

APPLICATION FORM FOR**CYCLE 8 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)****APPLICATION SUMMARY**

This summary page is filled out automatically once the application is completed.

After the application is finalized, please save this PDF form using the exact "Application ID" (shown below) as the file name.

Application ID 04-Oakland-6

Important: Review and follow the [Application Instructions](#) step-by-step as you complete the application. Completing an application without referencing the instructions will likely result in an incomplete application or an application with fatal flaws that will be disqualified from the ranking and selection process.

Submitted By (Agency)

Oakland

Caltrans District

04

Application Number

6

Out of

6

Project Location

The project locations are 27 existing guardrails on roadways in the Oakland hills.

Project Description

The projects will replace damaged metal beam guardrails with the current standard double midwest guardrail systems at 27 locations.

Countermeasure 1**Countermeasure 2****Countermeasure 3****Total Expected Benefit****Total Project Cost**

\$1,198,500.00

B/C Ratio (BCR)

0.00

**APPLICATION FORM FOR
CYCLE 8 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)**

B/C Ratio (BCR) 0.00

DLA-002 (NEW 04/2016)

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I. Basic Project Information

Date Sep 30, 2016

Caltrans District 04

MPO MTC

Agency Oakland

County Alameda County

Total number of applications being submitted by your agency

6

Application Number (each application must have a unique number)

6

Contact Person Information

Name (Last, First) Ho, Philip

Position/Title of Contact Person Transportation Engineer

Email PHo@oaklandnet.com

Telephone (510) 238-6256

Extension

Address 250 Frank H. Ogawa Plaza, Suite 4344

City Oakland

Zip Code CA 94612

(Enter only a 5-digit number)

Project Information

Project Location

-Be Brief (Limited to 250 Characters)

[-See Instructions](#)

The project locations are 27 existing guardrails on roadways in the Oakland hills.

Project Description

-Be Brief (Limited to 250 Characters)

[-See Instructions](#)

The projects will replace damaged metal beam guardrails with the current standard double midwest guardrail systems at 27 locations.

Functional Classification Major Collector

(For Functional Classification and CRS Maps,

Visit http://www.dot.ca.gov/hq/tsip/hseb/crs_maps/)

CRS Map ID (e.g. 08E14) 5L13

Urban/Rural Area Urban

(Visit <http://earth.dot.ca.gov/>)

High-Risk-Rural-Roads (HR3) Eligibility

No

If this project is not entirely HR3 eligible, what is the approximate total cost percentage that is HR3 eligible? %

Work on the State Highway System

Does the project include improvements on the State Highway System?

No

If no, move on to the next page.

If yes, go to the below question.

Is this a jointly-funded project with Caltrans?

No

(Must be jointly-funded if the project is for intersection safety improvement involving SHS.)

☐ If yes, check this box to confirm a formal Letter of Support from Caltrans - District Traffic is attached to the application. The letter should include estimates of cost sharing.☐ If no, check this box to confirm a written correspondence from Caltrans District Traffic is attached to the application. The correspondence should indicate that Caltrans does not see issues that would prevent the proposed project from receiving an encroachment permit.

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Set-asides for Guardrail Upgrades and Crosswalk Enhancements/Pedestrian Countdown Heads

Are you applying for funding set-asides?

1. Set-aside for guardrail upgrades? OR2. Set-aside for crosswalk enhancements at unsignalized locations and/or pedestrian countdown heads at signalized intersections?

If you answer yes to one of the above two questions, no crash data and Benefit/Cost Ratio are needed in Section V. See Instructions for more details about the funding set-asides.

Additional Information1. Is the project focused primarily on "spot location(s)" or "systemic" improvements? The primary type of the "systemic" improvements: 2. Which of the California's Strategic Highway Safety Plan (SHSP) Challenge Areas does the project address primarily?
(For more information on the SHSP and its Challenge Areas, see: <http://www.dot.ca.gov/SHSP/>)3. How were the safety needs and potential countermeasures for this project first identified?4. What is the primarily mode of travel intended to be benefited by this project? 5. Approximate percentage of project cost going to improvements related to motorized travel %6. Approximate percentage of project cost going to improvements related to non-motorized travel %7. Is the project focused primarily on "Intersection" or "Roadway" improvement? Miles of Roadway 8. Posted Speed Limit (mph) 9. Average Daily Traffic ([See Instructions](#))

ADT (Major Road)

ADT (Minor Road)

Year Collected

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II. Narrative Questions ([See Instructions](#))

These narrative questions are intended to provide additional project details for the application reviewers and project files. The reviewers will use the information in their "fatal flaw" assessment of the applications. Please make sure that:

- 1) The project scope is eligible for HSIP funding;
- 2) The countermeasures used in the B/C ratio calculation are appropriately applied based on the scope of the project;
- 3) The crash data used in the B/C ratio calculation is appropriately applied based on the scope of the project and countermeasures used;
- 4) The application data and attachments are reasonable and meet generally accepted traffic engineering and transportation safety principles

If significant inconsistencies or errors are found in the application information, the reviewers may conclude that the application includes "fatal flaws" and the application will be dropped from further funding considerations. The applicant will not be notified of findings until after the selection process is complete.

1. Overall Identification of Need

Describe how the agency identified the project as one of its top safety priorities. Was a data-driven safety evaluation of their entire roadway network completed? Do the proposed project locations represent some of the agency's highest crash concentrations?

(Limited to 5,000 characters)

City of Oakland staff have identified these projects as locations where the existing guardrail is damaged or does not meet current standards (Caltrans Standard Plans 2015).

2. Potential for Proposed Improvements to Address the Safety Issues

Describe the primary causes of the collisions that have occurred within the project limits. Are there patterns in the crash types? Clearly demonstrate the connection between the problem and the proposed countermeasures utilized in the Benefit/Cost Ratio calculations. Depending on the nature of the project, explain why the agency choose to pursue "Spot location(s)" or "Systemic" improvements.

(Limited to 5,000 characters)

Note: Safety improvements that do not have countermeasures and crash reduction factors identified in the Excel Benefit Calculator can be included in the project scope and cost estimate as "Other Safety-Related" improvement; they just won't be added to the project's B/C ratio shown in the application.

Guardrails that meet current standards and are not damaged can improve roadway safety by preventing vehicles from leaving the roadway. As most of the locations are on steep hillsides, adjacent to residences, or adjacent to pedestrian walkways, this is critical in reducing the severity of crashes.

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3. Crash Data Evaluation

What is the source of the crash data? For each countermeasure, describe how the influence areas and the limits of the crash data were established to ensure only appropriate crashes were included in the Collision Summary Report(s), Collision Diagram(s) and B/C calculations.

(Limited to 5,000 characters)

Note: If the project includes multiple locations and multiple countermeasures, group the locations so that within each group, the same countermeasures apply to all locations and their crash data. Describe the location groups. (These location groups must be consistent with the grouping in using the Excel Benefit Calculator.)

Not applicable (set-aside funding)

4. Prior Attempts to Address the Safety Issue

List all other projects/countermeasures that have been (or are being) deployed at this location. Applicants must identify all federal funds that have been used or approved within or directly adjacent to the proposed project limits within the last 5 years. (HSIP funding cannot be used to construct the same general type of countermeasures within the same limits within 5 years to ensure agencies do not apply the same Crash Reduction Factors to the same crashes.)

For projects proposing high cost improvements/countermeasures such as shoulder widening and horizontal/vertical realignments, applicants must document that they have installed and monitored low-cost improvements which have not adequately addressed the safety issue ("**incremental approach**").

(Limited to 5,000 characters)

There have been no prior attempts within the past 5 years to address the safety issue at these locations.

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III. Project Cost Estimate**Important:** Please review Appendix A of the [Application Form Instructions](#) before you start this section.**1. Construction Cost**

The first step is to estimate the project construction cost by using the provided Excel template "Detailed Engineer's Estimate and Cost Breakdown by Countermeasure". Enter the results from the construction cost estimate below.

Total Construction Cost	\$857,500	Maximum "HSIP/Total" Percentage (e.g. Enter 90 for 90%)	100
Cost Breakdown (%) (e.g. enter 20 for 20%. Total is 100.)			
CM #1	100	CM #2	0
CM #3	0	Other Safety-Related Costs	0
		Non Safety-Related Costs	0

2. Project Costs - All Phases

Then project costs of all phases must be accounted for, even if substantial elements of the overall project are to be funded by other sources.

Shaded fields are calculated (read only). Round all costs up to the nearest hundred dollars. Once all costs and the desired HSIP/Total ratios are entered, click "Check Cost Estimate" to perform validation. If errors are detected, they will appear below the button. Click it to check again each time when the costs have been revised.

Phase	Total Cost	HSIP/Total (%)	HSIP Funds	Local/Other Funds	
Preliminary Engineering	Environmental	42,000 (%)	\$42,000	\$0	
	PS&E	171,000 (%)	\$171,000	\$0	
	PE Subtotal	213,000	\$213,000	\$0	
<input type="checkbox"/> Agency does NOT request HSIP funds for PE Phase (automatically checked if PE - HSIP funds is \$0).					
Right of Way	Right of Way Engineering	\$0 (%)	\$0	\$0	
	Appraisals, Acquisitions & Utilities	\$0 (%)	\$0	\$0	
	ROW Subtotal	\$0	\$0	\$0	
Construction Engineering & Construction	Construction Engineering	128,000 (%)	\$128,000	\$0	
	Construction	857,500 (%)	\$857,500	\$0	
	CON Subtotal	985,500	\$985,500	\$0	
(Read Only - From "1" above - "Total Construction Cost")					
Total Cost		1,198,500	100 (%)	\$1,198,500	\$0

Click to Check Cost Estimate (See Notes in Instructions)

No errors have been found in the cost estimate.

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IV. Benefit/Cost Ratio Calculation

Important: Please review Appendix A of the [Application Form Instructions](#) before you start this section.

This section is utilized to calculate the Benefit/Cost (B/C) Ratio (BCR) of the project. Prior to this calculation, applicants are required to complete the following:

1. Use the Excel "Detailed Engineer's Estimate and Cost Breakdown by Countermeasure" template and Section III (Project Cost Estimate) of this application form to complete the construction cost estimate and the overall project cost estimate; and
2. Use the Excel "Benefit Calculator" to calculate the benefits of the safety countermeasures (the final printouts of the benefit calculation results must be provided as one of the application attachments).

1. Project Cost

Read Only - From Section III (Project Cost Estimate)

Total Project Cost \$1,198,500

Cost Breakdown (%. Total is 100.)

CM #1 100 CM #2 0 CM #3 0 Other Safety-Related Costs 0 Non Safety-Related Costs 0 **Total:** 100%

2. Countermeasures and Benefits

Enter the Exact Data from the Excel "Benefit Calculator" Results

Crash Data Period: from to

Number of Countermeasures Utilized (Max 3)

Countermeasures

Life Benefit (\$)

#1		
#2		
#3		

3. BCR Calculation

	Life Benefit	Expected Cost	Resulting BCR
Countermeasure #1		\$1,198,500	0.00
Countermeasure #2		\$0	0.00
Countermeasure #3		\$0	0.00
Project's Total (Overall)		\$1,198,500	0.00

(Project BCR Used in Ranking)

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V. Implementation Schedule (See Instructions)

The local agency is expected to deliver the project per Caltrans Local Assistance [Safety Program Delivery requirements](#). In order for the milestones to be calculated correctly, all fields needs to be filled in. For steps that are not applicable, enter "0".

Target Date for the Project's Amendment into the FTIP:

01/01/2017

Time for agency to internally staff project and request PE authorization

4

Month(s)

Typical Time for Caltrans and FHWA to process and approve PE authorization

2

Month(s)

Proposed PE Authorization Date:

07/02/2017

(PE Authorization
Delivery Milestone)

Will external consultants be required to complete the PE phase of this project?

Yes

Additional time needed to the Delivery Process for hiring PE consultant(s)

6

Month(s) (0 - 6)

Time to prepare environmental studies request

1

Month(s)

Time to complete CEQA/NEPA studies/approvals

0

Month(s)

See PES Form in the LAPM for Typical studies and permits

Time to complete the Right of Way Acquisition (federal process)

0

Month(s)

Plan on 18 months minimum for federal process including a condemnation

Time to complete final PS&E documentation

3

Month(s)

Other

0

Month(s)

Expected Completion Date for the PE Phase:

05/02/2018

Time for agency to request CON authorization

2

Month(s)

Typical Time for Caltrans and FHWA to process and approve CON authorization

3

Month(s)

Proposed CON Authorization Date:

10/01/2018

(CON Authorization
Delivery Milestone)

Time included for the agency's workload-leveling or construction-window needs

1

Month(s)

Time to award contract with CON contractor (following the federal process, including Board/Council approval, advertise, award, execute and mobilize)

6

Month(s)

Time to complete construction

6

Month(s)

Time included for closing the CON contract

6

Month(s)

Other

0

Month(s)

Expected Completion Date for the CON Phase:

04/30/2020

Time to complete the project close-out process

1

Month(s)

Typical Time for Caltrans and FHWA to process and approve project close-out

3

Month(s)

Expected Completion Date for the project Close-Out:

08/29/2020

(Close-Out Delivery Milestone)

APPLICATION FORM FOR**CYCLE 8 HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)****VI. Application Attachments ([See Instructions](#))**

Check All Attachments Included in this Application

- ☒ Engineer's Checklist (Required)
- ☒ Vicinity map/Location map (Required)
- ☒ Project maps/plans showing existing and proposed conditions (Required)
- ☒ Pictures of Existing Condition (Required)
- ☐ Collision diagram(s) (Required)
- ☐ Collision List(s) (Required)
- ☐ Collision Summary/Summaries (Required)
- ☒ Detailed Engineer's Estimate (Required)
- ☐ Excel Benefit Calculator Printout(s) (Required)
- ☐ Warrant studies (Required when applicable)
- ☐ Letter/email of Support from Caltrans (Required when applicable)
- ☐ Additional narration, documentation, letters of support, etc. (Optional)

ADA Notice

For individuals with sensory disabilities, this document is available in alternate formats. For alternate format information, contact the Forms Management Unit at (916) 445-1233, TTY 711, or write to Records and Forms Management, 1120 N Street, MS-89, Sacramento, CA 95814.

Engineer's Checklist

Cycle 8 HSIP Application – Engineer's Checklist

This application checklist is to be used by the engineer in "responsible charge" of the preparation of this HSIP application to ensure all of the primary elements of the application are included and the application is free of errors in the calculation of the Benefit/Cost Ratio (BCR); allowing the application to be accurately ranked in the statewide selection process. Applications with errors in the supporting data for the BCR calculation will not be considered in the application process.

Special Considerations for Engineers before they Sign and Stamp this document attesting to the accuracy of the application:

Chapter 7; Article 3; Section 6735 of the Professional Engineer's Act of the State of California requires engineering calculation(s) or report(s) be either prepared by or under the responsible charge of a licensed civil engineer. Since the corresponding HSIP application defines the scope of work of a future civil construction project and requires complex engineering principles and calculations which are based on the best data available at the time of the application, the application must be signed and stamped by a licensed civil engineer. By signing and stamping this document, the engineer is attesting to this application's technical information and engineering data upon which local agency's recommendations, conclusions, and decisions are made. This action is governed by the Professional Engineer's Act and the corresponding Code of Professional Conduct, under Sections 6775 and 6735.

The following checklist is to be completed by the engineer in "responsible charge" based on the final application and application attachments – as submitted to Caltrans. The engineer's initials and stamp should not be placed until the application is complete and in final form.

1. **Vicinity map /Location map** Engineer's Initials: PH.
 - a. The project limits must be clearly depicted in relationship to the overall agency boundary
2. **Project layout-plan** showing existing and proposed conditions must: Engineer's Initials: PH.
 - a. Be to a scale which allows the visual verification of the overall project limits and the "construction" limits of each safety countermeasure included in the application's BCR
 - b. Show the full scope of the proposed project, including any non-safety construction items
 - c. Show the "Influence Area" for each safety countermeasure (CM) included in the application's BCR
 - d. Show all changes to existing lane and shoulder widths. Label the proposed widths
 - e. Show limits of all roadway excavation/demolition
 - f. Show agency's right of way (ROW) lines. (Also show Caltrans', Railroad, and all other government agencies)
3. **Project cross-section** showing existing and proposed conditions. Engineer's Initials: PH.

(Only required for projects with roadway excavation, cut/fill slopes, and changes to lane widths)

 - a. Show and dimension: changes, ROW lines, safety countermeasures, etc.
4. **Countermeasure Selection** (used throughout the application): Engineer's Initials: PH.
 - a. The CMs used are appropriate and reasonable based specifically on the guidance in the HSIP call-for-projects guidelines and application instructions, including Appendix B of the Local Roadway Safety Manual.
5. **Crash Data** used in the BCR calculations must be: * Engineer's Initials: PH.
 - a. From a reliable and well documented source
 - b. Within influence area of CM and applied to CMs using generally accepted traffic engineering principles
(Example: If the CM only addresses the northbound lanes of a divided roadway, then southbound crashes should be excluded.)
 - c. Accurately shown in collision diagram(s) and collision lists(s) attached to this application.
 - d. Crashes are presented in terms of the number of crashes (**not** the number of injuries and fatalities)
 - e. The most recent crash data available and a minimum 3 years and maximum 5 years of data

6. **Collision Diagram(s)** (Shown separately or combined) * **Engineer's Initials:** PH.
- a. Should be to scale with crash locations accurately plotted
 - b. Reveals collision pattern(s) necessary to justify CM(s)
 - c. The influence area for each CM is shown separately on the diagrams (unless the areas are identical)
 - d. All crashes, included in the BCR Calculation, must be clearly shown within the influence area of that CM
 - e. Totals for each Location and/or CM are shown with crashes segregated based on Crash Severity
 - f. The totals shown match the totals shown in the Collision List and Collision Summary
7. **Collision List(s)** (Shown separately or combined) * **Engineer's Initials:** PH.
- a. Totals for each Location and/or CM are shown with crashes segregated based on Crash Severity
 - b. If the List(s) includes crashes that were not appropriate to include in the project BCR calculations, these crashes must be crossed through or removed and not included in the totals
 - c. The totals shown match the totals shown in the Collision Diagram and Collision Summary
 - d. Each crash is only counted as one, even if there were multiple victims and/or vehicles involved
8. **Collision Data Summary/Summaries (HSIP Form in Excel)** * **Engineer's Initials:** PH.
- a. Totals for each Location are shown with crashes segregated based on Crash Severity
 - b. The totals for each Location/ match the totals shown in the Collision Diagram and Collision List
 - c. One Collision Data Summary is needed for each benefit calculation run. The totals at the bottom of the form match the totals in the Crash Data Table in the benefit calculation run.
9. **Detailed Engineer's Estimate (HSIP Form in Excel)** **Engineer's Initials:** PH.
- a. All likely construction costs associated with the project are identified and included in the estimate
 - b. Each of the main project elements are broken out into separate construction items. The costs for each item are based on calculated quantities and appropriate corresponding unit costs
 - c. Costs for each item are distributed between CMs using a logical method to fairly calculate each CM's cost
 - d. Each CM included in the BCR calculation must represent a minimum of 15% of the construction costs *
 - e. "Other Safety" and "Non-Safety" construction items/costs are identified and properly accounted for
 - f. The total construction cost in the estimate must match the "Construction" cost in Section III of the application
10. **Benefit Results and Benefit Summary (Excel Benefit Calculator)** * **Engineer's Initials:** PH.
- a. Project locations are grouped appropriately per Appendix A of the application form instructions
 - b. For each of the benefit calculation run, the CMs and crash data shown match the totals shown in the corresponding Collision Data Summary
 - c. The calculation sheets from all benefit calculation runs must be signed by the Engineer in Responsible Charge and attached to the application
 - d. When multiple benefit calculation runs are utilized in a project, the results of all runs are summarized in the Benefit Summary sheet which is also attached to the application
11. **Benefit/Cost Ratio (BCR) Calculation (Section IV of the application form)** * **Engineer's Initials:** PH.
- a. The CMs, the crash data period and the benefits by CM shown match the output of the Excel Benefit Calculator / Benefit Summary sheet
 - b. The total project cost in the BCR calculation must match the total project cost in Section III of the application
12. **Warrant studies/guidance (Check if not applicable)** **Engineer's Initials:** PH.
- ☐ N/A
- a. Traffic Signal Warrants – Warrant 4, 5 or 7 met (CA MUTCD): Signal warrants must be documented as having been met based on the CA MUTCD.

13. Additional narration, documentation, letters of support:**Engineer's Initials:** PH

- The text in the "Narrative Questions" in the application is consistent with and supports the engineering logic and calculations used in the development of the application's BCR
- When needed, clarify non-standard application of countermeasures, crashes and/or costs; appropriate documentation is attached to the application to document the engineering decisions and calculations


** Not required if the project is applying for set-aside funds.*

Licensed Engineer:**Engineer's Stamp:**

Name: Philip Ho

Title: Transportation Engineer

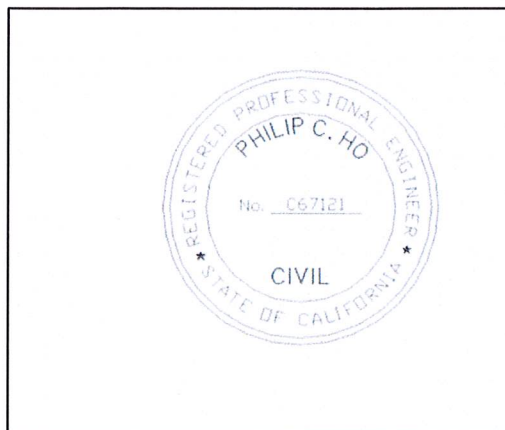
Engineer License Number C67121

Signature: 

Date: September 30, 2016

Email: pho@oaklandnet.com

Phone: (510) 238-6256



To ensure the application's quality and the agency's commitment to deliver the safety project in an expedited manner, the application must be signed by the Agency's Transportation/Traffic Engineering Manager.

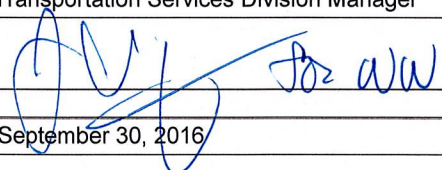
By signing this application, the manager is attesting to:

- All data in the application is accurate and represents the total scope of the planned project;
- The agency understands the Project Delivery Requirements for the HSIP Program and is prepared to deliver the project per these requirements; and
- The agency understands if Caltrans staff determine that any of the above requirements are not met, or data is inaccurate, or the application fails to meet the program guidelines and application instructions, the application will be rejected and will not be eligible to receive federal safety funding. Due to time constraints in the evaluation process, applicants will not be notified until after the selection process is complete. Refer to Application Form Instructions for more information.

Transportation Manager:

Name: Wladimir Wlassowsky

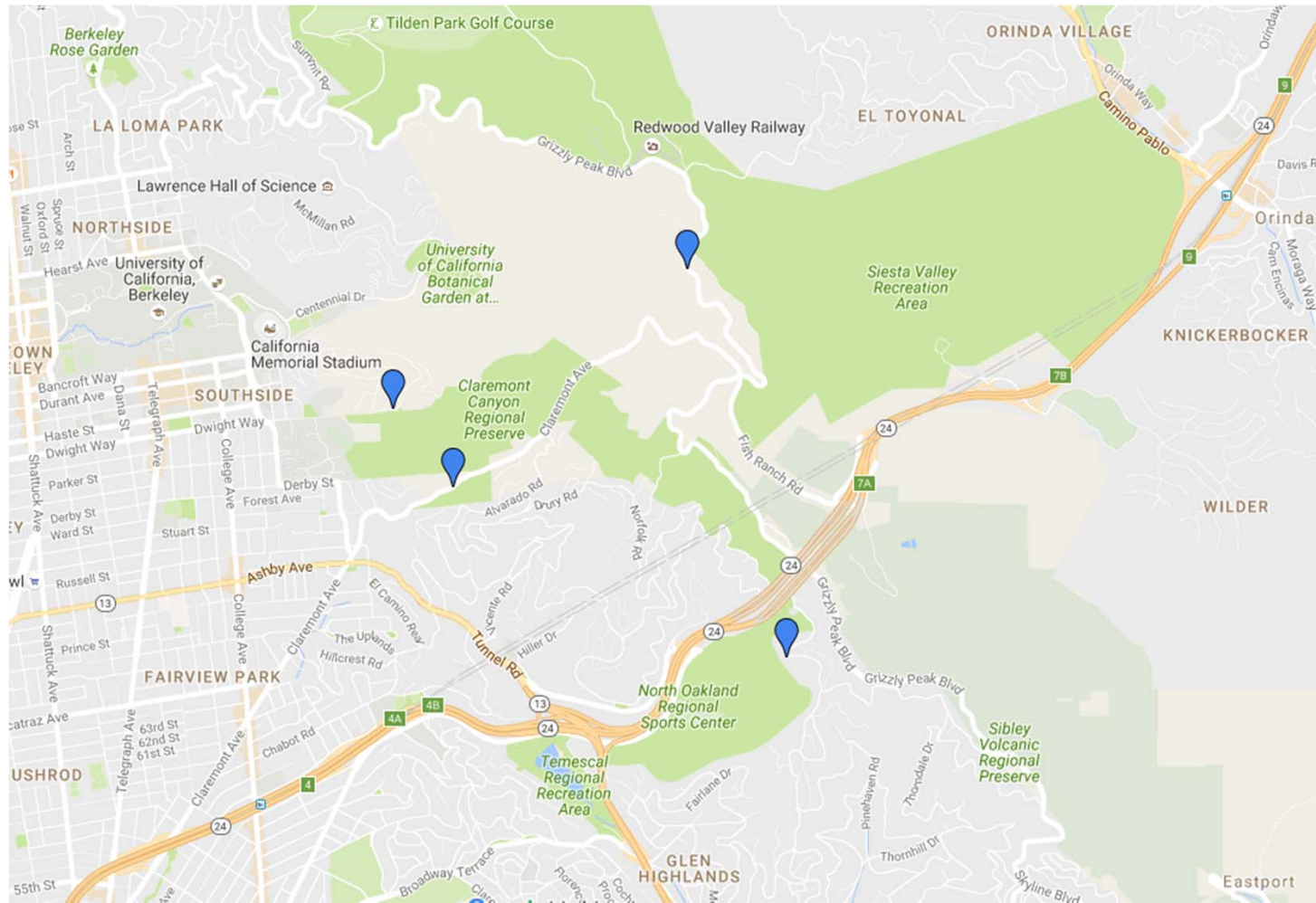
Title: Transportation Services Division Manager

Signature: 

Date: September 30, 2016

Vicinity Map

Vicinity Map (North)

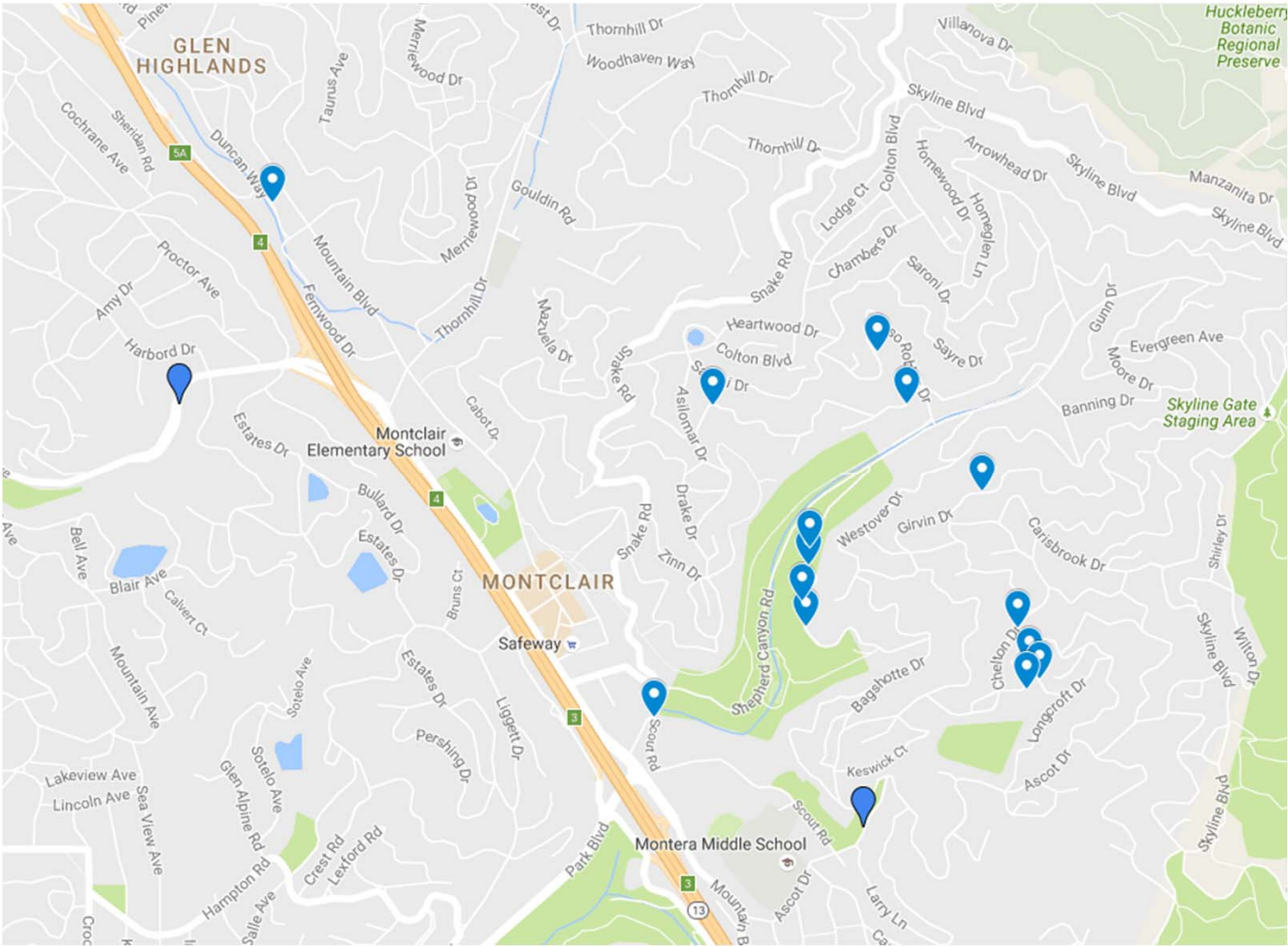


Guardrail Location



North

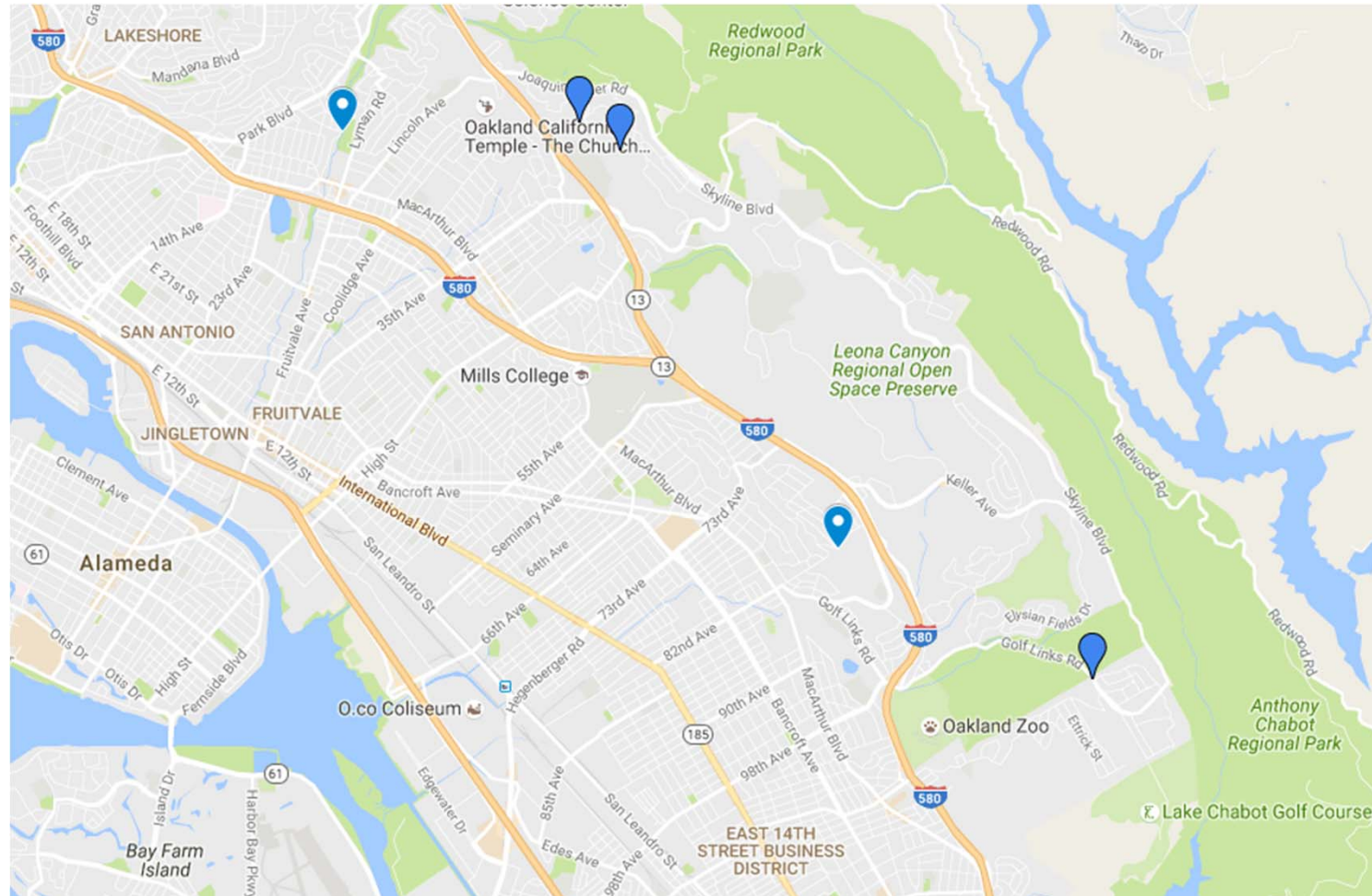
Vicinity Map (Central)



Guardrail Location



Vicinity Map (South)



Guardrail Location



North

Existing Conditions & Proposed Projects

1) 701 Panoramic way (red)



- **Damaged / Outdated**
- **Replace with non-standard heavy duty posts to counter slope erosion**
- **Add AC Curb to control run-off**
- **Replace with current standard**
- **Extend toward the south to the hiking trail entrance to fill a minor gap.**

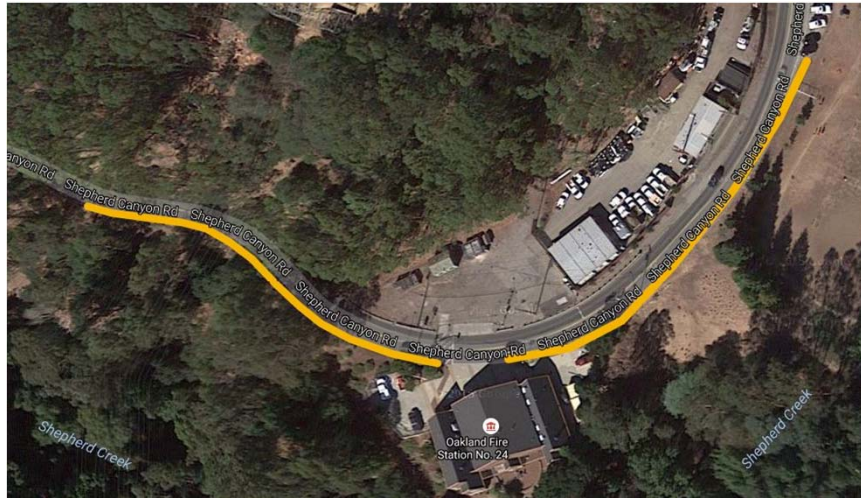


2) 777 Panoramic Way (yellow)



- Damaged, outdated, worn.
- Replace with non-standard heavy duty posts to counter slope erosion
- Add AC Curb to control run-off
- Replace with current standard

3) 5725 Shepherd Canyon Road



- Fill in metal beam guard rail (MBGR) gap across from fire station
- Replace end treatments with current
- Repair damaged sections



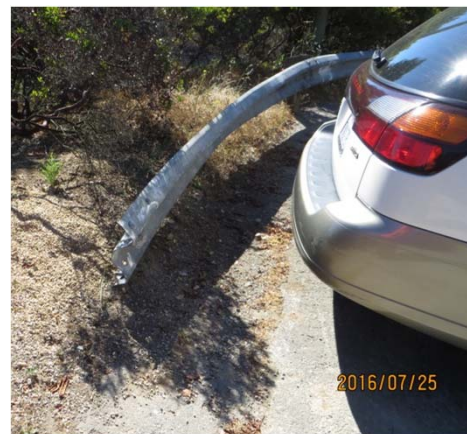
4) 7535 Claremont Avenue



- Damaged
- Replace with current standard



5) 5895 Skyline Boulevard



- Damaged (missing post/end treatment)
- Extend to 5959 Skyline Boulevard to fill a minor gap.
- Replace with current standard

6) 10701 Golf Links Road



- Damaged
- Outdated "I-beam" posts and hardware
- Replace with current standard

7) 5700 Ascot Drive



- Damaged pedestrian fencing
- MBGR damaged
- Fill a minor gap in MBGR
- Replace with current standard



8) 3100 Butters Drive



- Extend on north end (to utility pole) to fill a minor gap.
- Extend south end to fill a minor gap.
- Replace with current standard

9) 3551 Brunell Drive



- Worn out / Outdated
- Extend on north end (to mailbox) to fill a minor gap.
- Replace with current standard

10) Grizzly Peak, 3800 feet North of Claremont



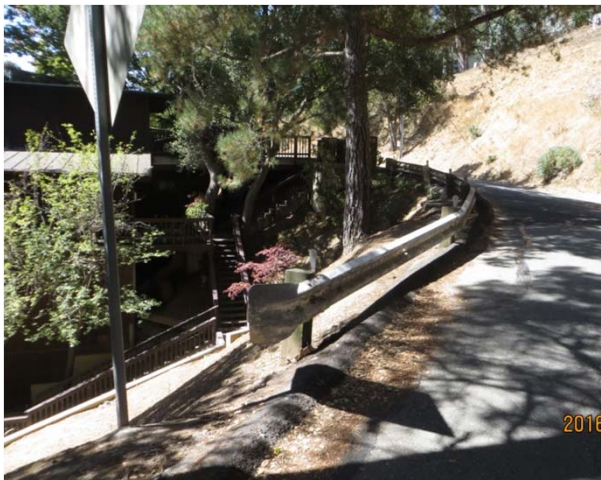
- **Damaged / Outdated**
- **Replace with current standard**

11) 5600 Moraga Avenue



- **Damaged / Outdated**
- **Extend on both ends to fill a minor gap.**
- **Replace with current standard**

12) Balboa Dr. Between 6018 Balboa Dr. & Paso Robles Dr.



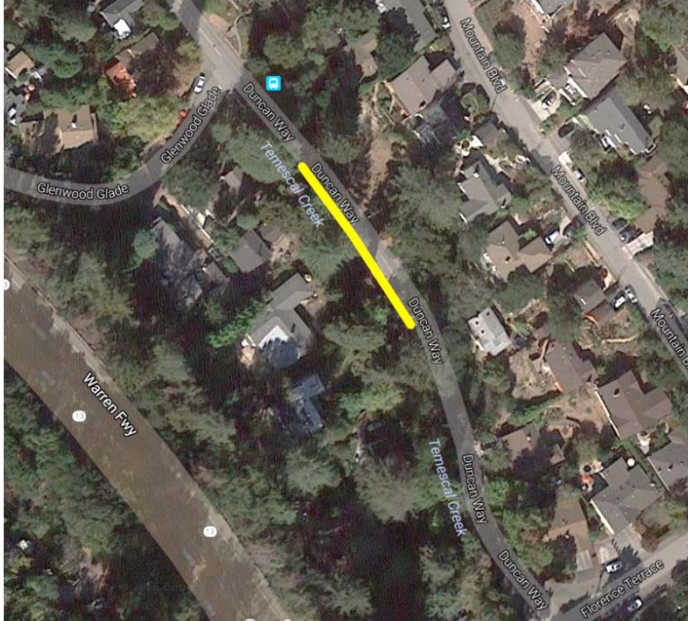
- Damaged / Outdated
- Middle section was broken off.
- Replace with current standard

13) 6830 to 6900 Paso Robles Dr.



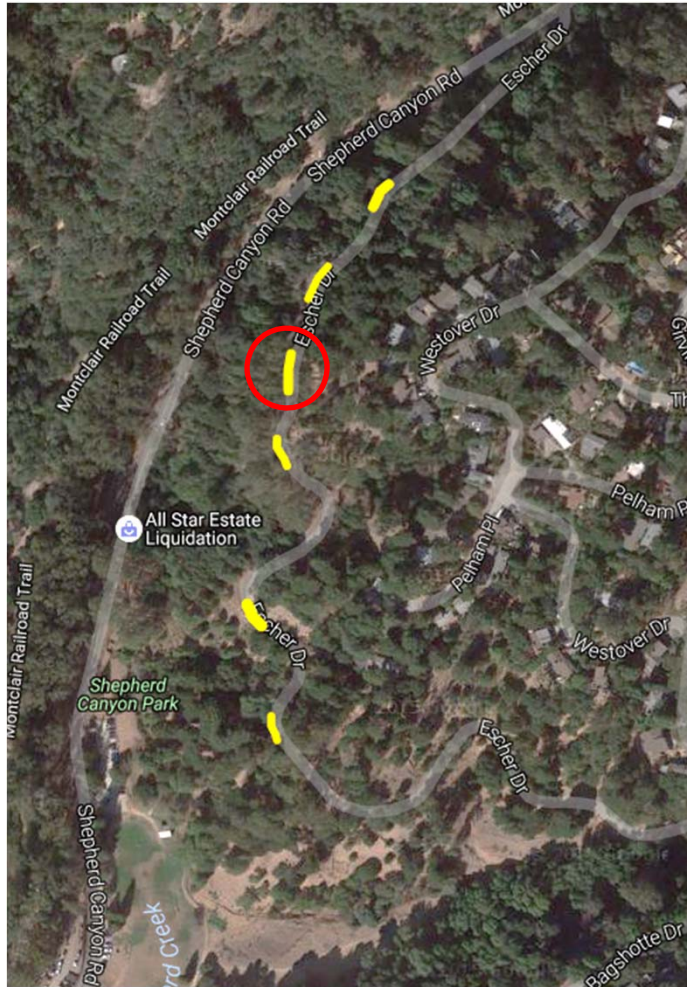
- Guardrail sinking into ground
- Damaged / Outdated
- Broken chain link fence exposes hillside. Minor extension to overlap with broken fence.
- Replace with current standard

14) 187 Duncan Way between 230 Duncan Way & Glenwood Glade



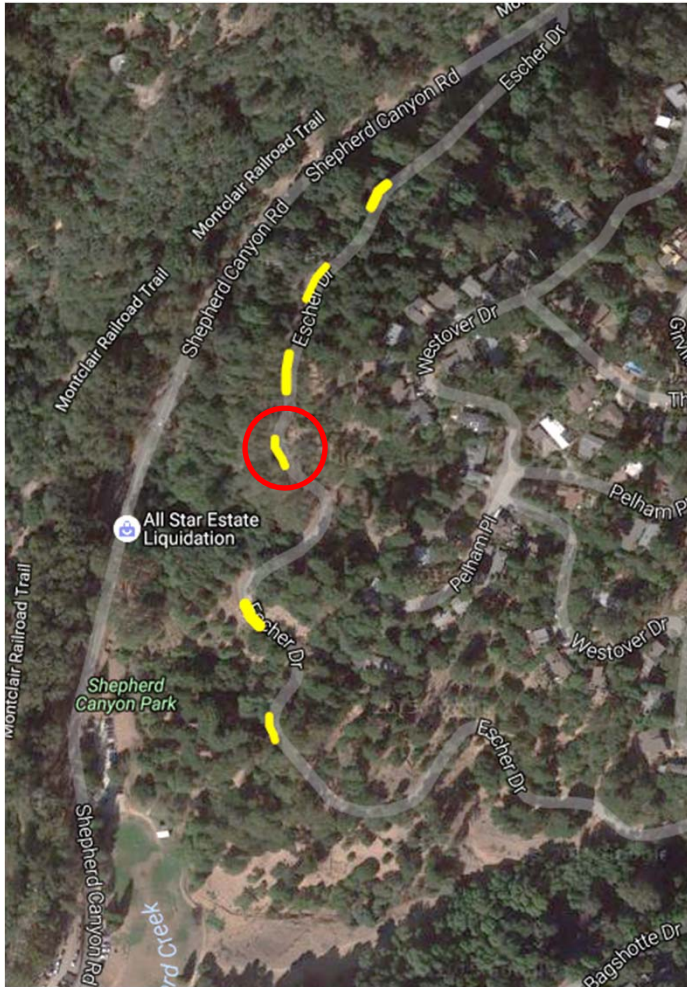
- Damaged / Outdated
- Replace with current standard

15) Escher Dr. between Shepherd Canyon Rd & Bagshotte Dr



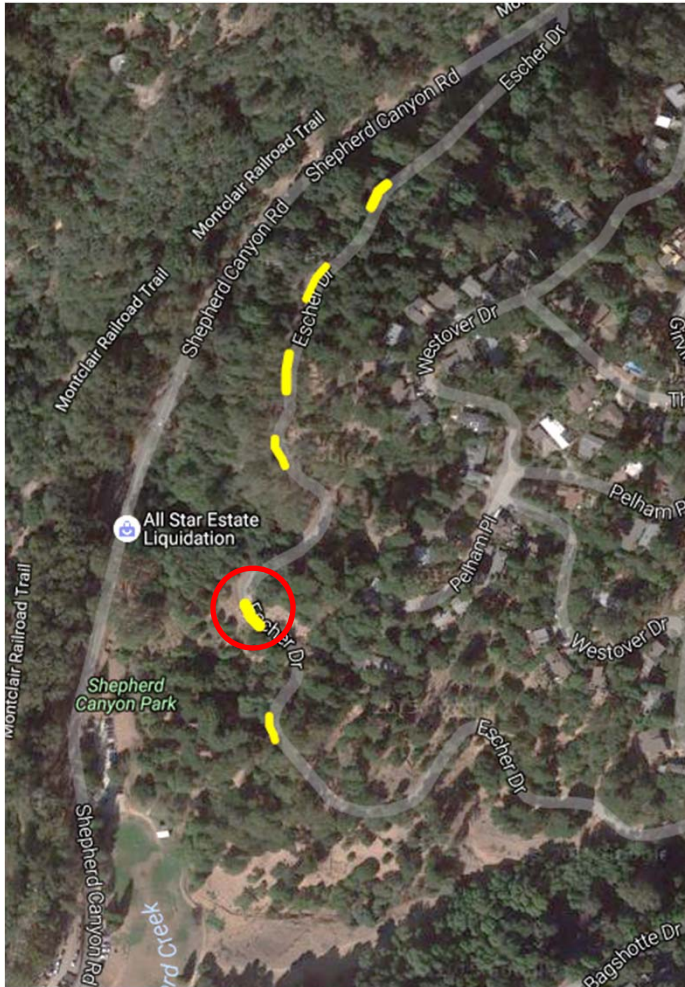
- Damaged / Outdated
- Replace with current standard

16) Escher Dr. between Shepherd Canyon Rd & Bagshotte Dr



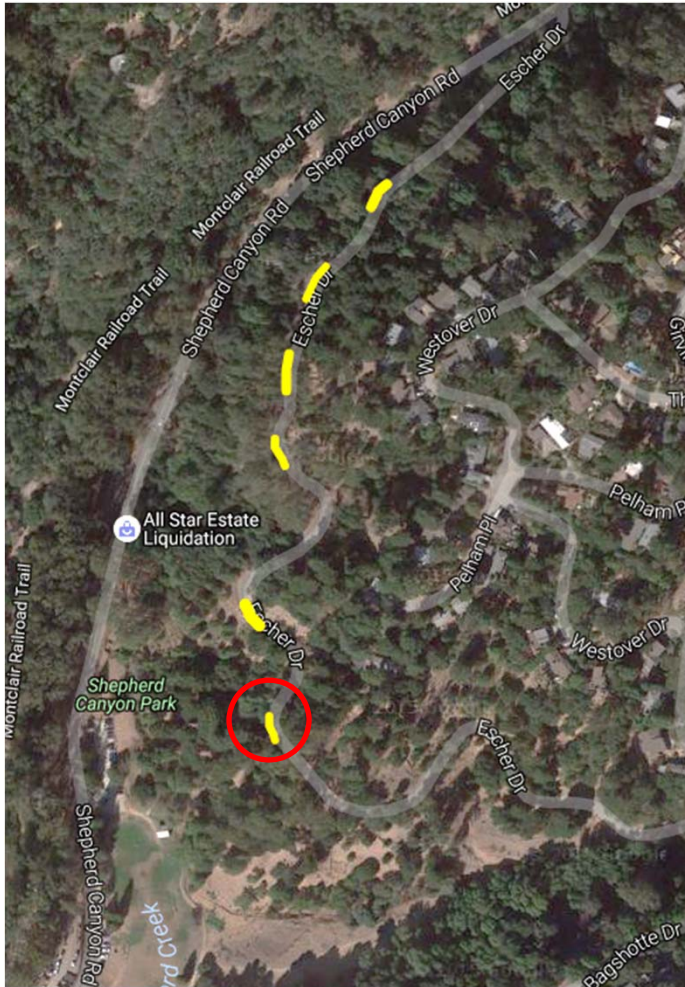
- Damaged / Outdated
- Replace with current standard

17) Escher Dr. between Shepherd Canyon Rd & Bagshotte Dr



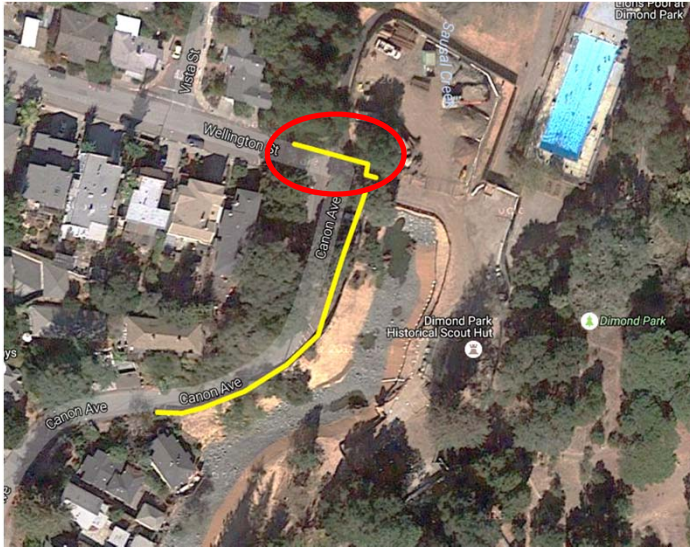
- **Damaged / Outdated**
- **Replace with current standard**

18) Escher Dr. between Shepherd Canyon Rd & Bagshotte Dr



- **Damaged / Outdated**
- **Missing End Treatment**
- **Replace with current standard**

19) Wellington St & Canon Ave



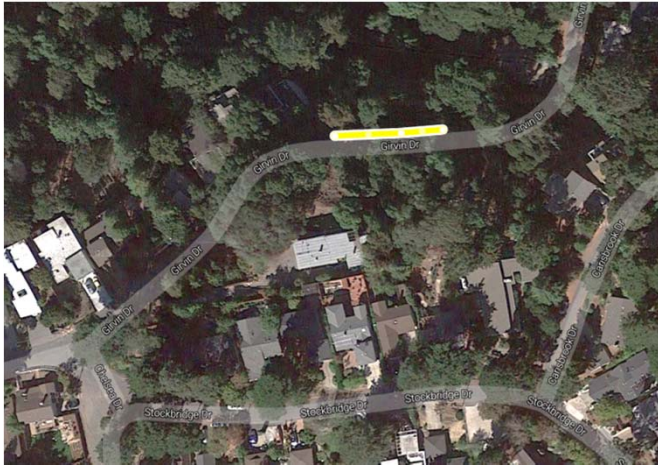
- **Damaged / Outdated**
- **Replace with current standard**

20) Sterling Dr & McCormick Ave & Crest Ave



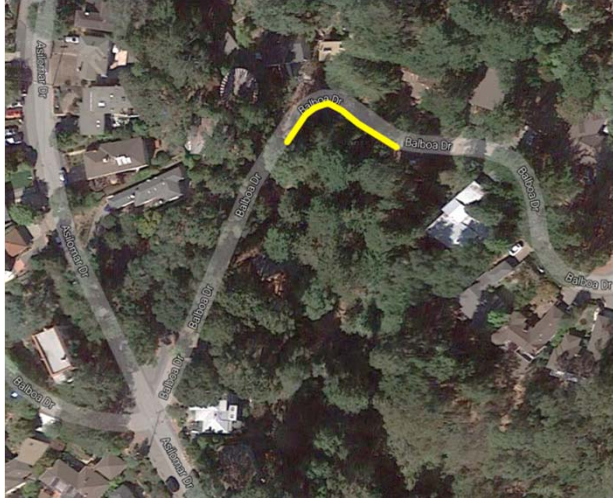
- Damaged / Outdated
- Extend toward uphill to a minor fill gap.
- Replace with current standard

21) 6354 Girvin Dr between Shepherd Canyon Rd & Aitkens Dr



- **Damaged / Outdated**
- **Extend toward 6363 Girvin Dr to fill a minor gap.**
- **Replace with current standard**

22) Balboa Dr across from 5749 Balboa Dr



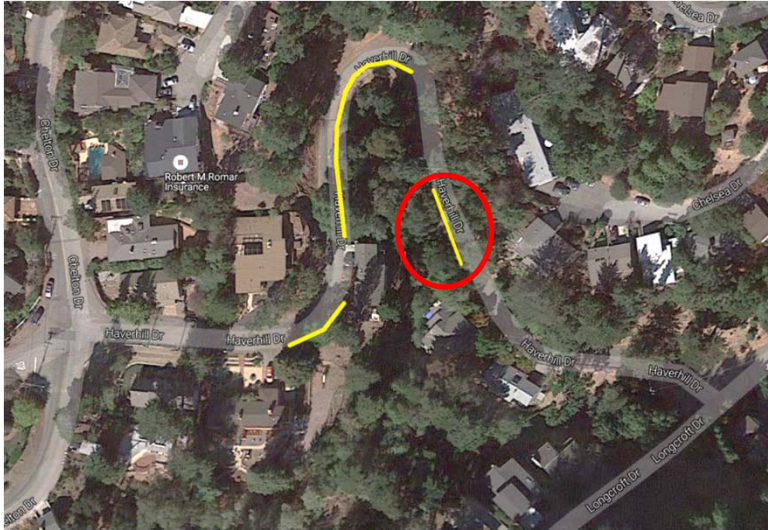
- Damaged / Outdated
- Extend on downhill side to fill a minor gap.
- Replace with current standard

23) 2263 Scout Rd (385 feet from Mountain Blvd)



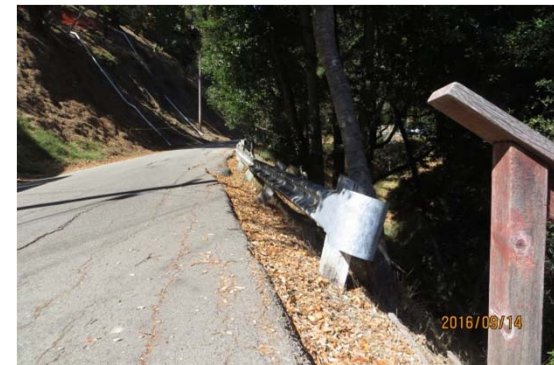
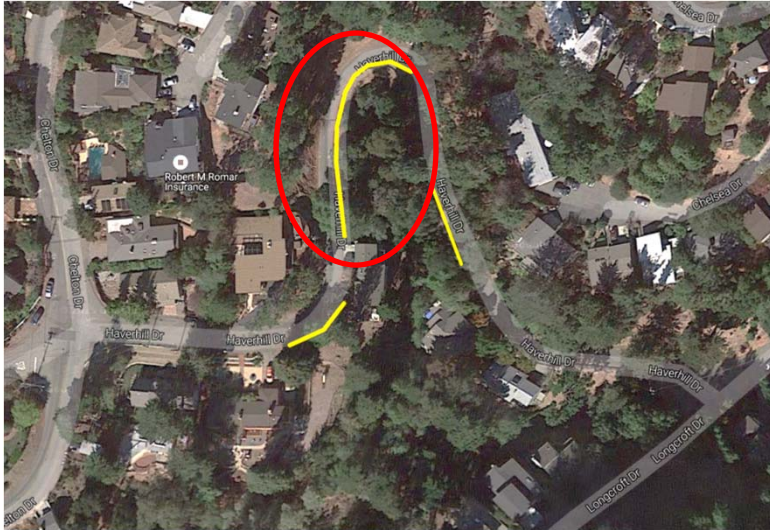
- Damaged / Outdated
- Replace with current standard

24) Haverhill Dr between Longcroft Dr & Chelton Dr



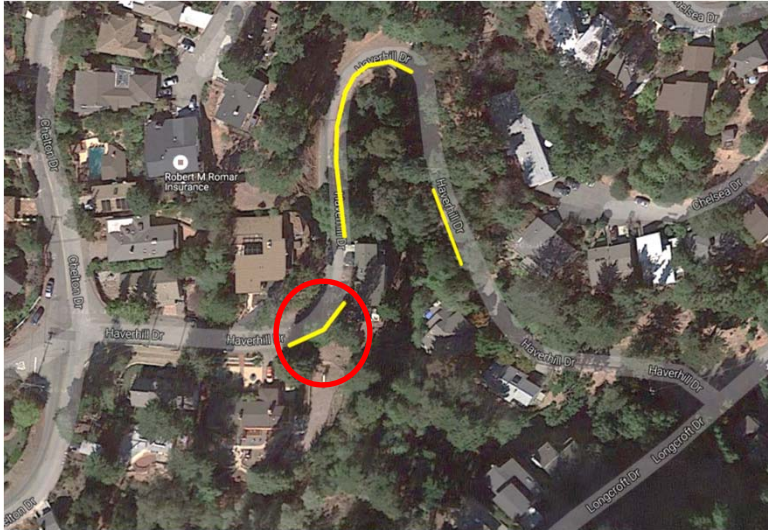
- Damaged / Outdated
- Missing end treatment
- Extend towards curve to fill a minor gap.
- Replace with current standard

25) Haverhill Dr between Longcroft Dr & Chelton Dr



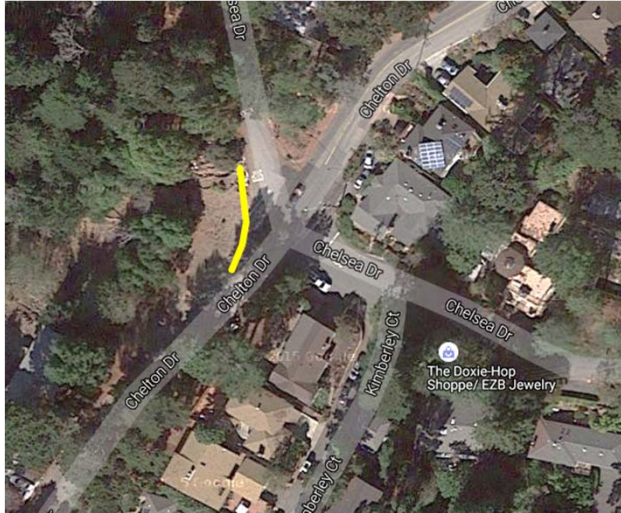
- Damaged / Outdated / Tilting
- Missing end treatment
- Extend around curve to fill a minor gap
- Replace with current standard

26) Haverhill Dr between Longcroft Dr & Chelton Dr



- Outdated
- Missing end treatment
- Replace with current standard

27) Chelton Dr & Chelsea Ct



- Damaged / Outdated
- Replace with current standard

Collision Diagrams

(Not applicable)

Collision Lists

(Not applicable)

Collision Summaries

(Not applicable)

04-Oakland-6 Expanded

Detailed Engineer's Estimate

Detailed Engineer's Estimate and Cost Breakdown by Countermeasure

For Construction Items Only

Important: before entering any data, read instructions in "Instructions" Tab and Appendix A of the Application Form Instructions.

Shaded fields (with formulas) are locked (read-only). Only enter data in fields with white background.

Agency:	City of Oakland	Application ID:	04-Oakland-6	Prepared by:	DKS Associates	Date:	9/30/2016										
Project Description:	Replace damaged or missing metal beam guardrails with the current standard double midwest guardrail systems at twelve locations.																
Project Location:	Various roadways in Oakland hills																
Engineer's Estimate (for Construction Items Only)						Cost Breakdown											
						Safety-Related Costs										Non Safety-Related Costs	
						Countermeasure #1		Countermeasure #2		Countermeasure #3		Other Safety-Related					
Item No.	Item Description	Quantity	Unit	Unit Cost	Total	%	\$	%	\$	%	\$	%	\$	%	\$		
1	Traffic Control (5-15% per site)	1	LS	\$81,830.25	\$81,830	100	\$81,830										
2	Mobilization (15%)	1	LS	\$91,004.25	\$91,004	100	\$91,004										
3	Remove existing metal beam guardrail	4207	LF	\$10.00	\$42,070	100	\$42,070										
4	Furnish & Install Double Midwest Guardrail System	4245	LF	\$115.00	\$488,175	100	\$488,175										
5	Furnish & Install Double Midwest Guardrail System with metal posts	524	LF	\$140.00	\$73,360	100	\$73,360										
6	Install Asphalt Concrete Dike	618	LF	\$5.00	\$3,090	100	\$3,090										
7														100			
8														100			
9														100			
10														100			
11														100			
12														100			
13														100			
14														100			
15														100			
16														100			
17														100			
18														100			
19														100			

Engineer's Estimate (for Construction Items Only)						Cost Breakdown									
						Safety-Related Costs								Non Safety-Related Costs	
						Countermeasure #1		Countermeasure #2		Countermeasure #3		Other Safety-Related			
Item No.	Item Description	Quantity	Unit	Unit Cost	Total	%	\$	%	\$	%	\$	%	\$	%	\$
20														100	
21														100	
22														100	
23														100	
24														100	
25														100	
26														100	
27														100	
28														100	
29														100	
30														100	
Sub Total of Construction Items:					\$779,530		\$779,530								
% of "Construction Items only" Cost per Countermeasure (Yellow fields - To be entered in Application Form - Section III)						100%									
						CM#1		CM#2		CM#3		(Other Safety)		(Non Safety)	
Construction Item Contingencies (% of Con Items i.e. enter 10 for 10%); Enter in the cell to the right				10%	\$ 77,953										
Total Construction Cost (Construction Items & Contingencies):					\$ 857,500	(Rounded up to the nearest hundreds)									

Select up to 3 CMs from the dropdown lists below. Use "Delete" key to delete.

Note: the CMs selected below must account for at least 15% of the construction cost per the above estimate.

CM#	CM Description	CM Federal Funding Eligibility
CM#1:	Set-aside No. 1 - guardrail upgrades	100%
CM#2:	(No selection)	(No selection)
CM#3:	(No selection)	(No selection)

Maximum "HSIP/Total" percentage allowed for this project:	100%
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Benefit Calculator Printouts

(Not applicable)