Department of Public Works

COUNTY OF SAN MATEO

PROJECT UPDATE

Alpine Road Trail Improvements Project

Bank Stabilization Measures

COUNTY OF SAN MATEO

Alpine Road Trail - Project Scope
Presented to Board on January 28, 2014

•Project consists of trail rehabilitation and bank stabilization at three locations between Portola Valley and Menlo Park

•**Trail**

- Rehabilitate 1.84 miles of existing 4-6’ wide asphalt trail to improve trail surface by:
  - Removing existing asphalt, compact, and pave with 2” of asphalt; or
  - Applying a slurry seal to segments of trail in good condition
  - No change in trail alignment, except in select locations move trail 1-2 feet away from trees

COUNTY OF SAN MATEO

Alpine Road Trail - Project Scope
Presented to Board on January 28, 2014

- **Bank Stabilization Measures**
- Stabilize the Los Trancos Creek bank in three locations within the Alpine Road right-of-way to prevent further trail narrowing and protect critical utilities:
  - **Site 1:** 110’ long block wall - to support trail and railing
  - **Site 2:** 80’ long solider pile wall with concrete lagging – to support trail, PG&E gas line within a few feet of wall, and sanitary sewer line in close proximity
  - **Site 3:** 70’ long cast in place concrete wall – to support trail and PG&E gas line, sanitary sewer line, and Alpine Road in close proximity

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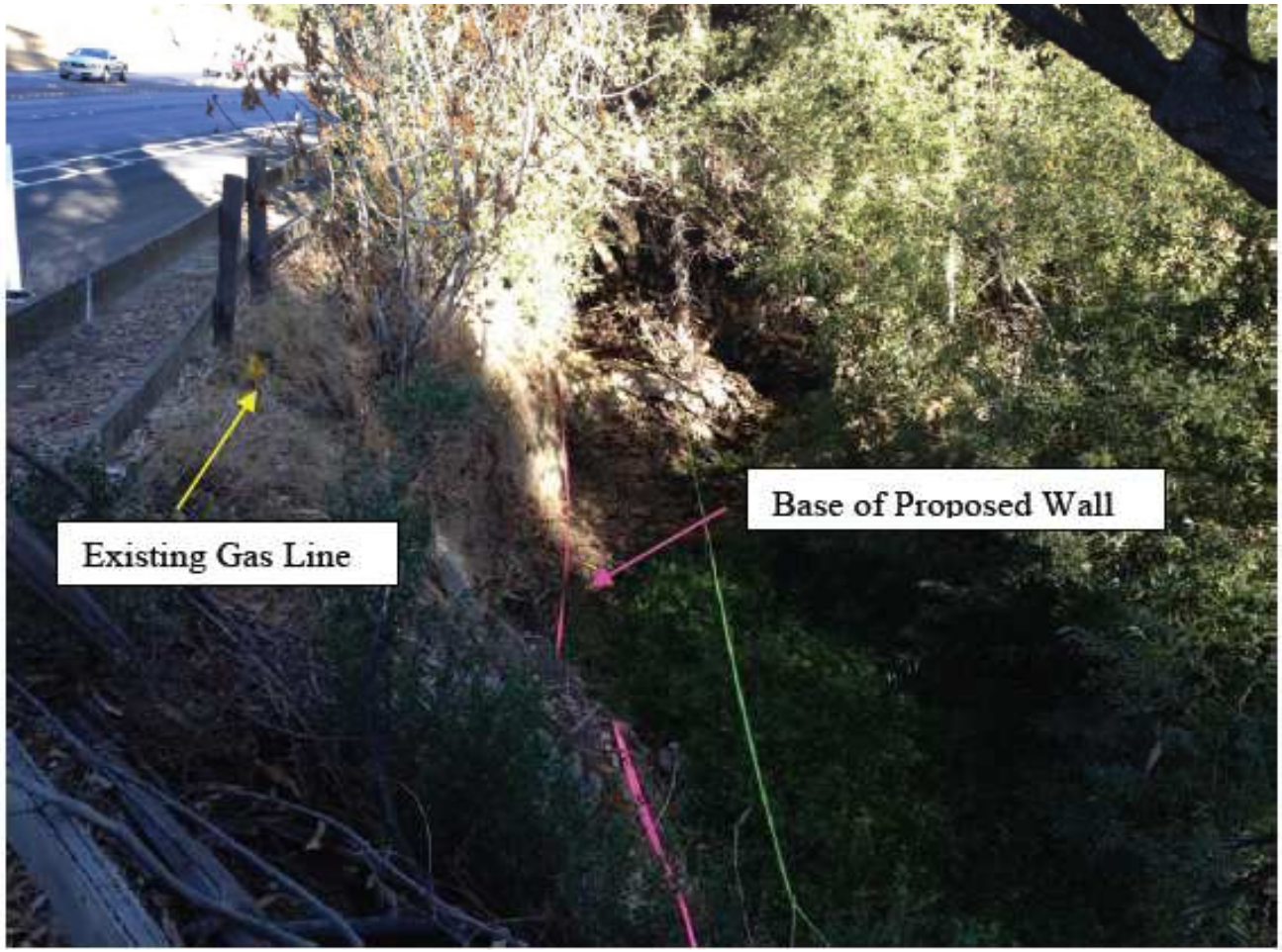
Alpine Road Trail

Site 2 (looking north)



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Alpine Road Trail

Site 3 (looking south)

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Alpine Road Trail - Board Direction

January 28, 2014:

- Meet with Stanford University (Stanford) to evaluate alternate approaches to remediate creek bank erosion at Sites 2 and 3

March 11, 2014:

- Directed the Department to work with Stanford to develop alternative designs for Sites 2 and 3 that address environmental concerns raised by Stanford and the Public
- Recognized that alternative designs may require the use of Stanford property

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Alpine Road Trail - Board Direction/Authorization

November 18, 2014:

- Directed Department to proceed based on the alternatives presented after obtaining confirmation from the regulatory agencies
  - Site 2 - Live Log Crib Wall
  - Site 3 - Shift Creek approx. 75 feet (if not acceptable to agencies construct Live Log Crib Wall)
- Authorized the revision and recirculation of the IS/MND for the Project

January 27, 2015:

- Authorized an agreement with Environmental Science Associates for permit application work - term of Jan. 27, 2015 to Jan. 27, 2018 for a maximum amount of $300,000

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Alpine Road Trail

Agency Meeting After the November 18, 2014 Board Meeting

- Field meeting on January 15, 2015 with Stanford and regulatory agencies to review Project and proposed bank treatments. Attendees included:
  - Stanford
  - San Francisco Bay Regional Water Quality Control Board
  - California Fish and Wildlife Service
  - National Oceanic Atmospheric Administration
- Continued outreach to regulatory agencies not able to attend field meeting to obtain input

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Alpine Road Trail

Summary of January 15, 2015 Field Meeting

- Recommendations:
  - Site 2 : Construct a Live Log Crib Wall and a soldier pile wall with concrete laggings – AS PROPOSED
  - Site 3: Perform a slight shift of the channel alignment of the creek and construct a live log crib wall and retaining wall instead of shifting creek approx. 75 feet – ALTERNATE RECOMMENDATION
  - Both recommendations are consistent with the November 18, 2014 Board Meeting item

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Alpine Road Trail

Live Log Crib Wall

- Logs rest on layer of rocks that protect the embankment from scour
- Constructed in a series of interlocking boxes with hollow center filled with soil and rock
- Logs will decay over time
- Live vegetation will be planted (ie. Willow, dogwood, alder)
- Once established, the live vegetation will further stabilize the bank
- Retaining walls are required at both sites in addition to Live Log Crib Wall

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Alpine Road Trail

Live Log Crib Wall

A. Installation of Live Crib Wall

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Alpine Road Trail

Live Log Crib Wall

B. Placement of Live Crib Wall

C. Live Log Crib Wall after vegetation

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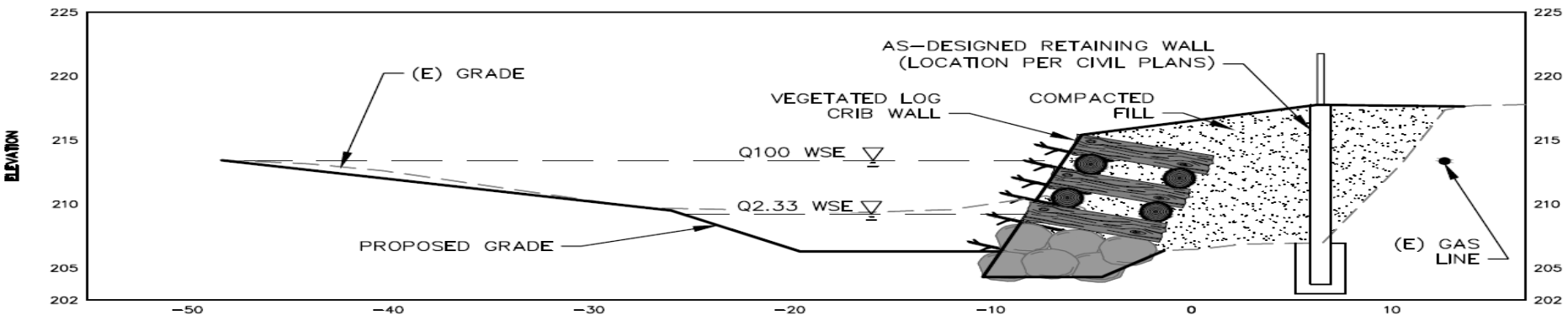
Alpine Road Trail

Site 2 - Recommendation

Live Log Crib Wall

- Approximately 100 feet in length, and 6 feet tall
- Existing channel shifted away from roadway
- Soldier Pile Retaining Wall installed behind Log Crib Wall
- Construction cost estimated to be $525,000-$650,000



ALTERNATIVE 1: ROCK TOE WITH VEGETATED LOG CRIB WALL

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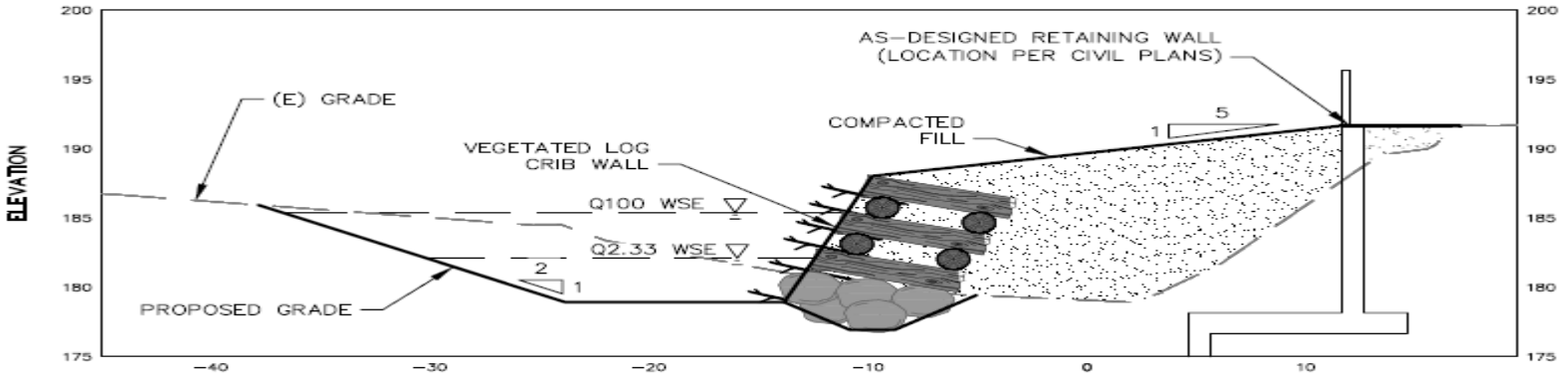
Alpine Road Trail

Site 3 –Recommendation

Live Log Crib Wall

- Approximately 65 feet in length, and 5 feet tall
- Existing channel shifted away from roadway
- Retaining Wall installed behind Log Crib Wall
- Construction cost estimated to be $350,000-$500,000



ALTERNATIVE 1: ROCK TOE WITH VEGETATED LOG CRIB WALL

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Alpine Road Trail Alternatives

Fiscal Impact

Description of Work	Original Cost Estimate	Recommended Alternatives (additional Cost)	Total Cost Estimate
Design	$250,000	$150,000	$400,000
Site 2 Construction	$200,000	$500,000	$700,000
Site 3 Construction	$200,000	$350,000	$550,000
Trail Work	$480,000	----------	$480,000
Environmental	$170,000	$160,000	$330,000
Construction Inspection	$80,000	$125,000	$205,000
Alternatives Feasibility Analysis	---------	$60,000	$60,000
Total	$1,380,000	$1,345,000*	$2,725,000

*Additional funding estimated to be $1,345,000 is required based on the recommended alternatives

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Alpine Road Trail Improvements Project

Thank You!