

PUBLIC REVIEW DRAFT

**CEQA INITIAL STUDY/MITIGATION
NEGATIVE DECLARATION**

**FRANCISCO BOULEVARD WEST MULTI-USE PATHWAY
ANDERSEN DRIVE TO MAHON CREEK PATHWAY
SAN RAFAEL, CALIFORNIA**

Submitted to:

Bill Guerin, Director
City of San Rafael Department of Public Works
111 Morphew Street
San Rafael, California 94901

Prepared by:

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Project No. ALT1701



October 2017

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DATE: October 16, 2017

TO: Public Agencies, Organizations and Interested Parties

FROM: Kevin McGowan, Assistant Director - Department of Public Works

SUBJECT: NOTICE OF PUBLIC REVIEW AND INTENT TO ADOPT A MITIGATED NEGATIVE DECLARATION

Pursuant to the State of California Public Resources Code and the “Guidelines for Implementation of the California Environmental Quality Act of 1970” as amended to date, this is to advise you that the Department of Community Development of the City of San Rafael has prepared an Initial Study on the following project:

Project Name:

Francisco Boulevard West Multi-Use Pathway - Andersen Drive to Mahon Creek Pathway

Location:

The proposed multi-use pathway (MUP) would extend from Andersen Drive to Mahon Creek in the City of San Rafael, Marin County, California. The MUP would be constructed within City of San Rafael and Sonoma Marin Area Rail Transit (SMART) right-of-way.

Property Description:

The proposed MUP would be constructed entirely within public ROW owned by the City and SMART. The project site is located in central San Rafael, extending from Andersen Drive to the Mahon Creek pathway. Properties adjacent to the proposed MUP alignment consist primarily of commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

Project Description:

The City of San Rafael (City) proposes to construct a Multi-Use Pathway (MUP) within City and Sonoma Marin Area Rail Transit (SMART) right-of-way (ROW). The approximately 4,500-foot MUP would extend from Andersen Drive to the Mahon Creek pathway in the City of San Rafael, Marin County, California. On the southern end of the proposed MUP, at the intersection of Andersen Drive and Francisco Boulevard West, the pathway would connect to the existing SMART pathway to Larkspur and existing bike lanes on Andersen Drive. On the northern end, the proposed MUP would connect to the existing Mahon Creek Pathway to the west and to an existing pedestrian bridge/walkway to the north that extends to 2nd Street in downtown San Rafael. Once the entire SMART multi-use pathway (from Cloverdale to Larkspur) is completed, it is expected that 7,000 to 10,000 people would use the MUP daily.

The southern 2,500 feet of path would run along the west side of the SMART ROW; the northern 2,000 feet would run along the west side of the realigned Francisco Boulevard West. The proposed MUP would be constructed entirely within public ROW owned by the City and SMART.

The MUP would consist of an 8- to 10-foot wide paved pathway with associated 2-foot wide shoulders. In addition, the MUP would require installation of a prefabricated bridge (approximately 300 square feet), drainage facilities, retaining walls, railings, fencing, and other minor project elements, such as signage and pavement markings. Several sections of retaining wall, totaling approximately 1,300 feet, would be installed along the western edge of the proposed MUP.

For approximately 2,500 feet in the middle of the alignment, the proposed MUP would be bordered on the west by an unnamed manmade drainage channel. In order to minimize impacts on the drainage channel, portions of the MUP would be cantilevered over the channel. Approximately ten 18-inch diameter concrete piles would be placed within the unnamed drainage channel to support the cantilevered portion of the pathway. The 30-foot long prefabricated bridge would span the unnamed drainage channel approximately 1,300 feet south of Rice Drive.

Approximately 716 square feet of the unnamed drainage channel would be put in a culvert and filled for the pathway construction immediately south of Irwin Street. To offset the impacts of the fill section and the ten piles needed to support the cantilevered portion of the pathway, an existing culvert/driveway approximately 300 feet north of Rice Drive would be removed and restored as a drainage channel. A total of approximately 860 square feet of channel would be restored in this location, resulting in an approximate 1:1 replacement ratio.

Environmental Issues:

The proposed project would result in potentially significant impacts in Air Quality, Biological Resources, Cultural Resources, Hydrology and Water Quality, Noise, and Transportation/Traffic. The project impacts would be mitigated to a less-than-significant level through implementation of recommended mitigation measures or through compliance with existing Municipal Code requirements or City standards. Recommended measures are summarized in the attached Mitigation Monitoring and Reporting Plan (MMRP) and Initial Study/Mitigated Negative Declaration. The Initial Study/Mitigated Negative Declaration document has been prepared in consultation with local, and state responsible and trustee agencies and in accordance with Section 15063 of the California Environmental Quality Act (CEQA). Furthermore, the Initial Study/Mitigated Negative Declaration will serve as the environmental compliance document required under CEQA for any subsequent phases of the project and for permits/approvals required by a responsible agency.

A thirty-day (30-day) public review period shall commence on **Friday, October 27, 2017**. Written comments must be sent to the City of San Rafael, Community Development Department, Planning Division, 1400 Fifth Avenue, San Rafael CA 94901 **by November 27, 2017**. The City of San Rafael City Council will hold a public hearing on the Initial Study/Mitigated Negative Declaration on **Monday, December 4, 2017 at 7:00 PM in the San Rafael City Council Chambers at City Hall (address listed above)**. **Correspondence and comments can be delivered to Kevin McGowan, project engineer, phone: (415) 485-3389, email: Kevin.McGowan@cityofsanrafael.org**

MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
III. AIR QUALITY					
<p><u>Mitigation Measure AIR-1</u>: Consistent with the Basic Construction Mitigation Measures required by the BAAQMD, the following actions shall be incorporated into construction contracts and specifications for the project:</p> <ul style="list-style-type: none"> • All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day. • All haul trucks transporting soil, sand, or other loose material off-site shall be covered. • All visible mud or dirt tracked-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 as soon as possible. • Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • 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 	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Halt construction activities	
	Construction contractor to include construction specifications and materials in contract, and implement measures during duration of construction activities.	Building Division	Review construction specifications and materials, and retain administrative record Monitor during scheduled construction site inspections	Halt construction activities	

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
<p>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.</p> <ul style="list-style-type: none"> • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A publicly-visible sign shall be posted with the telephone number and person to contact at the City of San Rafael regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations. 					
IV. BIOLOGICAL RESOURCES					
<p><u>Mitigation Measure BIO-1a:</u> In order to limit the potential for sediment laden or turbid runoff from discharges into San Rafael Creek and thence into San Pablo Bay downstream, in-water work should be restricted to low-flow periods between July 1 and November 30, unless otherwise specified by appropriate agencies. This window can be extended based on creek and river conditions, if approved in writing by the National Marine Fisheries Service (NMFS). Work from the banks, trestle, falsework, and inside closed coffer dams can occur year-round.</p>	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
<p><u>Mitigation Measure BIO-1b:</u> A Storm Water Pollution Prevention Plan (SWPPP) should be prepared and</p> <p><i>Mitigation Monitoring and Reporting Program</i></p>	Require as a condition of	Planning Division	Incorporate as condition of project approval	Deny project	
		2	<p style="text-align: right;"><i>Francisco Boulevard West Multi-Use Pathway</i> <i>Anderson Drive to Mahon Creek Pathway</i></p>		

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
implemented in accordance with Regional Water Quality Control Board standards and requirements, as well as those of the City of San Rafael and Marin County.	approval Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	
<u>Mitigation Measure BIO-2a:</u> To the extent feasible, trees and shrubs in the construction zones should be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If tree and shrub removal, as well as initial ground disturbance work is conducted during the period from February 1 to August 31, a qualified wildlife biologist shall conduct preconstruction surveys for nesting birds. If tree/shrub removal or initial ground disturbance work does not commence within 10 days of the nesting bird surveys, or if such work does not commence in all areas of the project site within 10 days, then the nesting surveys will need to be repeated. If nesting birds are found, the biologist shall establish suitable buffer zones as described in Condition (b) below.	Contractor to implement BMPs during construction activities		Monitor during scheduled construction site inspections	Halt construction activities	
	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Construction contractor to complete documentation prior to initiation of construction activities	Building Division	Verify appropriate documentation obtained prior to issuance of building permit. Review construction specifications and retain administrative record.	Deny issuance of building permit	
<u>Mitigation Measure BIO-2b:</u> A qualified biologist shall conduct a preconstruction survey for western pond turtle	Require as a condition of	Planning Division	Incorporate as condition of project approval	Deny project	

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
no more than 30 days prior to construction along the drainage ditch within the project corridor, including beneath all crossings. If the species is determined to be present in work areas, the biologist, with prior approval from the California Department of Fish and Wildlife (CDFW), may capture turtles prior to construction activities and relocate them to nearby, suitable habitat off site.	approval				
A qualified biologist shall conduct a preconstruction survey for roosting bats at all culvert and bridge crossings along and adjacent to the corridor. If the biologist determines that construction work has the potential to directly or indirectly disturb roosting bats, than CDFW shall be consulted as to appropriate impact avoidance and minimization measures. No work may occur within a 100-foot radius of a roosting site, until the CDFW consultation process has been completed and the agreed-upon avoidance/minimization measures have been implemented under the biologist's supervision.	Construction contractor to complete documentation prior to initiation of construction activities	Building Division	Verify appropriate documentation obtained prior to issuance of building permit. Review construction specifications and retain administrative record.	Deny issuance of building permit	
<u>Mitigation Measure 3a:</u> A detailed wetland Mitigation and Monitoring Plan (MMP) shall be prepared and submitted to the Corps of Engineers, Regional Water Quality Control Board, and CDFW as part of the required permit applications to these agencies under Sections 401 and 404 of the Federal Clean water Act and Section 1602 of the California Fish and Game Code. To off-set direct wetland impacts at a minimum 1:1 replacement ratio, the MMP shall provide detailed designs, performance criteria, and monitoring methods for drainage channel re-establishment at a driveway removal site. To off-set	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	

MITIGATION MONITORING AND REPORTING PROGRAM
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Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
potential indirect impacts from shading, the MMP shall include an appropriate shade-tolerant bank channel re-seeding plan for all channel bank areas disturbed by the cantilevered sections. The MUP shall also include a native riparian tree planting plan in selected locations encompassing at least 2,040 square feet of channel bank.					
<u>Mitigation Measure 3b:</u> To minimize the potential for indirect water quality impacts to wetlands in the ditch during construction, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented in accordance with Regional Water Quality Control Board standards and requirements, as well as those of the City of San Rafael and Marin County.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	
<u>Mitigation Measure BIO-4:</u> To the extent feasible, trees and shrubs in the construction zones shall be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If tree and shrub removal, as well as initial ground disturbance work is conducted during the period from February 1 to August 31, a qualified biologist shall conduct preconstruction surveys for nesting birds. If tree/shrub removal or initial ground disturbance work does not commence within 10 days of the nesting bird surveys, or if such work does not commence in all of the areas of the project site within 10 days, then the nesting surveys will need to be repeated.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Construction contractor to complete documentation prior to initiation of construction activities	Building Division	Verify appropriate documentation obtained prior to issuance of building permit. Review construction specifications and retain administrative record.	Deny issuance of building permit	
If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures					

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to construction activities, the biologist shall prepare a plan to establish an adequate buffer zone and to monitor nesting birds during construction. Disturbance of active nests shall be avoided to the extent possible until the biologist determines that the nests are no longer active.					
<u>Mitigation Measure BIO-5:</u> A tree planting plan entailing the planting of six native trees (resulting in a 3:1 replacement ratio) shall be prepared and implemented. The plan may include trees needed for implementation of mitigation measure d (1) above. The planted trees shall be monitored for three years following planting to verify that trees have successfully reestablished.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Project sponsor prepares plan prior issuance of a building permit. Implements plan and monitoring for three years following construction.	Building Division	Building Division reviews plan prior to issuance of building permit	Deny issuance of building permit	
			Verify annual monitoring to ensure trees have reestablished.		
V. CULTURAL RESOURCES					
<u>Mitigation Measure CULT-1:</u> An archaeologist who meets the Secretary of the Interior's <i>Professional Qualifications Standards</i> for Archeology shall be onsite during construction-related ground disturbance activities (i.e., grading and excavation). Monitoring shall continue at this	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Construction contractor to	Building Division	Review construction	Halt construction activities	
<i>Mitigation Monitoring and Reporting Program</i>		6			Francisco Boulevard West Multi-Use Pathway Anderson Drive to Mahon Creek Pathway

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
<p>location until the archaeologist determines that there is a low potential for subsurface archaeological deposits.</p> <p>Should an archaeological deposit be encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and the on-site archaeologist shall assess the deposit, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. The City shall be notified by the construction contractor within 24 hours of the encounter. If found to be significant by the on-site archaeologist (i.e., eligible for listing in the California Register of Historical Resources), the City shall be responsible for funding and overseeing implementation of appropriate mitigation measures. Mitigation measures may include, but would not be limited to, recording the archaeological deposit, data recovery and analysis, and public outreach. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared and submitted to the City for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate local curation facility and used for future research and public interpretive displays, as appropriate.</p>	<p>include construction specifications and materials in contract, and implement measures during duration of construction activities.</p>		<p>specifications and materials, and retain administrative record</p> <p>Monitor during scheduled construction site inspections</p>		
<p><u>Mitigation/Compliance Measure CULT-2:</u> If unknown, precontact or historic-period archaeological materials are encountered during project activities that are not archaeologically monitored, all work within 25 feet of the find shall halt until a qualified archaeologist can evaluate</p>	<p>Require as a condition of approval</p> <p>Construction contractor to</p>	<p>Planning Division</p> <p>Building Division</p>	<p>Incorporate as condition of project approval</p> <p>Review construction</p>	<p>Deny project</p> <p>Halt construction activities</p>	

MITIGATION MONITORING AND REPORTING PROGRAM
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Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
the find and make recommendations. Cultural resources materials may include pre-contact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations shall be required to mitigate adverse impacts from project implementation. These additional studies may include, but are not limited to, avoidance, test excavation, or other forms of significance evaluations.	include construction specifications and materials in contract, and implement measures during duration of construction activities.		specifications and materials, and retain administrative record Monitor during scheduled construction site inspections		
<u>Mitigation/Compliance Measure CULT-3:</u> If paleontological deposits are identified during project construction activity, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist shall be contacted to review the find. The project team, the City, and the paleontologist shall develop and implement a plan for impact avoidance. Should avoidance be infeasible due to engineering requirements, the project team shall develop and implement a plan to offset the loss of paleontological data through the implementation of a data recovery project, including paleontological recovery. If determined to be a unique paleontological resource, the potentially significant impacts caused by construction may be mitigated through monitoring during construction activity (beyond the area of the initial find), recovery and analysis of the deposit by the paleontologist, resource recordation, and report preparation.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Construction contractor to include construction specifications and materials in contract, and implement measures during duration of construction activities.	Building Division	Review construction specifications and materials, and retain administrative record Monitor during scheduled construction site inspections	Halt construction activities	

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
<u>Mitigation Measure CULT-4:</u> If human remains are identified during construction and cannot be preserved in place, the City shall fund: 1) the removal and documentation of the human remains from the project corridor by a qualified archaeologist meeting the Secretary of the Interior's <i>Professional Qualifications Standards</i> for Archeology, 2) the scientific analysis and of the remains by a qualified archaeologist, should such analysis be permitted by the Native American Most Likely Descendent, and 3) the reburial of the remains, as appropriate. All excavation, analysis, and reburial of Native American human remains shall be done in consultation with the Native American Most Likely Descendent, as identified by the California Native American Heritage Commission.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Construction contractor to include construction specifications and materials in contract, and implement measures during duration of construction activities.	Building Division	Review construction specifications and materials, and retain administrative record Monitor during scheduled construction site inspections	Halt construction activities	
IX. HYDROLOGY AND WATER QUALITY					
<u>Compliance Measure WQ-1:</u> Prior to the issuance of a building permit, the Construction Contractor shall prepare and submit an Erosion and Sediment Control Plan (ESCP) to the City of San Rafael Engineer, or appropriate designee for review and approval, as specified in the Statewide Phase II Permit (Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004), and the City of San Rafael Municipal Code Section 9.30.150, Erosion and Sediment Control Plan Requirements. The ESCP will follow the most recent version of the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) Construction Erosion and Sediment Control Plan package and include, at a minimum, the following: (1) description of the project and soil disturbing; (2) site	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
specific construction-phase Best Management Practices (BMPs); (3) rationale for selecting the BMPs; (4) list of applicable outside agency permits associated with the soil disturbing activity; (5) financial security that temporary measures will be implemented and maintained during construction; and (6) approved ESCP will be a condition of the issuance of the appropriate permit issued by the City for the proposed project.					
<u>Compliance Measure WQ-2:</u> All groundwater dewatering activities shall comply with the requirements of the General Waste Discharge Requirements for Discharge or Reuse of Extracted Brackish Groundwater, Reverse Osmosis Concentrate Resulting from Treated Brackish Groundwater, and Extracted Groundwater from Structure Dewatering Requiring Treatment (Order No. R2-2012-0060, National Pollutant Discharge Elimination System No. CAG912004), or subsequent permit. This compliance shall include submission of a Notice of Intent (NOI) for coverage under the permit to the San Francisco Bay Regional Water Quality Control Board at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges.	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	
	Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	
XII. NOISE					
<u>Mitigation Measure NOI-1:</u> The project contractor shall implement the following measures during construction of the project:	Require as a condition of approval	Planning Division	Incorporate as condition of project approval	Deny project	

MITIGATION MONITORING AND REPORTING PROGRAM
Francisco Boulevard West Multi-Use Pathway

Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
<ul style="list-style-type: none"> • Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards. • Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site. • Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all project construction. • Prohibit extended idling time of internal combustion engines. • All noise producing construction activities shall be limited to the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activity shall be allowed on Sundays and holidays. • Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem. 	Construction contractor to include construction specifications and materials in contract, and implement measures during duration of construction activities.	Building Division	<p>Review construction specifications and materials, and retain administrative record</p> <p>Monitor during scheduled construction site inspections</p>	Halt construction activities	
<p>XVI. TRANSPORTATION/TRAFFIC</p> <p><u>2014 EA Mitigation Measure T-1: SMART will develop a</u></p> <p><i>Mitigation Monitoring and Reporting Program</i></p>	Require as a condition of	Planning Division	Incorporate as condition of project approval	Deny project	
<p style="text-align: right;"><i>Francisco Boulevard West Multi-Use Pathway</i> <i>Anderson Drive to Mahon Creek Pathway</i></p>					

MITIGATION MONITORING AND REPORTING PROGRAM
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Mitigation Measure	Implementation Procedure	Monitoring Responsibility	Monitoring / Reporting Action & Schedule	Non-Compliance Sanction/Activity	Monitoring Compliance Record (Name/Date)
construction phasing/sequencing and traffic management plan to be developed and implemented by the contractor to minimize Proposed Action effects during construction. This plan will define each construction operation, approximate duration, and the necessary traffic controls to maintain access for vehicles. The plan will require the movement of heavy equipment and transport materials during off-peak travel demand periods. To reduce the effect on parking supply, the plan will encourage workers to carpool and use public transit. To address safety issues, clearly defined access for non-motorized modes will be maintained during construction. Staging areas will be fenced and signed. Where roadways and sidewalks are impassable for bicycles and pedestrians, safe alternate routes and pathways will be signed and maintained during construction. This plan will be coordinated with the cities of San Rafael and Larkspur, local fire and police departments, and transit providers.	approval Project sponsor obtains approvals from appropriate agencies prior to issuance of building permits	Building Division	Building Division verifies appropriate approvals obtained prior to issuance of building permit	Deny issuance of building permit	

MITIGATED NEGATIVE DECLARATIONS

Project Name. Francisco Boulevard West Multi-Use Pathway – Andersen Drive to Mahon Creek Pathway.

Project Location. The proposed multi-use pathway (MUP) would extend from Andersen Drive to the Mahon Creek Pathway in the City of San Rafael, Marin County, California. The MUP would be constructed with City of San Rafael and Sonoma Marin Area Rail Transit (SMART) right-of-way.

Project Description. The City of San Rafael (City) proposes to construct approximately 4,500 feet of a multi-use pathway (MUP) within City and SMART right-of-way from Andersen Drive to the Mahon Creek pathway. The MUP would consist of an 8- to 10-foot paved pathway with associated 2-foot wide shoulders, a prefabricated bridge, drainage facilities, retaining walls, fencing, and other minor project elements (e.g., signage, pavement marking).

Findings. It is hereby determined that, based on the information contained in the attached Initial Study, the project would not have a significant adverse effect on the environment.

Mitigation measures necessary to avoid the potentially significant effects on the environment are included in the attached Initial Study, which is hereby incorporated and fully made part of this Mitigated Negative Declaration. The District has hereby agreed to implement each of the identified mitigation measures, which would be adopted as part of the Mitigation Monitoring and Reporting Program.



Bill Guerin, Director
City of San Rafael Department of Public Works



Date

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1.0 PROJECT INFORMATION

1. Project title:

Francisco Boulevard West Multi-Use Pathway – Andersen Drive to Mahon Creek Pathway

2. Lead agency name and address:

City of San Rafael, Department of Public Works (DPW)
111 Morpew Street
San Rafael, CA 94901

3. Contact person and phone number:

Kevin McGowan, Assistant DPW Director and City Engineer
(415) 485-3389

4. Project location:

The proposed multi-use pathway (MUP) would extend from Andersen Drive to Mahon Creek in the City of San Rafael, Marin County, California. The MUP would be constructed within City of San Rafael and Sonoma Marin Area Rail Transit (SMART) right-of-way.

5. Project sponsor's name and address:

City of San Rafael, DPW
111 Morpew Street
San Rafael, CA 94901

6. General plan designation:

Public/Quasi Public

7. Zoning:

Public/Quasi-Public (P/QP)

8. Description of project:

Project Background. CEQA analysis of the SMART project was conducted in 2005-2006, with publication of a Draft Environmental Impact Report in November 2005 (2005 DEIR) and a Final Environmental Impact Report in June 2006 (2006 FEIR). The SMART Board of Directors (SMART Board) certified the FEIR in July 2006. The 2006 FEIR analyzed the potential environmental impacts of the then proposed SMART District project, from Cloverdale to Larkspur, including the following project elements:

- Passenger rail service on weekdays along the 70-mile long SMART corridor between Cloverdale and Larkspur;
- Development of fourteen (14) rail stations, including Downtown San Rafael, and Larkspur;
- New rail operations and maintenance facility;
- Train passing sidings, track work and bridge repair; and

- A bicycle/pedestrian pathway generally within or adjacent to the rail corridor, including 54 miles of Class I pathway and 17 miles of Class II pathway improvements.¹

The 2006 FEIR addressed the short- and long-term construction, operation, and maintenance impacts of the SMART project, including impacts associated with operation of the rail stations and the construction of the bicycle/pedestrian pathway.

In 2008, the SMART Board certified a Supplemental EIR (2008 Supplemental EIR) that assessed specific changes to the SMART project, including additional weekend rail service, and alternative locations for the Novato South Station. At that time, no federal funds were expected to be used for any portion of the SMART system, and thus clearance under the National Environmental Policy Act (NEPA) was not pursued.

In 2014, with the prospect of applying for federal funding from the Federal Transit Administration (FTA), an Environmental Assessment (EA) pursuant to NEPA was prepared assessing the social, economic, and environmental effects of the proposed SMART Downtown San Rafael to Larkspur Extension project. As part of the EA, a series of alternatives were evaluated, but none included a multi-use pathway.

The project evaluated in the 2014 EA included track work, trestle bridges, a partial realignment of Francisco Boulevard West, at-grade road crossings, and connections to the Cal Park Hill Tunnel and Larkspur Station. A series of technical reports were included as appendices to the EA including: Air Quality Conformity, National Historic Preservation Act Compliance, Endangered Species Act Compliance, and Executive Order 12898 (Environmental Justice) Compliance. The EA incorporated mitigation measures from the 2006 FEIR, the 2008 Supplemental EIR, and additional mitigation measures specific to this stretch of the rail alignment related to endangered species, noise, and traffic. On May 20, 2015, pursuant to NEPA, the FTA issued a Finding of No Significant Impact (FONSI) for the proposed Downtown San Rafael to Larkspur Extension project.

The proposed SMART pathway evaluated in the 2006 FEIR includes Phase 1 of the proposed pathway, which includes construction of approximately 54 miles of Class I pathway located on the rail right-of-way and 17 miles of Class II pathway improvements outside of the rail right-of-way on existing streets, providing links between the Class I portions of the pathway. Phase 2, which was not evaluated as part of the proposed SMART project, would require implementation and funding by either the local cities and towns or the counties.

The proposed project, evaluated herein, would be implemented by the City of San Rafael and would be considered a separate project under CEQA from the proposed SMART rail project. However, it is anticipated that construction of the proposed MUP may be concurrent with the SMART rail project.

¹ A Class I Bikeway (bike path) provides a completely separated right-of-way for the exclusive use of bicycle and pedestrians. A Class II Bikeway (bike lane) provides a striped lane for on-way bike travel on a street or highway.

Project Description. The City of San Rafael (City) proposes to construct a Multi-Use Pathway (MUP) within City and Sonoma Marin Area Rail Transit (SMART) right-of-way (ROW). The approximately 4,500-foot MUP would extend from Andersen Drive to the Mahon Creek pathway in the City of San Rafael, Marin County, California. On the southern end of the proposed MUP, at the intersection of Andersen Drive and Francisco Boulevard West, the pathway would connect to the existing SMART pathway to Larkspur and existing bike lanes on Andersen Drive. On the northern end, the proposed MUP would connect to the existing Mahon Creek Pathway to the west and to an existing pedestrian bridge/walkway to the north that extends to 2nd Street in downtown San Rafael. Once the entire SMART multi-use pathway (from Cloverdale to Larkspur) is completed, it is expected that 7,000 to 10,000 people would use the MUP daily.

Consistent with the 2014 EA, the existing alignments of Francisco Boulevard West and the rail line would be “flipped” (e.g., the roadway would be shifted south and the rail line shifted north) between the San Rafael Creek crossing and Rice Drive to eliminate two at-grade railroad crossings at Francisco Boulevard West and Irwin Drive. The proposed Francisco Boulevard West realignment project is a separate project for the purposes of CEQA; however, the proposed MUP project may be constructed concurrently with the roadway realignment, as described further below.

Approximately 1,800 feet of Francisco Boulevard West would be shifted. Therefore, the southern 2,500 feet of path would run along the west side of the SMART ROW; the northern 2,000 feet would run along the west side of the realigned Francisco Boulevard West. The proposed MUP would be constructed entirely within public ROW owned by the City and SMART.

The MUP would consist of an 8- to 10-foot wide paved pathway with associated 2-foot wide shoulders. In addition, the MUP would require installation of a prefabricated bridge (approximately 300 square feet), drainage facilities, retaining walls, railings, fencing, and other minor project elements, such as signage and pavement markings. Several sections of retaining wall, totaling approximately 1,300 feet, would be installed along the western edge of the proposed MUP.

For approximately 2,500 feet in the middle of the alignment, the proposed MUP would be bordered on the west by an unnamed manmade drainage channel. In order to minimize impacts on the drainage channel, portions of the MUP would be cantilevered over the channel. Approximately ten 18-inch diameter concrete piles would be placed within the unnamed drainage channel to support the cantilevered portion of the pathway. The 30-foot long prefabricated bridge would span the unnamed drainage channel approximately 1,300 feet south of Rice Drive.

Approximately 716 square feet of the unnamed drainage channel would be put in a culvert and filled for the pathway construction immediately south of Irwin Street. To offset the impacts of the fill section and the ten piles needed to support the cantilevered portion of the pathway, an existing culvert/driveway approximately 300 feet north of Rice Drive would be

removed and restored as a drainage channel. A total of approximately 860 square feet of channel would be restored in this location, resulting in an approximate 1:1 replacement ratio.

Construction. Construction would commence in late spring or early summer 2018 and require approximately nine months to complete. Due to seasonal environmental restrictions, construction would span two construction seasons. Work completion is anticipated in the fall of 2019. Construction of the MUP may be concurrent with the SMART rail and Francisco Boulevard West realignment construction.

Construction of the proposed Class I bicycle/pedestrian pathway would require vegetation and top soil removal, roadway excavation and embankment, safety structures, drainage facilities (including concrete curbs, gutters and inlets), asphalt and concrete pavement, pathway structures (bridges over waterways), fencing, retaining walls, signage, and striping.

Construction equipment for the work would include backhoes, excavators, graders, dump trucks, paving machines and compactors, concrete pumper trucks and drilling equipment for structure piers. The equipment would be similar to that used for road construction but may be smaller in size due to the width of the MUP and the narrow right-of-way, especially for the segment between Andersen Drive and Rice Drive.

Construction access would be from Andersen Drive, Rice Drive, Irwin Street and Francisco Boulevard West north of Rice Drive.

9. Surrounding land uses and setting:

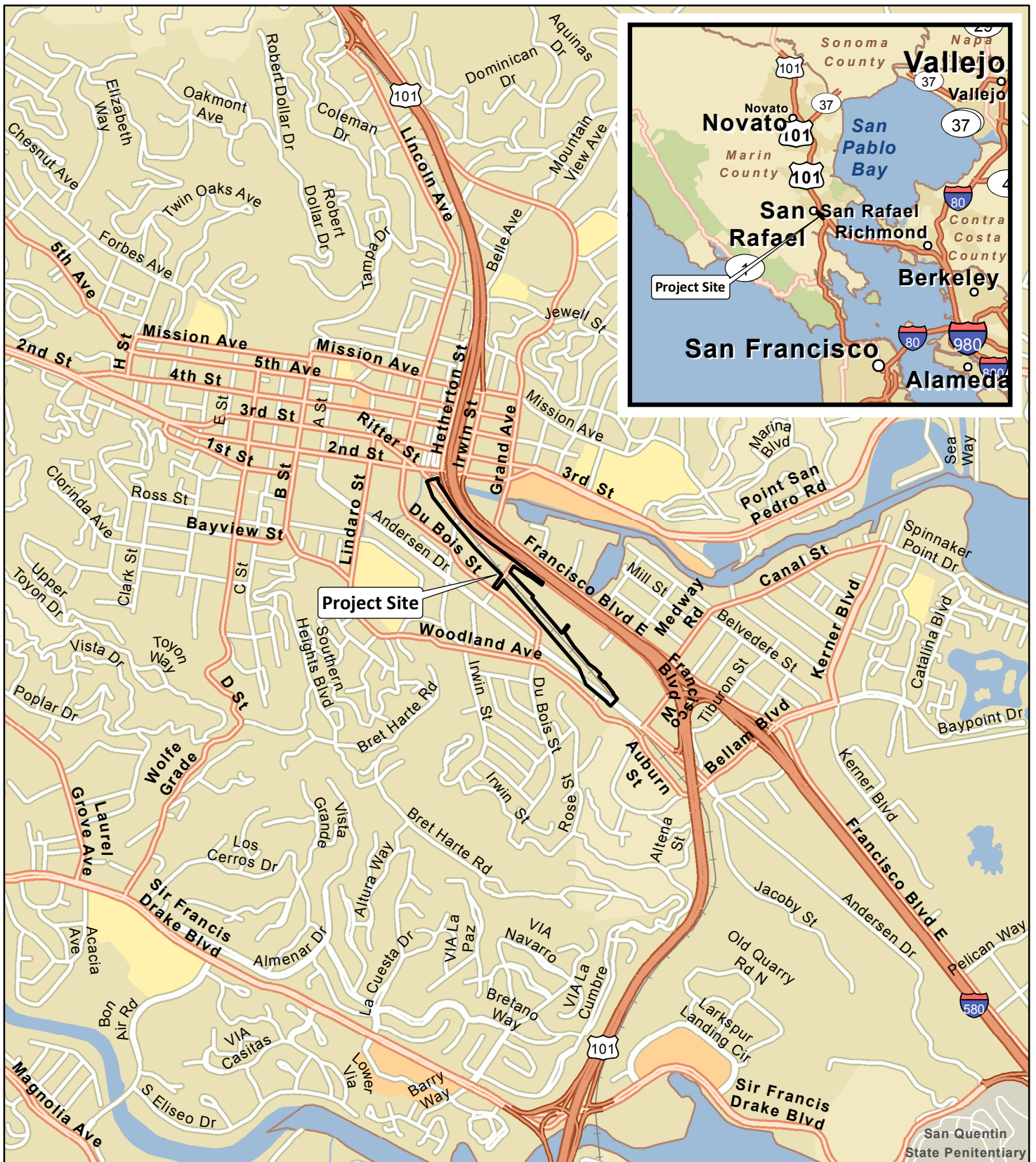
The proposed MUP would be constructed entirely within public ROW owned by the City and SMART. The project site is located in central San Rafael, extending from Andersen Drive to the Mahon Creek pathway. Properties adjacent to the proposed MUP alignment consist primarily of commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

10. Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement):

Permit coordination meetings were conducted on March 16, 2016 and June 1, 2017 with the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Wildlife, and other agencies. The proposed MUP would be subject to approvals from several agencies (see Table A below).

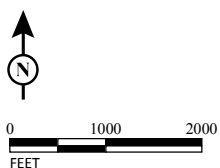
Table 1: Permits and Agency Approvals

Agency	Approval or Permit
SMART	Encroachment permit for construction
City of San Rafael	Encroachment permit for construction, waiver for wetland fill, wetland setback reduction
U.S. Fish and Wildlife Service	Section 7 Consultation
U.S. Army Corps of Engineers	Section 404 - Nationwide Permit 14
California Department of Fish and Wildlife	Section 1601 Streambed Alteration Agreement
Regional Water Quality Control Board	Section 401 Water Quality Certification
State Water Resources Control Board	General Construction Stormwater Permit



LSA

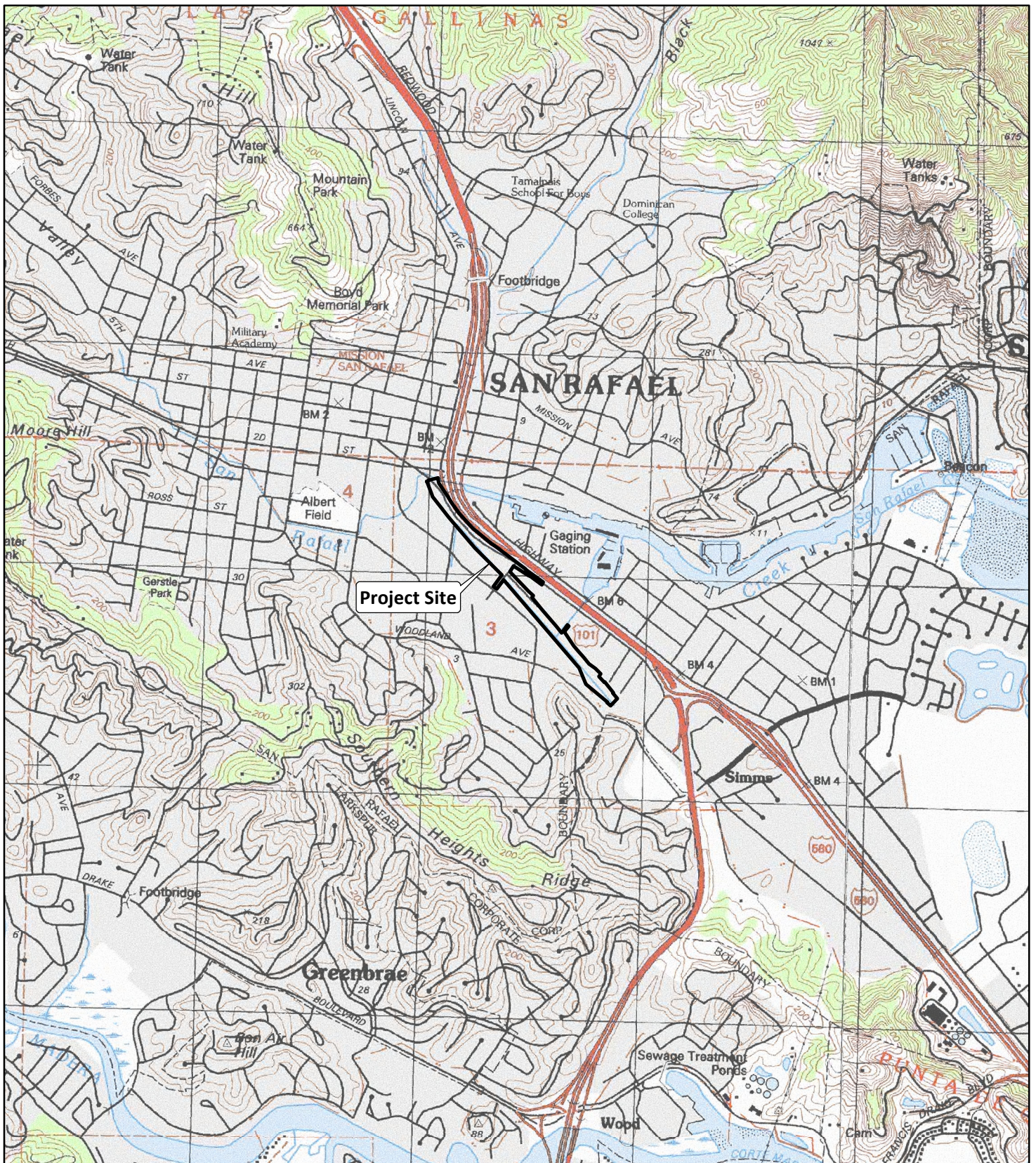
FIGURE 1



SOURCE: ESRI StreetMap North America (2012).

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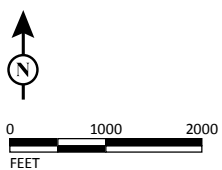
Francisco Boulevard West Multi Use Path
San Rafael County, California
Regional Location



LSA

LEGEND

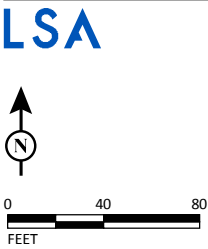
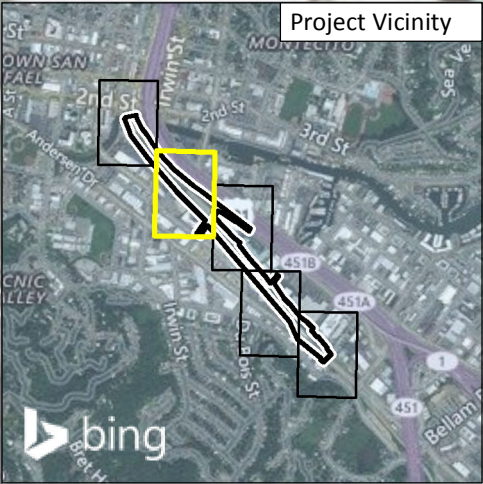
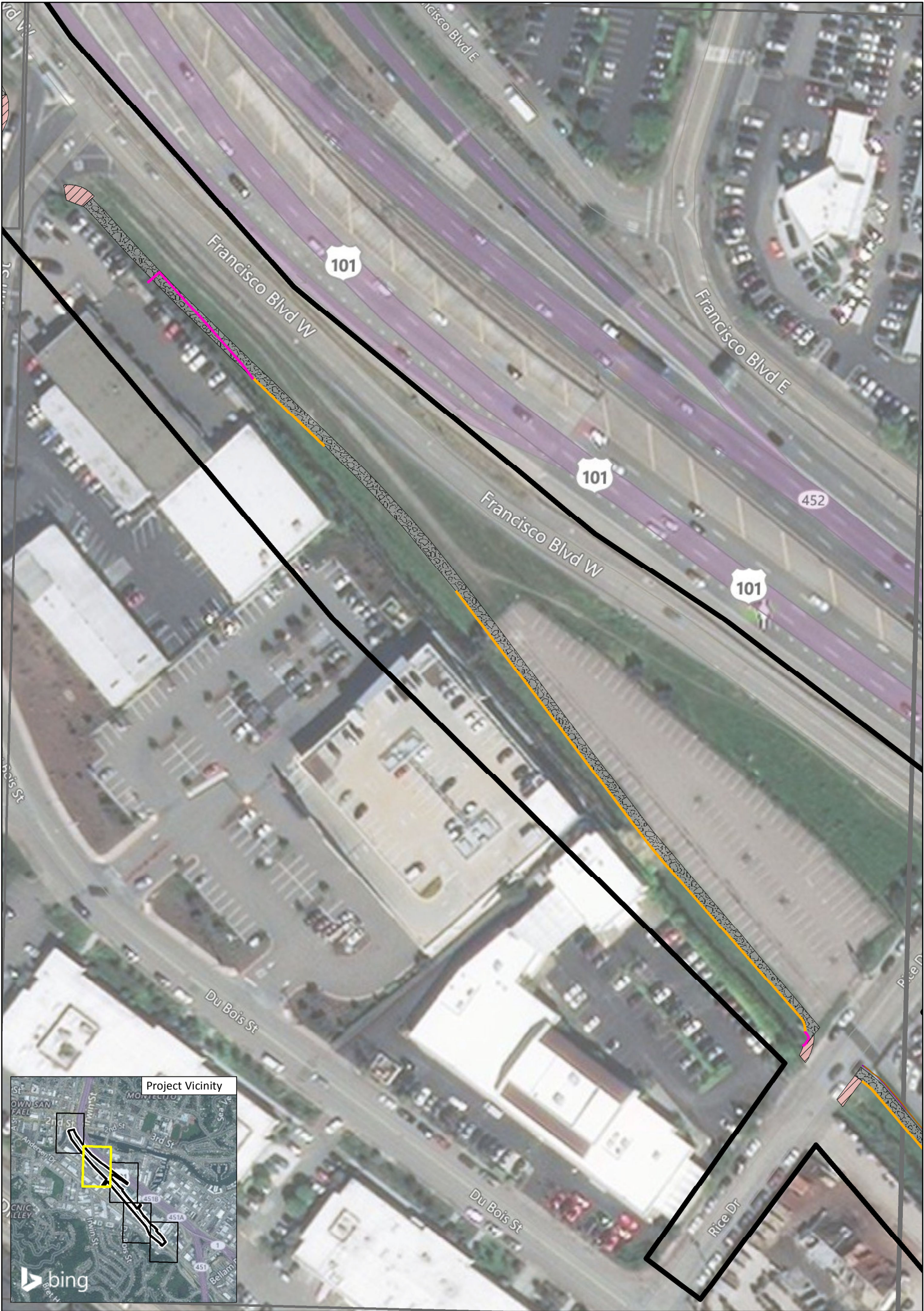
FIGURE 2



SOURCE: 7.5-minute Quad: San Rafael, Calif. (1999), San Quentin, Calif. (1995)

I:\ALT1701\GIS\Maps\ISMND\Figure 2_Site Location.mxd (7/24/2017)

Francisco Boulevard West Multi Use Path
San Rafael County, California
Site Location



SOURCE: Alta Planning and Design (April 2017); Bing Maps Hybrid.
I:\ALT1701\GIS\Maps\ISMND\Figure 3_Proposed Project 2017-09-06.mxd (9/6/2017)

LEGEND

Project Area

CAD Import

- Trail/Paved Path
- Pedestrian Track Crossing (Per SMART Plan)
- Proposed Detention Area
- Public Pedestrian Access Point
- Trail Bridge

- Easements
- Curb
- Trail Grading Limit
- Trail - Shoulder
- Retaining Wall
- Retaining Wall with Cantilever
- Drain

DRAFT

FIGURE 3
Page 2 of 5

*Francisco Boulevard West
Multi Use Path
San Rafael, Marin County, California
Proposed Project*



LEGEND

Project Area

CAD Import

- Trail/Paved Path
- Pedestrian Track Crossing (Per SMART Plan)
- Proposed Detention Area
- Public Pedestrian Access Point
- Trail Bridge

Easements

Curb

Trail Grading Limit

Trail - Shoulder

Retaining Wall

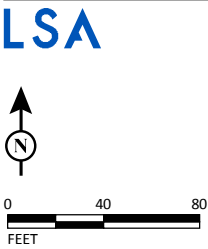
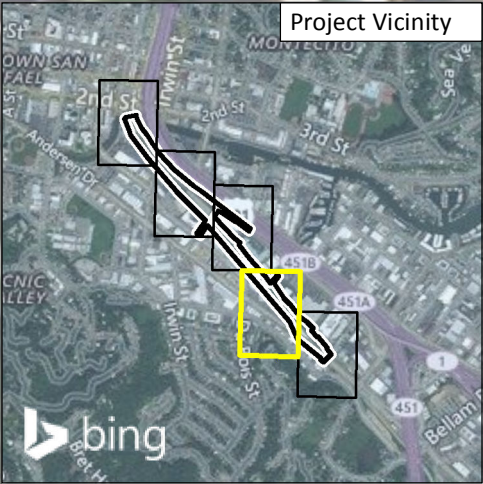
Retaining Wall with Cantilever

Drain

DRAFT

*Francisco Boulevard West
Multi Use Path
San Rafael, Marin County, California
Proposed Project*

FIGURE 3
Page 3 of 5



LEGEND

Project Area

CAD Import

- Trail/Paved Path
- Pedestrian Track Crossing (Per SMART Plan)
- Proposed Detention Area
- Public Pedestrian Access Point
- Trail Bridge

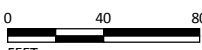


- Easements
- Curb
- Trail Grading Limit
- Trail - Shoulder
- Retaining Wall
- Retaining Wall with Cantilever
- Drain

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FIGURE 3
Page 4 of 5

*Francisco Boulevard West
Multi Use Path
San Rafael, Marin County, California
Proposed Project*













LEGEND

 Project Area





CAD Import

-  Trail/Paved Path
-  Pedestrian Track Crossing (Per SMART Plan)
-  Proposed Detention Area
-  Public Pedestrian Access Point
-  Trail Bridge

Easements

-  Easements
-  Curb
-  Trail Grading Limit

Trail - Shoulder

-  Trail - Shoulder
-  Retaining Wall
-  Retaining Wall with Cantilever
-  Drain

DRAFT

FIGURE 3
Page 5 of 5

*Francisco Boulevard West
Multi Use Path
San Rafael, Marin County, California
Proposed Project*

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2.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED


The environmental factors checked below would be potentially affected by this Project, involving at least one impact that is a "Less than Significant Impact with Mitigation Incorporated" as indicated by the checklist on the following pages.

<input type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forestry Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input checked="" type="checkbox"/> Geology and Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input type="checkbox"/> Hydrology and Water Quality
<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources	<input checked="" type="checkbox"/> Noise
<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input type="checkbox"/> Transportation/Traffic	<input checked="" type="checkbox"/> Tribal Cultural Resources	<input type="checkbox"/> Utilities and Service Systems
<input checked="" type="checkbox"/> Mandatory Findings of Significance		


Determination (To be completed by the Lead Agency).

On the basis of this initial evaluation:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- ☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.



Bill Guerin, Director
San Rafael Department of Public Works



Date

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3.0 EVALUATION OF ENVIRONMENTAL IMPACTS

1. A brief explanation is required for all answers except “No Impact” answers that are adequately supported by the information sources a Lead Agency cites in the parentheses following each question. A “No Impact” answer is adequately supported if the referenced information sources show that the impact simply does not apply to Projects like the one involved (e.g., the Project falls outside a fault rupture zone). A “No Impact” answer should be explained where it is based on Project-specific factors as well as general standards (e.g., the Project will not expose sensitive receptors to pollutants, based on a Project-specific screening analysis).
2. All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as Project-level, indirect as well as direct, and construction as well as operational impacts.
3. Once the Lead Agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. “Potentially Significant Impact” is appropriate if there is substantial evidence that an effect may be significant. If there are one or more “Potentially Significant Impact” entries when the determination is made, an Environmental Impact Report (EIR) is required.
4. “Negative Declaration: Less than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures has reduced an effect from “Potentially Significant Impact” to a “Less than Significant Impact.” The Lead Agency must describe the mitigation measures and briefly explain how they reduce the effect to a less than significant level (mitigation measures from earlier analyses may be cross-referenced, as discussed below).
5. Earlier analyses may be used where, pursuant to the tiering, Program EIR, or other California Environmental Quality Act (CEQA) process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063 [c][3][D]). In this case, a brief discussion should identify the following:
 - a. Earlier Analysis Used. Identify and state where they are available for review.
 - b. Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
 - c. Mitigation Measures. For effects that are “Less than Significant with Mitigation Measures Incorporated,” describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the Project.
6. Lead Agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously

prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7. Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.
8. This is only a suggested form, and Lead Agencies are free to use different formats; however, Lead Agencies should normally address the questions from this checklist that are relevant to a Project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
 - a. The significance criteria or threshold, if any, used to evaluate each question; and
 - b. The mitigation measure identified, if any, to reduce the impact to less than significant.

I. AESTHETICS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

The project site consists of public right-of-way (City and SMART) along Francisco Boulevard West and the SMART railroad tracks. The visual character of the project site is largely developed. Surrounding land uses include commercial and industrial sites, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses. This area is the oldest industrial area in the City of San Rafael. Nearby residential areas include the neighborhoods of Picnic Valley, California Park, and Bret Harte, along Woodland Avenue. Vegetation/land cover types along the project alignment consist primarily of existing paved areas, ruderal uplands, and an approximately 2,500-foot long drainage ditch.

Impact Analysis:

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. A scenic vista is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. Aesthetic components of a scenic vista generally include (1) scenic quality, (2) sensitivity level, and (3) view access. The proposed project is located in an area which is primarily characterized by urban development. Development in the project vicinity includes local roads, and commercial and industrial sites, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses. No scenic vistas are identified in the City of San Rafael General Plan 2020² to or from the project site. However, the ridgeline/hillsides to the south of the project alignment are identified as “Visually Significant Hillsides, Ridges and Landforms” and the project area is identified as a gateway in Exhibit 18, Central San Rafael Community Design in the City of San Rafael General Plan 2020.

Limited scenic vistas are possible along the project corridor due to the relatively flat topography and the surrounding urban development; however, the ridgeline/hillsides to the south of the project alignment are visible from several public vantage points, including Highway 101 and

² City of San Rafael, 2013. City of San Rafael General Plan 2020. Amended and reprinted 18 January. Available online at: <http://docs.cityofsanrafael.org/CommDev/planning/general-plan-2020/general-plan-2020-complete.pdf> (Accessed June 20, 2017).

local roadways and would be visible from the proposed MUP. Visible elements of the proposed project would include the proposed trail, prefabricated bridge, drainage facilities, retaining walls, rails, fencing, and other minor project elements, such as signage and pavement marking. The majority of the project elements would be at-grade and are not expected to impair surrounding views. Proposed retaining walls would be a maximum of six feet high, and would be constructed in an existing urban environment where scenic vistas are impeded by surrounding development.

Implementation of the proposed project would require some vegetation and top soil removal, within the project corridor. However, given the limited extent of vegetation removal over the length of the proposed alignment and the largely urban nature of the project site, vegetation removal associated with project construction would not substantially degrade scenic vistas along the project alignment. Therefore, the impact of the project on scenic vistas would be less than significant.

b) Substantially damage scenic resources, including but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. Caltrans Landscape Architecture Program administers the Scenic Highway Program, contained in Streets and Highways Code Sections 260–263. There are no officially designated state scenic highways in the vicinity of the project site according to Caltrans.³ According to the San Rafael General Plan, Francisco Boulevard West is a designated transportation corridor and the area near the northern end of the project alignment is a designated gateway,⁴ with goals and policies to promote streetscape improvements, visible landmarks and landscaping. No historic buildings or rock outcroppings are located on the project site or in the surrounding vicinity. Furthermore, implementation of the proposed project would not result in the removal of or damage to scenic resources. Therefore, implementation of the proposed project would not damage scenic resources within a State or locally designated scenic roadway. No mitigation is required.

c) Substantially degrade the existing visual character or quality of the site and its surroundings?

Less than Significant Impact. The existing visual character of the project site is primarily defined by urban development with some undeveloped parcels. An unnamed channel crosses through the project site. The channel parallels the proposed alignment throughout the project area and connects to San Rafael Creek just north of the project site. Highway 101 and the Francisco Boulevard West corridor and associated development visually dominate the character of the immediate project area. The project site is visible from surrounding public sites, including Highway 101, Francisco Boulevard West, adjacent local roadways and commercial and industrial development.

³ California Department of Transportation, 2017. Scenic Highways website. 28 March. Available online at: <http://www.dot.ca.gov/design/lap/livability/scenic-highways/index.html> (accessed March 29, 2017).

⁴ City of San Rafael, 2013. City of San Rafael General Plan 2020. Amended and reprinted 18 January. Available online at: <http://docs.cityofsanrafael.org/CommDev/planning/general-plan-2020/general-plan-2020-complete.pdf> (Accessed June 20, 2017).

The proposed project would install a MUP within existing City and SMART ROW. The MUP would consist of an 8- to 10-foot wide paved pathway with associated 2-foot wide shoulders. In addition, the MUP would require installation of a prefabricated bridge (approximately 300 square feet), drainage facilities, retaining walls, railings, fencing, and other minor project elements, such as signage and pavement markings. In addition, approximately 1,800 feet of Francisco Boulevard West would be shifted. Therefore, the southern 2,500 feet of path would run along the west side of the SMART ROW; the northern 2,000 feet would run along the west side of the realigned Francisco Boulevard West. Construction of these facilities would alter the view for travelers along local roadways, and from adjacent commercial and industrial uses; however, proposed facilities would be visually compatible with existing roadway infrastructure. Therefore, construction of these facilities would not result in a substantial adverse impact on existing views or degrade the existing visual quality of the project site.

Activities associated with MUP construction would be visible from adjacent uses (commercial, industrial). However, all temporary construction-related visual impacts such as construction equipment, staging areas, stockpile locations, and construction fencing would be removed following completion of construction.

Therefore, implementation of the proposed project would have a less than significant impact associated with degrading the existing visual character or quality of the project site and its surroundings. No mitigation is required.

d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

Less Than Significant Impact. The portion of the MUP that is located along Francisco Boulevard West would not require additional lighting as street lighting would provide sufficient illumination for the proposed path. The segment of the MUP between Anderson and Rice Drive would include installation of pathway lighting to illuminate the proposed pathway. The lighting would be approximately 12-foot high, low-level, shielded light fixtures, which would direct the light downward onto the pathway. Such lighting would be consistent with existing lighting in the project area and would not create a new source of substantial light or glare that would adversely affect day or nighttime views. All temporary construction-related sources of light or glare (i.e., construction equipment headlights/safety lights) would cease following completion of construction. Therefore, implementation of the proposed project would not result in impacts associated with light or glare that would adversely affect day or nighttime views in the project area. No mitigation is required.

II. AGRICULTURE AND FOREST RESOURCES*Would the project:*

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

Affected Environment:

The project site is classified as “Urban and Build Up Land” on maps prepared by the California Department of Conservation Farmland Mapping and Monitoring Program (FMMP).⁵ Urban and Built Up Land is occupied by structures with a building density of at least 1 unit to 1.5 acres, or approximately 6 structures to a 10-acre parcel. Common examples include residential, industrial, commercial, institutional facilities, cemeteries, airports, golf courses, sanitary landfills, sewage treatment and water control structures.

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting specific parcels of land to agricultural or related open space use. The project site is located entirely within public ROW owned by the City and SMART and is zoned for public/quasi-public uses. Therefore, the project site is not zoned for agricultural use, and is not under a Williamson Act contract.⁶

No forest land or timberland is identified on or near the project site, and the project site is not zoned for forest or timber uses.

⁵ California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2014. Marin County Important Farmland 2014. Available online at: <http://ftp.consrv.ca.gov/pub/dlrp/FMMP/pdf/2014/mar14.pdf> (accessed July 19, 2017).

⁶ California Department of Conservation, Division of Land Resource Protection, Farmland Mapping and Monitoring Program. 2015. Marin County Williamson Act FY 2015-2016. Available online at: http://ftp.consrv.ca.gov/pub/dlrp/wa/Marin_15_16_WA.pdf (accessed July 19, 2017).

Impact Analysis:

- a) **Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to nonagricultural use?**

No Impact. No Farmland is mapped on or near the project site. Therefore, the project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to a non-agricultural use. No impact would occur, and no mitigation is required.

- b) **Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

No Impact. The project site is not zoned for agricultural use and is not under a Williamson Act contract. Therefore, implementation of the project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. No impact would occur, and no mitigation is required.

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

No Impact. The project is not located on forest land or timberland, and would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not result in any impacts to forestland. No mitigation is required.

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

No Impact. The project is not located on forest land or timberland, and would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. Therefore, implementation of the project would not result in any impacts to forestland. No mitigation is required.

- e) **Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

No Impact. Refer to Responses II (a) and (c), above. The project would not involve other changes in the existing environment, which could result in the conversion of farmland to non-agricultural use. No impact would occur, and no mitigation is required.

III. AIR QUALITY*Would the project:*

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

The proposed project is located in the City of San Rafael, and is within the jurisdiction of the Bay Area Air Quality Management District (BAAQMD), which regulates air quality in the San Francisco Bay Area. Air quality conditions in the San Francisco Bay Area have improved significantly since the BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen substantially. In San Rafael, and the rest of the air basin, exceedances of air quality standards occur primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Within the BAAQMD, ambient air quality standards for ozone, carbon monoxide (CO), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), particulate matter (PM₁₀, PM_{2.5}), and lead (Pb) have been set by both the State of California and the federal government. The State has also set standards for sulfate and visibility. The BAAQMD is under State non-attainment status for ozone and particulate matter standards. The BAAQMD is classified as non-attainment for the federal ozone 8-hour standard and non-attainment for the federal PM_{2.5} 24-hour standard.

Impact Analysis:**a) Conflict with or obstruct implementation of the applicable air quality plan?**

Less Than Significant Impact. The applicable air quality plan is the BAAQMD's 2017 Clean Air Plan, adopted on April 19, 2017. The 2017 Clean Air Plan/Regional Climate Protection Strategy serves as a roadmap for the BAAQMD to reduce air pollution and protect public health and the global climate. The 2017 Clean Air Plan also includes measures and programs to reduce emissions of fine particulates and toxic air contaminants. In addition, the Regional Climate Protection Strategy is included in the 2017 Clean Air Plan, which identifies potential rules,

control measures, and strategies that the BAAQMD can pursue to reduce greenhouse gases throughout the Bay Area.

Consistency with the 2017 Clean Air Plan is determined by whether or not the proposed project would result in significant and unavoidable air quality impacts or hinder implementation of control measures (e.g., excessive parking or preclude extension of transit lane or bicycle path). The proposed project would construct a multi-use pathway (MUP) within the City and Sonoma Marin Area Rail Transit (SMART) right-of-way (ROW). On the southern end of the proposed MUP, at the intersection of Andersen Drive and Francisco Boulevard West, the pathway would connect to the existing SMART pathway to Larkspur and existing bike lanes on Andersen Drive. On the northern end, the proposed MUP would connect to the existing Mahon Creek Pathway to the west and to an existing pedestrian bridge/walkway to the north that extends to 2nd Street in downtown San Rafael. Once the entire SMART multi-use pathway (from Cloverdale to Larkspur) is completed, it is expected that 7,000 to 10,000 people would use the MUP daily. Therefore, the project would promote the BAAQMD's initiatives to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation.

In addition, as indicated in the analysis that follows, the proposed project would not result in significant operational and construction-period emissions. Therefore, the proposed project supports the goals of the Clean Air Plan and would not conflict with any of the control measures identified in the plan as designed to bring the region into attainment. Additionally, the proposed project would not substantially increase the population, vehicle trips, or vehicle miles traveled. The proposed project would not hinder the region from attaining the goals outlined in the Clean Air Plan. Therefore, the proposed project would not hinder or disrupt implementation of any control measures from the Clean Air Plan.

b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Less Than Significant With Mitigation Incorporated. Both State and federal governments have established health-based Ambient Air Quality Standards for six criteria pollutants: CO, O₃, NO₂, SO₂, Pb, and suspended particulate matter (PM). These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

According to BAAQMD's CEQA Guidelines, to meet air quality standards for operational-related criteria air pollutant and air precursor impacts, the project must not:

- Generate average daily construction emissions of ROG, NO_x, or PM_{2.5} greater than 54 pounds per day or PM₁₀ exhaust emissions greater than 82 pounds per day;
- Contribute to CO concentrations exceeding the State ambient air quality standards; or
- Generate operation emissions of ROG, NO_x, or PM_{2.5} of greater than 10 tons per year or 54 pounds per day or PM₁₀ emissions greater than 15 tons per year or 82 pounds per day.

Construction and operation emissions associated with the proposed project are analyzed below. As discussed, the proposed project would not generate significant operation-period emissions and, with implementation of Mitigation Measure AIR-1, the project would not generate construction-period emissions in excess of established standards. Therefore, the project would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

Construction Period Impacts. During construction, short-term degradation of air quality may occur due to the release of particulate matter emissions (i.e., fugitive dust) generated by grading, hauling, and other activities. Emissions from construction equipment are also anticipated and would include CO, NO_x, ROG, directly-emitted particulate matter (PM_{2.5} and PM₁₀), and TACs such as diesel exhaust particulate matter.

Site preparation and project construction would involve grading, paving, and other activities. Construction-related effects on air quality from the proposed project would be greatest during the site preparation phase due to the disturbance of soils. If not properly controlled, these activities would temporarily generate particulate emissions. Sources of fugitive dust would include disturbed soils at the construction site. Unless properly controlled, vehicles leaving the site would deposit dirt and mud on local streets, which could be an additional source of airborne dust after it dries. PM₁₀ emissions would vary from day to day, depending on the nature and magnitude of construction activity and local weather conditions. PM₁₀ emissions would depend on soil moisture, silt content of soil, wind speed, and the amount of operating equipment. Larger dust particles would settle near the source, while fine particles would be dispersed over greater distances from the construction site.

Water or other soil stabilizers can be used to control dust, resulting in emission reductions of 50 percent or more. The BAAQMD has established standard measures for reducing fugitive dust emissions (PM₁₀). With the implementation of these Basic Construction Mitigation Measures, fugitive dust emissions from construction activities would not result in adverse air quality impacts.

In addition to dust-related PM₁₀ emissions, heavy trucks and construction equipment powered by gasoline and diesel engines would generate CO, SO₂, NO_x, VOCs and some soot particulate (PM_{2.5} and PM₁₀) in exhaust emissions. If construction activities were to increase traffic congestion in the area, CO and other emissions from traffic would increase slightly while those vehicles are delayed. These emissions would be temporary and limited to the immediate area surrounding the construction site.

Construction emissions were estimated for the project using the Sacramento Metropolitan Air Quality Management District's Road Construction Emissions Model, Version 8.1.0 (Roadmod) as recommended by the BAAQMD for linear projects. Construction-related emissions are presented in Table 2. Detailed calculations are provided in Appendix A.

Table 2: Project Construction Emissions in Pounds Per Day

Project Construction	ROG	NO_x	Exhaust PM₁₀	Exhaust PM_{2.5}
Grubbing/Land Clearing	1.4	15.7	0.7	0.6
Grading/Excavation	7.8	84.7	4.2	3.8
Drainage/Utilities/Sub-Grade	4.6	44.6	2.5	2.4
Paving	2.1	20.2	1.3	1.2
Maximum (pounds/day)	7.8	84.7	4.2	3.8
Average Daily (pounds/day)	3.8	39.7	2.1	1.9
BAAQMD Thresholds	54.0	54.0	82.0	54.0
Exceed Threshold?	No	Yes	No	No

Source: LSA Associates Inc., July 2017.

As shown in Table 2, construction emissions associated with the project would be less than significant for ROG, NO_x, and PM_{2.5} and PM₁₀ exhaust emissions. The BAAQMD requires the implementation of Basic Construction Mitigation Measures to reduce construction dust impacts to a less than significant level. Implementation of Mitigation Measure AIR-1 would reduce construction dust to a less than significant level.

Mitigation Measure AIR-1: Consistent with the Basic Construction Mitigation Measures required by the BAAQMD, the following actions shall be incorporated into construction contracts and specifications for the project:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt tracked-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 as soon as possible.
- Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- 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 mechanic and determined to be running in proper condition prior to operation.
- A publicly-visible sign shall be posted with the telephone number and person to contact at the City of San Rafael regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD's phone number shall also be visible to ensure compliance with applicable regulations.

Operational Emissions. Long-term air emission impacts are associated with stationary sources and mobile sources. Stationary source emissions result from the consumption of natural gas and electricity. Mobile source emissions result from vehicle trips and result in air pollutant emissions affecting the entire air basin. As discussed above, the proposed project would construct a MUP along the SMART ROW, which would connect to the existing SMART pathway, existing bike lanes, an existing trail and pedestrian bridge/walkway, and downtown San Rafael. The proposed project is expected to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation. Therefore, the project would not result in a significant increase in the generation of vehicle trips that would increase air pollutant emissions. The project would result in low levels of off-site emissions due to energy generation associated with lighting along the pathway. However, these emissions would be minimal and would not exceed the pollutant thresholds established by the BAAQMD. Therefore, the proposed project would not be a significant source of operational emissions.

Localized CO Impacts. Emissions and ambient concentrations of CO have decreased dramatically in the Bay Area with the introduction of the catalytic converter in 1975. No exceedances of the State or federal CO standards have been recorded at Bay Area monitoring stations since 1991. The BAAQMD's 2017 CEQA Guidelines include recommended methodologies for quantifying concentrations of localized CO levels for proposed transportation projects. A screening level analysis using guidance from the BAAQMD CEQA Guidelines was performed to determine the impacts of the project. The screening methodology provides a conservative indication of whether the implementation of a proposed project would result in significant CO emissions. According to the BAAQMD's CEQA Guidelines, a proposed project would result in a less-than-significant impact to localized CO concentrations if the following screening criteria are met:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, and the regional transportation plan and local congestion management agency plans.
- Project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, or below-grade roadway).

Implementation of the proposed project would not conflict with the Transportation Authority of Marin's Congestion Management Program for designated roads or highways, a regional transportation plan, or other agency plans. The project sites are not located in an area where vertical or horizontal mixing of air is substantially limited. The project would not increase traffic volumes at intersections to more than 44,000 vehicles per hour and intersection level of service associated with the project would not decline with the project. Therefore, the proposed project would not result in localized CO concentrations that exceed State or federal standards and this impact would be less than significant.

c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

Less Than Significant Impact. CEQA defines a cumulative impact as two or more individual effects, which when considered together, are considerable or which compound or increase other environmental impacts. Therefore, if annual emissions of construction- or operational-related criteria air pollutants exceed any applicable threshold established by the BAAQMD, the proposed project would result in a cumulatively significant impact. As discussed above, no exceedance of BAAQMD's emission thresholds would occur as a result of construction or operation of the proposed project. The proposed project's construction and operational emissions of criteria pollutants are estimated to be well below the emissions threshold established for the region. Therefore, the project would not result in a cumulatively considerable contribution to regional air quality impacts. This impact is considered less than significant.

d) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. Sensitive receptors are defined as residential uses, schools, daycare centers, nursing homes, and medical centers. Individuals particularly vulnerable to diesel particulate matter are children, whose lung tissue is still developing, and the elderly, who may have serious health problems that can be aggravated by exposure to diesel particulate matter. Exposure from diesel exhaust associated with construction activity contributes to both cancer and chronic non-cancer health risks.

According to the BAAQMD, a project would result in a significant impact if it would: individually expose sensitive receptors to TACs resulting in an increased cancer risk greater than 10.0 in one million, increased non-cancer risk of greater than 1.0 on the hazard index (chronic or acute), or an annual average ambient PM_{2.5} increase greater than 0.3 micrograms per cubic meter (µg/m³). A significant cumulative impact would occur if the project in combination with other projects located within a 1,000-foot radius of the project site would expose sensitive receptors to TACs resulting in an increased cancer risk greater than 100.0 in one million, an increased non-cancer risk of greater than 10.0 on the hazard index (chronic), or an ambient PM_{2.5} increase greater than 0.8 µg/m³ on an annual average basis. Impacts from substantial pollutant concentrations are discussed below.

Sensitive receptors are located at the beginning and end of the project site. The nearest sensitive receptors are located approximately 300 feet west of the project site. As described above, construction of the proposed project may expose surrounding sensitive receptors to airborne particulates, as well as a small quantity of construction equipment pollutants (i.e., usually diesel-fueled vehicles and equipment). However, construction contractors would be required to implement the Basic Construction Mitigation Measures required in Mitigation Measure AIR-1. With implementation of Mitigation Measure AIR-1, project construction emissions would be below the BAAQMD's significance thresholds. Additionally, due to the linear nature of the project, construction activities at any one receptor location would occur for a limited duration. Once the project is constructed, the project would not be a source of substantial emissions. Therefore, sensitive receptors are not expected to be exposed to substantial pollutant concentrations during project construction or operation, and potential impacts would be considered less than significant.

e) Create objectionable odors affecting a substantial number of people?

Less Than Significant Impact. During project construction, some odors may be present due to diesel exhaust. However, these odors would be temporary and limited to the construction period. The proposed project would not include any activities or operations that would generate objectionable odors and once operational, the project would not be a source of odors. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people, and no mitigation is required.

IV. BIOLOGICAL RESOURCES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment:

The Andersen Drive to Mahon Creek segment of the proposed multi-use path (MUP) occurs in a highly urbanized area situated between Highway 101 and commercial/industrial development along Francisco Boulevard West in San Rafael, California. The parts of the corridor segment that would be affected by the MUP consist primarily of existing paved areas, ruderal uplands, and an approximately 2,500-foot-long drainage ditch. Additionally, the proposed corridor crosses San Rafael Creek at its northern end and an unnamed channel approximately 1,300 feet south of Rice Drive. The Biological Resources Report Addendum (attached as Appendix B) provides a more detailed description of the corridor's habitats and associated species based on a reconnaissance survey by a biologist and background research including consulting the California Natural Diversity Data Base (CNDDB).

Vegetation

Vegetation along the proposed corridor consists primarily of ruderal (weedy) non-native, upland species typical of highly disturbed areas in Marin County. Herbaceous (non-woody) plant species consist primarily of wild oat (*Avena* sp.), mustard (*Brassica* sp.), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), field bindweed (*Convolvulus arvensis*), and sweet fennel (*Foeniculum vulgare*). Other herbaceous species found along the corridor include French broom (*Genista monspessulana*), English ivy (*Hedera helix*), Mediterranean barley (*Hordeum marinum*), prickly lettuce (*Lactuca serriola*), annual white sweetclover (*Melilotus albus*), yellow sweetclover (*Melilotus indicus*), Mexican feather grass (*Nassella tenuissima*), dandelion (*Taraxacum* sp.), rose clover (*Trifolium hirtum*), and vetch (*Vicia sativa*).

Giant reed (*Arundo donax*), curly dock (*Rumex crispus*), pampas grass (*Cortaderia* sp.), Himalayan blackberry (*Rubus armeniacus*), and English plantain (*Plantago lanceolata*) also occur along the channel sideslopes. Emergent wetland plant species occurring in the channel consist primarily of cattails (*Typha* sp.), sturdy bullrush (*Bolboschoenus robustus*), and brass buttons (*Cotula coronopifolia*).

Tree and shrub species occur in scattered locations along the corridor. These species include non-native species, such as pride of madeira (*Echium candicans*), plum (*Prunus* sp.), and pepper tree (*Schinus* sp.), as well as a few native tree species consisting of coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), and willows (*Salix* sp.).

Wildlife

Due to its highly disturbed condition and location within a dense urban landscape, the proposed alignment has limited habitat value to native wildlife. Species expected to use the site are those that have successfully adapted to human development. Wildlife species observed during a May 21, 2017 reconnaissance survey include: black-tailed deer (*Odocoileus hemionus*), western fence lizard (*Sceloporus occidentalis*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), house sparrow (*Passer domesticus*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), house finch (*Haemorhous mexicanus*), and Anna's hummingbird (*Calypte anna*).

Special-Status Species

No special-status species were observed during the reconnaissance survey. Based on the CNDDb, and as documented in the Biological Resources Report Addendum, a total of 44 special status-plant and animal species are known or have the potential to occur within a 5-mile radius of the corridor. However, only three of these species have the potential to occur in or near the corridor based on existing habitat types and field observations. The southern Distinct Population Segment (DPS) of Green sturgeon (*Acipenser medirostris* – Federally Threatened) has the potential to occur approximately 1.5 miles downstream of the project site in San Pablo Bay.

Western pond turtle (*Actinemys marmorata* - California Species of Special Concern) has the potential to occur within and along the drainage ditch, which provides marginally suitable aquatic and nesting habitat for this species. Additionally, pallid bat (*Antrozous pallidus* - California Species of

Special Concern) has a small potential to roost beneath existing bridge crossings and other structures. Additionally, both ground and tree nesting birds have the potential to occur along the corridor during the nesting season (i.e. mid-February to late August). Nesting birds are protected under the Federal Migratory Bird Treaty Act (MBTA) and/or California Department of Fish and Game Code and direct and indirect disturbance of their nests sites should be avoided.

Potentially Jurisdictional Waters

Based on an unverified wetland delineation report prepared by AECOM in June 2014 and updated by GHD in 2016, the Andersen Drive to Mahon Creek corridor contains the following aquatic features:

- Unnamed Drainage Ditch. This drainage ditch extends for approximately 2,285 linear feet along the corridor and covers approximately 0.66 acre. The ditch is mapped as a jurisdictional water of the U.S. as well as a water of the State of California. Vegetated segments dominated by cattails and bulrushes are mapped as jurisdictional wetlands (in this case “perennial wetlands”). Non-vegetated, open water segments are mapped as jurisdictional Other Waters of the U.S. The ditch appears to be approximately 6 - 12 feet wide at the Ordinary High Water Line (OHWL) and 12 - 25 feet wide at the top of banks. It collects runoff from the surrounding developed areas; the runoff is pumped from the ditch’s terminus at Irwin Street into San Rafael Creek via an underground pipe connected to a pump station located on the east side of Highway 101. At least 500 linear feet of the western channel bank consists of a vertical sheet pile wall.

The ditch channel makes a 90-degree turn to the east approximately 1,200 linear feet south of Rice Drive. The eastward segment passes beneath Highway 101 via a culvert that is connected to the San Rafael Creek boat basin. The ditch channel includes three culverted segments; one beneath Rice Drive; one beneath a driveway crossing approximately 210 feet north of Rice Drive; and one at the northern terminus of the ditch at Irwin Street.

- San Rafael Creek. San Rafael Creek is a navigable water of the U.S., as well as a water of the State of California. It flows into San Rafael Canal and thence into San Pablo Bay. At the MUP corridor crossing, San Rafael Creek appears to be approximately 25 to 30 feet wide at the OHWL. The creek banks are largely unvegetated at the crossing location.
- Other Wetlands. Three small patches of wetlands are mapped along the corridor between Anderson Drive and where the channel turns east toward the San Francisco Bay. These wetlands occur with depressional areas; one is mapped as freshwater marsh dominated by cattails and salt grass (*Distichlis spicata*); the other two are mapped as seasonal wetlands dominated by Himalayan blackberry and cocklebur (*Xanthium spinosum*). These wetlands collectively encompass approximately 0.07 acre.

Impact Analysis:

- a) **Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

Less Than Significant With Mitigation Incorporated. The proposed project has the potential to affect the following special-status species:

Federally Listed Species. Based on the draft Biological Assessment (BA) prepared by AECOM in November 2014⁷, the only federally listed species with the potential to occur in the project vicinity is green sturgeon (*Acipenser medirostris* - Threatened). The BA indicates that the segment of San Rafael Creek in the project vicinity and the unnamed drainage ditch contain very poor habitat for adult or juvenile green sturgeon. In addition, this species would be precluded from entering the unnamed drainage ditch due to the presence of tidal gates and pumps. In-water work for the project would have the potential to indirectly affect green sturgeon approximately 1.5 miles downstream in San Pablo Bay. Indirect effects could include temporary increases in sedimentation and turbidity, potential contamination from spilled fuel and lubricants used during construction, and noise and vibration from construction activity. These indirect effects will be less than significant with implementation of the following species-specific mitigation measures:

Mitigation Measure BIO-1a: In order to limit the potential for sediment laden or turbid runoff from discharges into San Rafael Creek and thence into San Pablo Bay downstream, in-water work should be restricted to low-flow periods between July 1 and November 30, unless otherwise specified by appropriate agencies. This window can be extended based on creek and river conditions, if approved in writing by the National Marine Fisheries Service (NMFS). Work from the banks, trestle, falsework, and inside closed coffer dams can occur year-round.

Mitigation Measure BIO-1b: A Storm Water Pollution Prevention Plan (SWPPP) should be prepared and implemented in accordance with Regional Water Quality Control Board standards and requirements, as well as those of the City of San Rafael and Marin County.

Other Special-Status Species. The project would have some potential to affect the following non-federally listed special-status species: western pond turtle and pallid bat. Additionally, if construction occurs during the breeding season, the project could affect nesting birds protected under the MBTA and/or California Fish and Game Code. These impacts would be less than significant with implementation of the following mitigation measures:

Mitigation Measure BIO-2a: To the extent feasible, trees and shrubs in the construction zones should be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If tree and shrub removal, as well as initial ground disturbance work is conducted during the period from February 1 to August 31, a qualified wildlife biologist shall conduct preconstruction surveys for nesting birds. If tree/shrub removal or initial ground disturbance work does not commence within 10 days of the nesting bird surveys, or if such work does not commence in all areas of the project site within 10 days, then the nesting surveys will need to be repeated. If nesting birds are found, the biologist shall establish suitable buffer zones as described in Condition (b) below.

⁷ AECOM, Inc. 2014. Draft Biological Assessment Sonoma–Marin Area Rail Transit Downtown San Rafael-Larkspur Extension. Prepared for Sonoma-Marín Area Rail Transit District. November 2014.

Mitigation Measure BIO-2b: A qualified biologist shall conduct a preconstruction survey for western pond turtle no more than 30 days prior to construction along the drainage ditch within the project corridor, including beneath all crossings. If the species is determined to be present in work areas, the biologist, with prior approval from the California Department of Fish and Wildlife (CDFW), may capture turtles prior to construction activities and relocate them to nearby, suitable habitat off site.

A qualified biologist shall conduct a preconstruction survey for roosting bats at all culvert and bridge crossings along and adjacent to the corridor. If the biologist determines that construction work has the potential to directly or indirectly disturb roosting bats, than CDFW shall be consulted as to appropriate impact avoidance and minimization measures. No work may occur within a 100-foot radius of a roosting site, until the CDFW consultation process has been completed and the agreed-upon avoidance/minimization measures have been implemented under the biologist's supervision.

- b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?**

Less Than Significant With Mitigation Incorporated. The proposed alignment for the MUP is largely situated within existing paved areas and ruderal upland habitats. The CNDDB identified three sensitive natural communities within 5 miles of the project site: Coastal Terrace Prairie, Northern Coastal Salt Marsh, and Serpentine Bunchgrass. None of these natural communities occur within the proposed alignment. No riparian habitat is present along the drainage ditch or San Rafael Creek in the proposed project area. The drainage ditch itself contains perennial wetland habitat that would be considered a sensitive natural community and three small patches of seasonal wetland occur along the corridor south of the drainage ditch. Potential impacts to the drainage ditch and other wetlands are potentially significant unless mitigation is incorporated as discussed under Impact c below.

- c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

Less Than Significant With Mitigation Incorporated. In order to minimize impacts on the drainage ditch, significant portions of the MUP will be bordered by a retaining wall that will be located entirely outside the top of bank of the ditch channel. Where the corridor is too narrow to accomplish this avoidance, the MUP will be cantilevered over the channel, supported by approximately ten 18-inch diameter concrete piles to be placed within the channel. Impacts from the cantilevered sections will be limited to the direct impacts of the concrete piles on the ditch channel bottom, and the potential indirect shading affects to largely ruderal vegetation along the channel banks. The cantilevered sections will collectively indirectly impact approximately 2,170 square feet of ditch bank.

An additional approximately 716 square feet of the drainage channel will be placed into a culvert and filled for the pathway construction immediately south of Irwin Street. Additionally, a

30-foot long prefabricated bridge would span the drainage ditch where it turns 90 degrees east, south of Rice Drive. To offset the direct impacts of the 716-square foot fill section and the ten piles needed to support the cantilevered portion of the pathway, an existing culvert/driveway approximately 300 feet north of Rice Drive will be removed and restored as a drainage channel. A total of approximately 860 square feet of channel would be restored in this location, resulting in an approximate 1:1 replacement ratio.

The MUP will not appreciably diminish ditch channel capacity. The channel is expected to continue to convey flow water volumes comparable to those currently present. Construction work would have the potential to degrade existing wetlands in the ditch adjacent to and downstream of the work area as a result of sediment laden or turbid runoff or other pollutants released from construction equipment or vehicles. The following mitigation measures will be implemented to reduce potential impacts to wetlands to less than significant:

Mitigation Measure 3a: A detailed wetland Mitigation and Monitoring Plan (MMP) shall be prepared and submitted to the U.S. Army Corps of Engineers, Regional Water Quality Control Board, and CDFW as part of the required permit applications to these agencies under Sections 401 and 404 of the Federal Clean water Act and Section 1602 of the California Fish and Game Code. To off-set direct wetland impacts at a minimum 1:1 replacement ratio, the MMP shall provide detailed designs, performance criteria, and monitoring methods for drainage channel re-establishment at a driveway removal site. To off-set potential indirect impacts from shading, the MMP shall include an appropriate shade-tolerant bank channel re-seeding plan for all channel bank areas disturbed by the cantilevered sections. The MUP shall also include a native riparian tree planting plan in selected locations encompassing at least 2,040 square feet of channel bank.

Mitigation Measure 3b: To minimize the potential for indirect water quality impacts to wetlands in the ditch during construction, a Storm Water Pollution Prevention Plan (SWPPP) shall be prepared and implemented in accordance with Regional Water Quality Control Board standards and requirements, as well as those of the City of San Rafael and Marin County.

d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

Less Than Significant With Mitigation Incorporated. The proposed project will not have any long-term effects on local wildlife movement or corridors. Terrestrial wildlife species expected to occur in the area are generalists that are adept at moving through urban landscapes. The project will not affect the ability of these species to move through the site vicinity. In addition, the drainage channel will continue to convey water volumes comparable to those currently present, so no long-term impacts on movement of aquatic wildlife are expected. Terrestrial and aquatic wildlife movement may be temporarily affected by construction of the MUP. No specific mitigation measures are required regarding local wildlife movement or corridors.

Project construction would result in the removal of vegetation along San Rafael Creek and the unnamed channel that could be used by nesting birds. Birds may also nest immediately adjacent to the project site. If conducted during the nesting season (February 1–August 31), project activities could directly impact nesting birds by removing vegetation that supports active nests. Construction-related disturbance (e.g., noise, vehicle traffic, personnel working adjacent to suitable nesting habitat) could also indirectly impact nesting birds by causing adults to abandon nests in nearby trees or other vegetation, resulting in nest failure and reduced reproductive potential. The nests of native birds are protected under the federal MBTA and/or Section 3503 of the California Fish and Game Code. Implementation of the following mitigation measure would reduce this impact to a less-than-significant level:

Mitigation Measure BIO-4: To the extent feasible, trees and shrubs in the construction zones shall be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If tree and shrub removal, as well as initial ground disturbance work is conducted during the period from February 1 to August 31, a qualified biologist shall conduct preconstruction surveys for nesting birds. If tree/shrub removal or initial ground disturbance work does not commence within 10 days of the nesting bird surveys, or if such work does not commence in all of the areas of the project site within 10 days, then the nesting surveys will need to be repeated.

If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to construction activities, the biologist shall prepare a plan to establish an adequate buffer zone and to monitor nesting birds during construction. Disturbance of active nests shall be avoided to the extent possible until the biologist determines that the nests are no longer active.

e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less Than Significant With Mitigation Incorporated. The project would include the removal of one non-native eucalyptus tree (*Eucalyptus globulus*) along the bank of the unnamed ditch. A planted redwood tree (*Sequoia sempervirens*) offset from the channel may also be removed. These trees are protected under City of San Rafael Municipal Code Section 11.12.050. Tree removal would require a permit from the City of San Rafael. Section 11.12.060 also requires protection of existing trees during construction by placing guards around the trees that will protect them from damage. Implementation of the following mitigation measure would reduce these impacts to a less-than-significant level:

Mitigation Measure BIO-5: A tree planting plan entailing the planting of six native trees (resulting in a 3:1 replacement ratio) shall be prepared and implemented. The plan may include trees needed for implementation of mitigation measure d (1) above. The planted

trees shall be monitored for three years following planting to verify that trees have successfully reestablished.

For the reasons described below, the project would not conflict with wetland setback policies in the Conservation Element of the City of San Rafael General Plan 2020 (General Plan) or the setback provisions of the City's Municipal Code. However, in the absence of appropriate design and mitigation measures, the project could conflict with wetland protection and mitigation provisions of the City's Municipal Code. With the wetland avoidance design measures and the mitigation measures identified above and discussed further below, impacts from the project would be reduced to a less-than-significant level.

Relevant wetland setback policies within the General Plan and provisions in the City's Municipal Code related to the pathway alignment's proximity to the drainage channel are summarized as follows:

- CON-4 Wetland Setbacks requires a minimum 50-foot development-free setback from wetlands on lots of two or more acres as determined through development review. The City may waive this requirement for minor encroachments if it can be demonstrated that the proposed setback adequately protects the functions of the wetland to the maximum extent feasible and resulting values to the satisfaction of the City after review by the appropriate regulatory agencies.
- CON-6 Creek and Drainageway Setbacks requires a development-free setback from existing drainageways that will maintain the functions and resulting values of these habitats.
- CON-6.b Drainageway Setbacks states that drainageway setbacks are to be established through individual development review, taking into account existing habitat functions and resulting values.
- CON-7 Public Access to Creeks promotes pedestrian access to points along creeks throughout the City where such access will not adversely affect habitat values.
- Chapter 14.13 (Wetland Overlay District) of the Municipal Code defines criteria for establishing the wetland overlay district and the required development standards within the Wetland Overlay District. Section 14.16.080 (Creeks and other watercourse) defines the setback criteria between creeks and/or drainageways and a structure to be determined based on the following criteria:
 1. The setback provides for adequate maintenance, emergency vehicle access, adequate debris flow avalanche corridors, flood control and protection from damage due to stream bank undercutting;
 2. The setback adequately protects and preserves native riparian and wildlife habitat;
 3. The setback protects major view corridors and provides for recreation opportunities where appropriate;

4. The setback permits provisions of adequate and attractive natural landscaping.

Policy CON-4 allows for encroachments if it can be demonstrated that the pathway adequately protects the functions of the wetland to the maximum extent feasible and resulting habitat values to the satisfaction of the City after review by the appropriate regulatory agencies. Policy CON-6b calls for setbacks to be established based on individual development review, taking into account existing habitat functions and resulting values.

The project complies with both of these policies. The drainage ditch is confined to a narrow corridor surrounded by dense commercial development and a major urban transportation corridor. This narrow corridor does not allow for the establishment of a development free setback from the pathway. The ditch channel provides limited habitat value due to its highly urbanized setting, its isolation from any adjacent tracts of open space habitat, the absence of riparian vegetation, and the dominance by non-native plant species along the channel side slopes and above the tops of banks. These existing habitat conditions can be maintained consistent with the project design, without the need for a setback.

With regard to Section 14.13.B of the Municipal Code, the project is designed to allow adequate access for channel maintenance and emergency vehicles, and to maintain flood control. Stream bank undercutting and debris flow is not an issue with this urban drainage ditch channel. The new pathway would establish a new landscape public view corridor. Additionally, Section 14.13.B requires consultation with CDFW and RWQCB where an exception from the minimum wetland setback requirement is proposed. A Marin Project Coordination Meeting was held on June 1, 2017 with the CDFW and RWQCB and other regulatory agencies in which the agencies discussed the project and agreed with the proximity of the proposed trail alignment to the jurisdictional drainage channel.

Other Policies in the Conservation Element related to wetland protection and mitigation are the following:

- CON-2 Wetland Preservation requires public and private wetland preservation, restoration, and/or rehabilitation through compensatory mitigation for unavoidable wetland impacts.
- CON-3 Wetland Protection and Mitigation of the General Plan and the City's Municipal Code 14.13.040 require the protection and preservation of valued wetlands and the avoidance of loss of wetlands due to filling, unless it is not possible or practical. When it is demonstrated that it is not possible or practical to avoid filling a wetland because of site constraints, the policy requires that the wetland be replaced on-site and in-kind at a minimum ratio of 2:1 (e.g., 2 acres for each acre lost). As assessed and determined on a case-by-case basis, the City may waive this policy and Municipal Code provision for fill of small wetlands (0.1 acre or less in size; for which this project qualifies since the project will impact 0.07 acre of wetlands), provided that: (1) the wetland is isolated meaning that it is not within, a part of, directly connected with or hydrologically-linked by natural flow to a creek, drainageway, wetland or submerged tidelands; (2) it is demonstrated by a wetland expert that the preservation of the wetland is not practical as it would not result in a functioning, biological resource because of its isolation; (3) the City has determined that filling would result in a

more appropriate and desirable site plan for the project; and (4) the City consults with and considers comments received from the appropriate resource agencies with wetland oversight (CDFW and RWQCB).

- CON-8 Enhancement of Creeks and Drainageways promotes enhancement and upgrades to drainageways to serve as wildlife habitat corridors for wildlife movement and to serve as flood control facilities to accommodate storm drainage. It also requires creek enhancement and associated riparian habitat restoration/creation for projects adjacent to creeks to maintain storm flows, reduce erosion and maintenance and to improve habitat values, where feasible.
- CON-15 Invasive Non-Native Plant Species requires removal and control of undesirable invasive non-native plant species from City-owned right-of-ways.

The project will comply with CON-2 and CON-3 through wetland impact minimization and avoidance measures and through compensatory mitigation measures, including Mitigation Measures 1a, 1b, 3a, and 3b described above. The project's impacts to the drainage ditch cannot be totally avoided due to the limited available space for the proposed trail. However, the project has been designed to reduce impacts on the drainage channel to the minimum. Design features that have been incorporated into the project to accomplish this include the cantilevered sections that would limit wetland filling in the ditch channel to approximately ten 18-inch diameter concrete piles, and the use of a 30-foot long prefabricated bridge that would span the unnamed drainage channel approximately 1,300 feet south of Rice Drive. Impacts would be limited to: (1) the ten piles needed to support the cantilevered portion of the pathway, and (2) the approximately 716 square feet of the channel that needs to be put in a culvert and filled for the pathway construction immediately south of Irwin Street.

The project proposes to replace impacted wetlands within the drainage channel on-site and in-kind at a 1:1 ratio. The ratio is lower than the 2:1 ratio under CON-3 and Municipal Code 14.13.040 but the proposed project is eligible for a waiver based on the following factors:

1. The drainage ditch is not directly hydrologically connected to San Rafael Creek. Rather, flow from the channel is pumped from the ditch's terminus at Irwin Street into San Rafael Creek via an underground pipe connected to a pump station located on the east side of Highway 101. The southern portion of the channel is only indirectly connected to the San Rafael Creek boat basin. The ditch channel makes a 90-degree turn to the east approximately 1,200 linear feet south of Rice Drive. The eastward segment passes beneath Highway 101 via a 290-foot long storm drain culvert that is connected to the San Rafael Creek boat basin.
2. The drainage ditch has low habitat value and the minimal 0.07 acre of impacts would not appreciably reduce its existing functions and habitat value;
3. As described above, the pathway design is the most appropriate and desirable design for the site and would promote public access; and

4. The CDFW, RWQCB, and U.S. Army Corps of Engineers have all been consulted and agree that a mitigation plan, that would include 1:1 direct replacement of channel impacts as well as enhancement work would be acceptable (i.e., channel re-seeding plan for all channel bank areas disturbed by the cantilevered sections; native riparian tree planting plan in selected locations encompassing at least 2,040 square feet of channel bank).

The project would comply with CON-8 in that it would maintain the ditch's existing limited wildlife habitat corridor functionality and possibly enhance it slightly through the proposed native riparian tree plantings. The project would also continue to maintain the ditch's existing storm drainage capacity.

The project would comply with CON-15. The mitigation plan required by Mitigation Measure-3a would include a provision for non-native invasive plant species removal and control along the existing trail alignment.

f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. The proposed project would not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

V. CULTURAL RESOURCES*Would the project:*

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

This section describes existing conditions for cultural resources within the project site and vicinity, as well as potential impacts that could occur due to project implementation. The evaluation is based on review of existing documents, Native American contacts, and a field survey. Cultural resources are sites, buildings, structures, objects, and districts that may have traditional or cultural value due to their historical significance. The California Environmental Quality Act (CEQA) requires that agencies considering projects that are subject to discretionary action shall consider the potential impacts on cultural resources that may occur from project implementation (see Section 15064.5 and Appendix G of the CEQA Guidelines).

A cultural resources study was conducted for the current proposed project.⁸ The current study consisted of background research and a field survey. The purpose of this study is to identify historical resources, unique archaeological resources, paleontological resources (fossils), and human remains that may be impacted by the proposed project and to identify procedures for the mitigation of impacts to these resources, as appropriate. The methods used to establish the baseline conditions for cultural resources in the project corridor and vicinity are described below.

Methods

Archival Records Searches. A cultural resource records search of the project site was conducted on July 21, 2017, at the Northwest Information Center (NWIC) of the California Historical Resources Information System to identify previous cultural resources studies and site records for the project site and vicinity. The NWIC, an affiliate of the OHP, is the official State repository of cultural resource records and reports for Marin County. The search consisted of a review of records for built-environment resources within the project corridor and a review of recorded archaeological sites within 0.25 miles of the project corridor.

A review of the Sacred Lands File, on file at the Native American Heritage Commission (NAHC) in West Sacramento, was completed on July 20, 2017, for the project site and vicinity. The NAHC is a

⁸ Two previous SMART train environmental analyses encompassed the current project site. The 2006 cultural resources analysis conducted for the SMART project Final Environmental Impact Report identified the current project site as archaeologically sensitive. The 2014 technical study conducted in support of the EA for the Larkspur to San Rafael had a finding of no adverse effects.

state agency responsible for maintaining the Sacred Lands File, which is a list of site locations that are of traditional, religious, and cultural importance to California Native American tribes.

Previously Recorded Resources. The NWIC records search identified no previously recorded cultural resources within the project site. A total of six previously recorded archaeological sites are recorded within a 0.25-mile radius of the project (Table 3). No further locational information is provided in this public document to maintain confidentiality and prevent disturbance.

Table 3: Previously Recorded Cultural Resources with 0.25 miles of the Project Site

Resource Identifier	Resource Description
CA-MRN-84/P-21-000113	Nelson Shell Mound No.84
CA-MRN-85/P-21-000114	Shell midden
CA-MRN-644H/P-21-000675	Shell midden and historic-period house foundation
P-21-000680	Shell midden
CA-MRN-711H/P-21-002833	Pre-contact midden deposit

CA-MRN-84/P-21-000113, currently mapped approximately 300 feet from the project site, was originally depicted 700 feet from its current location. Although testing at the original location had confirmed the presence of pre-contact archaeological material at the original location, in November of 2014, the NWIC replotted the site boundaries based on the description in the original recording by N.C. Nelson. The only explanation for replotting the site provided by the NWIC is, "This resource was drawn incorrectly on the base maps. It has been redrawn based on the description in the original record by N.C. Nelson. It has been drawn as an approximate location because there is no map with the original recording." The current location of CA-MRN-84/P-21-000113 is an estimation based on the original vague Nelson site description and the presence of archaeological materials has not been verified by survey or testing at the new location.

Previously Conducted Cultural Resource Studies. The NWIC records search identified five previously conducted cultural resource studies within the project site (Table 4).

Table 4: Previously Conducted Cultural Resource Studies

NWIC Report Number	Year	Author :Title
S-6424	1984	Cindy Desgrandchamp and David Chavez: <i>Archaeological Resources Evaluation for the Central Marin Sanitation Wastewater Transportation Facilities Improvement Project – Phase II, Marin County, California.</i>
S-9125	1987	Allan G. Bramlette: <i>Preliminary Cultural Resources Assessment for Planned Modification and Maintenance of San Rafael Creek in the Town of San Rafael, Marin County, California.</i>
S-16949	1991	William Roop: <i>A Cultural Resources Evaluation of a Proposed Reclaimed Water Pipeline in the San Quentin Point, Corte Madera, Larkspur, Kentfield and San Rafael Areas</i>
S-30316	2005	Cassandra Chattan: <i>Archaeological Resource Service: A Cultural Resources Evaluation of the Proposed Best Buy San Rafael, Marin County, California.</i>
S-48525	2014	AECOM: <i>Historic Architectural Survey Report for the Sonoma-Marin Area Rail Transit (SMART) Rail Corridor San Rafael to Larkspur Project Marin County, California.</i>

NAHC Results. LSA received a response on July 31, 2017, from Ms. Sharaya Souza, Staff Services Analyst with the NAHC, stating, “A search of the SLF was completed for the USGS quadrangle information provided with negative results.”

Paleontological Resource Sensitivity. Geologic maps of the project site and relevant geological and paleontological literature were reviewed to determine which geologic units are present within the project site and whether fossils have been recovered within the project site or from those of similar geologic units elsewhere in the region. A search for known fossil localities was also conducted through the online collections database of the University of California, Museum of Paleontology (UCMP) at the University of California, Berkeley, in order to determine the status and extent of previously recorded paleontological resources within and surrounding the project site.

Geologic mapping by Blake M.C., et al. (2000) shows that the entire project site is underlain by Artificial fill, which is Holocene in age (less than 11,700 years ago) and consists of mud overlain by artificial fill. All artificial fill is considered to have no potential for paleontological significance (Society of Vertebrate Paleontology, 2010) due to their recent age. Maximum depth of the artificial fill is unknown, and excavation below fill deposits may disturb Holocene-age deposits.

No paleontological resources or unique geological features are known to exist within or near the project site. According to a locality search through the UCMP online collections database, multiple fossil localities from Pleistocene-age deposits are in Marin County that have produced 585 specimens of vertebrates, plants, microfossils, and invertebrates. Because of the potential to find these fossils in Pleistocene sediments, any natural sediment deposits underlying artificial fill and Holocene-age deposits within the project site are considered to have an unknown paleontological sensitivity.

Native American Consultation

Pursuant to Assembly Bill 52 (AB 52), the City notified the Federated Indians of Graton Rancheria (FIGR) via a letter dated August 15, 2017, of the opportunity to consult regarding potential impacts from the project to tribal cultural resources. Those individuals contacted were specifically identified by the NAHC as eligible to consult for the project (NAHC July 31, 2017). The City received no responses from the tribal representatives during the 30-day comment period.

Cultural Resources Field Survey

LSA conducted a pedestrian survey of the project site on August 4, 2017. Much of the northern portion of the project site was paved and/or developed. Within unpaved portions of the project site, exposed soils were inspected for precontact cultural materials (e.g., stone tools and lithic debitage, ground stone), historic-period artifacts (e.g., metal, glass, ceramics), and soil discoloration that might indicate the presence of archaeological deposits. Paved areas immediately south of Rice Drive are on private property and inaccessible, and footpaths along the rail line and canal were densely covered in vegetation, making surface visibility generally poor. A trowel was used to periodically clear vegetation to inspect soils. No archaeological materials were observed during the pedestrian survey.

Impact Analysis:

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less than Significant with Mitigation Incorporated. A historical resource defined by CEQA includes one or more of the following criteria: 1) the resource is listed, or found eligible for listing in, the California Register of Historical Resources (CRHR); 2) listed in a local register of historical resources as defined by Public Resources Code (PRC) Section 5020.1(k); 3) identified as significant in a historical resources survey meeting the requirements of PRC Section 5024.1(g); or 4) determined to be a historical resource by the proposed project's lead agency (PRC Section 21084.1; CEQA Guidelines Section 15064.(a)). Under CEQA, historical resources include built-environment resources and archaeological sites.

No historical resources were identified in the project site. However, five archaeological cultural resources were identified within a 0.25-mile radius of the project site, as described previously. These archaeological cultural resources have not been conclusively demonstrated to *not* lie within the alignment, and oftentimes an archaeological site's surface boundary does not accurately convey the extent of subsurface deposits that are not visible on the surface. Therefore, there is the possibility, based on the proximity of recorded archaeological deposits, that other unidentified archaeological deposits may be present in the project site; such deposits, if present, could be encountered during project ground disturbance. Disturbance of intact archaeological deposits by the project would result in a significant impact to a historical resource as the result of a substantial adverse change in its significance.

Mitigation Measure CULT-1: An archaeologist who meets the Secretary of the Interior's *Professional Qualifications Standards* for Archeology shall be onsite during construction-related ground disturbance activities (i.e., grading and excavation). Monitoring shall continue at this location until the archaeologist determines that there is a low potential for subsurface archaeological deposits.

Should an archaeological deposit be encountered during project subsurface construction, all ground-disturbing activities within 25 feet shall be redirected and the on-site archaeologist shall assess the deposit, consult with agencies as appropriate, and make recommendations for the treatment of the discovery. The City shall be notified by the construction contractor within 24 hours of the encounter. If found to be significant by the on-site archaeologist (i.e., eligible for listing in the California Register of Historical Resources), the City shall be responsible for funding and overseeing implementation of appropriate mitigation measures. Mitigation measures may include, but would not be limited to, recording the archaeological deposit, data recovery and analysis, and public outreach. Upon completion of the selected mitigations, a report documenting methods, findings, and recommendations shall be prepared and submitted to the City for review, and the final report shall be submitted to the Northwest Information Center at Sonoma State University. Significant archaeological materials shall be submitted to an appropriate local curation facility and used for future research and public interpretive displays, as appropriate.

Mitigation/Compliance Measure CULT-2: If unknown, precontact or historic-period archaeological materials are encountered during project activities that are not archaeologically monitored, all work within 25 feet of the find shall halt until a qualified archaeologist can evaluate the find and make recommendations. Cultural resources materials may include pre-contact resources such as flaked and ground stone tools and debris, shell, bone, ceramics, and fire-affected rock, as well as historic resources such as glass, metal, wood, brick, or structural remnants. If the qualified archaeologist determines that the discovery represents a potentially significant cultural resource, additional investigations shall be required to mitigate adverse impacts from project implementation. These additional studies may include, but are not limited to, avoidance, test excavation, or other forms of significance evaluations.

b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

Less than Significant with Mitigation Incorporated. According to the CEQA Guidelines, “When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource” (CEQA Guidelines Section 15064.5(c)(1)). Those archaeological sites that do not qualify as historical resources shall be assessed by to determine if these qualify as “unique archaeological resources” (California PRC Section 21083.2). Archaeological cultural resources identified during project construction shall be treated by the lead agency—in consultation with a qualified archaeologist meeting the Secretary of the Interior’s *Professional Qualifications Standards* for Archeology—in accordance with Mitigation Measures CULT-1 and Mitigation Measure CULT-2.

c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation Incorporated. Although no paleontological resources or unique geological features are known to exist within or near the project site, multiple localities from Pleistocene-age deposits within the Marin County have produced 585 specimens of vertebrates, plants, microfossils, and invertebrates. Because there is a potential to find these fossils in Pleistocene sediments, any natural sediment deposits underlying artificial fill and Holocene sediments within the project site are considered to have an unknown paleontological sensitivity. If unknown paleontological resources are discovered, all project ground-disturbing activities would halt and a qualified paleontologist would be contacted, as specified in Mitigation/ Compliance Measure CULT-3, to provide recommendations for treatment of the discovery. Therefore, adherence to Mitigation /Compliance Measure CULT-3 would reduce potential impacts to unknown paleontological resources to less than significant levels.

Mitigation/Compliance Measure CULT-3: If paleontological deposits are identified during project construction activity, all ground-disturbing activities within 25 feet shall be redirected and a qualified paleontologist shall be contacted to review the find. The project team, the City, and the paleontologist shall develop and implement a plan for impact avoidance. Should avoidance be infeasible due to engineering requirements, the project team shall develop and implement a plan to offset the loss of paleontological data through the implementation of a data recovery project, including paleontological recovery. If

determined to be a unique paleontological resource, the potentially significant impacts caused by construction may be mitigated through monitoring during construction activity (beyond the area of the initial find), recovery and analysis of the deposit by the paleontologist, resource recordation, and report preparation.

d) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation Incorporated. No recorded human remains were identified within the project site. However, ground-disturbing activities associated with the proposed project have the potential to disturb previously unknown Native American human remains that may be associated with pre-contact archaeological deposits. Disturbance by the project of Native American remains interred outside of formal cemeteries would result in a significant impact. If human remains are identified during project construction, Section 7050.5 of the California Health and Safety Code and Section 5097.98 of the Public Resources Code shall apply, as appropriate. In addition, the following mitigation shall be implemented to reduce potentially significant impacts to Native American human remains that may be unearthed by the project.

Mitigation Measure CULT-4: If human remains are identified during construction and cannot be preserved in place, the City shall fund: 1) the removal and documentation of the human remains from the project corridor by a qualified archaeologist meeting the Secretary of the Interior's *Professional Qualifications Standards for Archeology*, 2) the scientific analysis and of the remains by a qualified archaeologist, should such analysis be permitted by the Native American Most Likely Descendent, and 3) the reburial of the remains, as appropriate. All excavation, analysis, and reburial of Native American human remains shall be done in consultation with the Native American Most Likely Descendent, as identified by the California Native American Heritage Commission.

VI. GEOLOGY AND SOILS*Would the project:*

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment:

The proposed trail alignment is located in the city of San Rafael, on the west side of San Francisco Bay in the Coast Ranges geomorphic province, a relatively young and seismically active geological region on the western margin of the North American Plate. The Coast Ranges are characterized by discontinuous northwest to southeast-trending mountains and valleys, and are dominated by northwest-trending faults, folds, and geologic structures. The proposed trail alignment is situated near the San Francisco Bay (Bay), a northwest-trending structural depression. The Bay and much of its margins are underlain by Late Mesozoic Age rocks of the Franciscan Complex. Franciscan Complex rocks commonly consist of sheared shale and interbedded sandstone, with serpentine and other metamorphic rocks. Tertiary and Quaternary formations occur locally in unconformity on the Franciscan Complex, while other Mesozoic formations occur in fault contact with the Franciscan Complex.⁹

The Bay Area is located in a seismically active region. The major regional active faults considered likely to produce damaging earthquakes in the area are the San Andreas and Hayward Faults, based on their estimated maximum moment magnitude of 7.0 to 7.9. The intensity of the seismic shaking during an earthquake depends on the distance and direction to the earthquake's epicenter, the magnitude of the earthquake, and the area's geologic conditions.

⁹ Sonoma-Marín Area Rail Transit (SMART). 2014. Downtown San Rafael to Larkspur Extension Environmental Assessment. December.

Liquefaction typically occurs when saturated, clean, fine-grained loose sands near the surface (usually in the upper 50 feet) are subject to intense ground shaking and the groundwater table is shallow. One of the major types of liquefaction-induced ground failures is lateral spreading of mildly sloping ground. Lateral spreading is a failure within a nearly horizontal soil zone (possibly from liquefaction) that causes the overlying soil mass to move toward a free face or down a gentle slope. Liquefaction probability is very high for the trail alignment.

Impact Analysis:

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving?

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Surface rupture occurs when the ground surface is broken due to fault movement during an earthquake. The location of surface rupture generally can be assumed to be along an active or potentially active major fault trace. The site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone; therefore, the potential for fault rupture at the site is low. The project would not result in the construction of habitable structures and therefore would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving the rupture of a known earthquake fault. No mitigation is required.

ii) Strong seismic ground shaking?

Less than Significant Impact. The project site and the entire San Francisco Bay Area is in a seismically active region subject to strong seismic ground shaking. Ground shaking is a general term referring to all aspects of motion of the earth's surface resulting from an earthquake, and is normally the major cause of damage in seismic events. The extent of ground-shaking is controlled by the magnitude and intensity of the earthquake, distance from the epicenter, and local geologic conditions. As described above, the major active faults in the region that could cause ground shaking at the project site include the San Andreas and the Hayward Faults.

The most significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements. No habitable structures would be constructed as part of the proposed project; however, the new multi-use path would increase the use of the project site. The proposed project would be designed and constructed consistent with the most current version of the California Building Code (CBC) and City standards, which includes specifications for site preparation, such as compaction requirements. With compliance with building code requirements, the potential impacts associated with ground shaking would be less than significant. No mitigation is required.

iii) Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Liquefaction is the transformation of saturated, loose, fine-grained sediment to a fluid-like state because of earthquake shaking or other rapid loading. Soils most susceptible to liquefaction are loose to medium dense, saturated sands, silty sands, sandy silts, non-plastic silts and gravels with poor drainage, or those capped by or containing seams of impermeable sediment. The project site is located in an area with a very high susceptibility to liquefaction.¹⁰ However, no habitable structures would be constructed as part of the proposed project. Additionally, the proposed project would be designed and constructed consistent with the most current version of the CBC and City standards, which includes specifications for site preparation, such as compaction requirements. Therefore, the impact of seismic-related ground failure, including liquefaction, would be less than significant and no mitigation is required.

iv) Landslides?

No Impact. Seismically induced landslides and other slope failures are common occurrences during or soon after earthquakes in areas with significant ground slopes. The project area is generally level, and no substantial natural slopes exist on the project site. Therefore, the project area is not subject to landslides. Implementation of the project would not adversely impact persons or structures due to landslides. No mitigation is required.

b) Result in substantial soil erosion or loss of topsoil?

Less than Significant Impact. During construction activities, soil would be exposed with an increased potential for soil erosion compared to existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. The increased erosion potential could result in short-term water quality impacts as identified in Section IX, Hydrology and Water Quality of this IS/MND. As discussed in Section IX, Hydrology and Water Quality, the proposed project would be required to prepare an Erosion and Sediment Control Plan (ESCP) and implement construction BMPs to prevent erosion and sediment loss (Compliance Measure WQ-1). Therefore, through preparation of an ESCP and incorporation of construction BMPs, impacts related to erosion during construction would be less than significant and no mitigation is required.

As discussed in Section IX, Hydrology and Water Quality, the proposed project would decrease impervious surface area on the project site, which would overall decrease the volume of stormwater runoff generated from the project site compared to the existing condition. The remaining portion of the project site would primarily be landscaping, which would minimize on-site erosion and siltation. Therefore, because the proposed project would not increase the volume of runoff from the project site and the project site surfaces would minimize erosion, the proposed project would not result in substantial soil erosion or the loss of topsoil. Therefore,

¹⁰ Association of Bay Area Governments. 2017. Earthquakes. Available online at: <http://resilience.abag.ca.gov/earthquakes/> (accessed July 31, 2017).

impacts related to erosion and loss of topsoil during operation would be less than significant and no mitigation is required.

- c) **Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?**

Less than Significant Impact. The project site is relatively flat and is not located in an area identified as susceptible to landslides. Liquefaction-induced lateral spreading is defined as finite, lateral movement of gently to steeply sloping, saturated soil deposits caused by earthquake-induced liquefaction. Lateral spreading is generally caused by liquefaction of soils with gentle slopes. Because the top layers of soil consist of loose to very loose saturated sand, the potential for liquefaction and lateral spreading during a seismic event is high.

Subsidence usually occurs over a broad area, and therefore is not detectable at the ground surface. Placing additional fill within the proposed trail alignment would place additional weight on the Bay Mud that underlies the artificial fill. Additional weight would cause consolidation of the Bay Mud layer, resulting in settlement at the ground surface. Consolidation would occur relatively slowly as excess pore pressures dissipate. The amount of consolidation settlement would depend on the thickness of the existing fill, the thickness of the soft Bay Mud, and the imposed loads from new fill and structures. A limited amount of fill would be placed within the unnamed drainage channel (60 linear feet) immediately south of Irwin Street; however, this amount would not be substantial compared to the size of the proposed project (4,500 linear feet). In addition, no habitable structures would be constructed as part of the proposed project. The proposed trail alignment would be designed and constructed with adequate foundations and bedding in accordance with the recommendations in the CBC to address the possible effects of unstable soils. No significant geologic hazards to the proposed project from landslide, lateral spreading, subsidence, liquefaction, or collapse would occur. Impacts would be less than significant and no mitigation is required.

- d) **Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?**

Less than Significant Impact. Expansive soils generally have a substantial amount of clay particles, which can give up water (shrink) or absorb water (swell). The extent or range of the shrink/swell is influenced by the amount and kind of clay present in the soil. Expansive soils are common throughout California and can damage foundations and slabs unless properly treated during construction. The trail alignment would be located on top of an earthen causeway or levee through the marsh area on top of artificial fill. Some seasonal movement of near-surface soils could occur; however, the asphalt surface of the proposed trail would be relatively flexible to respond to any movement due to expansive soils. In addition, the proposed project would be designed and constructed consistent with the most current version of the CBC and City standards to eliminate potential damage from expansive soils. Impacts would be less than significant and no mitigation is required.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed project would not generate wastewater. The proposed project consists of constructing a multi-use path. No septic tanks or alternative wastewater disposal systems would be required for the proposed project. Therefore, no impact related to septic tanks or alternative wastewater disposal systems would occur as a result of implementation of the proposed project, and no mitigation is required.

VII. GREENHOUSE GAS EMISSIONS

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

Greenhouse gases (GHGs) are present in the atmosphere naturally, are released by natural sources, or are formed from secondary reactions taking place in the atmosphere. The gases that are widely seen as the principal contributors to human-induced global climate change are:

- Carbon dioxide (CO₂);
- Methane (CH₄);
- Nitrous oxide (N₂O);
- Hydrofluorocarbons (HFCs);
- Perfluorocarbons (PFCs); and
- Sulfur Hexafluoride (SF₆).

Over the last 200 years, humans have caused substantial quantities of GHGs to be released into the atmosphere. These extra emissions are increasing GHG concentrations in the atmosphere and enhancing the natural greenhouse effect, believed to be causing global warming. While manmade GHGs include naturally-occurring GHGs such as CO₂, methane, and N₂O, some gases, like HFCs, PFCs, and SF₆ are completely new to the atmosphere.

Certain gases, such as water vapor, are short-lived in the atmosphere. Others remain in the atmosphere for significant periods of time, contributing to climate change in the long term. Water vapor is excluded from the list of GHGs above because it is short-lived in the atmosphere and its atmospheric concentrations are largely determined by natural processes, such as oceanic evaporation.

These gases vary considerably in terms of Global Warming Potential (GWP), a concept developed to compare the ability of each GHG to trap heat in the atmosphere relative to another gas. The GWP is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and length of time that the gas remains in the atmosphere ("atmospheric lifetime"). The GWP of each gas is measured relative to CO₂, the most abundant GHG. The definition of GWP for a particular GHG is the ratio of heat trapped by one unit mass of the GHG to the ratio of heat trapped by one

unit mass of CO₂ over a specified time period. GHG emissions are typically measured in terms of pounds or tons of “CO₂ equivalents” (CO₂e).

Impact Analysis:

a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less Than Significant Impact. The following section describes the proposed project’s construction and operational related GHG emissions and contribution to global climate change. The BAAQMD has not addressed emission thresholds for construction in their CEQA Guidelines; however, the BAAQMD encourages quantification and disclosure. Thus, construction emissions are discussed in this section. As discussed below, the proposed project would not generate substantial GHG emissions that would have a significant effect on the environment and this impact would be less than significant.

Construction GHG Emissions. Construction activities, such as site preparation, site grading, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew would produce combustion emissions from various sources. During construction of the proposed project, GHGs would be emitted through the operation of construction equipment and from worker and builder supply vendor vehicles, each of which typically use fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as CO₂, CH₄, and N₂O. Furthermore, CH₄ is emitted during the fueling of heavy equipment. Exhaust emissions from on-site construction activities would vary daily as construction activity levels change.

The BAAQMD does not have an adopted threshold of significance for construction-related GHG emissions. However, lead agencies are encouraged to quantify and disclose GHG emissions that would occur during construction. Using Roadmod, it is estimated that the project would generate approximately 613.1 metric tons of CO₂e during construction of the project. When considered over the 30 year life of the project, the amortized construction emissions would be 20.4 metric tons of CO₂e per year, which is well below the annual operational threshold of 1,100 metric tons per year established by the BAAQMD. Implementation of Mitigation Measure AIR-1, as discussed in the Air Quality Section, would reduce construction GHG emissions by limiting construction idling emissions. Construction emissions would be considered less than significant.

Operational GHG Emissions. As discussed above, the proposed project would construct a MUP along the SMART ROW, to connect to the existing SMART pathway, existing bike lanes, an existing trail and pedestrian bridge/walkway, and downtown San Rafael. The proposed project is expected to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation. Therefore, the project would not result in a significant increase in the generation of vehicle trips that would increase GHG emissions. The project would result in low levels of off-site emissions due to energy generation associated with lighting along the pathway. However, these emissions would be minimal and would not exceed the pollutant thresholds established by the BAAQMD. Therefore, the proposed project would not be a significant source of operational emissions. Once completed, the proposed project would not

generate any GHG emissions or result in any new vehicle trips that would contribute to an increase in GHG emissions. GHG emissions generated by the proposed project would be less than significant. No mitigation is required.

b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Less Than Significant Impact. The City of San Rafael's Climate Change Action Plan¹¹ (CCAP), adopted in 2009, establishes the goals and implementation plan for achieving a 25 percent reduction of GHGs by 2020, and an 80 percent reduction by 2050 to meet State targets. The Implementation Plan is broken down into several distinct areas of action: Lifestyles, Buildings, Environment, Economy, Community Outreach, and City Operations. The Lifestyle Chapter of the CCAP recommends programs that aim to decrease miles travelled in single-occupant vehicles. The following programs from the Lifestyle Chapter are applicable to the proposed project:

- Program LF2: Consider land use and transportation alternatives (better bicycle and pedestrian access and increased transit feeder service) to best use the future Civic Center SMART station.
- Program LF3: Identify neighborhood areas which do not have suitable pedestrian facilities, convenience retail services and transit stops within walking distance. Determine if sidewalk improvements, land use changes or transit stop locations can be modified for underserved areas.
- Program LF4: Facilitate creation of a bike share program, particularly in the Downtown area.
- Program LF5: Coordinate with Marin Transit and the Transportation Authority of Marin to pursue funding opportunities to increase transit service and improve convenience to encourage greater ridership.
- Program LF6: Continue to implement sidewalk and street improvements for the Safe Routes to School program. Encourage the school districts, Marin Transit and the Transportation Authority of Marin to increase funding for school busing programs, promote carpooling and limit vehicle idling.
- Program LF7: Provide transit and carpool incentives to City employees, including alternate work schedules and telecommuting opportunities.

The proposed project would be consistent with these programs as it would add a multi-use pathway, and would be expected to reduce vehicle trips and vehicle miles traveled and would increase the use of alternate means of transportation.

The proposed project would not result in a substantial increase in GHG emissions and, therefore, is consistent with the CCAP and would not generate emissions that would exceed the project-level

¹¹ San Rafael, City of. 2009. *San Rafael Climate Change Action Plan*. April 20.

significance criteria established by the BAAQMD. The project would also be consistent with the programs included in the CCAP. Therefore, the proposed project would not conflict with plans, policies, or regulations adopted for the purpose of reducing GHG emissions. This impact would be less than significant.

VIII. HAZARDS AND HAZARDOUS MATERIALS

Would the project:

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

Affected Environment:

This section discusses known hazardous materials in the vicinity of the proposed project. Previous analysis for hazardous materials was undertaken for the entire SMART alignment as part of the 2005 Draft EIR (SMART 2006). An Initial Site Assessment (ISA) was prepared in March 2013 to provide information regarding recognized environmental conditions (RECs) associated with the proposed Downtown San Rafael to Larkspur Extension of the SMART project and the results of the ISA were included in the 2014 Environmental Assessment (SMART 2014) prepared for the Downtown San Rafael to Larkspur Extension.

A portion of the proposed MUP would be constructed within existing SMART ROW, which is part of an existing remnant railroad alignment. The railroad alignment was not identified as containing any known RECs and no evidence of hazardous materials, petroleum products or staining were observed within the railroad ROW during a site visit conducted for the ISA. Properties adjacent to the proposed MUP alignment consist primarily of commercial and industrial uses, including a self-

storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

The project site is not a state-listed hazardous materials clean-up site. According to the California State Water Resources Control Board (SWRCB) Geotracker website,¹² nine state-listed hazardous materials clean-up sites are located within 1,000 feet of the project site. The majority of these sites are designated “closed.” A closed site indicates that regulatory requirements for response actions, such as site assessment and remediation, have either been completed or were not necessary and therefore potential migration of residual contaminants in groundwater beneath the project corridor (if any) does not likely pose a risk to human health and the environment. Only one site is identified as still open:

- Proshop Inc., 658 Irwin Street (Cleanup Program Site) – This site is located approximately 130 feet southwest of the SMART ROW, on the south side of the unnamed drainage channel. It is listed as an open case under site assessment. Due to its open regulatory status, proximity to the project site, and groundwater direction toward the proposed project, this site is considered to be an active REC relative to the proposed project.

The 2014 EA also identified the following site:

- 10 Woodland Avenue – This site is listed on a historical underground storage tank (HIST) database for a gasoline underground storage tank (UST) installed in 1975. This site is not listed in the Geotracker online database, which includes permitted UST facilities. Because of the proximity to the project alignment and unknown status of the UST, this site is considered an active REC relative to the proposed project.

As noted above, no known RECs are within the project corridor. Although active RECs have been identified adjacent to the project alignment, the proposed project would require a limited amount of excavation; therefore, disturbance of potentially hazardous materials emanating from off-site areas in groundwater and soils would be unlikely.

Impact Analysis:

a) Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials?

Less Than Significant Impact. Hazardous materials are chemicals that could potentially cause harm during an accidental release and are defined as being toxic, corrosive, flammable, reactive, an irritant, or strong sensitizer. Hazardous substances include all chemicals regulated under the United States Department of Transportation¹³ “hazardous materials” regulations and the

¹² State Water Resources Control Board, 2017. Geotracker website. Available online at: <http://geotracker.waterboards.ca.gov/> (Accessed August 2, 2017)

¹³ United States Department of Transportation. *Regulations*. Available online at: <http://phmsa.dot.gov/regulations> (last accessed February 11, 2016).

Environmental Protection Agency (EPA)¹⁴ “hazardous waste” regulations. Hazardous wastes require special handling and disposal because of their potential to damage public health and the environment.

Exposure to hazardous materials during the construction of the proposed project could result from the improper handling or use of hazardous substances or an inadvertent release resulting from an unforeseen event (e.g., fire, flood, or earthquake). The severity of any such exposure is dependent upon the type, amount, and characteristic of the hazardous material involved; the timing, location, and nature of the event; and the sensitivity of the individual or environment affected.

Minor amounts of fuels, motor oils, paints, and other hazardous materials would be used during construction of the proposed project. The small quantities of hazardous materials that would be transported, used, or disposed of would be well below reportable quantities. Although fuels, motor oils, and paints have hazardous properties (fuels, for example, are flammable), they would be handled in small quantities that would not create a substantial hazard for construction workers and/or the public. Compliance with federal, State, and local hazardous materials laws and regulations would minimize the risk to the public presented by these potential hazards during construction of the project. Therefore, construction of the proposed project would result in less than significant impacts related to this topic, and no mitigation is required.

Operation of the proposed project (i.e., use of the proposed multi-use trail by bicycles and pedestrians) would not involve routine transport, use, or disposal of hazardous materials. The proposed project would not produce hazardous emissions or handle acutely hazardous materials, substances, or waste. Therefore, operation of the proposed project would not result in significant impacts related to this topic, and no mitigation is required.

b) Create a significant hazard to the public or the environment through reasonable foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Less Than Significant Impact. Construction activities may involve the use of minor amounts of hazardous materials. However, the use of hazardous materials would be in compliance with all applicable laws and regulations. Operation of the proposed project (i.e., use of the proposed trail by bicycles and pedestrians) would not involve routine transport, use, or disposal of hazardous materials. Therefore, implementation of the proposed project would result in less than significant impacts related to this topic, and no mitigation is required.

c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

Less Than Significant Impact. The closest schools to the project site are James B. Davidson Middle School, located approximately 0.3 mile to the southwest of the project site, and Laurel

¹⁴ Environmental Protection Agency. 2012. *Hazardous Waste Regulations*. Website: <http://www.epa.gov/osw/laws-regs/regs-haz.htm> (last accessed February 11, 2016).

Dell Elementary School, located approximately 0.4 mile to the south of the project site. As described in Response VII (a) above, construction and operation of the proposed project would not require the routine use, transport or disposal of hazardous materials. Construction activities associated with trail construction could release hazardous materials contained in soils or groundwater along the project alignment. However, compliance with federal, State, and local hazardous materials laws and regulations would minimize the risk to the public presented by these potential hazards during construction of the project. Therefore, a less than significant impact related to this topic would occur as a result of implementation of the proposed project, and no mitigation is required.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?**

No Impact. The project site is not included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.¹⁵ Therefore, no impact related to this topic would occur as a result of implementation of the proposed project, and no mitigation is required.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. The proposed project is not located within 2 miles of a public or public use airport. The nearest airports to the project site are the San Rafael Airport, which is located approximately 3 miles north of the project site, and the Gnos Field Airport, which is located approximately 12 miles north of the project site. Therefore, given that the proposed project is not located within an airport land use plan or within two miles of an existing airport, the proposed project would not result in a safety hazard for people residing or working in the project area.

- f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?**

No Impact. The project is not located within two miles of a private airstrip. The proposed project is a multi-use trail, does not include any habitable structures, and would not induce population growth in the area. Therefore, no impact related to this topic would occur as a result of implementation of the proposed project, and no mitigation is required.

- g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?**

¹⁵ Department of Toxic Substances Control. 2007. *EnviroStor*. Available online at: <http://www.envirostor.dtsc.ca.gov/public/> (last accessed March 2, 2016).

Less Than Significant with Mitigation. No local adopted emergency response or emergency evacuation plans are applicable to the project site. However, construction activities associated with the proposed project would require traffic controls as necessary for the proposed improvements, which could affect emergency response. Mitigation Measure T-1, identified in the 2014 EA and described in Section XVI, Transportation/Traffic, requires the preparation of a Transportation Management Plan (TMP) during final design to address impacts to local circulation during construction, including emergency access. The TMP would include advance notice to local emergency service providers regarding the timing, location, and duration of construction activities. Therefore, with the implementation of 2014 EA Mitigation Measure T-1, potential impacts to emergency response or emergency evacuation plans during construction would be reduced to less than significant levels.

The proposed project would provide a MUP connection between the existing SMART pathway to Larkspur and the existing bike lanes on Andersen Drive on the south and the existing Mahon Creek Trail and an existing pedestrian bridge/walkway to the north. The MUP alignment would be located entirely within public right-of-way. Implementation of the proposed project would not bisect any identified evacuation routes and would not impact emergency response plans either physically or by using personnel that would otherwise be needed to implement an emergency plan. Therefore, operation of the proposed project would not result in any impacts related to this topic, and no mitigation is required.

h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

Less Than Significant Impact. The project site is located in an area of low wildland urban interface fire threat.¹⁶ The proposed project is a new MUP that would not include flammable materials or any structures for human occupation. Therefore, the proposed project would result in a less than significant impact related to this topic, and no mitigation is required.

¹⁶ Association of Bay Area Governments (ABAG), 2017. *Wildland Urban Interface Map*. Available online at: <http://gis.abag.ca.gov/website/Hazards/?hlyr=wildfireThreat> (last accessed August 3, 2017).

IX. HYDROLOGY AND WATER QUALITY*Would the project:*

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

Affected Environment:

The project site is located within the San Francisco Bay Region under the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB). The San Francisco Bay Region is divided into seven hydrologic planning areas by the San Francisco RWQCB. The project site is located within the San Francisco Bay Central Hydrologic Planning Area, which includes the San Francisco Bay north of the Bay Bridge and the eastern half of Marin County, including the Ross Valley Watershed. According to the City General Plan, the project site is located within the San Rafael Creek Mahon Creek watershed and the San Rafael Creek Irwin Creek watershed.

An unnamed channel crosses through the project site. The channel parallels the proposed alignment throughout the project area and connects to San Rafael Creek just north of the project site. San Rafael Creek discharges into San Rafael Bay, which is connected to the San Francisco Bay.

The project site is located within the San Rafael Valley Groundwater Basin. The San Rafael Valley Groundwater Basin is approximately 896 acres and is bounded on the east by the San Rafael Bay, on the north by San Rafael Creek, and on the south near San Quentin. The groundwater basin has elevated chloride concentrations from potential sea-water intrusion.¹⁷

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Nos. 06041C0457E and 06041C0459F, effective March 16, 2016, the northern end of the project is located within Zone AH with a base elevation of 11 feet and the southern end of the project site is located within Zone AE with a base elevation of 10 feet. Zone AH is an area with a 1 percent annual chance of flooding (i.e., 100-year floodplain), usually an area of ponding, for which base flood elevations have been determined and flood depths range from 1 to 3 feet. Zone AE is an area with a 1 percent annual chance of flooding (i.e., 100-year floodplain) for which base flood elevations have been determined.

Impact Analysis:

a) Violate any water quality standards or waste discharge requirements?

Less than Significant Impact. Pollutants of concern during project construction include sediments, trash, petroleum products, concrete waste (dry and wet), sanitary waste, and chemicals. During construction activities, excavated soil would be exposed, and there would be an increased potential for soil erosion and transport of sediment downstream compared to existing conditions. During a storm event, soil erosion could occur at an accelerated rate. In addition, construction-related pollutants such as chemicals, liquid and petroleum products (e.g., paints, solvents, and fuels), and concrete-related waste could be spilled, leaked or transported via storm runoff into adjacent drainages and into downstream receiving waters. Any of these pollutants has the potential to be transported via stormwater runoff into receiving waters.

Construction activities associated with the proposed project would disturb approximately 0.4 ac. Only projects that disturb more than 1 ac of soil are required to comply with the State Water Resources Control Board's Construction General Permit, which requires preparation of a Storm Water Pollution Prevention Plan (SWPPP) and implementation of construction BMPs; therefore, the project is exempt from coverage under the Construction General Permit. However, preparation of an Erosion and Sediment Control Plan (ESCP) and implementation of construction BMPs would be required in compliance with the Statewide Phase II Permit (Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004), and the City's Municipal Code Section 9.30.150, Erosion and Sediment Control Plan Requirements, as specified in Compliance Measure WQ-1.

In compliance with the Statewide Phase II Permit and the City Municipal Code, the Construction Contractor would be required to prepare an ESCP and implement construction BMPs, such as Erosion Control and Sediment Control BMPs, to prevent erosion and sediment loss and the discharge of construction wastes to receiving waters and Good Housekeeping BMPs to prevent

¹⁷ California's Department of Water Resources, Bulletin 118. 2004. *San Francisco Bay Hydrologic Region, San Rafael Valley Groundwater Basin*.

spills, leaks, and discharge of construction debris and waste into receiving waters. Therefore, with implementation of Compliance Measure WQ-1, which requires the preparation of an ESCP and implementation of construction BMPs, impacts related to Waste Discharge Requirements, water quality standards, and degradation of water quality during construction would be less than significant and no mitigation is required.

The project site is located above the San Rafael Valley Groundwater Basin. A majority of construction activities associated with the proposed pathway would not extend to a depth below the level of groundwater. However, excavation for the drilling of the piles and retaining walls would extend below the depth of groundwater. Because groundwater would be encountered during construction activities, groundwater dewatering would be required. The disposal of dewatered groundwater could introduce total dissolved solids and other constituents to surface waters, impacting water quality. As specified in Compliance Measure WQ-2, any groundwater dewatering during excavation would be conducted in accordance with the San Francisco Bay RWQCB's Groundwater General Permit, which would require testing and treatment (as necessary) of groundwater encountered during dewatering or groundwater well construction prior to release. Therefore, with implementation of Compliance Measure WQ-2, groundwater dewatering activities would not result in any impacts to water quality and no mitigation is required.

Pollutants of concern during operation of the proposed pathway include suspended solids/sediment, nutrients, pathogens (bacteria and virus), pesticides, and trash and debris. Bicyclists, pedestrians and pets utilizing the pathway would be a potential source of nutrients, pathogens, and trash and debris (e.g., fecal matter). The proposed project would decrease the amount of impervious surface area on site by approximately 0.7 ac. A decrease in impervious surface area could decrease the volume of runoff during a storm, which would decrease the amount of pollutants discharged into downstream receiving waters compared to the existing condition.

The County of Marin's cities, towns and unincorporated areas require designated development projects to comply with the Statewide Phase II Permit. The Statewide Phase II Permit requires "Regulated Projects"¹⁸ to prepare a Stormwater Control Plan and implement post-construction BMPs to target pollutants of concern. However, because the proposed project would decrease the total amount of impervious surface area, the proposed project would not be considered a "Regulated Project" and would therefore, not be required to comply with the requirements of the Statewide Phase II Permit. Detention areas would be installed as part of the SMART Project on the east and west side of Francisco Boulevard, north of Rice Drive, adjacent to the project site. These detention areas would treat stormwater runoff, reduce volume and velocity of flow, and maintain the existing drainage pattern. Therefore, impacts related to Waste Discharge

¹⁸"Regulated Projects" under the Statewide Phase II Permit are projects that create or replace between 2,500 and 5,000 of impervious surface area (small projects) or over 5,000 sf of impervious surface area (required projects). Small projects are required to implement site design measures to reduce runoff and conserve natural areas to the maximum extent practicable. Required projects are required to prepare a Stormwater Control Plan in accordance with the Bay Area Stormwater Management Agencies Association (BASMAA) Post Construction Manual.

Requirements, water quality standards, and degradation of water quality during operation would be less than significant and no mitigation is required.

Compliance Measure WQ-1:

Prior to the issuance of a building permit, the Construction Contractor shall prepare and submit an Erosion and Sediment Control Plan (ESCP) to the City of San Rafael Engineer, or appropriate designee for review and approval, as specified in the Statewide Phase II Permit (Water Quality Order No. 2013-0001-DWQ, NPDES General Permit No. CAS000004), and the City of San Rafael Municipal Code Section 9.30.150, Erosion and Sediment Control Plan Requirements. The ESCP will follow the most recent version of the Marin County Stormwater Pollution Prevention Program (MCSTOPPP) Construction Erosion and Sediment Control Plan package and include, at a minimum, the following: (1) description of the project and soil disturbing; (2) site specific construction-phase Best Management Practices (BMPs); (3) rationale for selecting the BMPs; (4) list of applicable outside agency permits associated with the soil disturbing activity; (5) financial security that temporary measures will be implemented and maintained during construction; and (6) approved ESCP will be a condition of the issuance of the appropriate permit issued by the City for the proposed project.

Compliance Measure WQ-2:

All groundwater dewatering activities shall comply with the requirements of the General Waste Discharge Requirements for Discharge or Reuse of Extracted Brackish Groundwater, Reverse Osmosis Concentrate Resulting from Treated Brackish Groundwater, and Extracted Groundwater from Structure Dewatering Requiring Treatment (Order No. R2-2012-0060, National Pollutant Discharge Elimination System No. CAG912004), or subsequent permit. This compliance shall include submission of a Notice of Intent (NOI) for coverage under the permit to the San Francisco Bay Regional Water Quality Control Board at least 45 days prior to the start of dewatering and compliance with all applicable provisions in the permit, including water sampling, analysis, and reporting of dewatering-related discharges.

- b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?**

Less than Significant Impact. As discussed in Response IX a) above, groundwater dewatering would be required during excavation activities associated with drilling of the piles and retaining walls. However, groundwater dewatering activities would be temporary in nature and would cease following completion of construction. It is not anticipated that the volume of groundwater extracted during dewatering activities would be substantial in comparison to the overall volume of the groundwater basin. In addition, grading and construction activities would compact soil, which can decrease infiltration during construction. However, the size of the construction area would be minimal compared to the overall size of the groundwater basin; therefore, infiltration or groundwater recharge there would not be a substantial change in infiltration or groundwater

recharge compared to the existing condition. Therefore, construction activities associated with the proposed project would result in a less than significant impact associated with the depletion of groundwater supplies or interference with groundwater recharge and no mitigation is required.

Operation of the proposed project would not require groundwater extraction. As discussed previously, the proposed Project would slightly decrease impervious surface areas on site. However, on-site soils have minimal permeability and are not conducive to infiltration or groundwater recharge in the existing condition. Therefore, the decrease in impervious surface area would not substantially alter groundwater recharge. For these reasons, impacts related to depletion of groundwater supplies or interference with groundwater recharge during operation of the proposed project would be less than significant and no mitigation is required.

c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in a substantial erosion or siltation on- or off-site?

Less Than Significant Impact. During construction activities, excavated soil would be exposed and disturbed, drainage patterns would be temporarily altered during grading and other construction activities, and there would be an increased potential for soil erosion and the transport of sediment downstream compared with existing conditions. Additionally, during a storm event, soil erosion could occur at an accelerated rate. As discussed in Response IX a) above and specified in Compliance Measure WQ-1, the Statewide Phase II Permit and City Municipal Code require preparation of an ESCP and implementation of construction BMPs to reduce impacts to water quality during construction, including those impacts associated with soil erosion, and siltation. Therefore, adherence to Compliance Measure WQ-1 would ensure that construction of the proposed project would result in a less than significant impact related to altering the existing drainage pattern of the project site during construction activities in a manner that would result in substantial erosion or siltation on- or off-site. No mitigation is required.

In the existing condition, stormwater runoff on the project site sheet flows to an existing ditch on the west side of the railroad tracks. The drainage ditch then flows to two pump stations located on the west side of Francisco Boulevard; one pump station is located at Irwin Street and one pump station is located approximately 1,200 feet south of Rice Drive. When the tides are high, the pump stations pump water into San Rafael Creek. The proposed MUP would not change the general drainage pattern on the project site or the downstream area. Stormwater runoff north of Rice Drive to Mahon Creek would flow into a detention basin on the west side of the roadway, north of Rice Drive. South of Rice Drive, stormwater runoff would sheet flow to an existing ditch on the west side of the railroad tracks. Stormwater runoff from the southern 550 feet of the project site would be collected by a new inlet on the west side of the MUP, which would be connected to the existing City storm drain on Andersen Drive. All runoff would eventually drain to the City storm drain system or San Rafael Creek.

Overall, the proposed project would decrease impervious surface area on the project site by 0.7 ac compared to the existing condition, which would decrease the volume and rate of runoff

generated from the project site. The remaining portion of the site would primarily be landscaping, which would minimize on-site erosion and siltation. Therefore, because the proposed project would not increase the volume of runoff from the project site and the project site surfaces would minimize erosion, the proposed project would not contribute to downstream erosion or siltation. Finally, the proposed project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site erosion or siltation would be less than significant and no mitigation is required.

d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff above pre-development condition in a manner which would result in flooding on- or off-site?

Less Than Significant Impact. During construction, soil would be disturbed and compacted and drainage patterns would be temporarily altered, which can increase the volume and velocity of stormwater runoff and increase the potential for localized flooding compared to existing conditions. As discussed in Response IX a), above, and specified in Compliance Measure WQ-1, the Statewide Phase II Permit and City Municipal Code require preparation of an ESCP and implementation of construction BMPs to control and direct surface runoff on-site, reducing those impacts associated with on- or off-site flooding. With adherence to Compliance Measure WQ-1, construction impacts related to altering the existing drainage pattern of the site or area, or an increase in the the rate or amount of surface runoff in a manner that would result in flooding on- or off-site would be less than significant, and no mitigation is required.

As discussed in Response IX c), the proposed project would not alter the existing on-site drainage patterns or substantially change the volume of runoff from the project site compared to existing conditions. Therefore, the proposed project would not exceed the capacity of the downstream storm drain lines or result in off-site flooding. In addition, all drainage improvements would be sized to accommodate stormwater runoff from the project site so that on- or off-site flooding would not occur. Finally, the proposed project would not alter the course of a stream or river. As such, operational impacts related to on-site or off-site flooding would be less than significant and no mitigation is required.

e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

Less Than Significant Impact. As discussed in Response IX a) and d) above, earthwork activities would compact soil, which can increase storm water runoff during construction, temporarily alter drainage patterns during grading and other construction activities, and spill, leak, or transport construction-related pollutants such as liquid and petroleum products and concrete related waste via storm runoff into adjacent drainages and into downstream receiving waters. The proposed project would be required to comply with requirements set forth by the Statewide Phase II Permit and City Municipal Code, which require preparation of an ESCP and implementation of construction BMPs to control storm water runoff, including the discharge of pollutants, as specified in Compliance Measure WQ-1. Therefore, with adherence to Compliance Measure WQ-1, impacts related to the creation or contribution of runoff that would exceed the

capacity of the storm water drainage system or provide substantial additional sources of polluted runoff would be less than significant. No mitigation is required.

Groundwater dewatering would be required during excavation activities. Dewatered groundwater may contain elevated levels of total dissolved solids or other constituents that could be introduced to receiving waters. As specified in Compliance Measure WQ-2, groundwater dewatering during construction would be conducted in accordance with the requirements of the San Francisco Bay RWQCB Groundwater General Permit. Therefore, with adherence to Compliance Measure WQ-2, impacts associated with the introduction of substantial sources of polluted runoff from groundwater dewatering during construction would be less than significant. No mitigation is required.

As discussed in Response IX a) above, pollutants of concern during operation of the proposed MUP include suspended solids/sediment, nutrients, pathogens (bacteria and virus), pesticides, and trash and debris. Overall, the proposed project would decrease impervious surface area compared to the existing condition (by approximately 0.7 ac). A decrease in impervious surface area could decrease the volume of runoff during a storm, which would decrease the amount of pollutants discharged into downstream receiving waters compared to the existing condition. As such, pollutant loading to downstream receiving waters would decrease with implementation of the multi-use path. In addition, the proposed project would not create or contribute additional runoff water to the downstream storm drain system that would exceed the storm drain system capacity. Therefore, impacts related to the creation or contribution of runoff which would exceed the capacity of the storm water drainage system or provide substantial additional sources of polluted runoff would be less than significant. No mitigation is required.

f) Otherwise substantially degrade water quality?

Less than Significant Impact. Refer to Response IX a), above.

g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The proposed project would construct a multi-use path for use by bicyclists and pedestrians. The proposed project does not include a housing component. Therefore, implementation of the proposed project would not place housing within a 100-year flood hazard area, and no mitigation is required.

h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?

Less than Significant Impact. As described above, the project site is located within a 100-year flood hazard area. However, the proposed project is a trail project intended to connect to existing pathways and provide a non-vehicular transportation option along Highway 101 within the public right-of-way. Implementation of the proposed project does not include the development of any elevated structures that would impede or redirect flows compared to the existing conditions. Therefore, impacts related to placing structures in a 100-year flood hazard

area that would impede or redirect flood flows would be less than significant, and no mitigation is required.

i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?

Less than Significant Impact. A levee is a type of dam that runs along the banks of a river or canal that provides flood protection. A levee system failure could create severe flooding and high water velocities. Levees are located along the shoreline of the San Rafael Bay and along the shoreline of Pickleweed Park in San Rafael Creek.¹⁹ Without levee maintenance, flooding poses a major risk to the City. Although none of the levees within the City are certified to protect against the 100-year flood, portions of the existing levee system that protect the City have been raised and reinforced by the City within the past 25 years.²⁰ Additionally, although implementation of the proposed project would attract pedestrians and bicyclists to the site as a multi-use path, the proposed project would not include the development of any habitable structures, or increase population on the site. Therefore, the proposed project would not expose the project site to additional risk of inundation by failure of a levee beyond existing conditions. As such, the risk associated with failure of a levee is not considered a potential constraint or a potentially significant impact, and no mitigation is required.

Dam failure is defined as the structural collapse of a dam that releases the water stored in a reservoir behind the dam. A dam failure is usually the result of the age of the structure, inadequate spillway capacity, or structural damage caused by an earthquake or flood. Four dams are located within the vicinity of the City, in Marin County and failure at any of these dams could affect the City. However, the project site is located outside of the dam inundation area.²¹ Therefore, the risk associated with failure of a dam is not considered a potential constraint or a potentially significant impact, and no mitigation is required.

j) Cause inundation by seiche, tsunami, or mudflow?

Less than Significant Impact. Seiching is a phenomenon that occurs when seismic ground shaking induces standing waves (seiches) inside water retention facilities such as reservoirs and water tanks. Such waves can cause retention structures to fail and flood downstream properties. No major water-retaining structures are located immediately up gradient from the project site. Therefore, the risk associated with possible seiche waves is not considered a potential constraint or a potentially significant impact, and no mitigation is required.

¹⁹ Conservation Biology Institute. 2017. Data Basin, San Francisco Bay Levees. Available online at: <https://databasin.org/datasets/ed05b99c85e94df5befb6e619847e378> (accessed July 21, 2017).

²⁰ City of San Rafael. 2017. Draft City of San Rafael Local Hazard Mitigation Plan. Available online at: <https://storage.googleapis.com/proudcity/sanrafaelca/uploads/City-of-San-Rafael-LHMP-Public-Review-Draft-Complete.pdf> (accessed July 21, 2017).

²¹ City of San Rafael. 2017. Draft City of San Rafael Local Hazard Mitigation Plan. Available online at: <https://storage.googleapis.com/proudcity/sanrafaelca/uploads/City-of-San-Rafael-LHMP-Public-Review-Draft-Complete.pdf> (accessed July 21, 2017).

Tsunami are generated wave trains generally caused by tectonic displacement of the seafloor associated with shallow earthquakes, seafloor landslides, rock falls, and exploding volcanic islands. According to the State of California Department of Conservation Tsunami Inundation Maps²², the project site is located adjacent to but not within a tsunami inundation area. Although implementation of the proposed project would attract pedestrians and bicyclists to the site as a multi-use path, the proposed project would not include the development of any habitable structures, or increase population on the site. Therefore, the proposed project would not expose the project site to additional risk of inundation by tsunami beyond existing conditions. As such, the risk associated with tsunami is not considered a potential constraint or a potentially significant impact, and no mitigation is required.

Mudslides and flows are described as a shallower type of slope failure, usually affecting the upper soil mantle or weathered bedrock underlying natural slopes and triggered by surface or shallow subsurface saturation. Mudflows typically occur in mountainous or hilly terrain. The project site is relatively flat, located within an urban and developed area of the City, with no active landslides. Therefore, the risk associated with possible mudflows and mudslides is not considered a potential constraint or a potentially significant impact, and no mitigation is required.

²² California Emergency Management Agency, California Geological Survey and University of Southern California. 2009. Tsunami Map for Emergency Planning, County of Marin. San Rafael Quadrangle San Quentin Quadrangle. Available online at: http://www.conservation.ca.gov/cgs/geologic_hazards/Tsunami/Inundation_Maps/Marin/Documents/Tsunami_Inundation_SanRafaelSanQuentin_Quads_Marin.pdf (accessed July 21, 2017).

X. LAND USE/PLANNING

Would the project:

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

Affected Environment:

The proposed MUP would be constructed entirely within public ROW owned by the City and SMART. The project site is located in central San Rafael, extending from Andersen Drive to the Mahon Creek pathway. Properties adjacent to the proposed MUP alignment consist primarily of commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

Impact Analysis:

a) Physically divide an established community?

No Impact. The physical division of an established community typically refers to the construction of a physical feature (such as an interstate highway or railroad tracks) or removal of a means of access (such as a local road or bridge) that would impair mobility within an existing community, or between a community and outlying areas. The proposed project would be located entirely within public ROW. The proposed project would encourage non-motorized transportation and is a component of the 70-mile long SMART multi-use pathway extending from the City of Larkspur in Marin County to the City of Cloverdale in Sonoma County. No impact would occur, and no mitigation is required.

b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, planned community, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The plans, policies, and regulations applicable to the proposed project include the City of San Rafael General Plan 2020, Downtown San Rafael SMART Station Area Plan, and the City of San Rafael Municipal Code. The proposed MUP is located within SMART and City right-of-way extending from Andersen Drive to the Mahon Creek pathway.

The project site is designated Public/ Quasi Public in the City General Plan and is zoned Public/Quasi-Public (P/QP) in the City Zoning Map. Additionally, the proposed project is a component of the 70-mile long SMART multi-use pathway extending from the City of Larkspur in

Marin County to the City of Cloverdale in Sonoma County analyzed in the certified 2006 Final Environmental Impact Report for the SMART project.

The City has adopted the following policies relative to performance of the circulation system, and in particular, travel by pedestrians and bicyclists. The proposed project would be consistent with the following policies from the City General Plan Circulation Element:

- **C-11. Alternative Transportation Mode Users.** Encourage and promote individuals to use alternative modes of transportation, such as regional and local transit, carpooling, bicycling, walking and use of low-impact alternative vehicles. Support development of programs that provide incentives for individuals to choose alternative modes.
- **C-26. Bicycle Plan Implementation.** Make bicycling and walking an integral part of daily life in San Rafael by implementing the San Rafael Bicycle and Pedestrian Master Plan.
- **C-27. Pedestrian Plan Implementation.** Promote walking as the transportation mode of choice for short trips by implementing the pedestrian element of the City's Bicycle and Pedestrian Master Plan.
- **C-28. Urban Trail Network.** Encourage identification, renovation and maintenance of an urban trails network throughout San Rafael to encourage walking and appreciation of historical and new pathways.

Therefore, implementation of the proposed project would not conflict with any applicable land use plan, policy, or regulation and no mitigation is required.

c) Conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. No habitat conservation plans or natural community conservation plans apply to the project site. Therefore, no impact related to this topic would occur, and no mitigation is required.

XI. MINERAL RESOURCES

Would the project:

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

Affected Environment

Minerals are any naturally occurring chemical element or compound, or groups of elements and compounds, formed from inorganic processes and organic substances including, but not limited to, coal, peat and oil bearing rock, but excluding geothermal resources, natural gas and petroleum. The San Rafael Rock Quarry is located in unincorporated Marin County, approximately 3.5 miles from the project site. No quarries or mines are located on or within the vicinity of the project site.

Impact Analysis:

- a) **Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

No Impact. No known mineral resources are located on or near the project site. Therefore, the proposed project would not result in the loss of availability of a known mineral resource. No impacts would occur, and no mitigation is required.

- b) **Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?**

No Impacts. Refer to Response XI. a) above.

XII. NOISE*Would the project result in:*

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

Affected Environment:

A project will normally have a significant effect on the environment related to noise if it would substantially increase the ambient noise levels for adjoining areas or conflict with the adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City General Plan Noise Element and the Noise Ordinance. Noise impacts can be described in three categories. The first is audible impacts that increase noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 decibels (dB) or greater since this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, is the change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise level of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant. For the purpose of this analysis, the proposed project creates a significant noise impact if the project-related noise increase at an existing sensitive receptor is greater than 3 dB and the resulting noise level is greater than the standards cited below or if the project-related increase in noise is greater than 5 A-weighted decibels (dBA), yet the resulting noise levels are within the applicable land use compatibility standards for the sensitive use.

Certain land uses are considered more sensitive to noise than others. Examples of these include residential areas, educational facilities, hospitals, childcare facilities, and senior housing. The proposed project is located in a suburban area within the City and is surrounded by a mix of uses, including commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses. The closest sensitive receptors to the

project site are the multi-family residences located approximately 300 feet west of the proposed alignment.

The City of San Rafael's Noise Element of the General Plan²³ seeks to limit the impacts of noise on residents and employees in two ways. First, the General Plan contains standards to determine the suitability of new land uses depending upon the extent of noise exposure in the area. Second, General Plan policies limit the extent of new noise sources that proposed development can add to existing noise levels in the surrounding area and through implementation of the City's Noise Ordinance.

The City of San Rafael's Municipal Code addresses noise in Chapter 8.13 Noise and in Section 14.16.260 Noise Standards.²⁴ Chapter 8.123, Noise, sets allowable hours for construction activity. According to the code, construction shall be limited to the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and 9:00 p.m. and 6:00 p.m. on Saturdays, provided that the noise level at any point outside of the property plane of the project shall not exceed ninety (90) dBA. Construction is prohibited on Sundays.

Chapter 14.16.260, Noise Standards, states that new nonresidential construction adjacent to residential areas shall not increase noise levels in a residential area by more than three (3) dBA (L_{dn}), or create noise impacts which would increase noise levels to more than sixty (60) dBA (L_{dn}) at the boundary of a residential area. In addition, new nonresidential development shall not increase noise levels in a commercial area by more than five (5) dBA (L_{dn}), or create noise impacts which would increase noise levels to more than sixty-five (65) dBA (L_{dn}) for office, retail or mixed use districts, or seventy (70) dBA (L_{dn}) for industrial districts, at the property line of the noise receiving use.

Impact Analysis:

a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less Than Significant with Mitigation Incorporated. The following section addresses the short-term construction and long-term operational noise impacts of the proposed project.

Short-Term (Construction) Noise Impacts. As discussed in the Technical Noise Memorandum (LSA 2017) prepared for the proposed project, project construction would result in short-term noise impacts on multi-family residences located approximately 300 feet west of the proposed alignment. These are the closest sensitive receptors to the project site. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The entire construction duration is expected to occur for approximately 6 to 9 months. Construction-related noise would no longer occur once construction of the project is completed.

²³ San Rafael, City of, 2013. *The City of San Rafael General Plan 2020: Noise Element*. January 18.

²⁴ San Rafael, City of, 2017. *San Rafael, California – Code of Ordinances*. January 25.

The closest sensitive receptors to the project site are the multi-family residences located approximately 300 feet west of the proposed alignment. Project construction would result in short-term noise impacts on these receptors. Typical maximum noise levels range up to 86 dBA L_{max} at 50 feet during the noisiest construction phases. Pile driving noise levels can generate noise levels up to 100 dBA at 50 feet. At 300 feet, there would be a decrease of 16 dBA from the reduced distance compared to the noise level measured at 50 feet from the active construction area. Therefore, the closest off-site residences may be subject to short-term maximum construction noise between 70 and 84 dBA L_{max} when construction is occurring at the project site boundary. Construction noise is permitted by the City when activities occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. Construction activity is not allowed on Sundays and holidays.

Construction noise would result in a temporary or periodic increase in ambient noise levels in the project vicinity. However, it is expected that construction would result in noise levels that are lower than existing noise due to existing vehicle traffic on the adjacent US 101 and would be similar to noise levels due to construction of the SMART project. However, to reduce any potential noise impact to off-site sensitive receptors, implementation of the following measures for project construction, as identified in the Technical Noise Memorandum (LSA 2017) would reduce potential construction period noise impacts for the indicated sensitive receptors to less-than-significant levels.

Mitigation Measure NOI-1: The project contractor shall implement the following measures during construction of the project:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all project construction.
- Prohibit extended idling time of internal combustion engines.
- All noise producing construction activities shall be limited to the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activity shall be allowed on Sundays and holidays.
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

Implementation of these measures would limit construction activities to the less noise-sensitive periods of the day and would reduce construction impacts to a less than significant level.

Operational Noise Impacts. Operation of the MUP would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, since the project is not expected to generate substantial vehicular traffic or other operational noise. Pedestrians or bicyclists may converse resulting in intermittent noise while using the pathway; however, this noise level would be similar to existing conditions and would not generate noise levels that would exceed the applicable standards. Therefore, the proposed project would not expose persons to noise levels in excess of local standards. This impact would be considered less than significant.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

Less Than Significant. Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

A significant vibration impact would occur if the project would expose persons to or generate excessive groundborne vibration or noise levels. Common sources of ground-borne vibration and noise include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Construction of the proposed project would involve grading, site preparation, and construction activities, and could potentially involve pile driving. However, due to distance attenuation, groundborne vibration levels from the operation of heavy construction equipment that would be used in construction of the proposed project would not cause damage to residential buildings of normal northern California construction. Furthermore, operation of the proposed project would not generate substantial ground-borne noise and vibration.

The proposed project would be located within the SMART ROW; however, the proposed pathway would be paved, smooth, and unlikely to result in significant groundborne vibration. In addition, implementation of the proposed project would not result in new buildings or sensitive receptors; therefore, the proposed project would not result in the exposure of persons to or generation of excessive ground-borne noise and vibration. This impact would be less than significant.

c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant. The long-term use of the project is for a multi-use pathway. As discussed in Section a), above, this land use would not generate increased ambient noise levels. No substantial long-term increase in ambient noise levels is expected as a result of project implementation.

d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

Less Than Significant. Although there would be temporary high intermittent construction noise at times in the project area during project construction, the proposed project would not significantly affect land uses adjacent to the project site. In addition, construction of the project would comply with the hourly limits specified by the City's Municipal Code, as required by Mitigation Measure NOI-1. Therefore, the project would not result in a substantial temporary or periodic increase in ambient noise levels.

e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The proposed project is not located within 2 miles of a public or public use airport. The nearest airports to the project site are the San Rafael Airport, located approximately 3 miles north of the project site, and the Gness Field Airport, located approximately 12 miles north of the project site. Aircraft flyover noise is occasionally audible at the project site, due to the flightpath of the regional airports in the vicinity; however, no portion of the project site lies within the 65 dBA CNEL noise contours of any public airport nor does any portion of the project site fall within 2 miles of any private airfield or heliport. The proposed project would not expose people residing or working in the project area to excessive noise levels related to a public airport or public use airport.

f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. As discussed above, the project is not located within two miles of a public or public use airport and would not expose future site users to excessive noise levels.

XIII. POPULATION AND HOUSING.

Would the project:

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

Affected Environment:

The proposed MUP would be constructed entirely within public ROW owned by the City and SMART. Properties adjacent to the proposed MUP alignment consist primarily of commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

Impact Analysis:

- a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

No Impact. The proposed project is a multi-use path that would provide trail connections to existing pathways at each end of the alignment and provide a non-vehicular transportation option along U.S. Highway 101. The proposed project would not provide additional vehicle access or additional major infrastructure that would indirectly induce population growth. In addition, the proposed project would not result in new housing, commercial or industrial space that would generate an increase in population or influence growth in the project area. Therefore, implementation of the proposed project would not result in substantial growth in the area, either directly or indirectly, and no mitigation is required.

- b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?**

No Impact. No residences would be acquired for implementation of the proposed project. Therefore, implementation of the proposed project would not displace housing or people and no replacement housing would be required. No impact would occur, and no mitigation is required.

- c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?**

No Impact. As described in Response XIII b), implementation of the proposed project would not displace any residents necessitating the construction of replacement housing elsewhere. Therefore, implementation of the proposed project would not result in any impacts associated with the construction of replacement housing, and no mitigation is required.

XIV. PUBLIC SERVICES

Would the project:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Would the project result in substantial adverse physical impacts associated with the provision of or 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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
v) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Affected Environment

Fire Protection. Fire protection and emergency response services are provided by the City of San Rafael Fire Department. San Rafael Fire Station No. 51 located at 1039 C Street, is the closest fire station to the northern end of the project site and San Rafael Fire Station No. 54 located at 46 Castro Avenue, is the closest fire station to the southern end of the project site.

Police Protection. The San Rafael Police Department provides law enforcement to the City of San Rafael. The San Rafael Police Department is located at 1400 Fifth Avenue, approximately 0.5 mile to the northwest.

Schools. The project area is served by the San Rafael City Schools, including eight elementary schools, two middle schools, and three high schools and Dixie School District, including three elementary schools and one middle school.

Parks. Refer to Section X, Recreation for a discussion about parks.

Impact Analysis:

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

No Impact. The proposed project would construct a multi-use path for use by bicyclists and pedestrians. The proposed project does not include the construction of structures that would increase the population in the area or that would generate a higher demand for fire or police services, school facilities, parks, or other public facilities such as libraries and hospitals. The

multi-use path is a linear recreational facility and would require low maintenance costs. Additionally, the proposed project would improve safety conditions for bicyclists and pedestrians by providing a designated path. Therefore, implementation of the proposed project would not impact fire protection or police protection services, schools, parks, or other public facilities. No mitigation is required.

XV. RECREATION

Would the project:

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

Affected Environment:

The City of San Rafael's park system includes neighborhood parks, community parks, community centers, school facilities, service areas, county parks and state parks for residents and visitors to recreate. In addition, pedestrian and bicycle trails located throughout the City connect neighborhoods within the larger community.

Impact 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?**

Less than Significant Impact. The proposed multi-use path would serve the needs of residents, recreationalists, and commuters in the City and in the region by providing a connection between existing pathways at each end of the project site and access to neighborhoods, schools, SMART stations and the Larkspur Ferry terminal. The proposed project is a component of the 70-mile long SMART multi-use pathway from the City of Larkspur in Marin County to the City of Cloverdale in Sonoma County. Once the entire pathway from Larkspur to Cloverdale is constructed, it is expected that 7,000 to 10,000 people would use the pathway daily. Implementation of the proposed project would likely increase the use of existing and proposed trails. However, it is not anticipated that such an increase in use would result in a physical deterioration of existing trail facilities. Therefore, a less than significant impact would occur, and no mitigation is required.

- 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?**

Less than Significant with Mitigation. The proposed project includes the construction of a multi-use path. The proposed project would not require the construction or expansion of any other recreational facilities. Implementation of the mitigation measures contained in this Initial Study/Mitigated Negative Declaration (IS/MND) would ensure that this recreational facility would not have an adverse physical effect on the environment.

XVI. TRANSPORTATION/TRAFFIC*Would the project:*

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
(d) Substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

The proposed MUP would be constructed entirely within public ROW owned by the City and SMART. As part of the SMART project, approximately 1,800 feet of Francisco Boulevard West would be shifted. Therefore, the southern 2,500 feet of path would run along the west side of the SMART ROW; the northern 2,000 feet would run along the west side of the realigned Francisco Boulevard West. The proposed MUP would cross several local roads, including Rice Drive, and Irwin Street. All safety improvements and signing would conform to local standards and the California Manual on Uniform Traffic Control Devices (California MUTCD) standards

Impact Analysis:

- a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?**

Less than Significant Impact. The proposed project would provide a new MUP to serve pedestrians and bicyclists. The MUP has been identified in numerous plans and policy documents as a future improvement, including the City of San Rafael Bicycle and Pedestrian

Master Plan.²⁵ Therefore, the proposed project would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. This impact is less than significant and no mitigation is required.

b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

Less than Significant Impact. The City of San Rafael's Level of Service (LOS) standard for intersections outside of the downtown area is LOS D. A project would have a significant traffic impact if the project's traffic would cause an intersection currently operating at an acceptable level of service (LOS D or better) to operate below the standard (LOS E or F).

The proposed project would not add vehicular traffic to the street system, but instead would provide a MUP that could be used by non-motorized commuters. The project could potentially reduce the volume of vehicular traffic, resulting in a net beneficial impact on the operation of intersections and streets along the alignment. Therefore, this impact is less than significant, and no mitigation is required.

c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. The proposed project does not include any structures that would interfere with air traffic patterns; nor would it increase traffic levels. No impacts to air traffic would occur and no mitigation is required.

d) Substantially increase hazards due to a design feature (e. g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant Impact. The proposed MUP has been largely designed to meet applicable standards set forth by the City, Caltrans, SMART and the PUC. The exception is the proposed sharp turn on Rice Drive where the MUP will cross. This turn reduces sight lines between drivers and path users, especially under low visibility or dark conditions. The MUP crossing and intersections would be illuminated as part of the realignment of Francisco Boulevard West, which would be constructed concurrently with the proposed MUP. The illumination of the crossing would ensure safe MUP crossing under low visibility conditions. As described in Section I, Aesthetics, the segment of the MUP between Anderson and Rice Drive would include installation of pathway lighting to illuminate the proposed pathway. The lighting would be approximately 12-foot high, low-level, shielded light fixtures, which would direct the light downward onto the pathway. Therefore, implementation of the proposed project would not substantially increase hazards due to a design feature. No mitigation is required.

e) Result in inadequate emergency access?

²⁵ Alta Planning and Design, 2016. *City of San Rafael Bicycle and Pedestrian Master Plan 2011 Update*. November 18.

Less than Significant with Mitigation Incorporated. The project has the potential to result in slight delays at street crossings if an emergency vehicle approaches while the pedestrian or cyclist is already in the street. Given the distance from which emergency vehicles can be seen and heard, however, pedestrians and bicyclists should, by law, refrain from entering the street if there is an emergency vehicle approaching, in which case there would be no impact.

Construction activities associated with the proposed project, would be conducted concurrently with the SMART rail project, and require traffic controls. Traffic controls during construction could incrementally increase emergency response times within the vicinity of the project site. As described in the 2014 EA, to address potential transportation effects during construction, SMART would implement Mitigation Measure T-1, which requires development of a construction phasing/sequencing and traffic management plan. The TMP would include coordination with local fire and police departments and transit providers to ensure emergency access is maintained during construction. With implementation of Mitigation Measure T-1, construction-related impacts to emergency access would be reduced to less than significant levels.

2014 EA Mitigation Measure T-1: SMART will develop a construction phasing/sequencing and traffic management plan to be developed and implemented by the contractor to minimize Proposed Action effects during construction. This plan will define each construction operation, approximate duration, and the necessary traffic controls to maintain access for vehicles. The plan will require the movement of heavy equipment and transport materials during off-peak travel demand periods. To reduce the effect on parking supply, the plan will encourage workers to carpool and use public transit. To address safety issues, clearly defined access for non-motorized modes will be maintained during construction. Staging areas will be fenced and signed. Where roadways and sidewalks are impassable for bicycles and pedestrians, safe alternate routes and pathways will be signed and maintained during construction. This plan will be coordinated with the cities of San Rafael and Larkspur, local fire and police departments, and transit providers.

f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities supporting alternative transportation (e.g., bus turnouts, bicycle racks)?

Less than Significant Impact. The City of San Rafael has adopted the following policies relative to performance of the circulation system, and in particular, travel by pedestrians and bicyclists. The following policies are contained in the San Rafael 2020 Circulation Element, as reprinted on April 28, 2017²⁶:

C-11. Alternative Transportation Mode Users. Encourage and promote individuals to use alternative modes of transportation, such as regional and local transit, carpooling, bicycling, walking and use of low-impact alternative vehicles. Support development of programs that provide incentives for individuals to choose alternative modes.

²⁶ San Rafael, City of, 2017. *The City of San Rafael General Plan 2020: Circulation Element*. April 28.

C-26. Bicycle Plan Implementation. Make bicycling and walking an integral part of daily life in San Rafael by implementing the San Rafael Bicycle and Pedestrian Master Plan.

C-27. Pedestrian Plan Implementation. Promote walking as the transportation mode of choice for short trips by implementing the pedestrian element of the City's Bicycle and Pedestrian Master Plan.

C-28. Urban Trail Network. Encourage identification, renovation and maintenance of an urban trails network throughout San Rafael to encourage walking and appreciation of historical and new pathways.

The proposed MUP is consistent with plans and policies relative to pedestrian and bicycle facilities, and is a part of the City's implementation of the above policies. The MUP would improve operation of the transportation system for pedestrians and bicyclists, providing a benefit for these modes. This impact is less than significant, and no mitigation is required.

XVII. TRIBAL CULTURAL RESOURCES

Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in the 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:

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Listed or eligible for the 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)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(b) 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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Affected Environment:

The discussion and analysis provided in this section is based on the cultural resources assessment conducted by LSA for the proposed project. The consultation study area for tribal cultural resources is the area along the project alignment where ground-disturbing activities would occur, and includes the maximum extent of ground disturbance, including staging, and work areas.

In August 2017, the City provided formal notification to the Federated Indians of Graton Rancheria, the California Native American tribe that is traditionally and culturally affiliated with the geographic area within which the proposed project is located pursuant to the consultation requirements of AB 52. Letters were sent to all tribal representatives identified by the Native American Heritage Commission. The City received no responses from the tribal representatives during the 30-day comment period.

Impact Analysis:**a) Listed or eligible for the 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).**

Less Than Significant Impact. As described in the Cultural Resources section above, LSA conducted a records search at the NWIC, which included a review of the National Register of Historic Places, the California Register of Historic Places, the California Inventory of Historic Resources, California Historical Landmarks, California Points of Historical Interest, and the Directory of Properties in the Historic Property Data File (Marin County). The records search identified no previously recorded tribal cultural resource within the project alignment and six previously recorded cultural resources within a 0.25-mile radius of the project site.

On August 15, 2017, the City sent letters to tribal representatives identified by the Native American Heritage Commission pursuant to the consultation requirements of AB 52. No responses were received during the 30-day review period.

Therefore, the proposed project would not cause a substantial adverse change in a California Native American tribal cultural resource that is 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).

- b) 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.**

Less Than Significant with Mitigation Incorporated. As described in the Cultural Resources section above, LSA conducted a records search at the NWIC and a review of the Sacred Lands File on file at the NAHC. The records search identified no previously recorded tribal cultural resources within the project alignment and six previously recorded cultural resources within a 0.25-mile radius of the project alignment.

Although no tribal cultural resources were identified in the project site, six previously recorded cultural resources were identified within 0.25-mile of the project alignment, as described in the Cultural Resources section above. These archaeological cultural resources have not been conclusively demonstrated to *not* lie within the alignment, and oftentimes an archaeological site's surface boundary does not accurately convey the extent of subsurface deposits that are not visible on the surface. Therefore, there is the possibility, based on the proximity of recorded archaeological deposits, that other unidentified archaeological deposits may be present in the project site; such deposits, if present, could be encountered during project ground disturbance.

Implementation of Mitigation Measures CULT-1 and CULT-2, described in the Cultural Resources section above, would reduce potential impacts to potential tribal cultural resources to less than significant.

XVIII. UTILITIES/SERVICE SYSTEMS*Would the project:*

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

Affected Environment:

A variety of local and regional agencies in this area provide and maintain utility and service system facilities associated with electricity, water, stormwater, wastewater, solid waste, communications and natural gas. Pacific Gas and Electric (PG&E) provides gas and electric utilities, Marin Municipal Water District (MMWD) provides water, and Marin Sanitary Service and Marin Recycling and Resource Recovery Association provides curbside recycling collection service in the City.

The proposed MUP has been designed to conform to existing grade and provide minimal alteration to existing drainage conditions. In the existing condition, stormwater runoff on the project site sheet flows to an existing ditch on the west side of the railroad tracks. The drainage ditch then flows to two pump stations located on the west side of Francisco Boulevard; one pump station is located at Irwin Street and one pump station is located approximately 1,200 feet south of Rice Drive. When the tides are high, the pump stations pump water into San Rafael Creek. The proposed MUP would not change the general drainage pattern on the project site or the downstream area. Stormwater runoff north of Rice Drive to Mahon Creek would flow into a detention basin on the west side of the roadway, north of Rice Drive. South of Rice Drive, stormwater runoff would sheet flow to an existing ditch on the west side of the railroad tracks. Stormwater runoff from the southern 550 feet of the project site would be collected by a new inlet on the west side of the MUP, which would be connected to the existing City storm drain on Andersen Drive. All runoff would eventually drain to the City storm drain system or San Rafael Creek.

Impact Analysis:

a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. The proposed project is a multi-use path for use by bicyclists and pedestrians. The proposed project would not generate wastewater and would not be subject to the wastewater treatment requirements of the Regional Water Quality Control Board (RWQCB). Therefore, implementation of the proposed project would not exceed wastewater treatment requirements of the applicable RWQCB, and no mitigation is required.

b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Implementation of the proposed project includes the construction of a multi-use path for use by bicyclists and pedestrians. The proposed project would not require water or wastewater treatment as no potable water and/or toilets would be provided as part of the proposed project. Implementation of the proposed project would not require or result in construction of new water, wastewater treatment, or collection facilities or require the expansion of existing facilities, which could cause significant environmental effects. Therefore, implementation of the proposed project would not result in any impacts related to this topic, and no mitigation is required.

c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

Less Than Significant Impact. Existing storm drain facilities would be maintained as part of the proposed project. As described above, inlets or other means would be provided, where needed, to convey stormwater into the existing storm drain system, drainage ditches, and/or detention basins with minimal alteration to existing drainage patterns. These drainage improvements would remain after completion of the proposed project. Therefore, the proposed project would not require or result in the construction of new stormwater drainage facilities that could cause significant environmental effects. This impact would be less than significant and no mitigation is required.

d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Construction of the proposed project would require the use of a small amount of water on a temporary basis for activities such as fugitive dust control and cleanup activities. These uses would cease when construction of the proposed project is complete. Sufficient water supplies would be available to address the proposed project's minimal water needs during construction. Therefore, there would be no need for new or expanded water entitlements, and no mitigation is required.

As discussed in Response XVII b) above, water would not be required during operation of the proposed project. Therefore, operation of the proposed project would not result in any impacts associated with the need for new or expanded water entitlements, and no mitigation is required.

e) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. The proposed project would construct a multi-use path and does not include restrooms, or require wastewater facilities or wastewater treatment services. Therefore, the proposed project would not exceed the existing capacity of the sanitary sewer delivery system or the existing capacity of treatment facilities in the area. Implementation of the proposed project would not result in impacts related to this topic, and no mitigation is required.

f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

Less than Significant Impact. Construction of the proposed project would generate a small amount of solid waste. The majority of the construction waste would be vegetation, dirt, asphalt, and concrete, as well as waste generated by construction workers. The generation of construction waste would be temporary, would cease when construction is complete, and would not be substantial. Construction debris would be recycled and/or disposed of at the Marin Resource Recovery Center and Marin Recycling Center located at 565 Jacoby Street, approximately 0.7 mile southeast of the project site. These facilities have the capacity to handle the nominal amount of construction waste generated by the proposed project. Therefore, construction of the proposed project would result in a less than significant impact related to this topic, and no mitigation is required.

Operation of the multi-use path would not generate solid waste. Therefore, operation of the proposed project would not result in any impacts to solid waste and landfill facilities, and no mitigation is required.

g) Comply with federal, state, and local statutes and regulations related to solid wastes.

No Impact. The California Integrated Waste Management Act (AB 939) changed the focus of solid waste management from landfill to diversion strategies such as source reduction, recycling, and composting. The purpose of the diversion strategies is to reduce dependence on landfills for solid waste disposal. AB 939 established mandatory diversion goals of 25 percent by 1995 and 50 percent by 2000, and to maintain the 50 percent diversion rate thereafter. Effective January 1, 2017, all jurisdictions, including those without a construction and demolition ordinance, are required to divert 65 percent of the construction waste materials generated during the project in compliance with the California Green Building Standards Code. As of 2004, the County of Marin exceeded AB 939 requirements, achieving a 77 percent. The City joined Zero Waste Marin (a joint powers authority of 11 cities and towns in the County of Marin) and adopted a goal of 80 percent landfill diversion by 2012 and a 94 percent diversion by 2025, exceeding AB 939 and the

California Green Building Standards Code requirements. The proposed project would comply with existing and future statutes and regulations, including waste diversion programs mandated by federal, State, and City law. Therefore, no impact related to this topic would occur, and no mitigation is required.

XIX. MANDATORY FINDINGS OF SIGNIFICANCE

	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
(a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects?)	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Impact Analysis:

- a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

Less Than Significant With Mitigation Incorporated. Implementation of the mitigation measures recommended in this Initial Study would ensure that the construction and operation of the proposed project would not substantially degrade the quality of the environment; reduce the habitat, population, or range of a plant or animal species; or eliminate important examples of California history or prehistory. The proposed project has been designed to avoid impacts to wetlands, to the extent feasible. Section IV, Biological Resources, includes mitigation measures to minimize impacts to nesting birds and potentially jurisdictional waters. Mitigation is provided in Section V, Cultural Resources, in the event that unanticipated archeological or paleontological resources and/or human remains are identified in the project area during construction.

- 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?)**

Less Than Significant Impact. The *CEQA Guidelines* require a discussion of significant environmental impacts that would result from project-related actions in combination with "closely related past, present, and probably future projects: located in the immediate vicinity

(CEQA Guidelines Section 15130[b][1][A]). Cumulative environmental impacts are those impacts that by themselves are not significant, but when considered with impacts occurring from other projects in the vicinity would result in a cumulative impact. Related projects considered to have the potential of creating cumulative impacts in association with the proposed project consist of projects that are reasonably foreseeable and that would be constructed or operated during the life of the proposed project.

The proposed project would be located in a highly developed urban area that is largely built out. As outlined in the project description, the proposed project would be constructed concurrently with the proposed SMART train segment between San Rafael and the Larkspur Ferry Terminal. No other construction projects are anticipated in the immediate area of the proposed pipeline. As described in this Initial Study/Mitigated Negative Declaration, impacts associated with the proposed project would be temporary, construction-related and would be reduced to less than significant with implementation of the mitigation measures contained herein. Therefore, the proposed project would not make a considerable contribution toward a cumulative impact related to construction impacts. Additionally, the proposed project would not generate a significant amount of greenhouse gas emissions and would therefore not result in a cumulatively considerable impact to global climate change. The proposed project would improve the reliability of the existing water distribution system. No mitigation is required.

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

Less Than Significant with Mitigation Incorporated. As described in this IS/MND, any potential environmental impacts from the project would be reduced to less than significant with the implementation of the recommended mitigation measures. With implementation of measures both incorporated into the project design and recommended as mitigations to reduce the impacts associated with air quality, cultural resources, hazards, and traffic, the project would not result in substantial adverse effects on human beings.

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APPENDIX A

ROAD CONSTRUCTION EMISSIONS MODEL

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Road Construction Emissions Model, Version 8.1.0

Daily Emission Estimates for -> Francisco Boulevard West Multi-Use Pathway														
Project Phases (Pounds)	ROG (lbs/day)	CO (lbs/day)	NOx (lbs/day)	PM10 (lbs/day)	Exhaust (lbs/day)	Fugitive Dust (lbs/day)	PM2.5 (lbs/day)	Exhaust (lbs/day)	Fugitive Dust (lbs/day)	SOx (lbs/day)	CO2 (lbs/day)	CH4 (lbs/day)	N2O (lbs/day)	CO2e (lbs/day)
Grubbing/Land Clearing	1.40	10.92	15.68	1.69	0.69	1.00	0.83	0.62	0.21	0.02	2,332.22	0.59	0.03	2,354.68
Grading/Excavation	7.77	58.06	84.72	5.23	4.23	1.00	4.05	3.84	0.21	0.10	10,079.86	2.86	0.10	10,180.18
Drainage/Utilities/Sub-Grade	4.64	35.59	44.61	3.53	2.53	1.00	2.56	2.35	0.21	0.06	5,849.41	1.22	0.06	5,896.82
Paving	2.09	16.56	20.18	1.30	1.30	0.00	1.17	1.17	0.00	0.03	3,008.16	0.75	0.03	3,036.78
Maximum (pounds/day)	7.77	58.06	84.72	5.23	4.23	1.00	4.05	3.84	0.21	0.10	10,079.86	2.86	0.10	10,180.18
Total (tons/construction project)	0.51	3.92	5.36	0.37	0.28	0.08	0.27	0.26	0.02	0.01	669.60	0.17	0.01	675.87
Notes: Project Start Year -> 2018														
Project Length (months) -> 9														
Total Project Area (acres) -> 1														
Maximum Area Disturbed/Day (acres) -> 0														
Water Truck Used? -> Yes														
Total Material Imported/Exported Volume (yd³/day)														
Daily VMT (miles/day)														
Phase Soil Asphalt Soil Hauling Asphalt Hauling Worker Commute Water Truck														
Grubbing/Land Clearing 0 0 0 0 280 40														
Grading/Excavation 0 0 0 0 880 40														
Drainage/Utilities/Sub-Grade 0 0 0 0 600 40														
Paving 0 0 0 0 480 40														
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
Total Emission Estimates by Phase for -> Francisco Boulevard West Multi-Use Pathway														
Project Phases	ROG (tons/phase)	CO (tons/phase)	NOx (tons/phase)	PM10 (tons/phase)	Exhaust (tons/phase)	Fugitive Dust (tons/phase)	PM2.5 (tons/phase)	Exhaust (tons/phase)	Fugitive Dust (tons/phase)	SOx (tons/phase)	CO2 (tons/phase)	CH4 (tons/phase)	N2O (tons/phase)	CO2e (MT/phase)
(Tons for all except CO2e. Metric tonnes for CO2e)														
Grubbing/Land Clearing	0.01	0.11	0.16	0.02	0.01	0.01	0.01	0.01	0.00	0.00	23.09	0.01	0.00	21.15
Grading/Excavation	0.31	2.30	3.35	0.21	0.17	0.04	0.16	0.15	0.01	0.00	399.16	0.11	0.00	365.72
Drainage/Utilities/Sub-Grade	0.16	1.23	1.55	0.12	0.09	0.03	0.09	0.08	0.01	0.00	202.68	0.04	0.00	185.36
Paving	0.03	0.28	0.30	0.02	0.02	0.00	0.02	0.02	0.00	0.00	44.67	0.01	0.00	40.91
Maximum (tons/phase)	0.31	2.30	3.35	0.21	0.17	0.04	0.16	0.15	0.01	0.00	399.16	0.11	0.00	365.72
Total (tons/construction project)	0.51	3.92	5.36	0.37	0.28	0.08	0.27	0.26	0.02	0.01	669.60	0.17	0.01	613.14
PM10 and PM2.5 estimates assume 50% control of fugitive dust from watering and associated dust control measures if a minimum number of water trucks are specified.														
Total PM10 emissions shown in column F are the sum of exhaust and fugitive dust emissions shown in columns G and H. Total PM2.5 emissions shown in Column I are the sum of exhaust and fugitive dust emissions shown in columns J and K.														
CO2e emissions are estimated by multiplying mass emissions for each GHG by its global warming potential (GWP), 1, 25 and 298 for CO2, CH4 and N2O, respectively. Total CO2e is then estimated by summing CO2e estimates over all GHGs.														
The CO2e emissions are reported as metric tons per phase.														

APPENDIX B

BIOLOGICAL RESOURCES REPORT ADDENDUM

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BIOLOGICAL RESOURCES TECHNICAL REPORT

**FRANCISCO BOULEVARD WEST MULTI-USE PATHWAY
SECOND STREET TO ANDERSEN DRIVE
SAN RAFAEL, CALIFORNIA**



August 2017

BIOLOGICAL RESOURCES TECHNICAL REPORT

FRANCISCO BOULEVARD WEST MULTI-USE PATHWAY SECOND STREET TO ANDERSEN DRIVE SAN RAFAEL, CALIFORNIA

Submitted to:

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Project No. ALT1701



August 2017

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1.0 INTRODUCTION

The City of San Rafael (City) proposes to construct a Multi-use Pathway (MUP) within City and Sonoma Marin Area Rail Transit (SMART) right-of-way (ROW). The approximately 4,500-foot MUP would extend from Andersen Drive to the Mahon Creek pathway in the City of San Rafael, Marin County, California. On the southern end of the proposed MUP, at the intersection of Andersen Drive and Francisco Boulevard West, the pathway would connect to the existing SMART pathway to Larkspur and existing bike lanes on Andersen Drive. On the northern end, the proposed MUP would connect to the existing Mahon Creek Trail to the west and to an existing pedestrian bridge/walkway to the north that extends to 2nd Street in downtown San Rafael.

Consistent with the 2014 EA, the existing alignments of Francisco Boulevard West and the rail line would be “flipped” (e.g., the roadway would be shifted south and the rail line shifted north) between the San Rafael Creek crossing and Rice Drive to eliminate two at-grade railroad crossings at Francisco Boulevard West and Irwin Drive. The proposed Francisco Boulevard West realignment project is a separate project for the purposes of CEQA; however, the proposed MUP project would be constructed concurrently with the roadway realignment, as described further below.

Approximately 1,800 feet of Francisco Boulevard West would be shifted. Therefore, the southern 2,500 feet of path would run along the west side of the SMART ROW; the northern 2,000 feet would run along the west side of the realigned Francisco Boulevard West. The proposed MUP would be constructed entirely within public ROW owned by the City and SMART.

The MUP would consist of an 8- to 10-foot-wide paved pathway with associated 2-foot-wide shoulders. In addition, the MUP would require installation of a prefabricated bridge (approximately 300 square feet), drainage facilities, retaining walls, railings, fencing, and other minor project elements, such as signage and pavement marking. Several sections of retaining wall, totaling approximately 1,300 feet, would be installed along the western edge of the proposed MUP.

For approximately 2,500 feet in the middle of the alignment, the proposed MUP is bordered on the west by an unnamed manmade drainage channel. In order to minimize impacts on the drainage channel, portions of the MUP would be cantilevered over the channel. Approximately ten 18-inch diameter concrete piles would be placed within the unnamed drainage channel to support the cantilevered portion of the pathway. The 30-foot-long prefabricated bridge would span the unnamed drainage channel approximately 1,300 feet south of Rice Drive where the channel makes a 90-degree turn to the east to pass beneath Highway 101 via a culvert into the San Rafael Creek boat basin.

Approximately 716 square feet of the unnamed drainage channel would be put in a culvert and filled for the pathway construction immediately south of Irwin Street. To offset the impacts of the fill section and the ten piles needed to support the cantilevered portion of the pathway, an existing culvert/driveway approximately 300 feet north of Rice Drive would be removed and restored as a drainage channel. A total of approximately 860 square feet of channel would be restored in this location, resulting in an approximate 1:1 replacement ratio.

The Biological Resources Report evaluates the potential impacts of MUP construction on sensitive species and habitats protected under federal and state laws, including the federal and state Endangered Species Acts, the Migratory Bird Treaty Act, California Fish and Game Code, and the California Environmental Quality Act. Avoidance, Minimization, and Mitigation measures for reducing potential impacts are also provided.

2.0 METHODOLOGY

2.1 BACKGROUND RESEARCH

LSA evaluated the likelihood that special-status species and sensitive habitats occur in the project vicinity based partially on reviews of the following databases:

- California Natural Diversity Database (CNDDDB) (CDFW 2017)
- USFWS Sacramento Branch Endangered Species Program (USFWS 2017)

LSA also reviewed the following documents prepared for the SMART project, with particular emphasis on the Larkspur extension:

- Draft Biological Assessment Sonoma–Marin Area Rail Transit Downtown San Rafael-Larkspur Extension (AECOM 2014a).
- Draft Biological Resources Technical Report Sonoma-Marín Area Rail Transit Downtown San Rafael-Larkspur Extension (AECOM 2013 [Updated 2014])
- Draft Preliminary Delineation of Waters of the United States, Including Wetlands. Sonoma – Marin Area Rail Transit Downtown San Rafael-Larkspur Extension (AECOM 2014b).
- Larkspur Extension Wetland Delineation (GHD 2016)
- Downtown San Rafael to Larkspur Extension Environmental Assessment (SMART 2014)

2.2 FIELD SURVEY

LSA biologist Dan Sidle conducted a reconnaissance survey of the site on May 21, 2017. The purpose of the survey was to determine whether site conditions have changed since surveys conducted in January 2013 and documented in a previous Biological Resources Technical Report (AECOM 2014).

3.0 RESULTS

3.1 VEGETATION

The Anderson Drive to Mahon Creek corridor is comprised primarily of developed and ruderal habitats. Tree and shrub species occur in scattered locations along the corridor. These species include non-native species, such as pride of madeira (*Echium candicans*), plum (*Prunus* sp.), and pepper tree (*Schinus* sp.), as well as a few native tree species consisting of coast live oak (*Quercus agrifolia*), California bay (*Umbellularia californica*), and willow (*Salix* sp.).

Ruderal (weedy) vegetation consists primarily of non-native, upland species typical of highly disturbed areas in Marin County. Herbaceous (non-woody) plant species consist primarily of wild oat (*Avena* sp.), mustard (*Brassica* sp.), ripgut brome (*Bromus diandrus*), Italian thistle (*Carduus pycnocephalus*), field bindweed (*Convolvulus arvensis*), and sweet fennel (*Foeniculum vulgare*). Other herbaceous species found along the corridor include French broom (*Genista monspessulana*), English ivy (*Hedera helix*), Mediterranean barley (*Hordeum marinum*), prickly lettuce (*Lactuca serriola*), annual white sweetclover (*Melilotus albus*), yellow sweetclover (*Melilotus indicus*), Mexican feather grass (*Nassella tenuissima*), dandelion (*Taraxacum* sp.), rose clover (*Trifolium hirtum*), and vetch (*Vicia sativa*).

Giant reed (*Arundo donax*), curly dock (*Rumex armeniacus*), pampas grass (*Cortaderia* sp.), Himalayan blackberry (*Rubus discolor*), and English plantain (*Plantago lanceolata*) also occur along the channel sideslopes. Emergent wetland plant species occurring in the channel consist primarily of cattails (*Typha* sp.), sturdy bullrush (*Bolboschoenus robustus*), and brass buttons (*Cotula coronopifolia*).

3.2 WILDLIFE

Due to its highly disturbed condition and location within a dense urban landscape, the proposed alignment has limited habitat value to native wildlife. Species expected to use the site are those that have successfully adapted to human development. Wildlife species observed during the May 21, 2017 reconnaissance survey include: black-tailed deer (*Odocoileus hemionus*), western fence lizard (*Sceloporus occidentalis*), song sparrow (*Melospiza melodia*), black phoebe (*Sayornis nigricans*), house sparrow (*Passer domesticus*), Brewer's blackbird (*Euphagus cyanocephalus*), American crow (*Corvus brachyrhynchos*), rock pigeon (*Columba livia*), house finch (*Haemorhous mexicanus*), and Anna's hummingbird (*Calypte anna*).

3.3 POTENTIALLY JURISDICTIONAL WATERS

Potentially jurisdictional waters were previously described in an unverified wetland delineation report prepared by AECOM in June 2014 and updated by GHD in 2016. The following aquatic features were found along the Andersen Drive to Mahon Creek corridor:

- Unnamed Drainage Ditch. This drainage ditch extends for approximately 2,285 linear feet along the corridor and covers approximately 0.66 acre. The ditch is mapped as a jurisdictional water of the U.S. as well as a water of the State of California. Vegetated segments dominated by cattails

and bulrushes are mapped as jurisdictional wetlands (in this case “perennial wetlands”). Non-vegetated, open water segments are mapped as jurisdictional Other Waters of the U.S. The ditch appears to be approximately 6 to 12 feet wide at the Ordinary High Water Line (OHWL) and 12 to 25 feet wide at the tops of banks. It collects runoff from the surrounding developed areas; the runoff is pumped from the ditch’s terminus at Irwin Street into San Rafael Creek via an underground pipe connected to a pump station located on the east side of Highway 101. At least 500 linear feet of the western channel bank consists of a vertical sheet pile wall.

The ditch channel makes a 90-degree turn to the east approximately 1,200 linear feet south of Rice Drive. The eastward segment passes beneath Highway 101 via a culvert that is connected to the San Rafael Creek boat basin. The ditch channel includes three culverted segments; one beneath Rice Drive; one beneath a driveway crossing approximately 210 feet north of Rice Drive; and one at the northern terminus of the ditch at Irwin Street.

- San Rafael Creek. San Rafael Creek is a navigable water of the U.S. as well as a water of the State of California. It flows into San Rafael Canal and thence into San Pablo Bay. At the MUP corridor crossing, San Rafael Creek appears to be approximately 25 to 30 feet wide at the OHWL. The creek banks are largely unvegetated at the crossing location.
- Other Wetlands. Three small patches of wetlands are mapped along the corridor between Anderson Drive and where the channel turns east toward the San Francisco Bay. These wetlands occur within depressional areas; one is mapped as freshwater marsh dominated by cattails and salt grass (*Distichlis spicata*); the other two are mapped as seasonal wetlands dominated by Himalayan blackberry and cocklebur (*Xanthium spinosum*). These wetlands collectively encompass approximately 0.07 acre.

4.0 POTENTIAL IMPACTS

4.1 SPECIAL-STATUS SPECIES

No special-status species were observed during the reconnaissance survey. Based on the CNDDB, a total of 44 special status-plant and animal species are known or have the potential to occur within a 5-mile radius of the corridor (Tables 1 and 2). However, only three of these species have the potential to occur in or near the corridor based on existing habitat types and field observations as discussed below.

Green Sturgeon. The southern Distinct Population Segment (DPS) of green sturgeon (*Acipenser medirostris* – Federally Threatened) has the potential to occur approximately 1.5 miles downstream of the project site in San Pablo Bay. As outlined in the draft Biological Assessment prepared by AECOM (2014), the segment of San Rafael Creek in the project vicinity and the unnamed drainage ditch contain very poor habitat for adult or juvenile green sturgeon. In addition, this species would be precluded from entering the unnamed drainage ditch due to the presence of tidal gates and pumps. In-water work for the project would, however, have the potential to indirectly affect green sturgeon downstream in San Pablo Bay. Indirect effects could include temporary increases in sedimentation and turbidity, potential contamination from spilled fuel and lubricants used during construction, and noise and vibration from construction activity.

Western Pond Turtle. Western pond turtle (*Actinemys marmorata* - California Species of Special Concern) has the potential to occur within and along the drainage ditch, which provides marginally suitable aquatic and nesting habitat for this species. Western pond turtle could be directly impacted by disturbance during construction activities or destruction of nests along the upper banks of the channel. Western pond turtle could also be indirectly impacted by temporary increases in sedimentation and turbidity, potential contamination from spilled fuel and lubricants used during construction, and noise and vibration from construction activity.

Pallid Bat. Pallid bat (*Antrozous pallidus* - California Species of Special Concern) has a small potential to roost beneath existing bridge crossings and other structures. Pallid bat could be directly impacted by disturbance from construction near roost sites.

Migratory Birds. Both ground and tree nesting birds have the potential to occur along the corridor during the nesting season (i.e., early-February to late August). Nesting birds are protected under the Federal Migratory Bird Treaty Act (MBTA) and/or Section 3503 of the California Department of Fish and Game Code, and direct and indirect disturbance of their nest sites should be avoided. Project construction would result in the removal of vegetation along San Rafael Creek and the unnamed channel that could be used by nesting birds. Birds may also nest immediately adjacent to the project site. If conducted during the nesting season (February 1–August 31), project activities could directly impact nesting birds by removing vegetation that supports active nests. Construction-related disturbance (e.g., noise, vehicle traffic, personnel working adjacent to suitable nesting habitat) could also indirectly impact nesting birds by causing adults to abandon nests in nearby trees or other vegetation, resulting in nest failure and reduced reproductive potential.

4.2 PROTECTED TREES

The project will include the removal of one non-native eucalyptus tree (*Eucalyptus globulus*) along the bank of the unnamed ditch. A planted redwood tree (*Sequoia sempervirens*) offset from the channel may also be removed. These trees are protected under City of San Rafael Municipal Code Section 11.12.050. Tree removal will require a permit from the City of San Rafael. Section 11.12.060 also requires protection of existing trees during construction by placing guards around the trees that will protect them from damage.

4.3 SENSITIVE NATURAL COMMUNITIES

The proposed alignment for the MUP is largely situated within existing paved areas and ruderal upland habitats. The CNDDDB identified three sensitive natural communities within 5 miles of the project site: Coastal Terrace Prairie, Northern Coastal Salt Marsh, and Serpentine Bunchgrass. None of these natural communities occur within the proposed alignment. No riparian habitat is present along the drainage ditch or San Rafael Creek in the proposed project area. The drainage ditch itself contains perennial wetland habitat that is considered a sensitive natural community, and three small patches of seasonal wetland occur along the corridor south of the drainage ditch. Potential impacts to the drainage ditch and other wetlands are discussed in Section 4.4.

4.4 JURISDICTIONAL WATERS

In order to minimize impacts on the drainage ditch, significant portions of the MUP will be bordered by a retaining wall that will be located entirely outside the top of bank of the ditch channel. Where the corridor is too narrow to accomplish this avoidance, the MUP will be cantilevered over the channel, supported by approximately ten 18-inch diameter concrete piles to be placed within the channel. Impacts from the cantilevered sections will be limited to the direct impacts of the concrete piles on the ditch channel bottom, and the potential indirect shading effects to largely ruderal vegetation along the channel banks. The cantilevered sections will collectively indirectly impact approximately 2,170 square feet of ditch bank.

An additional approximately 716 square feet of the drainage channel will be placed into a culvert and filled for the pathway construction immediately south of Irwin Street, and a 30-foot-long prefabricated bridge would span the drainage ditch where it turns 90 degrees east, south of Rice Drive.

The MUP will not appreciably diminish ditch channel capacity. The channel is expected to continue to convey water volumes comparable to those currently present. Construction work has the potential to degrade existing wetlands in the ditch adjacent to and downstream of the work area as a result of sediment laden or turbid runoff or other pollutants released from construction equipment or vehicles.

Table 1: Special-Status Plant Species Known to Occur or Potentially Occur in the Project Vicinity

Species	Status ^a	Habitat/Blooming Period	Potential for Occurrence
<i>Amorpha californica</i> var. <i>napensis</i> Napa false indigo	1B	Openings in broadleafed upland forest, chaparral, cismontane woodland. April-July	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is recorded approximately at the project site, but is based on a record from 142 years ago (in 1875). The exact location is unknown. The database lists this occurrence as possibly extirpated based on development in the area.
<i>Arctostaphylos hookeri</i> ssp. <i>montana</i> Mt. Tamalpais Manzanita	1B	Chaparral, valley and foothill grassland/serpentine, rocky. February-April	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 2.26 miles from the project site.
<i>Arctostaphylos virgata</i> Marin Manzanita	1B	Broadleafed upland forest, closed-cone coniferous forest, chaparral, North Coast coniferous forest on sandstone, or granitic substrates. January-March	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 2.89 miles from the project site.
<i>Calamagrostis crassiglumis</i> <i>Thurber's reed grass</i>	2B	Freshwater marsh habitats. May-July.	Not likely to occur due to prior disturbance and the introduction of non-native vegetation. Closest CNDDDB occurrence is approximately 3.61 miles from the project site.
<i>Calochortus tiburonensis</i> Tiburon mariposa-lily	FT/ST	Open, rocky slopes in serpentine grassland. March-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 3.20 miles from the project site.
<i>Castilleja affinis</i> ssp. <i>neglecta</i> Tiburon paintbrush	FE/ST	Rocky serpentine sites in grasslands. April-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 3.21 miles from the Plan area.
<i>Chloropyron maritimum</i> ssp. <i>palustre</i> Point Reyes bird's-beak	1B	Marshes and swamps (coastal salt), usually in coastal salt marsh with <i>Salicornia</i> , <i>Distichlis</i> , <i>Jaumea</i> and <i>Spartina</i> ; 0-10 meters. June-October	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 0.35 mile from the project site based on an 1863 record from San Rafael. The database notes that this occurrence is probably extirpated.
<i>Chorizanthe cuspidata</i> var. <i>cuspidate</i> San Francisco Bay spineflower	1B	Sandy soil on terraces and slopes in coastal bluff, coastal dunes, coastal scrub, and coastal prairie habitat. April-July (August rarely)	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 3.61 miles from the project site.

Table 1: Special-Status Plant Species Known to Occur or Potentially Occur in the Project Vicinity

Species	Status ^a	Habitat/Blooming Period	Potential for Occurrence
<i>Cirsium hydrophilum</i> var. <i>vaseyi</i> Mt. Tamalpais thistle	1B	Serpentine seeps and streams in chaparral and woodland. May-August	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 4.55 miles from the project site.
<i>Eriogonum luteolum</i> var. <i>caninum</i> Tiburon buckwheat	1B	Serpentine soils; sandy to gravelly sites. May-September	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is approximately 1.03 miles from the project site, in the San Rafael hills.
<i>Fissidens pauperculus</i> Minute pocket moss	1B	Moss growing on damp soil in coniferous forests along the coast; in dry streambeds and stream banks.	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is a record from an unknown location approximately 4.05 miles from the project site.
<i>Gilia millefoliata</i> Dark-eyed gilia	1B	Coastal dunes. April-July.	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is 4.90 miles from the project site.
<i>Helianthella castanea</i> Diablo helianthella	1B	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, valley and foothill grassland. March-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is 3.17 miles from the project site.
<i>Hemizonia congesta congesta</i> Congested-headed hayfield tarplant	1B	Coastal scrub and Valley grassland habitats. Some affinity for serpentine soils. April-November.	Not likely to occur due to prior disturbance and the introduction of non-native vegetation. Closest CNDDDB record is 2.92 miles from the project site.
<i>Hesperolinon congestum</i> Marin western flax	FT/ST	Serpentine barrens and serpentine grassland and chaparral. April-July	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is a 1880s record from an unknown location, approximately 0 miles from the project site in San Rafael.
<i>Holocarpha macradenia</i> Santa Cruz tarplant	FT/SE	Light, sandy soil or sandy clay, often with non-natives in coastal prairie and grasslands. June-October	Not likely to occur due to prior disturbance and the introduction of non-native vegetation. Closest CNDDDB record is an 1883 record from an unknown location, approximately 1.22 miles from the project site in the vicinity of Ross.
<i>Horkelia tenuiloba</i> Thin-lobed horkelia	1B	Broadleafed upland forest, chaparral, valley and foothill grassland on sandy soils, mesic openings. May-July	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is approximately 4.13 miles from the project site.

Table 1: Special-Status Plant Species Known to Occur or Potentially Occur in the Project Vicinity

Species	Status ^a	Habitat/Blooming Period	Potential for Occurrence
<i>Kopsiopsis hookeri</i> Small groundcone	2	Open woods, shrubby places, generally on <i>Gaultheria shallon</i> . April-August	Not likely to occur due to the absence of suitable habitat. <i>Gaultheria shallon</i> not present at site. Closest CNDDDB record is 2.99 miles from the project site.
<i>Lessingia micradenia</i> var. <i>micradenia</i> Tamalpais lessingia	1B	Usually on serpentine, in serpentine grassland or chaparral, often on roadsides. (June rarely) July-October	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is from a population last observed in 1960 at Phoenix Lake, approximately 2.78 miles from the project site.
<i>Microseris paludosa</i> Marsh microseris	1B	Closed-cone coniferous forest, cismontane woodland, coastal scrub, valley and foothill grassland. April-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is in Corte Madera, 1.58 miles from the project site.
<i>Navarretia rosulata</i> Marin County navarretia	1B	Closed-cone coniferous forest and chaparral on serpentinite. May-July	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is 4.94 miles from the project site.
<i>Pentachaeta bellidiflora</i> White-rayed pentachaeta	FE/SE	Cismontane woodland, valley and foothill grassland on open, dry rocky slopes and grassy areas, often on serpentinite. March-May	Not likely to occur due to the absence of suitable habitat. Closest extant CNDDDB record is recorded as 0 miles from the project site, but is noted as an extirpated population last seen in the Greenbrae hills in 1946.
<i>Plagiobothrys glaber</i> Hairless popcorn-flower	1A	Coastal salt marshes, alkaline meadows, and seeps. March-May	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is approximately 4.44 miles from the project site.
<i>Pleuropogon hooverianus</i> North Coast semaphore grass	ST	Wet grassy, usually shady areas, sometimes in freshwater marsh, associated with forest environments. April-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is a 1940s record of a possibly extirpated population near Lake Lagunitas, approximately 2.92 miles from the Plan area.
<i>Quercus parvula</i> var. <i>tamalpaisensis</i> Tamalpais oak	1B	Lower montane coniferous forest. March-April	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is 3.15 miles from the project site.
<i>Sidalcea calycosa</i> ssp. <i>rhizomata</i> Point Reyes checkerbloom	1B	Freshwater marshes near the coast. April-September	Not likely to occur due to prior disturbance and the introduction of non-native vegetation. Closest CNDDDB record is approximately 3.67 miles from the project site.

Table 1: Special-Status Plant Species Known to Occur or Potentially Occur in the Project Vicinity

Species	Status ^a	Habitat/Blooming Period	Potential for Occurrence
<i>Streptanthus batrachopus</i> Tamalpais jewel-flower	1B	Closed-cone coniferous forest, chaparral, Talus serpentine outcrops. April-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is approximately 4.08 miles from the project site.
<i>Streptanthus glandulosus ssp. pulchellus</i> Mount Tamalpais bristly jewel-flower	1B	Serpentine slopes. May-July (August rarely)	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is approximately 4.86 miles from the project site.
<i>Trifolium amoenum</i> Showy Rancheria clover	FE/1B	Coastal bluff scrub, valley and foothill grassland, sometimes on serpentinite. April-June	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB record is approximately 2.56 miles from the project site.
<i>Triquetrella californica</i> Coastal triquetrella	1B	Grows within 30 miles from the coast in coastal scrub, grasslands, and in open gravels on roadsides, hillsides, rocky slopes.	Not likely to occur due to prior disturbance and the introduction of non-native vegetation. Closest CNDDDB occurrence is 3.58 miles from the project site.
^a Status: FE = federally endangered FT = federally threatened SE = State endangered ST = State threatened 1A = CRPR List 1A: Presumed extinct in California 1B = CRPR List 1B: Rare, threatened or endangered in California and elsewhere 2 = CRPR List 2: Rare, threatened, or endangered in California, but more common elsewhere Source: Compiled by LSA Associates, Inc., 2017. Nearest records are based on CNDDDB (2017) occurrences unless otherwise noted.			

Table 2: Special-Status Animal Species Known to Occur or Potentially Occur in the Vicinity of the Project Site

Species	Status ^a	Habitat	Potential for Occurrence within Plan Area
Invertebrates			
<i>Icaricia icarioides missionensis</i> Mission blue butterfly	FE	Coast scrub. Associated with perennial lupine host plants <i>Lupinus albifrons</i> , <i>L. variicolor</i> , and <i>L. formosus</i> .	Not likely to occur due to the absence of suitable habitat and lack of host plants. No CNDDDB records within 5 miles of the project site.
<i>Speyeria zerene myrtleae</i> Myrtle's silverspot butterfly	FE	Coastal dunes, scrub, and grassland. Associated with host plant <i>Viola adunca</i> .	Not likely to occur due to the absence of suitable habitat and lack of host plants. No CNDDDB records within 5 miles of the project site.
<i>Callophrys mossii bayensis</i> San Bruno elfin butterfly	FE	Coastal mountainous areas with grassy ground cover within the fog belt. Associated with host plant <i>Sedum spathulifolium</i> .	Not likely to occur due to the absence of suitable habitat and lack of host plant. Closest CNDDDB occurrence is approximately 4.83 miles from the project site.
Fish			
<i>Acipenser medirostris</i> Green sturgeon	FT, CSC	Oceanic waters, bays, and estuaries; spawns in deep pools in large, turbulent freshwater river mainstems; known to forage in estuaries and bays from San Francisco Bay to British Columbia.	Not likely to occur in San Rafael Creek due to poor habitat quality. Excluded from the unnamed drainage adjacent to the project site by tidal gates. May occur in San Pablo Bay, 1.5 miles from the project site.
<i>Hypomesus transpacificus</i> Delta smelt	FT, SE	Sacramento-San Joaquin Delta at salinities less than 2 ppm. Generally not found in smaller freshwater streams.	Not likely to occur due to the absence of suitable habitat. The project site is outside of the known spawning range in tributaries to San Francisco Bay. No CNDDDB records within 5 miles of the project site.
<i>Spirinchus thaleichthys</i> Longfin smelt	FC, ST	Bays, estuaries, and nearshore coastal environments from San Francisco north to the Oregon border. Spawns in low salinity or freshwater reaches of coastal rivers and tributaries.	Not likely to occur in San Rafael Creek due to poor habitat quality. Excluded from the unnamed drainage adjacent to the project site by tidal gates. Known to occur in San Pablo Bay and tributaries to San Pablo/San Francisco Bay. Closest CNDDDB occurrence is in San Pablo Bay, approximately 3.24 miles from the project site.
<i>Thaleichthys pacificus</i> Eulachon (Southern DPS ^c)	FT	Anadromous smelt inhabiting ocean waters from the southern Bering Sea to Northern California. Most spawning occurs within tidal influence in habitats with moderate water velocities, small substrate (gravel or semi-sandy), and woody or other debris.	Not likely to occur in San Rafael Creek due to poor habitat quality. Excluded from the unnamed drainage adjacent to the project site by tidal gates. Closest CNDDDB occurrence is 4.05 miles from the project site in San Pablo Bay. However, this species is not known to spawn south of Humboldt Bay tributaries in northern California.

Table 2: Special-Status Animal Species Known to Occur or Potentially Occur in the Vicinity of the Project Site

Species	Status ^a	Habitat	Potential for Occurrence within Plan Area
<i>Oncorhynchus mykiss</i> Steelhead (Central California Coast ESU)	FT	Coastal streams from Russian River south to Aptos Creek (Santa Cruz Co.), including streams tributary to San Pablo/San Francisco Bay.	Not likely to occur due to the absence of suitable habitat. Not known to occur in San Rafael Creek. The project site does not fall within critical habitat. No CNDDDB records within 5 miles of the project site.
<i>Eucyclogobius newberryi</i> Tidewater goby	FE, CSC	Brackish shallow lagoons and lower stream reaches where water is fairly still but not stagnant.	Not likely to occur. Closest CNDDDB record is of an extirpated population recorded in 1961 approximately 1.34 miles from the project site in Corte Madera Creek. Species is considered extirpated in the region.
Amphibians and Reptiles			
<i>Dicamptodon ensatus</i> California Giant Salamander	CSC	Wet, coastal forests in or near clear, cold, permanent and semi-permanent streams and seepages.	Not likely to occur due to the absence of suitable habitat. Closest CNDDDB occurrence is from an unknown location in Corte Madera approximately 1.58 miles from the project site.
<i>Rana draytonii</i> California red-legged frog	FT, CSC	Ponds, streams, drainages and associated uplands; requires areas of deep, still, and/or slow-moving water with emergent vegetation for breeding.	Not likely to occur due to the absence of suitable habitat. Also, the project site is outside of the known range in Marin County. Closest CNDDDB occurrence is approximately 3.21 miles from the project site.
<i>Actinemys marmorata</i> Western pond turtle	CSC	Ponds, streams with deep pools, drainages and associated uplands for egg laying.	May occur along the unnamed drainage channel or in San Rafael Creek although the habitat is only marginally suitable. Closest CNDDDB occurrence is in Phoenix Lake, approximately 2.96 miles from the project site.
<i>Chelonia mydas</i> Green Sea Turtle	FT	Bays and protected shores along coastlines, especially in areas with sea grass beds. Sandy beaches for nesting.	Not likely to occur due to the absence of suitable foraging habitat. Green sea turtles are uncommon along the California coast and are not known to nest on the U.S. West Coast. No CNDDDB records within 5 miles of the project site.
Birds			
<i>Diomedea albatrus</i> Short-tailed albatross	FE	Sloping, grassy terraces for nesting. Open ocean for foraging and wintering.	No potential to occur due to the absence of suitable nesting and foraging habitat. No CNDDDB records within 5 miles of the project site.
<i>Laterallus jamaicensis coturniculus</i> California black rail	FT, CFP	Salt marshes bordering larger bays, also found in brackish and freshwater marshes.	Not likely to occur due to the absence of suitable habitat at the project site; there is no salt marsh present at the site and freshwater marsh is too small and fragmented to provide suitable cover. Closest CNDDDB occurrence is approximately 1.19 miles from the project site at the mouth of San Rafael Creek.

Table 2: Special-Status Animal Species Known to Occur or Potentially Occur in the Vicinity of the Project Site

Species	Status ^a	Habitat	Potential for Occurrence within Plan Area
<i>Rallus obsoletus obsoletus</i> California Ridgway's rail	FE, SE, CFP	Tidal salt marshes with sloughs and substantial cordgrass (<i>Spartina</i> sp.) cover.	Not likely to occur due to the absence of suitable habitat; there is no salt marsh habitat at the project site. Closest CNDDDB occurrence is approximately 1.28 miles from the project site, near the Corte Madera Creek mouth.
<i>Charadrius alexandrinus nivosus</i> Western snowy plover	FT	Sandy ocean and estuarine beaches. Also nests on salt pond levees.	Not likely to occur due to the absence of suitable nesting and foraging habitat. No CNDDDB records within 5 miles of the project site.
<i>Sternula antillarum browni</i> California least tern	FE, SE, CFP	Coastal estuaries, lagoons, tidal flats, salt flats.	Not likely to occur due to the absence of suitable nesting and foraging habitat. No CNDDDB records within 5 miles of the project site.
<i>Brachyramphus marmoratus</i> Marbled murrelet	FT, SE	Mature forests near coastlines for nesting. Bays, sounds, saltwater passageways for foraging and wintering.	No potential to occur due to the absence of suitable nesting and foraging habitat. No CNDDDB records within 5 miles of the project site.
<i>Strix occidentalis caurina</i> Northern spotted owl	FT, ST	Dense forest areas for nesting and foraging.	No potential to occur due to the absence of suitable nesting and foraging habitat.
<i>Athene cunicularia</i> Burrowing owl	CSC	Open, dry grasslands that contain abundant ground squirrel burrows.	Not likely to occur due to the absence of suitable habitat; there are no areas of rock rip-rap suitable for burrowing owls along the unnamed channel or San Rafael Creek and no areas of extensive grassland. Existing ruderal vegetation is too tall to provide optimal habitat. Closest CNDDDB occurrence is 4.19 miles from the project site.
<i>Melospiza melodia samuelis</i> San Pablo (Samuels) song sparrow	CSC	Tidal salt marshes dominated by pickleweed; nests primarily in pickleweed and marsh gumplant.	Not likely to occur due to the absence of suitable habitat; there is no salt marsh at the project site. Closest CNDDDB occurrence is approximately 0.35 mile from the project site from collections made in 1901 and 1945. The location was noted only as San Rafael.

Table 2: Special-Status Animal Species Known to Occur or Potentially Occur in the Vicinity of the Project Site

Species	Status ^a	Habitat	Potential for Occurrence within Plan Area
Mammals			
<i>Antrozous pallidus</i> Pallid bat	CSC	A variety of open arid habitats (e.g., chaparral, open woodland, deserts); primary roost sites include bridges, old buildings, and in tree hollows and/or bark; sometimes roost in caves and rock crevices.	May occur under bridges in the project vicinity and forage over San Rafael Creek and the unnamed drainage channel. Closest CNDDDB occurrence is from a specimen collected in 1891 from an unknown location in San Rafael and recorded as 0 miles from the project site.
<i>Reithrodontomys raviventris</i> Salt marsh harvest mouse	FE, SE, CFP	Tidal salt marshes of San Francisco Bay and its tributaries. Requires tall, dense pickleweed for cover.	Not likely to occur due to the absence of suitable habitat; there is no salt marsh at the project site. Closest CNDDDB occurrence is approximately 0.92 mile from the project site, at the end of Kerner Blvd. in San Rafael.

^a Status:
FE = federally endangered
FT = federally threatened
SE = State endangered
ST = State threatened
CSC = California Species of Special Concern
CFP = California Fully Protected Species

^b ESU = Evolutionarily Significant Unit

^c DPS=Distinct Population Segment

5.0 AVOIDANCE, MINIMIZATION, AND MITIGATION MEASURES

The following mitigation measures should be implemented to reduce potential impacts on special-status species and Waters of the U.S. and State:

Mitigation Measure BIO-1: In order to limit the potential for sediment laden or turbid runoff from discharges into San Rafael Creek and thence into San Pablo Bay downstream, in-water work should be restricted to low-flow periods between July 1 and November 30, unless otherwise specified by appropriate agencies. This window can be extended based on creek and river conditions, if approved in writing by the National Marine Fisheries Service (NMFS). Work from the banks, trestle, falsework, and inside closed coffer dams can occur year-round.

Mitigation Measure BIO-2: A Storm Water Pollution Prevention Plan (SWPPP) should be prepared and implemented in accordance with Regional Water Quality Control Board (RWQCB) standards and requirements, as well as those of the City of San Rafael and Marin County.

Mitigation Measure BIO-3: To the extent feasible, trees and shrubs in the construction zones should be trimmed or removed between September 1 and January 31 to reduce potential impacts on nesting birds. If tree and shrub removal and/or initial ground disturbance work is conducted during the period from February 1 to August 31, a qualified wildlife biologist shall conduct a preconstruction survey for nesting birds. If tree/shrub removal or initial ground disturbance work does not commence within 10 days of the nesting bird survey, or if such work does not commence in all areas of the project site within 10 days, then the nesting survey will need to be repeated. If an active nest is found, the bird shall be identified to species and the approximate distance from the closest work site to the nest estimated. No additional measures need be implemented if active nests are more than the following distances from the nearest work site: (a) 300 feet for raptors; or (b) 75 feet for other non-special-status bird species. If active nests are closer than those distances to the nearest work site and there is the potential for destruction of a nest or substantial disturbance to nesting birds due to construction activities, the biologist shall prepare a plan to establish an adequate buffer zone around the nest and to monitor nesting birds during construction. Disturbance of active nests shall be avoided to the extent possible until the biologist determines that the nests are no longer active.

Mitigation Measure BIO-4: A qualified biologist shall conduct a preconstruction survey for western pond turtle no more than 30 days prior to construction along the drainage ditch within the project corridor, including beneath all crossings. If the species is determined to be present in work areas, the biologist, with prior approval from the California Department of Fish and Wildlife (CDFW), may capture turtles prior to construction activities and relocate them to nearby, suitable habitat off site.

Mitigation Measure BIO-5: A qualified biologist shall conduct a preconstruction survey for roosting bats at all culvert and bridge crossings along and adjacent to the corridor. If the biologist determines that construction work has the potential to directly or indirectly disturb roosting bats, then CDFW shall be consulted as to appropriate impact avoidance and minimization measures. No work may occur within a 100-foot radius of a roosting site until the CDFW consultation process has been

completed and the agreed-upon avoidance/minimization measures have been implemented under the biologist's supervision.

Mitigation Measure BIO-6: A detailed wetland Mitigation and Monitoring Plan (MMP) shall be prepared and submitted to the Corps of Engineers, RWQCB, and CDFW as part of the required permit applications to these agencies under Sections 401 and 404 of the Federal Clean water Act and Section 1602 of the California Fish and Game Code. To off-set direct wetland impacts at a minimum 1:1 replacement ratio, the MMP should provide detailed designs, performance criteria, and monitoring methods for drainage channel re-establishment at a driveway removal site. To off-set potential indirect impacts from shading, the MMP should include an appropriate shade-tolerant bank channel re-seeding plan for all channel bank areas disturbed by the cantilevered sections. The MMP should also include a native riparian tree planting plan in selected locations encompassing at least 2,170 square feet of channel bank.

Mitigation Measure BIO-7: A tree planting plan entailing the planting of six native trees (resulting in a 3:1 replacement ratio) should be prepared and implemented. The plan may include trees needed for implementation of mitigation measure BIO-6 above. The planted trees should be monitored for three years following planting to verify that trees have successfully reestablished.

Mitigation Measure BIO-8: To offset the direct impacts of the 716-square foot fill section and the ten piles needed to support the cantilevered portion of the pathway, an existing culvert/driveway approximately 300 feet north of Rice Drive will be removed and restored as a drainage channel. A total of approximately 860 square feet of channel will be restored in this location, resulting in an approximate 1:1 replacement ratio.

6.0 REFERENCES

- AECOM. 2013. Draft Biological Resources Technical Report Sonoma-Marin Area Rail Transit Downtown San Rafael-Larkspur Extension. Prepared for SMART. April 2013 [Updated June 2014].
- AECOM. 2014a. Draft Biological Assessment Sonoma–Marin Area Rail Transit Downtown San Rafael-Larkspur Extension. Prepared for SMART and the Federal Transit Administration. November 2014.
- AECOM. 2014b. Draft Preliminary Delineation of Waters of the United States, Including Wetlands. Sonoma –Marin Area Rail Transit Downtown San Rafael-Larkspur Extension. Prepared for SMART. July 2014.
- California Department of Fish and Wildlife (CDFW). California Natural Diversity Database (CNDDB). Biogeographic Data Branch, Sacramento, California. Available on-line at <https://www.wildlife.ca.gov/Explore/Organization/BDB> [Accessed August 11, 2017].
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APPENDIX C

NOISE MEMORANDUM

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MEMORANDUM

DATE: July 21, 2017

To: City of San Rafael

FROM: Amy Fischer, Principal

SUBJECT: Noise Analysis: Francisco Boulevard West Multi-Use Pathway – Second Street to Andersen Drive

INTRODUCTION AND PROJECT DESCRIPTION

This memorandum describes the noise impact analysis completed by LSA Associates, Inc. (LSA) for the Francisco Boulevard West Multi-Use Pathway – Second Street to Andersen Drive Project (proposed project) within the City of San Rafael, California. This report is intended to satisfy the City's requirement for a project-specific noise impact analysis by examining the impacts of the proposed project and evaluating the mitigation measures required by the project.

Project Location and Description

The City of San Rafael (City) proposes to construct a Multi-use Pathway (MUP) within City and Sonoma Marin Area Rail Transit (SMART) right-of-way (ROW). The approximately 4,500-foot MUP would extend from Andersen Drive to the Mahon Creek pathway in the City of San Rafael, Marin County, California. On the southern end of the proposed MUP, at the intersection of Andersen Drive and Francisco Boulevard West, the pathway would connect to the existing SMART pathway to Larkspur and existing bike lanes on Andersen Drive. On the northern end, the proposed MUP would connect to the existing Mahon Creek Trail to the west and to an existing pedestrian bridge/walkway to the north that extends to 2nd Street in downtown San Rafael. Once the entire SMART multi-use pathway (from Cloverdale to Larkspur) is completed, it is expected that 7,000 to 10,000 people would use the MUP daily.

The MUP would consist of an 8- to 10-foot wide paved pathway with associated 2-foot wide shoulders. In addition, the MUP would require installation of a prefabricated bridge (approximately 300 square feet), drainage facilities, retaining walls, railings, fencing, and other minor project elements, such as signage and pavement marking. Construction is expected to commence in late 2017 or early 2018 and require six to nine months to complete, depending on weather and production rates. Construction is anticipated to be concurrent with the SMART rail and Francisco Boulevard West realignment construction.

Construction of the proposed Class I bicycle/pedestrian pathway would require vegetation and top soil removal, roadway excavation and embankment, safety structures, drainage facilities (including

concrete curbs, gutters and inlets), asphalt pavement, pathway structures (bridges over waterways), fencing, retaining walls, signage, and striping. Construction equipment for the work would include backhoes, excavators, graders dump trucks, paving machines and compactors, concrete pumper trucks and drilling equipment for structure piers. The equipment would be similar to that used for road construction but may be smaller in size due to the width of the MUP and the narrow right-of-way, especially for the segment between Andersen Drive and Rice Drive.

CHARACTERISTICS OF SOUND

Noise is usually defined as unwanted sound. Noise consists of any sound that may produce physiological or psychological damage and/or interfere with communication, work, rest, recreation, and sleep.

To the human ear, sound has two significant characteristics: pitch and loudness. Pitch is generally an annoyance, while loudness can affect the ability to hear. Pitch is the number of complete vibrations, or cycles per second, of a wave resulting in the tone's range from high to low. Loudness is the strength of a sound that describes a noisy or quiet environment and is measured by the amplitude of the sound wave. Loudness is determined by the intensity of the sound waves combined with the reception characteristics of the human ear. Sound intensity refers to how hard the sound wave strikes an object, which in turn produces the sound's effect. This characteristic of sound can be precisely measured with instruments. The analysis of a project defines the noise environment of the project area in terms of sound intensity and its effect on adjacent sensitive land uses.

Measurement of Sound

Sound intensity is measured through the A-weighted scale to correct for the relative frequency response of the human ear. That is, an A-weighted noise level de-emphasizes low and very high frequencies of sound similar to the human ear's de-emphasis of these frequencies. Unlike linear units, such as inches or pounds, decibels are measured on a logarithmic scale representing points on a sharply rising curve.

For example, 10 decibels (dB) are 10 times more intense than 1 dB, 20 dB are 100 times more intense, and 30 dB are 1,000 times more intense. Thirty dB represents 1,000 times as much acoustic energy as one decibel. The decibel scale increases as the square of the change, representing the sound pressure energy. A sound as soft as human breathing is about 10 times greater than 0 dB. The decibel system of measuring sound gives a rough connection between the physical intensity of sound and its perceived loudness to the human ear. A 10 dB increase in sound level is perceived by the human ear as only a doubling of the loudness of the sound. Ambient sounds generally range from 30 dB (very quiet) to 100 dB (very loud).

Sound levels are generated from a source, and their decibel level decreases as the distance from that source increases. Sound dissipates exponentially with distance from the noise source. For a single point source, sound levels decrease approximately 6 dB for each doubling of distance from the source. This drop-off rate is appropriate for noise generated by stationary equipment. If noise is produced by a line source, such as highway traffic or railroad operations, the sound decreases 3 dB for each doubling of distance in a hard site environment. Line source, noise in a relatively flat environment with absorptive vegetation, decreases 4.5 dB for each doubling of distance.

There are many ways to rate noise for various time periods, but an appropriate rating of ambient noise affecting humans also accounts for the annoying effects of sound. Equivalent continuous sound level (L_{eq}) is the total sound energy of time varying noise over a sample period. However, the predominant rating scales for human communities in the State of California are the L_{eq} and community noise equivalent level (CNEL) or the day-night average level (L_{dn}) based on A-weighted decibels (dBA). CNEL is the time varying noise over a 24-hour period, with a 5 dBA weighting factor applied to the hourly L_{eq} for noises occurring from 7:00 p.m. to 10:00 p.m. (defined as relaxation hours) and 10 dBA weighting factor applied to noise occurring from 10:00 p.m.–7:00 a.m. (defined as sleeping hours). L_{dn} is similar to the CNEL scale but without the adjustment for events occurring during the evening hours. CNEL and L_{dn} are within 1 dBA of each other and are normally exchangeable. The City uses the CNEL noise scale for long-term noise impact assessment.

Other noise rating scales of importance when assessing the annoyance factor include the maximum noise level (L_{max}), which is the highest exponential time averaged sound level that occurs during a stated time period. The noise environments discussed in this analysis for short-term noise impacts are specified in terms of maximum levels denoted by L_{max} . L_{max} reflects peak operating conditions and addresses the annoying aspects of intermittent noise. It is often used together with another noise scale, or noise standards in terms of percentile noise levels, in noise ordinances for enforcement purposes. For example, the L_{10} noise level represents the noise level exceeded 10 percent of the time during a stated period. The L_{50} noise level represents the median noise level. Half the time the noise level exceeds this level, and half the time it is less than this level. The L_{90} noise level represents the noise level exceeded 90 percent of the time and is considered the background noise level during a monitoring period. For a relatively constant noise source, the L_{eq} and L_{50} are approximately the same.

Noise impacts can be described in three categories. The first is audible impacts that refer to increases in noise levels noticeable to humans. Audible increases in noise levels generally refer to a change of 3.0 dB or greater because this level has been found to be barely perceptible in exterior environments. The second category, potentially audible, refers to a change in the noise level between 1.0 and 3.0 dB. This range of noise levels has been found to be noticeable only in laboratory environments. The last category is changes in noise levels of less than 1.0 dB, which are inaudible to the human ear. Only audible changes in existing ambient or background noise levels are considered potentially significant.

Physiological Effects of Noise

Physical damage to human hearing begins at prolonged exposure to noise levels higher than 85 dBA. Exposure to high noise levels affects the entire system, with prolonged noise exposure in excess of 75 dBA increasing body tensions, thereby affecting blood pressure and functions of the heart and the nervous system. In comparison, extended periods of noise exposure above 90 dBA would result in permanent cell damage. When the noise level reaches 120 dBA, a tickling sensation occurs in the human ear even with short-term exposure. This level of noise is called the threshold of feeling. As the sound reaches 140 dBA, the tickling sensation is replaced by the feeling of pain in the ear. This is called the threshold of pain. A sound level of 160–165 dBA will result in dizziness or loss of equilibrium. The ambient or background noise problem is widespread and generally more concentrated in urban areas than in outlying less developed areas.

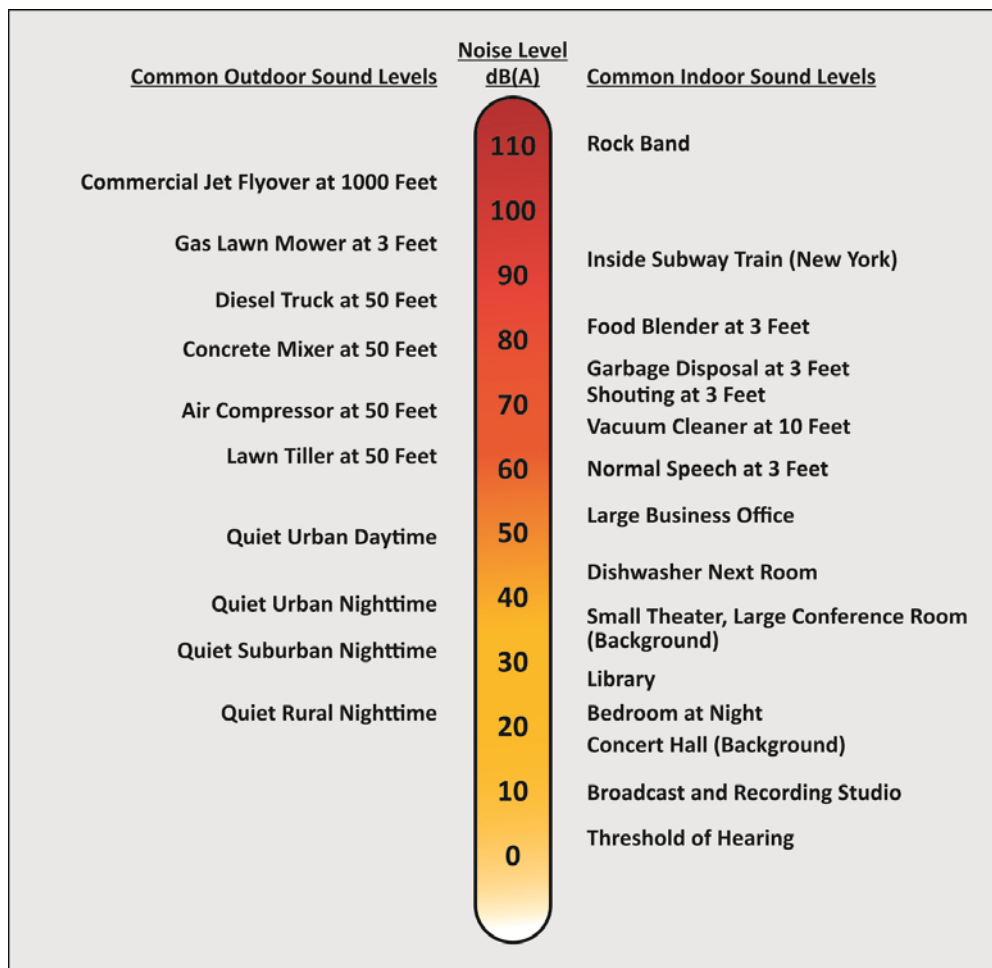
Table 1 lists definitions of acoustical terms, and Table 2 shows common sound levels and their sources.

Table 1: Definitions of Acoustical Terms

Term	Definitions
Decibel, dB	A unit of level that denotes the ratio between two quantities proportional to power, the number of decibels is 10 times the logarithm (to the base 10) of this ratio.
Frequency, Hz	Of a function periodic in time, the number of times that the quantity repeats itself in one second (i.e., number of cycles per second).
A-Weighted Sound Level, dBA	The sound level obtained by use of A-weighting. The A-weighting filter deemphasizes the very low and very high frequency components of the sound in a manner similar to the frequency components of the sound in a manner similar to the frequency response of the human ear and correlates well with subjective reactions to noise. All sound levels in this assessment are A-weighted, unless reported otherwise.
L_{01} , L_{10} , L_{50} , L_{90}	The fast A-weighted noise levels equaled or exceeded by a fluctuating sound level for 1 percent, 10 percent, 50 percent, and 90 percent of a stated time period.
Equivalent Continuous Noise Level, L_{eq}	The level of a steady sound that, in a stated time period and at a stated location, has the same A-weighted sound energy as the time varying sound.
Community Noise Equivalent Level, CNEL	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 5 dB to sound levels occurring in the evening from 7:00 p.m. to 10:00 p.m. and after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
Day/Night Noise Level, L_{dn}	The 24-hour A-weighted average sound level from midnight to midnight, obtained after the addition of 10 dB to sound levels occurring in the night between 10:00 p.m. and 7:00 a.m.
L_{max} , L_{min}	The maximum and minimum A-weighted sound levels measured on a sound level meter, during a designated time interval, using fast time averaging
Ambient Noise Level	The all-encompassing noise associated with a given environment at a specified time, usually a composite of sound from many sources at many directions, near and far; no particular sound is dominant.
Intrusive	The noise that intrudes over and above the existing ambient noise at a given location. The relative intrusiveness of a sound depends upon its amplitude, duration, frequency, and time of occurrence and tonal or informational content, as well as the prevailing ambient noise level.

Source: Harris, Cyril M. *Handbook of Acoustical Measurements and Noise Control* (1991).

Table 2: Common Sound Levels and Noise Sources



Source: LSA, Associates, Inc., 2016.

REGULATORY SETTING

City of San Rafael General Plan

The City of San Rafael's Noise Element of the General Plan¹ seeks to limit the impacts of noise on residents and employees in two ways. First, the General Plan contains standards to determine the suitability of new land uses depending upon the extent of noise exposure in the area. Second, General Plan policies limit the extent of new noise sources that proposed development can add to existing noise levels in the surrounding area and through implementation of the City's Noise Ordinance. The following policies and programs from the Noise Element are applicable to the proposed project.

¹ San Rafael, City of, 2013. *The City of San Rafael General Plan 2020: Noise Element*. January 18.

- **Policy N-2: Planning and Design of New Development.** Encourage new development to be planned and designed to minimize noise impacts from outside noise sources.
 - **Program N-3a Noise Mitigation.** Require, where appropriate, the following mitigation measures to minimize noise impacts on proposed development projects:
 3. **Noise Barriers.** Absorptive types of noise barriers or walls should be used to reduce noise levels from ground transportation noise sources and industrial sources. A barrier must interrupt the line of sight between the noise source and the receiver in order to reduce noise level both outdoors and indoors. A barrier should provide at least L_{dn} 5 dB of noise reduction to achieve a noticeable change in noise levels.
 4. **Construction Modifications.** If site planning, architectural layout, noise barriers, or a combination of these measures does not achieve the required noise reduction, then mitigation should be facilitated through construction modification to walls, roofs, ceilings, doors, windows.
 5. **Alternatives to Sound Walls.** Encourage new development to identify alternatives to the use of sound walls to ease noise impacts.
- **Policy N-4: Noise from New Nonresidential Development.** Design nonresidential development to minimize noise impacts on neighboring uses.
 - a. **Performance Standards for Uses Affecting Residential Districts.** New nonresidential development shall not increase noise levels in a residential district by more than L_{dn} 3 dB, or create noise impacts that would increase noise levels to more than L_{dn} 6 dB at the property line of the noise receiving use, whichever is the more restrictive standard.
 - b. **Performance Standards for Uses Affecting Nonresidential and Mixed Use Districts.** New nonresidential projects shall not increase noise levels in a nonresidential or mixed-use district by more than L_{dn} 5 dB, or create noise impacts that would increase noise levels to more than L_{dn} 65 dB (Office, Retail) or L_{dn} 70 dB (Industrial), at the property line of the noise receiving use, whichever is the more restrictive standard.
 - c. **Waiver.** These standards may be waived if, as determined by an acoustical study, there are mitigating circumstances (such as higher existing noise levels), and no uses would be adversely affected.
 - **Program N-4a: Require Acoustical Study.** Identify through an acoustical study noise mitigation measures to be designed and built into two nonresidential and mixed-use development, and encourage absorptive types of mitigation measures between noise sources and residential districts.

- **Policy N-6: Traffic Noise.** Attempt to minimize traffic noise through land use policies, law enforcement, and street improvements.
 - **Program N-6a: Traffic Noise Studies.** Require acoustical studies to evaluate potential off-site noise impacts resulting from traffic generated by new development.
 - **Program N-6c: Coordination with Local and State Agencies.** Coordinate with CalTrans, Marin Countywide Planning Agency, Congestion Management Agency and other agencies to achieve noise reduction along Pt. San Pedro Road, Highways 101 and 580, and the Sonoma Marin Area Rail Transit corridor.
 - **Program N-6e. Street Improvements.** Pursue feasible cost-effective new street paving technologies to minimize traffic noise.
- **Policy N-8. Sonoma Marin Area Rail Transit.** If a commuter rail service or other use is developed along the Sonoma Marin Area Rail Transit right-of-way, minimize noise impacts on existing development.
 - **Program N-8a. Future Transitway Mitigation Measures.** A detailed noise assessment and appropriate mitigation measures should be prepared for any rail project on the Sonoma Marin Area Rail Transit right-of-way. The analysis should address the City's noise standards and the Federal Transit Administrations (FTA) guidelines.

City of San Rafael Municipal Code

The City of San Rafael's Municipal Code addresses noise in Chapter 8.13 Noise and in Section 14.16.260 Noise Standards.²

Chapter 8.13.050. On any construction project on property within the city, construction, alteration, demolition, maintenance of construction equipment, deliveries of materials or equipment, or repair activities otherwise allowed under applicable law shall be allowed between the hours of seven a.m. (7:00 a.m.) and six p.m. (6:00 p.m.), Monday through Friday, and nine a.m. (9:00 a.m.) and six p.m. (6:00 p.m.) on Saturdays, provided that the noise level at any point outside of the property plane of the project shall not exceed ninety (90) dBA. All such activities shall be precluded on Sundays and holidays.

Chapter 14.16.260. Any new development located in a "conditionally acceptable" or "normally unacceptable" noise exposure area, based on the land use compatibility chart standards in the general plan, shall require an acoustical analysis. Noise mitigation features shall be incorporated where needed to assure consistency with general plan standards. New construction is prohibited in noise exposure areas where the land use compatibility chart indicates the noise exposure is "clearly unacceptable."

² San Rafael, City of, 2017. *San Rafael, California – Code of Ordinances*. January 25.

Development Adjacent to Residential Areas. New nonresidential construction adjacent to residential areas shall not increase noise levels in a residential area by more than three (3) dBA (L_{dn}), or create noise impacts which would increase noise levels to more than sixty (60) dBA (L_{dn}) at the boundary of a residential area, whichever is the more restrictive standard. This standard may be waived by the planning director if, as determined by a noise analysis, there are mitigating circumstances (such as higher existing noise levels), and no uses would be adversely affected.

Development Adjacent to Commercial, Mixed Use, and Industrial Districts. New nonresidential development shall not increase noise levels in a commercial area by more than five (5) dBA (L_{dn}), or create noise impacts which would increase noise levels to more than sixty-five (65) dBA (L_{dn}) for office, retail or mixed use districts, or seventy (70) dBA (L_{dn}) for industrial districts, at the property line of the noise receiving use, whichever is the more restrictive standard. This standard may be waived by the planning director if, as determined by a noise analysis, there are mitigating circumstances (such as higher existing noise levels), and no uses would be adversely affected.

THRESHOLDS OF SIGNIFICANCE

Based on Guidelines for the Implementation of the California Environmental Quality Act, (CEQA) Appendix G, Public Resource Code §15000–15387, a project will normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and the goals of the community in which it is located. The applicable noise standards governing the project site are the criteria in the City's Noise Element of the General Plan and its Noise Ordinance.

EXISTING SETTING

Overview of the Existing Noise Environment

In the City of San Rafael, vehicular traffic on the roadways is the single largest source of noise. Airplanes and mechanical equipment are also contributors, as are intermittent sources such as leaf blowers and construction equipment. Average noise levels are highest along Highways 101 and 580 and along major traffic corridors. Noise from motor vehicles is generated by engine vibrations, the interaction between the tires and the road, and the exhaust systems. Airport related noise levels are primarily associated with aircraft engine noise made while aircraft are taking off, landing, or running their engines while still on the ground. The proposed project is not within the 65 dBA CNEL contour of the San Rafael Airport located approximately 3 miles north or the Gness Field Airport located approximately 12 miles north. Operational rail noise is also a source of noise in San Rafael. Sonoma Marin Area Rail Transit (SMART) will provide two stops in San Rafael at the Marin Civic Center and Downtown. The proposed project will be located within the SMART ROW.

Existing Sensitive Land Uses in the Project Vicinity

Sensitive receptors include residences, schools, hospitals, churches, and similar uses that are sensitive to noise. Project construction and operation could adversely affect nearby noise-sensitive land uses. The closest sensitive receptors to the project site are the multi-family residences located approximately 300 feet west of the proposed alignment. Properties adjacent to the proposed MUP

alignment consist primarily of commercial and industrial uses, including a self-storage facility, several car dealerships, a building materials supply facility, and various retail businesses.

IMPACTS

A project would normally have a significant effect on the environment related to noise if it will substantially increase the ambient noise levels for adjoining areas or conflict with adopted environmental plans and goals of the community in which it is located. The applicable noise standards governing the project site include the City's Noise Element of the General Plan and the Municipal Code.

Short-Term Construction Noise Impacts

The closest sensitive receptors to the project site are the multi-family residences located approximately 300 feet west of the proposed alignment. Project construction would result in short-term noise impacts on these receptors. Maximum construction noise would be short-term, generally intermittent depending on the construction phase, and variable depending on receiver distance from the active construction zone. The duration of noise impacts generally would be from one day to several days depending on the phase of construction. The entire construction duration is expected to occur for approximately 6 to 9 months. The level and types of noise impacts that would occur during construction are described below.

Short-term noise impacts would occur during grading and site preparation activities. Table 3 lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Construction-related short-term noise levels would be higher than existing ambient noise levels currently in the project area but would no longer occur once construction of the project is completed.

Table 3: Noise Emission Reference Levels and Usage Factors

Equipment Description	Acoustical Usage Factor ¹	Predicted L _{max} at 50 feet (dBA, slow) ²	Actual Measured L _{max} at 50 feet (dBA, slow) ³
All Other Equipment > 5 HP	50	85	N/A ⁴
Auger Drill Rig	20	85	84
Backhoe	40	80	78
Bar Bender	20	80	N/A
Blasting	N/A	94	N/A
Boring Jack Power Unit	50	80	83
Chain Saw	20	85	84
Clam Shovel (dropping)	20	93	87
Compactor (ground)	20	80	83
Compressor (air)	40	80	78
Concrete Batch Plant	15	83	N/A
Concrete Mixer Truck	40	85	79
Concrete Pump Truck	20	82	81
Concrete Saw	20	90	90
Crane	16	85	81
Dozer	40	85	82

Table 3: Noise Emission Reference Levels and Usage Factors

Equipment Description	Acoustical Usage Factor ¹	Predicted L _{max} at 50 feet (dBA, slow) ²	Actual Measured L _{max} at 50 feet (dBA, slow) ³
Drill Rig Truck	20	84	79
Drum Mixer	50	80	80
Dump Truck	40	84	76
Excavator	40	85	81
Flat Bed Truck	40	84	74
Front-End Loader	40	80	79
Generator	50	82	81
Generator (< 25 kVA, VMS Signs)	50	70	73
Gradall	40	85	83
Grader	40	85	N/A
Grapple (on backhoe)	40	85	87
Horizontal Boring Hydraulic Jack	25	80	82
Hydra Break Ram	10	90	N/A
Impact Pile Driver	20	95	101
Jackhammer	20	85	89
Man Lift	20	85	75
Mounted Impact Hammer (hoe ram)	20	90	90
Pavement Scarifier	20	85	90
Paver	50	85	77
Pickup Truck	40	55	75
Pneumatic Tools	50	85	85
Pumps	50	77	81
Refrigerator Unit	100	82	73
Rivet Buster/Chipping Gun	20	85	79
Rock Drill	20	85	81
Roller	20	85	80
Sand Blasting (single nozzle)	20	85	96
Scraper	40	85	84
Sheers (on backhoe)	40	85	96
Slurry Plant	100	78	78
Slurry Trench Machine	50	82	80
Soil Mix Drill Rig	50	80	N/A
Tractor	40	84	N/A
Vacuum Excavator (Vac-Truck)	40	85	85
Vacuum Street Sweeper	10	80	82
Ventilation Fan	100	85	79
Vibrating Hopper	50	85	87
Vibratory Concrete Mixer	20	80	80
Vibratory Pile Driver	20	95	101
Warning Horn	5	85	83
Welder/Torch	40	73	74

Source: FHWA Highway Construction Noise Handbook, Table 9.1 (FHWA 2006).

Table 3: Noise Emission Reference Levels and Usage Factors

Equipment Description	Acoustical Usage Factor ¹	Predicted L _{max} at 50 feet (dBA, slow) ²	Actual Measured L _{max} at 50 feet (dBA, slow) ³
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Note: Noise levels reported in this table are rounded to the nearest whole number.

¹ Usage factor is the percentage of time during a construction noise operation that a piece of construction equipment is operating at full power.

² Maximum noise levels were developed based on Specification (Spec.) 721.560 from the Central Artery/Tunnel (CA/T) program to be consistent with the City of Boston's Noise Code for the "Big Dig" project.

³ The maximum noise level was developed based on the average noise level measured for each piece of equipment during the CA/T program in Boston, Massachusetts.

⁴ Since the maximum noise level based on the average noise level measured for this piece of equipment was not available, the maximum noise level developed based on Spec 721.560 would be used.

dBA = A-weighted decibels L_{max} = maximum instantaneous noise level

ft = feet N/A = not applicable

HP = horsepower RCNM = Roadway Construction Noise Model

kVA = kilovolt-amperes VMS = variable message sign

Two types of short-term noise impacts could occur during construction of the proposed project. The first type involves construction crew commutes and the transport of construction equipment and materials to the site for the proposed project, which would incrementally increase noise levels on roads leading to the site. As shown in Table 3, there would be a relatively high single-event noise exposure potential at a maximum level of 87 dBA L_{max} with trucks passing at 50 feet.

The second type of short-term noise impact is related to noise generated during excavation, grading, and construction on the project site. Construction is performed in discrete steps, or phases, each with its own mix of equipment and, consequently, its own noise characteristics. These various sequential phases would change the character of the noise generated on site. Therefore, the noise levels vary as construction progresses. Despite the variety in the type and size of construction equipment, similarities in the dominant noise sources and patterns of operation allow construction-related noise ranges to be categorized by work phase.

Table 3 lists maximum noise levels recommended for noise impact assessments for typical construction equipment, based on a distance of 50 feet between the equipment and a noise receptor. Typical maximum noise levels range up to 86 dBA L_{max} at 50 feet during the noisiest construction phases. The site preparation phase, including excavation and grading of the site, tends to generate the highest noise levels because earthmoving machinery is the noisiest construction equipment. Earthmoving equipment includes excavating machinery such as backfillers, bulldozers, draglines, and front loaders. Earthmoving and compacting equipment includes compactors, scrapers, and graders. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full-power operation followed by 3 or 4 minutes at lower power settings.

The closest sensitive receptors to the project site are the multi-family residences located approximately 300 feet west of the proposed alignment. Project construction would result in short-term noise impacts on these receptors. At 300 feet, there would be a decrease of 16 dBA from the reduced distance compared to the noise level measured at 50 feet from the active construction area. Pile driving noise levels can generate noise levels up to 100 dBA at 50 feet. Therefore, the closest off-site residences may be subject to short-term maximum construction noise between 70

and 84 dBA L_{max} when construction is occurring at the project site boundary. Construction noise is permitted by the City when activities occur between the hours of 7:00 a.m. and 6:00 p.m., Monday through Friday and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. Construction activity is not allowed on Sundays and holidays.

As discussed above, construction noise would result in a temporary or periodic increase in ambient noise levels in the project vicinity. However, it is expected that construction would result in noise levels that are lower than existing noise due to existing vehicle traffic on the adjacent US 101 and would be similar to noise levels due to construction of the SMART project.

Implementation of the following measures during project construction would reduce potential construction-period noise impacts for the adjacent noise sensitive receptors:

- Equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers consistent with manufacturers' standards.
- Place all stationary construction equipment so that emitted noise is directed away from sensitive receptors nearest the active project site.
- Locate equipment staging in areas that would create the greatest possible distance between construction-related noise sources and noise-sensitive receptors nearest the active project site during all project construction.
- Prohibit extended idling time of internal combustion engines.
- All noise producing construction activities shall be limited to the hours of 7:00 a.m. and 6:00 p.m. Monday through Friday and between the hours of 9:00 a.m. and 6:00 p.m. on Saturdays. No construction activity shall be allowed on Sundays and holidays.
- Designate a "disturbance coordinator" who would be responsible for responding to any local complaints about construction noise. The disturbance coordinator would determine the cause of the noise complaint (e.g., starting too early, bad muffler) and would determine and implement reasonable measures warranted to correct the problem.

Implementation of these measures would limit construction activities to the less noise-sensitive periods of the day and would reduce construction impacts to a less than significant level.

Long-Term Noise Impacts

Operation of the MUP would not result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, since the project is not expected to generate substantial vehicular traffic or other operational noise. Pedestrians or bicyclists may converse resulting in intermittent noise while using the pathway; however, this noise level would be similar to existing conditions and would not generate noise levels that would exceed the applicable standards. Therefore, the proposed project would not expose persons to noise levels in excess of local standards.

Vibration Impacts

Vibration refers to groundborne noise and perceptible motion. Groundborne vibration is almost exclusively a concern inside buildings and is rarely perceived as a problem outdoors. Vibration energy propagates from a source, through intervening soil and rock layers, to the foundations of nearby buildings. The vibration then propagates from the foundation throughout the remainder of the structure. Building vibration may be perceived by the occupants as the motion of building surfaces, rattling of items on shelves or hanging on walls, or as a low-frequency rumbling noise. The rumbling noise is caused by the vibrating walls, floors, and ceilings radiating sound waves. Annoyance from vibration often occurs when the vibration exceeds the threshold of perception by 10 dB or less. This is an order of magnitude below the damage threshold for normal buildings.

A significant vibration impact would occur if the project would expose persons to or generate excessive groundborne vibration or noise levels. Common sources of ground-borne vibration and noise include trains and construction activities such as blasting, pile driving and operating heavy earthmoving equipment. Construction of the proposed project would involve grading, site preparation, and construction activities, and could potentially involve pile driving. However, due to distance attenuation, groundborne vibration levels from the operation of heavy construction equipment that would be used in construction of the proposed project would not cause damage to residential buildings of normal northern California construction. Furthermore, operation of the proposed project would not generate substantial ground-borne noise and vibration.

The proposed project would be located within the SMART ROW; however, the proposed pathway would be paved, smooth, and unlikely to result in significant groundborne vibration. In addition, implementation of the proposed project would not result in new buildings or sensitive receptors; therefore, the proposed project would not result in the exposure of persons to or generation of excessive ground-borne noise and vibration.

Aircraft Noise Impacts

The proposed project is not located within 2 miles of a public or public use airport. The nearest airports to the project site are the San Rafael Airport, which is located approximately 3 miles north of the project site, and the Gness Field Airport, which is located approximately 12 miles north of the project site. Aircraft flyover noise is occasionally audible at the project sites, due to the flightpath of the regional airports in the vicinity; however, no portion of the project sites lies within the 65 dBA CNEL noise contours of any public airport nor does any portion of the project sites fall within 2 miles of any private airfield or heliport.

CONCLUSION

As described in the analysis above, construction of the proposed project would result in potential noise impacts to surrounding land uses, however construction noise would be short-term and implementation of the recommended measures for project construction would reduce the construction noise impacts to the extent feasible. In addition, the proposed project would not result in a substantial increase in traffic volumes; therefore, the proposed project would not result in a substantial long-term traffic noise increase. Implementation of the proposed project would also generate minimal on-site noise, such as pedestrians or bicyclists talking and generating noise

intermittently while using the pathway. However, these noise sources would not substantially increase noise levels over existing conditions. The project also would not result in the exposure of persons to or generation of excessive ground-borne noise and vibration.