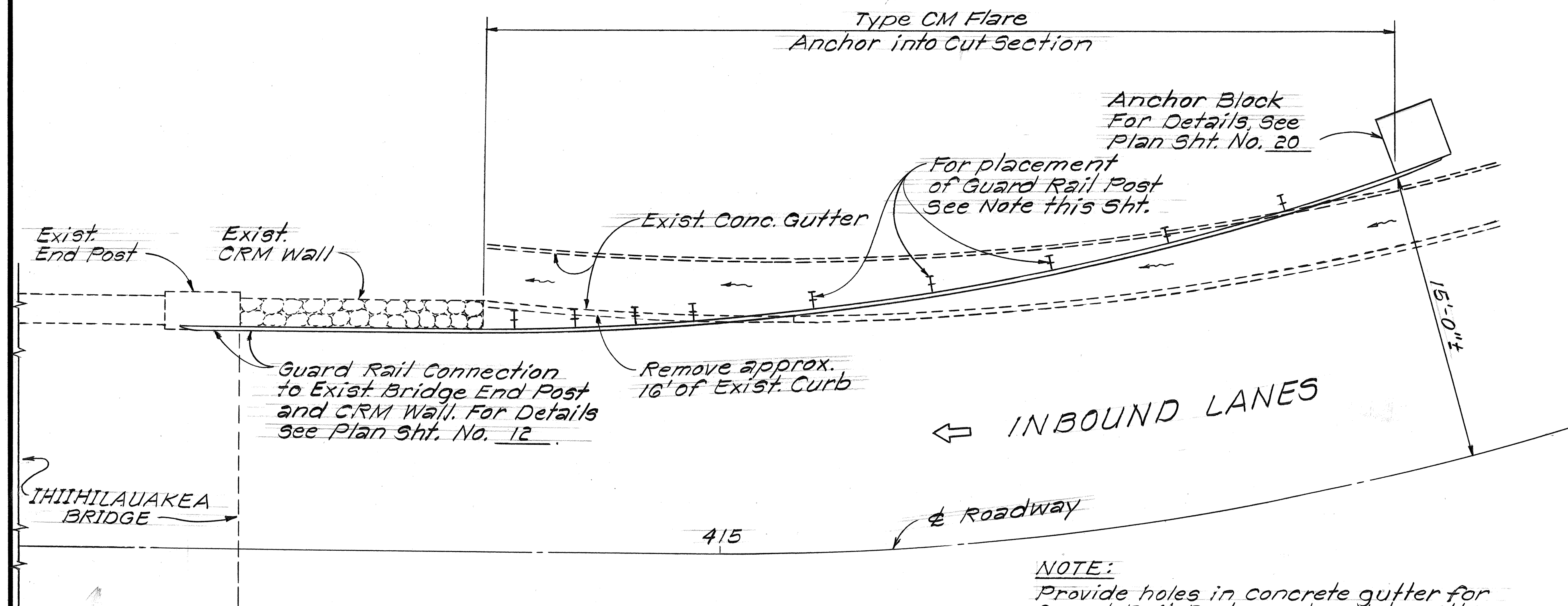


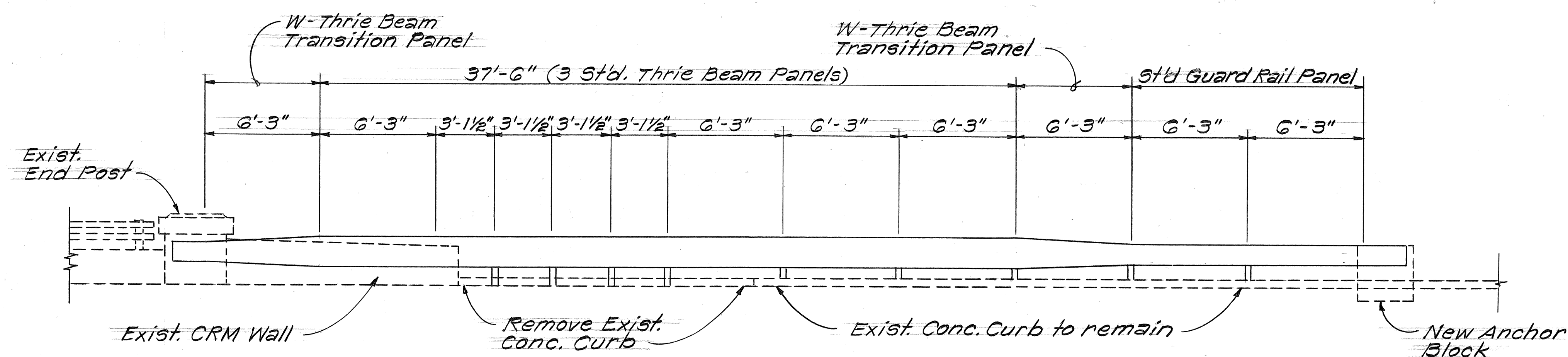
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7400A-01-82M 7400A-02-82	1982	10	30



PLAN

NOTE:

Provide holes in concrete gutter for Guard Rail Posts and patch with mortar as directed by the Engineer. The Contractor shall not install posts at the gutter invert. This work and the removal of the concrete curb shall be considered incidental to Guard Rail, Type 3-Single W/8' Steel Posts.



ELEVATION

NOTES:

1. Posts for Thrie Beam and Standard Metal Guard Rails shall be 8'-0" long Steel Posts.
2. For Details of Guard Rail, Type 3, Thrie Beam, See Plan Sht. No. 15.

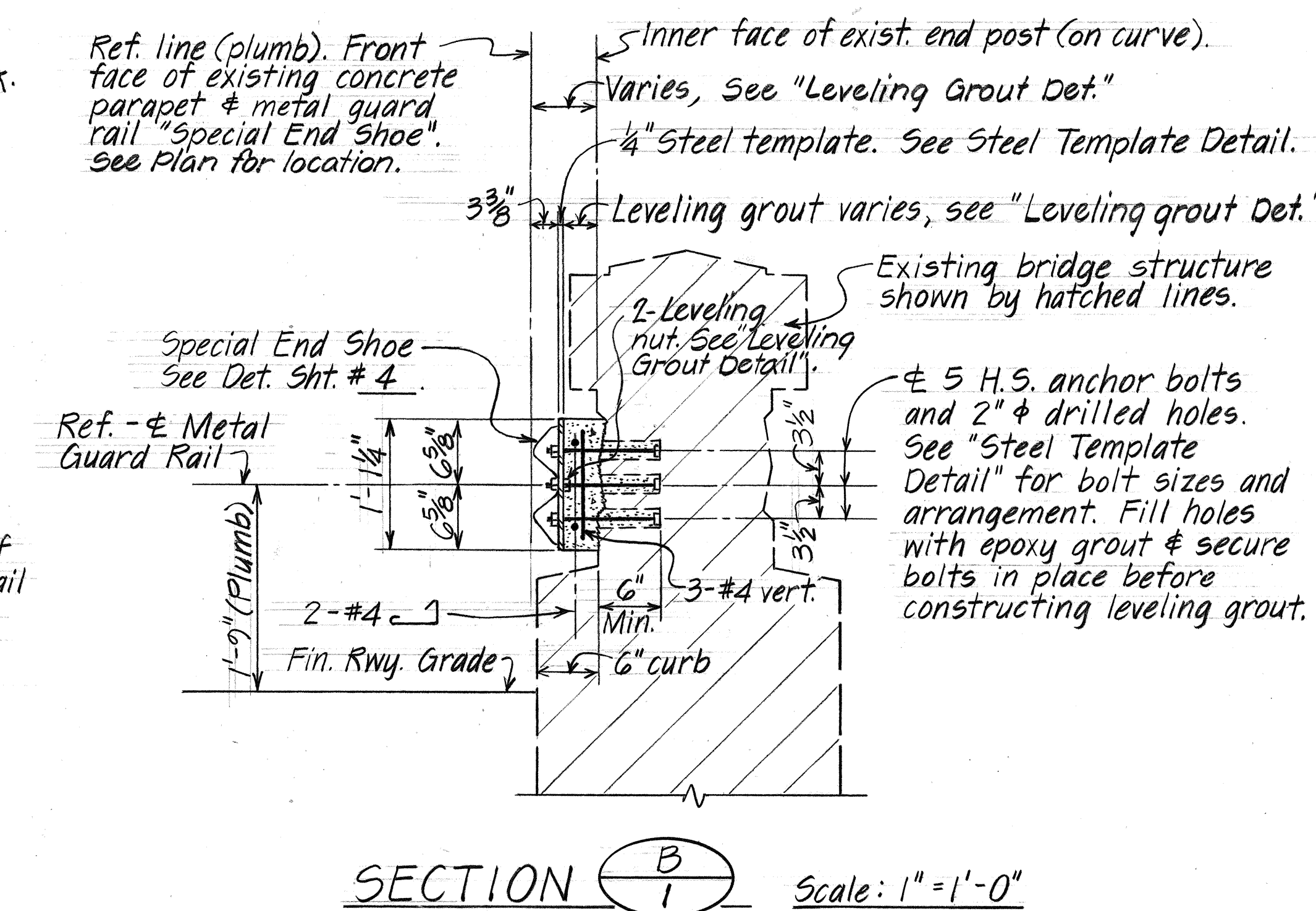
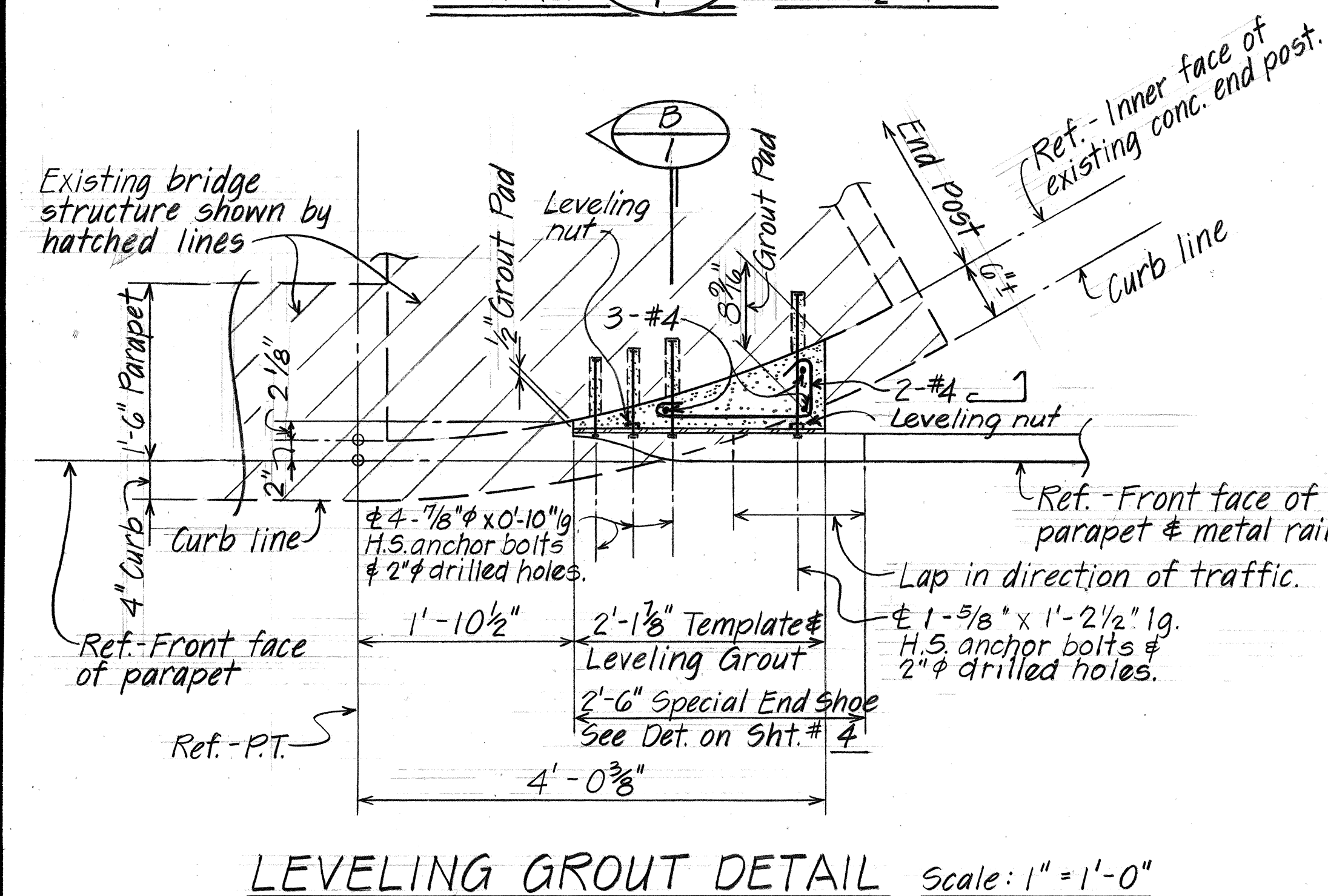
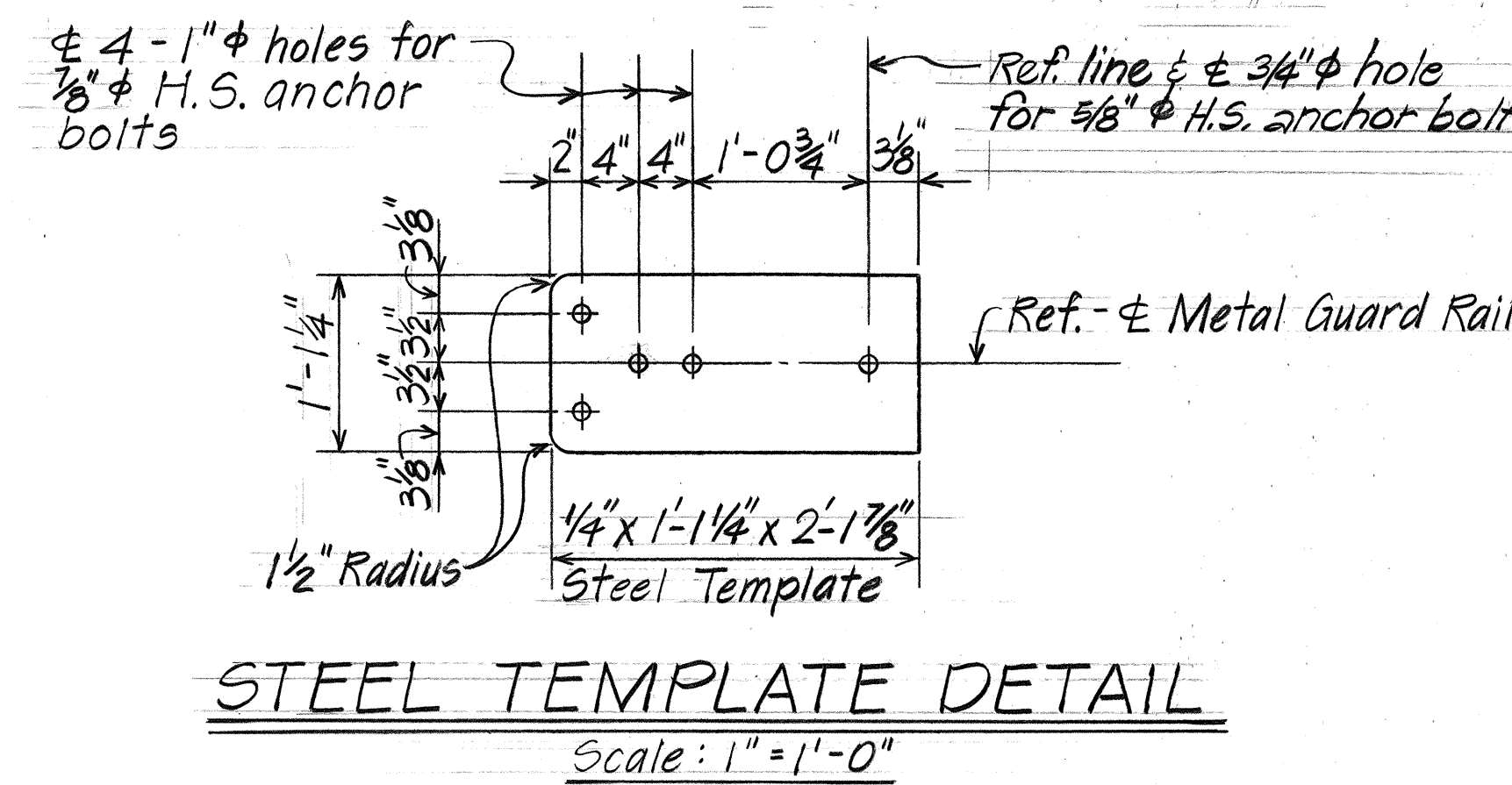
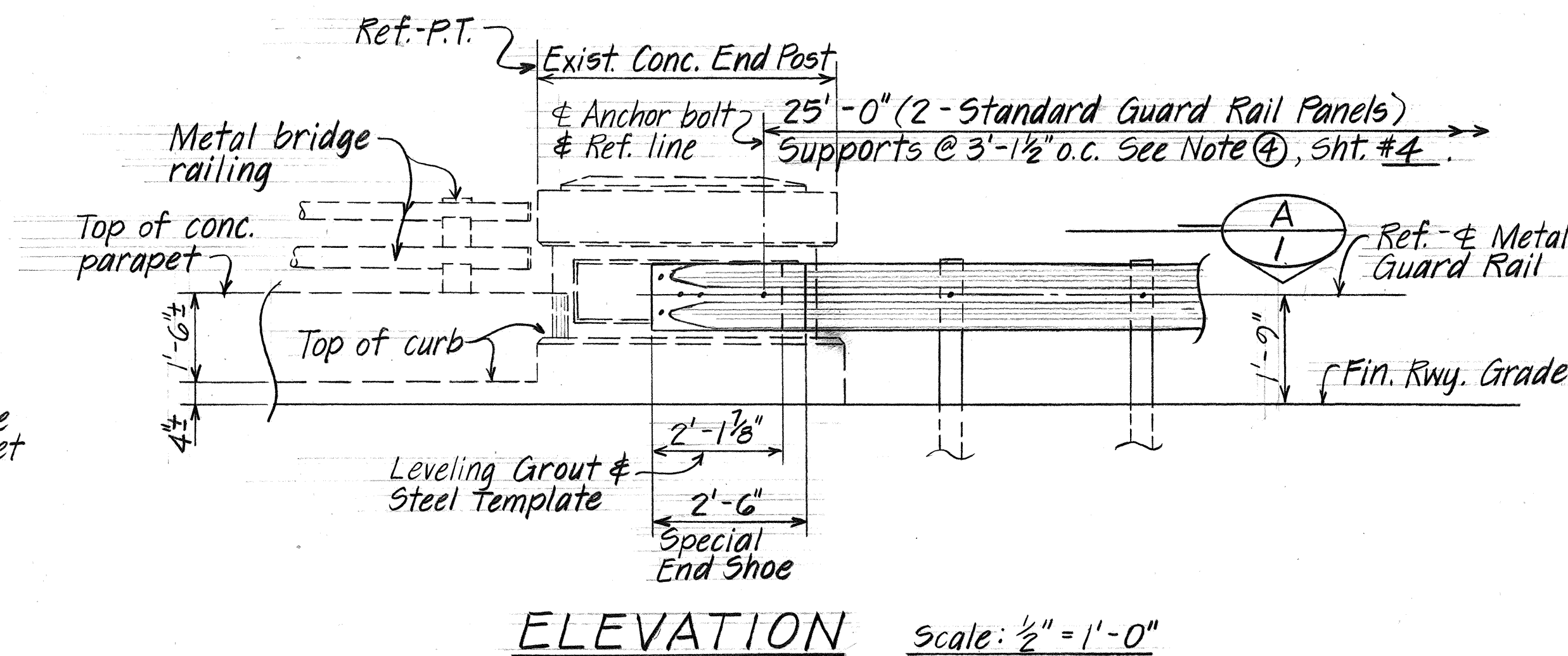
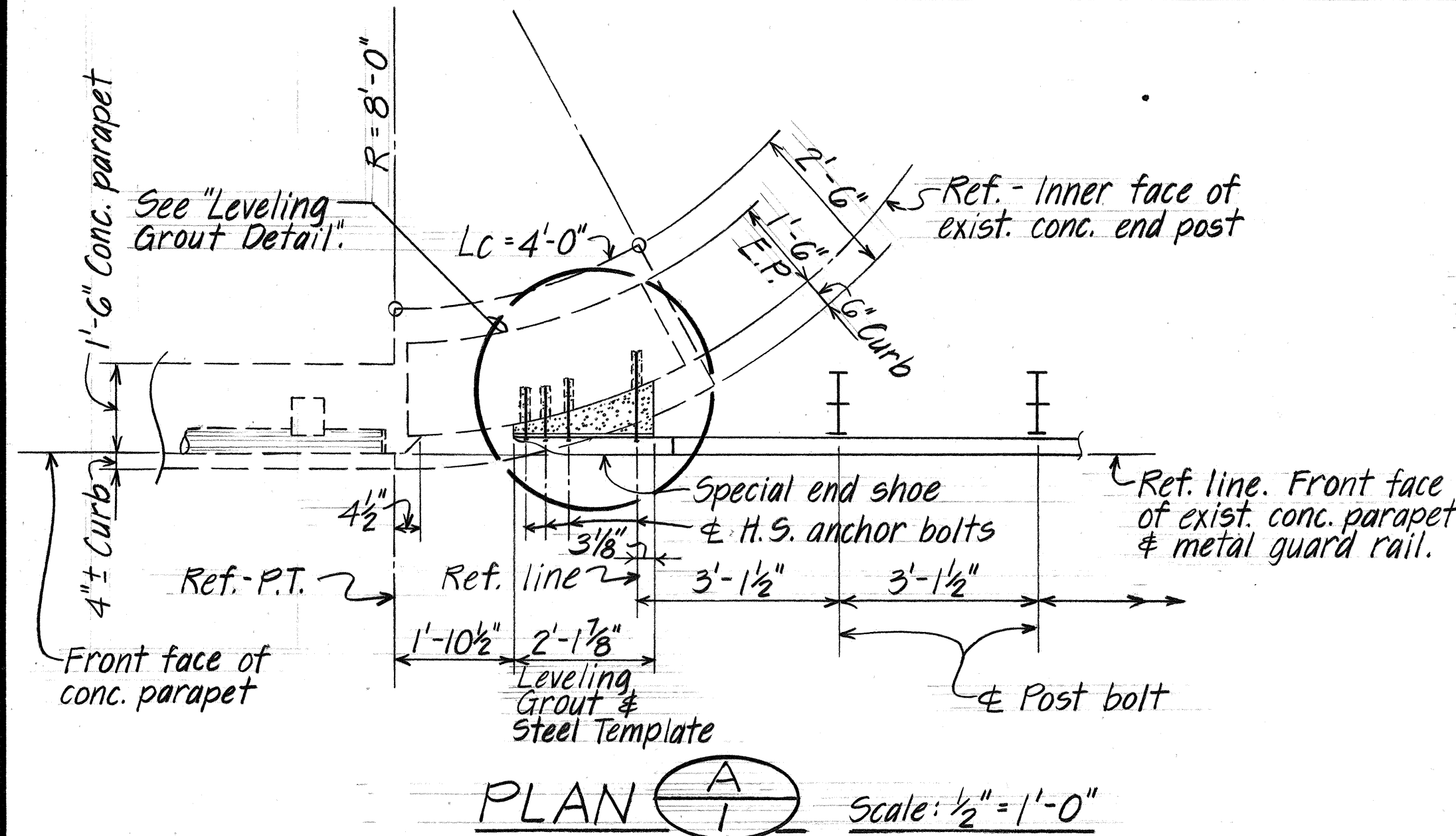
GUARD RAIL DETAIL AT IHHILAUAKEA BRIDGE

Scale: 1/4" = 1'-0"

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
NO.	_____

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
LAND TRANSPORTATION FACILITIES DIVISION	
<u>GUARD RAIL DETAIL</u>	
<u>KALANIANA'OLE HIGHWAY</u>	
<u>PROJ. NO. 7400A-01-82M</u>	
<u>PROJ. NO. 7400A-02-82</u>	
Scale: 1/4" = 1'-0"	Date: Sept, 1981
SHEET NO. 1 OF 1 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7400A-01-82M 7400A-02-82	1982	11	30

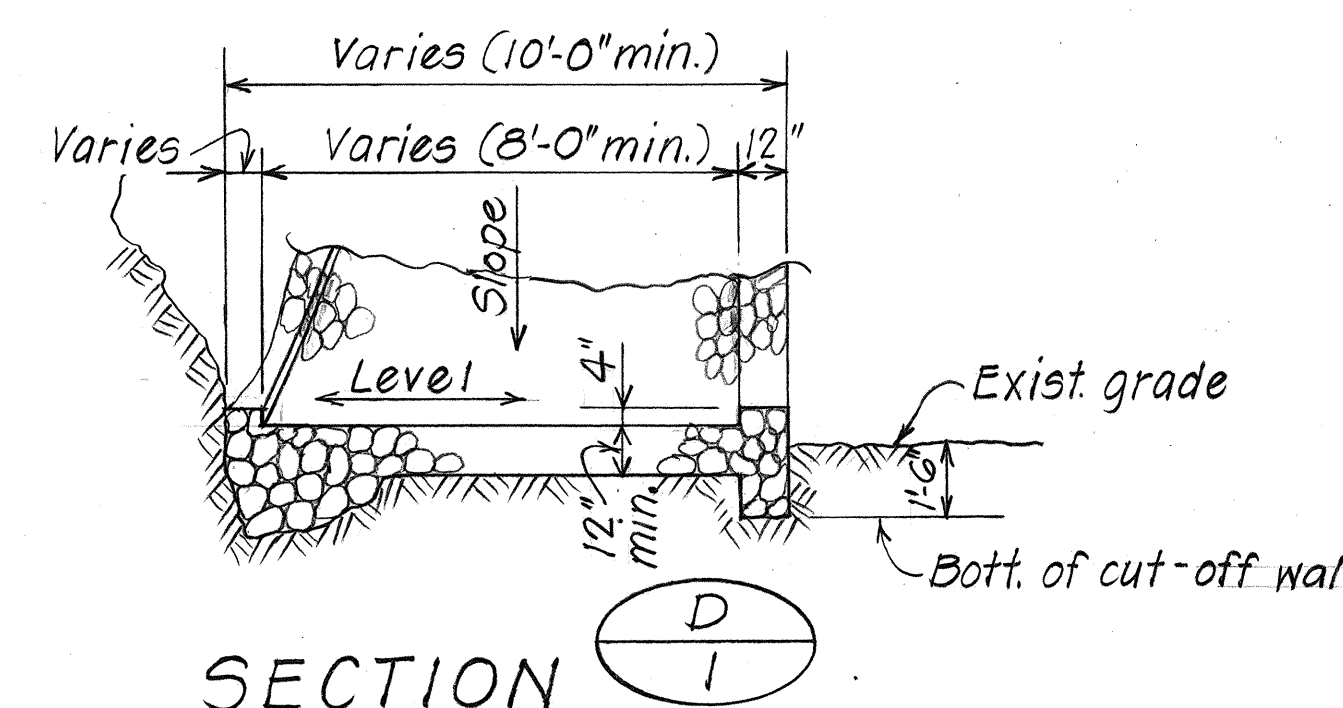
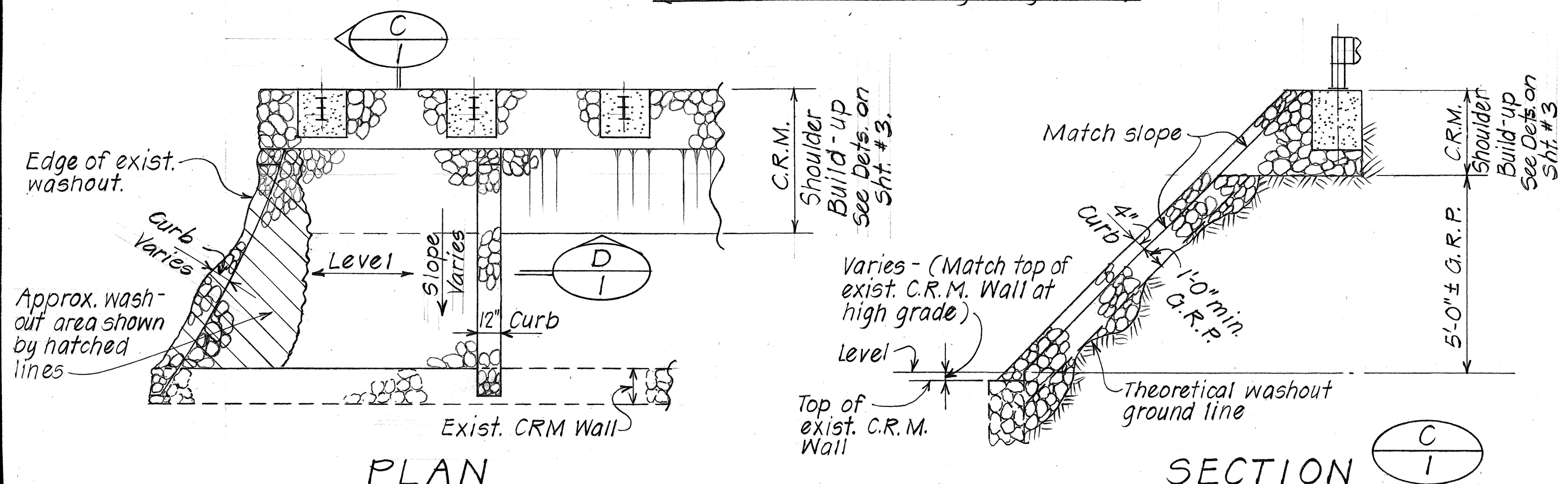


GENERAL NOTES

- See Standard Specifications for Road & Bridge Construction, 1976 Edition & Special Provisions.
- Structural steel shapes & plates, steel templates and all anchor bolts, nuts and washers shall be hot dip galvanized after fabrication.
- Steel template shall be A36 steel.
- All anchor bolts shall be high strength bolts conforming to the requirements of ASTM A325.
- The work necessary to construct the concrete end post shall include all labor, materials, tools, equipment and incidentals necessary to complete the work. This work will be measured and paid for under "Concrete End Post" shown in the proposal schedule.
- The connection of guard rail to existing and new concrete end posts, including special end shoe, steel template, anchor bolts and accessories shall be incidental to each respective type of guard rail and all other items noted "incidental" will not be paid for separately.
- Large impact type of equipment will not be permitted for drilling.
- Care shall be taken in the drilling operations, and any damage caused by the contractors operation will be repaired at his expense, to the satisfaction of the Engineer.
- All welding shall conform to the latest Specifications for Welded Highway and Railway Bridge Design Construction and Repair of the American Welding Society.
- Grout shall consist of one part portland cement to 3 parts of fine aggregate by volume.

TYPICAL GUARD RAIL CONNECTION TO KAWAIAKAEIA BRIDGE

(For location see Highway Plan) Scale: As shown

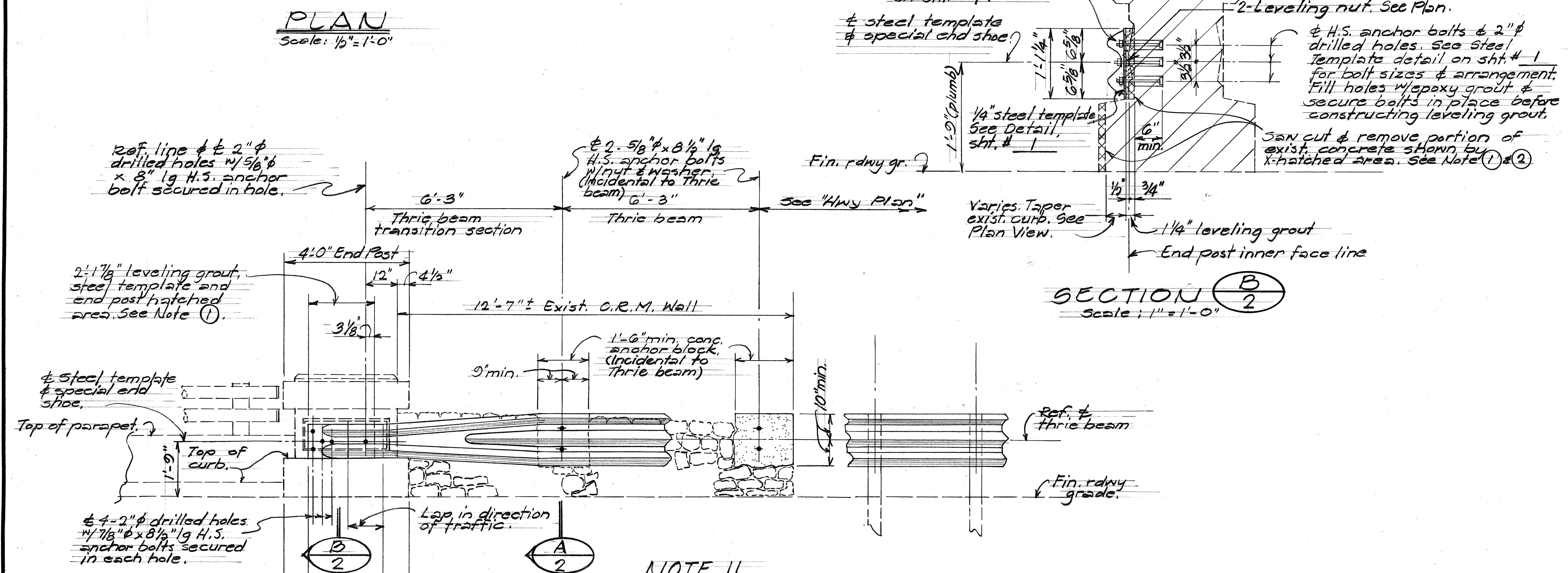
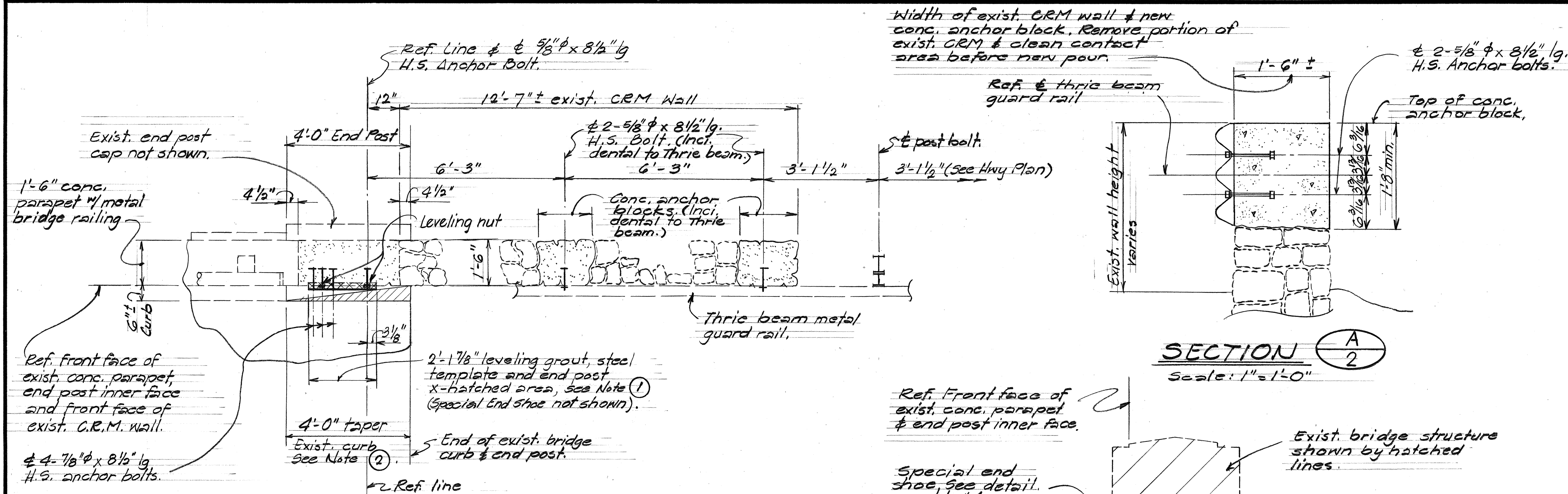


G.R.P. SPILLWAY AT THE VICINITY OF STA. 411+50

(For location see Highway Plan) Not to scale

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
LAND TRANSPORTATION FACILITIES DIVISION	
CONNECTION DETAILS AT KAWAIAKAEIA	
BRIDGE & SPILLWAY DETAILS	
KALANIANA'OLE HIGHWAY	
Proj. No. 7400A-01-82M	
Proj. No. 7400A-02-82	
Scale: As shown	Date: June 1981
SHEET NO. 1 OF 4 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7400A-01-82M 7400A-02-82	1982	12	30



- NOTE II**
- ① Saw cut & remove portion of existing concrete end post shown by X-hatched area. (At one end post only) See "Hwy Plan" for location and additional guard rail information. (Incidental to Thrie beam)
 - ② Saw cut & remove portion of existing bridge curb shown by X-hatched area and provide smooth finish. Tapering of bridge curb typical at all four end post. (Incidental to Thrie beam)

METAL GUARD RAIL CONNECTION TO IHIIHILAUAKEA BRIDGE DETAILS

Scale: As Shown

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
CONNECTION DETAILS
AT IHIIHILAUAKEA BRIDGE

KALANIANA'OLE HIGHWAY
Proj. No 7400A-01-82M
Proj. No 7400A-02-82
Scale: As Shown Date: June 1981

SHEET NO. 2 OF 4 SHEETS

