



Midpeninsula Regional  
Open Space District

R-16-93  
Meeting 16-17  
July 27, 2016

## AGENDA ITEM 7

### AGENDA ITEM

Update on El Corte de Madera Creek Watershed Protection Program

#### GENERAL MANAGER'S RECOMMENDATION

Receive an update on the Watershed Protection Program at the El Corte de Madera Creek Open Space Preserve.

#### SUMMARY

From 2002 to 2015, District staff, consultants and contractors planned for and implemented over 20 miles of road and trail erosion control treatments in the El Corte de Madera Creek (ECMD) Open Space Preserve (Preserve) under an interagency approved Watershed Protection Program (WPP). Development of the WPP began in 2001 when the District met with representatives from multiple regulatory agencies in response to a citizen complaint about the roads and trails within the Preserve contributing excess sediment to El Corte de Madera Creek and ultimately to San Gregorio Creek. Following consultant work to assess the roads and trails, and input from regulatory agencies, the Board approved the final WPP in January 2004, permitting and implementation commenced, and in 2015 the District completed work on all high priority sites. The District has expended \$1.25 million on the WPP, in addition to a significant amount of administrative and field crew staff time. In January 2016, a re-assessment of the original 2002 Road and Trail Inventory was completed to determine if any untreated reaches need updated treatment recommendations due to changes in site conditions over the past 14 years. Implementation of recommended treatments from the updated report will be scheduled in future years through the District's ongoing routine maintenance program. In addition, the District will implement the second phase of the previously established in-stream monitoring program within the Preserve to monitor the effectiveness of implementation of the WPP in reducing sedimentation in the Preserve's stream reaches.

#### DISCUSSION

##### *Collaboration with Other Agencies*

Development of the WPP began in 2001 when the District met with representatives from the National Marine Fisheries Service, California Department of Fish and Wildlife, and the San Francisco Bay Regional Water Quality Control Board. These regulatory agencies were interested in the project in order to respond to a citizen complaint about the roads and trails within the Preserve contributing excess sediment to El Corte de Madera Creek. In 2004, a formal WPP was adopted by the Board and approved by these agencies. Early work began in 2003 and continued until 2008. At this time, US Army Corps of Engineers and US Fish and Wildlife Service were brought into the project and work resumed from 2011 through 2015.

*Work Completed*

Biological assessments and surveys for California red-legged frog, marbled murrelet, Kings Mountain Manzanita, migratory birds, and other protected plant species were completed prior to and throughout work efforts as dictated by regulatory permits. Hydrological assessments to determine baseline conditions and a pre-and post- construction monitoring program were completed in 2004 and were ongoing throughout to monitor conditions and to inform project design.

Road and trail improvements under the WPP began in 2003 and continued through 2015. On-the-ground work occurred in all years except 2009 and 2010 and consisted of reshaping, re-contouring, rocking, rerouting, road to trail conversion, and water course crossing improvements such as removal of failing culverts, culvert upgrades, new bridge construction, and installation of erosion control features such as rolling dips, rocked fords and re-vegetation.

Of the nineteen trails within the Preserve, seventeen have been worked in part or in total to meet sediment reduction objectives for a total of 20 miles of road and trail treatments completed. A total of eight new bridges and three new puncheons (small bridges) have been installed on five trails. A total of four miles of high sediment delivery, poorly located and difficult to maintain trails have been formally abandoned (re-contoured, reshaped, and re-vegetated) with alternate user access provided through properly draining reshaped and/or newly constructed or re-routed trails. Work was completed primarily by District work crews, with some portions being completed by contractors, special interest groups (mountain bikers), the California Conservation Corps, and District volunteers and all staff joint work days.

In early 2016, Timothy Best, Certified Engineering Geologist completed a re-assessment of the original 2002 Road and Trail Inventory (RTI) to determine how treatments were working and if any untreated reaches need to be elevated in priority or treatment recommendations updated due to changes in site conditions. The reassessment indicated that the Preserve's road and trail network has been vastly improved and implemented treatments are performing well overall. While most of the sediment delivery reduction work has been implemented, there are some untreated trails that are in poor shape due to lack of ongoing maintenance due to staff workload priorities. Also, there are some erosion control features installed within the last fourteen years (such as rolling dips) that now require maintenance to be most effective. The 2016 report identifies these areas, provides recommendations, and implementation will be scheduled in future years through the District's ongoing routine maintenance program.

*Future Work Efforts*

Implementation of priority treatments identified in the 2016 updated RTI will be scheduled in future years through the District's ongoing routine maintenance program. In addition, the District will also need to complete post construction in stream sediment monitoring to assess the effectiveness of the erosion control measures implemented over the last fourteen years. Post-construction instream monitoring is required once rain events with sufficient frequency, timing, and duration move sediment from adjacent slopes into the aquatic environment and relocate sediment already stored in the stream channel to further downstream locations. Beginning in FY 2017-18, the District's Water Resources Specialist will work with consultants to determine if sufficient rain events have occurred and, if necessary, begin instream monitoring.

## **FISCAL IMPACT**

### *Cost of Program since Inception*

A total of \$1.25 million has been spent on the project since inception in 2002 to completion of the final high priority work items in 2015. Approximately \$1,000,000 was spent from 2002 to early 2012, while the remaining funds were spent from 2012 onward. Much of the first ten year costs were in project initiation (road and trail inventory, stream surveys, permitting and design) and Phase I implementation (contractors, equipment rental and materials). The remaining funds were spent on Phase II from 2012-2015 for equipment rentals, materials, and engineering oversight for District work crews. Not included in this estimate is the amount of staff time (both administrative and field crew) that went into planning and implementation of this project. At least one administrative staff was dedicated to this project for the duration of the entire project and between two to six field staff, generally in 1-2 crews working each field season (depending on the level of work identified for a given year).

### *Future Costs*

Implementation of priority treatments identified in the 2016 updated RTI will be budgeted and scheduled in future years through the District's ongoing routine maintenance program. Instream monitoring associated with post project construction will be evaluated in FY2017-18 and if appropriate, will be scheduled and overseen by the Water Resources Specialist in the Natural Resources Department.

## **BOARD COMMITTEE REVIEW**

The El Corte de Madera Creek Watershed Protection Plan process has had substantial Board and public review over the last fourteen years. No further Board Committee involvement is anticipated as this project is near completion.

## **PUBLIC NOTICE**

Public notice was provided as required by the Brown Act. A notification mailing was also sent to interested parties for the El Corte de Madera Creek Open Space Preserve on July 22, 2016.

## **CEQA COMPLIANCE**

Any future road and trail work within the Preserve will be implemented under the CEQA document prepared for the Midpeninsula Regional Open Space District's Routine Maintenance Program. Any identified projects that fall outside of the purview of this document, such as a new bridge, would require a separate CEQA process. Instream monitoring potentially scheduled for FY2017-18 is categorically exempt under CEQA Guideline 15306 Information Collection, as it will not result in a serious or major disturbance to an environmental resource.

## **NEXT STEPS**

Next steps will include:

- FY2017-18: Post construction instream monitoring evaluation and potential implementation

- Future years: Ongoing routine maintenance on roads and trails within the Preserve

Attachment(s)

1. 2002 RTI map
2. Completed treatment sites 2002-2015
3. Updated 2016 RTI map

Responsible Department Head:

Kirk Lenington, Natural Resources Manager

Prepared by:

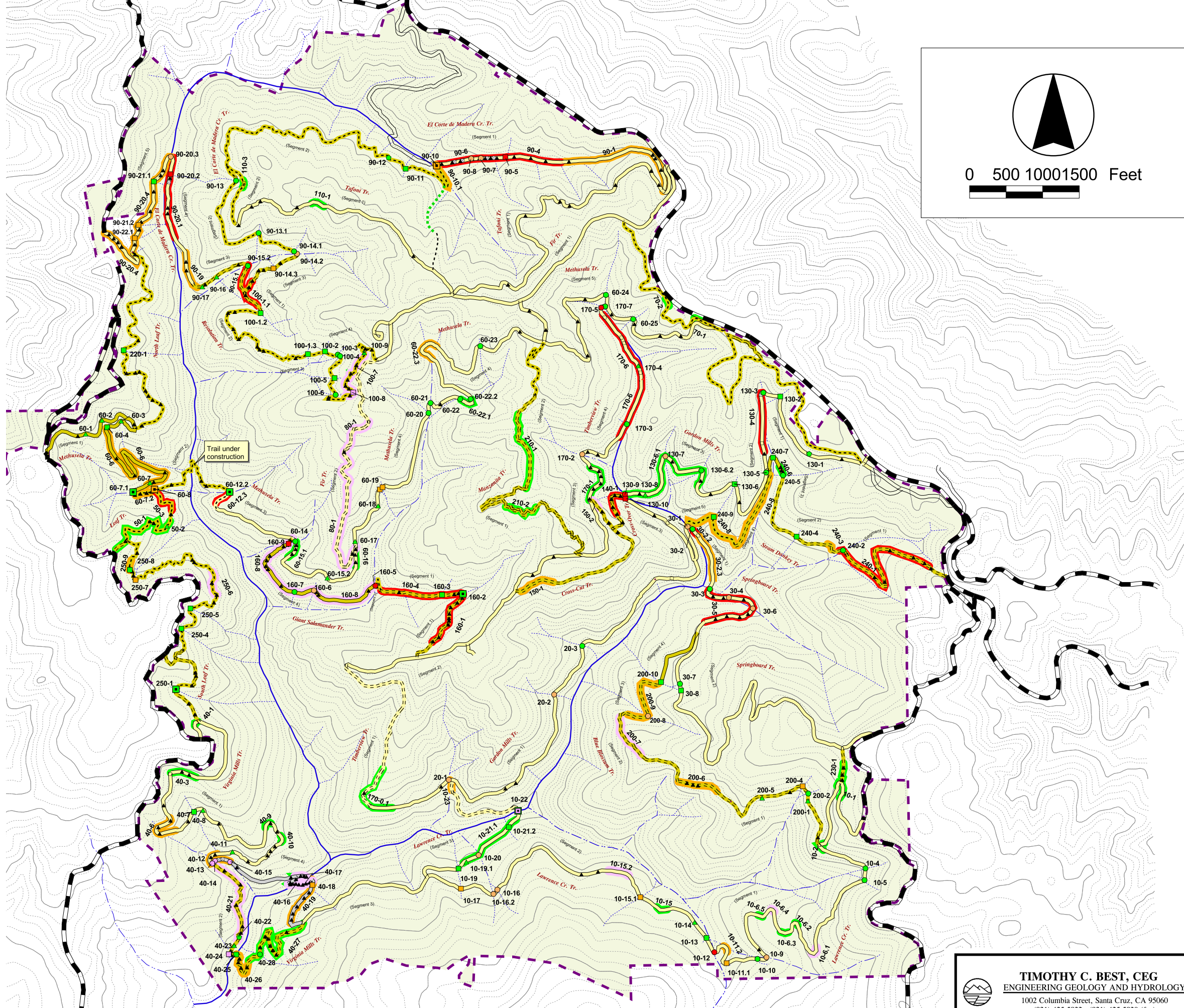
Julie Andersen, Resources Specialist III, Natural Resources

Graphics prepared by:

Timothy Best, Certified Engineering Geologist

Jamie Hawk, GIS Technician





**LEGEND**

**ROAD/TRAIL TYPE**

- Paved Road
- Dirt Road
- Skid (Tractor) Trail
- Narrow Trail

**ROAD/TRAIL USE**

- Multi-Use Trail: Driveable Patrol Road
- Multi-Use Trail: Not Driveable
- Proposed Multi-Use Trail

**STREAMS**

- Perennial
- Intermittent
- Ephemeral

**OTHER**

- Proposed Waterbreak
- Proposed Ditch Relief Culvert
- Existing Ditch Relief Culvert
- Preserve Boundary

**INVENTORY SITES**

- Culvert
- Ford
- Bridge
- Landslide
- Road Reach

**SEDIMENT TREATMENT PRIORITY**

Repair of Moderate to High priority sites is recommended to reduce sediment delivery from roads and trails to a level of non-significance.

- High
- Moderate
- Low
- Low

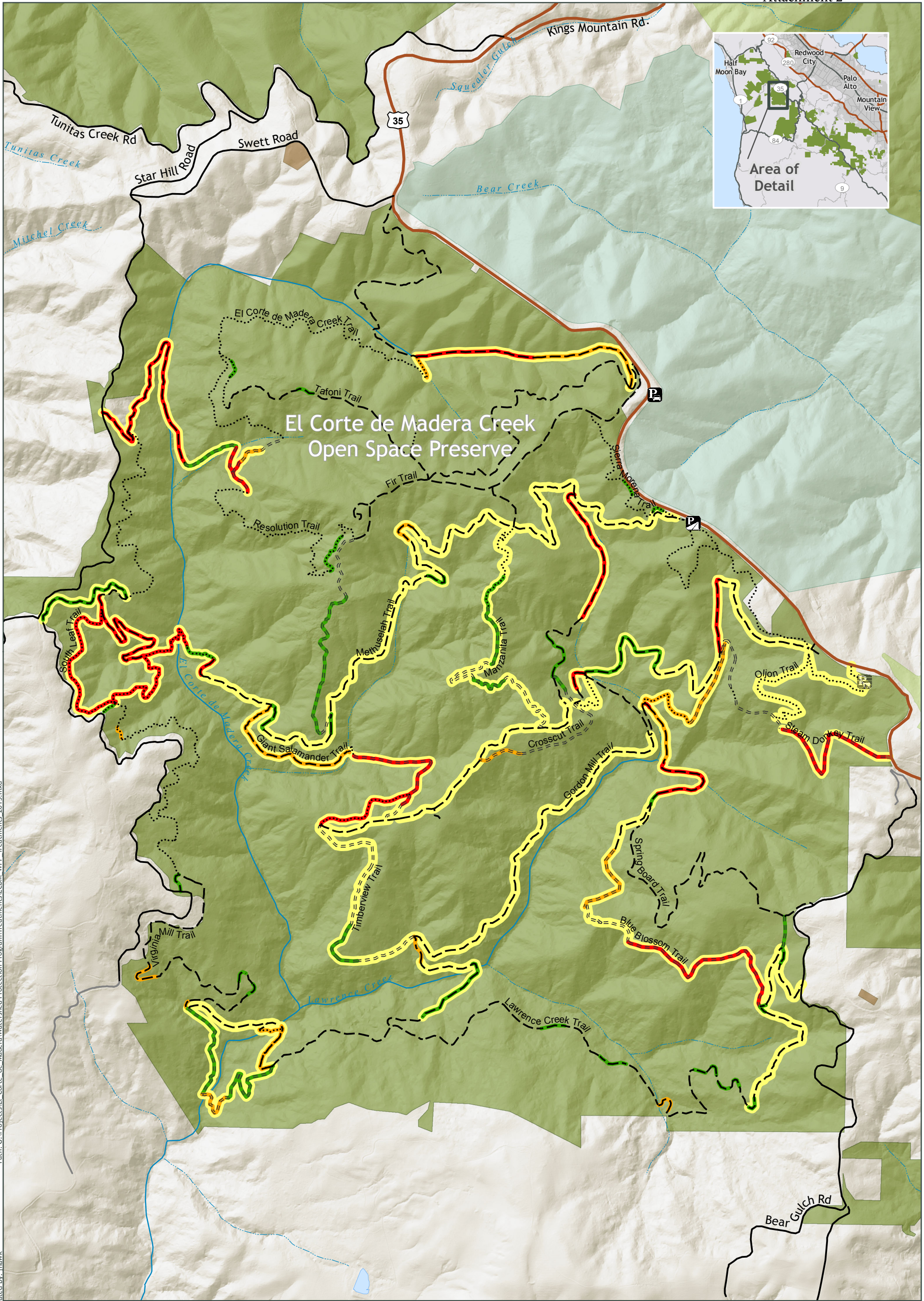
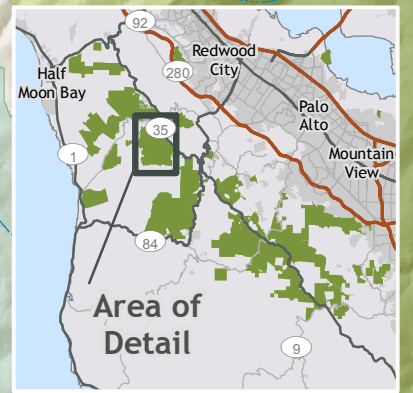
These are sites that demonstrate existing or potential road damage but without substantial sediment delivery. Repair of these sites is not required to reduce future sedimentation to the stream system but may be required for access.

**TIMOTHY C. BEST, CEG**  
 ENGINEERING GEOLOGY AND HYDROLOGY  
 1002 Columbia Street, Santa Cruz, CA 95060  
 (831) 425 5832 (831) 425 5830 (fax)

**ROAD AND TRAIL EROSION  
 INVENTORY MAP**  
 El Corte de Madera Open Space Preserve  
 Midpenninsula Open Space District

**FIGURE 2**  
 Job: MID-ELCORT-278  
 Date: 11/24/02





Path: G:\Projects\El\_Corte\_de\_Madera\Watershed Protection Program\Treatments\ECDM\_WPP\_Treatments\_2015.mxd  
Created By: jhawik

**Watershed Protection Program, Completed Treatments (2003-2015)**

- |                  |                      |                   |
|------------------|----------------------|-------------------|
| MROSD Preserves  | Completed Treatment  | High Priority     |
| Watershed Land   | Dirt Road            | Moderate Priority |
| Private Property | Skid (Tractor) Trail | Low Priority      |
|                  | Trail                |                   |

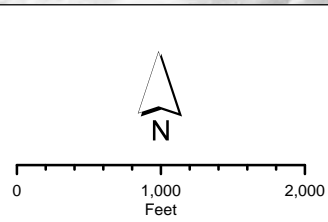
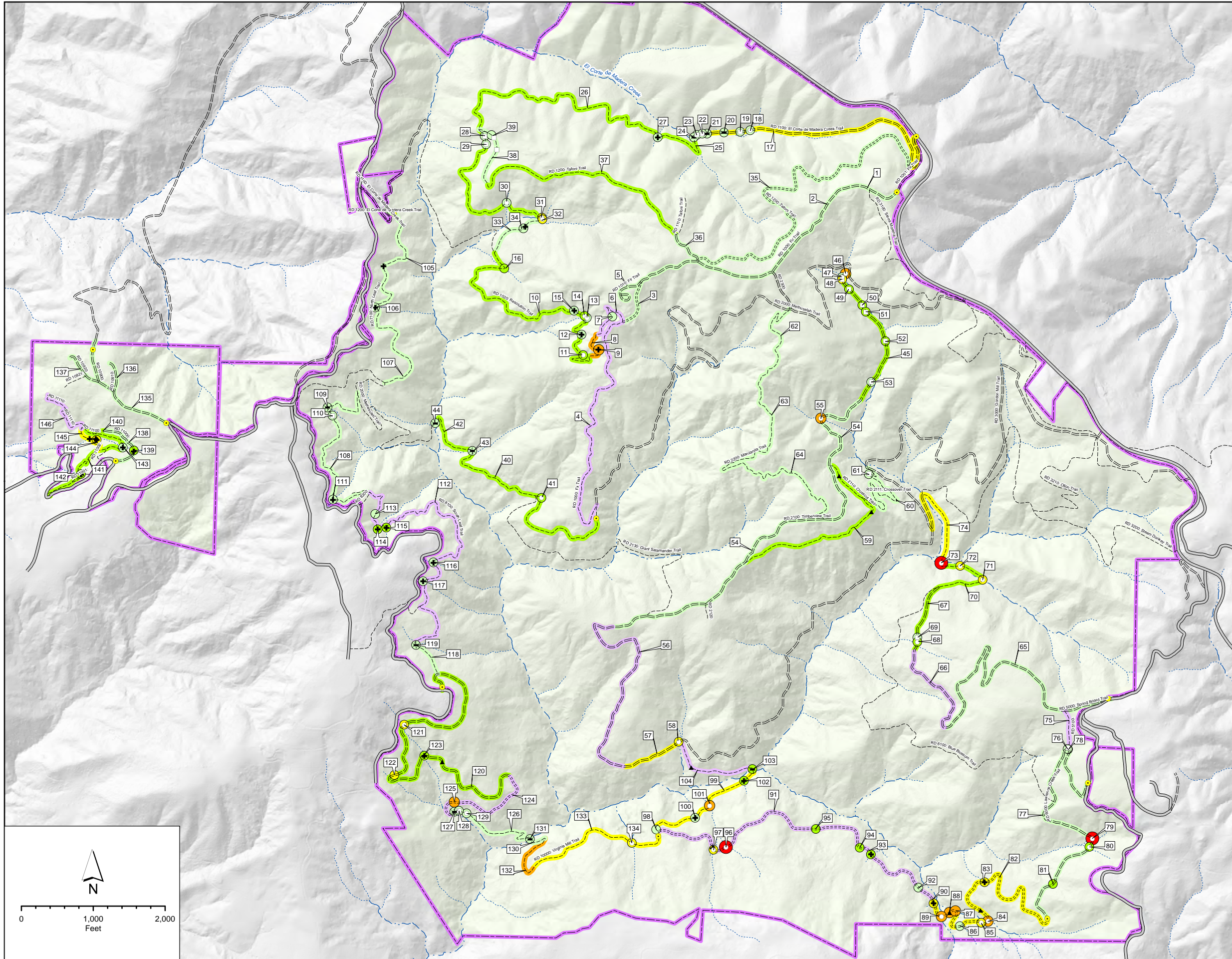
Midpeninsula Regional Open Space District (MROSD)



October, 2015  
Miles 0 0.15 0.3

While the District strives to use the best available digital data, this data does not represent a legal survey and is merely a graphic illustration of geographic features.





- Road/Trail Type**
- Paved Road
  - - - Unpaved Road
  - ⋯ Unmaintained Road
  - - - - Trail
- Watercourses**
- Perennial
  - - - Intermittent
  - ⋯ Ephemeral
- Preserve Boundary**
- Preserve Boundary
- Features**
- Culvert
  - Ditch relief culvert
  - × Bridge
  - ✕ Puncheon
  - ⊕ Ford
  - ▲ Fill Failure
  - Gate
- Sediment Priority: Reaches**
- Moderate to High
  - Moderate
  - Low to Moderate
  - Low
- Sediment Priority: Sites**
- High
  - Moderate to High
  - Low to Moderate
  - Low

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 (831) 425 5832 (831) 425 5830 (fax)

**SEDIMENT/ROAD TREATMENT PRIORITY**  
 El Corte de Madera Creek OSP  
 2016 Road and Trail Erosion Inventory  
 Midpeninsula Regional Open Space District

Date: May 19, 2016  
 Revised:  
 Project: MPEN-ECDM2016-RTI

**SHEET**  
**SED-2**