



Board of Adjustment Staff Report

Meeting Date: August 6, 2026

Agenda Item: 8C

SPECIAL USE PERMIT CASE NUMBER:	WSUP26-0009 (Rattlesnake Water Tank)
BRIEF SUMMARY OF REQUEST:	Replace existing water tank with two new tanks
STAFF PLANNER:	Julee Olander, Planner Phone Number: 775.328.3627 E-mail: jolander@washoecounty.gov

CASE DESCRIPTION

For hearing, discussion, and possible action to approve a special use permit for a utility service use type, to replace an existing 2.5-million-gallon water storage tank with two 1.25-million-gallon water storage tanks. The request also includes modifying standards of Article 410, Parking and Article 412, Landscaping in order to waive all parking and landscaping requirements. This application is submitted by the property owner, Truckee Meadows Water Authority (TMWA). The subject property is located at 6000 Alexander Lake Rd. (APN: 164-342-09) and consists of approximately ±11 acres.

The proposal is being reviewed under Development Code Article 810, Special Use Permits and is situated within Commission District 2- Commissioner Clark. The site is currently governed by the Suburban Residential (SR) Master Plan land use designation and the Public, Semi Public Facility (PSP) Regulatory Zoning district, within the boundaries of the Southeast Truckee Meadows Planning Area.



Vicinity Map

STAFF RECOMMENDATION

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Telephone: 775.328.6100

www.washoecounty.gov/csd/planning_and_development

WSUP26-0009

RATTLESNAKE WATER TANK

APPROVE	APPROVE WITH CONDITIONS	DENY
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Special Use Permit

The purpose of a special use permit is to allow a method of review to identify any potential harmful impacts on adjacent properties or surrounding areas for uses that may be appropriate within a regulatory zone; and to provide for a procedure whereby such uses might be permitted by further restricting or conditioning them so as to mitigate or eliminate possible adverse impacts. If the Board of Adjustment grants an approval of the special use permit, that approval is subject to conditions of approval. Conditions of approval are requirements that need to be completed during different stages of the proposed project. Those stages are typically:

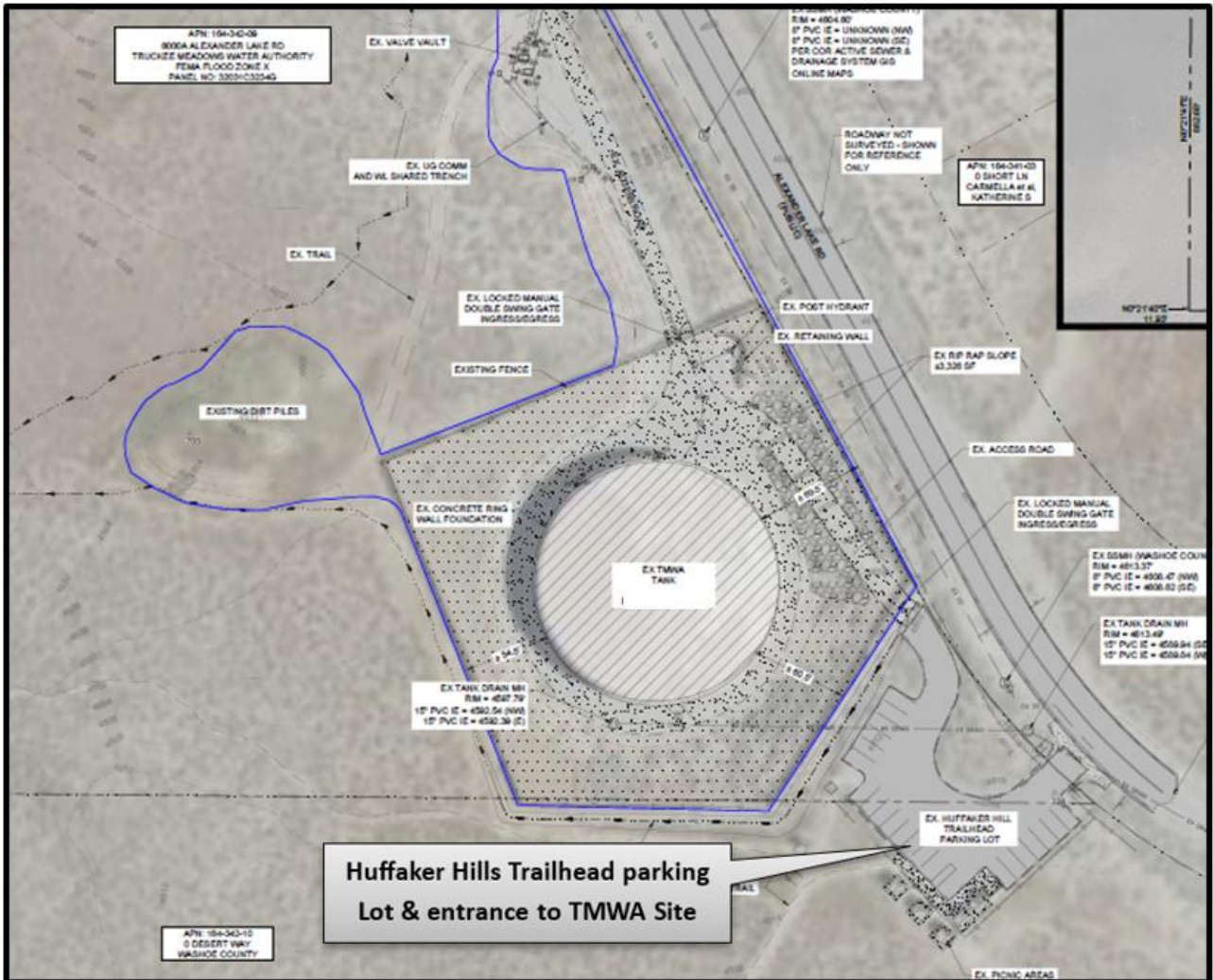
- Prior to permit issuance (i.e. a grading permit, a building permit, etc.)
- Prior to obtaining a final inspection and/or a certificate of occupancy on a structure
- Prior to the issuance of a business license or other permits/licenses
- Some conditions of approval are referred to as “operational conditions.” These conditions must be continually complied with for the life of the business or project.

The conditions of approval for Special Use Permit Case Number WSUP26-0009 are attached to this staff report and will be included with the action order.

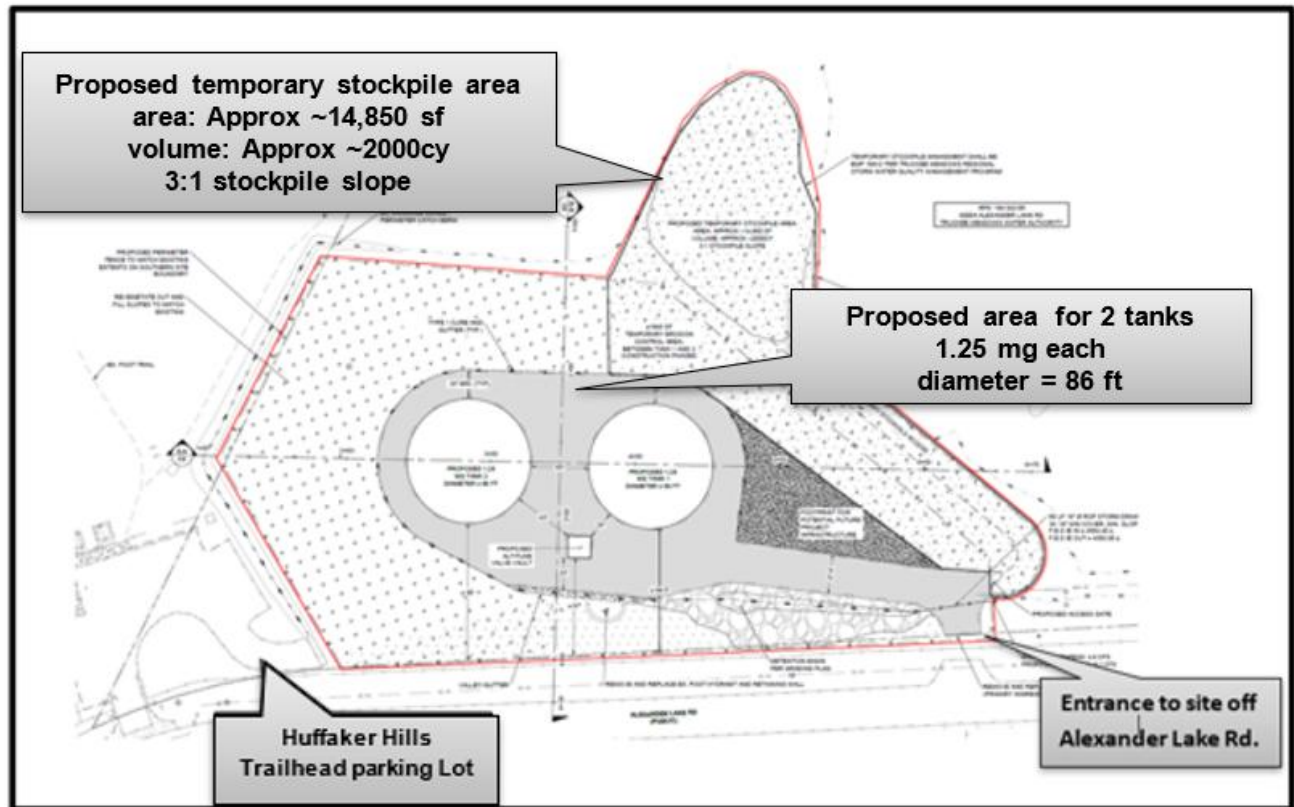
The subject property is designated as Public, Semi-Public Facility (PSP) Regulatory Zoning. The proposed use of major services and utilities is classified as a utility service which is permitted in (zoning) with a special use permit per WCC Table 110.302.05.2. Therefore, the applicant is seeking approval of this SUP from the Board of Adjustment.

Additionally, Article 810, Special Use Permits, allows the Board of Adjustment to vary development code standards in conjunction with the approval process per WCC 110.810.20(e). The Board of Adjustment will be ruling on the requests to vary standards below:

Provisions to be Varied	Relevant Code
Parking space requirement	Table 110.410.10.2
Landscape requirements, wavier of all requirements	110.412.40



Existing Site Plan



Proposed Site Plan

Project Evaluation

The applicant is requesting a special use permit for the use type of utility services per Washoe County Code (WCC) Table 110.302.05.2. The proposal is for Truckee Meadows Water Authority (TMWA) to replace an existing 2.5-million-gallon water tank with two 1.25-million-gallon water tanks. The construction of the proposed water storage tanks will result in the grading disturbance of $\pm 137,3234$ SF of the site with $\pm 5,100$ cubic yards (CY) of cut material and $\pm 1,800$ CY of export. The request also includes modifying standards to remove all parking and landscaping requirements. This application was submitted by the owner of the property Truckee Meadows Water Authority (TMWA).

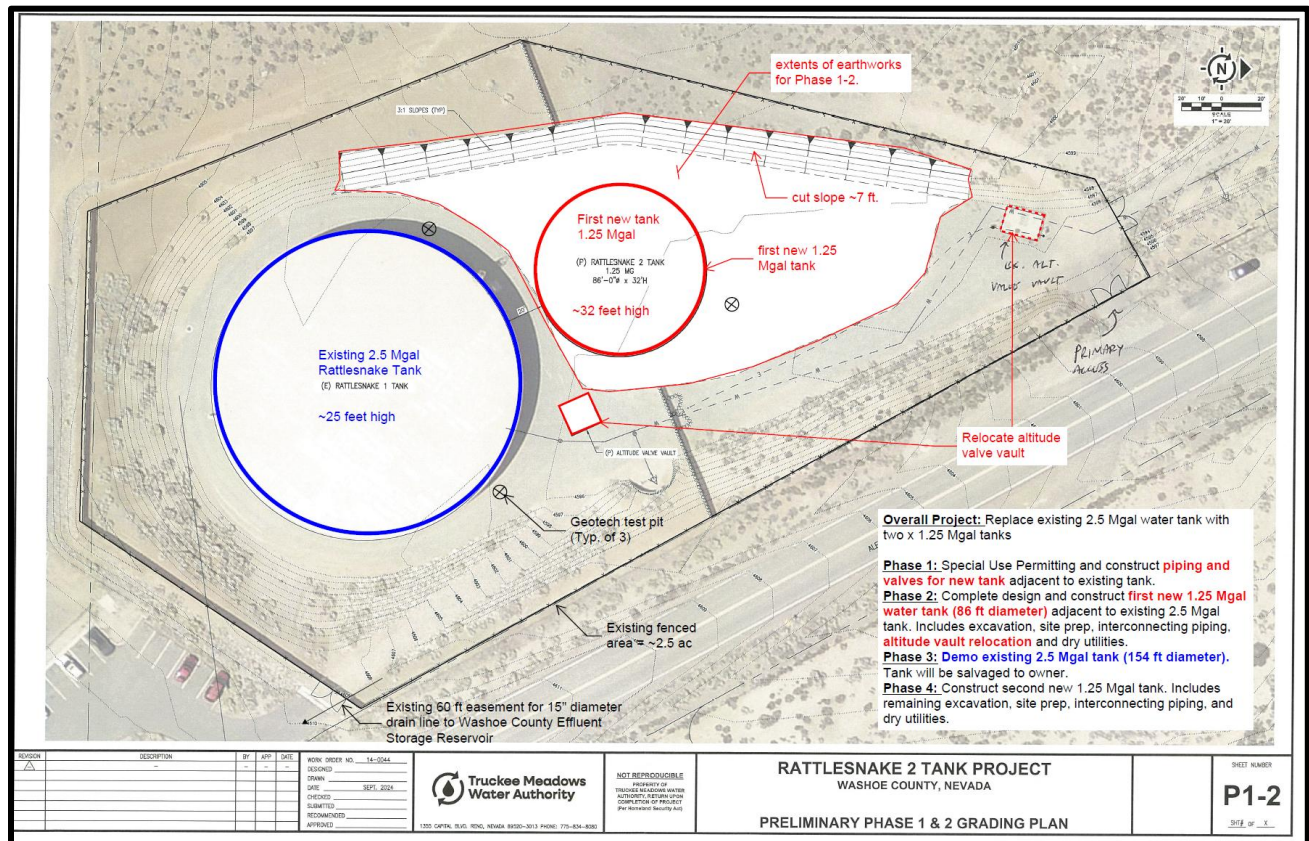
The parcel has a regulatory zoning of public, semipublic facility (PSP). The parcels to the north and east have a regulatory zoning of general rural (GR), located to the east is the Huffaker Hills Open Space. The parcels to the west and south are within the City of Reno jurisdiction. The 11-acre site is located off Alexander Lake Road, a dirt road.

An existing 2.5-million-gallon steel tank on the site is deteriorating. The original tank was approved in 1992 with a special use permit (SPB-20-92). The new tanks will continue to provide drinking water storage for the community. According to the application the new tanks will, "use modern design, and the dual configuration provides redundancy such that one tank can remain in service during maintenance or repairs, minimizing disruptions to the community." Having the two tanks will lessen the possibility of tank failure, increases the system reliability and provide redundancy, minimizing disruptions to the community. The project is planned to be constructed in 4-phases:

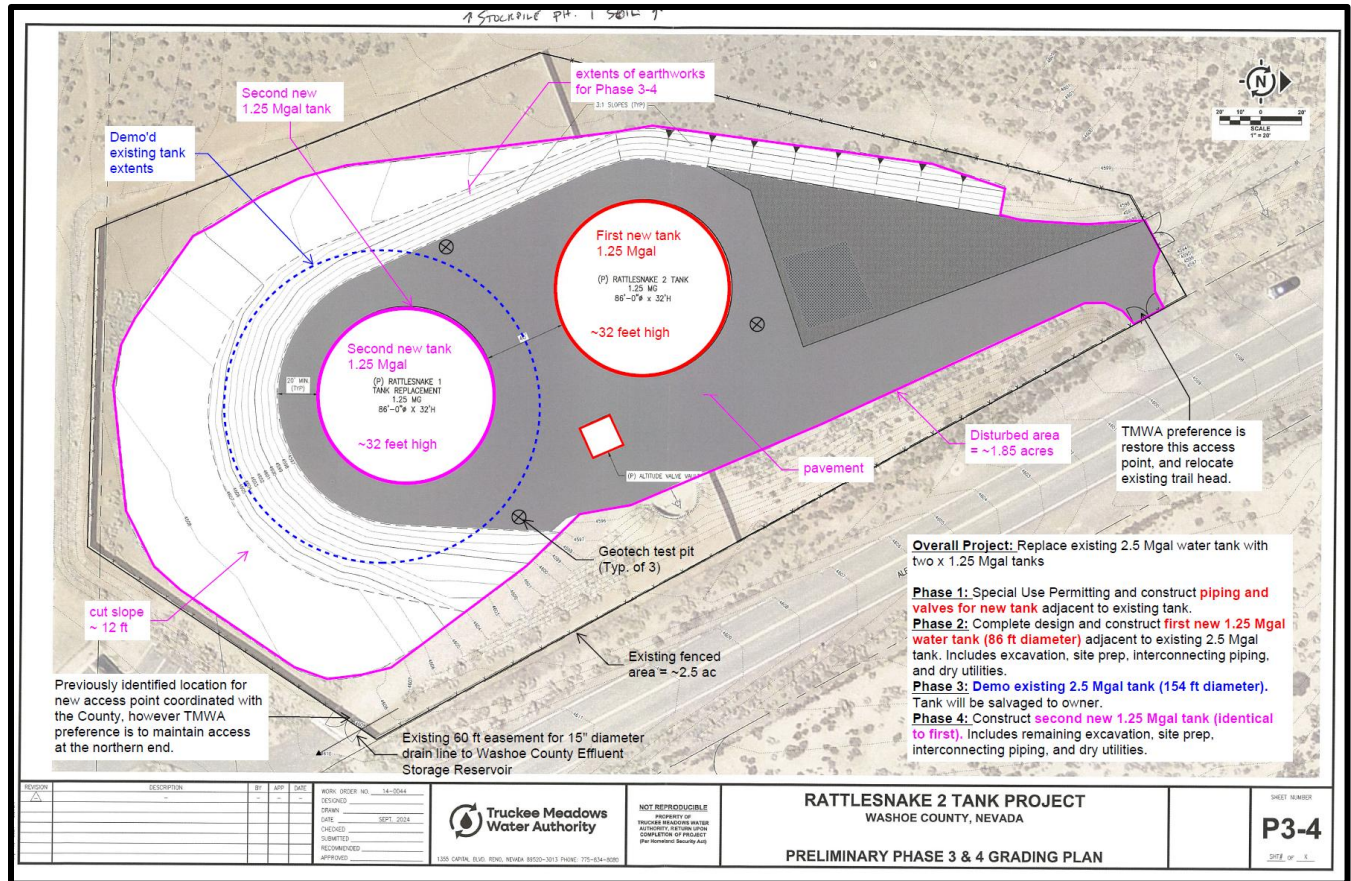
Washoe County Board of Adjustment

- Phases 1-2: Grading, piping installations, and construction of the first new 1.25M gallon tank adjacent to the existing tank. TMWA will fund these phases.
- Phase 3-4: Removal of the existing 2.5M gallon water tank, construction of the second 1.25M gallon tank, and final re-grading and finishing of the site.

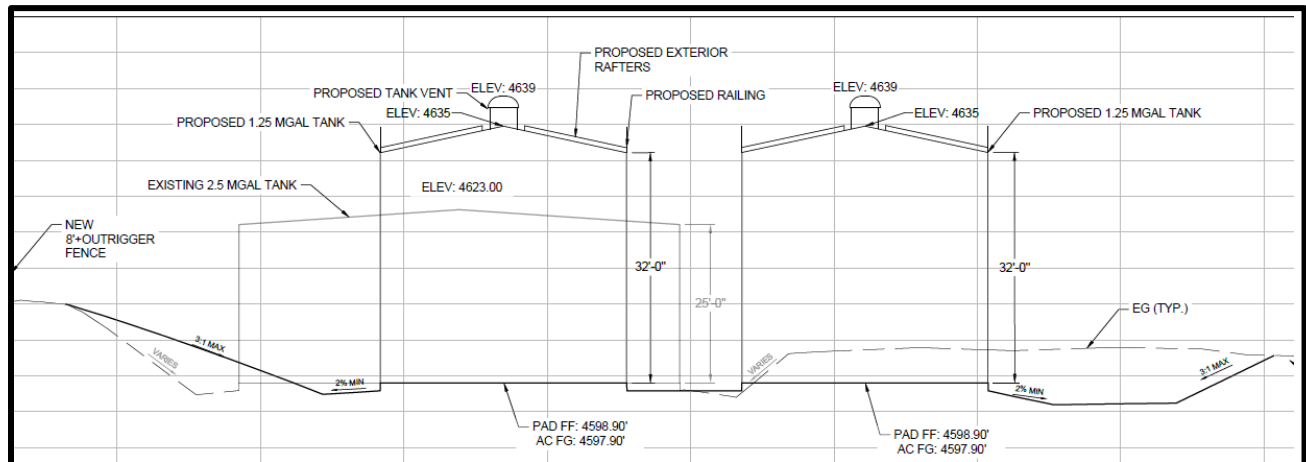
The request is for an 8-year approval for the special use permit to accommodate the planned 4-phases.



Phase 1 & 2 Plan



Phase 3 & 4 Plan



Tank Height Diagram

The application indicates that the tanks will be 36 feet in height, from finished pad grade to the tank peak roof. The existing tank is approximately 25 feet in height (See Tank Height Diagram above). Additionally, the application states:

“One of the tanks will include a single mast communications antenna to support TMWA’s system monitoring and operational control. The antenna is anticipated to extend approximately 5 to 10 feet above the tank roof on one side. The final antenna

height will be determined based on-line-of-sight requirements necessary to ensure reliable communication.”

The tanks will be painted a light color coating, typically tan or green with a white roof. The white roof is reflective and reduces the internal tank temperatures, helping with minimizing corrosion and extends the life of the tank.

There is existing fencing on the site around the existing tank. Around the new tanks a new 8-foot chain link fence will be constructed, with 1-foot of three strand barbed wire that will be angled outward along the fenced perimeter for a total height of 9 feet, as required to meet Homeland Security requirements for community water supply facilities (critical infrastructure). The applicant is not adding slats, as they tend to degrade over time. Signage will be attached to the fencing and will primarily be stating no trespassing.

The site is un-manned, with staff visiting the site only for scheduled or emergency maintenance. The site will have area to park and maneuver equipment on the site. No lighting is planned, as the tanks are operated remotely and will only typically need access during daylight hours.

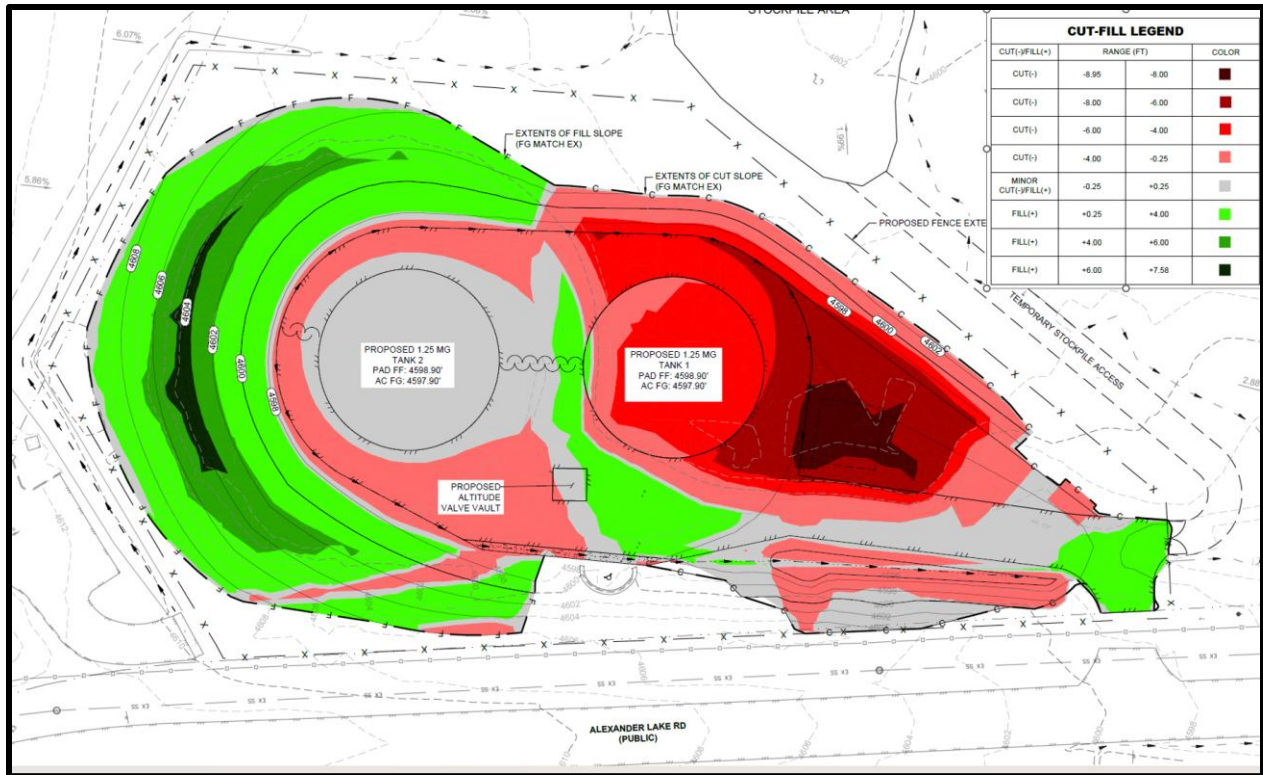
Article 438- Grading

The site will need to be recontoured for the two tanks. The applicant is estimating there will be 5,100 cy of cut material on the 11-acre site, with 136,324 SF (31.15 acres) of the site being disturbed. Approximately 1,800 cy of material will be exported from the site, with an excess from the first phase being stored on site for future phases. The stockpile area is anticipated to be approximately 15 feet high and used throughout the duration of all phases of the project (See Proposed Site Map, page 5). The site is only visible from Alexander Lake Road and no berms or retaining walls are planned for the site.

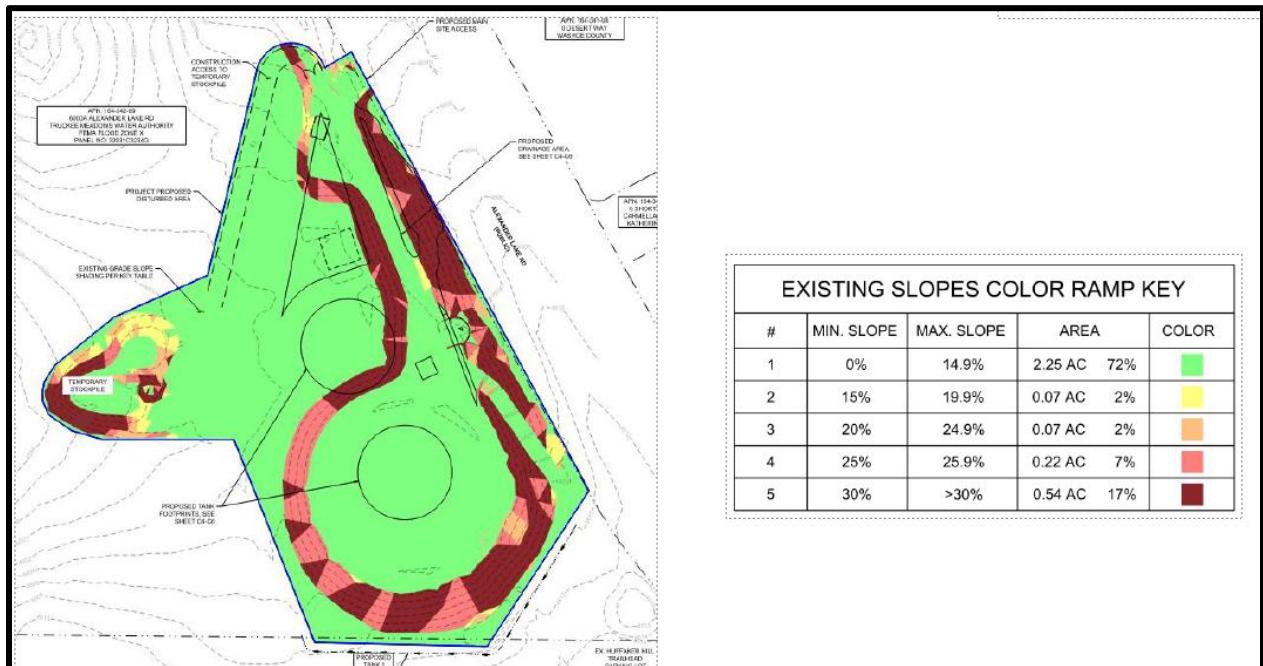
The application has identified the following specific sections in Article 438 that the project will exceed:

- 110.438.28 (a)(1)(I)(B) – Area – Grading of twenty (20) percent or more (up to a maximum of four (4) acres) of the area of the parcel on parcels six (6) acres or greater in size.
- 110.438.28 (a)(2) – Any Driveway or Road that traverses any slope of thirty (30) percent or greater (steeper) along a cumulative linear distance of fifty (50) feet or more.

The special use permit (SUP) application includes these major grading thresholds to be considered and approved as part of the SUP.



Cut & Fill Map



Slope Map

Article 424- Hillside Development

According to the application the site meets the hillside requirements and states,

"The existing slopes within the development area of the site (the 3.15+/- acres) that range from 0% to 15% account for 2.25+/- acres (+/-72%). Per 110.424.05(1)(a), applicability of hillside ordinance review comes into play on properties containing slopes in excess of fifteen (15) percent or greater on 20 percent or more of the site. Given that the development site contains existing slopes of greater than 15% on +/- 28% of the site, the hillside ordinance and review apply to this request."

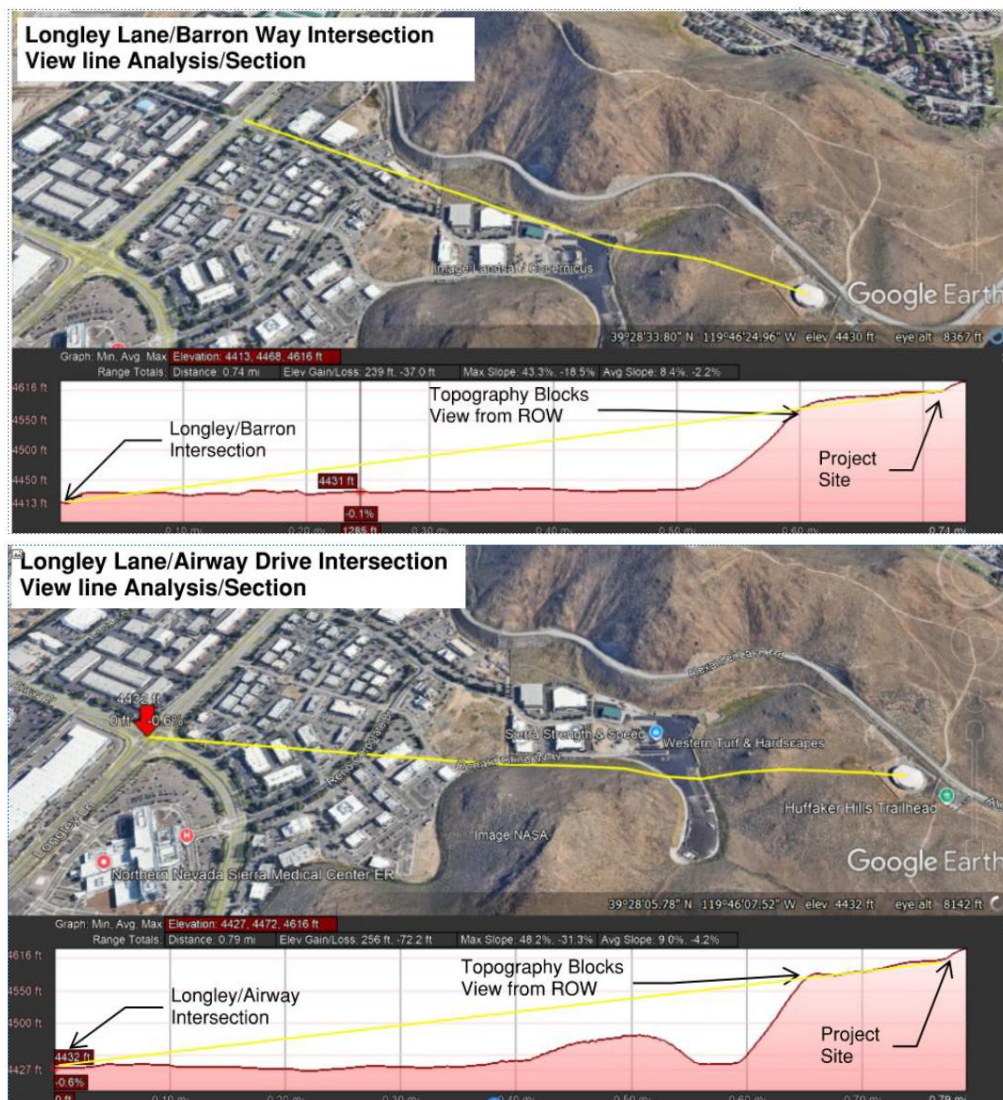
The applicant indicates that while the site meets the hillside requirements, the steeper slopes were manufactured for the original development for the existing tank and the areas where the steeper slopes are located are not natural slopes.

The Hillside Development (110.424.15) has the following requirements, and the applicant has provided the following analysis:

- (1) Major topographic conditions including ridgelines, ravines, canyons and knolls;
Applicant's Response: *None of these topographic conditions exist within the development area of the site.*
- (2) Preliminary geological conditions including major rock outcroppings, slide areas and areas underlain with faults that have been active during the Holocene epoch of geological time;
Applicant's Response: *None of these conditions exist within the development area for this project. As such, this consideration is not applicable.*
- (3) Preliminary soil conditions including soil type, expansiveness, slumping, erodibility and permeability;
Applicant's Response: *A geotechnical report has been provided with this application. Please see report in Tab C with this application package.*
- (4) Significant surface hydrological conditions including natural drainage courses, perennial streams, floodplains, wetlands and ponding areas;
Applicant's Response: *The site is located near the crest of a hill and does not possess these conditions. There are minor drainage courses that exist around the site that have been previously accommodated through appropriate routing and direction of flow for the existing tank facility that is located on the site. Please refer to the Conceptual Drainage Study in Tab C of the of the application (See Exhibit D).*
- (5) The location and types of significant vegetation including known rare and endangered plant species and general plant communities;
Applicant's Response: *A baseline vegetation and existing conditions report was prepared with this application, and no rare or endangered plant species were recognized on the subject property. Please find the Baseline Vegetation Report in Tab C of the application (See Exhibit D).*

- (6) Habitat areas for rare or endangered animal species;
Applicants Analysis: Review of the TMRPA plan and NDOW mapping did not indicate that any rare or endangered animal species were of concern on the subject property.
- (7) Preliminary viewshed analysis including cross sections of views to and from the development site from all major roadways within one (1) mile of the project site, and from major focal points on the project site;

Applicant's Response: The following view line sections from the Longley Lane right-of-way help to illustrate that the site is concealed due to existing topography. Additionally, buildings located along the rights-of way in the area provide additional visual obstruction of views to the site. Topography to the north, east and south does not provide any view toward the site as hills completely block off any view of the site. The site can only be seen from Alexander Lake Road, directly adjacent to the site and photos are provided in the Existing Site Condition Photos section of this narrative.



- (8) How the development responds to the unique conditions of the hillside; and
Applicant's Response: The project site has previously been highly disturbed to accommodate the existing tank, access and associated facilities. It is estimated that if this site were not previously disturbed, the slopes of the development area would not trip the hillside ordinance consideration. Given that a TMWA tank facility exists on the site and the site was previously approved, disturbed and contoured with steep slopes to accommodate the prior development, the proposed development appropriately recontours the site to meet the needs of the TMWA tank improvements. The recontouring of the site to meet the needs for the proposed improvement plan appropriately work with the site, which is not "unique" in any way.

- (9) A slope analysis, submitted on a topographic map with contour intervals of at least five (5) feet for planning purposes. This analysis shall indicate the location and amount of land included within the following slope categories, tabulated in acres:

- (i) 0 - 15 percent;
- (ii) 15 - 20 percent;
- (iii) 20 - 25 percent;
- (iv) 25 - 30 percent; and
- (v) Greater than 30 percent.

Applicant's Response: A slope analysis map meeting the requirements of this consideration has been prepared for this application and is provided in Tab B of the application (See Exhibit D).

- (b) Developable Area Map. A developable area map, prepared pursuant to Section 110.424.20(b).

Applicant's Response: The items noted under 110.424.20(b) to determine developable areas include slopes, landslide potential, faults, habitat areas for rare or endangered plant or animal species and significant streams, ravines or drainageways. A slope analysis map has been provided as part of this application package, and it has been previously noted that existing steep slopes on this property were previously manufactured during the construction of the existing tank. The other considerations in determination of developable area do not exist on the subject property.

- (c) Constraint and Mitigation Analysis. A detailed analysis of how the identified constraints will be mitigated and incorporated into the project's design.

Applicant's Response: As there are no constraint areas that would preclude development of the subject property/development area, no mitigation analysis needed.

Modifications

The applicant is requesting to modify the following requirements:

1. 110.410.25(e): All parking spaces, driveways and maneuvering areas shall be paved and permanently maintained with asphalt or cement. Bumper guards shall be provided when necessary to protect adjacent structures or properties as determined by the Director of Community Development.

Staff Comment: *The site location is remote and un-manned and no paved parking space is needed.*

2. 110.412.40(a-d)-Civic & Commercial Use Types:

Staff Comment: *The site is remote with minimal natural vegetation and irrigation for landscaping is not available.*

Master Plan Consistency

The proposed amendment is consistent with the Envision Washoe 2040 Master Plan. The Project is consistent with the applicable Envision Washoe 2040 Priority Principles & Policies as described in Table 1.

Table 1: Master Plan Element Conformance Priority Principles & Policies

Master Plan Element	Priority Principles & Policies	Explanation of Conformance with Priority Principles & Policies
PFS Principle 1. Cooperatively manage water resources for long-term sustainability.		
Policy 1.1 Coordinate implementation of TMWA's 2020-2040 Water Resources Plan and the WRWC Comprehensive Regional Water Management Plan with TMWA and WRWC.		The two proposed 1.25M gallon water tanks will support TMWA and WRWC Plans.
Policy 1.7 In cooperation with TMWA, continue to investigate and evaluate potential future water management projects consistent with, and in addition to, TROA to further increase the region's water security.		The two proposed 1.25M gallon water tanks supports future water management projects and the region's water security.
Policy 1.11 Support WRWC and TMWA planning efforts to ensure that current and projected water demands can be met in a sustainable manner		The two proposed 1.25M gallon water tanks support WRWC and TMWA plans for water demands.

PFS Principle 2. Provide sufficient water to meet the current and future needs of County residents.	
Policy 2.1 - Balance new water supply commitments and existing commitments with sustainable sources of water supply□	The two proposed 1.25M gallon water tanks will provide sustainable sources of water supply.
Policy 2.2 Support TMWA's conjunctive use plan and manage surface water and groundwater supplies for municipal and industrial use to withstand at minimum the worst drought cycle of record.	The two proposed 1.25M gallon water tanks will supports future water supply.
PFS Principle 3. Provide adequate service to developments and maintain a communicative, transparent planning process.	
Policy 3.1. Identify barriers to service delivery goals to meet Washoe County's minimum service standards for potable water, wastewater, storm water and flood, schools, and transportation as depicted in the Regional Plan List of Facilities and Service Standards□	The two proposed 1.25M gallon water tanks will meet Washoe County's minimum service for water, as needed.

Reviewing Agencies

The following agencies/individuals received a copy of the project application for review and evaluation.

Agencies	Sent to Review	Responded	Provided Conditions	Contact
NV Water Resources	X			
Washoe County Building & Safety	X			
Washoe County Parks & Open Space	X			
Washoe County Water Rights Manager (All Apps)	X	X		
Washoe County Engineering (Land Development) (All Apps)	X	X	X	Rob Wimer, rwimer@washoecounty.gov; Janelle Thomas, jkthomas@washoecounty.gov; Stephen Hein, shein@washoecounty.com; Michon Reede, mreede@washoecounty.gov; Ashley Elson, aelson@washoecounty.gov
NNPH Air Quality	X			
NNPH Environmental Health	X	X	X	Wes Rubio, wrubio@washoecounty.gov; David Kelly, dakelly@washoecounty.gov; EHSPlanReview@nnph.org
TMFPD	X	X	X	Jenny Williamson, jewilliamson@tmfpd.us
Reno Community Development	X	X		
Truckee Meadows Water Authority	X			

All conditions required by the contacted agencies can be found in Exhibit A, Conditions of Approval.

Neighborhood Meeting

It was deemed by the Washoe County Community Services Department that a neighborhood meeting would not be required because of the remote location of the tank.

Staff Comment on Required Findings

WCC Section 110.810.30, Article 810, *Special Use Permits*, requires that all of the following findings be made to the satisfaction of the Washoe County Board of Adjustment before granting approval of the request. Staff has completed an analysis of the special use permit application and has determined that the proposal is in compliance with the required findings as follows.

- (a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Southeast Truckee Meadows Area Plan.

Staff Comment: Staff has reviewed the Master Plan and the Southeast Truckee Meadows Planning Area, and the proposed use is consistent with the action programs, policies, standards and maps.

- (b) Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven.

Staff Comment: Adequate utilities, roadways, sanitation, water supply, drainage, and other necessary facilities are already in place or have been provided. There is already an existing larger tank on the site, which will be removed.

- (c) Site Suitability. That the site is physically suitable for utility services use type and for the intensity of such a development.

Staff Comment: The site is physically suitable for two water tanks which is a utility services use type. The request includes grading on the site, to further accommodate the construction of two new tanks. An existing larger tank is already located on the site, which will be removed.

- (d) Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area.

Staff Comment: The proposed use will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area. A water tank is already established on the site and no significant impacts to the surrounding area are anticipated with two new proposed water tanks. The proposed project will provide reliable water resources.

- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Staff Comment: There is no military installation within the area of required notice for this special use permit; therefore, the project will have no effect on a military installation.

Recommendation

After a thorough analysis and review, Special Use Permit Case Number WSUP26-0009 is recommended for approval with conditions. Staff offers the following motion for the Board's consideration.

Motion

I move that, after giving reasoned consideration to the information contained in the staff report and information received during the public hearing, the Washoe County Board of Adjustment approve with conditions Special Use Permit Case Number WSUP26-0009 for Truckee Meadows Water Authority (TMWA), with the conditions included as Exhibit A to this matter, having made all five findings in accordance with Washoe County Code Section 110.810.30:

- (a) Consistency. That the proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the Southeast Truckee Meadows Area Plan.
- (b) Improvements. That adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;
- (c) Site Suitability. That the site is physically suitable for utility service use type development and for the intensity of such a development;
- (d) Issuance Not Detrimental. That issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area;
- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Appeal Process

Board of Adjustment action will be effective 10 calendar days after the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant, unless the action is appealed to the Washoe County Board of County Commissioners, in which case the outcome of the appeal shall be determined by the Washoe County Board of County Commissioners. Any appeal must be filed in writing with the Planning and Building Division within 10 calendar days from the date the written decision is filed with the Secretary to the Board of Adjustment and mailed to the applicant.



Conditions of Approval

Special Use Permit Case Number WSUP26-0009

The project approved under Special Use Permit Case Number WSUP26-0009 shall be carried out in accordance with the conditions of approval granted by the Board of Adjustment on August 6, 2026. Conditions of approval are requirements placed on a permit or development by each reviewing agency. These conditions of approval may require submittal of documents, applications, fees, inspections, amendments to plans, and more. These conditions do not relieve the applicant of the obligation to obtain any other approvals and licenses from relevant authorities required under any other act.

Unless otherwise specified, all conditions related to the approval of this special use permit shall be met or financial assurance must be provided to satisfy the conditions of approval prior to issuance of a grading or building permit. The agency responsible for determining compliance with a specific condition shall determine whether the condition must be fully completed or whether the applicant shall be offered the option of providing financial assurance. All agreements, easements, or other documentation required by these conditions shall have a copy filed with the County Engineer and the Planning and Building Division.

Compliance with the conditions of approval related to this special use permit is the responsibility of the applicant, his/her successor in interest, and all owners, assignees, and occupants of the property and their successors in interest. Failure to comply with any of the conditions imposed in the approval of the special use permit may result in the institution of revocation procedures.

Washoe County reserves the right to review and revise the conditions of approval related to this Special Use Permit should it be determined that a subsequent license or permit issued by Washoe County violates the intent of this approval.

For the purpose of conditions imposed by Washoe County, "may" is permissive and "shall" or "must" is mandatory.

Conditions of approval are usually complied with at different stages of the proposed project. Those stages are typically:

- Prior to permit issuance (i.e., grading permits, building permits, etc.).
- Prior to obtaining a final inspection and/or a certificate of occupancy.
- Prior to the issuance of a business license or other permits/licenses.
- Some "conditions of approval" are referred to as "operational conditions." These conditions must be continually complied with for the life of the project or business.

The Washoe County Commission oversees many of the reviewing agencies/departments with the exception of the following agencies.

- **The DISTRICT BOARD OF HEALTH, through Northern Nevada Public Health (NNPH), has jurisdiction over public health matters. Any**

conditions set by NNPH must be appealed to the District Board of Health.

FOLLOWING ARE CONDITIONS OF APPROVAL REQUIRED BY THE REVIEWING AGENCIES. EACH CONDITION MUST BE MET TO THE SATISFACTION OF THE ISSUING AGENCY.

Washoe County Planning and Building Division

1. The following conditions are requirements of Planning and Building, which shall be responsible for determining compliance with these conditions.

Contact Name – Julee Olander, Planner, 775.328.3627, jolander@washoecounty.gov

- a. **The applicant shall attach a copy of the action order approving this project to all permits and applications (including building permits) applied for as part of this special use permit.**
- b. The applicant shall demonstrate substantial conformance to the plans approved as part of this special use permit.
- c. The applicant shall submit construction plans, with all information necessary for comprehensive review by Washoe County, and all applicable building permits shall be issued within eight years from the date of approval by Washoe County. The applicant shall complete construction within the time specified by the building permits.
- d. A note shall be placed on all construction drawings and grading plans stating:

NOTE

Should any cairn or grave of a Native American be discovered during site development, work shall temporarily be halted at the specific site and the Sheriff's Office as well as the State Historic Preservation Office of the Department of Conservation and Natural Resources shall be immediately notified per NRS 383.170.

- d. Construction hours are 7am to 7pm Monday through Saturday. Any construction machinery activity or any noise associated with the construction activity are also limited to these hours.

Washoe County Engineering and Capital Projects

2. The following conditions are requirements of the Engineering Division, which shall be responsible for determining compliance with these conditions.

Contact Name – Robert Wimer, P.E., 775.328.2059, RWimer@washoecounty.gov

- a. The applicant shall include a condition response memorandum with each subsequent permit application. That memorandum shall list each condition of approval, shall provide a narrative describing how each condition has been complied with, and the location of the information showing compliance with each condition within the improvement plan set that has been submitted.

- b. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed to be conveyed onto adjacent property.

GRADING (COUNTY CODE 110.438)

- c. Final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submitting the subsequent individual building permits.
- d. Prior to acceptance of public improvements and release of any financial assurances, the developer shall provide as-built construction drawings in an acceptable digital format prepared by a civil engineer and/or surveyor licensed in the State of Nevada.
- e. A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the special use permit. Grading shall comply with best management practices (BMPs) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan.
- f. Any existing easements, facilities, or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate.
- g. Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project.
- h. Add the following note to the building permit civil improvement plans: "All public utilities shall be placed underground, except in the case where underground placement of utilities is shown not to be feasible, in which case the County Engineer may approve exceptions to this requirement."
- i. With each affected building permit application, provide written approval from all utility provider(s) for any improvements located within their easement, or under or over their facilities.
- j. Appropriate easements shall be granted for any existing or new utilities, with each affected building permit application.

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

- k. The following note shall be added to the construction drawings; "All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

Contact Name- Mitchell Fink, P.E. 775.328.2050, mfink@washoecounty.gov

- I. All roadway improvements necessary (including but not limited to, curb, gutter, sidewalk, signing and striping, driveway access, and street lighting) to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.
- m. AASHTO clear zones shall be maintained along Alexander Lake Road for any proposed grading of slopes steeper than 3:1 adjacent to the roadway. If a recoverable or traversable

Truckee Meadows Fire Protection District

3. The following condition is a requirement of the Truckee Meadows Fire Protection District, which shall be responsible for determining compliance with this condition.

Contact Name – Jenny Williamson, Fire Marshal, 775.444.8521, jewilliamson@tmfpd.us

- a. This project shall meet and comply with all requirements of currently adopted TMFPD fire codes, ordinances, and standards at the time of construction to include infrastructure for fire apparatus access roads and water supply.
<https://tmfpd.us/fire-code/>
 1. IFC 102.9 This project shall meet the requirements of the currently adopted International Fire Code, International Wildland Urban Interface Code, TMFPD Fire Amendments
 2. IFC 503.2.1 Access roads shall be a minimum of 20' wide with a 13'6" vertical clearance.
 3. IFC 503.2.7 Fire apparatus access roads shall have a grade not to exceed 10%,
 4. IFC 503.2.4 Fire apparatus access roads turn radii shall be 28' inside and 52' outside.
 5. IFC 503.2.3 Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.
 6. IFC 503.2.5 Any fire apparatus access roads greater than 150' with a dead end will require a fire apparatus turnaround.

Northern Nevada Department of Public Health- Environmental Health

4. The following condition is a requirement of the Northern Nevada Department of Public Health, which shall be responsible for determining compliance with this condition.

Contact Name – David Kelly, EH Specialist Supervisor, 775,846,6623, DAKelly@nnph.org

- a. Approval of Building permits for work on water storage tanks will require an approved water project from NDEP Bureau of Safe Drinking Water.

*** End of Conditions ***



Date: July 1, 2026

To: Julee Olander, Planner

From: Janelle K. Thomas, P.E., C.F.M., Senior Licensed Engineer
Robert Wimer, P.E., Licensed Engineer

Re: Special Use Permit for ***Rattlesnake Water Tank WSUP26-0009***
APN 164-342-09

GENERAL PROJECT DISCUSSION

Washoe County Engineering staff have reviewed the above referenced application. The Special Use Permit application is for the construction of two 1.25-million-gallon water tanks and is located on approximately 11.08 acres on Alexander Lake Road. The Engineering and Capital Projects Division recommends approval with the following comments and conditions of approval which supplement the applicable County Code and are based upon our review of the site and the application prepared by Lumos and Associates, Inc. The County Engineer shall determine compliance with the following conditions of approval.

For questions related to sections below, please contact the staff's name referenced.

GENERAL CONDITIONS

Contact Information: Robert Wimer, P.E. (775) 328-2059

Conditions:

1. The applicant shall include a condition response memorandum with each subsequent permit application. That memorandum shall list each condition of approval, shall provide a narrative describing how each condition has been complied with, and the location of the information showing compliance with each condition within the improvement plan set that has been submitted.
2. A complete set of construction improvement drawings, including an on-site grading plan, shall be submitted when applying for a building/grading permit. Grading shall comply with best management practices (BMP's) and shall include detailed plans for grading, site drainage, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or removal of any excavated materials shall be indicated on the grading plan. Silts shall be controlled on-site and not allowed to be conveyed onto adjacent property.

GRADING (COUNTY CODE 110.438)

Contact Information: Robert Wimer, P.E. (775) 328-2059

Conditions:

1. Final construction drawings shall comply with all applicable statutes, ordinances, rules, regulations, and policies in effect at the time of submitting the subsequent individual building permits.

WSUP26-0009
EXHIBIT B

2. Prior to acceptance of public improvements and release of any financial assurances, the developer shall provide as-built construction drawings in an acceptable digital format prepared by a civil engineer and/or surveyor licensed in the State of Nevada.
3. A complete set of construction improvement drawings, including an onsite grading plan, shall be submitted to the County Engineer for approval prior to finalization of any portion of the special use permit. Grading shall comply with best management practices (BMPs) and shall include detailed plans for grading and drainage on each lot, erosion control (including BMP locations and installation details), slope stabilization, and mosquito abatement. Placement or disposal of any excavated material shall be indicated on the grading plan.
4. Any existing easements, facilities, or utilities that conflict with the development shall be relocated, quitclaimed, and/or abandoned, as appropriate.
5. Any easement documents recorded for the project shall include an exhibit map that shows the location and limits of the easement in relationship to the project.
6. Add the following note to the building permit civil improvement plans: "All public utilities shall be placed underground, except in the case where underground placement of utilities is shown not to be feasible, in which case the County Engineer may approve exceptions to this requirement."
7. With each affected building permit application, provide written approval from all utility provider(s) for any improvements located within their easement, or under or over their facilities.
8. Appropriate easements shall be granted for any existing or new utilities, with each affected building permit application.

DRAINAGE (COUNTY CODE 110.416, 110.420, and 110.421)

Contact Information: Robert Wimer, P.E. (775) 328-2059

Conditions:

1. The following note shall be added to the construction drawings; "All properties, regardless of if they are located within or outside of a FEMA designated flood zone, may be subject to flooding. The property owner is required to maintain all drainage easements and natural drainages and not perform or allow unpermitted and unapproved modifications to the property that may have detrimental impacts to surrounding properties."

TRAFFIC AND ROADWAY (COUNTY CODE 110.436)

Contact Information: Mitchell Fink, P.E. (775) 328-2050

Conditions:

1. All roadway improvements necessary (including but not limited to, curb, gutter, sidewalk, signing and striping, driveway access, and street lighting) to serve the project shall be designed and constructed to County standards and specifications to the satisfaction of the County Engineer.
2. AASHTO clear zones shall be maintained along Alexander Lake Road for any proposed grading of slopes steeper than 3:1 adjacent to the roadway. If a recoverable or traversable

**WSUP26-0009
EXHIBIT B**

clear zone cannot be provided, an analysis to determine if barriers or other approved safety devices are warranted shall be submitted for approval.

3. The applicant shall submit an encroachment and excavation permit application for review and approval for any construction within Washoe County Right of Way.

UTILITIES (County Code 422 & Sewer Ordinance)

Contact Information: Katrina Pascual, P.E. (775) 954-4648

Conditions:

1. All necessary utilities shall be stubbed beyond the edge of pavement for future development to the satisfaction of the County Engineer.
2. The applicant shall conform to all conditions imposed by intergovernmental agreements required to provide sewer and reclaim water service to the subject project, and, if required, be a party to any such agreements.
3. The applicant shall conform to all Washoe County utility design standards, including but not limited to, gravity sewer collection system, lift station design, and reclaim water design.

**WSUP26-0009
EXHIBIT B**

From: [Kelly, David A](#)
To: [Olander, Julee](#); [Health - EHS Front Desk](#); [Rubio, Wesley S](#)
Subject: RE: WSUP26-0008/9- Due 6/30/26
Date: Thursday, July 2, 2026 8:23:32 AM
Attachments: [image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)

The only comment that might be of value is just that the tank replacement (WSUP26-0009) will require an approved water project with NDEP Bureau of Safe Drinking Water. TMWA should know that but if we were to put a comment in, that would be it. Perhaps this if you need a direct sentence:

Approval of Building permits for work on water storage tanks will require an approved water project from NDEP Bureau of Safe Drinking Water.

Hope this helps.



David Kelly

*Environmental Health Specialist Supervisor
Environmental Health Services*

M: [775-846-6623](tel:775-846-6623)
1001 E Ninth St. Bldg. B Reno, NV 89512

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From: Olander, Julee <JOlander@washoecounty.gov>
Sent: Thursday, July 2, 2026 7:29 AM
To: Kelly, David A <DAKelly@nnph.org>; Health - EHS Front Desk <HealthEHS@nnph.org>; Rubio, Wesley S <WRubio@nnph.org>
Subject: RE: WSUP26-0008/9- Due 6/30/26

Thanks Dave!

**WSUP26-0009
EXHIBIT B**



Julee Olander, Planner

jolander@washoecounty.gov | Direct Line: 775.328.3627

My working hours: Monday-Friday 8:00am to 4:30pm

Visit us first online: www.washoecounty.gov/csd

Planning Division: 775.328.6100 | Planning@washoecounty.gov

CSD Office Hours: Monday-Friday 8:00am to 4:00pm

1001 East Ninth Street, Reno, NV 89512

Have some kudos to share about a Community Services Department employee or experience?

Submit a nomination for a Washoe Star by clicking this link: [WASHOE STAR](#)

From: Kelly, David A <DAKelly@nnph.org>

Sent: Wednesday, July 1, 2026 3:53 PM

To: Olander, Julee <JOlander@washoecounty.gov>; Health - EHS Front Desk <HealthEHS@nnph.org>; Rubio, Wesley S <WRubio@nnph.org>

Subject: RE: WSUP26-0008/9- Due 6/30/26

Julee –

I am walking out the door and Wes is on leave. I can take a look first thing in the morning though if that is ok.

NORTHERN NEVADA
Public Health

David Kelly

*Environmental Health Specialist Supervisor
Environmental Health Services*

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From: Olander, Julee <JOlander@washoecounty.gov>

**WSUP26-0009
EXHIBIT B**

Sent: Wednesday, July 1, 2026 3:46 PM

To: Health - EHS Front Desk <HealthEHS@nnph.org>; Rubio, Wesley S <WRubio@nnph.org>; Kelly, David A <DAKelly@nnph.org>

Subject: WSUP26-0008/9- Due 6/30/26

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**WSUP26-0009
EXHIBIT B**



Permit # WSUP26-0009 (Rattlesnake Water Tank)

6000 Alexander Lake Rd (APN: 164-342-09)

Reviewed By: Jenny Williamson

Contact: jewilliamson@tmfpd.us or 775-444-8521

Planner: Julee Olander

jolander@washoecounty.gov 775-328-3627

Plan Review Comments

1. IFC 102.9 This project shall meet the requirements of the currently adopted International Fire Code, International Wildland Urban Interface Code, TMFPD Fire Amendments
2. IFC 503.2.1 Access roads shall be a minimum of 20' wide with a 13'6" vertical clearance.
3. IFC 503.2.7 Fire apparatus access roads shall have a grade not to exceed 10%,
4. IFC 503.2.4 Fire apparatus access roads turn radii shall be 28' inside and 52' outside.
5. IFC 503.2.3 Fire apparatus access roads shall be designed and maintained to support the imposed loads of fire apparatus and shall be surfaced so as to provide all-weather driving capabilities.
6. IFC 503.2.5 Any fire apparatus access roads greater than 150' with a dead end will require a fire apparatus turnaround.
7. IFC 503.6 Provide a Knox switch for electric gates or a Knox padlock for manual gates.



WSUP26-0009
EXHIBIT B

From: [Kelly, David A](#)
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Environmental Health Services*

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**WSUP26-0009
EXHIBIT B**



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NORTHERN NEVADA
Public Health

David Kelly

*Environmental Health Specialist Supervisor
Environmental Health Services*

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EXHIBIT B**

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Does Environmental Health have any comments/conditions for these application?

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**WSUP26-0009
EXHIBIT B**

From: [Angela Fuss](#)
To: [Olander, Julie](#)
Cc: [Mike Railey](#)
Subject: Special Use Permit Case Number WSUP26-0009 (Rattlesnake Water Tank) - City of Reno Comments
Date: Friday, June 12, 2026 9:32:34 AM
Attachments: [Outlook-mi4dzk1t.png](#)

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Hi Julie,

The City of Reno Development Services Department has completed its review of Special Use Permit Case Number WSUP26-0009 (Rattlesnake Water Tank). Based on our review, we have no issues or concerns with the request.

Thank you
Angela

--

Angela Fuss, AICP

Assistant Director
Development Services
775-399-3843 (c)
fussa@Reno.Gov
1 E. First St., Reno, NV 89501



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WSUP26-0009
EXHIBIT B



Date: July 1, 2026

To: Julee Olander, Planner

From: Timber Weiss, P.E., Licensed Engineer

Re: Special Use Permit Case Number WSUP26-0009 (Rattlesnake Water Tank)

GENERAL PROJECT DISCUSSION

For hearing, discussion, and possible action to approve a special use permit for a utility service use type, to replace an existing 2.5M gallon tank with two 1.25M gallon water tanks and for major grading of $\pm 5,100$ cubic yards (CY) of cut, $\pm 1,800$ CY to export and disturbing $\pm 137,3234$ SF of the site. The request also includes modifying standards for parking and landscaping. This application is submitted by the owner of the property Truckee Meadows Water Authority. The subject property is located at 6000 Alexander Lake Rd. (APN 164-342-09) and consists of approximately ± 11 acres.

The proposal is being reviewed under Development Code Article 810, Special Use Permits and is situated within Commission District 2- Commissioner Clark. The site is currently governed by the Suburban Residential (SR) Master Plan land use designation and the Public, Semi Public Facility (PSP) Regulatory Zone zoning district, falling within the boundaries of the Southeast Truckee Meadows Area Plan

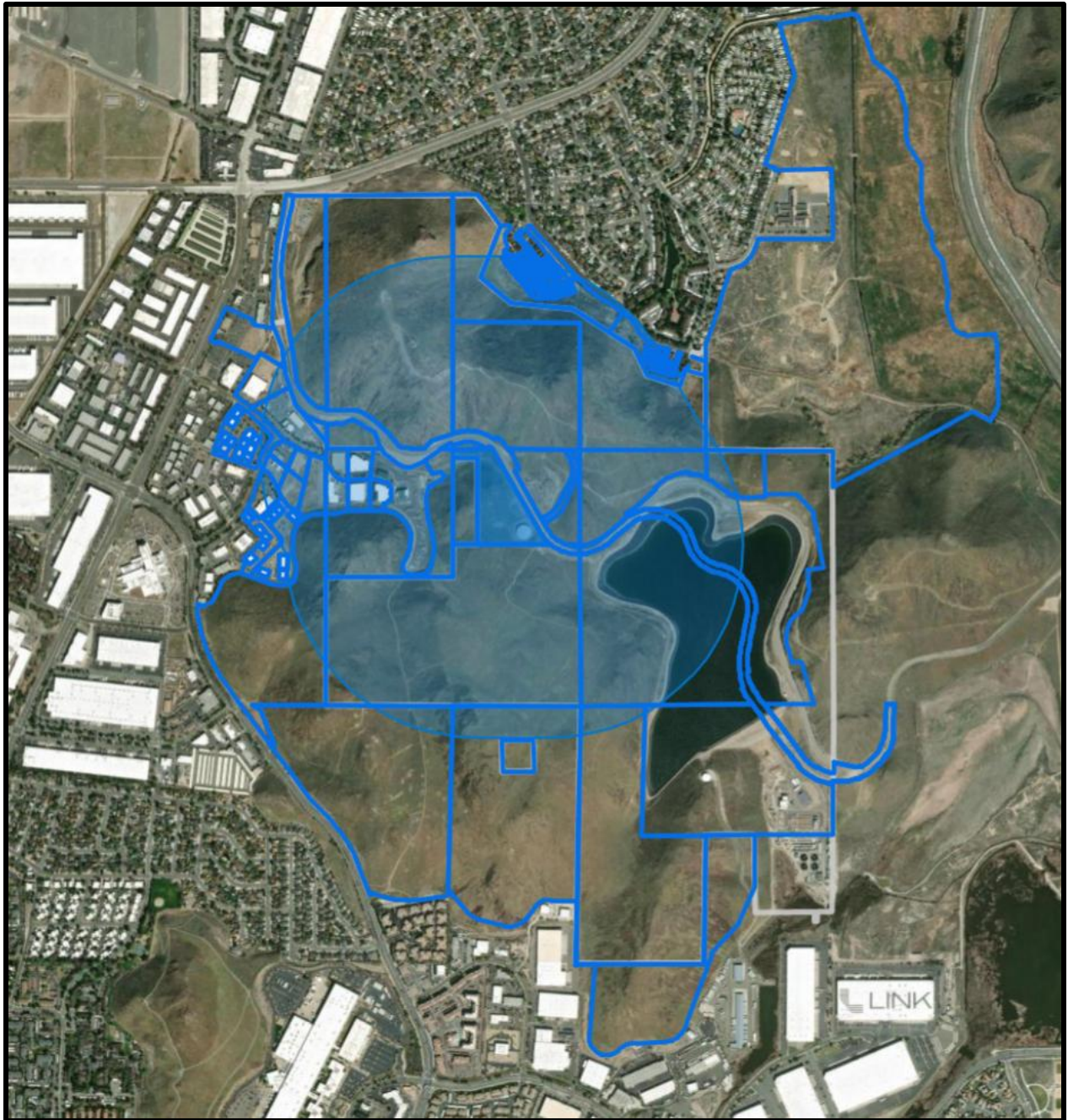
The Community Services Department (CSD) recommends approval of this project with the following Water Rights conditions:

No water rights conditions for this SUP.

**WSUP26-0009
EXHIBIT B**

Public Notice

Washoe County Code requires that public notification for a special use permit must be mailed to a minimum of 30 separate property owners within a minimum 500-foot radius of the subject property a minimum of 10 days prior to the public hearing date. A notice setting forth the time, place, purpose of hearing, a description of the request and the land involved was sent within a 2,000-foot radius of the subject property. A total of 82 separate property owners were noticed a minimum of 10 days prior to the public hearing date.



WASHOE COUNTY, NEVADA

RATTLESNAKE TANK IMPROVEMENTS

SPECIAL USE PERMIT APPLICATION

Prepared For:

Truckee Meadows Water Authority

1355 Capital Blvd, Reno NV

Tel: (775) 834-8080



**Truckee Meadows
Water Authority**

Prepared By:

Lumos & Associates, Inc.

950 Sandhill Rd, Suite 100, Reno NV

Tel: (775) 827-6111



Bowman Consulting Group Ltd.

1150 Corporate Blvd, Reno NV

Tel: (775) 856-1150

Bowman

June 8, 2026

**WSUP26-0009
EXHIBIT D**

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

PROJECT NARRATIVE

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 - Neighborhood Meeting Waiver Email,
 - Prior SUP Approval Information (SPB5-20-92)

Special Use Permits

Washoe County Code (WCC) Chapter 110, Article 810, Special Use Permit, provides a method of reviewing proposed uses as listed in Article 302, Allowed Uses, which possess characteristics that require special appraisal in order to determine if the uses have the potential to adversely affect other land uses, transportation systems, or public facilities in the vicinity. The Planning Commission, Board of Adjustment, or Hearing Examiner may require conditions of approval necessary to eliminate or minimize, to an acceptable level, any potentially adverse effects of the use. See WCC 110.810, for further information

Development Application Submittal Requirements

Applications are accepted on the 8th of each month. If the 8th falls on a non-business day, applications will be accepted on the next business day.

If you are submitting your application online, you may do so at [OneNV.us](https://www.onenv.us)

No Fees Required
Public Agency App

1. **Fees:** See Master Fee Schedule. **Most payments can be made directly through the OneNV.us portal.** If you would like to pay by check, please make the check payable to Washoe County and bring your application and payment to the Community Services Department (CSD).
- X 2. **Development Application:** A completed Washoe County Development Application form.
- X 3. **Owner Affidavit:** The Owner Affidavit must be signed and notarized by all owners of the property subject to the application request.
- X 4. **Proof of Property Tax Payment:** The applicant must provide a written statement from the Washoe County Treasurer's Office indicating all property taxes for the current quarter of the fiscal year on the land have been paid.
- NA 5. **Neighborhood Meeting:** This project may require a Neighborhood Meeting to be held prior to application submittal. Please contact Washoe County Planning at Planning@washoecounty.gov or by phone at 775-328-6100 to discuss requirements.
- X 6. **Application Materials:** The completed Special Use Permit Application materials.
- X 7. **Proposed Site Plan Specifications (Special Use Permit and Stables):**
 - a. Lot size with dimensions drawn using standard engineering scales (e.g. scale 1" = 100', 1" = 200', or 1" = 500') showing all streets and ingress/egress to the property.
 - b. Show the location and configuration of all existing and proposed buildings (with distances from the property lines and from each other), all existing buildings that will remain (with distances from the property lines and from each other), all existing buildings that will be removed, and site improvements on a base map with existing and proposed topography expressed in intervals of no more than five (5) feet.
 - c. Show the location and configuration of wells and well houses, septic systems and leach fields, overhead utilities, water and sewer lines, and all existing and proposed easements.
 - d. Show locations of parking, landscaping, signage and lighting.
 - e. The cross sections of all rights-of-way, streets, alleys or private access ways within the proposed development, proposed name and approximate grade of each, and approximate radius of all curves and diameter of each cul-de-sac.
 - f. Property boundary lines, distances and bearings.
 - g. Contours at five (5) foot intervals or two (2) foot intervals where, in the opinion of the County Engineer, topography is a major factor in the development.
 - h. Indication of prominent landmarks, rock outcroppings, and natural foliage which will be deciding considerations in the design of the development.

- i. If any portion of the land within the boundary of the development is subject to inundation or storm water overflow, as shown on the adopted Federal Emergency Management Agency's Flood Boundary and Floodway Maps, that fact and the land so affected shall be clearly shown on the map by a prominent note on each sheet, as well as width and direction of flow of each water course within the boundaries of the development.
- j. Existing and proposed roads, trails or rights-of-way within the development shall be designated on the map. Topography and existing developments within three hundred (300) feet must also be shown on the map.
- k. Vicinity map showing the proposed development in relation to Interstate 80, Highway 395, I-580, or a major arterial. The vicinity map shall also include a north arrow.
- l. Date, scale, and number of each sheet in relation to the total number of sheets, and the name of the person preparing the plans.
- m. Location of snow storage areas sufficient to handle snow removed from public and private street, if above 5,500 feet.
- n. All known areas of potential hazard (and the basis for delineation) shall be clearly designated on the map. Additionally, active fault lines (post-Holocene) shall be delineated on the map.
- o. Location of areas with slopes greater than fifteen percent (15%) and thirty percent (30%).
- p. Boundary of any wetland areas and/or floodplains within the project site.
- q. Note by the project engineer or design professional indicating compliance with all applicable provisions of the Washoe County Development Code.
- r. Significant Hydrological Resources. Indicate the critical and sensitive buffer zones according to Article 418 of the Washoe County Development Code.

X 8. **Site Plan Specifications for Grading:**

- a. Location and limits of all work to be done.
- b. Existing contours and proposed contours.
- c. Location of any structures on adjacent parcels that are within fifteen (15) feet of the work site's parcel boundary.
- d. Existing draining (natural and man-made) and proposed drainage patterns.
- e. Sufficient elevation data to show the drainage will work as proposed.
- f. Quantities of excavation fill and disturbed surface area shall be calculated and shown on the site plan. **Areas under buildings and pavement need not be included in these calculations.**
- g. Quantities of material proposed to be removed from the site must be shown. The proposed disposal area and the disposition of fill must be noted on the plan.
- h. Limiting dimensions of cut and fill.
- i. Proposed BMPs (Best Management Practices) for controlling water and wind erosion if a disturbed area is left undeveloped for more than thirty (30) days.
- j. Cut and fill slopes setback from the property boundary.
- k. Structure setbacks from a slope.

- X 9. **Grading:** In accordance with the grading provisions of Washoe County Code, Article 438, if the thresholds for a grading permit are met or exceeded, the grading plans shall indicate the existing and proposed grades, slope treatments (i.e. rip rap, erosion control, etc.) and drainage channels and the direction of flow. **Cross sections must be provided at a minimum of two key locations.**

- NA 9. **Traffic Impact Report (Special Use Permit and Stables):** Traffic impact reports are required whenever the proposed development project will generate 80 or more weekday peak hour trips as determined using the latest edition Institute of Transportation Engineers (ITE) trip generation rates or other such sources as may be accepted by Washoe County Engineering. Projects with less than 200 peak hour trips may not need to perform an impact analysis for future years. Traffic consultants are

encouraged to contact Washoe County Engineering and Capital Projects staff prior to preparing a traffic impact report.

10. **Landscaping:** Landscape plans may be required, for **stables**. Landscape plans may include: a soils evaluation; color and type of building material, such as fencing material; type of plant material; location of plant material and proposed maintenance schedule; size of plant material at planting and size of plant material at full maturation; type and amount of mulch material; and an irrigation plan.

a. **Planting Plan Specifications:** The planting plan must include all necessary information to satisfy Washoe County Code Section 110.412.60, Planting Standards.

- Proposed Tree Locations. Individual trees shall be graphically depicted in the proposed locations; trees shall be identified as either evergreen or deciduous; trees shall be individually labeled or coded and cross referenced to the proposed plant species in the plant legend.
- Proposed Plant Material. The preliminary plan must identify where, and a square footage amount for, one or all of the following items: trees, mulch (rock, DG or bark), seeded areas, etc.
- Existing On-Site Vegetation. In the case of large strands of trees and shrubs, individual locations may be identified with a revision cloud symbol. Smaller numbers or strands of trees (six (6) inch caliper and greater) shall be identified individually. Shrub areas and other forms of vegetation such as grasses shall be identified with a revision cloud symbol.
- Plant Legend. Legend shall include all proposed plant material, including the following: common name, botanical name, size at planting, spacing and quantity (of trees only).
- Landscape Area Legend. A summary of proposed areas and their square footages shall include: lawn, existing and or proposed paving, existing trees to be preserved, existing trees to be removed and the amount of proposed shrubs.

b. **Irrigation Plan Specifications:** The irrigation plan must include all necessary information to satisfy Washoe County Code Section 110.412.65, Irrigation Standards.

- Location, size, and specifications of water source(s), water mains, meter(s), valves, and the controller.
- Temporary or permanent water irrigation systems.
- Specifications of irrigation equipment identified by manufacturer's name and equipment identification number.
- An approved backflow prevention device is required on all landscape irrigation systems.

11. **Signage Plan:** The signage plans shall include sign elevations and delineate location, height, style, dimensions, intensity of sign lighting and finish of any proposed signage:

12. **Lighting Plan:** Show the location and configuration of all proposed exterior lighting including a detail of the parking lot light fixtures, pole heights, security lighting, and wall mounted illumination fixtures. Parking lot areas shall be depicted showing lumen isolines demonstrating compliance with the provisions of the Washoe County Development Code.

13. **Building Elevations:** All buildings and structures including fences, walls, poles and monument signs proposed for construction within the project shall be clearly depicted in vertical architectural drawings provided in accurate architectural scale. All architectural elevations from all building faces shall be presented.

14. **Submission Packets:** Two (2) packets and a flash drive. One (1) packet must be labeled "Original" and contain a signed and notarized Owner Affidavit. Any digital documents need to have a resolution of 300 dpi. If materials are unreadable, you will be asked to provide a higher quality copy. The packet shall include one (1) 8.5" x 11" reduction of any applicable site plan, development plan, and/or application map. Labeling on these reproductions should be no smaller than 8 point on the 8.5" x 11" display. Large format sheets should be included in a slide pocket(s). Any specialized reports identified above shall be included as attachments or appendices and be annotated as such.

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name:			
Project Description:			
Project Address:			
Project Area (acres or square feet):			
Project Location (with point of reference to major cross streets AND area locator):			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name:		Name:	
Address:		Address:	
Zip:		Zip:	
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
Applicant/Developer:		Other Persons to be Contacted:	
Name:		Name:	
Address:		Address:	
Zip:		Zip:	
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:		Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Special Use Permit Application
Supplemental Information
(All required information may be separately attached)

1. What is the project being requested?

2. Provide a site plan with all existing and proposed structures (e.g. new structures, roadway improvements, utilities, sanitation, water supply, drainage, parking, signs, etc.)

3. What is the intended phasing schedule for the construction and completion of the project?

4. What physical characteristics of your location and/or premises are especially suited to deal with the impacts and the intensity of your proposed use?

5. What are the anticipated beneficial aspects or affects your project will have on adjacent properties and the community?

6. What are the anticipated negative impacts or affect your project will have on adjacent properties? How will you mitigate these impacts?

7. Provide specific information on landscaping, parking, type of signs and lighting, and all other code requirements pertinent to the type of use being purposed. Show and indicate these requirements on submitted drawings with the application.

A modification to standards is requested for landscape. Due to the nature of the facility there is no need for formal parking, lighting or signage.

8. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that apply to the area subject to the special use permit request? (If so, please attach a copy.)

☐ Yes	☐ No
------------------------------	-----------------------------

9. Utilities:

a. Sewer Service	
b. Electrical Service	
c. Telephone Service	
d. LPG or Natural Gas Service	
e. Solid Waste Disposal Service	
f. Cable Television Service	
g. Water Service	

For most uses, Washoe County Code, Chapter 110, Article 422, Water and Sewer Resource Requirements, requires the dedication of water rights to Washoe County. Please indicate the type and quantity of water rights you have available should dedication be required.

h. Permit #		acre-feet per year	
i. Certificate #		acre-feet per year	
j. Surface Claim #		acre-feet per year	
k. Other #		acre-feet per year	

Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources).

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10. Community Services (provided and nearest facility):

a. Fire Station	
b. Health Care Facility	
c. Elementary School	
d. Middle School	
e. High School	
f. Parks	
g. Library	
h. Citifare Bus Stop	

**Special Use Permit Application
for Grading
Supplemental Information**
(All required information may be separately attached)

1. What is the purpose of the grading?

2. How many cubic yards of material are you proposing to excavate on site?

3. How many square feet of surface of the property are you disturbing?

4. How many cubic yards of material are you exporting or importing? If none, how are you managing to balance the work on-site?

5. Is it possible to develop your property without surpassing the grading thresholds requiring a Special Use Permit? (Explain fully your answer.)

6. Has any portion of the grading shown on the plan been done previously? (If yes, explain the circumstances, the year the work was done, and who completed the work.)

7. Have you shown all areas on your site plan that are proposed to be disturbed by grading? (If no, explain your answer.)

8. Can the disturbed area be seen from off-site? If yes, from which directions and which properties or roadways?

--

9. Could neighboring properties also be served by the proposed access/grading requested (i.e. if you are creating a driveway, would it be used for access to additional neighboring properties)?

--

10. What is the slope (horizontal/vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

--

11. Are you planning any berms?

Yes	No	If yes, how tall is the berm at its highest?
-----	----	--

12. If your property slopes and you are leveling a pad for a building, are retaining walls going to be required? If so, how high will the walls be and what is their construction (i.e. rockery, concrete, timber, manufactured block)?

--

13. What are you proposing for visual mitigation of the work?

--

14. Will the grading proposed require removal of any trees? If so, what species, how many and of what size?

--

15. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

A baseline vegetation and existing conditions report has been prepare for this project (with re-vegetation recommendations). Additionally, a proposed seed mix has been provided for revegetation and erosion control purposes on the project plans in Tab B with this application.

16. How are you providing temporary irrigation to the disturbed area?

17. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

18. Are there any restrictive covenants, recorded conditions, or deed restrictions (CC&Rs) that may prohibit the requested grading?

Yes	No	If yes, please attach a copy.
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Project Narrative

Tab A

Project Overview

Requested is a special use permit (SUP) to allow for utility services facility on parcel number 164-342-09. The subject parcel is 11.08+/- acres located on Alexander Lake Road in Southeast Reno, Nevada. The project entails the replacement of a 2.5M gallon water tank with the phased installation of two 1.25M gallon tanks.

The single existing 2.5M gallon steel tank provides critical drinking water storage and distribution pressures for the community. However, it has exceeded its service life and is in a deteriorated condition, now needing replacement. The replacement tanks use modern design, and the dual configuration provides redundancy such that one tank can remain in service during maintenance or repairs, minimizing disruptions to the community. This project will reduce failure risk and improve system reliability for this critical water infrastructure.

The project will be constructed in multiple phases. Phase 1 includes initial permitting (i.e. this SUP) followed by site grading, piping, and valve installations to accommodate the new tanks. Phase 2 includes construction of the first new tank adjacent to the existing tank and connection to the piping and appurtenances installed in Phase 1; the new tank will be placed into operation parallel with the existing tank. Phase 3 includes demolition of the existing tank, construction of the second new tank, and connection to piping and appurtenances installed in Phase 1; both tanks will be operational at this time. Phase 4 includes final grading and finishing of the site.

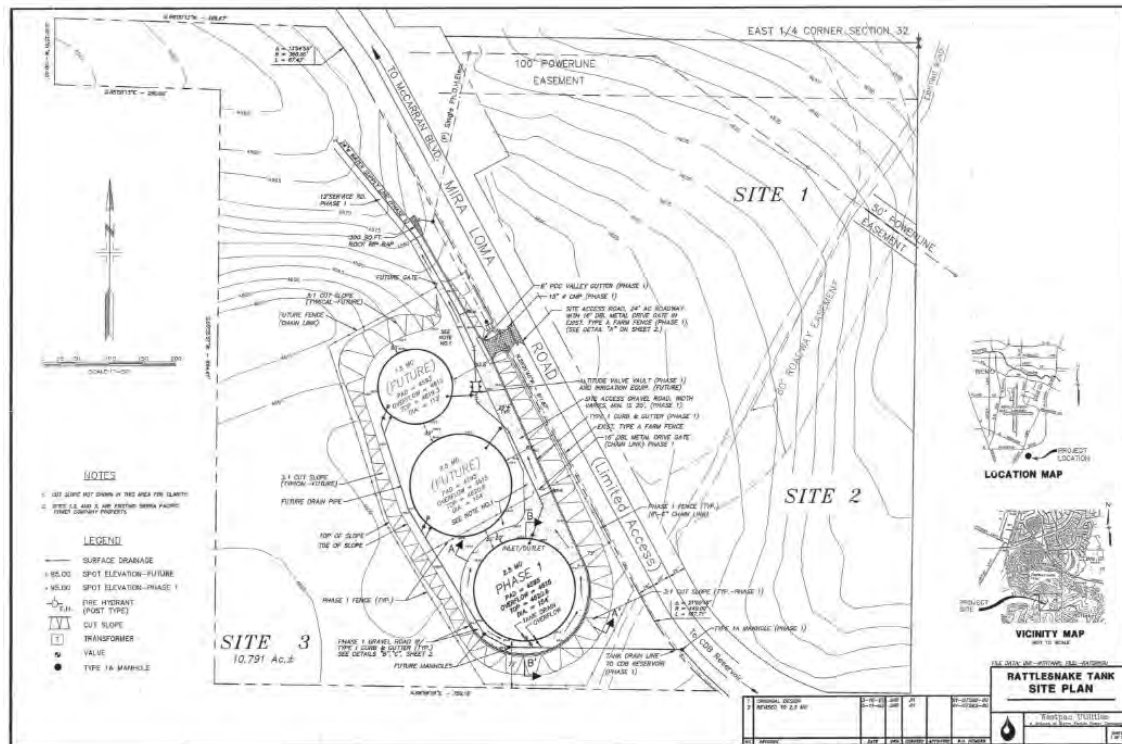
The proposed use is classified as under "Utility Services" and is an allowed use with the approval of a Board of Adjustment SUP.

The existing 2.5M gallon water tank at the site was approved through a special use permit (SPB5-20-92). Under prior approval, the site was envisioned and approved to have three total water tanks (two 2.5M gallon and one 1.25M gallon tanks). Following is a copy of the site plan showing the three tanks that were approved in 1992. A copy of the approval minutes and site plan information is provided in Tab D with this application documenting this past approval.

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

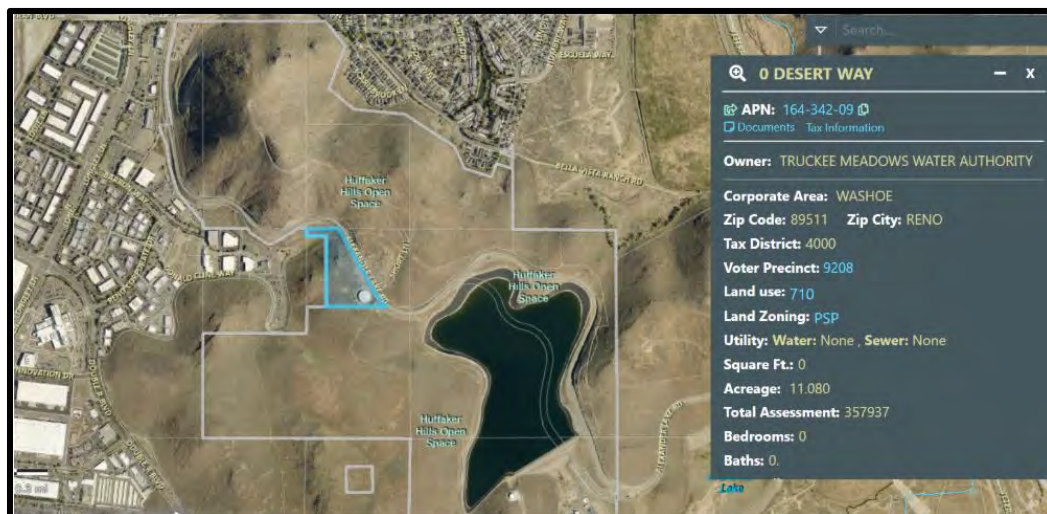
PROJECT NARRATIVE

Previously Approved Site Plan (1992 – SPB5-20-92)



Property Location & Surroundings

The subject parcel is located in Reno, Nevada and is adjacent to Alexander Lake Road, east of the Reno Corporate Center, a commercial subdivision. The subject parcel is 11.080+/- acres and is recognized by the Washoe County Assessor's Office to be APN 164-342-09. A Vicinity Map showing the project location is provided below.



Project Requests

Requested is a **special use permit** to allow for a Utility Services facility on the site, more to the point, proposed is the eventual replacement of the existing outdated 2.5M gallon water tank with two 1.25M gallon tanks. Utility Services are allowed with the approval of an SUP within the subject property zoning (PSP). It is requested that an 8-year approval of the SUP be granted and the rationale for this is provided in the Phasing section of this narrative. Additionally requested are special use permits for hillside development (Article 424) and grading (Article 438). Specific information relating to each requested SUP item is provided below:

SUP for Utility Services (Water Tanks)

The proposed water tank improvements fall under the Washoe County Development Code categorization as a Utility Service. Utility Services are defined as uses that provide electricity, water or other liquids, or gas, through wires, pipes or ditches through utility services involving major structures that have flexibility in location. The proposed water tank improvements at the subject site qualify as a Utility Service land use. These uses require approval of a special use permit through the board of adjustment.

SUP for Grading

The project development plans propose grading that will cross thresholds that are identified in the recently updated Article 438. The specific sections of Article 438 that are requested for consideration and approval with this application area are as follows:

- 110.438.28 (a)(1)(I)(B) – Area – Grading of twenty (20) percent or more (up to a maximum of four (4) acres) of the area of the parcel on parcels six (6) acres or greater in size.
- 110.438.28 (a)(2) – Any Driveway or Road that traverses any slope of thirty (30) percent or greater (steeper) along a cumulative linear distance of fifty (50) feet or more.

The above two thresholds constituting major grading are crossed with the proposed development plan. It should be noted that much of the development area was previously disturbed, as can be evidenced by the aerial photo to the right. A total of 3.15+/- acres of the 11.08+/- acre site is proposed to be disturbed/re-graded to accommodate for the new water tanks and their construction, including temporary stockpiling and site access.



The temporary stockpile area is intended to provide a location for excess material to be stored between the first tank construction (Phase 2) and the second tank construction (Phase 4). After full buildout of the project any remaining material will be removed.

SUP for Hillside Development

The development area on the site (including the temporary stockpile area) consists of 3.15+/- acres. The future fenced area of the site consists of only 2.45+/- acres.

The existing slopes within the development area of the site (the 3.15+/- acres) that range from 0% to 15% account for 2.25+/- acres (+/-72%). Per 110.424.05(1)(a), applicability of hillside ordinance review comes into play on properties containing slopes in excess of fifteen (15) percent or greater on 20 percent or more of the site. Given that the development site holds existing slopes of greater than 15% on +/-28% of the site, the hillside ordinance and review apply to this request.

While the hillside ordinance applicability threshold is tripped for this site, it should be recognized that the steeper slope areas associated with the project site were manufactured to accommodate for the original development of the existing water tank. Below is a slope analysis exhibit showing the project development site with slope ranges and the existing site improvements shown. The organized, and previously manufactured, steep slope areas can be readily recognized to conform with the existing tank size and shape and the accesses into the site and around the tank. The steeper slope areas of the site can easily be seen to not be natural slopes.

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

PROJECT NARRATIVE



EXISTING SLOPES COLOR RAMP KEY				
#	MIN. SLOPE	MAX. SLOPE	AREA	COLOR
1	0%	14.9%	2.25 AC 72%	Green
2	15%	19.9%	0.07 AC 2%	Yellow
3	20%	24.9%	0.07 AC 2%	Orange
4	25%	25.9%	0.22 AC 7%	Red
5	30%	>30%	0.54 AC 17%	Dark Red

Hillside Development Site Analysis

Section 110.424.15 requires that a site analysis be provided for hillside development properties. Following is the site analysis information that is required by code.

- (1) Major topographic conditions including ridgelines, ravines, canyons and knolls;

None of these topographic conditions exist within the development area of the site.

- (2) Preliminary geological conditions including major rock outcroppings, slide areas and areas underlain with faults that have been active during the Holocene epoch of geological time;

None of these conditions exist within the development area for this project. As such, this consideration is not applicable.

- (3) Preliminary soil conditions including soil type, expansiveness, slumping, erodibility and permeability;

A Geotechnical Report has been provided with this application. Please see report in Tab C with this application package.

- (4) Significant surface hydrological conditions including natural drainage courses, perennial streams, floodplains, wetlands and ponding areas;

The site is located near the crest of a hill and does not possess these conditions. There are minor drainage courses that exist around the site that have been previously accommodated through appropriate routing and direction of flow for the existing tank facility that is located on the site. Please refer to the Conceptual Drainage Study in Tab C of this application package.

- (5) The location and types of significant vegetation including known rare and endangered plant species and general plant communities;

A baseline vegetation and existing conditions report was prepared with this application, and no rare or endangered plant species were recognized on the subject property. Please find the Baseline Vegetation Report in Tab C.

- (6) Habitat areas for rare or endangered animal species;

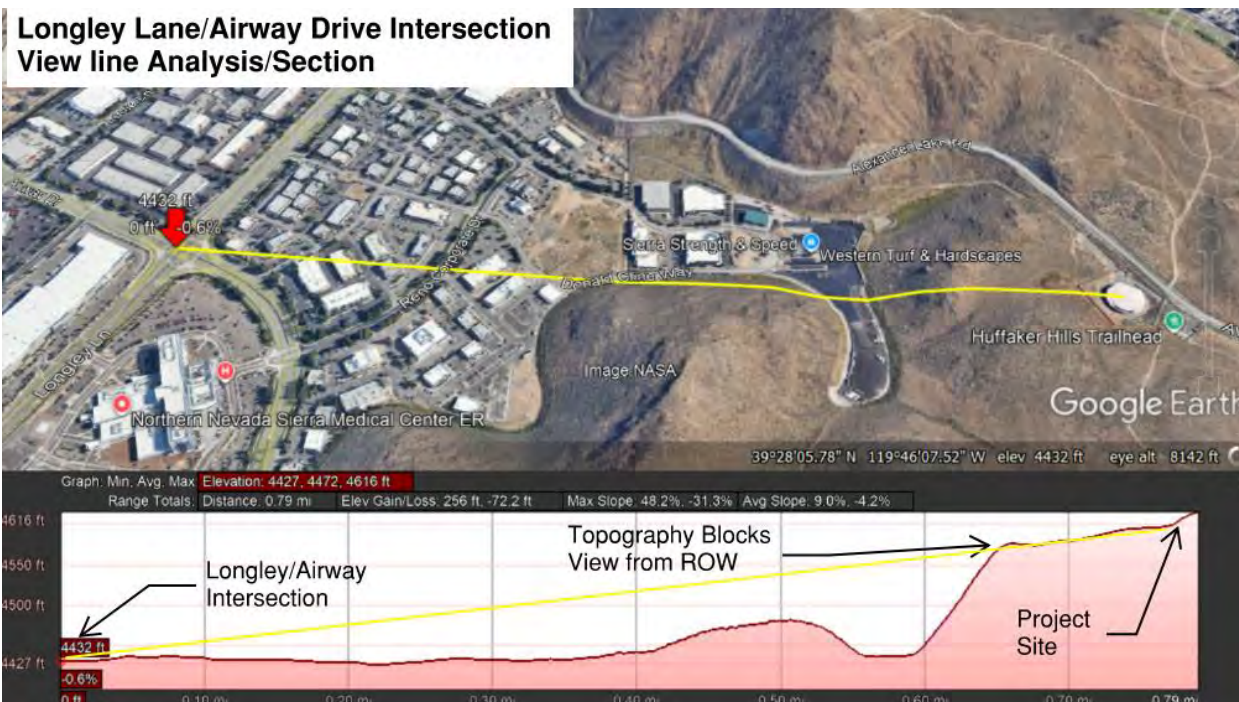
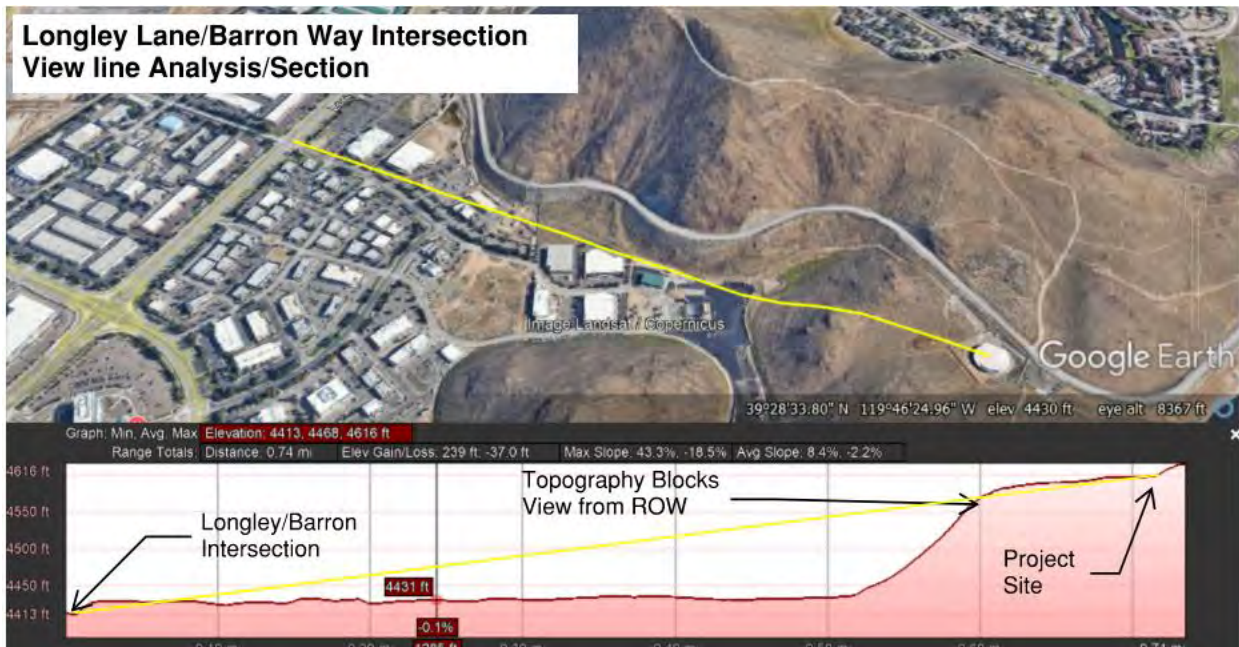
Review of the TMRPA plan and NDOW mapping did not indicate that any rare or endangered animal species were of concern on the subject property.

- (7) Preliminary viewshed analysis including cross sections of views to and from the development site from all major roadways within one (1) mile of the project site, and from major focal points on the project site;

The following view line sections from the Longley Lane right-of-way help to illustrate that the site is concealed due to existing topography. Additionally, buildings located along the rights-of way in the area provide additionally visual obstruction of views to the site. Topography to the north, east and south does not provide any view toward the site as hills completely block off any view of the site. The site can only be seen from Alexander Lake Road, directly adjacent to the site and photos are provided in the Existing Site Condition Photos section of this narrative.

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

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(8) How the development responds to the unique conditions of the hillside; and

The project site has previously been highly disturbed to accommodate the existing tank, access and associated facilities. It is estimated that if this site were not previously disturbed, the slopes of the development area would not trip the hillside ordinance

consideration. Given that a TMWA tank facility exists on the site and the site was previously approved, disturbed and contoured with steep slopes to accommodate the prior development, the proposed development appropriately recontours the site to meet the needs of the TMWA tank improvements. The recontouring of the site to meet the needs for the proposed improvement plan appropriately work with the site, which is not “unique” in any way.

- (9) A slope analysis, submitted on a topographic map with contour intervals of at least five (5) feet for planning purposes. This analysis shall indicate the location and amount of land included within the following slope categories, tabulated in acres:
- (i) 0 - 15 percent;
 - (ii) 15 - 20 percent;
 - (iii) 20 - 25 percent;
 - (iv) 25 - 30 percent; and
 - (v) Greater than 30 percent.

A slope analysis map meeting the requirements of this consideration has been prepared for this application and is provided in Tab B.

- (b) Developable Area Map. A developable area map, prepared pursuant to Section 110.424.20(b).

The items noted under 110.424.20(b) to determine developable areas include slopes, landslide potential, faults, habitat areas for rare or endangered plant or animal species and significant streams, ravines or drainageways. A slope analysis map has been provided as part of this application package and it has been previously noted that existing steep slopes on this property were previously manufactured during the construction of the existing tank. The other considerations in determination of developable area do not exist on the subject property.

- (c) Constraint and Mitigation Analysis. A detailed analysis of how the identified constraints will be mitigated and incorporated into the project's design.

As there are no constraint areas that would preclude development of the subject property/development area, no mitigation analysis needed.

(d) Washoe County Master Plan Amendment. All applicants proposing a hillside development requiring a Washoe County Master Plan amendment shall enter into a development agreement with Washoe County pursuant to Article 814, Development Agreements. Supplemental to all other requirements, development agreements for hillside development shall contain the following:

- (1) Agreement by the applicant to seek a Washoe County Master Plan amendment;
- (2) Agreement by Washoe County to process a Washoe County Master Plan amendment request pursuant to the requirements listed in Article 820, Amendment of Master Plan;
- (3) Site analysis as required under Section 110.424.15(a);
- (4) Developable area analysis as required under Section 110.424.20; and
- (5) Calculation and location of density being proposed.

The application request does not include a master plan amendment. As such, this consideration is not applicable to the request.

(e) Detailed Contour Analysis. As determined through a pre-application meeting between the applicant and the Department of Community Development, a topographic map with more or less detailed contour intervals may be required by the Director of Community Development for design purposes.

The project site mapping contains contours/topographic mapping necessary for the project grading, slope and cut and fill mapping. No additional mapping detail was requested by staff or the Director during the pre-development meeting for this project. Please see the proposed site grading map with contours in Tab B.

Landscaping/Screening (Modification of Standards Requested)

A modification of standards related to landscaping is requested as part of this application. The area surrounding the project location is largely devoid of trees and shrubs beyond native vegetation. The photo below provides a view of the Huffaker Hills Trailhead adjacent to the site and the existing Rattlesnake Water Tank in the background. The proposed revegetation of the Rattlesnake tank site is proposed to

match existing area conditions (as shown in the photo below). The existing landscape photo confirms that traditional landscape treatments would be out of place.



The topographical location of the site shields it from view from every direction unless you are viewing from many miles away/across the valley and moderately elevated to the valley floor. This locational situation provides the necessary elevation/grade differential needed for effective water tank service/pressure but also helps to screen the overall site from view from virtually all directions, unless traveling past the tank on Alexander Lake Road. It was previously established that the surrounding existing landscaping is comprised of native vegetation, with no trees or ornamental shrubs. As such, requiring such code-typical planting would be out of place for the location of the project.

A full waiver from traditional landscape treatment is proposed and it is requested that only revegetation of the disturbed areas of the site be required to match the existing vegetation conditions. Techniques for revegetation can and will be incorporated that will provide for revegetation to be established without temporary irrigation. Revegetation specifications and seed mixes are provided on the Proposed Improvement Plans in Tab B. The Baseline Vegetation Report in Tab C provides justification for the proposed approach to revegetation.

Fencing

Fencing currently exists around the existing tank site. With the proposed improvements to the property, the fenced area will expand to the north, creating additional room within the secure area for the new tanks. It is proposed that an 8-foot chain link fence with 1-foot of three strand barbed wire that will be angled outward along the fenced perimeter (9 feet total height), as required to meet Homeland Security requirements for community water supply facilities (critical infrastructure) will be provided around the project site. It is requested that slats or other additive screening not be required with

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

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the chain-link fencing as they tend to degrade quickly, become a maintenance issue and can detract from a positive view of the site, over time. The site has and will continue to operate as a clean and organized site with nothing distasteful or meritorious of screening with a solid fencing treatment. Finally, the separation from any additional formal uses (residential, commercial, industrial, etc.) minimizes the benefit obtained by such screening.

Parking

The Alexander Lake Road water tank(s) are not a typical use type and do not require any dedicated parking spaces. The only time that any vehicles are expected to visit the site are during times of scheduled or emergency maintenance or testing of the equipment at the site. Adequate space for parking and maneuvering vehicles is provided within the site boundaries, around the tank(s).

Access and Paving

Existing access to the site is located at the southeastern corner of the site, via the Huffaker Hills Trailhead parking lot. With the improvements proposed, primary access to the site will be relocated to the north of the tank (at the site of an existing man-gate). The access gate on the south side of the site is proposed to be permanently eliminated, and the access to the site will be established at the existing northern man-gate location. To the right is an aerial image identifying each of these existing gate locations.



The drive route into the site and around the two (2) new tanks is proposed to be asphalt. Turning radius for large vehicles or small loaders is provided in the Site layout design.

Lighting & Signage

There will be no lighting at the project site. The tanks are operated remotely and do not require access or work outside of daylight hours. Any signage incorporated would be

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minor in nature. Any signage employed at the site would include “no trespassing” or similar minor/small signage attached to the perimeter fencing. Such signage would be minor in size and typical to what TMWA would employ at any similar site.

Tank Appearance and Colors

The proposed tanks will have a height of approximately 36+/- feet, measured from finished pad grade to the tank roof peak. Appurtenances such as vents and safety railings may extend an additional 3 to 4 feet above the roof. One of the tanks will include a single-mast communications antenna to support TMWA’s system monitoring and operational control. The antenna is anticipated to extend approximately 5 to 10 feet above the tank roof on one side. The final antenna height will be determined based on line-of-sight requirements necessary to ensure reliable communication.

Historically, water tanks and similar utility structures have often been finished with darker exterior colors to better blend with surrounding hillsides or natural backdrops. However, more recent evaluations have identified unintended consequences associated with darker color schemes. As a result, TMWA has shifted toward the use of lighter-colored coatings for water storage tanks.

TMWA’s current standard for water storage tanks is to utilize either a Cantilever Tan or Olivine Green exterior shell paired with a white roof. The Cantilever Tan color is very similar to the existing tank color, maintaining visual continuity with the current facility. These color schemes have been developed to balance visual compatibility with the surrounding environment and optimal operational performance. This updated approach reflects TMWA’s current standard practice, as lighter colors help maintain water quality by reducing heat absorption and keeping stored water at lower temperatures. Following are two photos of recently constructed tanks that use the Cantilever Tan and white roof coloring (Lemmon Valley Tank (left photo) and Hidden Valley tank (right photo)).

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The proposed white roof, with a high reflectivity, significantly reduces internal tank temperatures. Lower temperatures not only support water quality but also protect the tank structure by reducing thermal stress on coatings and steel components. This helps minimize corrosion and extends the overall service life of the asset.

In contrast, darker coatings can increase water and steel temperatures, which may accelerate chlorine decay, promote biological activity, and negatively affect water quality. Elevated temperatures can also shorten coating life and increase the risk of corrosion.

Grading & Drainage

Site grading for all phases of the project will consist of +/- 5,100 CY of cut and 3,300+/- CY of fill for a net earthwork volume of 1,800+/- CY of cut material for the site. Any excess material generated from the grading and construction of the first tank will be stored in the temporary stockpile area identified on the project plan sheets. Any net cut material remaining at the completion of all phases of the project will be off-hauled from the site once the project is fully completed (all phases). Grading area, volume and depth are not estimated to trip major grading thresholds identified in Article 438 of the Washoe County Development Code. The preliminary grading plan and a cut and fill map are provided in Tab B of this application package.

The site will be graded to drain via sheet-flow away from the proposed tanks into curb and gutter that discharges to a detention area on site. The detention area was sized to attenuate flows such that the calculated net increase in stormwater discharge from the proposed site modifications does not exceed that of the existing site. The detention area is riprap lined and has a discharge pipeline that conveys flows to the site's existing dry-wash channel. Preliminary design of the drainage features is provided in the Conceptual Drainage Study in Tab C. The proposed preliminary design is shown and

noted on the preliminary grading and drainage plan (see sheet C.5 in Tab B). The detention area provides 675 CF of storage below a 12" freeboard.

Phasing

The project is proposed to be constructed in four (4) phases, the first of which includes this overall conceptual design review (SUP process). A Preliminary Phasing Plan is provided in Tab B with the civil engineering sheets (see sheet 1-2). A copy of the phasing legend from that plan is provided below for quick reference along with a description of the final design and construction phases and the anticipated number of years that are believed to be necessary for final construction.

- Phases 1-2 involve site grading, piping installations, and construction of the first new tank adjacent to the existing tank. This first construction phase has been funded by TMWA and is expected to be designed and constructed—and the new tank placed in service—within the first 2 years after the approval of the SUP. This matches the typical 2-year timeframe for SUP approvals within Washoe County.
- Phases 3-4 involve the removal of the existing 2.5M gallon water tank, construction of the second 1.25M gallon tank, and final re-grading and finishing of the site. These phases have not yet been funded and that process could take some time for approval. As such, it is requested that an additional 6 years be provided for the latter two phases (Phases 3 and 4) bringing the total requested timeframe for approval to 8 years.

Neighborhood Meeting

Due to the location of the site with no developed properties within proximity of the development, a waiver to the neighborhood meeting requirement was requested from the Community Development Department. The request for a waiver was reviewed and approved on January 12, 2026. A copy of the email message confirming this waiver for a neighborhood meeting is provided in Tab D with this application package.

Existing Site Condition Photos

The first three photos provided in this section show views toward the site from the nearest major public rights-of-way. These first photos help to support the view line analysis that was provided in the Hillside Development Site Analysis section. These photos confirm that the site is not visible from the main surrounding public streets and developed areas.



View toward site from Longley, approximately 650' south of the McCarran Blvd. intersection.



View toward the project site from the west side of Longley between Louie Lane and Baron Way.

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View toward the project site from Baron Way, east of Reno Corporate Dr. intersection.

Following are photos of the project site, showing the existing site conditions as viewed from the right-of-way where the site is visible (Alexander Lake Road).



View of tank site from Alexander Lake Road - closest view from public ROW to tank site.

3

View of tank site from Alexander Lake Road - first view of tank from the north.



View of tank site from Alexander Lake Road - first view of tank from the south.

Master Plan and Zoning Conformance

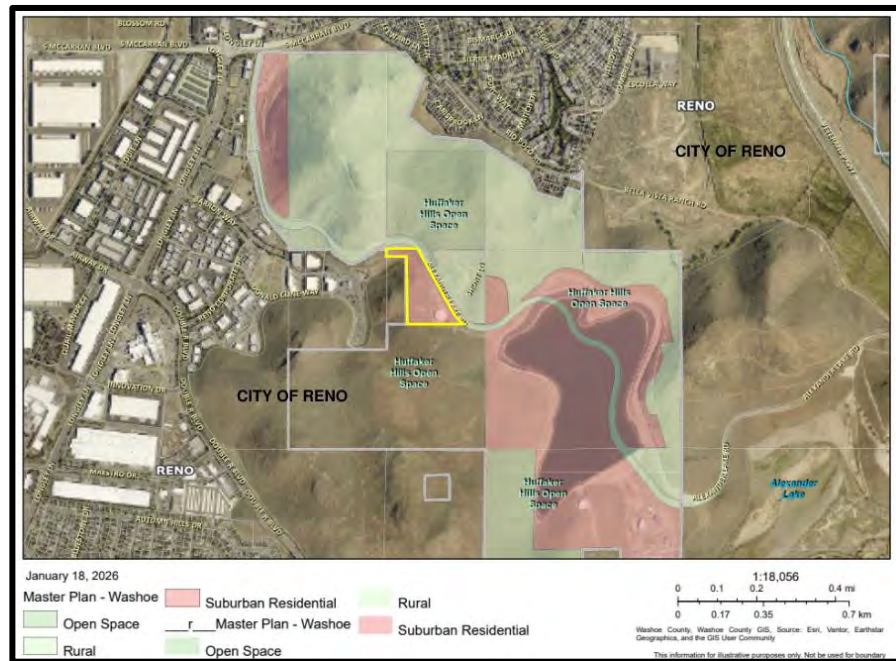
The subject property is master planned Suburban Residential and zoned Public and Semi Public Facilities. The use that is proposed under this special use permit application is all allowed with the approval of a Board of Adjustment special use permit.

TMWA – RATTLESNAKE TANK IMPROVEMENTS - SUP

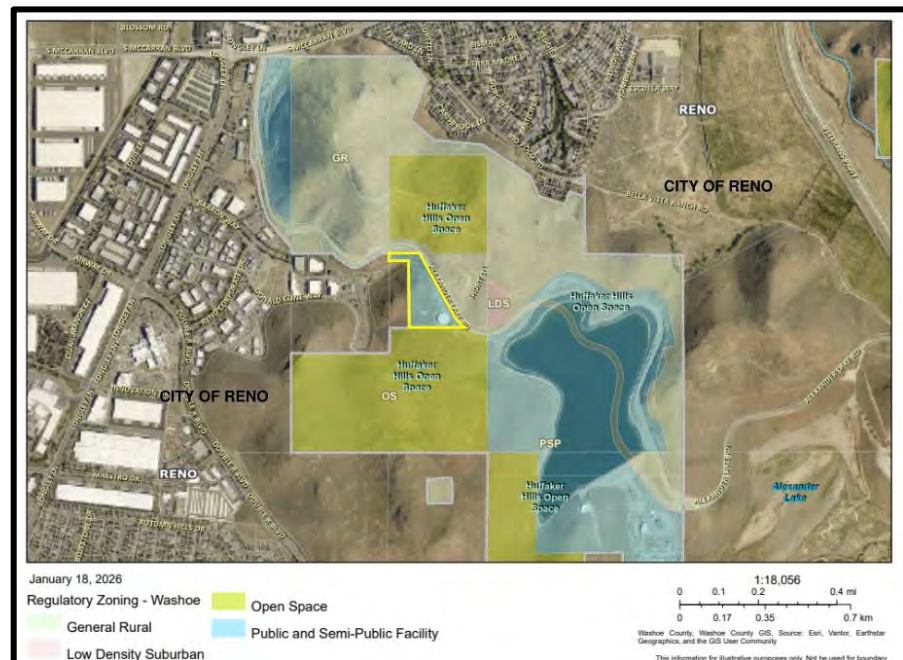
PROJECT NARRATIVE

Images of the Existing Master Plan and Existing Zoning of the subject property and surrounding area are provided on the following page.

Existing Master Plan Exhibit



Existing Zoning Exhibit



Development Statistics

Total Subject Parcel Area	11.080+/- AC
Total Fenced/Developed Area	2.45+/- AC
Total Disturbed/Development Area	3.15+/- AC

Legal Findings Review

Section 110.810.30 Findings. Prior to approving an application for a special use permit, the Planning Commission, Board of Adjustment or a hearing examiner shall find that all of the following are true:

- (a) Consistency. The proposed use is consistent with the action programs, policies, standards and maps of the Master Plan and the applicable area plan;

The proposed use is allowed within the Suburban Residential and public and Semi-Public Facilities Master Plan and zoning designations on the subject property. The use allows for utility services to be provided throughout the County's various land uses from residential to commercial or industrial. Due to the very specific nature of the proposed facility, there are only a limited number of policies that are applicable to the project within the Envision Washoe 2040 Master Plan. The identified, applicable policies are identified below.

PFS Principle 1. Cooperatively manage water resources for long-term sustainability.

- 1.1. Coordinate implementation of TMWA's 2020-2040 Water Resources Plan and the WRWC Comprehensive Regional Water Management Plan with TMWA and WRWC.**
- 1.7. In cooperation with TMWA, continue to investigate and evaluate potential future water management projects consistent with, and in addition to, TROA to further increase the region's water security**
- 1.11. Support WRWC and TMWA planning efforts to ensure that current and projected water demands can be met in a sustainable manner.**

PFS Principle 2. Provide sufficient water to meet the current and future needs of County residents.

- 2.1. **Balance new water supply commitments and existing commitments with sustainable sources of water supply.**
- 2.2. **Support TMWA's conjunctive use plan and manage surface water and groundwater supplies for municipal and industrial use to withstand at minimum the worst drought cycle of record.**

PFS Principle 3. Provide adequate service to developments and maintain a communicative, transparent planning process.

- 3.1. **Identify barriers to service delivery goals to meet Washoe County's minimum service standards for potable water, wastewater, storm water and flood, schools, and transportation as depicted in the Regional Plan List of Facilities and Service Standards. (Policy Highlighted in SW Area Plan Policies)**
 - (b) Improvements. Adequate utilities, roadway improvements, sanitation, water supply, drainage, and other necessary facilities have been provided, the proposed improvements are properly related to existing and proposed roadways, and an adequate public facilities determination has been made in accordance with Division Seven;

This proposed project is an upgrade and update to the existing system in the area.

- (c) Site Suitability. The site is physically suitable for the type of development and for the intensity of development;

The subject site is already used as a TMWA water tank location. The elevation of the existing tank has been shown to be appropriate for water supply and pressures to the uses in the tank's service zone and the proposed improvements are fully expected to continue that positive, necessary service level.

- (d) Issuance Not Detrimental. Issuance of the permit will not be significantly detrimental to the public health, safety or welfare; injurious to the property or improvements of adjacent properties; or detrimental to the character of the surrounding area; and

The proposed use will not present a situation that would be significantly detrimental to public health, safety or welfare, be injurious to the property or improvements of adjacent properties or detrimental to the character of the surrounding area.

- (e) Effect on a Military Installation. Issuance of the permit will not have a detrimental effect on the location, purpose or mission of the military installation.

Not applicable – There are no military installations within the area of the project.

Project Maps and Exhibits

Tab B

SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS

WASHOE COUNTY

NEVADA

TMWA PROJECT NO.: 14-0044

INDEX OF SHEETS

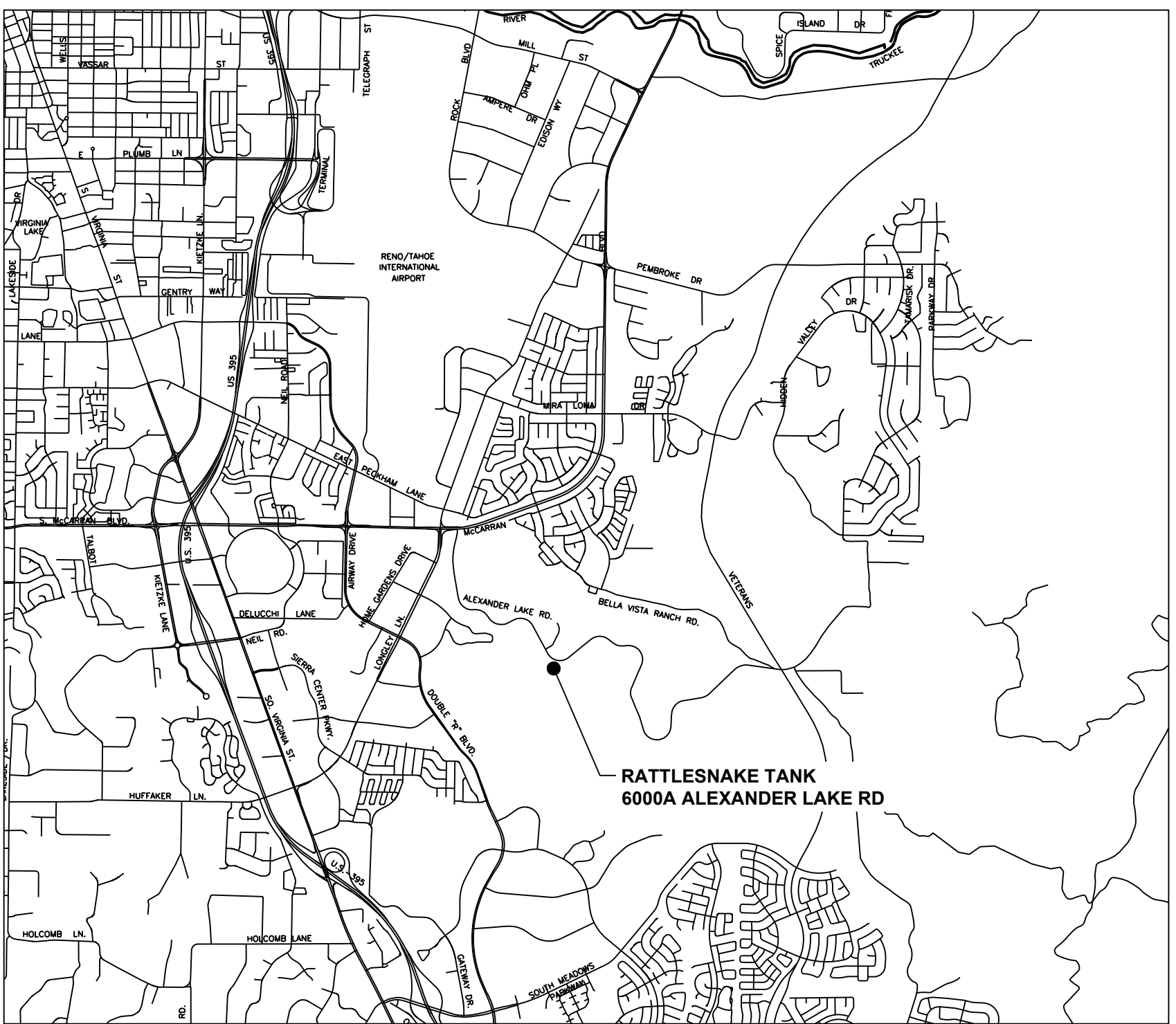
SHEET NO.	DRAWING NO.	DESCRIPTION
1	G0	COVER SHEET
2	C1	NOTES, ABBREVIATIONS, AND LEGEND
3	C2	OVERALL EXISTING CONDITIONS
4	C3	EXISTING SITE SLOPE MAP
5	C4	PRELIMINARY SITE OVERALL
6	C5	PRELIMINARY GRADING PLAN
7	C6	PRELIMINARY CUT - FILL MAP
8	C7	PRELIMINARY SITE ELEVATIONS

BASIS OF BEARINGS

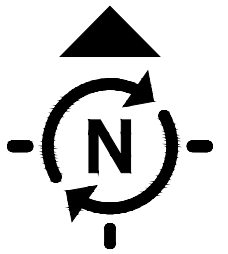
THE BASIS OF BEARINGS FOR THIS SURVEY IS NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE NAD83(94) BASED UPON REAL TIME KINEMATIC GPS OBSERVATIONS, OBSERVED JANUARY 20, 2026 USING A SURVEY GRADE DUAL FREQUENCY GPS MODIFIED BY A COMBINED FACTOR OF 1.000197939, SCALED FROM 0.00N, 0.00E, AND CONVERTED TO U.S. SURVEY FEET. ALL DIMENSIONS ON THIS MAP ARE GROUND DISTANCES.

BASIS OF ELEVATIONS

DATUM: NAVD 88
PROJECT BENCHMARK = CITY OF RENO
BENCHMARK No. 2914
HAVING AN ELEVATION OF 4440.18



VICINITY MAP
SCALE: NTS



ENGINEER
950 SANDHILL ROAD, SUITE 100
RENO, NEVADA 89521
TEL: 775.827.6111
INFO@LUMOSINC.COM



NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER AUTHORITY
RETURN UPON COMPLETION OF PROJECT
(Per Homeland Security Act)

G0
SHEET 1 OF 8

PROJECT #12455.000

SUP SUBMITTAL



1355 CAPITAL BLVD. PO BOX 30013
RENO, NEVADA 89520-3013
PHONE: 775-834-8080

NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER AUTHORITY RETURN
UPON COMPLETION OF PROJECT
(Per Homeland Security Act)

JOHN ZIMMERMAN
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L:\APProj\12455.000 - Rattlesnake Tank TMWA Phase 1A\3-Design\DWG\Civil\Sheets\TILES NOTES AND DETAILS.dwg
Jun 03, 2026 - 5:32pm

GENERAL NOTES

- GENERAL NOTES
- CONTRACTOR SHALL PROVIDE NOTICE OF CONSTRUCTION TO RESIDENCES OF THE PROJECT AREA AT A MINIMUM OF TWO WEEKS PRIOR TO START OF CONSTRUCTION.
 - ANY DISCREPANCIES BETWEEN THESE DRAWINGS AND THE ACTUAL FIELD CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE TMWA PROJECT INSPECTOR AND THE TMWA PROJECT MANAGER SUFFICIENTLY AHEAD OF THE WORK AS TO AVOID DELAYS AND STANDBY COST TO TMWA. PROCEEDING WITH WORK THAT DEVIATES FROM THE PLANS, EXCEPT FOR AN EMERGENCY LIFE-SAFETY CONDITION, SHALL BE AT THE SOLE RISK OF THE CONTRACTOR FOR THE COST TO REPLACE, IF DEEMED UNACCEPTABLE BY THE TMWA PROJECT MANAGER. THE CONTRACTOR SHALL BE REQUIRED TO POTHOLE ALL UTILITIES TO VERIFY SIZE AND DEPTH, THE COST OF POTHOLING SHALL BE INCIDENTAL TO THE WORK NOT SUBJECT TO ADDITIONAL PAYMENTS.
 - CONTRACTOR SHALL COMPLY WITH ALL FEDERAL, STATE, AND TMWA SAFETY REGULATIONS AND SHALL MAINTAIN THE WORK AREA IN A SAFE CONDITION 24 HOURS PER DAY UNTIL THE PROJECT IS COMPLETE. WORKER AND PUBLIC SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, NOT TMWA.
 - THE CONTRACTOR IS RESPONSIBLE FOR IMPLEMENTING AND MAINTAINING STORM WATER POLLUTION PREVENTION BMP'S, WATER FOR DUST CONTROL, MOISTURE CONDITIONING OF BACKFILL, AND OTHER CONSTRUCTION PURPOSES (EXCEPT FOR FLUSHING, TESTING, AND DISINFECTING PURPOSES) SHALL BE FURNISHED FROM AN APPROVED CONSTRUCTION WATER SOURCE AT THE EXPENSE OF THE CONTRACTOR.
 - CONTRACTOR SHALL CONTROL DUST IN ACCORDANCE WITH WASHOE COUNTY DISTRICT HEALTH DEPARTMENT REGULATIONS. CONTRACTOR IS ALSO RESPONSIBLE FOR ANY STORMWATER PERMIT (SWPPP) REQUIREMENTS. REFERENCE GENERAL CONDITION SECTION 6.17 FOR DUST CONTROL REQUIREMENTS.
 - CLEAN UP AND SITE RESTORATION WORK SHALL BE PERFORMED IN THE PRESENCE OF THE TMWA PROJECT INSPECTOR. THE CONTRACTOR SHALL NOT DEMOBILIZE HIS CREW AND EQUIPMENT UNTIL THE SITE HAS BEEN INSPECTED AND APPROVED BY THE TMWA PROJECT INSPECTOR.
 - THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AT ALL TIMES EMERGENCY ACCESS TO THE PROJECT SITE TO THE SATISFACTION OF THE OWNER.
 - THE CONTRACTOR SHALL UTILIZE CONSTRUCTION TECHNIQUES TO MINIMIZE GRADING, VEGETATION REMOVAL, AND SURFACE DISTURBANCE. CONTRACTOR WILL BE RESPONSIBLE FOR THE RESTORATION OF ALL REVEGETATION (SEE REVEGETATION NOTES).
 - THE LOCATION AND/OR ELEVATION OF EXISTING UTILITIES AND FEATURES AS SHOWN ON THESE IMPROVEMENT PLANS IS BASED UPON THE BEST INFORMATION AVAILABLE TO THE ENGINEER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY THESE LOCATIONS AND ELEVATIONS. POTHOLED INFORMATION (INCLUDING DEPTH, SIZE, AND MATERIAL) MUST BE PROVIDED TO THE TMWA ENGINEER.
 - THE CONTRACTOR SHALL OBTAIN ALL PERMITS AS REQUIRED BY THE JURISDICTIONAL AGENCY. CONTACT CITY OF RENO PRIOR TO CONSTRUCTION AND OBTAIN APPROVAL OF A TRAFFIC CONTROL PLAN. THE PROJECT WILL REQUIRE AN EXCAVATION/CROACHMENT PERMIT WHICH SHALL BE OBTAINED AND PAID FOR BY THE CONTRACTOR. REFERENCE GENERAL CONDITION SECTION 6.08 AND SUPPLEMENTARY CONDITIONS FOR PERMITTING REQUIREMENTS. TRAFFIC CONTROL AND WORKER/PUBLIC SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR AT ALL TIMES.

WATER GENERAL NOTES

- THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT THE INTEGRITY OF EXISTING WATER LINES DURING CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE ALL MISCELLANEOUS PIPE, FITTINGS AND APPURTENANCES AS REQUIRED TO COMPLETE THE UTILITY WORK AS SHOWN.
- TMWA DOES NOT GUARANTEE EXISTING VALVES WILL PROVIDE A COMPLETE SHUTDOWN. THE REMOVAL OF NUISANCE WATER TO CONDUCT THE WORK SHALL BE INCIDENTAL TO THE MOST APPROPRIATE BID ITEM. EXCESSIVE AMOUNTS OF WATER SHALL BE EVALUATED BY THE TMWA INSPECTOR FOR THE MOST APPROPRIATE ACTION TO PURSUE.
- ALL WATER MAINS SHALL BE TESTED FOR PRESSURE AND LEAKAGE PER AWWA C600 & C605. TEST PRESSURE SHALL BE AS INDICATED IN CONTRACT DOCUMENTS AND NO LESS THAN 150 PSI ON MAINS NOT SPECIFICALLY CALLED OUT. DUCTILE IRON PIPELINES MUST BE PRESSURE TESTED ACCORDING TO AWWA STANDARD C600 AND PVC PIPELINES MUST BE PRESSURE TESTED ACCORDING TO AWWA STANDARD C605 PER NAC 445A.67145 (7). FOR OTHER MATERIALS, THE PIPELINES MUST BE PRESSURE TESTED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION PER NAC 445A.67145 (7)(C).
- BACTERIOLOGICAL TESTING, DISINFECTION, AND FLUSHING, FOR POTABLE WATER LINE CONSTRUCTION, SHALL BE PERFORMED PER AWWA C651. TMWA SHALL BE RESPONSIBLE FOR PERFORMING AND FUNDING UP TO TWO BACTERIOLOGICAL TESTS PER RUN OF PIPE CONSTRUCTED. IF MORE THAN TWO TESTS ARE REQUIRED, THE COST SHALL BE PLACED UPON THE CONTRACTOR. TWO (2) BACTERIOLOGICAL TESTS SHALL BE CONDUCTED PER TEST SEGMENT. BACTERIOLOGICAL TEST SAMPLES WILL NOT BE COLLECTED ON FRIDAYS, WEEKENDS, TMWA OBSERVED HOLIDAYS, OR THE DAY BEFORE A TMWA OBSERVED HOLIDAY, UNLESS AUTHORIZED BY THE TMWA INSPECTOR. BACTERIOLOGICAL TESTING OF MAIN/APPURTENANCES SHALL BE CONDUCTED BY A NEVADA CERTIFIED LABORATORY. TMWA CAN PROVIDE TESTING AT NO COST TO THE CONTRACTOR WITH A 2 WORKING DAY PRIOR NOTICE. UNLESS SPECIAL ARRANGEMENTS ARE AGREED UPON IN ADVANCE BY THE TMWA INSPECTOR SAMPLING BY TMWA LABORATORY STAFF SHALL BE LIMITED TO NORMAL WORKING HOURS MONDAY THROUGH THURSDAY.
- PER NAC 445A.67145(6).
- WATER MAIN MUST NOT BE PLACED INTO SERVICE AFTER ITS INITIAL CONSTRUCTION UNTIL:
- THE WATER MAIN HAS BEEN DISINFECTED AND FLUSHED IN ACCORDANCE WITH AWWA STANDARD C651.
- THE DISPOSAL OF ANY SPENT CHLORINE SOLUTIONS MUST BE COORDINATED WITH NDEP'S BUREAU OF WATER POLLUTION CONTROL (BWPC).
- ANALYSES OF THE WATER MAIN WHICH INDICATE THAT THE WATER MEETS PRIMARY DRINKING WATER STANDARDS FOR COLIFORM BACTERIA (ABSENT FOR COLIFORM BACTERIA) HAVE BEEN OBTAINED AND REPORTED TO THE WCHD, PER AWWA STANDARD C651, TWO SETS OF CONSECUTIVE SAMPLES MUST BE TAKEN AT LEAST 24 HOURS APART FROM EVERY 1200 FEET OF MAIN, AT THE END OF THE LINE, AND FROM EACH BRANCH.
- PRIOR TO BEING PUT INTO SERVICE, TMWA WILL DISINFECT THE TANK AND ENSURE THAT TWO COLIFORM SAMPLES PASS PRIMARY DRINING WATER STANDARDS IN ACCORDANCE WITH AWWA C652 AND NAC 445A.67085.3.
- AFTER THE TANKS HAVE BEEN DRAINED, TMWA WILL INSPECT SILT STOPS AND OVERFLOW PIPING FOR COMPLIANCE WITH NAC445A AND AWWA D100. ANY DEFICIENCIES INCLUDING MISSING OR NON-FUNCTIONING COMPONENTS WILL BE CORRECTED PRIOR TO COMPLETION OF THE WORK.
- AFTER THE TANK INTERIOR IS CURED FOR THE APPROPRIATE TIME, THE TANK WILL BE FILLED WITH WATER BY TMWA AND THE WATER WILL BE HELD IN THE TANK FOR 5 DAYS. THE WATER RETAINED IN THE TANK WILL BE TESTED ON THE SIXTH DAY BY A PROPERLY CERTIFIED LABORATORY HIRED BY TMWA FOR THE PRESENCE OF VOLATILE ORGANIC CHEMICALS, AND THE RESULTS SUBMITTED TO NDEP BUREAU OF SAFE DRINKING WATER APPROVAL.
- THE TANK WILL NOT BE PLACED INTO SERVICE UNTIL ALL REQUIREMENTS OF NAC 445A ARE MET.

REVEGETATION NOTES

- THE CONTRACTOR SHALL PERFORM ALL REVEGETATION WORK CONSISTING OF SALVAGING, PROCESSING, STORING OF VEGETATION, ORGANIC MATTER, AND TOPSOIL, SEEDBED PREPARATION, SEEDING, MULCHING, HYDROMULCHING, EROSION CONTROL, NOXIOUS AND INVASIVE WEED CONTROL, MAINTENANCE, AND PERFORMANCE CRITERIA.
- ALL WORK ASSOCIATED WITH REVEGETATION SHALL BE CONDUCTED OR OVERSEEN BY A LICENSED LANDSCAPE CONTRACTOR (C-10) IN THE STATE OF NEVADA WITH A MINIMUM OF FIVE (5) YEARS OF EXPERIENCE ON REVEGETATION PROJECTS AND WITH ALL ASPECTS OF REVEGETATION AND EROSION CONTROL TREATMENTS.
- THE CONTRACTOR SHALL SUBMIT TO TMWA MATERIALS SAMPLES OR LABELS FOR THE FOLLOWING MATERIALS PER TECHNICAL SPECIFICATIONS: SEED, RECYCLED PAPER MULCH, TACKIFIER, PROOF OF NEVADA C-10 CONTRACTORS LICENSE, PROOF OF HERBICIDE APPLICATOR LICENSE IN THE STATE OF NEVADA, WEED CONTROL PLAN, AND APPLICATION INSTRUCTIONS AND MATERIAL SAFETY DATA SHEETS FOR ALL HERBICIDES.
- SEED
 - ALL SEED SHALL CONFORM TO ALL LAWS AND REGULATIONS PERTAINING TO THE SALE AND SHIPMENT OF SEED REQUIRED BY THE NEVADA DEPARTMENT OF AGRICULTURE AND THE FEDERAL SEED ACT. FOR SAGEBRUSH AND RABBITBRUSH TEST SEED WITHIN SIX (6) MONTHS PRIOR TO SEEDING. ALL OTHER SEED MUST BE TESTED WITHIN 12 MONTHS OF APPLICATION DATE. SEED TAGS MUST REFLECT THE MOST RECENT TEST DATE. SUBMIT ORIGINAL SEED TESTS AND TAGS BY LOT NUMBER TO TMWA AT MINIMUM 30 DAYS PRIOR TO APPLICATION FOR REVIEW AND APPROVAL.
 - SEED TAGS SHALL SHOW THE FOLLOWING INFORMATION: SCIENTIFIC NAME, COMMON NAME, LOT NUMBER, PERCENT PURITY, PERCENT GERMINATION, INCLUDING HARD AND DORMANT SEED, PERCENT WEED SEED, PERCENT CROP SEED, AND ORIGIN.
 - REQUESTS FOR SUBSTITUTE SPECIES AND/OR VARIETIES MUST BE SUBMITTED IN WRITING. WRITTEN APPROVAL FROM TMWA IS REQUIRED FOR ALL REQUESTED SUBSTITUTIONS.
- RECYCLED PAPER MULCH - SUBMIT AT MINIMUM 30 DAYS PRIOR TO APPLICATION FOR REVIEW AND APPROVAL.
- TACKIFIER - SUBMIT AT MINIMUM 30 DAYS PRIOR TO APPLICATION FOR REVIEW AND APPROVAL.
- PROOF OF NEVADA C-10 CONTRACTORS LICENSE - SUBMIT PRIOR TO MOBILIZING TO THE PROJECT SITE.
- PROOF OF HERBICIDE APPLICATOR LICENSE IN THE STAT OF NEVADA - SUBMIT PRIOR TO MOBILIZATION TO THE PROJECT SITE. ALL APPLICATION RECORDS MUST ALSO BE SUBMITTED AFTER APPLICATION.
- WEED CONTROL PLAN - PRIOR TO MOBILIZATION.
- APPLICATION INSTRUCTIONS AND MATERIAL SAFETY DATA SHEETS (MSDS) FOR ALL HERBICIDES (IF APPLICABLE) - SUBMIT 30 DAYS PRIOR TO APPLICATION - SUBMIT 30 DAYS PRIOR TO APPLICATION.
- WEED SEED SHALL NOT EXCEED 0.15 PERCENT OF THE PURE LIVE SEED SPECIFIED AND SHALL NOT INCLUDE ANY SEED OF CHEATGRASS, RUSSIAN THISTLE, OR SWEET CLOVERS. CROP SEED SHALL NOT EXCEED 0.15 PERCENT.

GENERAL NOTES

- TYPE 1 MULCH SHALL BE BIODEGRADABLE GREEN-DYED 100% RECYCLED PAPER MATERIAL PRODUCED FROM NEWSPRINT, CHIPBOARD, CORRUGATED CARDBOARD, OR A COMBINATION OF THESE MATERIALS. MATERIAL SHALL BE FREE FROM WEEDS OR OTHER FOREIGN MATTER PROHIBITIVE TO SEED GERMINATION.
- TYPE 2 MULCH SHALL BE PROCESSED NATIVE VEGETATION AS DESCRIBED BELOW IN SECTION 2.04.
- TACKIFIER SHALL BE OF AN ORGANIC, PLANT-DERIVED SUBSTANCE CONTAINING PSYLLIUM OR GUAR GUM, OR A COMBINATION THEREOF. MATERIAL SHALL FORM A TRANSPARENT THREE-DIMENSIONAL FILM-LIKE CRUST PERMEABLE TO WATER AND AIR AND CONTAINING NO AGENTS HARMFUL TO SEED GERMINATION.
- SALVAGED AND PROCESSED VEGETATION, ORGANIC MATTER, AND TOPSOIL SHALL BE VEGETATION, AND ORGANIC MATTER REMOVED FROM SURFACE AND PROCESSED INTO SEGMENTS NO LARGER THAN 6-INCHES AS THE LONGEST DIMENSION. TOPSOIL SHALL BE REMOVED TO A DEPTH OF UP TO SIX INCHES. SCREEN ALL ROCKS LONGER THAN 4-INCHES IN THE LONGEST DIMENSION.
- HERBICIDES SHALL HAVE BLUE-DYE ADDED FOR VISIBILITY DURING APPLICATION AND TO VERIFY ADEQUATE COVERAGE OF HERBICIDE. THE BLUE-DYE MUST BE MANUFACTURED FOR SPECIFIC USE IN HERBICIDES AND MIXED PER THE MANUFACTURER'S RECOMMENDATION.
- THE CONTRACTOR SHALL NOTIFY TMWA NOT LESS THAN 72 HOURS IN ADVANCE OF REVEGETATION WORK AND SHALL NOT BEGIN THE WORK UNTIL PREPARED TREATMENT AREAS HAVE BEEN APPROVED.
- ALL PERMANENT REVEGETATION AND EROSION CONTROL WORK SHALL TAKE PLACE AFTER OCTOBER 15 AND PRIOR TO MARCH 15 UNLESS OTHERWISE APPROVED BY TMWA.
- THE SITE MUST BE SNOW-FREE AT THE TIME OF TREATMENT.
- HERBICIDE APPLICATIONS MUST BE PERFORMED BY AN APPLICATOR LICENSED WITH THE STATE OF NEVADA AND WHILE PLANTS ARE ACTIVELY GROWING. VISUAL CONFIRMATION OF HERBICIDE APPLICATIONS MAY BE DIFFICULT TO DETERMINE; HERBICIDE APPLICATION RECORDS MUST BE SENT TO THE TMWA PROJECT REPRESENTATIVE FOLLOWING APPLICATION HAS TAKEN PLACE. ALWAYS FOLLOW HERBICIDE LABEL REQUIREMENTS WHEN MAKING APPLICATIONS.
- THE CONTRACTOR SHALL MINIMIZE SOIL DISTURBANCE BY PLACING CONSTRUCTION FENCING AND LIMIT AREAS THAT REQUIRE REVEGETATION. ALL EXISTING VEGETATION WITHIN THE PROJECT LIMITS NOT DESIGNATED FOR REMOVAL SHALL BE PROTECTED TO THE GREATEST EXTENT POSSIBLE WITH PLACEMENT OF TEMPORARY CONSTRUCTION FENCING PLACED AT THE PERIMETER AS SHOWN ON THE PLANS. ALL EXISTING VEGETATION AND SOIL DISTURBANCES THAT OCCURS WITHIN AREAS DESIGNATED FOR PROTECTION ON THE PLANS SHALL RECEIVE TREATMENT TYPES 1-7 AT NO ADDITIONAL COST TO THE PROJECT. IF A SUBCONTRACTOR IS INSTALLING PERIMETER FENCING, HE/SHE SHALL BE LISTED IN THE CONTRACTOR'S BID BY NAME, ADDRESS, AND LICENSE NUMBER. THE LICENSE MUST BE ACTIVE AT THE TIME OF CONTRACT AWARD AND REMAIN IN EFFECT THROUGHOUT THE TERM OF THE CONTRACT.
- TREATMENT (TREATMENT TYPE #)
 - SALVAGED AND PROCESSED VEGETATION ORGANIC MATTER, AND TOPSOIL (TYPE 1)
 - THE CONTRACTOR SHALL SALVAGE AND PROCESS ALL NATIVE VEGETATION INCLUDING ROOTS TO A MINIMUM DEPTH OF SIX INCHES IN THE FOOTPRINT OF ALL NEW DISTURBANCES INCLUDING THE TANK SITE AND AS DIRECTED BY TMWA. CONTRACTOR SHALL USE A BRUSH HOG, CHIPPER, OR OTHER SUITABLE EQUIPMENT TO HARVEST MATERIAL. THE CONTRACTOR SHALL PROCESS AND SCREEN ORGANIC MATERIAL TO SIX INCHES AND LESS IN THE LONGEST DIMENSION. THE CONTRACTOR SHALL COMBINE MATERIAL AND STOCKPILE IN A LOCATION APPROVED BY TMWA AND CONTAIN WITH TREATMENT TYPE 5. THE CONTRACTOR SHALL EVENLY PLACE PROCESSED MATERIAL OVER DECOMPACTED AND SEEDED AREAS AS DIRECTED BY TMWA.
 - SEEDBED PREPARATION (TYPE 2)
 - THE CONTRACTOR SHALL LOOSEN ALL COMPACTED SOILS (= OR > THAN 85%) SHALL BE LOOSENED WITH AGRICULTURAL DISCS, RIPPERS, OR OTHER APPROVED AND SUITABLE EQUIPMENT, TO A DEPTH OF SIX (6) INCHES UNLESS OTHERWISE DIRECTED BY TMWA. CONTRACTOR SHALL NOT TILL SOILS. FINAL SURFACED SHALL BE NON-UNIFORM, ROUGH, AND NATURAL IN APPEARANCE.
 - SEEDING (TYPE 3)
 - FOLLOWING APPROVAL BY TMWA, SEED MAY BE MIXED AND DELIVERED TO THE SITE. DELIVER ALL SEED TO THE PROJECT SITE IN SEALED BAGS WITH PROPER LABELING. UNIFORMLY BROADCAST SEED WITH HAND-HELD SEEDERS OR APPROVED EQUAL OVER PREPARED AREAS AND LIGHTLY RAKED TO INCORPORATE TO A DEPTH OF ¼ INCH TO ½ INCH. CONTRACTOR SHALL NOT LEAVE SEED UNCOVERED FOR MORE THAN 24 HOURS UNLESS OTHERWISE APPROVED BY TMWA. CONTRACTOR SHALL NOT BROADCAST SEED UNDER CONDITIONS THAT WOULD ALLOW THE SEED TO BECOME WINDBORNE (WIND GREATER THAN 5 MILES PER HOUR).
 - MULCH APPLICATION (TYPE 4)
 - THE CONTRACTOR TO APPLY PROCESSED VEGETATION TO ACHIEVE 85% COVER.
 - HYDROMULCHING (TYPE 5)
 - THE CONTRACTOR SHALL APPLY A SLURRY OF RECYCLED PAPER MULCH AT 1000 LBS./ACRE, AND TACKIFIER AT 200 LBS./ACRE OVER PROCESSED VEGETATION. THE CONTRACTOR SHALL USE A HYDROSEEDER WITH A PADDLE WHEEL AGITATOR AND ADEQUATE WATER TO ACHIEVE HOMOGENEOUS SLURRY. EVENLY APPLY UNDER NON-WINDY CONDITIONS (LESS THAN FIVE MPH).
 - TEMPORARY EROSION CONTROL (TYPE 6)
 - TEMPORARY EROSION CONTROL WILL BE NECESSARY OVER EXPOSED MASS GRADED AREAS AS WELL AS STOCKPILES. STOCKPILE ALL MATERIALS IN A SUITABLE LOCATION APPROVED BY TMWA. CONTAIN STOCKPILED MATERIAL WITH APPROVED PROPER BEST MANAGEMENT PRACTICES. THE CONTRACTOR SHALL HYDRAULICALLY APPLY RECYCLED PAPER MULCH AT 1,000 LBS./ACRE AND TACKIFIER AT 200 LBS./ACRE IF SALVAGED VEGETATION AND ORGANIC MATTER IS STOCKPILED FOR MORE THAN 14 DAYS, AND TO ALL DISTURBED SURFACES LARGER THAN 1000 SQUARE FEET AT FINISH GRADE FOR MORE THAN 14 DAYS. THE CONTRACTOR SHALL USE A HYDROSEEDER WITH A PADDLE WHEEL AGITATOR AND ADEQUATE WATER TO ACHIEVE HOMOGENEOUS SLURRY. THE CONTRACTOR SHALL EVENLY APPLY UNDER NON-WINDY CONDITIONS (LESS THAN FIVE MPH).
 - WEED CONTROL (TYPE 7)
 - THE CONTRACTOR SHALL ENSURE THAT ALL EQUIPMENT HAS BEEN WASHED AND IS WEED-FREE PRIOR TO ENTERING THE SITE AS DESCRIBED IN THE SWPPP. THE ONLY NOXIOUS SPECIES OCCURRING WITHIN THE TANK SITE, AND AS DEFINED BY NEVADA DEPARTMENT OF AGRICULTURE IS PERENNIAL PEPPERWEED, AKA TALL WHITETOP (LEPIDIUM LATIFOLIUM). CONTROL OF THIS SPECIES MAY REQUIRE MULTIPLE TREATMENTS APPLY WEEEDAR 64, OR OTHER COMMERCIALY AVAILABLE FORM OF 2, 4-D PRIOR TO FULL FLOWERING. USE BLUE OR GREEN DYE TO IDENTIFY APPLICATION(S). APPROXIMATELY TWO WEEKS AFTER TREATMENT MOW WITH A SICKLE BAR MOWER, WEED WHACKER, OR APPROVED EQUAL, FROM THE TOP DOWN. LEAVE MOWED MATERIAL IN PLACE. REPEAT THE HERBICIDE TREATMENT PRIOR TO FULL FLOWERING. ANTICIPATE THREE TREATMENTS PER SEASON. HERBICIDES SHALL ONLY BE APPLIED WHEN THE PLANTS ARE ACTIVELY GROWING. LICENSED HERBICIDE APPLICATORS WITH EXPERIENCE IN ERADICATION AND TREATMENT OF WEEDS SPECIFIED FOR CONTROL SHALL PERFORM ALL WORK ASSOCIATED WITH HERBICIDES. IN ADDITION TO PERENNIAL PEPPERWEED, SUBMIT A PLAN FOR TREATMENT OF ALL WEEDS PRIOR TO MOBILIZATION FOLLOWING IDENTIFICATION OF ALL INVASIVE AND NOXIOUS SPECIES WITHIN THE PROJECT LIMITS, TREATMENT METHODS, AND METHODOLOGIES. FOR THE EXISTING STOCKPILE OUTSIDE THE TANK ENCLOSURE, DOMINATED BY THE INVASIVE ANNUAL CHEATGRASS (BROMUS TECTORUM) AND THE NATIVE ANNUAL FORB FIDDLENECK (AMSIINCKIA TESSELLATA) MOW THE WEEDS PRIOR TO FLOWERING AND SEED SET AND PRIOR TO PLACEMENT BY NEWLY SALVAGED MATERIAL. FOLLOW WITH HYDROSEEDING WITH SEED MIX 2.
- THE CONTRACTOR SHALL MAINTAIN ALL AREAS FOR ONE YEAR, BEGINNING ON THE DATE FOLLOWING THE ACCEPTANCE OF THE LAST REVEGETATION WORK BY TMWA, SO THAT THERE IS NO EVIDENCE OF EROSION, SUCH AS RILLS OR GULLIES, NOXIOUS OR INVASIVE WEEDS AND ACHIEVING THE PERFORMANCE STANDARD FOR PERENNIAL VEGETATIVE COVER DENSITIES AS DEFINED IN THESE SPECIFICATIONS. DURING A ONE YEAR PERIOD, THE CONTRACTOR SHALL SEE THAT SEEDED AREAS SHALL ALWAYS BE KEPT FREE FROM NOXIOUS AND INVASIVE WEEDS AND REVEGETATED AREAS SHALL BE MONITORED TO MEET THE PERFORMANCE STANDARDS. THE CONTRACTOR WILL IDENTIFY ALL WEEDS REQUIRING IMMEDIATE TREATMENT AND REMOVAL. MAINTENANCE MAY INCLUDE RE-APPLICATION OF SEED, MULCH, AND TACKIFIER PER THESE SPECIFICATIONS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR A UNIFORM COVER (E.G. EVENLY DISTRIBUTED, WITHOUT BARE AREAS MEASURING MORE THAN TWO SQ. FT.) OF PERENNIAL NATIVE AND ADAPTED VEGETATION AND 70% OF PRE-DISTURBANCE NATIVE AND ADAPTED SPECIES VEGETATIVE COVER FOLLOWING ONE YEAR OF FINAL PROJECT COMPLETION. THE METRIC FOR THIS PROJECT IS 26.6% COVER. THE CONTRACTOR SHALL BE RESPONSIBLE FOR A UNIFORM COVER (E.G. EVENLY DISTRIBUTED, WITHOUT BARE AREAS MEASURING MORE THAN TWO SQ. FT. OF PERENNIAL NATIVE AND ADAPTED VEGETATION. THE PROJECT FOOTPRINT, INCLUDING THE STAGING AREA, SHALL BE FREE OF ALL NOXIOUS WEEDS PRIOR TO ISSUANCE OF THE NOTICE OF TERMINATION (NOT). THERE SHALL BE NO EVIDENCE OF RILLS, GULLIES, OR SHEET EROSION. RE-APPLICATION OF SEED, MULCH, AND TACKIFIER PER THESE SPECIFICATIONS MAY BE REQUIRED TO FULFILL PERFORMANCE STANDARDS. THE CONTRACTOR SHALL COORDINATE WITH TMWA AT LEAST TEN WORKING DAYS' NOTICE BEFORE THE VERIFIED INSPECTION DATE AT THE END OF YEAR ONE POST- CONSTRUCTION.

ABBREVIATIONS

AC	ASPHALT CONCRETE
AGG	AGGREGATE
dfs	CUBIC FEET PER SECOND
CONC	CONCRETE
DIA	DIAMETER
E	EAST
EA	EACH
ELEC	ELECTRICAL
ELEV	ELEVATION
EX (E)	EXISTING
FE	FINISH ELEVATION
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOW LINE
FLG	FLANGE
fps	FEET PER SECOND
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
LF	LINEAR FEET
MH	MANHOLE
MIN	MINIMUM
NTS	NOT TO SCALE
(P)	PROPOSED
PL	PROPERTY LINE
PVMT	PAVEMENT
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SS	SANITARY SEWER
SSCO	SANITARY SEWER CLEAN OUT
SSMH	SANITARY SEWER MANHOLE
STA	STATION
TYP	TYPICAL
WL	WATER LINE

LEGEND

EXISTING

	CONTOUR LINE	
	GROUND ELEVATION	
	EDGE OF PAVEMENT	
	CONCRETE	
	GUY WIRE	
	ELECTRIC TRANSFORMER	
	ELECTRIC VAULT	
	ELECTRIC PANEL	
	ELECTRIC CABINET	
	ELECTRIC BOX	
	ELECTRIC METER	
	ELECTRIC GENERATOR	
	STORM DRAIN MANHOLE / DROP INLET	
	CHECK VALVE	
	METER	
	HYDRANT	
	SEWER MANHOLE	
	SEWER CLEANOUT	
	SIGN	
	RETAINING WALL	
	FENCE	
	FLOW LINE	
	COMM LINE	
	GAS LINE	
	ELECTRIC LINE	
	SEWER LINE	
	WATER LINE	
	STORM DRAIN	

PROPOSED

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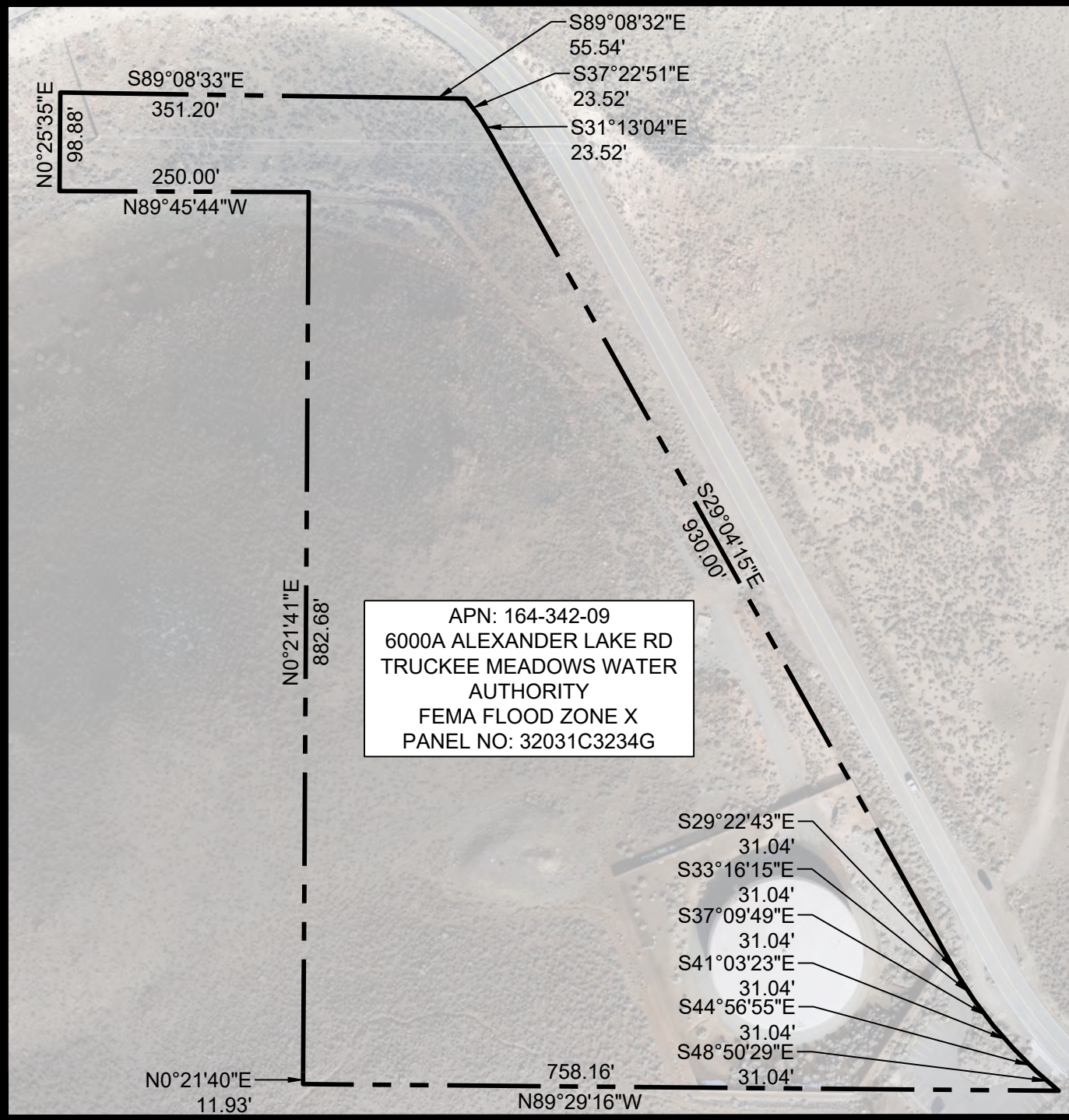
SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS
PROJECT TITLE LINE 2
NOTES, ABBREVIATIONS, AND LEGEND



SHEET NUMBER

C1

2 OF 8





SHEET NOTES:

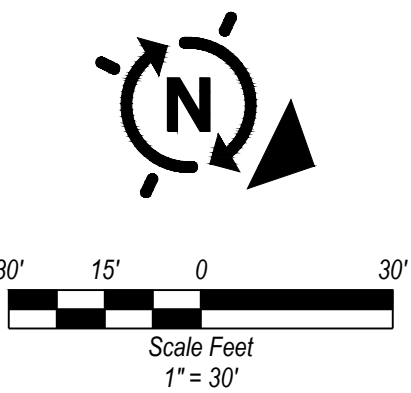
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LEGEND:

- EX PROPERTY LINE
- X PROPOSED BARBED WIRE FENCE
- EX FLOW LINE
- - - 4174 EX CONTOURS
- 4174 PROPOSED CONTOURS

EXISTING SLOPES COLOR RAMP KEY

#	MIN. SLOPE	MAX. SLOPE	AREA	COLOR
1	0%	14.9%	2.25 AC 72%	
2	15%	19.9%	0.07 AC 2%	
3	20%	24.9%	0.07 AC 2%	
4	25%	25.9%	0.22 AC 7%	
5	30%	>30%	0.54 AC 17%	



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EXISTING SITE SLOPE MAP

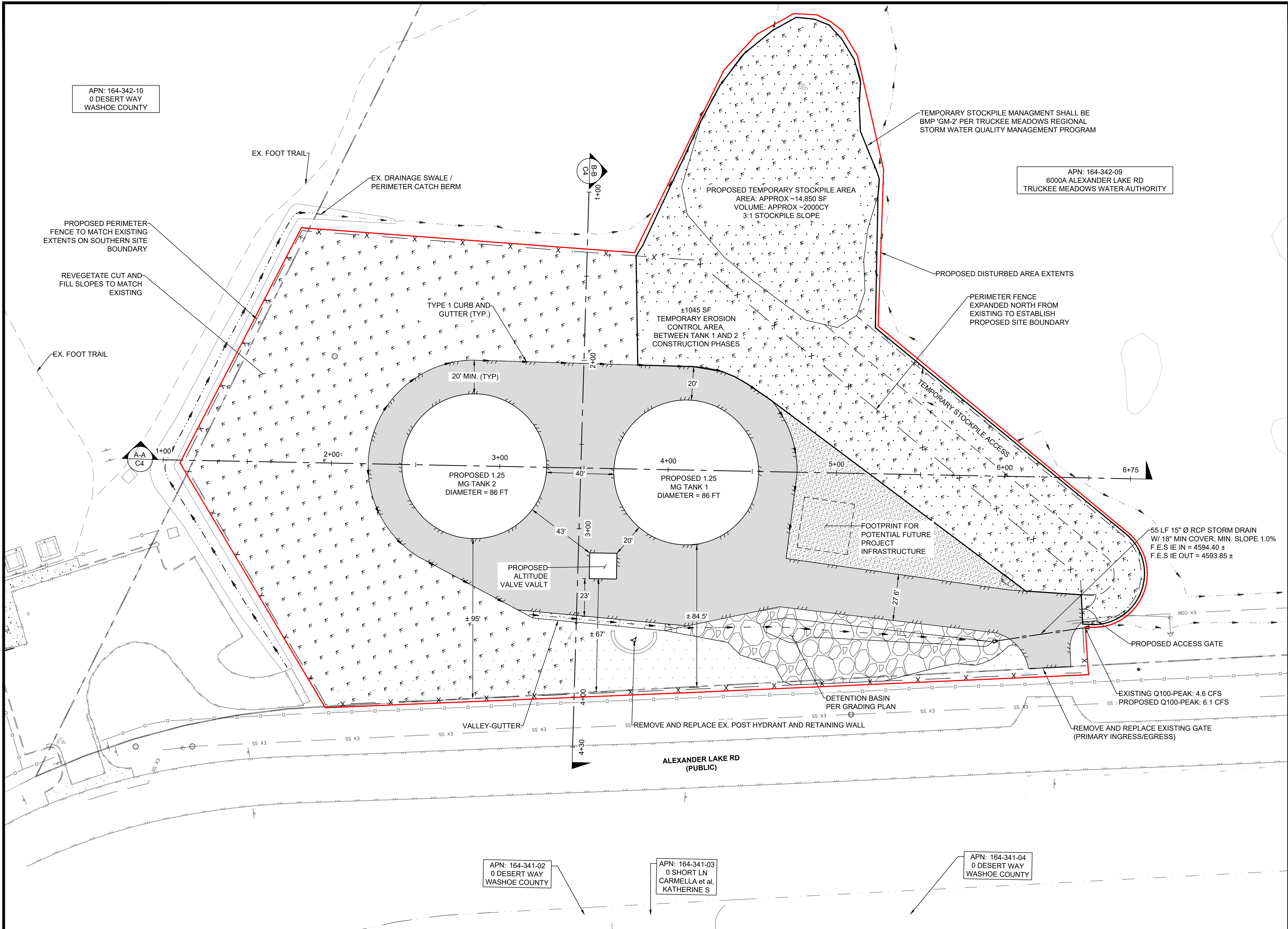


SHEET NUMBER

C3

7 OF 8

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SHEET NOTES:

1. PLANS ARE INTENDED TO COMPLY WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.
2. BUILDING SETBACKS DETERMINED BY WASHOE COUNTY DEVELOPMENT CODE PER MDS CLASSIFICATION.
3. FENCE SHALL BE 7 FOOT TALL VINYL COATED CHAIN LINK AND 1 FOOT OF THREE STRAND BARBED WIRE.
4. SEE PHASING EXHIBITS ATTACHED WITH SUP APPLICATION.
5. SEE REVEGETATION SPECIFICATION ON SHEET C1.

LEGEND:

- EX PROPERTY LINE
- X - PROPOSED BARBED WIRE FENCE
- - - EX FLOW LINE
- [Pattern] PROPOSED RIP RAP
- [Pattern] PROPOSED COMPACTED AGGREGATE BASE
- [Pattern] PROPOSED REVEGETATION AREA (PER REVEG. NOTES, SHEET C1)
- [Pattern] PROPOSED PAVEMENT
- [Pattern] TEMPORARY EROSION CONTROL (PER REVEG. NOTES, SHEET C1)
- - - 4174 - EX CONTOUR
- - - 4175 - PROPOSED CONTOUR
- - - PROPOSED FLOW LINE

PROPOSED DISTURBED AREA

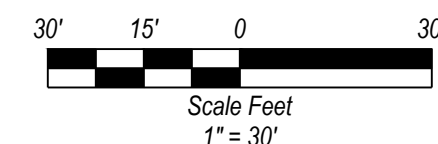
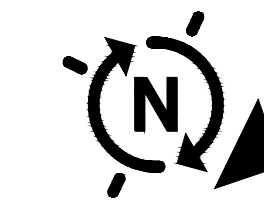
TOTAL DISTURBED AREA	137,324 SF
CHANGE FROM EXISTING	+29,665 SF

SEED MIX #1 - REVEGETATION

SCIENTIFIC NAME	COMMON NAME/VARIETY	PLS LBS./ACRE
AGROPYRON CRISTATUM	CRESTED WHEATGRASS	2.00
ARTEMISIA TRIDENTATA SSP. WYOMINGENSIS	WYOMING BIG SAGEBRUSH	0.50
ATRIPLEX CANESCENS	4-WING SALTBUCH	1.00
ELYMUS CINEREUS	GREAT BASIN WILDRYE	2.00
ELYMUS ELYMOIDES	SQUIRRELTAIL	2.00
EPHEDRA VIRIDIS	GREEN MORMON TEA	1.00
ERICAMERIA NAUSEOSA	RUBBER RABBITBRUSH	0.50
ERIOGONUM UMBELLATIM	SPINY HOSPAGE	2.00
GRAYIA SPINOSA	SPINY HOPSAGE	2.00
HEDYSERUM BOREALE	UTAH SWEETVETCH	1.00
HELIANTHUS ANNUUS	ANNUAL SUNFLOWER	0.50
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	10.00
PURSHIA TRIDENTATA	ANTELOPE BITTERBRUSH	1.00
TOTAL		25.50

SEED MIX #2 - TEMP. EROSION CONTROL

SCIENTIFIC NAME	COMMON NAME/VARIETY	PLS LBS./ACRE
AGROPYRON CRISTATUM	CRESTED WHEATGRASS	2.00
ATRIPLEX CANESCENS	4-WING SALTBUCH	2.00
ERIOGONUM UMBELLATUM	SULFUR BUCKWHEAT	1.00
HEDYSERUM BOREALE	UTAH SWEETVETCH	1.00
HELIANTHUS ANNUUS	ANNUAL SUNFLOWER	0.50
LOLIUM MULTIFLORUM	ANNUAL RYEGRASS	10.00
LUPINUS ARGENTEUS	SILVERY LUPINE	1.00
TOTAL		17.50



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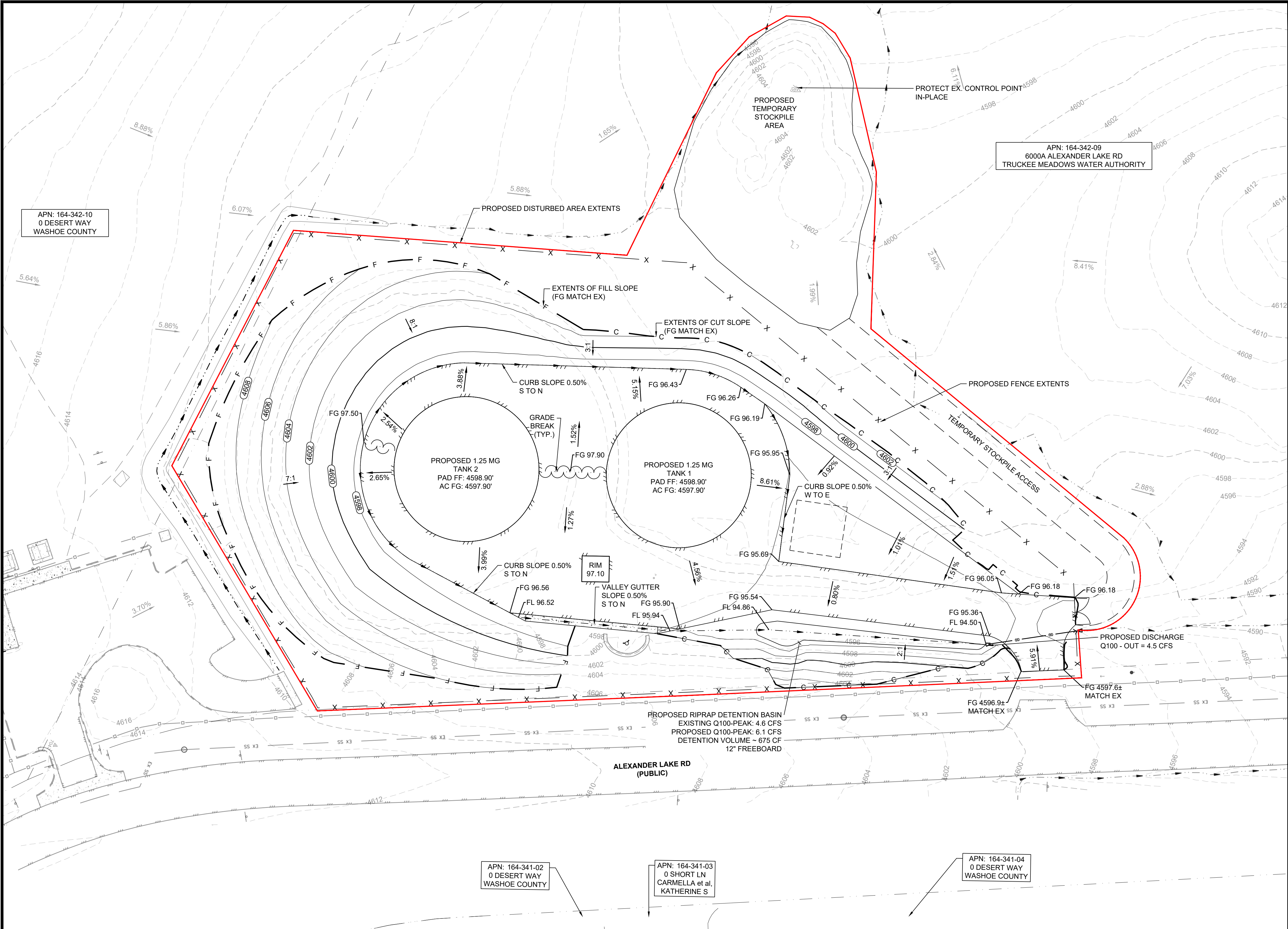
SPECIAL USE PERMIT PRELIMINARY PLANS FOR RATTLESNAKE TANK IMPROVEMENTS PRELIMINARY SITE OVERALL



SHEET NUMBER

C4

4 OF 8

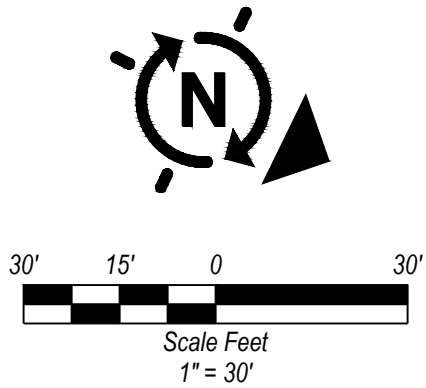


- SHEET NOTES:**
1. ADD 4,500' TO ALL FLAG GRADES.
 2. FINISH GRADE (FG) PROVIDED AT SLAB OR STRUCTURES REPRESENTS SURROUNDING GROUND ELEVATION.
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LEGEND:

- EX PROPERTY LINE
- X PROPOSED BARBED WIRE FENCE
- EX FLOW LINE
- - - 4174 EX CONTOURS
- 4174 PROPOSED CONTOURS

GRADING QUANTITIES	
CUT/FILL	QUANTITY (CY)
CUT	± 5,100
FILL	± 3,300
NET VOLUME	±1,800 (CUT)



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**SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS**

PRELIMINARY GRADING PLAN

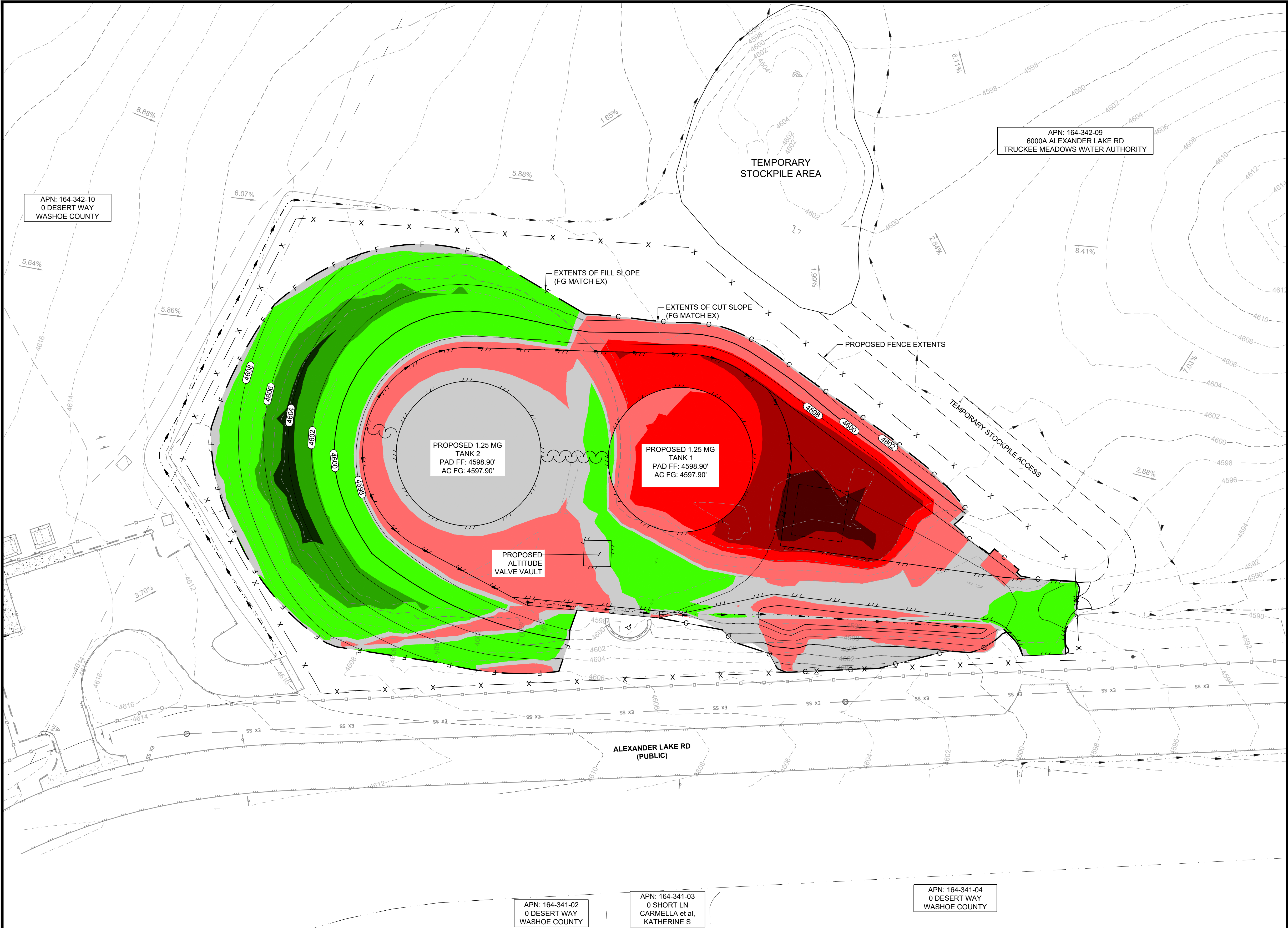


SHEET NUMBER

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5 OF 8

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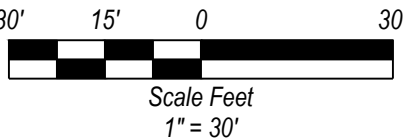
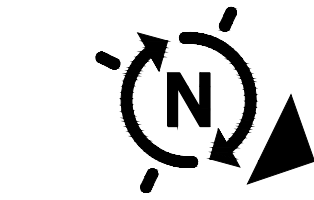
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LEGEND:

- EX PROPERTY LINE
- X PROPOSED BARBED WIRE FENCE
- EX FLOW LINE
- - - 4174 EX CONTOURS
- 4174 PROPOSED CONTOURS

CUT-FILL LEGEND			
CUT(-)/FILL(+)	RANGE (FT)		COLOR
CUT(-)	-8.95	-8.00	
CUT(-)	-8.00	-6.00	
CUT(-)	-6.00	-4.00	
CUT(-)	-4.00	-0.25	
MINOR CUT(-)/FILL(+)	-0.25	+0.25	
FILL(+)	+0.25	+4.00	
FILL(+)	+4.00	+6.00	
FILL(+)	+6.00	+7.58	



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**SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS**

PRELIMINARY CUT - FILL MAP



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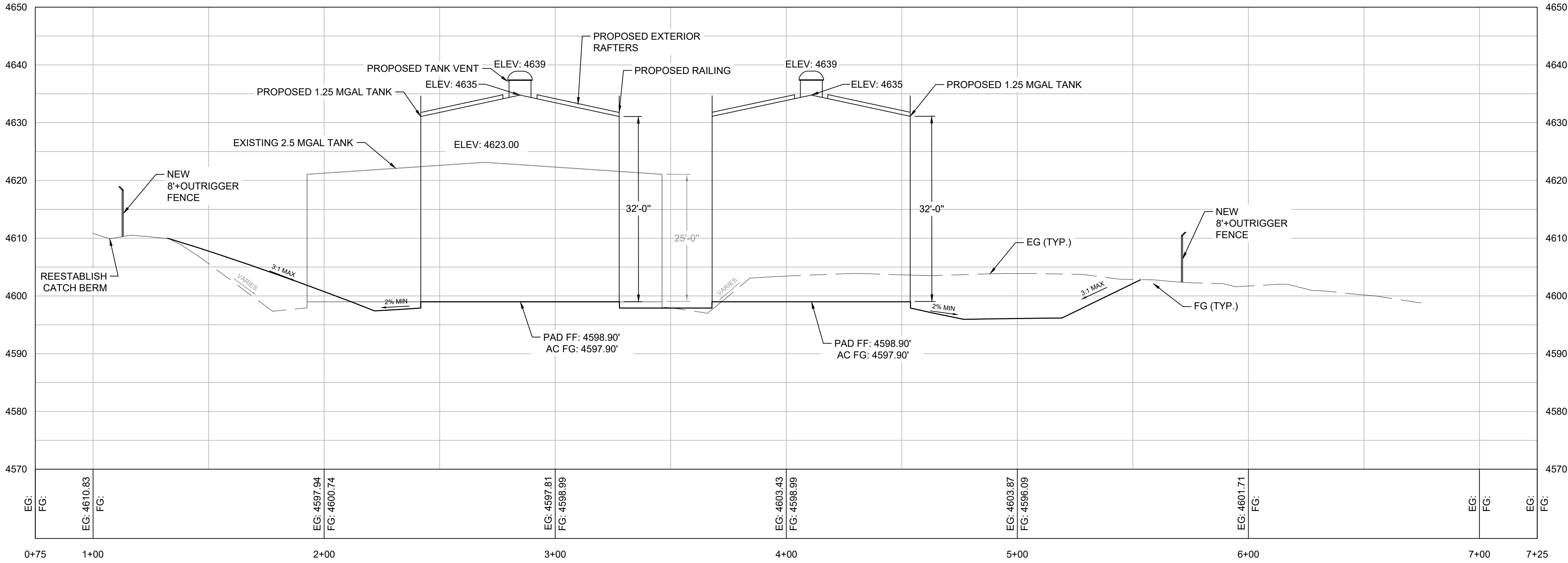
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6 OF 8

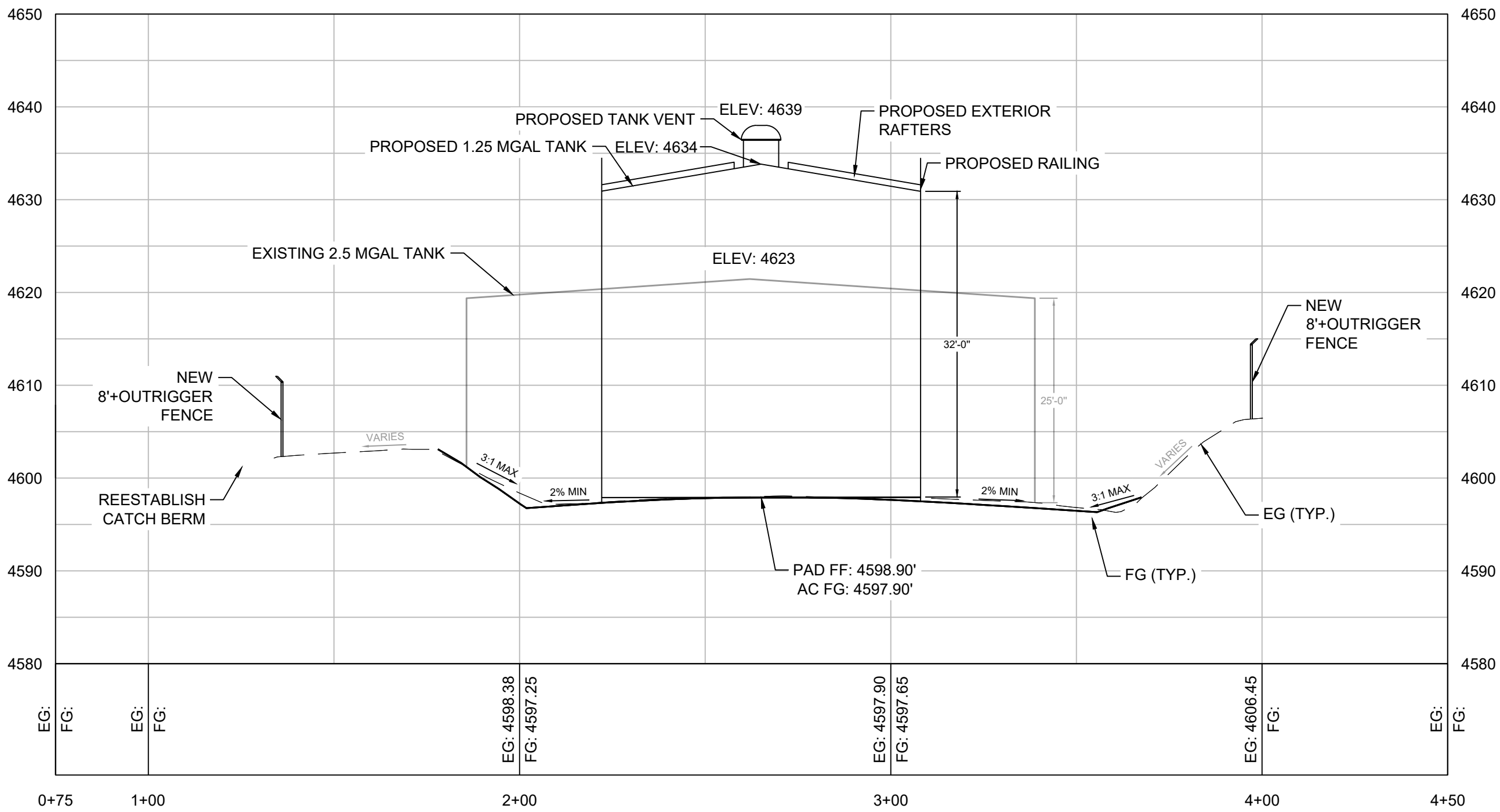
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SECTION A-A - STA:0+75 TO STA:7+25



SECTION B-B - STA:0+75 TO STA:4+50

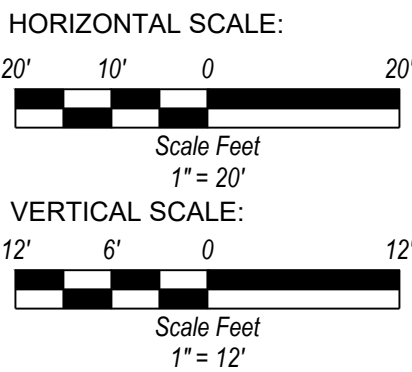


SHEET NOTES:

- PLANS ARE INTENDED TO COMPLY WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.
- TANK ELEVATIONS SHOWN ARE FINAL AND ARE SUBJECT TO CHANGE PENDING FINAL DESIGN, COORDINATION, AND APPROVAL.

LEGEND:

- EX GRADE
- FINISH GRADE
- EX TANK
- PROPOSED TANKS



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**SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS

PRELIMINARY SITE ELEVATIONS**



SHEET NUMBER

C7

8 OF 8



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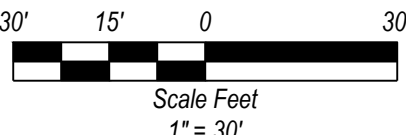
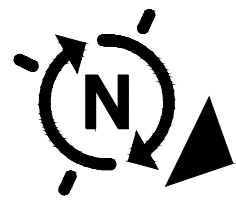
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LEGEND:

- EX PROPERTY LINE
- X --- PROPOSED BARBED WIRE FENCE
- EX FLOW LINE
- 4174 --- EX CONTOURS
- 4174 --- PROPOSED CONTOURS

EXISTING SLOPES COLOR RAMP KEY

#	MIN. SLOPE	MAX. SLOPE	AREA	COLOR
1	0%	14.9%	1.57 AC 63%	
2	15%	19.9%	0.07 AC 3%	
3	20%	24.9%	0.07 AC 3%	
4	25%	25.9%	0.22 AC 9%	
5	30%	>30%	0.55 AC 22%	



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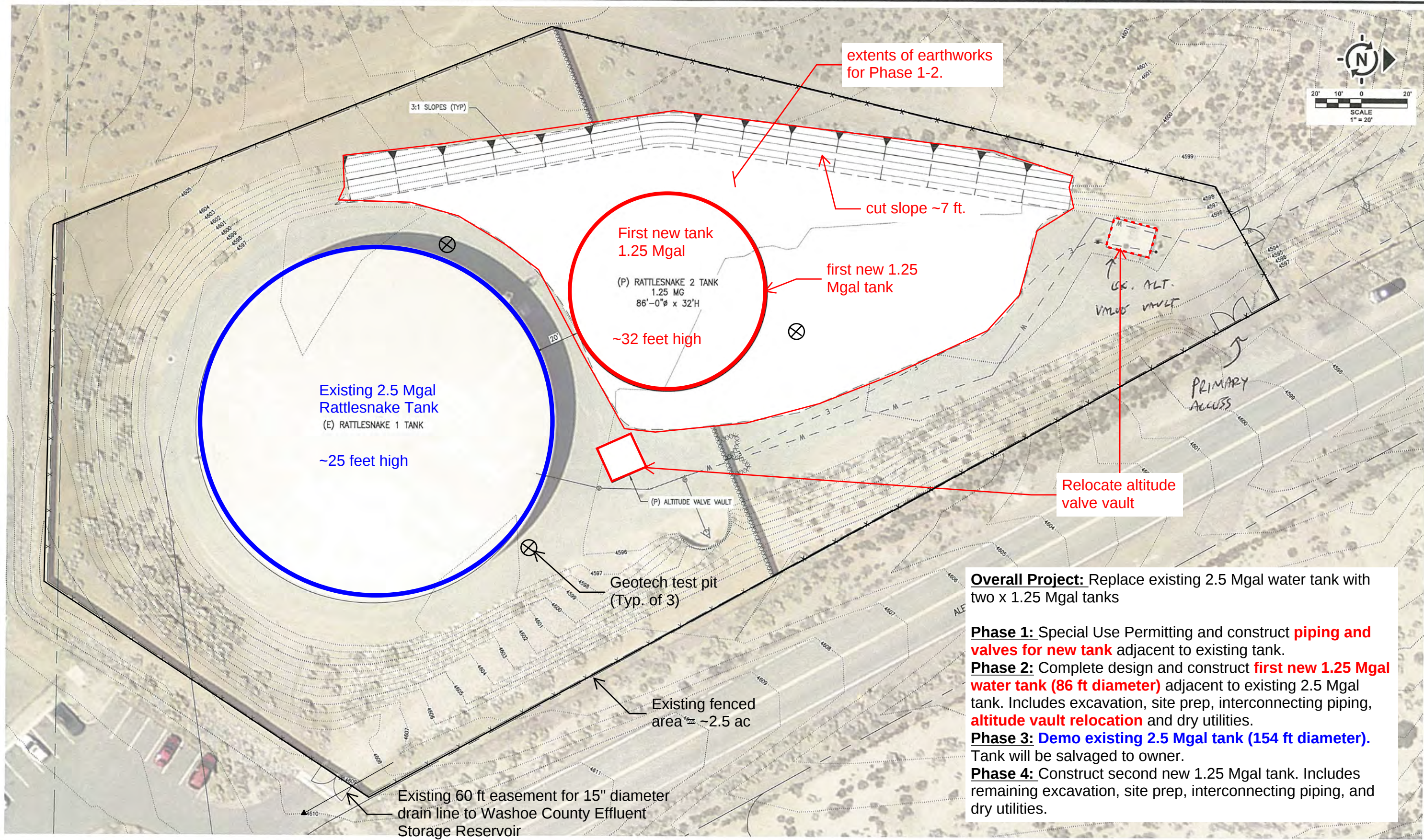
**SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
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EXISTING SITE SLOPE MAP

SHEET NUMBER

C3

7 OF 8



- Overall Project:** Replace existing 2.5 Mgal water tank with two x 1.25 Mgal tanks
- Phase 1:** Special Use Permitting and construct **piping and valves for new tank** adjacent to existing tank.
- Phase 2:** Complete design and construct **first new 1.25 Mgal water tank (86 ft diameter)** adjacent to existing 2.5 Mgal tank. Includes excavation, site prep, interconnecting piping, **altitude vault relocation** and dry utilities.
- Phase 3:** **Demo existing 2.5 Mgal tank (154 ft diameter).** Tank will be salvaged to owner.
- Phase 4:** Construct second new 1.25 Mgal tank. Includes remaining excavation, site prep, interconnecting piping, and dry utilities.

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DRAWN _____
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RECOMMENDED _____
APPROVED _____



**Truckee Meadows
Water Authority**

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RATTLESNAKE 2 TANK PROJECT
WASHOE COUNTY, NEVADA

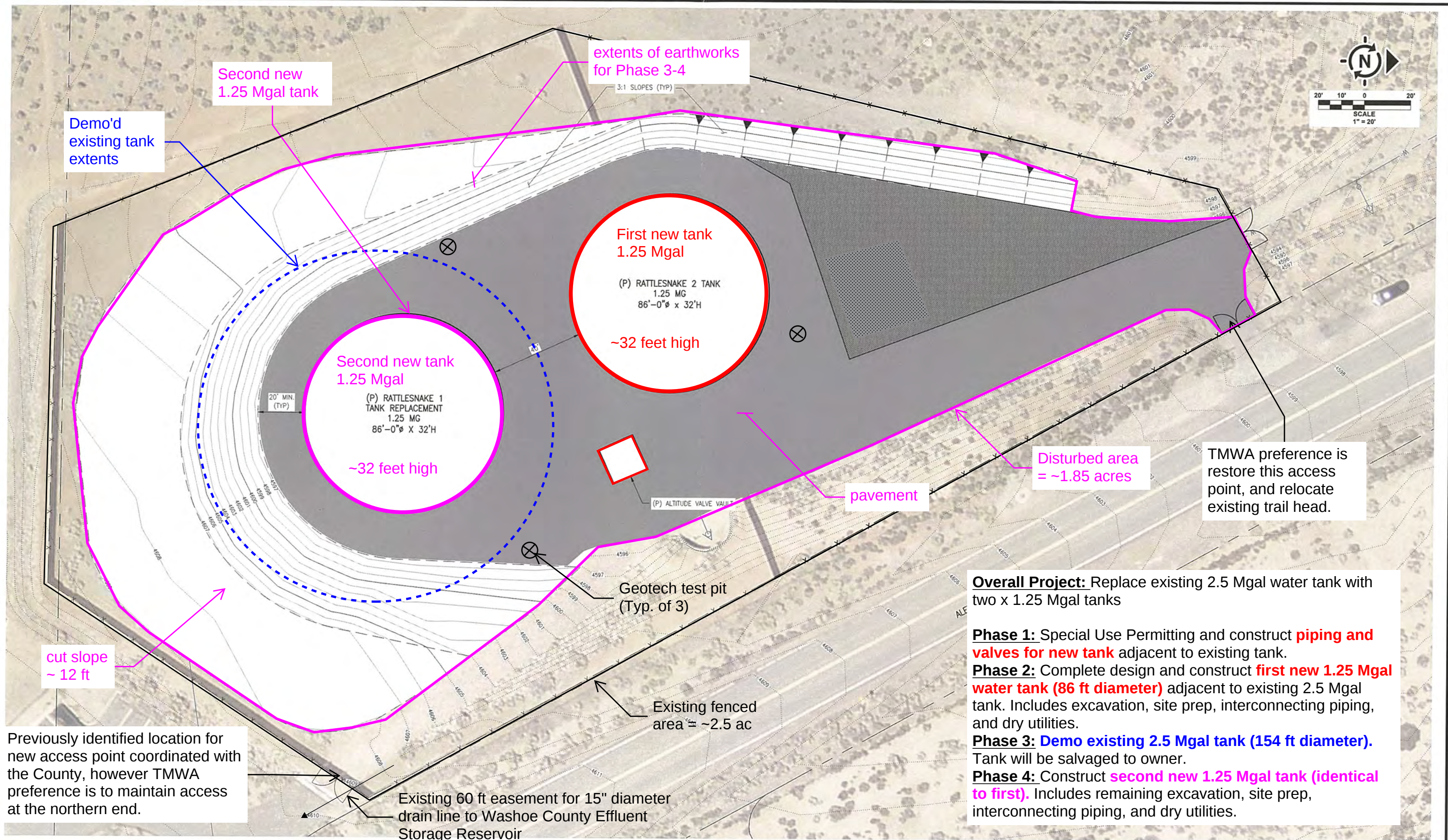
PRELIMINARY PHASE 1 & 2 GRADING PLAN

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P1-2

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↑ STOCKPILE PH. 1 SOIL ↑



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					DATE SEPT. 2024
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					SUBMITTED
					RECOMMENDED
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Truckee Meadows
Water Authority

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RATTLESNAKE 2 TANK PROJECT WASHOE COUNTY, NEVADA

PRELIMINARY PHASE 3 & 4 GRADING PLAN

SHEET NUMBER

P3-4

SHT# OF X

WSUP26-0009
EXHIBIT D

Project Reports & Studies

Geotechnical Report

Conceptual Drainage Study

Baseline Vegetation Report

Tab C

**Conceptual Drainage Study
for the
Rattlesnake Tank Improvements Project**

**Located at
6000A Alexander Lake Road
Reno, Nevada
APN: 164-342-09**

Prepared For:

**Truckee Meadows Water Authority
1355 Capital Blvd
Reno, NV, 89502**

Prepared By:



**Lumos and Associates, Inc.
950 Sandhill Blvd., Suite 100
Reno, NV 89521
775-827-6111**



**JN 12455.000
May 7, 2026**

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	B. Existing Site Description	2
	C. Drainage Goals	3
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B	FEMA FIRMette Flood Map
C	NOAA Atlas 14 Precipitation Data
D	Drainage Calculations
E	Hydrologic Catchment Exhibits
	Figure 1: EPA WATERS
	Figure 2: Existing On-Site Sub-Catchments
	Figure 3: Proposed On-Site Sub-Catchment

I. Introduction

A. Description of Project

The Rattlesnake Tank Improvements Project proposes improvements to the water tank system located at 6000A Alexander Lake Road within a 1.57 acre fenced area of the total 11.08 acre parcel (APN: 164-342-09). The tank site is adjacent to the Huffaker Hills Trailhead in the Rattlesnake Mountain Range in the South West 1/4 of the North East 1/4 of Section 32, Township 19 North, Range 20 East. Refer to **Figure 1** and **Figure 2** for a Vicinity Map and Location Map of the project site, respectively.

The project proposes to replace an existing 2.5 million gallon (MG) water tank with two new 1.25 MG water tanks within an expanded fenced enclosure of up to 2.5 acres. The project will include various other site improvements within the fenced area, including relocating the existing altitude vault, grading of the site with cut/fill not exceeding a 3H:1V slope, drainage features, surface improvements, and relocating existing waterlines. The remainder of the parcel outside of the fenced enclosure will be undisturbed, with the exception of a temporary stockpile of native soils to facilitate phased construction.



Figure 1: Rattlesnake Tank Project Site Vicinity Map



Figure 2: Location Map for Rattlesnake Tank Project Site

B. Existing Site Description

The tank site is presently within a 1.57 acre disturbed area, delineated by a chain-link fence with privacy slats. The fenced area is situated within a 11.08 acre parcel, approximately 5,000 feet above mean sea level. The disturbed area of the parcel (including for proposed improvements described in Section III), is herein referred to as the Project Site (Site), and is the subject of this Conceptual Drainage Study.

The existing Site hosts one existing 2.5 MG, 154 feet diameter water storage tank and a concrete altitude valve vault. The site is accessed from a compacted gravel private access road via the Huffaker Hills Trail parking area, adjacent to a riprap-stabilized slope. Underground utilities exist on site to serve the tank infrastructure and provide fire protection. The Site is located within a Public/Semi-Public Facilities (PSP) zoned area, commensurate with the infrastructure presently on site.

Vegetation on the site consists of a combination of native arid shrubland including sagebrush, rabbitbrush, and various native grass species. A pending baseline vegetation survey will be furnished to TMWA (Western Botanical Services, Inc., 2026) and can be made available to other parties upon request. The existing Site consists of slopes ranging from 0% to 50%. According to the Natural Resources Conservation Service (NRCS) Customs Soils Report, 87.4% of the Site is situated on Old Camp stony, sand loam soils

(see **Appendix A**). The NRCS Custom Soils Report also shows that the soils on Site are hydrological soil group D, i.e. poorly drained.

According to the Site's FEMA FIRMette (March 16, 2009, Map Number 32031C3234G), the Site is located in Zone X, an area of minimal flood hazard (see **Appendix B**). The Site is therefore not considered by FEMA to be within a floodplain that poses a risk to the Site.

Federal Emergency Management Associated (FEMA) Flood Insurance Rates Mapping data (FIRMette) shows that this site is currently located in Unshaded Flood Zone X (see **Appendix B**). Additionally, groundwater was not encountered within any bore holes drilled during a geotechnical field investigation at the site. The relevant Geotechnical Investigation Report (Lumos & Associates, Inc., 2026) was issued to TMWA and can be made available to other parties upon request.

C. Drainage Goals

The primary drainage goal for this Site is to maintain drainage away from the tank(s), as this prevents saturation and potential settlement of their foundation, which would pose an unacceptable risk to critical water infrastructure. Additionally, any increase in runoff resulting from the proposed project should be mitigated, such that flows leaving the Site do not exceed existing runoff flow rates and volumes.

This conceptual drainage study delineates the drainage areas and resultant runoff from the Site under existing and proposed conditions. The differences in runoff volumes and peak flows set the project's drainage design criteria for future detailed design of any proposed detention or attenuation areas. The conceptual drainage design also supports site planning for a Washoe County Special Use Permit (SUP). The drainage study and design for the Site is compliant with the Truckee Meadows Regional Drainage Manual (TMRDM) and the Washoe County Development Standards (Division 4).

II. Existing and Proposed Hydrology

A. Drainage Catchments

The Site lies within the Dry Creek watershed per the Environmental Protection Agency (EPA) Watershed Assessment, Tracking & Environmental Results System (WATERS) (see **Appendix E**). The Site is located at the eastern headwaters of the Dry Creek watershed. Runoff from Dry Creek Watershed at the Site flows northwest into an existing dirt drainage channel that ultimately discharges to public storm drain infrastructure in Donald Cline Way. Off-site runoff from Dry Creek Watershed that flows towards the property is diverted around the southern perimeter of the Site via a catch berm drainage swale. As a result, no off-site flows enter the Site.

Storm flows generated on-site drain to two different points of the property. These are delineated as sub-catchments 'EX-1' and 'EX-2' in Figure 2 of **Appendix E**. The existing subcatchments were delineated based on 0.1 ft topographic survey contours.

The proposed project improvements will modify the Site grading such that there is a single on-site subcatchment, shown as 'PROP-1' in Figure 3 of **Appendix E**. PROP-1 was delineated based on proposed conceptual site grading for the built-out project utilizing AutoDesk's Civil 3D software. The proposed improvements at the Site will expand the existing fenced/disturbed area, encompassing a small portion of existing catchment, though the remainder of the existing off-site catchment will remain unchanged.

The existing and proposed land characteristics for the Site are provided in **Table 1** and **Table 2** respectively.

Table 1: Existing On-Site Catchment Characteristics

Existing Site	Sym.	Existing Sub-Catchments		Unit
		EX-1	EX-2	
Runoff Area Total	AT	102,431	22,258	sq-ft
Pavement	A1	4,824	-	sq-ft
Compacted Agg. Base	A2	20,152	-	sq-ft
Steel Tanks	A3	18,868	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	3,326	-	sq-ft
Native	A6	55,015	22,258	sq-ft
Percent Pervious	-	77	100	%
Longest Flow Path	L	136	618	ft
Average Drainage Slope	S	2.1	1.0	%

Table 2: Proposed On-Site Characteristics

Proposed Site	Sym.	Proposed Sub-Catchments		Unit
		PROP-1	N/A	
Runoff Area Total	AT	124,519	-	sq-ft
Pavement	A1	32,289	-	sq-ft
Compacted Agg. Base	A2	5,994	-	sq-ft
Steel Tanks	A3	11,618	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	5,498	-	sq-ft
Native	A6	68,874	-	sq-ft
Percent Pervious	-	65	-	%
Longest Flow Path	L	595	-	ft
Average Drainage Slope	S	1.0	-	%

B. Storm Flow Inputs

Precipitation data was extracted in inches per hour (rainfall intensity) and total inches (depth) from the National Oceanic and Atmospheric Administration (NOAA) Atlas 14 database (see **Appendix C**). Precipitation values for the 5-year and 100-year recurrence intervals storms were selected for the runoff analysis per the Washoe County Development Standards, for a storm duration equal to the time of concentration for each subcatchment.

The time of concentration (T_c) was calculated to be 6-7 minutes for the various subcatchments, and was therefore increased to 10 minutes per the TMRDM minimum. The time of concentration was based on a sum of travels times for sheet flow and shallow concentrated flow (calculations provided in **Appendix D**). The resultant precipitation data is provided in **Table 3**.

Table 3: Rainfall Data – NOAA Atlas 14

Design Storm, 10 min duration	Sym.	Value	Unit
5-year Intensity	I_5	1.34	in/hr
100-year Intensity	I_{100}	3.30	in/hr
5-year Depth	P_5	0.22	inches
100-year Depth	P_{100}	0.55	inches

The rainfall data was used along with runoff coefficients to calculate runoff using the Rational Method. The Rational Method is outlined as follows:

$$Q = C \times I \times A, \quad \text{where}$$

Q = peak runoff flow rate, cubic feet per second (cfs)

C = weighted runoff coefficient, unitless

I = rainfall intensity, in/hr

A = total subcatchment area, square-feet (sq-ft)

Runoff coefficients were selected in accordance with guidance provided in the TMRDM, as presented in **Table 4**.

Table 4: Rational Method Run-Off Coefficients

Land Cover	Sym.	Runoff Coefficient	
		5-year Storm	100-year Storm
Asphalt	C1	0.88	0.93
Gravel	C2	0.20	0.50
Steel Tanks	C3	0.85	0.87
Concrete/Steel Hatch	C4	0.85	0.87
Rip Rap	C5	0.25	0.40
Native Soils	C6	0.20	0.50

C. Storm Flow & Runoff Results

The overall peak flow and runoff volume for the property for the 5-year and 100-year storm has been increase due to a larger property and impervious improvements. All peak flows at the outfalls in the 5-year and 100-year, 24 hour storm event have been reduced from existing to proposed conditions.

Table 5: Existing Peak Flow & Runoff Volume

Existing Site	Sym.	5-Year Storm			100-Year Storm			Unit
		EX-1	EX-2	Sum	EX-1	EX-2	Sum	
Weighted Coeff.	C	0.35	0.50	-	0.59	0.50	-	-
Peak Flow	Qp	1.12	0.34	1.46	4.55	0.84	5.39	cfs
Runoff Volume	V	451	140	591	1,832	346	2,178	cf

Table 6: Proposed Peak Runoff Flow & Volume

Proposed Site	Sym.	Prop-1 5-Year	N/A 5-Year	Prop-1 100-Year	N/A 100-Year	Unit
Weighted Coeff.	C	0.44	-	0.64	-	-
Peak Flow	Qp	1.69	-	6.06	-	cfs
Runoff Volume	V	687	-	2,467	-	cf

Note that while the *total* Site's 100-year storm runoff increased to 6.06 cfs from the existing flow of 5.39 cfs, the Site's proposed target outflow design is based on the peak discharge at the proposed culvert, i.e. 4.55 cfs from subcatchment EX-1.

No irrigation facilities or floodplains exist at the Site and will there not be affected. Impacts to the Site's stormwater discharge receiving environment will be mitigated by drainage Site improvements discussed in Section III.

III. Proposed Drainage Facilities

A. Routing of Flow / Location of Drainage Facilities

Flow will be routed on-site to a discharge culvert via curb and gutter and a detention basin. The discharge culvert will be sized to accommodate the maximum allowable outflow from the Site, i.e. the existing 100-year peak discharge, at 70 percent full. The culvert was sized using Manning's Equation for Open Channel Flow. The culvert will be a reinforced concrete pipe (RCP), translating to a Manning's roughness coefficient (n) of 0.013. The resultant minimum culvert size is 15-inches. Culvert sizing calculations are summarized in Table 7 and can be referenced in **Appendix D**. Figure 4 of **Appendix E** shows the location of the culvert.

Table 7: Proposed Culvert Flow

Culvert Flow	Sym.	Value	Unit
Manning's Roughness Coeff.	n	0.013	-
Slope	S	0.01	ft/ft
Pipe Diameter (min)	D	15	inches
Full Culvert Flow	Q _{full}	6.48	cfs
Design Flow	Q	4.55	cfs
Percentage Full		70	%
Allowable Flow Achieved? ($\leq 70\%$)		Yes	
Outfall Velocity	v	3.71	ft/s

B. Storm Runoff Detention

A minor, local detention basin is proposed upstream of the Site's discharge culvert to mitigate increased storm water runoff. The basin was sized to have 640 cubic feet (cf) of storage below a 12-inch freeboard per TMRDM guidelines. See **Table 8** for design criteria of the basin resulting from the increase in runoff shown in **Table 5** and **Table 6**.

Table 8: Detention Basin Design Criteria

Proposed Site	Sym	5-Year Storm			100-Year Storm			Unit
		EX-1 vs Prop-1	EX-2 vs N/A	Net	EX-1 vs Prop-1	EX-2 vs N/A	Net	
Runoff Mitigation	ΔQ	+0.57	-0.34	+0.23	+1.51	-0.84	+0.67	cfs
Volume Difference	ΔV	+236	-140	+96	+635	-346	+289	cf

The design criteria will be used to configure an outlet structure during detailed design. The outlet structure will provide discharge control in accordance with Section 1302 and 1304 or the TMRDM. Rip rap will be sized for installation within the basin to provide additional attenuate flows and mitigate sediment transport to the discharge pipe. The basin is designed to drain within 24 hours per the TMRDM.

For the basin to function as intended, periodic inspections will be required so that appropriate maintenance can be scheduled. Inspections will be conducted year-round to account for ice buildup that may occur. Maintenance may include removal of trash and debris from the basin and its discharge culvert. If necessary, repairs will be made to maintain basin functionality.

C. Storm Runoff Infiltration

Stormwater infiltration may occur naturally in pervious areas, however the proposed Site does not include design for infiltration or retention facilities. This is because the Site's soil percolation rates are understood to be low according with the NRCS Custom Soils Report.

IV. Conclusion

A. *Compliance with Local Guidelines*

This conceptual drainage study and all proposed drainage infrastructure design was prepared in accordance with TMWA standards, the Washoe County Development Standards, and the TMRDM.

The proposed Site improvements result in a peak runoff increase from 4.55 cfs to 6.06 cfs at the Site's proposed culvert discharge for the 100-year storm. This increase will be mitigated by detaining flows in a riprap basin upstream of the culvert. The detention basin will result in a net-zero impact to discharge from the Site.

B. *Compliance with FEMA*

Based on FEMA FIRMette Number 32031C3234G (March 16, 2009, Map), the site is within Unshaded Zone X an area of minimal flood hazard (see **Appendix B**). As such, no impact to a flood plain results from this project, and FEMA compliance is not deemed applicable.

V. References

- Lumos & Associates, Inc. (2026). *Geotechnical Investigation Report for Rattlesnake Tank Site*.
- Western Botanical Services, Inc. (2026). *[PENDING] Baseline Vegetation Survey Report*.

Appendix A: NRCS Custom Soils Survey Report



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for **Washoe County, Nevada, South Part**

Rattlesnake Tank Site



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)

Soils

 Soil Map Unit Polygons

 Soil Map Unit Lines

 Soil Map Unit Points

Special Point Features

 Blowout

 Borrow Pit

 Clay Spot

 Closed Depression

 Gravel Pit

 Gravelly Spot

 Landfill

 Lava Flow

 Marsh or swamp

 Mine or Quarry

 Miscellaneous Water

 Perennial Water

 Rock Outcrop

 Saline Spot

 Sandy Spot

 Severely Eroded Spot

 Sinkhole

 Slide or Slip

 Sodic Spot

 Spoil Area

 Stony Spot

 Very Stony Spot

 Wet Spot

 Other

 Special Line Features

Water Features

 Streams and Canals

Transportation

 Rails

 Interstate Highways

 US Routes

 Major Roads

 Local Roads

Background

 Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washoe County, Nevada, South Part
Survey Area Data: Version 23, Aug 29, 2025

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 1, 2024—Jul 1, 2024

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
930	Old Camp stony sandy loam, 15 to 30 percent slopes	0.1	1.4%
931	Old Camp-Rock outcrop complex, 15 to 50 percent slopes	0.4	11.1%
932	Old Camp stony sandy loam, 8 to 15 percent slopes	3.5	87.4%
Totals for Area of Interest		4.0	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Washoe County, Nevada, South Part

930—Old Camp stony sandy loam, 15 to 30 percent slopes

Map Unit Setting

National map unit symbol: hxnnp

Landscape: Hills

Elevation: 4,500 to 6,000 feet

Mean annual precipitation: 8 to 12 inches

Mean annual air temperature: 43 to 47 degrees F

Frost-free period: 100 to 120 days

Farmland classification: Not prime farmland

Map Unit Composition

Old camp and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Old Camp

Setting

Landscape: Hills

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Residuum and colluvium derived from volcanic rocks

Typical profile

H1 - 0 to 2 inches: stony sandy loam

H2 - 2 to 14 inches: very cobbly clay loam

R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent

Surface area covered with cobbles, stones or boulders: 2.0 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.

Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 4 percent
Landform: Peaks
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Reywat

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.
Hydric soil rating: No

Xman

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Manogue

Percent of map unit: 3 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY027NV - CHURNING CLAY 8-10 P.Z.
Hydric soil rating: No

931—Old Camp-Rock outcrop complex, 15 to 50 percent slopes

Map Unit Setting

National map unit symbol: hxnq
Landscape: Hills
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 43 to 47 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Old camp and similar soils: 50 percent
Old camp and similar soils: 20 percent
Rock outcrop: 20 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Old Camp

Setting

Landscape: Hills

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Residuum and colluvium derived from volcanic rocks

Typical profile

H1 - 0 to 2 inches: very stony sandy loam

H2 - 2 to 14 inches: very cobbly clay loam

R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 30 to 50 percent

Surface area covered with cobbles, stones or boulders: 23.0 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.

Hydric soil rating: No

Description of Old Camp

Setting

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Parent material: Residuum and colluvium derived from volcanic rocks

Typical profile

H1 - 0 to 8 inches: stony sandy loam

H2 - 8 to 14 inches: very cobbly clay loam

R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 15 to 30 percent

Surface area covered with cobbles, stones or boulders: 2.0 percent

Depth to restrictive feature: 10 to 20 inches to lithic bedrock

Drainage class: Well drained

Runoff class: Very high

Custom Soil Resource Report

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water supply, 0 to 60 inches: Very low (about 1.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.

Hydric soil rating: No

Description of Rock Outcrop

Setting

Landform: Peaks

Down-slope shape: Convex

Across-slope shape: Convex

Minor Components

Xman

Percent of map unit: 4 percent

Landform: Hills

Down-slope shape: Convex

Across-slope shape: Convex

Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.

Hydric soil rating: No

Reywat

Percent of map unit: 3 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.

Hydric soil rating: No

Manogue

Percent of map unit: 3 percent

Landform: Hills

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R026XY027NV - CHURNING CLAY 8-10 P.Z.

Hydric soil rating: No

932—Old Camp stony sandy loam, 8 to 15 percent slopes

Map Unit Setting

National map unit symbol: hxn
Landscape: Hills
Elevation: 4,500 to 6,000 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 43 to 47 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Not prime farmland

Map Unit Composition

Old camp and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Old Camp

Setting

Landscape: Hills
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Residuum and colluvium derived from volcanic rocks

Typical profile

H1 - 0 to 2 inches: stony sandy loam
H2 - 2 to 14 inches: very cobbly clay loam
R - 14 to 24 inches: bedrock

Properties and qualities

Slope: 8 to 15 percent
Surface area covered with cobbles, stones or boulders: 12.0 percent
Depth to restrictive feature: 10 to 20 inches to lithic bedrock
Drainage class: Well drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Sodium adsorption ratio, maximum: 5.0
Available water supply, 0 to 60 inches: Very low (about 1.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 7s
Hydrologic Soil Group: D
Ecological site: R026XY022NV - STONY SLOPE 8-10 P.Z.
Hydric soil rating: No

Minor Components

Rock outcrop

Percent of map unit: 4 percent
Landform: Peaks
Down-slope shape: Convex
Across-slope shape: Convex
Hydric soil rating: No

Reywat

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY015NV - SHALLOW LOAM 10-12 P.Z.
Hydric soil rating: No

Xman

Percent of map unit: 4 percent
Landform: Hills
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Manogue

Percent of map unit: 3 percent
Landform: Hills
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY027NV - CHURNING CLAY 8-10 P.Z.
Hydric soil rating: No

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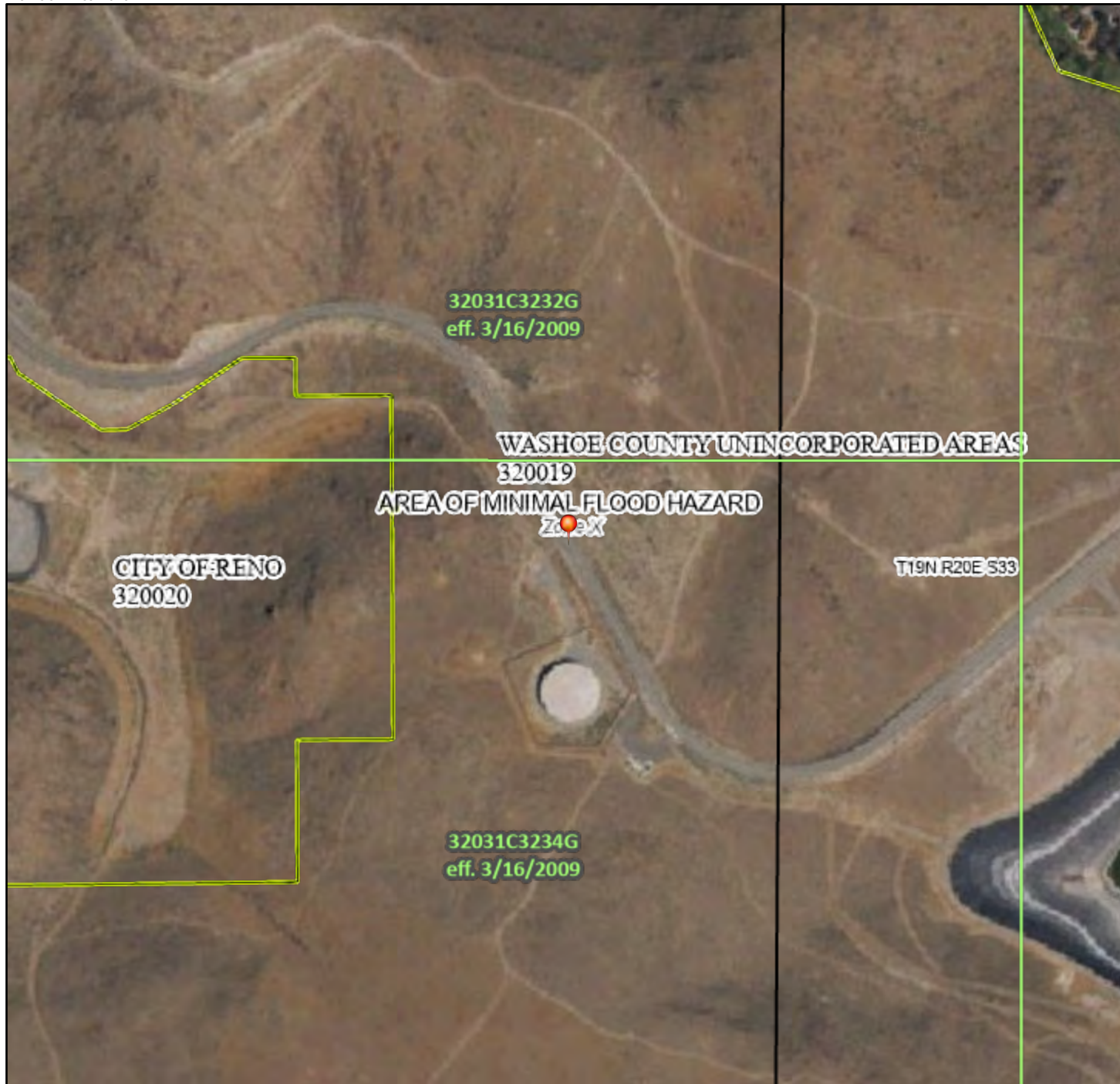
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Appendix B: FEMA Flood Insurance Rates Map (FIRMette)

National Flood Hazard Layer FIRMette



119°45'34"W 39°28'19"N



0 250 500 1,000 1,500 2,000 Feet

1:6,000

119°44'56"W 39°27'51"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone D
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone D
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
		Coastal Transect Baseline
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped



The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **3/16/2026 at 9:13 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

WSUP26-0009
EXHIBIT D

Appendix C: NOAA Atlas 14 Precipitation Data



NOAA Atlas 14, Volume 1, Version 5
Location name: Reno, Nevada, USA*
Latitude: 39.4671°, Longitude: -119.7541°
Elevation: 4598 ft**
* source: ESRI Maps
** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.06 (0.900-1.22)	1.31 (1.12-1.55)	1.76 (1.49-2.09)	2.18 (1.85-2.59)	2.90 (2.38-3.49)	3.56 (2.81-4.33)	4.33 (3.32-5.35)	5.28 (3.88-6.67)	6.80 (4.68-8.90)	8.17 (5.38-11.0)
10-min	0.804 (0.684-0.930)	0.996 (0.846-1.18)	1.34 (1.13-1.58)	1.66 (1.40-1.98)	2.20 (1.81-2.66)	2.71 (2.14-3.30)	3.30 (2.53-4.07)	4.01 (2.95-5.08)	5.17 (3.56-6.78)	6.22 (4.09-8.35)
15-min	0.660 (0.568-0.768)	0.820 (0.696-0.972)	1.11 (0.940-1.31)	1.37 (1.16-1.63)	1.82 (1.50-2.20)	2.24 (1.77-2.72)	2.73 (2.09-3.37)	3.32 (2.44-4.19)	4.28 (2.94-5.60)	5.14 (3.38-6.90)
30-min	0.446 (0.382-0.518)	0.554 (0.470-0.654)	0.744 (0.632-0.882)	0.926 (0.780-1.10)	1.23 (1.01-1.48)	1.51 (1.19-1.84)	1.84 (1.41-2.27)	2.23 (1.64-2.82)	2.88 (1.98-3.77)	3.46 (2.28-4.64)
60-min	0.276 (0.236-0.320)	0.342 (0.291-0.404)	0.461 (0.391-0.546)	0.572 (0.482-0.680)	0.759 (0.623-0.914)	0.932 (0.736-1.14)	1.14 (0.870-1.40)	1.38 (1.01-1.75)	1.78 (1.23-2.33)	2.14 (1.41-2.87)
2-hr	0.183 (0.162-0.212)	0.228 (0.202-0.263)	0.294 (0.256-0.339)	0.349 (0.300-0.403)	0.435 (0.362-0.508)	0.511 (0.415-0.607)	0.598 (0.471-0.721)	0.705 (0.536-0.882)	0.913 (0.657-1.18)	1.10 (0.763-1.45)
3-hr	0.144 (0.128-0.163)	0.179 (0.162-0.205)	0.226 (0.202-0.257)	0.263 (0.232-0.300)	0.314 (0.272-0.361)	0.358 (0.304-0.418)	0.412 (0.343-0.488)	0.482 (0.391-0.593)	0.611 (0.480-0.792)	0.741 (0.557-0.976)
6-hr	0.099 (0.089-0.111)	0.125 (0.112-0.140)	0.155 (0.138-0.174)	0.178 (0.158-0.201)	0.209 (0.182-0.237)	0.231 (0.199-0.265)	0.255 (0.216-0.295)	0.282 (0.233-0.331)	0.325 (0.261-0.401)	0.377 (0.297-0.494)
12-hr	0.063 (0.057-0.070)	0.079 (0.071-0.089)	0.100 (0.090-0.112)	0.116 (0.103-0.130)	0.137 (0.120-0.156)	0.154 (0.133-0.176)	0.170 (0.145-0.198)	0.186 (0.155-0.219)	0.208 (0.168-0.251)	0.227 (0.178-0.278)
24-hr	0.038 (0.035-0.043)	0.048 (0.044-0.054)	0.061 (0.055-0.068)	0.071 (0.064-0.079)	0.085 (0.077-0.095)	0.097 (0.086-0.107)	0.108 (0.096-0.121)	0.120 (0.105-0.136)	0.137 (0.118-0.156)	0.150 (0.127-0.172)
2-day	0.022 (0.020-0.025)	0.028 (0.025-0.031)	0.036 (0.032-0.040)	0.042 (0.037-0.047)	0.050 (0.045-0.056)	0.057 (0.050-0.064)	0.064 (0.056-0.072)	0.071 (0.061-0.081)	0.081 (0.068-0.093)	0.088 (0.074-0.104)
3-day	0.016 (0.014-0.018)	0.020 (0.018-0.023)	0.026 (0.023-0.029)	0.030 (0.027-0.034)	0.037 (0.033-0.041)	0.042 (0.037-0.047)	0.047 (0.041-0.053)	0.053 (0.046-0.060)	0.061 (0.051-0.070)	0.067 (0.056-0.078)
4-day	0.013 (0.012-0.014)	0.016 (0.015-0.018)	0.021 (0.019-0.023)	0.025 (0.022-0.028)	0.030 (0.027-0.034)	0.034 (0.030-0.039)	0.039 (0.034-0.044)	0.044 (0.038-0.050)	0.051 (0.043-0.058)	0.056 (0.047-0.066)
7-day	0.008 (0.007-0.009)	0.011 (0.010-0.012)	0.014 (0.012-0.016)	0.017 (0.015-0.019)	0.020 (0.018-0.023)	0.023 (0.020-0.026)	0.026 (0.023-0.030)	0.029 (0.025-0.033)	0.033 (0.028-0.039)	0.037 (0.031-0.044)
10-day	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.011 (0.010-0.012)	0.013 (0.011-0.014)	0.016 (0.014-0.018)	0.018 (0.016-0.020)	0.020 (0.017-0.023)	0.022 (0.019-0.026)	0.025 (0.022-0.030)	0.028 (0.023-0.033)
20-day	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.006-0.007)	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.013)	0.013 (0.011-0.014)	0.014 (0.012-0.016)	0.015 (0.013-0.018)
30-day	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.007 (0.006-0.007)	0.007 (0.007-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.012)	0.011 (0.009-0.013)
45-day	0.002 (0.002-0.002)	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.004-0.006)	0.006 (0.005-0.006)	0.006 (0.005-0.007)	0.007 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)
60-day	0.002 (0.001-0.002)	0.002 (0.002-0.002)	0.003 (0.003-0.003)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.004-0.005)	0.005 (0.004-0.006)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.006 (0.005-0.007)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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Table 1: NOAA - ATLAS 14, Precipitation Data (in/hour)



NOAA Atlas 14, Volume 1, Version 5
Location name: Reno, Nevada, USA*
Latitude: 39.4671°, Longitude: -119.7541°
Elevation: 4598 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aeries](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches) ¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.088 (0.075-0.102)	0.109 (0.093-0.129)	0.147 (0.124-0.174)	0.182 (0.154-0.216)	0.242 (0.198-0.291)	0.297 (0.234-0.361)	0.361 (0.277-0.446)	0.440 (0.323-0.556)	0.567 (0.390-0.742)	0.681 (0.448-0.914)
10-min	0.134 (0.114-0.155)	0.166 (0.141-0.196)	0.223 (0.189-0.264)	0.277 (0.233-0.330)	0.367 (0.302-0.443)	0.451 (0.356-0.550)	0.550 (0.421-0.679)	0.669 (0.491-0.846)	0.862 (0.593-1.13)	1.04 (0.682-1.39)
15-min	0.165 (0.142-0.192)	0.205 (0.174-0.243)	0.277 (0.235-0.328)	0.343 (0.289-0.408)	0.456 (0.374-0.549)	0.559 (0.442-0.681)	0.682 (0.522-0.843)	0.829 (0.609-1.05)	1.07 (0.736-1.40)	1.28 (0.846-1.72)
30-min	0.223 (0.191-0.259)	0.277 (0.235-0.327)	0.372 (0.316-0.441)	0.463 (0.390-0.550)	0.614 (0.504-0.739)	0.753 (0.595-0.918)	0.918 (0.703-1.13)	1.12 (0.819-1.41)	1.44 (0.991-1.89)	1.73 (1.14-2.32)
60-min	0.276 (0.236-0.320)	0.342 (0.291-0.404)	0.461 (0.391-0.546)	0.572 (0.482-0.680)	0.759 (0.623-0.914)	0.932 (0.736-1.14)	1.14 (0.870-1.40)	1.38 (1.01-1.75)	1.78 (1.23-2.33)	2.14 (1.41-2.87)
2-hr	0.367 (0.324-0.424)	0.456 (0.404-0.527)	0.588 (0.512-0.678)	0.698 (0.600-0.807)	0.871 (0.725-1.02)	1.02 (0.830-1.21)	1.20 (0.943-1.44)	1.41 (1.07-1.76)	1.83 (1.32-2.36)	2.21 (1.53-2.90)
3-hr	0.433 (0.387-0.491)	0.540 (0.487-0.616)	0.680 (0.607-0.773)	0.790 (0.697-0.901)	0.944 (0.818-1.09)	1.08 (0.915-1.26)	1.24 (1.03-1.47)	1.45 (1.18-1.78)	1.84 (1.44-2.38)	2.23 (1.67-2.93)
6-hr	0.595 (0.534-0.668)	0.749 (0.671-0.843)	0.931 (0.832-1.05)	1.07 (0.950-1.21)	1.25 (1.09-1.42)	1.39 (1.19-1.59)	1.53 (1.29-1.77)	1.69 (1.40-1.98)	1.95 (1.57-2.40)	2.26 (1.78-2.96)
12-hr	0.763 (0.687-0.851)	0.958 (0.861-1.07)	1.21 (1.09-1.36)	1.41 (1.25-1.58)	1.66 (1.46-1.88)	1.86 (1.61-2.12)	2.06 (1.75-2.39)	2.25 (1.87-2.65)	2.52 (2.03-3.03)	2.74 (2.15-3.35)
24-hr	0.932 (0.846-1.04)	1.16 (1.06-1.30)	1.47 (1.34-1.63)	1.72 (1.56-1.90)	2.06 (1.85-2.28)	2.33 (2.08-2.59)	2.61 (2.31-2.92)	2.90 (2.54-3.27)	3.30 (2.84-3.75)	3.61 (3.07-4.15)
2-day	1.10 (0.989-1.22)	1.37 (1.24-1.54)	1.74 (1.57-1.94)	2.03 (1.82-2.26)	2.43 (2.17-2.72)	2.75 (2.44-3.09)	3.08 (2.70-3.49)	3.42 (2.96-3.91)	3.90 (3.31-4.51)	4.26 (3.56-5.01)
3-day	1.19 (1.07-1.32)	1.49 (1.35-1.66)	1.89 (1.71-2.11)	2.22 (2.00-2.48)	2.68 (2.39-3.00)	3.05 (2.70-3.42)	3.43 (3.01-3.88)	3.84 (3.32-4.37)	4.40 (3.73-5.08)	4.86 (4.04-5.67)
4-day	1.28 (1.16-1.43)	1.61 (1.46-1.79)	2.05 (1.86-2.28)	2.42 (2.18-2.69)	2.93 (2.62-3.27)	3.35 (2.97-3.75)	3.79 (3.32-4.27)	4.25 (3.68-4.83)	4.91 (4.15-5.65)	5.44 (4.53-6.34)
7-day	1.50 (1.34-1.68)	1.88 (1.69-2.12)	2.43 (2.17-2.72)	2.86 (2.56-3.22)	3.47 (3.07-3.90)	3.95 (3.47-4.46)	4.46 (3.88-5.07)	4.98 (4.29-5.71)	5.71 (4.82-6.64)	6.29 (5.24-7.40)
10-day	1.65 (1.48-1.86)	2.10 (1.88-2.36)	2.72 (2.43-3.05)	3.20 (2.86-3.59)	3.86 (3.42-4.35)	4.38 (3.86-4.95)	4.93 (4.30-5.59)	5.48 (4.73-6.26)	6.23 (5.28-7.20)	6.81 (5.71-7.95)
20-day	1.96 (1.77-2.20)	2.49 (2.24-2.79)	3.22 (2.90-3.60)	3.78 (3.39-4.22)	4.53 (4.04-5.06)	5.10 (4.53-5.72)	5.68 (5.00-6.42)	6.26 (5.46-7.11)	7.03 (6.05-8.09)	7.61 (6.47-8.84)
30-day	2.22 (2.01-2.49)	2.82 (2.55-3.16)	3.64 (3.28-4.06)	4.25 (3.82-4.74)	5.07 (4.53-5.66)	5.69 (5.05-6.38)	6.31 (5.56-7.13)	6.94 (6.05-7.88)	7.76 (6.69-8.91)	8.38 (7.14-9.71)
45-day	2.64 (2.39-2.91)	3.35 (3.03-3.70)	4.31 (3.89-4.73)	5.00 (4.51-5.49)	5.91 (5.31-6.49)	6.56 (5.88-7.22)	7.18 (6.41-7.93)	7.77 (6.90-8.62)	8.49 (7.47-9.50)	8.96 (7.86-10.1)
60-day	3.00 (2.71-3.32)	3.82 (3.45-4.22)	4.91 (4.43-5.40)	5.68 (5.12-6.23)	6.64 (5.98-7.30)	7.32 (6.56-8.08)	7.96 (7.11-8.80)	8.53 (7.59-9.46)	9.20 (8.16-10.3)	9.62 (8.50-10.8)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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Table 2: NOAA - ATLAS 14, Precipitation Data (inches)

Appendix D: Drainage Calculations

Rational Method:

Q =

C =

Q = C x I x A

I =

A =

Discharge (cfs)

Runoff Coefficient (-)

Rainfall Intensity (in/hr)

Runoff Area (acres)



5-Year Design Storm	Sym.	Design Input Value	Units	
Storm Duration, minimum 10 mins	≥Tc	10.00	minutes	
Average Recurrence Interval	-	5	years	
Rainfall Intensity, 5-Yr Storm	I	1.34	in/hr	
Existing Site Drainage, 5-yr Storm	Sym.	Existing Sub-Catchments		Unit
		EX-1	EX-2	
Runoff Area Total	AT	102,431	22,258	sq-ft
Pavement	A1	4,824	-	sq-ft
Compacted Agg. Base	A2	20,152	-	sq-ft
Steel Tanks	A3	18,868	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	3,326	-	sq-ft
Native Soils	A6	55,015	22,258	sq-ft
Weighted Discharge Coefficient, 5 yr	C	0.35	0.50	-
Pavement Coeff	C1	0.88	-	-
Compacted Agg. Base Coeff	C2	0.20	-	-
Steel Tanks Coeff	C3	0.85	-	-
Vault Hatch Coeff	C4	0.85	-	-
Rip Rap Coeff	C5	0.25	-	-
Native Coeff	C6	0.20	0.50	-
Total Flow Length	L	125	618	ft
Time of Concentration	Tc	6.7	6.8	min
Peak Flow	Q5	1.12	0.34	cfs
Runoff Volume	V	451	140	cf
Proposed Site Drainage, 5-yr Storm	Sym.	Proposed Sub-Catchments		Unit
		PROP-1	N/A	
Runoff Area Total	AT	124,519	-	sq-ft
Pavement	A1	32,289	-	sq-ft
Compacted Agg. Base	A2	5,994	-	sq-ft
Steel Tanks	A3	11,618	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	5,498	-	sq-ft
Native Soils	A6	68,874	-	sq-ft
Weighted Discharge Coefficient, 5 yr	C	0.44	-	-
Pavement Coeff	C1	0.88	-	-
Compacted Agg. Base Coeff	C2	0.20	-	-
Steel Tanks Coeff.	C3	0.85	-	-
Vault Hatch Coeff.	C4	0.85	-	-
Rip Rap Coeff	C5	0.25	-	-
Native Coeff	C6	0.20	-	-
Flow Length	L	595	-	ft
Time of Concentration	Tc	6.8	-	min
Peak Flow	Q5	1.69	-	cfs
Runoff Volume	V	687	-	cf

100-Year Design Storm	Sym.	Design Input Value	Units	
Storm Duration, minimum 10 mins	≥Tc	10.00	minutes	
Average Recurrence Interval	-	100	years	
Rainfall Intensity, 100-Yr Storm	I	3.30	in/hr	
Existing Site Drainage, 100-yr Storm	Sym.	Existing Sub-Catchments		Unit
		EX-1	EX-2	
Runoff Area Total	AT	102,431	22,258	sq-ft
Pavement	A1	4,824	-	sq-ft
Compacted Agg. Base	A2	20,152	-	sq-ft
Steel Tanks	A3	18,868	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	3,326	-	sq-ft
Native Soils	A6	55,015	22,258	sq-ft
Weighted Discharge Coefficient, 100 yr	C	0.59	0.50	-
Pavement Coeff	C1	0.93	-	-
Compacted Agg. Base Coeff	C2	0.50	-	-
Steel Tanks Coeff	C3	0.87	-	-
Vault Hatch Coeff	C4	0.87	-	-
Rip Rap Coeff	C5	0.40	-	-
Native Coeff	C6	0.50	0.50	-
Total Flow Length	L	125	618	ft
Time of Concentration	Tc	6.7	6.8	min
Peak Flow	Q100	4.55	0.84	cfs
Runoff Volume	V	1,832	346	cf
Proposed Site Drainage, 100-yr Storm	Sym.	Proposed Sub-Catchments		Unit
		PROP-1	N/A	
Runoff Area Total	AT	124,519	-	sq-ft
Pavement	A1	32,289	-	sq-ft
Compacted Agg. Base	A2	5,994	-	sq-ft
Steel Tanks	A3	11,618	-	sq-ft
Vault Hatch	A4	246	-	sq-ft
Rip Rap	A5	5,498	-	sq-ft
Native Soils	A6	68,874	-	sq-ft
Weighted Discharge Coefficient, 100 yr	C	0.64	-	-
Pavement Coeff	C1	0.93	-	-
Compacted Agg. Base Coeff	C2	0.50	-	-
Steel Tanks Coeff.	C3	0.87	-	-
Vault Hatch Coeff.	C4	0.87	-	-
Rip Rap Coeff	C5	0.40	-	-
Native Coeff	C6	0.50	-	-
Flow Length	L	595	-	ft
Time of Concentration	Tc	6.8	-	min
Peak Flow	Q100	6.06	-	cfs
Runoff Volume	V	2,467	-	cf

5-Year, 10 min Storm	Sym.	EX-1	EX-2	Unit
Peak Flow	Qp	1.12	0.34	cfs
Runoff Volume	V	451	140	cf
Proposed Peak Runoff Increase	ΔQ	0.57	-0.34	cfs
Proposed Volume Increase	ΔV	236	-140	cf
Detention Volume	Vbasin	236		

Mannings Equation for Open Channel Flow:

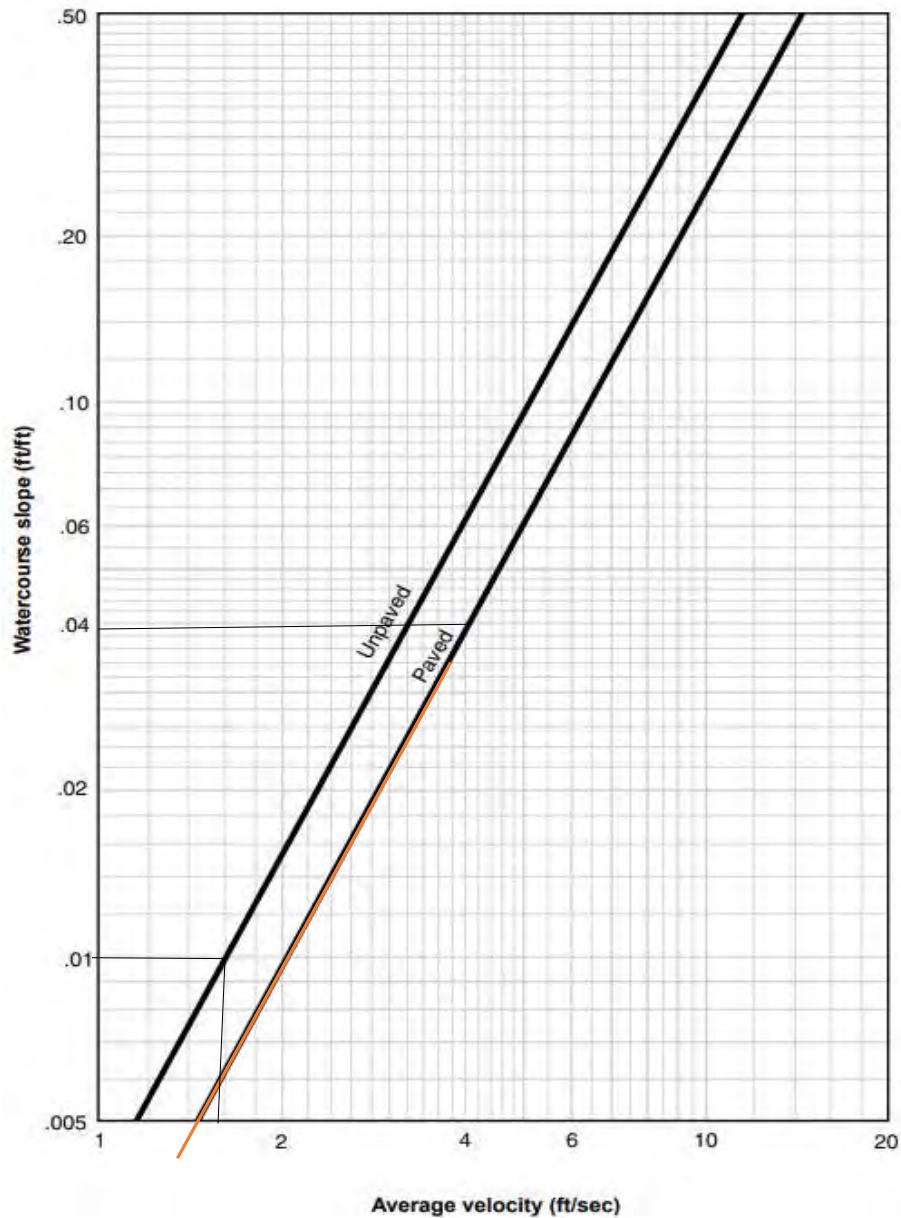
$$Q = (1.49/n)R^{2/3}S^{1/2}A$$

Where Q = Flow Rate [cubic feet per second (cfs)];
n = Roughness coefficient;
A = Area [square feet (sf)];
P = Wetted perimeter (ft);
R = A/P = Hydraulic radius (ft);
S = Slope of the energy grade line (ft/ft).

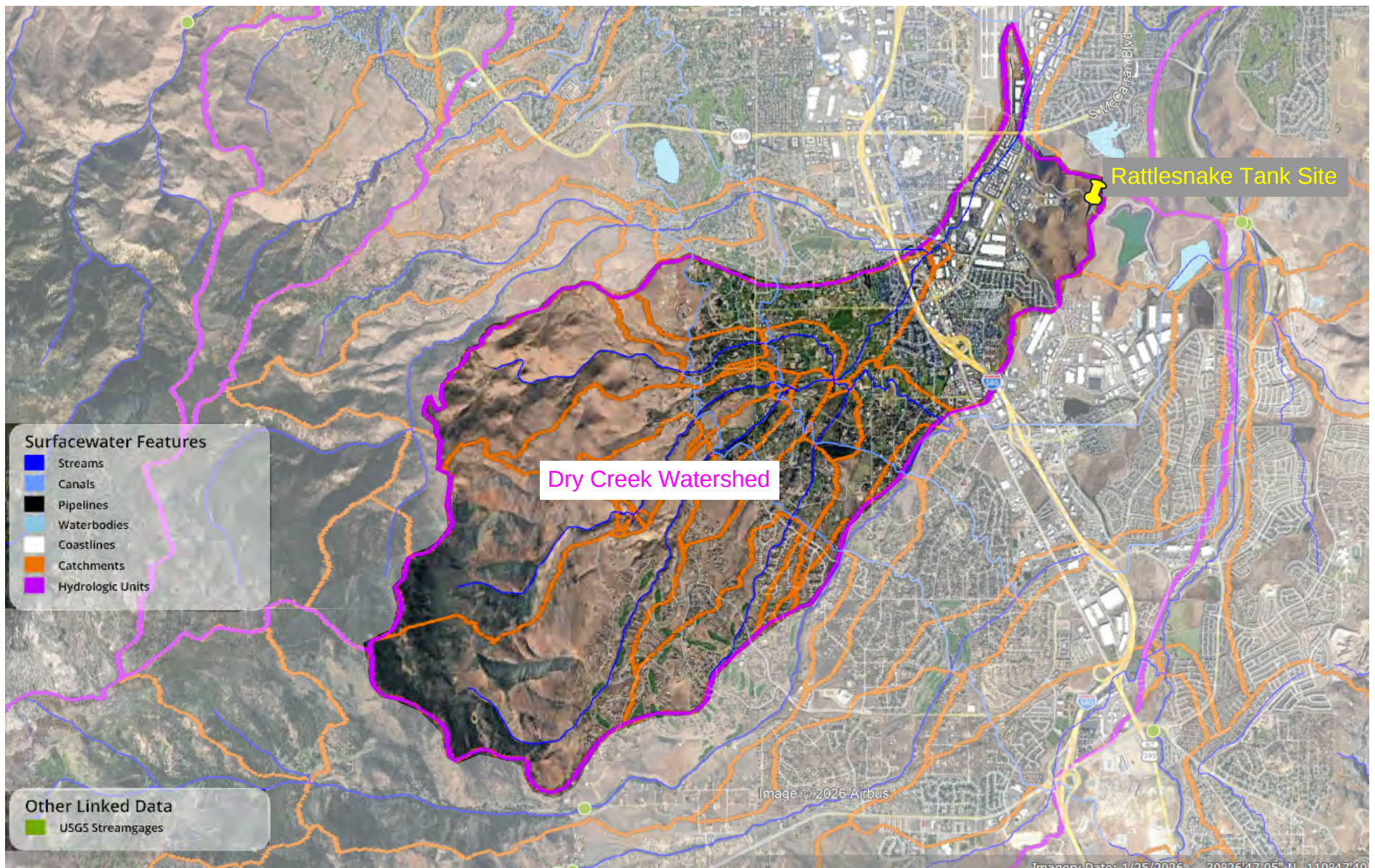
Outlet Culvert Capacity Design	Sym.	Value	Unit
Concrete Culvert Roughness Coeff.	n	0.013	-
Culvert Slope	S	0.01	ft/ft
Pipe Diameter	D	15.00	inches
Pipe Flow Area	A	1.23	sq-ft
Wetted Perimeter	P	3.93	ft
Hydraulic Radius	R	0.31	ft
Culvert Full Flow	Qfull	6.48	cfs
Design Flow	Qp	4.55	cfs
Percent Full	d/D	70%	-
Velocity	v	3.71	ft/s

100-Year, 10 min Storm	Sym.	EX-1	EX-2	Unit
Peak Flow	Qp	4.55	0.84	cfs
Runoff Volume	V	1832	346	cf
Proposed Peak Runoff Increase	ΔQ	1.51	-0.84	cfs
Proposed Volume Increase	ΔV	635	-346	cf
Detention Volume	Vbasin	635		

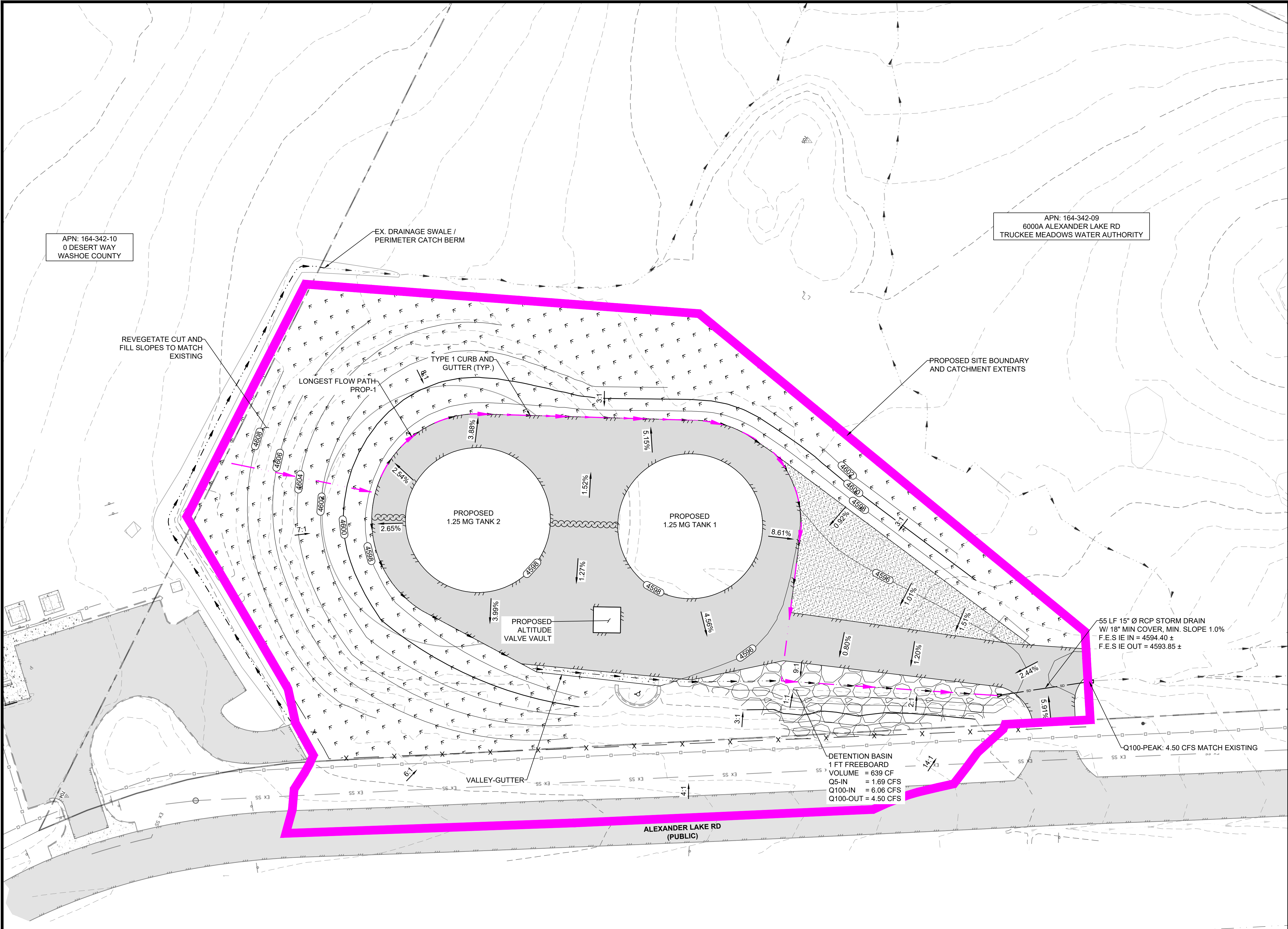
Time of Concentration (TR55)	Sym.	EX-1	EX-2	PROP-1	Unit	Equation(s)
Total Catchment Flow Length	Lt	200	618	595	ft	
Sheet Flow						
Surface Cover	-	Native	Native	Native		
Manning Roughness Coefficient	n	0.011	0.011	0.011	-	$T_t = \frac{0.007 (nL)^{0.8}}{P_2^{0.5} s^{0.4}}$
Flow Length	L	200	58	110	ft	
Slope	s	0.010	0.333	0.153	ft/ft	
Precipitation (10min, 100-year)	P2	0.55	0.55	0.55	in	
Travel Time	Tt	6.71	0.61	1.40	min	
Shallow Concentrated Flow						
Surface (Paved vs Unpaved)	-		Agg	Paved		
Flow Length	L	0	560	485	ft	$T_t = \frac{L}{3600 V}$
Slope	s	0.000	0.004	0.002	ft/ft	
Avg.Velocity (Ref Figure Below)	v	0.00	1.50	1.50	ft/s	
Travel Time	Tt	0.00	6.22	5.39	min	
Open Channel Flow		N/A	N/A	N/A		
Time of Concentration	Tc	6.71	6.84	6.79	min	



Appendix E: Hydrologic Catchment Exhibits



Environmental Protection Agency - WATERS



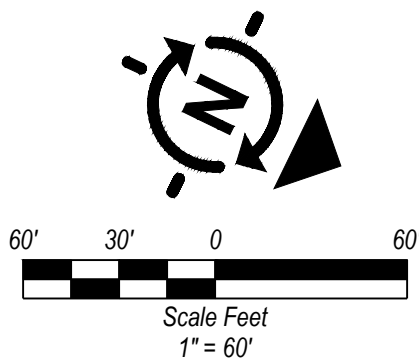
SHEET NOTES:

1. PLANS ARE INTENDED TO COMPLY WITH APPLICABLE PROVISIONS OF THE WASHOE COUNTY DEVELOPMENT CODE.
2. BUILDING SETBACKS DETERMINED BY WASHOE COUNTY DEVELOPMENT CODE PER MDS CLASSIFICATION.
3. FENCE SHALL BE 7 FOOT TALL VINYL COATED CHAIN LINK AND 1 FOOT OF THREE STRAND BARBED WIRE.

LEGEND:

- EX PROPERTY LINE
- PROPOSED BARBED WIRE FENCE
- EX FLOW LINE
- EX RIP RAP
- PROPOSED STRUCTURE
- PROPOSED COMPACTED AGGREGATE BASE
- PROPOSED PAVEMENT
- PROPOSED REVEGETATED AREA (NATIVE SOILS)
- EX CONTOUR
- PROPOSED CONTOUR
- PROPOSED FLOW LINE

PROPOSED DISTURBED AREA		
ITEM	PROPOSED	CHANGE FROM EXISTING
PAVEMENT	32,289 SF	+27,465 SF
COMPACTED AG. BASE	5,994 SF	-14,518 SF
REVEGETATED AND PRE-DISTURBED NATIVE SOILS	68,874 SF	+10,226 SF
UNDISTURBED NATIVE SOILS	0 SF	-16,557 SF
STEEL TANK	11,618 SF	-7,250 SF
VAULT HATCH	246 SF	0 SF
RIP RAP	5,498 SF	+2,172 SF
TOTAL AREA	124,519 SF	+23,596 SF



SUP SUBMITTAL

REVISION	DESCRIPTION	BY	APP	DATE

WORK ORDER NO.	PO-010190
DESIGNED	FHP/CE
DRAWN	FHP
DATE	MAY 2026
CHECKED	CE
SUBMITTED	
RECOMMENDED	
APPROVED	



1355 CAPITAL BLVD. RENO, NEVADA 89520-3013 PHONE: 775-834-8080

NOT REPRODUCIBLE
PROPERTY OF
TRUCKEE MEADOWS WATER
AUTHORITY. RETURN UPON
COMPLETION OF PROJECT
(Per Homeland Security Act)

SPECIAL USE PERMIT PRELIMINARY PLANS
FOR
RATTLESNAKE TANK IMPROVEMENTS

PROPOSED ON-SITE SUB-CATCHMENT

SHEET NUMBER

FIG 2

BASELINE VEGETATION AND EXISTING CONDITIONS REPORT

Rattlesnake Tank Improvements Project

Washoe County, Nevada



Prepared for:

Lumos and Associates

Lumos and Associates (Lumos)
950 Sandhill Road, Suite 100
Reno, NV 89521

April 30, 2026



5859 Mt. Rose Highway / Reno, NV 89511

1 Introduction

The purpose of the surveys, conducted on April 24, 2026, was to document existing conditions including species composition within the existing tank site and an adjacent reference plant community to inform erosion control and revegetation designs for disturbed soils for the future tank improvements project. The purpose was also to develop realistic post-construction performance criteria. The project will eventually result in the construction of two new tanks, sequenced over several years.

The project site occurs along Alexander Lake Road, within Washoe County, on property under the jurisdiction of the Truckee Meadows Water Authority (TMWA), Figure 1, below. The reference plant community occurred in Washoe County, adjacent to the Huffaker Hills Trailhead.

This report documents and quantifies vegetative cover, and other types of non-vegetative cover such as litter, and rock. It also includes observations of site conditions including the presence and extent of invasive and noxious weeds, and reusable resources for erosion control and revegetation such as rock, organic matter, and topsoil. It informs erosion control and revegetation design specifications, which follow this report.

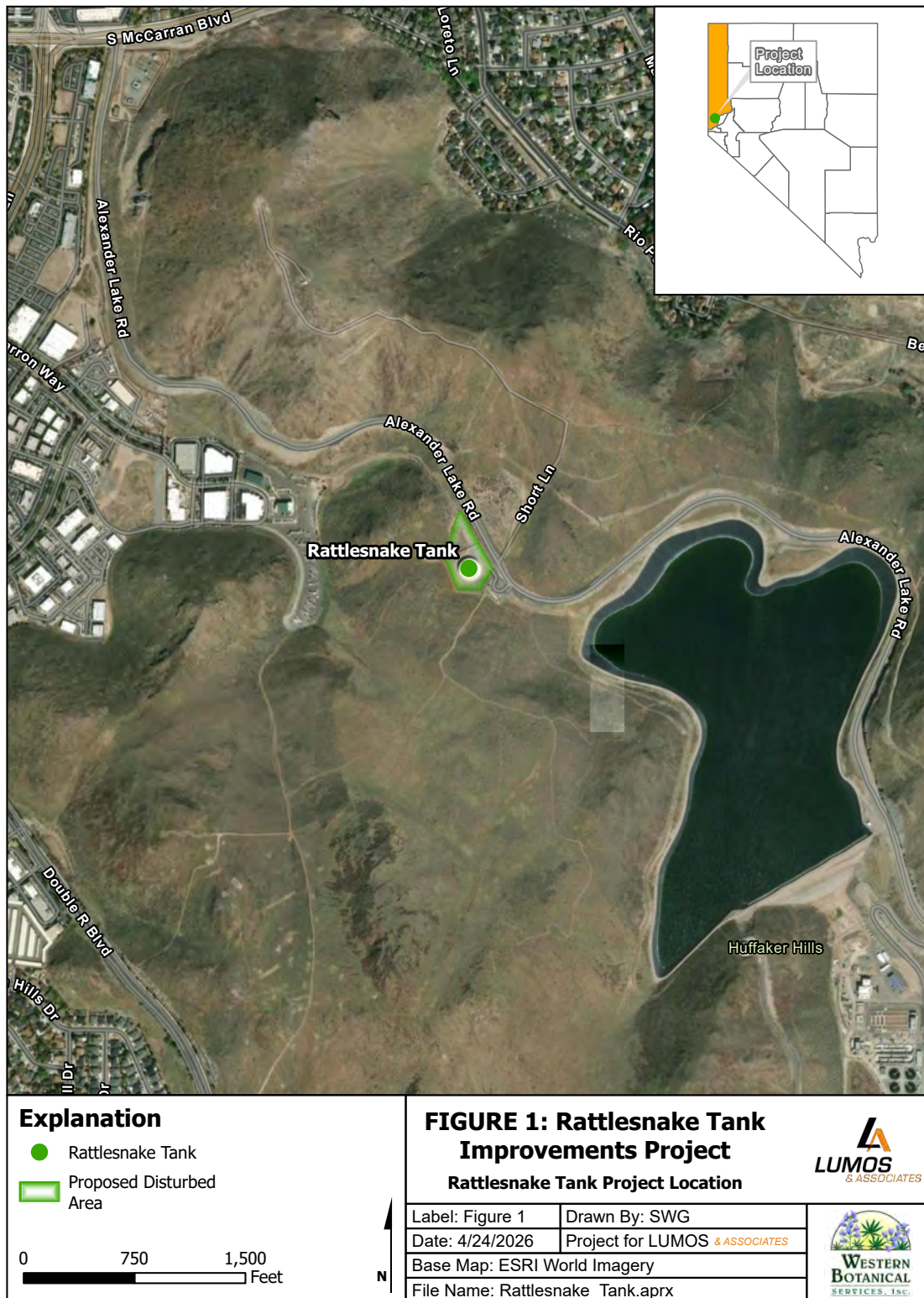
It is prudent to have baseline, or reference information from an undisturbed plant community, since the Owner is responsible for achieving final soil stabilization post-construction as follows:

Final stabilization is to be achieved per the Nevada 2015 Construction General Permit and the NPDES Phase 2 permit requirements where the operator has achieved one or a combination of the following conditions:

All soil disturbing activities at the site have been completed, all construction materials, waste and temporary erosion and sediment control measures (including any sediment that was being retained by temporary erosion and sediment control measures) have been removed and properly disposed of; and

- (a) A uniform (i.e., evenly distributed, without large bare areas) annual/or perennial vegetative cover with a density of 70 percent of the native background vegetative cover for the area is in place on all unpaved areas and areas not covered by permanent structure, or*
- (b) Equivalent permanent stabilization measures (such as the use of riprap, gabions, gravel, geotextiles, or other NDEP approved methods) have been employed.*

Note: When preconstruction native background vegetation covers less than 100% of the ground (i.e., arid areas, beaches), the 70% coverage criteria is adjusted as follows: if the native vegetation covered 50% of the ground, 70% of 50% ($.70 \times .50 = .35$) or 35% cover density would be required.



Note that cover and density are two different metrics. Density refers to the number of plants per unit area sampled (e.g. sq. yard/meter). Density may be a better measurement for determining the success of revegetation since establishing vegetation typically does not initially produce substantial cover.

2 Methodologies

2.1 Pre-Survey Document Review

To gain a better understanding of the project components and location prior to developing the Scope of Works and conducting the field surveys, WBS reviewed the following documents provided by Lumos:

1. Photos (two .jpeg files) of the site showing natural colonization by *Ericameria nauseosa* (rubber rabbitbrush)
2. A KMZ file showing the proposed extent of the project disturbance
3. A KMZ file showing existing disturbance
4. Preliminary Design Plan Set (with comments)
5. Special Use Permit (SUP) Draft Phasing Exhibit

2.2 Site Conditions

We observed and documented potentially salvageable materials for revegetation and erosion control, weed populations, and the potential for weed colonization.

The existing tank was built in the 1990s. It appears that no revegetation efforts were implemented and that the existing vegetation has resulted from colonization by adjacent vegetation.

2.3 Quantitative Measurements (Cover)

Surveys were conducted on April 24, 2025, typically early for maximization of species identification. An early survey was warranted due to the permit submittal process and schedule and given the warm weather in March many species had already flowered.

Two transects were sampled in representative disturbed plant communities within the footprint of the existing tank, and two in reference communities on Washoe County property (Figure 2).



The point-intercept method was employed to measure cover in the June survey. All vegetation intercepted along the permanent transects were identified to the lowest possible taxon. One hundred ‘hits’ were obtained per each of the six 100-ft. transects sampled. This methodology measures species-specific foliar cover. A laser point sampler device was lined up with a tape

(transect) at a level 90-degree angle at each foot along the tape. All plant species and non-plant elements (bare ground, rock, litter, etc.) intercepted by the projected laser ‘dot’ were recorded. Although this sampling technique does not in itself evaluate root type or degree of plant community development, the data was organized by growth form (annual, perennial forb, grass, shrub, native, non-native, etc.), which in turn gives an indication of plant succession and community structure. Percent litter, rock, and bare areas were calculated separately.

For this survey we measured and recorded the following:

- Vegetation
- Standing dead (still attached to the plant)
- Rock (mostly ≥ 1.00 ” in its longest dimension with a minor percentage of smaller material)
- Litter (material detached from growing vegetation older than one year, including decomposing vegetation)

Total vegetative cover refers only to live vegetation. Total vegetative cover was calculated as the number of vegetation ‘hits’ along a 100-ft. transect (tape). Qualitative observations regarding erosion, species dominance, and weeds were also documented within the project footprint. Photo points and GPS coordinates were obtained using an iPad and Theodolite software (Attachment A).

3 Results

3.1 Pre-Survey Literature Search

The material reviewed indicated a poorly vegetated project site, which was verified by the survey.

3.2 Site Conditions

The existing sparse native vegetation within the project footprint has resulted from colonization by rabbitbrush (*Ericameria nauseosa*) and no obvious revegetation efforts. The site was poor in diversity, with only five species observed. However, it was noticeably and quantitatively less weedy than the reference area surveyed outside the project footprint. No erosion was noted. One state listed Noxious weed, *Lepidium latifolium* (perennial pepperweed, aka tall whitetop) was noted along the northern fenceline within and outside the fenced enclosure (https://agri.nv.gov/Plant/Noxious_Weeds/Noxious_Weed_List/).



Photo 1. Poorly vegetated soil surface from past disturbance showing a small percentage of gravel or rock and no litter.



Photo 2. Perennial pepperweed inside the northern fenceline.



Photo 3. Perennial pepperweed outside the northern fenceline.

The reference plant community was more diverse, but with a much greater component of introduced annual species.

The soil stockpile outside the fenced enclosure was dominated by the invasive annual *Bromus tectorum*, and the native annual *Amsinkia tessellata* (fiddleneck).



Photo 4. Topsoil stockpile dominated by cheatgrass.

3.3 Quantitative Measurements (Cover)

Results from the two transects sampled in the disturbed plant community are summarized in Table 1 below.

Table 1. Percent Cover Summary Disturbed Area

Cover Type	T 1	T2	Average
Percent Total Cover (vegetation, litter, rock)	74.0	65.0	69.0
Percent Total Vegetative Cover	65.0	53.0	59.0
Percent Vegetative Cover by Native Species	65.0	51.0	58.0
Percent Cover by Non-Native Species	0.0	2.0	1.0

Total cover varied between the two transects by over 10%, indicative of the patchiness of vegetation at this site, averaging 69%. Total cover included a large percentage of native vegetation, averaging 59.0%. Native vegetation averaged 58% of total vegetative cover. Vegetation was almost entirely represented by one species, *Ericameria nauseosa* (rubber rabbitbrush), a native colonizing shrub with wind-borne seed. Neither rock nor litter (both averaging 5%) comprised a substantial percent cover, nor did the nuisance invasive annual cheatgrass averaging just 1%.

Results from the two transects sampled in the reference plant community are summarized in Table 2, below.

Table 2. Percent Cover Summary Reference Area

Cover Type	T 3	T4	Average
Percent Total Cover (vegetation, litter, rock)	85.0	72.0	78.5
Percent Total Vegetative Cover	51.0	60.0	55.5
Percent Vegetative Cover by Native Species	40.0	36.0	38.0
Percent Cover by Non-Native Species	21.0	14.0	17.5

Total cover averaged 78.5%. Total cover included a large percentage of rock, averaging 18.5%. Native vegetation averaged 38.0%. Vegetation was dominated 21.5%, particularly by *Artemisia tridentata ssp. wyomingensis* (Wyoming big sagebrush) and to a lesser extent *Grayia spinosa* (spiny hopsage), averaging 4.5%. Non-native vegetation, cheatgrass, averaged 17.5% of and can be considered problematic for future revegetation work, given its invasive characteristics. One native perennial grass was intercepted (*Elymus elymoides*, squirreltail) and averaged only 1% cover.

None of the four transects intercepted any state-listed Noxious weeds

The metric needed to achieve adequate native vegetative cover (from the reference transects) per the *Nevada 2015 Construction General Permit and the NPDES Phase 2* permit requirements is 70% of 38.0% or 26.6% cover.

A species list for the two project sites including each species' appropriateness and availability for revegetation, is included in Attachment B. The cover data analysis is included in Attachment C.

3.4 Species Composition

A total of 14 species were identified in the two sampling areas, of which seven were native and non-native (50% each).

3.5 Site Conditions and Soil Surface

The low percentage of rock cover in the disturbed provided few niches for plant establishment. The reference site had a fairly high percentage of rock cover.

4 Discussion and Recommendations

It is interesting to note that the disturbed site received no erosion control or revegetation treatments when the tank was installed. Although species poor, few invasive species were located (cheatgrass, storksbill, and perennial pepperweed).

The reference area, more diverse with three native shrubs, was none-the-less seemingly more disturbed than the reference site with seven invasive species. Located within Washoe County and adjacent to a trail system, pedestrian traffic is most likely the vector for these species.

One of the best and most successful erosion control and revegetation methodologies, especially in arid environments, is to salvage all suitable vegetation, topsoil, and organic matter and reapply the materials to finished slopes and surfaces. This method should be implemented as part of this project.

The existing topsoil pile may be needed as fill material for the pending project; prior to placing new material on this stockpile, it is recommended that the weedy species be mowed before they flower and set seed. This material can be buried with new lifts of salvaged material and stabilized with seed and much to establish and maintain a native plant community for long-term storage (three-five years), and limit establishment of weeds, until it is needed for new construction.

Temporary irrigation is discouraged for the following reasons:

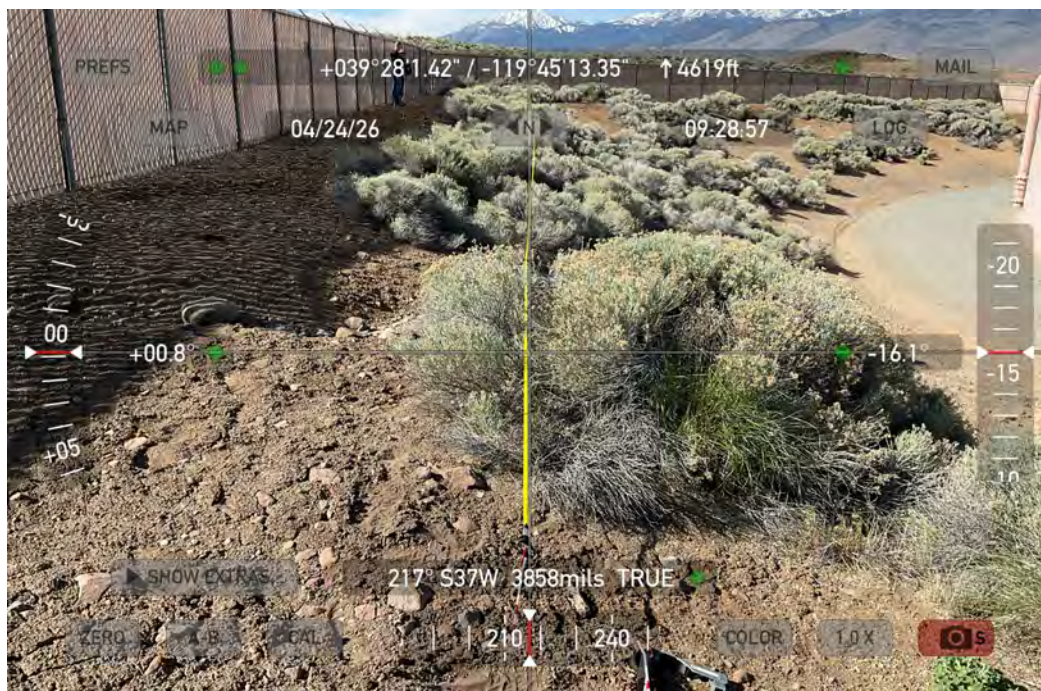
1. Given its location the site is vulnerable to vandalism and would require high maintenance to account for unforeseen damage, which could result in erosion.
2. Installation of a temporary system including sources of power, would be costly and a questionable use of drinking water.
3. Temporary irrigation often benefits non-native annuals instead of desirable perennial species, as they are better competitors for a limited resource. These annuals, such as cheatgrass, can provide a highly combustible fuel as they desiccate.
4. A supplemental source of water attracts wildlife and herbivory, potentially compromising plant establishment and damaging the system.
5. Truck watering is inefficient, cost ineffective, and usually unsuccessful in this setting.

Attachment A

Cover Transect Locations and Photos



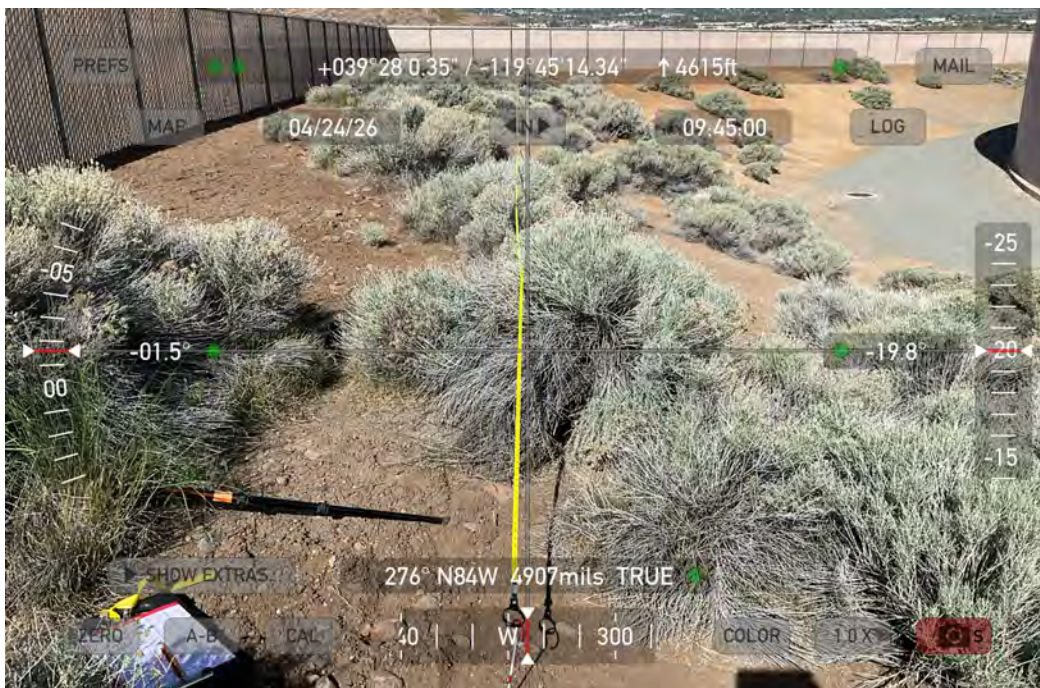
Transect 1 Disturbed. Begin



Transect 1 Disturbed End



Transect 2. Disturbed Begin



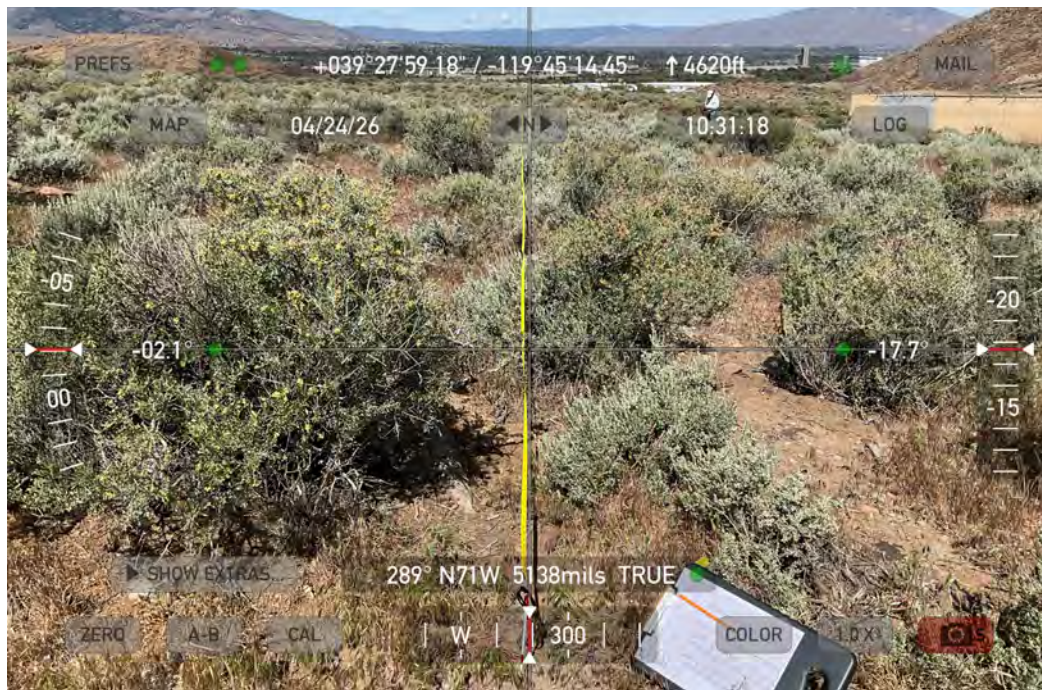
Transect 2 Disturbed End



Transect 3 Reference Begin



Transect 3 Reference End



Transect 4 Reference Begin



Transect 4 Reference End

Attachment B

Species List

Family	Species		Available Revegetation Species (✓)
	Scientific Name	Common Name	
ASTERACEAE	<i>Artemisia tridentata ssp wyomingensis</i>	Wyoming big sagebrush	✓
	<i>Ericameria nauseosa</i>	Rubber rabbitbrush	✓
	<i>Hemizonia congesta</i>	Hayfield tarweed	✓
BORAGINACEAE	<i>Amsinckia tessellata</i>	Fiddleneck	
BRASSICACEAE	<i>Descurainia pinnata</i>	Tansy mustard	
	<i>Lepidium latifolium</i>	Perennial pepperweed	
	<i>Sisymbrium altissimum</i>	Tumble mustard	
CHENOPODIACEAE	<i>Grayia spinosa</i>	Spiny hopsage	✓
EPHEDRACEAE	<i>Ephedra viridis</i>	Green Mormon tea	✓
GERANIACEAE	<i>Erodium cicutarium</i>	Storksbill	
LAMIACEAE	<i>Marrubium vulgare</i>	White horehound	
POACEAE	<i>Bromus tectorum</i>	Cheatgrass	
	<i>Elymus elymoides</i>	Squirreltail	✓
	<i>Hordeum murinum ssp. leporinum</i>	Foxtail barley	

Attachment C

Cover Transect Data Analysis

POINT INTERCEPT COVER DATA ANALYSIS

Rattlesnake Tank Improvements Project: Baseline Vegetation Cover / Disturbed					
COVER TYPE	POINT HITS (#)		FREQUENCY	VEGETATIVE COVER	TOTAL COVER
	T1	T2			
Native Annual Forbs					
None	0	0	0%	0.0%	0.0%
Total Native Annual Forbs	0	0	0%	0.0%	0.0%
Non-Native Annual/Biennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Non-Native Annual Forbs	0	0	0%	0.0%	0.0%
Native Perennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Native Perennial Forbs	0	0	0%	0.0%	0.0%
Non-Native Perennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Non-Native Perennial Forbs	0	0	0%	0.0%	0.0%
Native Perennial Shrubs					
<i>Ericameria nauseosa</i> (rubber rabbitbrush)	65	51	100%	98.3%	181.3%
Total Native Perennial Shrubs	65	51	100%	98.3%	181.3%
Native Perennial Grasses					
None	0	0	0%	0.0%	0.0%
Total Native Perennial Grasses	0	0	0%	0.0%	0.0%
Non-Native Annual Grasses					
<i>Bromus tectorum</i> (cheatgrass)	0	2	50%	1.7%	1.4%
Total Non-Native Annual Grasses	0	2	50%	1.7%	1.4%
NATIVE VEGETATIVE COVER	65	51	n / a	98.3 %	84.1 %
NON-NATIVE VEGETATIVE COVER	0	2	n / a	1.7 %	1.4 %
TOTAL VEGETATIVE COVER	65	53	n / a	100.0 %	85.5 %
Litter	3	7	100%	n/a	7.2%
Standing Dead	0	0	0%	n/a	0.0%
Rock (Greater than 1" in its longest dimension)	6	4	100%	n/a	7.2%
Gravel (0.5" to 1")	0	0	0%	n/a	0.0%
Fine Gravel (Less than 0.5")	0	0	0%	n/a	0.0%
Bare	26	36	100%	n/a	n/a
TOTAL COVER	74	64	n / a	n / a	100.0 %
TOTAL OVER ALL (200) SAMPLING POINTS	ALL COVER: 69.00 %		NON-NATIVE VEGETATION: 1.00 %		
	VEGETATIVE COVER: 59.00 %		NATIVE VEGETATION: 58.00 %		

POINT INTERCEPT COVER DATA ANALYSIS

Rattlesnake Tank Improvements Project: Baseline Vegetation Cover / Reference					
COVER TYPE	POINT HITS (#)		FREQUENCY	VEGETATIVE COVER	TOTAL COVER
	T3	T4			
Native Annual Forbs					
None	0	0	0%	0.0%	0.0%
Total Native Annual Forbs	0	0	0%	0.0%	0.0%
Non-Native Annual/Biennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Non-Native Annual Forbs	0	0	0%	0.0%	0.0%
Native Perennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Native Perennial Forbs	0	0	0%	0.0%	0.0%
Non-Native Perennial Forbs					
None	0	0	0%	0.0%	0.0%
Total Non-Native Perennial Forbs	0	0	0%	0.0%	0.0%
Native Perennial Shrubs					
Artemisia tridentata var. wyomingensis (Wyoming big sagebrush)	31	32	100%	56.8%	87.5%
Grayia spinosa (spiny hopsage)	7	2	100%	8.1%	12.5%
Ephedra viridis (green Mormon tea)	2	0	50%	1.8%	2.8%
Total Native Perennial Shrubs	40	34	100%	66.7%	102.8%
Native Perennial Grasses					
Elymus elymoides (squirreltail)	0	2	50%	1.8%	2.8%
Total Native Perennial Grasses	0	2	50%	1.8%	2.8%
Non-Native Annual Grasses					
Bromus tectorum (cheatgrass)	21	14	100%	31.5%	22.3%
Total Non-Native Annual Grasses	21	14	100%	31.5%	22.3%
NATIVE VEGETATIVE COVER	40	36	n / a	68.5 %	48.4 %
NON-NATIVE VEGETATIVE COVER	21	14	n / a	31.5 %	22.3 %
TOTAL VEGETATIVE COVER	61	50	n / a	100.0 %	70.7 %
Litter	8	1	100%	n/a	5.7%
Standing Dead	0	0	0%	n/a	0.0%
Rock (Greater than 1" in its longest dimension)	16	21	100%	n/a	23.6%
Gravel (0.5" to 1")	0	0	0%	n/a	0.0%
Fine Gravel (Less than 0.5")	0	0	0%	n/a	0.0%
Bare	15	28	100%	n/a	n/a
TOTAL COVER	85	72	n / a	n / a	100.0 %
TOTAL OVER ALL (200) SAMPLING POINTS	ALL COVER: 78.50 %		NON-NATIVE VEGETATION: 17.50 %		
	VEGETATIVE COVER: 55.50 %		NATIVE VEGETATION: 38.00 %		

Supplemental Information

Proof of Property Tax Payment

Neighborhood Meeting Waiver Email

Prior SUP Approval Information (SPB5-20-92)

Tab D

David Snelgrove

From: Lloyd, Trevor <TLloyd@washoecounty.gov>
Sent: Monday, January 12, 2026 5:52 PM
To: David Snelgrove
Cc: Caroline Elliott, P.E.; Collin Sturge, P.E.
Subject: [EXTERNAL] RE: Request for Waiver from Neighborhood Meeting for TMWA Rattlesnake Tank Improvements

Hi all, I just heard back from Kelly and we're both in agreement that your request to waive the neighborhood meeting should be waived based on Dave's justification.



Trevor Lloyd, Planning Manager
Planning & Building| Community Services Dept.
tlloyd@washoecounty.gov | Office: 775.328.3617
1001 East Ninth Street, Reno, NV 89512



From: David Snelgrove <dsnelgrove@bowman.com>
Sent: Monday, January 12, 2026 6:49 AM
To: Lloyd, Trevor <TLloyd@washoecounty.gov>
Cc: Caroline Elliott, P.E. <celllott@lumosinc.com>; Collin Sturge, P.E. <csturge@lumosinc.com>
Subject: Request for Waiver from Neighborhood Meeting for TMWA Rattlesnake Tank Improvements

Trevor:

Per our previous discussions, I have provided this email message formally requesting review of information in association with a forthcoming SUP application for a utility improvement (not sure if it will be determined to be major or minor utilities). The specific improvement is the Rattlesnake Tank Improvements for TMWA. The site is located on Alexander Lake Road, next to the existing Huffaker Hills Trailhead. Below is an aerial map showing the location of the subject site (APN 164-342-09) which is a 11.08+/- AC parcel owned by TMWA. There currently exists one 2.5 million gallon tank on the site and the proposed improvement will be to locate two new 1.25 million gallon tanks.

As can be seen in the provided aerial image, the site where the tanks are proposed is situated 1,500+ feet (over ¼ mile) from the nearest inhabited land use, which is commercial/industrial use located off Baron Way to the west. The site is also elevated by approximately 170 feet from the nearest use on Baron Way and the elevation and varied topography conceal the site from view unless you are driving on Alexander Lake Road to access the Huffaker Hills Trailhead.

No other inhabited land uses exist to the north, east or south for approximately ½ mile. The next closest use is to the northeast in the Donner Springs area of Rio Poco Road but it should be noted that Rattlesnake Mt. separates the project site from the Donner Springs neighborhood with zero visibility nor impact from development activity.

I am hopeful that you will agree that re-working the subject site to include two new water tanks while removing the existing tank is not meritorious of needing a neighborhood meeting due to distance and elevation separation/screening of the site from any nearby properties. Please let me know if you agree.



R. DAVID SNELGROVE, A.I.C.P.

Team Lead, Planning | **BOWMAN**

1150 Corporate Blvd, Reno, NV 89502

D: (775) 856-7073 | M: (775) 737-8910

dsnelgrove@bowman.com | bowman.com

FIRE PROTECTION

51. The plans submitted with a building permit application shall show evidence of compliance with the recommendations of the Truckee Meadows Fire Protection District. Those concerns are fire flows, fire hydrant number and location, access, sequential phasing of fire-breaks during development, permanent firebreaks, minimum defensible space, use of fire resistant construction and/or roof material, sprinklering of structures, and spark arrestors in chimneys. Access and fire flows shall be addressed to the satisfaction of the fire protection agency prior to the introduction of any combustible materials to the site.
52. The developer shall enter into talks with the Truckee Meadows Fire Protection District for a possible fire station site, manpower and equipment needs or for coordination with other developments that have similar requirements.

MISCELLANEOUS

53. The developer shall reconfigure the lots on the section line common to Sections 3 and 4 to provide a minimum area of not less than one acre for each lot to the satisfaction of the development review staff.
54. The developer shall submit a traffic control plan, to address the means of minimizing traffic impacts on the existing Desert Springs subdivision, for review and approval by the Department of Public Works and the Department of Development Review.

92-876 SPECIAL USE PERMIT CASE NO. SPB5-20-92 - WESTPAC UTILITIES, INC.
(APN: 22-172-01)

The County Manager advised that no appeals had been filed in the Board's consideration of Special Use Permit Case No. SPB5-20-92.

Mike Harper, Development Review, and James Harding of Westpac Utilities presented maps and photographs to the Board and assured them that the tanks will not be an unsightly mess on the side of the mountain that will be seen from all around.

Upon recommendation of the Board of Adjustment, on motion by Commissioner Reid, seconded by Commissioner Cornwall, which motion duly carried, Chairman McDowell ordered that Special Use Permit Case No. SPB5-20-92 be issued for Westpac Utilities, Inc., to construct and operate 3 steel water storage tanks (two 2.5 million and one 1.5 million gallon) on a ±10.791 acre site, zoned A-2 (Second Agricultural) and designated Public and Semi-Public Facilities in the Southeast Truckee Meadows Area Plan, located on Mira Loma Haul Road in a portion of Section 32, T19N, R20E, MDB&M, Washoe County, Nevada, subject to the following conditions:

ALL CONDITIONS MUST BE MET OR FINANCIAL ASSURANCES MUST BE PROVIDED TO SATISFY THE CONDITIONS PRIOR TO ISSUANCE OF A BUILDING PERMIT, UNLESS OTHERWISE SPECIFIED.

WSUP26-0009

EXHIBIT D AUGUST 25, 1992

COMPLIANCE WITH THE CONDITIONS OF THIS SPECIAL USE PERMIT IS THE RESPONSIBILITY OF THE APPLICANT, HIS SUCCESSOR IN INTEREST, AND ALL OWNERS, ASSIGNEES AND OCCUPANTS OF THE PROPERTY AND THEIR SUCCESSORS IN INTEREST. FAILURE TO COMPLY WITH ANY CONDITIONS IMPOSED IN THE ISSUANCE OF THE SPECIAL USE PERMIT MAY RESULT IN THE INSTITUTION OF REVOCATION PROCEDURES.

ALL AGREEMENTS, EASEMENTS OR OTHER DOCUMENTATION REQUIRED BY THESE CONDITIONS SHALL HAVE A COPY FILED WITH THE DEPARTMENT OF DEVELOPMENT REVIEW.

THE BOARD OF COUNTY COMMISSIONERS RESERVES THE RIGHT TO REVIEW AND REVISE THE CONDITIONS OF THIS APPROVAL SHOULD THEY DETERMINE THAT A SUBSEQUENT LICENSE OR PERMIT ISSUED BY WASHOE COUNTY VIOLATES THE INTENT OF THIS APPROVAL.

GENERAL CONDITIONS

1. The applicant shall demonstrate substantial conformance to the plans approved as a part of this special use permit to the satisfaction of the Department of Development Review.
2. The applicant shall complete construction of all structures used to further the operation within six years from the date of approval by the Washoe County Board of County Commissioners.
3. A copy of this approved special use permit shall be attached to all applications for administrative permits issued by Washoe County.
4. A landscaping/architectural design plan shall be submitted to the development review staff for review and approval by the Design Review Committee prior to any ground disturbing activity. Said plan shall address, but not be limited to, type and color of building material, general architectural design, landscaping material (if plant material: type, size at time of planting, maturation size at full growth, period of time between planting and full growth), landscaping location and landscaping irrigation system.
5. The applicant and any successors shall direct any potential purchaser/operator of the site and/or the special use permit to meet with the development review staff to review conditions of approval prior to the final sale of the site and/or the special use permit. Any subsequent purchaser/operator of the site and/or the special use permit shall notify the development review staff of the name, address, telephone number, and contact person of the new purchaser/operator within 30 days of the final sale.

* * * * *

Commissioner Leighton temporarily left the meeting.

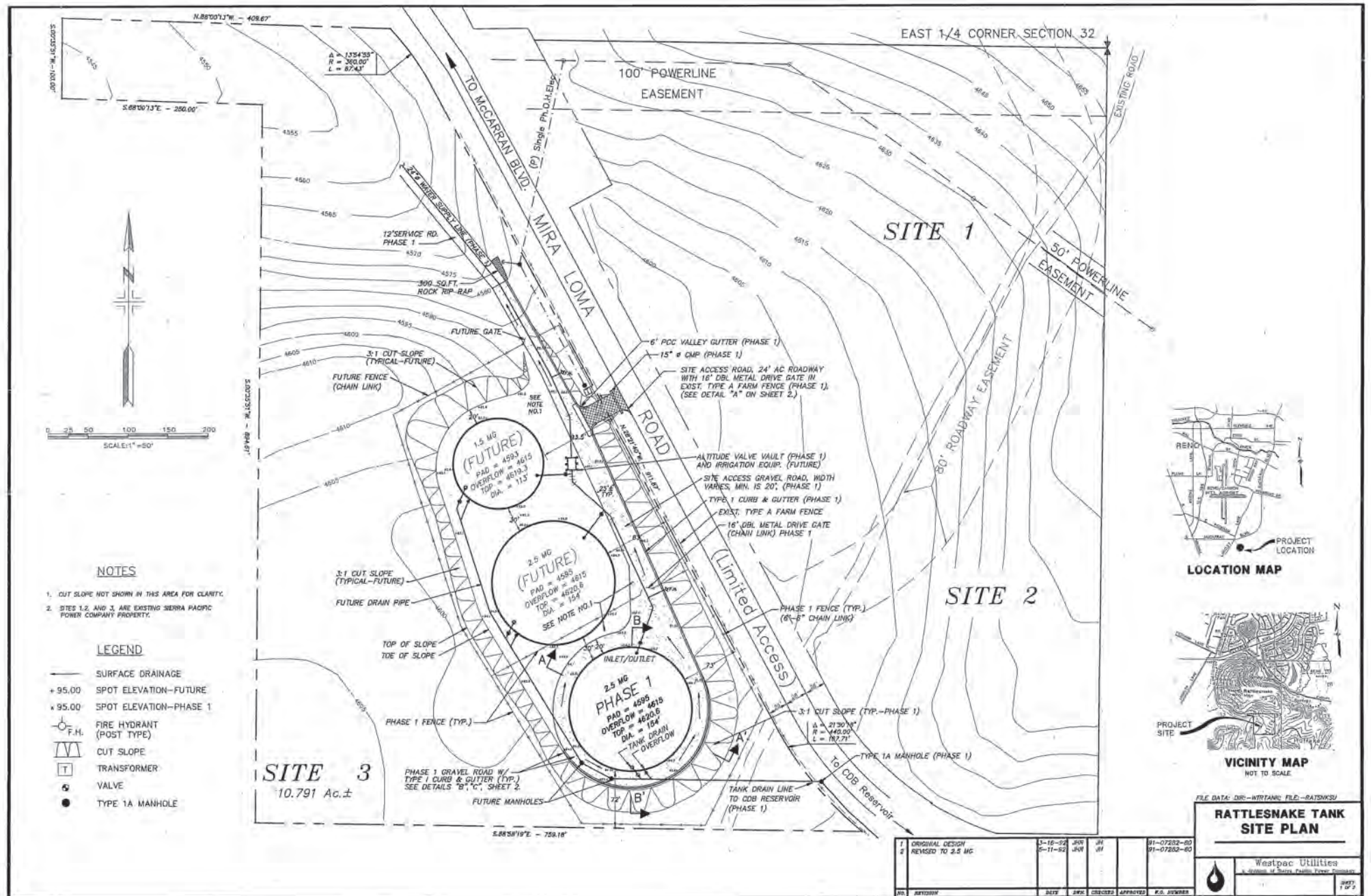
92-877 VARIANCE CASE NO. V5-22-92 - BEEBE CONSTRUCTION/FREDRICK HART
 (APN: 130-205-16)

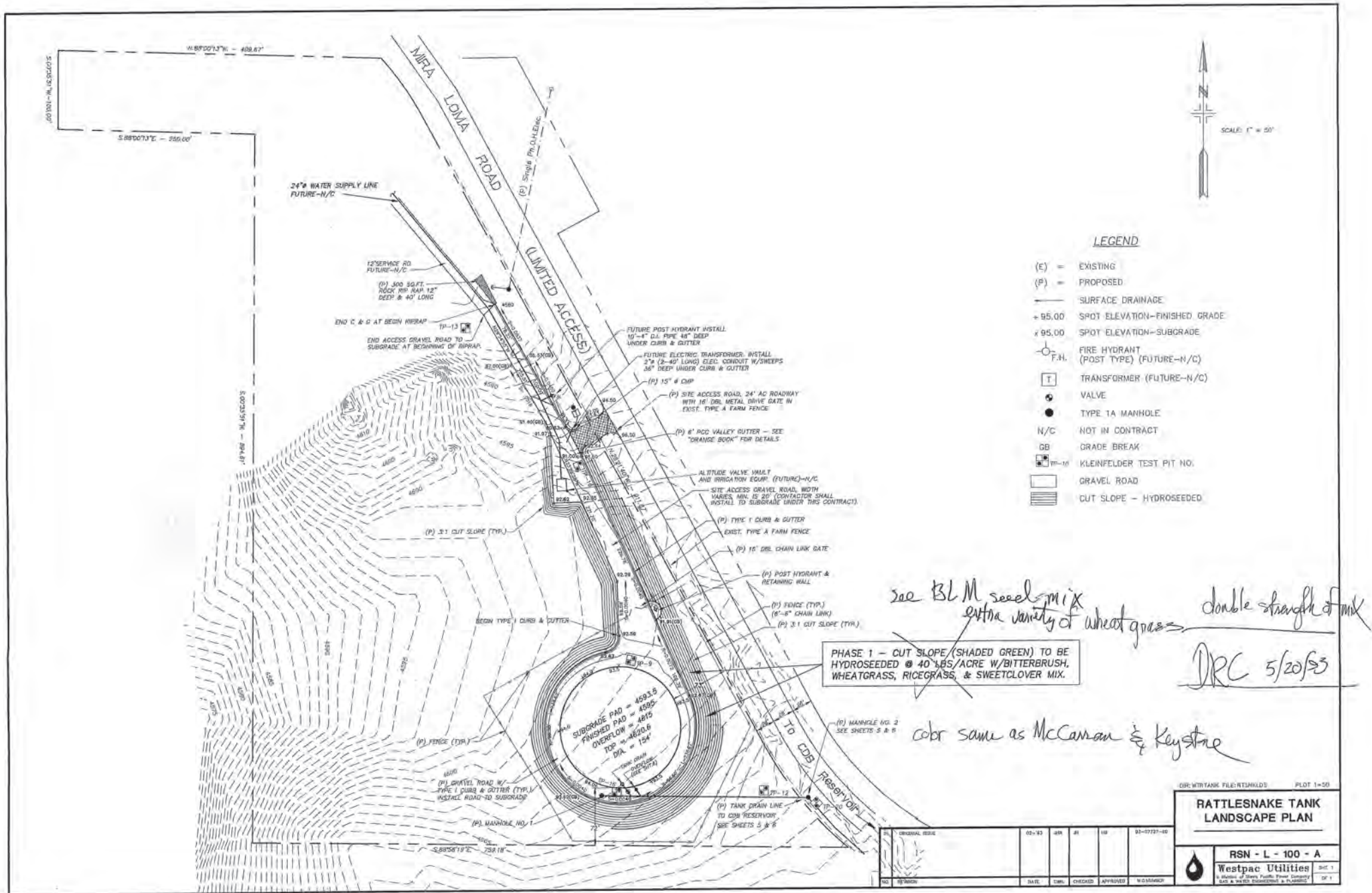
There being no appeals filed, upon recommendation of the Board of Adjustment, on motion by Commissioner Cornwall, seconded by Commissioner Reid, which motion duly carried, Chairman McDowell ordered that Vari-

AUGUST 25, 1992

WSUP26-0009 PAGE 501
EXHIBIT D

Approved Build-out Plan (1992)







SUP Application

Project Name: TMWA Rattlesnake Tank Phase 1 - **SUP Application**

June 03, 2026

Project Number: 12455.000

Statement of Engineer's Certification:

To the best of my knowledge, I hereby certify that the Site Plans provided for this Special Use Permit application are compliant with all applicable provisions of the Washoe County Code.



Caroline Elliott
Nevada Licensed Professional Engineer, no. 032379



Caroline Elliott, P.E.
Senior Engineer
Engineering Division

PO Box 890 312 Dorla Court, Suite 202
Zephyr Cove, NV 89448
775.588.6490
celliott@LumosInc.com
LumosInc.com

TRUCKEE MEADOWS WATER AUTHORITY

COOPERATIVE AGREEMENT

AMONG

**CITY OF RENO
CITY OF SPARKS
COUNTY OF WASHOE**

As Amended

21312010

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**AMENDED AND RESTATED
TRUCKEE MEADOWS WATER AUTHORITY
COOPERATIVE AGREEMENT**

This Agreement originally made and entered into is by and among the following parties:

1. City of Reno, a municipal corporation within the State of Nevada
(hereinafter "Reno");
2. City of Sparks, a municipal corporation with the State of Nevada
(hereinafter "Sparks");
3. County of Washoe, a political subdivision of the State of Nevada
(hereinafter "Washoe").

RECITALS

A. The parties share a common interest in assuring that water resources be developed and managed to fulfill the present and future water needs of the greater Truckee Meadows community;

B. In 2000, Sierra Pacific Power Company ("Sierra"), then the water supplier and provider to a large part of the Reno and Sparks communities and, to a lesser degree, the unincorporated area of Washoe County, made a decision to sell its water assets and operations.

C. The parties believed it in the interest of the Truckee Meadows community to acquire and manage those water assets for the benefit of said community.

D. The parties determined there was a need for the Members to act together with respect to such matters as water supply, allocation of water supply, water quality, treatment, and wheeling and to assure sufficient water supply to meet the needs of existing and future development;

E. The parties determined that the securing of additional supplies of water and the effective management of existing supplies could best be achieved through the cooperative action of the Members, operating through a separate legal entity which would undertake the Conferred Functions as hereinafter defined and described for the benefit of the Members;

F. Accordingly, the parties agreed to establish a separate legal entity to exercise power, privilege and authority, in common and to develop and

maintain supplies of water for the benefit of the Retail Service Area as set forth herein;

G. Each of the parties is authorized to contract with each other for the joint exercise of any Member's power, privilege or authority under Chapter 277 of the Nevada Revised Statutes ("NRS");

H. On October 20, 2000, the parties submitted a joint "Proposal to Purchase the Water Utility Assets of Sierra Pacific Resources" in which the parties indicated an intent to form a Joint Powers Authority, the "Truckee Meadows Water Authority," and specifically to have the Joint Powers Authority in effect upon selection as the successful bidder.

I. This Cooperative Agreement became effective by its execution by the parties and with the approval of the Nevada Attorney General on December 4, 2000.

J. The parties were the successful bidders and an Asset Purchase Agreement was negotiated and consummated with Sierra, and the Truckee Meadows Water Authority commenced operations of the Water System on June 11, 2001.

K. The parties now desire to amend the Cooperative Agreement to better reflect current operating conditions of the Authority, and to accomplish other objectives within the best interests of the Truckee Meadows community.

AGREEMENT

NOW, THEREFORE, the parties agree as follows:

1. Effectiveness. This Agreement becomes effective upon its execution by each party and its approval, given or deemed to be given, by the Attorney General of Nevada pursuant to NRS 277.140.

2. Definitions. For the purposes of this Agreement, the following terms shall have the following meanings:

- a. "Authority" means the Truckee Meadows Water Authority ("TMWA"), the legal entity established by this Agreement;
- b. "Board" means the Board of Directors of the Authority;
- c. "Director" means a member of the Board of Directors of the Authority;
- d. "Conferred Function" means any function which the Authority is empower to perform by Article 5 of this Agreement;
- e. "Cost Sharing Plan" means a plan to assure sufficient funds to (i) maintain required operating reserves or reserves required by any bond or other debt instrument for which the Authority is responsible, directly or indirectly relating to the TMWS and (ii) the payment when due of all costs, expenses, capital cost not otherwise funded, and liabilities, including finance costs, of the Authority relating to the TMWS and to the acquisition of TMWS Water Supplies;
- f. "Facilities" means any property or works acquired by the Authority from Sierra Pacific Power Company or otherwise owned, leased, operated, constructed or used by the

Authority in connection with the performance of any Conferred Function, including without limitation, the former Sierra Pacific Resources water utility assets, water storage facilities, water conveyance and treatment facilities, electric generation and transmission facilities, buildings, and other structures, irrespective of the location of such facilities;

- g. "Member" means each of the public entities that is signatory to this Agreement;
- h. "Truckee Meadows Water System" or "TMWS" means all diversion, treatment, conveyance, turnout, water transmission wells and distribution related facilities acquired from Sierra Pacific Power Company and all such other facilities that may be constructed or acquired by the Authority;
- i. "Water Right" means any entitlement to the beneficial use of Water Supplies, whether such entitlement exists by contract, by interest in real property, decree or by rights granted by the State of Nevada, State of California or other governmental agency;
- j. "Water Supplies" means surface water, groundwater, and any other water capable of being put to beneficial use;

- k. "Wholesale Water" means potable water provided by the Authority to another party by agreement for retail service delivery.

3. Authority Created. There is hereby established a legal entity to be known as the "Truckee Meadows Water Authority". The Authority is established by this Agreement pursuant to the provisions of Chapter 277 of NRS. The Authority shall be a political subdivision of the State of Nevada and shall be separate from the Members, pursuant to NRS 277.074 and 277.120.

4. Boundaries of the Authority. The geographic boundaries of the Authority shall coincide with the boundaries of the Regional Water Planning Commission established pursuant to NRS Chapter 540A, except that lands located within any Indian reservation or Indian colony held in trust by the United States shall be included. The boundary as established herein encompasses the geographical area within which either retail or wholesale water service may be provided by the Authority but does not mandate the delivery of water outside the Authority's retail service area.

5. Conferred Functions of the Authority. Subject to the provisions of Article 7, the conferred Functions of the Authority are as follows:

- a. To acquire, use and dispose of Water Rights and Water Supplies;
- b. To develop and implement projects with respect to the acquisition, development, treatment, storage and transportation of Water Supplies as the Board determines;

- c. To acquire any interest in, finance, operate, maintain, replace, acquire and construct additions and improvements to the TMWS and to dispose of any or all of the TMWS;
- d. To acquire, finance, construction, operate, maintain, replace, acquire and construct additions and improvements to other Facilities and to dispose of such Facilities;
- e. To provide retail water service to customers within the Authority retail service area.
- f. To contract with water users, within the Authority's boundaries to deliver water on a wholesale basis;
- g. To establish a water budget and a water resource plan for the Authority which shall reflect, among other things, (i) Water Supplies available to the Authority and separately to each Member from all sources, (ii) demand within each Member's jurisdiction within the Authority' retail service area, and (iii) the peaking capacity required for delivery of Water Supplies by the Authority and the means by which such requirements shall be met.
- h. To prepare, update, and implement capital improvement plans for TMWA and, to the extent applicable, Authority facilities;
- i. To establish rates, tolls and other charges for the delivery of retail water service within its retail service area in general

- accordance with the procedures and authorities established in NRS Chapter 318 or as otherwise adopted by the Board;
- j. To establish rates, tolls and other charges for the delivery of wholesale water service both within and without its retail service area in accordance with procedures established and adopted by the Board;
 - k. To prepare, update and oversee the implementation of a water conservation plan for the use of municipal, industrial and domestic Water Supplies within the retail service area of the Authority and to carry out the former Sierra Pacific Power Company role with regard to the Water Conservation Agreements with Members;
 - l. To participate with relevant agencies of the United States, the State of Nevada, and other government agencies on issues, including but not limited to, the Truckee River Operating Agreement (TROA) and assume the role of Sierra Pacific Power Company in said negotiations;
 - m. To succeed to all rights, powers, duties and obligations of Sierra Pacific Power Company with respect to the TMWS and any assets acquired from Sierra Pacific Power Company;
 - n. To perform such activities as are consistent with ownership and operation of a water system;

- o. To perform such other functions as may be conferred on the Authority by amendment to this Agreement or by statute.

6. Powers. In furtherance of the Conferred Functions set forth in Article 5 of this Agreement, and subject to the limitations of that Article, the Authority shall have the power in its own name to do any of the following:

- a. To purchase, sell, exchange, perfect, or otherwise acquire or dispose of any interest in Water Supplies and Water rights within or without the State of Nevada;
- b. To develop, store, transport, and treat water;
- c. To deliver water to retail customers and wholesale customers.
- d. To hold in the Authority's own name and exercise in the Authority's own right all TMWA rights, interests, functions, and powers to perform all duties and responsibilities and assume all liabilities pursuant to the Truckee River Agreement, the Orr Ditch Decree, Public Law 101-618 and TROA relating to the TMWS;
- e. To acquire an interest of any nature in, and to construction, operate, and maintain, all Facilities including the TMWS, necessary or convenient for the performance of any Conferred Function, and to dispose of such Facilities;
- f. To acquire, possess, lease, encumber, and dispose of personal and real property;

- g. To have and to exercise the power of eminent domain provided that no property or Water Right of a Member may be taken without the consent of that Member;
- h. To contract with Members or any other public entity for the provision of services to the Authority;
- i. To contract for the professional services of engineers, attorneys, planners, and financial and other consultants;
- j. To enter into other contracts, including interlocal agreements and contracts of indemnity, necessary to the full exercise of its powers;
- k. To employ such persons as it deems necessary;
- l. To issue revenue and other bonds, notes, and other obligations and incur liabilities (i) for the purposes and in accordance with the procedure and requirements set forth in NRS 277.0705 through 277.0755, and (ii) as otherwise permitted by law, including the authority of the Board to include such covenants and agreements as the Board determines, it being the intent of the parties to hereto make a non-exclusive delegation to the Authority of each of the parties powers to issue revenue bonds in furtherance of the Authority's functions, in the manner provided in NRS Chapter 350;

- m. To execute leases, installment sale contracts, and installment purchase contracts, and engage in such other transactions as a Member may be authorized to engage in and subject to any procedures or limitations thereon;
- n. To sue and be sued in its own name;
- o. To obtain state, federal, or local licenses, permits, grants, loans, or aid from any agency of the United States, the State of Nevada, State of California or any other public or private entity necessary or convenient for the performance of any Conferred Function or the exercise of any of its powers;
- p. To fix rates, charges and other fees for water and other commodities including connection charges, hook-up fees, standby charges and availability of service charges; and
- q. To perform all other acts necessary or convenient for the performance of any Conferred Function or the exercise of any of its powers.

7.

Prohibited Functions and Powers.

- a. Nothing in this Agreement shall be construed as authorizing the Authority to perform any function or to exercise any power that is not performable or exercisable by a least one of the Members.
- b. The Authority shall not acquire, construct, or operate facilities associated with the treatment of municipal sewage

or for the purpose of flood control, storm drainage or groundwater remediation except as necessary to own and operate a water system, except with the consent of each and every Member.

8. Retail Water Service; Rates, Fees, and Charges. The Authority shall provide retail water service to users within the Authority's retail service area pursuant to rates, fees and charges established by the Board.

9. Prohibited Unilateral Actions.

- a. No Member shall take any action independently with regard to rights or liabilities assumed by the Authority under TROA.
- b. No Member shall take any action independently or to enter into any contracts with the United States for storage of water for municipal or industrial purposes.

10. Conservation. The Authority shall take all actions within their respective authority and as set forth in various water conservation agreements to encourage and implement programs for the conservation of water within such Member's geographic area.

11. Membership. The Members of the Authority and Authority Board shall be City of Reno, City of Sparks and County of Washoe.

12. Governing Body of the Authority.

- a. The business and affairs of the Authority shall be conducted by a Board consisting of (i) three Directors appointed by the

City of Reno, (ii) two Directors appointed by the City of Sparks, (iii) two Directors appointed by Washoe County

- b. The Directors shall be appointed by the governing body of the appointing Member and may, but need not, be a member of the body. Each governing body may also appoint an alternate Director for the Director appointed by such board, who shall serve as Director in the absence thereof.
- c. Each Director shall hold office from the first meeting of the Board after his or her appointment by the governing body of the Member he or she represents until a successor is selected by the Member and the Member so notifies the Authority. A Director who is not an elected official shall be appointed for a term of two years. No Director who is an elected official may serve beyond his or her term of office.
- d. A Director shall not receive compensation from the Authority for services as Director. A Director may be reimbursed for reasonable expenses incurred by such Director in the conduct of the Authority's business.

13. Fiscal Year. The fiscal year of the Authority shall be as provided by State statute.

14. Principal Office. The principal office of the Authority shall be within Washoe County in a place established by the Board.

15. Meetings. The Board shall meet at the Authority's principal office or at such other place as may be designated by the Board. The time and place of regular meetings of the Board shall be determined by the Board. The meetings of the Board and its advisory committees shall be held in accordance with the provisions of NRS Chapter 241.

16. Quorum: Voting. For purposes of transacting the Authority's business, a quorum shall exist if the Directors present constitute a majority of all Directors then in office. The vote of a majority of the Directors present shall be required for the Authority to take action, except as provided in Article 17 or as may be otherwise provided by law.

17. Special Approval Provisions.

- a. All actions by the Authority with respect to the matters specified in this Article shall be taken only as provided in this Article,
- b. Approval by the governing body of each Member shall be required, for (i) amendment of this Agreement, (ii) the contracting out of the basic functions and operations or the sale or lease of any assets of the Authority to a third party, except for the sale of assets (a) in the ordinary course of business and (b) that are replaced or that are not needed for the operation of TMWS or the Authority's other functions (iii) termination of the Authority pursuant to Article 37(a), and (iv) special assessments to Members pursuant to Article 23(e).

- c. A vote of two-thirds of the Directors then in office shall be required for the issuance of bonds or other securities in accordance with State statutes.
- d. Unless otherwise provided in this section, all other actions shall be by a majority vote.

18. Rules. The Board may adopt from time to time such procedures, bylaws, rules and regulations for the conduct of the affairs of the Authority or of the Board as the Board may deem necessary or desirable. Such rules shall include a requirement that all Members submit information necessary for the preparation of a water budget at such time as the rules provide.

19. Officers.

- a. The Board shall appoint the following officers: a chairman and a vice chairman from its membership.
- b. The officers shall hold office for a period of one year commencing the first day of each fiscal year, subject, however, to being removed for cause at an earlier time by action of the Board and to automatic removal of any Director Officer in such time as that person ceases being a Director. The first officers appointed shall hold office from the date of their appointment to the last day of the fiscal year in which they were appointed.

- c. The officers and all other persons who have charge of any funds or securities of the Authority may be bonded, in such amount as determined by the Board.
- d. None of the officers, agents, or employees of the Authority shall be deemed, by reason of their employment by the Authority, to be employed by any of the Members.

20. Advisory Committees.

The Board may establish such advisory committees as it determines necessary to assist it in the carrying out of its Conferred Functions and as may be recommended by the general manager.

21. General Manager. The general manager of the Authority shall be the chief administrative officer of the Authority, shall be appointed by and serve at will and at the pleasure of the Board, and shall be responsible to the Board for the proper and efficient administration of the Authority. Subject to policy direction by the Board, and such requirements as the Board may from time to time impose, the general manager shall have the power:

- a. To plan, organize, and direct all Authority activities;
- b. To appoint employees to such positions as the Board shall determine necessary to perform its Conferred Functions and, subject to the requirements of applicable law, remove any Authority employees;
- c. To authorize expenditures within the approved budget;

d. To enter into contracts on behalf of the Authority as authorized by the Board; and

e. To make actions authorized from time to time by the Board.

22. Budgets. An annual budget shall be prepared and adopted for each fiscal year in accordance with NRS Chapter 354. The Authority shall not, during any fiscal year, expend or contract to expend any money or incur any liability, or enter into any contract which by its terms involves the expenditures of money, in excess of the amounts appropriated for that function, other than bond repayments, short-term financing repayments, construction contracts for which funds are to be provided by a bond issue or other borrowing and any other long-term contracts as to which such expenditures are expressly authorized by law.

23. Assessments and Contributions for Operating Expenses.

a. The Board shall have the power to periodically assess the Members directly for budgets and for the satisfaction of any liabilities imposed against the Authority in accordance with the provisions of Article 18 and 17(b). Such assessments shall be apportioned among the Members on such basis as the Board determines proper, and each Member shall pay when due all assessments made against it.

b. Any Member may make contributions or advances of public funds and of personnel, supplies, equipment, or property to the Authority for any of the purposes of this Agreement, with the consent of the Board. Any such advance may be made

subject to repayment as agreed to by the Member and the Authority.

24. Accounting Procedures. Complete books and accounts shall be maintained for the Authority in accordance with generally accepted accounting principles and standards and shall comply with all applicable statutes and regulations. Unless otherwise provided by law, the Authority may, in accordance with its needs, maintain funds and account groups pursuant to NRS Chapter 354.

25. Audit. The Authority shall provide for an annual audit of all funds and accounts. The audit must cover the business of the Authority during the full fiscal year. The audit shall be made by a public accountant certified or registered or by a partnership or professional corporation registered under the provisions of NRS Chapter 628. Such financial audit shall be conducted in accordance with generally accepted auditing standards, including comment on compliance with all applicable statutes and regulations, recommendations for improvements, and any other comments deemed pertinent by the auditor, including the auditor's expression of opinion on any financial statements. The audit shall be completed not later than five (5) months after the close of the fiscal year for which the audit is conducted and copies of all audit reports provided to the Members not later than six (6) months after the close of the fiscal year. The Authority shall act upon any recommendations of the report within six (6) months after receipt of the report, unless prompter action is required.

26. Liabilities of the Authority. The debts, liabilities, and obligations of the Authority shall be the debts, liabilities, and obligations of the Authority alone and not of the Members.

27. Liabilities of Board. The funds of the Authority shall be used to defend, indemnify, and hold harmless the Authority, its Directors, officers, and employees, and any Member for actions taken within the scope of the authority of the Authority. Nothing herein shall limit the right of the Authority to purchase insurance to provide coverage for any of the foregoing.

28. Compliance with Applicable Laws; Relocation; Permits.

- a. The Authority shall operate in a manner to comply with all federal, state and local laws and regulations applicable to its operation.
- b. Except as otherwise may be agreed between the Authority and a Member, the Authority shall, upon notice of a Member, relocate at its own expense Authority facilities as may be necessary in coordination with the construction of a Member's capital project.
- c. The Authority shall obtain such permits as may be necessary for the conduct of its operations, such as encroachment permits, and, to the extent applicable, pay such fees as may be prescribed therefor.

29. PUC Regulation/Transfer. It is the parties intent to confer on the Authority their respective right to exemption from regulation by the Public Utilities

Commission of the State of Nevada ("PUC") and that the Authority and all business conducted by it be and remain forever free and exempt from regulation by the PUC. In the event that the PUC attempts to exercise jurisdiction over the rates and charges established by the Authority for the provision of water to wholesale and retail customers within its boundary, the Authority shall vigorously oppose such attempted exercise of jurisdiction in courts of the State of Nevada. If a final decision is rendered to provide for PUC jurisdiction over the Authority's rates, the Authority shall, within thirty days of the final decision being rendered, establish a process for the selection of and the transfer of the Authority's business (including assets and employees related thereto) to a Member who would be exempt from and able to conduct business without regulation by the PUC. Each Member agrees to assume the responsibility for the continuation of the Authority's business pursuant to the governance set forth in Article 12 if it is so selected.

30. Rights-of-Way Toll. The Authority shall, as applicable, compensate each Member a rights-of-way toll, to be charged to the water customer, at a rate not to exceed 5% of gross receipts of the water customer's bill and collected in the Member's jurisdiction. Each Member for their respective jurisdiction shall set the rights-of-way toll and provide notice to the Authority of any modifications to the amount of the rights-of-way toll at least 45 days prior to the effective date of the new rate.

31. Term. The Authority shall continue in existence until this Agreement is rescinded and the Authority terminated as provided in Article 35.

32. Wholesale Agreements; Grandfathered. All wholesale water agreements in existence on the effective date of this Agreement shall continue in effect and any request by a wholesale customer for an extension shall be granted as long as consistent with the regional water plan.

33. Other Cooperative Agreements. Nothing in this Agreement shall prevent the Members from entering into other cooperative agreements.

34. Withdrawal of Member. A member may withdraw from the Authority on terms and conditions specified in an agreement of withdrawal executed by all Members except during the term of indebtedness or other obligation incurred by or on behalf of the Authority the terms of which preclude the withdrawal.

35. Termination.

- a. This Agreement may be rescinded and the Authority terminated by a written agreement of termination executed by the governing body of each Member, except during the outstanding term of any indebtedness or other obligations incurred by, on behalf of, or at the request of the Authority, or for which the Authority is otherwise responsible, the terms of which preclude such termination.
- b. Upon termination of the authority (i) the obligations of the Authority shall be paid, (ii) any Water Right or Facility contributed by a Member shall be returned to that member, unless the Member agrees to a different distribution, and (iii)

all other assets shall be distributed as provided in the termination agreement.

36. Amendment.

- a. This Agreement may be amended by action taken by the governing body of each Member and upon any required approval given, or deemed to be given, by the Attorney General of Nevada.
- b. A presumption exists that an amendment is appropriate in the event of any subsequent state law change affecting the relative positions of the Members with regard to the matters covered under this Agreement.

37. Assignment; Binding on Successors. Except as otherwise provided in this Agreement, the rights and duties of the Members may not be assigned or delegated without the written consent of all Members. Any attempt to assign or delegate such rights or duties in contravention of this Agreement shall be null and void *ab initio*. Any approved assignment or delegation shall be consistent with the terms of any contracts, resolutions, indemnities and other obligations of the Authority then in effect. Subject to the foregoing, this Agreement shall inure to the benefit of, and be binding upon, the successors and assigns of the Members.

38. Choice of Law. This Agreement shall be governed by the laws of the State of Nevada.

39. Severability. If any provision of this Agreement should be held to be invalid or unenforceable by a final decision of a court of competent jurisdiction, then this Agreement shall terminate unless the remaining provisions are reaffirmed by action of the governing board of each Member within 120 days from the date on which such decision of invalidity or unenforceability becomes final.

IN WITNESS WHEREOF, the Members have caused this Agreement to be executed as of the date written above.

Attest:

COUNTY OF WASHOE

DATE

Angie Harvey
County Clerk

Paul John
Chairman
Board of County Commissioners

1-8-10

Approved as to form:

Melanie Foster
Assistant District Attorney

Attest:



CITY OF RENO

DATE

Janet Jones
City Clerk

12-23-09

Approved as to form:

Wm. Baer Rothe
Reno City Attorney

Attest:

CITY OF SPARKS

DATE

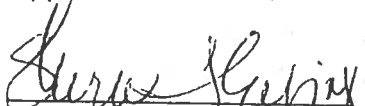

City Clerk


Mayor

2/1/10

A-3801

Approved as to form:

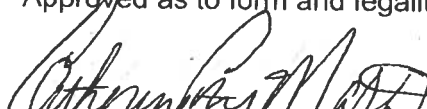

Sparks City Attorney



OFFICE OF THE ATTORNEY GENERAL

DATE

Approved as to form and legality:


Deputy Attorney General

2/3/10

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