



Notice of Intent to Adopt a Mitigated Negative Declaration

To: Public Agencies, Interested Parties, and Sonoma County Clerk

Project Title: Fulton Road Sewer Main Improvements, West 3rd Street to Santa Rosa Creek

Lead Agency: City of Santa Rosa, Transportation and Public Works Department
69 Stony Circle, Santa Rosa, CA 95401

Contact: Andy Wilt
Tel: (707) 543-3878, E: AWilt@srcity.org

Review Period: June 30, 2022, to July 29, 2022

In accordance with the State CEQA Guidelines, the City of Santa Rosa has prepared this notice to inform agencies and interested parties that it is releasing an Initial Study and Proposed Mitigated Negative Declaration (IS/MND) for the City's Fulton Road Sewer Main Improvements, West 3rd Street to Santa Rosa Creek.

Project Description and Location

The City of Santa Rosa (City) desires to undertake a project to replace approximately 300 feet of failing sewer pipe that was first installed in 1969 under Santa Rosa Creek just westerly of the Fulton Road Bridge. The sewer was originally constructed using 18-inch diameter asbestos cement pipe (ACP) to serve a significant geographical area; however, due to construction of other nearby regional collection facilities, it now serves 60 homes located in the Countryside subdivision southwesterly of Fulton Road and Santa Rosa Creek. The sewer has become partially obstructed and needs to be replaced. The project would include use of open trench construction methods to construct a replacement 8-inch diameter gravity flow sewer under Santa Rosa Creek.

Providing Comments

- A 30-day public review period will extend from June 30, 2022, to July 29, 2022. The IS/MND will be available for public review online at <http://cippublic.srcity.org/CIPList.html> under Project CIP Number 02117.

Agencies and interested parties may provide written comments on the IS/MND for the project. Comments may be directed to the attention of Andy Wilt, 69 Stony Circle, Santa Rosa, CA 95401, AWilt@srcity.org.

After the review period closes, the Santa Rosa Board of Public Utilities will consider a recommendation to adopt the IS/MND for the project during a regularly scheduled public meeting. We encourage you to check the Board of Public Utilities webpage to confirm the date and time of the Board of Public Utilities meeting at the following website address: <https://srcity.org/686/Board-of-Public-Utilities>

MITIGATED NEGATIVE DECLARATION

Project Title: Fulton Road Sewer Main Improvements, West 3rd Street to Santa Rosa Creek

Date of Preparation: June 30, 2022

Lead Agency: City of Santa Rosa, Transportation and Public Works



Project Description: The City of Santa Rosa (City) desires to undertake a project to replace approximately 300 feet of failing sewer pipe that was first installed in 1969 under Santa Rosa Creek just westerly of the Fulton Road Bridge. The sewer has become partially obstructed and needs to be replaced. The project would include use of open trench construction methods to construct a replacement 8-inch diameter gravity flow sewer under Santa Rosa Creek.

Project Location: West side of Fulton Road at Santa Rosa Creek, Northwest Santa Rosa

General Plan: In Public Right of Way or public utility easements

Zoning: In Public Right of Way or public utility easements

Findings:

1. With the incorporation of mitigation measures, this project does not have the potential to degrade the quality of the environment, nor to curtail the diversity of the environment.
2. This project will not have a detrimental effect upon either short-term or long-term environmental goals.
3. This project will not have impacts that are cumulatively considerable.
4. This project will not have environmental impacts that will cause substantial adverse effects on human beings, either directly or indirectly.
 - 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.

Public Review Period: June 30, 2022, to July 29, 2022

Mitigation Measures: See Initial Study

Where to Submit Comments: City of Santa Rosa, Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

Contact Person: Andy Wilt
(707) 543-3878
AWilt@srcity.org

Attachment: Initial Study

FULTON ROAD SEWER MAIN IMPROVEMENTS, WEST 3RD STREET TO SANTA ROSA CREEK

Santa Rosa, California

Initial Study

June 2022

Prepared for:

City of Santa Rosa
Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

Prepared by:

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Santa Rosa CA 95403
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PROJECT DATA

Project Title: Fulton Road Sewer Main Improvements, West 3rd Street to Santa Rosa Creek
Lead Agency: City of Santa Rosa
Transportation and Public Works Department
69 Stony Circle
Santa Rosa, CA 95401

Contact Person: Andy Wilt
(707) 543-3878
AWilt@srcity.org

Project Location: Fulton Road at Santa Rosa Creek, Northwest Santa Rosa

General Plan Designation: In Public Right of Way or public utility easements

Zoning: In Public Right of Way or public utility easements

INTRODUCTION

The purpose of this Initial Study is to provide the Lead Agency, the City of Santa Rosa (City), with an assessment of relevant environmental information associated with implementation of the proposed project in order to determine whether a Negative Declaration, Mitigated Negative Declaration, or an Environmental Impact Report (EIR) will be required for the project. This environmental evaluation is intended to fully inform the Lead Agency, other interested agencies, and the public of the proposed project and associated environmental impacts. This Initial Study has been prepared in conformance with the requirements of §15063 of the 2019 California Environmental Quality Act (CEQA) Guidelines.

If the Lead Agency determines that there is no substantial evidence that the project may cause a significant effect on the environment, then a Negative Declaration may be prepared. A Negative Declaration may include conditions of approval to avoid or reduce potential impacts. However, if the Initial Study determines that the project may cause an unavoidable or unknown significant effect on the environment, the Lead Agency must prepare an EIR.

The Initial Study process also enables the Lead Agency to modify a project, mitigating adverse effects before an EIR is prepared, thereby enabling the project to move forward under a Mitigated Negative Declaration. This facilitates the environmental evaluation portion of the project development process and eliminates unnecessary EIRs.

PROJECT SETTING AND BACKGROUND

The project is located along the west side of Fulton Road where it crosses Santa Rosa Creek, between Chatham Drive and Placer Drive in northwest Santa Rosa. With the exception of the Santa Rosa Creek corridor, the project area is entirely surrounded by developed residential subdivisions and a mobile home park to the northwest. The Santa Rosa Creek corridor in the project area has been channelized but retains an open bottom and a narrow band of riparian vegetation. The Santa Rosa Creek Trail is along the northerly bank of the creek.

Fulton Road is a four-lane road where it crosses Santa Rosa Creek, separated by a median. Stripped on-road Class II bike lanes are provided on either side as well as sidewalks and landscaped buffers from adjacent residential uses. The Santa Rosa Creek Trail is a designated Class 1 Shared Use Path and provides an undercrossing for bikes and pedestrians under Fulton Road as well as ramps to bike and pedestrian facilities on Fulton Road. No improvements to these bike and pedestrian facilities are proposed by the 2018 Bicycle and Pedestrian Master Plan Update¹. Santa Rosa CityBus Route 6 runs along Fulton Road in the project area. Sonoma Water owns the creek channel and maintains access roadways on both sides of the creek to perform channel maintenance.

The project location is shown on Figure 1. An aerial view of the overall project is shown on Figure 2 and the creek crossing location is shown on Figure 3. Figure 4 shows the northern end of the sewer main and Figure 5 shows the southern end. Figure 6 shows the sewer manhole abandonment.

¹ <https://srcity.org/2711/Bicycle-and-Pedestrian-Master-Plan>

5/19/2022 AUTHOR J:\4554\4554.00 Proiect Overview.mxd



Legend

- Abandon Manhole
- Replacement Sewer Main

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Aerial Imagery: CSR GIS (2018)

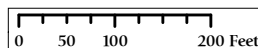
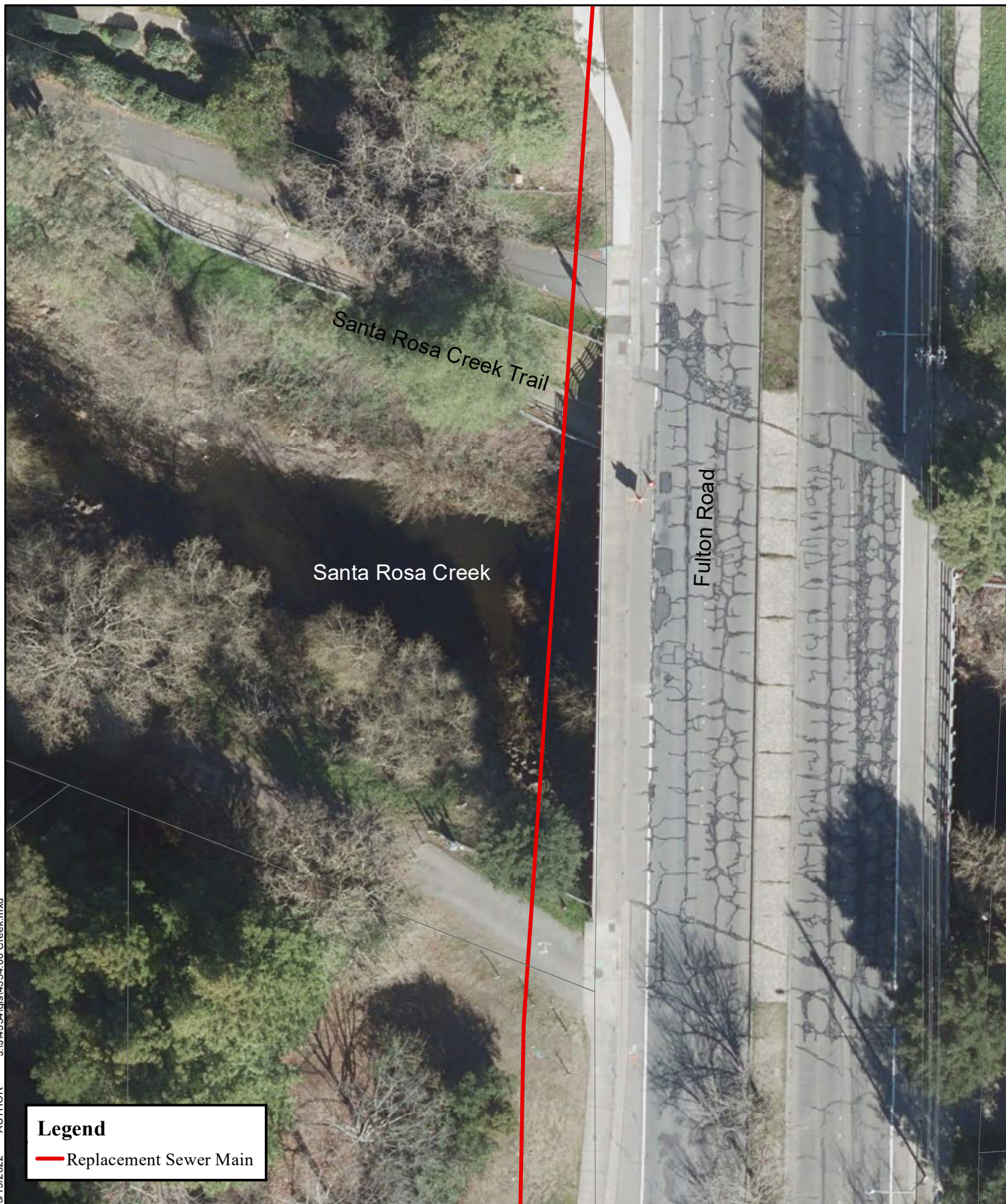


FIGURE 2
PROJECT OVERVIEW

CITY OF SANTA ROSA
JUNE 2022



Legend

— Replacement Sewer Main

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Aerial Imagery: CSR GIS (2018)

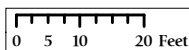
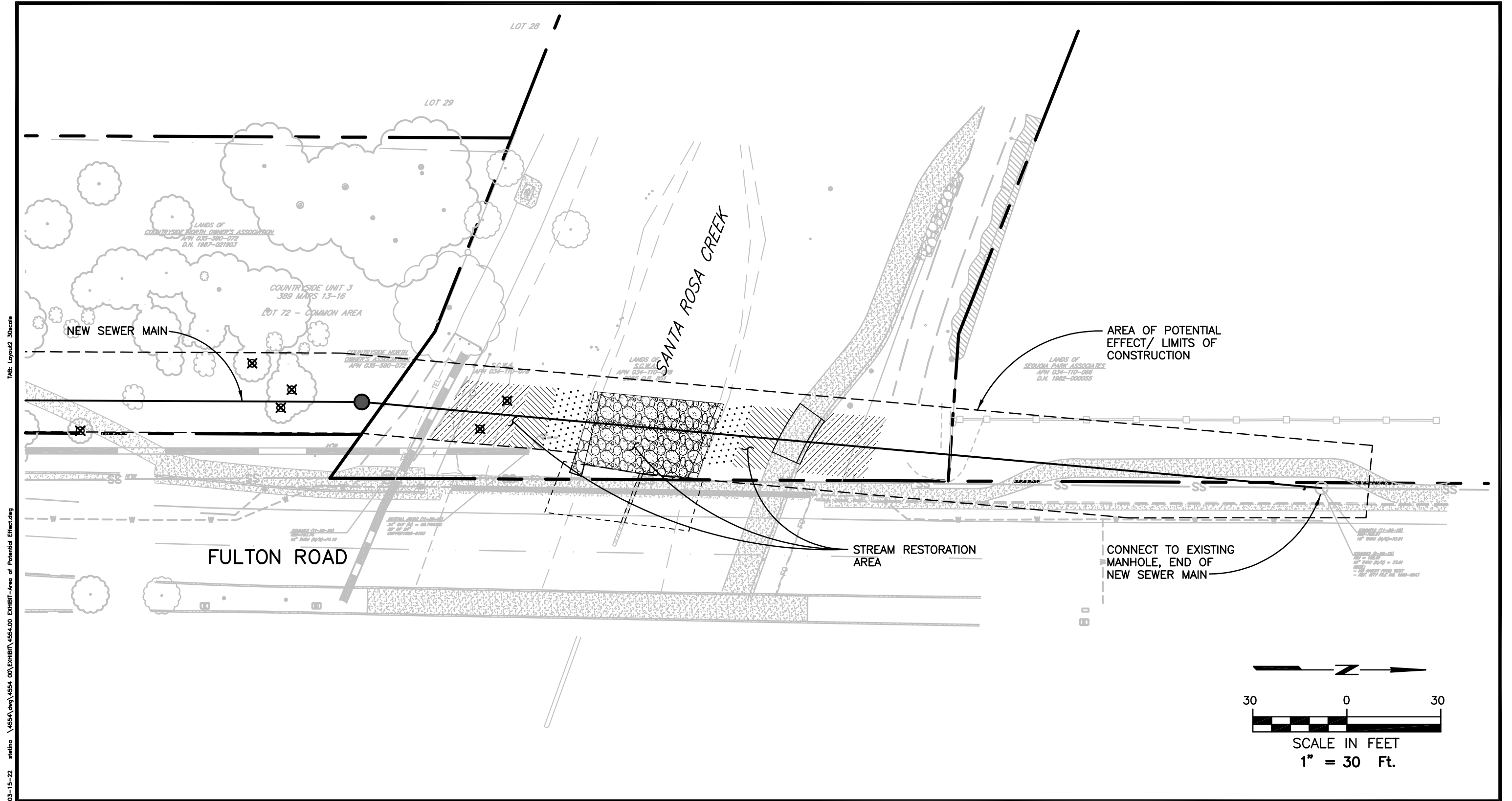


FIGURE 3
CREEK CROSSING

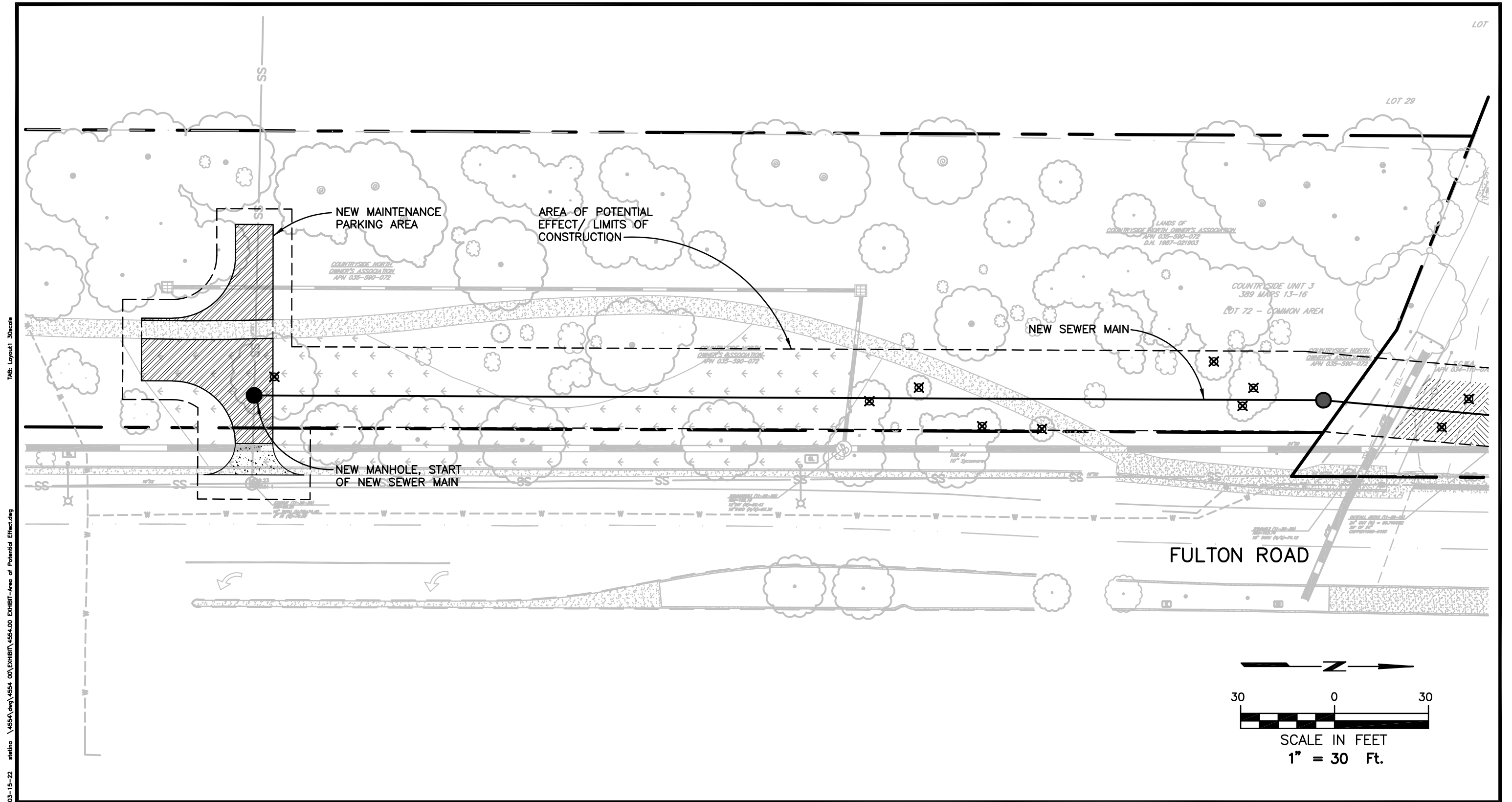
CITY OF SANTA ROSA
JUNE 2022



SOUTH FULTON TRUNK SEWER REPAIR AREA OF EFFECT / LIMITS OF CONSTRUCTION

MARCH 2022

Figure 4



**SOUTH FULTON
TRUNK SEWER REPAIR**
 AREA OF EFFECT / LIMITS OF CONSTRUCTION

MARCH 2022
 Figure 5

5/19/2022 AUTHOR J:\4554\4554.00 Manhole APE.mxd



Legend

- Abandon Manhole APE
- Replacement Sewer Main

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Aerial Imagery: CSR GIS (2018)

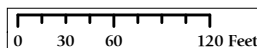


FIGURE 6
MANHOLE ABANDONMENT
AREA OF POTENTIAL EFFECT

CITY OF SANTA ROSA
JUNE 2022

PROJECT OBJECTIVES/PURPOSE AND NEED

The City retained Woodard & Curran to conduct an alternatives analysis for the repair or replacement of the sewer under Santa Rosa Creek. A Technical Memorandum describing the findings of the analysis indicates that the 18-inch ACP sewer was lined in 1985 to correct a pipe joint offset underneath the creek channel, which reduced the diameter to 14 inches. The City conducted a closed-circuit television (CCTV) inspection of the pipe liner in 2009 that showed the liner deformed to an elliptical shape with a slight bump on the invert. The City conducted another CCTV inspection in 2014 that showed worsening deformity, including a much larger bulge in the third quadrant (6 o'clock to 9 o'clock position). A 2017 CCTV inspection revealed further deformity. During the 2017 inspection, the CCTV camera was not able to pass through the deformed area. Based on the CCTV inspections, the City has concluded that (1) the slope of the sewer is not consistent (the sewer invert goes up and down), (2) the liner is not stable and is continuing to deform, and, (3) part of liner has an upside-down U-shape with the invert lifted.

The project would replace that portion of substandard sewer main to prevent the potential of future leakage or sewage backup. The Technical Memorandum's alternatives analysis identified and assessed the technical feasibility of several potential solutions to correct the failing liner. Alternatives considered and dismissed are described below.

Cured-in-place pipe (CIPP) spot repair: This solution would repair only the deformed portion of the existing PE liner by locally heating the liner pipe at the spot location and pulling in an inflatable flow-through packer or a mandrel to re-round the pipe, then insert the CIPP liner. This was deemed infeasible due to the unknown condition of the host pipe, the potential for the re-rounding tools to become stuck in the pipe, and the potential for the repaired section to collapse between re-rounding and insertion of the CIPP liner.

Mechanical point repair: This solution would repair the damaged portion of the pipe with a proprietary system consisting of two stainless steel bands and an EPDM compressions seal, installed using an inflatable packer. This was deemed infeasible due to the inflatable packer not producing sufficient pressure to reshape the PE liner, and the degree of lift in the liner exceeding the limits of the repair system.

Remove and replace liner: This solution would remove and replace the entire liner between existing manholes. This was deemed infeasible due to the unknown condition of the host pipe, which may collapse when the existing liner is removed, or may be deformed such that a new liner would also have an inconsistent slope, and concerns that creek scour may remove the host pipe, leaving the liner exposed to the creek.

Reroute flow: This solution would reroute flow from the approximately 60 parcels in the Countryside Development to drain south towards the Llano Trunk sewer, allowing the portion of the sewer under the creek to be abandoned. This option was deemed infeasible due to insufficient elevation drop between the existing sewer from the Countryside development and the tie-in location in the Llano Trunk sewer.

Pipe bursting existing pipe: This solution would use the trenchless pipe bursting technique to break out the existing pipe and pull a new PE pipe into the void formed behind the bursting head. This was deemed infeasible due to the host pipe being ACP, which is only allowed to be burst a maximum length of 100 feet by California regulations, and because it is unknown if the existing concrete cap over the host pipe is reinforced, which cannot be burst.

Sliplining: This solution would pull a smaller diameter pipe into the existing pipe and fill the annular space with grout. Due to the deformations in the existing pipe, the sliplined pipe would likely contain similar deformations, and was therefore deemed infeasible.

Pipe jacking with ductile iron pipe (DIP): This solution would use bore and jack equipment to install a new smaller diameter DIP through the existing PE liner. This was deemed infeasible due to the DIP bells being larger than the existing liner, and due to the bell and spigot joints of DIP not being able to withstand the thrust force of the jacking, causing some of the joints to break.

Inverted siphon: This solution would install an inverted siphon beneath Santa Rosa Creek. Two methods of construction were proposed: open cut with pilot tube guided auger boring, and horizontal directional drilling. Both methods would avoid open cut construction within the creek. These were both deemed infeasible due to insufficient elevation drop necessary for the siphon hydraulics to properly function.

Pump station and force main: This solution would install a pump station to collect wastewater from the Countryside Development and convey it via a force main to the existing sewer in Placer Drive, on the east side of Fulton Road. This solution was deemed feasible, but not preferred due to significant on-going maintenance requirements and the need for provision of emergency power.

The City has selected to replace the sewer main segment utilizing an open cut across Santa Rosa Creek. This method allows the City to be confident in the segment's flow gradient and integrity. Gravity flow will ensure the sewer continues to flow in the event of emergency. It is further described below.

POLICY SETTING

Development in the project area and Santa Rosa in general is guided by the City's General Plan² and zoning ordinance. The City's General Plan anticipates and plans for growth until 2035. The General Plan includes infrastructure planning to accommodate orderly development associated with growth projections to 2035, including wastewater services. The General Plan has projected that development within the City's urban growth boundary (UGB) is expected to reach a total population of 237,000 by 2035 and approximately 25,225 new housing units will be developed within the UGB. The proposed project occurs within an existing developed area. The project occurs within existing public right of way or public utility easements and is consistent with zoning in the project area.

PROJECT DESCRIPTION

The City of Santa Rosa (City) desires to undertake a project to address approximately 300 feet of failing sewer pipe that was first installed in 1969 under Santa Rosa Creek just westerly of the Fulton Road Bridge. The sewer was originally constructed using 18-inch diameter asbestos cement pipe (ACP) to serve a significant geographical area; however, due to construction of other nearby regional collection facilities, it now serves just 60 homes located in the Countryside subdivision southwesterly of Fulton Road and Santa Rosa Creek. The sewer was lined with a 14-inch diameter polyethylene liner in 1985. The liner has deformed, causing the sewer to become partially obstructed and needs to be replaced. The proposed project would use traditional

² *Santa Rosa General Plan 2035*. City of Santa Rosa. November 3, 2009.

open cut construction across Santa Rosa Creek to place a new pipe just west from the existing failing pipe, eliminating unknowns regarding the condition of the existing pipe and liner, and potential impact to bridge footings.

Additional sewer replacement is proposed upstream of the obstructed pipe to allow for increased pipe slope, and installation of smaller, more appropriately sized pipe from the Countryside subdivision. The existing 18-inch sewer continues upstream, south from the Countryside subdivision tie-in to West Third Street. This sewer is no longer in use and will be abandoned as a part of this project.

NORTH OF SANTA ROSA CREEK

Work on the north side of the Santa Rosa Creek channel would include installation of approximately 130 feet of 8-inch sewer main from the northern edge of the existing asphalt path to an existing manhole (SMH #12) to intertie with the existing sewer. This work would primarily occur in the landscaped setback area between Fulton Road and the westerly adjoining residential area. Installation depths would average approximately 28 feet below the existing ground surface. No trees are anticipated to be removed. Construction would occur near four existing redwood trees. Those trees would be preserved unless significant damage to their roots occurs during sewer main installation.

The concrete bike pathway and its retaining wall would be closed to public use during installation. The retaining wall would be cut and removed within the trench width and reconstructed after sewer main installation. Similarly, the asphalt path would be closed during construction and reconstructed. The existing sidewalk in the landscape area parallel to Fulton Road would be removed and replaced.

SOUTH OF SANTA ROSA CREEK

Work on the south side of the Santa Rosa Creek channel would include extending the 8-inch sewer main approximately 13 feet from the south side of the existing asphalt path to a new manhole to be located in the existing landscaped area. The path would be closed during construction and reconstructed after sewer main installation.

The sewer main would continue south from the new manhole approximately 340 feet to a second new manhole to intertie with the existing sewer system. The southern portion of the new sewer main would be installed at an average depth of approximately 25 feet.

The new intertie manhole would be provided with a 12-foot wide hammerhead driveway off of Fulton Road to provide maintenance access, parking and a vehicle turnaround, and extend 80 feet westerly from Fulton Road. The existing sidewalk would be maintained within the driveway. The existing sidewalk from the turnaround to Santa Rosa Creek would be closed during construction and pedestrians would be directed to the other side of Fulton Road. Several landscape trees would be removed, including: one 17-inch sycamore, one 7-inch cypress; two 4-inch ornamentals; one 6-inch ornamental; one 7-inch ornamental; and, one 10-inch ornamental.

WORK IN SANTA ROSA CREEK CHANNEL

The work contained between the southern and northern edges of the existing asphalt paths on each bank includes installation of approximately 160 feet of 8-inch sewer main below the creek, averaging 16 feet west

(downstream) of the existing sewer main (on the west side of the Fulton Road Bridge). A plan and profile view of proposed work within the stream channel is provided on Figure 7.

An approximately 10-foot wide trench would be excavated through the existing banks and streambed. Depths would vary from approximately 25 feet at the top of the banks to between 2 and 3 feet below the existing stream bottom. Within the creek channel, one 7-inch oak and one 15-inch oak would be removed on the south bank.

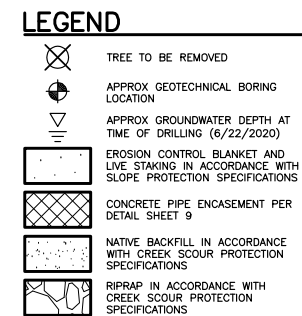
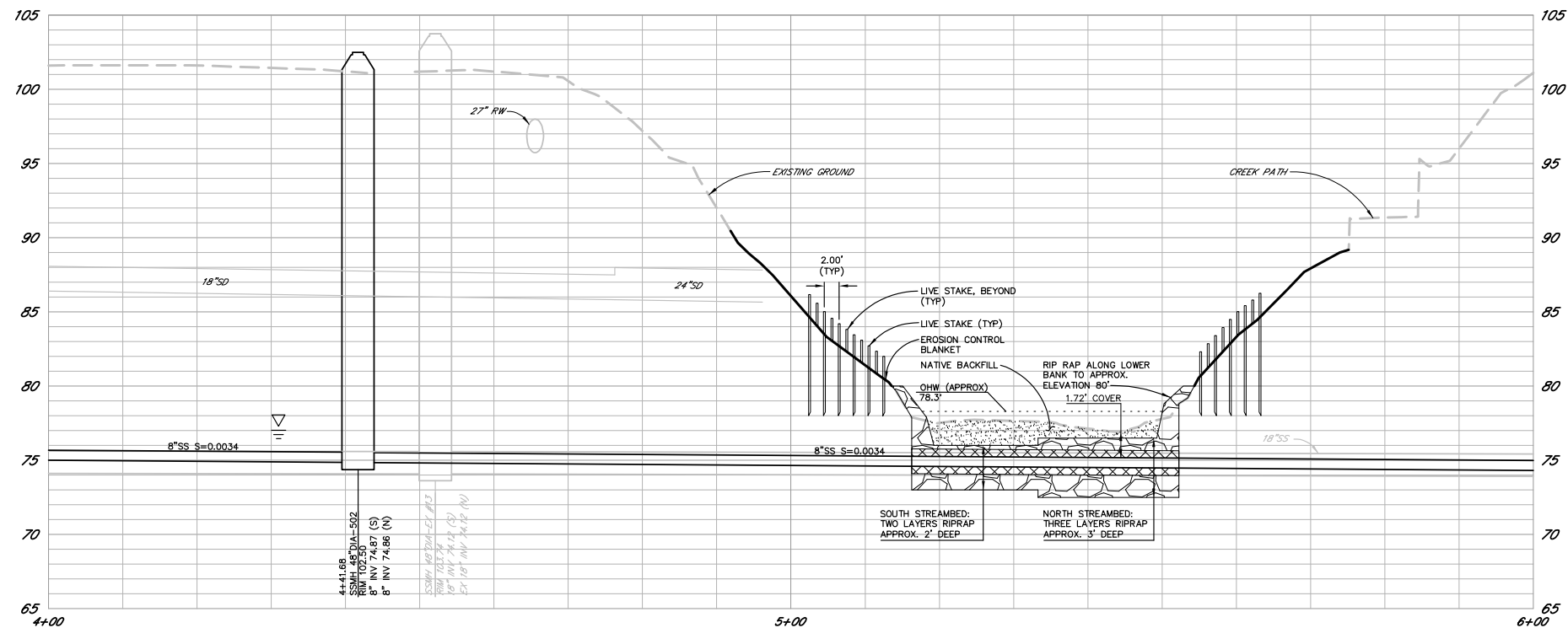
Within the stream bed, the pipe would be concrete encased. To protect the area from scour, approximately 15 feet upstream of the pipe and approximately 10 feet downstream of the pipe, the area would be excavated for placement of rip rap – approximately two feet deep on the south side of the creek, and approximately 3 feet deep on the north. Rip rap would be placed up to and on top of the concrete encasement. Native streambed material removed during excavation would be used to backfill on top of the rip rap to restore the bed and flowline. The existing stream bed is at approximately 77 feet above sea level (FSL). Excavation would extend to approximately 72.5 FSL for placement of riprap. Riprap would also be placed up the banks to approximately 80 FSL to provide bank scour protection.

Within the banks, the trench would be backfilled and compacted to restore the surface to existing grade. The portions of the banks which were disturbed by trenching or equipment tracking would be stabilized using bioengineering. The area will be covered with a biodegradable erosion control blanket, and placement of willow cuttings as live stakes and riparian planting mitigation for tree loss would occur after construction.

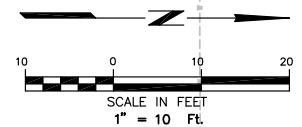
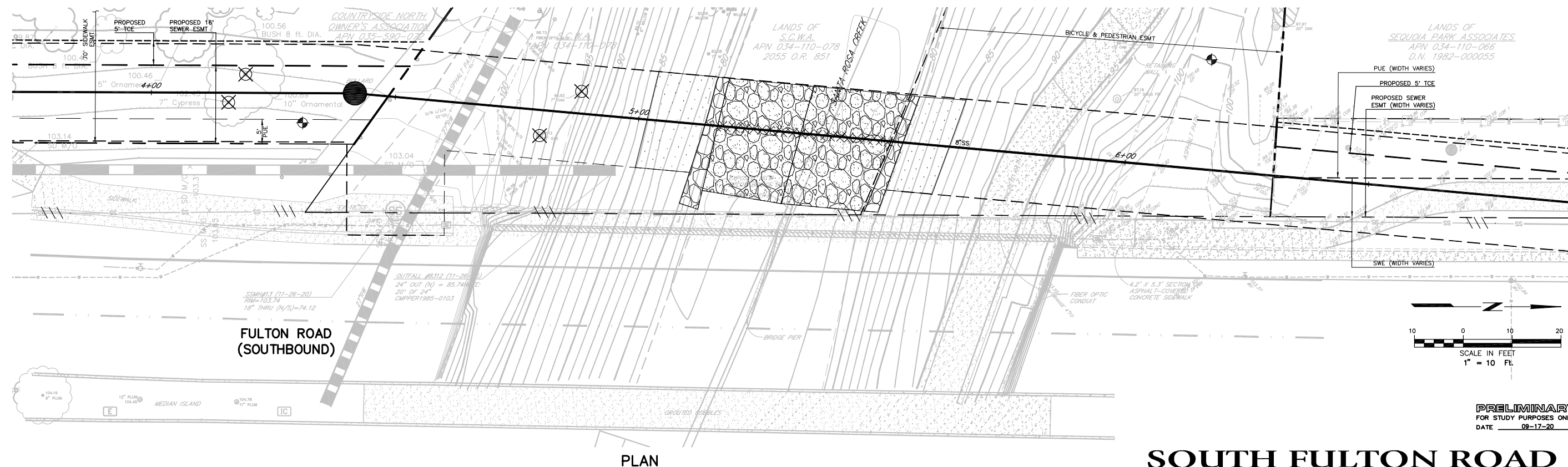
SEWER ABANDONMENT

The existing approximately 300 feet of sewer between existing SSMH #13 and existing SSMH #12 under Santa Rosa Creek would be abandoned in-place and filled with cellular concrete material to prevent collapse. This would be done from above the top of bank and is not expected to have any impact to the stream.

Approximately 1,480 additional feet of sewer and five additional manholes, extending south to West Third Street, will also be abandoned in-place with cellular concrete. Abandonment will occur from the existing manholes. Ground disturbance will be limited to the area immediately surrounding these existing manholes where the ground surface will be restored to match adjacent pavement, curb and gutter, or natural ground. These locations would require closure of one lane of traffic on Fulton Road but would not otherwise disturb surrounding areas.



PROFILE
SCALE: HORIZ. 1" = 10'
VERT. 1" = 5'



PRELIMINARY
FOR STUDY PURPOSES ONLY
DATE 09-17-20

SOUTH FULTON ROAD TRUNK SEWER REPAIR

CREEK CROSSING PLAN & PROFILE

SEPTEMBER 2020

FIGURE 7

STOCKPILING

Material stockpiling could occur on the existing creek asphalt paths and within the existing landscaped areas on either side of the sewer main trenching. Trench spoils would be disposed of according to City standards.

CONSTRUCTION

Construction is anticipated to take approximately 90 working days over five months and begin in spring 2022. Construction will be conducted by approximately five equipment operators and laborers utilizing the following equipment:

- One track excavator medium to large size
- One earth compactor
- One roller
- One backhoe/loader
- One wheel loader (two yard bucket)
- One water truck
- One crane truck
- One or two ten wheel dump trucks

Approximately 3,400 cubic yards of imported bedding and backfill material and an export of approximately 3,400 cubic yards of native trench material unsuitable for bedding and backfill will be required. For scour protection, approximately 88 cubic yards of riprap will be imported, and 88 cubic yards of native bed material will be exported. For asphalt paving, approximately 38 cubic yards of asphalt and base materials will be imported and an approximately equal volume of native material will be exported. Sidewalk replacement will require approximately 15 cubic yards of imported materials and an approximately equal volume of material will be exported. A total volume of approximately 3,555 cubic yards of materials will be imported and exported. Exported materials will be stockpiled or disposed of according to regulations by the City or the contractor. Stockpiling will occur within the construction easement.

Shoring

Due to the depth of trenching required during construction and the materials to be excavated, temporary excavations for pipeline trenches would be shored in accordance with OSHA requirements. Shoring should be capable of supporting an active pressure of $43H$ in pounds per square foot (where H is the height of the trench wall in feet) in a trapezoidal distribution, as described in the project's Geotechnical Study Report.³

Property Acquisition

Work will occur outside of the City right-of-way on three different parcels. The creek is contained within a parcel owned by Sonoma Water. North of the creek, the sewer will be installed within a landscape strip parcel owned by Sequoia Park Associates. South of the creek, the sewer and a portion of the access driveway and turnaround will be installed within a landscape strip parcel owned by Countryside North Owner's

³ *Geotechnical Study Report, South Fulton Trunk Sewer, Fulton Road at Santa Rosa Creek, Santa Rosa, CA.* RGH Consultants. September 4, 2020.

Association. A permanent sewer easement and a temporary construction easement must be obtained on each of these parcels.

In-stream Construction Measures

Construction within the Santa Rosa Creek channel will occur in a highly regulated environment. As described in the Biological Resources and Hydrology and Water Quality sections of this document, the project will be constructed under permit terms from the US Army Corps of Engineers (USACE), Regional Water Quality Control Board, North Coast Region (Regional Board) and the California Department of Fish and Game (CDFW). As part of the permit applications, several technical documents have been prepared that describe techniques that will be employed to protect the environment, implement bypass of Santa Rosa Creek flows during construction, dewater the construction site within the channel, and provide mitigation for impacts to the stream and riparian vegetation. They are included as appendices to this CEQA document as the following:

- Appendix A: In-stream Construction Methodologies
- Appendix B: Fish Management Plan for the South Fulton Trunk Sewer Replacement Project
- Appendix C: Riparian Restoration Plan, South Fulton Trunk Sewer Project

These documents serve as a baseline set of measures that shall be implemented. Permit terms and conditions may include additional requirements to safeguard special status species, water quality and the environment.

Schedule

Construction is anticipated to take approximately 90 working days over 5 months and begin in spring 2022. Due to the depth of trenching associated with sewer main installation, it is estimated that approximately ten feet of main would be installed per day.

Construction within the Santa Rosa Creek channel will be constrained between July and October (with the potential to be extended until November). Construction in the wetted portion of the creek and stream diversion shall only occur between August and November (consistent with NOAA Fisheries regulations).

There are three trails within the project area that will require closure. The gravel path on the south side of the creek will require closure for approximately three days, plus occasional short-term closures over the course of approximately two months to bring equipment and materials into and out of the creek work area. The concrete path beneath the bridge will require closure for approximately two weeks to allow for reconstruction of the retaining wall. The asphalt path on the north side of the creek will require closure for approximately three days.

GROWTH INDUCEMENT POTENTIAL

The proposed project is not anticipated to induce growth as the project area is currently developed. Further, the project responds to an existing wastewater collection system deficiency identified by the City.

OTHER PUBLIC AGENCY APPROVALS

The project is generally under City review authority. Due to the nature of the project and open trench cut across Santa Rosa Creek, it is expected that the following additional agencies will have review or permit authority over the project:

California Department of Fish and Wildlife (CDFW)

The project will require permits from CDFW for impacts to the stream channel and potential to take or otherwise harm state-protected wildlife and plant species.

North Coast Regional Water Quality Control Board

The Regional Board has discretionary authority regarding the following permits and approvals:

- NPDES Permit. The U.S. Environmental Protection Agency (EPA) has delegated responsibility for issuance of Clean Water Act (CWA) NPDES permits to the Regional Water Quality Control Boards within California. These permits are required to ensure protection of surface waters from construction and other land-disturbing activity.
- 401 Water Quality Certification for potential impacts to wetlands or waters.

US Army Corps of Engineers

The US Army Corps of Engineers (USACE) has discretionary authority regarding the following permit:

- Section 404 of the Clean Water Act for potential impacts to wetlands and waters of the US.

U.S. Fish and Wildlife Service (USFWS)

- USFWS consultation would occur through the USACE Section 404 process to determine the project's potential impact to federally listed species.

National Oceanic and Atmospheric Administration Fisheries (NOAA Fisheries)

- NOAA Fisheries consultation would occur through the USACE Section 404 process to determine the project's potential impact to federally listed anadromous fish species.

Sonoma Water

Sonoma Water owns the Santa Rosa Creek channel and oversees flood control operations. The proposed project will require an encroachment permit from Sonoma Water.

ENVIRONMENTAL SIGNIFICANCE CHECKLIST

The following list of questions is provided by Appendix G of the CEQA Guidelines in order to determine a project's environmental impacts. The checklist utilized herein was updated by the State of California in 2022.

Based on the project description, answers to the questions fall into one of four categories:

- Potentially Significant Impact
- Less Than Significant Impact with Mitigation Incorporation
- Less Than Significant Impact
- No Impact

A “No Impact” response indicates that no impact would result from implementation of the project. A “Less Than Significant Impact” response indicates that an impact would occur, but the level of impact would be less than significant. A “Less Than Significant with Mitigation Incorporation” response indicates that an impact is involved and, with implementation of the identified mitigation measure, such impact would be less than significant. A “Potentially Significant Impact” response indicates that there is substantial evidence that impacts may be significant if mitigation measures are unknown, infeasible, or not proposed. Each response is discussed at a level of detail commensurate with the potential for adverse environmental effect.

The discussion following each checklist consists of a *Setting* section including environmental and regulatory information, an *Analysis* section, a *Cumulative Impacts* discussion, and a section for identification of *Mitigation Measures*, as necessary. The *Analysis* section includes a discussion addressing whether the project would result in potential adverse environmental impacts. All potential impacts have been considered, including on-site and off-site impacts, direct and indirect impacts, construction and operation-related effects, as well as cumulative effects. The *Cumulative Impacts* section presents information regarding the project's potential cumulative impacts and is included in this section. If an impact(s) has been identified and mitigation is required to reduce the impact to a less than significant level, then such measures are contained in the *Mitigation Measures* sections.

I AESTHETICS

Except as provided in Public Resources Code Section 21099, would the project:	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
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. In nonurbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	■	☐	☐
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☐	■

Environmental Setting

The project is in a developed portion of Northwest Santa Rosa along Fulton Road where it crosses Santa Rosa Creek. Fulton Road is a four-lane road separated by a central median in the project area. The Fulton Road Bridge that crosses Santa Rosa Creek provides views of the creek corridor from the sidewalk. Santa Rosa Creek is channelized in the project area but supports a narrow band of riparian vegetation lined with Sonoma Water access roads on each side. The Santa Rosa Creek Trail is located along the north side of the channel.

The area is within the central portion of the Santa Rosa Plain and topography is generally flat. There are no vistas in the project area from which the project would be visible. The major sources of light and glare in the project vicinity are from Fulton Road street lighting, vehicular traffic and residential development. There are no other designated scenic highways in the project area⁴.

⁴ http://www.dot.ca.gov/hq/LandArch/16_livability/scenic_highways/

Analysis

a. Would the project have a substantial adverse effect on a scenic vista?

A scenic vista is generally considered a view of an area that has remarkable scenery or a resource that is indigenous to the area. The project site is not considered to be a scenic vista for the purposes of this environmental analysis because it is entirely within a developed area of Santa Rosa along Fulton Road. While Santa Rosa Creek and the Santa Rosa Creek Trail do provide scenic resources in the project area they are not characteristic of a scenic vista. The project will not have any significant impact on a scenic vista—all project components in the channel will be underground and surfaces will be restored upon completion of construction.

The proposed project would not result in the disturbance or elimination of open space area or remove an object of aesthetic value. The project would not result in long-term physical adverse changes to the height or bulk of structures or view blockages along the view shed of the replacement project as the sewer main would be constructed below ground and surfaces would be restored to existing conditions. Therefore, obstruction of the limited scenic views in the project area would not occur.

Construction activities would create dust, expose soil from excavation and create soil piles from trenching and excavation, but these activities would cease after construction is complete. Short-term construction impacts associated with the project would not have a significant impact on any scenic vista.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

There are no scenic highways near the project. The City has not designated any scenic corridors in the project vicinity.

The project would primarily be installed below grade with all surfaces restored. None of the project elements would be visible from a scenic highway or corridor. Any visual impacts would be short term and limited to the construction phase of the proposed project.

Several landscape trees would be removed outside of the creek channel, including: one 17-inch sycamore, one 7-inch cypress; two 4-inch ornamentals; one 6-inch ornamental; one 7-inch ornamental; and one 10-inch ornamental. There are four redwood trees near the proposed sewer main on the northwest end of the project. The trees measure 12, 27, 28 and 24 inches in diameter. It is anticipated that the project can be constructed without removal of the trees. These are also landscape trees. Removal of these trees will not have a significant impact to the street frontage due to the large number of landscape trees in the area.

Within the creek channel, one 7-inch oak and one 15-inch oak would be removed on the south bank. Mitigation associated with the environmental permits will require tree replacement for the removed oaks, as described in the Biological Resources section.

- c. **In nonurbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?**

The project would not significantly degrade the existing visual character of the project area. The project would be installed below grade in existing roadways or public utility easements and therefore would not substantially degrade the existing visual character of the site or surroundings. As an underground public utility replacement project in a public utility easement, the project would not conflict with zoning regulations in the project area.

Impacts to the scenic quality of the Santa Rosa Creek corridor will be generally be limited to the construction window. Removal of the 15-inch oak on the south bank will visually alter immediate views and the tree is visible from Fulton Road. The tree loss will be mitigated in excess of requirements in the Santa Rosa Tree Ordinance and consistent with the environmental permits, as described in the Biological Resources section (Mitigation Measure BIO5). Several additional landscape trees would be removed associated with the sewer main installation to the south of the creek that are not protected by the Santa Rosa Tree Ordinance and will not have a significant impact to the street frontage due to the large number of landscape trees in the area.

- d. **Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

The project would not create a new substantial source of light or glare. The project would be constructed below grade with all surfaces restored and no new light sources are proposed.

Cumulative Impacts

There are no adverse cumulative environmental impacts to aesthetic resources resulting from implementation of the proposed project.

Mitigation Measures

Please see Mitigation Measure BIO5 in the Biological Resources section.

II AGRICULTURAL & FOREST RESOURCES

In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection (CalFire) regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project 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?	☐	☐	☐	■
b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	■
c. Would the project 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))?	☐	☐	☐	■
d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	■
e. Would the project 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?	☐	☐	☐	■

Environmental Setting

The zoning designations in the immediate project area include mobile home park (MH) to the north and planned development (PD) to the south. Except for Santa Rosa Creek, the project area is entirely developed with residential uses. The project would occur almost entirely within Fulton Road, developed landscape areas and Santa Rosa Creek within existing or future public utility easements. No agricultural zoning is in the project area. Local zoning is shown on Figure II-1.

REGULATORY SETTING

Farmland Mapping and Monitoring Program

Agricultural lands within the state of California are rated according to soil quality and irrigation status by the Farmland Mapping and Monitoring Program (FMMP). The FMMP produces maps and statistical data used for analyzing impacts on California's agricultural resources. The best quality land is called Prime Farmland, followed by Unique Farmland, Farmland of Statewide Importance, and so on, in decreasing order of importance. The maps are updated every two years with the use of aerial photographs, a computer mapping system, public review, and field reconnaissance.

The project area is designated as Urban and Built-up Land, as shown on Figure II-2.

Williamson Act

Agricultural land in the project area may also be subject to the California Land Conservation Act of 1965, more commonly referred to as the Williamson Act. The Williamson Act enables local governments to enter contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. In return, landowners receive property tax assessments that are lower than normal because they are based on farming and open space uses as opposed to full market value.

Analysis

- a. **Would the project 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?**

As shown on Figure II-2, the Farmland Mapping and Monitoring Program⁵ designates the project site and surrounding areas as Urban and Built-up Land. Project components would generally be located within the developed roadway, sidewalk, creek channel and landscaped areas that do not support farmland. The project would not convert Farmland to non-agricultural uses.

- b. **Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?**

The project is within developed roadway, sidewalk, creek channel and landscaped areas that do not support farmland and are not under agricultural production. Zoning designations in the project area are residential in nature and there are no Williamson Act contracts in the project vicinity. The project would not remove any land from agricultural production and would therefore not conflict with agricultural zoning or Williamson Act contracts.

⁵ *Sonoma County Important Farmland—2016*. Farmland Mapping and Monitoring Program of the California Resources Agency.

5/19/2022 AUTHOR J:\4554\4554.00 Zoning.mxd



Legend

- Replacement Sewer Main
- Abandon Manhole
- Buildings

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Aerial Imagery: CSR GIS (2018)

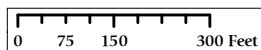


FIGURE II-1
PROJECT AREA ZONING

CITY OF SANTA ROSA
JUNE 2022



Legend

- Replacement Sewer Main
- Abandon Manhole

Designation

- Prime Farmland
- Farmland of Statewide Importance
- Unique Farmland
- Farmland of Local Importance
- Grazing Land
- Urban and Built-up Land
- Other Land
- Water

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Units: Foot US

Data Source Information:
 Aerial Imagery: CSR GIS (2018)
 California Dept. of Conservation (2016)

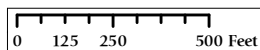


FIGURE II-2
IMPORTANT FARMLAND

CITY OF SANTA ROSA
 JUNE 2022

- c. **Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?**

Forest land, as defined by the U.S. Forest Service, includes land at least ten percent of which is stocked by trees of any size, or land formerly having had such tree cover that would be naturally or artificially regenerated. Forest land includes transition zones, such as areas between heavily forested and non-forested lands that are at least ten percent stocked with forest trees and forest areas adjacent to urban and built-up lands.

The project does not propose any activities related to timber harvest nor would it result in the conversion of forest land to non-forest uses. As such, there would be no impact to forest land or conversion of designated land to non-forest uses. The project locations are not zoned for and do not currently support timberland nor are they zoned as timber production land by the City, as shown on Figure II-1.

- d. **Result in the loss of forest land or conversion of forest land to non-forest use?**

The project location does not currently support forest land and the project area is developed with residential uses within the City limits. The proposed project would not result in any impact to forest land.

- e. **Would the project 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?**

Because the replacement sewer main would be located underground and primarily in existing developed areas, the project would not impact agricultural resources in the project area or result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use.

Cumulative Impacts

There are no adverse cumulative environmental impacts to agricultural and forestry resources resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to agricultural and forestry resources have been identified; therefore, no mitigation is required.

III AIR QUALITY

Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations:

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	■	☐
b. Would the project 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?	☐	■	☐	☐
c. Would the project expose sensitive receptors to substantial pollutant concentrations?	☐	■	☐	☐
d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	■

Environmental Setting

BAY AREA AIR BASIN

The project is in the San Francisco Bay Area Air Basin (BAAB) that consists of the counties surrounding the San Francisco Bay including portions of Sonoma and Solano Counties and all of Napa, Marin, San Francisco, San Mateo, Santa Clara, Alameda and Contra Costa Counties. The local air quality agency is the Bay Area Air Quality Management District (BAAQMD).

REGIONAL CLIMATE

Sonoma County's climate, like much of California, is Mediterranean in nature. Summers are warm and dry, and winters are cool and moist. Local climate variation is typical in Sonoma County. The Santa Rosa area typically has hot, dry summers and cool, wet winters. The average January high is 57 °F with an average low of 37 °F. July average high is 83 °F with an average low of 50, influenced by proximity to the San Francisco Bay and coastal fog. Rainfall predominantly occurs during the months of November through March. The normal historic rainfall average is approximately 32 inches annually.

Regulatory Setting

Air quality in the project vicinity is regulated by several jurisdictions, including EPA, ARB, and BAAQMD. These entities, described below, develop rules, regulations, and policies to attain the goals or directives imposed upon them through legislation.

FEDERAL REGULATIONS

The Clean Air Act

The Federal Clean Air Act (FCAA) required the US EPA to establish National Ambient Air Quality Standards (NAAQS) and set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects, such as visibility restrictions. The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The US EPA has responsibility to review all state SIPs to determine conformance to the mandates of the FCAA, and the amendments thereof, and determine if implementation would achieve air quality goals. If the US EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

STATE REGULATIONS

California Clean Air Act

The California Air Resources Board (CARB) is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. The California Clean Air Act (CCAA) requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone, CO, sulfur dioxide (SO₂), and nitrogen dioxide (NO₂) by the earliest practical date. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a five percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

LOCAL REGULATIONS

Bay Area Air Quality Management District

The BAAQMD is designated by law to adopt and enforce regulations to achieve and maintain ambient air quality standards. The BAAQMD was the first regional agency created by the state in 1955 that regulates stationary sources of air pollution within the BAAB. The District also regulates a variety of other programs such as Spare the Air, state Air Toxic Control Measures (ATCMs) and federal New Source Performance Standards (NSPSs) and open burning. The main purpose of the BAAQMD is to enforce local, state, and federal air quality laws, rules, and regulations in order to maintain the ambient air quality standards (AAQSs) and protect the public from air toxics through local, CARB ATCM, and federal EPA NESHAP-specific control regulations.

Because the Bay Area Air Basin is not an attainment area for all state and federal criteria pollutants, the BAAQMD is required to update its Clean Air Plan. The most recent update is the 2017 Clean Air Plan⁶. The BAAQMD provides the following summary of the Clean Air Plan:

The 2017 Plan provides a regional strategy to protect public health and protect the climate. To protect public health, the plan describes how the Air District will continue our progress toward attaining all state and federal air quality standards and eliminating health risk disparities from exposure to air pollution among Bay Area communities. To protect the climate, the plan defines a vision for transitioning the region to a post-carbon economy needed to achieve ambitious greenhouse gas reduction targets for 2030 and 2050, and provides a regional climate protection strategy that will put the Bay Area on a pathway to achieve those GHG reduction targets.

The 2017 Plan includes a wide range of control measures designed to decrease emissions of the air pollutants that are most harmful to Bay Area residents, such as particulate matter, ozone, and toxic air contaminants; to reduce emissions of methane and other “super-GHGs” that are potent climate pollutants in the near-term; and to decrease emissions of carbon dioxide by reducing fossil fuel combustion.

CRITERIA POLLUTANTS

Pollutants subject to federal ambient standards are referred to as “criteria” pollutants because the US EPA publishes criteria documents to justify the choice of standards. California and Federal standards for criteria pollutants for the year 2017 are shown below.

Pollutant	Averaging Time	State Standard	Federal Primary Standard
Ozone	1-Hour 8-Hour	0.09 ppm 0.07 ppm	-- 0.070 ppm
PM10	Annual 24-Hour	20 ug/m ³ 50 ug/m ³	-- 150 ug/m ³
PM2.5	Annual 24-Hour	12 ug/m ³ ---	12 ug/m ³ 35 ug/m ³
Carbon Monoxide	8-Hour 1-Hour	9.0 ppm 20.0 ppm	9.0 ppm 35.0 ppm
Nitrogen Dioxide	Annual 1-Hour	0.03 ppm 0.18 ppm	.053 ppm 100 ppb
Sulfur Dioxide	24-Hour 3-Hour 1-Hour	0.04 ppm -- 0.25 ppm	.14ppm -- 75 ppb
Lead	30-Day Avg. Calendar Quarter 3-Month Avg.	1.5 ug/m ³ -- --	-- 1.5 ug/m ³ 0.15 ug/m ³

ppm = parts per million

⁶ 2017 Clean Air Plan: *Spare the Air, Cool the Climate*. BAAQMD. April 9, 2017.

ppb = parts per billion

ug/m³ = micrograms per cubic meter

MONITORING STATION DATA

Ambient air quality measurements are routinely conducted at nearby air quality monitoring stations. The nearest monitoring station to the project is in Santa Rosa. Both CARB and the US EPA use this type of monitoring data to designate areas according to attainment status for criteria air pollutants established by the agencies. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvements. The three basic designation categories are nonattainment, attainment, and unclassified. Unclassified is used in an area that cannot be classified based on available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called nonattainment-transitional. The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment.

Analysis

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

The project area is within the BAAQMD. The project would not conflict with or obstruct the BAAQMD's 2017 Clean Air Plan, intended to provide an integrated control strategy to reduce ozone, particulate matter (PM), toxic air contaminants, and greenhouse gases. Because the project is a small-scale infrastructure replacement project intended to meet existing wastewater demands in an existing residential area, the project does not increase trips to/from the project area that would result in increased vehicular emissions.

Because the project will not directly increase on-going emissions of monitored air pollutants and will not impact the area's attainment status, any impact to the BAAQMD's Clean Air Plan, and Ozone Strategy would be less than significant.

b. Would the project 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?

The BAAQMD is responsible for monitoring and reporting air quality data for the county within the Bay Area Air Basin. Both the U. S. Environmental Protection Agency and the California Air Resources Board have established ambient air quality standards for common pollutants. These ambient air quality standards represent safe levels that avoid specific adverse health effects associated with each pollutant, termed criteria pollutants.

The Bay Area Air Basin is currently designated as nonattainment for several state and national ambient air quality standards shown below.

Standard	2019 State Status ⁷	2018 Federal Status
Ozone 8-Hour	Nonattainment	Nonattainment
Ozone 1-Hour	N/A	N/A
PM2.5	Nonattainment	Nonattainment
PM10	Nonattainment	Unclassified
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	N/A
Lead	Attainment	Unclassified/Attainment
Hydrogen Sulfide	Unclassified	N/A
Visibility Reducing Particles	Unclassified	N/A

The BAAQMD provides useful guidance in assessing the project's potential impacts on attainment status. The BAAQMD's 2017 Air Quality Guidelines⁸ establish recommended thresholds of significance for criteria pollutants for project construction and operation for CEQA analysis. The Air Quality Guidelines do not provide screening levels for this type of infrastructure project, so it is necessary to conduct an analysis using the Road Construction Emissions Model (RoadMod), Version 8.1.0, per Air Quality Guidelines recommendations for linear pipeline projects.

The BAAQMD's thresholds are presented below with a comparison to modeled project construction-related emissions generated utilizing the RoadMod model. Emissions shown below assume non mitigated emissions with an approximately five-month construction period.

BAAQMD Thresholds of Significance		Project Emissions
Criteria Air Pollutants & Precursors	Construction-related Average Daily Emissions (lb/day)	RoadMod Construction Emission Estimates (lb/day)
Reactive Organic Gases (ROG)	54	2.02
Nitrous Oxides (NOx)	54	18.82
Particulate Matter (PM10)	82 (exhaust only)	0.20
Particulate Matter (PM2.5)	54 (exhaust only)	0.04

As shown in the table above, the project's construction-related emissions are modeled to be lower than the BAAQMD's thresholds of significance. Based on the above, emissions associated with project

⁷ <http://www.arb.ca.gov/desig/adm/adm.htm>

⁸ *California Environmental Quality Act Air Quality Guidelines*. Bay Area Air Quality Management District. May 2017.

construction are less than significant. Project operational emissions would be essentially unchanged due to the replacement and energy neutral nature of the project.

Construction activities associated with the project have the potential to create localized short-term dust impacts, PM10 and PM2.5. Mitigation Measure AQ1 includes feasible control measures and reduces such impacts to a less than significant level, as recommended by the BAAQMD's Basic Construction Mitigation Measures.

c. Would the project expose sensitive receptors to substantial pollutant concentrations?

As a wastewater infrastructure replacement project for an existing trunk sewer line, operation of the project would not alter air quality in any appreciable way. During the construction phase of the project, generation of dust and equipment exhaust can be expected to increase. A portion of this dust would contain PM10 and PM2.5, which are criteria air pollutants regulated at both the federal and state levels. Diesel particulate matter would be emitted by construction equipment and trucks. Equipment operation and trucks also emit nitrogen oxides during construction that contribute to regional ozone levels.

Although demolition, grading, and construction activities would be temporary, they could have the potential to cause both nuisance and health air quality impacts. PM10 and PM2.5 are the pollutants of greatest concern associated with dust and the BAAQMD is designated as nonattainment for both. If uncontrolled, PM10 and PM2.5 levels downwind of the construction area could possibly exceed state standards. Construction activities in the project area could impact residents adjacent to the project. To mitigate air quality impacts associated with exposing sensitive receptors to substantial pollutant concentrations to less than significant levels, Mitigation Measure AQ1 shall be implemented.

d. Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people??

The project would not create objectionable odors or other emissions above regulatory thresholds. The project includes replacement of an existing segment of sewer main and does not currently produce odors. Properly constructed, operated and maintained wastewater collection systems do not result in odors that adversely affect substantial numbers of people.

Cumulative Impacts

There are no adverse cumulative environmental impacts to air quality resulting from implementation of the proposed project.

Mitigation Measures

AQ1

The following Feasible Control Measures, as described by the Bay Area Air Quality Management District, shall be implemented during construction to minimize fugitive dust and emissions:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day or be covered.

- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed or stabilized as soon as possible. Building slabs shall be poured as soon as possible after grading unless seeding or soil binders are used to stabilize the pad.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BBAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

IV BIOLOGICAL RESOURCES

Sol Ecology, Inc. prepared a biological resources report for the project⁹. The purpose of the biological assessment is to review the project in sufficient detail to determine to what extent the proposed action may affect any endangered or threatened species or designated critical habitats and to gather information necessary to complete a review of potential biological resource impacts from development of the proposed project, under CEQA. The Sol Ecology report describes the results of the site survey and assessment of the project site for the presence of sensitive biological resources protected by local, state, and federal laws and regulations. Excerpts of the report are contained in this section.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project 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 Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?	☐	☒	☐	☐
b. Would the project 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 Wildlife or US Fish and Wildlife Service?	☐	☒	☐	☐
c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d. Would the project 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?	☐	☒	☐	☐
e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☒	☒	☐

⁹ *Biological Resources Report, South Fulton Road Trunk Sewer Replacement Project, Santa Rosa, Sonoma County, CA.* Sol Ecology. August 27, 2020.

Overview

On April 22, May 20, and July 23, 2020 Sol Ecology, Inc. (Sol Ecology) performed biological resource surveys at South Fulton Road Trunk Sewer Replacement Project in Santa Rosa, Sonoma County, California. The biological report was prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (ESA) 50 CFR 402; 16 U.S.C. 1536 (c) and follows the standards established in the National Environmental Policy Act (NEPA) guidance and ESA guidance provided by the United States Fish and Wildlife Service (USFWS) and National Oceanic Atmospheric Administration/National Marine Fisheries Service (NOAA/NMFS or NMFS). Information necessary to complete a review of potential biological resource effects from the proposed project under the CEQA guidelines was also provided.

The report describes the results of the site survey and assessment of the project site for the presence of sensitive biological resources protected by local, state, and federal laws and regulations. The report also contains an evaluation of potential effects to sensitive biological resources that may occur from the proposed project and potential mitigation measures to compensate for those effects.

Regulatory Background

The following sections explain the regulatory context of the biological assessment, including applicable laws and regulations that were applied to the field investigations and analysis of potential project impacts.

SENSITIVE BIOLOGICAL COMMUNITIES

Sensitive biological communities include habitats that fulfill special functions or have special values, such as wetlands, streams, or riparian habitat. These habitats are protected under federal regulations such as the Clean Water Act; state regulations such as the Porter-Cologne Act, the California Department of Fish and Wildlife (CDFW) Streambed Alteration Program, and CEQA; or local ordinances or policies such as city or county tree ordinances, Special Habitat Management Areas, and General Plan Elements.

Water of the US

The U.S. Army Corps of Engineers (USACE) regulates “Waters of the United States” under Section 404 of the Clean Water Act. Waters of the U.S. are defined in the Code of Federal Regulations (CFR) as waters susceptible to use in commerce, including interstate waters and wetlands, all other waters (intrastate waterbodies, including wetlands), and their tributaries (33 CFR 328.3).

Potential wetland areas, according to the three criteria used to delineate wetlands as defined in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987), are identified by the presence of (1) hydrophytic vegetation, (2) hydric soils, and (3) wetland hydrology. Areas that are inundated at a sufficient depth and for a sufficient duration to exclude growth of hydrophytic vegetation are subject to Section 404 jurisdiction as “other waters” and are often characterized by an ordinary high water mark (OHWM). Other waters, for example, generally include lakes, rivers, and streams. The placement of fill material into Waters of the U.S generally requires an individual or nationwide permit from the USACE under Section 404 of the Clean Water Act.

Waters of the State

The term “Waters of the State” is defined by the State of California’s Porter-Cologne Water Quality Control Act as “any surface water or groundwater, including saline waters, within the boundaries of the state.” The Regional Water Quality Control Board (RWQCB) protects all waters in its regulatory scope and has special responsibility for wetlands, riparian areas, and headwaters. These waterbodies have high resource value, are vulnerable to filling, and are not systematically protected by other programs. RWQCB jurisdiction includes “isolated” wetlands and waters that may not be regulated by the USACE under Section 404. Waters of the State are regulated by the RWQCB under the State Water Quality Certification Program which regulates discharges of fill and dredged material under Section 401 of the Clean Water Act and the Porter-Cologne Water Quality Control Act. Projects that require a USACE permit, or fall under other federal jurisdiction, and have the potential to impact Waters of the State, are required to comply with the terms of the Water Quality Certification determination. If a proposed project does not require a federal permit, but does involve dredge or fill activities that may result in a discharge to Waters of the State, the RWQCB has the option to regulate the dredge and fill activities under its state authority in the form of Waste Discharge Requirements.

Streams, Lakes, and Riparian Habitat

Streams and lakes, as habitat for fish and wildlife species, are subject to jurisdiction by CDFW under Sections 1600-1616 of California Fish and Game Code. Alterations to or work within or adjacent to streambeds or lakes generally require a 1602 Lake and Streambed Alteration Agreement. The term “stream”, which includes creeks and rivers, is defined in the California Code of Regulations (CCR) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life [including] watercourses having a surface or subsurface flow that supports or has supported riparian vegetation” (14 CCR 1.72). In addition, the term “stream” can include ephemeral streams, dry washes, watercourses with subsurface flows, canals, aqueducts, irrigation ditches, and other means of water conveyance if they support aquatic life, riparian vegetation, or stream-dependent terrestrial wildlife. “Riparian” is defined as “on, or pertaining to, the banks of a stream.” Riparian vegetation is defined as “vegetation which occurs in and/or adjacent to a stream and is dependent on, and occurs because of, the stream itself”. Removal of riparian vegetation also requires a Section 1602 Lake and Streambed Alteration Agreement from CDFW.

Other Sensitive Biological Communities

Other sensitive biological communities not discussed above include habitats that fulfill special functions or have special values. Natural communities considered sensitive are those identified in local or regional plans, policies, regulations, or by CDFW. CDFW ranks sensitive communities as “threatened” or “very threatened” and keeps records of their occurrences in its California Natural Diversity Database. Sensitive plant communities are also identified by CDFW. CNDDDB vegetation alliances are ranked 1 through 5 based on NatureServe’s (2010) methodology, with those alliances ranked globally (G) or statewide (S) as 1 through 3 considered sensitive. Impacts to sensitive natural communities identified in local or regional plans, policies, or regulations or those identified by the CDFW or U.S. Fish and Wildlife Service (USFWS) must also be considered and evaluated under CEQA (CCR Title 14, Div. 6, Chap. 3, Appendix G). Specific habitats may also be identified as sensitive in city or county general plans or ordinances.

RELEVANT LOCAL POLICIES, ORDINANCES, REGULATIONS

Chapter 17-24, “Trees” of the Santa Rosa City Code (Tree Ordinance) regulates the protection of certain trees on public and private properties within the City limits. The Tree Ordinance defines a “heritage tree” as:

- valley oak (*Quercus lobata*), blue oak (*Q. douglasii*), or buckeye (*Aesculus californica*) 19 inches circumference at breast height (measured at 4.5 feet above ground; or 6 inches diameter at breast height [DBH]) or greater;
- Pacific madrone (*Arbutus menziesii*) 38 inches circumference (12 inches DBH) or greater;
- coast live oak (*Quercus agrifolia*), black oak (*Q. kelloggii*), Oregon oak (*Q. garryana*), canyon live oak (*Q. chrysolepis*), interior live oak (*Q. wislizenii*), red alder (*Alnus rubra* [A. oregona]), or white alder (*A. rhombifolia*) 57 inches circumference (18 inches DBH) or greater; or
- Coast redwood (*Sequoia sempervirens*), California bay (*Umbellularia californica*), Douglas fir (*Pseudotsuga menziesii*), or big-leaf maple (*Acer macrophyllum*) 75 inches circumference (24 inches DBH) or greater.

A Tree Permit is generally required for the removal, alteration or relocation of any “heritage tree”, “protected tree” (i.e. any tree, including a heritage tree, designated to be preserved on an approved development plan or as a condition of approval of a tentative map, a tentative parcel map, or other development approval issued by the City), or “street tree” (i.e. any tree having a single trunk circumference greater than 6.25 inches or a diameter greater than 2 inches, a height of more than six feet, and one half or more of its trunk is within a public right of way or within 5 feet of the paved portion of a City street or a public sidewalk), except as exempted in Section 17-24.030 of the Tree Ordinance.

METHODS

On April 22, May 20, and July 23 2020, the project site was traversed on foot to determine the presence of (1) plant communities both sensitive and non-sensitive, (2) special status plant and wildlife species, and (3) presence of essential habitat elements for any special status plant or wildlife species.

LITERATURE REVIEW

To evaluate whether special status species or other sensitive biological resources could occur in the project site and vicinity, Sol Ecology biologists reviewed the following:

- California Native Plant Society’s (CNPS’s) Inventory of Rare and Endangered Plants of California search for U.S. Geological Survey (USGS) 7.5-minute Sebastopol quadrangle and eight adjacent quadrangles (CNPS 2020a);
- California Natural Diversity Database (CNDDB) records search for USGS 7.5-minute Sebastopol quadrangle and eight adjacent quadrangles (California Department of Fish and Wildlife [CDFW] 2020);
- U.S. Fish and Wildlife Service (USFWS) list of threatened and endangered species for the project site (USFWS 2020a);
- CDFG publication “California’s Wildlife, Volumes I-III” (Zeiner et al. 1990);

- CDFG publication California Bird Species of Special Concern (Shuford and Gardali 2008);
- CDFW and University of California Press publication California Amphibian and Reptile Species of Special Concern (Thomson et al. 2016); and
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS), Web Soil Survey (USDA 2019).

Based on information from the above sources, Sol Ecology developed lists of special status species and sensitive natural communities that could be present in the project vicinity. Figures IV-1 and IV-2 present the results of a 5-mile CNDDDB record search around the study area for special status plants and wildlife.

FIELD SURVEYS

Sol Ecology biologists conducted biological resource surveys on April 22, May 20, and July 23, 2020. Biologists walked through accessible portions of the project site identifying all plant and wildlife species encountered and mapping vegetation communities. Plant species were recorded and identified to a taxonomic level sufficient to determine rarity using the second edition of the *Jepson Manual* (Baldwin et al. 2012). All plant species observed in the study area were recorded. Vegetation communities were identified using the online version of *A Manual of California Vegetation* (CNPS 2020b). Dispersal habitat, foraging habitat, refugia or estivation habitat, and breeding (or nesting habitat) were noted for wildlife species.

Focused aquatic surveys were also performed in accordance with regulatory protocols for fish and wildlife species including steelhead, California red-legged frog, and foothill yellow-legged frog (previously a state candidate for listing, now special status). Full protocol-level surveys for California red-legged frog were not performed given the absence of occurrences in Santa Rosa Creek despite numerous surveys, and in the surrounding vicinity within one mile of the project area.

In cases where little information is known about species occurrences and habitat requirements, the species evaluation was based on best professional judgment of Sol Ecology biologists with experience working with the species and habitats. If a special status species was observed during the site visit, its presence was recorded and discussed. For some threatened and endangered species, a site survey at the level conducted for this report may not be sufficient to determine presence or absence of a species to the specifications of regulatory agencies.

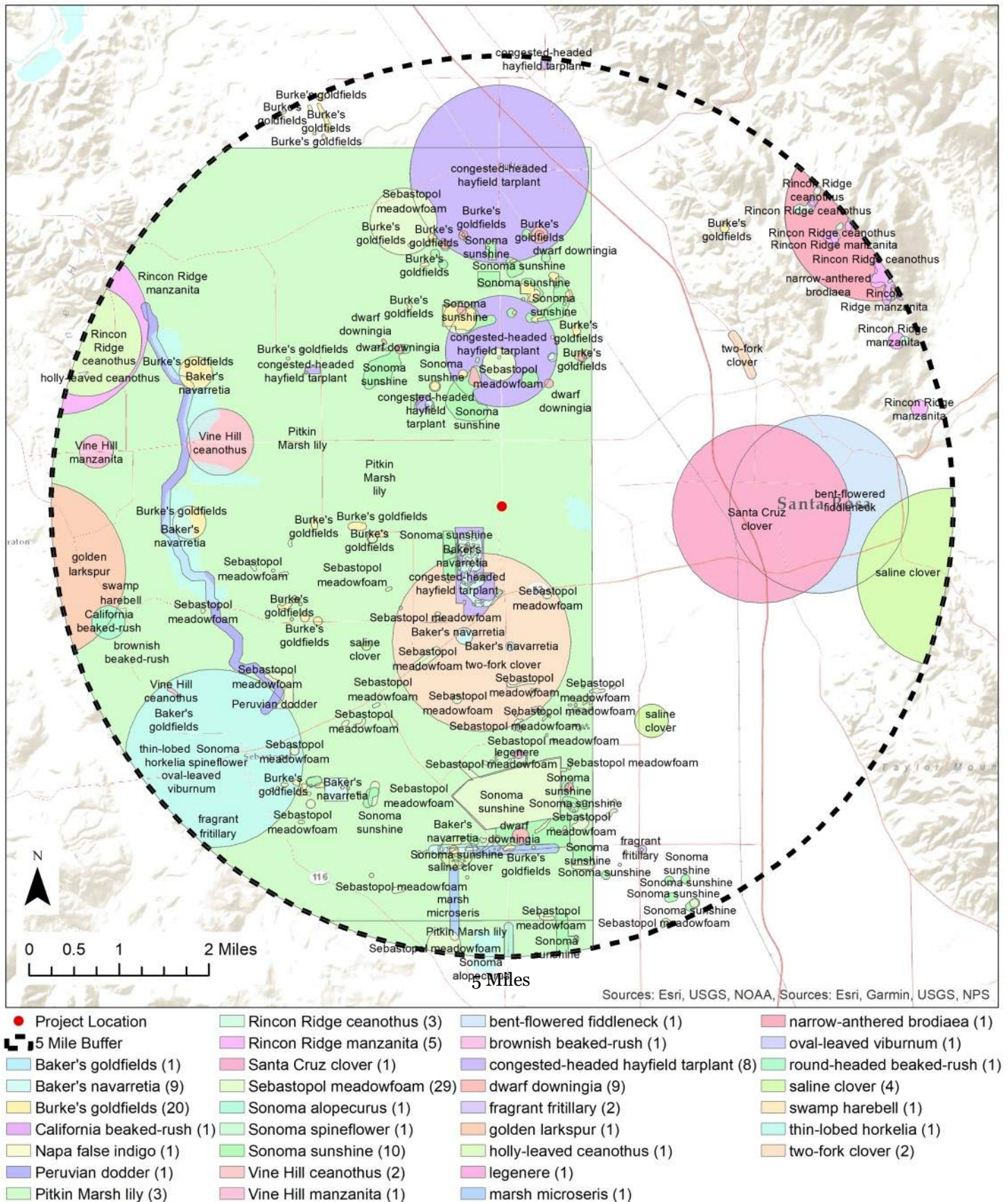
Biological Communities Present

NON-SENSITIVE NATURAL COMMUNITIES

Developed and Disturbed Areas

Developed and disturbed areas within the project site consist of Fulton Road, the Fulton Road bridge, Santa Rosa Creek Trail, adjacent suburban housing, and associated landscaping. Developed and disturbed areas are not considered sensitive vegetation communities.

Figure IV-1: **Special Status Plant Species within 1 Mile and 5 Miles of the Project Site**
 South Fulton Road Trunk Sewer Replacement Project, Santa Rosa, CA



[illegible]

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Arroyo Willow Shrubland Alliance

Rank: S4, G4. Arroyo willow (*Salix lasiolepis*) Shrubland Alliance occurs along Santa Rosa Creek. Arroyo willow is the dominant species within the canopy. Other vegetation observed in the canopy include big-leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), Fremont cottonwood (*Populus fremontii* subsp. *fremontii*), and Oregon ash (*Fraxinus latifolia*). Cattail (*Typha* sp.), Himalayan blackberry (*Rubus armeniacus*), rush (*Juncus* sp.), water cress (*Nasturtium officinale*), and western poison oak (*Toxicodendron diversilobum*) were also observed in the riparian corridor. Arroyo willow Shrubland Alliance is not considered a sensitive vegetation community.

SENSITIVE NATURAL COMMUNITIES

Santa Rosa Creek

Santa Rosa Creek is a non-wetland water of the United States. Santa Rosa Creek drains to the Laguna de Santa Rosa. The Laguna de Santa Rosa flows toward Mark West Creek. Mark West Creek drains to the Russian River, a traditional navigable water. The Russian River ultimately flows to the Pacific Ocean.

SPECIAL-STATUS SPECIES

Special status species include those plants and wildlife species that have been formally listed, are proposed as endangered or threatened, or are candidates for such listing under the Federal Endangered Species Act (ESA) or California Endangered Species Act (CESA). These acts afford protection to both listed species and those that are formal candidates for listing. Plant species on the California Native Plant Society (CNPS) Rare and Endangered Plant Inventory with California Rare Plant Ranks of 1 and 2 are also considered special status plant species and must be considered under CEQA.

Analysis

- a. **Would the project 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 Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS)?**

Results of Sol Ecology's biological assessment specific to special-status species are contained below.

Special Status Plants

Based upon a review of the resources and databases, 32 special status plant species have been documented within five miles of the project site. Two (2) special status plant species, including Sonoma alopecurus (*Alopecurus aequalis* var. *sonomensis*) and western leatherwood (*Dirca occidentalis*), are documented in the region and can be found in riparian scrub and riparian forest. However, the potential for these two special status plant species to occur within the project site is low. The occurrences of Sonoma alopecurus within the 9-quad CNDDDB database search are associated with freshwater marsh habitat. There is only one occurrence of western leatherwood within the 9-quad search and that occurrence is

found in mixed evergreen forest, in the fog belt. Neither species was observed during any of the site surveys which corresponded with the blooming window for Sonoma alopecurus and during a period in which western leatherwood was identifiable. Therefore, it is unlikely that Sonoma alopecurus and western leatherwood occur on the project site and are not likely to be affected by the proposed project. These two species are described below.

Special Status Plants with Potential to Occur within the project site.			
Scientific Name/ Common Name	Status ¹	Habitat	Blooming Period
<i>Alopecurus aequalis</i> var. <i>sonomensis</i> Sonoma alopecurus	FE, 1B.1	Marshes and swamps (freshwater), riparian scrub. 5-365 m	May-Jul
<i>Dirca occidentalis</i> western leatherwood	1B.2	Mesic; broadleaved upland forest, closed- cone coniferous forest, chaparral, cismontane woodland, North Coast coniferous forest, riparian forest, and riparian woodland. 25-425 m	Jan-Mar(Apr)

¹ FE – Federally Endangered California Rare

Plant Rank

1B – Plants rare, threatened, or endangered in California and elsewhere.

2B – Plants rare, threatened, or endangered in California but more common elsewhere.

1.1– Seriously threatened in California

1.2– Moderately threatened in California

1.3– Not very threatened in California

Other special status plant species documented in the area are unlikely or have no potential to occur on the project site for one or more of the following reasons:

- Hydrologic conditions (e.g. marsh habitat, seeps, pond habitat) necessary to support the special status plants do not exist on site;
- Edaphic (soil) conditions (e.g. volcanic, rocky, or sandy soils) necessary to support the special status plants do not exist on site;
- Topographic conditions (e.g. slopes) necessary to support the special status plants do not exist on site;
- Unique pH conditions (e.g. serpentine) necessary to support the special status plant species are not present on the project site; and
- Associated vegetation communities (e.g. coastal bluff scrub, coastal dunes, coastal prairie, chaparral, cismontane woodland) necessary to support the special status plants do not exist on site.

Northern California black walnut (*Juglans hindsii*) was observed within the project site. Northern California black walnut is listed as California Rare Plant Rank 1B.1, meaning it is seriously threatened in California. However, CNPS defines a Northern California black walnut tree as a California native rare plant only if it germinated prior to 1840 because walnut trees hybridize easily by wind pollination and many Northern California black walnut trees observed are hybrids with English walnut (*Juglans regia*). Only DNA testing can tell for sure if walnuts are hybridized or genetically pure (The Native Northern California Black Walnut Conservation Partnership 2020). The Northern California black walnut trees observed on site are not likely to have germinated prior to 1840 and therefore, are likely hybrid walnut trees.

Potential Impacts to Special Status Plants

Two special status plant species, Sonoma alopecurus and western leatherwood, have a low potential for occurrence within the project site. Neither species was observed during the April, May, or July 2020 site visits. Effects to special status plant species is less than significant given the low potential for occurrence and that no species were observed during site visits.

Special Status Wildlife

In addition to wildlife listed as federal or state endangered and/or threatened, federal and state candidate species, CDFW Species of Special Concern, CDFW California Fully Protected species, USFWS Birds of Conservation Concern, and CDFW Special Status Invertebrates are all considered special status species. Although these species generally have no special legal status, they are given special consideration under CEQA. The federal Bald and Golden Eagle Protection Act also provides broad protections to both eagle species that are roughly analogous to those of listed species. Bat species are also evaluated for conservation status by the Western Bat Working Group (WBWG), a non-governmental entity; bats named as a “High Priority” or “Medium Priority” species for conservation by the WBWG are typically considered special status and also considered under CEQA; bat roosts are protected under CDFW Fish and Game Code. In addition to regulations for special status species, most native birds in the United States (including non-status species) are protected by the federal Migratory Bird Treaty Act of 1918 (MBTA) and the California Fish and Game Code (CFG), i.e., sections 3503, 3503.5 and 3513. Under these laws, deliberately destroying active bird nests, eggs, and/or young is illegal.

Fourteen special status wildlife species have been documented within five miles of the project site. Based on the presence of biological communities described above, the project site has the potential to support five of these species, plus an additional special status bird known to occur in Sonoma County (Shuford and Gardali 2008). Species with potential to occur in the project area are described in more detail below.

Special Status Animals with Potential to Occur within the Project Site			
Species	Status*	Habitat	Comments
western red bat <i>Lasiurus blossevillei</i>	SSC, WBWG High	Highly migratory and typically solitary, roosting primarily in the foliage of trees or shrubs, usually in broad-leaved trees including cottonwoods, sycamores, alders, and maples. Day roosts are commonly in edge habitats adjacent to streams or open fields, sometimes in	May solitary day or night roost in riparian habitat within the project area. Fulton Bridge does not provide suitable roost habitat.
yellow-breasted chat <i>Icteria virens</i>	SSC	Summer resident, occurring in riparian areas with an open canopy, very dense understory, and trees for song perches. Nests in thickets of willow, blackberry, and wild grape.	May nest in riparian habitats within the project area. This species was not observed or heard during protocol-level surveys for fish and frogs.

foothill yellow-legged frog <i>Rana boylei</i>	SSC (North coast clade)	Found in or near rocky streams in a variety of habitats. Prefers partly shaded, shallow streams and riffles with a rocky substrate; requires at least some cobble-sized substrate for egg-laying. Needs at least 15 weeks to attain metamorphosis.	Possible summer resident. High flows, deep pools, and lack of smaller cobbles may preclude egg laying in this section of Santa Rosa Creek. Not observed during focused aquatic surveys on May 20, 2020 performed in accordance with CDFW protocol survey methodology.
Western pond turtle <i>Actinemys marmorata</i>	SSC	A thoroughly aquatic turtle of ponds, marshes, rivers, streams, and irrigation ditches with aquatic vegetation. Require basking sites such as partially submerged logs, vegetation mats, or open mud banks, and suitable upland habitat (sandy banks or grassy open fields) for egg-laying.	Documented in Santa Rosa Creek. Basking sites are present in the project area. Open sandy and/or grassy banks are not present for egg-laying. Not observed during aquatic surveys, though a non-native red-eared slider was observed upstream of the project area.
Steelhead — Central CA coast DPS <i>Oncorhynchus mykiss irideus</i>	FT	Occurs from the Russian River south to Soquel Creek and Pajaro River and in San Francisco and San Pablo Bay Basins. Adults migrate upstream to spawn in cool, clear, well-oxygenated streams. Juveniles remain in fresh water for one or more years before migrating downstream to the ocean.	Juvenile steelhead were observed in a pool upstream of the Fulton Bridge in April 2020. Not observed in subsequent visits in May or July. Steelhead have been observed historically in Santa Rosa Creek and are presumed extant on site and the site is within designated critical habitat for this species.
Coho salmon - central CA coast ESU <i>Oncorhynchus kisutch</i>	FE, SE	Federal listing includes populations between Punta Gorda and San Lorenzo River. State listing includes populations south of San Francisco Bay only. Occurs inland and in coastal marine waters. Requires beds of loose, silt-free, coarse gravel for spawning. Also needs cover, cool water and sufficient dissolved oxygen.	Coho salmon have not been observed in Santa Rosa Creek despite numerous surveys. The site is within designated critical habitat. Suitable habitat is not present in the project area.

Because steelhead are listed as federally threatened and Coho are listed as federally endangered and state endangered, they are further described below.

Status and Accounts of Steelhead in the Action Area

Steelhead - Central California Coast DPS (*Oncorhynchus mykiss irideus*), Federal Threatened. The Central California Coast Distinct Population Segment of Steelhead includes all naturally spawned populations of steelhead (and their progeny) in California streams from the Russian River to Aptos Creek, and the drainages of San Francisco and San Pablo Bays eastward to the Napa River (inclusive), excluding the Sacramento-San Joaquin River Basin.

The life history patterns for steelhead are both highly variable and flexible (Moyle 2002). While similar to most Pacific Salmonids (*Oncorhynchus sp.*) in their anadromous life history, steelhead exhibit a greater variation in timing for each component of their life history (NMFS 2007). Steelhead typically migrate to

marine waters after spending two years in freshwater, though they may stay up to seven. They then reside in marine waters for two or three years prior to returning to their natal stream to spawn as four or five-year-olds.

Steelhead adults typically return to their natal streams to spawn between December and June. Unlike other Pacific salmonids, steelhead are iteroparous, meaning adults do not always die after spawning (NMFS 2007). Spawning redds or nests usually are found in pool tail-outs or riffles, where water velocities range from 20 to 155 centimeters/second and at depths of 10 to 150 centimeters (Moyle 2002). Juvenile steelhead prefer to rear in eddies and along velocity breaks where they can exert minimal energy while foraging. Instream cover such as large woody debris and undercut banks in deep pools, along with sufficient riparian cover form important rearing habitat (USFWS 1986). Abundant riffle areas (shallow areas with gravel or cobble substrate) for spawning and deeper pools with sufficient riparian cover for rearing are necessary for successful breeding.

The primary driving factor identified in the decline of CCC Steelhead is the loss and degradation of natural habitat and flow conditions (NMFS 2007). Factors contributing to this include urbanization, changes in watershed drainage, agriculture, forestry, channel realignment, water withdrawal, diversions, and fish passage barriers.

Steelhead Habitat Assessment

The project area is located in an area of riprap downstream of a large pool at the upstream base of the bridge. Underlying substrate in the project area consists primarily of riprap with sediment deposits. Little to no floodplain is present. This area does not provide suitable spawning substrate nor rearing habitat due to lack of instream cover and/or available cobble substrate. Steelhead may forage or disperse through this area, particularly immediately downstream of the bridge where a small island is present creating a bifurcating channel just below the project area. However, more suitable habitat is present further downstream.

Status and Accounts of Coho Salmon in the Action Area

Coho Salmon - Southern Oregon/Northern California ESU (*Oncorhynchus kisutch*) Federal Threatened, State Threatened, CDFW Species of Special Concern. Coho salmon occurs in coastal streams from Cape Blanco, Oregon, through Punta Gorda, California. Adult coho salmon enter fresh water from September through January in order to spawn. Spawning habitat typically occurs in swift freshwater streams with medium to small gravel substrate, high dissolved oxygen levels, and cool to cold water temperatures (12-14°C). Water temperatures exceeding 22-25°C for extended periods are lethal. Rearing habitat consists of deeper, slower-moving freshwater with sufficient dissolved oxygen and riparian cover. Juveniles may remain in coastal streams for over a year before migrating to the Pacific Ocean to forage and mature.

Coho Salmon Habitat Assessment

No suitable spawning habitat is present in or immediately up or downstream of the project area due to the presence of riprap and absence of small gravel substrate. Furthermore, limited rearing habitat is present due to the absence of instream cover or complexity. Coho salmon have not been documented in Santa Rosa Creek despite numerous surveys, and therefore is not likely to be present in the project area during proposed activities.

The remaining species found in the review of background literature were determined to be unlikely to occur due to absence of suitable habitat elements in and immediately adjacent to the project site. Habitat elements that were evaluated but found to be absent from the immediate area of the project site or surrounding habitats subject to potential indirect effects include the following:

- No suitable burrows on or adjacent to the project site (e.g. for burrowing owl or American badger);
- No coniferous forest, seasonal wetlands, freshwater marsh, oak woodland, or annual grassland communities are present;
- No suitable roosting habitat such as barns, old buildings, or large snags (e.g. for Townsend's big-eared bat or other colonial species).

Potential Impacts to Special Status Animals

The proposed project has the potential to affect six special status wildlife species if present during proposed activities, including: western red bat, yellow-breasted chat, foothill yellow-legged frog, western pond turtle, steelhead, and Coho salmon. Coho salmon is not likely to be present during activities; nonetheless measures provided to avoid or minimize impacts to steelhead will mitigate any potential effects to Coho salmon to a less than significant level. Potentially significant effects to special status wildlife are described below along with measures to ensure potential effects are mitigated to a less than significant level.

Western red bat: Tree removal may have the potential to impact non-maternity roosting western red bat, as well as other common bat species that may be present. Mitigation Measure BIO1 is included to reduce the potential for impact to bats to less than significant.

Yellow-breasted chat and other migratory bird species: Migratory nesting birds protected under the MBTA, including yellow-breasted chat in riparian habitats, may potentially be significantly affected by the proposed project if activities occur during the nesting season February 1 through August 31, resulting in nest abandonment or mortality to chicks or eggs during vegetation removal. Mitigation Measure BIO2 includes preconstruction nesting bird surveys to reduce such the potential for impact to less than significant.

Foothill yellow-legged frog and Western pond turtle: Mortality to special status aquatic wildlife during the course of activities would be considered significant under CEQA. Additionally, placement of temporary cofferdams and dewatering may temporarily impact dispersing animals which would also be considered a significant impact. Mitigation Measure BIO3 is included to provide training to construction workers to reduce the potential impact to less than significant.

Steelhead and Coho salmon: Approximately 0.03 acre of habitat for listed fish species would be temporarily disturbed through coffer dam installation, dewatering, and trench work. These activities, along with fish relocation may result in harassment and/or mortality to listed fish species if present which is considered significant under CEQA.

Given the existing baseline, no new permanent effects to steelhead or Coho salmon habitat are anticipated as a result of the proposed action. Existing riprap would be removed to facilitate access to the sewer line. All trenches would be backfilled, and riprap replaced resulting in only temporary effects

to this area. Dewatering would take place from August 1 to November 30 during the preferred work window when steelhead and Coho are unlikely to be present, to avoid direct take, and/or interruption of foraging, rearing, and migration activities. Water barriers (coffer dams) would be installed during low flow conditions to allow fish to egress from the work area. Bypass flows are anticipated to be gravity flow. Screens would be placed around all pumps to prevent uptake of fish species if pumping is required. A qualified fish biologist would clear fish from the work area using electrofishing or pulling appropriately sized nest through the work area to scare fish into adjacent stream reaches. Block nets would be placed upstream and downstream to prevent fish from re-entering the area after removal. Block net mesh shall be sized appropriately and would remain in place until dewatering is completed.

All fish remaining would be relocated using dip nets and/or seines to capture fish by a qualified fish biologist. Because electrofishing and relocation of fish may include steelhead if present, there is potential for incidental take to occur. However, given Coho salmon's likely absence from the project area, these activities are not likely to result in take to Coho.

To ensure the above measures are implemented, Mitigation Measure BIO4 is included and would reduce the potential impact to steelhead and Coho to less than significant. Additionally, as indicated in item b.) below, the project shall comply with permit terms associated with USACE (including NOAA Fisheries consultation), Regional Board and CDFW permits.

b. Would the project 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 Wildlife or US Fish and Wildlife Service?

Santa Rosa Creek is a non-wetland water of the U.S. and a tributary to the Russian River, a traditional navigable water (TNW). Santa Rosa Creek is subject to USACE jurisdiction due to its connection to a TNW and is also subject to Regional Board jurisdiction. In addition, activities that result in the substantial modification of the bed, bank, or channel of a stream or lake requires a Streambed Alteration Agreement from CDFW pursuant to Sections 1600-1607 of the California Fish and Game Code.

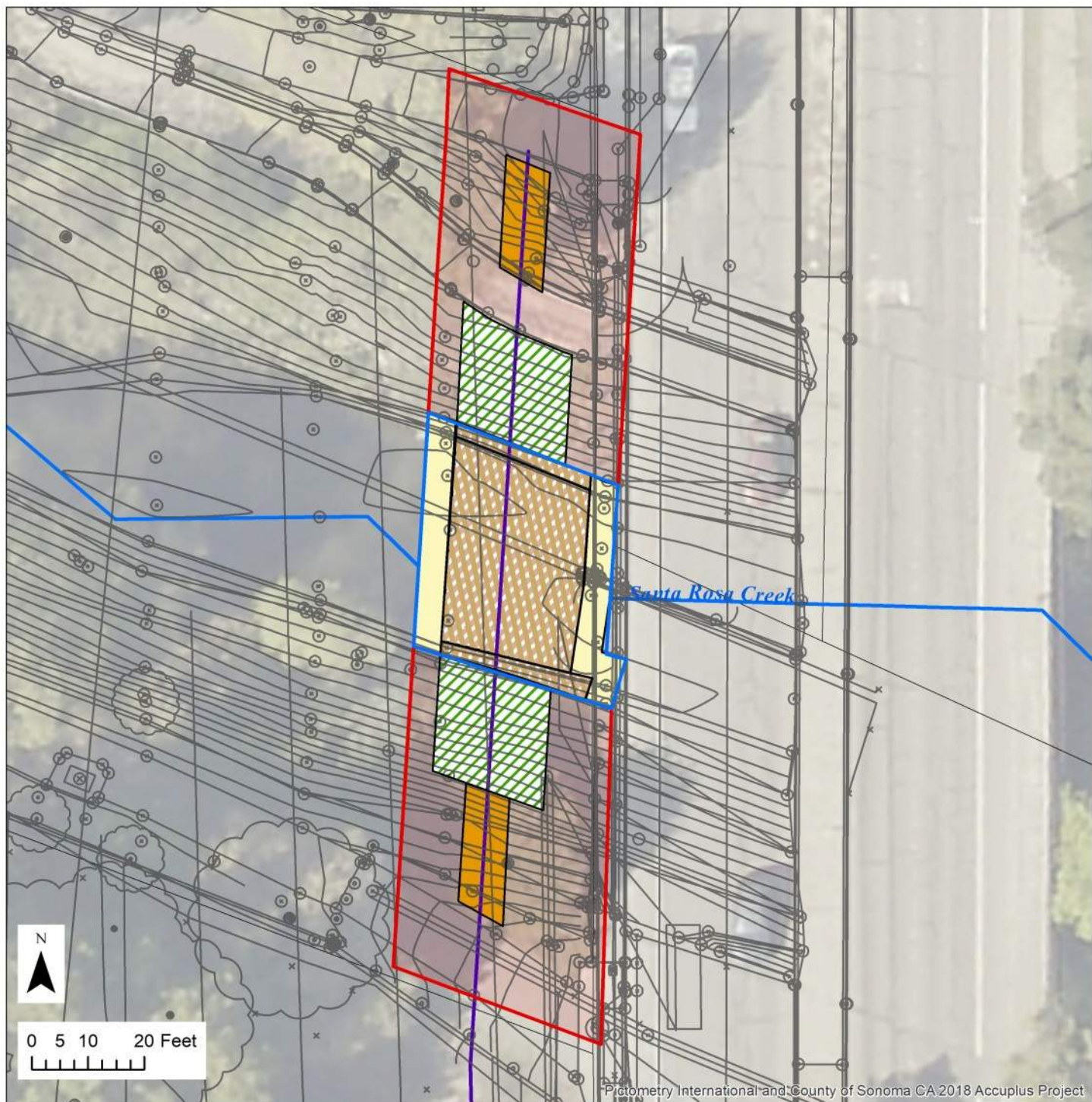
On streams, creeks and rivers, the extent of CDFW jurisdiction extends from the top of bank to top of bank or the outer limits of the riparian canopy, whichever is wider. As such, any effects to riparian vegetation (i.e. the Arroyo willow Shrubland Alliance) would likely to be significant unless mitigated through consultation with CDFW.

Proposed activities are subject to permit coverage by the USACE, Regional Board and CDFW. The City is in the process of preparing permit applications for the respective agencies and the project shall be constructed in accordance with permit terms.

Impacts within the Santa Rosa Creek channel are shown on Figure IV-3. A total of 0.1 acre of riparian habitat will be temporarily disturbed to facilitate access and construction. To reduce potential effects to riparian habitat to a less than significant level, the site will be restored following completion of the work as described in Mitigation Measure BIO5.

Figure IV-3: Sensitive Habitats

S Fulton Rd. Trunk Sewer Abandonment & Main Installation, Santa Rosa, CA



Riparian Impacts

- Temporary Riparian Impact (0.098 ac)
- Erosion Control Blanket and Live Staking (0.019 ac)
- Standard Trench Backfill (0.008 ac)

Stream Impacts

- Temporary Stream Impacts (0.033 ac)
- Cofferd Dam Area (0.01 ac)
- Riprap (0.023 ac)

- Elevation & Plan Drawings
- Pipeline
- Streams

In addition to impacts to riparian habitat, approximately 0.03 acre of stream channel would be temporarily impacted for placement of cofferdams, dewatering, and trench work. To ensure impacts are less than significant, Mitigation Measure BIO6 includes in-stream construction measures that shall be implemented and requires compliance with permit terms issued by USACE, Regional Board and CDFW.

- c. Would the project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

As indicated in b.) above, Santa Rosa Creek is a non-wetland water of the U.S. and a tributary to the Russian River, a traditional navigable water (TNW). Santa Rosa Creek is subject to USACE jurisdiction due to its connection to a TNW and is also subject to Regional Board and CDFW jurisdiction. While no wetlands will be impacted by the project, permit applications are being prepared and no construction shall occur until permits are issued.

- d. Would the project 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?**

As indicated in a.) above, Santa Rosa Creek supports steelhead and may support Coho salmon, both listed species. Temporary impacts to the species are described in addressed by Mitigation Measure BIO4. Long-term impacts to the species are not expected as the project is a replacement project and has been designed to restore the construction area to preconstruction conditions. Consultation with NOAA Fisheries will occur as part of the USACE permitting process and all permit conditions shall be implemented to ensure short- and long-term impacts to these species are minimized to the extent practicable.

- e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

The project does not conflict with the City's tree ordinance. Several landscape trees would be removed outside of the creek channel, including: one 17-inch sycamore, one 7-inch cypress; two 4-inch ornamentals; one 6-inch ornamental; one 7-inch ornamental; and, one 10-inch ornamental. There are four redwood trees near the proposed sewer main on the northwest end of the project. The trees are landscape trees and measure 12, 27, 28 and 24 inches in diameter. It is anticipated that the project can be constructed without removal of the trees. Any damage to the existing root system would be evaluated during construction to determine if a tree could not be preserved. Under the Tree Ordinance, trees, other than heritage trees, situated within City owned parks and other City-owned or controlled places do not require a tree removal permit when altered, removed, or relocated by City employees or by contractors retained by the City. Removal of the trees will not conflict with the City's tree ordinance.

Within the creek channel, two 7-inch oaks and one 15-inch oak would be removed on the south bank. As described in item b.) above, trees removed within the CDFW jurisdictional area will be mitigated, per Mitigation Measure BIO5.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

The project is within Essential Fish Habitat (EFH) for California central coast steelhead and Central California Coast Coho. EFH is regulated through the National Marine Fisheries Service (NMFS), a division of the National Oceanic and Atmospheric Administration (NOAA). Protection of EFH is mandated through changes implemented in 1996 to the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to protect the loss of habitat necessary to maintain sustainable fisheries in the United States. The Magnuson-Stevens Act defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” [16 USC 1802(10)]. NMFS further defines essential fish habitat as areas that “contain habitat essential to the long-term survival and health of our nation's fisheries” (NMFS 2007). EFH can include the water column, certain bottom types such as sandy or rocky bottoms, vegetation such as eelgrass or kelp, or structurally complex coral or oyster reefs. Under regulatory guidelines issued by NMFS, any federal agency that authorizes, funds, or undertakes action that may affect EFH is required to consult with NMFS (50 CFR 600.920).

The project location provides marginal rearing and foraging habitat for fish. An estimated total of 0.1 acre of critical habitat will be temporarily affected by the proposed project and restored upon completion. No permanent effects are anticipated, and work windows will be implemented to ensure no adverse effects to EFH occur. Mitigation Measures BIO4, BIO5 and BIO6 provides mitigation for construction-related impacts to these species.

Cumulative Impacts

There are no adverse cumulative environmental impacts to biological resources resulting from implementation of the proposed project.

Mitigation Measures

BIO1

To avoid impacts to roosting western red bats, any felled trees should be left overnight prior to removal from the site or on-site chipping to allow any bats to exit the roost.

BIO2

To avoid potential impacts to Yellow-breasted chat and other migratory bird species (nesting birds), to the extent practical, all construction activities should be performed between September 1 and January 31 to be outside the nesting season. If work must be performed during the nesting season (between February 1 and August 31), a pre-construction nesting bird survey shall be performed in all areas within 250 feet of proposed activities. If nests are found, an appropriately sized no-disturbance buffer shall be placed around the nest at the direction of the qualified biologist conducting the survey. Buffers shall remain in place until all young have fledged, or the biologist has confirmed that the nest has been naturally predated.

BIO3

To reduce potential harm to Foothill yellow-legged frog and Western pond turtle, the following measures shall be implemented:

- An environmental training shall be provided to all construction workers prior to the start of work. Training shall include a description of all biological resources that may be found on or near the project site, the laws and regulations that protect those resources, the consequences of non-compliance with those laws and regulations, instructions for inspecting equipment each morning prior to activities, and a contact person if protected biological resources are discovered in the project area.
- A pre-construction survey shall be conducted within 48 hours of ground disturbing activities for foothill yellow-legged frog and western pond turtle. If possible, the animal shall be allowed to leave the area on its own.
- A qualified biological monitor shall be present during riparian vegetation removal activities. If either species is found, the animal may be relocated to suitable habitat outside the project area by a CDFW-approved biologist.
- Trenches and holes shall be covered and inspected daily for stranded animals, to the extent possible. Trenches and holes deeper than one foot shall contain escape ramps at a maximum slope of 2:1 to allow trapped animals to escape.
- During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following maintenance activities, all trash and maintenance debris shall be removed from work areas.

BIO4

To protect steelhead and Coho salmon that may be present, the following measures shall be implemented:

- The *Fish Management Plan for South Fulton Trunk Sewer Replacement Project, City of Santa Rosa, California* prepared by Hagar Environmental Science, August 2020, shall be implemented.
- All dewatering will be conducted within the NOAA/NMFS work window of August 1 to November 30. Pumps used in the dewatering process will be fitted with screens not larger than 0.2 inch to prevent the impingement or entrainment of fish species. A qualified fisheries biologist will conduct fish salvage during dewatering operations. Salvaged fish will be relocated to suitable nearby habitat outside the Project Action Area.
- A spill prevention plan will be prepared describing measures to be taken to minimize the risk of fluids or other materials used during construction (e.g., oils, transmission and hydraulic fluids, cement, fuel) from entering streams or contaminating adjacent riparian areas. In addition to a spill prevention plan, a cleanup protocol will be developed before construction begins and will be implemented in case of a spill.

BIO5

The following measures shall be implemented to mitigate for the construction-related loss of riparian habitat:

- Planting shall within the Santa Rosa Creek channel shall be according to the *Riparian Restoration Plan, South Fulton Trunk Sewer Project, City of Santa Rosa*, prepared by Sol Ecology September 2020.
- Prepare re-vegetation and erosion control plans for all graded and disturbed areas to prevent sedimentation to the low flow channel.
- Protect and preserve all healthy native trees as per tree ordinance. When grading for hydraulic capacity requires removal, mitigate all tree removals with replacement of appropriate native species.
- Create a vegetation and tree protection plan. Orange construction fencing shall be placed around all existing riparian vegetation to avoid potential effects to this sensitive vegetation community during construction activities.
- Grading operations shall be confined to smallest work area possible for construction.

BIO6

The City shall comply with permit terms from USACE, Regional Board and CDFW. At a minimum, permit terms shall include in-stream construction methodologies contained in the *In-stream Construction Methodologies Memorandum* contained as Appendix A of the Initial Study.

V CULTURAL RESOURCES

Section 15064.5(a) of CEQA includes a broad definition of historical and archaeological resources as follows:

- (1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4850 et seq.).
- (2) A resource included in a local register of historical resources, as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- (3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:
 - (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - (B) Is associated with the lives of persons important in our past;
 - (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or,
 - (D) Has yielded, or may be likely to yield, information important in prehistory or history.
- (4) The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources (pursuant to section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1(j) or 5024.1.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☒	☐	☐
b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c. Would the project disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

Tom Origer & Associates prepared a Cultural Resources Assessment for the project in July 2020¹⁰. This section contains excerpts from the report.

Origer & Associates study was prepared in compliance with Section 106 of the National Historic Preservation Act, as required by the Federal Emergency Management Agency, and the California Environmental Quality Act. The purpose of the study was to identify resources that could be eligible for inclusion in the National Register of Historic Places, as outlined in 36 CFR 800, and to identify potential historical resources other than Tribal Cultural Resources. The study included archival research at the Northwest Information Center, Sonoma State University, examination of the library and files of Tom Origer & Associates, and field inspection of the Area of Potential Effect (APE).

Pursuant to Section 106 and the CEQA Guidelines, the goals of this study were to: 1) identify cultural resources within the project's APE; 2) provide an evaluation of the significance of identified resources; 3) determine resource vulnerability to adverse impacts that could arise from project activities; and 4) offer recommendations designed to protect cultural resource values, as warranted.

Environmental Setting

The APE is within the Santa Rosa Plain, a northwest-trending valley at the southern end of the Northern Coast Ranges. Twenty-two miles long and nine miles wide at its widest point, the Santa Rosa Plain was once a broad savannah cross-cut by seasonal streams that drained toward the area now known as the Laguna de Santa Rosa. Santa Rosa Creek and Mark West Creek, year-round tributaries to the Laguna, are the main westerly flowing streams on the plain. In addition to vast grasslands, plant communities include oak woodlands and vernal pools (Horton and Sears 2006).

The APE is located along Fulton Road and extends from the north side of Santa Rosa Creek to the southern end of the intersection of Fulton Road and West 3rd Street, Santa Rosa, Sonoma County, as shown on the Sebastopol 7.5' USGS topographic map (Figure 2). This part of Santa Rosa is largely comprised of residential subdivisions and occasional commercial complexes.

The APE consists of approximately five acres situated on generally level land with a percent slope of less than 1%. The northern part of the APE is bisected by Santa Rosa Creek which was channelized at some point between 1958 and the mid-1960s.

The geology of the APE consists of alluvial deposits that date to the Holocene (11,700 years ago to the present) (Delattre and Koehler 2008). As a point of note, naturally-occurring obsidian, known as "float," occurs in the vicinity of Santa Rosa, especially in the northwest portion (McLaughlin et al. 2003; personal communication Tom Origer and Vicki Beard 2020). Typically, float specimens are approximately five centimeters in diameter and smaller. Native Americans used obsidian for making tools, though typically float found in the Santa Rosa area is too small to be formed into tools.

¹⁰ *Cultural Resources Study for the South Fulton Road Trunk Sewer Abandonment and Collector Sewer Main Installation West 3rd Street to Santa Rosa Creek Santa Rosa, Sonoma County, California*. Tom Origer & Associates. July 20, 2020.

Soils within the APE belong to the Pajaro series (Miller 1972: Sheet 81). Pajaro soils consist of somewhat poorly draining, fine, sandy loams. Pajaro soils are typically found on alluvial flood plains and fans in valley areas. In a natural state, these soils support the growth of grasses, forbs, shrubs, and berry vines. Historically, parcels containing Pajaro soils were used for dryland pasture for cows and for growing hay (Miller 1972:65-66).

Prehistory

The concept of prehistory refers to the period of time before events were recorded in writing and vary worldwide. Because there is no written record, our understanding of California prehistory relies on archaeological materials and oral histories passed down through generations. Early archaeological research in this area began with the work of Max Uhle and Nels Nelson. Uhle is credited with the first scientific excavation in California with his work at the Emeryville Shellmound in 1902, and Nelson spent several years (1906 to 1908) surveying the San Francisco Bay margins and California coast for archaeological sites (Nelson 1909). In the 1930s, archaeologists from Sacramento Junior College and the University of California began piecing together a sequence of cultures primarily based on burial patterns and ornamental artifact from sites in the lower Sacramento Valley (Lillard et al. 1939; Heizer and Fenenga 1939). Their cultural sequence became known as the Central California Taxonomic System (CCTS), which identified three culture periods termed the Early, Middle, and Late Horizons, but without offering date ranges. Refinement of the CCTS became a chief concern of archaeologists as the century progressed with publications by Richard Beardsley (1948, 1954) and Clement Meighan (1955) based on materials excavated by the University of California archaeological survey.

In 1973, David Fredrickson synthesized prior work, and in combination with his own research, he developed a regional chronology that is used to this day, albeit modified for locality-specific circumstances. Fredrickson's scheme shows that native peoples have occupied the region for over 11,000 years (which is supported by Erlandson et al. 2007), and during that time, shifts took place in their social, political, and ideological regimes (Fredrickson 1973). While Fredrickson's chronology was adopted by many archaeologists, Beardsley's cultural sequence was adopted by others creating a roughly North Bay-South Bay division in usage.

In an effort to bridge the differences between chronologies, Milliken et al. (2007: Figure 8.4) presented a concordance for comparing time periods, cultural patterns, and local variations for the San Francisco Bay Area. Milliken included Dating Scheme D, as presented by Groza in 2002, which is a refinement of previous radiocarbon-based temporal sequences for the San Francisco Bay Area. More recently, Byrd, Whitaker, Mikkelsen, and Rosenthal (2017) called upon archaeologists to abandon previous temporal sequences in favor of Scheme D, further refined in Groza et al. 2011. Table 1 assimilates Scheme D, Fredrickson's (1973) chronology, and the obsidian hydration dating scheme from Origer (1987). Note that the Early, Middle, Late Horizon scheme is still evident though refinements have been made within those categories.

Early occupants appear to have had an economy based largely on hunting, with limited exchange, and social structures based on the extended family unit. Later, milling technology and an inferred acorn economy were introduced. This diversification of economy appears to be coeval with the development of sedentism and population growth and expansion. Sociopolitical complexity and status distinctions based on wealth are also observable in the archaeological record, as evidenced by an increased range and distribution of trade goods (e.g., shell beads, obsidian tool stone), which are possible indicators of both status and increasingly complex exchange systems.

These horizons or periods are marked by a transition from large projectile points and millingslabs, indicating a focus on hunting and gathering during the Early Period, to a marine focus during the Middle Period evidenced by the number of shellmounds in the Bay Area. The Middle Period also saw more reliance on acorns and the use of bowl-shaped mortars and pestles. Acorn exploitation increased during the Late Period and the bow and arrow were introduced.

Prehistoric archaeological site indicators expected to be found in the region include but are not limited to: obsidian and chert flakes and chipped stone tools; grinding and mashing implements such as slabs and hand-stones, and mortars and pestles; and locally darkened midden soils containing some of the previously listed items plus fragments of bone, shellfish, and fire-affected stones.

Ethnography

Linguists and ethnographers tracing the evolution of languages have found that most of the indigenous languages of the California region belong to one of five widespread North American language groups (the Hokan and Penutian phyla, and the Uto-Aztecan, Algic, and Athabaskan language families). The distribution and internal diversity of four of these groups suggest that their original centers of dispersal were outside, or peripheral to, the core territory of California, that is, the Central Valley, the Sierra Nevada, the Coast Range from Cape Mendocino to Point Conception, and the Southern California coast and islands. Only languages of the Hokan phylum can plausibly be traced back to populations inhabiting parts of this core region during the Archaic period, and there are hints of connections between certain branches of Hokan, such as that between Salinan and Seri, that suggest that at least some of the Hokan languages could have been brought into California by later immigrants, primarily from the Southwest and northwestern Mexico (Golla 2011).

At the time of European settlement, people inhabiting this area spoke Southern Pomo, one of seven mutually unintelligible Pomoan languages belonging to the Hokan language stock. The Southern Pomo's aboriginal territory falls within present-day Sonoma County. To the north, it reaches the divide between Rock Pile Creek and the Gualala River, and to the south, it extends to near the town of Cotati. The eastern boundary primarily runs along the western flanks of Sonoma Mountain until it reaches Healdsburg, where it crosses to the west side of the Russian River. Within the larger area that constitutes the Southern Pomo homelands, there were bands or tribelets that occupied distinct areas. Primary village sites of the Southern Pomo were occupied continually, while temporary sites were visited to procure resources that were especially abundant or available only during certain seasons. Sites often were situated near freshwater sources and in ecotones where plant life and animal life were diverse and abundant.

The Southern Pomo population was decimated early in the historic period, especially in the southern part of their territory. Ethnic identity was severely impacted in the region of Santa Rosa and Sebastopol; McLendon and Oswalt (1978: 279) reported that the few Southern Pomo speakers remaining in 1976 were from north of Healdsburg. For more information about the Pomo, see Bean and Theodoratus (1978), Kniffen (1939), and Stewart (1943).

History

Historically, the study is west of Santa Rosa, as originally platted. The town of Santa Rosa included the blocks between 1st and 5th streets and between present-day Morgan Street on the west and just beyond E Street to the east (Brewster 1854). Green's Addition was the first expansion of the town, moving the limits northward toward present-day Cherry Street. Outlying parcels varied in size, tending to increase in acreage as they got further from the town center.

With the end of World War II, Santa Rosa experienced a population boom, much like the rest of the nation. Census data show that the city had 12,605 people enumerated in 1940, and over the next ten years, the number rose to 17,902 (State of California Department of Finance 2011). By 1960, Santa Rosa boasted a population of just over 31,000 people, nearly tripling in size in just 20 years. To accommodate this growth, entire neighborhoods were erected in short order, and the outward movement of families to the suburbs, which had begun during the late nineteenth century, recommenced with due speed. Much of this growth was bolstered by benefits extended to returning service members and their families. The Servicemen's Readjustment Act of 1944 (also known as the G.I. Bill of Rights) included several programs to ease World War II veterans back into the local economy while avoiding a return to the pre-war depression. Among those benefits was a military loan guarantee program to help purchase homes. In 1950, homeownership in California had risen 11 percent over the proceeding decade and was at an all-time high of 58 percent by 1960.

The years following World War II brought unprecedented well-being to Americans, and commerce flourished as people grew more comfortable with spending. Immediately after World War II, new commercial buildings generally were in downtown areas and other existing commercial centers. Bolstered by post-war consumer confidence, new housing developments appeared, and with them the need for more schools, new churches, and new commercial enterprises. By the end of the 1950s, new commercial construction was usually located in the new suburbs at the edge of town. In Santa Rosa, Hugh Coddington led the way with several housing and commercial developments, including Brookwood Terrace, Town & Country Village, and Montgomery Village. These subdivisions tended to have their own commercial areas, and often social features as well.

Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

METHODOLOGY

Native American Contact

A request was sent to the State of California's Native American Heritage Commission (NAHC) seeking information from the Sacred Lands File and the names of Native American individuals and groups that would be appropriate to contact regarding this project. Consultation between individual tribes was carried out by the City, as described in the Tribal Cultural Resources section of this document.

The NAHC replied with a letter dated May 29, 2020, which indicated that the Sacred Lands File has no information about the presence of Native American cultural resources in the immediate project area.

Archival Study Procedures

Archival research included examination of the library and project files at Tom Origer & Associates. This research is meant to assess the potential to encounter archaeological sites and built environment within the study area. Research was also completed to determine the potential for buried archaeological deposits.

A review (NWIC File No. 19-2057) was completed of the archaeological site base maps and records, survey reports, and other materials on file at the Northwest Information Center (NWIC), Sonoma State University, Rohnert Park. Sources of information included but were not limited to the current listings of properties on the National Register of Historic Places, California Historical Landmarks, California Register of Historical

Resources, and California Points of Historical Interest as listed in the OHP's Historic Property Directory (2012) and the Built Environment Resources Directory (2019).

The OHP has determined that structures in excess of 45 years of age could be important historical resources, and former building and structure locations could be important archaeological sites. Archival research included an examination of 19th and 20th-century maps and aerial photographs to gain insight into the nature and extent of historical development in the general vicinity, and especially within the study area.

Ethnographic literature that describes appropriate Native American groups, county histories, and other primary and secondary sources were reviewed.

A model for predicting a location's sensitivity for buried archaeological sites was formulated by Byrd et al. (2017) based on the age of the landform, slope, and proximity to water. A location is considered to have the highest sensitivity if the landform dates to the Holocene, has a slope of five percent or less, is within 150 meters of freshwater, and 150 meters of a confluence. Note, the Holocene Epoch is the current period of geologic time, which began about 11,700 years ago, and coincides with the emergence of human occupation of the area. A basic premise of the model is that archaeological deposits will not be buried within landforms that predate human colonization of the area. Calculating these factors using the buried site model (Byrd et al. 2017:Tables 11 and 12), a location's sensitivity is scored on a scale of 1 to 10 and classed as follows: lowest (<1); low (1-3); moderate (3-5.5); high (5.5-7.5); highest (>7.5). Incorporating King's (2004) analysis of buried site potential, the probability of encountering buried archaeological deposits for each class is as follows:

Sensitivity Score ¹	Classification ¹	Probability ²
<1	Lowest	<1 %
1-3	Low	1-2 %
3-5.5	Moderate	2-3%
5.5-7.5	High	3-5%
>7.5	Highest	5-20%

¹Byrd et. al. 2017

²King 2004

Analysis

a. Would the project cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Archival research found that the APE was previously subjected to cultural resources study (Dollinger 2018; Hoffman 2002; Koenig 2007). Several studies have been conducted adjacent to and within a half-mile of the APE, as shown in the table below. Two resources have been recorded within a half-mile of the APE (Ferneau- Lion and Bieling 1992; Fredrickson 1973b). The closest of these resources is a lithic scatter located 1,475 feet from the APE (Ferneau-Lion and Bieling 1992).

Author	Date	S#
Bieling <i>et al.</i>	1986	7923
Bramlette and Fredrickson	1983	5843
Chavez	1979	1739
Del Bondio and Origer	2010	37608
Ferneau and Praetzelis	1994	16154
Ferneau-Lion and Fredrickson	1992	13448
Fredrickson	1973a	33
Fredrickson	1973d	21
Hoffman	2002	25215
McClellan and Whitley	2017	51159
Origer	1980	2220
Origer	1990	13217
Origer	1991	12789
Origer and Fredrickson	1975	199
Origer and Fredrickson	1976	372
Origer and Fredrickson	1977	425
Peak & Associates, Inc.	1987	9006
Schroder and Origer	2003	26729
Werner	2005	30927

General Land Office records show that the majority of the APE was retained by the State of California (GLO 2020). A small portion of the APE lies within the Llano de Santa Rosa which was granted to Joaquín Carrillo in 1844 by Governor Manuel Micheltorena. When granted, it consisted of 13,316 acres (three square leagues) west of Santa Rosa, along the Laguna de Santa Rosa, and encompassed present-day Sebastopol, California (Hoover et al. 2002:480). No features related to the Llano de Santa Rosa are within a mile of the APE.

Review of historical maps shows that the first appearance of structures within the APE is in 1922 when Fulton Road and Hall Road/West 3rd Street is shown (USACE 1922). At some point prior to 1965 Fulton Road ended at Hall Road and turned to the west and if one wanted to continue south one had to turn south on a road approximately 200 feet west from where Fulton Road ended. Between 1953 and 1965 a connector was constructed that eliminated the need to make two turns to continue traveling south (UCSB 1953, 1965).

No bridge symbol is shown; however, an arm of Santa Rosa Creek crosses the APE toward the northern end suggesting there must have been some type of crossing. Review of the Caltrans Historic Bridge Inventory for Local Agency Bridges states that the current bridge (#20C0100) was built in 1960 (Caltrans 2019). Interestingly, review of a 1973 aerial photo shows that the bridge was two lanes at that time and the current bridge has four lanes suggesting it was widened after 1973 (USGS 1973). During their bridge inventory, Caltrans determined that bridge #20C0100 does not meet criteria for inclusion on the National Register of Historic Places.

The Santa Rosa Flood Control Channel was created after a series of floods in Santa Rosa. Review of maps and aerial photos shows it was created between 1954 and 1968; though, an aerial photo from 1965 shows the channel under active construction within the APE (UCSB 1965; USGS 1954b, 1968).

Based on landform age, Tom Origer & Associates' analysis of the environmental setting, and incorporating the Byrd et al. (2017) analysis of sensitivity for buried sites, there is a moderate sensitivity (5.0) for buried archaeological site indicators within the study area.

Tom Origer & Associates determined there would be no impact to existing known historical resources. Bridge #20C0100 was found ineligible for the National Register (Caltrans 2019). Fulton Road has been in existence for nearly 100 years; however, it has grown from a two-lane road to a four-lane road. Also, Fulton Road once dead-ended at Hall Road/W 3rd Road, and a connector segment that bypasses part of its original route was constructed between 1953 and 1965 (FrameFinder 1953, 1965). After 1973, Fulton Road was widened from a two-lane road to a four-lane road. Because of this, it would no longer retain the characteristics of the small farm road that it was when originally constructed and would not meet criteria for inclusion on the National Register.

The Santa Rosa Flood Control Channel was constructed between 1958 and the early to mid-1960s. While it meets the age threshold for potential eligibility for inclusion on the National Register, the project effects will take place outside of and underneath the channel and would not have an effect on the channel structure itself.

While the project would not impact known historical resources, there is always the possibility of accidental discovery of historical resources during construction. In the event resources are discovered, mitigation measure CR1 would reduce such impact to less than significant.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

In addition to the results of the archival research described in a.) above, an intensive field survey of the APE was completed on June 30, 2020. Ground visibility ranged from excellent to poor, with vegetation, imported soils, and asphalt being the primary hindrances. Both sides of Fulton Road were examined to look for archaeological deposits that could extend under the road even though the majority of the work is to take place on the west side of the road. A hoe was used, when necessary, to remove vegetation and duff to examine the ground surface.

No archaeological site constituents were found during the field survey and there are no reported ethnographic sites within one mile of the study area (Barrett 1908). No archaeological site indicators were found within the APE. Application of the buried sites model indicates a moderate potential for buried archaeological resources within the APE.

Based on the above, Origer & Associates has determined there would be no impact to existing known archaeological resources. However, there is always the possibility of accidental discovery of archaeological resources during construction. In the event resources are discovered, mitigation measure CR1 would reduce such impact to less than significant.

c. Would the project disturb any human remains, including those interred outside of formal cemeteries?

There are no known human remains in the project area. However, the remote possibility exists that human remains could be discovered during construction. In such an event, Mitigation Measure CR2 would reduce such impact to a less than significant level.

Cumulative Impacts

There are no adverse cumulative environmental impacts to cultural resources resulting from implementation of the proposed project.

Mitigation Measures

CR1

The project plans and specifications shall provide that in the event prehistoric-era or historic-era archaeological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. Prehistoric-era archaeologic site indicators could include chipped chert and obsidian tools and tool manufacture waste flakes, grinding implements such as mortars and pestles, and locally darkened soil containing the previously mentioned items as well as fire altered stone and dietary debris such as bone and shellfish fragments. Historic-era archaeologic site indicators could include items of ceramic, glass and metal, and features such as structural ruins, wells and pits containing such artifacts. After cessation of excavation, the contractor shall immediately contact the City. The City shall contact a qualified professional archaeologist immediately after the find. Such archaeologist shall conduct an evaluation of significance of the site, and assess the necessity for mitigation and contact local Native American tribes, as appropriate. The contractor shall not resume construction activities until authorization to proceed is received from the City.

CR2

If human remains are encountered during grading, excavation or trenching, all construction activity shall cease and the contractor shall immediately contact the City and the Sonoma County Coroner's Office. If the remains are determined by the Coroner's Office to be of Native American origin, the Native American Heritage Commission shall be contacted and the procedures outlined in CEQA §15064.5 (d) and (e) shall be implemented by the City or its designee.

VI ENERGY

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	■
b. Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	■

Setting

The California Energy Commission (Energy Commission) was charged with developing the state's Renewable Energy Program in 1998, following deregulation of electric utilities. The Energy Commission provides a brief history of its actions with regard to the Renewable Energy Program:

In 2002, California established its Renewables Portfolio Standard (RPS) Program, with the goal of increasing the percentage of renewable energy in the state's electricity mix to 20 percent by 2017. The Energy Commission's 2003 Integrated Energy Policy Report recommended accelerating that goal to 2010, and the 2004 Energy Report Update urged increasing the target to 33 percent by 2020. Governor Schwarzenegger, the Energy Commission, and the California Public Utilities Commission (CPUC) endorsed this enhanced goal for the state as a whole. Achieving these renewable energy goals became even more important with the enactment of AB 32 (Núñez, Chapter 488), the California Global Warming Solutions Act of 2006. This legislation sets aggressive greenhouse gas reduction goals for the state and its achievements will depend in part on the success of renewable energy programs.

SBX1-2 was signed by Governor Edmund G. Brown, Jr., in April 2011 to codify the ambitious 33 percent by 2020 goal. In his signing comments, Governor Brown noted that "This bill will bring many important benefits to California, including stimulating investment in green technologies in the state, creating tens of thousands of new jobs, improving local air quality, promoting energy independence, and reducing greenhouse gas emissions."

This new RPS applied to all electricity retailers in the state including publicly owned utilities, investor-owned utilities, electricity service providers, and community choice aggregators. All of these entities must adopt the new RPS goals of 20 percent of retail sales from renewables by the end of 2013, 25 percent by the end of 2016, and the 33 percent requirement being met by the end of 2020.

In October 2015, Governor Brown signed Senate Bill 350 to codify ambitious climate and clean energy goals. One key provision of SB 350 is for retail sellers and publicly

owned utilities to procure “half of the state’s electricity from renewable sources by 2030.”¹¹

These goals were accelerated in 2016 with passage of SB 32 requiring lowering greenhouse gas emissions to 40 percent below 1990 levels by 2030. Further, “In 2018, Senate Bill 100...set a planning target of 100 percent zero-carbon electricity resources by 2045 and increased the 2030 renewables target from 50 percent to 60 percent. On the same day of signing SB 100, then-Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter. The executive order covers all sectors of the economy¹².”

Today, California’s energy policies are intertwined with goals of reducing greenhouse gases. The Energy Commission produces the biennial Integrated Energy Policy Report. The report contains an integrated assessment of major energy trends and issues facing California’s electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state’s economy; and protect public health and safety. The most recent report was divided into two sections. Volume I was produced in 2018 and Volume II was released in February 2019¹³.

CURRENT ENERGY USAGE AND SOURCES

California uses the least electricity of any state with a 2016 (most recent electricity California Energy Commission date) usage of 6,536 kWh per capita¹⁴. The census states that Sonoma County had an estimated population of 499,942 in 2017¹⁵ and the California Energy Commission indicates the Sonoma County used a total (residential and non-residential) of 2927.86 gigawatt hours (GWh) of electricity in 2018¹⁶ for a per capita use of 5,854 kWh, somewhat below the state average.

Sonoma County is provided electricity by Sonoma Clean Power, a community choice aggregation, over PG&E maintained infrastructure. As of 2018, Sonoma Clean Power’s power mix was ahead of California’s goal and supplied 45 percent of its electricity from renewable resources under the California Renewables Portfolio Standard. Additionally, in 2018, 42 percent of Sonoma Clean Power’s supply was hydroelectric, for a total of 87 percent greenhouse gas free electricity¹⁷. In contrast, the overall power mix in California is 29 percent renewable, 15 percent hydroelectric and nine percent nuclear, or 53 percent greenhouse gas free electricity. In 2018, total renewable electricity in California was 34 percent¹⁸.

¹¹ <https://www.energy.ca.gov/renewables/history.html>

¹² Ibid.

¹³ https://www.energy.ca.gov/2018_energypolicy/

¹⁴ https://www.energy.ca.gov/almanac/electricity_data/us_per_capita_electricity.html

¹⁵ <https://www.census.gov/quickfacts/fact/table/sonomacountycalifornia,US/PST045218>

¹⁶ <http://www.ecdms.energy.ca.gov/elecbycounty.aspx>

¹⁷ <https://sonomacleanpower.org/annual-report>

¹⁸ https://www.energy.ca.gov/2018publications/CEC-100-2018-001/Exec_Sumry_CEC-100-2018-001-V2-CMF.pdf

Analysis

- a. **Would the project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?**

Project construction would only account for a minor use of energy, primarily associated with fuels used in construction vehicles. All construction vehicles would be California-compliant to ensure state goals of energy efficiency and air quality are maintained.

The replacement sewer main would not require energy after installation. No pumping facilities or treatment facilities that would use electricity and no expansion of service that would require additional pumping or treatment at existing facilities are proposed by the project. The project is necessary to replace potentially failing infrastructure in the existing wastewater collection system and would not result in a wasteful, inefficient, or unnecessary consumption of energy resources.

- b. **Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?**

The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency. As indicated previously, electricity to the project area is currently exceeding the state's renewable energy goals and the project is energy passive.

Cumulative Impacts

There are no adverse cumulative environmental impacts to energy resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to energy have been identified; therefore, no mitigation is required.

VII GEOLOGY & SOILS

RGH Consultants prepared a Geotechnical Evaluation of the project area¹⁹. RGH's scope of work included: reviewing selected published geologic data pertinent to the site; evaluating the subsurface conditions with borings and laboratory tests; and, analyzing the field and laboratory data. The RGH report included the following geotechnical information: brief description of the soil and groundwater conditions observed during the study; conclusions and recommendations regarding primary geotechnical engineering concerns and mitigating measures; trench excavation characteristics and trench wall stability; excavation dewatering; creek bank stabilization; and measures for trenches. This section includes excerpts from the RGH report.

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project directly or indirectly cause 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. Would the project result in substantial soil erosion or the loss of topsoil?	☐	■	☐	☐
c. Would the project 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. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	☐	☐	■	☐
e. Would the project 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?	☐	☐	☐	■

¹⁹ *Geotechnical Study Report, South Fulton Trunk Sewer, Fulton Road at Santa Rosa Creek, Santa Rosa, CA*. RGH Consultants. September 4, 2020.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

☐

☒

☐

☐

Environmental Setting

REGIONAL GEOLOGY AND TOPOGRAPHY

Sonoma County is located within the California Coast Range geomorphic province. This province is a geologically complex and seismically active region characterized by sub-parallel northwest-trending faults, mountain ranges and valleys. The oldest bedrock units are the Jurassic-Cretaceous Franciscan Complex and Great Valley sequence sediments originally deposited in a marine environment. Subsequently, younger rocks such as the Tertiary-age Sonoma Volcanics group, the Plio-Pleistocene-age Clear Lake Volcanics and sedimentary rocks such as the Guinda, Domengine, Petaluma, Wilson Grove, Cache, Huichica and Glen Ellen formations were deposited throughout the province. Extensive folding and thrust faulting during late Cretaceous through early Tertiary geologic time created complex geologic conditions that underlie the highly varied topography of today. In valleys, the bedrock is covered by thick alluvial soil.

Published geologic maps (Delattre et al., 2008) indicate the site is underlain by alluvial fan deposits. The deposits are shown to comprise of sand, gravel, silt, and occasionally clay. Santa Rosa Creek is shown to be comprised of loose sand, silt, gravel and cobbles.

SUBSURFACE CONDITIONS

RGH conducted several boring and laboratory testing along the sewer main alignment, including one on each side of the stream channel. Borings and laboratory tests indicate that the project site is covered by about three to 10.5 feet of heterogeneous fill. Heterogeneous fill is a material with varying density, strength, compressibility, and shrink-swell characteristics that often has an unknown origin and placement history. The fill is underlain by layers of medium stiff to stiff clay with varying amounts of sand and loose to medium dense sand and gravel with varying amounts of silt and clay content. Medium stiff to stiff silt was encountered at the bottom of borings B-1 and B-2. Bedrock was not encountered in any of the borings.

LIQUEFACTION

Liquefaction is the process where water is combined with unconsolidated soils, generally from ground motions and pressure, which causes the soils to behave like quicksand. Liquefaction potential is determined from a variety of factors including soil type, soil density, depth to the groundwater table, and the expected duration and intensity of ground shaking. Liquefaction is most likely to occur in deposits of water-saturated alluvium or areas of considerable artificial fill.

SEISMIC CONDITIONS

Similar to all of Sonoma County, the project area is within a seismically active area. The nearest faults considered to be 'Holocene-active' (experiencing surface rupture within about the last 11,000 years) are shown on Figure VII-1; other faults in the project area are considered to be in the 700,000 to two million year old range and considered less likely to result in seismic activity. These faults have the potential to produce earthquakes in the project area.

CORROSION POTENTIAL

Mapping by the Natural Resources Conservation Service (2020) indicates that the corrosion potential of the near surface soil is high for uncoated steel and low for concrete.

GROUNDWATER

Free groundwater was first detected in RGH borings at depths ranging from 14 to 25 feet below the ground surface at the time of drilling. According to the borings, the water table typically slopes toward the stream.

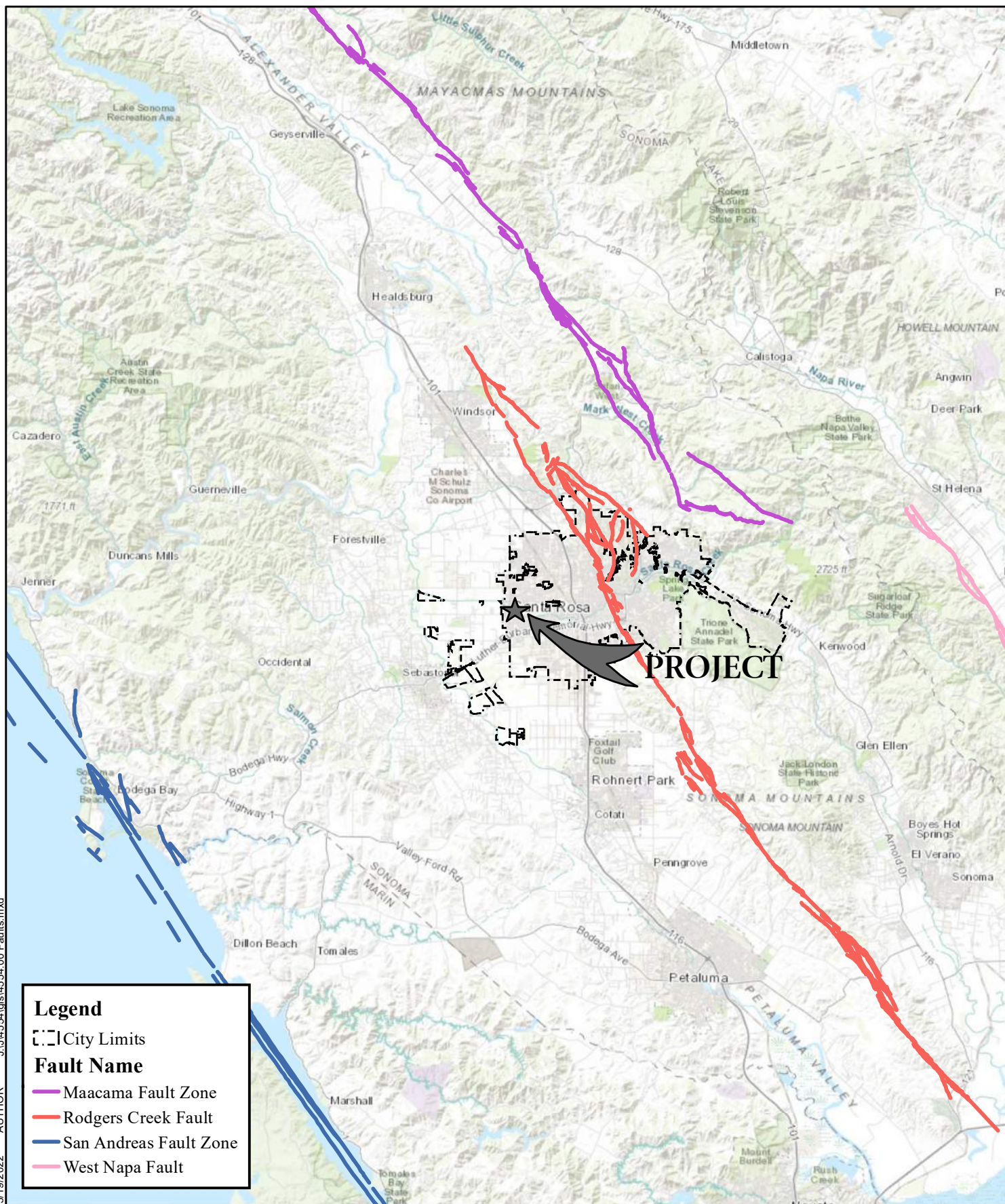
Regulatory Setting

FEDERAL REGULATIONS

Clean Water Act 402 and National Pollutant Discharge Elimination System

The CWA is discussed in detail in the Hydrology and Water Quality section of this document. However, because CWA Section 402 is directly relevant to excavation, additional information is provided below. Amendments in 1987 added Section 402p to establish a framework for regulating municipal and industrial stormwater discharges under National Pollutant Discharge Elimination System (NPDES) program. The EPA has delegated to the State Water Resources Control Board (SWRCB) the authority for the NPDES program in California, which is implemented by the state's nine regional water quality control boards. Under the NPDES Phase II Rule, construction activity disturbing one acre or more must be permitted under the state's General Construction Permit. General Construction Permit applicants are required to prepare a Notice of Intent and a Stormwater Pollution Prevention Plan (SWPPP) and implement and maintain Best Management Practices (BMPs) to avoid adverse effects on receiving water quality as a result of construction activities, including earthwork.

5/19/2022 AUTHOR J:\4554\14554.00 Faults.mxd



Legend

City Limits

Fault Name

- Maacama Fault Zone
- Rodgers Creek Fault
- San Andreas Fault Zone
- West Napa Fault

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
USGS (2019)

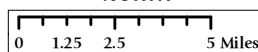


FIGURE VII-1
FAULTS

STATE REGULATIONS

Alquist-Priolo Earthquake Fault Zoning Act

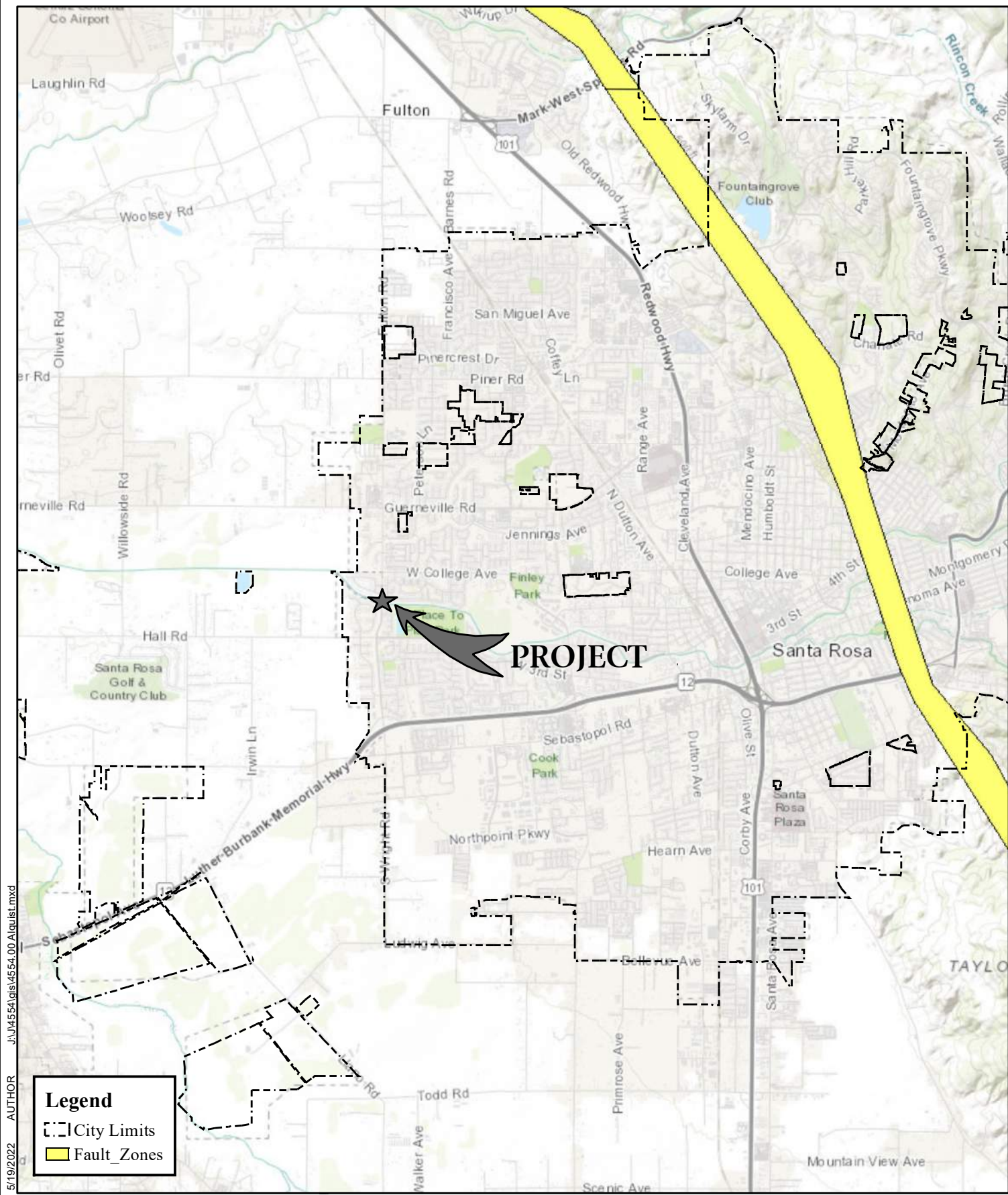
The Alquist-Priolo Earthquake Fault Zoning Act of 1972 (prior to January 1, 1994, known as the Alquist-Priolo Special Studies Zones Act – CCR, Title 14, Section 3600) sets forth the policies and criteria of the State of California in regards to building within active fault zones mapped pursuant to the Act. The Alquist-Priolo Earthquake Fault Zoning Act outlines cities' and counties' responsibilities in prohibiting the location of developments and structures for human occupancy across the trace of active faults. The policies and criteria are limited to potential hazards resulting from surface faulting or fault creep within Earthquake Fault Zones delineated on maps officially issued by the State Geologist. Figure VII-2 shows the project relative to the nearest mapped fault zone.

Seismic Hazard Mapping Act

Like the Alquist-Priolo Act, the Seismic Hazards Mapping Act of 1990 (PRC 2690 2699.6) is intended to reduce damage resulting from earthquakes. The Seismic Hazards Mapping Act addresses earthquake-related hazards, including strong ground shaking, liquefaction, and seismically induced landslides. The state is charged with identifying and mapping areas at risk of strong ground shaking, liquefaction, landslides, and other corollary hazards, and cities and counties are required to regulate development within mapped Seismic Hazard Zones. Under the Seismic Hazards Mapping Act, permit review is the primary mechanism for local regulation of development. Specifically, cities and counties are prohibited from issuing development permits for sites in Seismic Hazard Zones until appropriate site-specific geologic or geotechnical investigations have been carried out, and measures to reduce potential damage have been incorporated into the development plans.

California Building Code

The California Code of Regulations, Title 24, also known as the California Building Standard Code or the California Building Code (CBC), establishes guidance for foundation design, shear wall strength, and other structurally related concerns. The CBC modified common building regulations for specific conditions found in California and included a large number of more detailed and/or more restrictive regulations. For example, CBC includes common engineering practices requiring special design and construction methods that reduce or eliminate potential expansive soil-related impacts. The CBC requires structures to be built to withstand ground shaking in areas of high earthquake hazards and the placement of strong motion instruments in larger buildings to monitor and record the response of the structure and the site of the seismic activity. Compliance with CBC regulations ensures the adequate design and construction of building foundations to resist soil movement. In addition, the CBC also contains drainage requirements in order to control surface drainage and to reduce seasonal fluctuations in soil moisture content.



5/19/2022 AUTHOR J:\J4554\J4554.00 Alquist.mxd

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Units: Foot US

Data Source Information:
 Dept. of Conservation (2018)

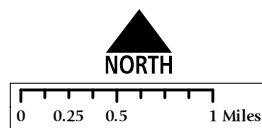


FIGURE VII-2
ALQUIST PRIOLO ZONES

CITY OF SANTA ROSA
 JUNE 2022

Analysis

a. Would the project directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:

a.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.

The project area would be not located within an Alquist-Priolo Zone, as shown on Figure VII-2.

The project would be required to implement California Building Code Seismic Design Category Requirements into the project design for applicable features to minimize hazards associated with potential fault rupture, ground shaking, and liquefaction. Based on incorporation of appropriate geotechnical design recommendations and engineering standards, the risk to the project from fault rupture is considered to be less than significant.

a.ii. Strong seismic ground shaking?

The project location is subject to strong seismic ground shaking. As indicated in a.i.) above, the project would be designed and constructed in strict adherence with current standards for earthquake-resistant construction, as is standard practice. Risk to the project is considered to be less than significant.

a.iii. Seismic-related ground failure, including liquefaction?

As indicated in a.ii.) above, seismic ground shaking could occur in the project area. RGH did not identify liquefaction as a risk to the project. The project would be designed and constructed in strict adherence with current standards for earthquake-resistant construction, as is standard practice. Risk to the project is considered to be less than significant.

a.iv. Landslides?

Landslides are not evident at project location and the project would not increase the risk of landslides.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Proposed project locations would be within existing roads, existing gravel driveways, or flat undeveloped areas. Stormwater drainage in the area consists of man-made drainage elements such as roadside gutters draining to storm drains. Surfaces would be restored to existing conditions once construction is complete to ensure there is no long-term erosion.

The State General Construction Activity Storm Water Permit (CGP) applies to construction activities that disturb one acre or more and requires the preparation and implementation of a SWPPP. As indicated in the Geology and Soils section, the project would have a total disturbance area of approximately 16,000 SF (0.37 acres) and would not be subject to coverage under the State Water

Resources Control Board (SWRCB) Construction General Permit. The project includes an erosion control plan as part of the plans and specifications to minimize the potential for erosion-related impacts to surface waters to the extent possible (Mitigation Measure GS1). Because the project would comply with current regulations and project permits to limit erosion-related water quality impacts during and after construction, any impact would be less than significant.

A portion of the project will be constructed in an open cut trench across Santa Rosa Creek. Construction within a flowing creek has an additional potential to cause erosion and siltation within the creek. As described in the Biological Resources section, project construction would occur consistent with applicable permits from the Regional Board, USACE and CDFW. Permit conditions shall be implemented to ensure the project does not violate any water quality standards or otherwise degrade surface or groundwater quality.

c. Would the project 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?

RGH's report concluded that the proposed sewer trunk can be installed as planned, provided the recommendations presented in the RGH report are incorporated into its design and construction. The primary geotechnical concerns during design and construction of the project are: the presence of heterogeneous fill, clay, sand, and gravel within planned excavations; and the presence of high groundwater.

Approximately three to 10.5 feet of heterogeneous fill was encountered immediately below the ground surface in the borings. Heterogeneous fills of unknown quality and unknown method of placement can behave erratically when exposed in a trench excavation. The heterogeneous fill soils generally consisted of clay and sand. RGH's experience is that soils with low fines content are susceptible to caving when exposed in an excavation wall. Caving of heterogeneous fill will undermine adjacent improvements, such as pavements and sidewalks.

Utility trench excavations will likely cross existing utility trenches. Those trenches could be for live utilities or those that have been previously abandoned. In either case, caving of the backfill from trenches into the trench excavation should be anticipated and planned for.

Excavations into medium stiff to stiff clays, such as those encountered at the site, can appear to be stable when first exposed but will lose strength over time and will fail unpredictably if left unsupported. In addition, layers of loose to medium dense sand and gravel were encountered in RGH's borings. In some borings, these soils were located below the observed water level. However, those soils could be saturated at various times of the year due to a rise in groundwater elevation. When the confinement for sand is removed, the saturated sand can flow into the trench, which further reduces the stability of the overlying clay.

Based on the above information, trenches need to be shored during construction in accordance with OSHA regulations. The trench shoring system needs to be able to extend to the bottom of the planned trench excavations. Project plans and specifications include RGH's recommendations for shoring.

Saturated sand that is encountered in excavation bottoms can become very unstable and exhibit "pumping" behavior when it is unloaded by the removal of the confining pressure of the spoils above

and adjacent to it. It may be necessary to overexcavate a portion of those soils and replace them with additional bedding material to achieve the desired support of the pipeline. This condition is especially critical for gravity sewers that are sensitive to settlement.

Where unstable trench bottoms are observed, additional excavation would be performed to provide space for at least 24 inches of ballast rock (2 to 4 inches in size) or other materials capable of bridging the weaker materials to provide adequate bedding support. A geotextile filter fabric, such as Mirafi 160N or equivalent, should be wrapped around this material. The depth of excavation and the need for fabric would be evaluated and determined during construction and is included in the project plans and specifications.

The existing retaining wall along the pedestrian pathway below the bridge at Santa Rosa Creek would be trenched through and portion of the retaining wall would need to be removed and replaced. Based on the existing topography, the retaining wall would have a 2:1 slope above the retaining wall. The retaining wall must be designed to resist lateral earth pressures plus additional lateral pressures that may be caused by surcharge loads applied at the ground surface behind the walls. Retaining walls free to rotate (yielding greater than 0.1 percent of the wall height at the top of the backfill) should be designed for active lateral earth pressures. The project plans and specifications incorporate all of RGH's recommendations for loads, drainage, backfill and footings associated with the replacement portion of the retaining wall.

Construction of the project will require trenching through the Santa Rosa Creek banks. Short term construction-related erosion is addressed by Mitigation Measure GS1, above. Replacement of spoils and restoring the channel geometry could result in unstable conditions since the replaced soils would not be consolidated in the same way as the adjacent undisturbed soils. Stabilization of the excavated creek banks is addressed by Mitigation Measure GS2 to reduce the potential for instability to a level of less than significant.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

RGH did not identify expansive soils as a risk to the project. Please see item c.) above. Adherence to the geotechnical recommendations would ensure that any risk from expansive soils is less than significant.

e. Would the project 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?

Wastewater service in the project area is provided by the City. The project is specifically intended to correct an identified deficiency in the existing wastewater collection system.

f. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

There are no known paleontological resources or unique geologic features in the project area. Mitigation Measure GS3 is included to preserve any such features discovered during construction and reduces any potential impact to less than significant.

Cumulative Impacts

There are no adverse cumulative environmental impacts to geology and soils resulting from implementation of the proposed project.

Mitigation Measures

GS1

The City shall prepare an erosion control plan for the project. Appropriate BMPs will be implemented by the project to minimize construction-related erosion and runoff. Suggested BMPs include, but are not limited to:

- Schedule construction activities during dry weather. Keep grading operations to a minimum during the rainy season (October 15 through April 15).
- Protect and establish vegetation.
- Stabilize construction entrances and exits to prevent tracking onto roadways.
- Protect exposed slopes from erosion through preventative measures. Cover the slopes to avoid contact with storm water by hydroseeding, applying mulch or using plastic sheeting.
- Install straw wattles and silt fences on contour to prevent concentrated flow. Straw wattles should be buried 3 to 4 inches into the soil, staked every 4 feet, and limited to use on slopes that are no steeper than 3 units horizontal to 1 unit vertical. Silt fences should be trenched 6 inches by 6 inches into the soil, staked every 6 feet, and placed 2 to 5 feet from any toe of slope.
- Designate a concrete washout area to avoid wash water from concrete tools or trucks from entering gutters, inlets or storm drains. Maintain washout area and dispose of concrete waste on a regular basis.
- Establish a vehicle storage, maintenance and refueling area to minimize the spread of oil, gas and engine fluids. Use oil pans under stationary vehicles.
- Protect drainage inlets from receiving polluted storm water through the use of filters such as fabrics, gravel bags or straw wattles.
- Check the weather forecast and be prepared for rain by having necessary materials onsite before the rainy season.
- Inspect all BMPs before and after a storm event. Maintain BMPs on a regular basis and replace as necessary.

Additionally, erosion control measures contained in the applicable permits from the USACE, Regional Board and CDFW shall be incorporated into the project specifications.

GS2

The City shall comply with bank stabilization measures contained in the applicable permits from the USACE, Regional Board and CDFW and those measures shall be incorporated into the project specifications. At a minimum, those measures shall include slope protection including the placement of an erosion control blanket and prepared willow cuttings as live stakes:

- Per the recommendation of RGH, once the pipeline has been backfilled per the recommendations presented herein and the requirements of the City of Santa Rosa, the creek bank should be re-

established. Creek bank fill should be keyed and benched into the surrounding creek bank face for a distance of at least 5 feet on either side of the trench. Fill should be placed in thin horizontal lifts (approximately 8 inches thick), moisture conditioned to near-optimum moisture content, and compacted to at least 90 percent of the maximum dry density per ASTM test standard D-1557. The fill materials should be free of perishable matter and rocks or lumps over 6 inches in diameter and must be approved by the geotechnical engineer prior to use.

- The erosion control blanket shall be biodegradable with a functional longevity of 24 months. It shall be of consistent thickness and covered on the top and the bottom with biodegradable fiber netting. It shall be capable of withstanding a shear stress of 2.0 psf and flow velocity of 6 fps.
- Live stakes shall be willow cuttings from a healthy, native stand. Cut poles while the plant is dormant. Species shall be Arroyo willow (*Salix lasiolepis*). Species may not be substituted without project biologist's written approval. Live stakes shall be 1-inch to 3-inch in diameter and of sufficient length to reach the ordinary high water level, at approximately 2 feet on center. Stakes shall be pierced through the erosion control blanket. Select the longest, straightest poles available and use only two- to four-year old plants. Strip all but the top two or three side branches from poles. Trim off the terminal bud on top. Cut the bottom end at a 45 degree angle to make a point. Poles and branches shall be trimmed with sharp tools. Soak poles for 5 to 7 days before planting.

GS3

The project plans and specifications shall provide that in the event paleontological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the City. The City shall contact a qualified professional geologist or paleontologist immediately after the find. Such consultant shall conduct an evaluation of significance of the site, and assess the necessity for mitigation. The contractor shall not resume construction activities until authorization to proceed is received from the City.

VIII GREENHOUSE GAS EMISSIONS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b. Would the project Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

To fully understand global climate change it is important to recognize the naturally occurring “greenhouse effect” and to define the greenhouse gases (GHG) that contribute to this phenomenon. The temperature on Earth is regulated by this “greenhouse effect,” which is so named because the Earth’s atmosphere acts like a greenhouse, warming the planet in much the same way that an ordinary greenhouse warms the air inside its glass walls. Like glass, the gases in the atmosphere let in light yet prevent heat from escaping.

Greenhouse gases are naturally occurring gases such as water vapor, carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) that absorb heat radiated from the Earth’s surface. Greenhouse gases are transparent to certain wavelengths of the Sun’s radiant energy, allowing them to penetrate deep into the atmosphere or all the way to Earth’s surface. Clouds, ice caps, and particles in the air reflect about 30 percent of this radiation, but oceans and land masses absorb the rest (70 percent of the radiation received from the Sun) before releasing it back toward space as infrared radiation. The greenhouse gases and clouds effectively prevent some of the infrared radiation from escaping; they trap the heat near the Earth’s surface where it warms the lower atmosphere.

In addition to natural sources, human activities are exerting a major and growing influence on climate by changing the composition of the atmosphere and by modifying the land surface. Particularly, the increased consumption of fossil fuels (natural gas, coal, gasoline, etc.) has substantially increased atmospheric levels of greenhouse gases. Measured atmospheric levels of certain greenhouse gases such as CO₂, NH₄, and N₂O have risen substantially in recent decades. This increase in atmospheric levels of greenhouse gases unnaturally enhances the “greenhouse effect” by trapping more infrared radiation as it rebounds from the Earth’s surface and thus trapping more heat near the Earth’s surface.

California Implications

In 2016, CARB published the 2016 California GHG Emissions Inventory, a review and analysis of GHG emissions from 2000 to 2014. According to the report, in 2014, total California GHG emissions were 441.5 million metric tons of CO₂ equivalent (MMT_{CO2e}), a decrease of 2.8 MMT_{CO2e} compared to 2013. This represents an overall decrease of 9.4 percent since peak levels in 2004. During the 2000 to 2014 period, per capita GHG emissions in California have continued to drop from a peak in 2001 of 13.9 tons per person to 11.4 tons per person in 2014; an 18 percent decrease²⁰. State regulations have begun lowering California’s

²⁰ https://www.arb.ca.gov/cc/inventory/pubs/reports/2000_2014/ghg_inventory_trends_00-14_20160617.pdf

GHG contribution to global GHG levels, but managing GHG emissions remains an ongoing priority in California.

State Regulations

CLIMATE CHANGE REGULATORY FRAMEWORK

In September 2006, Governor Arnold Schwarzenegger signed AB 32, the California Global Warming Solutions Act, which created a comprehensive, multi-year program to reduce GHG emissions in California. AB 32 required CARB to develop a Scoping Plan, adopted in 2008, that describes the approach California will take to reduce GHGs to achieve the goal of reducing emissions to 1990 levels by 2020. The Scoping Plan recognizes that local GHG reduction commitments and climate action plans are essential to the state meeting its targeted emissions reductions. In 2016, the Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels by 2030. The Scoping Plan was updated in 2017.

California's energy policies are intertwined with goals of reducing greenhouse gases. "In 2018, Senate Bill 100...set a planning target of 100 percent zero-carbon electricity resources by 2045 and increased the 2030 renewables target from 50 percent to 60 percent. On the same day of signing SB 100, then-Governor Brown signed Executive Order B-55-18 with a new statewide goal to achieve carbon neutrality (zero-net GHG emissions) by 2045 and to maintain net negative emissions thereafter. The executive order covers all sectors of the economy... Executive Order B-55-18 follows the spirit of what is required at a global scale to achieve the climate goals of the Paris Agreement, in which signatory nations worldwide agree to sufficiently reduce GHG emissions to avoid catastrophic climate change. This is also consistent with a special report by the Intergovernmental Panel on Climate Change, which found that to avoid catastrophic climate change, global carbon dioxide emissions must decline by about 45 percent below 2010 levels by 2030 and reach net zero by about 2050²¹."

LOCAL REGULATIONS

CARB works with 35 air pollution districts in California to enforce air pollution regulations, including GHGs. Many metropolitan air pollution districts, cities, and counties have adopted Local Climate Action Plans consistent with CARB Scoping Plan goals. The City adopted its Climate Action Plan in 2012 to guide development within the City consistent with its GHG reduction goals. The City subsequently adopted its Municipal Operations Climate Action Plan in 2013.

During the 2017 update to the BAAQMD's CEQA Air Quality Guidelines²², the BAAQMD adopted applicable screening criteria contained in Table 3-1 of the Guidelines indicating categories and sizes of projects that would not exceed the 1,100 MT of CO₂e/yr GHG threshold of significance for project operations.

²¹ 2018 Integrated Energy Policy Report Update Volume II. California Energy Commission. January 2019.

²² California Environmental Quality Act Air Quality Guidelines. Bay Area Air Quality Management District. May 2017.

Analysis

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Neither of the City's Climate Action Plans included thresholds of significance. While the Local Action Plan did include steps to ensure development projects were consistent, adoption of thresholds was deferred to the BAAQMD. Similarly, there are no thresholds of significance contained in the Municipal Action Plan.

While the BAAQMD established GHG threshold related to project operations, it did not include GHG thresholds for construction. Similarly, projects of this nature were not included in its screening criteria contained in Table 3-1 of the Air Quality Guidelines. The nearby Sacramento Metropolitan Air Quality Management District (SMAQMD) adopted GHG thresholds of significance in 2014 that are contained in the SMAQMD's CEQA Guide²³. For land development and construction projects, the threshold has been established as 1,100 metric tons per year (MT/yr) for construction and operational phases. Stationary sources (projects that don't involve transportation impacts) have been determined to have an operational threshold of 10,000 MT/yr. Since neither the City nor the BAAQMD has adopted construction thresholds, the SMAQMD's thresholds are a useful guideline for assessing this project's potential impacts.

Project construction GHG emissions were modeled using the Roadway Construction Emissions Model developed by SMAQMD for transportation and pipeline projects. Modeled construction-related CO₂e emissions are shown below and are expected to be 68.73 MT/yr CO₂e, under SMAQMD's 1,100 MT/yr threshold and therefore are considered to be less than significant. Because the project replaces an existing wastewater main and does not induce growth and is energy neutral, operational emissions would be essentially unchanged and were not quantified.

SMAQMD Thresholds of Significance			Project Emissions	
	Construction Average Daily Emissions (MT/yr)	Operational Annual Emissions (MT/yr)	RoadMod ²⁴ Construction Emission Estimates (MT/yr)	RoadMod Operational Emission Estimates (MT/yr)
GHG as CO ₂ e	1,100	1,100	68.73	Not quantified

b. Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The City has adopted both a Climate Action Plan and a Municipal Operations Climate Action Plan. As a replacement project that will not result in additional GHG emissions, it is consistent with both plans.

²³ <http://www.airquality.org/Businesses/CEQA-Land-Use-Planning/CEQA-Guidance-Tools>

²⁴ Roadway Construction Emissions Model v 8.1.0

Cumulative Impacts

As indicated in a.) above, the project would result in short-term emissions of GHGs associated with project construction. Construction-related emissions are not considered to be cumulatively considerable based on the limited nature of the construction project and emissions expected to be below the 1,100 MT/yr threshold.

Mitigation Measures

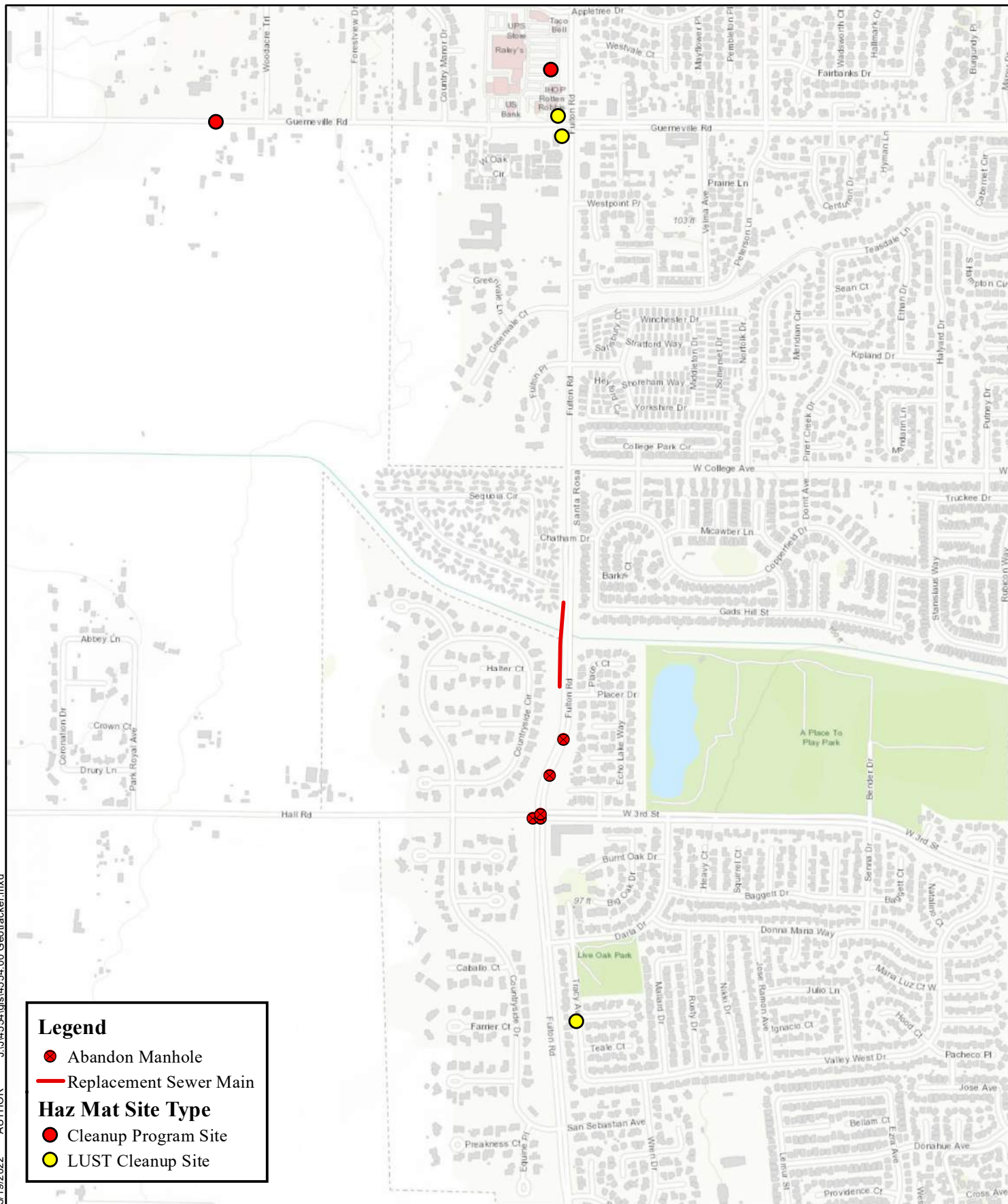
No adverse environmental impacts to greenhouse gas emissions have been identified; therefore, no mitigation is required.

IX HAZARDS & HAZARDOUS MATERIALS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☐	■
b. Would the project 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?	☐	■	☐	☐
c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	■
d. Would the project 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?	☐	■	☐	☐
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 or excessive noise for people residing or working in the project area?	☐	☐	☐	■
f. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	■	☐
g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☐	■

Environmental Setting

There are no known hazardous materials sites adjacent to within 300 feet of proposed project site. Sites listed on California's Geotracker system are shown on Figure IX-1. Implementation of the project would require the use of small quantities of hazardous materials, including petroleum and other chemicals, to operate and maintain construction equipment.



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Units: Foot US

Data Source Information:
 Flood Hazard: FEMA (2017)

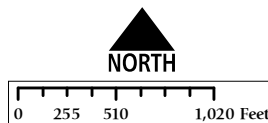


FIGURE IX-1
HAZARDOUS MATERIALS

CITY OF SANTA ROSA
 JUNE 2022

REGULATORY SETTING

Federal Regulations

Hazardous materials in the project area are subject to applicable federal regulations, including the Resource Conservation and Recovery Act and the Comprehensive Environmental Response, Compensation, and Liability Act. Other applicable federal regulations are contained primarily in CFR Titles 29, 40, and 49.

State Regulations

California regulations are as stringent as or more stringent than federal regulations. The EPA has granted the State of California primacy oversight responsibility for administering and enforcing hazardous waste management programs. State regulations require planning and management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human and environmental health.

Analysis

a. Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

The project would replace an existing segment of sewer main and is not associated with hazardous materials. Construction of the proposed project would include the use and short-term storage of hazardous materials. These materials include, but are not limited to, lubricants, adhesives, paints, asphalt, fuel, and toxic solvents. The proposed project is required to comply with federal, state, and local regulations regarding the storage, handling, disposal, and cleanup of hazardous materials. No routine transport, use, or disposal of hazardous materials is associated with this project. The project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

b. Would the project 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?

As indicated above, the project would not introduce new long-term hazardous materials or hazardous materials handling. There is the potential for a fuel/oil spill during construction from construction vehicles and equipment. Mitigation Measure HM1 would reduce such impact to a less than significant level.

Due to construction within the Santa Rosa Creek channel, there is an elevated risk of fuel, oil, concrete and other construction materials entering the waterway and migrating downstream that could pose a threat to the aquatic environment if not contained. Mitigation Measure HM2 includes appropriate containment measures for in-stream work that would reduce such impact to a less than significant level. Additionally, compliance with permit terms and conditions associated with in-stream permits would further reduce the potential for environmental harm.

- c. **Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?**

The project would not result in emissions or handling of hazardous materials within one quarter mile of an existing or proposed school. The project includes replacement of a segment of existing sewer main and would not emit hazardous emissions or handle hazardous or acutely hazardous materials.

- d. **Would the project 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?**

The proposed project is not adjacent or in close proximity to hazardous materials sites listed by the State Water Resources Control Board GeoTracker system as shown on Figure IX-1. There are no listed sites within 300 feet of any of the proposed project components. There is the possibility, as with any construction project, that contaminated soils may be found during construction. In that event, Mitigation Measure HM1 requires the contractor to cease work and contact the City and the Regional Board to develop a plan to dispose of the soils and to ensure worker safety and protection of the environment.

- 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 or excessive noise for people residing or working in the project area?**

The nearest public use airport, Charles M. Schulz–Sonoma County Airport, is located 4.5 linear miles northwest of the project area. The project is not located within the airport’s airport land use plan area. Therefore, there would be no impact.

- f. **Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

The City prepared its Local Hazard Mitigation Plan (LHMP) in October 2016 that assessed potential risks to the City²⁵ and updated the LHMP in 2021 as part of a County-wide plan. The LHMP identifies the City as being at high risk to seismic events, flood, drought and wildfire. The LHMP designates Fulton Road as a north-south evacuation route. The Santa Rosa Fire Department and the Santa Rosa Police Department coordinate emergency response and evacuations based on the LHMP, nature of the emergency and coordination with the County of Sonoma, as required.

Since the LHMP was adopted, the City has experienced three catastrophic wildfire events, the October 2017 Tubbs Fire, the 2019 Kincade Fire and the 2020 Glass Fire. Evacuations were required during the fires and Fulton Road was utilized as an evacuation route.

Small portions of the project would impact regular traffic flow within one lane of Fulton Road during construction. An efficient roadway and circulation system is vital for the evacuation of residents and the mobility of fire suppression, emergency response, and law enforcement vehicles. The City shall require that the contractor develop a traffic management plan that ensures Fulton Road within the project area

²⁵ City of Santa Rosa Local Hazard Mitigation Plan. October 2016.

shall be kept accessible to residents and to all first responder units, ensure appropriate traffic control and that emergency access are maintained. As such, this impact would be less than significant.

g. Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

The project includes replacing a portion of an existing segment of sewer main. Once completed, the project would primarily be underground and would not increase the risk of wildland fires.

Cumulative Impacts

There are no adverse cumulative environmental impacts to or from hazards/hazardous materials resulting from implementation of the proposed project.

Mitigation Measures

HM1

The contractor shall be required to follow the provisions of § 5163 through 5167 of the General Industry Safety Orders (California Code of Regulations, Title 8) to protect the project area from being contaminated by accidental release of any hazardous materials.

In general, the Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the District immediately upon discovery of any potential soil or groundwater contamination.

If hazardous materials are encountered during construction or occur as a result of an accidental spill, the contractor shall halt construction immediately, notify the City, and implement remediation in accordance with the project specifications and applicable requirements of the Regional Board. Disposal of all hazardous materials shall be in compliance with current California hazardous waste disposal laws.

HM2

For portions of the project occurring within the Santa Rosa Creek channel, the City shall adhere to all permit terms contained in the USACE, Regional Board and CDFW permits for such construction. In-stream containment shall, at a minimum, include:

- Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement of absorbent material. No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. The Applicant must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.

- The Applicant shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the Project. The Plan must detail the Project elements, construction equipment types and location, access and staging and construction sequence.
- Raw cement, concrete (or washing thereof), asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States.
- The discharge of petroleum products, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint, coating material, drilling fluids, or other construction-related potentially hazardous substances to surface water and/or soil is prohibited.
- Discharge of unset cement, concrete, grout, damaged concrete spoils, or water that has contacted uncured concrete or cement, or related washout to surface waters, ground waters, or land is prohibited. If concrete washout is necessary at a site, washout containment to prevent any discharge shall be used. Wastewater may only be disposed by delivery to a sanitary wastewater collection system/facility (with authorization from the facility's owner or operator) or a properly licensed disposal or reuse facility.
- The contractor shall install the necessary containment structures to control the placement of wet concrete and to prevent it from entering into the channel outside of those structures. No concrete shall be poured within the channel if the 15-day weather forecast indicates any chance of rain greater than 20 percent.
- All cement-based products (concrete, mortar, etc.) poured or applied wet onsite shall be excluded from the wetted channel or areas where they may come into contact with water flow. The product shall be kept moist for 30 days and runoff from the product shall not be allowed to enter the stream. Commercial sealants may be applied to the product surface or mixture where difficulty in excluding flow for a long period may occur. If sealant is used, water shall be excluded from the situ until the sealant is cured.
- At all times when the contractor is pouring or working with wet concrete, there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures.

X HYDROLOGY & WATER QUALITY

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☒	☐	☐
b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☒	☐
c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i. result in a substantial erosion or siltation on- or off-site?	☐	☐	☐	☒
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?	☐	☐	☐	☒
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	☐	☐	☐	☒
iv. impede or redirect flows?	☐	☒	☐	☐
d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?	☐	☐	☐	☒
e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☒	☐	☐

Environmental Setting

SURFACE WATER

The proposed project site is located within the Russian River watershed. Santa Rosa Creek flows through the project site. The reach of Santa Rosa Creek in the project area is a channelized stream with an open bottom that supports a narrow band of riparian vegetation. There are numerous streams in the project area, as shown on Figure X-1. There are no designated wild or scenic rivers in the project area.

The surrounding project area is developed with residential uses, roadways and City storm drain facilities. Stormwater in the project area is directed via the City's storm drain network and conveyed to Santa Rosa Creek.

GROUNDWATER RESOURCES

The City's water supply is primarily from water stored in Lake Mendocino and Lake Sonoma and provided by Sonoma Water. The City also operates two groundwater wells to augment its supply. The proposed project does not include any new wells and does not introduce significant impervious surfaces. As shown on Figure X-2, the project is located above the Santa Rosa Plain Aquifer.

FLOODING

The project area is not designated as being at risk for flooding by FEMA, as shown on Figure X-3. None of the proposed project locations are located within designated flood zones.

Regulatory Setting

Clean Water Act

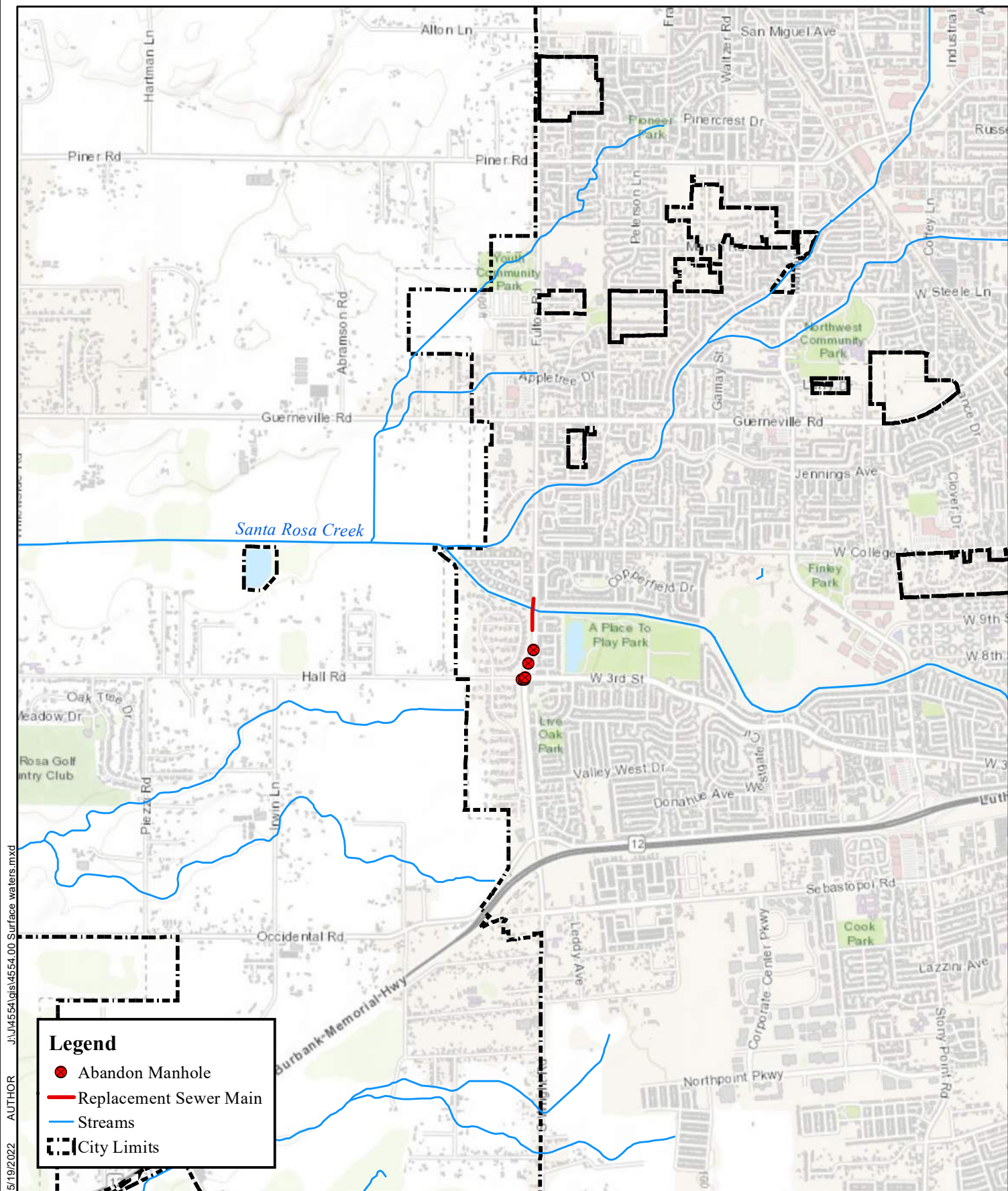
Important applicable sections of the federal CWA (33 USC 1251–1376) are identified below:

- Sections 303 and 304 provide water quality standards, criteria, and guidelines.
- Section 401 requires an applicant for any federal permit that proposes an activity that may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the CWA. Certification is provided by the Regional Water Quality Control Board (RWQCB).
- Section 402 establishes the NPDES permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the RWQCB.

State Water Resources Control Board

The State Water Resources Control Board (SWRCB) is responsible for implementing the Clean Water Act and issues NPDES permits to cities and counties through regional water quality control boards. The project location is regulated by the North Coast Regional Water Quality Control Board (Regional Board).

The SWRCB has issued a statewide General Permit (Water Quality Order No. 99-08-DWQ) for construction activities within the state. The Construction General Permit (CGP) is implemented and enforced by the RWQCBs. The CGP applies to construction activity that disturbs one acre or more and requires the preparation and implementation of a Storm Water Pollution Prevention Plan (SWPPP) that identifies best management practices (BMPs) to minimize pollutants from discharging from the construction site to the maximum extent practicable.



5/19/2022 AUTHOR J:\454\454145454.00 Surface waters.mxd

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
 Projection: Lambert Conformal Conic
 Datum: North American 1983
 Units: Foot US

Data Source Information:
 CDFW (2019)

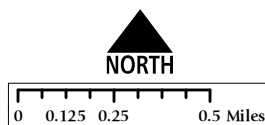
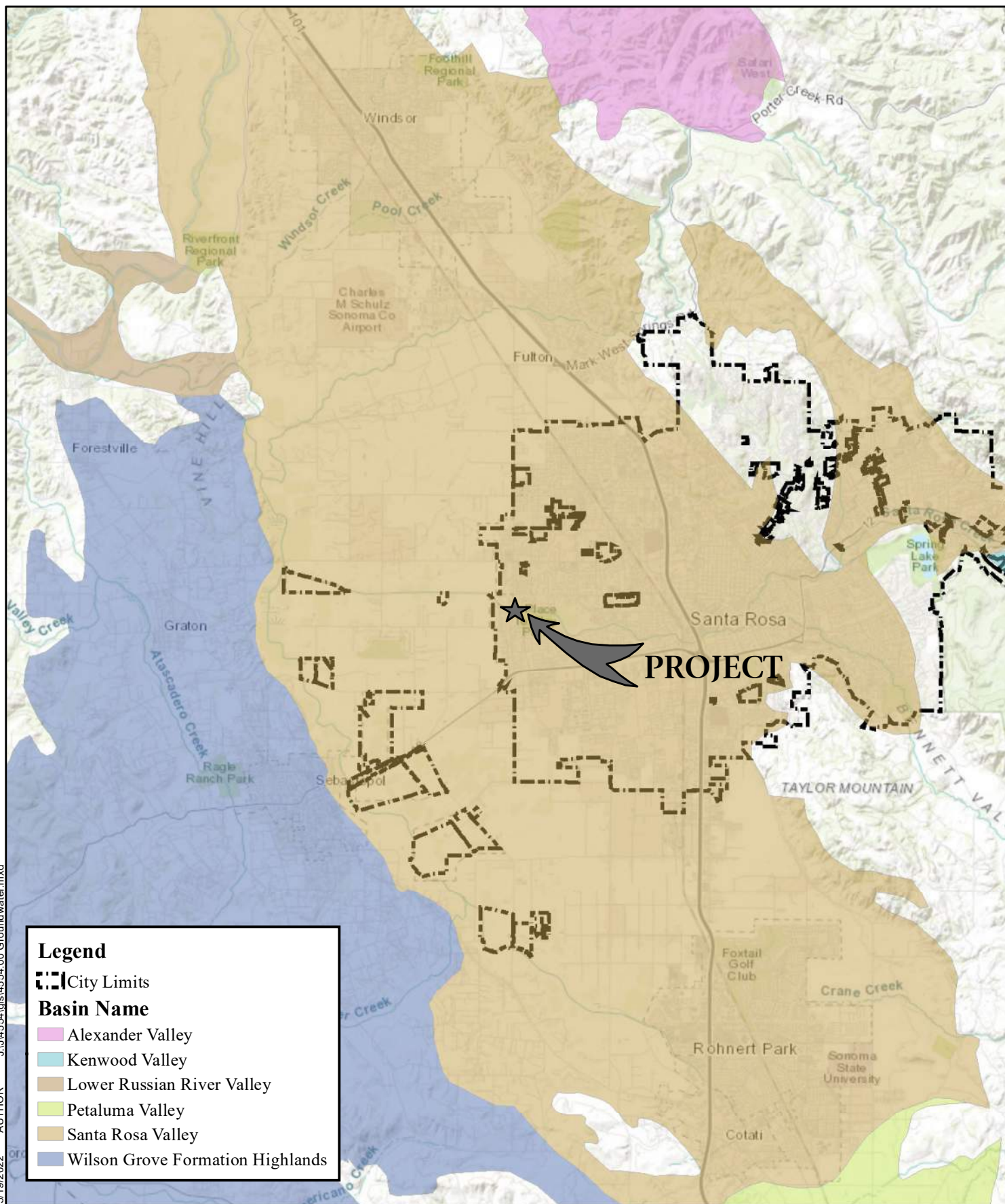


FIGURE X-1
SURFACE WATERS

5/19/2022 AUTHOR J:\4554\GIS\4554_00_Groundwater.mxd



Legend

 City Limits

Basin Name

 Alexander Valley

 Kenwood Valley

 Lower Russian River Valley

 Petaluma Valley

 Santa Rosa Valley

 Wilson Grove Formation Highlands

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
CalFire (2019)

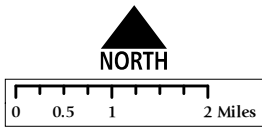
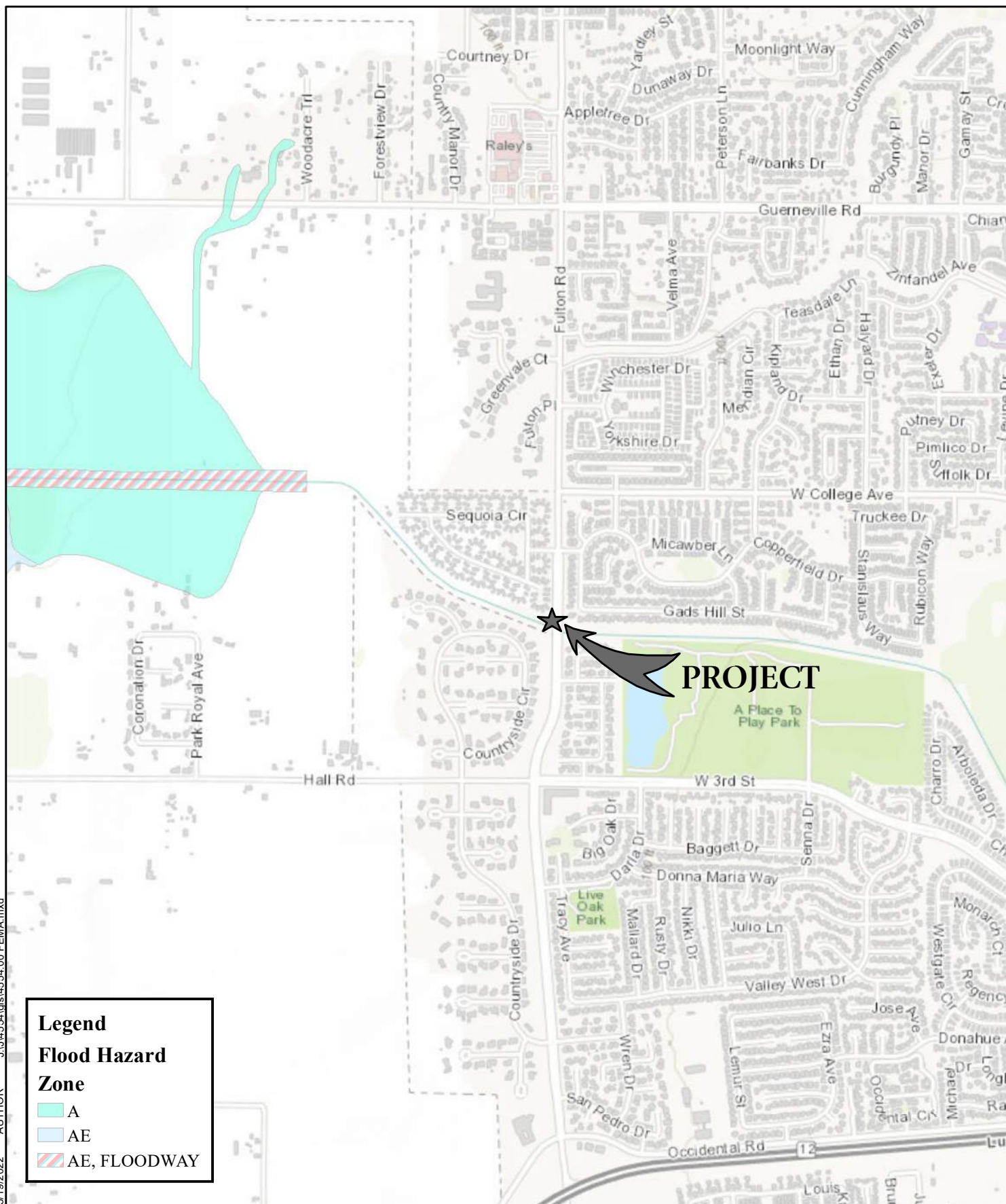


FIGURE X-2
GROUNDWATER BASINS

CITY OF SANTA ROSA
JUNE 2022

5/19/2022 AUTHOR JJ\4554\145454.00 FEMA.mxd



Legend
Flood Hazard
Zone

- A
- AE
- AE, FLOODWAY

Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
Flood Hazard: FEMA (2017)

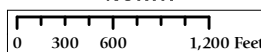


FIGURE X-3
FEMA

The SWRCB has also issued a statewide General Permit (Water Quality Order No. 97-03-DWQ) for regulating stormwater discharges associated with industrial activities. This General Permit requires the implementation of management measures that will achieve the performance standard of best available technology economically achievable and best conventional pollutant control technology. It also requires the development of a SWPPP, a monitoring plan, and the filing of an annual report.

Porter-Cologne Water Quality Act

The State of California's Porter-Cologne Water Quality Control Act (California Water Code, Section 13000 et seq.) provides the basis for water quality regulation in California. This Act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. Based on the report, the RWQCBs issue waste discharge requirements to minimize the effect of the discharge.

Analysis

a. Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?

The project's goal is to protect water quality by replacing the existing compromised trunk sewer. However, the project has the potential to cause construction-related violations of water quality standards. Implementation of the proposed project would involve excavation, grading, and other construction activities involving soil disturbance that may impact water quality by increasing the potential for erosion and sedimentation. Soil disturbance associated with construction activities may cause accelerated soil erosion and sedimentation and/or the release of pollutants to downstream properties and facilities that could impact water quality standards or waste discharge requirements.

The State General Construction Activity Storm Water Permit (CGP) applies to construction activities that disturb one acre or more and requires the preparation and implementation of a SWPPP. As indicated in the Geology and Soils section, the project would have a total disturbance area of approximately 16,000 SF (0.37 acres) and would not be subject to coverage under the State Water Resources Control Board (SWRCB) Construction General Permit. The project includes an erosion control plan as part of the plans and specifications to minimize the potential for erosion-related impacts to surface waters to the extent possible (Mitigation Measure GS1). Because the project would comply with current regulations and project permits to limit erosion-related water quality impacts during and after construction, any impact would be less than significant.

A portion of the project will be constructed in an open cut trench across Santa Rosa Creek. Construction within a flowing creek has an additional potential to cause erosion and siltation within the creek. As described in the Biological Resources section, project construction would occur consistent with applicable permits from the Regional Board, USACE and CDFW. Permit conditions shall be implemented to ensure the project does not violate any water quality standards or otherwise degrade surface or groundwater quality. Please also see item b.) in the Hazards & Hazardous Materials section for hazardous materials containment measures during construction.

b. Would the project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

The proposed project would replace an existing segment of sewer main that serves an existing developed subdivision. The project is not growth inducing and would not impact existing demands or groundwater levels in the project area or elsewhere. The project does not introduce any significant new impervious surfaces (existing surfaces would be restored to existing conditions) outside of the stream channel and would not substantially interfere with groundwater recharge or groundwater basin management. A minor amount of impervious surface would be placed within the stream channel to protect the replacement pipeline but existing subsurface flow associated with the stream would continue and groundwater recharge would not be impacted in any measurable way. Any impact to groundwater recharge would be less than significant.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

c.i. result in a substantial erosion or siltation on- or off-site?

The project would not substantially alter the existing area drainage at any of the project locations. No significant new impermeable surfaces would be introduced (approximately 1,500 sf associated with the hammerhead turnaround) and existing surfaces would be restored. In-stream work would occur consistent with anticipated permit terms, as indicated in a.) above, and would be less than significant with inclusion of permit terms.

c.ii. Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite?

The project would not substantially increase the rate or amount of surface runoff. Disturbed areas would be restored to existing grades.

c.iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

The project does not significantly alter existing grades in the project area or introduce new impervious surfaces that would impact local stormwater systems or result in substantial additional sources of polluted runoff. There is currently no post-construction stormwater treatment in the project area and none is proposed by the project due to its subterranean nature and lack of significant impervious surfaces.

c.iv. Would the project impede or redirect flows?

The project locations are not within a mapped 100-year flood hazard area, as shown on Figure X-3, and would not exacerbate existing conditions. Over the long-term, the project would not alter the course of a stream or river impede or redirect flows. The replacement sewer main will be contained within the stream channel and necessarily includes protection from in-stream erosive forces to avoid exposure of the pipe or damage to the pipe.

As indicated in the Project Description, within the stream bed, the pipe would be concrete encased. To protect the area from scour, approximately 15 feet upstream of the pipe and approximately 10 feet downstream of the pipe, the area would be excavated for placement of rip rap – approximately 2 feet deep on the south side of the creek, and approximately 3 feet deep on the north. Rip rap would be placed up to and on top of the concrete encasement. Native streambed material removed during excavation would be used to backfill on top of the rip rap to restore the bed and flowline. The existing stream bed is at approximately 77 feet above sea level (FSL). Excavation would extend to approximately 72.5 FSL for placement of riprap. Riprap would also be placed up the banks to approximately 80 FSL to provide bank scour protection.

Design of the pipeline protection was collaborated between the engineering team and O'Connor Environmental, Inc., a consulting geohydrologist, and provides the best available science and engineering design to both protect the pipeline and to ensure that the portion of the streambed remains stable (does not scour downward resulting in exposure of the pipeline or fish passage impediment)²⁶. Based on the design, the project will not impede or redirect flows over the long-term.

During construction, an upstream coffer dam will be constructed within the creek channel to bypass creek flows, resulting in a short-term impediment and redirection of stream flows. This is necessary to accomplish construction and would be done according to the appropriate permits, as described in the Biological Resources section.

d. In flood hazard, tsunami, or seiche zones, would the project risk release of pollutants due to project inundation?

The project is not within a mapped 100-year flood hazard area and the project area is not at risk from tsunami or in a seiche zone.

e. Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Please see a.), above.

Cumulative Impacts

There are no adverse cumulative environmental impacts to hydrology/water quality resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to hydrology/water quality have been identified; therefore, no mitigation is required.

²⁶ Hydrogeomorphic Study, South Fulton Road Trunk Sewer Replacement. O'Connor Environmental, Inc. May 19, 2021.

XI LAND USE & PLANNING

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project physically divide an established community?	☐	☐	☐	■
b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	■

Environmental Setting

Development in the project area is governed by the City of Santa Rosa General Plan and Zoning Ordinance. The project area is surrounded by developed residential subdivisions and a mobile home park to the northwest. The project primarily occurs within the existing landscaped area between residences to the west and Fulton Road to the east. The project would also cross Santa Rosa Creek. The Santa Rosa Creek Trail runs east/west through this portion of the Santa Rosa Creek.

Analysis

a. Would the project physically divide an established community?

The project would not physically divide an established community. The project replaces an existing segment of sewer main to ensure on-going wastewater service to the community it serves.

b. Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

The project would not conflict with any applicable land use plan, policy or regulation in that it supports existing residential development in the area which is consistent with the City's General Plan and implementing Zoning Code. All project components occur within public right of way or within public utility easements.

Cumulative Impacts

There are no adverse cumulative environmental impacts to land use and planning resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to land use and planning have been identified; therefore, no mitigation is required.

XII MINERAL RESOURCES

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project 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?	☐	☐	☐	■
b. Would the project 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?	☐	☐	☐	■

Environmental Setting

SANTA ROSA GENERAL PLAN

No applicable general plan or specific plan indicates that there are mineral resources of value or importance in the project area.

Analysis

- a. **Would the project 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?**
- The project site does not include any known mineral resource that would be of value to the region and the residents of the state. The project would not affect the availability of any such resource.
- b. **Would the project 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?**
- The project area is not delineated in the City’s General Plan or the County’s Aggregate Resource Management Plan as a locally important mineral resource recovery site.

Cumulative Impacts

There are no adverse cumulative environmental impacts to mineral resources resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to mineral resources have been identified; therefore, no mitigation is required.

XIII NOISE

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?	☐	☐	☐	☒
c. For a project located within the vicinity of a private airstrip or 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?	☐	☐	☐	☒

Environmental Setting

This section includes a description of the terminology and concepts related to noise and vibration impacts that are considered in the analysis. This section also includes a discussion of the existing environmental conditions related to noise-sensitive receptors and ambient conditions found in urban areas such as the project vicinity.

NOISE-SENSITIVE USES

Noise-sensitive land uses in the project area are nearby single and multi-family residences. There are residential uses located adjacent to the northerly and southerly portions of the project.

NOISE CONDITIONS

Existing ambient sound levels in the project area can be considered typical of an arterial roadway adjacent to a residential environment. Sources of noise in the area come primarily from traffic along local Fulton Road. Traffic noise is highest during the daytime hours and subsides during the night.

CONSTRUCTION NOISE

The types of equipment that would be used to construct the proposed pipeline include:

- One track excavator medium to large size
- One earth compactor
- One roller
- One backhoe/loader

- One wheel loader (two yard bucket)
- One water truck
- One crane truck
- One or two ten wheel dump trucks

The table below presents the typical noise levels for the construction equipment listed above based on a worst-case scenario including several pieces of the loudest equipment (running simultaneously). This includes the typical measured A-weighted L_{max} noise levels (maximum noise level) that would occur at a 50-foot distance from the construction site. The acoustical use factor is the fraction of time that the equipment would typically be in use over a 1-hour period.

Equipment	Acoustical Use Factor	Typical Noise Level (L _{max}) ¹
Asphalt/Concrete Truck ²	40%	76
Backhoe	40%	78
Compactor	20%	83
Compressor	40%	78
Crane	16%	81
Dump Truck	40%	76
Excavator	40%	81
Forklift ³	40%	75
Front-End Loader	40%	79
Jackhammer	20%	89
Paver	50%	77
Pickup Truck	40%	75
Roller	20%	80
Water Truck ²	40%	76

Source: Federal Highway Administration 2006

1 dBA, A-weighted decibel level (measured at 50 feet)

2 Based on data for dump truck

3 Based on data for pickup truck

OPERATIONAL NOISE

During operation, the proposed project would not create noise that would be audible. The replacement sewer main would be installed below ground and would not emit noise.

Regulatory Setting

LOCAL REGULATIONS

City of Santa Rosa Noise Exposure Limits

The General Plan and zoning ordinance are the primary ways the County regulates noise levels and compatible uses. The City's ambient noise levels associated with zoning districts is shown below (Santa Rosa City Section Code 17-16.030). Code Section 17-16.120 states: It is unlawful for any person to operate any machinery, equipment, pump, fan, air-conditioning apparatus or similar mechanical device in any manner so as to create any noise which would cause the noise level at the property line of any property to exceed the ambient base noise level by more than five decibels. City Code Section 17-16.150 "Motor-driven vehicles-Noise" provides vehicle noise level limitations as set forth in Section 23130 of California Vehicle Code. This allows for higher noise levels for vehicles.

Zone	Time	Sound Level A (decibels) Community Environment Classification
R1 and R2	10 p.m. to 7 a.m.	45
R1 and R2	7 p.m. to 10 p.m.	50
R1 and R2	7 a.m. to 7 p.m.	55
Multi-family	10 p.m. to 7 a.m.	50
Multi-family	7 a.m. to 10 p.m.	55
Office & Commercial	10 p.m. to 7 a.m.	55
Office & Commercial	7 a.m. to 10 p.m.	60
Intensive Commercial	10 p.m. to 7 a.m.	55
Intensive Commercial	7 a.m. to 10 p.m.	65
Industrial	Anytime	70

The City does not have an ordinance or General Plan policy related to reducing construction noise.

Analysis

- a. **Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

The project will not result in any long-term increases in noise levels in the project vicinity. The project is a sewer main replacement project that serves existing development and noise is not typically associated with operation of such facilities. Because the project is a passive gravity sewer, the project does not involve the use of booster pump stations. The project would not result in an increase in long-term ambient noise levels.

Based on typical noise levels associated with equipment used to construct pipelines contained in the table presented previously, construction activities are expected to result in a temporary increase in noise levels that exceed the City's established noise criteria. Adjacent residences would be exposed to non-attenuated construction noise. However, these impacts are temporary and construction-related.

Additionally, construction within the stream channel and banks will partially attenuate noise to adjacent receptors since it will be below typical ground surface levels in the area. It is anticipated that the pipeline construction would average approximately 10 feet per day so no one location would be impacted by excessive noise levels for more than a few days at a time. Mitigation Measure N1 would reduce such temporary construction-related noise to a less than significant level.

b. Would the project result in generation of excessive ground borne vibration or ground borne noise levels?

Implementation of the project would not result in the exposure of people to or the generation of groundborne vibration or noise levels. No pile driving, blasting, or similar construction techniques that would generate such vibration are required.

c. For a project located within the vicinity of a private airstrip or 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?

There are no active public use airports within two miles of the project area. The project would not alter the existing noise environment resulting from air traffic.

Cumulative Impacts

There are no adverse cumulative environmental impacts to noise resulting from implementation of the proposed project.

Mitigation Measures

N1

The following measures shall be implemented at the construction site to reduce the effects of construction noise on adjacent residences:

- Noise-generating activities at the construction sites or in areas adjacent to the construction sites associated with the project in any way shall generally be restricted to the hours of 7:00 a.m. to 7:00 p.m. Any work outside of these hours shall require special permission from the City. There should be a compelling reason for permitting construction outside the designated hours.
- The City shall provide notice to all residents within 100 feet of the construction activities at least 48 hours prior to commencing construction. The notice shall include the contact information for the City's noise disturbance coordinator and the anticipated construction schedule.
- All internal combustion engine driven equipment shall be equipped with intake and exhaust mufflers which are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Staging of construction equipment and all stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be staged as far as practical from existing noise sensitive receptors.
- "Quiet" air compressors and other "quiet" stationary noise sources shall be utilized where technology exists.

- Noise from construction workers' radios shall be controlled to the point where radio noise is not audible at existing residences bordering the project site.
- A sign providing contact information for the construction manager shall be posted onsite of construction-related questions/complaints.

XIV POPULATION & HOUSING

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project induce substantial unplanned 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)?	☐	☐	☐	☒
b. Would the project displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Analysis

- a. **Would the project induce substantial unplanned 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)?**

The project would replace a portion of an existing sewer main and would not induce population growth.

- b. **Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?**

No housing would be displaced by the project. The project is intended to ensure reliable wastewater collection to the residences served by the collection system.

Cumulative Impacts

There are no adverse cumulative environmental impacts to population and housing resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to population and housing have been identified; therefore, no mitigation is required.

XV PUBLIC SERVICES

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
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:				
i. Fire protection?	☐	☐	☐	☒
ii. Police protection?	☐	☐	☐	☒
iii. Schools?	☐	☐	☐	☒
iv. Parks?	☐	☐	☐	☒
v. Other public facilities?	☐	☐	☒	☐

Environmental Setting

The City generally provides all of the public services in the project area. The project is located entirely within the City's Fire Department service area and police department service area. The project area is served by Santa Rosa City Schools.

Analysis

- 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:**

a.i. Fire protection?

The project would not have any negative effect on fire protection services. The project does not alter above ground conditions or access to/from the project area. The contractor will be required by the City to ensure emergency access is maintained during construction.

a.ii. Police protection?

The project is not growth inducing and would not impact police protection.

a.iii. Schools?

The proposed project replaces a portion of an existing sewer main and the project and would not have a long-term impact to schools.

a.iv. Parks?

The project would not impact any parks.

a.v. Other public facilities?

The project will result in the temporary closure of the Santa Rosa Creek Trail within the project extents, a temporary construction-related impact that is considered to be less than significant. Please see the Recreation section of this document. The project would not impact other public facilities.

Cumulative Impacts

There are no adverse cumulative environmental impacts to public services resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to public services have been identified; therefore, no mitigation is required.

XVI RECREATION

	Potentially significant impact	Less than significant impact 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?	☐	☒	☐	☐
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?	☐	☒	☐	☐

Environmental Setting

The City's Recreation and Parks Department operates parks within the City limits. The nearest formal recreation areas include A Place to Play to the east of the project location and Live Oak Park to the south. Santa Rosa Creek Trail traverses the project area from east to west under Fulton Road. The portion of the trail to the west is operated by Sonoma County Regional Parks. The portion to the east of Fulton Road is operated by the City. In the project area, the Santa Rosa Creek Trail is a mixed use bike and pedestrian trail. The north bank trail is paved and equipped with ramps to Fulton Road and its sidewalks and provides an undercrossing under Fulton Road. The south side is an unpaved gravel surface.

Analysis

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?

The project is not growth inducing and would not increase use of existing neighborhood and regional parks or other recreational facilities.

Project construction would impact the Santa Rosa Creek Trail during trenching and installation of the replacement sewer main portion within Santa Rosa Creek. The trail is a multi-purpose pathway that includes pedestrian and bicycle use. There are three trails within the project area that would require closure. The gravel path on the south side of the creek would require closure for approximately three days and occasional short-term closures over the course of approximately two months to bring equipment and materials into and out of the creek work area. The concrete path beneath the bridge would require closure for approximately two weeks to allow for reconstruction of the retaining wall. The asphalt path on the north side of the creek would require closure for approximately three days.

A feasible bypass route exists by directing pedestrians and bicyclists north on Fulton Road to Greenvale Court to access Piner Creek Trail that joins back to Santa Rosa Creek Trail to the west. The potential bypass route would require crossing Fulton Road. Crosswalks are located approximately midway between the Santa Rosa Creek Trail and the Piner Creek Trail at the signalized West College and Fulton

Road intersection. Mitigation Measure R1 requires the City to provide a bypass of the construction area and reduces the impact of the temporary closure to less than significant.

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?

The project will result in the closure and removal of a portion of the Santa Rosa Creek Trail during construction, as described in a.) above. That portion of the trail will be reconstructed once the sewer replacement under the creek is complete, consistent with mitigation measures contained in this document to reduce such impact to a less than significant level.

Cumulative Impacts

There are no adverse cumulative environmental impacts to recreation resulting from implementation of the proposed project.

Mitigation Measures

R1

The contractor shall develop a bicycle and pedestrian bypass plan for the portion of the Santa Rosa Creek Trail during construction for City review and approval. The plan shall include adequate signage and direction to route bicycle and pedestrian traffic around the construction area and to the detour route. Maps of the bypass route shall be posted at all Santa Rosa Creek Trail access locations impacted by construction. Additionally, Sonoma County Regional Parks requires the following:

- Two weeks prior to starting construction and closing the trail, post temporary and/or detours signs on the trail. The temporary signs shall include information such as the start and end dates of the trail closure.
- The Contractor shall obtain a revocable license agreement from Regional Parks prior to starting construction activity on the northern trail.

XVII TRANSPORTATION

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☒	☐	☐
b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?	☐	☒	☐	☐
c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
d. Would the project result in inadequate emergency access?	☐	☒	☐	☐

Environmental Setting

The project is located in Northwest Santa Rosa along the west side of Fulton Road. Fulton Road is a four lane road where it crosses Santa Rosa Creek, separated by a median. Stripped on-road Class II bike lanes are provided on either side as well as sidewalks and landscaped buffers from adjacent residential uses. Santa Rosa CityBus route 6 runs along Fulton Road in the project area.

The Santa Rosa Creek Trail is a designated Class 1 Shared Use Path and provides an undercrossing for bikes and pedestrians under Fulton Road as well as ramps to bike and pedestrian facilities on Fulton Road. No improvements to these bike and pedestrian facilities are proposed by the 2018 Bicycle and Pedestrian Master Plan Update²⁷.

Analysis

a. Would the project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

The project would not conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities. The project would be partially located within Fulton Road and would temporarily close a portion of the Santa Rosa Creek Trail during construction but would not have a long-term impact on an applicable transportation plan, ordinance, or policy. All disturbed areas would be restored after construction of the sewer main to facilitate those plans. Because the impact would be temporary and appropriate bypasses exist for vehicular (see

²⁷ <https://srcity.org/2711/Bicycle-and-Pedestrian-Master-Plan>

Mitigation Measure T1 below), pedestrian and bike traffic (Mitigation Measure R1), the impact is considered to be less than significant with incorporation of those mitigation measures.

b. Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

CEQA Guidelines § 15064.3 requires Lead Agencies to adopt thresholds of significance for vehicle miles traveled (defined as “the amount and distance of automobile travel attributable to a project”). State-wide compliance with § 15064.3 began July 1, 2020. The City has not yet adopted thresholds of significance for vehicle miles traveled.

The project would not conflict with and is not inconsistent with CEQA Guidelines § 15064.3, subdivision (b). As a sewer main replacement project in a built-out area within the City, the project would not increase vehicle trips to or from the project area. The project is not a land use or transportation project, as specifically defined in Section 15064.3 (b) (1) and (2). Section 15064.3 (b) (3) allows for qualitative analysis: “Qualitative Analysis. If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project’s vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate.”

In this case, the project would not result in any trip per day increase due to the utility nature of the project, it serves existing development and is not growth inducing. Where the project impacts Fulton Road, the roadway surface would be restored to existing conditions upon project completion. Therefore, a vehicle miles traveled analysis would not be required and the project would not conflict with and is not inconsistent with CEQA Guidelines § 15064.3, subdivision (b).

Fulton road would be impacted by short-term construction associated with construction of portions of the sewer main replacement. Construction would reduce access to vehicle traffic within those locations. Standard traffic control mitigation provided, in T1, would reduce these impacts and ensure traffic flow when active construction is not underway.

c. Would the project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

The project would not increase design hazards. Road and trail surfaces would be restored to existing conditions where construction impacts them.

d. Would the project result in inadequate emergency access?

The project would not have any long-term impact to emergency access since Fulton Road would be restored to existing conditions. Construction in Fulton Road could impact emergency response during construction. Mitigation Measure T2 requires the contractor to maintain emergency access and reduces such impact to less than significant.

Cumulative Impacts

There are no adverse cumulative environmental impacts to transportation resulting from implementation of the proposed project.

Mitigation Measures

T1

The contractor shall develop and submit an appropriate Traffic Control Plan (TCP) in accordance with the California Manual of Uniform Traffic Control Devices (MUTCD) for review and approval by the City for all project elements that impact traffic circulation. The TCP shall ensure through traffic access during periods where active construction is not taking place and ensure at least one passable lane of south bound traffic is maintained.

T2

The contractor shall provide advanced notice regarding timing, location and the duration of construction activities to local emergency responders. The contractor shall ensure emergency responders can always have access through the construction area. The contractor shall also ensure that all traffic lanes in Fulton Road are passable or can be immediately made passable in the event of evacuation.

XVIII TRIBAL CULTURAL RESOURCES

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a) 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 a California Native American tribe, and that is:				
i) 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	☐	☒	☐	☐
ii) 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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.	☐	☒	☐	☐

REGULATORY SETTING

Assembly Bill 52 (AB52), the Native American Historic Resource Protection Act, sets forth a proactive approach intended to reduce the potential for delay and conflicts between Native American and development interests. AB52 established a formal consultation process of California Native American Tribes to be conducted during the CEQA process. All projects that file a Notice of Intent to adopt a Mitigated Negative Declaration after July 1, 2016, are subject to AB52 which added tribal cultural resources (TCR) protection under CEQA. A TCR is defined as a site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is either included or eligible for inclusion in the California Register, or included in a local register of historical resources. A Native American Tribe or the lead agency, supported by substantial evidence, may choose at its discretion to treat a resource as a TCR. AB52 also mandates lead agencies to consult with tribes, if requested by the tribe, and sets the principles for conducting and concluding consultation.

Analysis

- a. **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 a California Native American tribe, and that is:**

- a.i. **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)?**

Public Resources Code section 5020.1(k) defines “Local register of historical resources” as a list of properties officially designated or recognized as historically significant by a local government pursuant to a local ordinance or resolution. As indicated in the Cultural Resources section, Tom Origer & Associates prepared a Cultural Resources Assessment for the project in July 2020²⁸ and determined there would be no impact to existing known historical resources.

Bridge #20C0100 (the Fulton Road bridge) was found ineligible for the National Register (Caltrans 2019). Fulton Road has been in existence for nearly 100 years; however, it has grown from a two-lane road to a four-lane road. Also, Fulton Road once dead-ended at Hall Road/W 3rd Road, and a connector segment that bypasses part of its original route was constructed between 1953 and 1965 (FrameFinder 1953, 1965). After 1973, Fulton Road was widened from a two-lane road to a four-lane road. Because of this, it would no longer retain the characteristics of the small farm road that it was when originally constructed and would not meet criteria for inclusion on the National Register.

The Santa Rosa Flood Control Channel was constructed between 1958 and the early to mid-1960s. While it meets the age threshold for potential eligibility for inclusion on the National Register, the project effects will take place outside of and underneath the channel and would not have an effect on the channel structure itself.

Origer & Associates determined there would be no impact to existing known historical resources. However, there is always the possibility of accidental discovery of historical resources during construction. In the event resources are discovered, mitigation measure CR1, contained in the Cultural Resources section, would reduce such impact to less than significant.

- a.ii. **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 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.**

No archaeological site constituents were found during Tom Origer & Associates’ field survey and there are no reported ethnographic sites within one mile of the study area (Barrett 1908). No archaeological site indicators were found within the Area of Potential Effect (APE). The APE is

²⁸ *Cultural Resources Study for the South Fulton Road Trunk Sewer Abandonment and Collector Sewer Main Installation West 3rd Street to Santa Rosa Creek Santa Rosa, Sonoma County, California*. Tom Origer & Associates. July 20, 2020.

defined on Figures 4 through 6. Application of the buried sites model indicates a moderate potential for buried archaeological resources within the APE.

AB52 requires the City to engage local Tribes to determine if there is local knowledge of Tribal Cultural Resources that are not known to other entities. As part of the AB52 tribal consultation process, project information was sent via certified mail to the following tribes by the City on November 17, 2020:

- Federated Indians of Graton Rancheria
- Lytton Rancheria

On November 23, 2020, attorneys for the Lytton Rancheria responded via email that the Lytton Rancheria had received the project information and would not request further consultation.

On December 10, 2020, the Tribal Heritage Preservation Office, Federated Indians of Graton Rancheria (FIGR), responded via email requesting consultation with the City and requesting additional information. The City provided the requested information on December 16, 2020. On March 8, 2021, Tom Origer & Associates transmitted cultural resources records to FIGR on behalf of the City.

The City and FIGR had a consultation meeting²⁹ on July 8, 2021, and FIGR requested additional information. On July 13, 2021, the City submitted the following materials based on FIGR's consultation request: draft permit applications for USACE and Regional Board; Biological Assessment; draft CEQA document; Cultural Resources report; draft Mitigation Monitoring and Reporting Plan; Fish Recovery Plan; Geotechnical Report; Hydrogeomorphic Study; Instream Construction Methodologies memo; Riparian Restoration Plan; and 76% Submittal Plans. On January 4, 2022, FIGR issued comments on the submitted materials.

On February 28, 2022, the City and FIGR had a second consultation meeting and the City provided additional information related to the APE and TCR mitigations. FIGR provided comments on the proposed TCR mitigation measures on April 28, 2022, and the City has incorporated those comments as Mitigation Measure TCR1.

Consultation with FIGR did not reveal the presence of any known TCR's in the project area. However, based on the location being adjacent to and within Santa Rosa Creek as well as the moderate buried site potential finding by Origer & Associates' modeling, FIGR has indicated that there is the possibility for incidental discovery of TCRs during ground disturbing construction activities. Based on this potential, Mitigation Measure TCR1 was developed by the City and reviewed by FIGR to provide protection and treatment of cultural resources and TCRs including: construction monitoring; development of an Archaeological and Tribal Cultural Resources Treatment Plan; protection and preservation of TCRs; and, consultation. Implementation of these measures would reduce potential impacts to TCRs to a level of less than significant.

²⁹ All consultation meetings were held over Zoom and included, at a minimum: the Federated Indians of Graton Rancheria Tribal Historic Preservation Officer; Andy Wilt, City of Santa Rosa, Associate Engineer; Amy Nicholson, City of Santa Rosa Senior Planner; and, Justin Witt, Brelje & Race, Senior Planner.

Cumulative Impacts

There are no adverse cumulative environmental impacts to tribal cultural resources resulting from implementation of the proposed project.

Mitigation Measures

TCR1

Protection of Archaeological and Tribal Cultural Resources (TCR), and Construction Monitoring: The City shall ensure that an Archaeological and Tribal Cultural Resources Treatment Plan (Treatment Plan) is developed and implemented for the project's Area of Potential Effect (APE). The Treatment Plan shall be reviewed and approved by the City and Federated Indians of Graton Rancheria (FIGR) prior to the start of project construction. The Treatment Plan shall detail recommended steps for protecting, and preserving, archaeological resources and TCRs in the event they are discovered during construction. The Treatment Plan shall include Construction Monitoring and describe Protection and Preservation strategies to ensure that appropriate actions are taken to protect any archaeological resources and TCRs encountered during construction. Construction Monitoring, Protection and Preservation are described in more detail below:

- Construction Monitoring: The City shall ensure that if potential unanticipated archaeological resources or TCRs are uncovered during construction, the contractor shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials, examples of which are provided in the following description. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

A program of archaeological and Tribal monitoring shall be instituted for ground-disturbing activities associated with the project's APE. Monitoring shall be performed by a qualified archaeologist and a FIGR Tribal monitor and will consist of directly watching the excavation, grading, trenching, and other earth-moving processes. If archaeological deposits are encountered, the piece of equipment that encounters the suspected materials must be stopped, and the find inspected by the monitoring archaeologist and FIGR Tribal monitor. If the deposit contains Historic Resources, Archaeological Resources, or TCRs as defined by CEQA, all work must be stopped in the immediate vicinity. The City, archaeologist and FIGR will determine if Protection and Preservation is possible, consistent with the Treatment Plan. Work may proceed after a find has been appropriately addressed and a qualified archaeologist and FIGR Tribal representative agree that no further damage would result.

- Protection and Preservation: The preferred treatment of archaeological resources and TCRs is protection and preservation. Protection can be achieved by either avoidance (not developing within the boundaries of an archaeological resource), by covering an archaeological resource with geo-fabric and sufficient fill to protect it during and after construction, or by reducing/restricting development

within the boundaries of a resource. Opportunities for Protection and Preservation of resources directly within the pipeline route are limited but shall be implemented, where feasible.

- Consultation: In the event Opportunities for Protection and Preservation are not feasible, the City and FIGR shall engage in good faith consultation and determine appropriate next steps.

XIX UTILITIES & SERVICE SYSTEMS

	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	■
b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	■
c. Would the project 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?	☐	☐	☐	■
d. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	■
e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	■

Environmental Setting

The City currently provides water and sewer service to the project area. Solid waste disposal and recycling is provided by Recology. Electricity and natural gas delivery infrastructure is owned by PG&E and electricity is generally provided by Sonoma Clean Power (some customers may opt-out and be provided by PG&E). Telephone and internet service are provided by AT&T and Comcast or Sonic, respectively.

Analysis

- a. Would the project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?**

The project would not require or result in the relocation or construction of new or expanded water, storm water drainage, electric power, natural gas, or telecommunications facilities. The project includes replacement of a portion of an existing segment of sewer main that is subject to environmental review in this document. The project would be designed to avoid impact to other existing utilities. The project is not growth inducing and would not increase demand for utilities in the service area. This document has

found that replacement of the sewer main segment's potential to cause significant environmental effects is less than significant with the incorporation of proposed mitigation measures.

- b. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?**

The project is not growth inducing and would not increase demand for water. No new water entitlements would be required.

- c. Would the project 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?**

The project would replace a segment of existing sewer main. The replacement main would be of a smaller diameter than the segment it replaces and serves a full built out area within the City. The project would not result in any increase in wastewater flows to the City's wastewater treatment plant.

- d. Would the project generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?**

No increase in solid waste generation would occur as the project would not increase solid waste demands or impair attainment of solid waste reduction goals. Demolition materials from replacement of the sewer main would be processed according to state and local regulations.

- e. Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?**

The project would comply with federal, state, and local statutes and regulations related to solid waste.

Cumulative Impacts

There are no adverse cumulative environmental impacts to utilities and service systems resulting from implementation of the proposed project.

Mitigation Measures

No adverse environmental impacts to utilities and service systems have been identified; therefore, no mitigation is required.

XX WILDFIRE

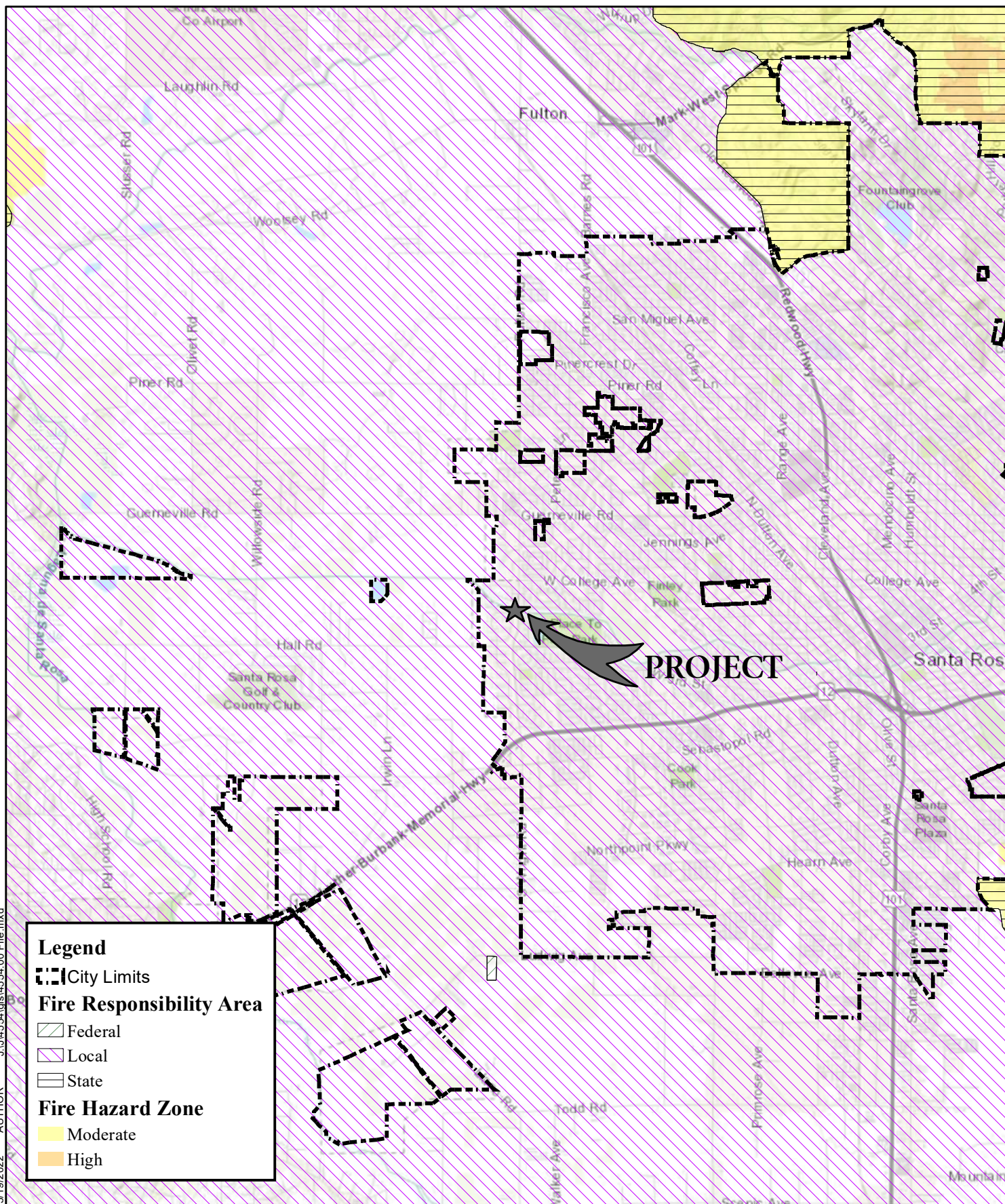
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	Potentially significant impact	Less than significant impact with mitigation incorporation	Less than significant impact	No impact
a. Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☒	☐	☐
b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☐	☒
d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

Environmental Setting

The City prepared its Local Hazard Mitigation Plan (LHMP) in 2016 that assessed potential risks to the City. This plan was updated in 2021 as part of a County-wide plan. The LHMP identifies the City as being at high risk to seismic events, flood, drought and wildfire. The LHMP designates Fulton Road as a north-south evacuation route. The Santa Rosa Fire Department and the Santa Rosa Police Department coordinate emergency response and evacuations based on the LHMP, nature of the emergency and coordination with the County of Sonoma, as required.

Since the LHMP was adopted, the City has experienced three catastrophic wildfire events, the October 2017 Tubbs Fire, the 2019 Kincade Fire and the 2020 Glass Fire. Evacuations were required during the fires and Fulton Road was utilized as an evacuation route. The project area is served by the City's fire Department and is not located within a state responsibility area, as shown on Figure XX-1. The project area is not classified as a High Fire Severity Zone.

5/19/2022 AUTHOR J:\J4554\J4554.00 Fire.mxd



Coordinate System: NAD 1983 StatePlane California II FIPS 0402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983
Units: Foot US

Data Source Information:
CalFire (2019)

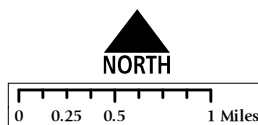


FIGURE XX-1
FIRE RESPONSIBILITY AREA

CITY OF SANTA ROSA
JUNE 2022

Analysis

- a. **Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?**

The project would not substantially impair an adopted emergency response plan or emergency evacuation plan. The project would not have any long-term impact to emergency access since Fulton Road would be restored to existing conditions upon project completion. Construction in Fulton Road could impact emergency response during construction. Mitigation Measure T2, in the Transportation section, requires the contractor to maintain emergency access and reduces such impact to less than significant.

- b. **Would the project due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?**

The project would replace a segment of existing underground sewer main and would not exacerbate wildfire risks.

- c. **Would the project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?**

The project would not require the installation or maintenance of associated infrastructure that may exacerbate fire risk.

- d. **Would the project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?**

The project would not alter existing risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes.

Cumulative Impacts

There are no adverse cumulative environmental impacts from wildfire resulting from implementation of the proposed project.

Mitigation Measures

Please see Mitigation Measure TT1 contained in the Traffic section.

XXI MANDATORY FINDINGS OF SIGNIFICANCE

- a. **Does the project have the potential to substantially 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, substantially 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?**

With implementation of the mitigation measures provided in this document and the permits to conduct work in Santa Rosa Creek, the project would not have a significant adverse impact on the habitat of any plant or animal species or historic or prehistoric resource. Furthermore, the project would not substantially degrade the environment or reduce the level of an endangered or otherwise important plant or animal population below self-sustaining levels. This impact would be considered less than significant with incorporation of the proposed mitigation measures contained in this document and required permits.

- 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)?**

Implementation of the proposed mitigation measures would reduce impacts to less than significant levels. Because no impact is considered to be individually significant and all are construction-related, there would be no contribution to a significant cumulative effect. Therefore, this impact would be less than significant with incorporation of the proposed mitigation measures.

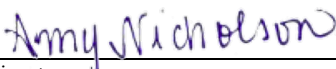
- c. **Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?**

With implementation of the mitigation measures provided in this document, the project would not be expected to cause substantial adverse effects on human beings either directly or indirectly. Mitigation measures would reduce any such potential to less than significant.

DETERMINATION

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.



Signature

Amy Nicholson, Environmental Coordinator
Printed Name

6/21/2022
Date

For:
City of Santa Rosa

DOCUMENT PREPARATION AND SOURCES

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Prepared by:

Justin Witt—Environmental Planner

APPENDIX A:

IN-STREAM CONSTRUCTION METHODOLOGIES

MEMORANDUM

TO: Permitting Agencies

FROM: Justin Witt

SUBJECT: In-stream Construction Methodologies
South Fulton Road Trunk Sewer Repair Project
City of Santa Rosa, Sonoma County, CA
B&R File No. 4554.00

DATE: September 2, 2020

The City of Santa Rosa (City) desires to undertake a project to address approximately 300 feet of failing sewer pipe that was first installed in 1969 under Santa Rosa Creek just westerly of the Fulton Road Bridge. The sewer was originally constructed using 18-inch diameter asbestos cement pipe (ACP) to serve a significant geographical area; however, due to construction of other nearby regional collection facilities, it now serves just 60 homes located in the Countryside subdivision southwesterly of Fulton Road and Santa Rosa Creek. The sewer was lined with a 14-inch diameter polyethylene liner in 1985. The liner has deformed, causing the sewer to become partially obstructed and needs to be replaced. The proposed project would use traditional open cut construction across Santa Rosa Creek to place a new pipe just west from the existing failing pipe, eliminating unknowns regarding the condition of the existing pipe and liner, and potential impact to bridge footings. Additional sewer replacement is proposed upstream of the obstructed pipe to allow for increased pipe slope, and installation of smaller, more appropriately sized pipe from the Countryside subdivision. The existing 18-inch sewer continues upstream, south from the Countryside subdivision tie-in to West Third Street. This sewer is no longer in use, and will be abandoned as a part of this project.

On August 20, 2019, Melanie Day (CDFW), Kaete King (RWQCB) and Jodi Charrier (NOAA Fisheries) met with Andy Wilt and Steve Brady (City of Santa Rosa) and Justin Witt and Dyanna Stetina (Brelje & Race) to: 1) determine that the proposed project, described in the attached August 6, 2019, South Fulton Trunk Sewer Repair: Environmental Permitting Preconsultation package, can be permitted under existing regulations; 2) define supplemental application materials that will be required for a complete application; and, 3) define appropriate mitigation for impacts. All agencies agreed that the open cut sewer main replacement project across Santa Rosa Creek could be permitted provided it was conducted in a way that is protective of the environment and listed species.

In support of the required permits to construct the project, this Memorandum includes

- a description of work proposed to be conducted in the Santa Rosa Creek channel
- proposed in-stream construction methodologies including flow diversion, dewatering and erosion control
- mitigation proposal

Proposed Work in Santa Rosa Creek Channel

The work contained between the southern and northern edges of the existing asphalt paths on each bank includes installation of approximately 160 feet of 8-inch sewer main below the creek, averaging 16 feet west (downstream) of the existing sewer main (on the west side of the Fulton Road Bridge).

An approximately 10-foot wide trench would be excavated through the existing banks and streambed. Depths would vary from approximately 25 feet at the top of the banks to between 2 and 3 feet below the existing stream bottom. Within the creek channel, one 7-inch oak and one 15-inch oak would be removed on the south bank.

Within the stream bed, the pipe would be concrete encased. To protect the area from scour, approximately 15 feet upstream of the pipe and approximately 10 feet downstream of the pipe, the area would be excavated for placement of rip rap – approximately 2 feet deep on the south side of the creek, and approximately 3 feet deep on the north. Rip rap would be placed up to and on top of the concrete encasement. Native streambed material removed during excavation would be used to backfill on top of the rip rap to restore the bed and flowline. The existing stream bed is at approximately 77 feet above sea level (FSL). Excavation would extend to approximately 72.5 FSL for placement of riprap. Riprap would also be placed up the banks to approximately 80 FSL to provide bank scour protection.

Within the banks, the trench would be backfilled and compacted to restore the surface to existing grade. The portions of the banks which were disturbed by trenching or equipment tracking would be stabilized using bioengineering. The area will be covered with a biodegradable erosion control blanket, and placement of willow cuttings as live stakes and mitigation for tree loss would occur after construction (described further below).

General Conditions for Work within the Santa Rosa Creek Channel

The following general conditions shall be enforced during construction within the Santa Rosa Creek channel.

1. No work shall occur until all necessary permits have been obtained.
2. Work within the stream channel shall occur between July and October (with the potential to be extended until November, consistent with CDFW regulations). Dewatering shall only occur between August and November (consistent with NOAA Fisheries regulations). During this time, maximum flow is anticipated to be 2 cubic feet per second (cfs).
3. The number of access routes, size of staging areas, and the total area of the activity will be limited to the minimum necessary to achieve the project goal.
4. Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement of

absorbent material. No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. The Applicant must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.

5. The City shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the project. The Plan must detail the project elements, construction equipment types and location, access and staging and construction sequence.
6. The discharge of petroleum products, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint, coating material, drilling fluids, or other construction-related potentially hazardous substances to surface water and/or soil is prohibited.
7. Silt fencing, straw wattles, or other effective management practices must be used along the construction zone to minimize soil or sediment along the embankments from migrating into the waters of the United States through the entire duration of the Project.
8. Disturbance or removal of vegetation shall not exceed the minimum necessary to complete the project. Vegetation outside the construction corridor shall not be removed or damaged.
9. Disturbed ground will be treated with appropriate erosion control measures (mulching, seeding, planting, etc.) prior to the end of the construction season, prior to ceasing operations due to forecasted wet weather, OR within seven days of project completion, whichever comes first. Operations will use all feasible techniques to prevent any sediment from entering a drainage system.
10. For each existing tree with a greater than four-inch diameter within or adjacent to the work area that will be retained following construction, a critical root zone shall be established by the qualified biologist and fenced off from work.
11. All removed vegetation and debris shall be moved outside the ordinary high water mark prior to inundation by water. All removed vegetation and debris shall be disposed of according to state and local laws. (CDFW condition)
12. To ensure that pathogens or invasive mollusks are not conveyed between work sites by biologists conducting surveys, the USFWS Recommended Equipment Decontamination Procedures will be followed at all times.
13. During project activities, all trash that may attract predators will be properly contained, removed from the work site, and disposed of regularly. Following maintenance activities, all trash and maintenance debris will be removed from work areas.

Biological Surveys

The following biological surveys shall occur prior to construction:

1. To avoid potential impacts to Yellow-breasted chat and other migratory bird species (nesting birds), to the extent practical, all construction activities should be performed between September 1 and January 31 to be outside the nesting season. If work must be performed during the nesting season (between February 1 and August 31), a pre-construction nesting bird survey shall be performed in all areas within 250 feet of proposed activities. If nests are found, an appropriately sized no-disturbance buffer shall be placed around the nest at the direction of the qualified biologist conducting the survey. Buffers

shall remain in place until all young have fledged, or the biologist has confirmed that the nest has been naturally predated.

2. To reduce potential harm to Foothill yellow-legged frog and Western pond turtle, the following measures shall be implemented:
 - a. An environmental training shall be provided to all construction workers prior to the start of work for all special status species potentially present.
 - b. A pre-construction survey is shall be conducted within 48 hours of ground disturbing activities for foothill yellow-legged frog and western pond turtle. If possible, the animal shall be allowed to leave the area on its own.
 - c. A qualified biological monitor shall be present during riparian vegetation removal activities. If either species is found, the animal may be relocated to suitable habitat outside the project area by a CDFW-approved biologist.
 - d. Trenches and holes shall be covered and inspected daily for stranded animals, to the extent possible. Trenches and holes deeper than one foot shall contain escape ramps at a maximum slope of 2:1 to allow trapped animals to escape.
3. To protect steelhead and Coho salmon that may be present, the following measures shall be implemented:
 - a. The *Fish Management Plan for South Fulton Trunk Sewer Replacement Project, City of Santa Rosa, California* prepared by Hagar Environmental Science, August 2020, shall be implemented.
 - b. Stream diversion will be conducted within the NOAA/NMFS work window (defined as August 1 to November 30). If pumps are used in the stream diversion process, they shall be fitted with screens not larger than 0.2 inch to prevent the impingement or entrainment of fish species. A qualified fisheries biologist shall conduct fish salvage during dewatering operations. Salvaged fish shall be relocated to suitable nearby habitat outside the Project Action Area.
 - c. A spill prevention plan shall be prepared, consistent with General Condition 6.

Biological Monitor

1. A qualified biologist shall be on site daily to monitor compliance with permit terms and conditions. The qualified biologist shall have the authority to halt project activities, through communication with the City or its onsite designee, in order to comply with permit terms and otherwise avoid impacts to species and/or habitats. (CDFW condition)
2. At the beginning of each work day, the project area shall be inspected by a qualified biologist. (CDFW condition)
3. The qualified biologist shall conduct an education program for all persons employed on the project prior to construction work within the stream. Instruction shall consist of a presentation by the qualified biologist that includes a discussion of the biology and general behavior of any sensitive species which may be in the area, how they may be encountered within the work area, and procedures to follow when they are encountered. Upon completion of the training, employees shall sign an affidavit stating they attended the program and understand all protection measures. (CDFW condition)

Stream Diversion

A temporary stream diversion shall be installed and maintained as needed to move stream flow through and around the project area, to isolate construction activities from contact with stream flow, and prevent impacts on water quality from the construction work. The diversion shall include building and maintaining the temporary stream diversion (pipe with or without bypass pump), flow barriers (dams), temporary erosion and sediment controls, and properly treating and discharging sediment-laden water. Upon completion of in-stream work, all such temporary works after they have served their purposes shall be removed and the area shall be stabilized. Dewatering activities for the construction area would also be necessary and shall be planned to minimize the length of time the temporary stream diversion will be used.

Prior to beginning construction, a plan for diverting stream flows and the removal of water from the work area shall be submitted to the City for approval. The plan shall, at a minimum, include:

1. A qualified fisheries biologist will conduct fish salvage during stream diversion operations, as described in the *Fish Management Plan for South Fulton Trunk Sewer Replacement Project, City of Santa Rosa, California* prepared by Hagar Environmental Science, August 2020. Salvaged fish will be relocated to suitable nearby habitat outside the Project Action Area.
2. Flow Barriers: The Contractor shall build, maintain and operate all flow barriers (dams), such as cofferdams, and protective works needed to prevent stream flows from entering the construction site.
 - a. The flow barrier shall be made of non-erodible material, able to withstand the anticipated flows, and shall not contribute unnecessary pollution to the stream or surrounding area. The flow barrier may be constructed of a combination of riprap, sand bags, concrete barriers, or other appropriate materials. Riprap or sand used in the barriers shall be prewashed prior to placing it in the stream. Any material used to minimize seepage under flow barriers, such as grout, shall be non-toxic, non-hazardous, and as close to neutral pH as possible.
 - b. Impermeable barrier material used in the flow barrier shall be free of holes, punctures, tears or other defects that compromise the impermeability of the material. Material shall have UV resistance appropriate for the duration of the diversion. Where multiple pieces of material are used, they shall be affixed in accordance with manufacturer's recommendations.
 - c. Contractor shall monitor flow barriers daily for leaks or other deficiencies. Barriers shall not be left unattended for longer than 24 hours. Weather reports should be observed. If a storm event is expected, the site shall be stabilized in preparation as appropriate. All repairs shall be made immediately to prevent further damage to the installation.
 - d. The stream flow shall not be diverted until the temporary stream diversion has been properly stabilized.
 - e. When a temporary stream diversion is ready to accept the stream flow, the flow barriers shall be installed within the stream. The upstream flow barrier shall be installed first followed by the downstream flow barrier.
3. Temporary Stream Diversion: Stream flow shall be diverted around the construction site and away from the construction work. Unless otherwise specified, the temporary stream

diversion must discharge into the same natural drainage way. In no instance shall the diverted flow be discharged into a different watershed. Flow shall be diverted in a pipe. Gravity flow of the diversion is the preferred method. A bypass pump may be used, if necessary.

- a. Piping shall be 8-inch nominal diameter minimum smooth-walled HDPE pipe suitable for clean water with water tight joints. Pipe shall be clean, uncoated, and in good condition. The pipe shall be supported as required for planned loads. Piping will be installed to ensure that stream flows will not be released into the work site.
 - b. If a bypass pump diversion is used, the pump shall be placed on firm ground on top of a drip pan or other pollution prevention material to avoid contamination of the soil or stream. The in-stream discharge location shall be properly stabilized prior to diverting any flow to prevent unnecessary erosion or siltation. Screened pumps shall be used in accordance with CDFW's fish screening criteria (found in Appendix S of the California Salmonid Stream Habitat Restoration Manual 4th Edition), and in accordance with the NMFS Southwest Region Fish Screening Criteria for Anadromous Salmonids. The pump operation shall be monitored and augmented as needed.
 - c. Turbidity levels at the discharge end of the diversion shall comply with limitations in the 401 Certification.
 - d. If a bypass pump diversion is used, the contractor shall have a redundant bypass pump on-site or otherwise available to be delivered to the site within 4 hours to allow for the diversion to remain in place in case of primary pump failure.
4. Dewatering: The contractor shall prepare a dewatering plan to install, operate and maintain all sumps, pumps, casings, wellpoints and other equipment needed to perform the dewatering of the construction site in the diverted stream area, as needed, for the construction work. The contractor shall develop means to retain, test, and treat such water so as to meet all requirements of the General Construction Permit and effluent limitations in the 401 Certification.
 - a. Dewatering will be kept to the minimum possible area.
5. Work within the Dewatered Area:
 - a. The contractor shall install the necessary containment structures to control the placement of wet concrete and to prevent it from entering into the channel outside of those structures. No concrete shall be poured within the channel if the 15-day weather forecast indicates any chance of rain greater than 20 percent.
 - b. Discharge of unset cement, concrete, grout, damaged concrete spoils, or water that has contacted uncured concrete or cement, or related washout to surface waters, ground waters, or land is prohibited. If concrete washout is necessary at a site, washout containment to prevent any discharge shall be used. Wastewater may only be disposed by delivery to a sanitary wastewater collection system/facility (with authorization from the facility's owner or operator) or a properly licensed disposal or reuse facility.
 - c. All cement-based products (concrete, mortar, etc.) poured or applied wet onsite shall be excluded from the wetted channel or areas where they may come into contact with water flow. The product shall be kept moist for 30 days and runoff from the

product shall not be allowed to enter the stream. Commercial sealants may be applied to the product surface or mixture where difficulty in excluding flow for a long period may occur. If sealant is used, water shall be excluded from the situ until the sealant is cured.

- d. At all times when the contractor is pouring or working with wet concrete, there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures.
6. Erosion and Pollution Control: The temporary stream diversion shall be installed during dry weather to minimize water quality impacts. Measures shall be taken to divert runoff from entering the temporary diversion channel and the project area. All erosion and sediment control devices shall be properly maintained and repaired or replaced, as necessary.
- a. Removal of water from the construction site shall be accomplished in such a manner that erosion and the transmission of sediment and other pollutants are minimized. To avoid contamination and compaction, equipment shall not enter the natural stream bed outside of the dewatered area.
7. Removal and Restoration: Upon completion of construction within the stream, the Contractor shall remove all materials placed in the channel and restore the channel to the extent required to prevent any obstruction of the flow of water. The work site in the natural stream area shall be stabilized prior to the removal of the stream flow barriers. Removal of the flow barrier shall be accomplished during dry weather. The temporary diversion pipe shall be blocked once the stream flow has been restored to the natural channel, by first plugging the upstream end and then the downstream end. Any standing water shall be removed from the temporary stream diversion pipe and the temporary diversion pipe shall then be removed per the plans and specifications. Removal and restoration work shall occur under supervision of the biological monitor.
8. Bank Stabilization: The City shall comply with bank stabilization measures contained in the applicable permits from the USACE, Regional Board and CDFW and those measures shall be incorporated into the project specifications. At a minimum, those measures shall include slope protection including the placement of an erosion control blanket and prepared willow cuttings as live stakes, as follows:
- a. The erosion control blanket shall be biodegradable with a functional longevity of 24 months. It shall be of consistent thickness and covered on the top and the bottom with biodegradable fiber netting. It shall be capable of withstanding a shear stress of 2.0 psf and flow velocity of 6 fps.
 - b. Live stakes shall be willow cuttings from a healthy, native stand. Cut poles while the plant is dormant. Species shall be Arroyo willow (*Salix lasiolepis*). Species may not be substituted without project biologist's written approval. Live stakes shall be 1-inch to 3-inch in diameter and of sufficient length to reach ordinary high water elevation, at approximately 2' on center. Stakes shall be pierced through the erosion control blanket. Select the longest, straightest poles available and use only two- to four-year old plants. Strip all but the top two or three side branches from poles. Trim off the terminal bud on top. Cut the bottom end at a 45 degree angle to make a point. Poles

and branches shall be trimmed with sharp tools and soaked for 5 to 7 days before planting.

Revegetation and Mitigation

The project will only have temporary impacts to the Santa Rosa Creek channel and streambed. Upon completion of the project, the stream bed will be restored to existing grades with rip rap pipe protection covered by removed native bed materials (as shown on Figure 4). The geomorphic assessment prepared¹ by OEI concludes that the proposed design will not result in scour or long-term fish passage issues. Functions and values of the impacted reach of stream will be preserved by replacement of the potentially failing existing sewer main. No mitigation for the temporary construction-related impacts to the stream bed are proposed.

Construction of the project will result in removal of all riparian vegetation within the trenching zone. Mitigation is proposed to be consistent with the Riparian Restoration Plan for the South Fulton Sewer Project, City of Santa Rosa, prepared by Sol Ecology August 27, 2019.

APPENDIX B:

FISH MANAGEMENT PLAN FOR THE SOUTH FULTON TRUNK SEWER REPLACEMENT PROJECT

FISH MANAGEMENT PLAN
FOR
SOUTH FULTON TRUNK SEWER REPLACEMENT PROJECT
CITY OF SANTA ROSA, CALIFORNIA

Prepared for:

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August 2020

Introduction

The City of Santa Rosa (City) desires to undertake a project to address approximately 300 feet of failing sewer pipe that was first installed in 1969 under Santa Rosa Creek just westerly of the Fulton Road Bridge (Brelje and Race Consulting Engineers 2019).

One of the project solutions being considered includes use of open trench construction methods to construct a replacement 8-inch diameter gravity flow sewer under Santa Rosa Creek. This is the City's preferred solution based on overall system reliability and lowest on-going maintenance costs (Brelje and Race Consulting Engineers 2019). This project would require dewatering of a short section of Santa Rosa Creek in the construction area.

Santa Rosa Creek in the vicinity of the proposed project may support steelhead (*Oncorhynchus mykiss*) and coho salmon (*Oncorhynchus kisutch*). Fish surveys have recorded steelhead in Santa Rosa Creek, primarily upstream of the project area (CDFW 2006). Coho have not been reported in the project area but temperature data collected during the summer of 1998 indicated warm water temperature (CDFW 2006). Temperatures recorded at Fulton Road are in excess of suitable temperature for steelhead.

The project area is within the Central California Coast ESU for coho salmon, a Federally endangered and State of California endangered species; and with the Central California Coast DPS for steelhead, a Federally threatened species. The project is within Designated Critical Habitat¹ for Central California Coast Steelhead (NMFS 2005) and Central California Coast Coho Salmon (NMFS 1999). No other federally listed, proposed or candidate fish species were identified as potentially occurring within the project area.

The purpose of this Fish Management Plan is to provide a plan and specifications to complete the project with minimal effect on protected fish species that may be present in the project area. The plan specifies the protocols that will be followed to rescue and relocate protected species from habitats during dewatering and to safely handle and transport fish to pre-determined release sites. In addition, the plan specifies the minimum necessary qualifications of the fish biologists conducting these activities.

Activities conducted under the Fish Management Plan will be consistent with the Streambed Alteration Agreement, Biological Opinion, or other permitting obtained for the project by the permittee. At least two weeks prior to implementation of the fish relocation activities the permittee shall provide to the qualified fish biologist copies of the Streambed Alteration Agreement, any extensions and amendments to the Agreement, and all related notification materials and California Environmental Quality Act (CEQA) documents, as well as any Biological Opinions.

¹ Critical habitat is a specific area occupied by a listed species that has the physical or biological features essential to conservation of the species, and it may require special management or protection. Essential features include spawning sites, juvenile rearing areas and migration corridors, adult migration corridors, food resources, water quality and quantity, and riparian vegetation.

Personnel

The Fish Management Plan will be implemented and supervised by a qualified fish biologist. The qualified fish biologist will be onsite during initial dewatering to implement fish rescue and relocation in the work area. The qualified fish biologist shall be present at the work site until such time as all removal of protected fish species and complete dewatering of the work area has been completed. A qualified fish biologist is a person having at least a 4-year college degree in fisheries or biology, or a related degree. The person also must have at least 2 years of professional experience handling salmonids and must have direct experience with the method or methods that will be used to capture stranded fish and relocate them.

The qualified fish biologist will be assisted by one or more biological monitors or construction monitors. A biological monitor is an individual experienced with construction-level biological monitoring, who is able to recognize species in the project area, and who is familiar with the habits and behavior of those species. Biological monitors shall have academic and professional experience in biological sciences and related resource management activities as it pertains to this project. A construction monitor under this Agreement is an individual trained by the qualified biologist to identify special-status species that may be in the area, their general behavior, how they may be encountered in the work area, and procedures to follow when they are encountered.

Qualified Fish Biologists, Biological Monitors, and Construction Monitors shall be authorized to stop construction if necessary to protect fish and wildlife resources. If construction is halted, the Qualified Fish Biologist, Biological Monitor or Construction Monitor shall halt construction and notify CDFW/NMFS. Consultation with CDFW/Service is required before re-commencing work.

At least 15 days prior to initiating fish and wildlife surveys within the project area, the Permittee shall submit the names and resumes of all biologists, biological monitors, and construction monitors involved in conducting survey and/or monitoring work to California Department of Fish and Wildlife (CDFW) and National Marine Fisheries Service for review and written approval. No project activities shall begin until proponents have received written approval from CDFW/Service that the biologist(s) is qualified to conduct the work

Invasive Species Control

To prevent spread of invasive aquatics and diseases, equipment to be used in watercourses including, but not limited to, boots, waders, hand tools and nets will be decontaminated. Decontamination of clothing and equipment shall be done through one or more of the following methods:

- Drying equipment in an upland location following last aquatic use. If average daytime temperatures exceed 80° F, drying times shall be at least 7 days. If average daytime temperatures are below 80° F, drying times shall be at least 30 days;
- Scalding water wash (at least 140° F) with varying high- and low-pressure spray to dislodge pathogens, vegetation, and contaminated sediment;
- Freezing at a temperature of less than 32° F for more than 72 hours;
- Soaking in a hospital-grade disinfectant solution for at least two minutes (or longer, based on product directions). A 5% chlorine solution with 2-minute exposure may be used for this purpose.

To avoid harm to non-target species, disinfected clothing and equipment shall be thoroughly rinsed in a water bath before entering the water body.

Repeat decontamination is required only if the equipment/clothing is removed from the site, used within a different waterbody, and returned to the project site. Decontamination shall take place in an upland location and any chemicals used during decontamination shall be prevented from entering water bodies or stormwater drains.

Dewatering

Prior to dewatering the biologist will attempt to clear as many fish from the work area as possible. This will be accomplished by electrofishing or pulling appropriately sized nets through the work area to scare fish into adjacent stream reaches. Block nets will be placed at the upstream and downstream borders of the work area to prevent fish from re-entering the area after removal. Block net mesh shall be sized appropriately to exclude fish and amphibians present at the project site at the time of implementation. Block nets will not be removed until installation of all bypass pipes or channels, diversion dams, or other facilities designed to dewater or divert flow, are completed.

Dewatering will be accomplished in compliance with an approved dewatering plan produced by the construction contractor. Dewatering will likely be accomplished by placing coffer dams at the upper and lower borders of the work area and bypassing flow around the work area in a suitable conduit either by gravity or with pumps. Residual water in the work area will be removed by the construction contractor by pumping after completion of the coffer dams. Pumps used to dewater will be screened and the screens will be operated and maintained as outlined in NMFS's *Water Drafting Specifications* (NMFS 2001). Pumped water will be filtered through a filter bag, discharged to a settling tank and/or treated in a manner to ensure compliance with water quality requirements prior to discharge.

All fish species and large aquatic invertebrates in habitats being dewatered will be removed prior to complete dewatering of the site and relocated to suitable nearby habitats. The biologist will employ electrofishing, dip nets and/or seines to capture fish in the work area before and intermittently during dewatering. Electrofishing techniques and procedures will be consistent with NMFS's electrofishing guidelines (NMFS 2000). Field supervisors must have completed appropriate training in electrofishing techniques and have at least 100 hours of experience. At least one assistant shall aid the biologist during electrofishing by netting stunned fish and other aquatic vertebrates. A minimum of three passes with the electrofisher will be utilized to ensure maximum capture probability of salmonids within the area proposed for dewatering. If fish are present on any pass, a minimum of 20 minutes will separate the beginning of each pass through the Project reach to allow time for fish that are not captured to become susceptible to electrofishing again.

Protected species, potentially including steelhead and coho salmon, will be handled with extreme care and kept in cool water to the maximum extent possible during capture and transfer procedures. Handling of fish and amphibians shall be minimized. When handling is necessary, the qualified fisheries biologist shall always wet hands or nets prior to touching fish and amphibians.

The transfer of these fish will be conducted using an appropriate container filled with clean, cold water from the stream. An aerator will be used to maintain dissolved oxygen concentrations in the container as needed. The qualified fisheries biologist shall measure air and water temperatures periodically. A thermometer shall be placed in holding containers and, if necessary, partial water changes will be conducted periodically to maintain a stable water temperature. Small amounts of ice may be added to the

container if the fish biologist determines that the water temperature in the container is more than 2° F warmer than receiving waters. If cooling is used, water temperatures will be maintained not more than 2° F less than ambient in-stream temperatures. All captured fish will be held in well-oxygenated water, with a dissolved oxygen level of not less than seven parts per million.

Overcrowding in containers shall be avoided by having at least two containers and segregating young-of-year (YOY) fish and amphibians from larger age-classes to avoid predation. Larger amphibians may be placed in a container with larger fish. If fish are abundant, the capturing of fish and amphibians shall cease periodically and captured individuals shall be released at the predetermined locations. All captured fish will be allowed to recover from electrofishing and other capture gear before being returned to the stream. All captured fish will be processed and released prior to any subsequent electrofishing pass or netting effort.

Fish will be released as near as possible to capture sites and as soon as possible following capture. Potential release locations will be selected prior to capturing fish and amphibians. The most appropriate release location(s) shall be determined, using the following criteria: water temperature shall be similar as the capture location; there shall be ample habitat for the captured fish; relocation areas must be in proximity to the capture site, contain suitable habitat, not be affected by project activities, and be free of potential predators to the best of the qualified biologist's knowledge. There shall be a low likelihood for the fish to reenter the work site or become impinged on the exclusion net or screen. Prior to release, the following information shall be recorded: 1) List fish by species, 2) Visual determination of age, 3) Describe injuries and fatalities by age class, 4) Document successfully relocated fish by age class for each relocation site, and 5) Document date and time of release of fish to each relocation site.

Reporting

A technical memorandum will be prepared documenting rescue operations, species observed, numbers of each species, including the number of any dead or injured fish, location of release, site conditions, extent of area dewatered, and water and air temperature conditions. The report will be submitted to CDFW/NMFS within 30 business days following project construction.

If any listed, rare, or special status species are detected during project surveys or on or around the project site during project activities, the Permittee shall submit California Natural Diversity Database (CNDDDB) Field Survey Forms to CDFW in the manner described at the CNDDDB website August 6, 2019

Literature Cited

- Brelje and Race Consulting Engineers 2019. South Fulton Trunk Sewer Repair: Environmental Permitting Preconsultation. City of Santa Rosa. B&R Project File No. 4554.00. August 6, 2019.
- CDFW 2006. California Department of Fish and Game Stream Inventory Report, Santa Rosa Creek. Report Revised April 14, 2006.
- NMFS 1999. Final critical habitat designation for Central California Coast and Southern Oregon/Northern California Coasts Coho Salmon. Federal Register 64:24049-24065. May 5, 1999.
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NMFS 2001. Water Drafting Specifications. National Marine Fisheries Service, Southwest Region.
August 2001.

NMFS 2005. Final critical habitat designations for 19 West Coast salmon and steelhead ESUs. Federal
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APPENDIX C:

RIPARIAN RESTORATION FOR THE SOUTH FULTON TRUNK SEWER PROJECT



RIPARIAN RESTORATION PLAN

South Fulton Road Trunk Sewer Replacement
Project, City of Santa Rosa, CA

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SE Project No. 1952

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September 2020



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1.0 PROJECT DESCRIPTION

1.1 Summary of Overall Project

The City proposes to undertake a project to address approximately 300 feet of failing sewer pipe under Santa Rosa Creek just westerly of the Fulton Road Bridge. The sewer has become partially obstructed and needs to be replaced. The current 18-inch diameter asbestos cement sewer pipe would be replaced using open trench construction methods to construct an 8-inch diameter gravity flow sewer replacement under Santa Rosa Creek (Project Study Area; Appendix A, Figure 1).

This restoration plan has been prepared for the City of Santa Rosa, California Department of Fish and Wildlife (CDFW), Regional Water Quality Control Board (RWQCB), and U.S. Army Corps of Engineers permitting requirements to conduct post-construction riparian restoration, monitoring and management. Resource-agency permits required by the Project will include measures for the use of environmentally-sensitive and wildlife-friendly construction techniques. Post-construction restoration of the natural creek corridor in the Project reach will also be required.

The sewer was originally constructed using 18-inch diameter asbestos cement pipe (ACP) to serve a significant geographical area; however, due to construction of other nearby regional collection facilities, it now serves just 60 homes located in the Countryside subdivision southwesterly of Fulton Road and Santa Rosa Creek. The sewer was lined with a 14-inch diameter polyethylene liner in 1985. The liner has deformed, causing the sewer to become partially obstructed and needs to be replaced.

Additional sewer replacement is proposed upstream of the obstructed pipe to allow for increased pipe slope, and installation of smaller, more appropriately sized pipe from the Countryside subdivision. The existing 18-inch sewer continues upstream, south from the Countryside subdivision tie-in to West Third Street. This sewer is no longer in use, and will be abandoned as a part of this project.

NORTH OF SANTA ROSA CREEK

Work on the north side of the Santa Rosa Creek channel would include installation of approximately 130 feet of 8-inch sewer main from the northern edge of the existing asphalt path to an existing manhole (SMH #12) to intertie with the existing sewer. This work would primarily occur in the landscaped setback area between Fulton Road and the westerly adjoining residential area. Installation depths would average approximately 28 feet below the existing ground surface. No trees are anticipated to be removed.

The concrete bike pathway and its retaining wall would be closed to public use during installation. The retaining wall would be cut and removed within the trench width and reconstructed after sewer main installation. Similarly, the asphalt path would be closed during construction and reconstructed. The existing sidewalk in the landscape area parallel to Fulton Road would be removed and replaced.

SOUTH OF SANTA ROSA CREEK

Work on the south side of the Santa Rosa Creek channel would include extending the 8-inch sewer main approximately 13 feet from the south side of the existing asphalt path to a new manhole to be located in the existing landscaped area. The path would be closed during construction and reconstructed after sewer main installation.

The sewer main would continue south from the new manhole approximately 340 feet to a second new manhole to intertie with the existing sewer system. The southern portion of the new sewer main would be installed at an average depth of approximately 25 feet.

The new intertie manhole would be provided with a 12-foot wide hammerhead driveway off of Fulton Road to provide maintenance access, parking and a vehicle turnaround, and extend 80 feet westerly from Fulton Road. The existing sidewalk would be maintained within the driveway. The existing sidewalk from the turnaround to Santa Rosa Creek would be closed during construction and pedestrians would be directed to the other side of Fulton Road. Several landscape trees would be removed, including: one 17-inch sycamore, one 7-inch cypress; two 4-inch ornamentals; one 6-inch ornamental; one 7-inch ornamental; and, one 10-inch ornamental. All trees would be replaced with similar species.

WORK IN SANTA ROSA CREEK CHANNEL

The work contained between the southern and northern edges of the existing asphalt paths on each bank includes installation of approximately 160 feet of 8-inch sewer main below the creek, averaging 16 feet west (downstream) of the existing sewer main (on the west side of the Fulton Road Bridge).

An approximately 10-foot wide trench would be excavated through the existing banks and streambed. Depths would vary from approximately 25 feet at the top of the banks to between 2 and 3 feet below the existing stream bottom.

Within the stream bed, the pipe would be concrete encased. To protect the area from scour, approximately 15 feet upstream of the pipe and approximately 10 feet downstream of the pipe, the area would be excavated for placement of rip rap – approximately 2 feet deep on the south side of the creek, and approximately 3 feet deep on the north. Rip rap would be placed up to and on top of the concrete encasement. Native streambed material removed during excavation would be used to backfill on top of the rip rap to restore the bed and flowline. The existing stream bed is at approximately 77 feet above sea level (FSL). Excavation would extend to approximately 72.5 FSL for placement of riprap. Riprap would also be placed up the banks to approximately 80 FSL to provide bank scour protection.

Within the banks, the trench would be backfilled and compacted to restore the surface to existing grade. The portions of the banks which were disturbed by trenching or equipment tracking would be stabilized using bioengineering. The area will be covered with a biodegradable erosion control blanket, and placement of willow cuttings as live stakes.

SEWER ABANDONMENT

The existing approximately 300 feet of sewer between existing SSMH #13 and existing SSMH #12 under Santa Rosa Creek would be abandoned in-place and filled with cellular concrete material to prevent collapse. This would be done from above the top of bank and is not expected to have any impact to the stream.

Approximately 1,480 additional feet of sewer and five additional manholes, extending south to West Third Street, will also be abandoned in-place with cellular concrete. Abandonment will occur from the existing manholes. Ground disturbance will be limited to the area immediately surrounding these existing manholes where the ground surface will be restored to match adjacent pavement, curb and gutter, or natural ground. These locations would require closure of one lane of traffic on Fulton Road but would not otherwise disturb surrounding areas.

POST-CONSTRUCTION REVEGETATION AND PLANTING PLAN

The project reach is a bridge crossing, with many associated utilities and built infrastructure, thus opportunities to create new habitats or to connect existing stream habitats are limited. These opportunities are further limited due to the channel's fluvial and hydraulic requirements, which include use of rock riprap for scour protection around the new pipeline and adjacent streambank areas. To the extent possible, the post-restoration grading plans will include elements to return site conditions for the stream and riparian habitats (e.g. inset floodplains, riffles-pools, in-stream "islands", riparian vegetation thickets, open grasslands) to pre-construction conditions. Fish passage requirements and flood protection factors will be considered when implementing post-construction restoration activities.

In areas where scour protection is not required, discrete planting zones will be established following grading and stabilization of the streambed, banks and adjacent access areas. Native wetland and riparian species will be selected for each zone, based on each zone's proximity to the stream and hydrologic setting, and each plant's tolerance and preferred growing conditions. A preliminary site plan showing species by zone is provided in Appendix A, Riparian Revegetation Plan drawing.

1.2 Location of Project

The Project Site is located in the City of Santa Rosa (City), Sonoma County, California. The Project Site is surrounded by residential housing to the south and north. The site can be accessed via the Santa Rosa Creek Trail which runs underneath the Fulton Road bridge. The Project Site is bounded to the north and south by The Santa Rosa Creek Trail. The trail occurs on the north and south sides of Santa Rosa Creek. The site where construction disturbance is anticipated to occur within Santa Rosa Creek jurisdictional areas (extends to top-of-bank above the stream channel) is approximately 0.13-acre (50 linear feet) and ranges in elevation from approximately 23 to 31 meters (80 to 100 feet above mean sea level). This area includes all direct and indirect effects anticipated as a result of proposed activities including trenchwork, dewatering and coffer dam installation, and accessibility as shown in Appendix A, Figure 2.

2.0 EXISTING CONDITIONS

Vegetation along the Santa Rosa Creek channel appears to be maintained at some point in time as evidenced by minor tree trimming, introduction of native plantings and varying cover provided by larger shrub and tree species observed in upstream and downstream reaches. Immediately upstream of the Project Area, under Fulton Avenue bridge, the channel is mostly lined with a rock protection layer that extends beyond the immediate edge of the bridge in the Project Area.

2.1 Vegetation

As described above, Santa Rosa Creek is a jurisdictional Waters of the State and U.S. and is therefore subject to laws regulating the fill and/or discharge of materials into such waters. Additionally, the habitat surrounding jurisdictional Waters is often also sensitive whereas it provides functions and values to the stream including: maintaining base flow by shading and reducing evapotranspiration, providing nutrient input, reducing downstream flooding by dissipating energy, protecting water quality by reducing erosional processes and sediment inputs, and providing habitat for aquatic and terrestrial wildlife. In the case of Santa Rosa Creek upstream and downstream of the Fulton Avenue bridge, including the Project Area, riparian habitat is present along the existing channel bank and extending to the top of bank (with the exception of a small paved trail/bike path on the north side of the channel).

Riparian vegetation in the Project Study Area was mapped based on functions and values observed at the site including all of those functions listed above. This habitat type is described and mapped by CNPS as Arroyo Willow Shrubland Alliance, which when present adjacent to streams is considered a riparian habitat by CDFW and subject to Section 1600 of the California Fish and Game Code. Arroyo willow (*Salix lasiolepis*) is the dominant species within the canopy. Other trees observed in the canopy include big-leaf maple (*Acer macrophyllum*), California bay (*Umbellularia californica*), California buckeye (*Aesculus californica*), Fremont cottonwood (*Populus fremontii* subsp. *fremontii*), and Oregon ash (*Fraxinus latifolia*). Cattail (*Typha* sp.), Himalayan blackberry (*Rubus armeniacus*), rush (*Juncus* sp.), water cress (*Nasturtium officinale*), and western poison oak (*Toxicodendron diversilobum*) were also observed in the riparian corridor. Arroyo willow Shrubland Alliance is not considered a sensitive vegetation community. under CEQA.

2.2 Hydrology and Stream Setting

The Project Site is located over the channel and banks of Santa Rosa Creek, which drains to the Laguna de Santa Rosa approximately 3.7 miles downstream of the Project Site. The Laguna de Santa Rosa flows toward Mark West Creek, which then drains to the Russian River and the Pacific Ocean. At the location of the Project Site, the creek is approximately 40 feet wide. A mid-channel bar has set up in the center of the channel immediately below the center bridge abutment. There are multiple step-pools and small riffles present in the area immediately up and downstream of the bridge. Channel substrate is composed of cobble and gravel, with a sandy bottom. Little to

no large woody debris exists in the Project Area nor any nearby reaches. A small sediment bar that extends from the right stream edge is present immediately downstream of the Project Area.

2.3 Soils

Soils at the site are comprised of Pajaro clay loam, overwash, and introduced scour protection material can also be found in the Project Site and upstream reach, including large riprap and cobble material used to line the channel bottom and channel banks under the Fulton Avenue bridge.

3.0 POST-CONSTRUCTION RESTORATION PLAN AND IMPLEMENTATION

3.1 Purpose of the Plan

The following guidelines for restoration following completion of pipeline construction are based upon the City's Citywide Creek Master Plan and associated design standards prescribed for Santa Rosa Creek. This restoration plan addresses short-term and long-term restoration efforts to return these areas to pre-disturbance conditions in conformance with agency Project approvals.

A conceptual layout for proposed restoration is shown in Appendix A, Plan Drawings.

As stated previously, Santa Rosa Creek within the Project Study Area is considered a Waters of the U.S. and State under the Clean Water Act and Fish and Game Code Section 1602, respectively. The purpose of this plan is to implement compensatory mitigation measures for the temporary disturbance of stream and riparian habitat resulting from replacement of the trunk sewer pipeline.

3.2 Restoration Goals

The goals and targets for riparian restoration at the Project Area are to:

- Restore disturbed stream channel and riparian stream banks to pre-construction conditions;
- Improve native species cover and diversity along the creek bank to improve shading and improve in-stream habitat;
- Provide bank stability downstream of bridge;
- Remove or control invasive species that threaten to negatively alter vegetation communities over time.

3.3 Site Preparation and Plant Installation

Revegetation with native riparian species will enhance habitat quality and diversity on this segment of the creek and will help to stabilize the creek bank below the vehicle bridge. The creek restoration is designed to avoid existing mature native riparian species but will target non-native

and invasive species for removal. Native shrubs and trees will be retained since they will continue to provide shade and wildlife habitat. Plants and plant materials will be obtained from California sources, locally sourced where possible.

Prior to planting, the restoration area will be cleared of invasive species and other weeds that may threaten native plant establishment. Mulch or other weed and erosion control materials are highly recommended. Following plant installation, cages to prevent deer browsing and a drip irrigation system for shrubs and herbs will be installed; details on these features will be developed as part of landscaping specifications.

3.4 Planting Plan

Species included in the planting plan are listed in Table 1 below. The planting plan in as shown in Appendix A, illustrates the location, number, size, and spacing for each plant installation. Planting will occur on the stream banks that will be disturbed by pipeline construction activities. The planting plan area is 0.1 acre in size as required to compensate for the temporary disturbances of habitat at this location. Based on the presence of mature tree canopy cover in reference stream reaches upstream and downstream of the Project Site, several shrub and tree species are recommended.

Table 1. Planting Zones for Creek and Riparian Mitigation Areas

Planting Zone Location	Proposed Plantings
Top of Bank (Xeric)	Live Oak, Valley Oak, Madrone, Bay, Manzanita, Ceanothus, Native Bunch Grasses and Wildflowers
Mid-Bank (Intermediate)	Valley Oak, Black Oak, Buckeye, Maple, Elderberry, California Rose, California Blackberry, California Grape, Snowberry, Native Grasses and Wildflowers
Lower-Bank Above 2-yr Floodplain (Hydric; Seasonally Wet)	Alder, Cottonwood, Willow, Ash, Boxelder, Elderberry, Maple, Snowberry, California Rose, California Blackberry, California Grape, Native Wetland Plants
Channel Bottom Below 2-yr Floodplain (Hydric; Perennially Wet)	Elderberry, California Blackberry, California Grape, California Rose, Snowberry, Willow (sprigging), Native Wetland Plants, Sedges, Tules, Rushes, and Bur reed

Table 2. Planting Plan for Creek and Riparian Mitigation Areas

Common Name	Scientific Name	Life Form	Location	Size	Qty	Spacing
California buckeye	<i>Aesculus californica</i>	tree		Tree pot 4	5	10' OC*
Coast live oak	<i>Quercus agrifolia</i>	tree	Mid-Bank	Tree pot 4	5	10' OC
Arroyo willow	<i>Salix lasiolepis</i>	tree	Lower Bank	Tree pot 4	20	10' OC
Bigleaf maple	<i>Acer macrophyllum</i>	tree	Top of Bank	Tree pot 4	5	10' OC
Western sycamore	<i>Platanus occidentalis</i>	tree	Top of Bank	Tree pot 4	5	10' OC
California bay laurel	<i>Umbellularia californica</i>	tree	Mid-Bank	Tree pot 4	10	10' OC
				Total trees	50	
Elderberry	<i>Sambucus mexicana</i>	shrub	Mid-Bank	1 gallon	20	6' OC
California rose	<i>Rosa californica</i>	shrub	Lower Bank / Mid-Bank	1 gallon	30	6' OC
California blackberry	<i>Rubus ursinus</i>	shrub	Mid-Bank	1 gallon	30	6' OC
Snowberry	<i>Symphoricarpos albus</i>	shrub	Top of Bank	1 gallon	20	6' OC
				Total shrubs	100	
Bur reed	<i>Sparganium eurycarpum</i>	herb	Lower Bank	1 plug	25	6' OC
California Grape	<i>Vitis californica</i>	Herb	Mid-Bank	1 plug	25	6' OC
Common tule	<i>Schoenoplectus acutus</i>	herb	Lower Bank	1 plug	25	6' OC
				Total herbs	75	
				TOTAL PLANTS	225	

*OC – on center

Depending on nursery stock availability, substitutes may be necessary for the plants listed above. Where possible, plant substitutions should have the same life form, consist of the same quantity, have similar habitat/water requirements, and should be native to the area. Deviations to the planting plan (e.g. spacing) may also be necessary as part of the field-fitting process. Suggested plant substitutes are included below in Table 2; this list is composed of the species that exist on-site, is typically found in Santa Rosa Creek riparian understory, and may be easily located at nurseries. The wetland status of these plants has also been included in this table to assist with species selection and placement. All plant substitutes shall be approved by the biologist prior to purchase to ensure substitutions are appropriate.

Table 3. Suggested Substitute Plant Palette

Scientific Name	Common Name	Life form	Wetland Status*
<i>Notholithocarpus</i>	tanoak	shrub	UPL
<i>Rubus ursinus</i>	California blackberry	shrub or vine	FAC
<i>Corylus cornuta</i>	beaked hazelnut	shrub	FACU
<i>Diplacus aurantiacus</i>	sticky monkeyflower	shrub	UPL
<i>Holodiscus discolor</i>	oceanspray	shrub	FACU
<i>Artemisia douglasiana</i>	California mugwort	perennial herb	FAC
<i>Cholocalum pumilum</i>	wavyleaf soap plant	perennial herb	UPL
<i>Erythranthe guttata</i>	seep monkey flower	annual or perennial herb	OBL
<i>Scrophularia californica</i>	California bee plant	perennial herb	FAC
<i>Sisyrinchium bellum</i>	blue-eyed grass	perennial herb	FACW
<i>Triteleia laxa</i>	Ithuriel's spear	perennial herb	UPL
<i>Adiantum jordanii</i>	California maidenhair fern	fern	FAC
<i>Dryopteris arata</i>	California wood fern	fern	FACW
<i>Pentagramma trianaularis</i>	goldback fern	fern	UPL
<i>Polypodium californicum</i>	licorice fern	fern	UPL
<i>Polystichum munitum</i>	western sword fern	fern	FACU

* Source: Arid West 2016 Regional Wetland Plant List

Non-native plants shall not be planted in the Project Area. Invasive plants or any aggressive non-native species that can easily spread into the restoration area shall not be installed anywhere on the property as it would pose a risk to the native plantings.

The optimal time to plant native species is during the late fall after rains have begun and when more rain is predicted in the coming weeks and months. This allows the plants to establish sufficient root systems and reduces the need for supplemental irrigation. Irrigation is still recommended immediately after planting, during any dry spells during the first few months, and approximately weekly during the first dry season. Native shrubs and herbs will benefit from occasional (approximately bi-weekly) and deep dry season watering in the subsequent two to three years, and do not need to be continually irrigated once they appear to be established. Excessive watering of these drought-resistant species may encourage root rot, excessive above ground growth without deep roots, or competition from weeds near the irrigation source.

4.0 MAINTENANCE

Maintenance activities will include: 1) inspections of irrigation systems, plant protection devices, if used, followed by repair, replacement, or removal of malfunctioning items, and 2) inspections for colonization of the restoration areas by non-native plants and action to discourage them.

4.1 Site Inspection

The irrigation system will be inspected monthly during the dry season for the first three years and repaired as needed. Bent or fallen support structures, cages, and or fencing will be repaired as necessary by landscaping staff. Tree cages may need to be adjusted to accommodate the growth of plant installations to prevent crowding. Tree cages may be removed once the protected plants have attained heights where they are not significantly suppressed by deer browsing. Removal of temporary fencing and individual plant flagging or other identification should only occur when plants are sufficiently established to withstand foot traffic in the vicinity, and the difference between native plantings and weeds can be easily determined by landscaping staff. Removal of protective structures or changes to the irrigation system or schedule may only occur when determined appropriate by consulting biologist.

4.2 Invasive Plant Control

Non-native plant inspections will be conducted during annual monitoring visits, and corrective actions taken as soon as is appropriate depending on the target species. A preliminary assessment will be performed at the time of planting to identify invasive species for targeted removal in Year 0. Biologists will identify the extent of non-native plants on Cal-IPC's High, Moderate, or Limited invasive lists, as well as any other locally invasive species that threaten the success of the installed native plants. If present, appropriate mechanical or biological controls will be implemented as described below to either eliminate or to control any invasive species so that it will not have a significant impact on the survival of installed plantings or the ecological function of the restored habitat.

Invasive plant removal and control shall be an integral part of site preparation, short-term monitoring, and long-term maintenance of the Project Area. As described above, weeds and invasive species will be cleared prior to planting the Project Area. Monitoring for expansion or new invasion of the Project Area will occur as part of the annual site inspections described above.

5.0 MONITORING

For a minimum of five years following the completion of the restoration plan, a consulting biologist will perform annual monitoring of the restoration area. The purpose of the monitoring will be to verify that the specifications included within this report and success criteria summarized below have been completed. The restoration area will be examined for signs of damage from foot traffic, natural causes (herbivory), or any other uses beyond the necessary management and monitoring outlined in this Plan. Photographs will be taken at least one permanent photo point to document riparian habitat development during each monitoring year.

Monitoring will be conducted in the early summer of each year before leaf drop of early deciduous trees and shrubs such as California buckeye. Survival and health of all planted species within the restoration areas will be assessed. General size, growth rates, and canopy cover of various species should be noted and may guide any changes in the planting plan if replanting is necessary. No specific canopy cover targets are suggested due to the many slow-growing species chosen. The primary goal of this monitoring program is to ensure establishment of healthy native species throughout the restoration area, and their spacing will eventually create a dense canopy of shrubs that will improve the treeless or exotic-dominated areas currently lining the creek.

If any year's survival goals are not achieved, the appropriate number of plants species will be replanted as part of a remedial planting during the subsequent fall or winter. The number and species to be replanted will be determined by the consulting biologist based upon available space, appropriate locations, and potential for competition with existing plantings. If growth of native plantings and canopy coverage is rapid and replacement planting is not deemed necessary towards the end of the monitoring period, the total numbers required in the success criteria may be modified accordingly.

5.1 Success Criteria

Success of the riparian habitat restoration and establishment of creek vegetation requires the prevention of human disturbance and control of invasive species in planting areas. Therefore, the following criteria will be evaluated to ensure that protective measures and maintenance are being performed, and that native plants are established and likely to persist beyond the monitoring period:

Table 3. Restoration Success Criteria by Year

Year	Success Criteria
1	• Survival of plants throughout the restoration area will exceed 90 percent of the total number planted. • Invasive plants on the California Invasive Plant Council (Cal-IPC) High or Moderate lists will not exceed five percent relative cover in the restoration area.
3	• Survival of plants will exceed 85 percent of the total number planted. • Invasive plants on the California Invasive Plant Council (Cal-IPC) High or Moderate lists will not exceed five percent relative cover in the restoration area.
5	• Survival of plants will exceed 80 percent of the total number planted. Native wetland herbaceous species in wetland terraces and/or the creek channel will exceed a total of 75 percent of vegetative cover. • Invasive plants on the California Invasive Plant Council (Cal-IPC) High or Moderate lists will not exceed five percent relative cover in the restoration area.

If performance criteria have been met by Year 5 monitoring, annual monitoring may be discontinued. If not, remedial actions and additional years of monitoring may need to be implemented. Note that monitoring is required for a minimum of 2 years following cessation of irrigation watering if implemented.

5.2 Reporting

Monitoring reports shall include a general description of work performed over the previous year and an evaluation of the restoration area according to the success criteria. The numbers and condition of planted shrubs and native herbaceous species should be described, as well as any observed threats to these plants or to native habitats. New invasions of non-native species and plans for their removal or control should be detailed, as necessary. The fifth-year monitoring report should also evaluate whether the restoration area has become sufficiently self-sustaining or whether additional invasive species control work or other conservation activities or monitoring should be performed. Annual reports will be prepared by December 31 of each monitoring year. Table 4 summarizes the timing of the required maintenance, monitoring, and reporting activities, as well as the responsible party(ies) for implementing the task.

Table 4. Annual Maintenance and Monitoring Schedule

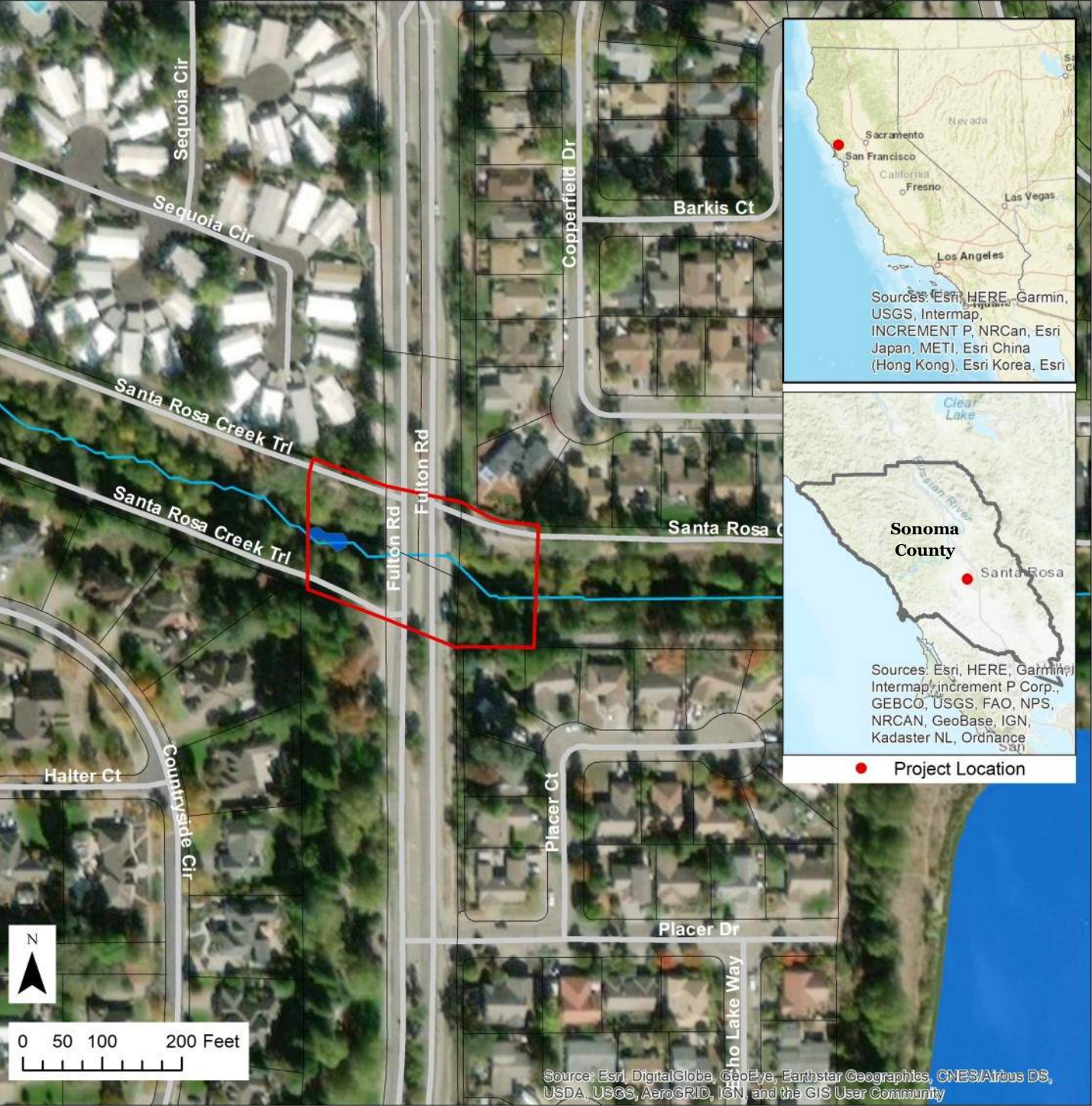
Time	Task	Responsible Party
Each month <i>Up to 3 years or until plants are established</i>	Inspect irrigation and make repairs as needed	City
Each month <i>Until plants are mature enough to withstand foot traffic and herbivory</i>	Inspect plant protection equipment and make adjustments and repairs as needed	City
April – May <i>Annually for 5 years</i>	Site monitoring, non-native plant removal, develop fall contingency planting plan if necessary	Biological Consultant
June – July <i>Annually for 5 years</i>	Site monitoring	Biological Consultant
October – November <i>Annually for 5 years</i>	Initial planting and re-plant contingency plants, as necessary	City
December <i>Annually for 5 years</i>	Annual Report submission to CDFW and RWQCB	Biological Consultant

6.0 REFERENCES

- California Invasive Plant Council (Cal-IPC). 2019. California Invasive Plant Inventory: Cal-IPC Publication 2006-2. California Invasive Plant Council, Berkeley, CA. Available online: <http://www.cal-ipc.org/ip/inventory/index.php>
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- Reed, P. B., Jr. 1988. National list of plant species that occur in wetlands: California (Region 0). U.S. Fish and Wildlife Service Biological Report 88 (26.10).
- U.S. Army Corps of Engineers. 2016. Arid West 2016 Regional Wetland Plant List.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2005. Official List of US Hydric Soils.
- U.S. Department of Agriculture, Natural Resources Conservation Service (USDA). 1986. Hydric Soil List for Marin County, California.

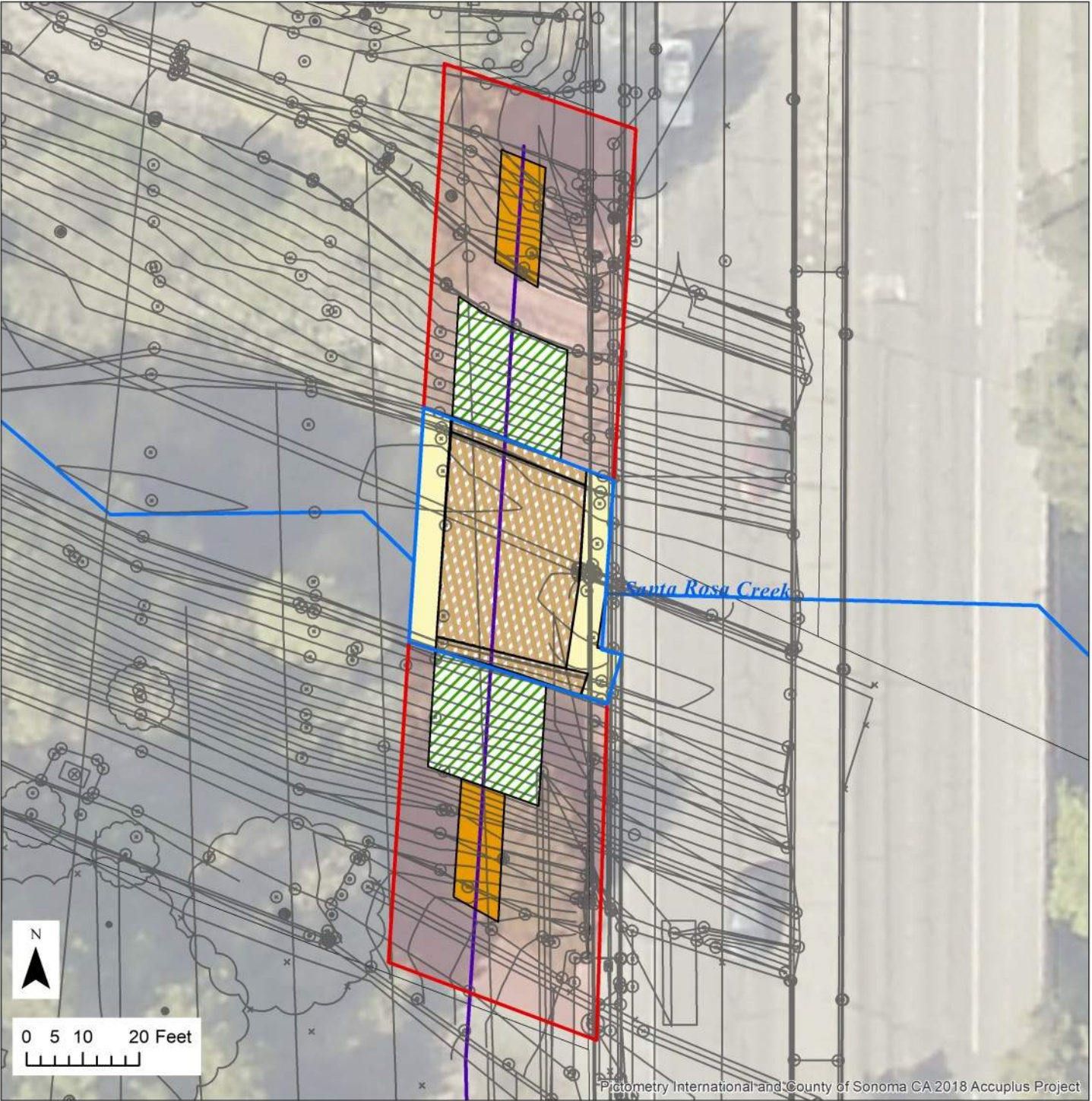
APPENDIX A – PROJECT FIGURES AND PLAN DRAWINGS

Figure 1: Location of Project Area
 South Fulton Road Trunk Sewer Replacement Project, Santa Rosa, CA



- Project Study Area
- Parcel Boundary
- Roads and Streets
- Water
- Streams

Figure 2: Area of Potential Effect
 S Fulton Rd. Trunk Sewer Abandonment & Main Installation, Santa Rosa, CA



Riparian Impacts

- Temporary Riparian Impact (0.098 ac)
- Erosion Control Blanket and Live Staking(0.019 ac)
- Standard Trench Backfill (0.008 ac)

Stream Impacts

- Temporary Stream Impacts (0.033 ac)
- Coffer Dam Area (0.01 ac)
- Riprap (0.023 ac)

- Elevation & Plan Drawings
- Pipeline
- Streams

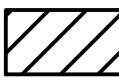
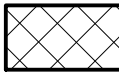
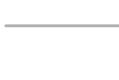
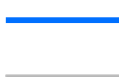
**S Fulton Rd.
Trunk Sewer
Abandonment &
Main Installation**

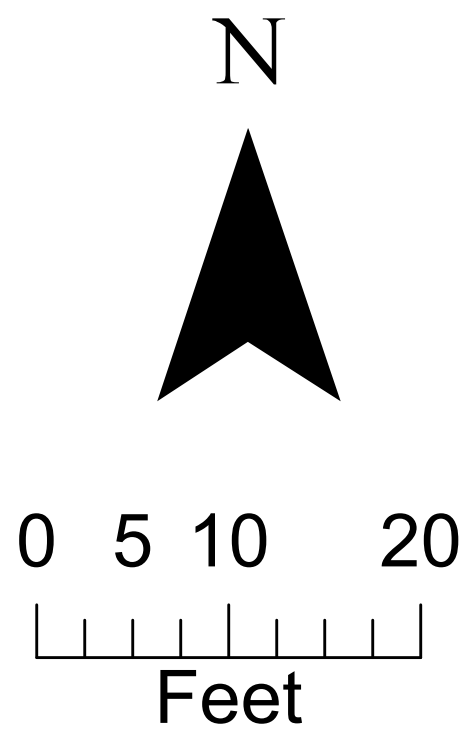
Santa Rosa, CA

**Riparian Revegetation
Plan**

Legend

Riparian Revegetation Zones

-  Lower Bank
-  Mid Bank
-  Top of Bank
-  1' Elevation Contours
-  Streams
-  Impervious Surfaces



1 inch = 10 feet



Mid-Bank North (453 sq ft)

Trees (7' OC)
2 - California Buckeye
4 - California bay laurel
2 - coast live oak
Shrubs (6' OC)
2 - elderberry
2 - California rose
5 - California blackberry
Herbs (6' OC)
4 - California grape

Top of Bank North (576 sq ft)

Trees (12' OC)
2 - big leaf maple
3 - western sycamore
Shrubs (6' OC)
10 - snowberry

Lower Bank North (270 sq ft)

Trees (stakes, 2' OC)
10 - arroyo willow
Shrubs (6' OC)
4 - California rose
Herbs (2' OC)
12 - bur reed
12 - common tule

Mid-Bank North (453 sq ft)

Trees (7' OC)
2 - California Buckeye
4 - California bay laurel
2 - coast live oak
Shrubs (6' OC)
2 - elderberry
2 - California rose
5 - California blackberry
Herbs (6' OC)
4 - California grape

Lower Bank South(435 sq ft)

Trees (stakes, 2' OC)
10 - arroyo willow
Shrubs (6' OC)
8 - California rose
Herbs (2-3' OC)
13 - bur reed
13 - common tule

Top of Bank South (612 sq ft)

Trees (10' OC)
3 - big leaf maple
3 - western sycamore
Shrubs (6' OC)
10 - snowberry

Additional Weed Control Recommendations

Mulch the whole bank (if you can) to inhibit weeds to a depth of 3' of woodchips, with the exception of the 1-ish year floodplain (i.e. lower bank). If it is too steep, use biodegradable wattles to hold mulch.

APPENDIX D:
MITIGATION MONITORING & REPORTING PLAN

APPENDIX D: MITIGATION MONITORING AND REPORTING PLAN

Fulton Road Sewer Main Improvements, West 3rd Street to Santa Rosa Creek June 2021

Pursuant to Section 21081.6 of the State CEQA Guidelines¹, the mitigation measures listed in this Mitigation Monitoring and Reporting Plan (MMRP) are to be implemented as part of the proposed project. The MMRP identifies the time at which each mitigation measure is to be implemented and the person or entity responsible for implementation. The initials of the designated responsible person will indicate completion of their portion of the mitigation measure. The City of Santa Rosa Transportation and Public Works' (City) project manager's signature on the Certification of Compliance will indicate complete implementation of the MMRP.

The mitigation measures included in the MMRP are considered conditions of approval of the proposed project. The City agrees to implement the mitigation measures proposed in the MMRP. Implementation of the mitigation measures included in the MMRP is expected to avoid, minimize, rectify, reduce, or compensate potentially significant impacts to a less than significant level.

TIME OF IMPLEMENTATION

Project Design:	The mitigation measure will be incorporated into the project conditions of approval plans and specifications prior to approving the project.
Pre-construction:	The mitigation measure will be implemented prior to project construction.
Construction:	The mitigation measure will be implemented during construction.
Post-construction:	The mitigation measure will be implemented or monitored after project construction is complete.

RESPONSIBLE PERSONS AND DEPARTMENTS

The City as Lead Agency will be responsible for overall implementation of the MMRP. The City's project manager will sign off on the mitigation measures included in the MMRP. Periodically, other City staff, consultants or regulatory agencies will be involved in the implementation of specific mitigation measures. In these instances, the staff, department, or agency will be identified in the MMRP.

CERTIFICATION OF COMPLIANCE

The City will be responsible for providing signatures on the Certification of Compliance. The Certification of Compliance is a double-check to ensure that the MMRP was fully implemented.

RECORD KEEPING

The City's project manager will maintain the records of the MMRP. When the MMRP is fully implemented, the original signed copy will be maintained by the City.

¹ California Code of Regulations Title 14.

CERTIFICATION OF COMPLIANCE

Complete the Certification of Compliance after mitigation measures have all been initialed. Use this Certification of Compliance to ensure the full implementation of each mitigation measure.

Project Design

The City's project manager has reviewed the project design, the plans, and the contract special provisions to verify that designated mitigation measures have been incorporated.

Signature & title

Date

Pre-construction

The City's project manager has verified that designated mitigation measures were implemented prior to construction.

Signature & title

Date

Construction

The City's project manager has verified that designated mitigation measures were implemented during construction.

Signature & title

Date

Post-construction

The City's project manager has verified that designated mitigation measures were implemented and/or monitored after completion of construction.

Signature & title

Date

AIR QUALITY

AQ1

The following Feasible Control Measures, as described by the Bay Area Air Quality Management District, shall be implemented during construction to minimize fugitive dust and emissions:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day or be covered.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways, and sidewalks to be paved shall be completed or stabilized as soon as possible. Building slabs shall be poured as soon as possible after grading unless seeding or soil binders are used to stabilize the pad.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
- A publicly visible sign shall be posted with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BBAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials	Date
----------	------

Construction: The City's project manager shall ensure that Mitigation Measure AQ1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials	Date
----------	------

BIOLOGICAL RESOURCES

BIO1

To avoid impacts to roosting western red bats, any felled trees should be left overnight prior to removal from the site or on-site chipping to allow any bats to exit the roost.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that Mitigation Measure BIO1 is implemented prior to construction.

Initials

Date

BIO2

To avoid potential impacts to Yellow-breasted chat and other migratory bird species (nesting birds), to the extent practical, all construction activities should be performed between September 1 and January 31 to be outside the nesting season. If work must be performed during the nesting season (between February 1 and August 31), a pre-construction nesting bird survey shall be performed in all areas within 250 feet of proposed activities. If nests are found, an appropriately sized no-disturbance buffer shall be placed around the nest at the direction of the qualified biologist conducting the survey. Buffers shall remain in place until all young have fledged, or the biologist has confirmed that the nest has been naturally predated.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that Mitigation Measure BIO2 is implemented prior to construction.

Initials

Date

BIO3

To reduce potential harm to Foothill yellow-legged frog and Western pond turtle, the following measures shall be implemented:

- An environmental training shall be provided to all construction workers prior to the start of work. Training shall include a description of all biological resources that may be found on or near the project site, the laws and regulations that protect those resources, the consequences of non-compliance with those laws and regulations, instructions for inspecting equipment each morning prior to activities, and a contact person if protected biological resources are discovered in the project area.
- A pre-construction survey shall be conducted within 48 hours of ground disturbing activities for foothill yellow-legged frog and western pond turtle. If possible, the animal shall be allowed to leave the area on its own.
- A qualified biological monitor shall be present during riparian vegetation removal activities. If either species is found, the animal may be relocated to suitable habitat outside the project area by a CDFW-approved biologist.
- Trenches and holes shall be covered and inspected daily for stranded animals, to the extent possible. Trenches and holes deeper than one foot shall contain escape ramps at a maximum slope of 2:1 to allow trapped animals to escape.
- During project activities, all trash that may attract predators shall be properly contained, removed from the work site, and disposed of regularly. Following maintenance activities, all trash and maintenance debris shall be removed from work areas.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that Mitigation Measure BIO3 is implemented prior to construction.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure BIO3 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

BIO4

To protect steelhead and Coho salmon that may be present, the following measures shall be implemented:

- The *Fish Management Plan for South Fulton Trunk Sewer Replacement Project, City of Santa Rosa, California* prepared by Hagar Environmental Science, August 2020, shall be implemented.
- All dewatering will be conducted within the NOAA/NMFS work window of August 1 to November 30. Pumps used in the dewatering process will be fitted with screens not larger than 0.2 inch to prevent the impingement or entrainment of fish species. A qualified fisheries biologist will conduct fish salvage during dewatering operations. Salvaged fish will be relocated to suitable nearby habitat outside the Project Action Area.
- A spill prevention plan will be prepared describing measures to be taken to minimize the risk of fluids or other materials used during construction (e.g., oils, transmission and hydraulic fluids, cement, fuel) from entering streams or contaminating adjacent riparian areas. In addition to a spill prevention plan, a cleanup protocol will be developed before construction begins and will be implemented in case of a spill.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that Mitigation Measure BIO4 is implemented prior to construction.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure BIO4 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

BIO5

The following measures shall be implemented to mitigate for the construction-related loss of riparian habitat:

- Planting within the Santa Rosa Creek channel shall be according to the *Riparian Restoration Plan, South Fulton Trunk Sewer Project, City of Santa Rosa*, prepared by Sol Ecology September 2020.
- Prepare re-vegetation and erosion control plans for all graded and disturbed areas to prevent sedimentation to the low flow channel.
- Protect and preserve all healthy native trees as per tree ordinance. When grading for hydraulic capacity requires removal, mitigate all tree removals with replacement of appropriate native species.
- Create a vegetation and tree protection plan. Orange construction fencing shall be placed around all existing riparian vegetation to avoid potential effects to this sensitive vegetation community during construction activities.
- Grading operations shall be confined to smallest work area possible for construction.

Implementation & Monitoring

Project Design: The City's project manager will verify that the mitigation measure is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that Mitigation Measure BIO5 is implemented prior to construction.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure BIO5 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

Post-construction: The City's project manager shall ensure that post-construction monitoring and reporting requirements specified in the *Riparian Restoration Plan, South Fulton Trunk Sewer Project, City of Santa Rosa* are adhered to.

Initials

Date

BIO6

The City shall comply with permit terms from USACE, Regional Board and CDFW. At a minimum, permit terms shall include in-stream construction methodologies contained in the *In-stream Construction Methodologies Memorandum* contained as Appendix A of the Initial Study.

Implementation & Monitoring

Project Design: The City's project manager will verify that project permit terms are incorporated into the project plans and specifications prior to issuing final project approvals.

Initials Date

Pre-construction: The City's project manager shall ensure pre-construction permit terms are implemented.

Initials Date

Construction: The City's project manager shall ensure that project terms are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials Date

Post-construction: The City's project manager shall ensure that any post-construction permit monitoring and reporting requirements are adhered to.

Initials Date

CULTURAL RESOURCES

CR1

The project plans and specifications shall provide that in the event prehistoric-era or historic-era archaeological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. Prehistoric-era archaeological site indicators could include chipped chert and obsidian tools and tool manufacture waste flakes, grinding implements such as mortars and pestles, and locally darkened soil containing the previously mentioned items as well as fire altered stone and dietary debris such as bone and shellfish fragments. Historic-era archaeological site indicators could include items of ceramic, glass and metal, and features such as structural ruins, wells and pits containing such artifacts. After cessation of excavation, the contractor shall immediately contact the City. The City shall contact a qualified professional archaeologist immediately after the find. Such archaeologist shall conduct an evaluation of significance of the site and assess the necessity for mitigation and contact local Native American tribes, as appropriate. The contractor shall not resume construction activities until authorization to proceed is received from the City.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure CR1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure CR1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

CR2

If human remains are encountered during grading, excavation or trenching, all construction activity shall cease and the contractor shall immediately contact the City and the Sonoma County Coroner's Office. If the remains are determined by the Coroner's Office to be of Native American origin, the Native American Heritage Commission shall be contacted and the procedures outlined in CEQA §15064.5 (d) and (e) shall be implemented by the City or its designee.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure CR2 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure CR2 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

GEOLOGY & SOILS

GS1

The City shall prepare an erosion control plan for the project. Appropriate BMPs will be implemented by the project to minimize construction-related erosion and runoff. Suggested BMPs include, but are not limited to:

- Schedule construction activities during dry weather. Keep grading operations to a minimum during the rainy season (October 15 through April 15).
- Protect and establish vegetation.
- Stabilize construction entrances and exits to prevent tracking onto roadways.
- Protect exposed slopes from erosion through preventative measures. Cover the slopes to avoid contact with storm water by hydroseeding, applying mulch or using plastic sheeting.
- Install straw wattles and silt fences on contour to prevent concentrated flow. Straw wattles should be buried 3 to 4 inches into the soil, staked every 4 feet, and limited to use on slopes that are no steeper than 3 units horizontal to 1 unit vertical. Silt fences should be trenched 6 inches by 6 inches into the soil, staked every 6 feet, and placed 2 to 5 feet from any toe of slope.
- Designate a concrete washout area to avoid wash water from concrete tools or trucks from entering gutters, inlets or storm drains. Maintain washout area and dispose of concrete waste on a regular basis.
- Establish a vehicle storage, maintenance and refueling area to minimize the spread of oil, gas and engine fluids. Use oil pans under stationary vehicles.
- Protect drainage inlets from receiving polluted storm water through the use of filters such as fabrics, gravel bags or straw wattles.
- Check the weather forecast and be prepared for rain by having necessary materials onsite before the rainy season.
- Inspect all BMPs before and after a storm event. Maintain BMPs on a regular basis and replace as necessary.

Additionally, erosion control measures contained in the applicable permits from the USACE, Regional Board and CDFW shall be incorporated into the project specifications.

Implementation & Monitoring

Project Design: The City's project manager will verify that erosion control measures are incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that erosion control measures are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

GS2

The City shall comply with bank stabilization measures contained in the applicable permits from the USACE, Regional Board and CDFW and those measures shall be incorporated into the project specifications. At a minimum, those measures shall include slope protection including the placement of an erosion control blanket and prepared willow cuttings as live stakes:

- Per the recommendation of RGH, once the pipeline has been backfilled per the recommendations presented herein and the requirements of the City of Santa Rosa, the creek bank should be re-established. Creek bank fill should be keyed and benched into the surrounding creek bank face for a distance of at least 5 feet on either side of the trench. Fill should be placed in thin horizontal lifts (approximately 8 inches thick), moisture conditioned to near-optimum moisture content, and compacted to at least 90 percent of the maximum dry density per ASTM test standard D-1557. The fill materials should be free of perishable matter and rocks or lumps over 6 inches in diameter and must be approved by the geotechnical engineer prior to use.
- The erosion control blanket shall be biodegradable with a functional longevity of 24 months. It shall be of consistent thickness and covered on the top and the bottom with biodegradable fiber netting. It shall be capable of withstanding a shear stress of 2.0 psf and flow velocity of 6 fps.
- Live stakes shall be willow cuttings from a healthy, native stand. Cut poles while the plant is dormant. Species shall be Arroyo willow (*Salix lasiolepis*). Species may not be substituted without project biologist's written approval. Live stakes shall be 1-inch to 3-inch in diameter and of sufficient length to reach the ordinary high water level, at approximately 2 feet on center. Stakes shall be pierced through the erosion control blanket. Select the longest, straightest poles available and use only two- to four-year old plants. Strip all but the top two or three side branches from poles. Trim off the terminal bud on top. Cut the bottom end at a 45 degree angle to make a point. Poles and branches shall be trimmed with sharp tools. Soak poles for 5 to 7 days before planting.

Implementation & Monitoring

Project Design: The City's project manager will verify that bank stabilization measures are incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that bank stabilization measures are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

Post-construction: The City's project manager shall ensure that bank stabilization measures and any post-construction permit monitoring and reporting requirements are adhered to.

Initials

Date

GS3

The project plans and specifications shall provide that in the event paleontological site indicators are unearthed during the course of grading, excavation and/or trenching, all ground disturbing work in the vicinity of the discovery shall cease and all exposed materials shall be left in place. After cessation of excavation, the contractor shall immediately contact the City. The City shall contact a qualified professional geologist or paleontologist immediately after the find. Such consultant shall conduct an evaluation of significance of the site, and assess the necessity for mitigation. The contractor shall not resume construction activities until authorization to proceed is received from the City.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure GS3 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that that Mitigation Measure GS3 is implemented during construction, if required. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

HAZARDS & HAZARDOUS MATERIALS

HM1

The contractor shall be required to follow the provisions of § 5163 through 5167 of the General Industry Safety Orders (California Code of Regulations, Title 8) to protect the project area from being contaminated by accidental release of any hazardous materials.

In general, the Contractor shall maintain awareness of potential signs of soil and groundwater contamination throughout the project limits and shall notify the District immediately upon discovery of any potential soil or groundwater contamination.

If hazardous materials are encountered during construction or occur as a result of an accidental spill, the contractor shall halt construction immediately, notify the City, and implement remediation in accordance with the project specifications and applicable requirements of the Regional Board. Disposal of all hazardous materials shall be in compliance with current California hazardous waste disposal laws.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure HM1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that that Mitigation Measure HM1 is implemented during construction, if required. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

HM2

For portions of the project occurring within the Santa Rosa Creek channel, the City shall adhere to all permit terms contained in the USACE, Regional Board and CDFW permits for such construction. In-stream containment shall, at a minimum, include:

- Refueling of equipment within the floodplain or within 300 feet of the waterway is prohibited. If critical equipment must be refueled within 300 feet of the waterway, spill prevention and countermeasures must be implemented to avoid spills. Refueling areas shall be provided with secondary containment including drip pans and/or placement of absorbent material. No hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, or other construction-related potentially hazardous substances should be stored within a floodplain or within 300 feet of a waterway. The Applicant must perform frequent inspections of construction equipment prior to utilizing it near surface waters to ensure leaks from the equipment are not occurring and are not a threat to water quality.
- The Applicant shall develop and maintain onsite a project-specific Spill Prevention, Containment and Cleanup Plan outlining the practices to prevent, minimize, and/or clean up potential spills during construction of the Project. The Plan must detail the Project elements, construction equipment types and location, access and staging and construction sequence.
- Raw cement, concrete (or washing thereof), asphalt, drilling fluids, lubricants, paints, coating material, oil, petroleum products, or any other substances which could be hazardous to fish and wildlife resulting from or disturbed by project-related activities, shall be prevented from contaminating the soil and/or entering waters of the United States.
- The discharge of petroleum products, any construction materials, hazardous materials, pesticides, fuels, lubricants, oils, hydraulic fluids, raw cement, concrete, asphalt, paint, coating material, drilling fluids, or other construction-related potentially hazardous substances to surface water and/or soil is prohibited.
- Discharge of unset cement, concrete, grout, damaged concrete spoils, or water that has contacted uncured concrete or cement, or related washout to surface waters, ground waters, or land is prohibited. If concrete washout is necessary at a site, washout containment to prevent any discharge shall be used. Wastewater may only be disposed by delivery to a sanitary wastewater collection system/facility (with authorization from the facility's owner or operator) or a properly licensed disposal or reuse facility.
- The contractor shall install the necessary containment structures to control the placement of wet concrete and to prevent it from entering into the channel outside of those structures. No concrete shall be poured within the channel if the 15-day weather forecast indicates any chance of rain greater than 20 percent.
- All cement-based products (concrete, mortar, etc.) poured or applied wet onsite shall be excluded from the wetted channel or areas where they may come into contact with water flow. The product shall be kept moist for 30 days and runoff from the product shall not be allowed to enter the stream. Commercial sealants may be applied to the product surface or mixture where difficulty in excluding flow for a long period may occur. If sealant is used, water shall be excluded from the situ until the sealant is cured.
- At all times when the contractor is pouring or working with wet concrete, there shall be a designated monitor to inspect the containment structures and ensure that no concrete or other debris enters into the channel outside of those structures.

Implementation & Monitoring

Project Design: The City's project manager will verify that in-stream containment measures specified in Mitigation Measure HM2 and any additional permit terms are incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that in-stream containment measures and permit terms are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

NOISE

N1

The following measures shall be implemented at the construction site to reduce the effects of construction noise on adjacent residences:

- Noise-generating activities at the construction sites or in areas adjacent to the construction sites associated with the project in any way shall generally be restricted to the hours of 7:00 a.m. to 7:00 p.m. Any work outside of these hours shall require special permission from the City. There should be a compelling reason for permitting construction outside the designated hours.
- The City shall provide notice to all residents within 100 feet of the construction activities at least 48 hours prior to commencing construction. The notice shall include the contact information for the City's noise disturbance coordinator and the anticipated construction schedule.
- All internal combustion engine driven equipment shall be equipped with intake and exhaust mufflers which are in good condition and appropriate for the equipment.
- Unnecessary idling of internal combustion engines shall be strictly prohibited.
- Staging of construction equipment and all stationary noise-generating construction equipment, such as air compressors and portable power generators, shall be staged as far as practical from existing noise sensitive receptors.
- "Quiet" air compressors and other "quiet" stationary noise sources shall be utilized where technology exists.
- Noise from construction workers' radios shall be controlled to the point where radio noise is not audible at existing residences bordering the project site.
- A sign providing contact information for the construction manager shall be posted onsite of construction-related questions/complaints.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure N1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure N1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

RECREATION

R1

The contractor shall develop a bicycle and pedestrian bypass plan for the portion of the Santa Rosa Creek Trail during construction for City review and approval. The plan shall include adequate signage and direction to route bicycle and pedestrian traffic around the construction area and to the detour route. Maps of the bypass route shall be posted at all Santa Rosa Creek Trail access locations impacted by construction. Additionally, Sonoma County Regional Parks requires the following:

- Two weeks prior to starting construction and closing the trail, post temporary and/or detours signs on the trail. The temporary signs shall include information such as the start and end dates of the trail closure.
- The Contractor shall obtain a revocable license agreement from Regional Parks prior to starting construction activity on the northern trail.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure R1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall review and approve the contractor's trail bypass plan and ensure Regional Parks has issued a revocable license prior to construction on the north side.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure R1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

TRANSPORTATION

T1

The contractor shall develop and submit an appropriate Traffic Control Plan (TCP) in accordance with the California Manual of Uniform Traffic Control Devices (MUTCD) for review and approval by the City for all project elements that impact traffic circulation. The TCP shall ensure through traffic access during periods where active construction is not taking place and ensure at least one passable lane of south bound traffic is maintained.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure T1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall review and approve the contractor's traffic management plan.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure T1 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

T2

The contractor shall provide advanced notice regarding timing, location and the duration of construction activities to local emergency responders. The contractor shall ensure emergency responders can always have access through the construction area. The contractor shall also ensure that all traffic lanes in Fulton Road are passable or can be immediately made passable in the event of evacuation.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure T2 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure T2 is being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date

TRIBAL CULTURAL RESOURCES

TCR1

Protection of Archaeological and Tribal Cultural Resources (TCR), and Construction Monitoring: The City shall ensure that an Archaeological and Tribal Cultural Resources Treatment Plan (Treatment Plan) is developed and implemented for the project's Area of Potential Effect (APE). The Treatment Plan shall be reviewed and approved by the City and Federated Indians of Graton Rancheria (FIGR) prior to the start of project construction. The Treatment Plan shall detail recommended steps for protecting, and preserving, archaeological resources and TCRs in the event they are discovered during construction. The Treatment Plan shall include Construction Monitoring and describe Protection and Preservation strategies to ensure that appropriate actions are taken to protect any archaeological resources and TCRs encountered during construction. Construction Monitoring, Protection and Preservation are described in more detail below:

- Construction Monitoring: The City shall ensure that if potential unanticipated archaeological resources or TCRs are uncovered during construction, the contractor shall halt work, and workers shall avoid altering the materials and their context. Project personnel shall not collect cultural materials, examples of which are provided in the following description. Prehistoric archaeological site indicators include: obsidian and chert flakes and chipped stone tools; grinding and mashing implements (e.g., slabs and handstones, and mortars and pestles); bedrock outcrops and boulders with mortar cups; and locally darkened midden soils. Midden soils may contain a combination of any of the previously listed items with the possible addition of bone and shell remains, and fire affected stones. Historic period site indicators generally include: fragments of glass, ceramic, and metal objects; milled and split lumber; and structure and feature remains such as building foundations and discrete trash deposits (e.g., wells, privy pits, dumps).

A program of archaeological and Tribal monitoring shall be instituted for ground-disturbing activities associated with the project's APE. Monitoring shall be performed by a qualified archaeologist and a FIGR Tribal monitor and will consist of directly watching the excavation, grading, trenching, and other earth-moving processes. If archaeological deposits are encountered, the piece of equipment that encounters the suspected materials must be stopped, and the find inspected by the monitoring archaeologist and FIGR Tribal monitor. If the deposit contains Historic Resources, Archaeological Resources, or TCRs as defined by CEQA, all work must be stopped in the immediate vicinity. The City, archaeologist and FIGR will determine if Protection and Preservation is possible, consistent with the Treatment Plan. Work may proceed after a find has been appropriately addressed and a qualified archaeologist and FIGR Tribal representative agree that no further damage would result.

- Protection and Preservation: The preferred treatment of archaeological resources and TCRs is protection and preservation. Protection can be achieved by either avoidance (not developing within the boundaries of an archaeological resource), by covering an archaeological resource with geo-fabric and sufficient fill to protect it during and after construction, or by reducing/restricting development within the boundaries of a resource. Opportunities for Protection and Preservation of resources directly within the pipeline route are limited but shall be implemented, where feasible.
- Consultation: In the event Opportunities for Protection and Preservation are not feasible, the City and FIGR shall engage in good faith consultation and determine appropriate next steps.

Implementation & Monitoring

Project Design: The City's project manager will verify that Mitigation Measure TCR1 is incorporated into the project plans and specifications prior to issuing final project approvals.

Initials

Date

Pre-construction: The City's project manager shall ensure that a Archaeological and Tribal Cultural Resources Treatment Plan has been prepared and approved by FIGR prior to construction.

Initials

Date

Construction: The City's project manager shall ensure that Mitigation Measure TCR1 and the Archaeological and Tribal Cultural Resources Treatment Plan are being implemented during construction. Failure to comply shall result in issuance of a stop work order until corrective action has been taken.

Initials

Date