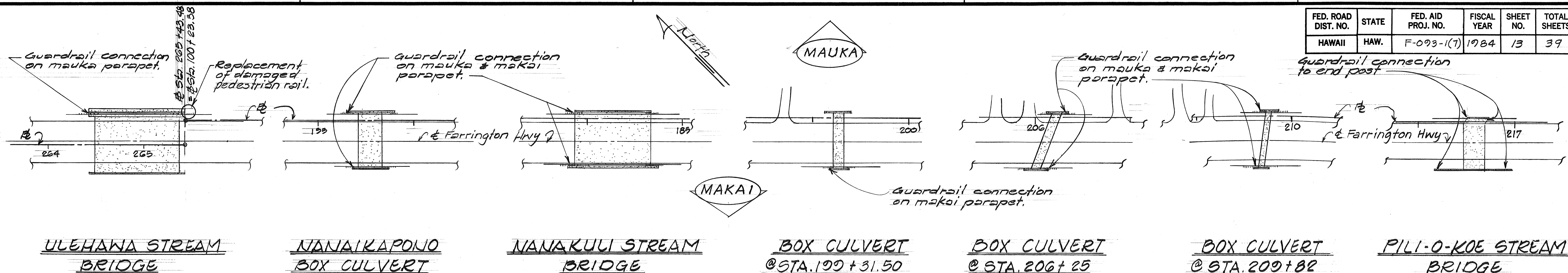


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-093-1(7)	1984	13	39

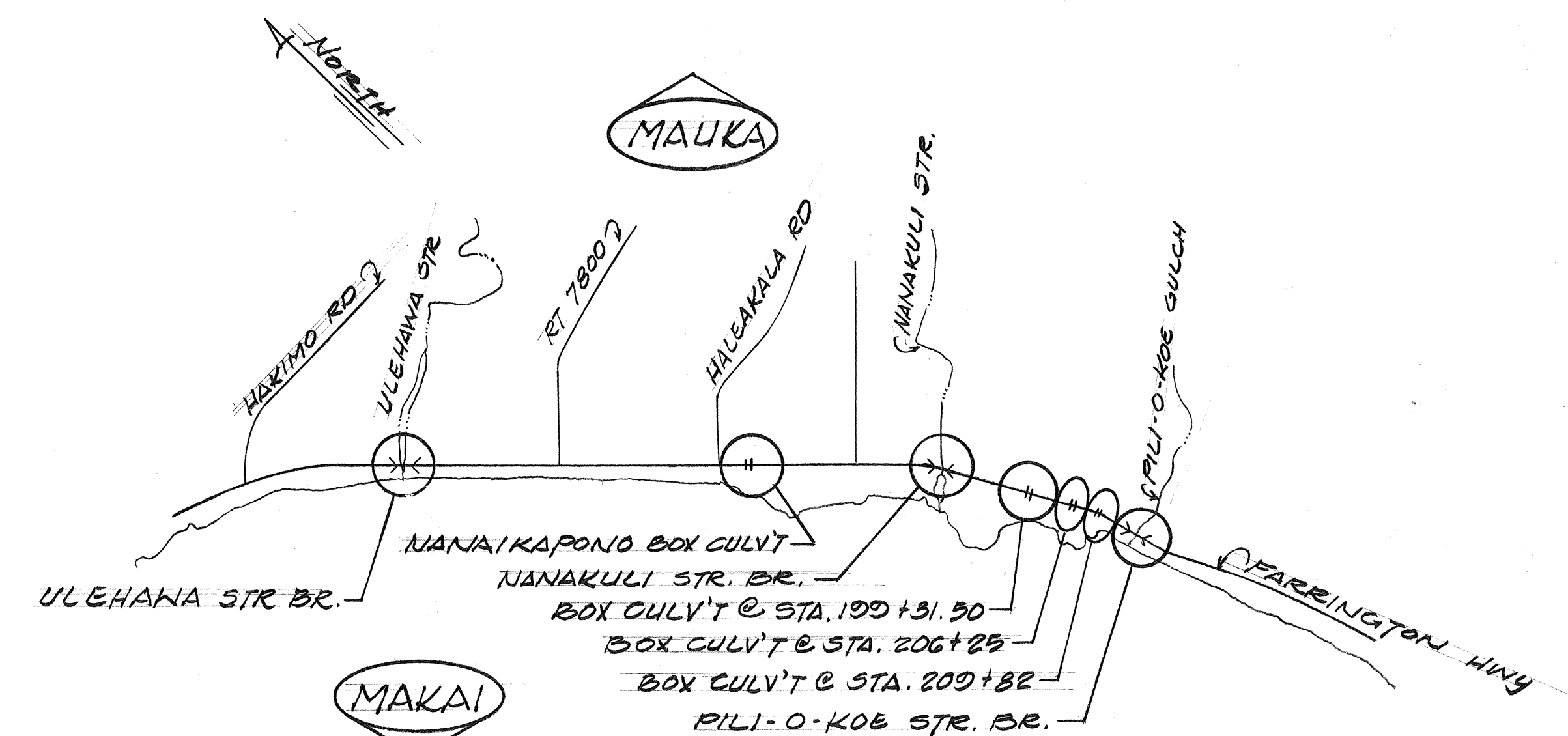


STRUCTURE JOB SITE PLAN

Scale: 1" = 50'-0"

GENERAL NOTES:

1. See Standard Specifications for Road & Bridge Construction, (Hawaii, 1976).
2. All anchor bolts shall be high strength bolts conforming to the requirements of ASTM A325.
3. "Terminal connector" shall be fabricated from 10 gage steel conforming to the requirements of AASHTO 180.
4. All "terminal connector", normal & tapered spacers & posts including all anchor bolts, cap fl, nuts and washers, shall be galvanized.
5. First 25'-0" of guard rail adjoining "terminal connector" shall be of galvanized steel.
6. Large impacting or vibratory type of equipment will not be permitted for drilling.
7. Any damage to the existing structures due to the Contractor's operation shall be repaired at his expense, to the satisfaction of the Engineer.
8. The work necessary to connect guard rail to concrete end post, and parapet 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.
9. The work involved in the replacement of the damaged pedestrian railing at Ulehana Bridge, including all labor, materials, tools, equipment and incidentals necessary to complete the work, will be paid for at the contract lump sum price.
10. The Contractor shall verify all dimensions in field before commencing with work.
11. The Contractor shall verify the location of all existing utility lines near structures and notify their respective owners before commencing with work.



LOCATION PLAN

Scale: 1" = 2,000'

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	11/83
DRAWN BY	59
DESIGNED BY	76
QUANTITIES BY	76
CHECKED BY	76
NOTE BOOK	
No.	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

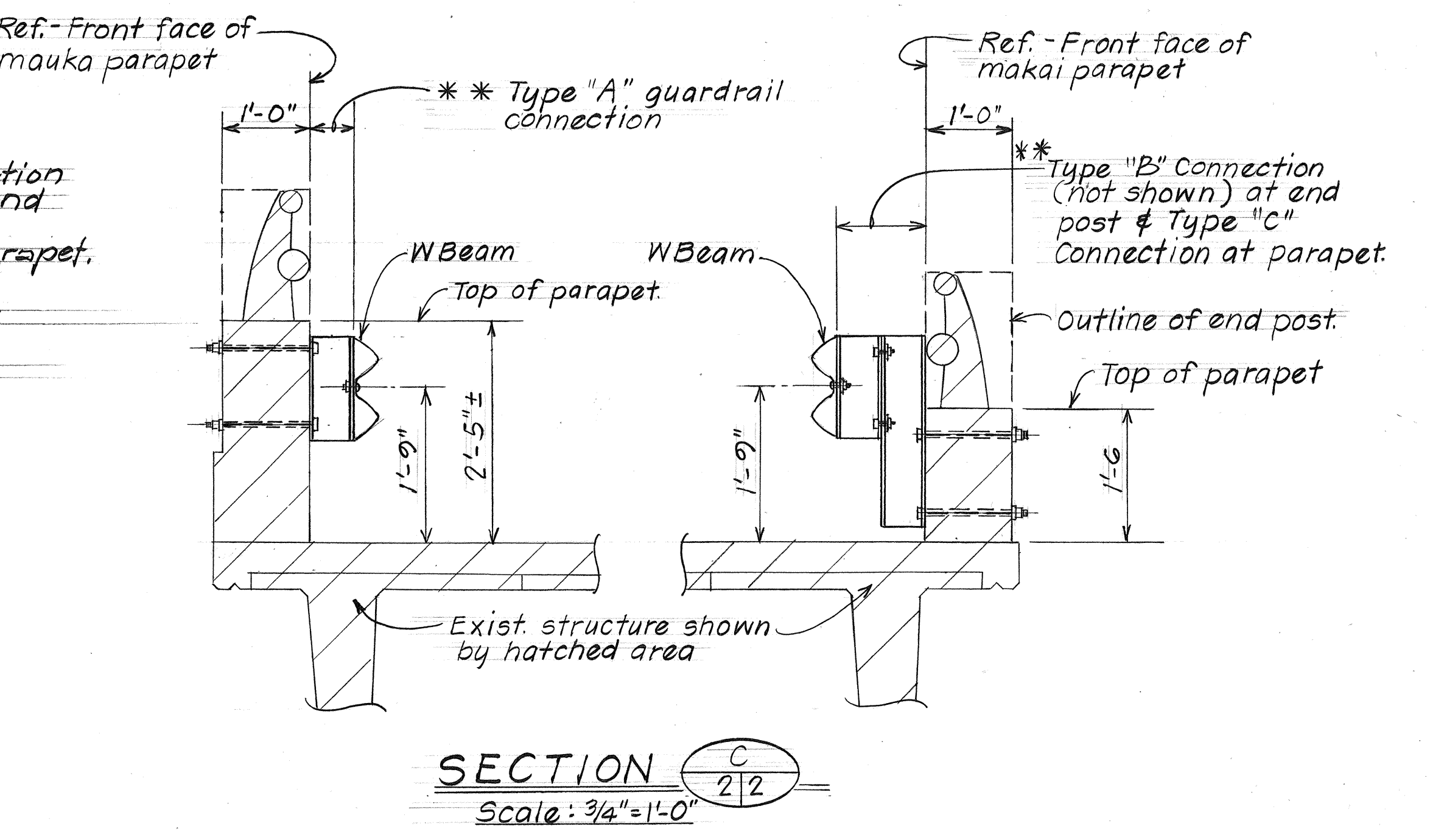
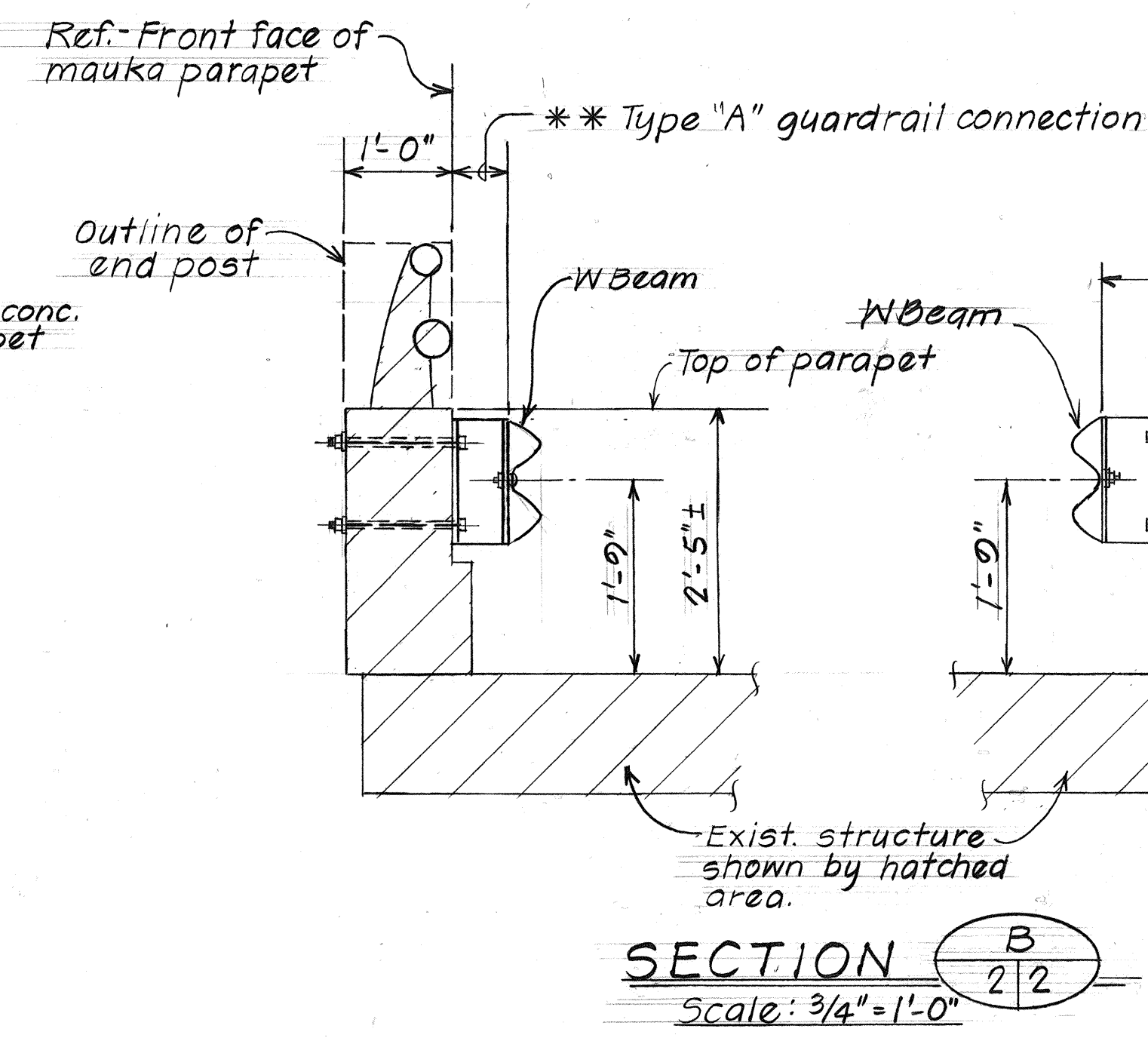
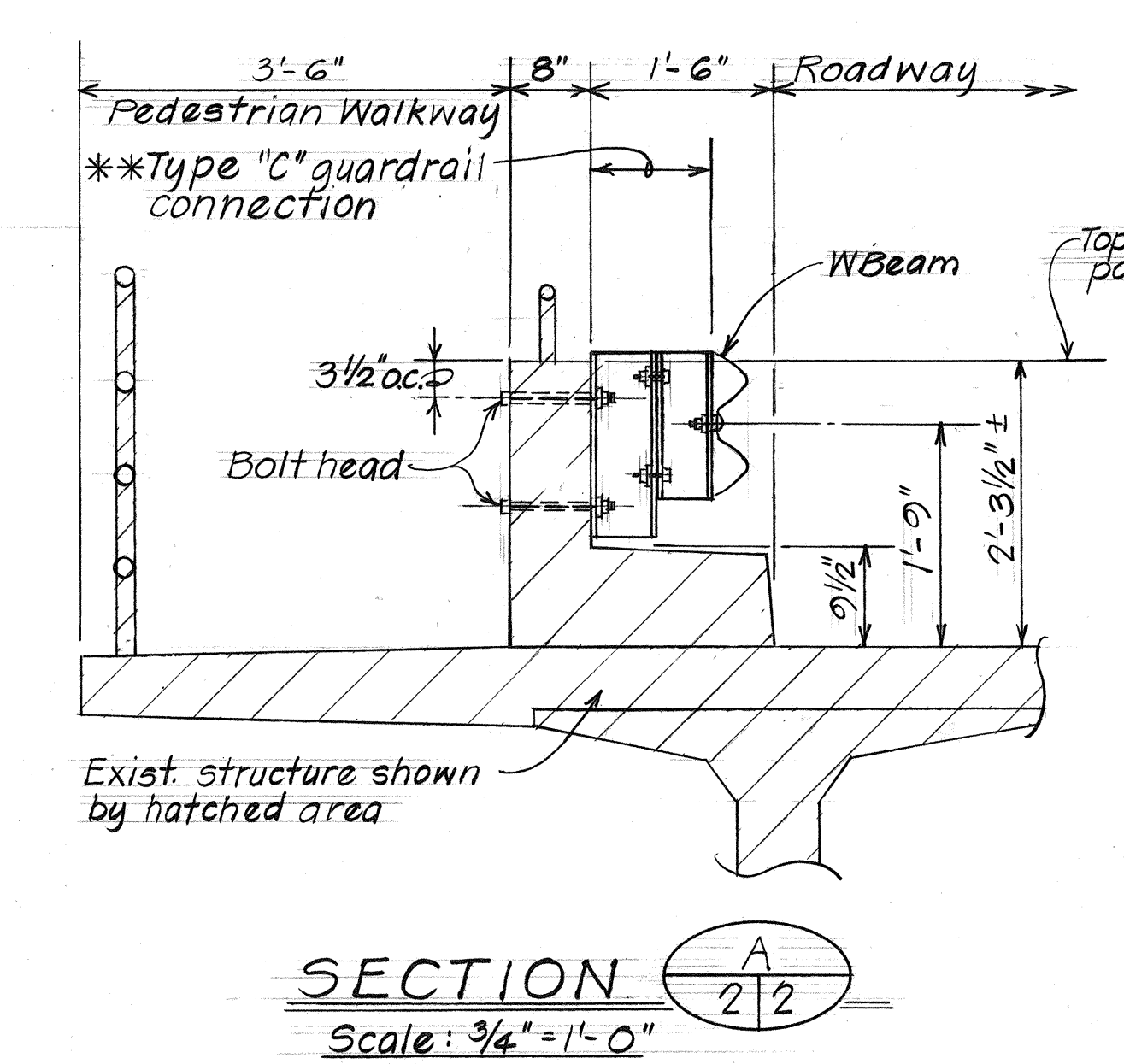
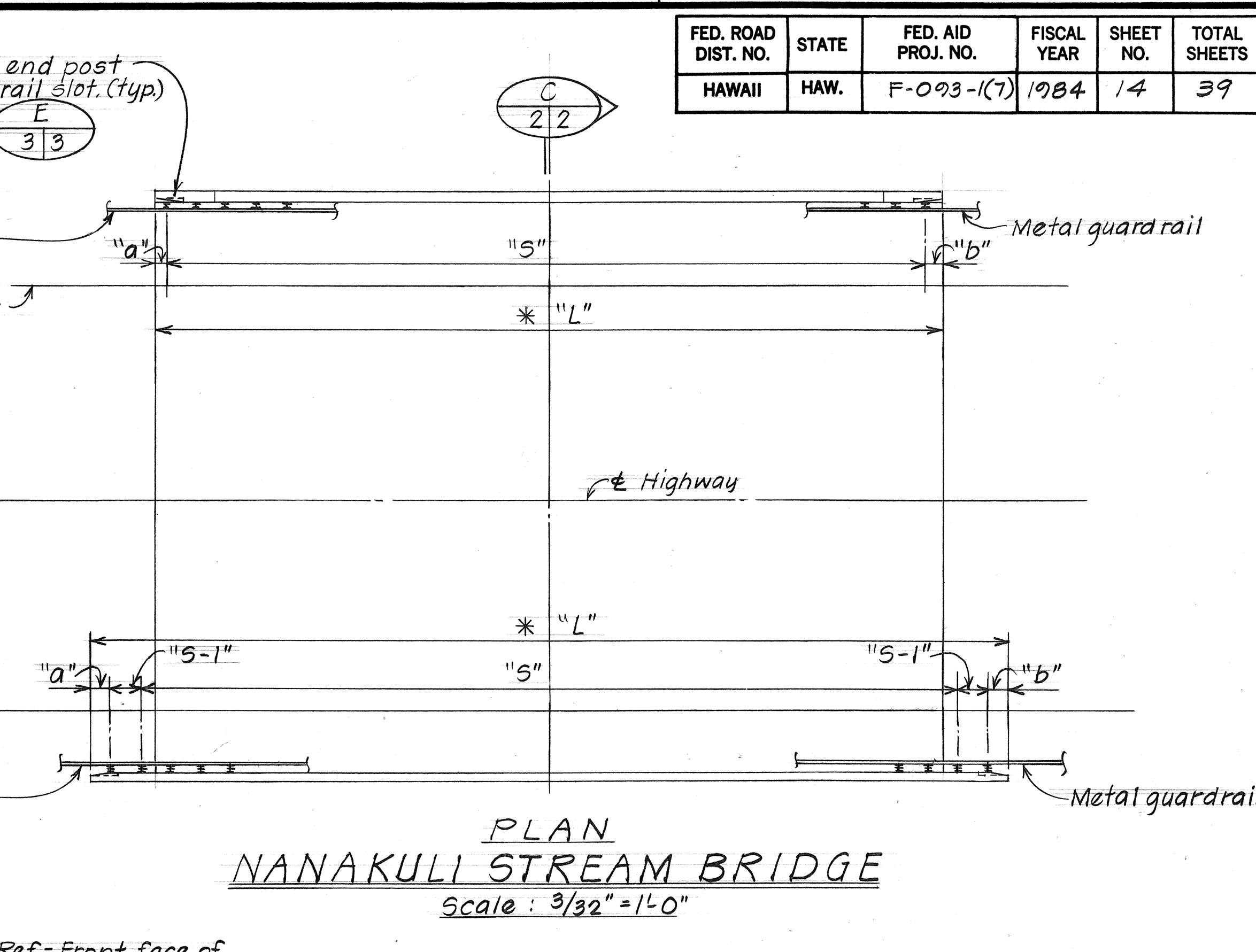
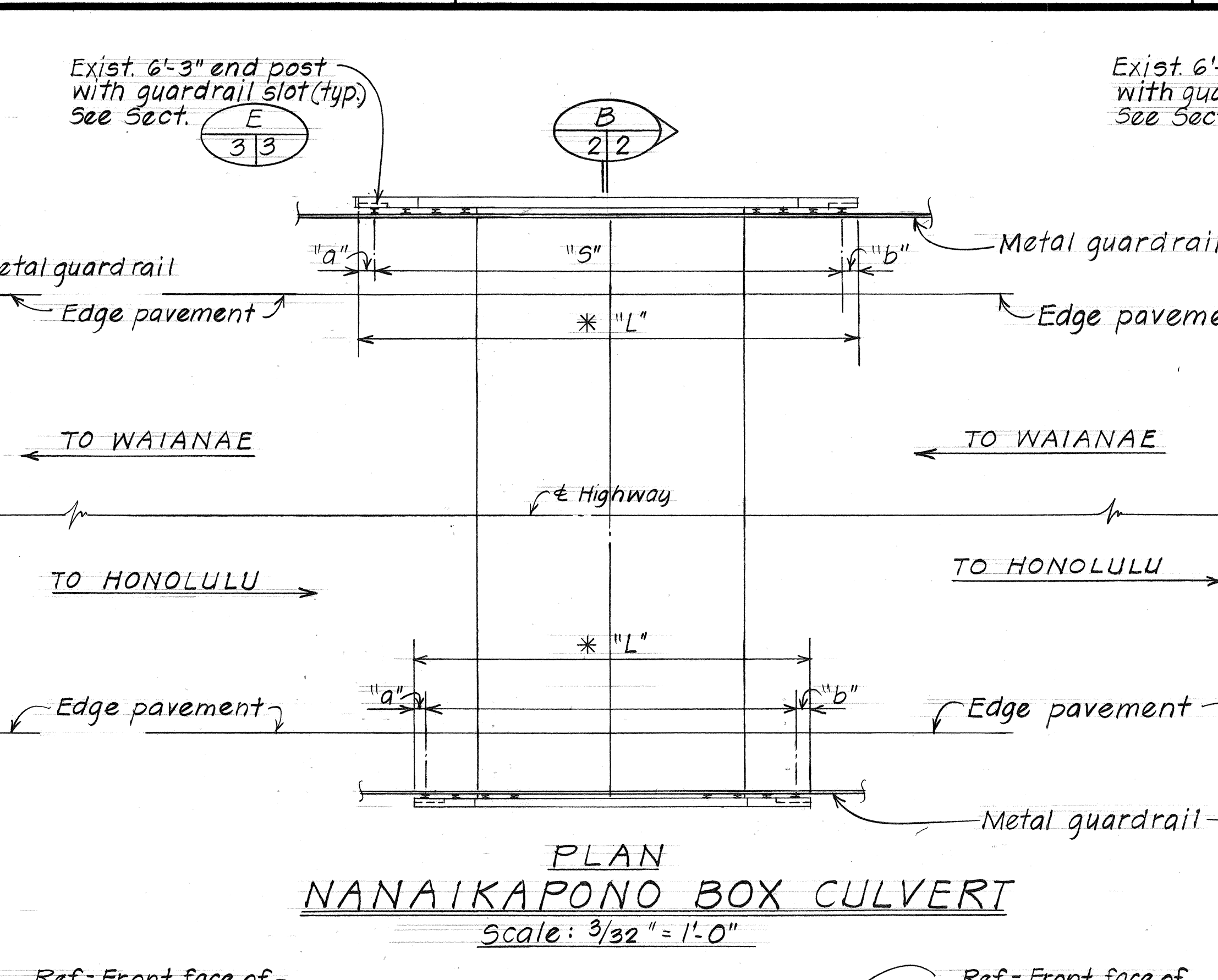
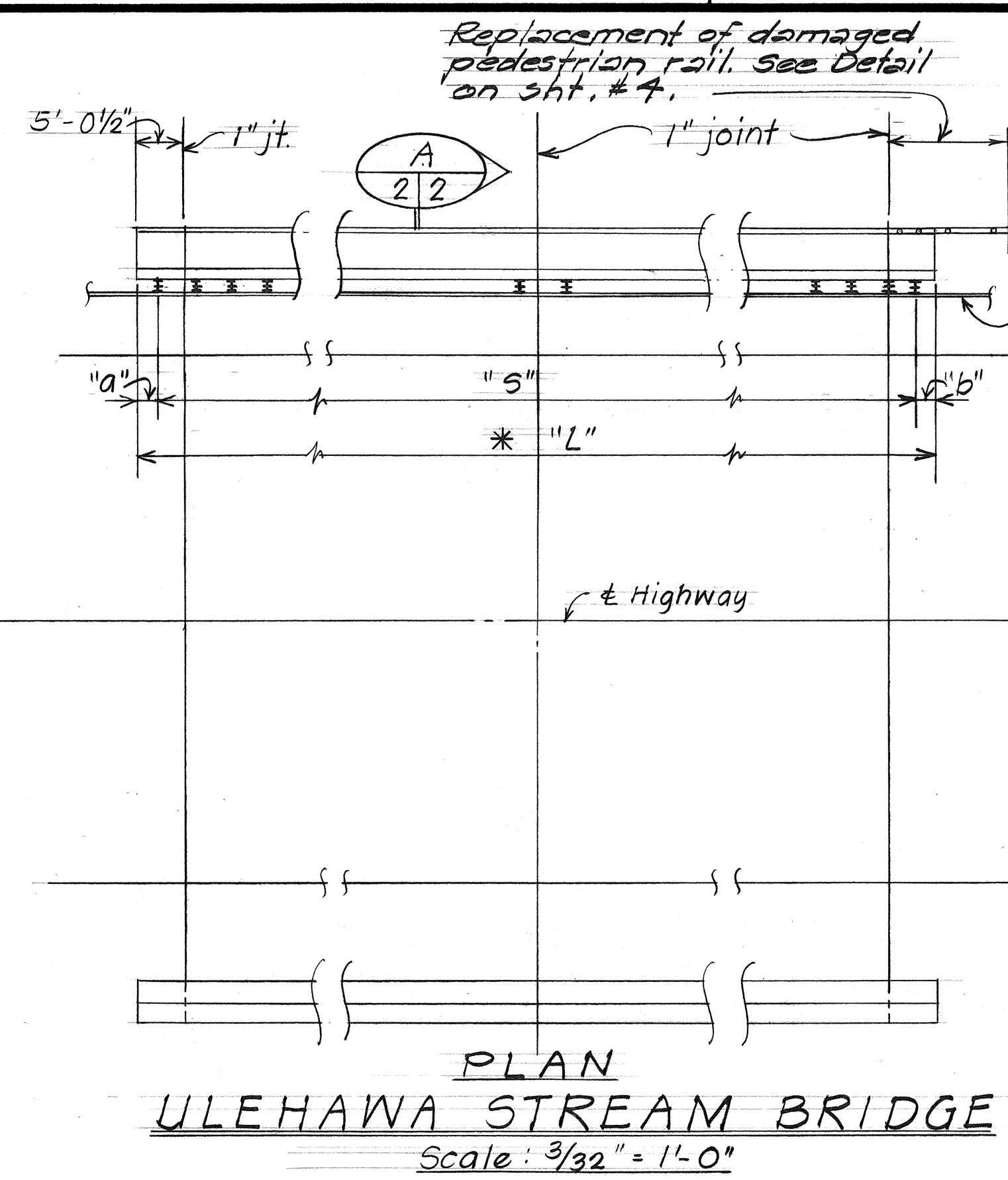
SITE PLANS & GENERAL NOTES
FOR GUARDRAIL CONNECTION
AT VARIOUS STRUCTURES

FARRINGTON HIGHWAY RESURFACING
Ulehana Stream Towards Pili-o-koe Bridge
F.A. Proj. No. F-093-1(7)

Scale: As noted Date: _____

SHEET No. 1 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-093-1(7)	1984	14	39



* - See schedule on sht. # TD-1.
 ** - See sht. # TD-1 for types of connection.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION
GUARDRAIL CONNECTION PLANS
 FOR ULEHAWA STR. BR., NANAIKAPONO
 BOX CULVERT & NANAKULI STR. BR.
 FARRINGTON HIGHWAY RESURFACING
 Ulehawa Stream Towards Pili-o-koe Bridge
 F.A. Proj. No. F-093-1(7)
 Scale: As noted Date: _____
SHEET No. 2 OF 4 SHEETS

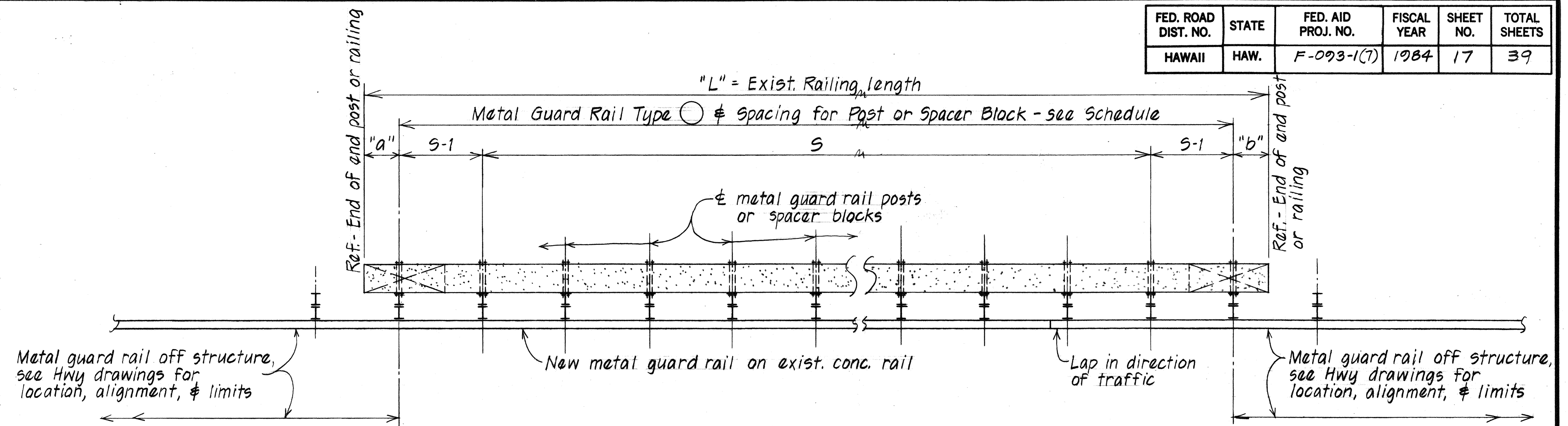
ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	11/83
DRAWN BY	1/84
DESIGNED BY	1/83
CHECKED BY	1/83
NO.	1/83

ORIGINAL PLAN	SURVEY PLOTTED BY _____	DATE _____
NOTE BOOK	DRAWN BY _____	" _____
	TRACED BY _____	" _____
	DESIGNED BY _____	" _____
	QUANTITIES BY _____	" _____
No. _____	CHECKED BY _____	" _____



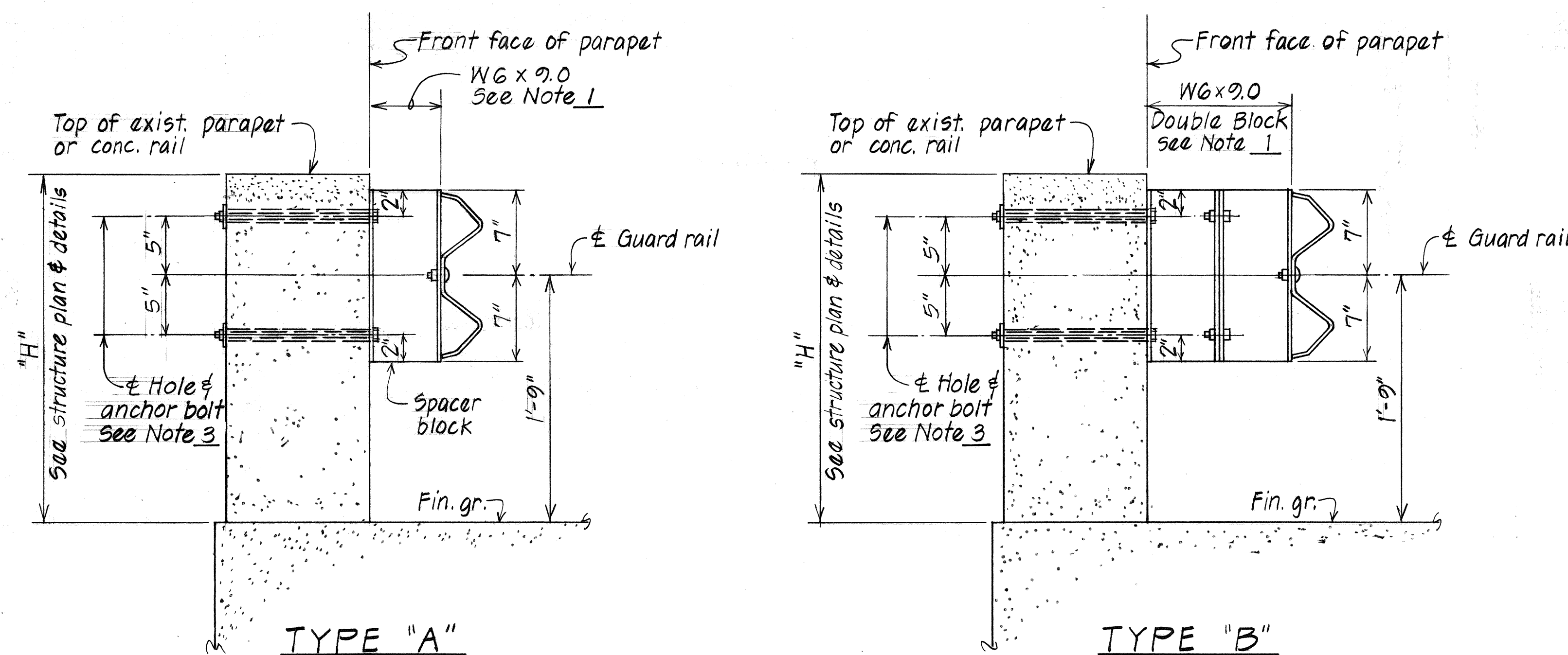
METAL GUARD RAIL TYPES, POST & SPACER BLOCK SCHEDULE

STRUCTURE	"L"	"a"	GUARD RAIL TYPE ○/SPACING		"b"
			TYPE ○/S-1	TYPE ○/S	
1. Ulehawa Str. Br.	(Mauka) 100'-6"	2'-5"	—	○/31 @ 3'-1 1/2" = 96'-10 1/2"	1'-2 1/2"
	(Makai) —	—	—	—	—
2. Nanaikapono [Box Culvert]	(Mauka) 50'-8"	1'-10 3/4"	—	○/15 @ 3'-1 1/2" = 46'-10 1/2"	1'-10 3/4"
	(Makai) 40'-2"	1'-4"	○/1 @ 3'-1 1/2"	○/10 @ 3'-1 1/2" = 31'-3"	1'-4"
3. Nanakuli Str. Br.	(Mauka) 81'-9"	1'-9 3/4"	—	○/25 @ 3'-1 1/2" = 78'-1 1/2"	1'-9 3/4"
	(Makai) 95'-3"	2'-3 3/4"	○/1 @ 3'-1 1/2"	○/27 @ 3'-1 1/2" = 84'-4 1/2"	2'-3 3/4"
4. Box Culvert @ Sta. 199+31.50 (Mauka)	—	—	—	—	—
	(Makai) 24'-0"	1'-0 3/4"	○/1 @ 3'-1 1/2"	○/5 @ 3'-1 1/2" = 15'-7 1/2"	1'-0 3/4"
5. Box Culvert @ Sta. 206+25 (Mauka)	24'-8"	1'-4 3/4"	○/1 @ 3'-1 1/2"	○/5 @ 3'-1 1/2" = 15'-7 1/2"	1'-4 3/4"
	(Makai) 24'-8"	1'-4 3/4"	○/1 @ 3'-1 1/2"	○/5 @ 3'-1 1/2" = 15'-7 1/2"	1'-4 3/4"
6. Box Culvert @ Sta. 209+82 (Mauka)	26'-0"	0'-6"	○/1 @ 3'-1 1/2"	○/6 @ 3'-1 1/2" = 18'-9"	0'-6"
	(Makai) 22'-0"	1'-7 1/2"	○/1 @ 3'-1 1/2"	○/4 @ 3'-1 1/2" = 12'-6"	1'-7 1/2"



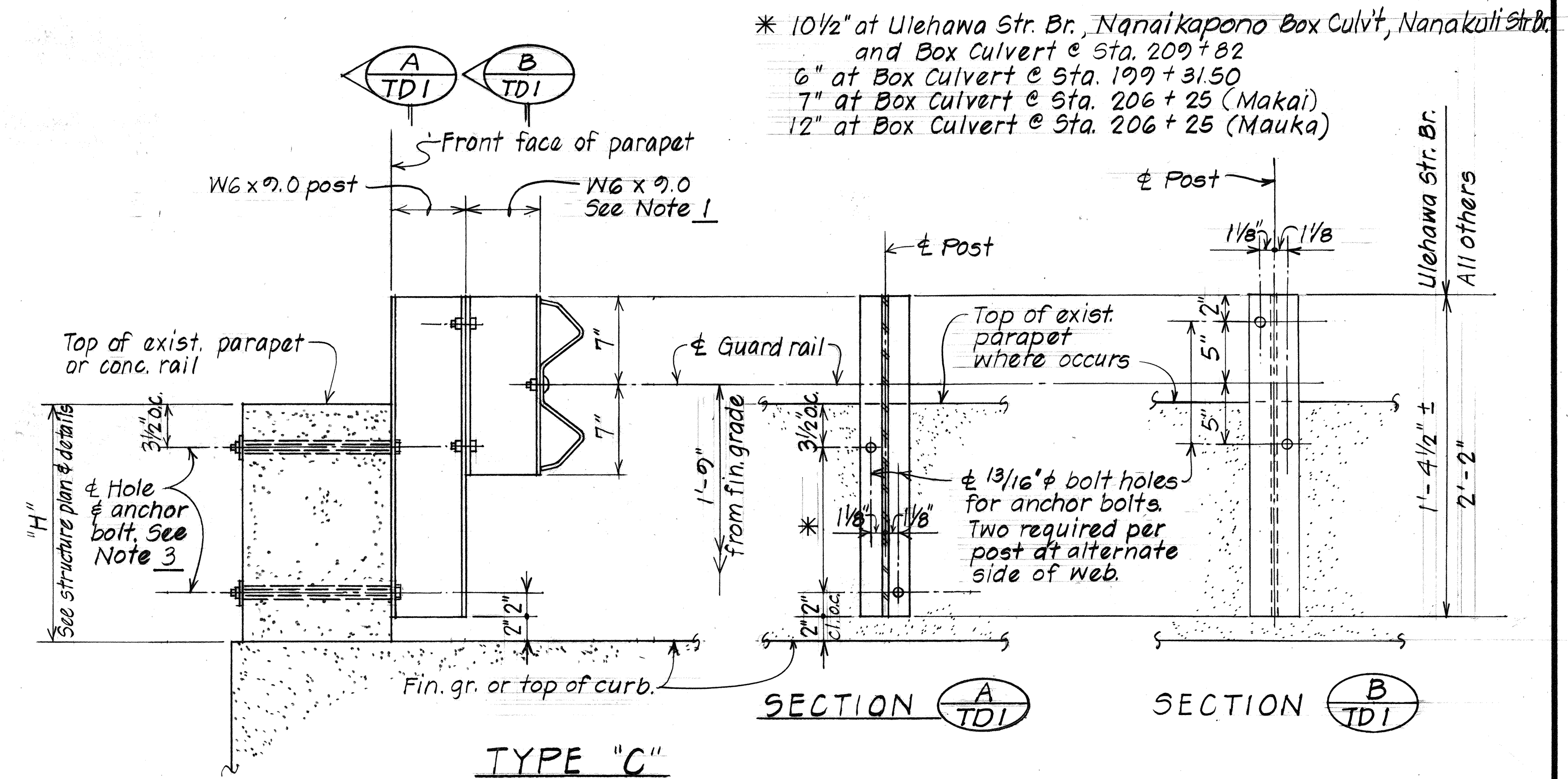
PART PLAN - METAL GUARD RAIL CONNECTION ON EXIST. STRUCTURE

Scale: 3/8" = 1'-0"



TYPICAL GUARD RAIL CONNECTION TO EXIST. CONC. RAILING

Scale: 1 1/2" = 1'-0"



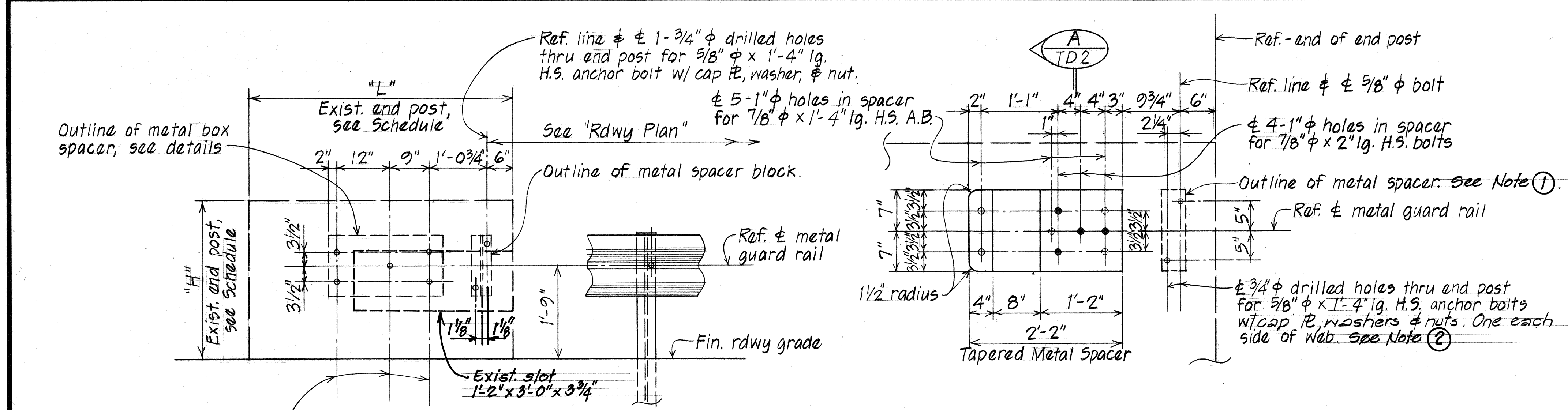
Note:

- For additional Block details & information, see Standard Detail Sht. DT-500.
- When drilling next to existing bridge rail post care shall be taken so as not to damage existing anchor bolts.
- Two 3/4" & drilled holes & 5/8" & H.S. anchor bolts with cap flt, washer and nut required per connection. See respective details for hole arrangement.

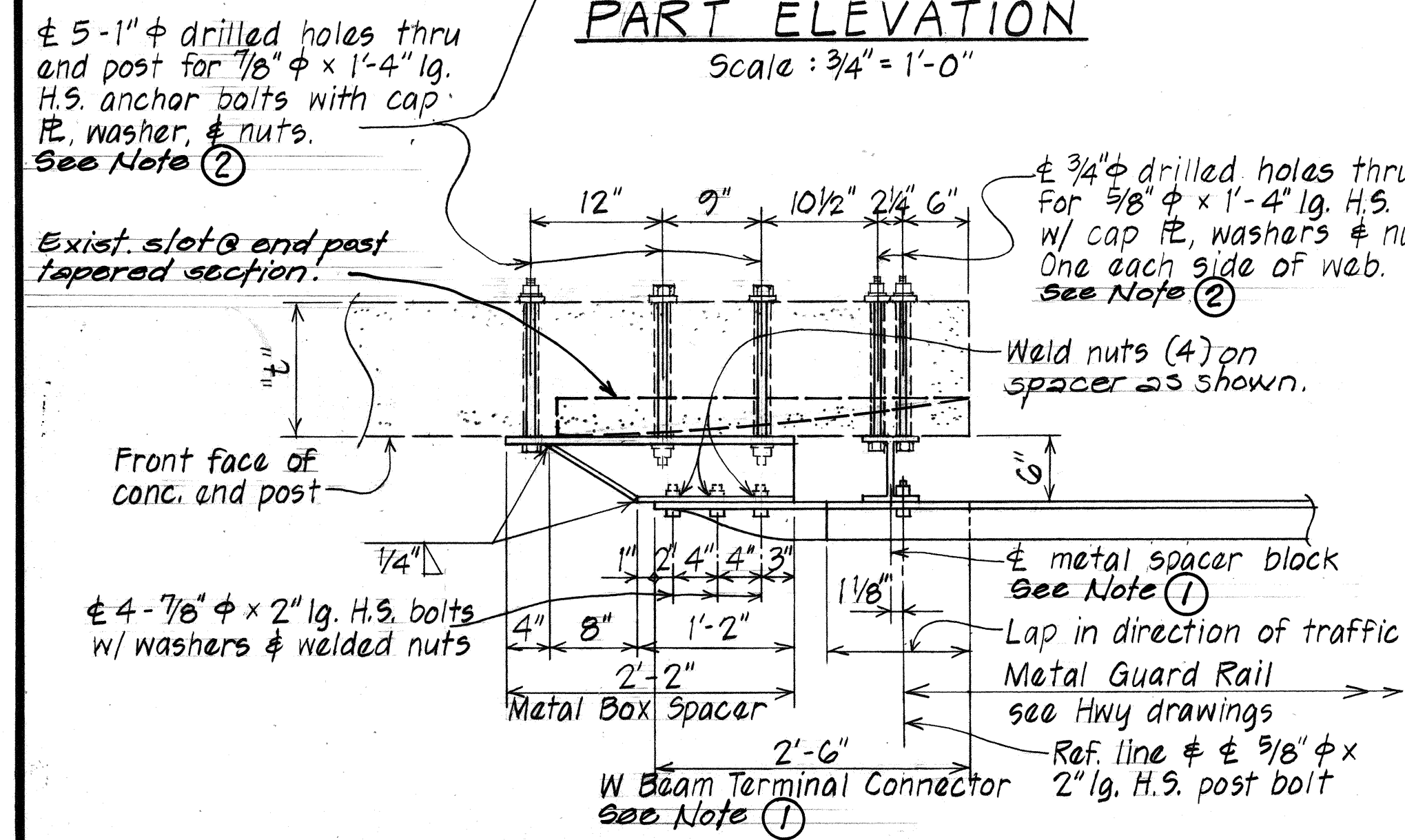
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION
TYPICAL DETAILS
GUARD RAIL CONNECTION
TO EXIST. CONC. RAILING
FARRINGTON HWY. RESURFACING
ULEHAWA STREAM TOWARDS PILIOKOE BRIDGE
F.A. Proj. No. F-093-1(2)
Scale: As Noted Date: _____
SHEET No. 701 OF 2 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	7/83
CHECKED BY	7/83
NOTED BY	7/83
ORIGINAL PLAN	7/83
NOTE BOOK	7/83
NO.	7/83

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-003-1(7)	1984	18	39

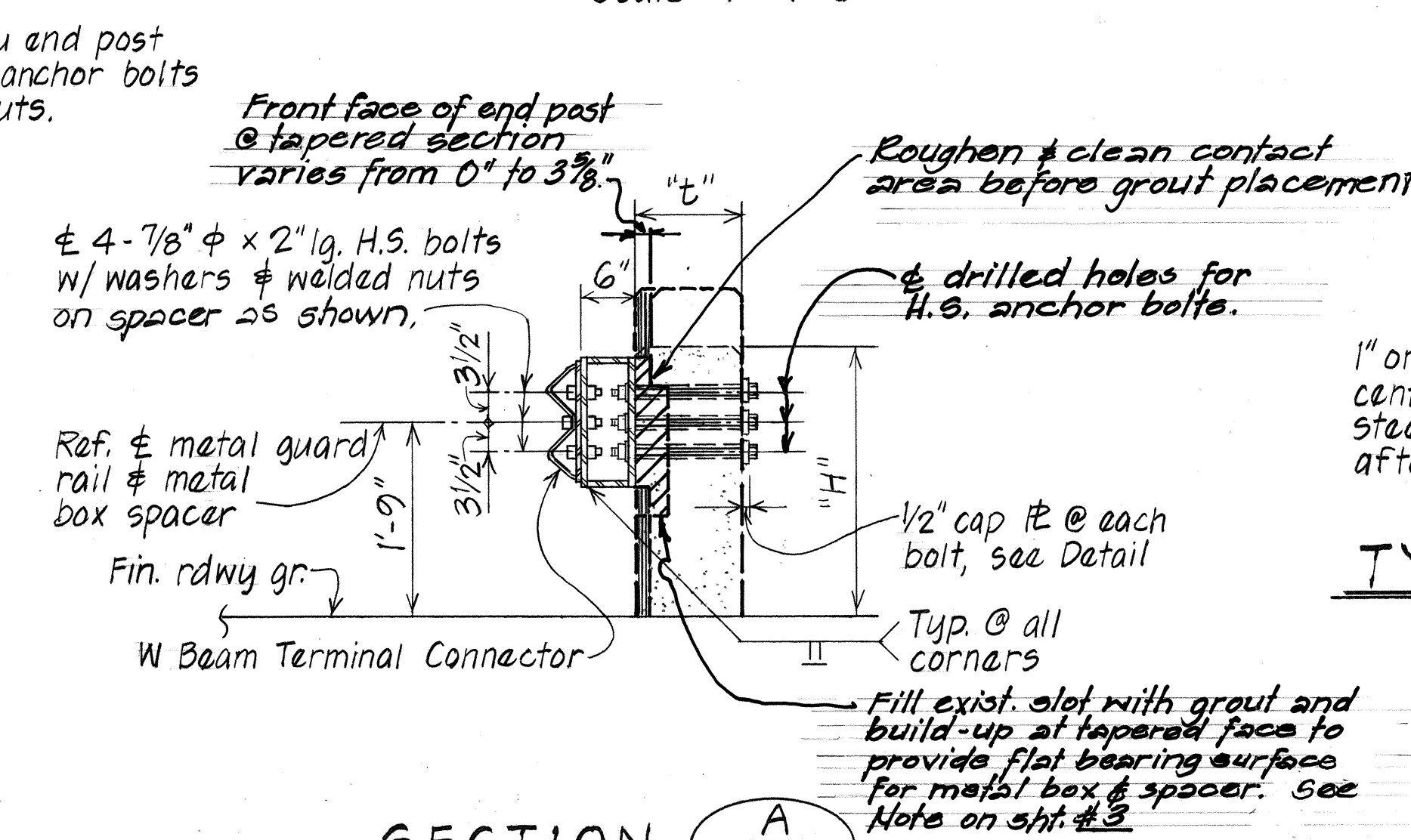


PART ELEVATION
Scale: 3/4" = 1'-0"

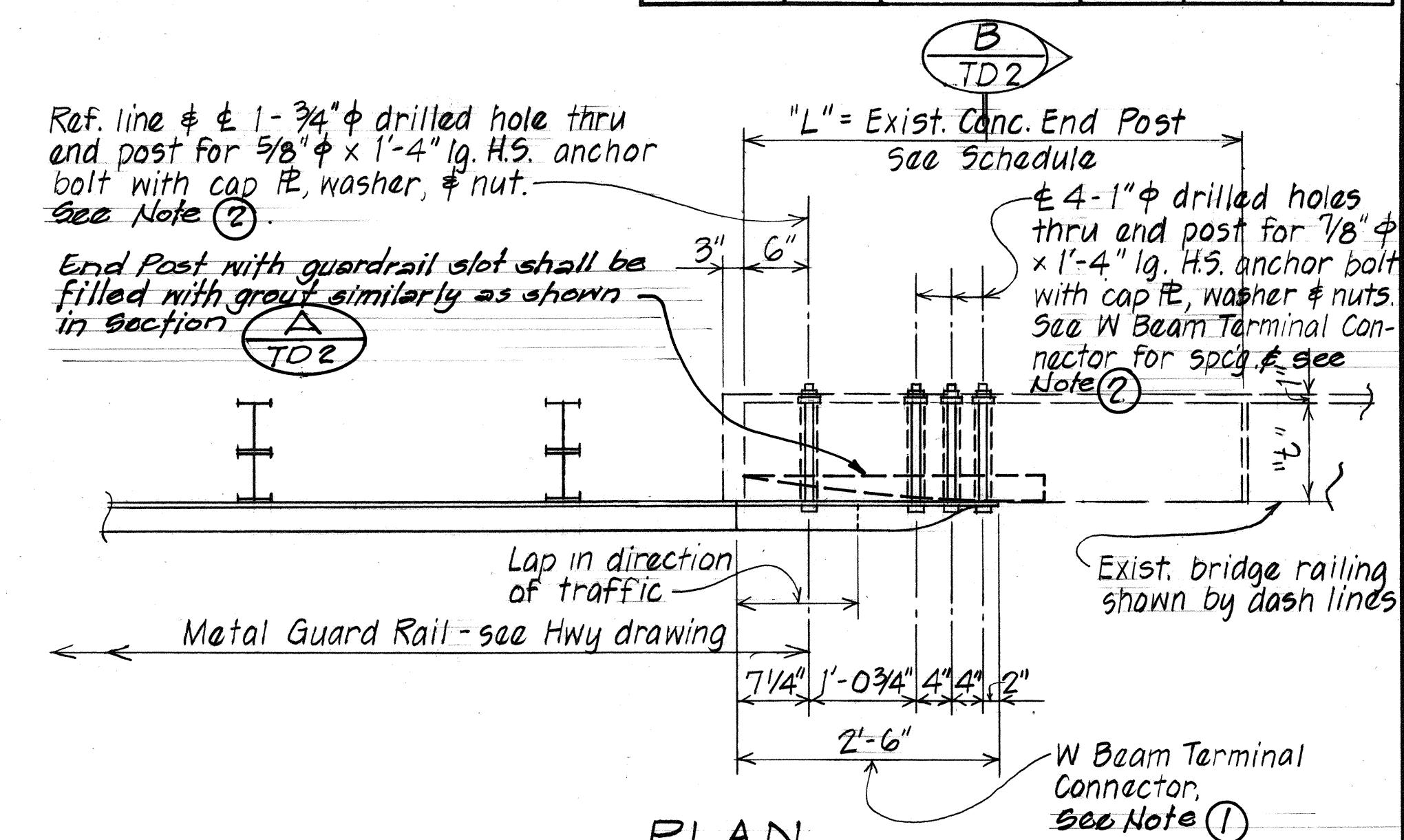


PLAN
Scale: 1" = 1'-0"

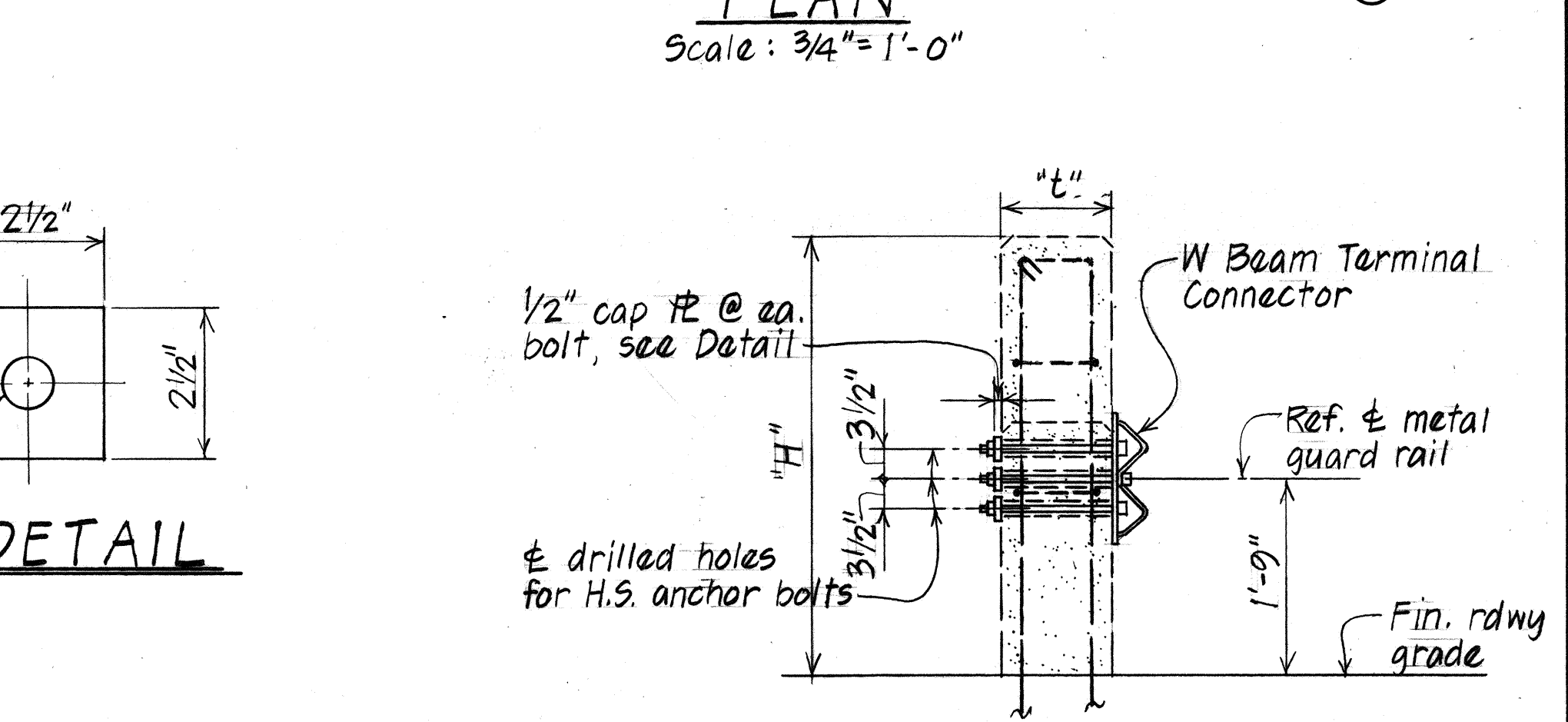
ELEVATION
TYPICAL METAL BOX SPACER
Scale: 1" = 1'-0"



SECTION A
Scale: 3/4" = 1'-0"



PLAN
Scale: 3/4" = 1'-0"



SECTION B
Scale: 3/4" = 1'-0"

TYP. CAP PLATE DETAIL
Not to scale

TYPICAL METAL GUARD RAIL CONNECTION TO EXISTING END POST (TYPE "X")

METAL GUARD RAIL CONNECTION TO EXISTING END POST (TYPE "Y")

EXISTING END POST DIMENSION SCHEDULE

STRUCTURE	"L"	"H"	"t"	TYPE CONNECTION
Pili-O-Koe Stream Bridge	6'-0"	3'-0 1/2"	1'-2"	"Y"
Pili-O-Koe Stream Bridge	6'-0"	3'-0 1/2"	1'-2"	"X"

NOTES

- See sheet DT-500 & DT-501 for details of spacer blocks & terminal connector. (Incidental to the respective type of connector.)
- Provide bond breaker around new anchor bolts prior to placing grout in the existing slots.

The words "Mauka" and "Makai" deleted from EXISTING END POST DIMENSION SCHEDULE per Addendum No. 1.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

TYPICAL DETAILS
GUARD RAIL CONNECTION
TO EXIST. END POST
FARRINGTON HWY RESURFACING
ULEHAWA STREAM TOWARDS PILIOKOE BRIDGE
F.A. Proj. No. F-023-1(2)
Scale: As Noted Date:

DATE
G/11/84

REVISION

SHEET No. TD2 OF 2 SHEETS
ADD. 18R