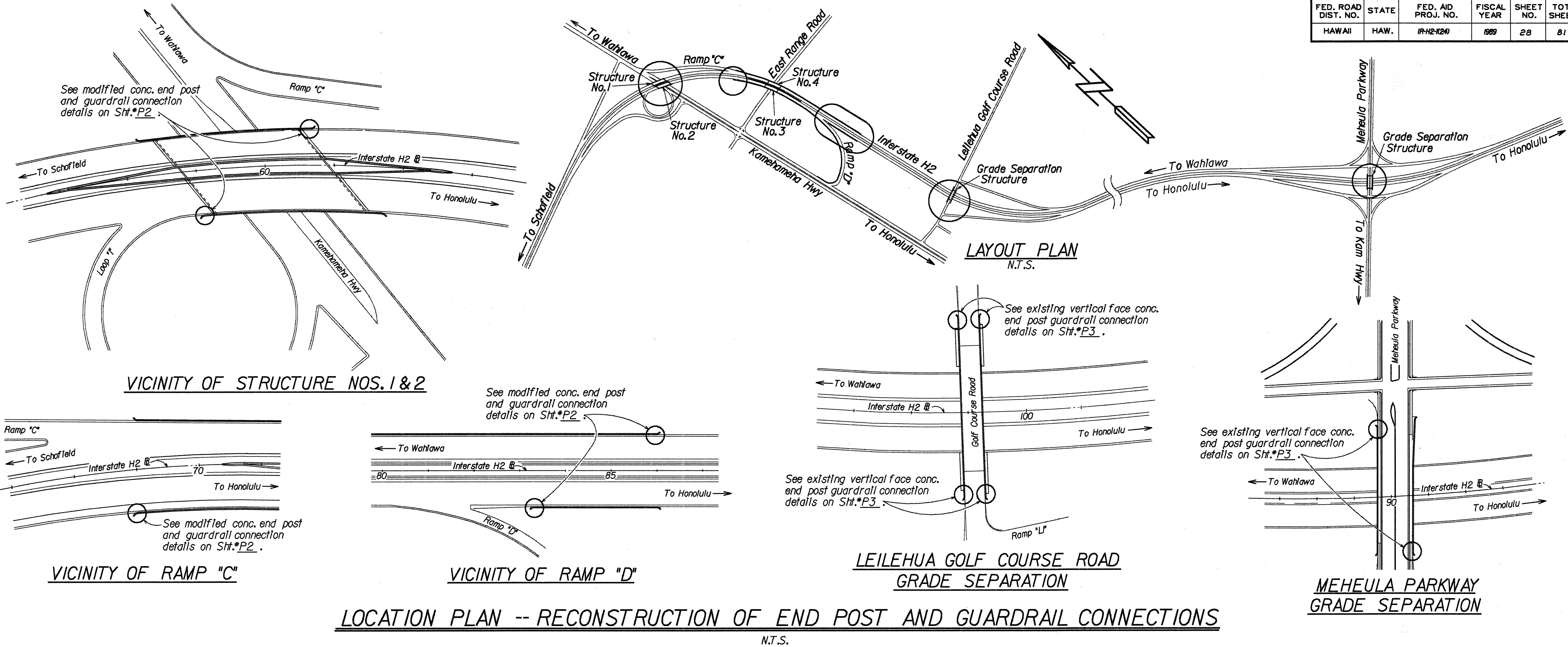


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-H2-1(24)	1989	28	81



GENERAL NOTES:

CONSTRUCTION REQUIREMENTS:

1. See Standard Specifications for Road and Bridge Construction, (Hawaii 1985) and Special Provisions.
2. Items designated for removal shall be removed in such a manner as to preclude any damage to the existing structure. Large impacting or vibratory type of equipment will not be permitted in the removal operation, nor for drilling of holes. Small vibratory tools, approved by the Engineer, will be permitted.
3. The contractor shall be responsible for the location of existing reinforcement by whatever means, including the use of scanning devices in his drilling operations.
4. Drilling of through holes shall be done in such manner that will preclude cone puncturing of the daylighting end.
5. The Contractor shall be solely responsible for the protection of utilities and existing and new structures from damage due to construction and shall repair any damage, at his expense, to the satisfaction of the Engineer.
6. The work necessary to connect guardrail to 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 in units of one.
7. See Sheet P4 for additional requirements.

GENERAL:

1. Items noted incidental will not be paid for separately.
2. The Contractor shall verify all dimensions in the field before commencing work.
3. The Contractor shall verify the location of all existing utility lines near structures and notify their respective owners before commencing with work.

ESTIMATED QUANTITIES

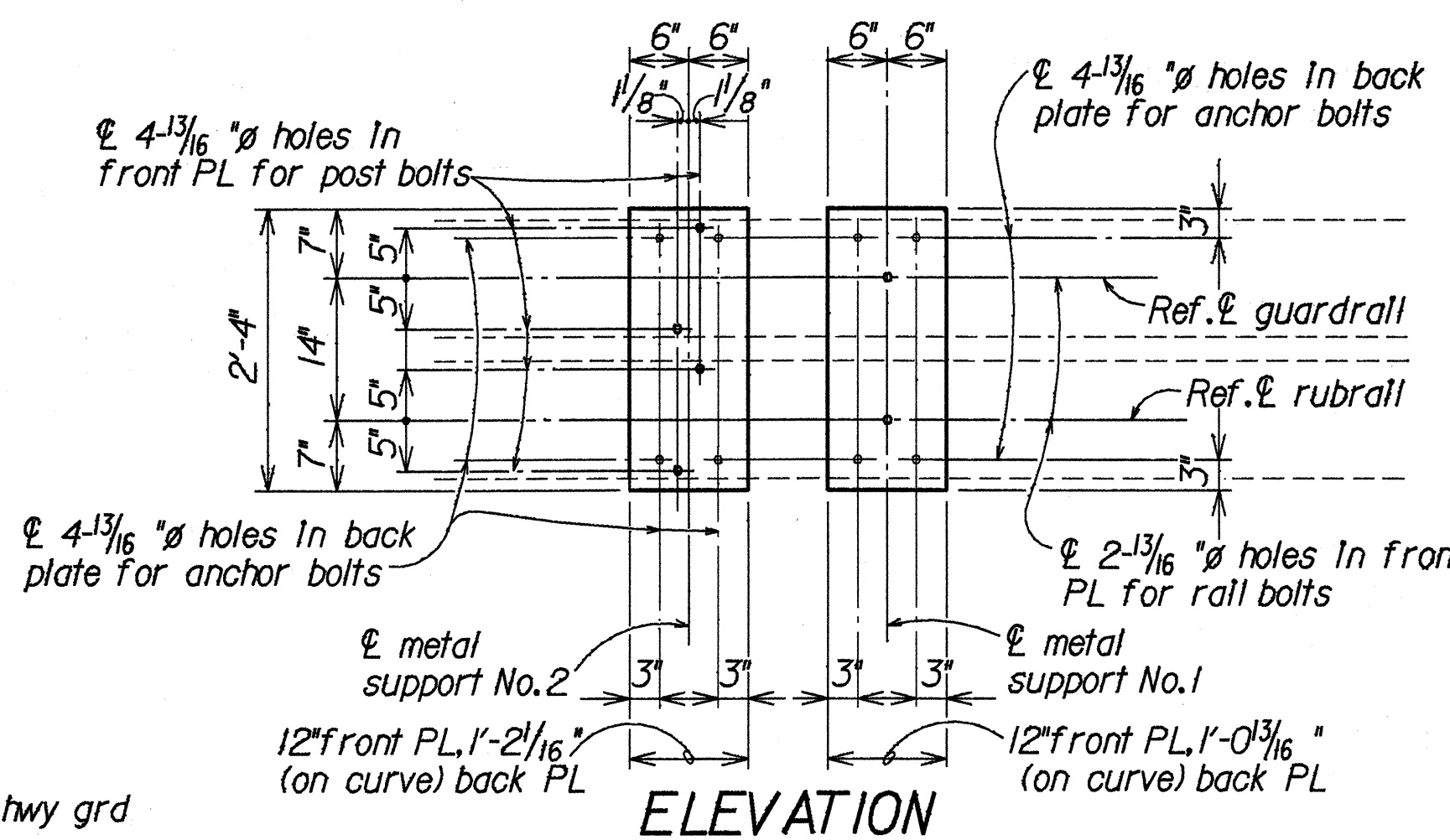
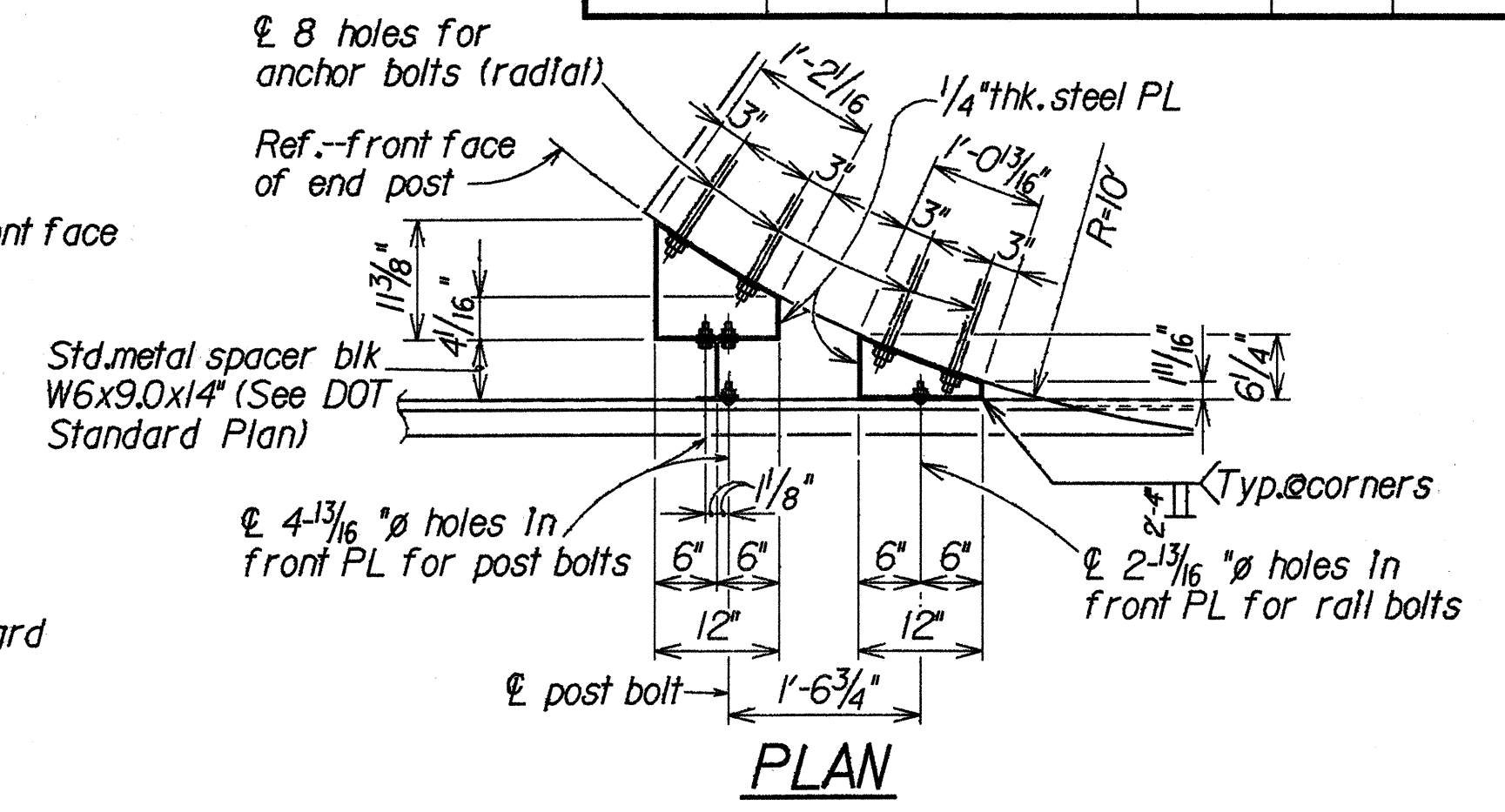
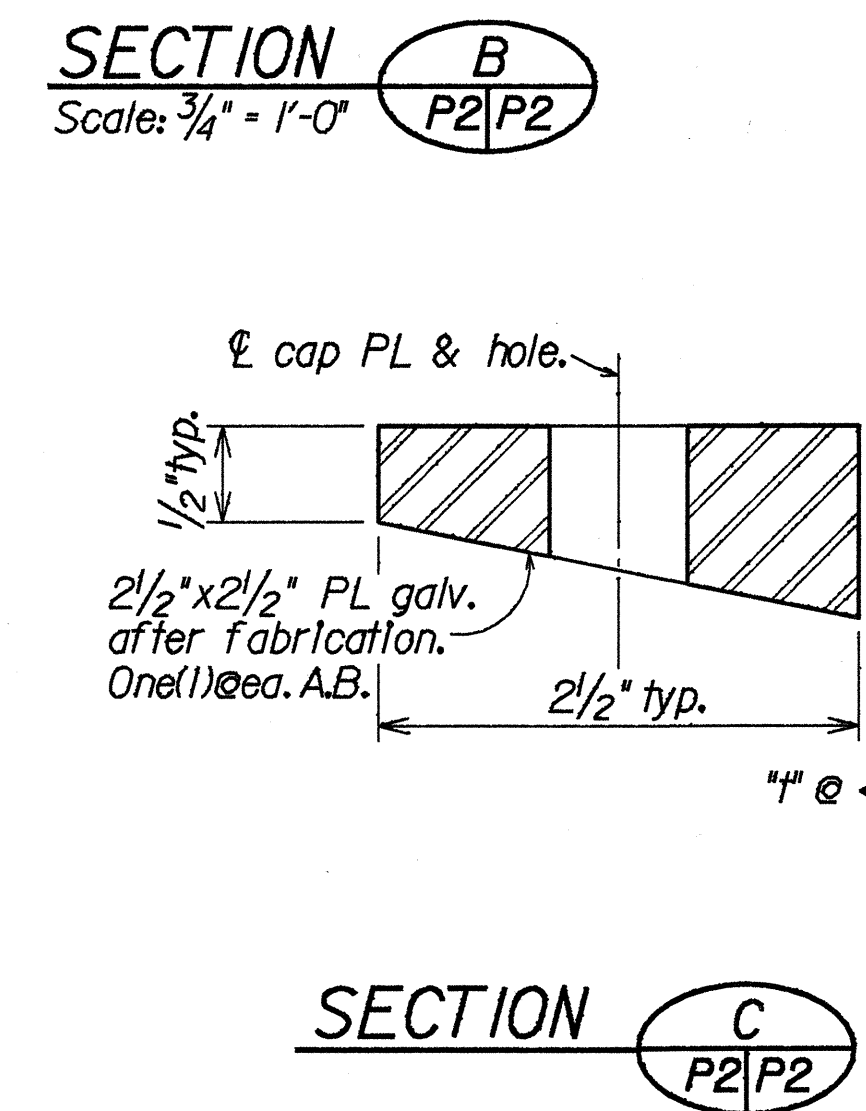
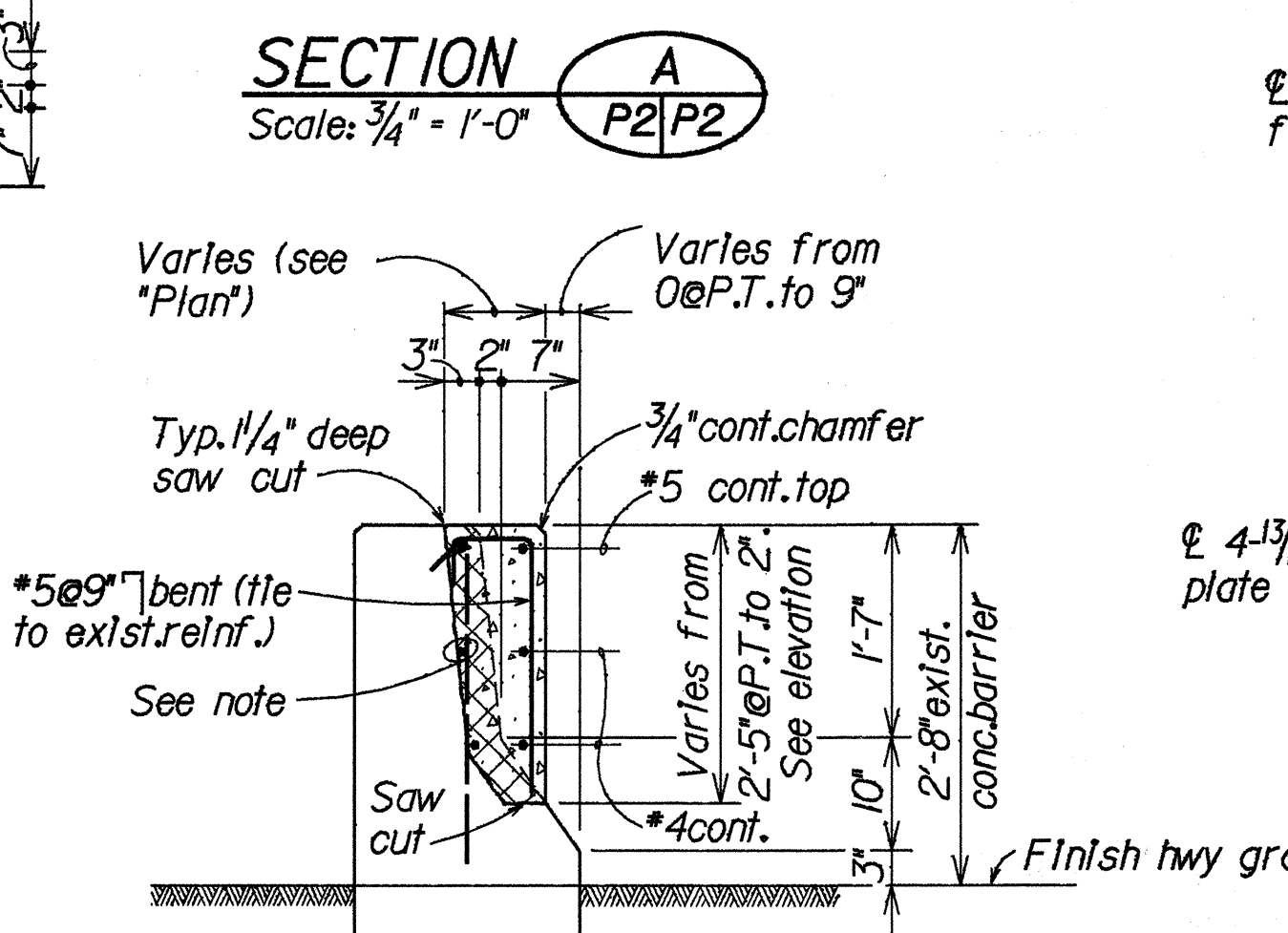
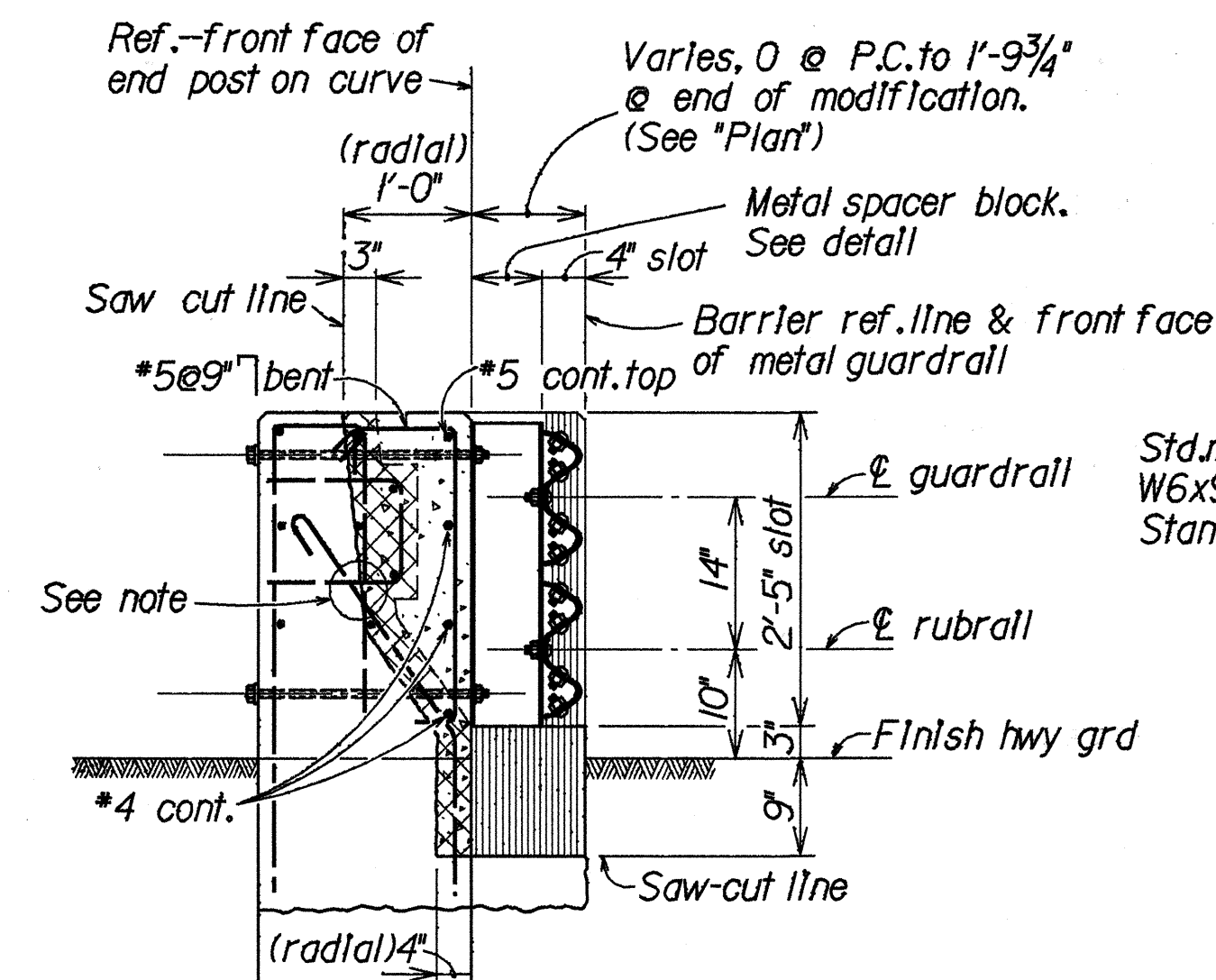
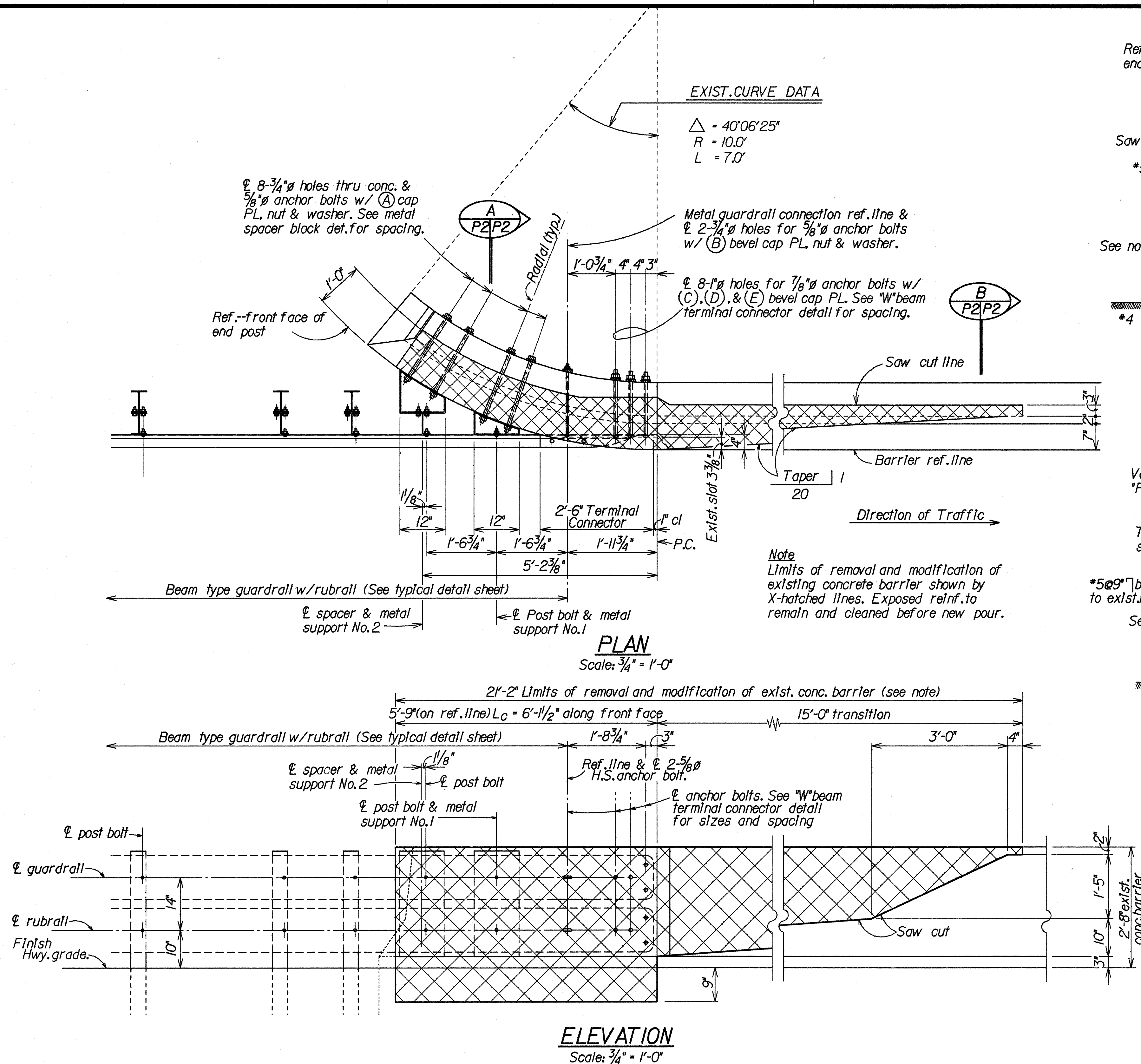
ITEM NO.	DESCRIPTION	UNIT	QUANTITY
606.8501	Modified Concrete End Post and Guardrail Connection	Ea.	5
606.8502	Guardrail Connection at Existing End Post	Ea.	6

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
**LAYOUT & LOCATION PLANS, GENERAL
NOTES AND ESTIMATED QUANTITIES**
INTERSTATE ROUTE H-2 IMPROVEMENTS
WAHIAWA I.C. TO WAIANA I.C.
F.A.I. Proj. No. IR-H2-1(24)

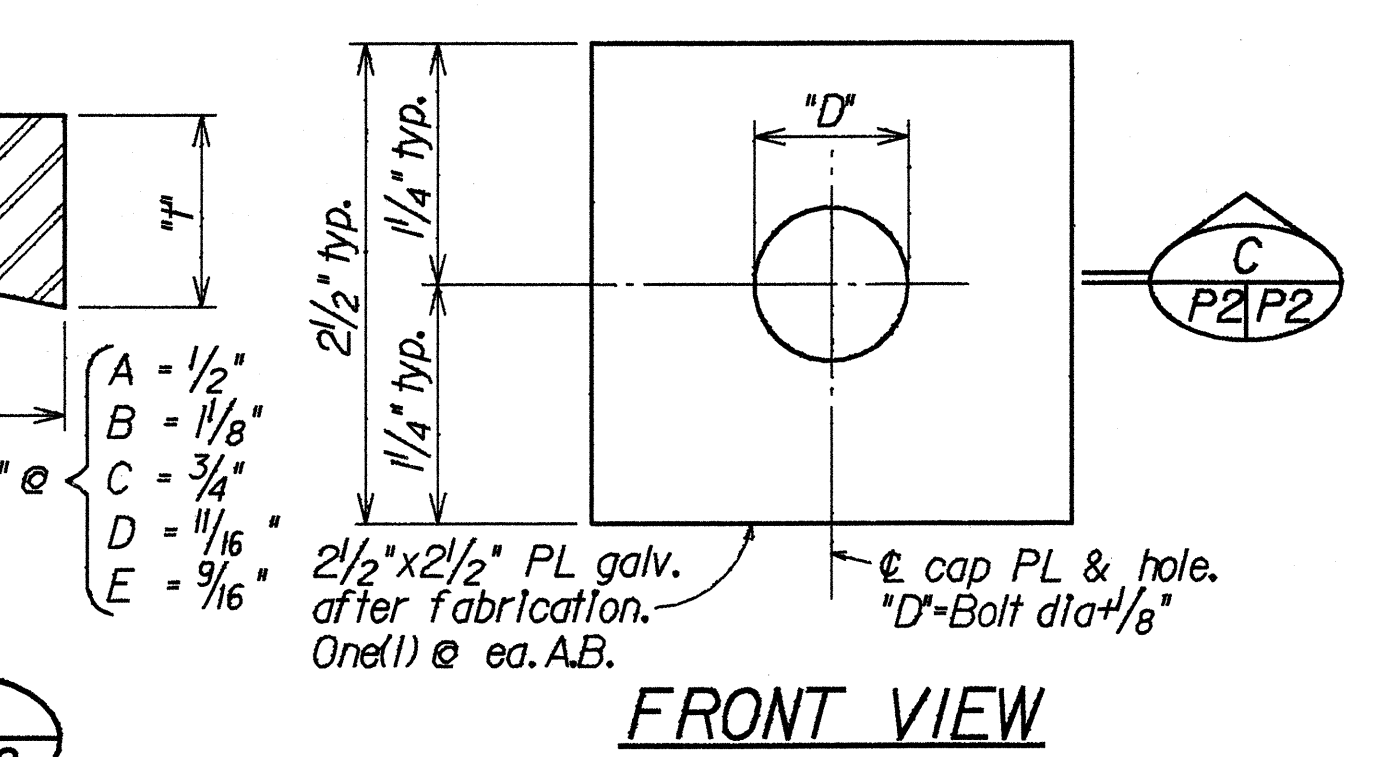
Scale: As Shown Date: Feb 1989

SHEET No. P1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-H2-1124	1989	22	81



NOS. 1 & 2 METAL SPACER BLOCK DETAILS



CAP PL DETAIL

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

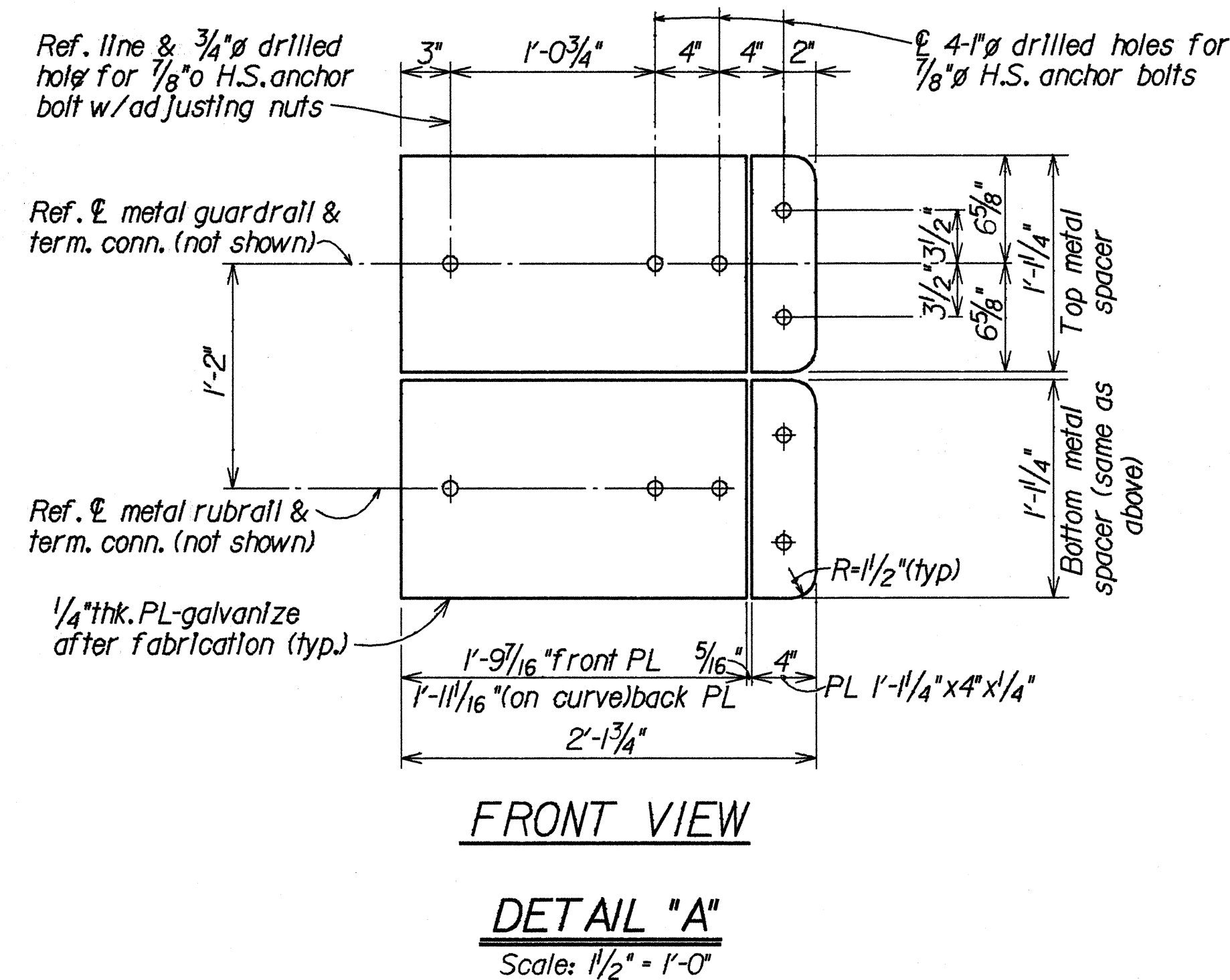
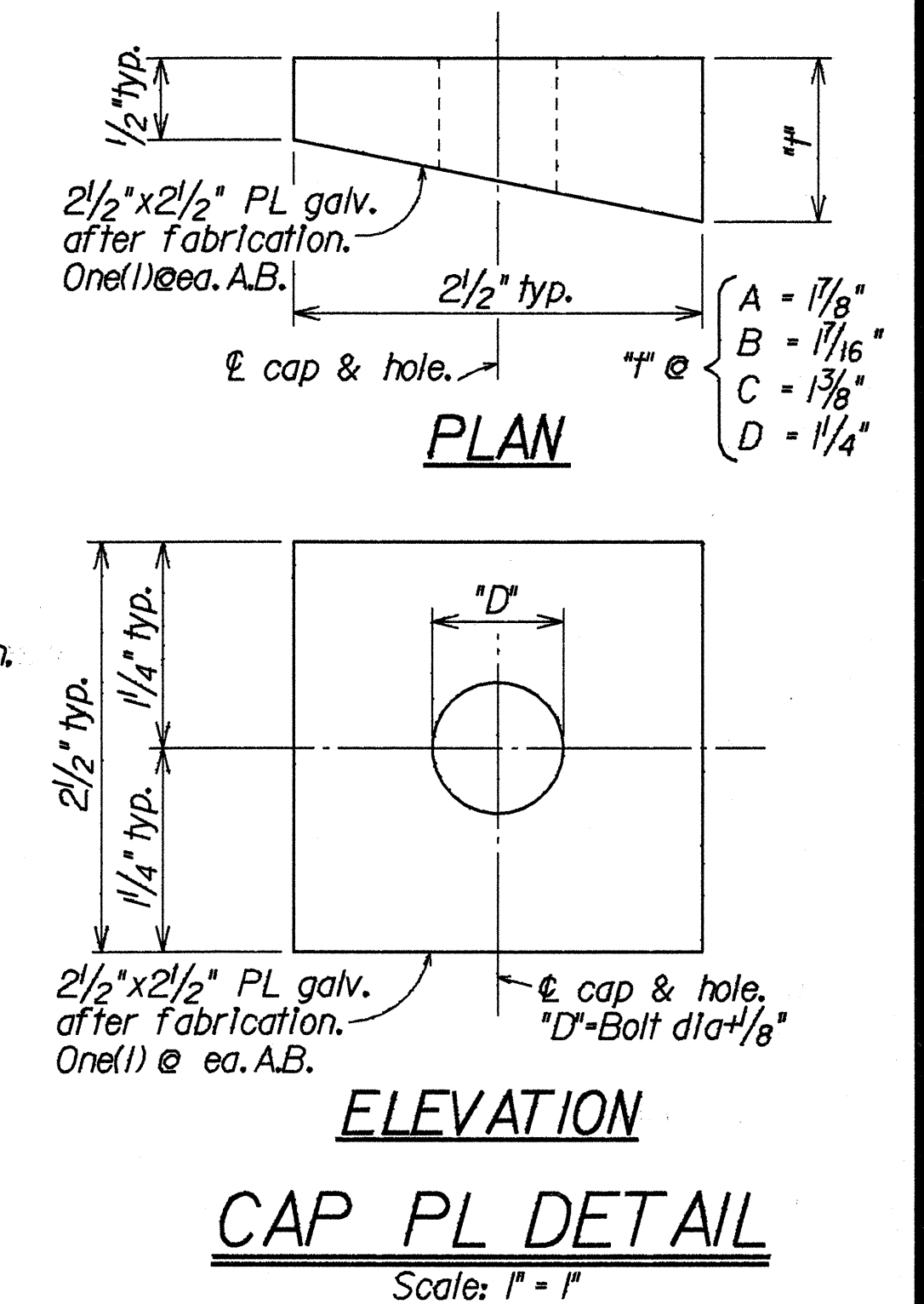
MODIFIED EXISTING CONCRETE END POST & GUARDRAIL CONNECTION DETAILS

INTERSTATE ROUTE H-2 IMPROVEMENTS
 WAIHANA I.C. TO WAIHANA I.C.
 F.A.I. Proj. No. IR-H2-1124

Scale: As Shown Date: Feb 1989

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

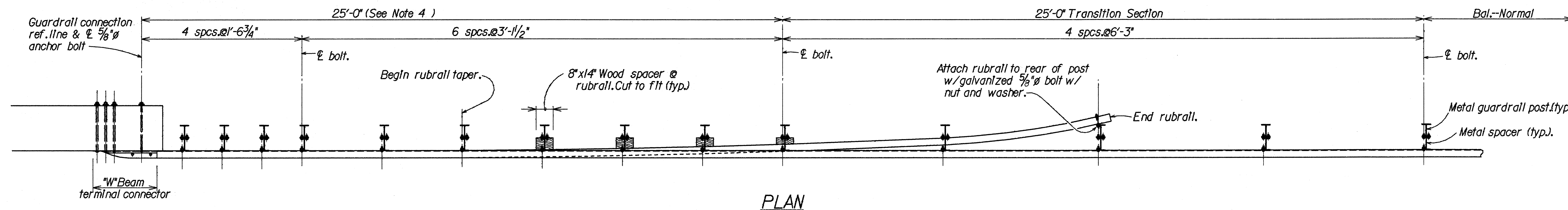
CONNECTION AT EXISTING VERTICAL FACE
CONCRETE END POST DETAILS
INTERSTATE ROUTE H-2 IMPROVEMENTS
WAIHAWA I.C. TO WAIHAWA I.C.
F.A.I. Proj. No. IR-H2-1(24)



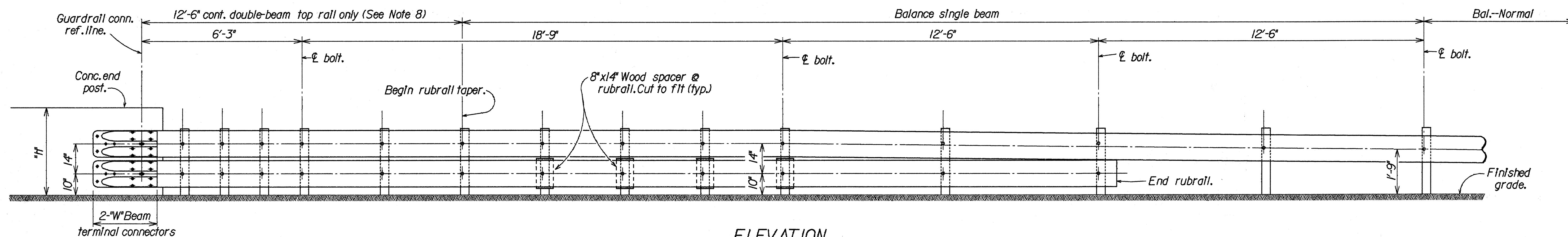
Scale: As Shown Date: Feb 1989

SHEET No. P3 OF 4 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY		DATE
	DRAWN BY	KSE	JUN 1980
NOTE BOOK	TRACED BY		
	DESIGNED BY	TS & I/A	JUN 1980
	QUANTITIES BY	TS	JUN 1980
N.	CHECKED BY	I/A	JUN 1980



PLAN



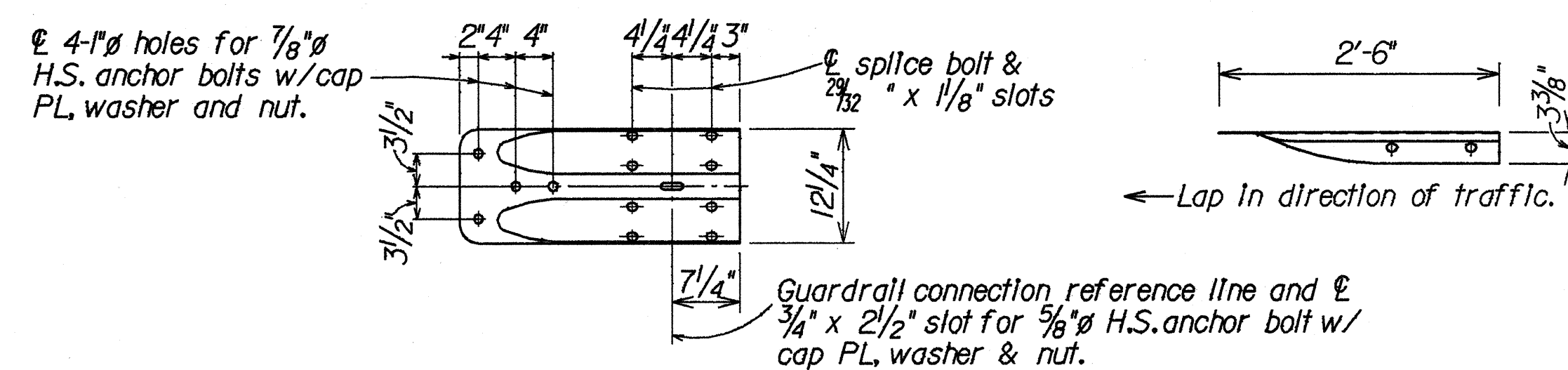
ELEVATION

BEAM TYPE GUARDRAIL WITH RUBRAIL CONNECTION & SPACING DETAIL

Scale: $\frac{1}{2}'' = 1'-0''$

NOTES:

1. For (a) Details of metal guardrail---See Standard Plan Sht. No. TE-50.
 (b) Details of Terminal Connector---See Standard Plan Sht. No. TE-51.
 (c) Details of spacer (Std.) block---See Standard Plan Sht. No. TE-50.
2. "Terminal Connector" shall be fabricated from 10 gauge steel conforming to the requirements of AASHTO M180.
3. All anchor bolts shall be high strength bolts conforming to the requirements of ASTM 325.
4. Anchor bolt length shall be such that a snug fit of the elements and full thread engagement plus 1/4" (max.) is attained.
5. "Terminal Connector", tapered and standard spacer, including all anchor bolts, cap PL, nuts and washers, shall be hot-dip galvanized after fabrication.
6. First 25'-0" of guardrail adjoining "Terminal Connector" shall be of galvanized steel with supports spaced as shown on the detail drawings.
7. Heads of through anchor bolts shall be placed on the traffic side of the end block; those at the thru spacer block excepted.
8. Where double (nested) beam occur, 12" backup plates are not required.



"W" BEAM TERMINAL CONNECTOR

Scale: $\frac{3}{4}" = 1'-0"$

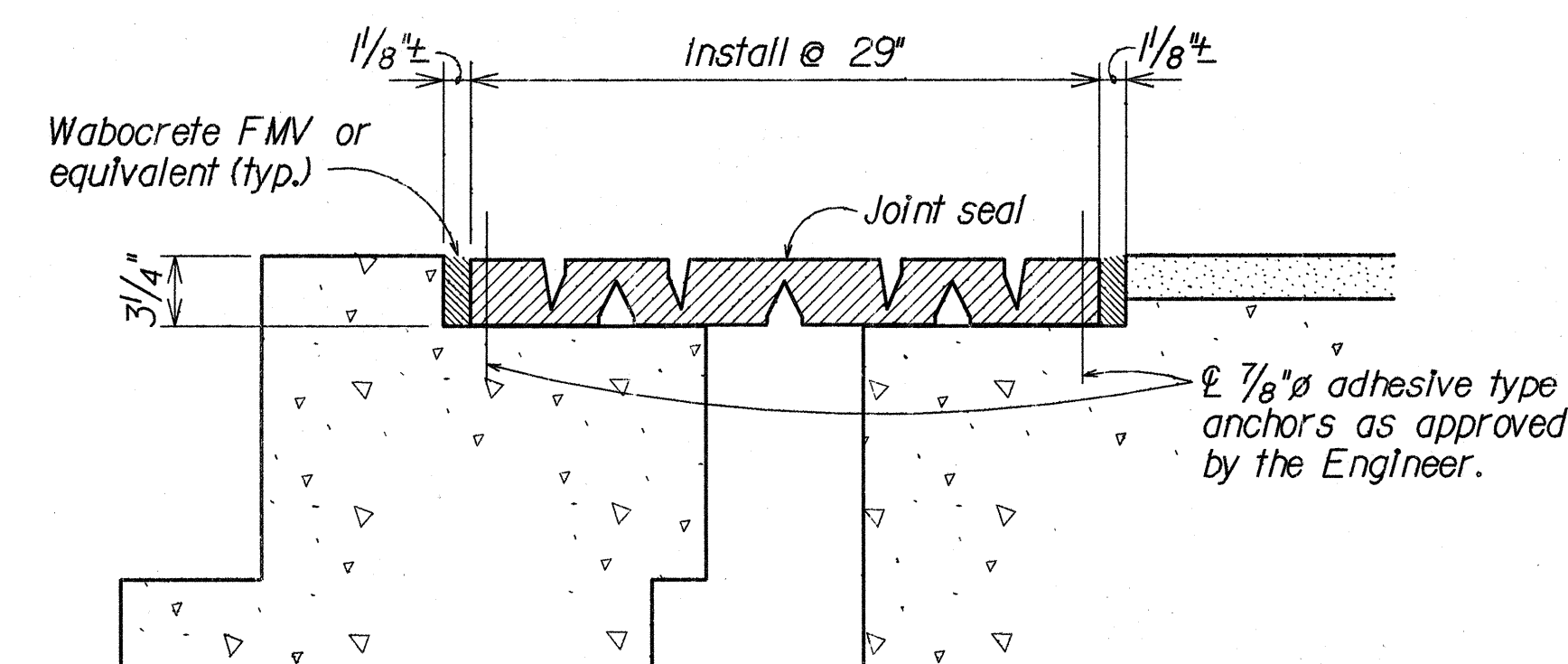
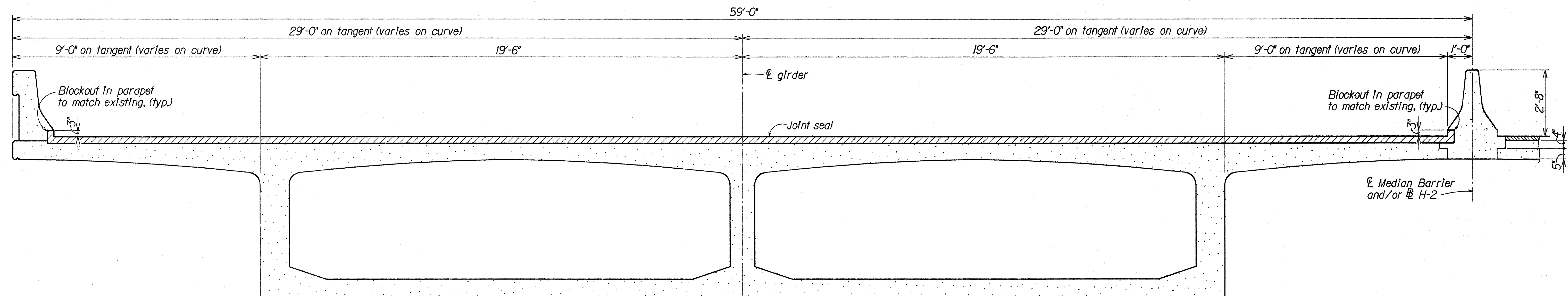
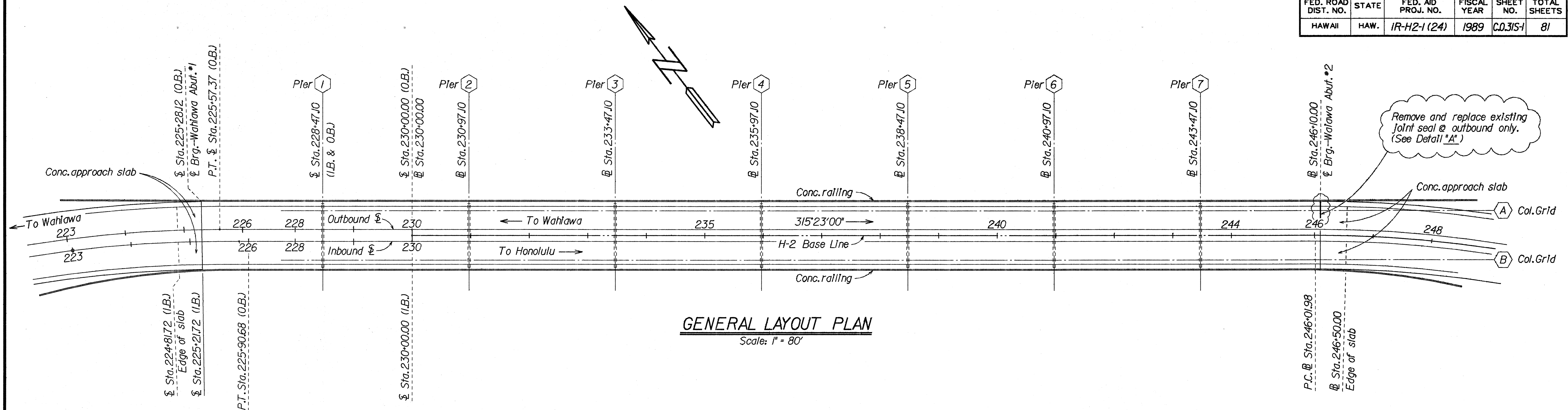
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL BEAM TYPE GUARDRAIL W/
RUBRAIL CONNECTION & SPACING DETAIL
INTERSTATE ROUTE H-2 IMPROVEMENTS
WAIHAWA I.C. TO WAIHAWA I.C.
F.A.I. Proj. No. IR-H2-11(24)

Scale: As Shown

Date: Feb 1989

SHEET No. *P4* OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IR-H2-1 (24)	1989	C0315-1	81



DETAIL "A"
Scale: $1\frac{1}{2}" = 1'-0"$

TYPICAL CROSS SECTION--OUTBOUND BRIDGE

Scale: $\frac{1}{2}" = 1'-0"$

GENERAL NOTES:

1. Specifications--
 - A. AASHTO Standard Specifications for Highway Bridges, Thirteenth Edition (1983) with 1984 thru 1988 Interim Specifications.
 - B. Hawaii Standard Specifications for Road and Bridge Construction, 1985 and Special Provisions.
2. Expansion Joint seal shall be Watson Bowman & Acme SR 6.5A or equivalent as approved by the Engineer.
3. Surface preparation for expansion Joint seal shall be per manufacturer's recommendation and shall be incidental and will not be paid for separately.
4. All dimensions shall be verified in the field.
5.  -- Denotes repair work on existing structure.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
REMOVAL AND REPLACEMENT OF EXISTING
EXPANSION JOINT SEAL-OUTBOUND ONLY
KIPAPA STREAM BRIDGE
INTERSTATE ROUTE H-2 IMPROVEMENTS
MILILANI I.C. TO WAI'AWA I.C.
Scale: As Noted F.A.J.Proj.No.19-H2-1(24) Date: July 1989

SHEET No. / OF / SHEETS

C.O.31S-1