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**CITY OF GRASS VALLEY
COMMUNITY DEVELOPMENT DEPARTMENT**

**Initial Study & Proposed Mitigated Negative Declaration – City of Grass Valley
Public Works Clean Water State Revolving Fund (CWSRF) Projects**

(SCH#2019 _____)

March 22, 2019

INITIAL STUDY AND MITIGATED NEGATIVE DECLARATION**City of Grass Valley - Clean Water State Revolving Fund (CWSRF) Application(s)**

In accordance with the California Environmental Quality Act (CEQA) Guidelines Section 15063 (Initial Study), the City of Grass Valley has prepared this Initial Study to assess the potential environmental impacts of proposed Clean Water State Revolving Fund Application(s) with the Regional Water Quality Control Board. The following proposed City of Grass Valley Public Works Projects, as briefly described below and as further described in the Project Description section of this Initial Study, are evaluated herein:

1. **Water Distribution System Pipeline Repair and Replacement Project** - The project will repair and replace aging pipelines that have exceeded their service life that provide the City water distribution, storage, and treatment system.
2. **Water Service, Earthquake Preparation, and Control Project** - The project will improve water service pressure in areas of low system pressure and provide system isolation and control in case of a significant system breach, such as in a major seismic event. In case of a system breach, these improvements will facilitate distribution system isolation, and prevent the City from losing water supply and increase operational flexibility and system redundancy.
3. **Water Treatment Plant Improvement Plant Project** - The project will repair components of the City's Water Treatment Plant, replace components and procedures at the WTP which are outdated or inefficient, and increase WTP controls.

Based on the Initial Study, the City finds that the proposed Project will not have a significant adverse effect on the environment and will not require the preparation of an Environmental Impact Report. Therefore, this Mitigated Negative Declaration has been prepared as the appropriate level of environmental review in accordance with CEQA and the CEQA Guidelines.

Public and Agency Review:

This Initial Study/Mitigated Negative Declaration will be circulated for a **30-day** public and agency review commencing **March 22, 2019**. Copies of this Initial Study and cited References may be obtained at the City of Grass Valley Community Development Department at the address noted below. Written comments on this Initial Study/Mitigated Negative Declaration may also be addressed as noted below.

Project title: City of Grass Valley - Clean Water State Revolving Fund (CWSRF) Application(s)

Lead agency name and address:

City of Grass Valley Public Works Department
125 E. Main Street
Grass Valley, CA 95945
Attn: Tim Kiser, City Manager/City Engineer

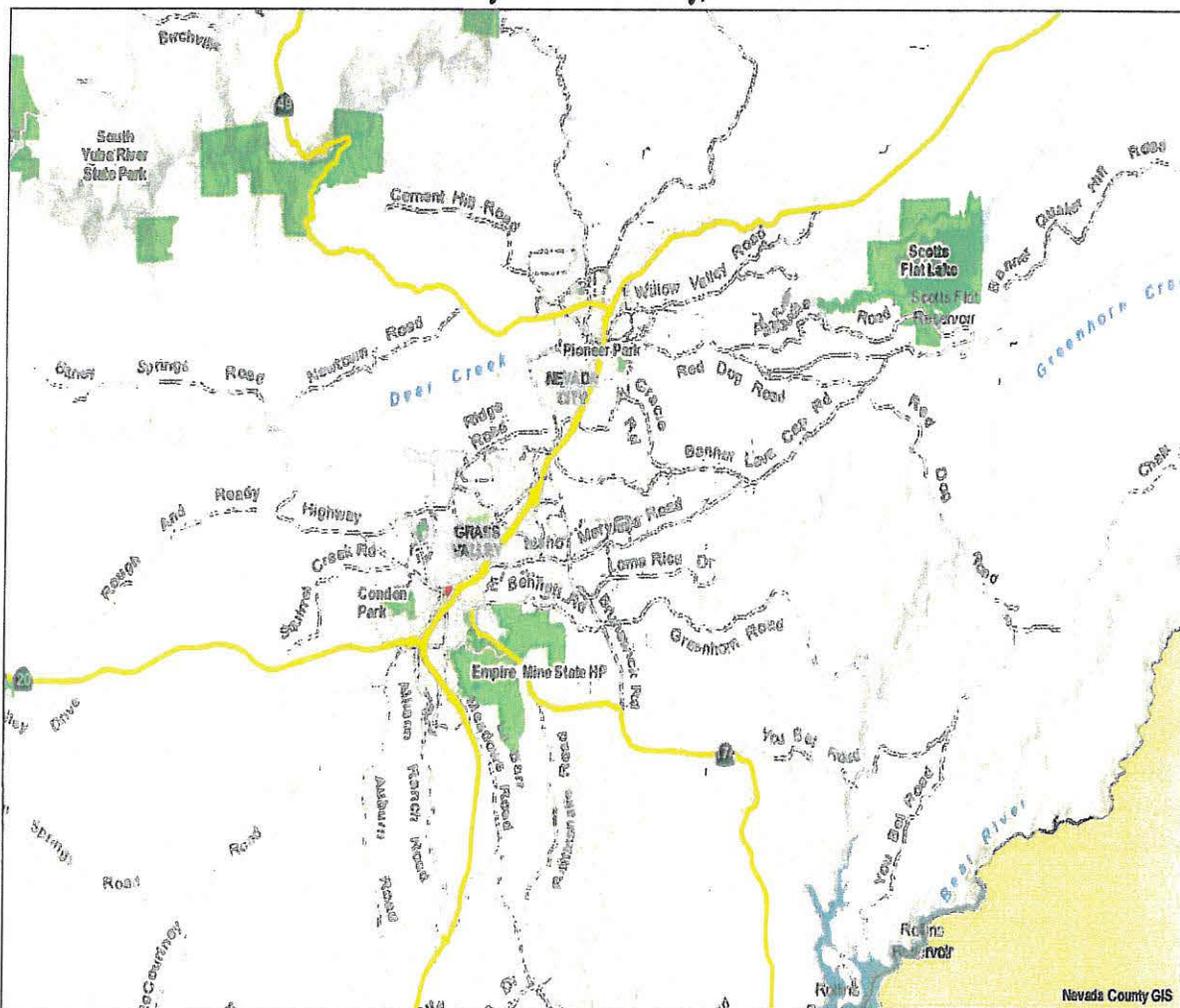
Contact person, phone number, and e-mail:

Lance E. Lowe, AICP, Principal Planner
 125 E. Main Street
 Grass Valley, CA 95945
 530-274-4712
lancel@cityofgrassvalley.com

Project Location and Site Description:

The three water system improvements projects, as individually described herein, are within the City of Grass Valley city limits, in western Nevada County, about 60 miles north east of Sacramento, California. Located within the foothills of the Sierra Nevada, the City sits at approximately $\pm 2,500$ ft above mean sea level. The proposed projects are located within the Grass Valley U.S. Geological Survey (USGS) 7.5-minute quadrangle map at Township 16N, Range 8E, and Sections 22, 26-28, 33-35 and Township 15N, Range 8E, and Section 2 (*Exhibit 1 - Vicinity Map and Exhibit 2 - Aerial Photograph*). Approximate coordinates of the City of Grass Valley are $39^{\circ} 21' 91''$ north and $-121^{\circ} 06' 11''$ west.

**Exhibit 1- Location Map
 City of Grass Valley, CA**



**Exhibit 2- Aerial Photograph
City of Grass Valley**



Environmental Setting:

The proposed Projects are at approximately 2,500 feet above mean sea level. With exception of the Water Treatment Plant, which is located in an area of open space and residential uses, the proposed Project sites are located within an area with commercial, light industrial and residential uses. The climate in this region can be described as "Mediterranean", with cool winter rainy seasons, and hot dry summers.

The proposed Projects region is divided between two geomorphic provinces in California - the Sierra Nevada range directly to the east and the Central Valley to the west. Specifically, the County of Nevada is characterized by a variety of topographical features including valley in the far west, rolling foothills, and steep high-country terrain in the east. The County consists of lands that contain alterations due to human influence and disturbance (e.g. agriculture, mining, commercial, and residential), as well as native terrestrial habitat predominately including oak woodland, mixed hardwood, conifer forest, riparian woodland, and chaparral.

Project Objective:

The City is seeking funds from the State Water Resources Control Board (WRCB), Division of Financial Assistance, which administers the Clean Water State Revolving Fund (CWSRF) Program, pursuant to 40 Code of Federal Regulations (CFR) Part 35 to assist in financing for the proposed Projects. The CDSRF loan fund is capitalized by Federal Grants, State match money, loan repayments, and other earnings of the fund. The proposed Projects are supported with funds directly made available by Federal capitalization grants (i.e. projects funded in amounts equaling the grant), called Federally Assisted Projects, which must comply with Federal legal requirements, including both the State and Federal Endangered Species Act (ESA), National Historic Preservation Act Section 106 and the Migratory Bird Treaty Act (MBTA).

PROJECT DESCRIPTION:

1. Water Distribution System Pipeline Repair & Replacement Project – The City’s existing water distribution storage and treatment system serves approximately 2,450 accounts, of which slightly less than 1,900 are residential accounts and just over 550 are commercial/industrial accounts. The City’s service area comprises the “old town” portion of the City and areas to the south and east as shown in **Figure 1 – City of Grass Valley Water Service Area**.

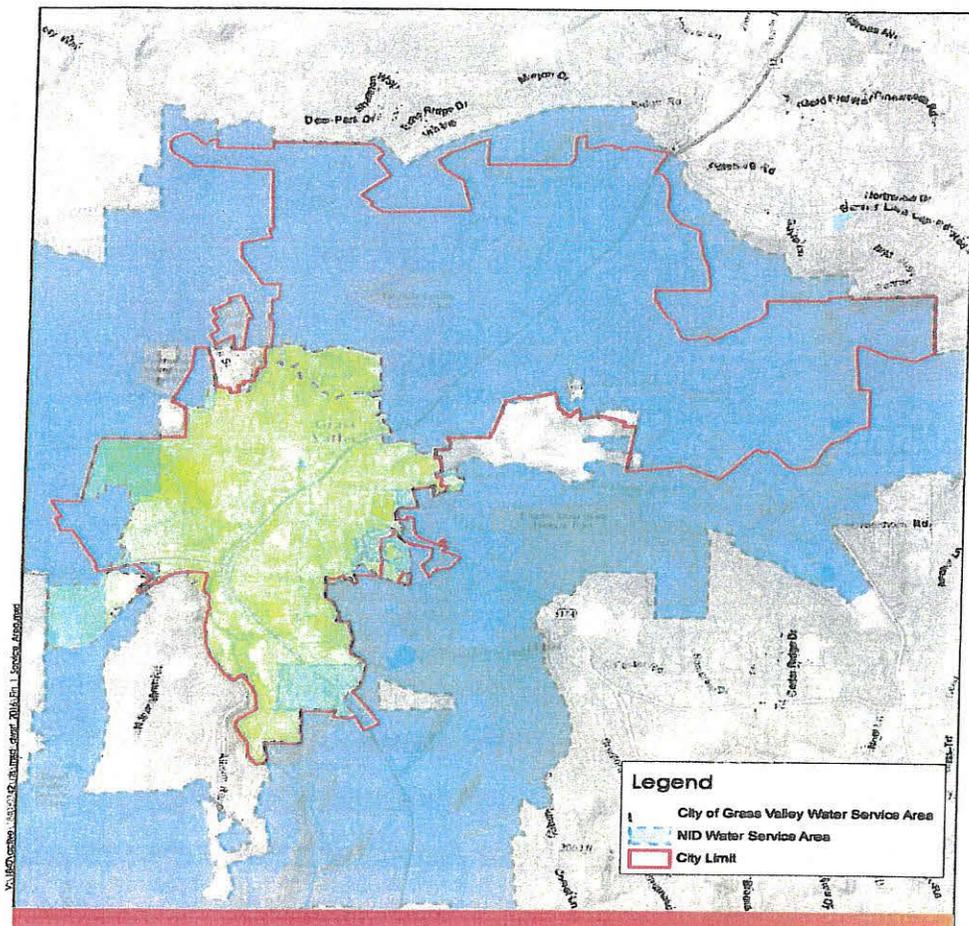


Figure 1
City of Grass Valley Water Service Area

City of Grass Valley Water Distribution System

The City's distribution system is made up of pipes of varying ages, sizes, and materials. The pipelines are composed of various types of materials including asbestos cement (ACP), cast iron (CIP), ductile iron (DIP), poly vinyl chloride (PVC), high-density polyethylene (HDPE) and steel. Pipeline sizes range from 4 to 22-inch lines. A significant portion of the City's water distribution has exceeded its design service life. The typical useful life of most water pipelines is around 50 years. Based upon this assessment, 35 percent of the pipelines in the City's water distribution system are at or have already exceeded their useful life. Although, there have not been any catastrophic failures of the City's distribution system up to this point in time, there are leaks observed within the system and on-going maintenance and operation attention required of the system reflecting the age of the facilities. The City understands the importance of maintaining the pipelines in its system and has an ongoing removal and replacement program included in its annual budget. While the City recognizes that the typical useful life of most pipelines is around 50 years, due to budgetary constraints, they have set a goal to replace all pipelines and storage tanks with a 75-year service life. At a minimum the City does not wish to rely on any water distribution infrastructure older than 100 years of age. The City's water distribution system is shown in **Figure 2**.

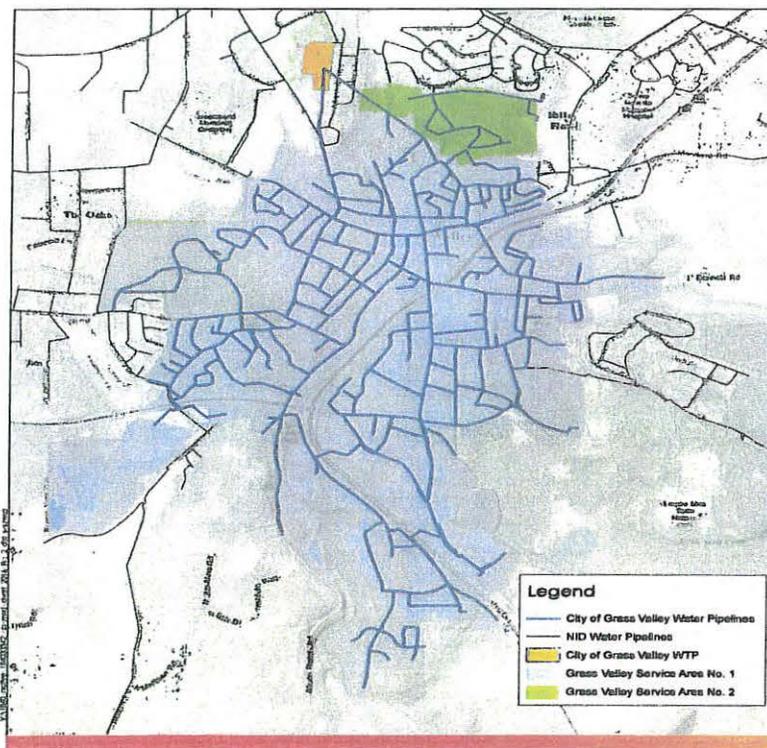


Figure 2
City of Grass Valley Water Distribution System

Figure 3 displays the distribution system by age and Figure 4 displays the distribution system by material.

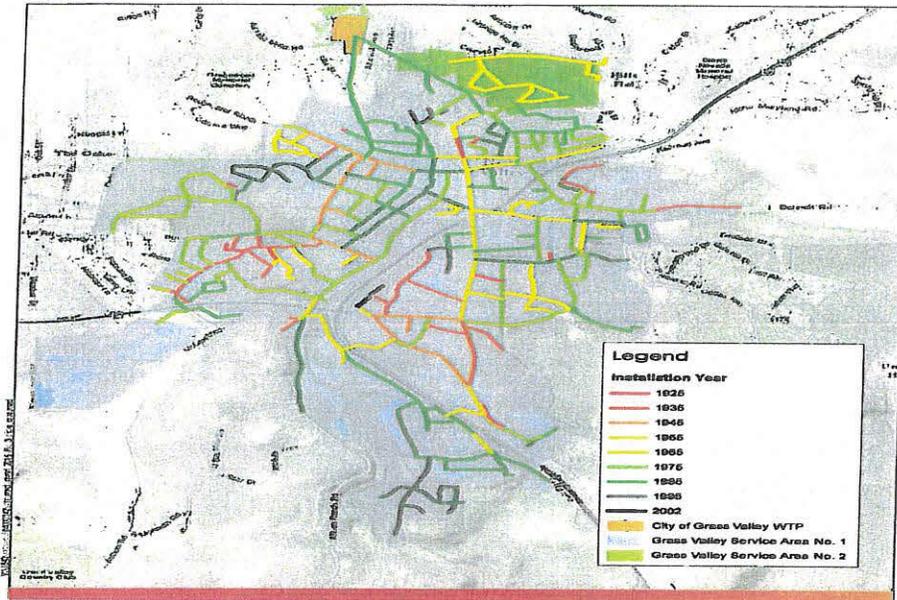


Figure 3
City of Grass Valley Water Pipeline Installation Dates
City of Grass Valley Water Distribution System

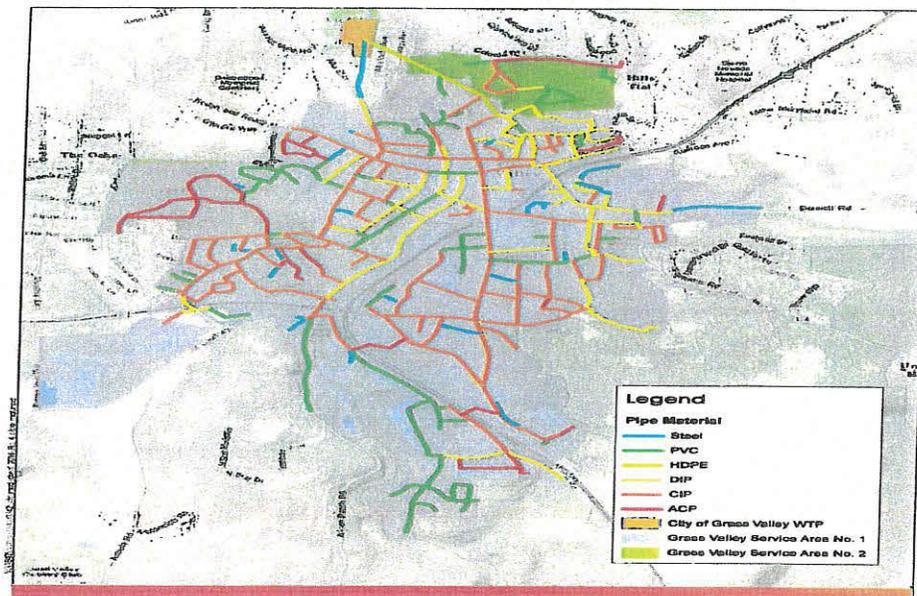


Figure 4
City of Grass Valley Water Pipeline Materials
City of Grass Valley Water Distribution System

Pipeline repair and replacement was prioritized in four categories: Intermediate replacement, High priority, Medium priority, and Low priority shown below and in Figure 6:

Priority Level	Description	Percent in System
Intermediate	ACP that has reached or exceeded its useful life (installed 1965 or earlier). CIP that is close to reaching a service life of 75 years (installed 1945 or earlier).	16%
High	CIP installed in 1955 or later. All other pipelines installed before 1945	33%
Medium	All CIP installed after 1965. All other pipes (other than ACP or CIP) installed between 1965 and 1945	9%
Low	All pipes not identified above.	42%

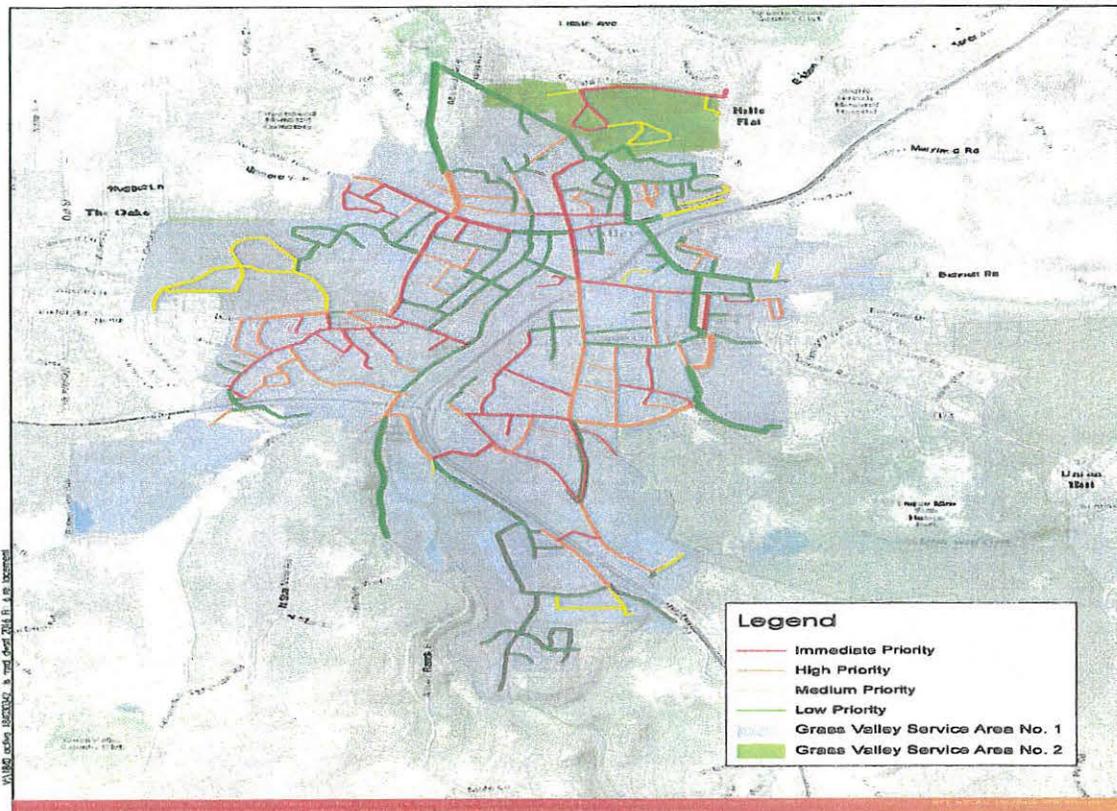


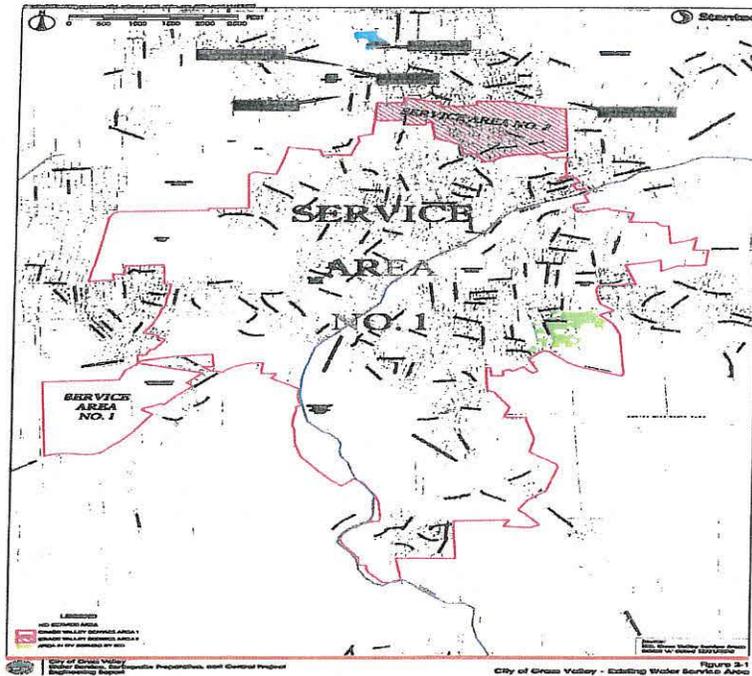
Figure 6
Drinking Water Pipeline Replacement Priority

City of Grass Valley Water Distribution System

Within the City's distribution system, there are six pipelines that cross under major highways. Half of these are located within roadways that cross under the highway; however, the remainder cross under major highways but are not located within a roadway (they cross through the highway embankment). These pipelines are not proposed to be replaced with the project but will be replaced at a later date funding permitting.

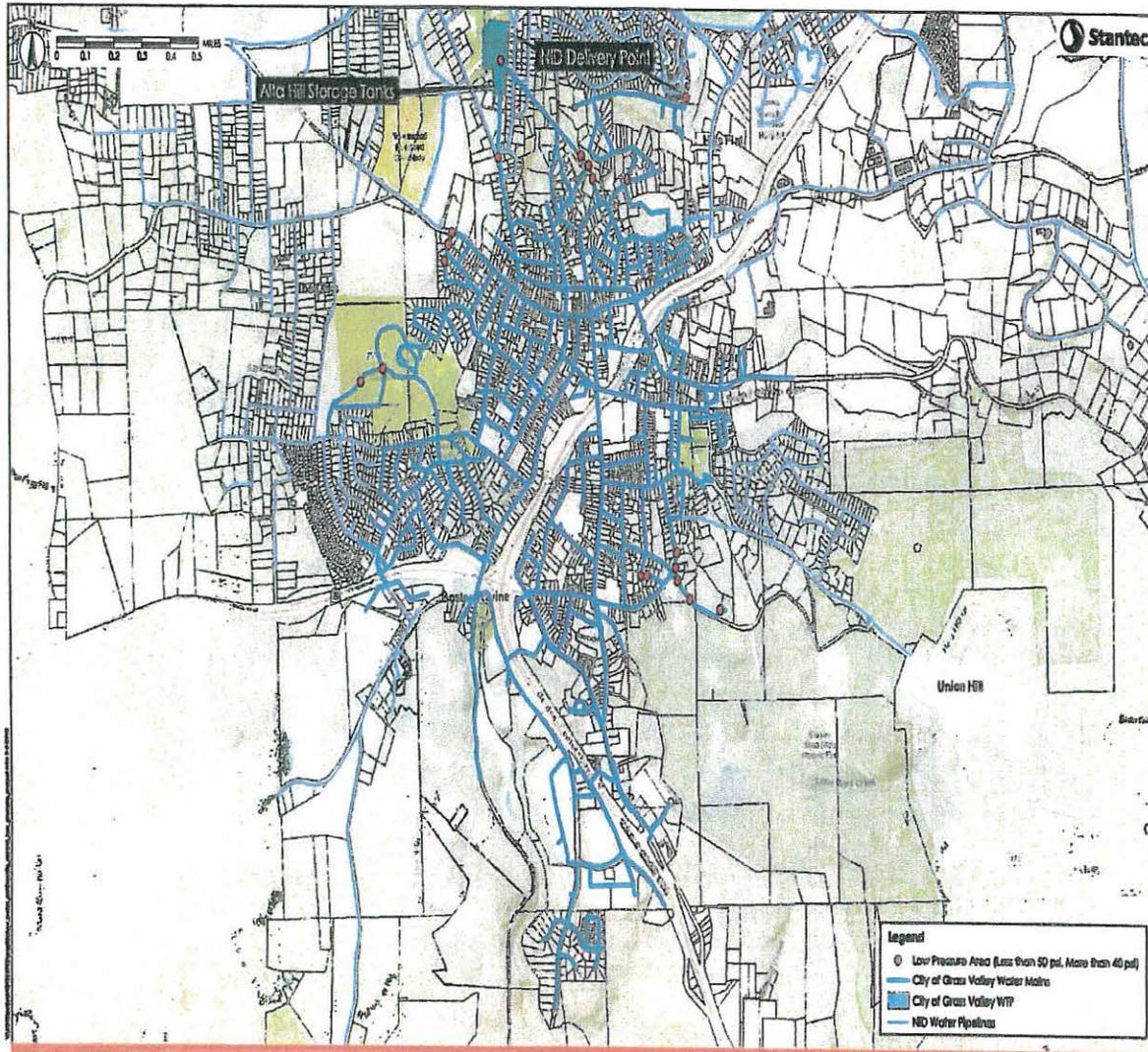
The proposed Project footprint is approximately eight acres, and all construction including access and staging will occur within paved areas. Staging areas will be within existing paved parking areas and all access roads will be within existing paved roads. Pipe trenches will vary up to approximately three feet wide, depending on the site of the pipe, and pipe depths will vary up to approximately six feet to match existing profile and constraint requirements. Construction is anticipated to include the operation of up to two (2) backhoes and two (2) hauling trucks during an eight (8) hour work day. A water truck may also be used on a case by case basis. A concrete saw, generator and jack hammer may also be used on a limited basis. Patch repaving of the trench will also occur once the water pipe has been backfilled. A paving machine may also be used to patch the road after pipeline repair or replacements.

2. Water Service, Earthquake Preparation, and Control Project - The proposed Water Service, Earthquake Preparation and Control Project will facilitate two key distribution system goals along the approximate 31 miles of pipelines within the City's distribution system (**Figure 2 - 1 - Existing Water Service Area**).



These include improving water service pressure in areas of low system pressure and providing system isolation and control improvements in case of a significant system breach, such as in a major seismic event such as an earthquake. **Figure 4-1 Critical Valve Addition Locations** shows the locations where additional valves are proposed.

Water Services Pressures - The City's Water Master Plan developed a hydraulic model which identified areas within the distribution system with low pressure (less than 50 psi), these areas are identified on **Figure 2 - 2**.



City of Grass Valley
Water Service, Earthquake Preparation, and Control Project
Engineering Report

Figure 2-2
City of Grass Valley Water Distribution System and Low Pressure Areas

These low pressures are more a result of the relatively higher elevations in these areas, rather than deficiencies in distribution system infrastructure. Areas with even lower pressures (less than 40 psi) exist along the Empire Tank and Alta Hill transmission lines, but there are no homes receiving service from these transmission lines.

The City has identified an area of low pressure in the distribution system in the area surrounding Empire Court. The low pressure exists along Pine Street south of Fiddick Lane, on Empire Court, and East Empire Street east of Kate Hayes Street. Pressure testing of fire hydrants in the area has confirmed system pressures as low as 32 psi. Low water pressure can lead to fire flow concerns and customer complaints. The elevation of this area is a local high point within the distribution system and the cause of low-pressure service. See Figure 5-1 Empire Court Pressure Zone and Booster Pump Station.

Fire flow deficiencies were identified in the system around Empire Court. Fire flow deficiencies can be mitigated by the addition of a booster pump station and creation of a new pressure zone to maintain the added pressure. The existing hydrologic model indicates that fire hydrants on Empire Court and Pine Street may not meet fire flow requirements. This presents an immediate need to address pressure and fire flow needs in this area.

System Isolation and Control – Improving system isolation and control for protection in the case of a significant system breach, such as in a major seismic event, is a top priority for the City. Although there have not been any catastrophic failures of the City's distribution system up to this point in time, the development of a sink hole within the City last winter has brought these improvement needs to the attention of distribution system operators.

Protecting, identifying, isolating, redundant routing, and dewatering of portions of water distribution networks depends on the valves that exist within the system. Most valves serve two purposes, flow and pressure control and/or isolating subsystems due to breakage or contaminant containment. Strategically placed and well-maintained valves with the distribution system can reduce costs associated with the following:

- Water loss: when a pipe break occurs, inoperable or non-existent valves result in the loss of considerable amounts of water;
- Property damage: claims for property damage against the City can be expensive and time consuming, thereby consuming valuable City resources; and,
- Staff time: inoperable or non-existent valves result in wastage of crew time looking for other operable valves to arrest the flow instead of repairing the problem.

In the event of a catastrophic event, such as an earthquake, system operators must be able to quickly and efficiently isolate damaged areas of the system to prevent supply loss, contamination and a variety of other issues impacting the overall cost of operation and maintenance. The City's water system atlas maps were reviewed to evaluate the ability to isolate the control segments of the distribution system. There are 548 isolation valves within the City's existing distribution system, excluding those associated with fire hydrants. It has been assumed that an additional 130 valves will be added to the system as part of on-going improvement projects. The preliminary review of the distribution system identified approximately 150 individual locations at which a valve could be added to improve system control.

With exception of the Broadview Heights area, the City's distribution system currently exists as one pressure zone. Water is fed into the system from the Alter Hill storage tanks at the City's wastewater treatment plant. Pressures vary between 30 and 130 psi (pounds per square inch) throughout the system, and no pump stations are currently used to boost pressures. A pressure reducing station is located at the Carriage House Development south of McKnight Way off Freeman Lane. This station is used to regulate high pressures in this area due to the low elevation of the development in comparison to the rest of the City. The City's water distribution system is shown in **Figure 2 - 2 - Water Distribution System and Low-Pressure Areas**).

Specifically, the proposed Water Service, Earthquake Preparation and Control Project will create a new Empire Court Pressure Zone by installing Check Valves within the distribution system and adding a Booster Pump Station. In addition, the proposed Project will improve isolation and control of the distribution system by installing valves at critical locations.

The proposed project is described below in two parts, with the first being the Empire Court Pressure Zone and Booster Pump Station, and the second being the installation of Check Valves.

Empire Court Pressure Zone and Booster Pump Station Project Components:

- Collection of existing as-built drawings and other additional information to be used for design;
- Additional testing of system pressure in the area identified to have inadequate pressure under existing conditions;
- Development of a detailed proposed Project design;
- Preparation of environmental documentation and compliance;
- Preparation of construction plans and specifications; and,
- Construction

Major proposed components include specifying and placing the Booster Pump Station and identifying the additional Pressure Zone and location of Check Valves within the existing

distribution system. A preliminary evaluation of Pump Station requirements indicates that a pump station with capacity of 50 gallons per minute and 100 feet of total dynamic head is needed to increase system pressure to approximately 60 pounds per square inch within the new pressure zone.

Check Valves Addition Project Components:

- Collection of existing as built drawings and other additional information to be used for design;
- Additional evaluation to determine the most critical valves based on failure impacts;
- Development of a detailed repair and replacement plan;
- Preparation of environmental documentation and compliance;
- Preparation of construction plans and specifications; and,
- Construction

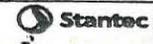
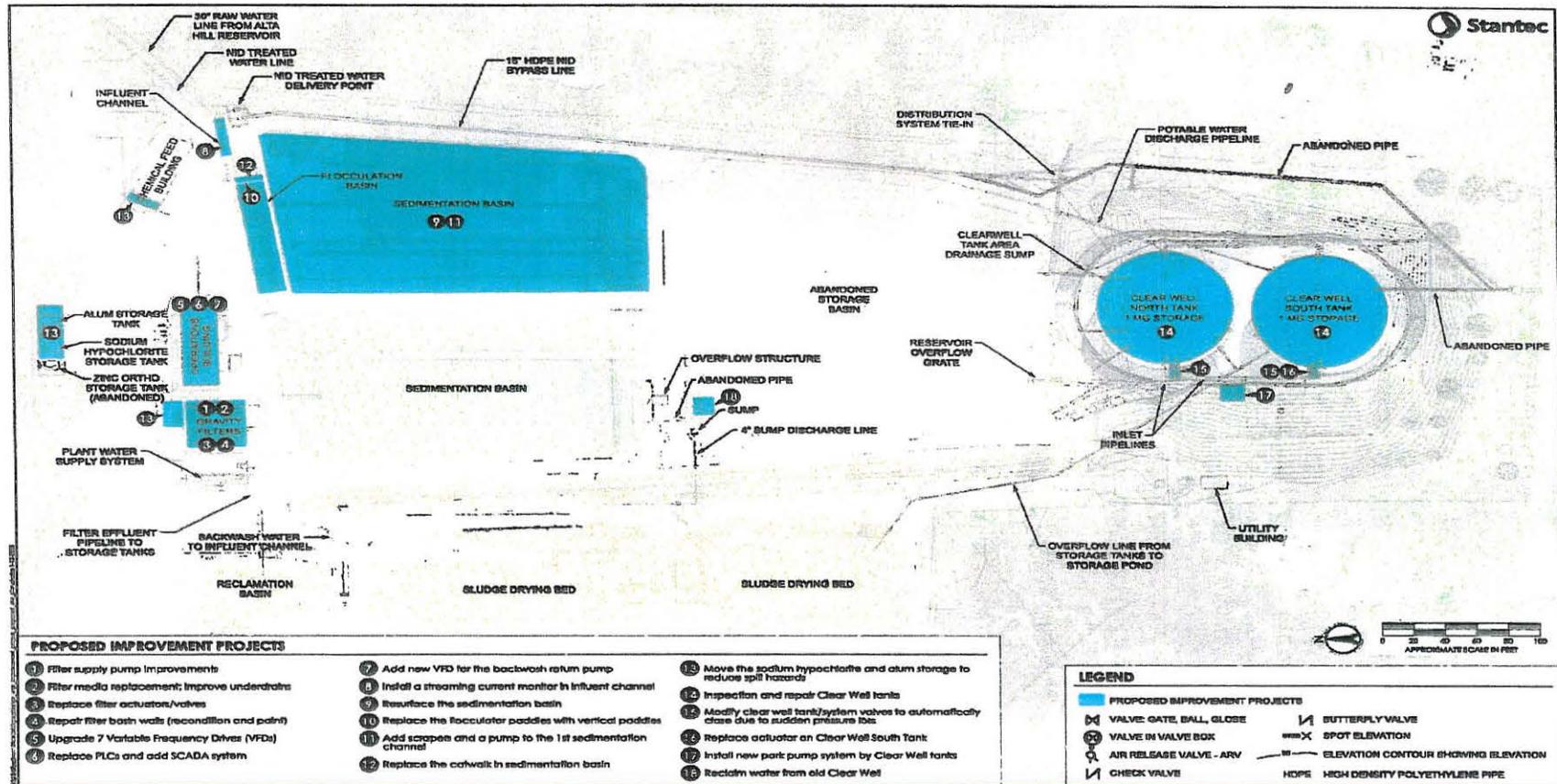
The main components of the proposed Project valve addition include, an existing system evaluation confirming and prioritizing critical valve locations, and the design of distribution system improvements. The new valves will conform to the City's current design standards for purposes of simplifying repair and maintenance practices. Maintaining a reasonable level of standardization around preferred manufactures of valves and system components will not only streamline maintenance and service, but will also allow operations staff to maintain fewer, more interchangeable spare parts, and reduce the number of vendors with whom the City must coordinate. See Figure 5-2 Water Service, Earthquake Preparation and Control Project Components.

3. Water Treatment Plant Improvement Project - The City's WTP, located at 808 Alta Vista Avenue, is in compliance with existing federal, state and municipal regulations. The improvements outlined in this report are intended to enhance the function of the WTP from an operations perspective, improve worker safety, and bring aged facility components back to reliable conditions. Several of the WTP system components are at the end of their useful life and require improvements or replacement due to age and wear.

In 2016, the City completed a Water System Masterplan to provide guidance on the management of the water transmission, distribution, storage, and treatment facilities. The Masterplan identified recommended improvements and established a list of CIP projects to be completed. Some of the projects identified in the Masterplan have been completed and some new projects have been added to the City's CIP list for the WTP. A new updated list of WTP improvements is shown in the table below. The list of improvements in the table are intended to repair components of the WTP, replace components and procedures at the WTP, which are outdated or inefficient, and increase WTP controls. Figure 6 illustrates the WTP site plan/proposed improvements.

<i>Project No.</i>	<i>Project</i>
1	Filter supply pump improvements
2	Filter media replacement; improve underdrains
3	Replace filter actuators/valves
4	Repair filter basin walls (recondition and paint)
5	Upgrade 7 Variable Frequency Drives (VFDs)
6	Replace Process Logic Controllers (PLCs) and add WTP Supervisory Control and Data Acquisition system (SCADA)
7	Add new VFD for the backwash return pumps
8	Install a streaming current monitor in influent channel
9	Resurface the flocculator paddles with vertical paddles
10	Replace the flocculator paddles with vertical paddles
11	Add scrapers and a pump to the 1 st sedimentation channel
12	Replace the catwalk in sedimentation basin
13	Move the sodium hypochlorite and Alum storage to reduce spill hazards
14	Inspection and repair Clear Well tanks
15	Modify clear well tank/system valves to automatically close due to sudden pressure loss
16	Replace actuator on the Clear Well South Tank
17	Install new park pump system by the Clear Well Tanks
18	Reclaim water from old Clear Well

Waste Water Treatment Site Plan Proposed Improvements



City of Grass Valley
Water Treatment Plant Improvement Project

Figure 6
WTP Site Plan - Proposed Improvements

General Plan/Zoning Designations

The Water Distribution System Pipeline Repair & Replacement and Water Service, Earthquake Preparation and Control Projects are located entirely within existing City streets; within existing City rights-of-ways. Hence, there are no General Plan or Zoning designations for these areas.

The City's Water Treatment Plant property contains both Public General Plan and Zoning designations. The purpose of the Public General Plan and Zoning designations are to designate publicly owned facilities and services to meet the public needs of the city.

Offsite Improvements

No off-site improvements are proposed with the project.

Regulatory Setting and Required Agency Approvals

The following City of Grass Valley, Responsible and/or Trustee Agency permits are required prior to construction of the project:

- State Department of Water Resources, Division of Financial Assistance and Environmental Compliance Unit - Acceptance of CEQA document, acceptance of application and funding authorization.
- City of Grass Valley Department of Public Works - Improvement Plan, Grading Plan, Encroachment Permit and Traffic Control Plan approvals and Conditions of Approval/Mitigation Measure compliance verification.
- California Department of Fish and Wildlife and US Fish and Wildlife Service - Consultation on effectiveness of mitigation measures in accordance with Fish and Game Code and Migratory Bird Treat Act (MBTA), if applicable.

Evaluation of Environmental Impacts:

- 1) A brief explanation is required for all answers except "NO Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to a project like the one involved (e.g. the project falls outside a fault rupture zone). A "NO Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
- 2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.
- 3) **"Potentially Significant Impact"** is appropriate if there is substantial evidence that an effect is significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an Environmental Impact Report (EIR) is required.
- 4) **"Potentially Significant Unless Mitigation Incorporated"** applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
- 5) **"Less-Than-significant Impact:"** Any impact that is expected to occur with implementation of the project, but to a less than significant level because it would not violate existing standards.
- 6) **"No Impact:"** The project would not have an impact to the environment.
- 7) Earlier analyses may be used where, pursuant to Tiering, Program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration.
- 8) Lead agencies are encouraged to incorporate into the checklist reference to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact, that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|--|--|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology/Soils |
| <input type="checkbox"/> Greenhouse Gases | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology/Water Quality |
| <input type="checkbox"/> Land Use/Planning Housing | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation/Traffic | <input type="checkbox"/> Utilities/Service Systems | <input checked="" type="checkbox"/> None |
| <input type="checkbox"/> Mandatory Findings of Significance | | |

DETERMINATION: (To be completed by the Lead Agency) On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Lance E. Lowe, AICP, Principal Planner

Date 3/15/19

EVALUATION OF ENVIRONMENTAL IMPACTS:

I. AESTHETICS –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- a) Have a substantial adverse effect on a scenic vista?
- b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?
- c) Substantially degrade the existing visual character or quality of the site and its surroundings?
- d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

SETTING

The aesthetic value of an area is a measure of its visual character and quality, combined with the viewer response to the area (*Federal Highway Administration, 1983*). The visual quality component can best be described as the overall impression that an individual viewer retains from residing in, driving through, walking through, or flying over an area. Viewer response is a combination of viewer exposure and viewer sensitivity. Viewer exposure is a function of the number of viewers, the number of views seen, the distance of the viewers, and the viewing duration. Viewer sensitivity relates to the extent of the public's concern for a particular view shed (*U.S. Bureau of Land Management, 1980*).

The *City of Grass Valley 2020 General Plan* notes that the City does not contain any designed scenic vistas, but generally acknowledges the City and its surroundings as having a wide range of landscapes, scenic vistas and visual resources.

IMPACTS

a)-d) The Water Distribution System Pipeline Repair & Replacement and Water Service, Earthquake Preparation and Control Projects are located within downtown Grass Valley; entirely within existing City streets and City rights-of-ways.

The Water Treatment Plant is located on 808 Alta Vista Avenue; is entirely fenced; and, within an Open Space (OS) Zoned parcel adjoined by residential uses to the east.

Due to the type of Project (infrastructure repair/replacement), the Project will not have an adverse effect on a scenic vista or substantially damage scenic resources, including but not limited to trees, outcroppings, and historic buildings with a scenic highway.

The Project will not degrade the existing visual character or quality of the site and surroundings considering the type of project and its location. Construction activities will leave the site in the same state as what currently exists. No impact will occur.

No additional lighting is proposed with the project. All work to be performed will occur during the normal 8-hour day (i.e. 8 a.m. to 5 p.m.). Therefore, the Project will not create a new source of light or glare which would adversely affect day or nighttime views in the area. No impact will occur.

II. AGRICULTURE RESOURCES & FOREST RESOURCES—	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest uses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The Project is situated in an area that has been designated and zoned for developed uses by the *City of Grass Valley 2020 General Plan and Development Code* respectively. No current agricultural operations or forestry lands exist on the immediate proposed project area as defined according to the U.S. Department of Agriculture.

Although, the project area contains trees, the project area does not fall under the definition of forest lands as defined by *Public Resources Code Section 12220(g)*.

IMPACTS

- a)-e) The Project does not involve the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide importance as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency.

The Project area does not have an agricultural zoning designation; under Williamson Act contract nor will the project conflict with zoning for or cause rezoning of forest land, timberland or Timberland Production as defined by the Public Resources Code. The Project will not result in the loss of forest land or conversion of forest land to non-forest uses.

The Project does not involve changes in the existing environment which, due to their location or nature, could result in conversation of Farmland, to non-agricultural use or conversion of forest land to non-forest uses. No impact will occur.

III. AIR QUALITY –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations.

Would the project:

- | | | | | |
|---|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SETTING

The Project is located within the Northern Sierra Air Quality Management District's (NSAQMD) area. The overall air quality in Nevada County is good but two known air quality problems exist, Ozone and Suspended Particulate Matter (PM-10). Nevada County is a "non-attainment" for both pollutants. PM-10 in Grass Valley meets federal ambient ozone standards but exceeds the more stringent State standards in the winter, primarily due to smoke created from wood stoves and fireplaces. Violations in the summer months have been noted during forest fires or periods of open burning. PM-10 is usually associated with dust generated during construction. Western Nevada County is a non-attainment area for the federal 8-hour ozone standard and the entire county is non-attainment for the state one-hour ozone standard.

The NSAQMD has adopted standard regulations and conditions of approval for projects that exceed certain air quality threshold levels to address and mitigate both short-and long-term emissions. The Northern Sierra Air Quality Management District (NSAQMD) has established the below thresholds of significance for PM-10 and the precursors to ozone, which are reactive organic gases (ROG) and nitrogen oxides (NOx). The NSAQMD has developed a tiered approach to significance levels: A project with emissions meeting Level A thresholds will require the most basic mitigations; projects with projected emissions in the level B range will require more extensive mitigations; and those projects which exceed Level C thresholds, will require an Environmental Impact Report to be prepared, which may result in even more extensive mitigations.

Level A Thresholds		
NOX	ROG	PM10
<24lbs/day	<24lbs/day	<24lbs/day
Level B Thresholds		
NOX	ROG	PM10
24-136 lbs/day	24-136 lbs/day	79-136 lbs/day
Level C Thresholds		
>136 lbs/day	>136 lbs/day	>136 lbs/day

IMPACTS

- a) The Project does not contain any element that may conflict with or obstruct implementation of an air quality plan. No impact will occur.
- b) The project will require minor excavation and grading work to accommodate the three Projects described herein. Dust generated by grading and construction activities could have a potential to create short-term air quality impacts. Construction is anticipated to occur over a limited construction duration of a two- or three-month period. Construction is anticipated to include the operation of up to two (2) backhoes and two (2) hauling trucks during an eight (8) hour work day. A water truck may also be used on a case by case basis. A concrete saw, generator and jack hammer may also be used on a limited basis. Patch repaving of the trench will also

occur once the water pipe has been backfilled. All the equipment utilized for the project is required to comply with Northern Sierra Air Quality Management District standards for mobile combustible emissions.

Considering the type of construction planned for the Project, it is difficult to qualify or quantify the air quality emissions generated. With exception of the Water Treatment Plant, the Project is not your typical construction project occurring at a single location and the length of the water pipe replacement and/or repair will vary from day to day. Accordingly, air quality emission programs such as *CalEEMod - California Emissions Estimator Model* do not adequately evaluate the air quality emissions associated with the Project.

To quantify air quality emissions with the Project, standard assumptions for combustible emissions for the project, as out lined in the following table, were used. These standard air quality emissions were generated from the State's Air Resources Board website and include estimates for the proposed type of equipment to be used for the Project. Note that the below calculations assume the equipment will be used during an eight-hour work day; however, many of the equipment facilities listed will only be intermittently during an 8-hour day.

Emission Factors							
Type of Vehicles/Construction Equipment	ROG g/hp- hr	CO g/hp- hr	NOx g/hp- hr	PM-10 g/hp- hr	PM 2.5 g/hp- hr	SO2 g/hp-hr	CO2 hp- g/hp hr
Passenger Vehicles	0.08	3.87	0.06	0.22	0.22	0.008	529.700
Pickup Trucks	0.20	6.40	0.20	0.33	0.33	0.009	536.000
Water Truck	0.513	3.43	5.219	0.292	0.292	0.005	514.057
Concrete Saw	0.685	2.339	4.332	0.164	0.164	0.007	568.229
Paver	0.310	1.370	4.782	0.158	0.146	0.005	516.900
Diesel Tractors/Loaders/Backhoes	1.336	5.772	5.369	0.488	0.449	0.005	564.042
Total (grams per day)	3.124	23.18	19.96	1.6	1.6	0.039	3228.928
Total (gram per 8 hour day)	24.99	185.448	159.696	13.216	12.808	.312	25831.42
Total (lbs per day)	.05509	.4088	.3520	.02913	.02823	.0006878	56.94

453.592 grams = 1 lb.

As noted, thresholds of significance have been established by Nevada Sierra Air Quality Management District pursuant to Section 15382 and Appendix G of the California Environmental Quality Act Guidelines. Thresholds of significance are based on sources' projected impacts. The adopted Northern Sierra Air Quality Management thresholds of significance related to Ozone and Particulate Matter (PM) are as noted in the following table:

Level C Thresholds		
NOX	ROG	PM10
<24lbs/day	<24lbs/day	<24lbs/day
Level B Thresholds		
NOX	ROG	PM10
24-136 lbs/day	24-136 lbs/day	79-136 lbs/day

Based upon the air quality assumptions derived from the State's Air Resources Board website for the type of construction equipment used and duration relative to Northern Sierra's Air Quality Management adopted thresholds of significance, the project is anticipated to have impacts in the Level C Threshold with the exception of CO₂, which may have a Level B threshold. Despite having minimal impacts on air quality, the project will be required to implement the Northern Sierra's Air Quality Management standard rules for construction, which include the following project conditions.

Mitigation Measure:

1. The City shall include a Dust Mitigation Plan for the Project. Dust mitigation measures shall be implemented in accordance with the approved Dust Mitigation Plan. The dust mitigation plan shall include, but are not limited to the following:
 - a. The City Public Works Department shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
 - b. All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard.
 - c. All land clearing, grading, earth moving, or excavation activities for the Project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
 - e. All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
 - f. All material transported off-site, if any, shall be either sufficiently watered or securely covered to prevent public nuisance.
 - g. Paved streets adjacent to the Project shall be swept at the end of each day, or as required to remove excessive accumulations of silt and/or mud which may have resulted from activities of the Project.
 - h. All construction vehicles shall be in accordance with Northern Sierra's Air Quality Management for mobile emissions.

The above Northern Sierra's Air Quality Management standard rules for construction shall effectively reduce any potential impacts to the point where air quality impacts are less than significant.

- c) The proposed project would result in the generation of increased emissions of CO, ROG, NO_x, CO₂ and PM₁₀. The proposed project area is presently in non-attainment status for state and federal standards for ozone (for which ROG and NO_x are precursors) and state standards for PM₁₀.

As discussed above, equipment modeling was used to estimate emissions associated with the proposed project. Results of modeling indicate that the project-generated construction phase emissions would not exceed NSAQMD Level A and Level B thresholds of significance.

With implementation of NSAQMD's recommended conditions of approval, the proposed project's emissions are not anticipated to violate air quality standards or contribute substantially to an existing or projected air quality violation. Therefore, impacts are anticipated to remain less than significant with implementation of standard NSAQMD's conditions of approval for Level A and Level B projects as noted above.

The proposed project's operational emissions would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). These impacts are less than significant based upon preliminary estimates.

- d) Emissions associated with the proposed project would be limited to construction activities, specifically when diesel-powered construction vehicles are used for earth-moving operations. The nearest sensitive receptors (i.e. residential use) are located approximately ±50 feet from where the proposed grading will occur. Although near sensitive receptors, the emissions associated with the Project would be short-term and are not anticipated to result in a substantial elevation of pollutant concentrations in the area. Impacts associated with elevated pollutant concentrations are negligible and therefore would have no substantial impact with respect to sensitive receptors near the proposed project. No impact will occur.
- e) The proposed project is not anticipated to produce any objectionable odors in its finished condition that would affect a substantial number of people. Construction activities associated with the proposed development, such as pipe installation, including piping adhesive etc., are likely to temporarily generate odors. However, since odor-generating construction activities would be temporary, and are only likely to be detected by a small number of residents nearest the Project area, which will change from day to day, impacts from temporary project-related odors will have no impact to a substantial number of people. No impact will occur.

IV. BIOLOGICAL RESOURCES –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- | | | | | |
|--|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

IV. BIOLOGICAL RESOURCES –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The Project area is located in the transition zone between the lower foothill elevations and the higher Sierra mountains. This transition zone is considered the Yellow Pine Belt (Storer and Using 1963). Because it is a transitional zone, a variety of intermingled species occur in the area that typically occur at zones of either higher or lower elevations.

As well as being surrounded by ponderosa pines (*Pinus ponderosa*) and blue oaks (*Quercus douglasii*), the Grass Valley Planning Area also accommodates many other locally important natural communities. Localized areas of serpentine or gabbro support native plant species that have adapted to unique soil conditions other species cannot tolerate. Vernal pools, seasonally flooded depressions underlain with clay or hardpan soils, accumulate water and support unique native vegetation and wildlife species. Other areas of biological significance in the Grass Valley area include riparian corridors, creeks and tributaries that support native trees, shrubs, herbaceous vegetation and wildlife, including special status species listed by the United States Fish and Wildlife and California Department of Fish and Wildlife.

According to the Biological Assessment Report prepared by Stantec dated August 10, 2018, the California Department of Fish and Wildlife (CDFW) has jurisdiction over plant and wildlife species listed as threatened or endangered under Section 2080 of the California Fish and Game Code. The California Endangered Species Act (CESA) prohibits "take" of State listed threatened or endangered species. The CESA differs from FESA (i.e. Federal Act) in that it does not include habitat destruction or harass in its definition of "take". CDFW defines "take" as to "hunt, pursue,

catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CDFW may authorize "take" under the CESA through Section 2081 of the Fish and Game Code. If the results of a biological survey indicate that a State-listed species could be affected by a project, then under Section 2081, CDFW could authorize take of species listed as endangered, threatened, candidate or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met (CDFW 2018a).

Furthermore, the State designates Species of Special Concern (SSC) as wildlife and plant species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational and/or educational values. These species do not have the same legal protection as listed species but may be added to official lists in the future (CDFW 2018b). In the 1960's California also created a designation to provide additional protection to rare species. This designation remains today and is referred to as "Fully Protected" species, and those listed "may not be taken or possessed at any time (CDFW 2018b).

CEQA provides protection for Federal and/or State listed species, as well as species not listed Federally or by the State that may be considered rare, threatened, or endangered. If the species can be shown to meet specific criteria for listing outlined in CEQA Guidelines subsection 15380(b). Species that meet these criteria can include "candidate species", species "proposed for listing" and "species of special concern". Plants appearing on California Native Plant Society (CNPS), California Rare Plant Ranks (CRPR) are considered to meet CEQA's Public Resources Code Section 15380 criteria. Impacts to these species would therefore be considered "significant" requiring mitigation (CDFW 2018c).

Furthermore, Section 15380 was included to address a potential situation in which a public agency is to review a project that may have a significant effect on, for example a "candidate species", which has not yet been listed by the USFWS or CDFW. Therefore, CEQA enables an agency to protect a species from significant proposed Project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (CDFW 2018c).

IMPACTS

- a) A Biological Assessment Report was prepared by Stantec dated August 10, 2018 for the project. The proposed Water Service, Earthquake Preparation, and Control Project footprint is approximately 1.5 acres. The proposed Project ground disturbance will average between three to five feet in depth and will not exceed ten feet in depth. Staging areas will be within existing paved parking areas and all access roads will be within existing paved roads. The proposed Project construction will involve the use of general construction equipment such as excavators, backhoes, dump trucks, equipment trucks, and possibly a trencher. Figure 2-1 depicts the Biological Study Area (BSA), which includes a 10-foot buffer from edge of pavement on both sides of the roadways.

As outlined in the project description, the proposed Project has been designed to completely avoid impacts to any special status species as all construction activities, including access and

staging areas, will occur on paved City streets and city rights-of-ways. The WTP is located on City owned property and all improvements will occur within the fence line of the property.

The Biological Assessment prepared by Stantec identified the following special status plant species in the Project area.

Special Status Plant Species – Water Distribution System Pipeline Repair Project:

- Of the 30 special status plant species identified from desktop research and records search, ten (10) were identified as having moderate or high potential to occur within the Proposed BSA. These include Brandegees clarkia, brownish beaked-rush, Cedar Crest popcorn flower, dubious pea, giant checkerbloom, Humboldt lily, Pine Hill flannel bush, Scadden Flat checkerbloom, Sierra foothills brodiaea, and True's manzanita.
- Special accounts for four (4) of the ten (10) special status plant species with moderate or high potential to occur within the proposed Project BSA are 1) Federally listed through FESA as threatened and/or endangered; 2) State listed through CESA as rare, vulnerable, and/or imperiled; and/or 3) State listed through CNPS Ranking of 1B and 2B. These include brownish beaked-rush, dubious pea, Pine Hill flannelbush, and Scadden Flat checkerbloom.
- None of these special status species were observed during reconnaissance-level biological surveys conducted in May 2018. Note: some special status plant species may not have been detected because the surveys were completed during May, which may be outside of the blooming period of some of the listed special status plant species. However, there is no potential for impact to special status plant species as all construction, including access and staging is confined to the roadway.

Special Status Plant Species – Water Service, Earthquake Preparation and Control Project:

- Of the 30 special status species identified from desktop research and records search, seven (7) were identified as having a moderate or high potential to occur within the proposed BSA. These include Brandegees clarkia, dubious pea, Humboldt lily, Pine Hill flannelbush, Scadden Flat checkerbloom, Sierra foothills brodiaea, and True's manzanita.
- Special accounts for three (3) of the seven (7) special status plant species with moderate or high potential to occur within the proposed Project BSA are 1) Federally listed through FESA as threatened and/or endangered; 2) State listed through CESA as rare, vulnerable and/or imperiled; and/or 3) State listed through CNPS Ranking of 1B and 2B. These include dubious pea, Pine Hill flannelbush, and Scadden Flat checkerbloom.
- None of these special status species were observed during reconnaissance-level biological surveys conducted in May 2018. Note: some special status plant species may not have been detected because the surveys were completed during May, which may be outside of the blooming period of some of the listed special status plant species. However, there is no potential for impact to special plant species as all construction, including access and staging areas are confined to the roadway.

Special Status Plant Species – Water Treatment Plant Improvement Project:

- Of the 30 special status plant species identified from desktop research and records search, none were identified as having a moderate or high potential to occur with the proposed Project BSA.
- No special status species were observed during reconnaissance-level biological surveys conducted in May 2018. Note: some special status plant species may not have been detected because the surveys were completed in May, which may be outside of the blooming period of some listed special status plant species.

Despite not having any anticipated impacts on any species identified as a candidate, sensitive, or special status species, the City will condition the project to include the following Environmental Awareness Training for construction personal and Pre-Construction Special Status Plant Species Surveys and Pre-Construction and a Survey for Coast Horned Lizard for the Water Treatment Plant Project.

Mitigation Measures:

MM BIO 1 – Environmental Awareness Training: Prior to construction, a qualified biologist will conduct on Environmental Awareness Training for construction personnel. The Environmental Awareness Training will be given to construction personnel to brief them on how to recognize special status plant species, wildlife species, and sensitive habitats that may occur adjacent to the proposed Project sites (i.e. special status plant identification and habitat, special status avian identification and habitat, wetland habitats, riparian habitats, and relevant Best Management Practices (BMPs), including the importance of remaining within the proposed Project footprint). If special status species are encountered in the work area, which is not expected as all construction is occurring on all paved surfaces, construction shall cease, and the City and a qualified biologist shall be notified for guidance prior to the continuation of construction activities. Depending on the listing of the observed species and its persistence in the area, the City shall consult with California Department of Fish and Wildlife (CDFW) and/or U.S. Fish and Wildlife Service (USFWS) for guidance.

MM BIO 2 – Pre-Construction Special Status Plant Species Surveys: Prior to construction, a qualified botanist shall conduct surveys for sensitive plant species during the appropriate blooming period for each of those species found to have a moderate potential of occurrence within the project area. In the event that special status species are identified within the Project area, the City will implement the following:

1. If special status plants are determined to have no presence in the Project area, then no further mitigation is required.
2. If special plants are determined present during pre-construction field surveys, Project activities shall be reduced and minimized to avoid impact by:
 - i. Mapping the population and placing flagging and/or fencing to protect special status plants within the Project area during construction. Install environmentally sensitive fencing and appropriate signage at an appropriate buffer distance, starting from the edge of the special status plant and/or plant population;

- ii. Adjust Project activity away from special status plants as recommended by the botanist. The Project disturbance area will be confined to the existing ROW and previously disturbed areas; therefore, minimizing any potential impact to special status plant species if observed during pre-construction surveys; and Supervision, guidance and verification of the implementation of these measures shall be achieved by the City and agency-approved biological monitor (a qualified biologist and/or botanist approved by the City)

MM BIO 3 - Pre-Construction Survey for Coast Horned Lizard (Water Treatment Plant Project): Prior to construction, a qualified biologist shall conduct surveys for Coast Horned Lizard in appropriate habitat including areas with gravel and loose soils. If no Coast Horned Lizards are found in the proposed Project area, no further mitigation will be required. However, if this species is observed in the proposed Project area, consultation with CDFW may be required and mitigation plan shall be prepared. A mitigation plan may include measures as having a biological monitor present during construction or restoration of temporarily disturbed habitat types.

- b) The riparian and wetland habitat adjacent to the Project has the potential to be high value habitat for a variety of wildlife including birds, mammals, reptiles, amphibians, and invertebrates alike. Wildlife species have been known to use these habitats during all stages of their life cycles including breeding/nesting, feeding and or migration. However, the BSAs provide minimal and fragmented suitable habitat for both common and special status vegetation and wildlife species and there is no biological vegetation community or habitats present within the proposed Project footprints.

Himalayan blackberry - rattlebox - edible fig riparian scrub and forest (*Rubus armeniacus* - *Sesbania punicea* - *Ficus carica* Shrubland Semi Natural Alliance) are present near proposed Project sites that cross and/or are adjacent to Wolf Creek and its tributaries. This vegetation community of native riparian vegetation is fragmented within disturbed/ruderal, commercial/urban, and/or residential areas. Where riparian vegetation is present within the proposed Projects' Biological Sensitive Areas (BSA), such as Himalayan blackberry, edible fig, white alder (*Alnus rhombifolia*), Fremont's cottonwood (*Populus fremontii*), and various willow species (*Salix* spp.) are present. Furthermore, due to the proximity of developed and disturbed areas, riparian habitat within and near the proposed Projects' BSA also contain a variety of non-native and ornamental species. This community was found within both the proposed Water Distribution System Pipeline Repair and Replacement Project BSA and the proposed Water Service, Earthquake Preparation, and Control Project BSA (CNPS 2009a).

The City plans to avoid all impacts to all hydrologic features within and/or adjacent to the two proposed Project sites. The primary hydrologic feature observed throughout the entirety of the proposed Project sites during baseline biological surveys is Wolf Creek and its tributaries. The primary biological community specifically associated with this hydrologic feature is riparian scrub and forest, as describe above. In addition, man made hydrologic features (i.e. culverts, drainages, canals, etc.) are also present within the two proposed Projects' BSAs. A Wetland Delineation Assessment Report Evaluated hydrologic features observed in each of the Projects' BSAs.

The purpose of the wetland delineation assessments for each project is to document and describe aquatic resources that have the potential to be Waters of the U.S. (WOTUS) and/or Waters of the State of California, including wetlands, within each Project Study Area (PSA).

For each Project area, reconnaissance-level delineation assessment was conducted by a qualified Stantec Wetland Scientist. Each PSA was investigated by completing pedestrian surveys and data was collected on vegetation and hydrology using the USACE wetland determination protocols. Each potential feature identified within each PSA was mapped and recorded in the field using a sub-meter Trimble series 6000 Geo XH Global Positioning System (GPS) and ESRI Collector application on an iPad Tablet with an Arrow 100 sub-meter Global Navigation Satellite System (GNSS) unit for improved accuracy. Information obtained at each feature was recorded on a project-specific Wetland Assessment Field Form. The wetland delineation field assessments were completed for each of the Projects. The conclusions of the Wetland Delineation Study for the three Projects follow:

Water Distribution System Pipeline Repair and Replacement Project – Riparian and non-riparian vegetation is present within and adjacent to various features of the PSA. Vegetation associations are specifically detailed in the Wetland Delineation Study. Soil pits were not taken as part of the Wetland Delineation Assessment; however, USDA, NRCS soil units in the PSA are all listed as non-hydric. Potential jurisdictional features GIS hydrology analysis identified 17 additional locations of Project hydrology feature interceptions in the PSA. Intermittent channels are considered relatively permanent Waters of the United States (WOTUS) and therefore fall under the jurisdictional scope of the Clean Water Act (CWA). Jurisdiction of drainages are not presumed and are determined individually based on if there is a nexus to Traditional Navigable Waters. As outlined in the project description, the City plans to avoid impacts to all hydrologic features and riparian/wetland habitat within and or/ adjacent to the PSA.

Water Service, Earthquake Preparation and Control Project – Riparian and non-riparian vegetation is present within and adjacent to various features in the PSA. Vegetation associations are specifically detailed in the Wetland Delineation Study. Soil pits were not taken as part of the Wetland Delineation Assessment; however, USDA NRCS soil units in the PSA are all listed as non-hydric. Potential jurisdictional features (i.e. WOTUS and/or Waters of the State) occurred in the PSA as six (6) intermittent channels, and three (3) drainages. The GIS hydrology analysis identified one (1) additional location of Project hydrology feature intersection in the PSA. Intermittent channels are considered relatively permanent WOTUS and therefore fall under the jurisdictional scope of the Clean Water Act (CWA). Jurisdiction of drainages are not presumed and are determined individually based on if there is a nexus to Traditional Navigable Waters (TNW). As outlined in the project description, the City plans to avoid all impacts to all hydrologic features and riparian/wetland habitat within an/or adjacent to the PSA.

Water Treatment Plant Improvement Project – No native biological communities were observed within the PSA. The landcover at the WTP was primarily ruderal (i.e. disturbed), with patches of non-native annual grassland concentrated around the treatment of ponds. Soil pits were not

taken as part of the Wetland Delineation Assessment prepared by Stantec; however, the one (1) USDA NRCS soil unit identified in the PSA is listed as non-hydric. A total of six (6) WTP Ponds were identified within the PSA. The WTP Ponds are artificial/manmade and are not connected to a TNW. Therefore, these WTP Ponds do not meet the requirements under the Clean Water Act and are determined to not be WOTUS and/or Waters of the State.

- c) The U.S. Army Corps of Engineers (USACE) and the USEPA regulate the discharge of dredge or fill material into WOTUS under Section 404 of the Clean Water Act (CWA). WOTUS include wetlands, lakes, rivers, streams, and their tributaries. Wetlands are defined, for regulatory purposes, as areas inundated or saturated by surface, or groundwater; at a frequency and duration enough to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions (33 CFR 328.3, 40 CFR 230.3)(USEPA 2016). If a proposed project discharges any fill materials into WOTUS, including wetlands, before and after any proposed project actions, then CWA 404 compliance must be met with the USACE.

The proposed Projects have been designed to avoid all WOTUS and Waters of the State; therefore, a CWA Section 404 Permit is not required. No impact will occur.

- d) Wildlife movement corridors have been recognized by Federal and State agencies as important habitats worthy of conservation. Wildlife movement corridors provide seasonal migration between winter and summer habitats and provide non-migrant wildlife movement within their home range food, cover, and reproduction. While data on the location and value of wildlife movement corridors specific to the two proposed Projects BSAs is lacking, the urban residential/developed characteristics of the region are not highly suitable to support a high density of migrating wildlife, specifically large mammals like deer.

As confirmed in the Biological Assessment Report prepared by Stantec dated August 10, 2018, the project will not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites.

Although the aforementioned biological vegetation communities (e.g. Ponderosa forest and riparian scrub/forest) have the potential to support wildlife movement within the region of the two proposed Project areas, the existing fragmentation of the surrounding landscape as a result of residential areas, businesses, roads/highways, and general human activity is likely to reduce wildlife use of the two proposed Project BSAs for migration or other movements and are unlikely within the proposed Project footprints.

The areas adjacent to and within the proposed Projects' BSAs possess potential suitable nesting habitat for bird species protected under the Migratory Bird Treaty Act (MBTA) as well as the Fish and Game Code. This includes but is not limited to cavity-nesting species such as the acorn woodpecker (*Melanerpes formicivorus*) and the oak titmouse (*Baeolophus inornatus*); tree nesting species such as the western scrub-jay (*Aphelocoma californica*); and ground nesting species such as the spotted towhee (*Pipilo maculatus*) and killdeer (*Charadrius vociferous*).

Raptors that may potentially nest in or directly adjacent to the proposed BSAs may include red-tailed hawk (*Buteo jamaicensis*) or red-shouldered hawk (*Buteo lineatus*). Therefore, a moderate potential exists for nesting raptors and other migratory bird species to occur within or adjacent to the proposed Projects BSAs. No nesting raptors were observed during reconnaissance level wildlife surveys conducted by a qualified Stantec Biologist in May 2018. Further, the City is planning on constructing outside of the nesting season so will avoid any nesting raptors or other migratory birds. However, if construction gets delayed, the City will implement one of the following measures, depending on the specific construction timeframe, to avoid disturbing nesting raptors and other migratory birds.

Mitigation Measures:

MM BIO 4 - Preconstruction Nest Surveys

1. If construction activities are scheduled to occur during the nesting season (i.e. approximately February 15 through August 31), a qualified biologist shall conduct a pre-construction nesting survey within the proposed Project sites and within an approximate 100-foot buffer of the proposed Project sites. If no active nests are detected, then no additional measures are required.
2. If surveys indicate that active raptor or other active migratory nests are found in any areas that would be directly affected by construction activities, a no-disturbance buffer shall be established around the site to avoid disturbance or destruction of the nest site until after the breeding season, or after a qualified biologist determines that the young have fledged (i.e. typically late June to mid-July). The extent of these buffers shall be determined through consultation with CDFW and/or USFWS (depending on the status of the species present) and the qualified biologist. Buffers shall depend on the species present, the level of noise or construction disturbance, line of site between the nest and the disturbance, ambient levels of noise, topographical or artificial barriers, and other disturbances.
3. If construction activities begin outside of the breeding season (i.e. approximately September 1 through February 14), then construction may proceed until it is determined that an active migratory bird nest would be subject to abandonment because of construction activities. Optimally, all necessary vegetation removal/trimming shall be conducted before the breeding season so that nesting birds would not be present in the construction area during construction activities. If any bird nests are in the proposed Project site under pre-existing construction conditions, then it is assumed that they are habituated (or will habituate) to the construction activities. Under this scenario, the pre-construction survey described previously should still be conducted on or after February 15 to identify any active nests in the vicinity. A qualified biologist should monitor active sites periodically until after the breeding season or after the young have fledged (typically late June or mid-July). If active nests are identified on or immediately adjacent to the proposed Project site, then all non-essential construction activities (e.g. equipment storage, meetings, etc.) should be avoided in the immediate vicinity of the nest site, but the remainder of construction activities may proceed.

The above Mitigation Measure will reduce potential impacts to nesting raptors and other migratory birds to a less than significant level for the three projects:

- e) The Project, as proposed, will not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. No impact will occur.
- f) The project will not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. No impact will occur.

V. CULTURAL RESOURCES –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- | | | | | |
|---|--------------------------|-------------------------------------|--------------------------|-------------------------------------|
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

TRIBAL CULTURAL RESOURCES –

Would the project:

Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to the California Native American Tribe, and that is:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| e) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.

SETTING

The Project area lies within the ethnographic territory of the Hill Nisenan, a branch of the Southern Maidu. A family of Penutian linguistic stock, the Nisenan had three major dialects of speech: The Northern Hill, Southern Hill and Valley, each believed to have been generally mutually unintelligible.

The Nisenan utilized the resources of the American, Bear, southern Feather and Yuba River drainages. Boundaries generally included the Sacramento River on the west, the Feather River on the northwest, probably the Yuba River on the north, the north side of the Cosumnes on the south and the crest of the Sierras on the east.

Nisenan subsistence was patterned around the seasonal gathering of a multitude of plant and animal resources. Plant food sources consisted of acorns (especially those of the black oak), roots, grasses, herbs, berries, fruits and seeds. Game animals taken by snare, net or arrow included deer, antelope, rabbit, elk, birds, salmon, and other fish. Although they were not domesticators, a certain amount of "plant enhancement" occurred, primarily by using the practice of careful burning to enhance new plant growth and to allow more visibility for hunting. Some plants, especially those used for basketry, were "encouraged" by removal of weeds and probably by water implementation.

Five major villages are known within an approximate six-mile radius of Grass Valley. Three were large centers with inter-community dance houses: Tuyi to the southeast, Tetema northeast of Nevada City, and Kayempaskan northwest of Grass Valley. Other nearby villages were Hi'et on Wolf Creek and Tsekankan to the west of Grass Valley.

IMPACTS

- a) A Cultural Assessment Report was prepared by Stantec Consulting, Inc dated August 10, 2018, for the three Projects. The purpose of the cultural resources studies was to identify and document cultural resources within each of the project Area of Potential Effects (APE). These cultural resource studies consisted of an archival record search of the Study Area (the Project APE and 0.5-mile radius around the Project APE), Native American outreach, and a survey of each APE.

Included in the Cultural Assessment Report was a records search and literature review conducted at the Northern Central Information Center (NCIC), the repository for the California Historical Resources Information Center (CHRIS) for Nevada County, located at California State University, Sacramento on November 15, 2017 (NCIC File No. NEV-17-76). The records search was conducted to identify previously recorded cultural resources within a half mile of the two projects APEs. As part of the records search, Stantec also reviewed the California Inventory of Historic Resources, California Historical Landmarks, California Points of Historical Interest, and Directory of Properties in the Historic Property Data File.

The results of the records search indicated that no previously recorded cultural resources are within the three projects APE; however, the records search identified 235 previously recorded cultural resources within one half mile of the three projects' APEs. Of these 235 previously recorded cultural resources, one was multicomponent (historic-era) and prehistoric-era), four were prehistoric-era, and 230 were historic-era resources.

Based upon the records search results, a total of 101 previous studies have been conducted within a one-half mile radius of the three Projects APEs. One study was conducted in the 1940s, two were conducted in the 1970s, 14 were conducted in the 1980s, 35 were conducted in the 1990s, 33 were conducted in the 2000s, and 15 were conducted in 2010s. Of the 101 previous studies, 44 identified cultural resources in their study area. Approximately 35 percent of the three APEs have been previously surveyed.

On March 7 and May 14, 2018, a Stantec archaeologist conducted a survey of the three project APEs. The three project APEs are located throughout the City in residential, light industrial, commercial and open space areas that consist of paved streets, concrete sidewalks, and some undeveloped lots.

The three project APEs were evaluated for the presence of prehistoric site indicators. Site indicators for the presence of prehistoric sites in this area may include but are not limited to: ground depressions; darkened soil areas indicative of middens; fire scorched and/or cracked rock; modified obsidian, chert, or other vitreous materials; and grinding stones including manos and metates. Historic era artifacts may include but are not limited to: metal objects including nails, containers or miscellaneous hardware; glass fragments; ceramic or stoneware objects or fragments; milled or split lumber; trenches; feature or structure remains such as buildings or building foundations; and trash dumps.

The surveyor used 30 meter transects and ground visibility was generally very poor (less than 10 percent) as the majority of the three projects APEs are paved with no ground visibility. Ground visibility in unpaved areas was fair (less than 40 percent). During the survey of the two APEs, no cultural resources were identified within the APE.

Despite, no cultural resources being identified within the Projects' APE, the following Mitigation Measure is proposed to address inadvertent discovery of cultural resources should it occur:

Mitigation Measure

MM CUL 1 - Inadvertent Discovery of Cultural Resources: If a cultural resource is encountered during project construction, construction shall be halted immediately within 100 feet of the resource and the City shall be immediately notified. A qualified professional archaeologist shall be consulted. The qualified archaeologist shall evaluate the find and recommend appropriate treatment of the resource. The appropriate treatment of an inadvertently discovered cultural resource shall be implemented to ensure that impacts to a resource is avoided. Prehistoric resources may include chert or obsidian flakes, projectile points, mortars and pestles, dark friable soil containing shell and bone dietary debris, and heat-

affected rock. Historic resources may include stone or wood foundations or walls, structures or remains with square nails, and refuse deposits.

- b) The cultural assessment studies included a records search, Native American outreach, a survey, and analysis of buried site potential to satisfy the requirements of Section 106 of the National Historic Preservation Act (NHPA). The records search did not identify any previously recorded cultural resources within a half mile of the three project APEs. The three project APEs also appear to have a moderate potential for buried archaeological resources based on a review of the geologic age, soils, slope, and water resources in each of the three project APEs. Due to the absence of historic properties in the three project APEs, a finding of No historic Properties Affected is recommend for the three Projects. No impact will occur.
- c) Due to Project locations and scope of work, the Project will not directly or indirectly destroy a unique paleontological resource or site or unique geologic feature as these features are not located within the project vicinity. No impact will occur.
- d) On October 24, 2017, a Sacred Lands File & Native American Contracts list request was sent to the Native American Heritage Commission (NAHC), requesting a review of their sacred lands files for any Native American cultural resources that might be affected by the three projects. The NAHC responded on November 6, 2017, stating that a search of the Sacred Lands File was completed with negative results.

The NAHC also provided a list of local Native American individuals (representing four Tribes) for further consultation who may have knowledge of cultural resources within the two project APEs. Certified letters and emails (if email address was provided by the NAHC) were mailed to these individuals on February 16, 2018, and June 7, 2018 providing them with information on the two projects, including maps. The letters asked for any information or concerns regarding the two projects. Follow up phone calls were made on February 28, 2018 and June 20, 2018. The United Auburn Indian Community of the Auburn Rancheria and the Colfax-Todds Valley Consolidated Tribe requested a meeting on the two projects to discuss their concerns, including discussions on monitoring in areas of concern during construction of the three projects. Both Tribes also requested copies of the cultural resource report once finalized. All other Native American individuals and groups contacted regarding the three projects either had no comments or did not respond.

On March and May 14, 2018, a Stantec archaeologist conducted a survey of the three project APEs. The three project APEs are located throughout the City in residential and commercial areas that consist of paved streets, concrete sidewalks, and some undeveloped lots.

The three project APE's were evaluated for the presence of prehistoric or historic site indicators. Site indicators for the presence of prehistoric sites in the area may include but are not limited to: ground depressions; darkened soil areas indicative of middens; fire scorched and/or cracked rock; modified obsidian, chert, or other vitreous materials; and grinding stones including manos and metates. Historic era artifacts may include but are not limited to: metal objects including nails; containers or miscellaneous hardware; glass fragments; ceramic or

stoneware objects or fragments; milled or split lumber; trenches; feature or structure remains such as building or building foundations; and trash dumps.

The surveyor used 30 meters transects and ground visibility was generally very poor (less than 10 percent) as the majority of the two projects APEs are paved with no ground visibility. Ground visibility in unpaved areas was fair (less than 40 percent). During the survey of the three APEs, no cultural resources were identified within the APE. Despite, no cultural resources being identified within the Projects' APE, the following Mitigation Measure is proposed to address inadvertent discovery of human remains should it occur:

Mitigation Measure

MM CUL 2 - Proper Handling of Inadvertent Discovery of Human Remains: If human remains are encountered, work shall halt within 100 feet and the County Coroner shall be notified immediately pursuant to PRC Section 7050.5. At the same time, an archaeologist shall be contacted to evaluate the situation. If human remains are of Native American origin, the Coroner must notify the NAHC within 24 hours of identification. The NAHC shall identify the person or persons it believes to be the most likely descendent (MLD) from the deceased Native American. The MLD shall have an opportunity to make a recommendation to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98.

- e) The cultural study assessment included a records search, Native American outreach, a survey, and analysis of buried site potential to satisfy the requirements of Section 106 of the NHPA. The records search does not identify any previously recorded cultural resources within the three project APEs; however, the records search identified 235 previously recorded cultural resources within a half mile of the three project APEs. The United Auburn Indian Community of the Auburn Rancheria and the Colfax-Todds Valley Consolidated Tribe requested a meeting on the three projects to discuss their concerns and both tribes requested monitoring during project construction and copies of this cultural resource report once finalized. The survey did not identify any cultural resources within the three project APEs. The three project APEs also appear to have a moderate potential for buried archaeological resources based on a review of geologic age, soils, slope, and water sources in each of the three project APEs. Due to the absence of historic properties in the three project APEs, a finding of No Historic Properties Affected is recommended for all three projects. No impact will occur.
- f) As noted in subsection d), The NAHC responded on November 6, 2017, stating that a search of the Sacred Lands File was completed with negative results.

The NAHC also provided a list of local Native American individuals (representing four Tribes) for further consultation who may have knowledge of cultural resources within the three project APEs. Certified letters and emails (if email address was provided by the NAHC) were mailed to these individuals on February 16, 2018, and June 7, 2018 providing them with information on the two projects, including maps. The letters asked for any information or concerns regarding the two projects. Follow up phone calls were made on February 28, 2018

and June 20, 2018. The United Auburn Indian Community of the Auburn Rancheria and the Colfax-Todds Valley Consolidated Tribe requested a meeting on the three projects to discuss their concerns, including discussions on monitoring in areas of concern during construction of the three projects. Both Tribes also requested copies of the cultural resource report once finalized. All other Native American individuals and groups contacted regarding the three projects either had no comments or did not respond.

Based upon the cultural resource assessment prepared and Mitigation Measures provided, the Project will not impact a significant resource to a California Native American Tribe. No impact will occur.

VI. GEOLOGY AND SOILS –

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:
 - i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.
 - ii) Strong seismic ground shaking?
 - iii) Seismic-related ground failure, including liquefaction?
 - iv) Landslides?
- b) Result in substantial soil erosion or the loss of topsoil?
- c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?
- d) Be located on expansive soil, as defined in the Building Code, creating substantial risks to life or property?
- e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

Nevada County is part of the Sierra Nevada Range, a geologic block approximately 400 miles long and 80 miles wide which extends in a north-south bank along the eastern portion of California. The terrain of Nevada County is distinctly characterized by two features of the Sierra Nevada. The western part of the county is comprised of rolling foothills which form a transition between the low-lying Sacramento Valley and the mountains to the east. The area extends from the Yuba County line to just northwest of the Grass Valley/Nevada City area, which is generally comprised of metavolcanics (Mesozoic Jura-Trias Metavilcanic) and granitic (Mesozoic Granitic) formations.

The City of Grass Valley Planning area is located on quartz diorite, tonalite, trondhjemite, and quartz monzonite rocks. East and west of this area are Lake Combie complex rocks, and serpentinized ultramafic rocks at the northwest edge of the existing city limits. The Glenbrook area has grabbo and diabase, while Miocene-Pliocene volcanic rocks are found at the northwest area along Deadman Flat Road and at the east end of the Planning area around the Nevada County Park.

The geologic age of disposition within all three APEs is classified as "Mzv", "grM", "Tvp", and "um" by the California Department of Conservation. "Mzv" rock types are generally Undivided Mesozoic volcanic and metavolcanics rocks marine and nonmarine (continental) sedimentary rocks of Mesozoic age (65-248 million years ago). "grMz" and "um" rock types are plutonic rocks of Mesozoic age. "Tvp" rock types are volcanic rocks of Tertiary age (66-2.6 million years ago). (California Department of Conservation 2010).

IMPACTS

- a) The Water Distribution System Pipeline Repair and Replacement and Water Service, Earthquake Preparation and Control Project consists of infrastructure public works projects limited to existing City streets and rights of ways. The WTP project is located entirely within the fenced WTP property. As such, the projects will not expose people or structures to potential substantial adverse effects, including the risk or loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault; ii) Strong seismic ground shaking; iii) Seismic-related ground failure, including liquefaction; and, iv) Landslides. No impact will occur.
- b)-e) The Project will not result in substantial soil erosion or the loss of topsoil. The Project is not located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse; be located on expansive soil, as defined in the Building Code, creating substantial risks to life or property; or, have soils incapable of adequacy supporting the use of septic tanks, or alternative waste water disposal systems where sewers are not available for the disposal of waste water. No impact will occur.

VII. GREENHOUSE GASES –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- | | | | | |
|---|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Generate Greenhouse emissions, either directly or indirectly, that may have a significant impact on the environment. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable plan, policy or regulation of any agency adopted for the purpose of reducing the emissions of greenhouse gases. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SETTING

The City of Grass Valley has not conducted a greenhouse gas emissions inventory or adopted a Climate Action Plan, performance standards, or a GHG efficiency metric. However, the Grass Valley 2020 General Plan includes numerous goals, policies, and programs which, when implemented, reduce Grass Valley’s impacts on global climate change and reduce the threats associated with global climate change to the City.

CEQA Guidelines Section 15064.4 provides direction to lead agencies in determining the significance of impacts from GHG emissions. Section 15064.4(a) calls on lead agencies to make a good faith effort, based upon available information, to describe, calculate or estimate the amount of GHG emissions resulting from a project. The lead agency has the discretion to determine, in the context of a particular project, how to quantify GHG emissions.

Greenhouse gasses (GHG) include gases that can affect the earth’s surface temperature. The natural process through which heat is retained in the troposphere is called the greenhouse effect. The greenhouse effect traps heat in the troposphere through a process of absorbing different levels of radiation. GHG are effective in absorbing radiation which would otherwise escape back into space. Therefore, the greater the amount of radiation absorbed, the greater the warming potential of the atmosphere. GHG are created through a natural process and/or industrial processes. These gases include water vapor (H2O), carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrfluorocarbons (HFCs), Perfluorocarbons (PFCs) and sulfur hexafluoride (SF6).

The United States Environmental Protection Agency (EPA) identifies the following four primary constituents that represent the greenhouse gas emissions of most importance:

- Carbon Dioxide (CO2): CO2 is primarily generated by the burning of fossil fuels. Other sources including burning of solid waste and wood products.

- Methane (CH₄): CH₄ is emitted from incomplete combustion of forest fires, landfills, livestock and animal land uses, and leaks in natural gas lines.
- Nitrous Oxide (N₂O): N₂O is produced by agricultural and industrial activities.
- Fluorinated Gases (HFCs and PFCs): These gases are emitted from industrial activities and refrigerants uses in both stationary refrigeration and mobile air conditioning.

Since 2005, the California legislature adopted several bills, and the Governor signed several Executive Orders, in response to the impacts related to global warming. Assembly Bill 32 states global warming poses a serious threat to California and directs the Air Resources Board to develop and adopt regulations that reduce GHG emissions to 1990 levels by the year 2020. Senate Bill 97 requires an assessment of projects GHG emissions as part of the CEQA process. SB 97 also required the Office of Planning and Research to develop guidelines to analyze GHG emissions.

The NSAQMD has not adopted thresholds of significance for GHG emissions. Additionally, CARB has not yet adopted any tools to measure the impact of a specific project on global warming. Due to the nature of global climate change, it is not anticipated that a single project would have a substantial impact on global climate change. Although it is possible to estimate a projects CO₂ emission, it is not possible to determine whether or how an individual project's relatively small incremental contribution might translate into physical effects on the environment.

IMPACTS

- a)&b) As noted above, calculating the Greenhouse Impacts on an individual project is difficult to qualify or quantify. The GHG emissions from the proposed Project would not individually generate GHG emissions sufficient to measurably influence global climate change. According to the analysis provided in the air quality section, the following air quality impacts are anticipated with the proposed Project:

Type of Vehicles/Construction Equipment	Emission Factors						
	ROG g/hp- hr	CO g/hp- hr	NO _x g/hp- hr	PM-10 g/hp- hr	PM 2.5 g/hp- hr	SO ₂ g/hp-hr	CO ₂ hp- g/hp hr
Passenger Vehicles	0.08	3.87	0.06	0.22	0.22	0.008	529.700
Pickup Trucks	0.20	6.40	0.20	0.33	0.33	0.009	536.000
Water Truck	0.513	3.43	5.219	0.292	0.292	0.005	514.057
Concrete Saw	0.685	2.339	4.332	0.164	0.164	0.007	568.229
Paver	0.310	1.370	4.782	0.158	0.146	0.005	516.900
Diesel Tractors/Loaders/Backhoes	1.336	5.772	5.369	0.488	0.449	0.005	564.042
Total (grams per day)	3.124	23.18	19.96	1.6	1.6	0.039	3228.928
Total (gram per 8 hour day)	24.99	185.448	159.696	13.216	12.808	.312	25831.42
Total (lbs per day)	.05509	.4088	.3520	.02913	.02823	.0006878	56.94

As noted in the Air Quality Section of this Initial Study, the above impacts are within the acceptable level of impacts as viewed by the NSAQMD. All equipment utilized for the Project is required to comply with NSAQMD standards for mobile combustible emissions.

VIII. HAZARDS AND HAZARDOUS MATERIALS –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

Section 65302(g) of the California Government Code requires that general plans adopted by planning agencies include "A safety element for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, tsunami, seiche, and dam failure; slope instability leading to mudslides and landslides; subsidence, liquefaction and other seismic hazards identified pursuant to Chapter 7.8 of the Public Resources Code, and other geologic hazards known to the legislative body; flooding; and wild land and urban fires."

IMPACTS

- a)&b) The Water Distribution System, Pipeline Repair & Replacement Project and Waster Service, Earthquake Preparation, and Control Projects are entirely within City paved parking areas and streets. The WTP project is located entirely within the WTP fenced property.

Considering the location(s) of the proposed projects coupled with the scope of work proposed, it is not anticipated that the Project would create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. Similarly, the project is not anticipated to create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment considering such materials are not utilized for the Project. No impact will occur.

- c)&d) The projects do not involve an activity that will emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. No impact will occur.

The project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 resulting in a significant hazard to the public or the environment. No impact will occur.

- e)&f) The Water Distribution System Pipeline Repair & Replacement Project and Water Service, Earthquake Preparation and Control Projects are located approximately 2.5 miles (as the crow flies) from the Nevada County Airport. The WTP property is located approximately 3 miles from the Nevada County Airport. As required by the Public Utilities Code, the Airport Land Use Commission adopted the Nevada County Airport Land Use Compatibility Plan. The compatibility plan's function is to promote compatibility between the airport and surrounding land uses with respect to: height (e.g. height of structures), safety (e.g. number of persons per acre), and noise (e.g. noise sensitive land uses). According to the Nevada County Airport Land Use Compatibility Plan, the project site is located outside of the area of influence. No impact will occur.

Based upon the location(s) and scope of work, the Project will not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. No impact will occur.

The project will not expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands. No impact will occur.

g)&h) The project will not impair implementation of or physically interfere with an adopted emergency response or emergency evacuation plan nor expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands adjacent to urbanized areas or where residences are intermixed with wild lands. No impact will occur.

IX. HYDROLOGY AND WATER QUALITY –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

IX. HYDROLOGY AND WATER QUALITY –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The City lies primarily within the Wolf Creek drainage basin. Wolf Creek enters the Planning Area from the east in an east-west direction and turns to the south as it passes through downtown Grass Valley and continues south to its confluence with the Bear River. The South Fork of Wolf Creek and Little Wolf Creek drain the southeastern portion of the Planning Area and discharge into Wolf Creek in the central Grass Valley area.

As indicated by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the City of Grass Valley and the General Plan Area are relatively well drained. Flooding during the 100-year flood event is limited to relatively narrow areas along Wolf Creek and its tributaries. Major transportation corridors do not appear to be susceptible to flooding in a 100-year flood event. To the extent culverts and storm drains are not maintained, other localized flooding could occur.

IMPACTS

a)-d) The project does not involve an activity that may violate any water quality standards or waste discharge requirements, substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume.

The project would not substantially alter the existing drainage pattern of the Project area, including through the alternation of the course of stream or river, in a manner which result in substantial erosion or siltation. No impact will occur.

e)-f) The project is planned to occur during the winter months when water usage is lower. However, the project will not occur during periods of rain or other inclement weather that may create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional source of polluted runoff. No impact will occur.

The project will not impact or degrade water quality. No impact will occur.

- g) The project does not involve housing that would be placed within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. No impact will occur.
- h)-j) The project will not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam. No impact will occur.

The project will not create inundation by seiche, tsunami, or mudflow. No impact will occur.

X. LAND USE AND PLANNING --

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

Grass Valley's current land use patterns are rooted in 150 years of settlement, building, and rebuilding. The original Townsite (settled in 1850, surveyed and recorded in 1872) consists of a 361-acre square area centered on what is now the Historic downtown, encompassed the area of early development.

The City's Planning Area contains approximately 9,894 acres. The City of Grass Valley currently occupies approximately 25 percent of the Planning Area or 2,473 acres.

IMPACTS

- a)-c) The project is consistent with all local and County land use planning in that it does not include any new facilities in the collective community; it simply replaces existing water delivery infrastructure that must be safe and reliable. No impact will occur.

The project will not physically divide the City of Grass Valley nor conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project

(including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance). No impact will occur.

XI. MINERAL RESOURCES –	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The City of Grass Valley adopted a General Plan Mineral Management Element (MME) on August 24, 1993. The MME contains four resource areas defined as: MRZ - 1 through MRZ - 4. The designations are described as follows:

MRZ - 1: Areas where adequate information indicates that no significant mineral deposits are present.

MRZ - 2: Areas where adequate information indicates that significant mineral deposits are present or where it is judged that there is a high likelihood for their presence.

MRZ - 3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.

MRZ - 4: Areas where available information is inadequate for assignment to any other MRZ zone.

IMPACTS

a)&b) The General Plan Mineral Management Element does not show the Project area as being near an area classified as having significant mineral deposits. The Project is not located near one of the two areas identified in the Mineral Management Element (MME) as being targeted for mining conservation. Should mining activities be proposed in the area, the MME includes a policy statement that requires a proposed mine project to address potential impacts on the urban uses based upon the nature of the mining activities. According to the MME, the proposed project is not anticipated to result in the loss of availability of a known mineral resource or locally known minimal resource. No impact will occur.

XII. NOISE—

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

Noise is often defined simply as unwanted sound, and thus is a subjective reaction to characteristics of a physical phenomenon.

A common statistical tool to measure the ambient noise level is the average, or equivalent, sound level (L_{dn}), which is the sound level corresponding to a steady-state A-weighted sound level in decibels (dB) containing the same total energy as a time-varying signal over a given time period (usually one hour). The Leq is the foundation of the composite noise descriptors such as L_{dn} and CNEL and shows very good correlation with community response to noise. Leq is the preferred method to describe sound levels that vary over time, resulting in a single decibel value which takes into account the total sound energy over the period of time of interest. Leq - equivalent continuous sound level ; Sound levels often fluctuate over a wide range with time.

Two composite noise descriptors are in common use today: L_{dn} and CNEL. The L_{dn} (Day-Night Average Level) is based upon the average hourly Leq over a 24-hour day, with a +10 decibel weighting applied to nighttime (10:00 p.m. to 7:00 a.m.) Leq values. The nighttime penalty is based

upon the assumption that people react to nighttime noise exposures as though they were subjectively twice as loud as daytime exposures. The CNEL (Community Noise Equivalent Level), like L_{dn} , is based upon the weighted average hourly L_{eq} over a 24-hour day, except that an additional +4.77 decibel penalty is applied to evening (7:00 p.m. to 10:00 p.m.) hourly L_{eq} values. The CNEL was developed for the California Airport Noise Regulations and is normally applied to airport/aircraft noise assessment. The L_{dn} descriptor is a simplification of the CNEL concept, but the two will usually agree, for a given situation, within 1dB. Like the L_{eq} , these descriptors are also averages and tend to disguise short-term variations in the noise environment. Because they presume increased evening or nighttime sensitivity, these descriptors are best applied as criterial for land uses where nighttime noise exposures are critical to the acceptability of the noise environment, such as residential developments.

IMPACTS

- a)-d) The Water Distribution System Pipeline Repair & Replacement and Water Service Earthquake Preparation and Control Projects will occur on City Streets serving sensitive receptors such as residential land uses, at a distance of approximately ± 50 feet. The WTP adjoins residential land uses at a distance of approximately ± 100 feet.

The project includes trenching and minor grading that will generate additional noise in these residential neighborhoods. During the construction phases, noise from construction activities (backhoes, graders, etc.), will occur in the Project area. Equipment used for the Project and the dBA for each type of equipment includes the following:

As the table indicates, activities involved in construction will generate noise levels, generally ranging from 70 to 90 dB at a distance of approximately ± 50 feet. These can generally be reduced approximately 5 dB at distances of 100 feet.

In accordance with the City's Municipal Code, construction activities will be temporary in nature and will occur between normal working hours (i.e. 7:00 a.m. to 6:00 p.m. Monday through Friday).

Equipment Type	dBA at 50 feet
Backhoe	84 dBA
Concrete Saw	90 dBA
Excavator	81 dBA
Generator	81 dBA
Jackhammer	89 dBA
Paver	77 dBA
Pickup Truck	75 dBA
Pneumatic Tools	85 dBA

According to the State's General Plan Guidelines and City General Plan Noise Element, noises which are generally less than ± 60 dB CNEL are normally acceptable for outdoor low-density residential uses taking into account that any building impacted would be of normal conventional construction without any special noise insulation requirements. Acceptable noise levels are determined using the Community Noise Equivalent Level (CNEL) which is defined as: A 24-hour energy equivalent level derived from a variety of single-noise events, with weighting factors of 5 and 10 dBA applied to the evening (7 p.m. to 10 p.m.) and nighttime (10 p.m. to 7 a.m.) periods to allow for greater sensitivity to noise during these hours.

Although, the type of equipment used may periodically exceed ±60 dB, from 7:00 a.m. to 6:00 p.m., the project will be in compliance with the Ldn and CNEL 24-hour weighting considering Project construction will cease at 6:00 p.m. each day. Accordingly, considering the project area noises and anticipated short-term construction noises, the project is not anticipated to expose persons or generate noise levels in excess of the City's Ldn and CNEL standards established in the City's General Plan Noise Element.

Considering the level of earthwork required, distance from existing sensitive receptors and hours of construction, the project is not anticipated to expose people to ground borne vibration or ground borne noise levels. Grading will cause or contribute to a temporary increase in ambient noise levels; however, this impact is short-term and is subject to the City's Noise Ordinance which limits hours of construction. Short-term construction noise impacts are therefore considered less than significant.

e)&f) As the crow flies, the project is located approximately 2.5 - 3 miles from the City of Grass Valley Municipal Airport. Due to the distance from the Nevada County Airport, noise impacts associated with the airport will not occur. No impact will occur.

XIII. POPULATION AND HOUSING –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The California Department of Finance estimated Grass Valley's population in January 2018 at 13,041. Between 2010 and 2018, the population of Grass Valley increased by 181 people, or 1.4 percent.

The number of housing units in the City of Grass Valley is 6,687 total housing units, including 3,203 single family dwellings, 3,045 multiple family dwellings and 439 mobile homes.

IMPACTS

a)-c) The Project is in an area of developed residential and commercial uses which will facilitate utility services to such uses. The Project does not entail up-sizing or otherwise adding new capacity to the existing facility distribution lines.

The Project will not induce substantial population growth in an area, either directly or indirectly. No impact will occur.

The project will not displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere. No impact will occur.

The project will not displace substantial numbers of people, necessitating the construction of replacement housing elsewhere. No impact will occur.

Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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XIV. PUBLIC SERVICES --

Would the project:

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The proposed project area is within the City of Grass Valley and is served by the following public services:

- *Fire Protection:* The City of Grass Valley Fire Department provides fire protection and emergency medical services within the City. The Ophir Hill Fire Protection District serves lands east of the City limits, and the Nevada County Consolidated Fire District (NCCFD) serves the area

generally north, west, and south of the City limits. The Fire Department is part of the tri-agency Joint Operating Agreement that includes the Nevada City Fire Department and NCCFD. The Fire Department has three locations: Fire Station #1 (474 Brighton Street), Fire Station #2 (213 Sierra College Drive), and administrative offices at City Hall (125 East Main Street). Equipment includes three front line engines, one reserve engine, one Office of Emergency Services (OES) engine, a ladder truck, one air support unit, and five staff vehicles.

- *Police Protection:* The Department currently employs 27 FTE sworn members and 3 FTE civilian staff. Based upon Grass Valley's population of 13,041 the department's ratio of police officers per 1,000 residents is 2.1.
- *Schools:* Throughout Grass Valley, the Grass Valley School District serves K-5 students and the Nevada Joint Union School District serves students in grades 9 - 12. In addition, through inter-district contracts (which can be retracted), 467 students from Grass Valley currently attend schools in other school districts.
- *Parks:* The Grass Valley public parks and recreation system is comprised of approximately 108 acres of City park lands, including seven developed parks (Dow Alexander, Elizabeth Daniels, Glenn Joes, Milnnie, Memorial, DeVere, Mautino, and Condon and one underdeveloped park Morgan Ranch) within the City limits.

IMPACTS

- a) The project is not anticipated to have substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities; a need for new or physically altered governmental facilities; the construction of which could cause significant environmental impacts in order to maintain acceptable service ratios; response times or other performance objectives for any of the public services. No impact will occur.

XV. RECREATION --

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might, have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The City owns and maintains eight park/recreation facilities. These include two parks currently classified as "community parks": Condon Park and Memorial Park. Two of the eight parks, Morgan Ranch and Matino Park, are in the process of being developed. In addition, the City contracts with Nevada County Historical Society to operate the Pelton Wheel Mining Museum/Glen Jones Park. An inventory of City owned/operated parks and recreation facilities include: Memorial Park, 8.4 acres; Condon Park, 80 acres; Pelton Wheel Mining Museum/Glen Jones Park, 1.7 acres; Brighton Street Park (Minnie Street), 1.6 acres; Elizabeth Daniels Park, 0.3 acres; Dow Alexander Park, 0.5 acres; Morgan Ranch Park, 4.08 acres; and Matino Park, 12.5 acres.

Additional park/recreational facilities within the City of Grass Valley, but owned and maintained by entities other than the City are: Nevada County Country Club, 58 acres; Sierra College Park, 7.95 acres; Hennessy School, 3 acres.

IMPACTS

a)&b) The Project serves existing residential, commercial and industrial customers solely. The project does not entail any aspect that would increase the use of existing neighborhood and regional parks or other recreational facilities such that a substantial physical deterioration of the facility would occur or be accelerated. No impact will occur.

The project does not include recreational facilities or require the construction of recreational facilities which might, have an adverse physical effect on the environment. No impact will occur.

XVI. TRANSPORTATION/TRAFFIC –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

XVI. TRANSPORTATION/TRAFFIC –

incompatible uses (e.g., farm equipment)?

- | | Potentially Significant Impact | Less Than Significant With Mitigation Incorporation | Less Than Significant Impact | No Impact |
|--|--------------------------------|---|------------------------------|-------------------------------------|
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Result in inadequate parking capacity? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SETTING

Travel demand is expected to increase as the city population increases to the levels forecast for the year 2020. This population increase, coupled with increases in employment in the Planning Area, are a challenge for the City to find solutions that will maintain its roadway Level of Service standard. For these reasons, the City is committed to actively pursuing policies and implementation measures that will promote car-pooling, transit and non-vehicular modes of travel (bicycles and walking) as alternatives to single-occupant automobile use.

The existing street network in the City of Grass Valley is a product of both roadways that have provided access to the older portions of the City for decades, and roadways that were designed to serve the areas of new development. As a result, the older portions of the City, some roadways function as arterial or collector roadways, but they have not previously been classified as such.

The table below shows the analysis of the roadway improvements needed to maintain a Level of Service "D" standard in the year 2020 according to the City's General Plan.

Road	Location	No of Existing	Lanes Year 2020	Existing ADT	Exiting LOS	2020 ADT	2020 LOS
Main St	S of Squirrel Creek	2	2	5,763	A	10,200	B
Main St	W of Auburn	2	2	n/a	n/a	9,450	B
Main St.	E of Bennett	2	2	12,172	C	16,500	F
Mill St	S of Neal	2	2	5,786	A	12,100	C
Mill St	NE of Rhode Island	2	2	5,750	A	8,600	A
Neal St	E of Church	2	2	5,239	A	3,750	A
Alta	N of West Main	2	2	4,203	A	3,000	A
Alta	S of Alta Vista	2	2	3,587	A	1,300	A
Alta	N of Alta Vista	2	2	3,476	A	850	A
Alta	SE of Ridge Rd	2	2	3,380	A	1,100	A

IMPACTS

- a)-c) The traffic generated with the proposed Project consists of pick-up trucks, tractor-trailer with backhoe and trenchers. The locations and miles traveled will vary from day to day and is based upon the lineal footage of pipe replaced with the Water Distribution System Pipeline Repair & Replacement and Water Service, Earthquake Preparation Projects. The WTP project will occur at one location on 808 Alta Vista Avenue.

Considering the scope of the project, the project will not cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system, exceed, either individually or cumulatively, a level of service standard established by the City, or result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks. No impact will occur.

- d) Many of the streets in the City's Historic District were constructed in the late 1800s and are narrow and have awkward turning movements as a result. However, prior to any work being conducted in the City's right-of-way, the selected contractor is required to obtain an Encroachment Permit from the Public Works Department for any work within the City's right-of-way and on City streets. The Encroachment Permit requires a Traffic Control Plan, which details on how the traffic will be routed or re-routed through the construction zone. Approval of the Encroachment Permit shall be in accordance with the City's Development and Municipal Codes as approved by the Public Works Department. As a result of the Encroachment Permit and Traffic Control Plan requirements noted below, the project will not substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersection) or incompatible uses.

Mitigation Measure

TRAF -1 - Prepare and Implement a Traffic Control Plan: For all locations where the proposed Project crosses roadways or goes underneath roadways, the City's contractor shall prepare and implement a Traffic Control Plan. The plan shall be prepared by a licensed Civil or Traffic Engineer in the State of California to assure adequate safety and minimal interruption to traffic flow. The Traffic Control Plan shall be subject to City approval prior to construction in the City right-of-way. The traffic control plan shall be submitted to the City no less than 45 days prior to construction in the City road ROW. The traffic control plan shall be prepared in accordance with professional traffic engineering standards and in compliance with professional traffic engineering standards and in compliance with the City's encroachment permit requirements. The traffic control plan may include, but not be limited to the following measures:

- Identify all access and parking restriction, pavement markings, and signage requirements (e.g. speed limit, temporary loading zones);
- Identify specific construction methods to maintain traffic flow on affected streets;
- Maintain the maximum amount of travel lane capacity during non-construction periods and provide flagger control at sensitive sites to manage traffic control and flows;
- Limit the construction work zones to widths that shall maintain alternate one-way traffic flow past the construction zones;

- Limit one-way traffic control and rolling closures to off-peak hours;
- Post advanced warning of construction activities to allow motorists to select alternate routes in advance;
- Prepare appropriate warning signage and lighting for construction zones;
- Require construction crew vehicles to park within designated staging areas;
- Maintain steel trench plates at construction sites to restore access across open trenches to minimize disruption of access to driveways and adjacent land uses. Construction trenches in the street shall not be left open after work hours;
- Restore streets disturbed by the proposed Project to their original condition or better, and sweep the roads at the end of the day;
- Require coordination of all construction activities with local emergency service providers at least one month in advance. Emergency service providers shall be notified of the timing, location, and duration of construction activities. All roads shall remain passible to emergency service vehicles at all times.

As described above, wherever possible, the Contractor shall leave one full lane of traffic open. If not possible, the closures shall be limited to necessary areas, shall not include portions of roadway with intersecting driveways without options for one-way traffic for residents and shall be scheduled during periods of low traffic and non-peak traffic hours. Close coordination with the City through the Traffic Control Plan process shall reduce the significance levels to less than significant.

Based upon the above, the project will not result in inadequate emergency access or inadequate parking capacity. As noted in the project description, all staging areas will be within existing City streets and rights-of-ways. These impacts are considered less than significant.

- e-f) Based upon the above Traffic Control Plan Mitigation, the Projects will not result in adequate emergency access or inadequate parking capacity. No impact will occur.
- g) The project will not conflict with adopted polices, plans, or programs supporting alternative transportation (e.g. bus turnouts, bicycle racks). No impact will occur.

XVII. UTILITIES AND SERVICE SYSTEMS –

Would the project:

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVII. UTILITIES AND SERVICE SYSTEMS –

	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
c) Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

SETTING

The City's water service system serves approximately sixty percent (60%) of the incorporated City of Grass Valley. The service area is 1,357 acres, approximately 2.1 square miles, with a service area population of approximately 5,855. The remainder of the City and portions of the Planning Area with public water service are served by the Nevada Irrigation District (NID).

The City provides wastewater collection, treatment and disposal service to an area of 2,884 acres, approximately 4.5 miles. This area includes a 450-acre area outside of the city boundaries in the Glenwood Basin, for which a sewer district was established by agreement with Nevada County in 1960.

IMPACTS

- a)&b) The project will not exceed wastewater treatment requirements by the Regional Water Quality Control Board or result in the need to construct new water or wastewater treatment facilities. No impact will occur.
- c) The project will not require or result in the construction of new storm drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects. No impact will occur.
- d) The project does not entail the need to increase the existing water supply and therefore existing water supplies are sufficient and available to serve the project area. No existing

entitlements and resources or new or expanded entitlements are needed with the project. No impact will occur.

- e) The project will not result in a determination by the City as the wastewater treatment provider that it has adequate capacity to serve the project's demand, in addition to the provider's existing commitments. No impact will occur.
- g) The project does not entail any activity that would increase the solid waste disposal. No impact will occur.
- h) The project will comply with federal, state and local statues and regulations related to solid waste. No impact will occur.

XVIII. MANDATORY FINDINGS OF SIGNIFICANCE –	Potentially Significant Impact	Less Than Significant With Mitigation Incorporation	Less Than Significant Impact	No Impact
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Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

a)-c) The environmental analysis provided evaluates the potential environmental effects of the proposed project, including project effects on the quality of the environment, fish and wildlife habitat (including special status species), and cultural resources. No impact will occur.

REFERENCES The following references used in preparing this report have not been attached to this Initial Study. The reference material listed below is available for review upon request of the Grass Valley Community Development Department, 125 East Main Street, Grass Valley, CA 95945.

- City of Grass Valley 2020 General Plan and General Plan EIR
- Mineral Management Element of the City's General Plan, dated August 24, 1993
- Background Report, City of Grass Valley General Plan Update, November 1998
- Soil Survey of Nevada County, United States Department of Agriculture, Soil Conservation Service
- Flood Insurance Rate Maps for the City of Grass Valley
- On line soil survey maps and data from USDA - <http://websoilsurvey.nrcs.usda.gov>
- Water Distribution System Pipeline Repair/Replacement Engineering Report prepared by Stantec Consulting dated October 28, 2016
- Water Service, Earthquake Preparation, and Control Project Engineering Report prepared by Stantec Consulting dated March 7, 2018
- Biological Assessment Report prepared by Stantec Consulting dated August 10, 2018.
- Cultural Assessment Report prepared by Stantec Consulting dated August 10, 2018

EXHIBITS

Exhibit 1 - Vicinity Map

Exhibit 2 - Aerial Photograph

FIGURES

Water Distribution System Pipeline Repair/Replacement

Figure 1 - City of Grass Valley Water Service Area

Figure 2 - City Water Distribution Area

Figure 3 - Distribution System by Age

Figure 4 - Distribution System by Material

Figure 6 - Drinking Water Pipeline Replacement Priority

Water Service, Earthquake Preparation, and Control Project

Figure 2-1 - Existing Water Service Area

Figure 2-2 - Water Distribution & Low-Pressure Areas

Figure 4-1 - Critical Valve Addition Locations

Figure 5-1 - Empire Court Pressure Zone and Booster Pump Station

Figure 5-2 - Water Service, Earthquake Preparation and Control Project Components

Water Treatment Plant Project

Figure 6 - WTP Site Plan/Proposed Improvements

Figure 2-1 - Biological Study Area

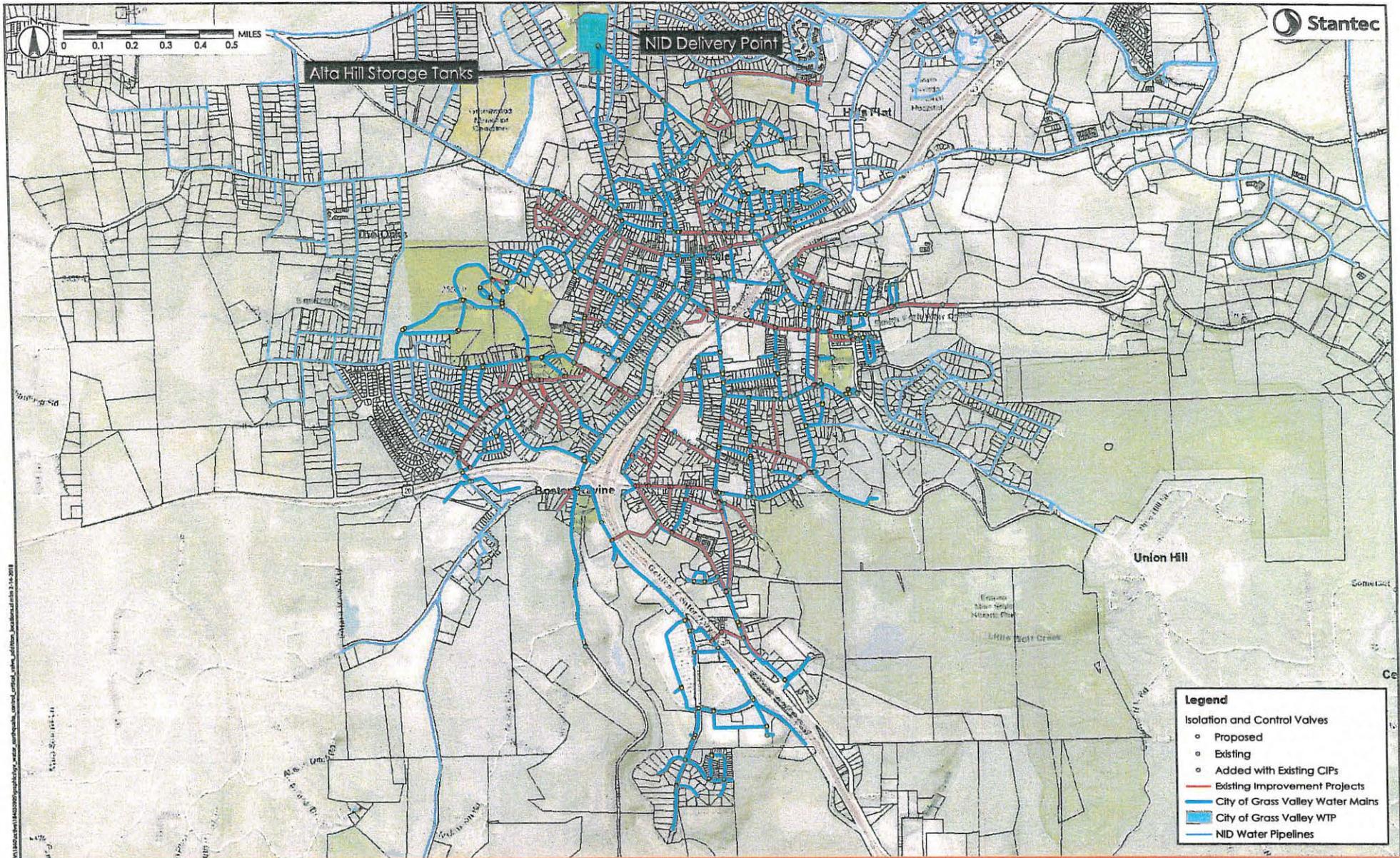


Figure 4-1
 Critical Valve Addition Locations



