Storm Damage Repairs at Various Locations on Refugio Road- Project # 98R282

- Connects the Gaviota coast to the Santa Ynez valley

- Important Emergency/Fire Access Road to County Residents
Refugio Road Project 98R282

Phase I - Roadway Re-grading and Drainage Facility Repair/replacement

- Refugio road severely damaged in 1995, 1998 and 2001 storm events
- Road closed to all traffic, including emergency vehicle service

**Step 1** - County Fire Department used Blasting Materials and Heavy Equipment to cut into Hillside and create the width needed to transmit Emergency Vehicle Traffic
Refugio Road Project 98R282

Phase I - Roadway Re-grading and Drainage Facility Repair/Replacement

**Step 2**
- 4.3 Miles of Refugio Road Cleared of Brush and Debris
- Roadway Re-graded along Length of Project

- Reconstruction of Blown-out Drainage Berms and Filled-in Drainage Ditches
Refugio Road Project 98R282

Phase I - Roadway Re-grading and Drainage Facility Repair/replacement

Step 3

- Existing drainage facilities cleaned-out and flushed, repaired or replaced

- 385 ft of Culvert Installed at 13 locations
- Over-side Drains Installed at 6 locations
- Inlet Headwalls and Outlet Retaining Walls Installed at 20 locations
- 2 Large Diameter Culverts Repaired In-place
Refugio Road Project 98R282
Phase I - Roadway Re-grading and Drainage Facility Repair/replacement

Phase 1 Highlights

- Sacked-concrete headwalls constructed on-site to fit varying existing conditions. No form work needed

- Rip rap used as erosion protection was produced on-site, reducing import costs considerably
Refugio Road Project 98R282
Phase 2- Roadway Repair and Paving of Slope-failure Area (Site #19)

- 400 ft of roadway, drainage swells and earthen berm were re-graded to direct drainage to newly-installed facilities, and reduce continued erosion of failed slope

- 350 ft of Roadway and High Dike constructed
  - Will Provide Safe passage of emergency vehicular traffic, as well as local access
  - Should decrease maintenance costs of future storm events
Refugio Road Project 98R282

Project Cost and Funding

Project Cost
- Original Estimate: $214,000
- Revised Estimate: $186,250
- Actual Cost: $156,320

Project Funding
- 75% FEMA
- 25% OES

Project Status
- Completed