

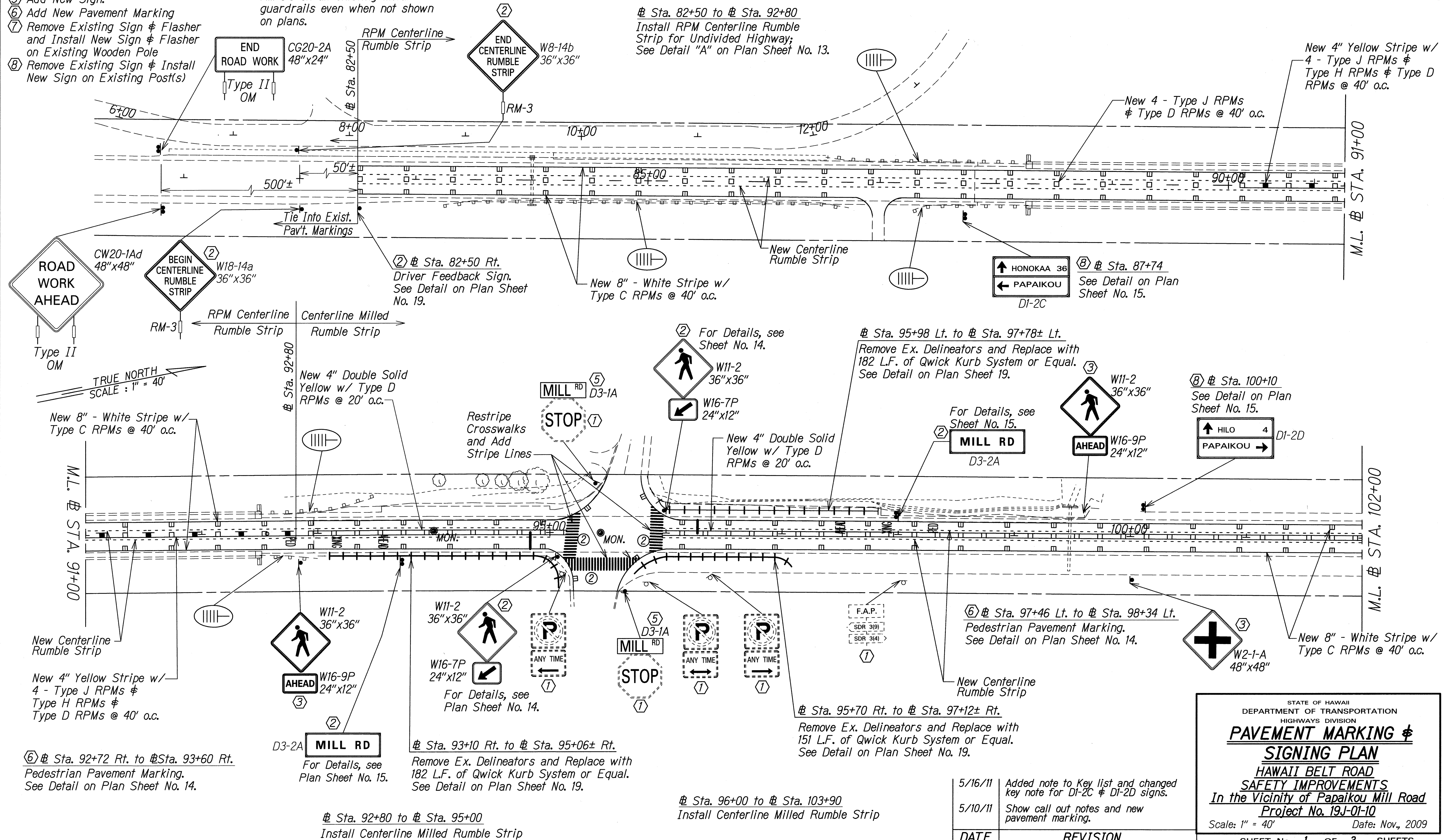
KEY:

- ① Exist. Sign & Post to Remain.
- ② Install New Sign with Post.
- ③ Remove Existing Sign & Post and Install New Sign & Post.
- ④ Remove Existing Sign and Replace with New Sign.
- ⑤ Add New Sign.
- ⑥ Add New Pavement Marking
- ⑦ Remove Existing Sign & Flasher and Install New Sign & Flasher on Existing Wooden Pole
- ⑧ Remove Existing Sign & Install New Sign on Existing Post(s)

③ Reflector Markers (RM-5) shall be mounted every 25 feet on all existing metal guardrails except on terminal sections. For details, see Plan Sheet No. 22. Unless otherwise noted, the Contractor shall be responsible for mounting RM-5's on all existing metal guardrails even when not shown on plans.

TRUE NORTH
SCALE : 1" = 40'

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2010	ADD. 11	25



SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PAVEMENT MARKING & SIGNING PLAN

HAWAII BELT ROAD SAFETY IMPROVEMENTS

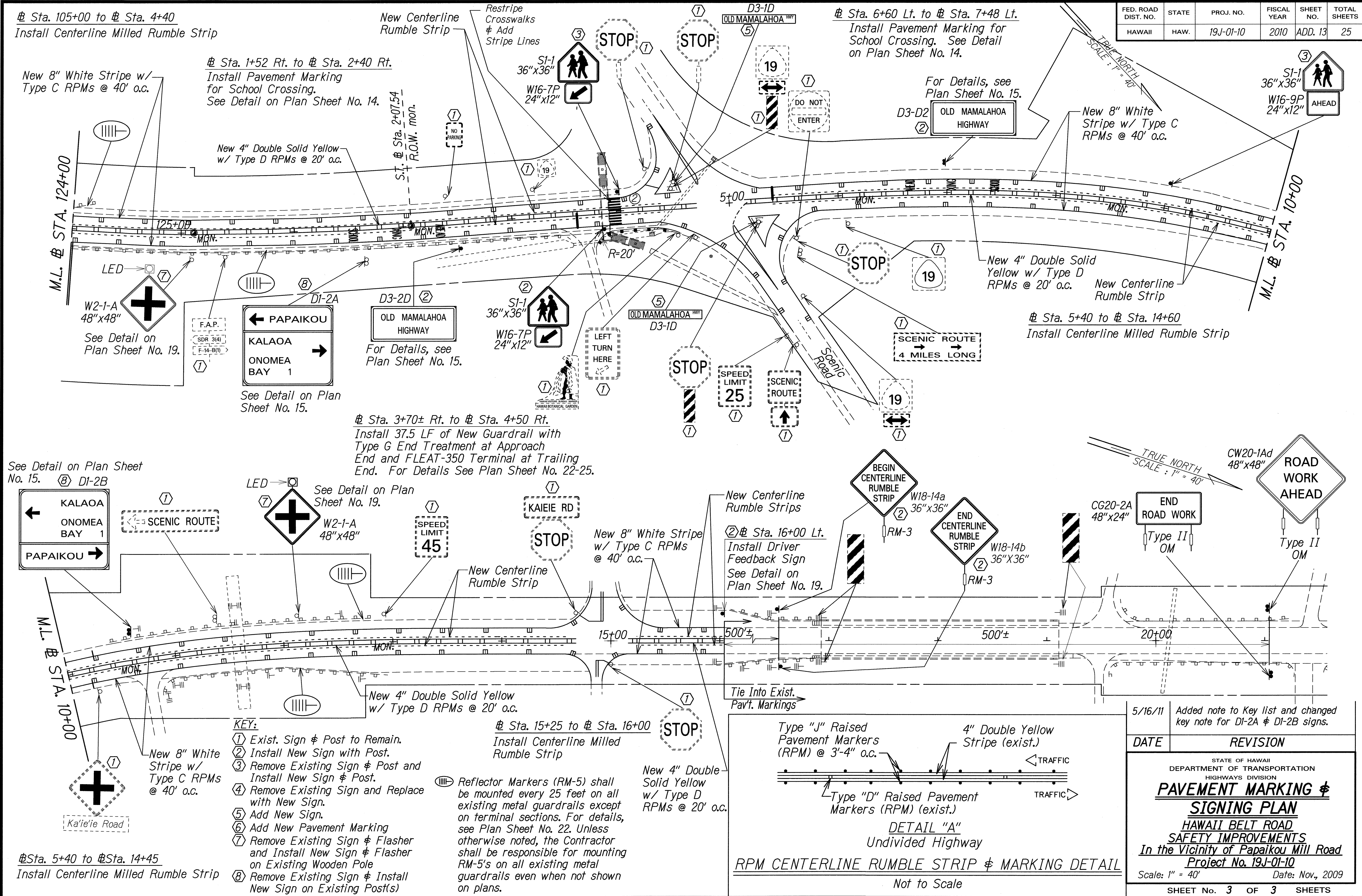
In the Vicinity of Papaikou Mill Road

Project No. 19J-01-10

Scale: 1" = 40' Date: Nov., 2009

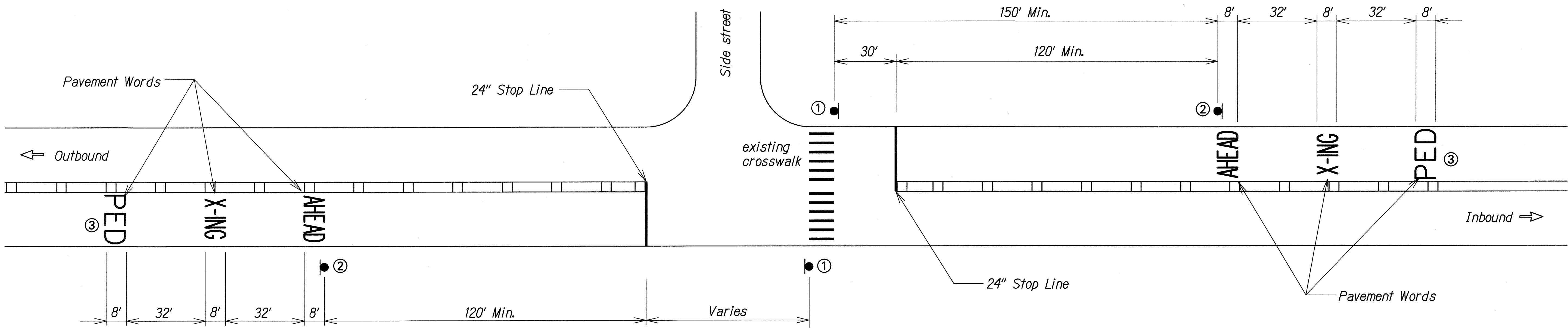
SHEET No. 1 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2010	ADD. 13	25



5/16/11	Added note to Key list and changed key note for DI-2A & DI-2B signs.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION PAVEMENT MARKING & SIGNING PLAN HAWAII BELT ROAD SAFETY IMPROVEMENTS In the Vicinity of Papaikou Mill Road Project No. 19J-01-10 Scale: 1" = 40' Date: Nov., 2009 SHEET No. 3 OF 3 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2009	ADD. 14	25



TYPICAL UNSIGNALIZED INTERSECTION MARKINGS **A**
(NO LEFT TURN STORAGE LANES)
Not to Scale

ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
IN CHARGE	
DATE	

① REQUIRED

OR

W16-7p 24\"x12\"

Black legend on flourescent yellow green background

REQUIRED

OR

W16-7p 24\"x12\"

② REQUIRED

AHEAD W16-9p 24\"x12\"

Black legend on flourescent yellow green background

REQUIRED

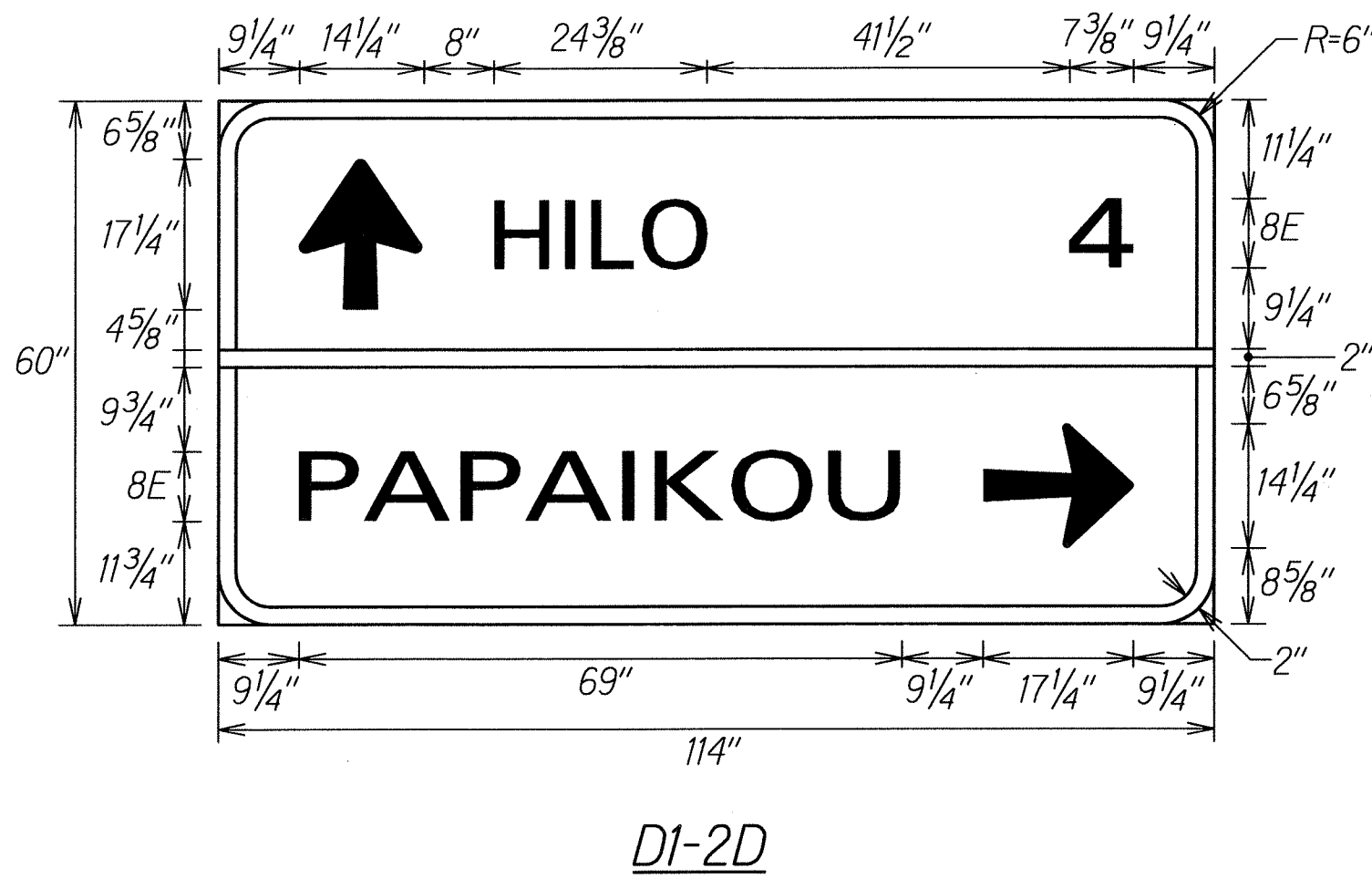
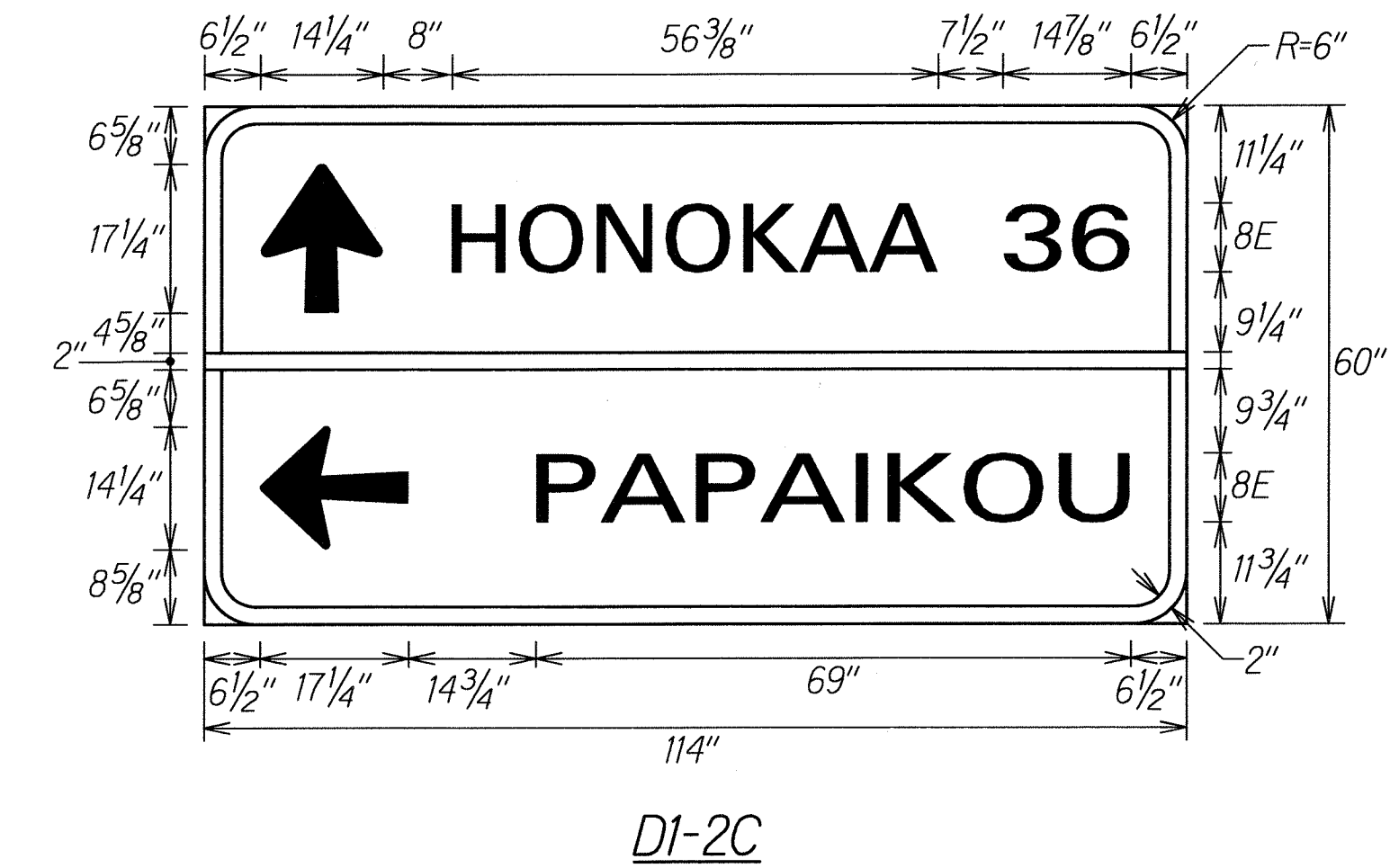
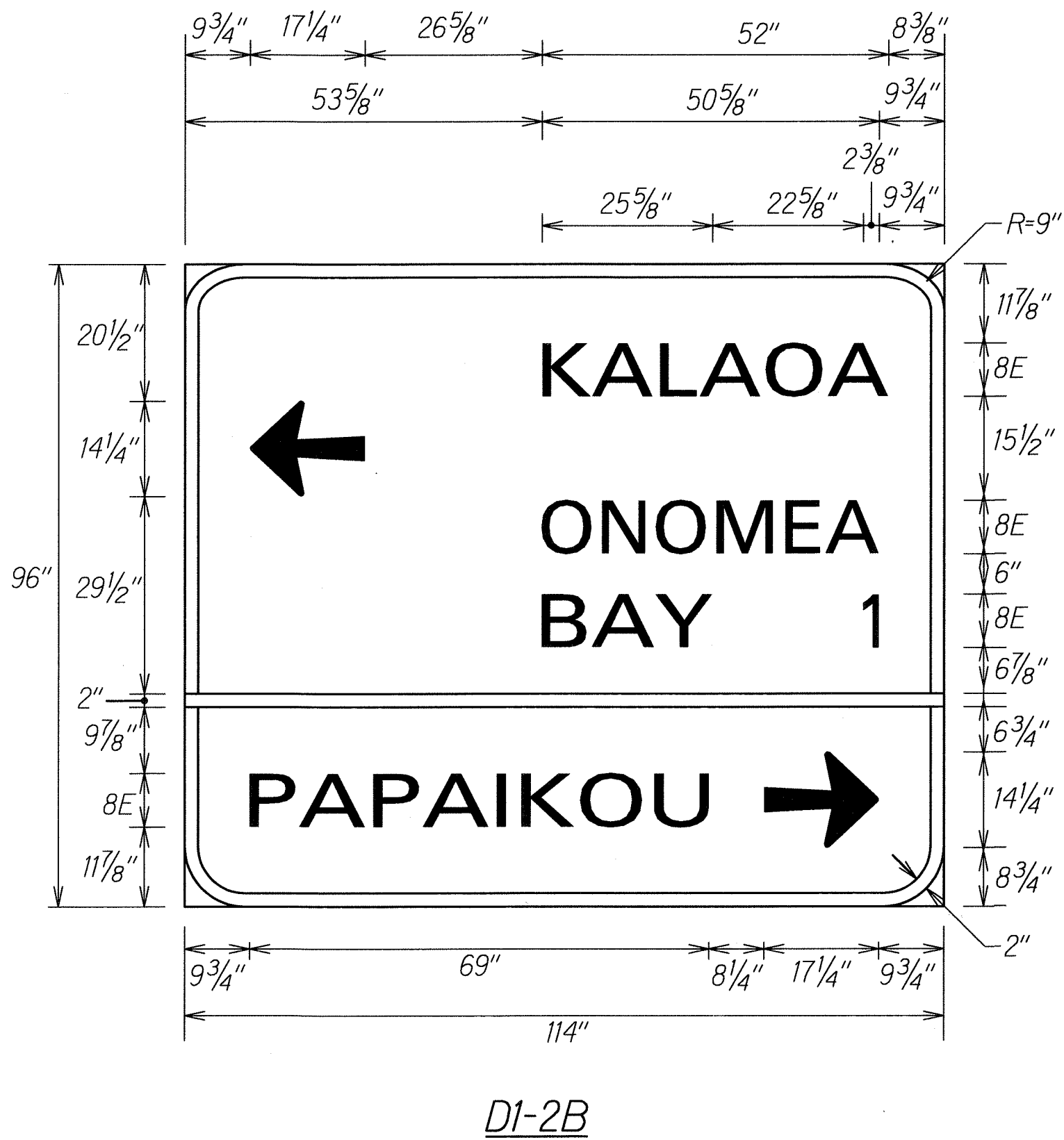
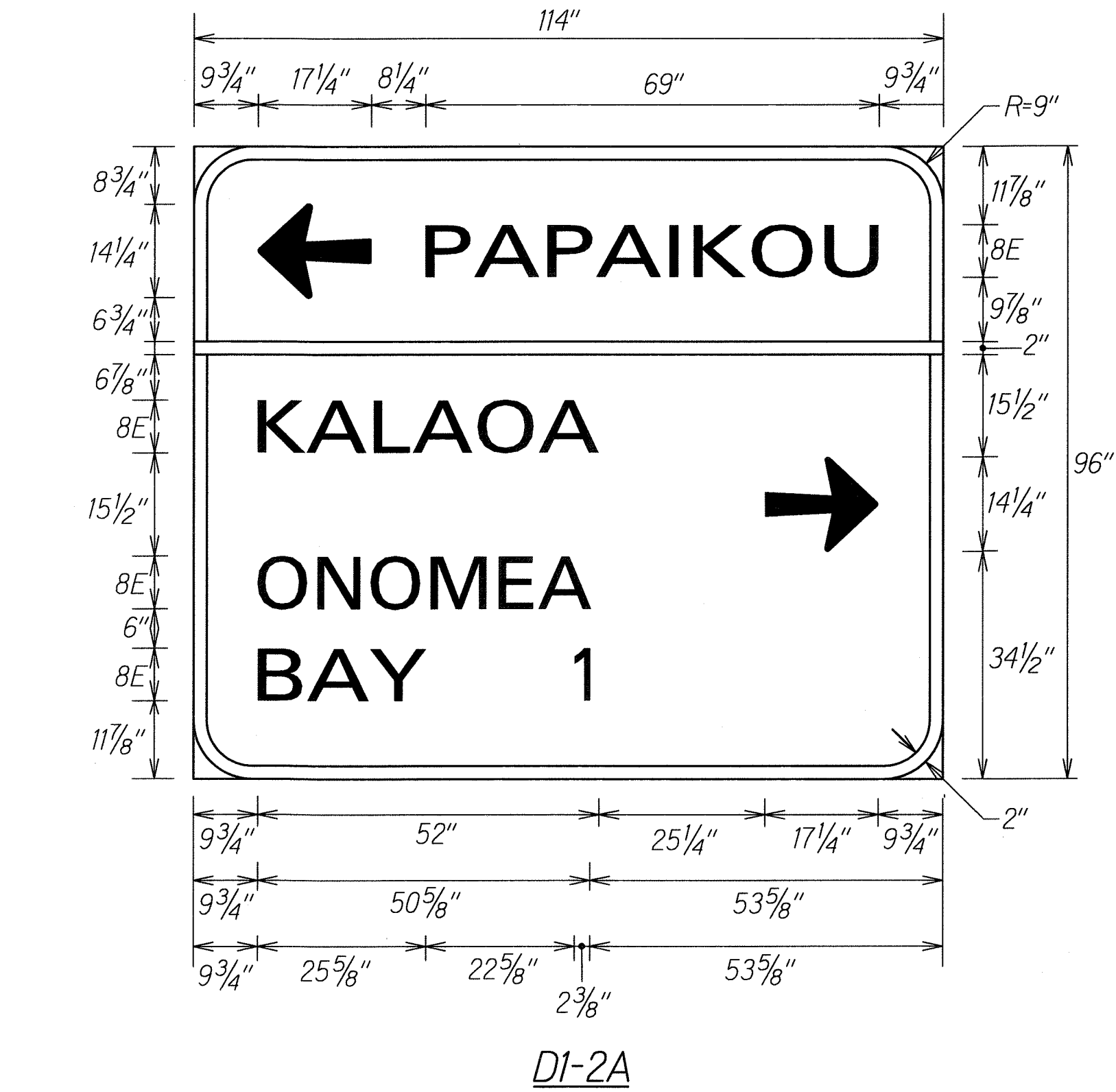
AHEAD W16-9p 24\"x12\"

③

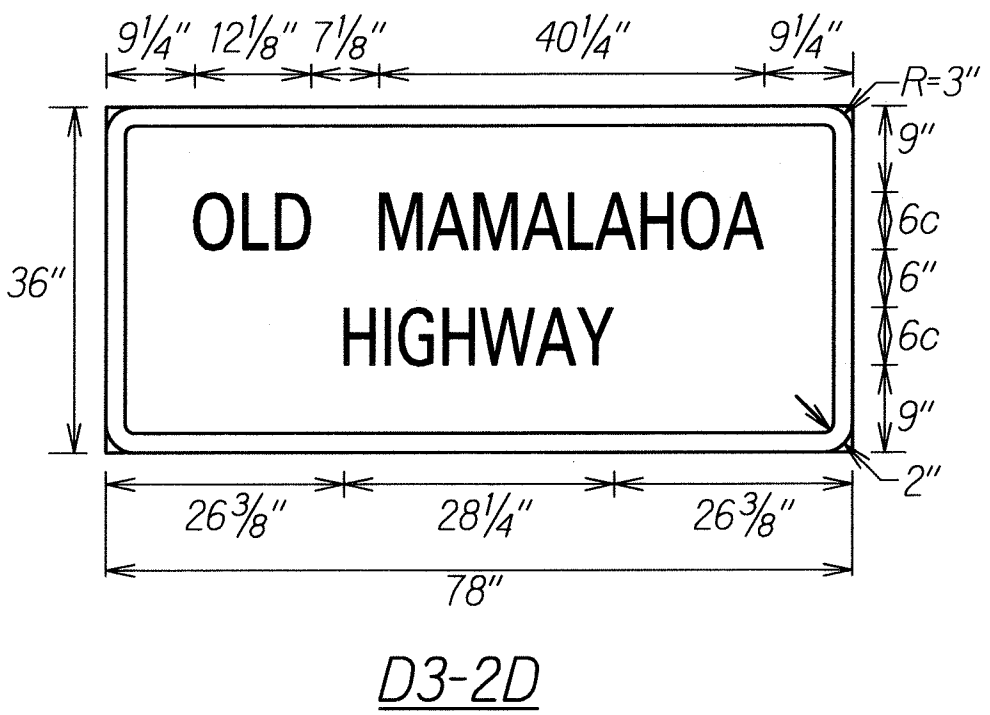
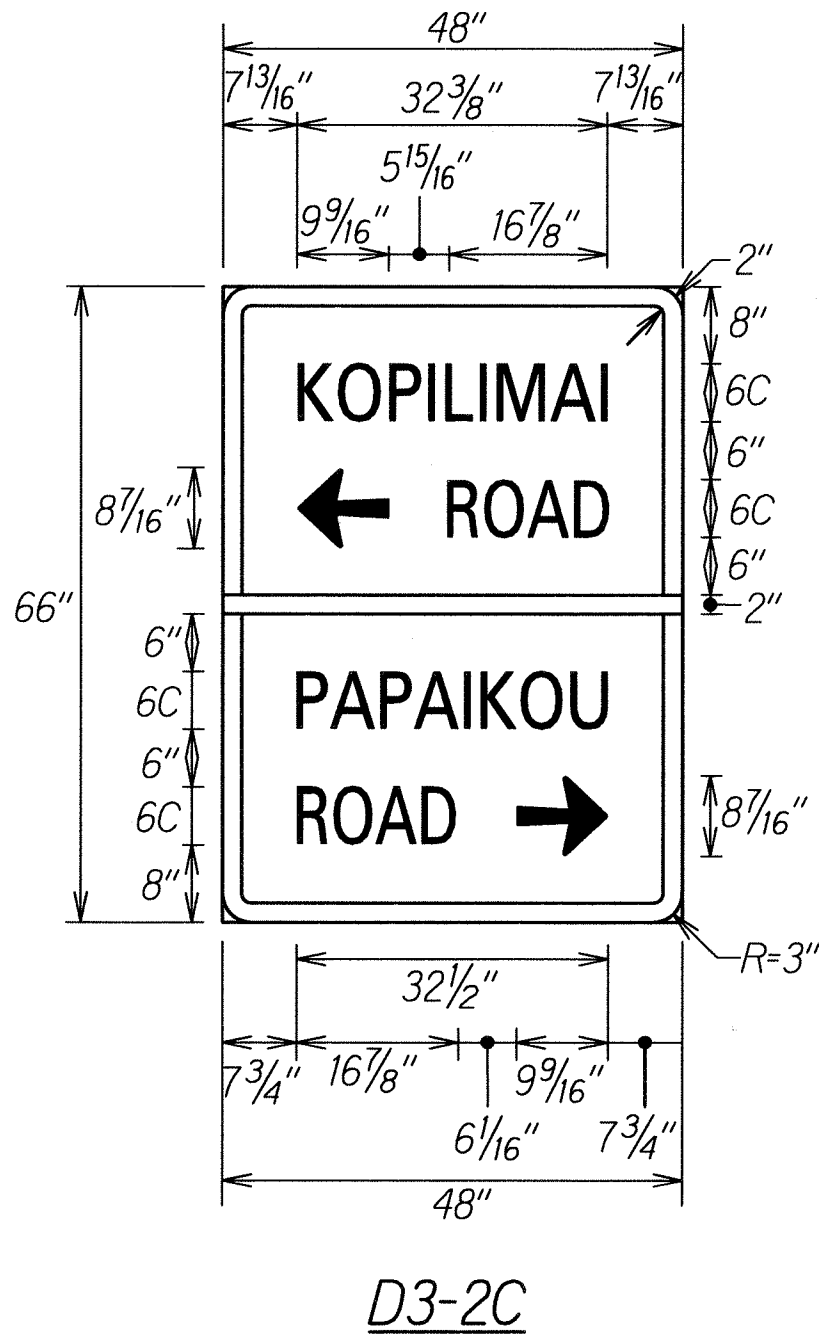
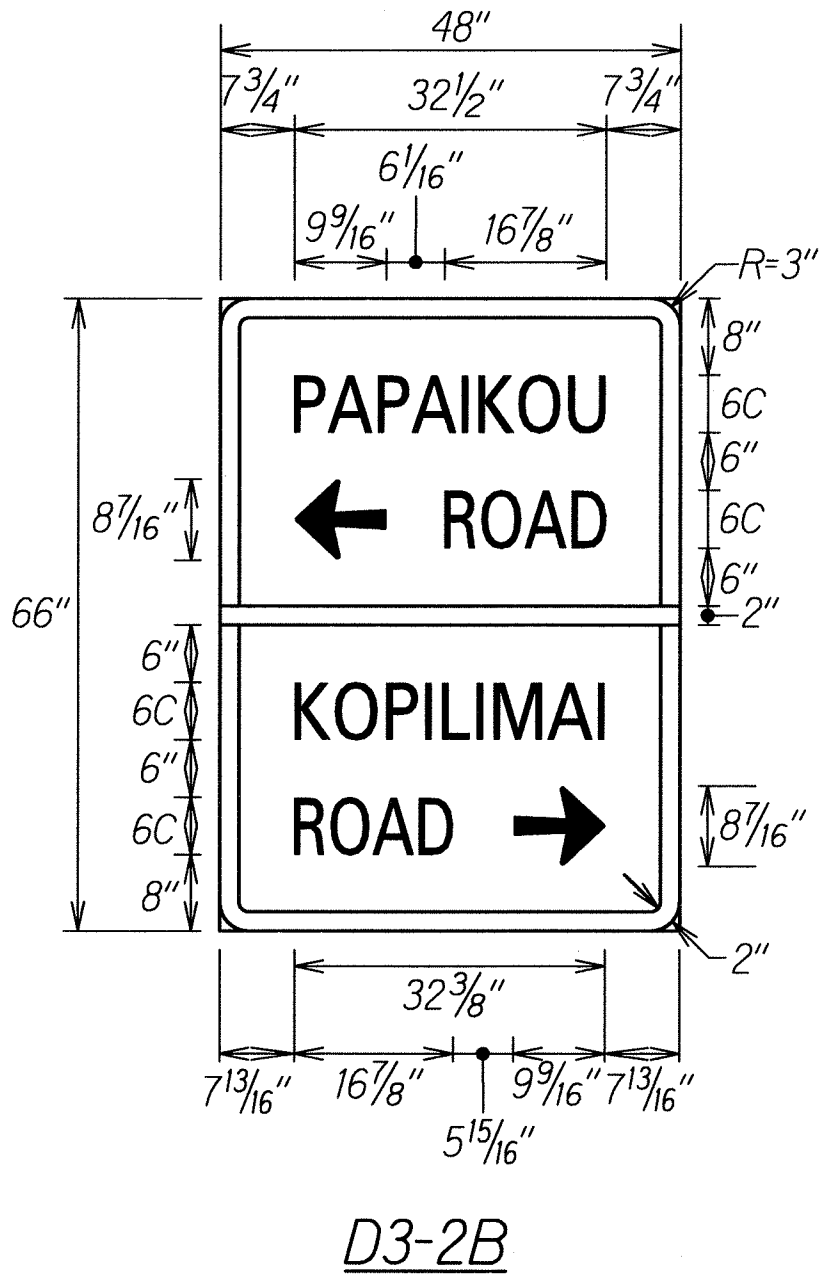
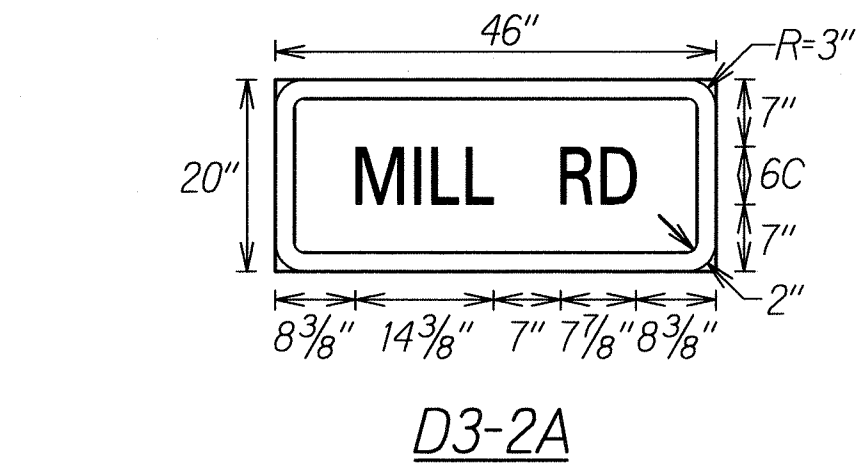
NOTE:
 REMOVAL/ERADICATION OF EXISTING STOP BAR, PAVEMENT MARKING & RPM SHALL NOT BE PAID FOR SEPARATELY, AND SHALL BE CONSIDERED INCIDENTAL TO OTHER CONTRACT ITEMS.

5/10/11	Revised pavement word and No. 3 Note.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION SCHOOL/PEDESTRIAN PAVEMENT MARKING AND SIGNING HAWAII BELT ROAD SAFETY IMPROVEMENTS In the Vicinity of Papaikou Mill Road Project No. 19J-01-10 Scale: NTS Date: Nov., 2009	
SHEET No. 1 OF 1 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2010	ADD. 15	25



NOTES (D1-2A - D1-2D):
All signs shall be white on green,
standard arrow, Series E



NOTES (D3-2A - D3-2D):
All signs shall be white on green,
standard arrow, Series C

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

SIGN DETAILS

HAWAII BELT ROAD

SAFETY IMPROVEMENTS

In the Vicinity of Papaikou Mill Road

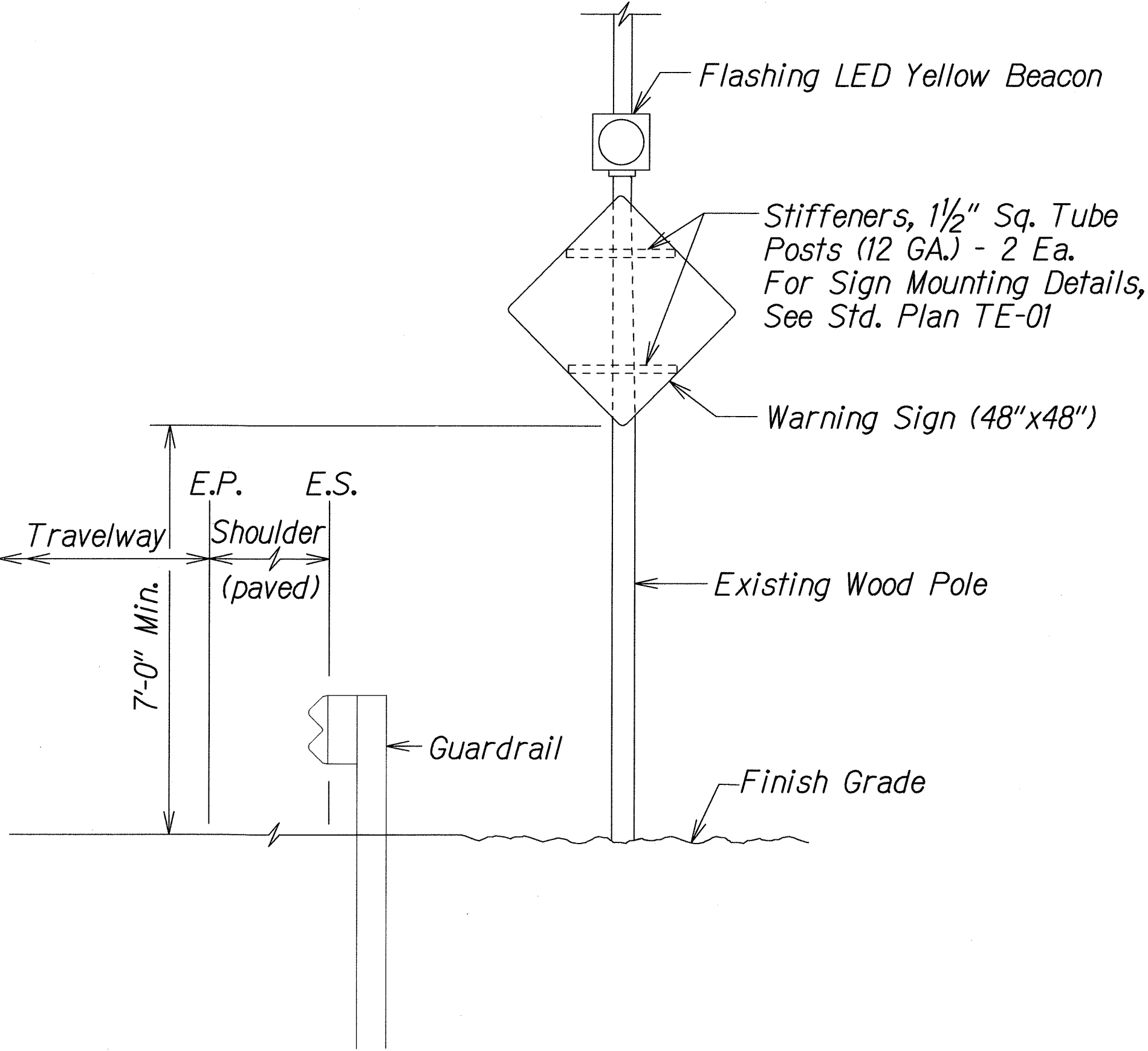
Project No. 19J-01-10

Scale: Not to Scale

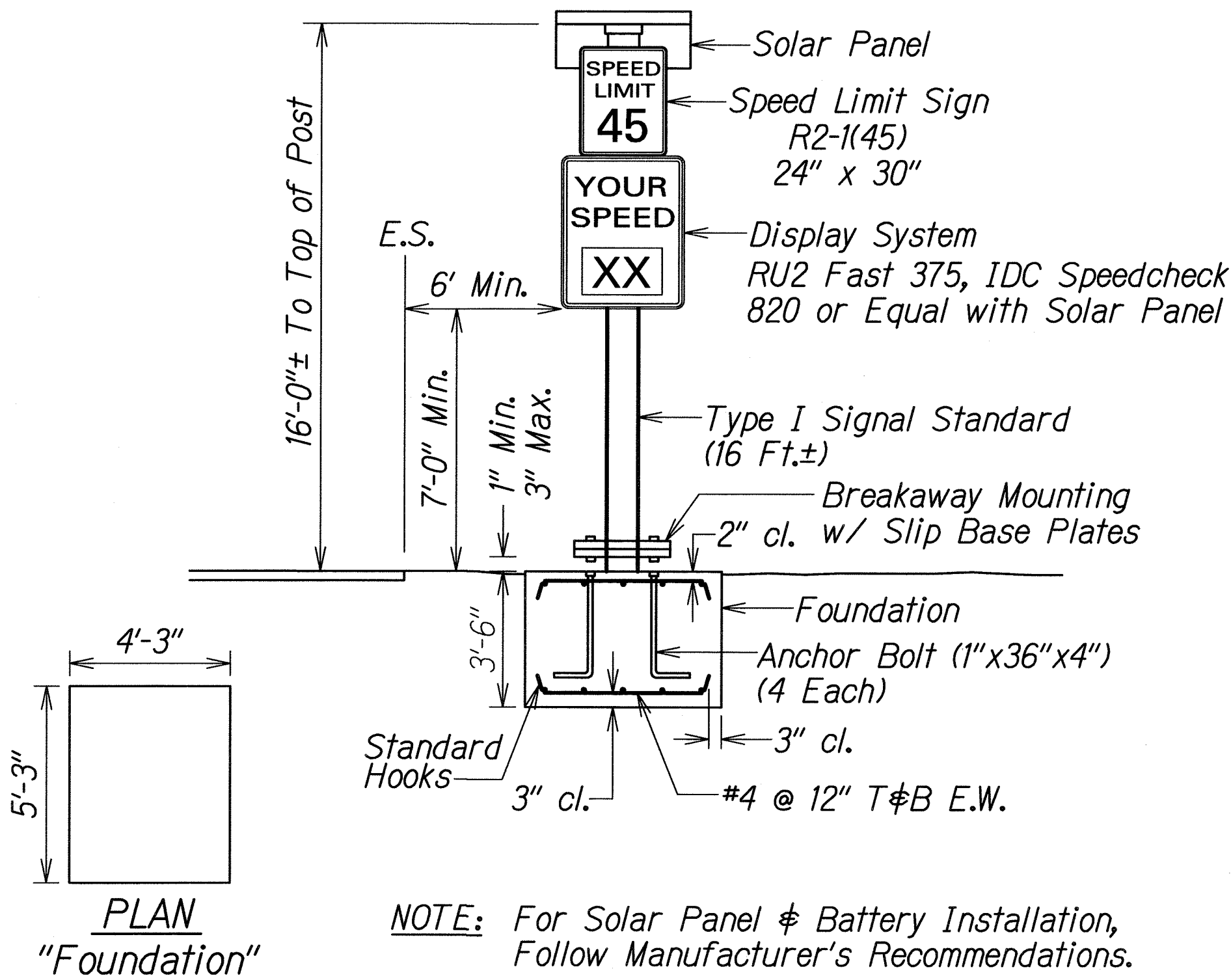
Date: Nov., 2009

SURVEY PLOTTED BY	DATE
DESIGNED BY	TRACED BY
NOTE BOOK	QUANTITIES BY
DESIGNED BY	CHECKED BY
DATE	

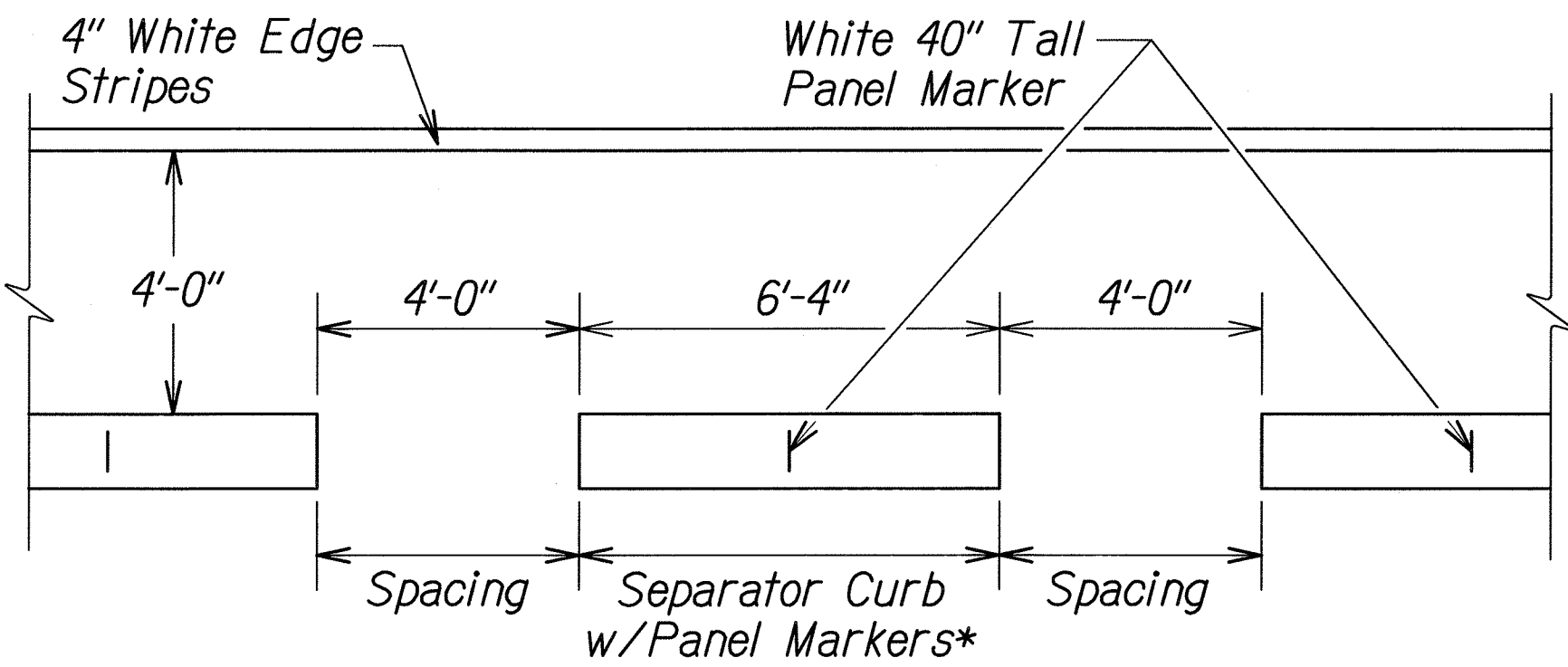
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2010	ADD. 19	25



FLASHING YELLOW BEACON W/
WARNING SIGN
Not to Scale



DRIVER FEEDBACK SPEED SIGN
Not to Scale



TYPICAL QWICK KURB SYSTEM
Not to Scale

Note:
Quick Kurb System or
equivalent shall be NCHRP
Report 350, TL-3 Compliant.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS
HAWAII BELT ROAD
SAFETY IMPROVEMENTS
In the Vicinity of Papaikou Mill Road
Project No. 19J-01-10

Scale: NTS
Date: Nov., 2009

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19J-01-10	2010	ADD. 22	25

GENERAL NOTES

1. All hardware, posts and fasteners shall be hot-dip zinc coated galvanized after fabrication. No punching, drilling or cutting will be permitted after galvanizing.
2. Where conditions require, special post lengths in increments of 6 inches may be specified.
3. 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 fastners, posts and rail elements have been converted from metric units into their present form.
4. The Recycled Plastic Block or Offset Block shall be approved by the State.
5. All new guardrail systems (system consists of total length of guardrail including both end treatments) shall include the Additional Paved Area.
6. After the guardrail posts are installed in the paved area, the Contractor shall fill/seal around each guardrail post and all cracks 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.
7. When standards for the fill slope area cannot be met, a site specific, engineer approved design may be used.
8. New A.C. pavement at guardrails shall extend 6 feet longitudinally beyond terminal ends.
9. Reflector Markers (RM-5) mounted on new 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.
10. Reflector Markers (RM-5) mounted on existing 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 Item No. 632.0100 - Reflector Marker (RM-5, White) Mounted on Existing Guardrail.

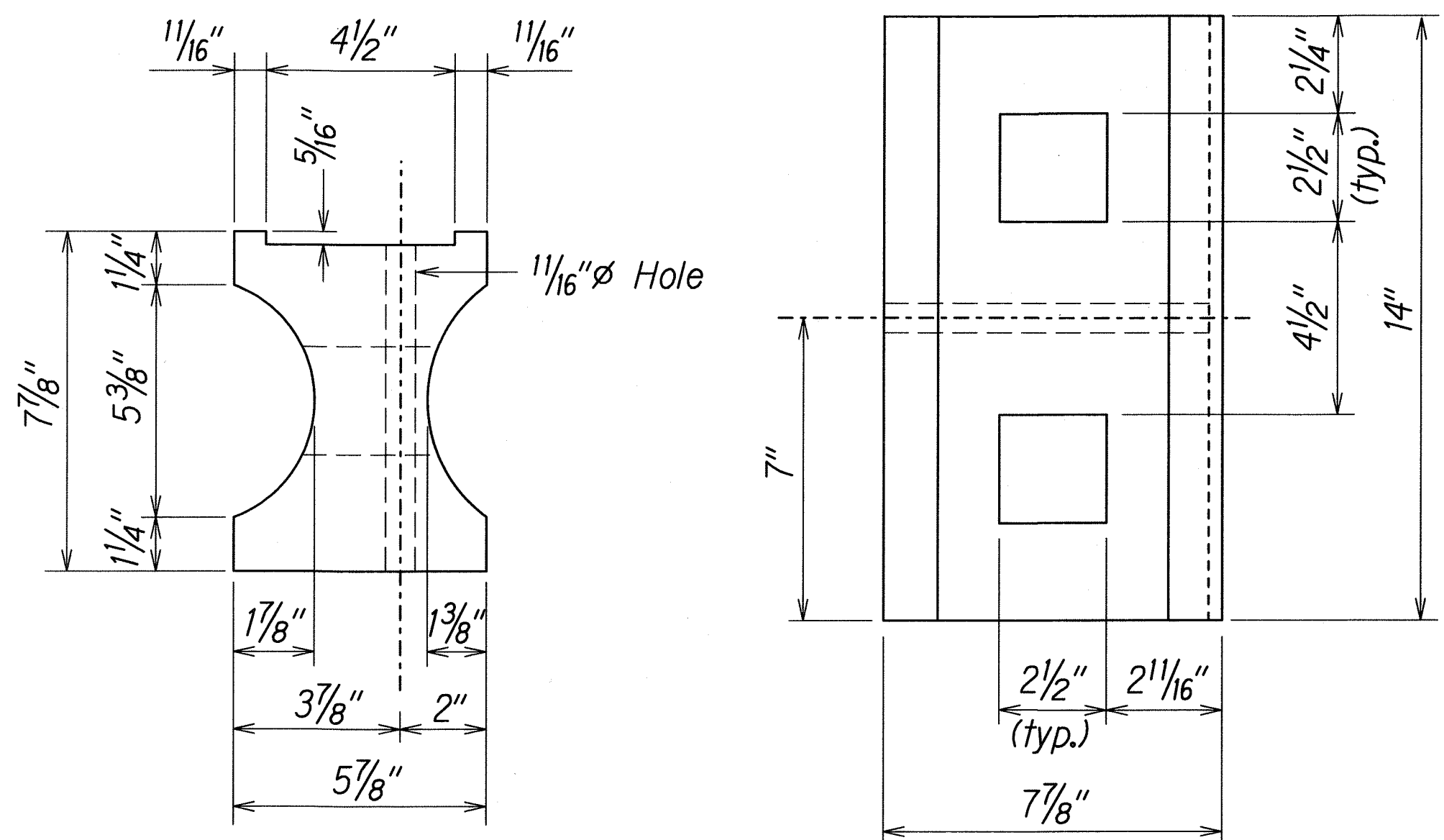
GUARDRAIL TYPE	DIMENSION	
	H	A
Strong Post W-Beam	1'-9 ⁵ / ₈ "	1'-6"
Strong Post Rubrail (W-Beam)	2'-0"	1'-6"
Modified or Strong Post Thrie Beam	2'-0"	2'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

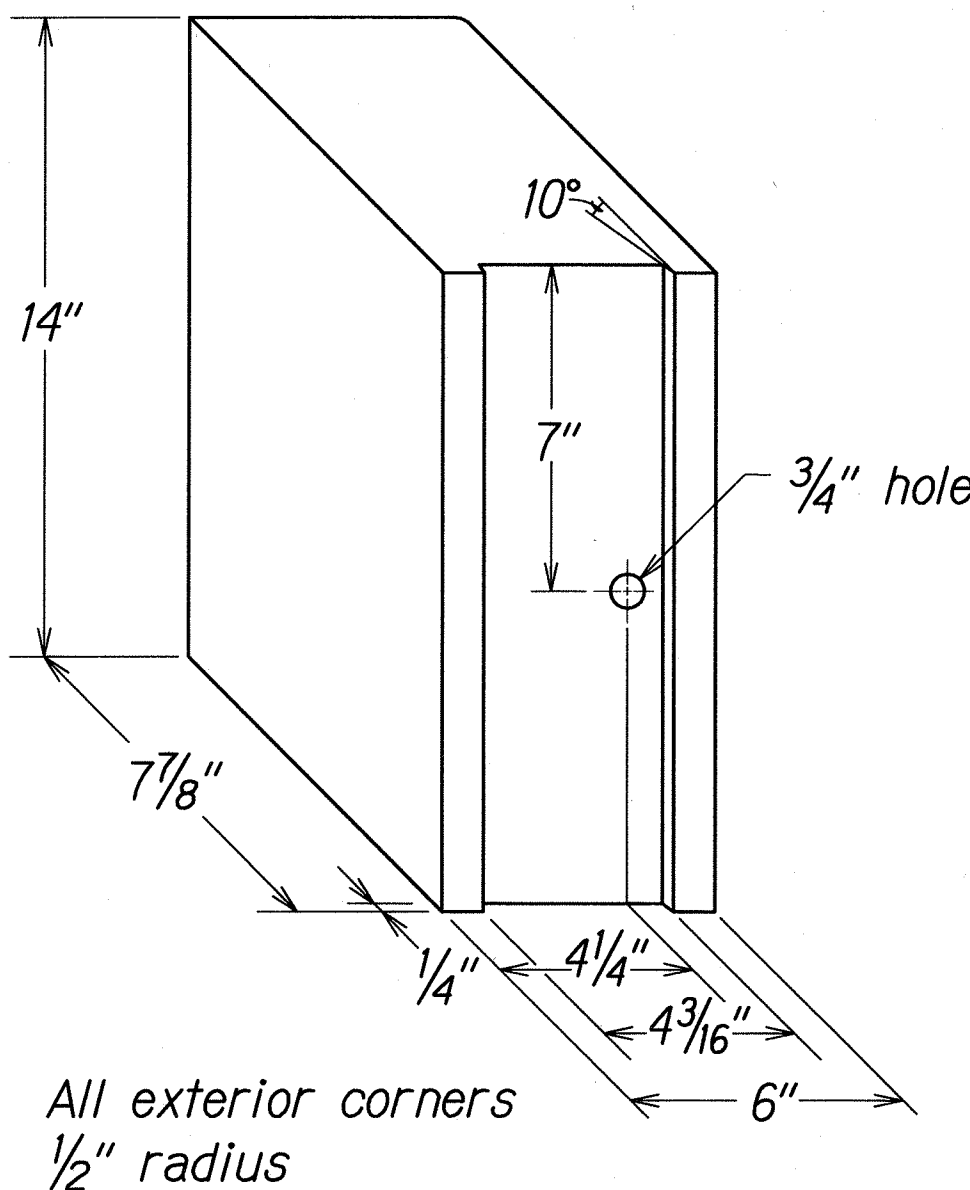
GUARDRAIL DETAILS & NOTES
HAWAII BELT ROAD
SAFETY IMPROVEMENT
In the Vicinity of Papaikou Mill Road
Project No. 19J-01-10
Not to Scale

Date: Nov., 2009

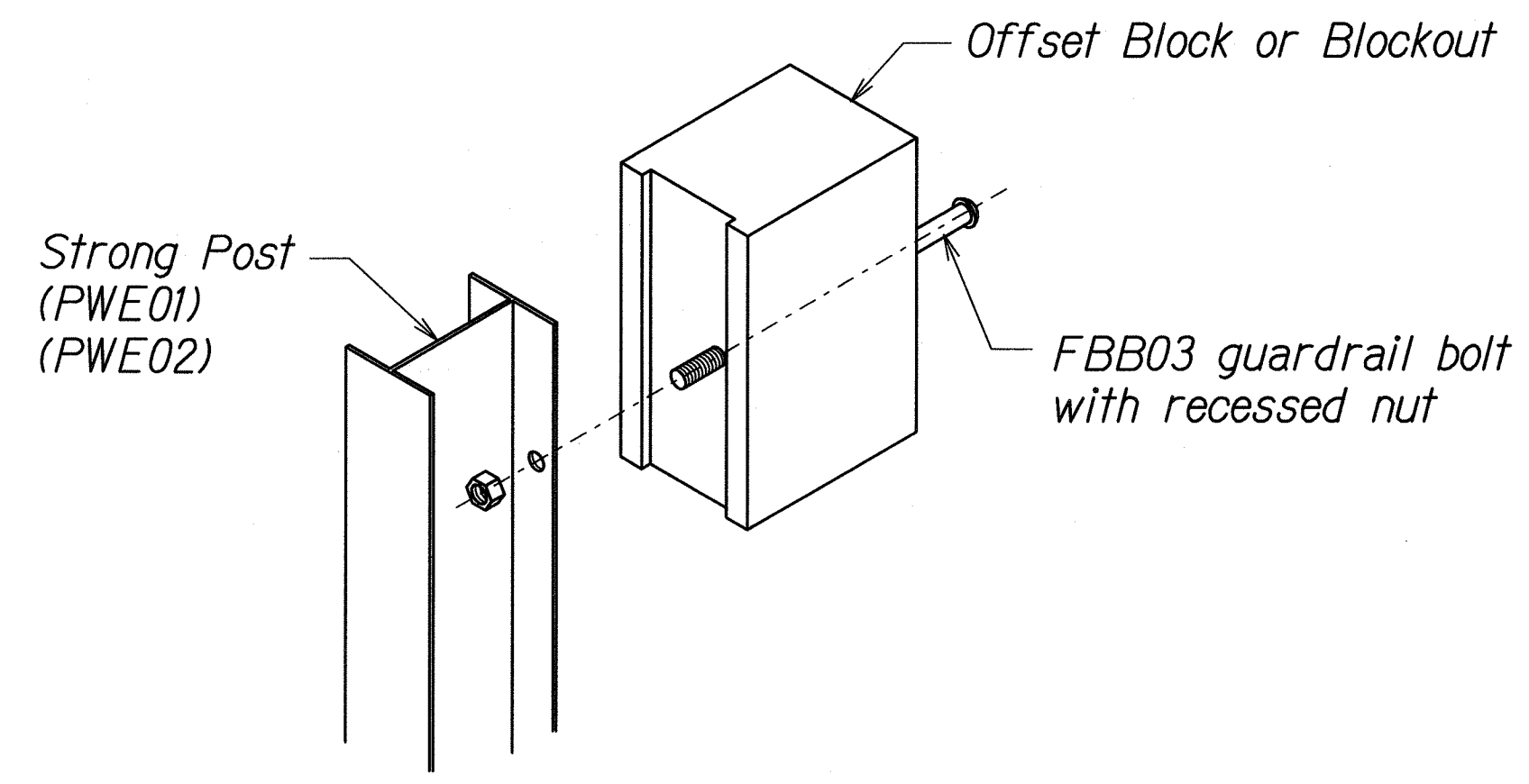
SHEET No. 1 OF 1 SHEETS



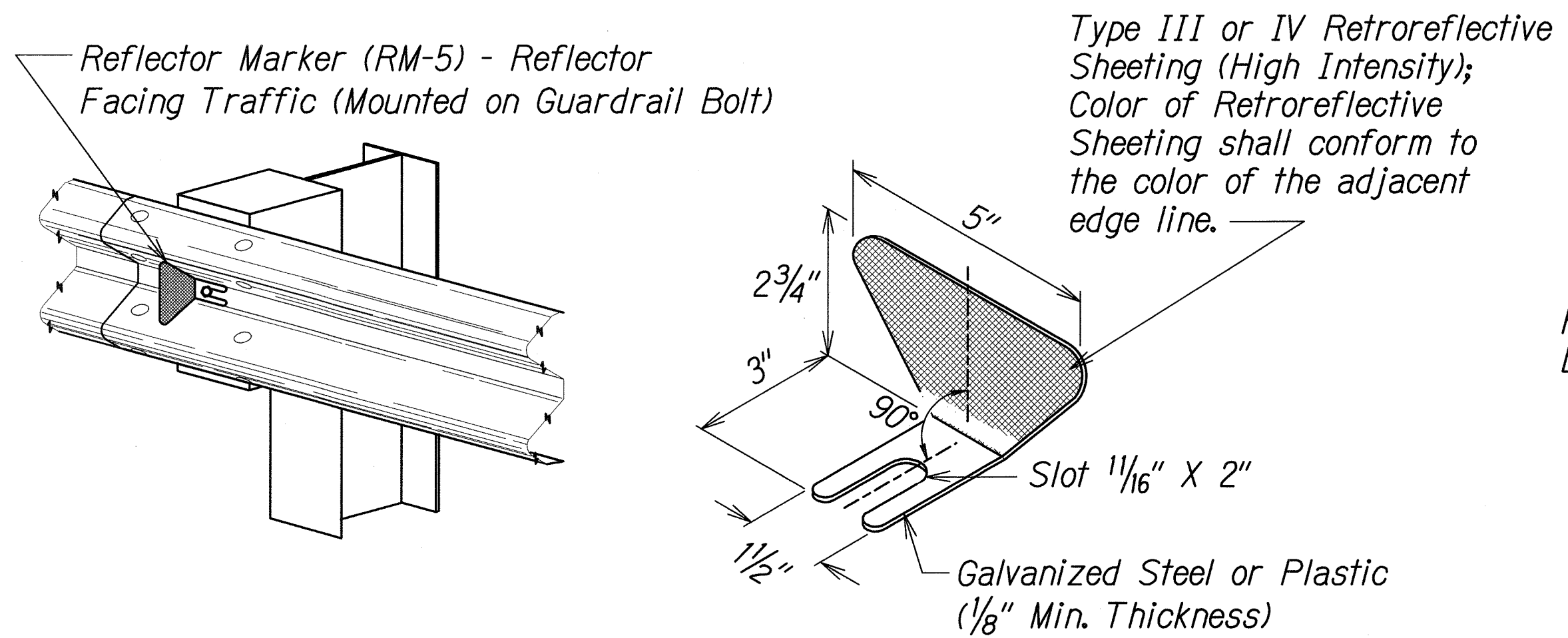
TOP
SIDE
RECYCLED PLASTIC BLOCKOUT (TYPE I)



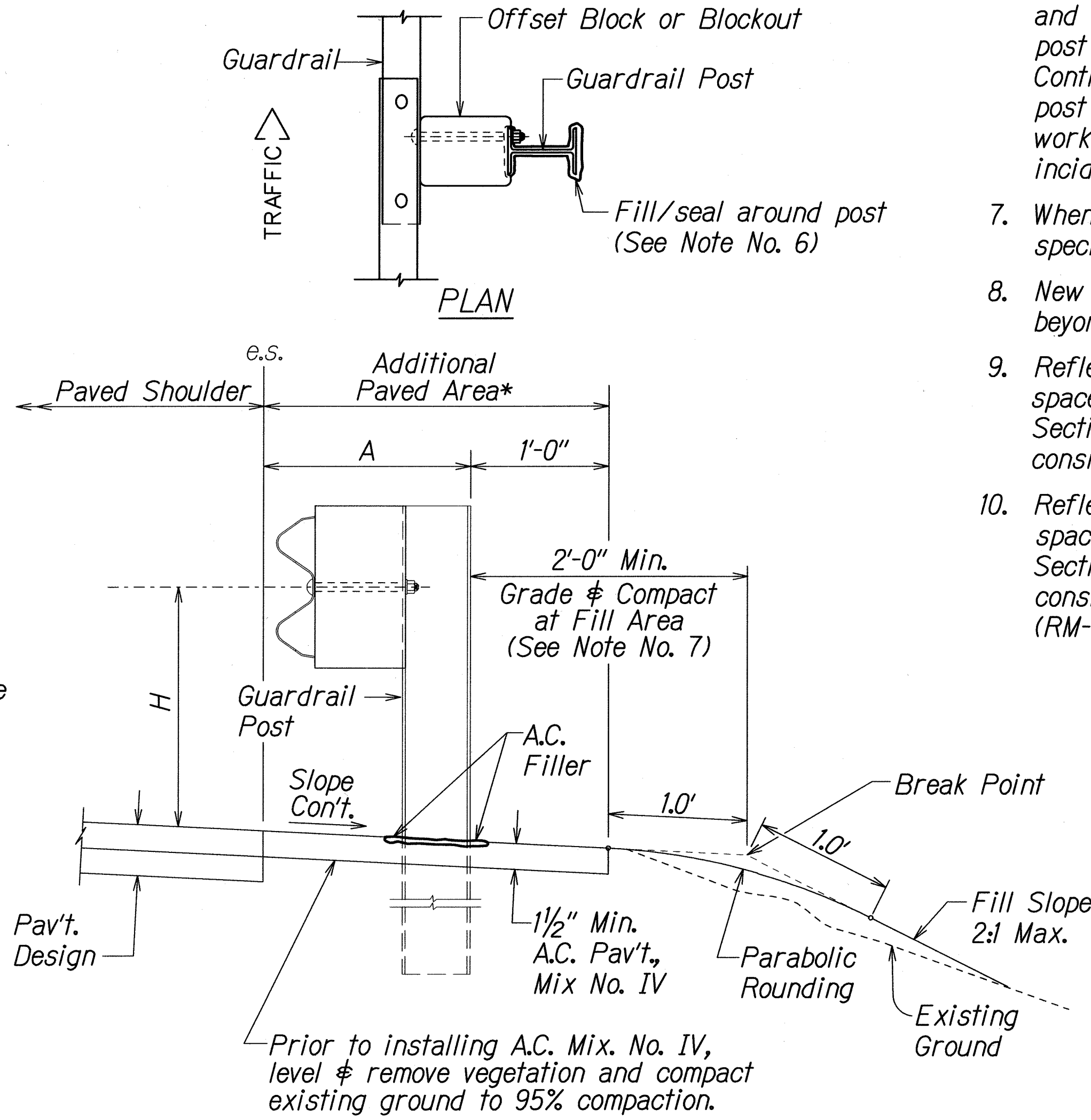
RECYCLED POLYETHYLENE
OFFSET BLOCK (TYPE II)



Exploded View
(Rail and washer not shown)
STEEL POST AND BLOCK DETAIL



REFLECTOR MARKER (RM-5) DETAIL AND TYPICAL INSTALLATION



TYPICAL GUARDRAIL INSTALLATION

5/10/11	Revised RM-5 reflector marker
DATE	REVISION