

GENERAL STRUCTURAL NOTES

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	27	102

GENERAL SPECIFICATIONS:

1. State of Hawaii Department of Transportation Standard Specifications for Road and Bridge Construction, 1994 and Special Provisions.

DESIGN SPECIFICATIONS - AASHTO:

1. AASHTO LRFD Bridge Design Specifications, 1994, with 1996 and 1997 interim revisions.

DESIGN LOADS:

1. Dead loads Soil 120 pcf
 Concrete 160 pcf
 Structural Steel 490 pcf
2. Pedestrian 50 plf & 200 lb. concentrated on rails
Live Loads 50 plf x Number of Rails & 200 lb. concentrated on posts
3. Vehicular Impact TL-2 (27 kips) Only on concrete barrier
4. Soil Properties $\phi = 26^\circ$

MATERIALS:

1. Concrete Class A
2. Reinforcing Steel ASTM A 615, Grade 60
3. Structural Steel ASTM A 36
Shapes & Plates
4. Structural Steel ASTM A 53, Type E/S, Grade B
Pipes
5. Welded Wire Fabric ASTM 185
6. Bolts ASTM A 325
7. All Structural steel, welded wire fabric, bolts, nuts and washers shall be hot-dip galvanized after fabrication, unless noted otherwise. All galvanizing shall conform to Hawaii Standard Specifications Section 501.03 (G).
8. All welding shall conform to ANSI/AASHTO/AWS D1.5-1996.

CONSTRUCTION METHODS:

1. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 1994 Edition and Special Provisions.
2. Except as noted otherwise, all dimensions are measured plumb.
3. For concrete finish, see Special Provisions.
4. For steel reinforcing, all splices shall be staggered where possible. No splice will be allowed within 12" of real posts, except as shown in plans.

5. Steel reinforcing shall be supported, bent and placed as per the ACI Detailing Manual, 1994.
6. For cast-in-place concrete, minimum reinforcement cover unless shown otherwise: concrete cast against earth: 3" walls: 2"
7. At the time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
8. Reinforcement, dowels and other embedded items shall be positively secured before pouring.
9. All footings shall bear on firm undisturbed natural soils or properly compacted structural fill.
10. No joints within 12" of posts.

REFERENCE:

1. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

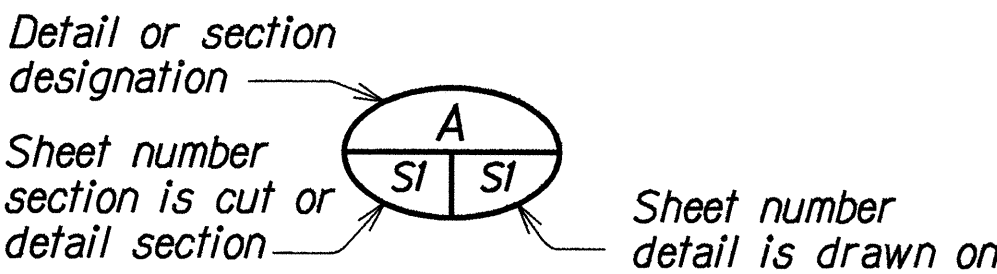
GENERAL:

1. All items noted incidental will not be paid for separately.
2. The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work. Locations of utility shown are approximate.
3. The Contractor shall verify all grades and dimensions in the field before commencing with any work.
4. The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at the Contractor's own expense, to the satisfaction of the Engineer. He shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
5. Excavation for all footings and footing keys shall be accomplished by maintaining as near a vertical cut as possible.
6. In the event of over-excavation, the space between the footing or footing key and ground shall be filled with a minimum of Class D concrete at the Contractor's expense and as directed by the Engineer.
7. Unless noted otherwise, chamfer all exposed concrete edges three-quarters ($\frac{3}{4}$) of an inch.
8. Premolded joint filler shall be incidental to item 608.1105.
9. Control and expansion joints in sidewalk between Sta. 139+78.16 and Sta. 149+08.52 Rt. to be considered incidental to item 608.1105.
Control joints in concrete barrier to be considered incidental to item 503.1040.

ABBREVIATIONS

AB	Anchor Bolt	FF	Front Face	R	Radius
Abut.	Abutment	Fin.	Finish	Rdwy.	Roadway
at#t	Exist. underground telephone cable	Ga.	Gage, gauge	Ref.	Reference
Alum.	Aluminum	Galv.	Galvanized	Req'd	Required
Approx.	Approximate	gdi	Exist. grated drop inlet	Reinf.	Reinforcing
#	Baseline	Gr.	Grade	s*	Sewer line # inches diameter
Bal.	Balance			Sect.	Section
Beg.	Begin, Beginning	Horiz.	Horizontal	Shld.	Shoulder
Bm.	Beam	HS	High Strength	Sht.	Sheet
Brg., Brgs.	Bearing, Bearings	IB	Inbound	smh	Exist. Sewer Manhole
		Jt.	Joint	Spcs.	Spaces
¢	Center line			Spcg.	Spacing
cdi	Exist. conc. drop inlet	L	Length	Sta.	Station
Cl.	Clear	LC	Length of Curve	Std.	Standard
Col.	Column	Lg.	Long	Struct.	Structural
Conc.	Concrete	Longit.	Longitudinal	Str.	Structure
Cont.	Continuous			t	Exist. underground telephone cable
CR	Corrosion Resistant	Max.	Maximum	T#B	Top and Bottom
Def.	Detail	Min.	Minimum	Thk.	Thick
Dia.	Diameter	No.	Number	tp	Exist. Telephone Pole
Diag.	Diagonal			TS	Tubular Steel
Ea.	Each	oc	On Center	Typ.	Typical
EF	Each Face	OB	Outbound	tmh	Exist. Telephone Manhole
emh	Exist. Electric Manhole	OD	Outside Dimension		
EP	Edge of Pavement	PL	Plate	Vert.	Vertical
Eq.	Equal	plf	Pounds /lin. ft.	w/	with
Exist.	Existing	pp	Exist. Power Pole	w*	Water line # inches diameter
Exp.	Expansion				

SYMBOLS



SURVEY PLOTTED BY	DATE
DRAWN BY	DATE
TRACED BY	DATE
DESIGNED BY	DATE
CHECKED BY	DATE

ORIGINAL PLAN	NOTE BOOK
DATE	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FARRINGTON HIGHWAY SIDEWALK UPGRADE

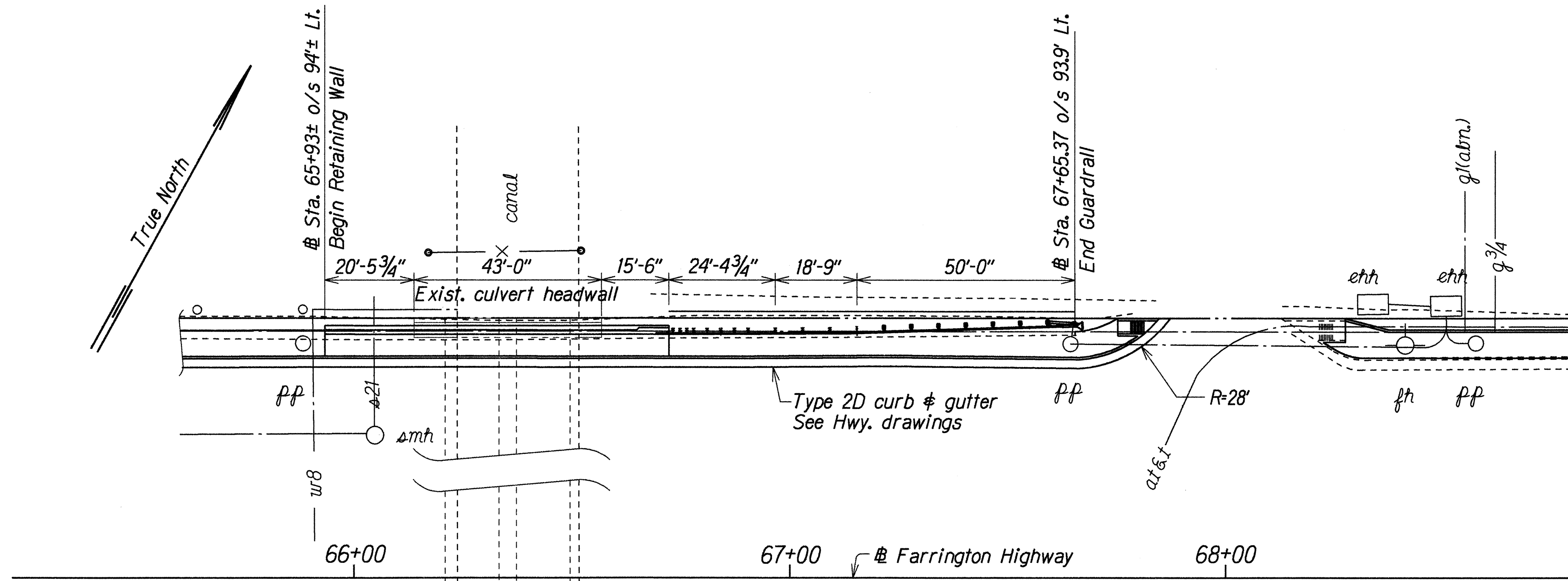
GENERAL STRUCTURAL NOTES & ABBREVIATIONS

FARRINGTON HIGHWAY SIDEWALKS
Leole Street to Awanui Street and
Leoku Street to Palwa Street

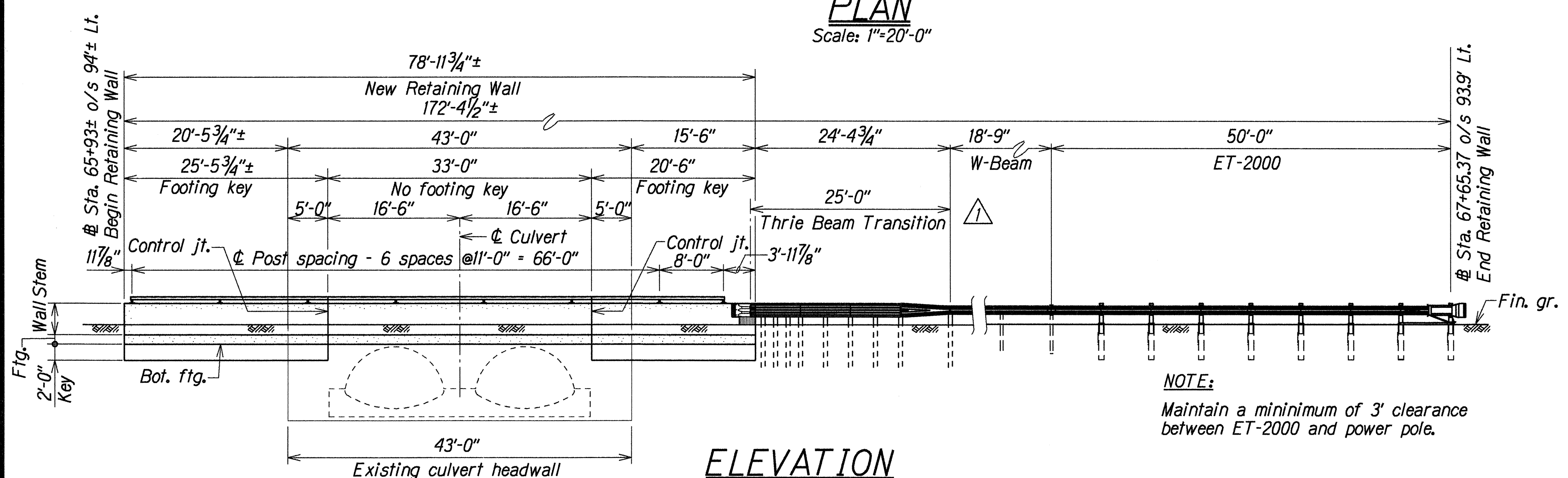
Project No. 7101A-02-97 Date: June 1998

Scale: As Noted

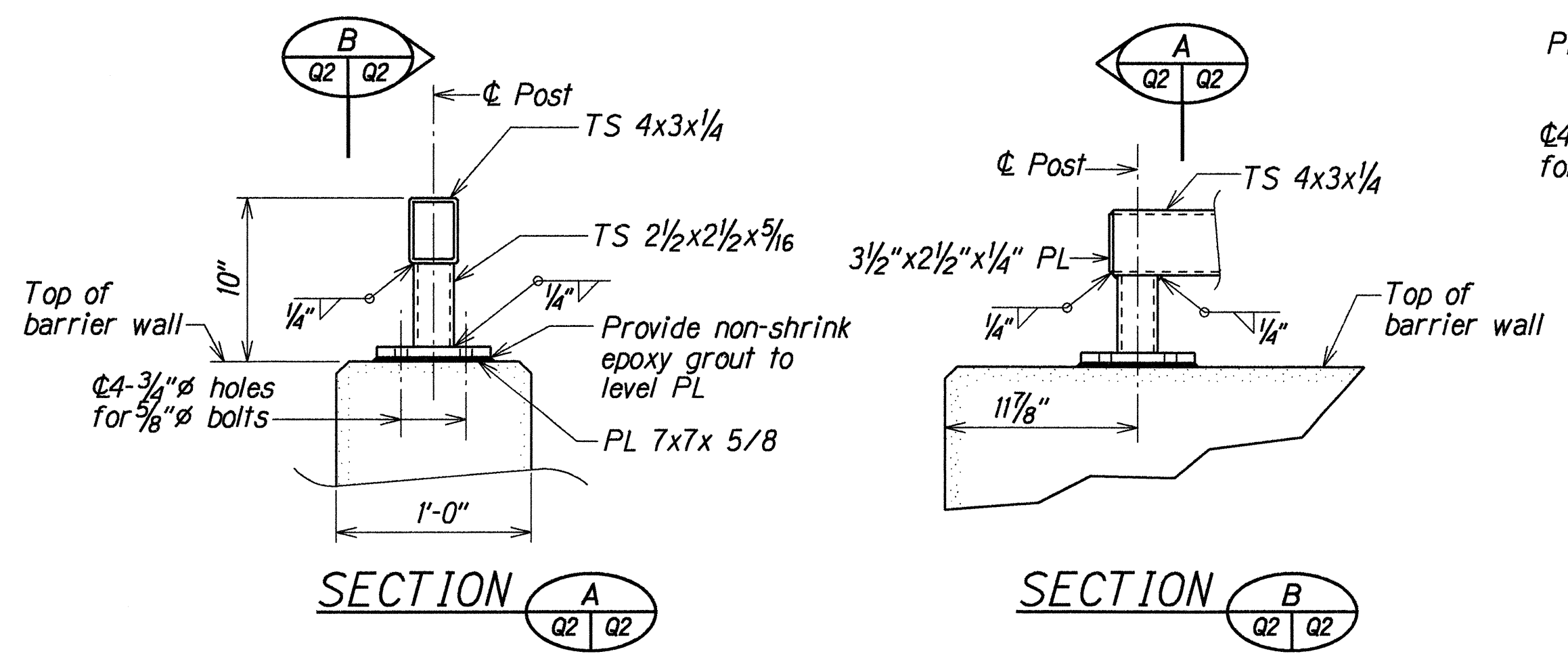
SHEET No. 01 OF 14 SHEETS



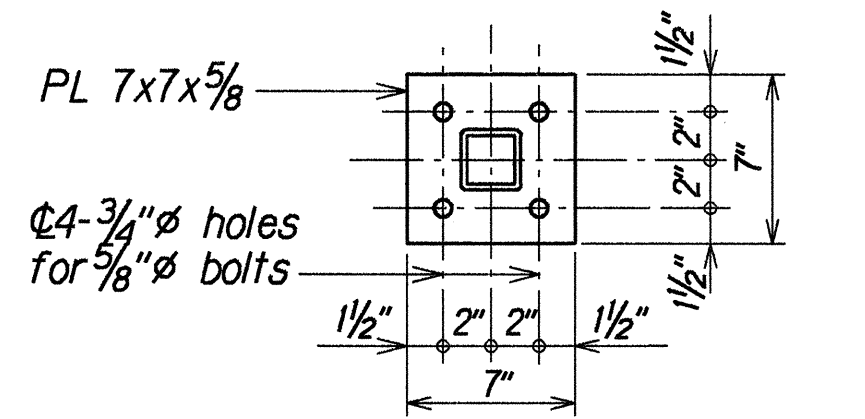
PLAN
Scale: 1"=20'-0"



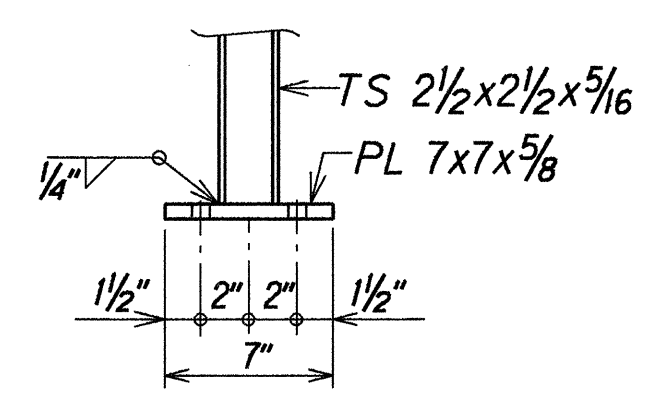
ELEVATION
Scale: 1"=20'-0"



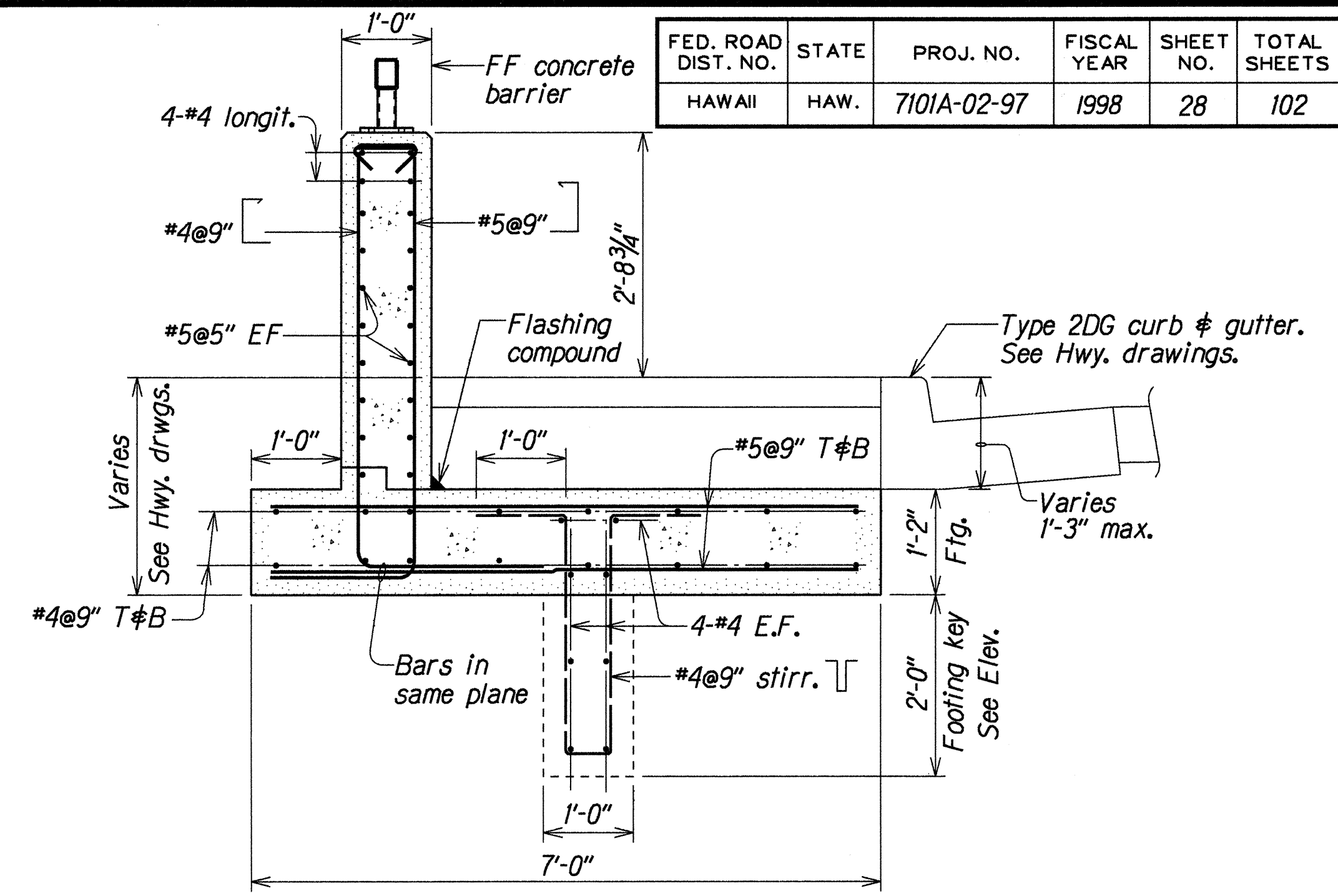
METAL RAIL ON BARRIER
Scale: 1 1/2"=1'-0"



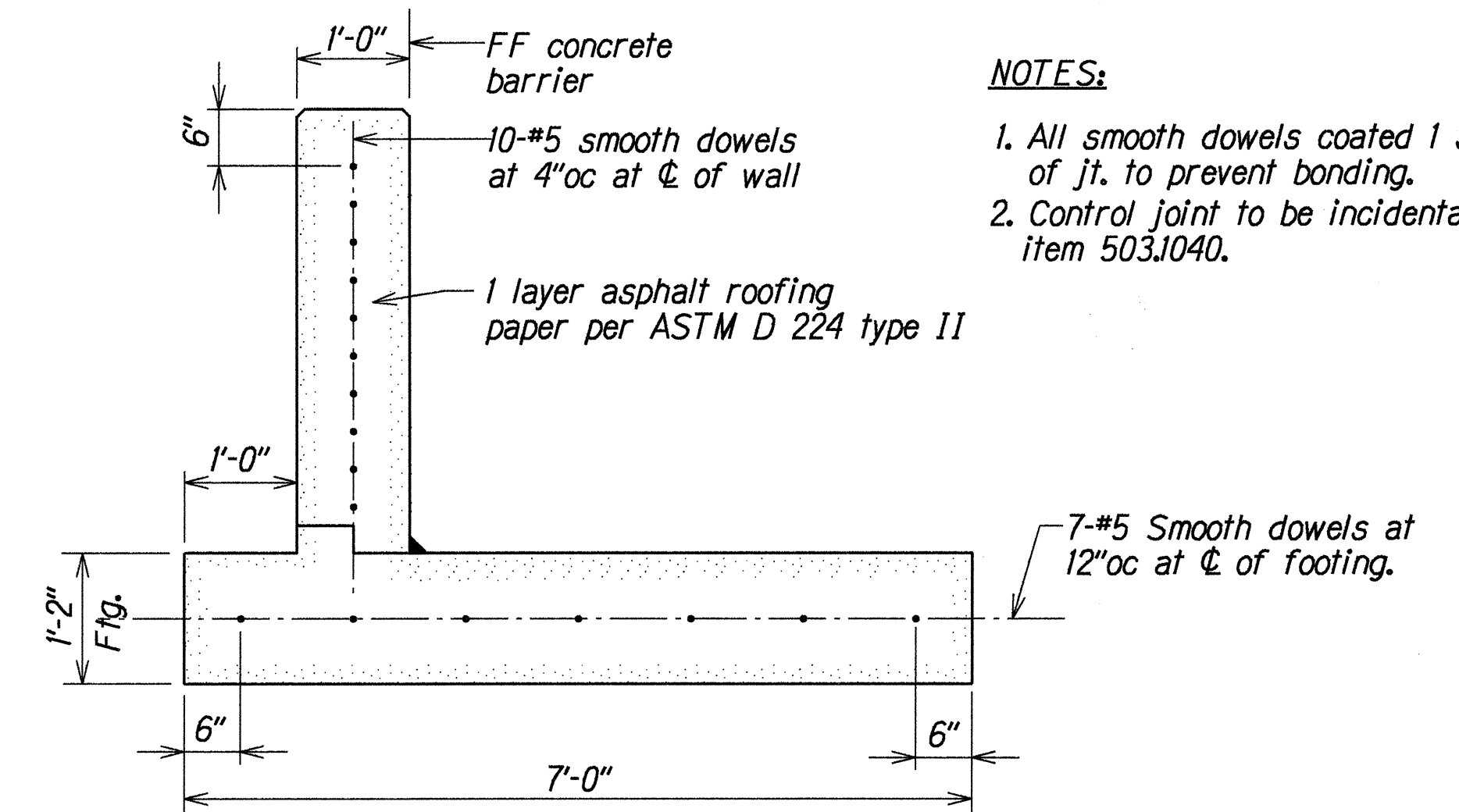
PLAN



ELEVATION



TYPICAL RETAINING WALL SECTION
Scale: 3/4"=1'-0"



TYPICAL CONTROL JOINT DETAIL
Scale: 3/4"=1'-0"

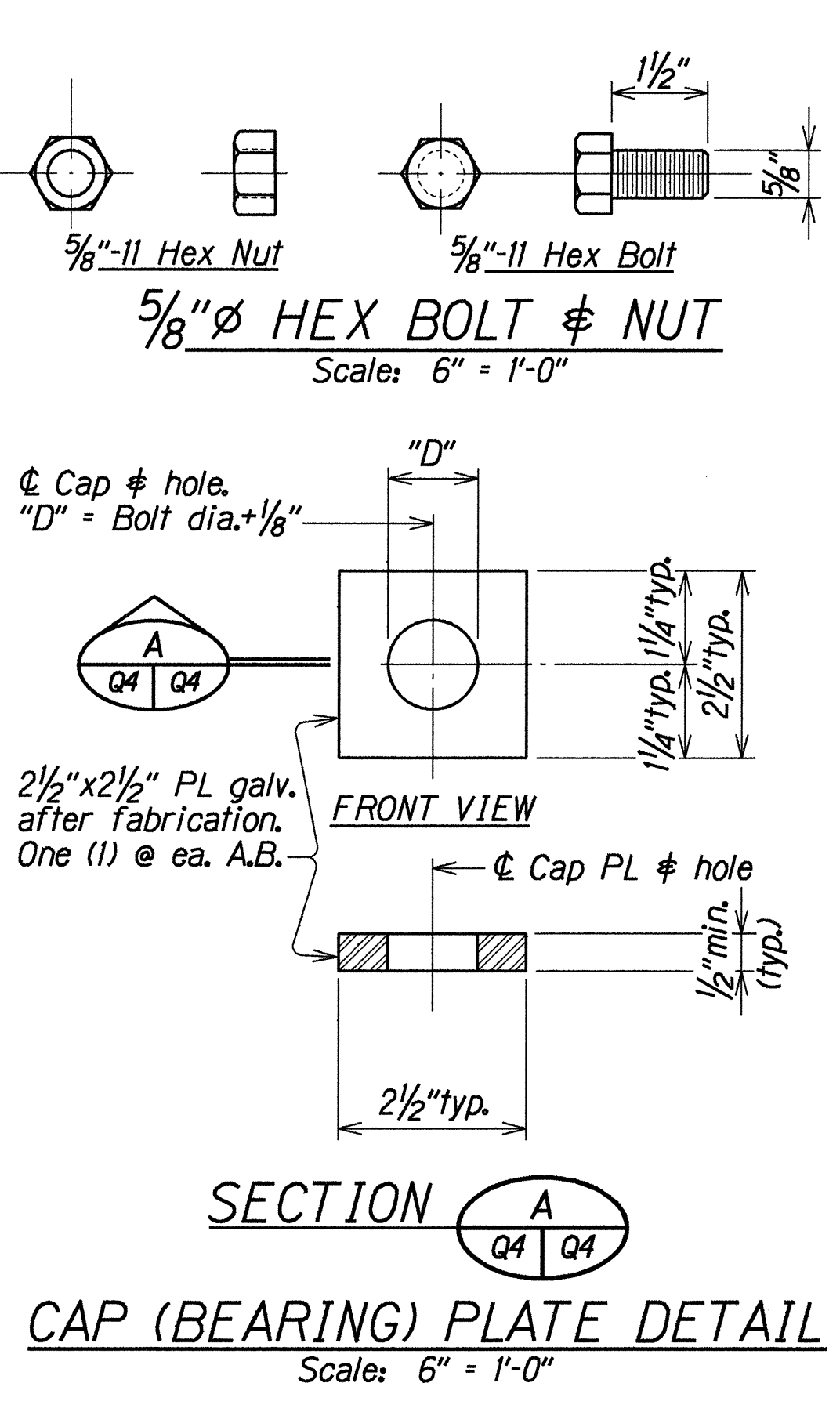
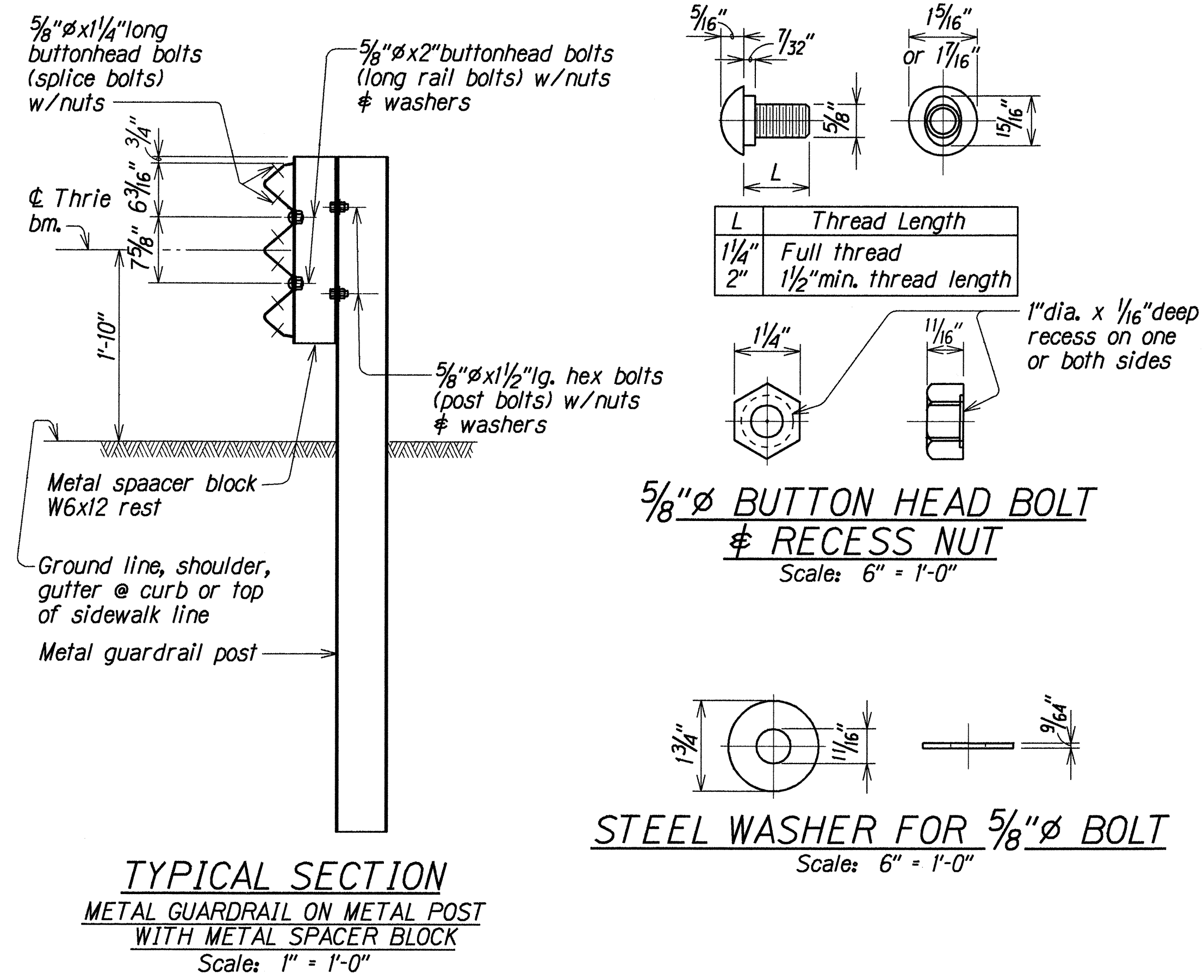
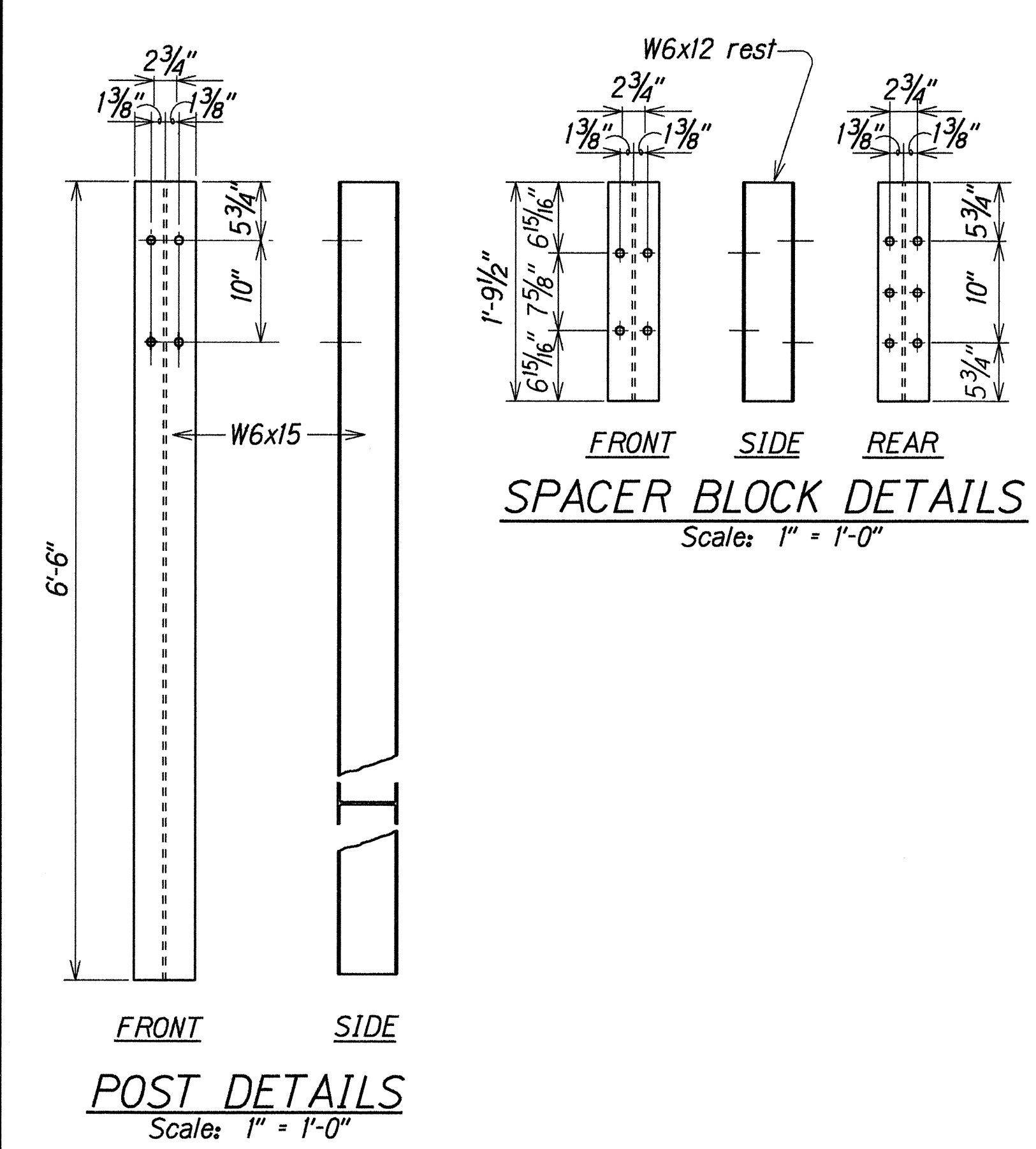
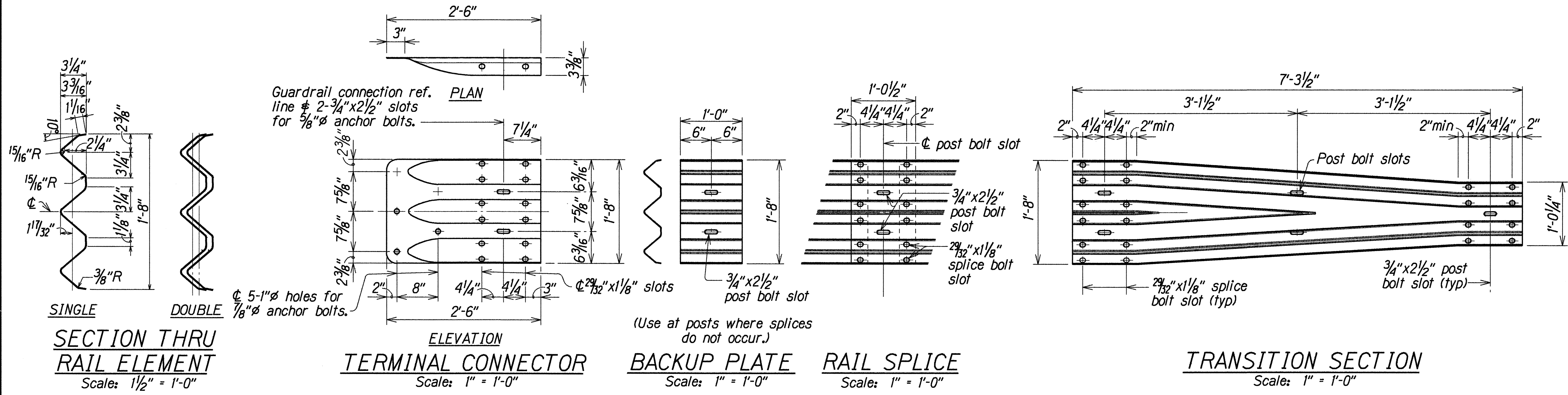
- NOTES:**
1. All smooth dowels coated 1 side of jt. to prevent bonding.
 2. Control joint to be incidental to item 503.1040.

DATE	JUN 1998
DESIGNED BY	DKT
TRACED BY	DKT
QUANTITIES BY	DKT
CHECKED BY	DKT
ORIGINAL PLAN	1012

DATE	6/12/98
REVISION	Clarified location of thrie beam transition dimension.
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION FARRINGTON HIGHWAY SIDEWALK UPGRADE CONCRETE BARRIER & GUARDRAIL BETWEEN STA. 65+93 AND STA. 67+75 LEFT FARRINGTON HIGHWAY SIDEWALKS Leolu Street to Awanui Street and Leolu Street to Palwa Street Project No. 7101A-02-97	
Scale: As Noted	Date: June 1998
SHEET No. Q2 OF 14 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	30	102

NOTES:
1. For details not shown, see "DOT Standard Plan" sht. #TE-57.



METAL GUARDRAIL TYPE 3 THRIE BEAM AND APPURTENANCES DETAILS

DESIGNED BY	DATE
DRAWN BY	JUN 1998
CHECKED BY	JUN 1998
IN CHARGE	JUN 1998
NOTED BY	JUN 1998
REVISION	
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	
22	
23	
24	
25	
26	
27	
28	
29	
30	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
TYPICAL METAL GUARDRAIL TYPE 3
THRIE BEAM AND APPURTENANCES DETAILS
FARRINGTON HIGHWAY SIDEWALKS
Leolupe Street to Awanui Street and
Leolupe Street to Paliwa Street
Project No. 7101A-02-97
Scale: As Noted Date: June 1998
SHEET No. Q4 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	31	102

True North

140+00

R=50'

Wheel chair ramp. See Hwy. drawings for Layout and sht.*Q7 for structural details.

Sta. 140+21.10±

tmh

t

w8

wv

at&t

Begin new sidewalk Sta. 139+78.16. Offset first post 1'-0" from post to edge of sidewalk.

Awanoku Street

8m

8m

PARTIAL PLAN

Scale: 1"=10'-0"

SPECIAL SIDEWALK DETAILS AT # STA. 140+03± See Sht. *Q8.

SPECIAL SIDEWALK DETAILS AT # STA. 141+36± See Sht. *Q9.

SPECIAL SIDEWALK DETAILS AT # STA. 142+44± See Sht. *Q9.

MATCH LINE STA. 142+50

145+00

True North

at&t

pp

SPECIAL SIDEWALK DETAILS AT # STA. 143+43± See Sht. *Q10.

SPECIAL SIDEWALK DETAILS AT # STA. 144+56± See Sht. *Q10.

Sta. 145+00

MATCH LINE STA. 142+50

PARTIAL PLAN

Scale: 1"=10'-0"

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FARRINGTON HIGHWAY SIDEWALK UPGRADE

PARTIAL PLAN - CONCRETE SIDEWALK

& STA. 139+78.16 TO & STA. 145+00 RT.

FARRINGTON HIGHWAY SIDEWALKS
Leolupe Street to Awanui Street and
Leoku Street to Palwa Street

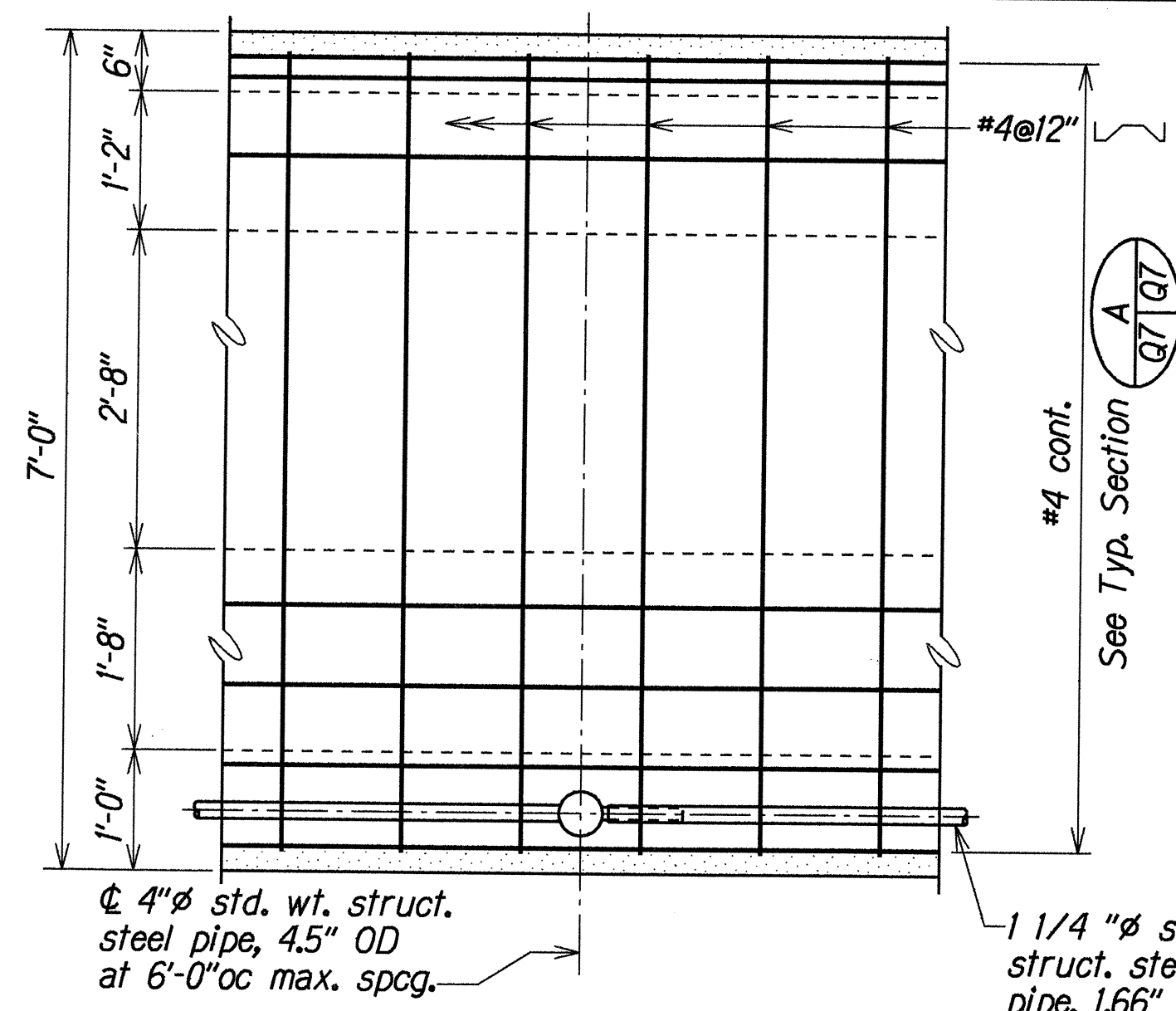
Project No. 7101A-02-97

Date: June 1998

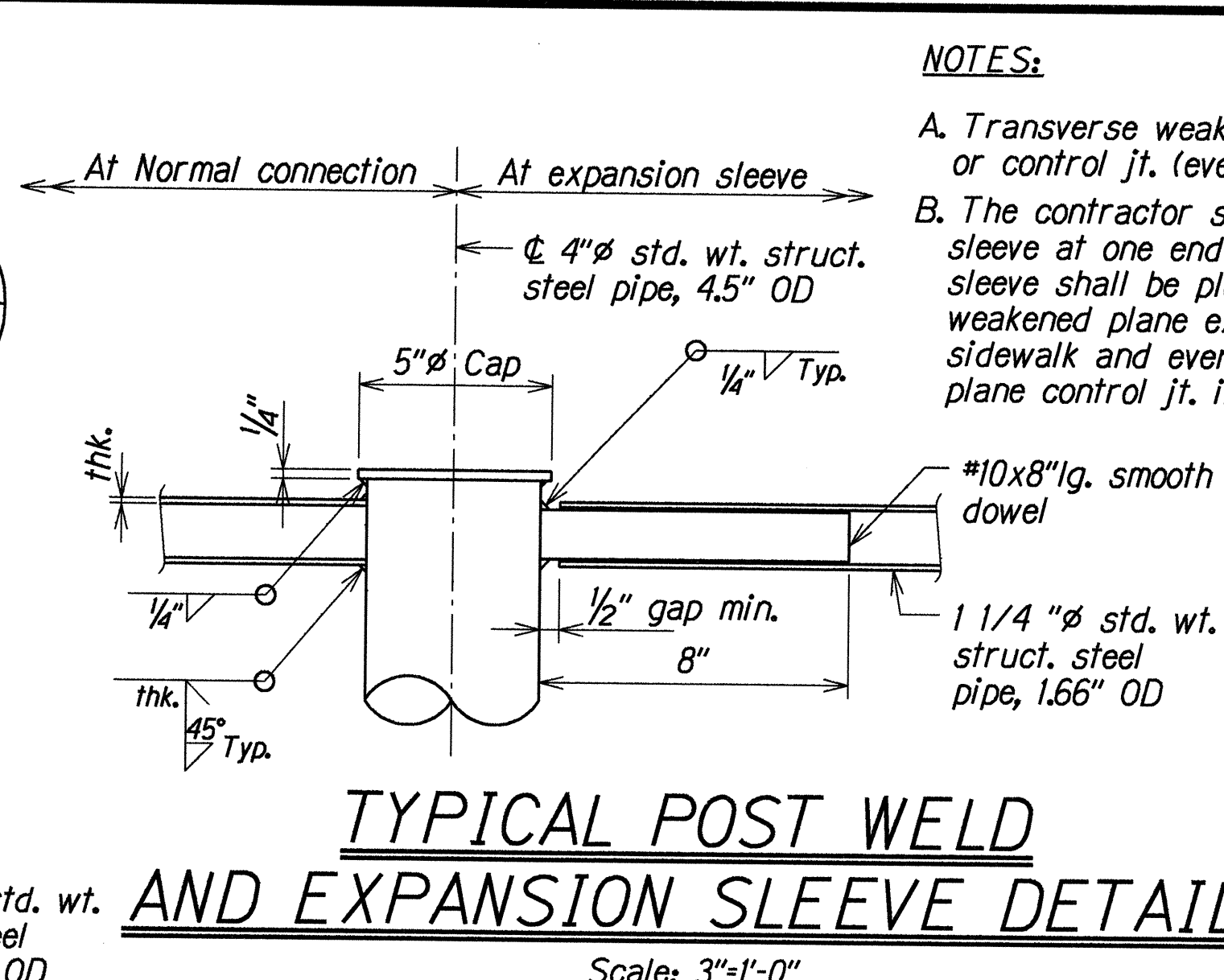
Scale: As Noted

ORIGINAL PLAN	SURVEY PLOTTED BY _____		DATE _____
NOTE BOOK	DRAWN BY _____	TKM	Jun 1998
	TRACED BY _____		
	DESIGNED BY _____	DKT	Jun 1998
	QUANTITIES BY _____	DKT	Jun 1998
N. 1015	CHECKED BY _____	DKT	Jun 1998

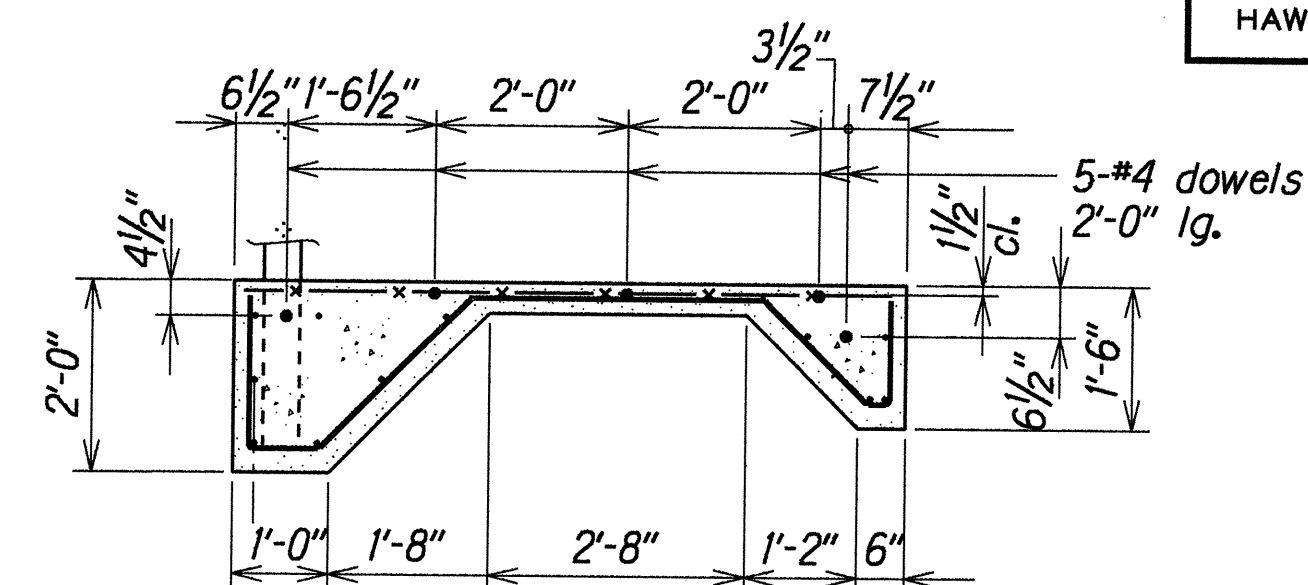
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	33	102



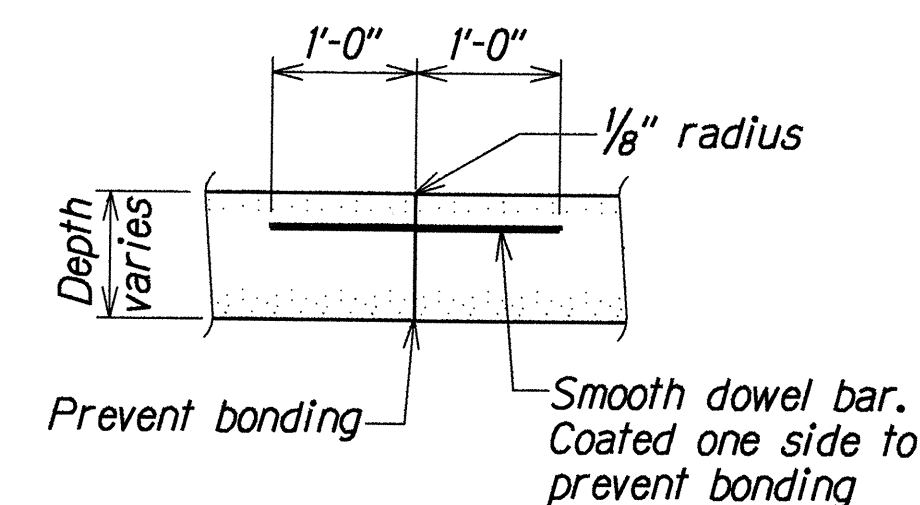
PLAN
Scale: 3/4"=1'-0"



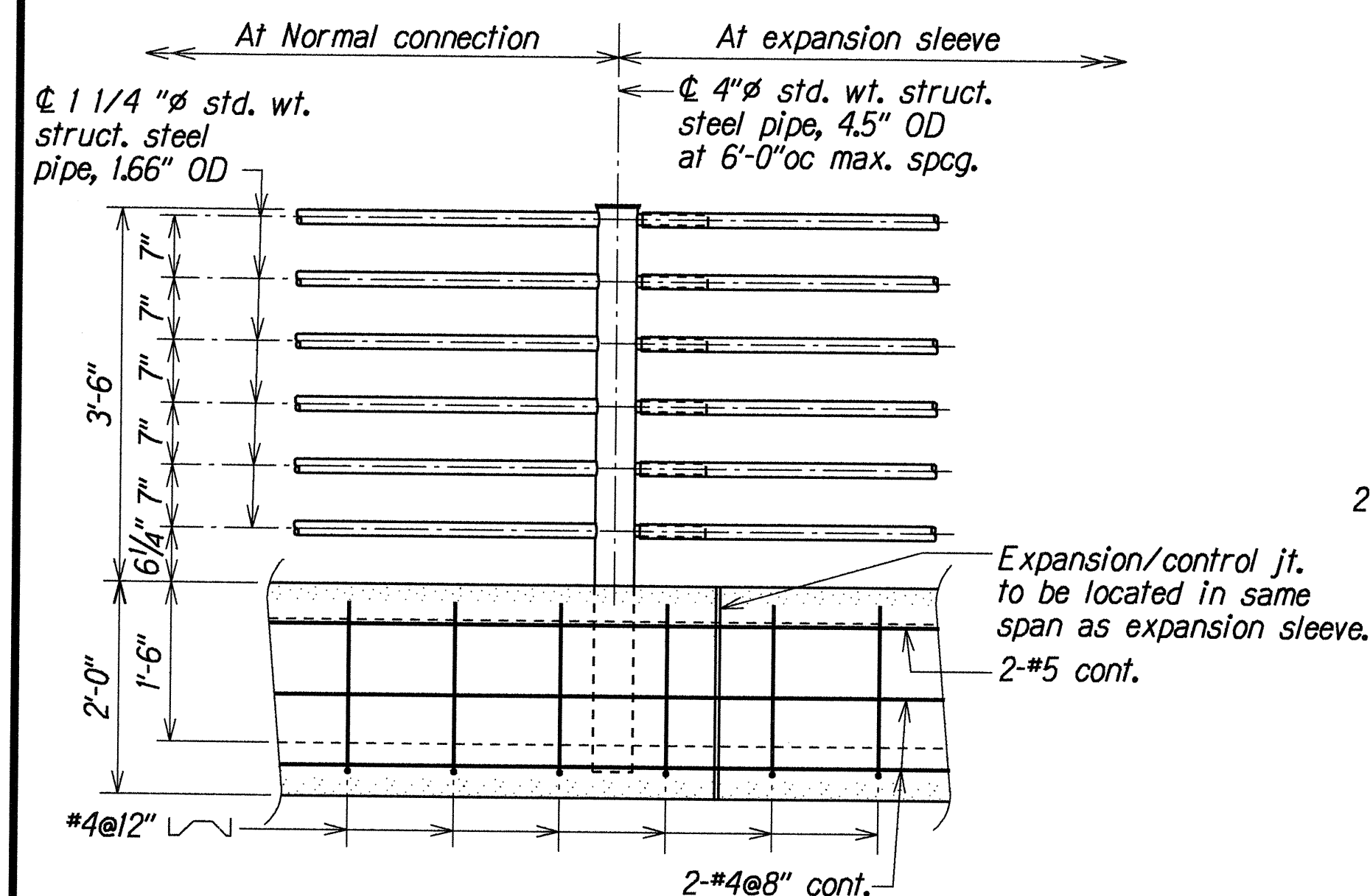
TYPICAL POST WELD AND EXPANSION SLEEVE DETAIL
Scale: 3"=1'-0"



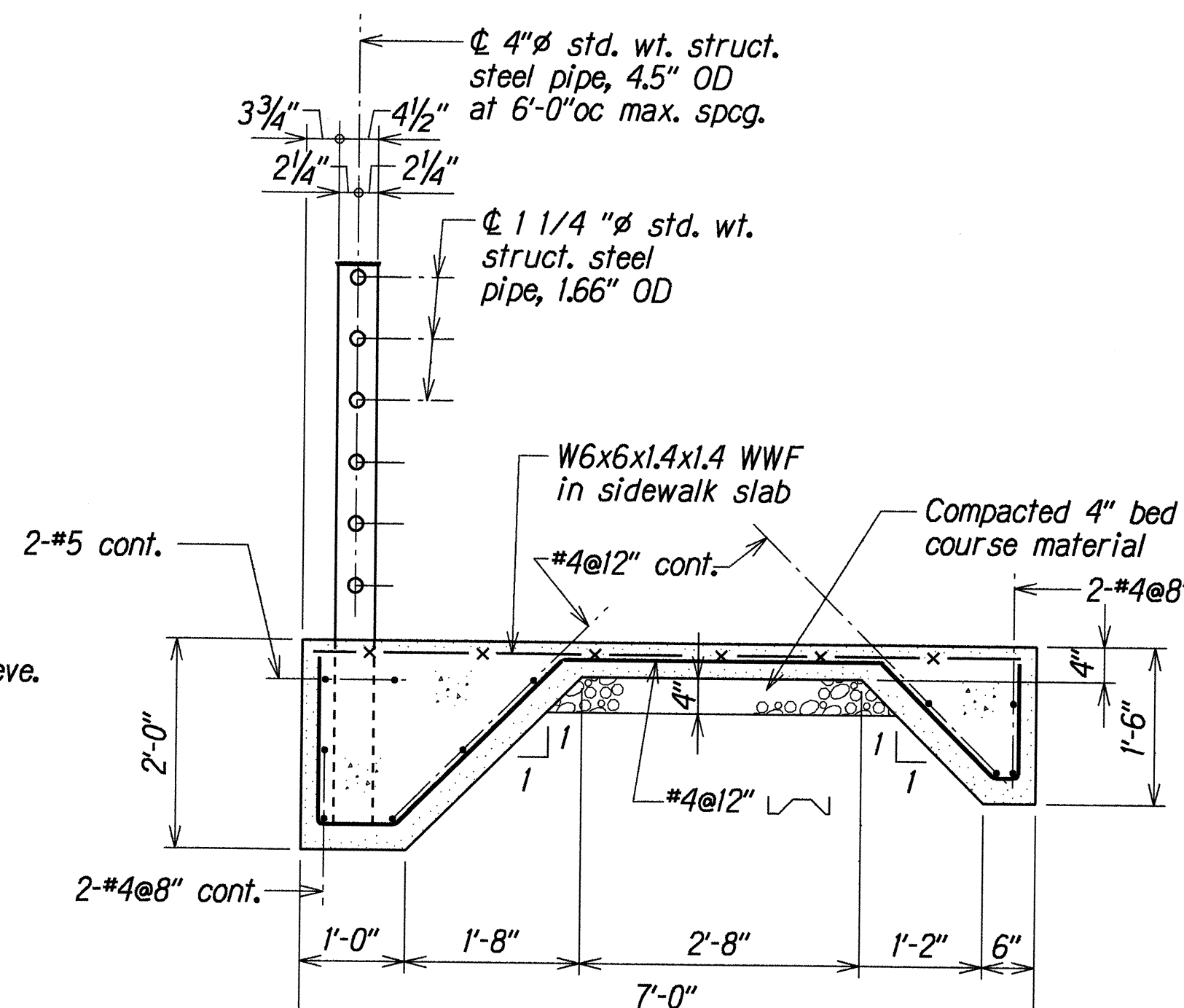
SECTION (AT CONTROL JOINT)
Scale: 1/2"=1'-0"



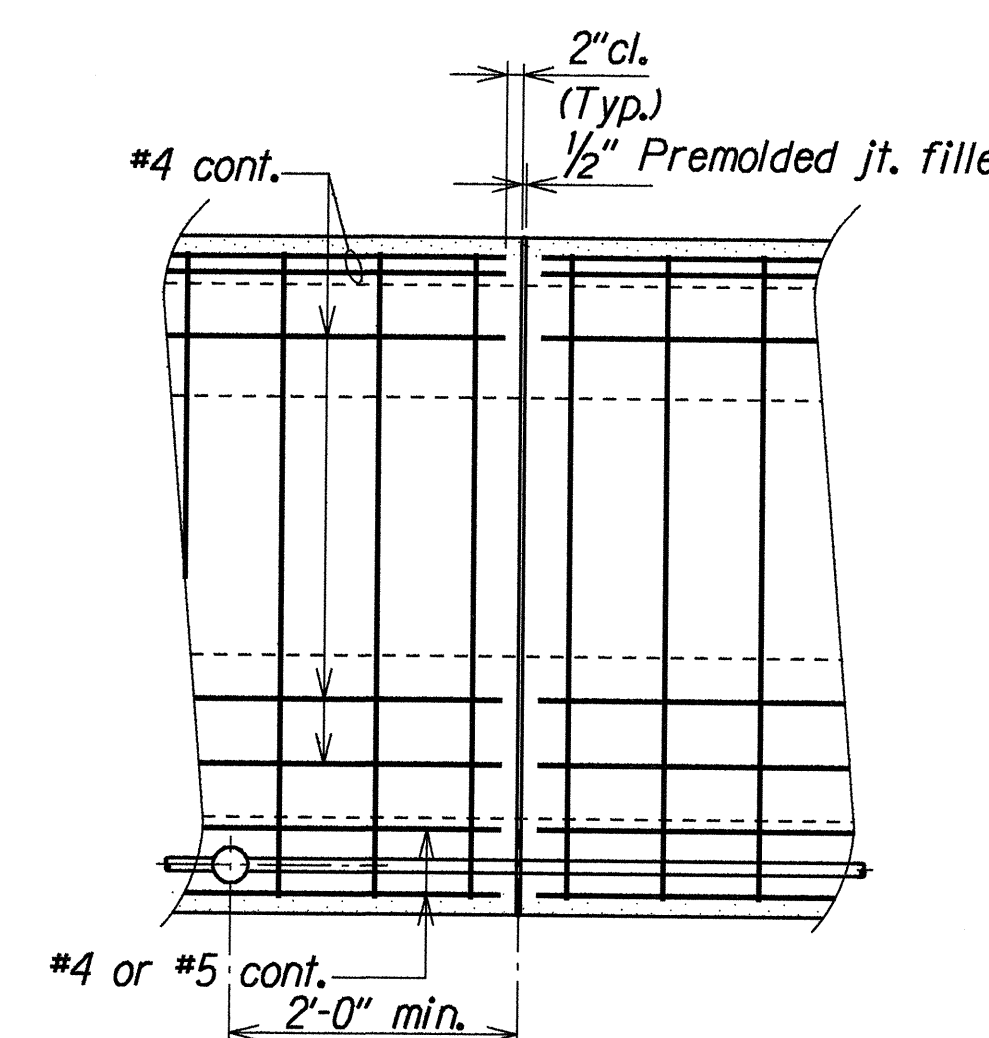
ELEVATION (AT CONTROL JOINT)
Not to Scale



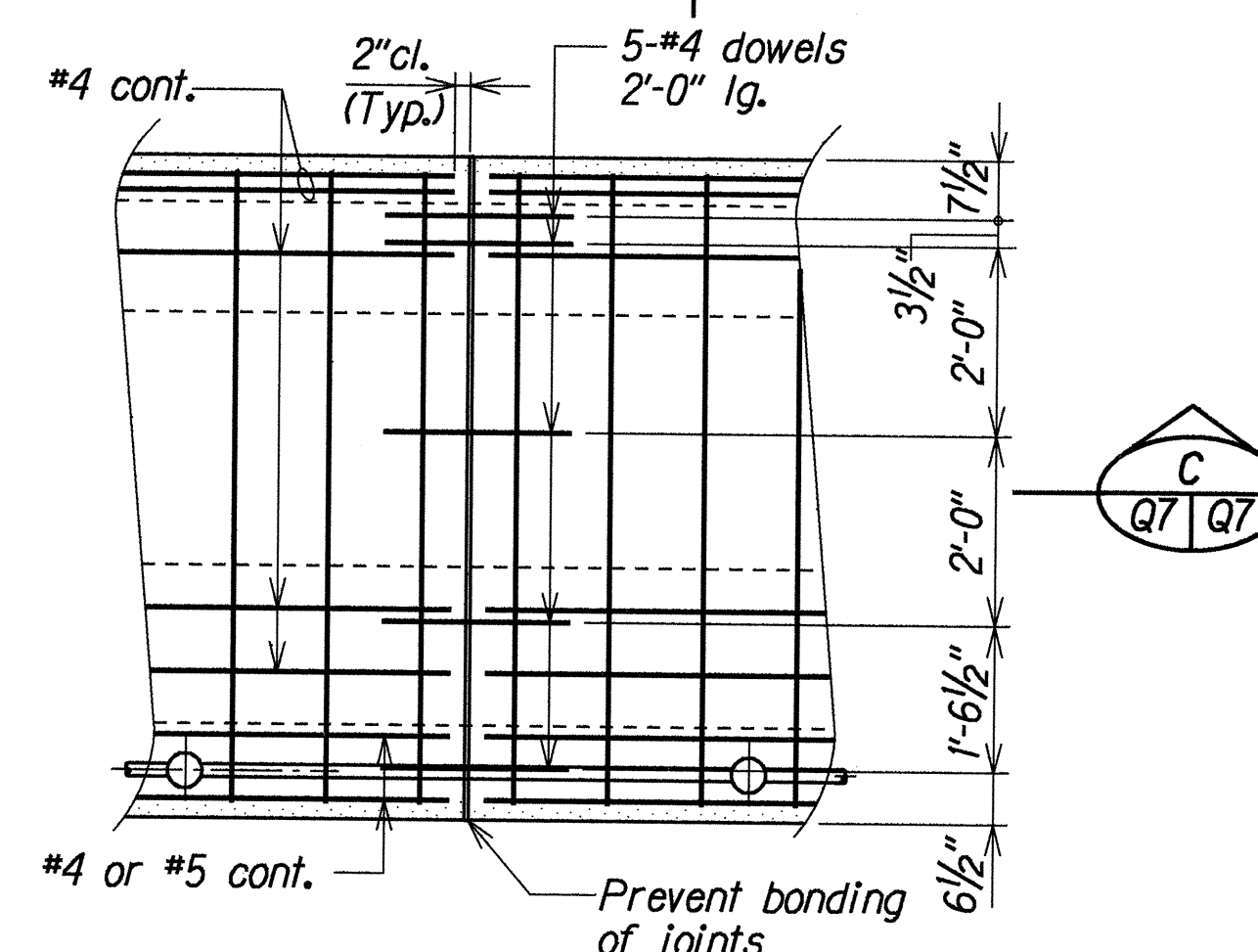
ELEVATION
Scale: 3/4"=1'-0"



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



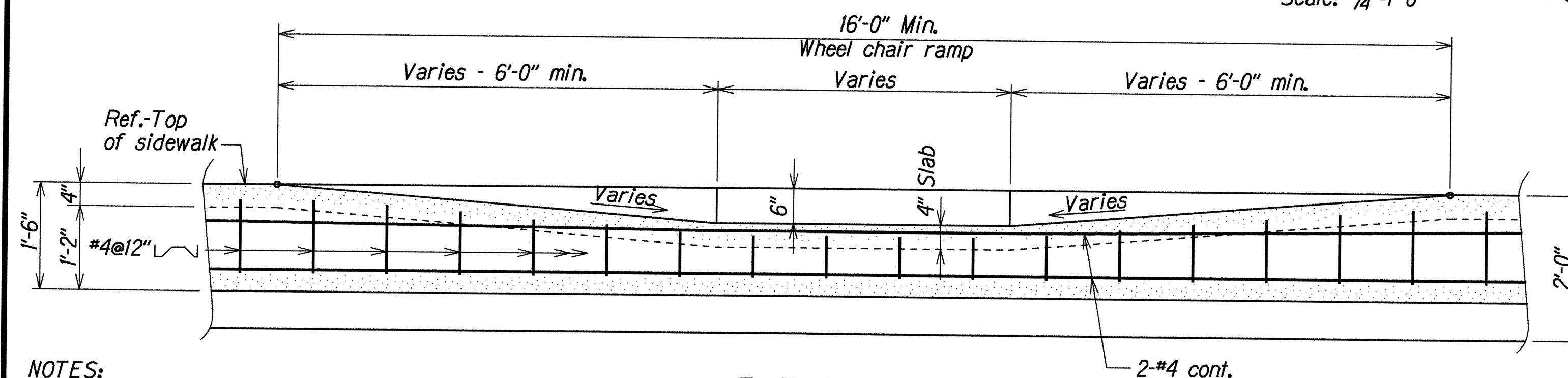
AT EXPANSION JOINT
Scale: 1/2"=1'-0"



AT CONTROL JOINT
Scale: 1/2"=1'-0"

TYPICAL JOINT DETAILS AT SIDEWALK

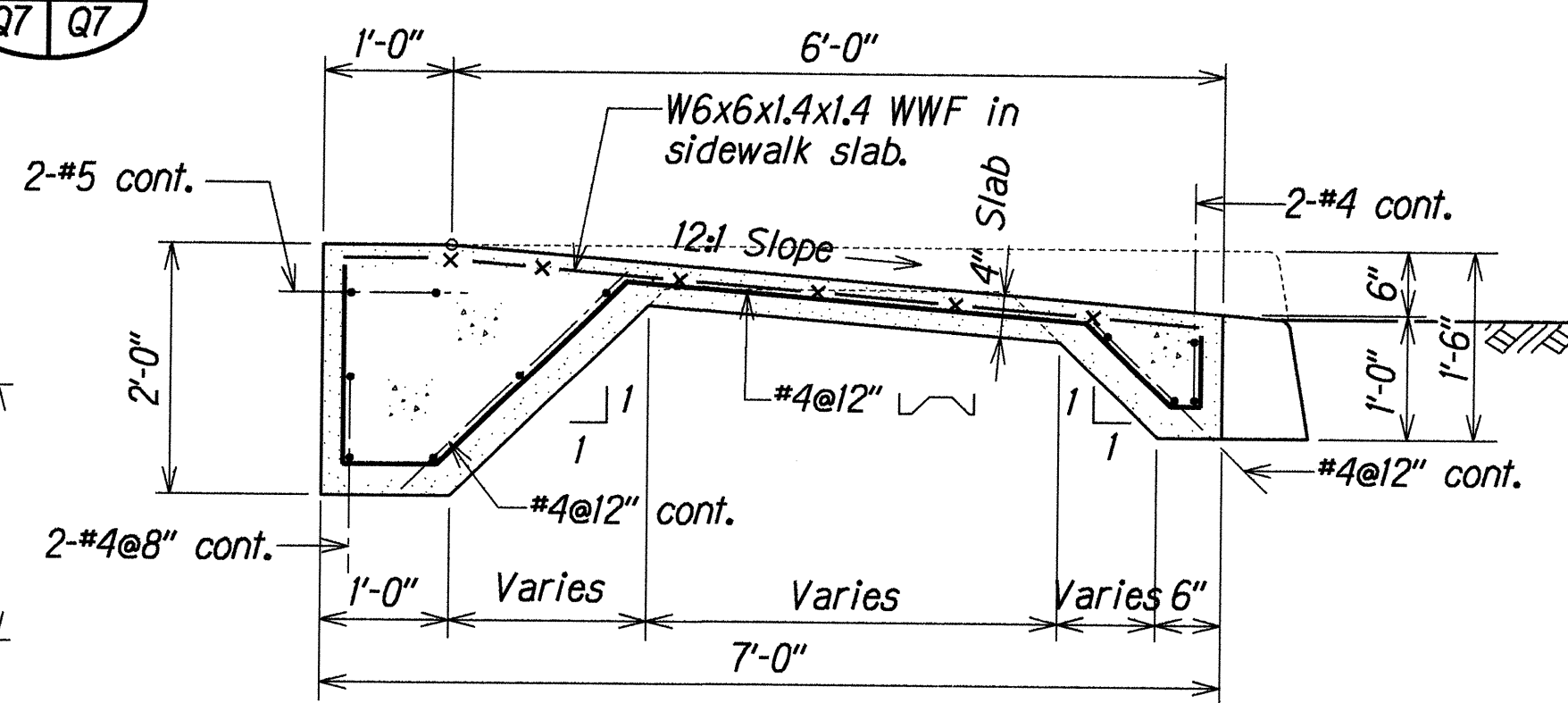
- NOTES:**
- Expansion joints - maximum spacing of 96'-0"oc.
 - Control joints - maximum spacing of 12'-0"oc.
 - Post caps and expansion sleeves for rails to be paid for under item 501.0110.



ELEVATION

TYPICAL REINFORCEMENT AT WHEEL CHAIR RAMP

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



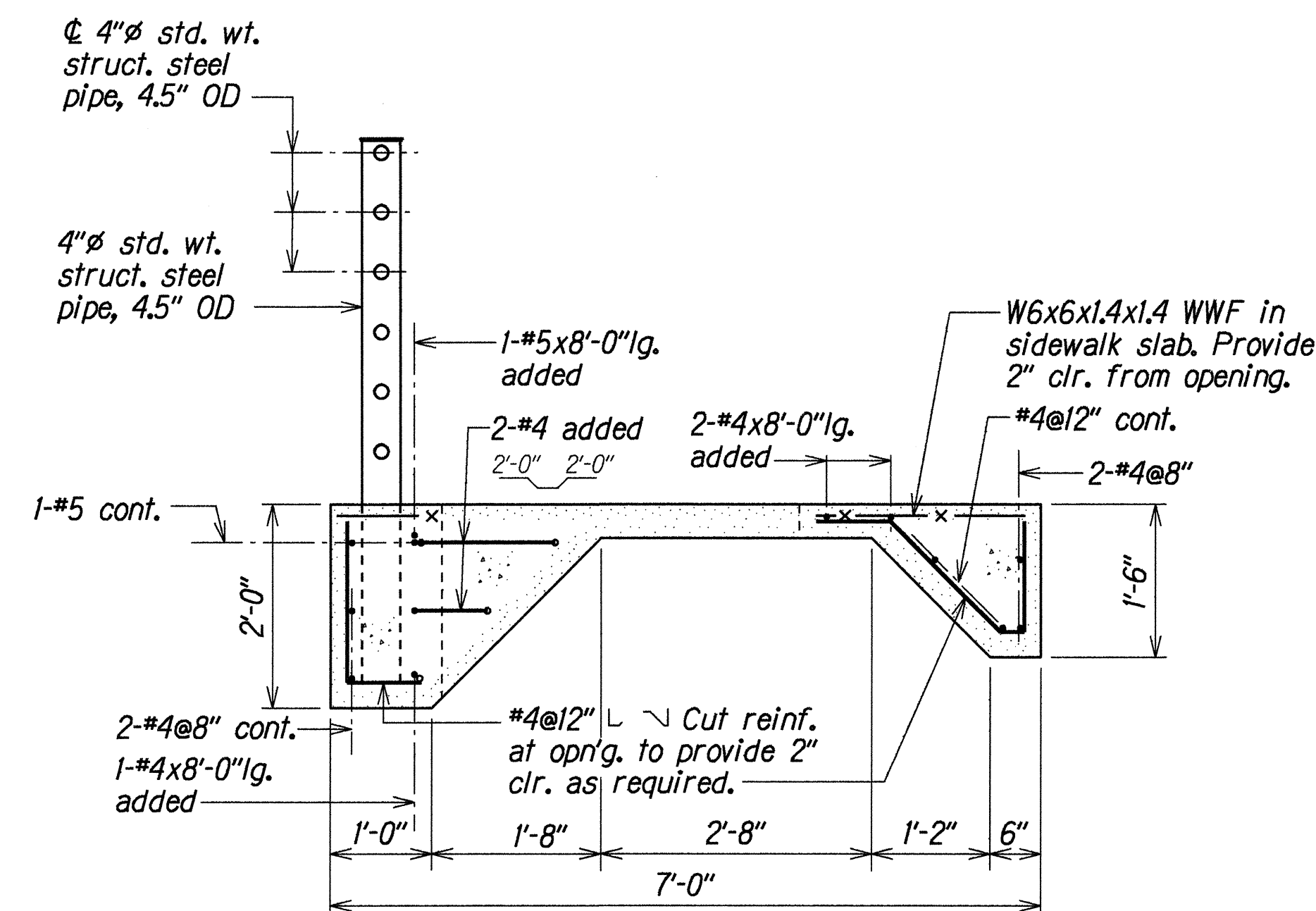
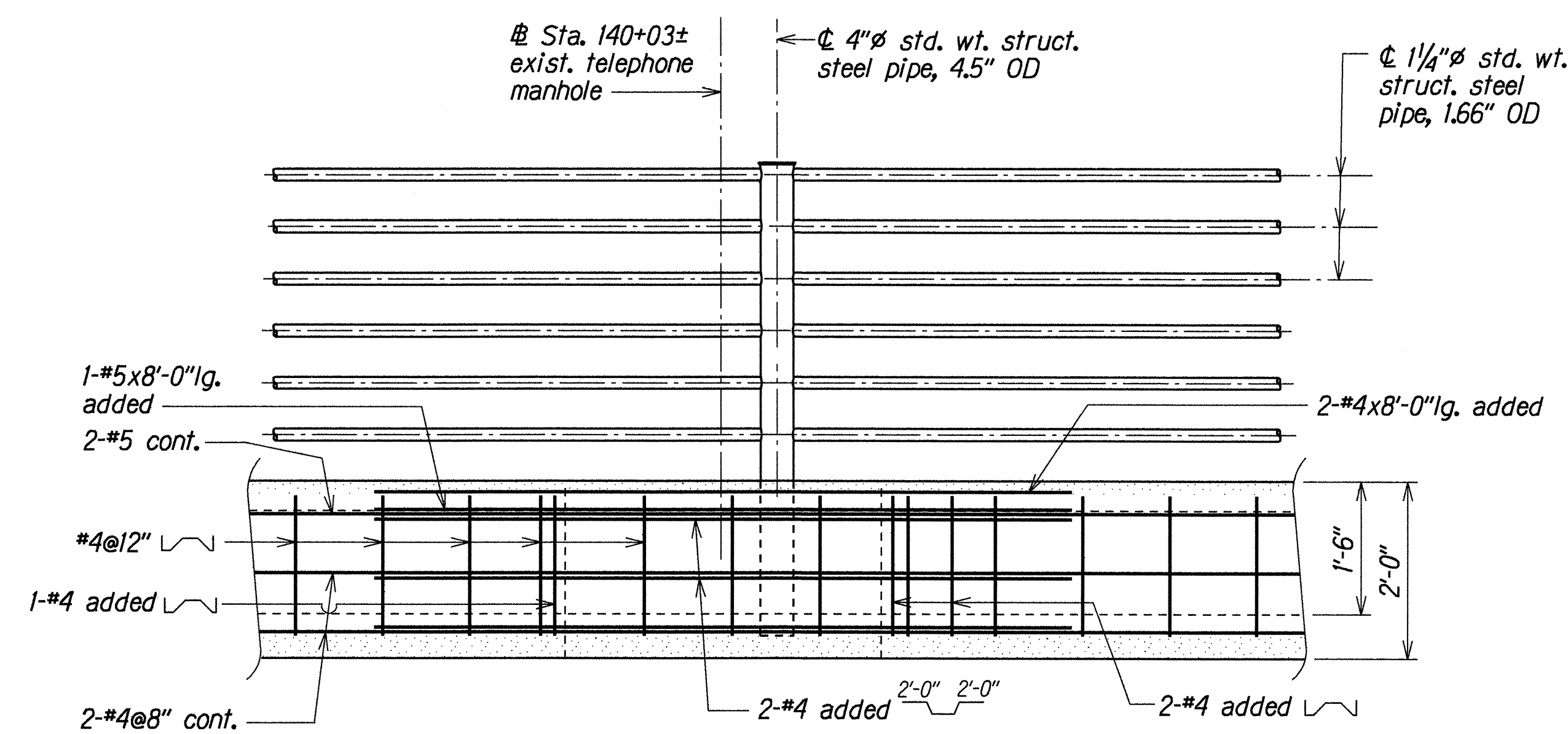
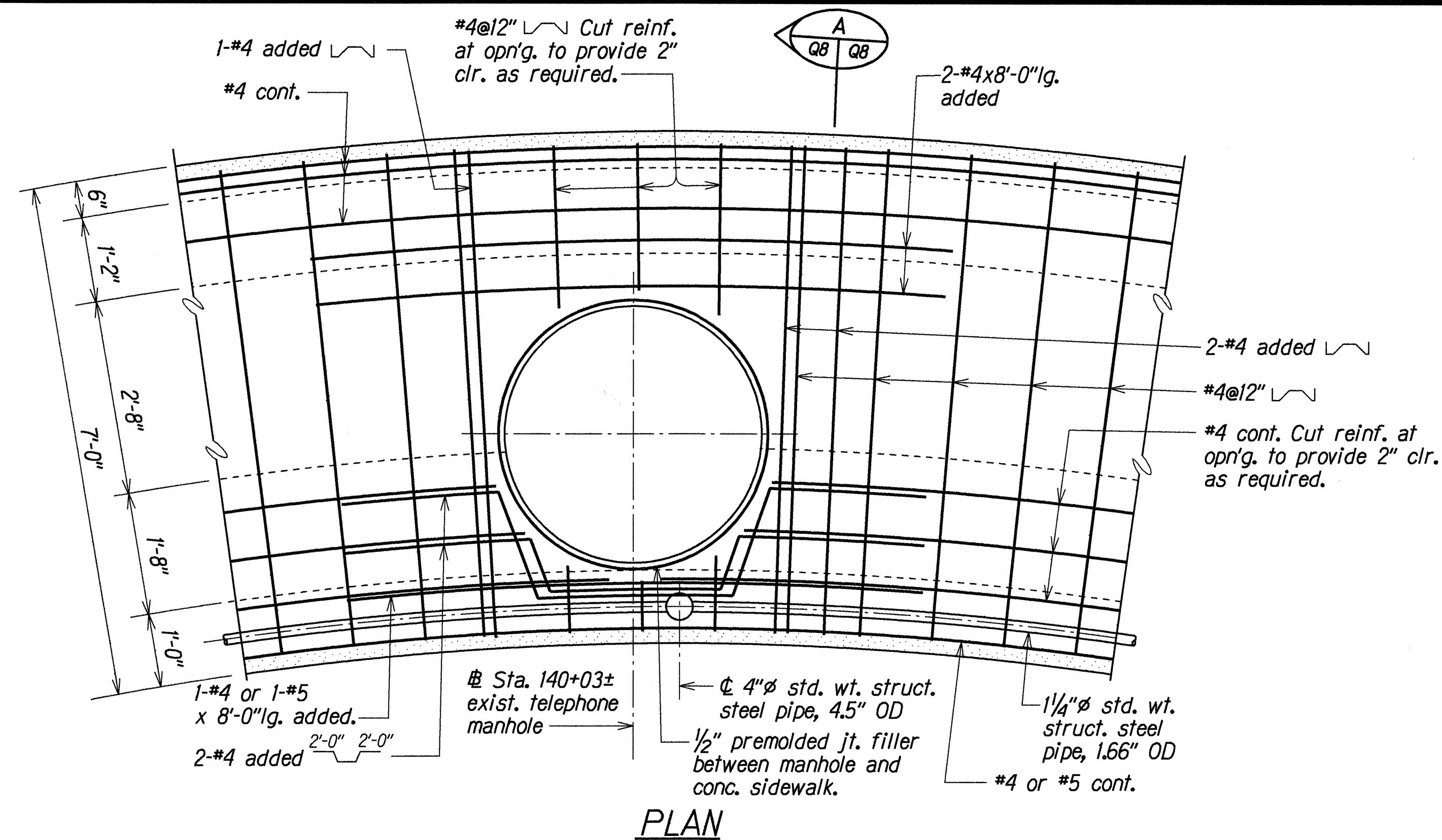
TYPICAL SECTION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
TYPICAL SIDEWALK DETAILS, JOINT DETAILS AND
TYPICAL REINFORCEMENT AT WHEELCHAIR RAMP
FARRINGTON HIGHWAY SIDEWALKS
Lealele Street to Awanui Street and
Leoku Street to Palwa Street
Project No. 7101A-02-97
Scale: As Noted Date: June 1998
SHEET No. Q7 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	34	102

NOTES:

1. Location of exist. telephone manhole approximate. Verify location, size and extent in field prior to construction of sidewalk.
2. Excavate as necessary to maintain sidewalk footing shape around manhole obstruction.
3. WWF not shown on Plan and Elevation for clarity.



SPECIAL SIDEWALK DETAILS AT # STA. 140+03±

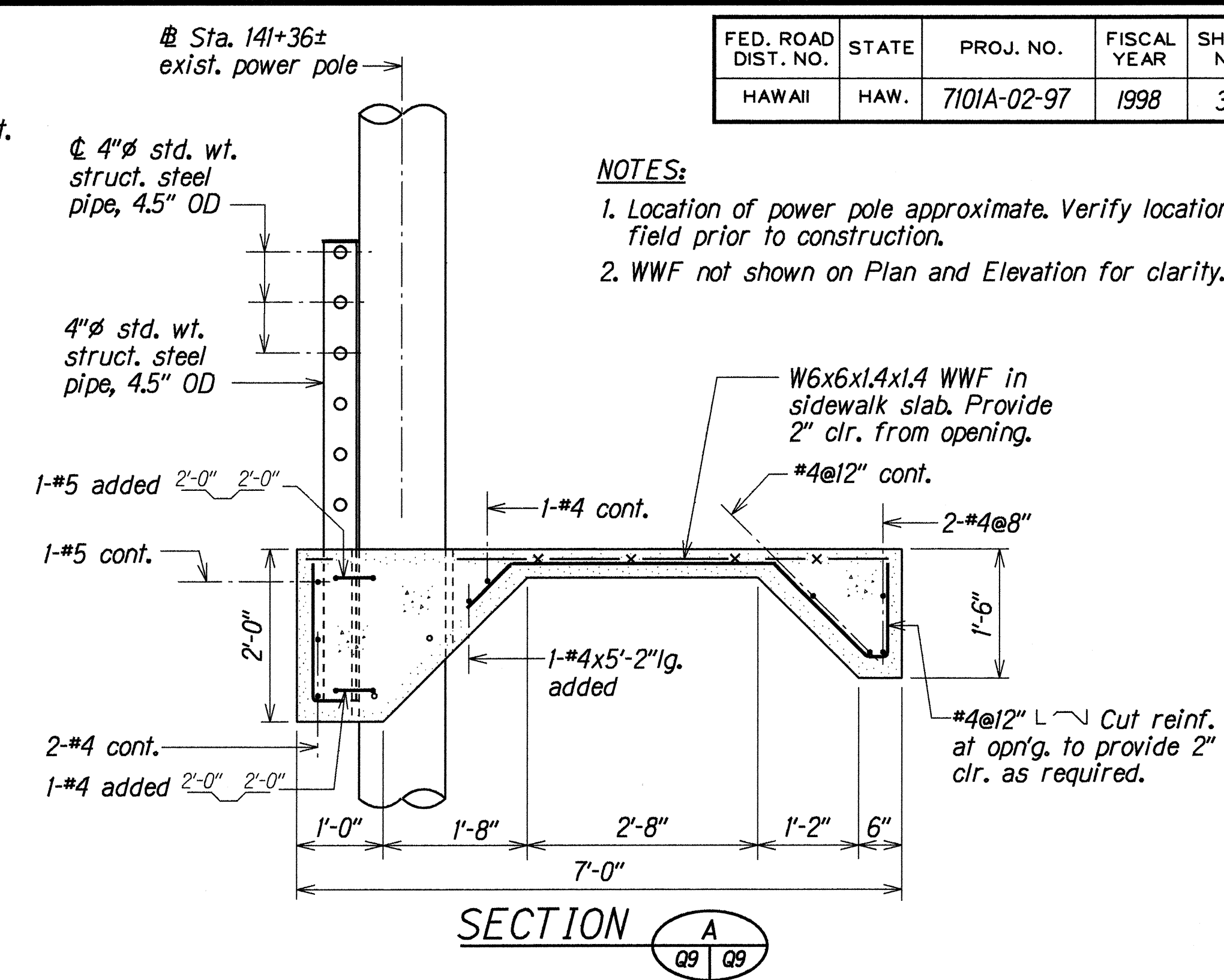
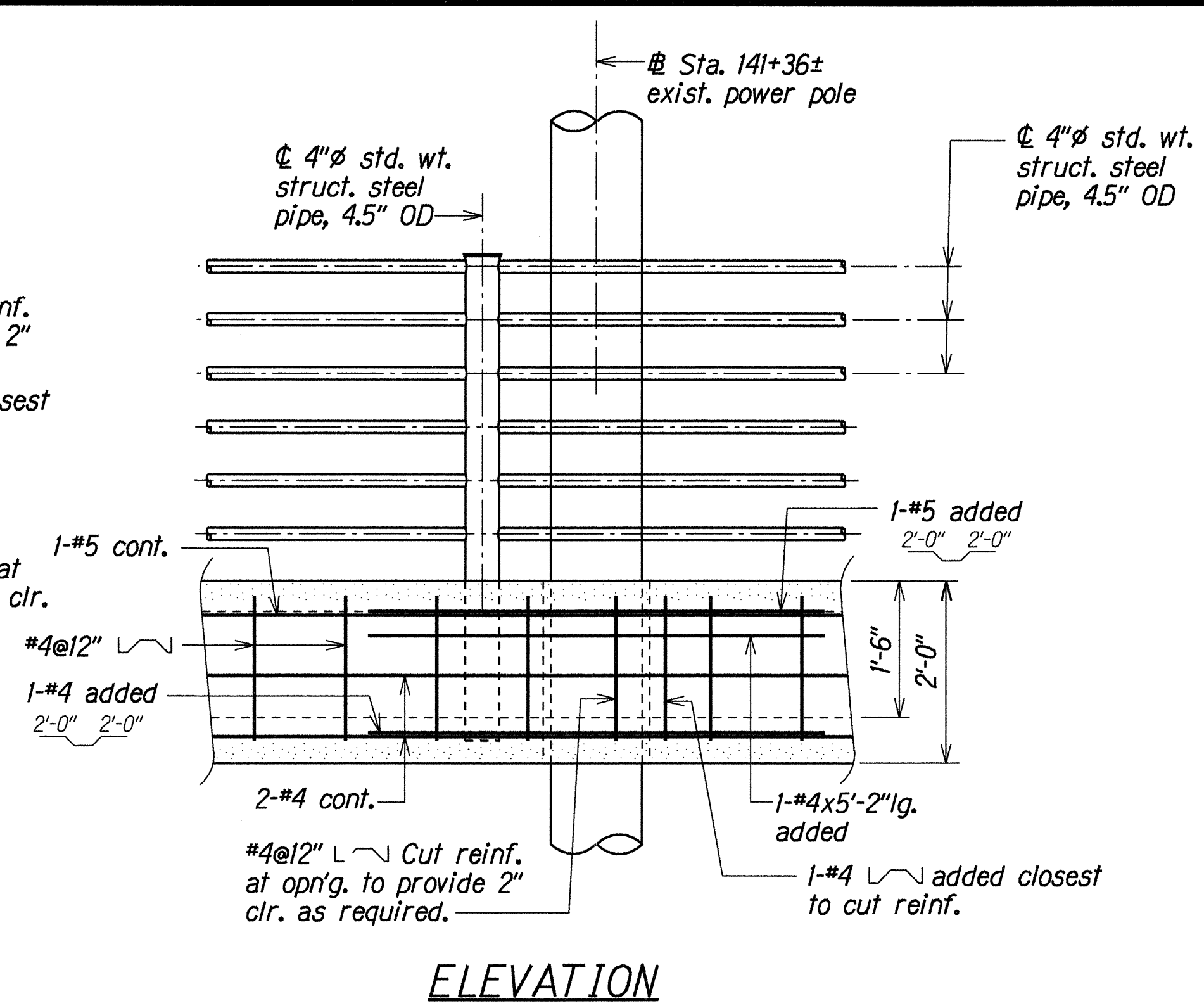
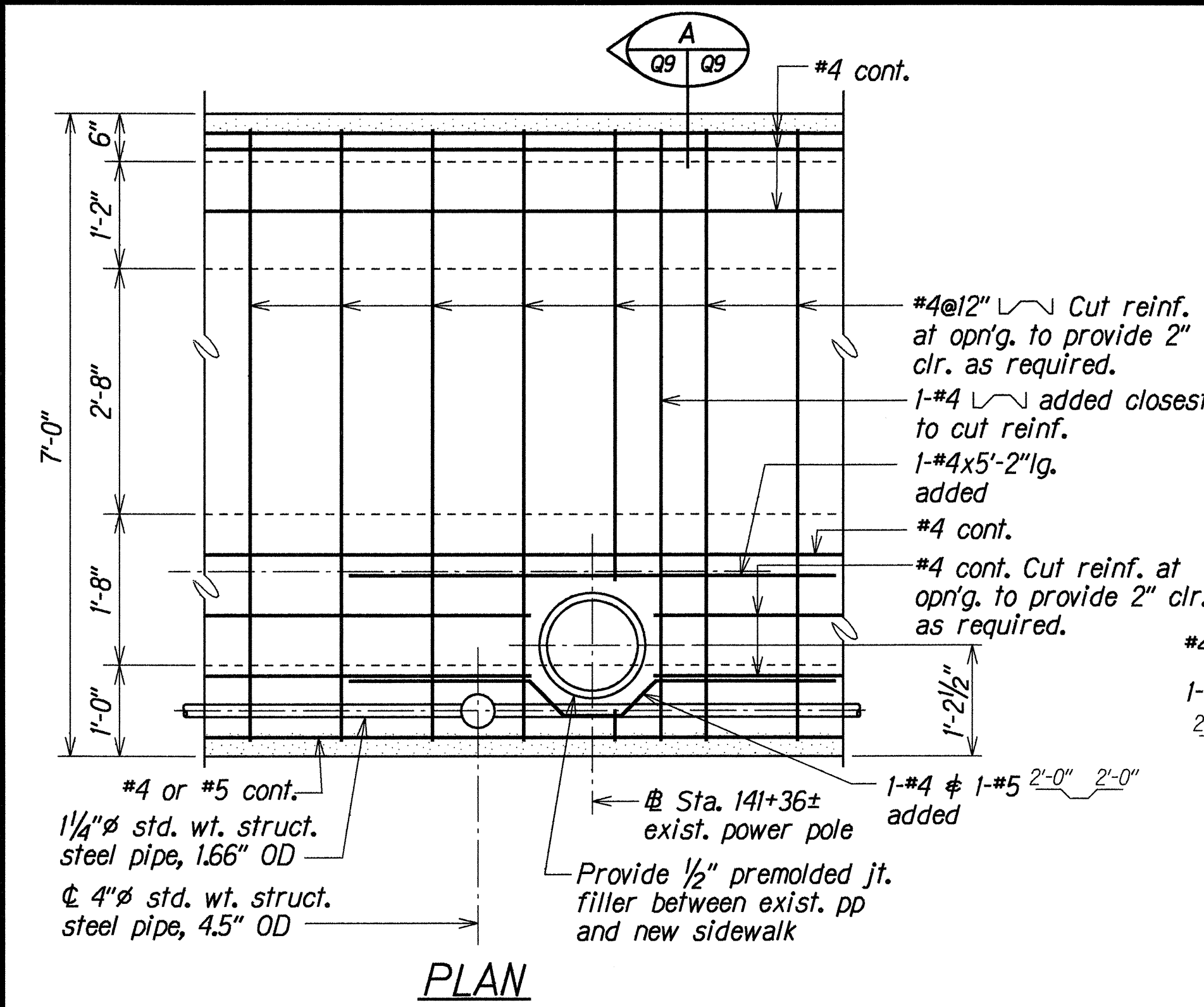
Scale: 3/4"=1'-0"

DESIGNED BY	DATE
TRACED BY	JUN 1998
DESIGNED BY	JUN 1998
QUANTITIES BY	JUN 1998
CHECKED BY	JUN 1998
ORIGINAL PLAN	
NOTE BOOK	1008
NO.	1008

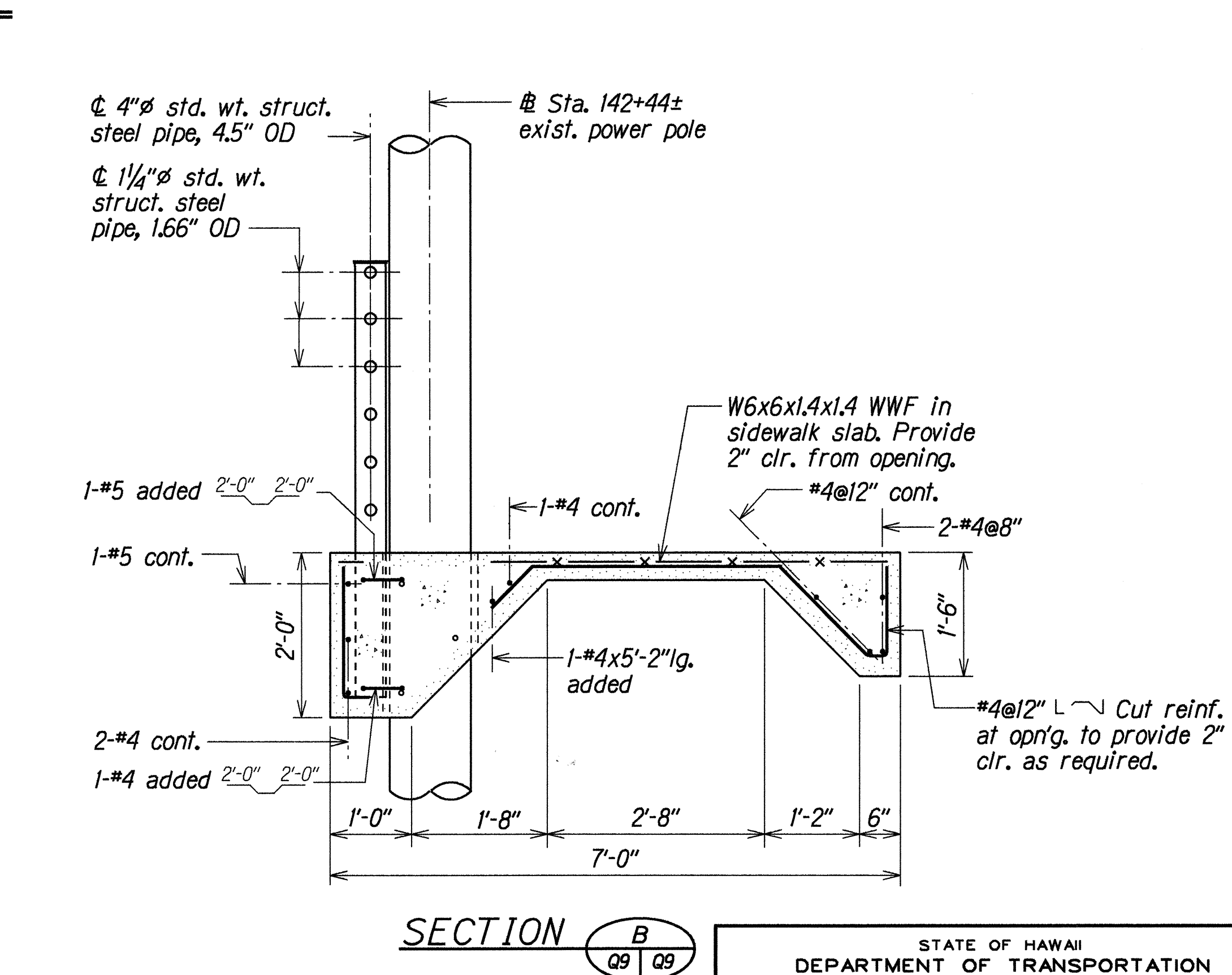
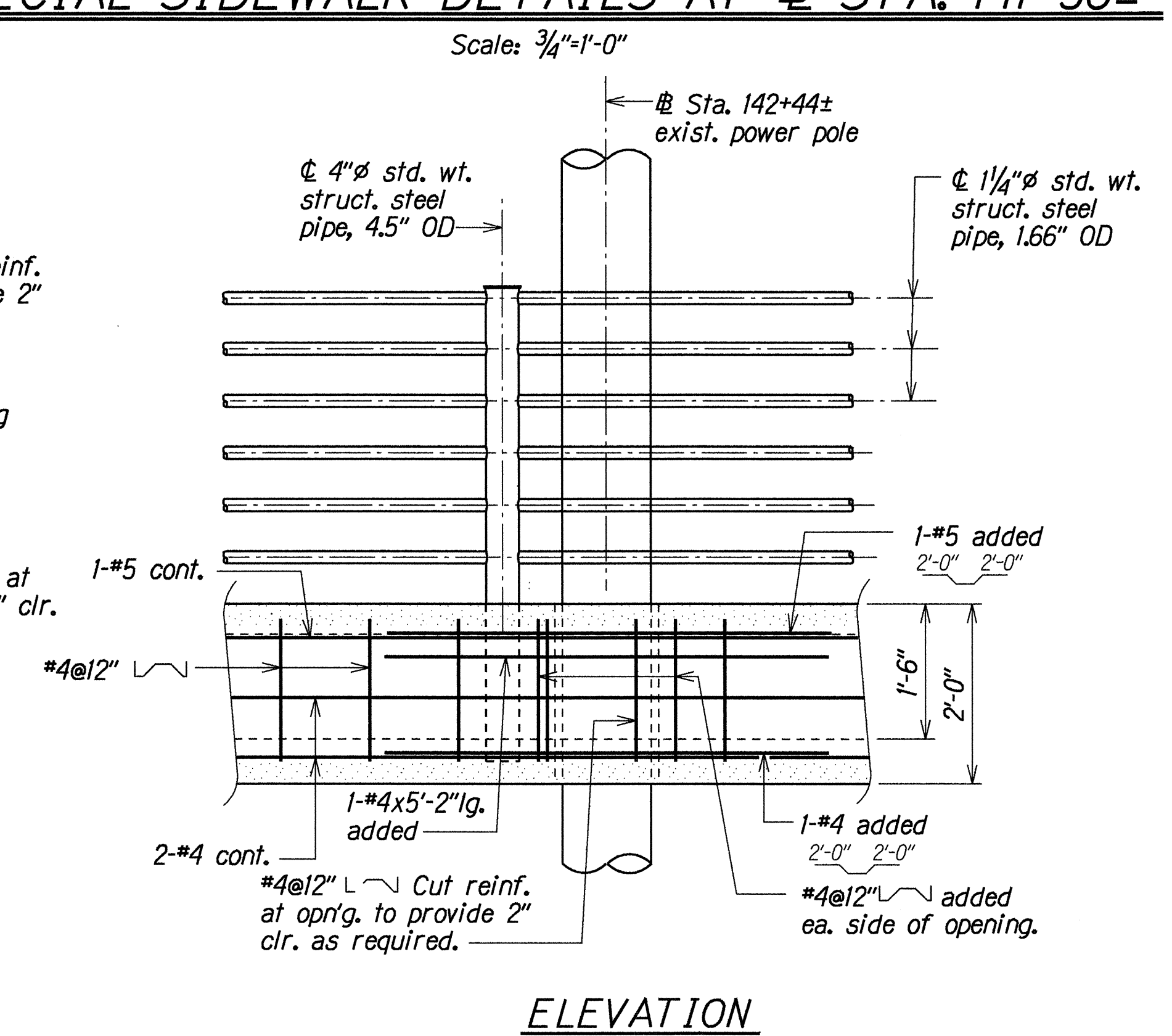
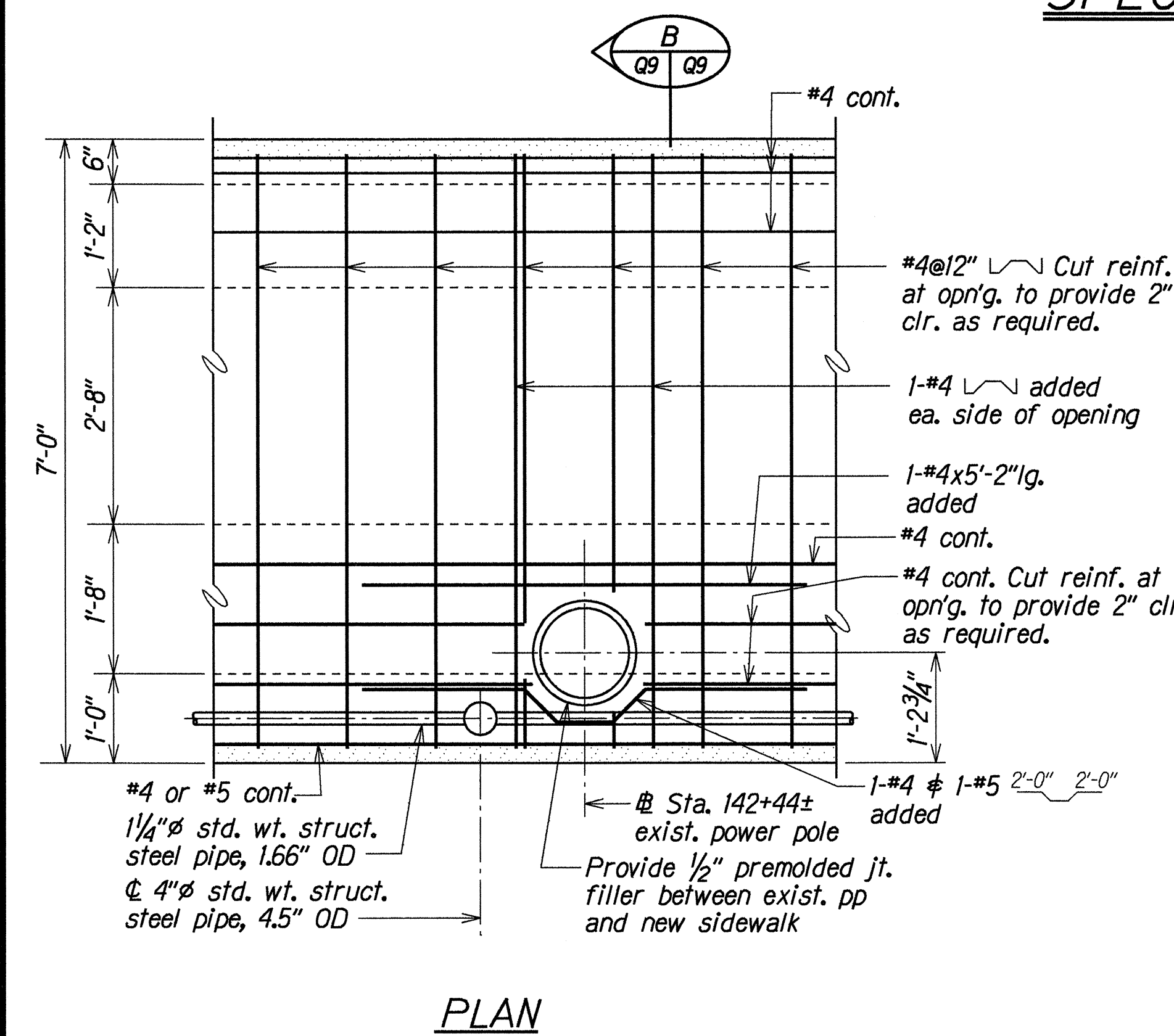
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
TYPICAL SIDEWALK DETAILS
AT # STA. 140+03±
FARRINGTON HIGHWAY SIDEWALKS
Leale Street to Awanui Street and
Leoku Street to Paliwa Street
Project No. 7101A-02-97
Scale: As Noted Date: June 1998
SHEET No. Q8 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	35	102

NOTES:
 1. Location of power pole approximate. Verify location in field prior to construction.
 2. WWF not shown on Plan and Elevation for clarity.



SPECIAL SIDEWALK DETAILS AT STA. 141+36±
 Scale: 3/4"=1'-0"



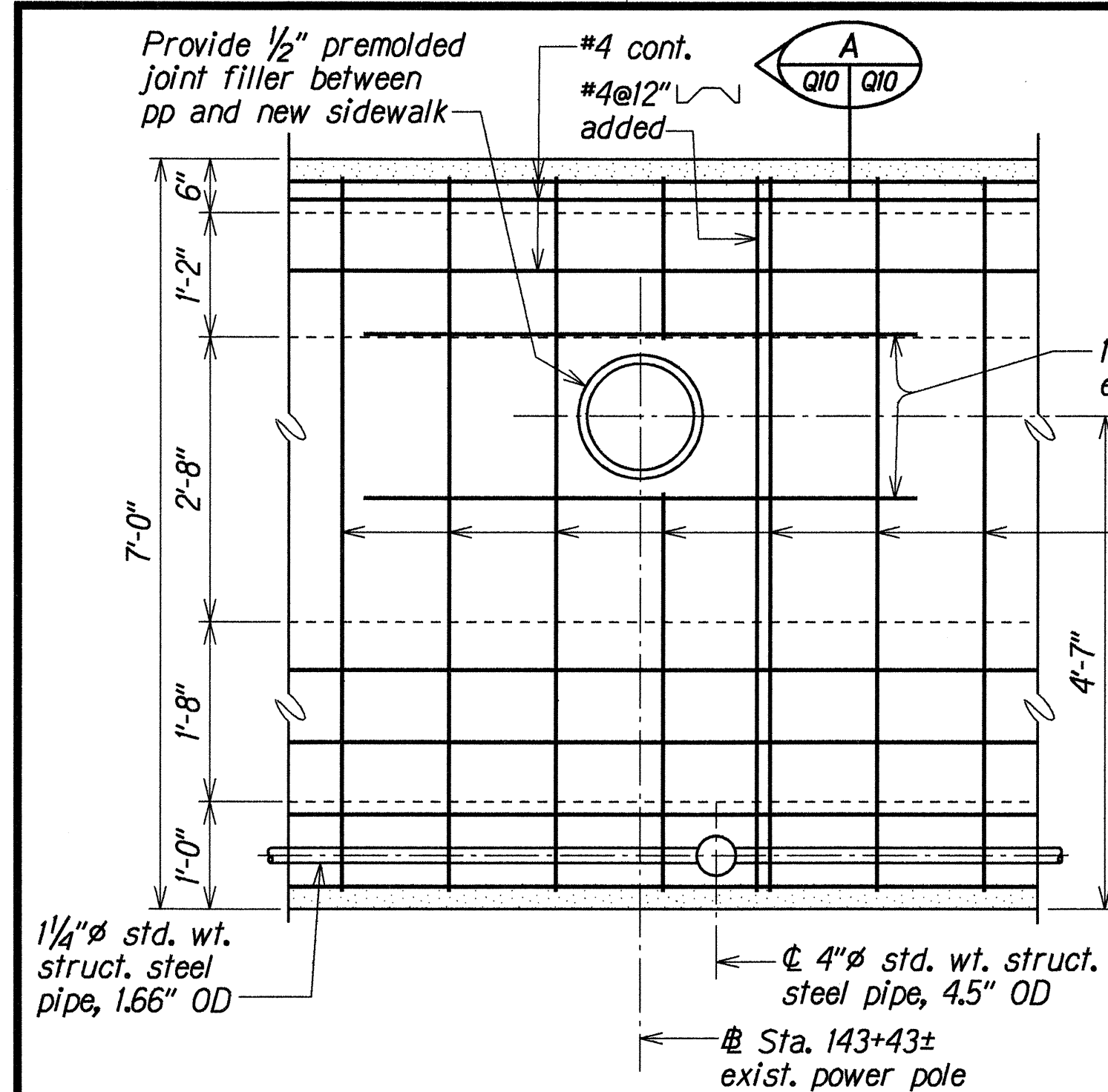
SPECIAL SIDEWALK DETAILS AT STA. 142+44±
 Scale: 3/4"=1'-0"

SURVEY PLOTTED BY	DATE
DESIGNED BY	JUN 1998
QUANTITIES BY	JUN 1998
CHECKED BY	JUN 1998

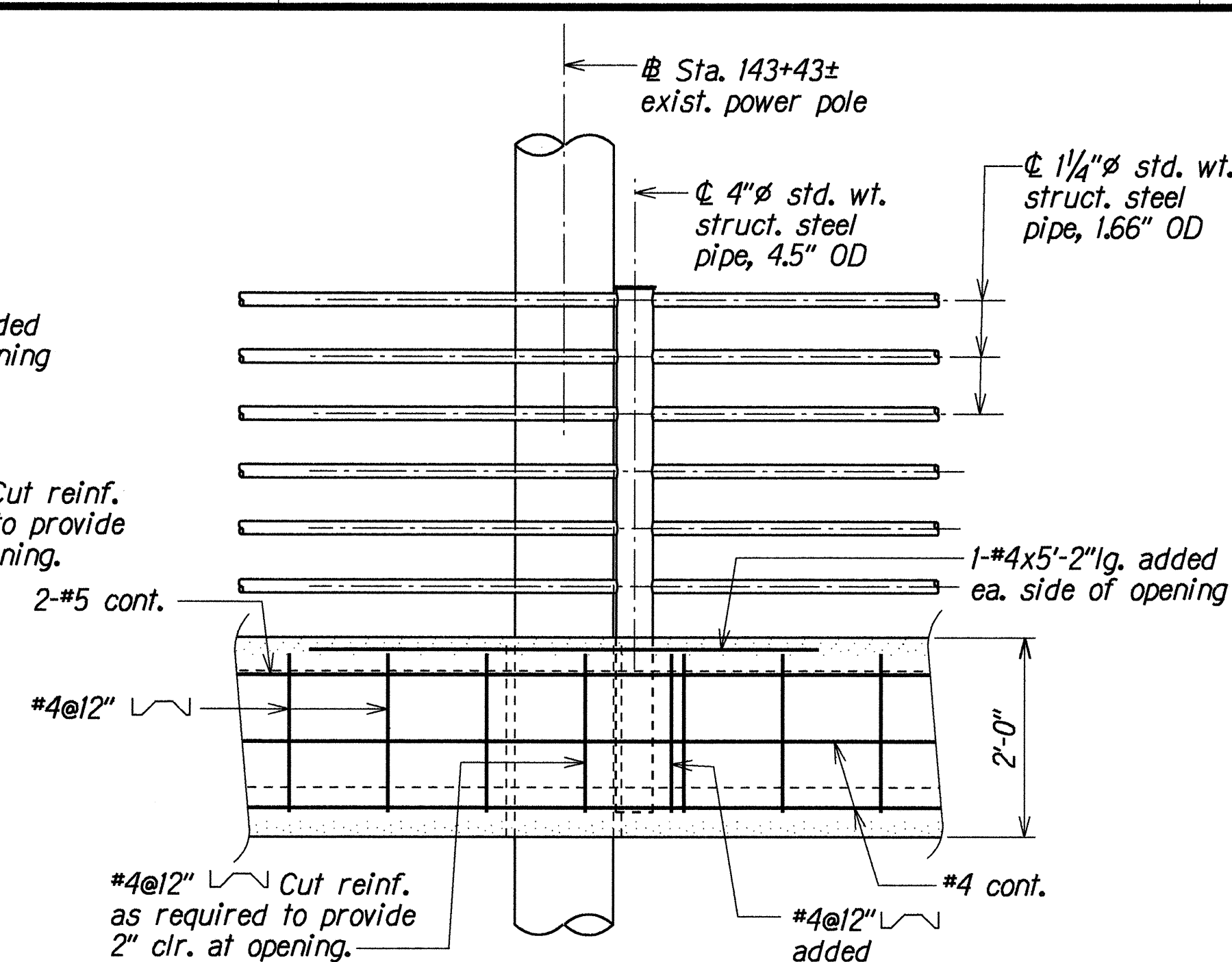
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
SPECIAL SIDEWALK DETAILS
AT STA. 141+36± AND STA. 142+44±
 Farrington Highway Sidewalks
 Leole Street to Awanui Street and
 Leoku Street to Palwa Street
 Project No. 7101A-02-97
 Scale: As Noted Date: June 1998
 SHEET No. Q9 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	36	102

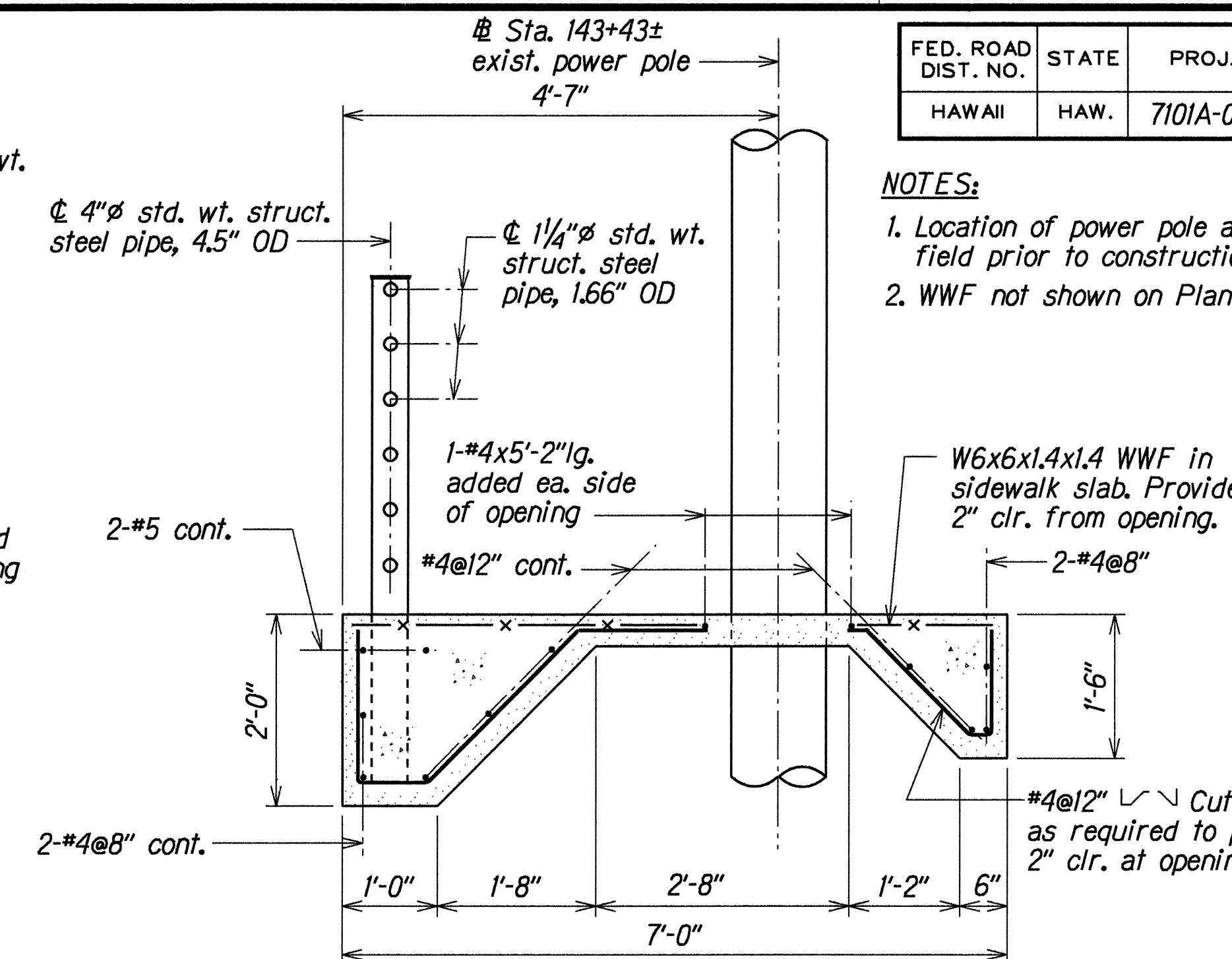
- NOTES:**
1. Location of power pole approximate. Verify location in field prior to construction.
 2. WWF not shown on Plan and Elevation for clarity.



PLAN



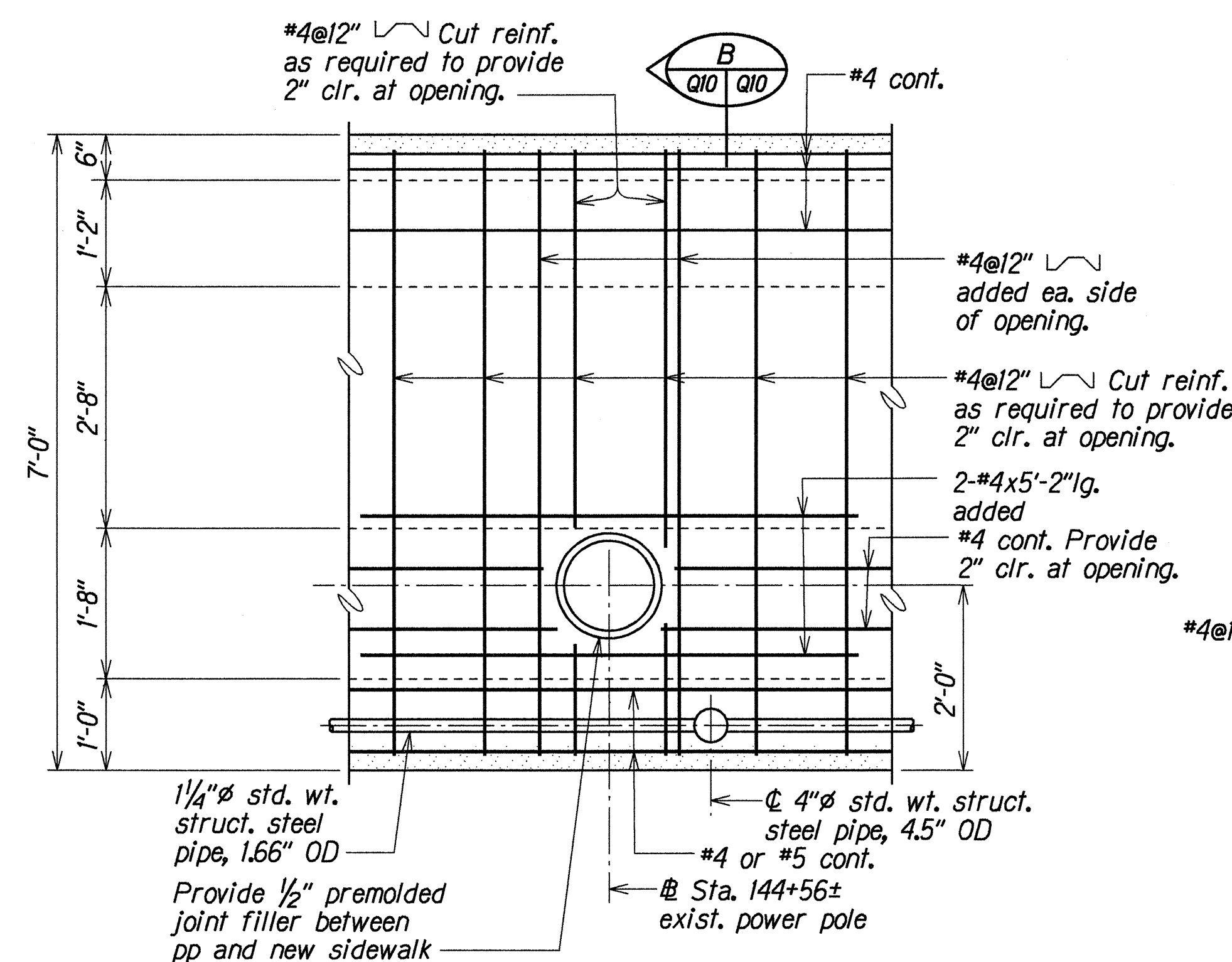
ELEVATION



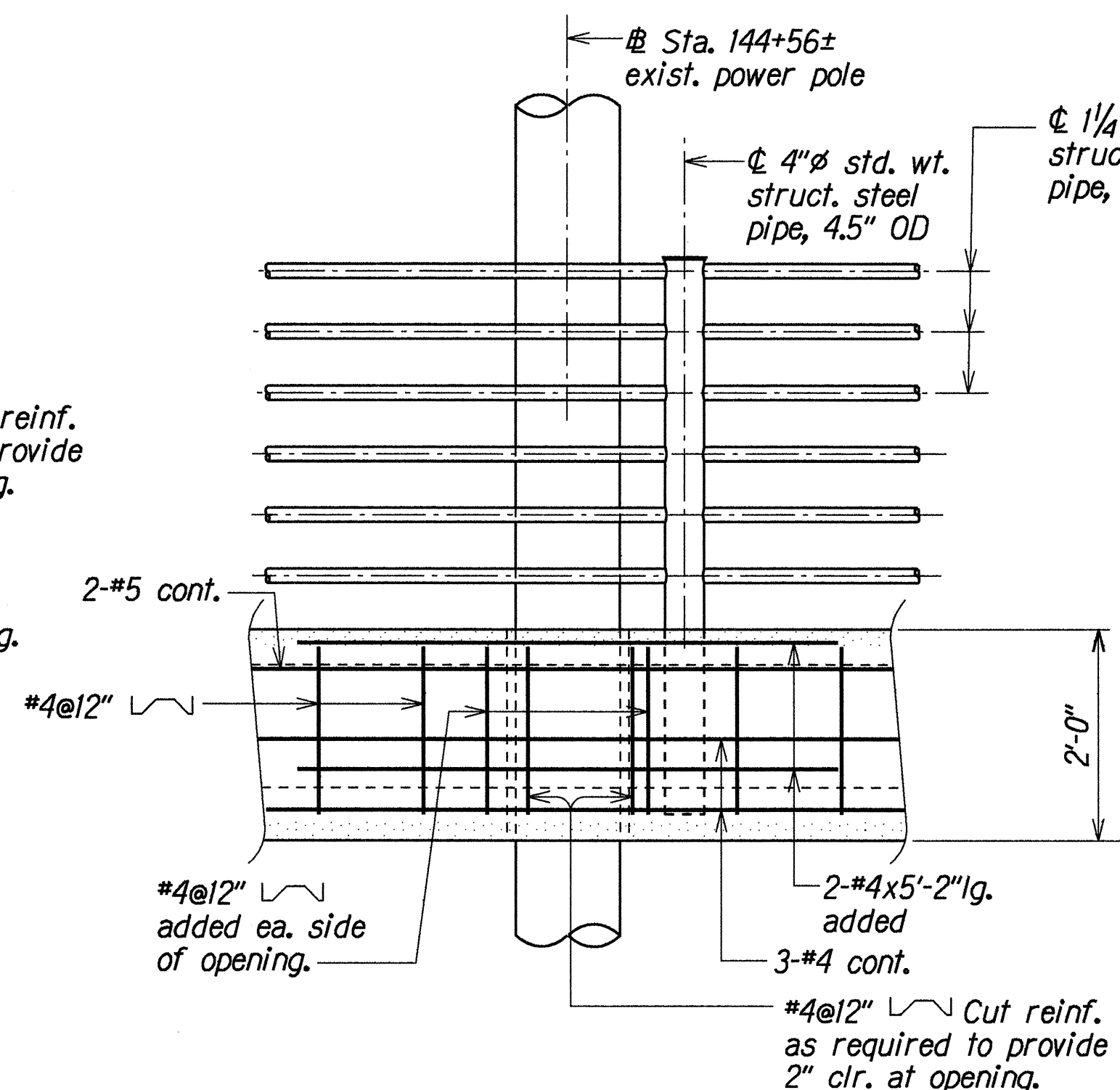
SECTION A

SPECIAL SIDEWALK DETAILS AT STA. 143+43±

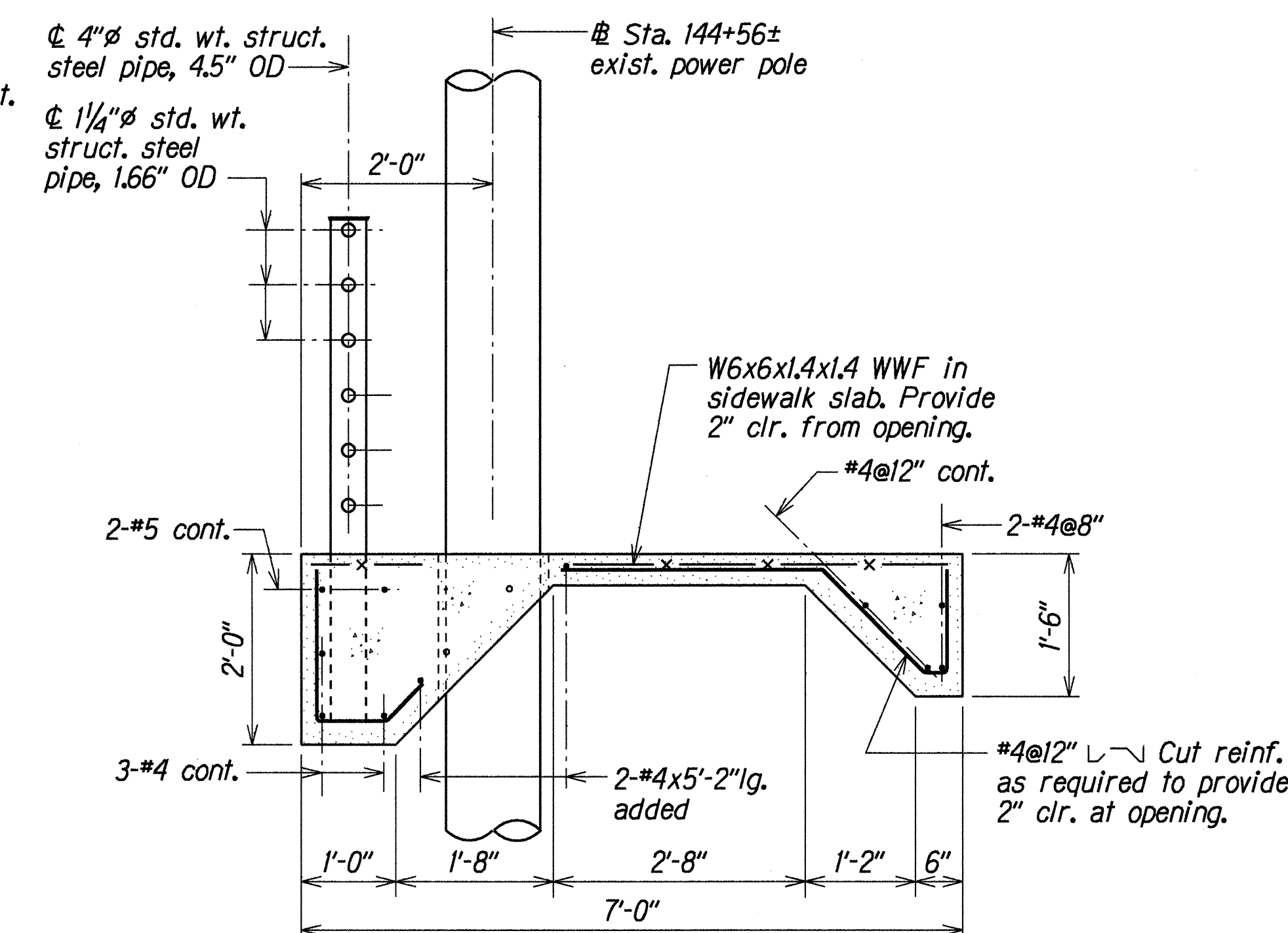
Scale: 3/4"=1'-0"



PLAN



ELEVATION



SECTION B

SPECIAL SIDEWALK DETAILS AT STA. 144+56±

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

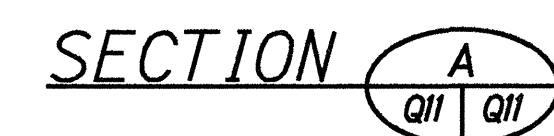
DESIGNED BY	DATE	DESIGNED BY	DATE
TRACED BY	DATE	TRACED BY	DATE
QUANTITIES BY	DATE	QUANTITIES BY	DATE
CHECKED BY	DATE	CHECKED BY	DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
SPECIAL SIDEWALK DETAILS
AT STA. 143+43± AND STA. 144+56±
LEOLE STREET TO AWANUI STREET AND
LEOKU STREET TO PAIWA STREET
Project No. 7101A-02-97
Scale: As Noted Date: June 1998

SHEET No. Q10 OF 14 SHEETS

NOTES:

1. Location of exist. telephone manhole approximate. Verify location, size and extent in field prior to construction of sidewalk.
2. WWF not shown on Plan and Elevation for clarity.

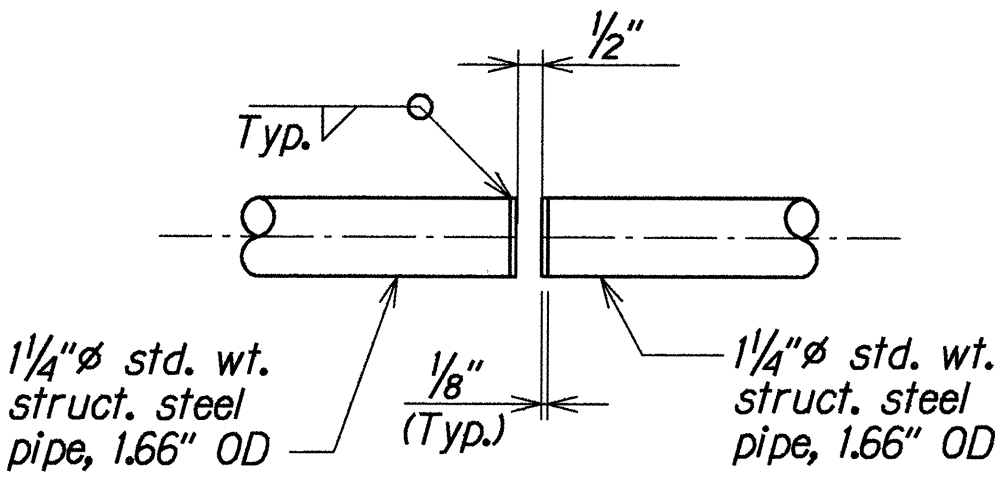


Scale: $\frac{3}{4}"=1'-0"$

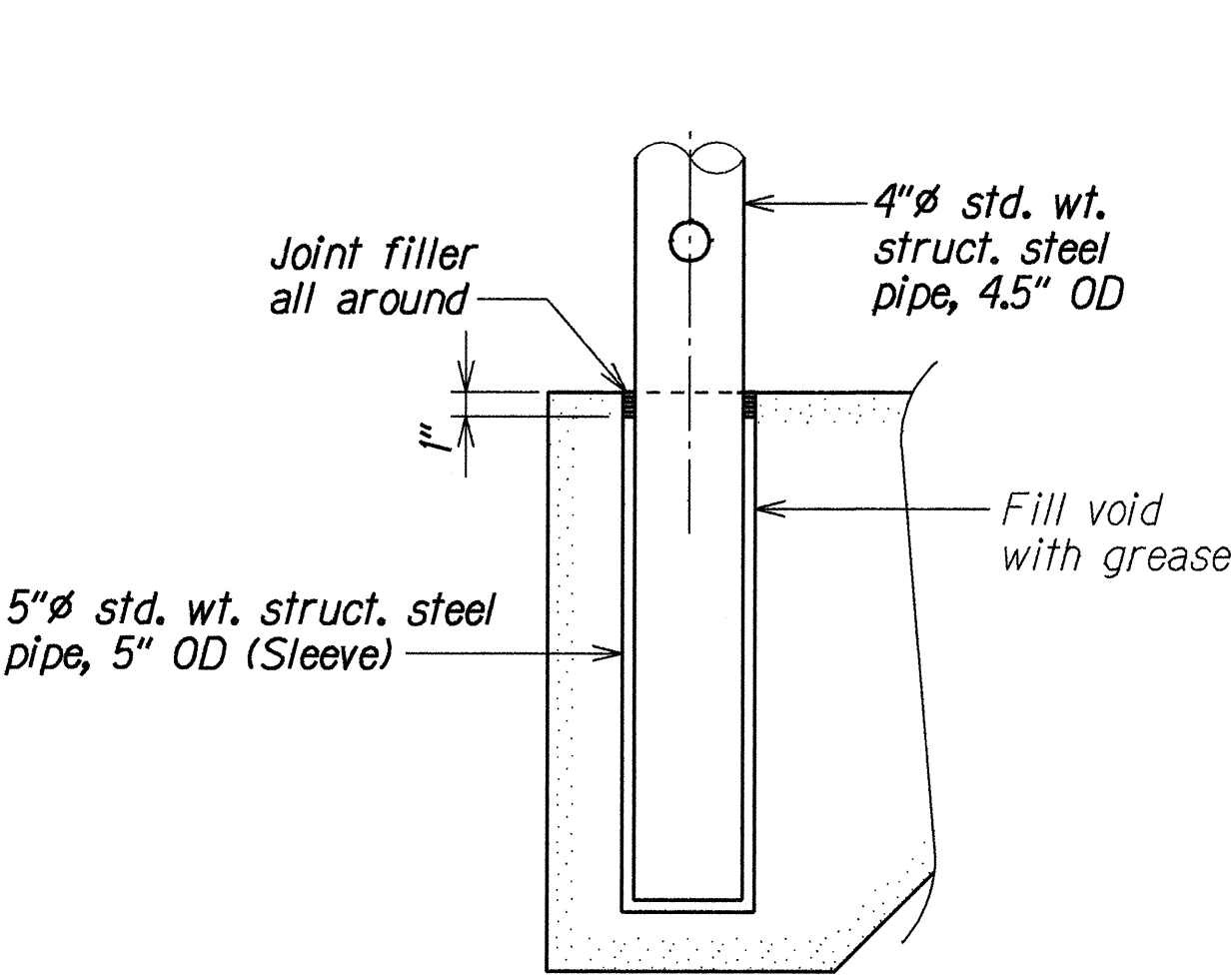
7/30/98	Revised Section A by Replacing "1-#5 cont." with "2-#5 cont." per Addendum No. 1.
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <u>FARRINGTON HIGHWAY SIDEWALK UPGRADE</u> <u>SPECIAL SIDEWALK DETAILS</u> <u>AT & STA. 145+29±</u> <u>FARRINGTON HIGHWAY SIDEWALKS</u> <u>Leolea Street to Awanui Street and</u> <u>Leoku Street to Palwa Street</u> <u>Project No. 7101A-02-97</u>	
Scale: As Noted	Date: June 1998
SHEET No. 111 OF 14 SHEETS	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	38	102

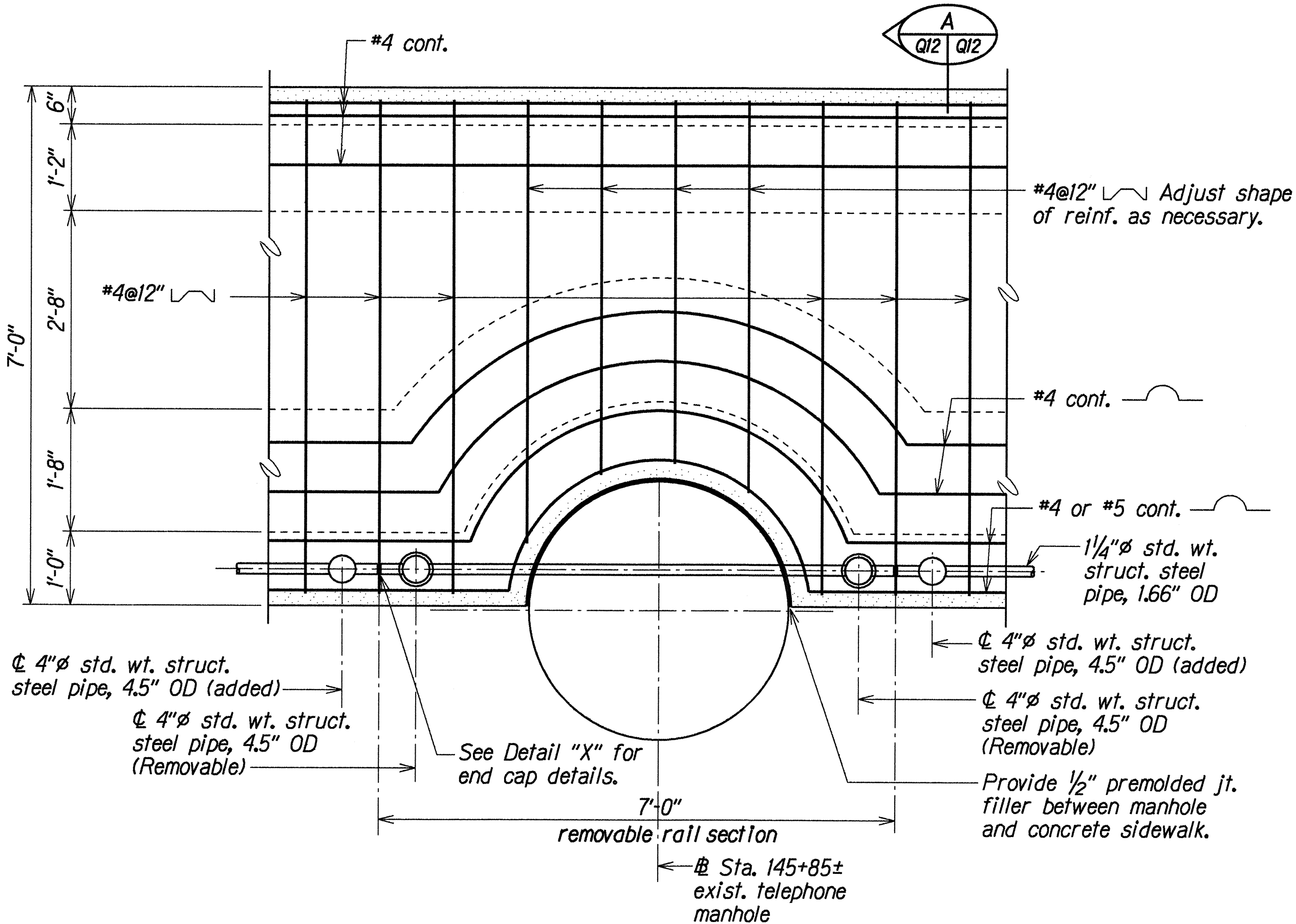
- NOTES:
1. Location of exist. telephone manhole approximate. Verify location, size and extent of manhole prior to fabricating reinforcing steel.
 2. Excavate as necessary to maintain sidewalk footing shape around manhole obstruction.
 3. WWF not shown on Plan and Elevation for clarity.
 4. Pack void between 5" sleeve and 4" post with grease and provide 1" deep joint filler at top to prevent debris from entering sleeve.
 5. End caps to be paid under item 501.0110.



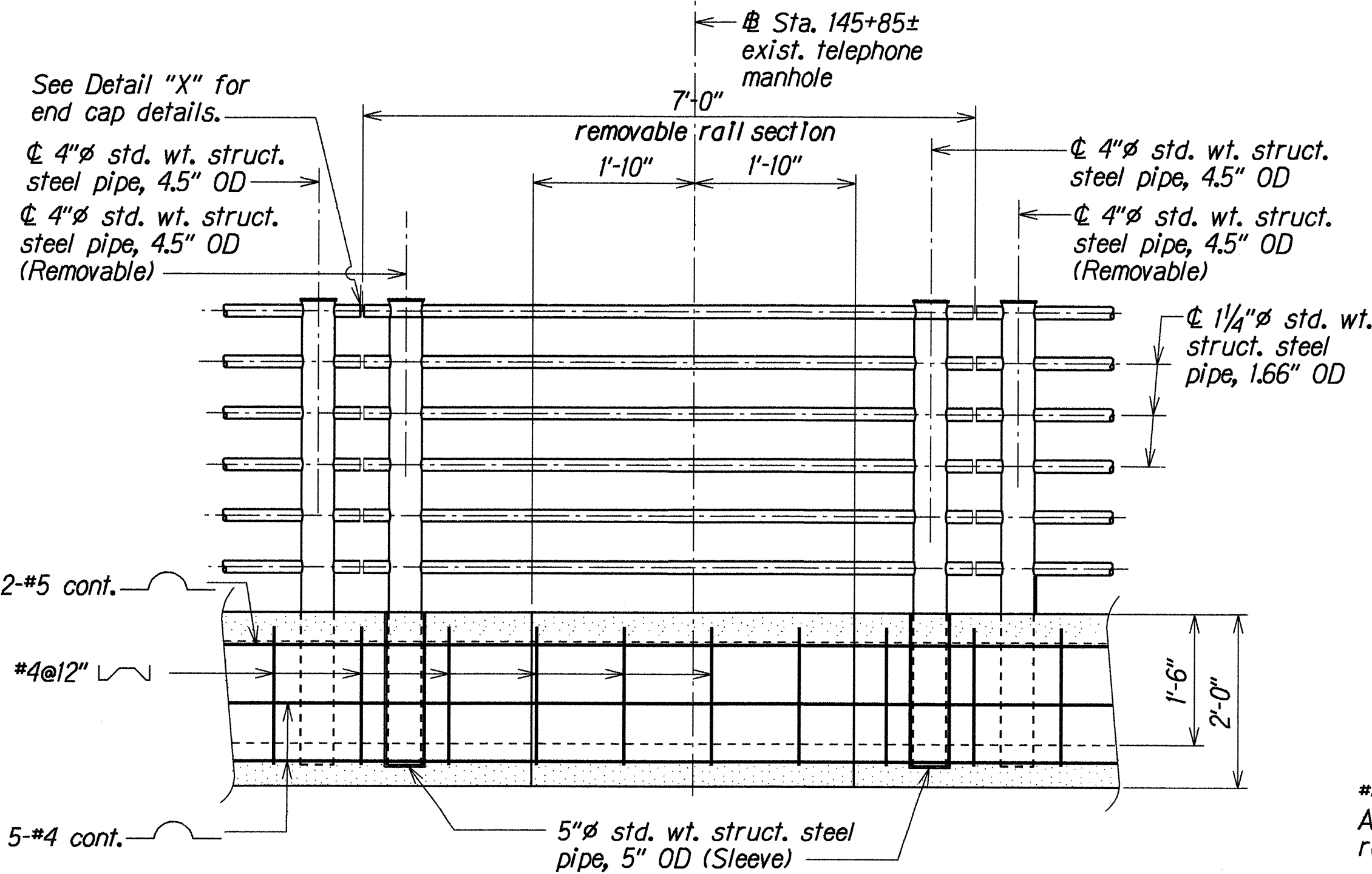
DETAIL "X"
Scale: 3"=1'-0"



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



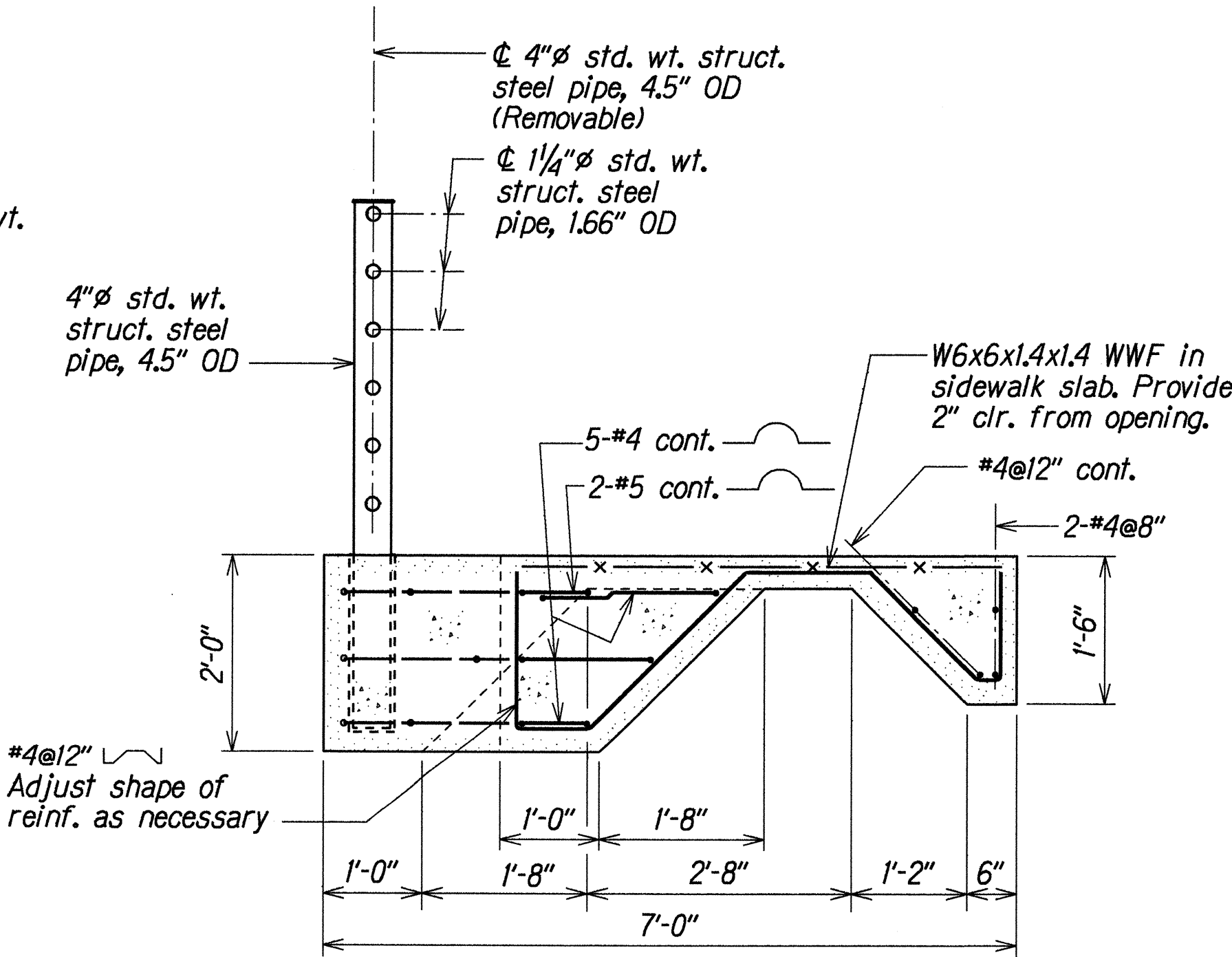
PLAN



ELEVATION

SPECIAL SIDEWALK DETAILS AT STA. 145+85±

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



SECTION A
Q12 Q12

DESIGNED BY	DATE
DRAWN BY	JUN 1998
CHECKED BY	JUN 1998
NOTED BY	JUN 1998
QUANTITIES BY	JUN 1998
REVISIONS	
1. for 12	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

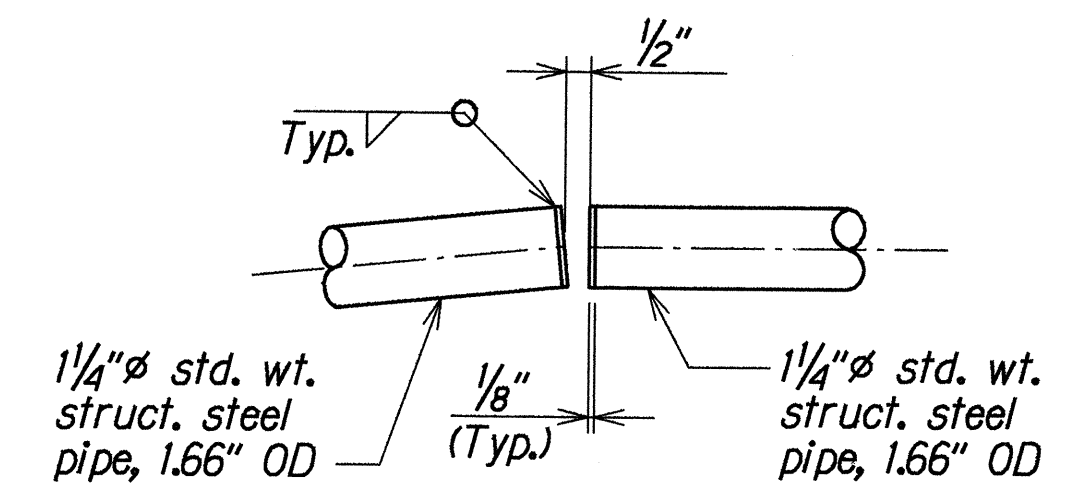
FARRINGTON HIGHWAY SIDEWALK UPGRADE
SPECIAL SIDEWALK DETAILS
AT STA. 145+85±
FARRINGTON HIGHWAY SIDEWALKS
Leale Street to Awanui Street and
Leoku Street to Palwa Street
Project No. 7101A-02-97

Scale: As Noted
Date: June 1998

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	39	102

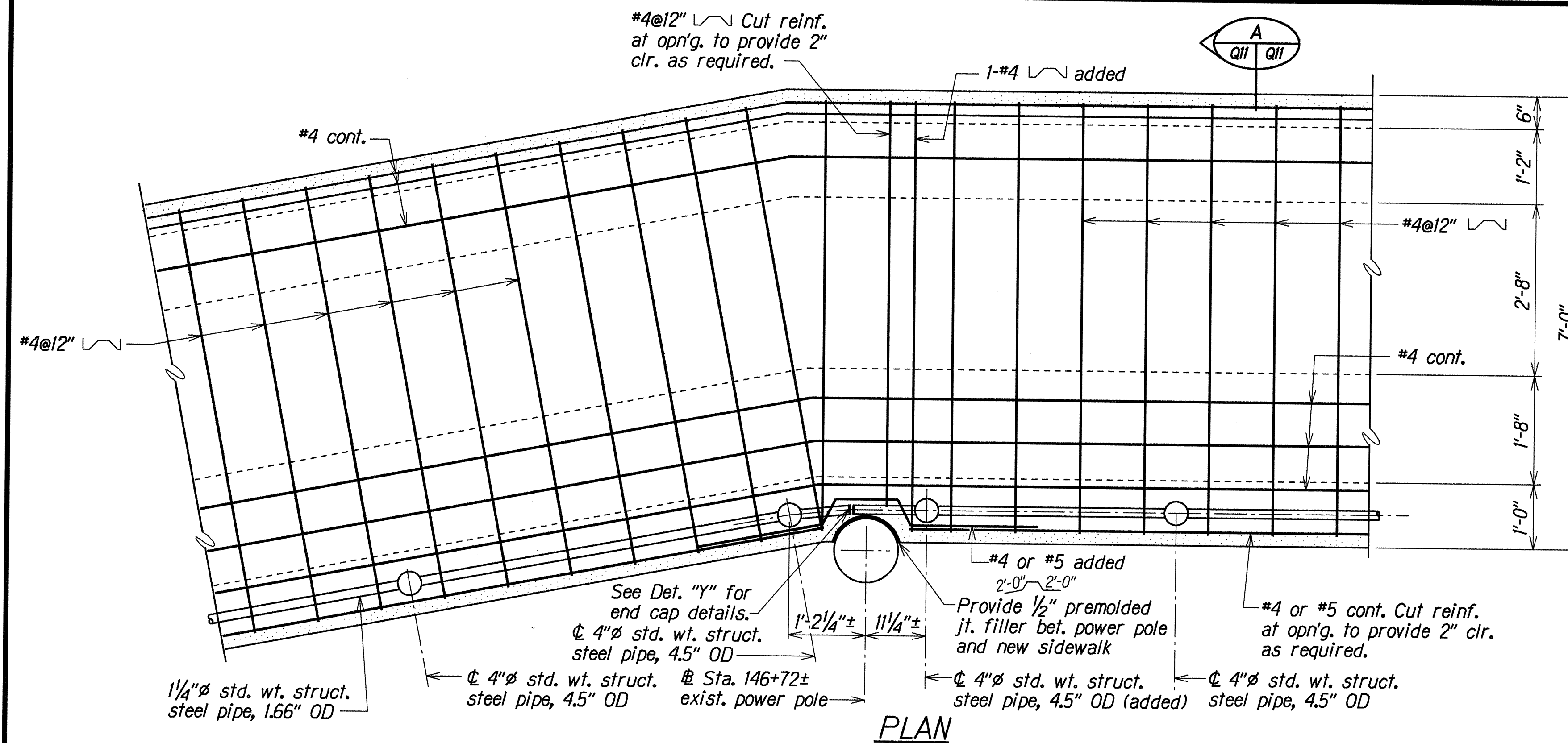
NOTES:

1. Location of power pole approximate. Verify location in field prior to construction.
2. WWF not shown on Plan and Elevation for clarity.
3. Caps at end of railing to be paid under item 501.0110.

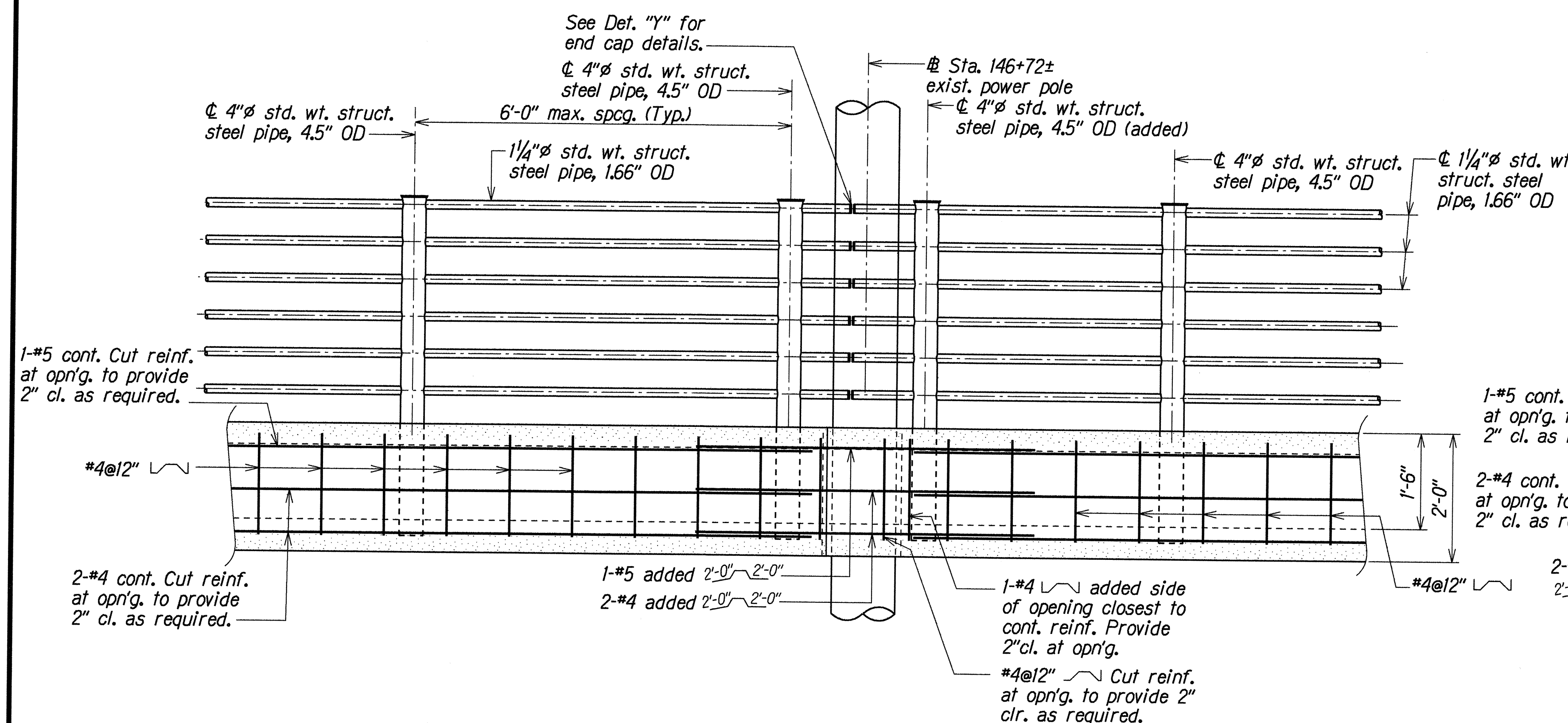


DETAIL "Y"

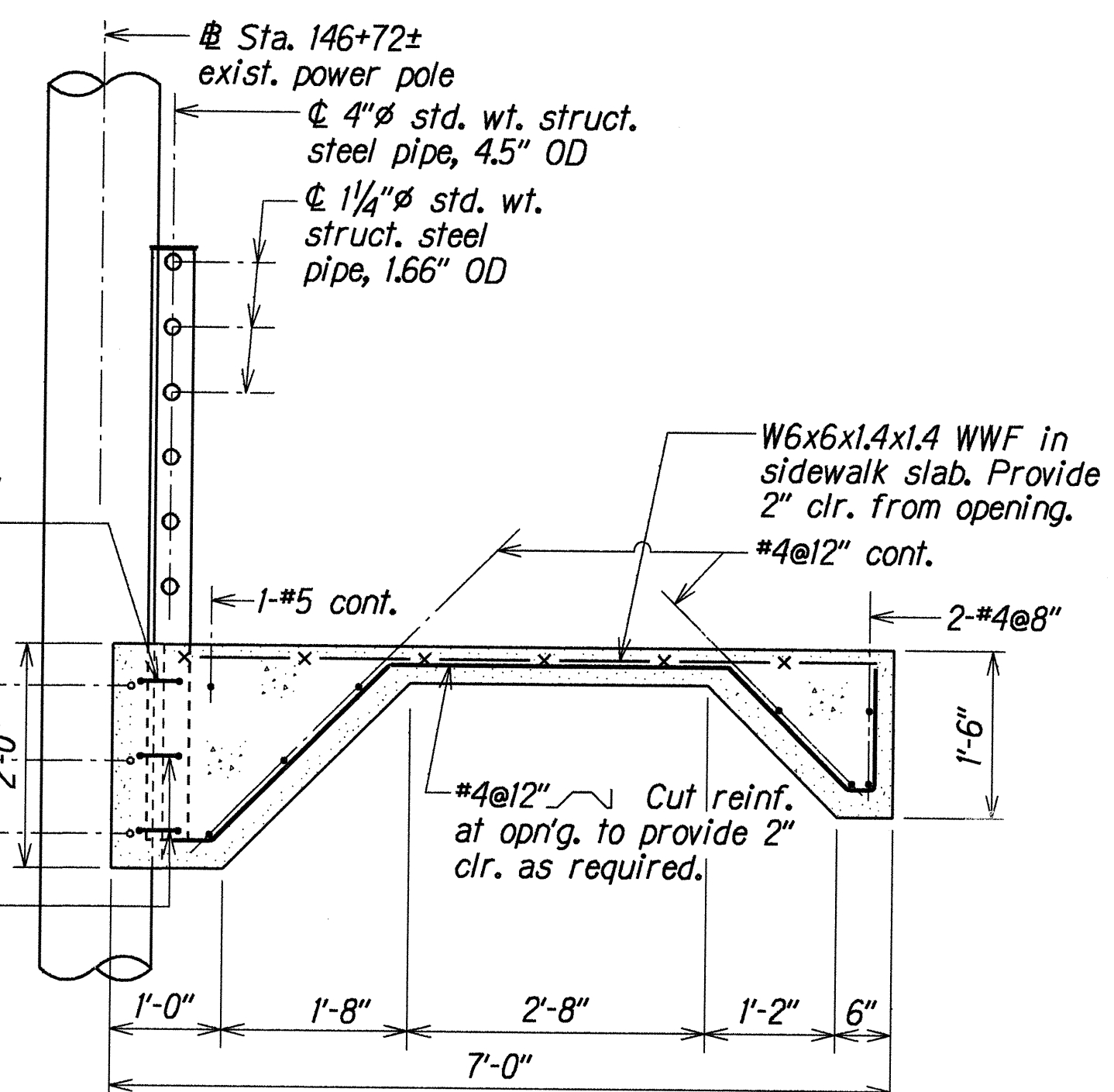
Scale: 3"=1'-0"



PLAN



ELEVATION



SECTION

SPECIAL SIDEWALK DETAILS AT STA. 146+72±

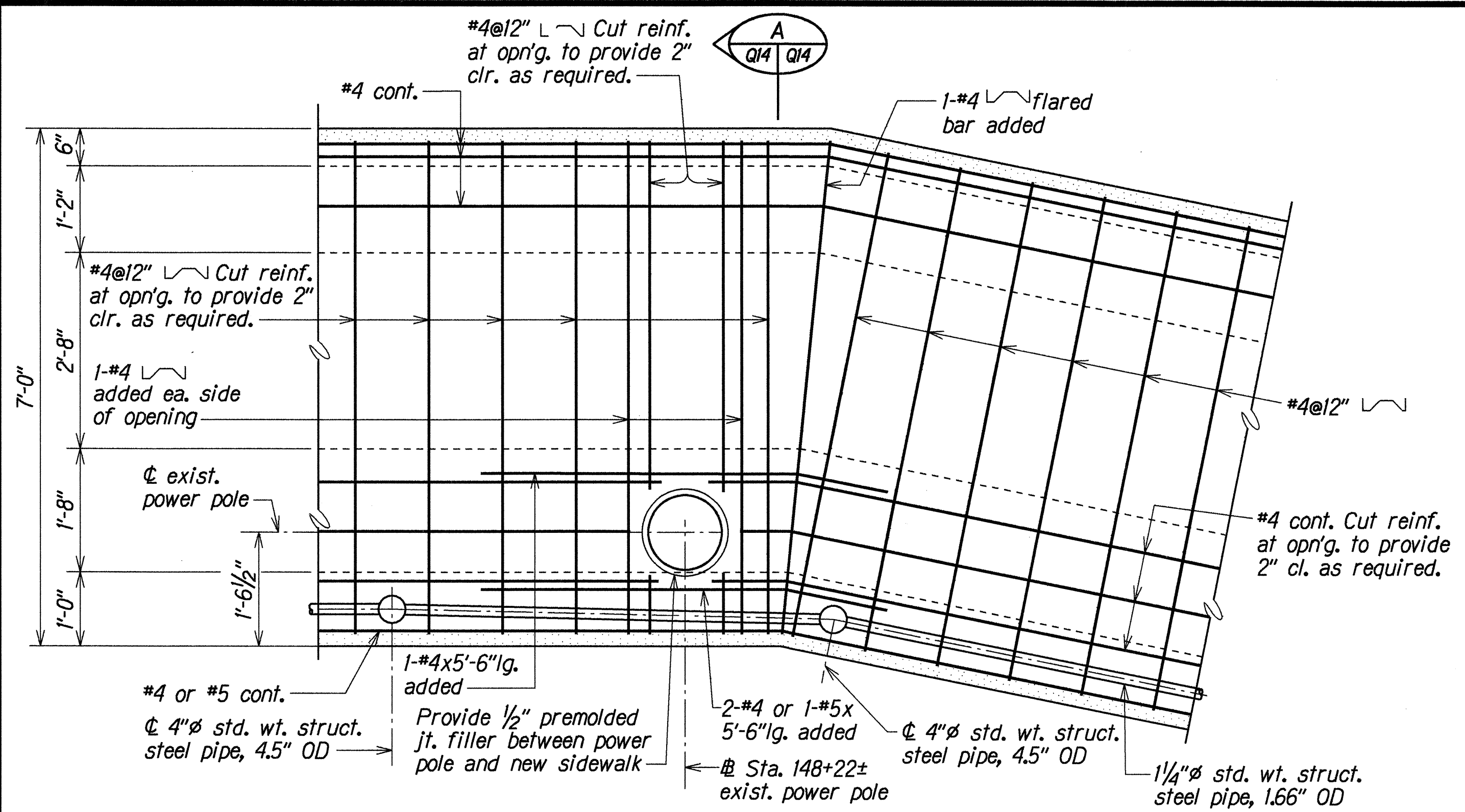
Scale: 3/4"=1'-0"

DESIGNED BY	DATE
NOTED BY	DATE
CHECKED BY	DATE
APPROVED BY	DATE

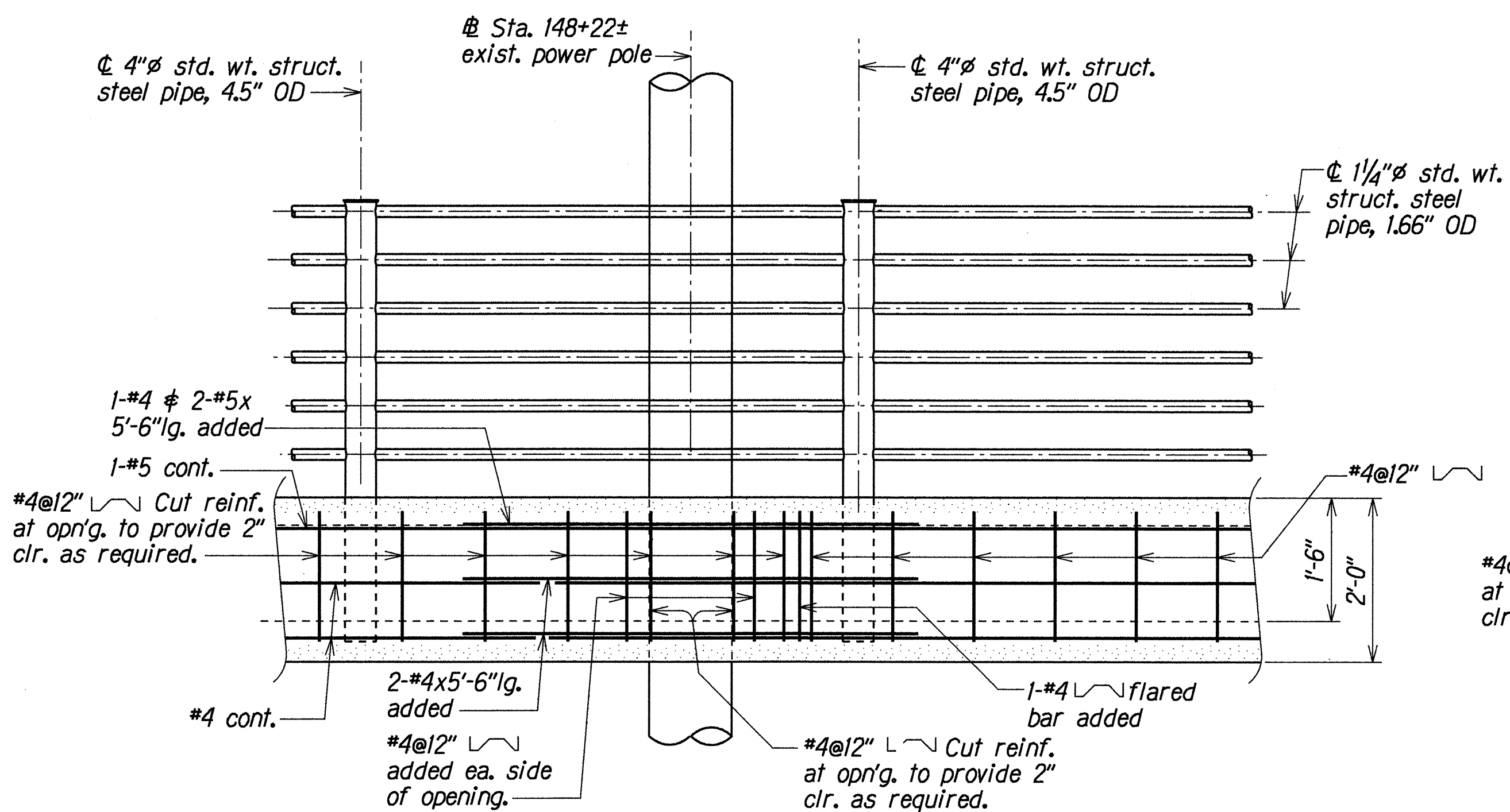
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
FARRINGTON HIGHWAY SIDEWALK UPGRADE
SPECIAL SIDEWALK DETAILS
AT STA. 146+72±
FARRINGTON HIGHWAY SIDEWALKS
Leale Street to Awanui Street and
Leoku Street to Palwa Street
Project No. 7101A-02-97
Scale: As Noted Date: June 1998

SHEET No. Q13 OF 14 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	7101A-02-97	1998	40	102



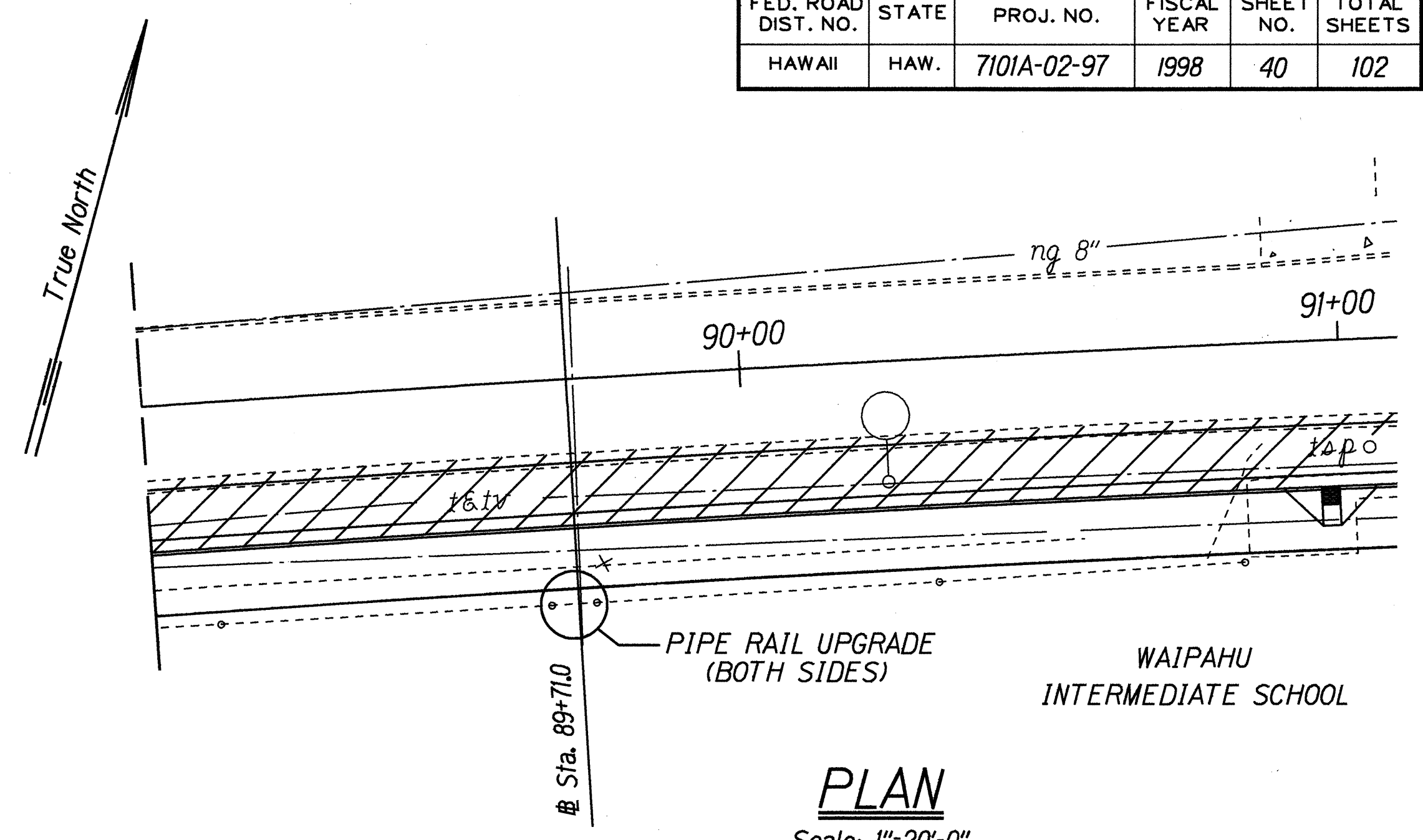
PLAN



ELEVATION

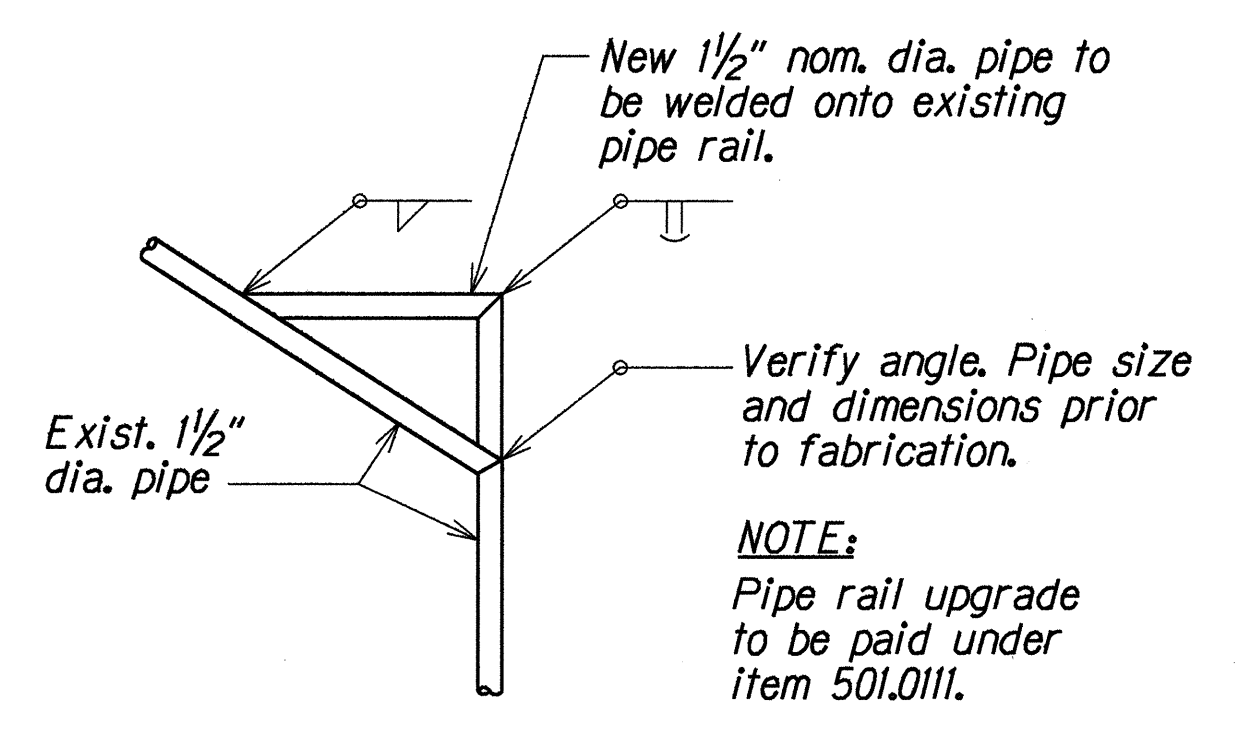
SPECIAL SIDEWALK DETAILS AT STA. 148+22±

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

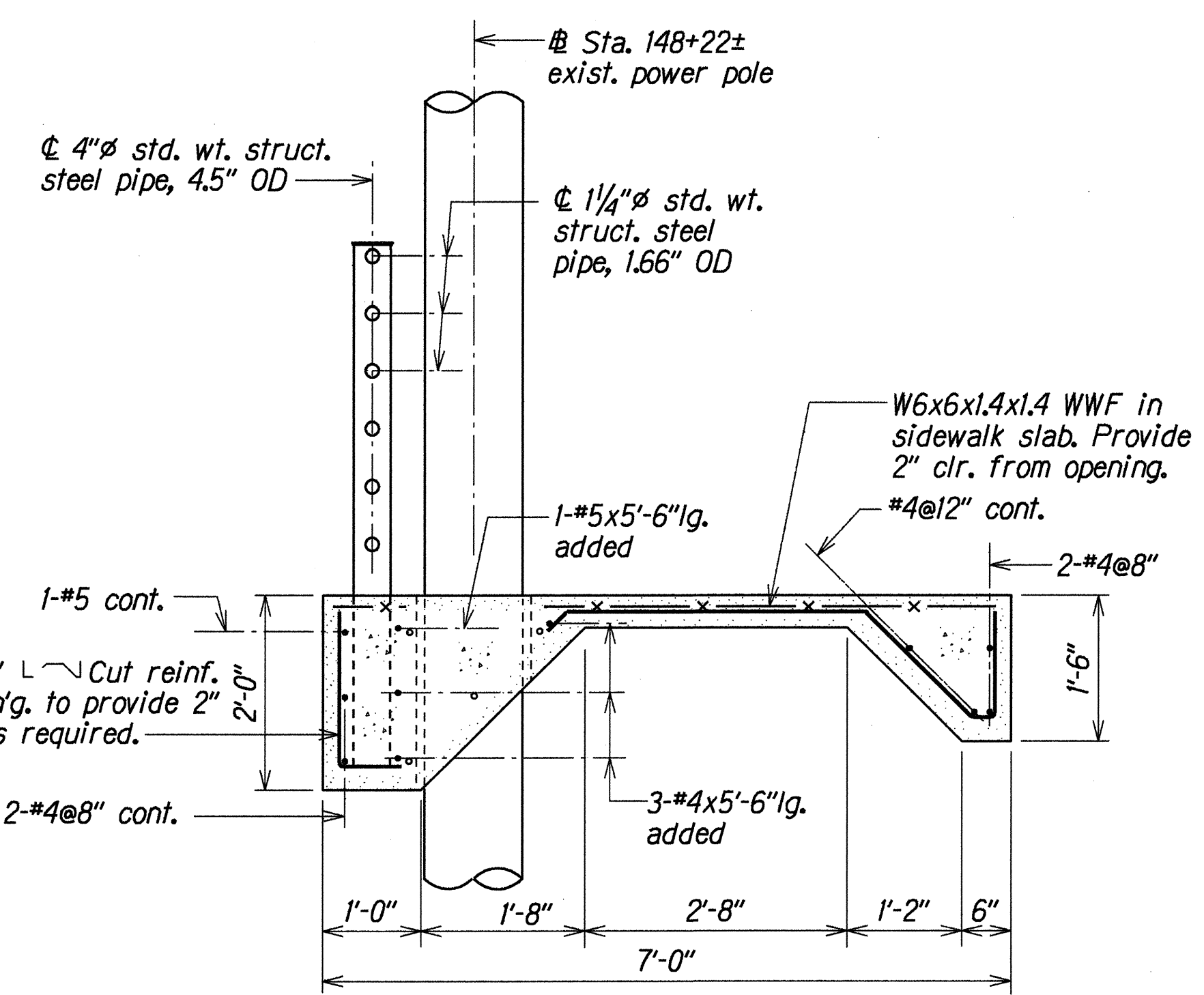


PLAN
Scale: 1"=20'-0"

- NOTES:
1. Location of power pole approximate. Verify location in field prior to construction.
 2. WWF not shown on Plan and Elevation for clarity.



PIPE RAIL UPGRADE
Scale: 1"=1'-0"



SECTION
A
Q14 Q14

ORIGINAL PLAN	DATE
SURVEY PLOTTED BY	JUN 1998
DRAWN BY	JUN 1998
DESIGNED BY	JUN 1998
QUANTITIES BY	JUN 1998
CHECKED BY	JUN 1998
NO.	10014

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

FARRINGTON HIGHWAY SIDEWALK UPGRADE
SPECIAL SIDEWALK DETAILS AT STA. 148+22±
PIPE RAIL UPGRADE AT STA. 89+71
FARRINGTON HIGHWAY SIDEWALKS
Leolupe Street to Awanui Street and
Leolupe Street to Paliwa Street
Project No. 7101A-02-97

Scale: As Noted
Date: June 1998