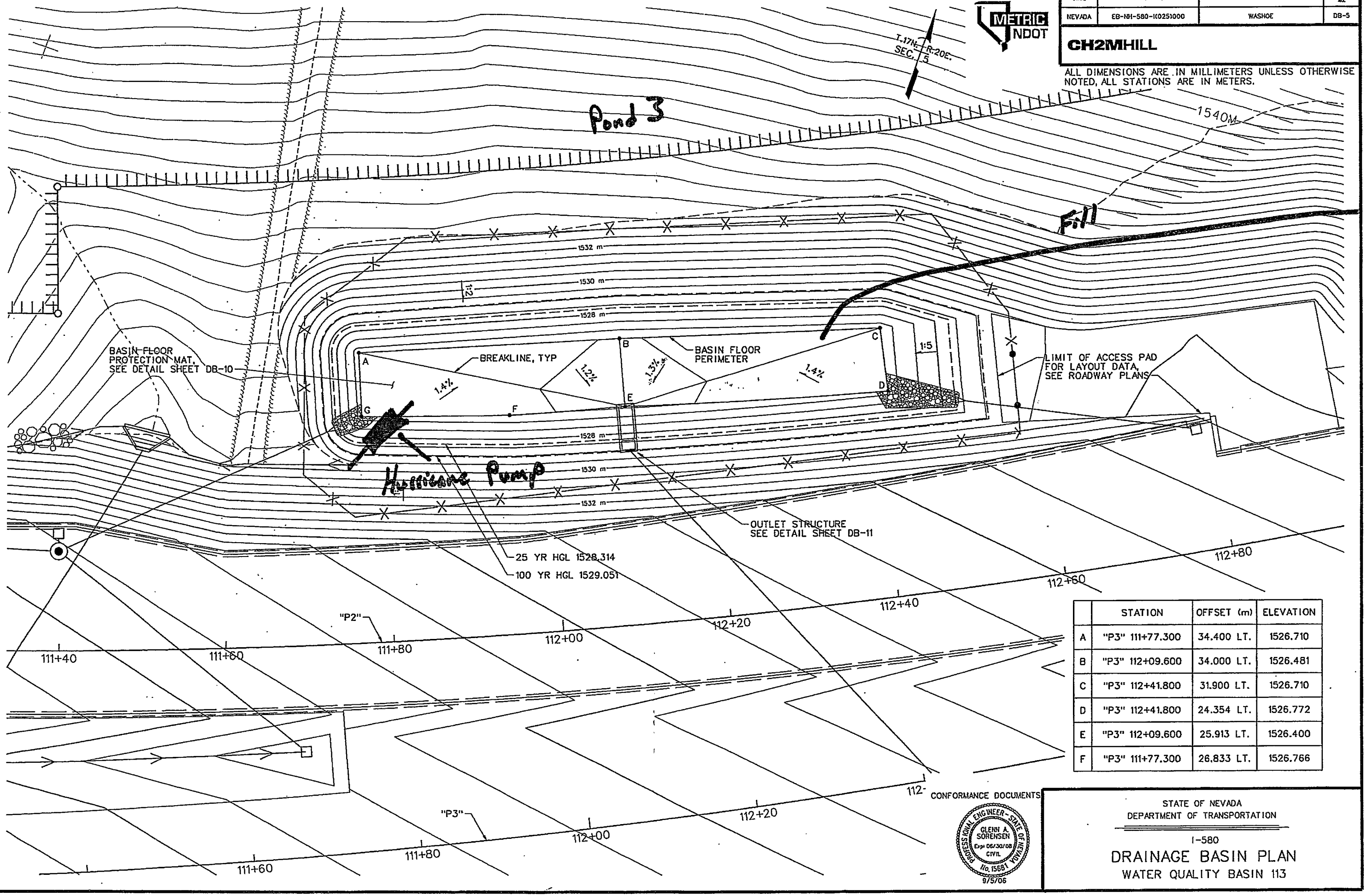
Project No. 15634 r83d1033.dlv 03-MAR-2005 13:47:27

STATE	PROJECT NO.	COUNTY	SHEET NO.
NEVADA	EB-NH-580-1(0251)000	WASHOE	DB-5

METRIC NDOT

CH2MHILL

ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE NOTED, ALL STATIONS ARE IN METERS.



	STATION	OFFSET (m)	ELEVATION
A	"P3" 111+77.300	34.400 LT.	1526.710
B	"P3" 112+09.600	34.000 LT.	1526.481
C	"P3" 112+41.800	31.900 LT.	1526.710
D	"P3" 112+41.800	24.354 LT.	1526.772
E	"P3" 112+09.600	25.913 LT.	1526.400
F	"P3" 111+77.300	26.833 LT.	1526.766

CONFORMANCE DOCUMENTS

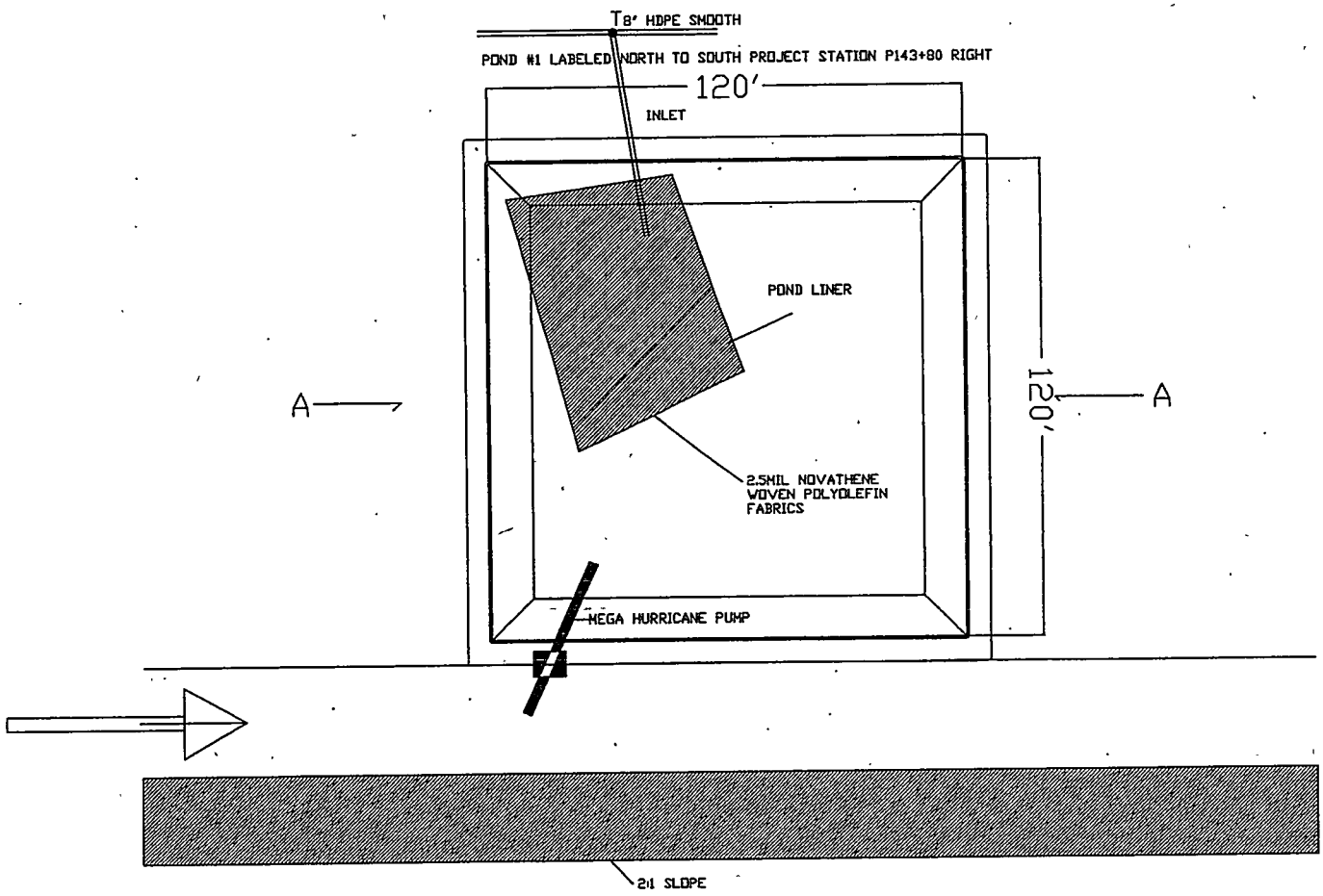
PROFESSIONAL ENGINEER - STATE OF NEVADA
GLENN A. SORENSEN
Expn 06/30/08
CIVIL
No. 15681
9/5/06

STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

I-580

DRAINAGE BASIN PLAN
WATER QUALITY BASIN 113

Project No. 156348 r83bd013.dlv 28-AUG-2003 11:36:08



Department of Water Resources
DEPARTMENT OF
WATER RESOURCES
4930 ENERGY WAY P.O. BOX
11130 RENO, NEVADA 89502
(775) 954-4600

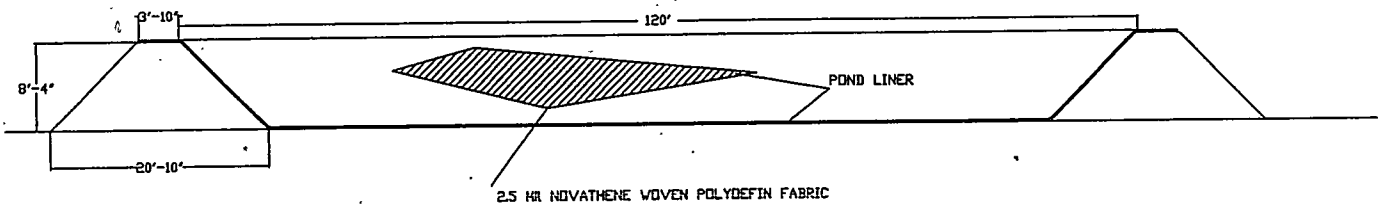
Pond 1, Top View

FIG 2

Y:\Projects\1580 Extension\POND 1 TOP VIEW.dwg Plotted: 19 Jun 07 – 9:31am, Layout:Layout1

POND #1 LABELED NORTH TO SOUTH PROJECT STATION P143+80 RIGHT

CAPACITY 603947 GALLONS



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(775) 954-4600

SEAL OF WASHOE COUNTY STATE OF NEVADA

Pond 1., Cut View

FIG 3

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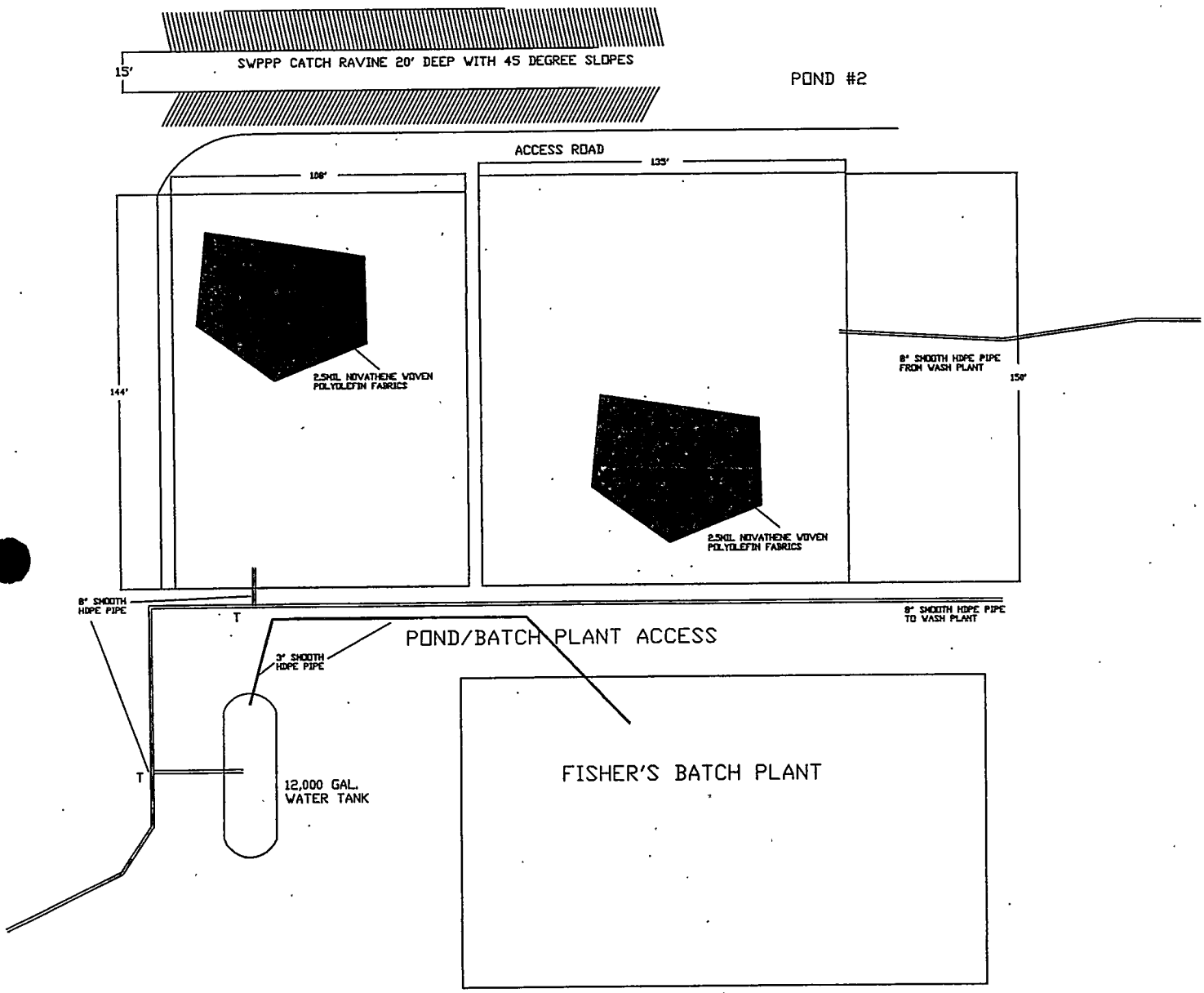

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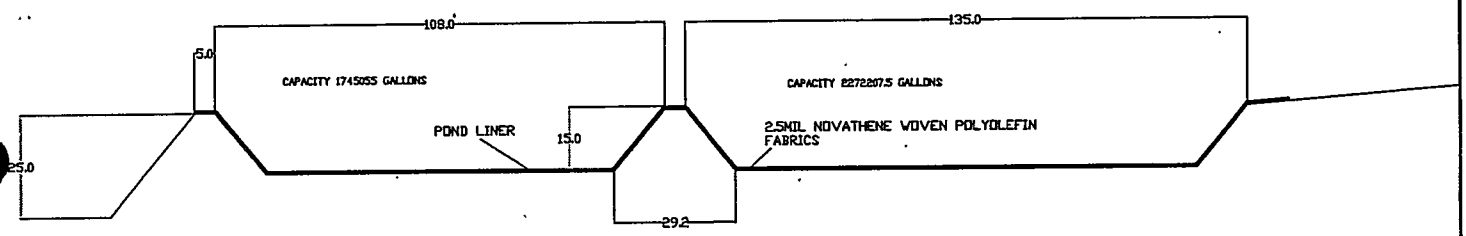
Pond 2, Top View

FIG 4

Y:\Projects\1580 Extension\POND 2 TOP VIEW.dwg Plotted: 19 Jun 07 – 9:35am, Layout:Layout1

POND #2



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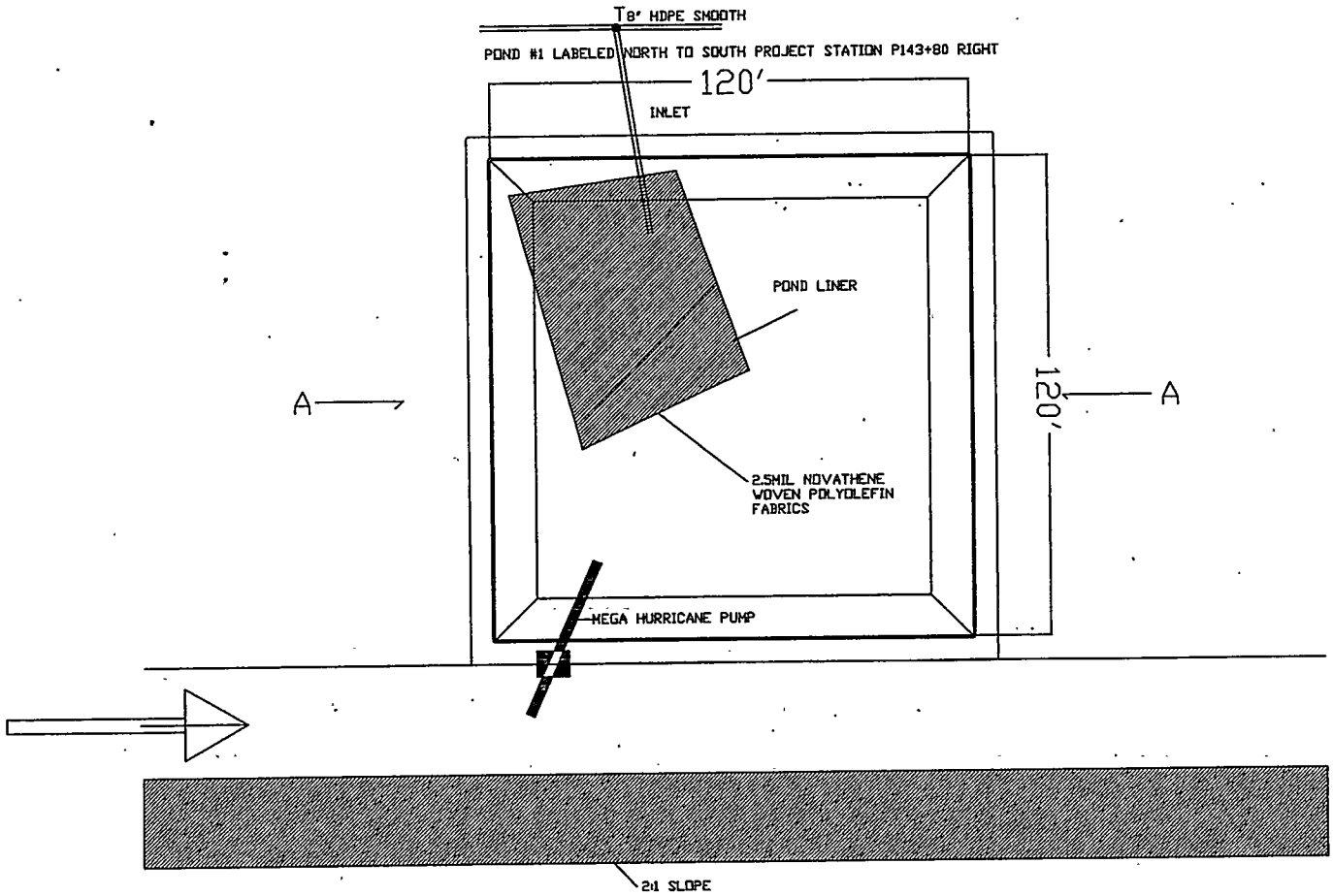
Pond 2, Cut View

FIG 5

Y:\Projects\1580 Extension\POND 2 CUT VIEW.dwg Plotted: 19 Jun 07 – 9:33am, Layout:Layout1



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4930 ENERGY WAY P.O. BOX
11130 RENO, NEVADA 89502
(775) 954-4600

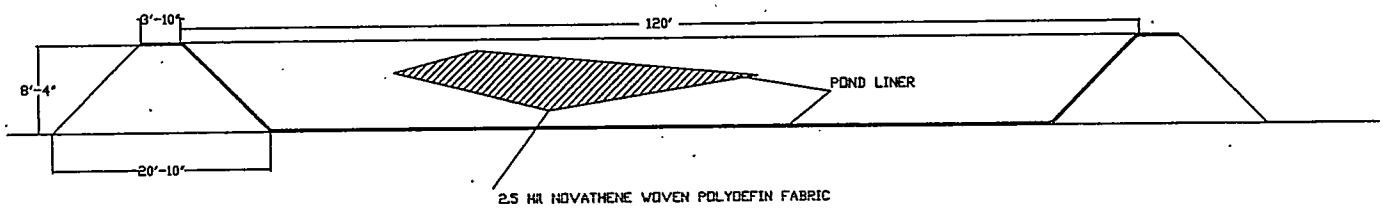
Pond 1, Top View

FIG 2

Y:\Projects\1580 Extension\POND 1 TOP VIEW.dwg Plotted: 19 Jun 07 – 9:31am, Layout:Layout1

POND #1 LABELED NORTH TO SOUTH PROJECT STATION P143+80 RIGHT

CAPACITY 603947 GALLONS



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(775) 954-4600

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Pond 1, Cut View

FIG 3

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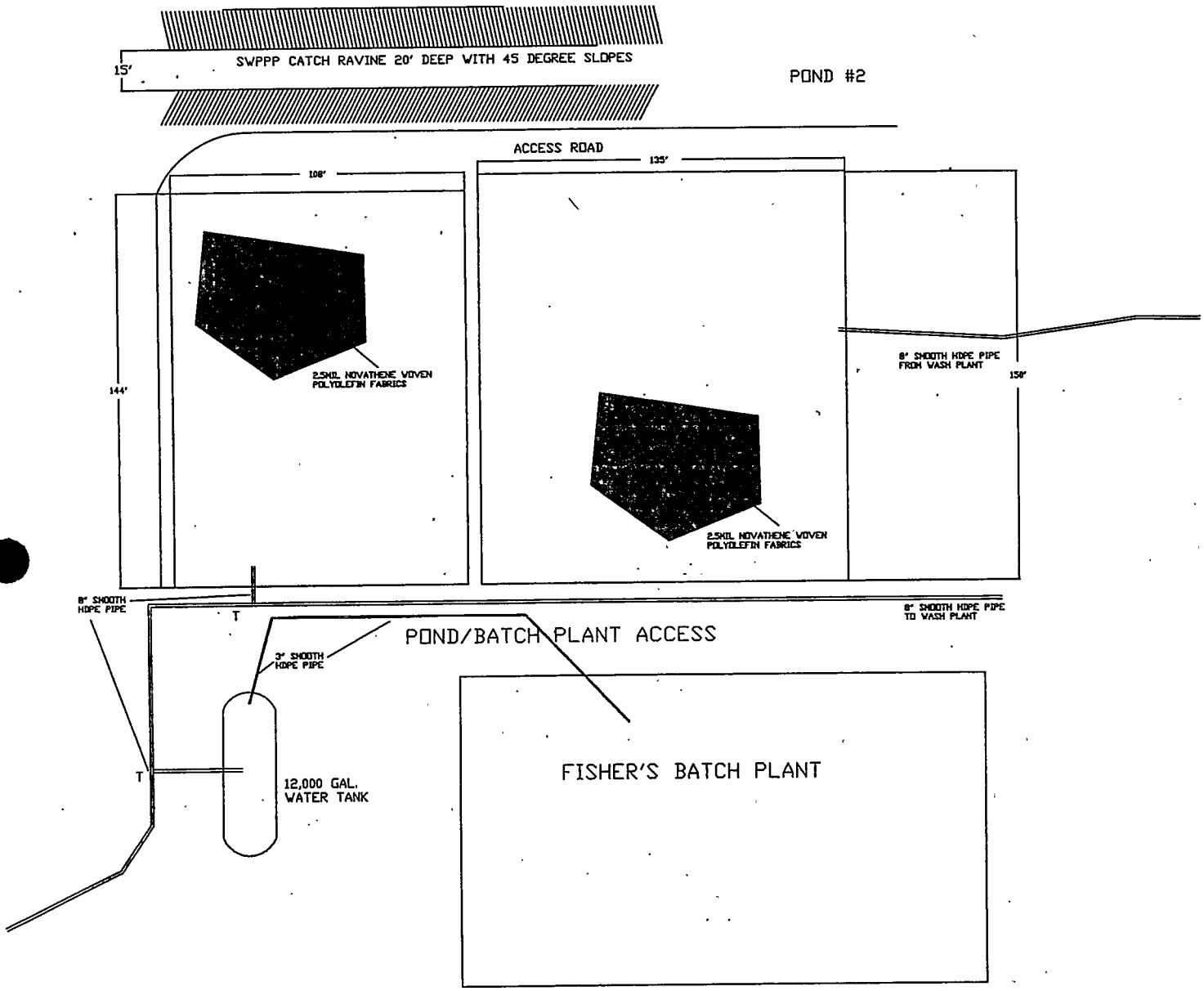

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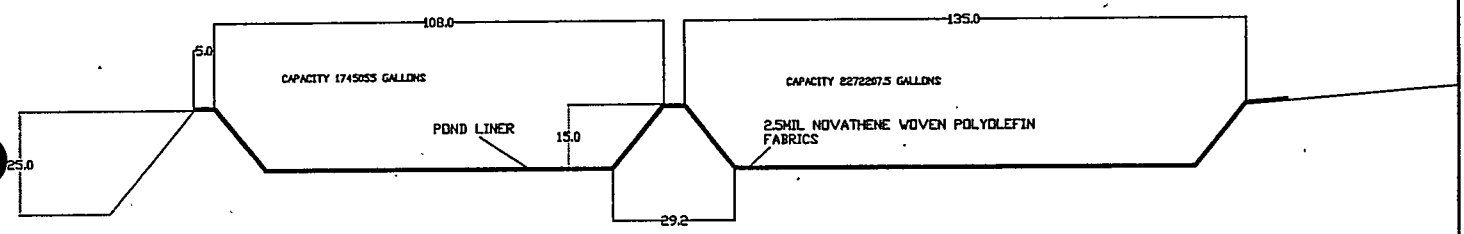
(775) 954-4600

Pond 2, Top View

FIG 4

Y:\Projects\1580 Extension\POND 2 TOP VIEW.dwg Plotted: 19 Jun 07 - 9:35am, Layout:Layout1

POND #2



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Pond 2, Cut View

FIG 5

Y:\Projects\1580 Extension\POND 2 CUT VIEW.dwg Plotted: 19 Jun 07 – 9:33am, Layout:Layout1

ARROWCREEK PKWY
WHITES CREEK LN
HERZ BLVD
395
WEDGE PKWY
Connection Point
STATE ROUTE 431
8" HDPE Transmission Main
Pond #1
WEDGE PKWY
Pond #2
Batch Plant
Booster Station
395
CHEYENNE DR
Pond #3

Booster Pump
Connection Point
Batch Plant
Pond
Reclaimed Line (locations are aproximate)

Reclaimed Water System
I-580 Extension Project

0 0.05 0.1 0.2 0.3 0.4 0.5 Miles

Department of Water Resources

Notes: The Scale and configuration of all Information shown heron are approximate only and are not intended as a guide for design or survey work. Reproduction is not permitted without prior written permission from the Washoe County Department of Water Resources.

June 2007

Department of Water Resources
Engineering Division
Washoe County
Nevada

4930 Energy Way
Reno, Nevada 89502
(775) 954-4600

c:\work\buzzone\2007\reclaimed_temp_alignment.mxd

Washoe County
Department of
Water Resources
4930 Energy Way
Reno, NV 89502-4106
Tel: (775) 954-4600
Fax: (775) 954-4610

July 25, 2008

Joe Maez
Nevada Division of Environmental Protection
901 S. Stewart Street, Suite 4001
Carson City, NV 89701

Re: Effluent Management Plan
Mt. Rose Effluent Reuse Area
Discharge Permit NEV97011

Dear Mr. Maez:

Attached are two copies of the Effluent Management Plan for the Mt. Rose Effluent Reuse Area (MRERA) in support of the above referenced permit.

As you know, the approved permit renewal application consolidated areas in the South Truckee Meadows area (and west of South Virginia Street) that receive treated effluent under one permit. The attached Effluent Management Plan reflects the changes resulting from the consolidation.

Please call me at (775) 954-4725 if you have any further questions.

Sincerely,

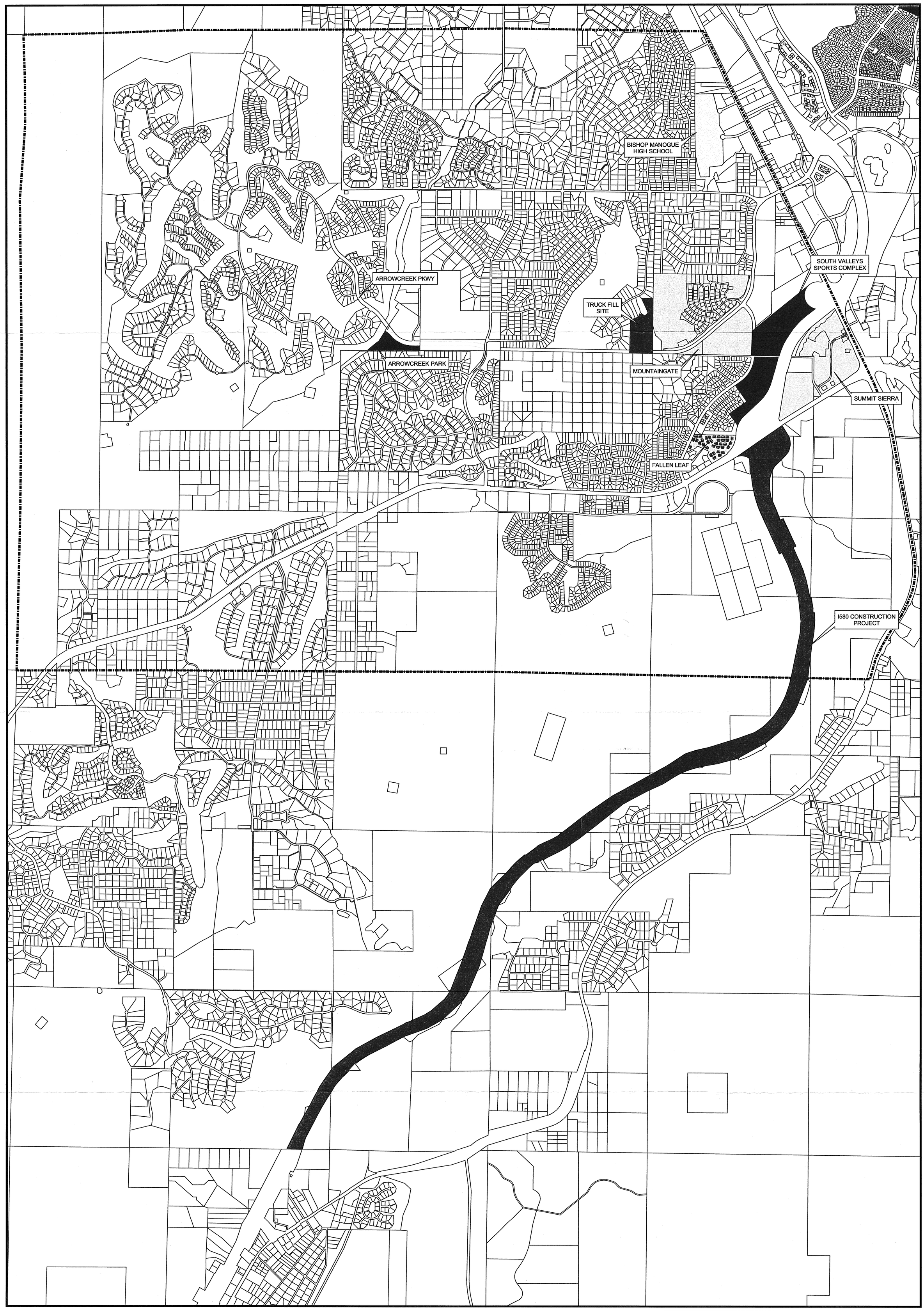
John Buzzone, P.E.
Senior Licensed Engineer

JB/mv

Attachments

c: Rick Warner, P.E., Acting Engineering Manager
Joe Howard, P.E., Sr. Licensed Engineer

Department of
Water Resources



Roadside Landscaping Sites

Commercial Landscaping Sites

Residential, Park and School Landscaping Sites

M Reclaimed Meter

Reclaimed Main

Reuse Area Boundary

Township/Range

Figure 2
Mount Rose Effluent Reuse Area
Discharge Locations

0 0.125 0.25 0.5 0.75 1 Miles

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June 2008

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Washoe County Nevada

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Huffaker Effluent
Storage Reservoir

WTP South Truckee Meadows
Water Reclamation Facility

2.1 Million Gallon
Storage Tank

6 Million Gallon
Storage Reservoir
and Pump Station

PRV

Reclaimed Tank

Reclaimed Storage Reservoir

Reclaimed Meter

Reclaimed Main

Reservoir

Reuse Area Boundary

0 0.1 0.2 0.4 0.6 0.8 1 Miles

Figure 3
Mount Rose Effluent Reuse Area
Distribution System

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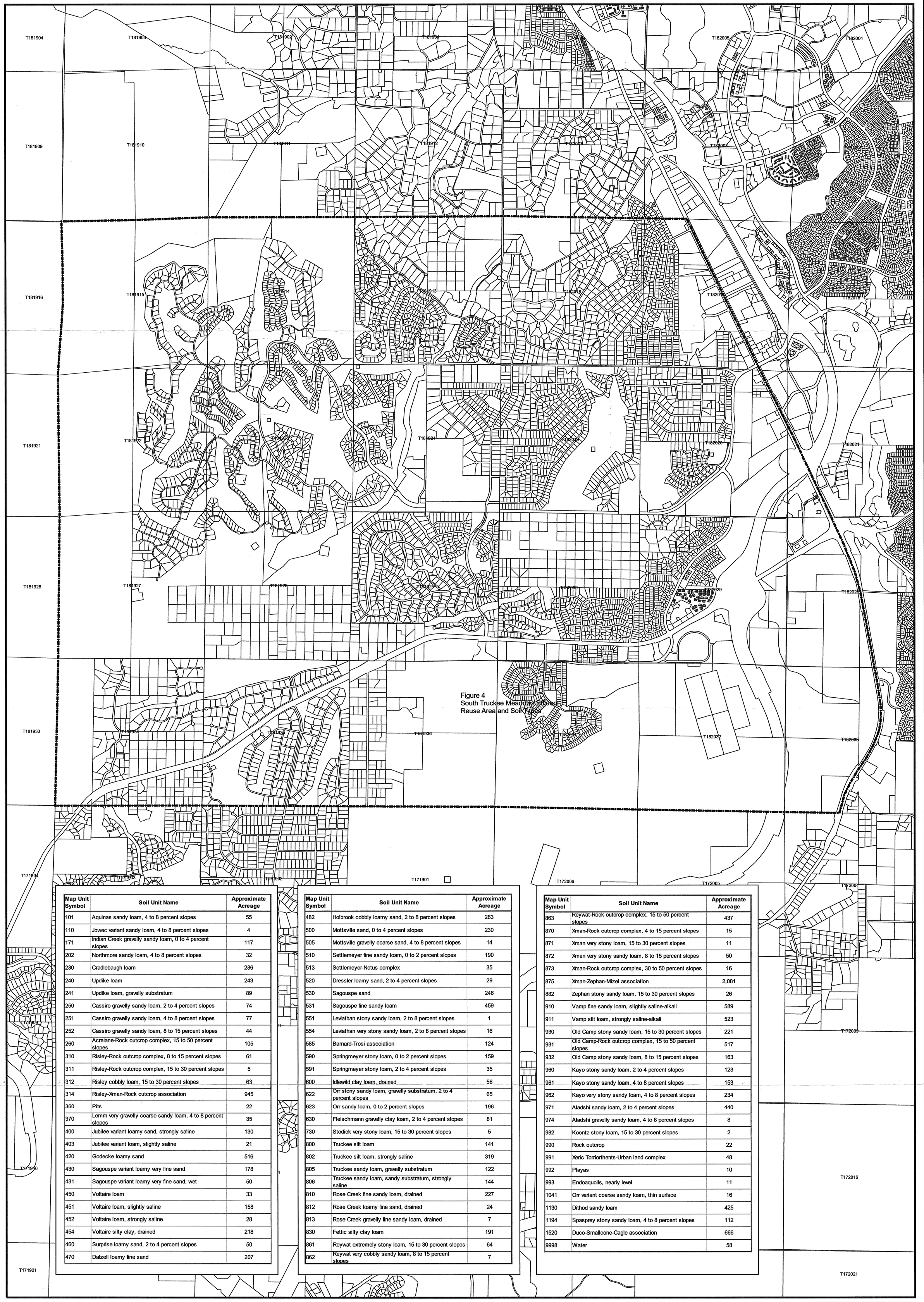

Figure 4
South Truckee Meadows Effluent
Reuse Area and Soil Types

Map Unit Symbol	Soil Unit Name	Approximate Acreage
101	Aquinas sandy loam, 4 to 8 percent slopes	55
110	Jowec variant sandy loam, 4 to 8 percent slopes	4
171	Indian Creek gravelly sandy loam, 0 to 4 percent slopes	117
202	Northmore sandy loam, 4 to 8 percent slopes	32
230	Cradlebaugh loam	286
240	Updike loam	243
241	Updike loam, gravelly substratum	89
250	Cassiro gravelly sandy loam, 2 to 4 percent slopes	74
251	Cassiro gravelly sandy loam, 4 to 8 percent slopes	77
252	Cassiro gravelly sandy loam, 8 to 15 percent slopes	44
260	Acrelane-Rock outcrop complex, 15 to 50 percent slopes	105
310	Risley-Rock outcrop complex, 8 to 15 percent slopes	61
311	Risley-Rock outcrop complex, 15 to 30 percent slopes	5
312	Risley cobbly loam, 15 to 30 percent slopes	63
314	Risley-Xman-Rock outcrop association	945
360	Pits	22
370	Lemm very gravelly coarse sandy loam, 4 to 8 percent slopes	35
400	Jubilee variant loamy sand, strongly saline	130
403	Jubilee variant loam, slightly saline	21
420	Godecke loamy sand	516
430	Sagouspe variant loamy very fine sand	178
431	Sagouspe variant loamy very fine sand, wet	50
450	Voltaire loam	33
451	Voltaire loam, slightly saline	158
452	Voltaire loam, strongly saline	28
454	Voltaire silty clay, drained	218
460	Surprise loamy sand, 2 to 4 percent slopes	50
470	Dalzell loamy fine sand	207

Map Unit Symbol	Soil Unit Name	Approximate Acreage
482	Holbrook cobbly loamy sand, 2 to 8 percent slopes	263
500	Mottsville sand, 0 to 4 percent slopes	230
505	Mottsville gravelly coarse sand, 4 to 8 percent slopes	14
510	Settlemeyer fine sandy loam, 0 to 2 percent slopes	190
513	Settlemeyer-Notus complex	35
520	Dressler loamy sand, 2 to 4 percent slopes	29
530	Sagouspe sand	246
531	Sagouspe fine sandy loam	459
551	Leviathan stony sandy loam, 2 to 8 percent slopes	1
554	Leviathan very stony sandy loam, 2 to 8 percent slopes	16
585	Barnard-Trosi association	124
590	Springmeyer stony loam, 0 to 2 percent slopes	159
591	Springmeyer stony loam, 2 to 4 percent slopes	35
600	Idlewild clay loam, drained	56
622	Orr stony sandy loam, gravelly substratum, 2 to 4 percent slopes	65
623	Orr sandy loam, 0 to 2 percent slopes	196
630	Fleischmann gravelly clay loam, 2 to 4 percent slopes	81
730	Stodick very stony loam, 15 to 30 percent slopes	5
800	Truckee silt loam	141
802	Truckee silt loam, strongly saline	319
805	Truckee sandy loam, gravelly substratum	122
806	Truckee sandy loam, sandy substratum, strongly saline	144
810	Rose Creek fine sandy loam, drained	227
812	Rose Creek loamy fine sand, drained	24
813	Rose Creek gravelly fine sandy loam, drained	7
830	Fettic silty clay loam	191
861	Reywat extremely stony loam, 15 to 30 percent slopes	64
862	Reywat very cobbly sandy loam, 8 to 15 percent slopes	7

Map Unit Symbol	Soil Unit Name	Approximate Acreage
863	Reywat-Rock outcrop complex, 15 to 50 percent slopes	437
870	Xman-Rock outcrop complex, 4 to 15 percent slopes	15
871	Xman very stony loam, 15 to 30 percent slopes	11
872	Xman very stony sandy loam, 8 to 15 percent slopes	50
873	Xman-Rock outcrop complex, 30 to 50 percent slopes	16
875	Xman-Zephan-Mizel association	2,081
882	Zephan stony sandy loam, 15 to 30 percent slopes	26
910	Vamp fine sandy loam, slightly saline-alkali	589
911	Vamp silt loam, strongly saline-alkali	523
930	Old Camp stony sandy loam, 15 to 30 percent slopes	221
931	Old Camp-Rock outcrop complex, 15 to 50 percent slopes	517
932	Old Camp stony sandy loam, 8 to 15 percent slopes	163
960	Kayo stony sandy loam, 2 to 4 percent slopes	123
961	Kayo stony sandy loam, 4 to 8 percent slopes	153
962	Kayo very stony sandy loam, 4 to 8 percent slopes	234
971	Aladshi sandy loam, 2 to 4 percent slopes	440
974	Aladshi gravelly sandy loam, 4 to 8 percent slopes	8
982	Koontz stony loam, 15 to 30 percent slopes	2
990	Rock outcrop	22
991	Xeric Torriorthents-Urban land complex	48
992	Playas	10
993	Endoaquolls, nearly level	11
1041	Orr variant coarse sandy loam, thin surface	16
1130	Dithod sandy loam	425
1194	Spasprey stony sandy loam, 4 to 8 percent slopes	112
1520	Duco-Smallcone-Cagle association	666
9998	Water	58

Reuse Area Boundary
Soil Type Boundaries (With Soil Type Number)
Township/Range

Figure 4
Mount Rose Effluent Reuse Area
Soil Types

0 0.125 0.25 0.5 0.75 1 Miles

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