

GENERAL NOTES

1. The scope of work for this project includes removing existing guardrails, installing new metal guardrails and posts, constructing new end treatments, constructing new drainage pipe culverts and headwalls, asphalt paving underneath guardrails and dressing and hydro-mulch seeding shoulders.
2. The Contractor is reminded of the requirements of Subsection 105.16 - Subcontracts.
3. The Contractor's attention is directed to the following Sections of the Special Provisions: Subsection 107.06 - Contractor Duty Regarding Public Convenience; Subsection 104.11 - Utilities and Services; and Section 645 - Work Zone Traffic Control.
4. At the end of each day's work, the Contractor shall remove all equipment and other obstructions to permit free and safe passage of public traffic.
5. The existence and location of underground utilities, manholes, monuments and structures as shown on the plans are from the latest available data but the accuracy is not guaranteed. The encountering of other obstacles during the course of work is possible. The Contractor shall be held liable for any damages incurred to the existing facilities and/or improvements as a result of his operations.
6. All new guardrail shall be Strong Post W-Beam unless noted otherwise.
7. All lanes shall be open to traffic except during construction/extension of culvert structure that the Contractor will be allowed to close one lane of highway (a site specific traffic control plan shall be submitted to the Engineer for approval). Only one lane of highway shall be closed at any other time. Failure of the Contractor to all open lanes of traffic during the times specified above shall result in assessment of liquidated damages as specified in Section 108.09 of the Special Provisions.
8. The Contractor shall notify the Engineer in writing, two (2) weeks prior to starting operations.
9. Removal and disposal of existing end treatment including concrete foundations, steel rail post and backfilling of resulting holes, shall be considered incidental to the various contract items.
10. Trimming and dressing of shoulders, fill slopes and the vicinity of new inlet structure (@ Sta. 35+56.70±) shall consist of clearing, grubbing, grading, reshaping and compacting the unpaved areas with suitable material as shown on the plans and/or as directed by the Engineer. Suitable materials shall include materials from roadway excavation, including topsoil and base material therefrom, and if necessary, additional materials from borrow outside the limits of the right of way. Asphalt concrete removed from cold planing, reconstruction and roadway excavation shall not be used for dressing of areas that have been disturbed. This work shall be considered incidental to the various contract items.
11. Earth swale shall be graded to drain. Graded swales and shoulder shall be grassed. This work shall be considered incidental to the various contract items.
12. Existing drainage system will be functional at all times during construction. The Contractor shall furnish materials, equipment, labor, tools and incidentals necessary to maintain flow. This work shall be considered incidental to the various contract items.
13. The Contractor shall provide for access to and from all existing driveways, sidewalks and ADA access routes, and side streets and cross streets at all times. This work shall be considered incidental to the various contract items.
14. No section where guardrails have been removed shall be left unattended at the end of each work day. Open sections shall be shielded by portable physical barriers. Furnishing, installing and maintaining physical barriers shall be considered incidental to Item No. 694.0100 - Contractor-Furnished Portable Concrete Barrier. See Plan Sheets No. 17 & 18 for details.
15. Removal and disposal of steel rail elements, rubrails, W-Beam sections and backfilling of resulting holes shall be considered incidental to the various contract items.

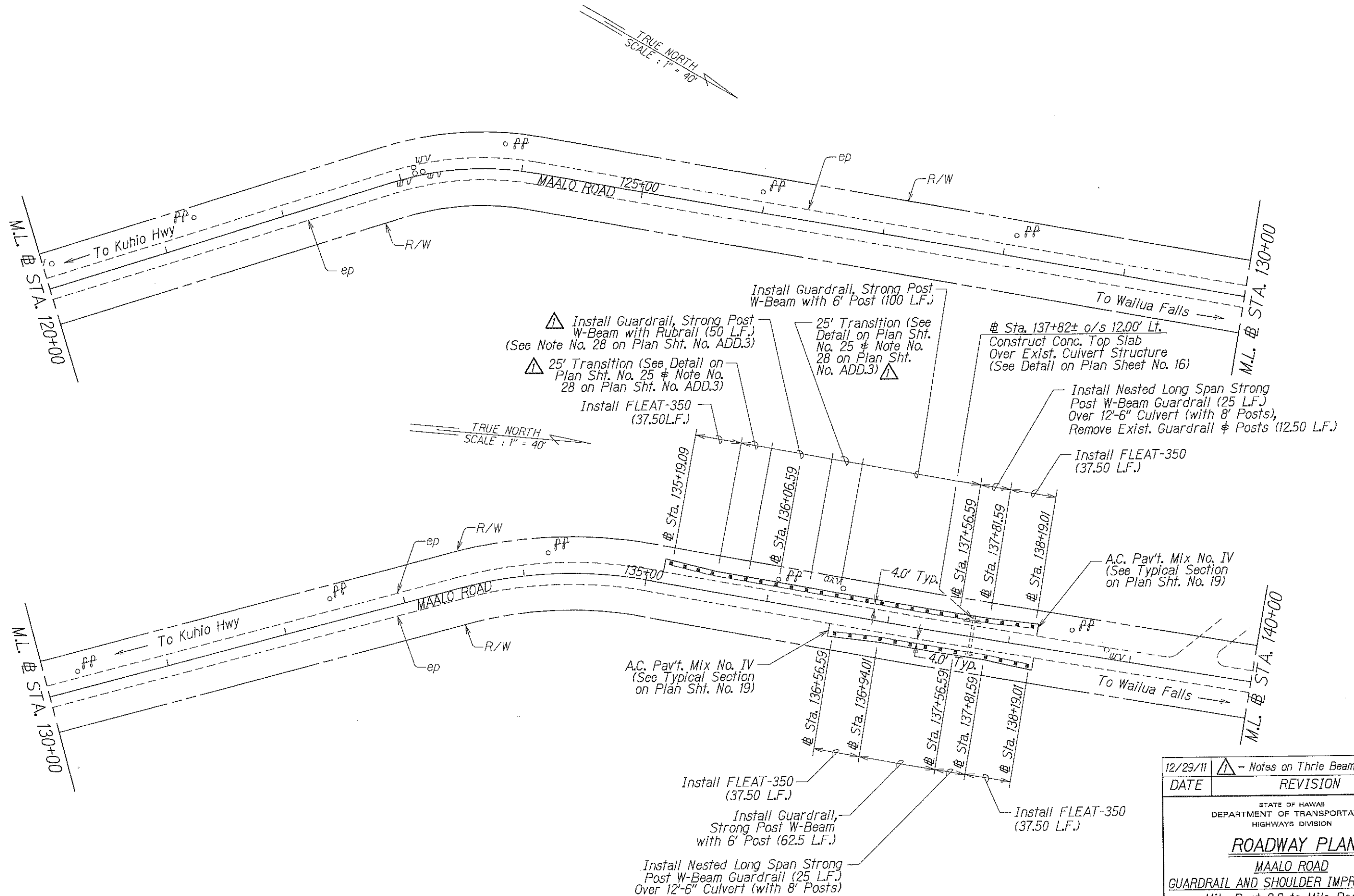
16. Removal and disposal of existing hollow tile structure, CRM structure and GRP lining, regrading of shoulder, backfilling, excavation, reinforcing bars and mortar shall be considered incidental to the various contract items.
17. Any work specified in the contract but not listed separately in the proposal schedule shall be considered incidental to other various contract items and shall not be paid for separately.
18. No material and/or equipment shall be stockpiled or otherwise stored within the highway right-of-way except at locations designated in writing and approved by the Engineer. If use of location is approved by the Engineer, the Contractor shall obtain a permit to use the property within the highway right-of-way from the State Highways Division at telephone no. 241-3000.
19. Prior to commencing his operations, the Contractor shall contact the County of Kauai, Department of Water Operations Division (Phone No. 245-5444) and make arrangements for the Department to locate and mark the existing water facilities within the project limits, such as waterlines, valve boxes and manhole frame/covers (including ones that may have been inadvertently paved over on previous resurfacing projects). The tops of the existing valve boxes, manhole frame/covers, etc., shall be adjusted to match the new finished grades noted on the construction plans.
20. All workers within the State right-of-way who are exposed to either vehicles using the roadway or to construction equipment shall wear high-visibility safety apparel that meets the Performance Class 2 or 3 requirements of ANSI/ISEA 107-2004. "Workers" is defined as people on foot whose duties place them with the State right-of-way, such as, but not limited to construction and maintenance forces, equipment operators, survey crews, utility crews, responders to incidents (e.g., EMT and firemen), and law enforcement personnel directing traffic, investigating accidents, handling lane closures and obstructed roadways.
21. The contractor shall be held liable for any damages incurred to the existing landscape as a result of his operations.
22. Underneath all guardrails shall be paved with Asphalt Concrete Pavement, Mix No. IV. Refer to Plan Sheets No. 7 thru 14 guardrail locations. Grading, compaction, saw cutting, backfilling, parabolic rounding and asphalt paving underneath guardrail shall be considered incidental to Item No. 401.0100 - HMA Pavement, Mix No. IV.
23. Prior to construction, the contractor shall contact the various utility agencies for location of existing utilities within the project limits. The Contractor shall locate and protect all existing utilities whether or not shown on the plans. Any costs incurred by damages to existing utilities will be borne by the Contractor. Contractor shall request from One-Call Center, Ph: 1-866-423-7287. The Contractor shall also call the County of Kauai, Department of Water, Ph: 245-5411 and the Wastewater Division, Ph: 241-6642 for toning waterlines and sewerlines respectively.
24. All works of toning, probing, hand digging and all other means of utility verifications shall not be paid for separately, but shall be considered incidental to the various contract items.
25. Should historic remains such as artifacts, burials, concentrations of shell or charcoal be encountered during construction activities, work shall cease immediately in the immediate vicinity of the find. The Contractor shall immediately notify the Planning Department and State Historic Preservation Division at (808) 241-3609, which will assess the significance of the find and recommend the appropriate mitigation measures, if necessary.
26. Moveable steel barriers can be used in lieu of portable concrete barriers. Moveable steel barriers shall be Vulcan Barrier as Manufactured by Energy Absorption System, Inc. or approved equal. Moveable Steel Barrier shall conform to the requirements of the Special Provisions, Section 695 - Moveable Steel Barriers. Furnishing, installing and maintaining moveable steel barrier shall be paid under Item No. 694.0100 - Contractor-Furnished Portable Concrete Barrier.
27. Applicable crash cushions (TL-2 or better) that have been tested and are suitable end treatments for Vulcan Barrier shall be used. This work shall be paid under Item No. 694.0200 - Inertial Barrier Module.
28. Strong Post Thrie Beam Guardrail can be used in lieu of Strong Post W-Beam with Rubrail provided that the Contractor shall submit plans and details for approval by the Engineer prior to installation. This work shall be paid under Item No. 606.0130 - Guardrail, Strong Post W-Beam with Rubrail.


LEGEND

⊙ pp	Existing Power Pole	—□—□—	Existing Metal Guardrail
⊙ emh	Existing Electric Manhole	—■—■—	New Metal Guardrail
⊙ EMH	Adjusted Elec. MH Frame/Cover	—□—□—	Adjusted and/or Relocated Metal Guardrail
□ epb	Existing Electric Pullbox	⊙ fh	Existing Fire Hydrant
⊙ tmh	Existing Telephone Manhole	—A—12—	Existing Sewer Line
⊙ TMH	Adjusted Tel. MH Frame/Cover	—S—12—	New 12" Sewer Line
□ tpb	Existing Telephone Pullbox	⊙ smh	Existing Sewer Manhole
—w—12—	Existing 12" Water Line	⊙ SMH	Adjusted Sewer Manhole
⊙ wmh	Existing Water Manhole	⊙ SMH	New Sewer Manhole
⊙ WMH	Adjusted Water MH Frame/Cover	⊙ mon.	Existing Monument
⊙ av	Existing Water Air Valve	⊙ MON.	Adjusted Monument
⊙ AV	Adjusted Water Air Valve	⊙ MON.	New Monument
⊙ wv	Existing Water Valve Box	---d--24---	Existing 24" Drain Line
⊙ WV	Adjusted Water Valve Box	⊙ admh	Existing Storm Drain Manhole
⊙ wmb	Existing Water Meter Box	⊙ SDMH	Adjusted Storm Drain Manhole
⊙ WM	Adjusted Water Meter Box	⊙ gdi	Existing Grated Drop Inlet
⊙ WM	New Type "X" Water Meter Box		
⊙	Existing Traffic Sign		
⊙	New Traffic Sign		
⊙ GDI	New Grated Drop Inlet		
⊙ GDI	Adjusted/Reconstructed Drain Inlet or Replaced Steel Grate		

12/29/11	△ - Notes on Thrie Beam
12/29/11	△ - Notes on End Treatment
12/29/11	△ - Notes on Moveable Steel Barrier
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
GENERAL NOTES AND LEGEND	
MAALO ROAD	
GUARDRAIL AND SHOULDER IMPROVEMENTS	
Mile Post 0.0 to Mile Post 2.95	
Fed-Aid Project No. STP-0583(002)	
Date: Dec. 2011	
SHEET No. 1 OF 1 SHEETS	

FED. ROAD DIST. NO.	STATE	FED-AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-0583(002)	2011	ADD. 13	27

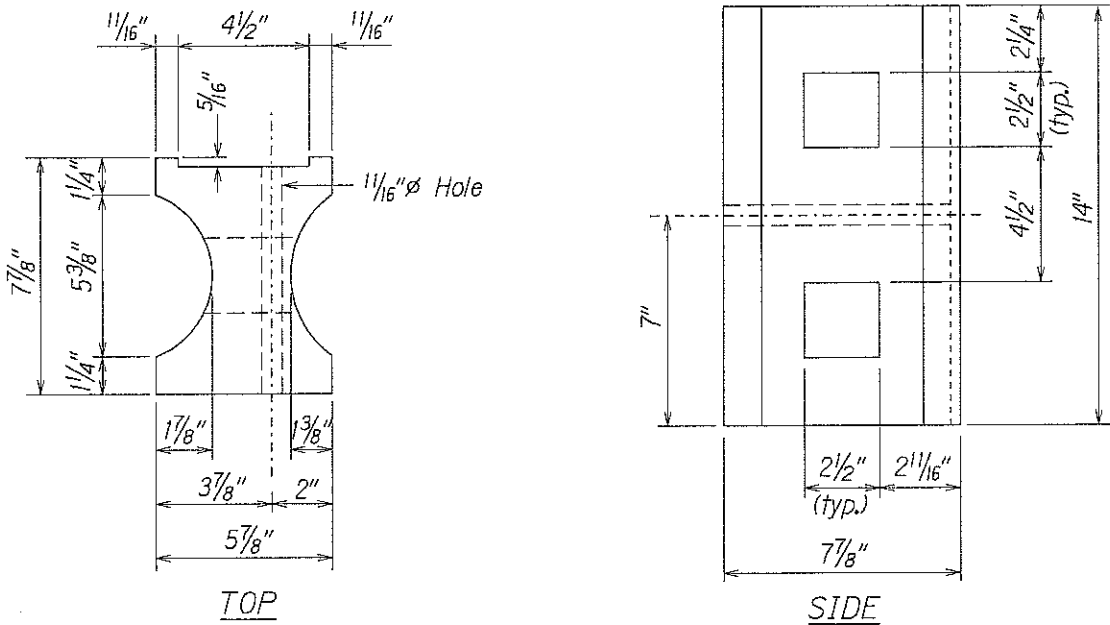


12/29/11	 - Notes on Thrie Beam Guardrail
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>ROADWAY PLAN</u> <u>MAALO ROAD</u> <u>GUARDRAIL AND SHOULDER IMPROVEMENTS</u> <u>Mile Post 0.0 to Mile Post 2.95</u> <u>Fed-Aid Project No. STP-0583(002)</u>	
Scale: 1" = 40'	Date: Dec. 2011
SHEET No. 7 OF 8 SHEETS	

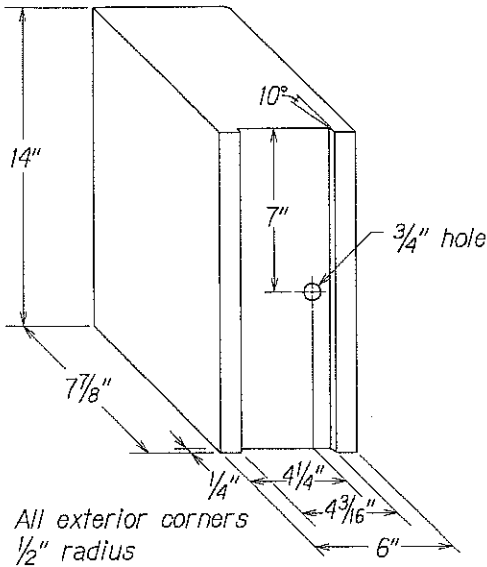
ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE <u>02/11</u>
	DRAWN BY <u>X</u>	
NOTE BOOK	DESIGNED BY <u>X</u>	
	QUANTITIES BY _____	
	CHECKED BY _____	
N. <u>40013490</u>		

GENERAL NOTES

- All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
- Where conditions require, special post lengths in increments of 6 inches may be specified.
- All fasteners, posts, and rail elements (i.e. FBB03, PWE01, RWM02b, etc.) shall conform to the latest edition and amendments of "A Guide to Standardized Highway Barrier Rail Hardware", a report prepared and approved by the AASHTO-AGC-ARTBA Joint Cooperative Committee, Subcommittee On New Highway Materials, Task Force 13 Report. Dimensions of fasteners, posts and rail elements have been converted from metric units into their present form.
- The Recycled Plastic Block or Offset Block shall be approved by the State.
- All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
- After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all dracks in the paved area caused during the guardrail post installation. If required by the inspector/engineer, the Contractor shall tamper the paved area around the guardrail post prior to filling/sealing. All costs associated with this work shall not be paid for separately, but shall be considered incidental to the various guardrail items.
- When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
- New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
- Reflector Markers (RM-5) mounted on guardrails shall be spaced every 25 feet. RM-5's shall not be installed on Terminal Sections. Furnishing and installing of each RM-5 shall be considered incidental to the adjacent guardrail system. RM-5 shall be either galvanized steel or plastic.
- Asphalt concrete pavement shall be constructed prior to installation of guardrail.
- Dress and hydro-mulch fill/cut areas and shall be considered incidental to the various contract items.
- Compact finished grade until there is no visible evidence of further consolidation. This work is subsidiary to Item No. 401.0100 - HMA Pavement, Mix No. IV.

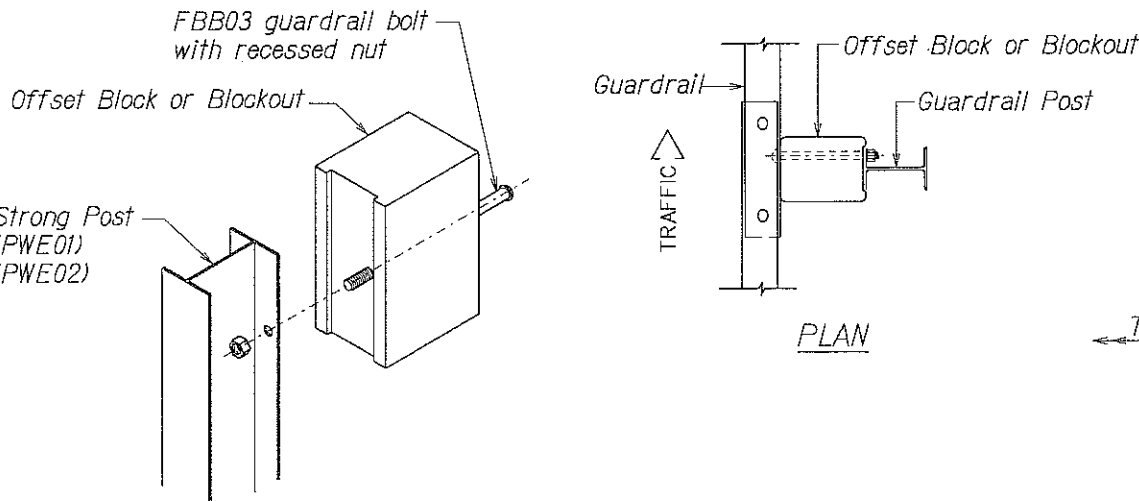


RECYCLED PLASTIC BLOCKOUT (TYPE I)



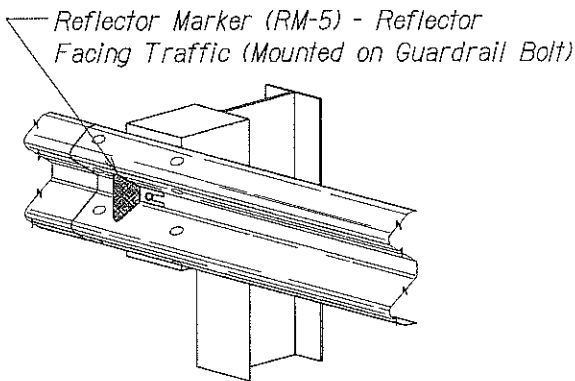
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)

GUARDRAIL TYPE	DIMENSION
	H
Strong Post W-Beam	1'-9 5/8"
Strong Post Rubrail (W-Beam)	2'-0"
Modified or Strong Post Thrie Beam	2'-0"

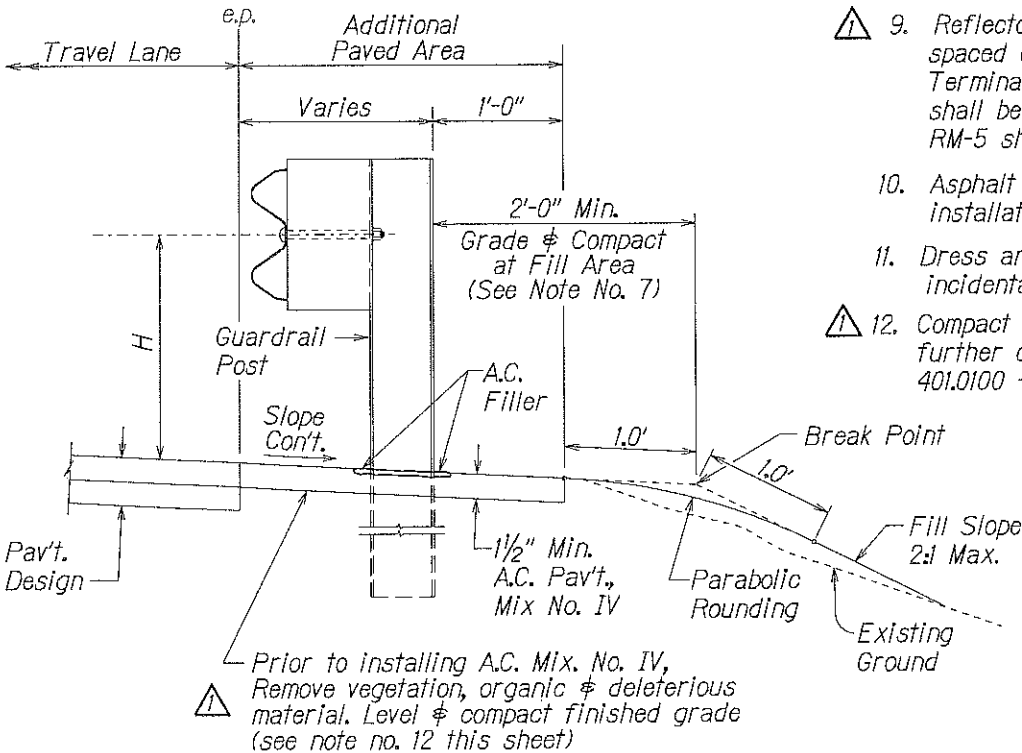
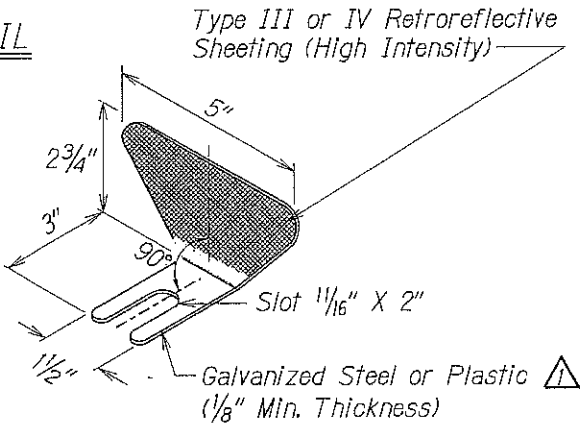


Exploded View
(Rail and washer not shown)

STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



ELEVATION

TYPICAL GUARDRAIL INSTALLATION

12/29/11	△ - Plastic Type (RM-5)
12/29/11	△ - Notes on compaction
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
GUARDRAIL DETAILS & NOTES	
MAALO ROAD	
GUARDRAIL AND SHOULDER IMPROVEMENTS	
Mile Post 0.0 to Mile Post 2.95	
Fed-Aid Project No. STP-0583(002)	
Scale: Not to scale	Date: Dec. 2011
SHEET No. 1 OF 8 SHEETS	