

CITY OF MOUNTAIN VIEW PUBLIC WORKS DEPARTMENT

FEASIBILITY STUDY REPORT

FOR

PERMANENTE CREEK TRAIL EXTENSION: WEST MIDDLEFIELD ROAD TO MCKELVEY PARK, PROJECT 16-36

November 2016

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I. EXECUTIVE SUMMARY

It has been one of the City's goals to improve bicycle and pedestrian mobility by making walking and bicycling easier for its residents and community members. To continue improvements to make walking and bicycling safer, the City has committed to efforts to expand mobility and connectivity options of residents and community members by expanding the City's trail network.

Permanente Creek Trail runs from the north side of Mountain View at Shoreline Golf Links to Rock Street. The City is currently coordinating efforts with the Mountain View Whisman School District to design and construct a trail extension from Rock Street to West Middlefield Road adjacent to Crittenden Middle School. The project design is scheduled to be completed by the end of 2016 and begin construction early 2017.

The objective of this study is to determine if extension of the Permanente Creek Trail from West Middlefield Road to McKelvey Park is feasible. This study analyzed the 1.8-mile stretch along Permanente Creek between West Middlefield Road and McKelvey Park at Mountain View Avenue for opportunities to develop and construct a minimum 8' wide trail. The study evaluated rights-of-way, opportunities, and challenges for extending the trail along Permanente Creek.

The study found that the areas adjacent to Permanente Creek are either privately owned or owned in fee by the Santa Clara Valley Water District (SCVWD). Much of the right-of-way required to construct a minimum 8' wide bicycle and pedestrian trail is occupied by private properties and have obstructions that would make construction of a trail very challenging. Although construction of a trail is feasible in some areas, it is not recommended to construct in those areas because the trail would not be a continuous path and the pathway required to access these areas is circuitous. The study proposes use of existing streets and sidewalks for bicycle and pedestrian access to and from West Middlefield Road and McKelvey Park on Mountain View Avenue.

II. INTRODUCTION AND PROJECT BACKGROUND

The City of Mountain View is faced with substantial traffic congestion and one of the City's major goals is to improve transportation by enhancing mobility and connectivity. Additionally, promoting active transportation helps reduce greenhouse gas emissions and improve Mountain View's overall health, wellness, and livability. The City's mobility needs are fulfilled by a range of travel modes, including driving, walking, bicycling, and public transit. Streets, sidewalks, and trails serve a variety of social, recreational, ecological, and accessibility goals.

The City has committed extensive resources to mitigate vehicle impacts and expand mobility and connectivity options of residents by approving design, construction, and feasibility studies to improve bicycle and pedestrian infrastructures.

On June 16, 2015, the City Council approved a staff study of extending the Permanente Creek Trail as part of the 2015-16 Capital Improvement Program. The objective of the study is to determine if further extension of the Permanente Creek Trail within the City of Mountain View is feasible. The feasibility study analyzed the 1.8-mile stretch along Permanente Creek between West Middlefield Road and McKelvey Park on Miramonte Avenue. Included in the study are current uses of right-of-way, opportunities and challenges for extending the trail, conclusion, and recommendation.

III. FEASIBILITY STUDY

This study focused on opportunities to extend and construct a Caltrans Class I minimum 8' wide trail with 2' wide shoulders on both sides adjacent to Permanente Creek between West Middlefield Road and McKelvey Park at Miramonte Avenue (see Figure 1: Location Map). The study area is broken up into the following segments:

- Segment 1: West Middlefield Road to Central Expressway;
- Segment 2: Central Expressway to California Street;
- Segment 3: California Street to El Camino Real; and
- Segment 4: El Camino Real to Ernestine Lane/Mountain View Avenue.

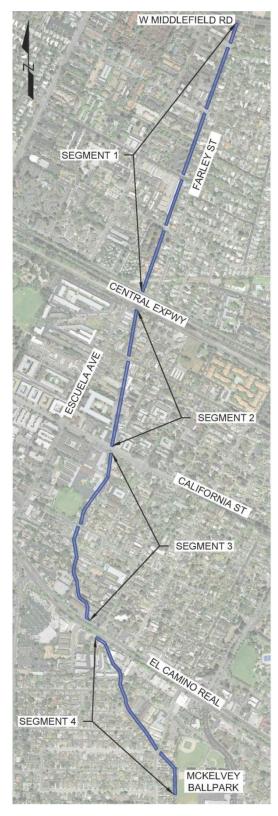


Figure 1: Permanente Creek Location Map

Analyses of each segment are as follows:

Segment 1: West Middlefield Road to Central Expressway

Segment 1 is between West Middlefield Road and Central Expressway. Permanente Creek is an open channel in Segment 1 and crosses under West Middlefield Road, San Ramon Avenue, San Luis Avenue, Montecito Avenue, Hackett Avenue, and Central Expressway. Figure 2 shows what type of encroachment would occur at the different areas of Segment 1 if a trail is to be constructed.

Areas surrounding Permanente Creek are privately owned and primarily residential, and the SCVWD has easement rights to access the creek for maintenance purposes (see Appendix A for Parcel Maps of Segment 1). Areas shown in red (Major Encroachment) are properties which would be impacted significantly if a trail is constructed due to fence lines extending to the wall of the creek. Areas shown in orange (Minor Encroachment) are properties which would not be significantly impacted since there may be sufficient space to construct a trail without relocating fence lines. In both cases (Major Encroachment and Minor Encroachment), the City would be required to obtain right-of-way or easements from private property owners, SCVWD, and the San Francisco Public Utilities Commission (SFPUC) for trail construction, operation, and maintenance.

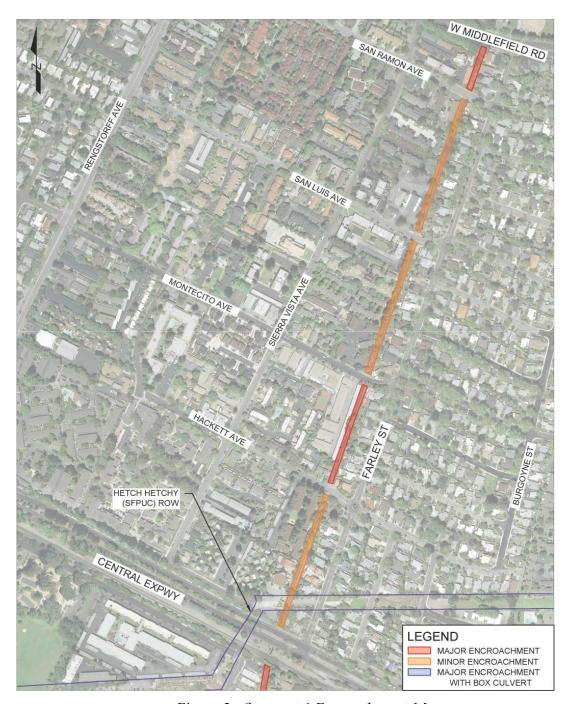


Figure 2: Segment 1 Encroachment Map

Figure 3 shows areas in Segment 1 where construction of a trail is feasible and areas where obstructions exist. Areas shown in blue (between San Luis Avenue and Montecito Avenue, and between Hackett Avenue and Central Expressway) have little or no physical obstructions and, therefore, construction of a trail is feasible. Areas shown in red (between West Middlefield Road and San Luis Avenue, and between Montecito Avenue and Hackett Avenue) have obstructions making construction of a trail infeasible.

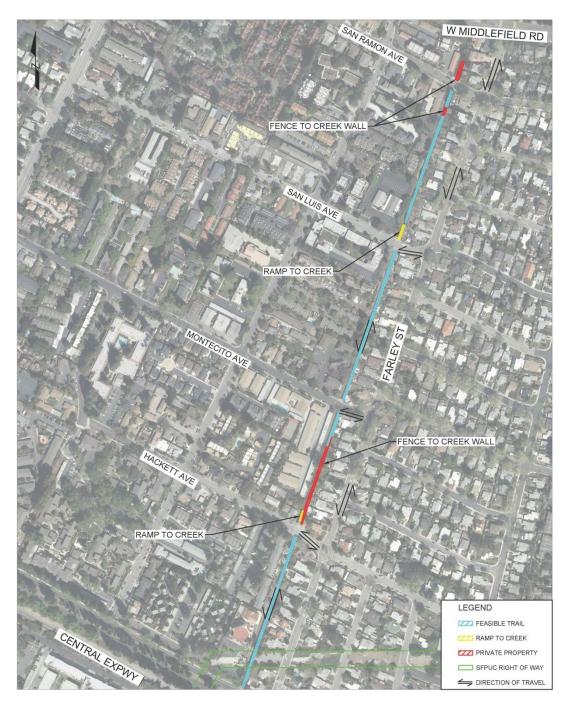


Figure 3: Segment 1 – Feasible Trail and Obstructions

Figure 3 also shows the path pedestrians and bicyclists would need to take if the feasible trail is constructed. It is not recommended to construct a trail in areas of Segment 1 where feasible because the trail would not be continuous and the path trail users would need to take would be circuitous.

The nearest parallel bicycle and pedestrian route for Segment 1 is Farley Street (see Figure 4). Sidewalks currently exist on both sides of Farley Street for pedestrians. Farley Street is a narrow street and measures approximately 35' from face-of-curb to face-of-curb. Farley Street has been improved with Neighborhood Traffic Management elements such as speed humps and traffic circles which reduce vehicle travel speeds. Class III bicycle lanes on Farley Street can be achieved with installation of signage and sharrows.



Figure 4: Segment 1 – Alternative Pedestrian and Bicycle Route

The following are photos of different areas of Segment 1.



Figure 5: Permanente Creek at West Middlefield Road Facing South



Figure 6: Permanente Creek at West Middlefield Road Facing South Showing Property with Fence Line Extending to the Wall of the Creek



Figure 7: Permanente Creek Facing North at San Ramon Avenue



Figure 8: Permanente Creek at San Ramon Avenue Facing North Showing Property Fence Line Right Against the Wall of the Creek



Figure 9: Permanente Creek at San Ramon Avenue Facing South



Figure 10: Permanente Creek at San Ramon Avenue Facing South Showing Property to the Right of the Creek with Fence Right Against the Wall of the Creek



Figure 11: Property with Fence Line Extending to the Wall of the Creek Facing South from San Ramon Avenue



Figure 12: Permanente Creek at San Luis Avenue Facing North



Figure 13: Permanente Creek at San Luis Avenue Facing North Showing a Maintenance Access Ramp Leading Directly to the Creek and Fence Line Extending to the Wall of the Creek



Figure 14: Permanente Creek at San Luis Avenue Facing South



Figure 15: Permanente Creek at San Luis Avenue Facing South Showing Sufficient Space to Construct a Trail



Figure 16: Permanente Creek at Montecito Avenue Facing North



Figure 17: Permanente Creek at Montecito Avenue Facing South



Figure 18: Permanente Creek South of Montecito Avenue Showing Sufficient Space to Construct a Trail at this Location



Figure 19: Permanente Creek at Hackett Avenue Facing North

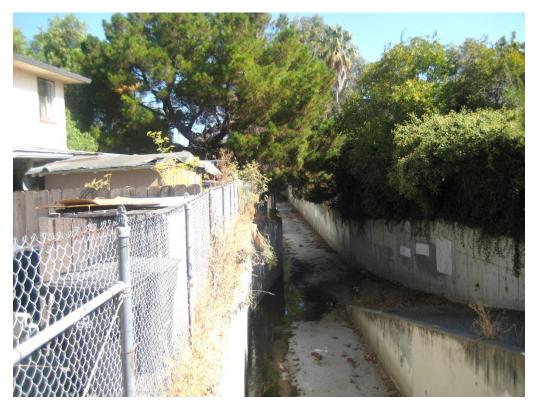


Figure 20: Permanente Creek North of Hackett Avenue Showing a Maintenance Access Ramp Leading Directly to the Creek and Property Fence Line Against the Wall of the Creek



Figure 21: Permanente Creek at Hackett Avenue Facing South



Figure 22: Permanente Creek South of Hackett Avenue Facing South Showing Sufficient Space to Construct a Trail at This Location



Figure 23: The City of Mountain View Would Need to Obtain Easements from a Private Property Owner and the SFPUC a Trail at this Location North of Central Expressway



Figure 24: Permanente Creek Facing South Towards Central Expressway Showing Sufficient Space to Construct a Trail at this Location

Segment 2: Central Expressway to California Street

Segment 2 is between Central Expressway and California Street. Permanente Creek runs through an open channel, underground box culvert, and crosses under Central Expressway, Caltrain railroad tracks, Villa Street, and California Street. Figure 25 shows what type of encroachment would occur at the different areas of Segment 2 if a trail is to be constructed.

Areas surrounding Permanente Creek are mostly privately owned and primarily residential, and the SCVWD has easement rights to access the channel and culvert for maintenance purposes. A couple of areas are owned in fee by the SCVWD (see Appendix B for Parcel Maps of Segment 2). Areas shown in red (Major Encroachment) are properties which would be impacted significantly if a trail is constructed due to fence lines (property lines) extending to the wall of the creek in private backyards. Areas shown in blue (Major Encroachment with Box Culvert) are properties which would also be significantly impacted since the creek runs through an underground box culvert and existing facilities (parking lot) exist on top of the box culvert. In both cases, the City would need to obtain right-of-way or easements from private property owners, SFPUC, SCVWD, and the Southern Pacific Transportation Company/Peninsula Corridor Joint Powers Board, and mitigate the impacts to the private properties that would be impacted if a trail is to be constructed.

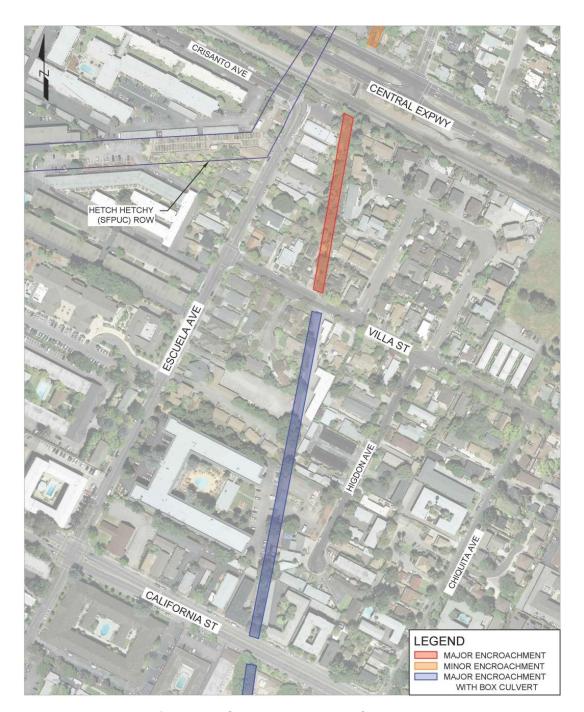


Figure 25: Segment 2 – Encroachment Map

Figure 26 shows areas in Segment 2 where construction of a trail is feasible and areas where obstructions exist. Areas shown in blue (directly south of Villa Street) have little or no physical obstructions, making construction of a trail feasible. Areas shown in red have obstructions, making construction of a trail infeasible. Trail construction in Segment 2 is infeasible due to impact on private properties, including significant loss of parking spaces for the apartment complex at 333 Escuela Avenue, and significant cost of mitigating impacts of trail construction.

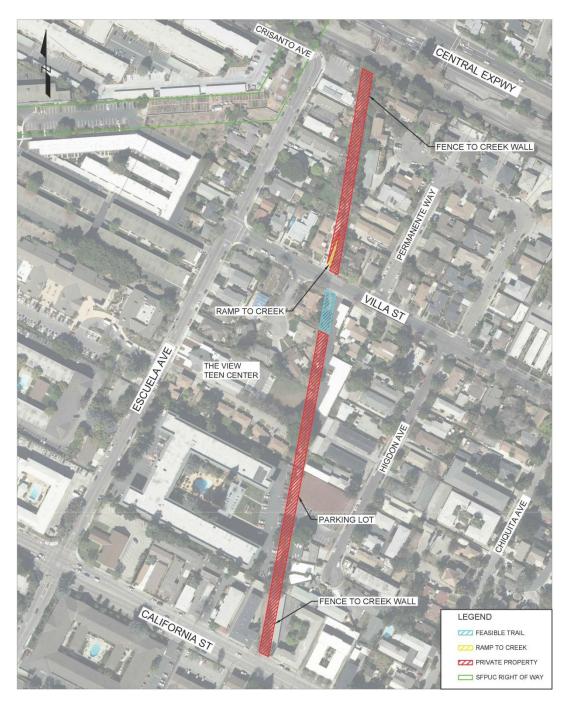


Figure 26: Segment 2 – Feasible Trail and Obstructions

The nearest parallel bicycle and pedestrian route for Segment 2 is Escuela Avenue (see Figure 27). Sidewalks currently exist on both sides of Escuela Avenue for pedestrians. Escuela Avenue measures between 40' and 46' from face-of-curb to face-of-curb with parking on both sides of the street.

Per the California/Escuela/Shoreline Complete Streets Study, additional improvements to Escuela Avenue have been conceptually studied and reviewed by the City Council, but additional research and options need to be explored to resolve parking needs in the area before Class II bike lanes and other improvements can be implemented.

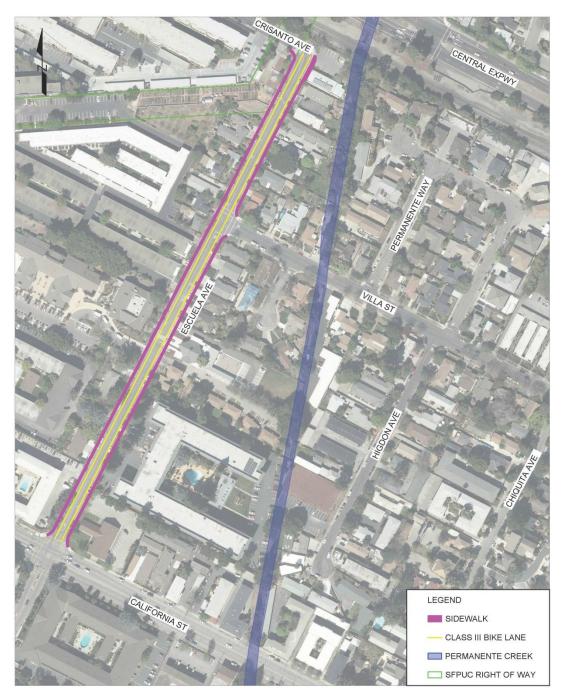


Figure 27: Segment 2 – Alternative Bicycle/Pedestrian Route

The following are photos of different areas of Segment 2.



Figure 28: Permanente Creek at Central Expressway Facing South



Figure 29: Permanente Creek at Central Expressway Looking South Towards the Railroad Tracks



Figure 30: Permanente Creek at Day Worker Center of Mountain View Showing Property Fence Line Adjacent to the Creek Wall



Figure 31: Permanente Creek at Villa Street Looking North



Figure 32: Permanente Creek at Villa Street Looking North Showing a Maintenance Access Ramp Leading Directly to the Creek



Figure 33: Permanente Creek at Villa Street Looking South



Figure 34: Permanente Creek at Villa Street Looking South – Creek is Running through an Underground Box Culvert at this Location



Figure 35: Permanente Creek at California Street Looking North

Segment 3: California Street to El Camino Real

Segment 3 is between California Street and El Camino Real. Permanente Creek runs through an open channel, underground box culvert, and crosses under California Street, Latham Street, and El Camino Real. Figure 36 shows the type of encroachment that would occur at the different areas of Segment 3 if a trail is to be constructed.

Areas surrounding Permanente Creek are mostly privately owned and the SCVWD has easement rights to access the concrete channel or culvert for maintenance purposes. One small area south of California Street is owned in fee by the SCVWD (see Appendix D for Parcel Maps of Segment 3). Areas shown in blue (Major Encroachment with Box Culvert) are properties which would also be significantly impacted since the creek runs through an underground box culvert and existing facilities, including drive aisles and parking lots, exist with the easement over the top of the box culvert. The City would need to obtain right-of-way or easements from private property owners and the SCVWD, and mitigate the impacts to the existing structures/facilities (such as replace parking or access) that would be impacted if a trail is to be constructed.

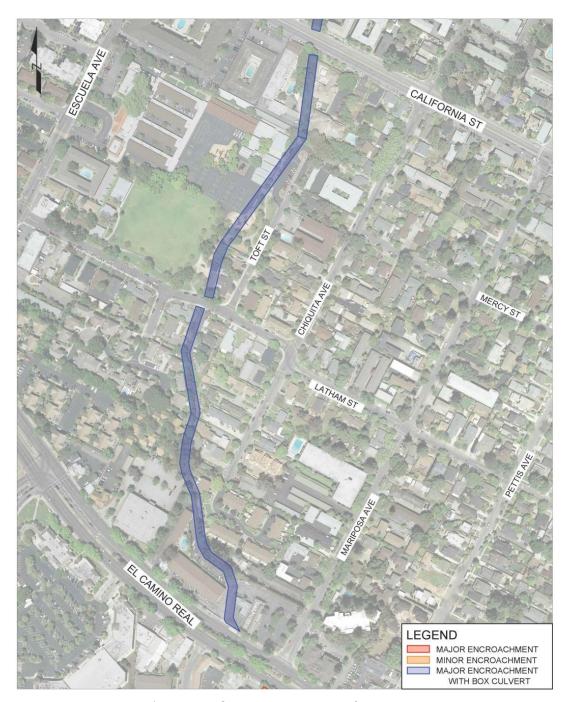


Figure 36: Segment 3 – Encroachment Map

Figure 37 shows areas in Segment 3 where construction of a trail is feasible and areas where obstructions exist. Areas shown in red have obstructions, making construction of a trail infeasible. Trail construction in Segment 3 is infeasible and not recommended.

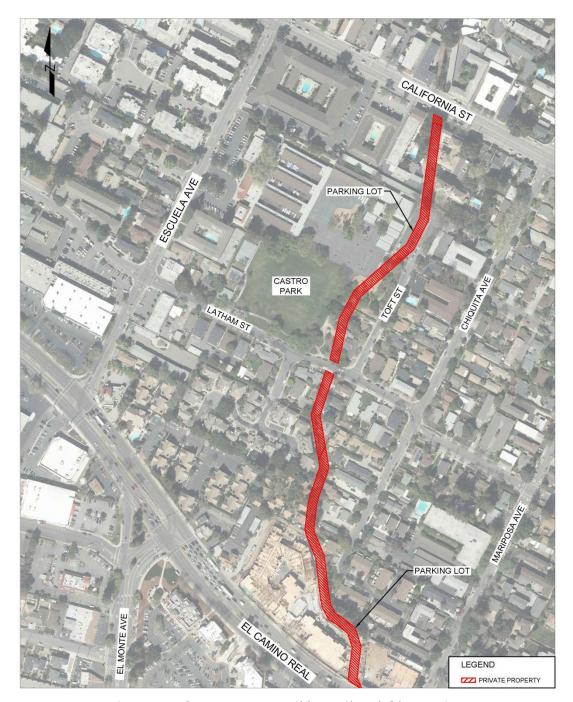


Figure 37: Segment 3 – Feasible Trail and Obstructions

There are three alternative routes in Segment 3: Escuela Avenue, California Street, and Pettis Avenue, and Latham Street and Pettis Avenue (see Figure 38). Sidewalks exist on both sides of Escuela Avenue, California Street, Latham Street, and Pettis Avenue for pedestrians. Escuela Avenue measures approximately 40' from face-of-curb to face-of-curb with parking on both sides of the street. Escuela Avenue from California Street to El Camino Real is currently indicated as a recommended bike route in the City of Mountain View Bike Map.

Per the California/Escuela/Shoreline Complete Streets Study, additional improvements to Escuela Avenue have been conceptually studied and reviewed by the City Council, but additional research and options need to be explored to resolve parking needs in the area before Class II bike lanes and other improvements can be implemented.

California Street is a designated bike lane and has existing Class II bike lanes. Latham Street and Pettis Avenue are narrow with parking on both sides. Class III bicycle lanes on Latham Street and Pettis Avenue can be achieved with installation of signage and sharrows.

Staff is currently evaluating concepts that could be implemented to reclassify Latham Street as a Bike Boulevard. Improvements will enhance safety for all travel modes, including bicyclists and pedestrians.

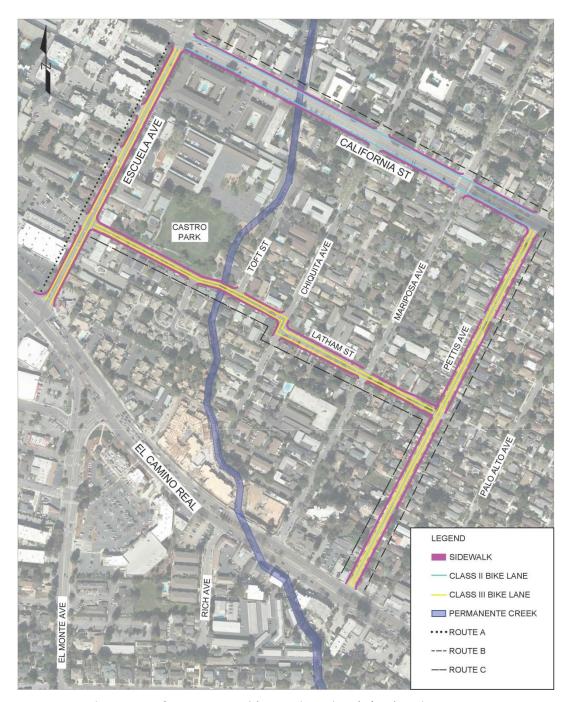


Figure 38: Segment 3 – Alternative Bicycle/Pedestrian Routes

The following are photos of different areas of Segment 3.



Figure 39: Permanente Creek at California Street Looking South



Figure 40: Permanente Creek at California Street Looking South

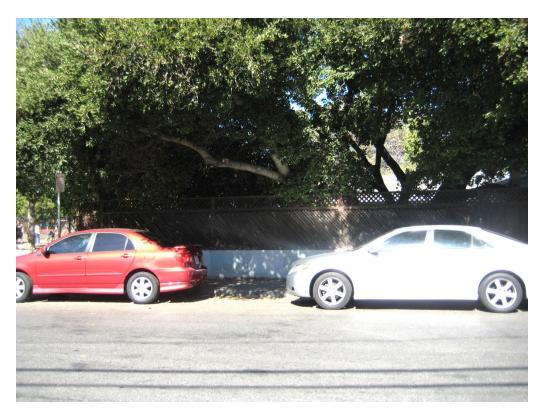


Figure 41: Permanente Creek at Latham Street Looking North



Figure 42: Permanente Creek at Latham Street Looking South – The Grate Shown in the Photo is Used for Access to the Box Culvert

Segment 4: El Camino Real to Ernestine Lane

Segment 4 is between El Camino Real and McKelvey Park on Mountain View Avenue. Permanente Creek runs through an open channel and crosses under El Camino Real, Ernestine Lane, and Mountain View Avenue. Figure 43 shows what type of encroachment would occur at the different areas of Segment 4 if a trail is to be constructed.

Some areas surrounding Permanente Creek in Segment 4 are privately owned and the SCVWD has easement rights to access the concrete channel for maintenance purposes. Some areas of Segment 4 are owned in fee by the SCVWD (see Appendix D for Parcel Maps of Segment 4). Areas shown in orange (Minor Encroachment) are properties which would not be significantly impacted since there may be sufficient space to construct a trail without relocating fence lines. The area shown in light blue is a planned trail with the SCVWD at McKelvey Park. The City would need to obtain right-of-way or easements from private property owners and the SCVWD if a trail is to be constructed in Segment 4.

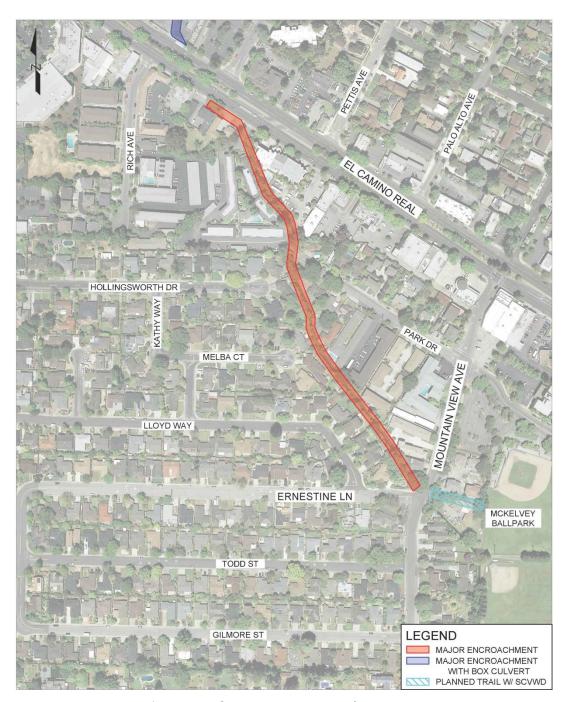


Figure 43: Segment 4 – Encroachment Map

Figure 44 shows areas in Segment 4 where construction of a trail is feasible and areas where obstructions exist. Areas shown in orange have a planned trail construction with the SCVWD. Areas shown in red have obstructions, making construction of a trail infeasible.



Figure 44: Segment 4 – Feasible Trail and Obstructions

There are two alternative routes in Segment 4: El Monte Avenue/Lloyd Way/ Ernestine Lane and El Camino Real/Mountain View Avenue (see Figure 45). Sidewalks currently exist on both sides of El Monte Avenue, Lloyd Way, Ernestine Lane, El Camino Real, and Mountain View Avenue, with a gap on the west side of Mountain View Avenue south of El Camino Real. A sidewalk connection to close this gap is recommended. El Monte Avenue has existing Class II bike lanes on both sides of the street. Lloyd Way and Ernestine Lane are narrow streets with

parking on both sides of the streets. Class III bicycle lanes on Lloyd Way and Ernestine Lane can be achieved with installation of signage and sharrows.

El Camino Real and Mountain View Avenue have no existing bike lanes. Class III bike lanes on El Camino Real and Mountain View Avenue can be achieved with installation of signage and sharrows. A midblock connection on El Camino Real between El Monte Avenue and Shoreline Boulevard is in the El Camino Real Precise Plan, and staff will seek opportunities to provide this crossing in the future.

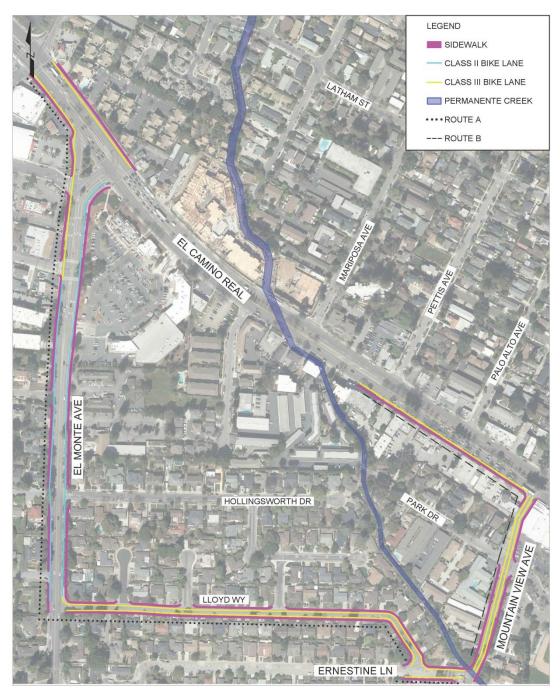


Figure 45: Segment 4 – Alternative Bicycle/Pedestrian Routes

The following are photos of different areas of Segment 4.

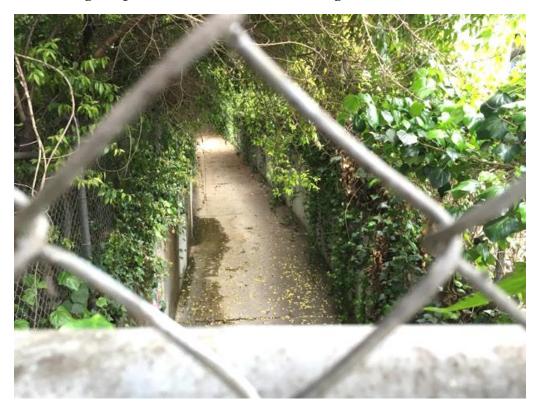


Figure 46: Permanente Creek at Hidden Garden Apartments



Figure 47: Permanente Creek at Hidden Garden Apartments



Figure 48: Permanente Creek at Hidden Garden Apartments Parking Lot



Figure 49: Permanente Creek at Ernestine Lane and Mountain View Avenue Facing North

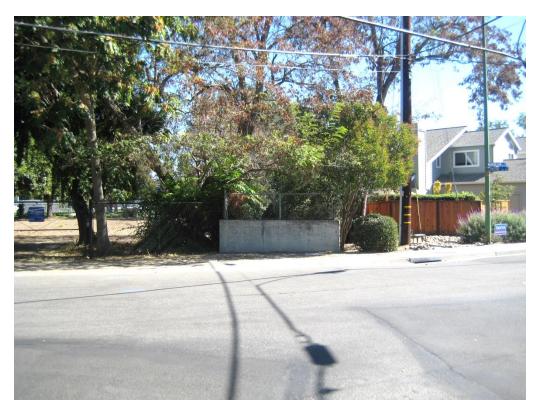


Figure 50: Permanente Creek at Ernestine Lane and Mountain View Avenue Facing South



Figure 51: Permanente Creek South of Ernestine Lane

Much of the right-of-way required for trail construction is occupied by private properties and have physical obstructions that would make the trail construction very challenging. The study proposes use of existing sidewalks and streets for pedestrian and bicycle access to and from West Middlefield Road to McKelvey Park on Mountain View Avenue.

Figure 52 shows the alternative pedestrian and bicycle routes in the study area. Further evaluation of the alternative pedestrian and bicycle path alignment is required to determine feasibility of providing a pedestrian and bicycle crossing at Central Expressway between Farley Street and Escuela Avenue. The crossing would most likely need to be an overhead bridge to span Central Expressway and the railroad tracks. A tunnel is not feasible due to SFPUC Hetch Hetchy aqueducts and Permanente Creek.

Staff proposes placing a project to determine the feasibility and right-of-way requirements for a pedestrian/bicycle bridge as an outer-year project in the Capital Improvement Program. Existing efforts to improve crossings at Rengstorff Avenue, Castro Street, and Mayfield Avenue (San Antonio) are under way. This crossing would be taken up as progress is made on the others and staff resources and funding become available in the future.



Figure 52: Alternative Pedestrian and Bicycle Path

IV. CONCLUSION AND RECOMMENDATION

Trail extension from West Middlefield Road to McKelvey Park on Mountain View Avenue would provide a safe, off-street route for pedestrians and bicyclists linking residential, commercial, and open space areas. The Permanente Creek Trail extension would also improve mobility and connectivity options for City residents and community members.

The study found that most of the right-of-way required to construct a minimum of 8' wide bicycle/pedestrian trail is occupied by private properties and have obstructions that would make construction of a trail along the creek alignment very challenging. Acquiring the necessary property rights for trail construction would be very costly and may lead to acquisition of entire properties due to unmitigatable impacts such as loss of parking spaces for an apartment complex and loss of driveway access to multiple homes. Although construction of a trail is feasible in some areas, it is not recommended to construct in those areas because the trail would not be a continuous path and the pathway required to access these areas is circuitous.

The study proposes use of existing streets and sidewalks for bicycle/ pedestrian access to and from West Middlefield Road and McKelvey Park on Mountain View Avenue. Further evaluation of the proposed alternative path is required to determine feasibility of a pedestrian/bicycle crossing at Central Expressway.

