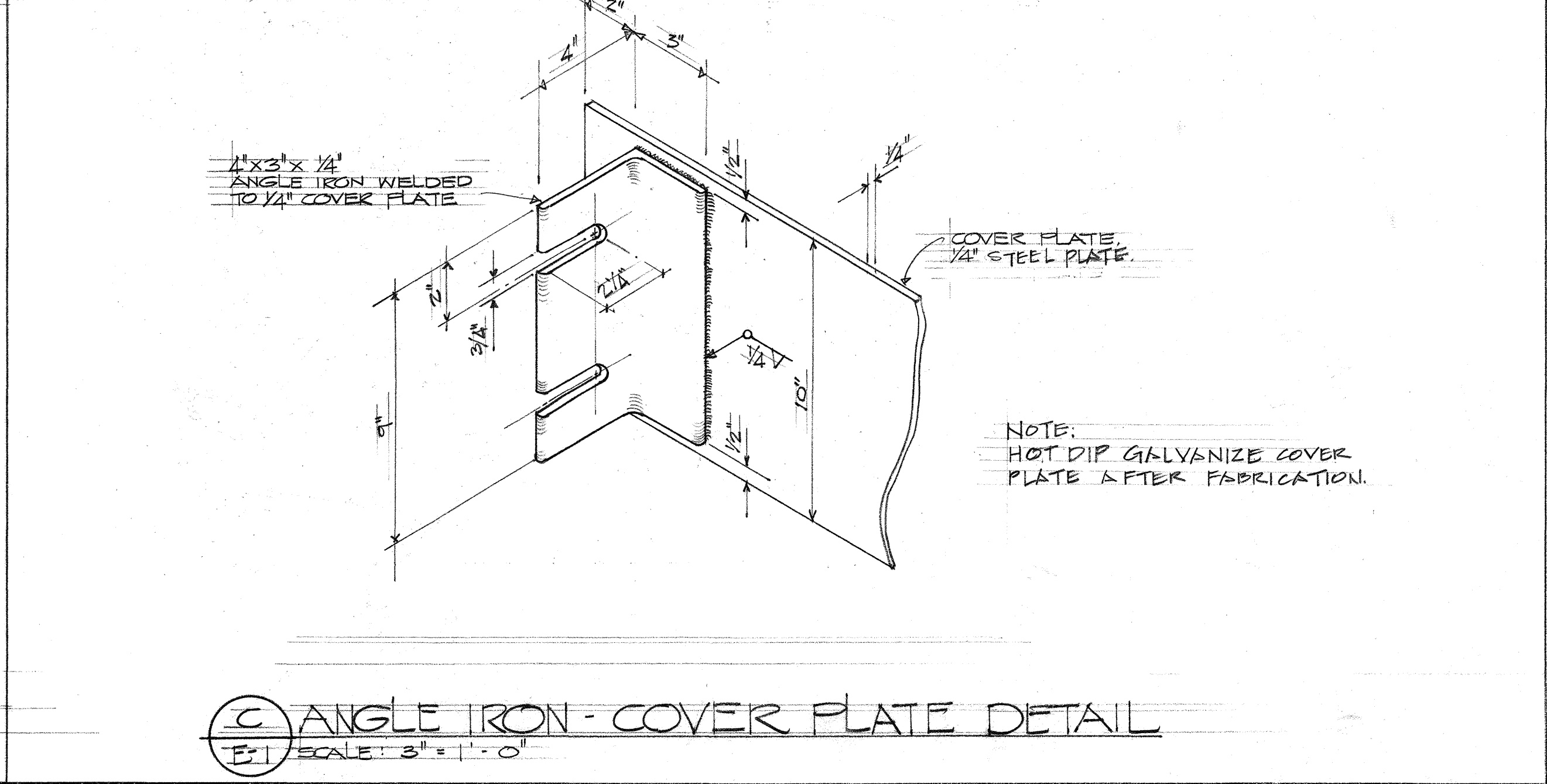
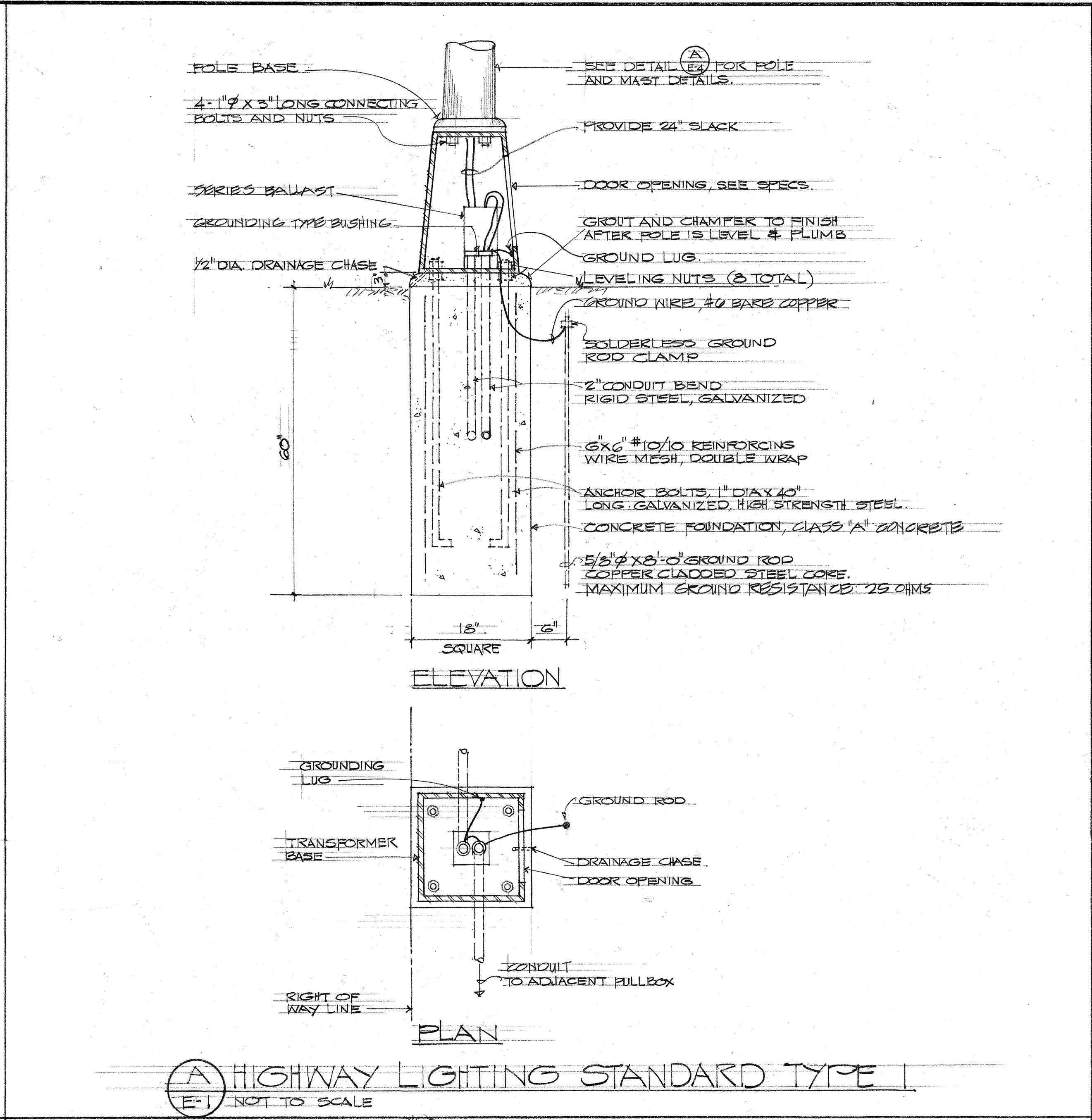
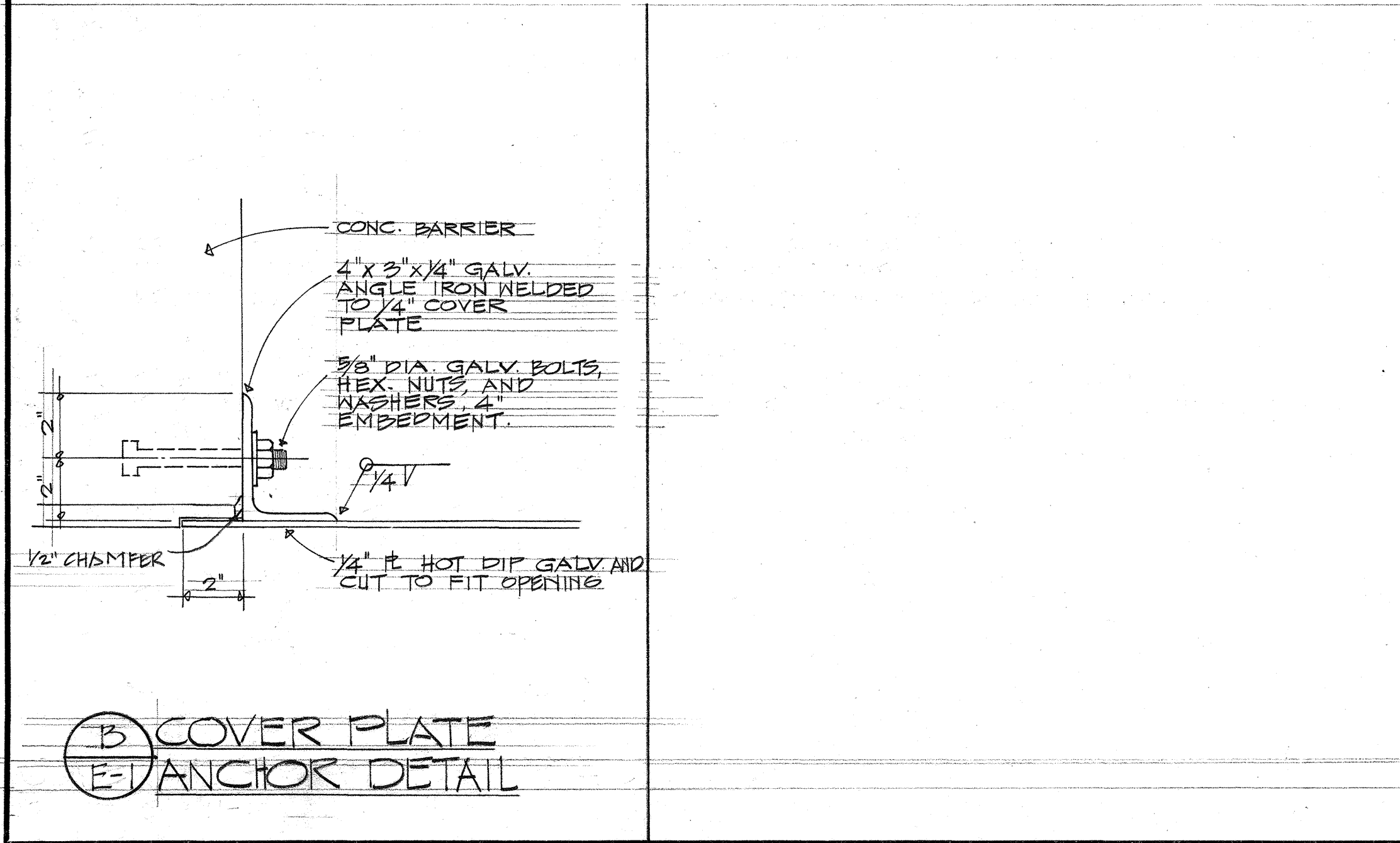
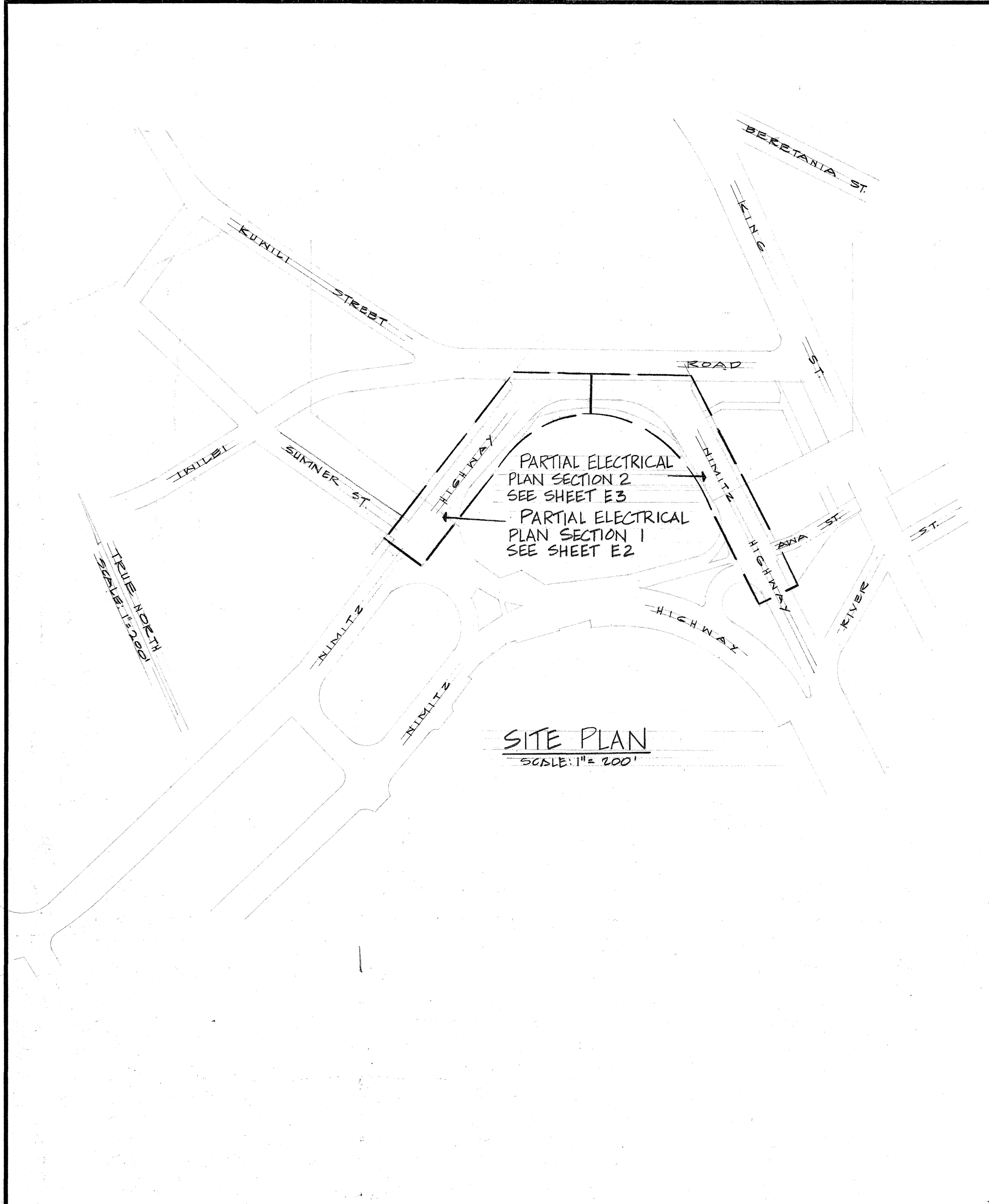




ELECTRICAL SYMBOLS

	HIGHWAY LIGHTING STANDARD, NEW
	HIGHWAY LIGHTING STANDARD, EXISTING
	HIGHWAY LIGHTING LUMINAIRE AND MAST ARM, EXISTING
	JOINT POLE, EXISTING
	GUY AND ANCHOR EXISTING
	PULLBOX OR HANDHOLE, EXISTING
	PULLBOX OR HANDHOLE, NEW
	TRAFFIC DETECTOR STANDARD
	DUCTLINE, NEW - LIGHTING
	DUCTLINE, EXISTING
	DUCTLINE SECTION INDICATOR
	DUCTLINE, NEW - HTCO
	DEMOLISH EXISTING DUCTLINE AND REBUILD ANCHOR, NEW

ABBREVIATIONS

T	TELEPHONE
E	ELECTRIC
TC	TRAFFIC CONTROL
TCHH	TRAFFIC CONTROL HANDHOLE
HECO	HAWAIIAN ELECTRIC COMPANY
HTCO	HAWAIIAN TELEPHONE COMPANY
SL	HIGHWAY LIGHTING CIRCUIT
SLPB	HIGHWAY LIGHTING PULLBOX
MH	MANHOLE
OH	OVERHEAD
UG	UNDERGROUND
JP	JOINT POLE

APPROVED *ASH by CHM* DATE 7/25/69
 HAWAIIAN ELECTRIC CO., INC.
Chung 8-7-69
 HAWAIIAN TELEPHONE CO.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

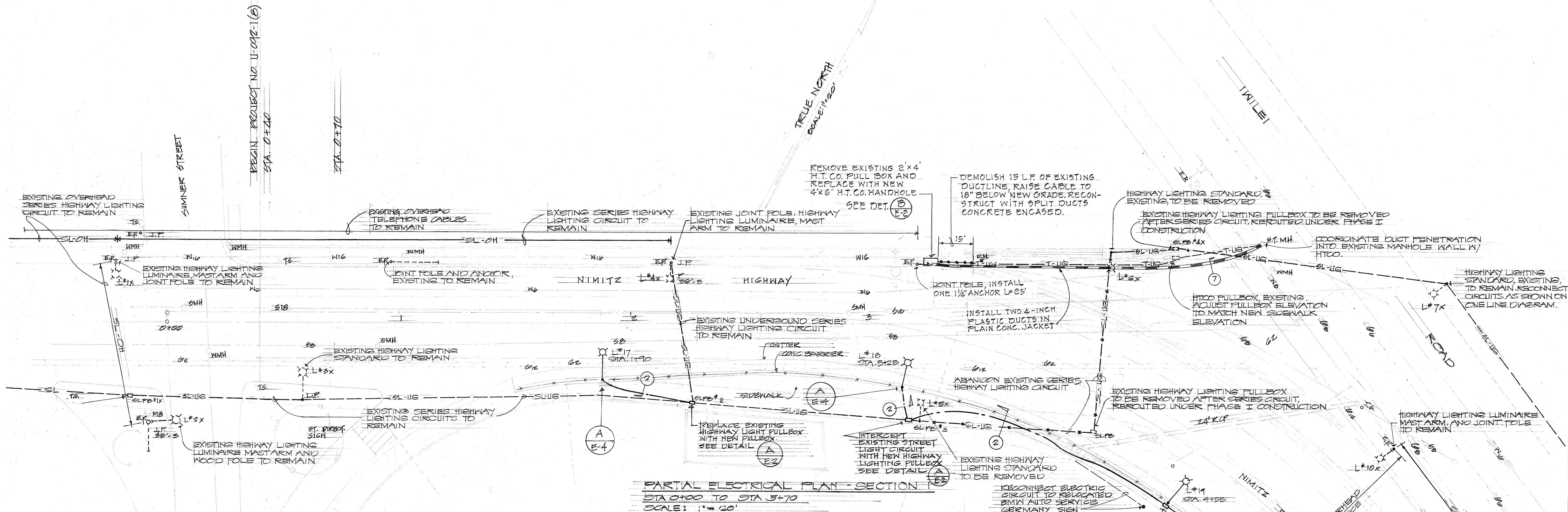
SHEET LAYOUT, NOTES, STREET
LIGHTING CIRCUIT PLAN & SYMBOL
LIST

LIMITZ HIGHWAY IMPROVEMENTS
SUMMER STREET TO AKA STREET
PROJECT NO. U-092-1(8)

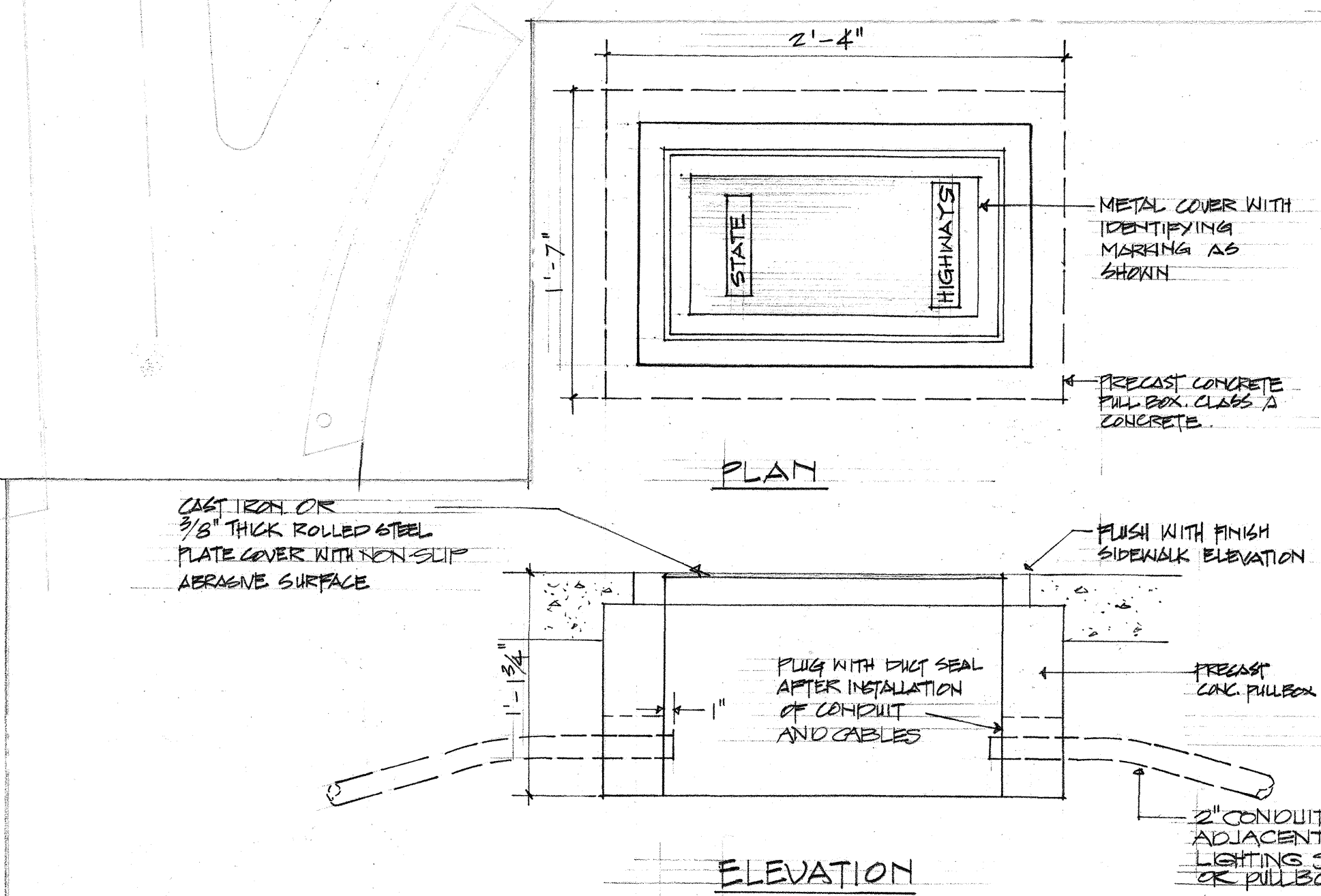
SCALE: AS NOTED DATE: 19 DEC. 1969

SHEET No. 1 OF 8 SHEETS (E-1)

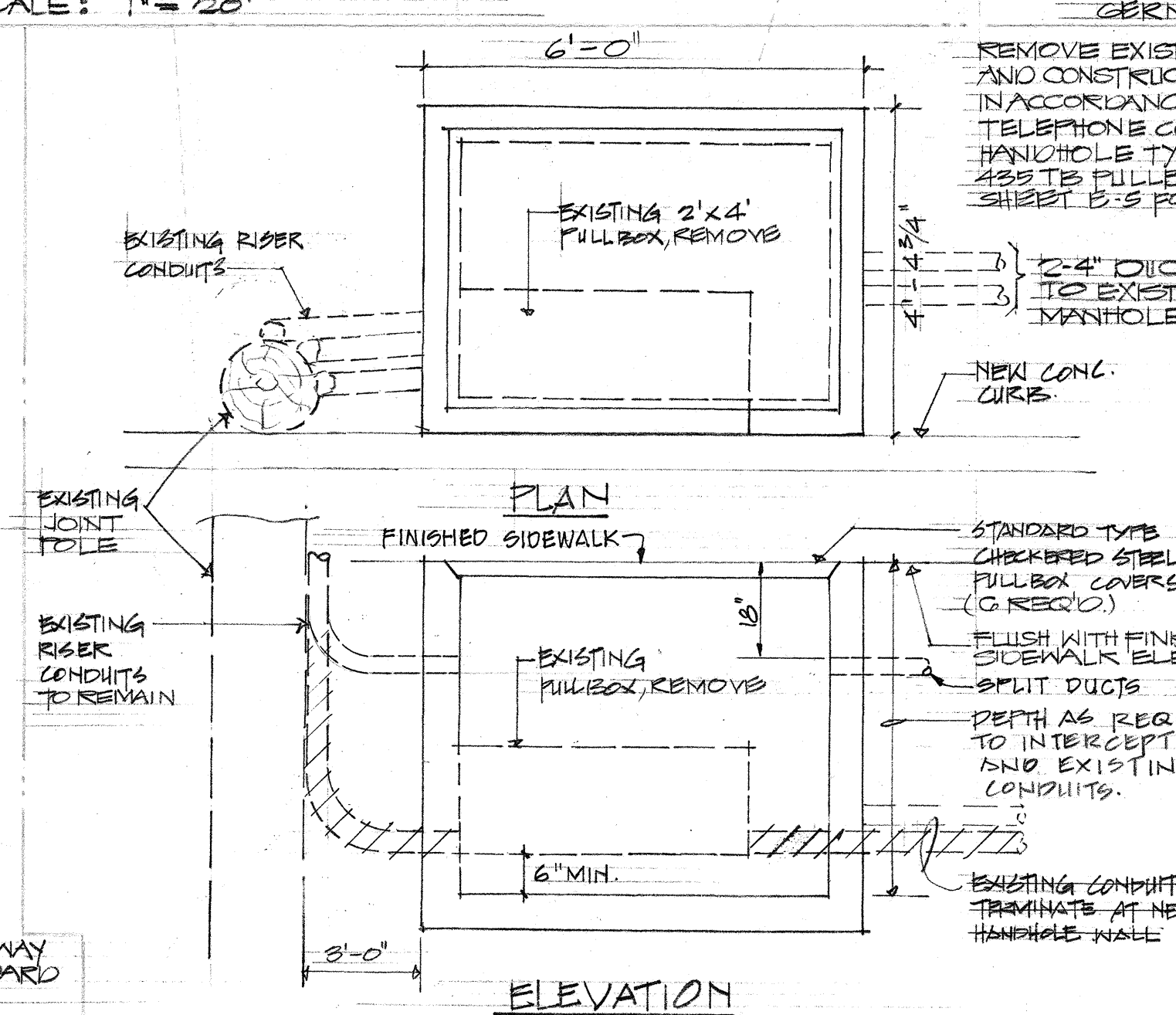
REVISED: JUNE 18, 1970



PARTIAL ELECTRICAL PLAN - SECTION I
STA 0+00 TO STA 5+70
SCALE: 1" = 20'

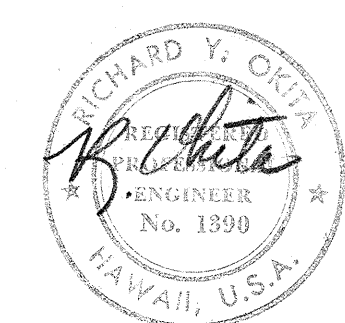


(A-E-2) HIGHWAY LIGHTING PULLBOX DETAIL
NOT TO SCALE
FOR TYPICAL CONSTRUCTION DETAIL SEE DETAIL (B-E-2)



(B-E-2) TELEPHONE HANDHOLE DETAIL
NOT TO SCALE
FOR TYPICAL CONSTRUCTION DETAIL SEE DETAIL (A-E-2)

APPROVED
AGT by *Officer [Signature]* 7/25/69
HAWAIIAN ELECTRIC CO., INC.
Checked by *[Signature]* 8-7-69
HAWAIIAN TELEPHONE CO.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

PARTIAL ELECTRICAL PLAN
SECTION I
STA 0+00 TO STA 5+70

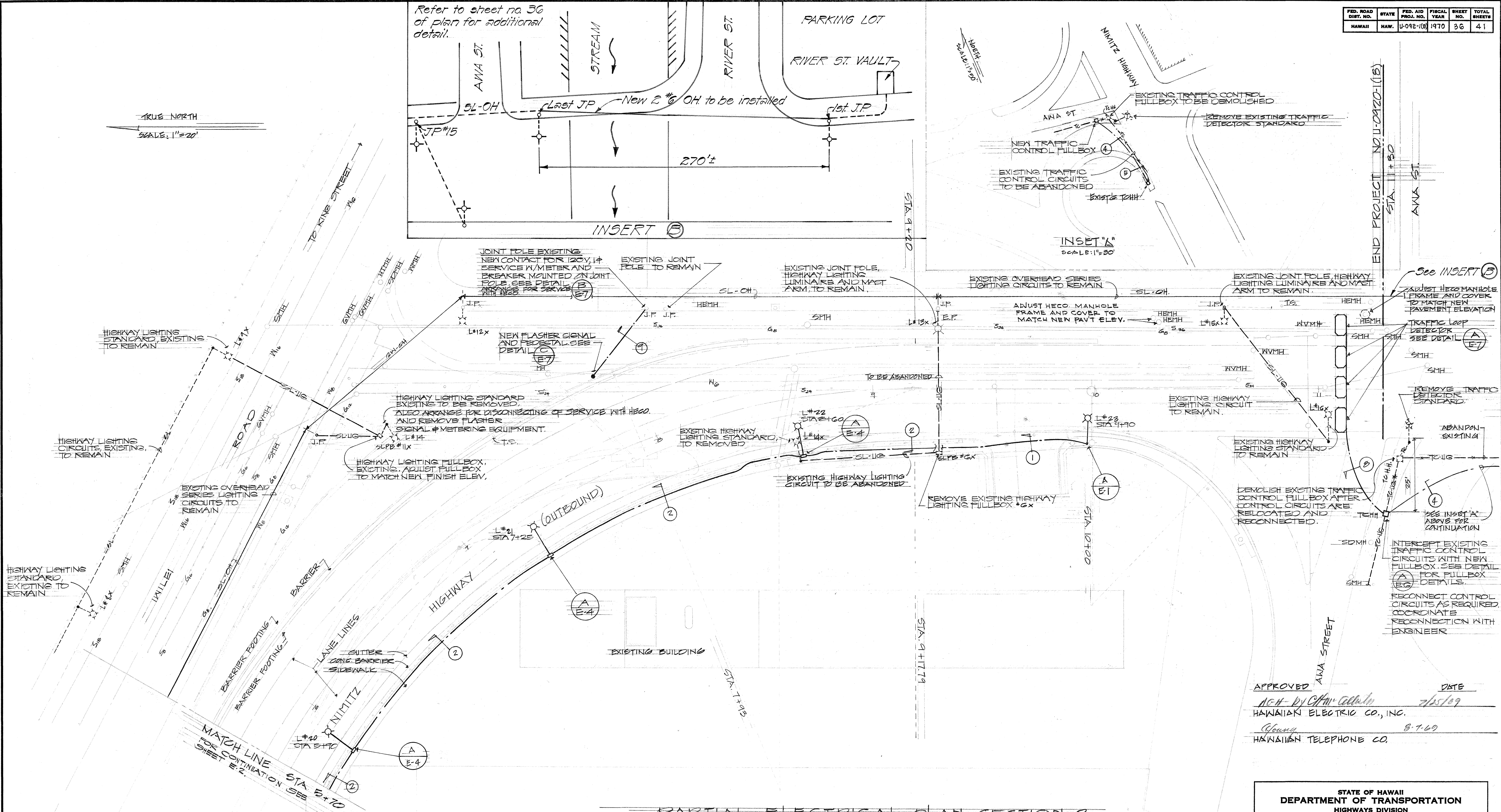
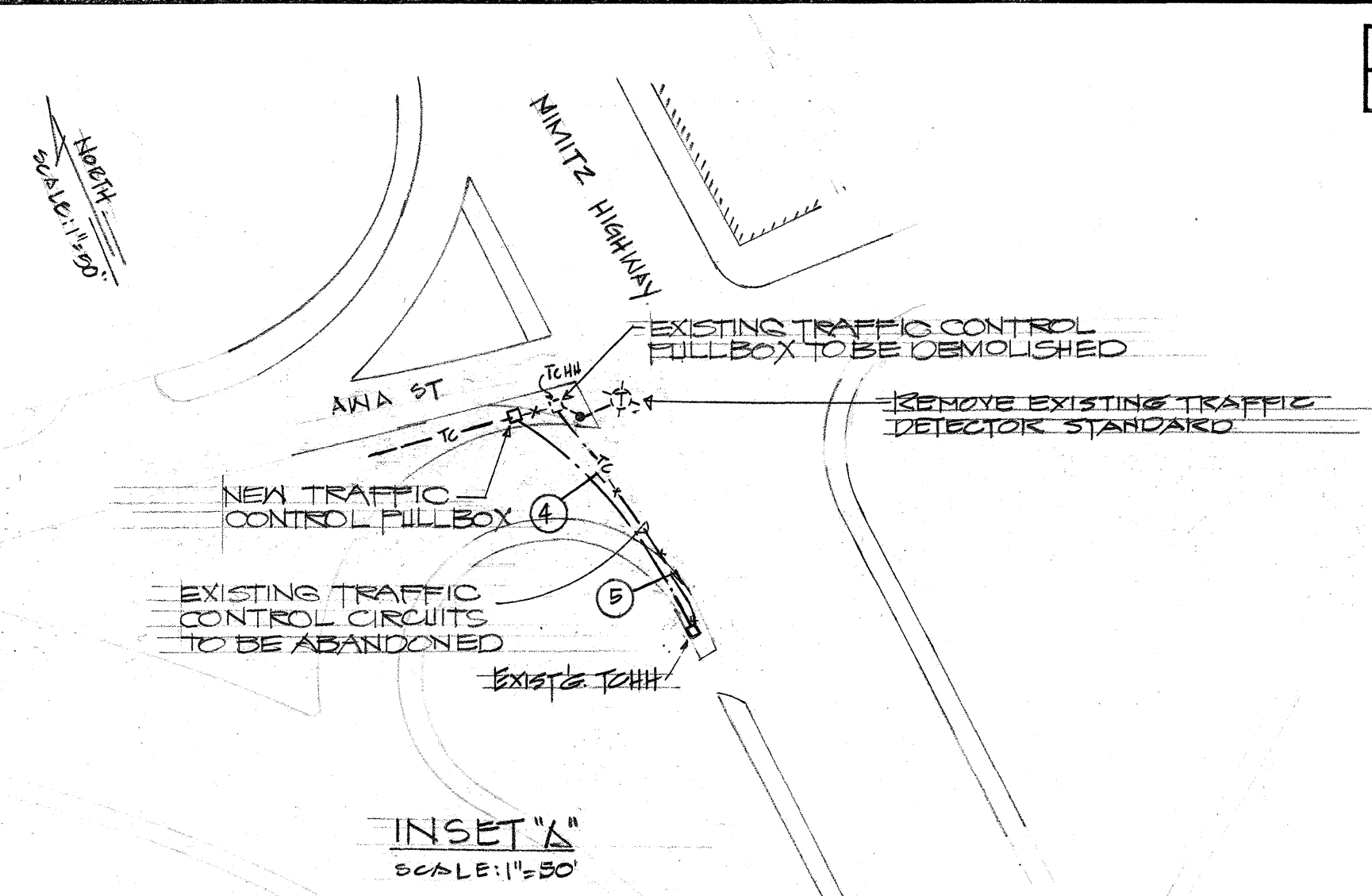
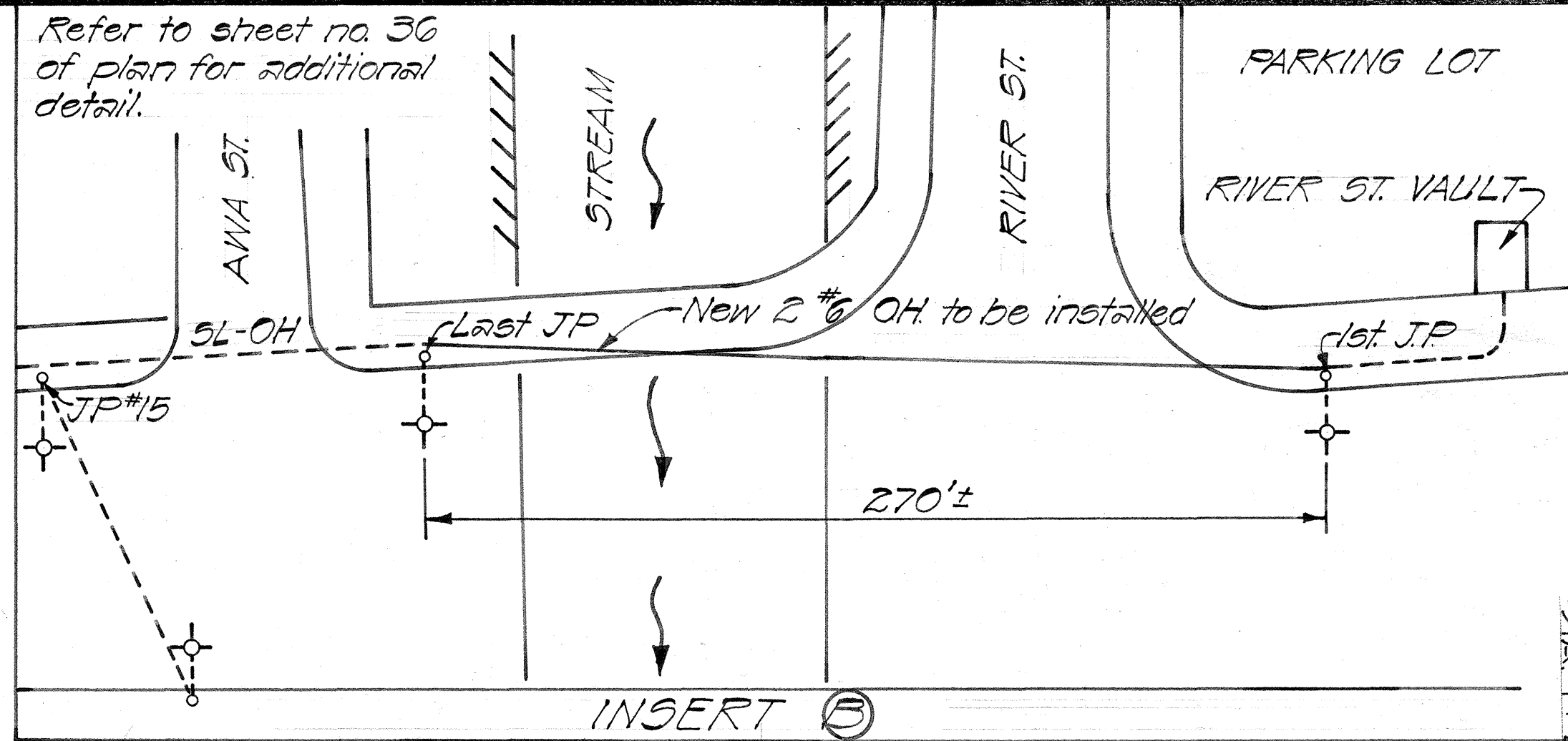
NIMITZ HIGHWAY IMPROVEMENTS
SUMNER STREET TO ANA STREET
PROJECT NO. U-092-1 (8)

SCALE: AS NOTED DATE: 10 DEC 1969

SHEET No. 2 OF 8 SHEETS (E-2)

TRUE NORTH
SCALE: 1"=20'

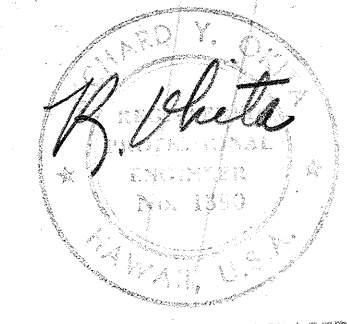
Refer to sheet no. 36 of plan for additional detail.



PARTIAL ELECTRICAL PLAN-SECTION 2
STA 5+70 TO STA 11+30
SCALE: 1"=20'

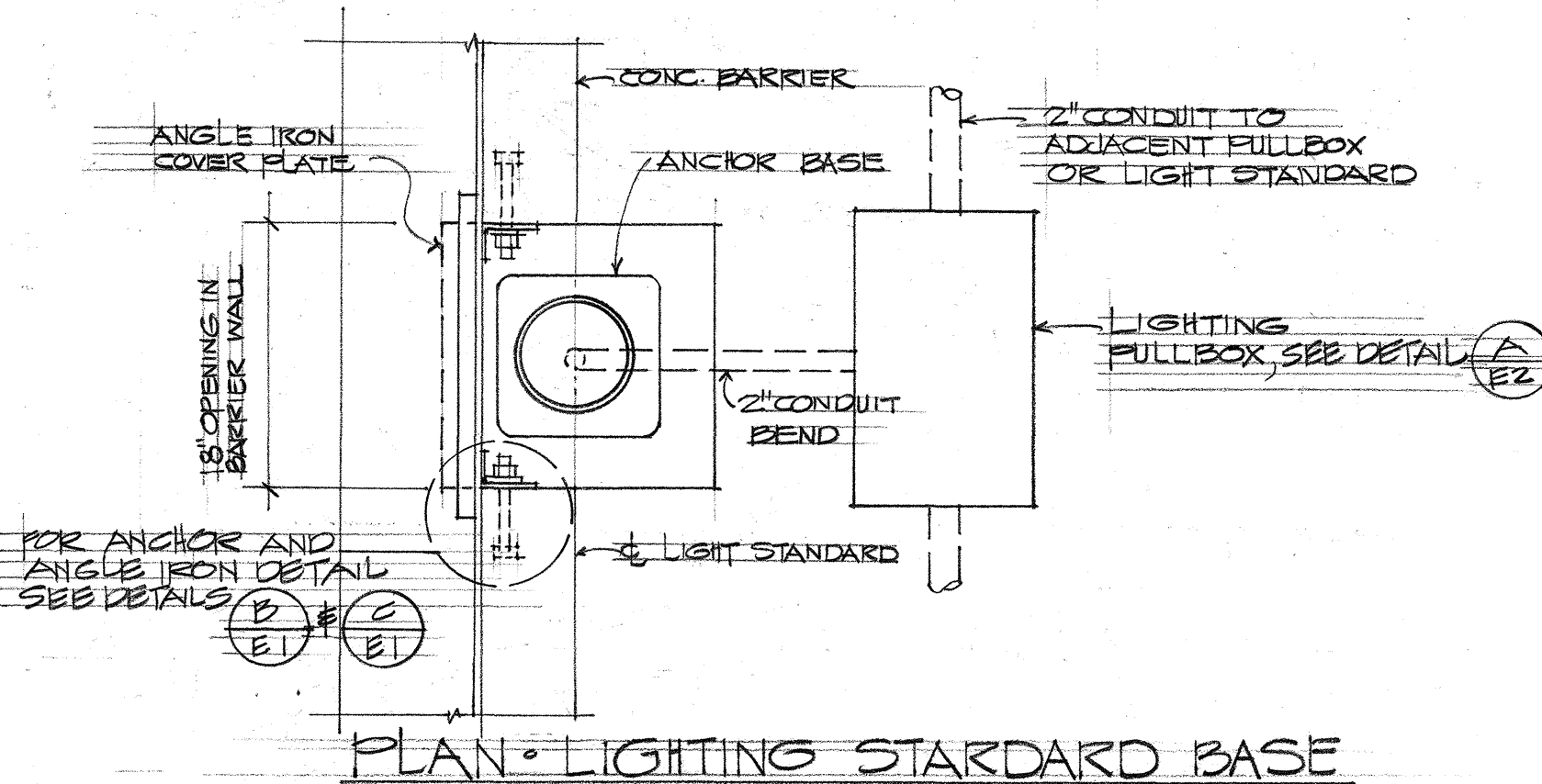
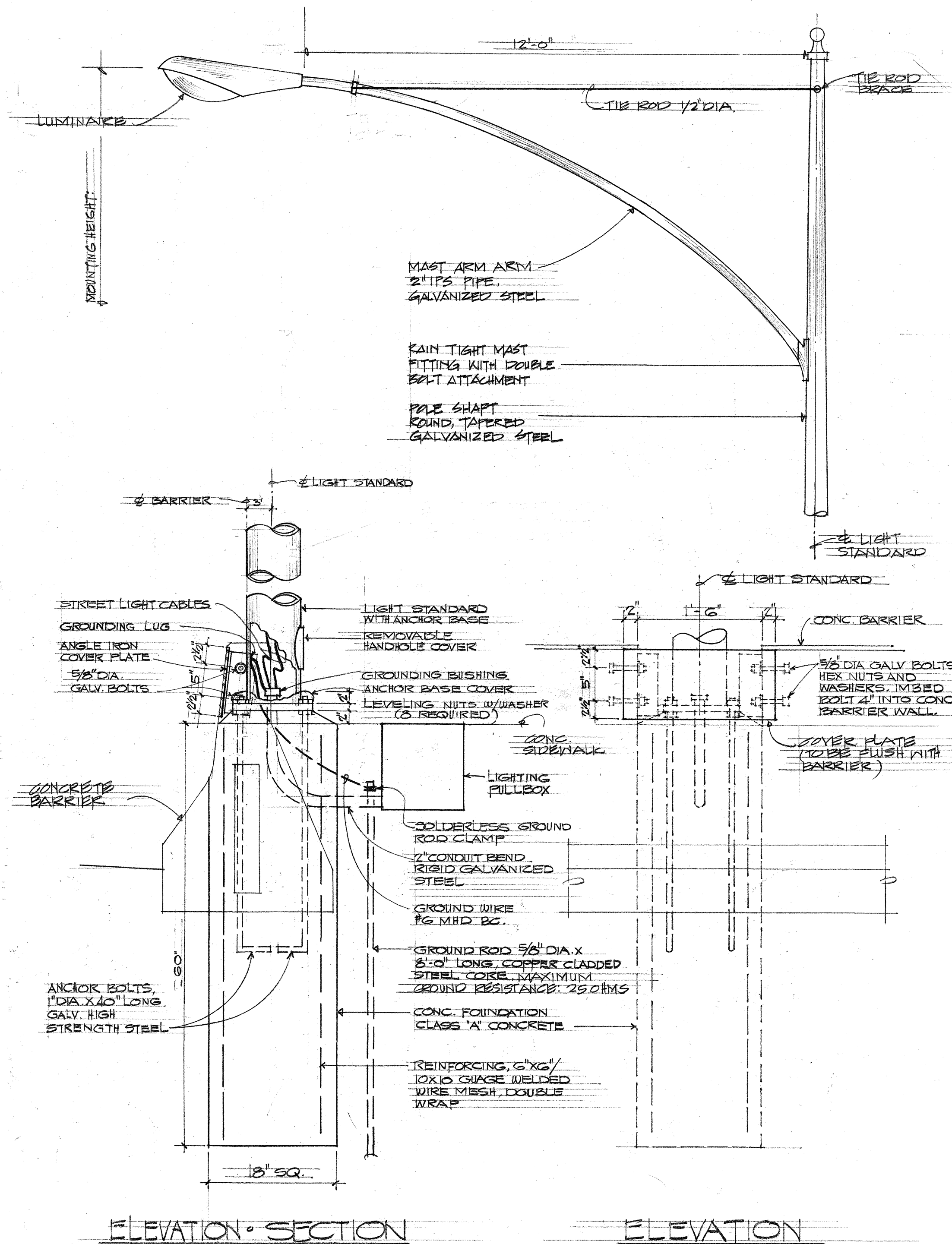
APPROVED _____ DATE 7/25/69
HAWAIIAN ELECTRIC CO., INC.
HAWAIIAN TELEPHONE CO.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
PARTIAL ELECTRICAL PLAN
SECTION 2
STA 5+70 TO STA 11+30
NIMITZ HIGHWAY IMPROVEMENTS
SUMNER STREET TO ANA STREET
PROJECT NO. U-092-1(8)
SCALE: AS NOTED DATE: 19 DEC 1969
SHEET No. 3 OF 8 SHEETS (E-3)

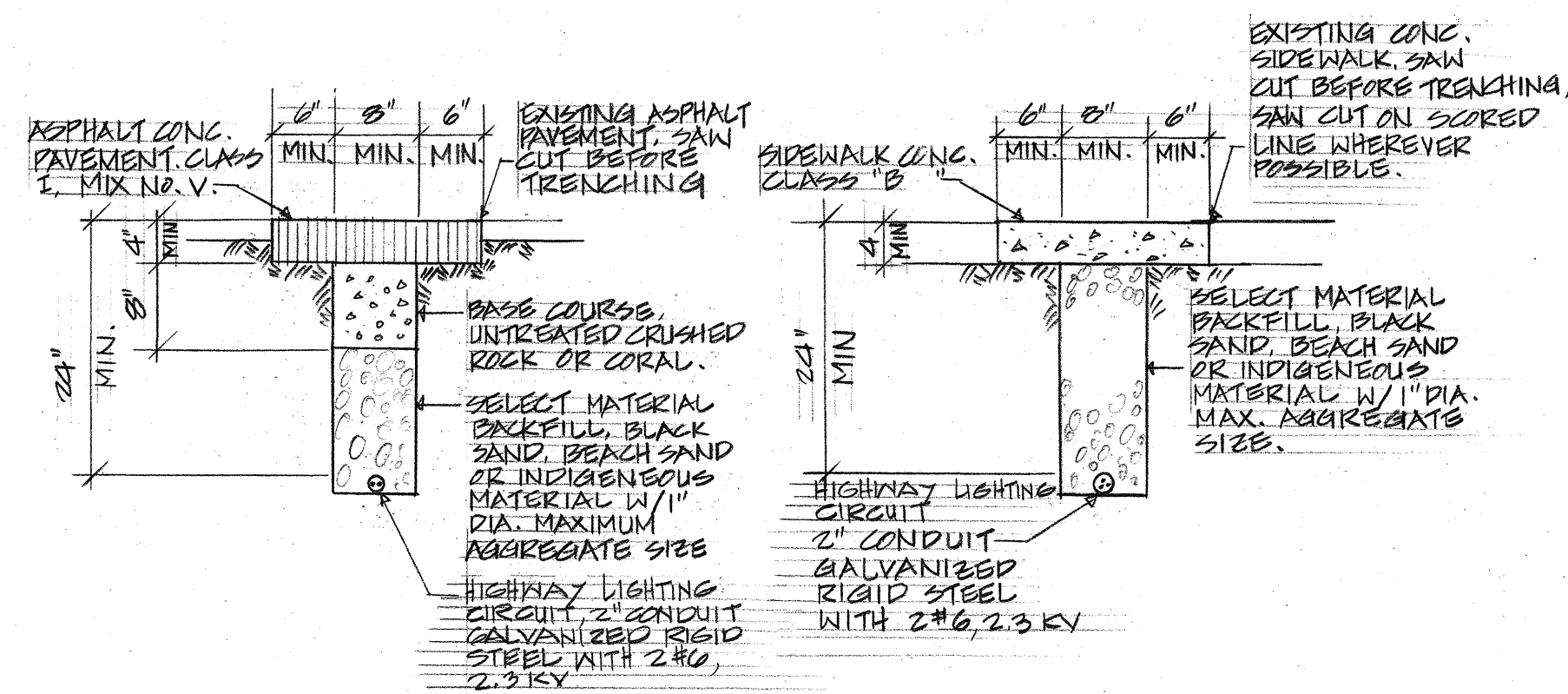


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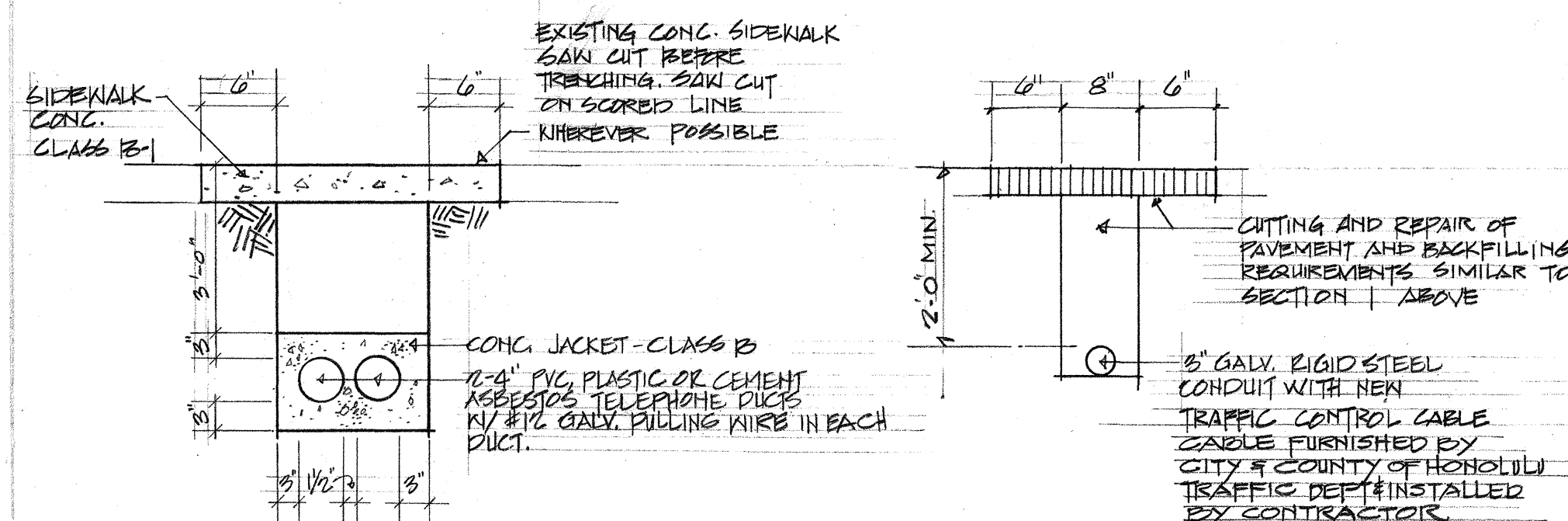
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-092-1(8)	1970	37	41



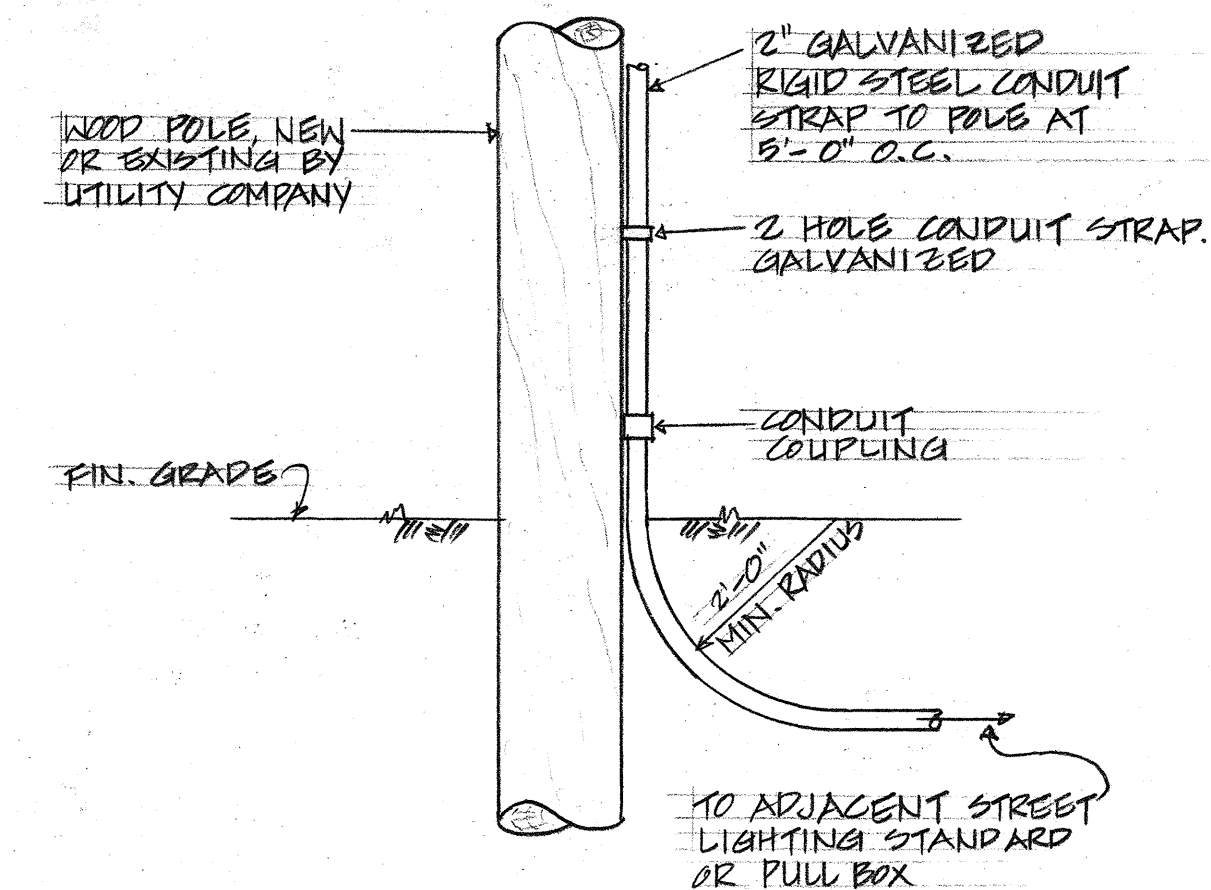
(A) HIGHWAY LIGHTING STANDARD - TYPE 2
(E-4) NOT TO SCALE



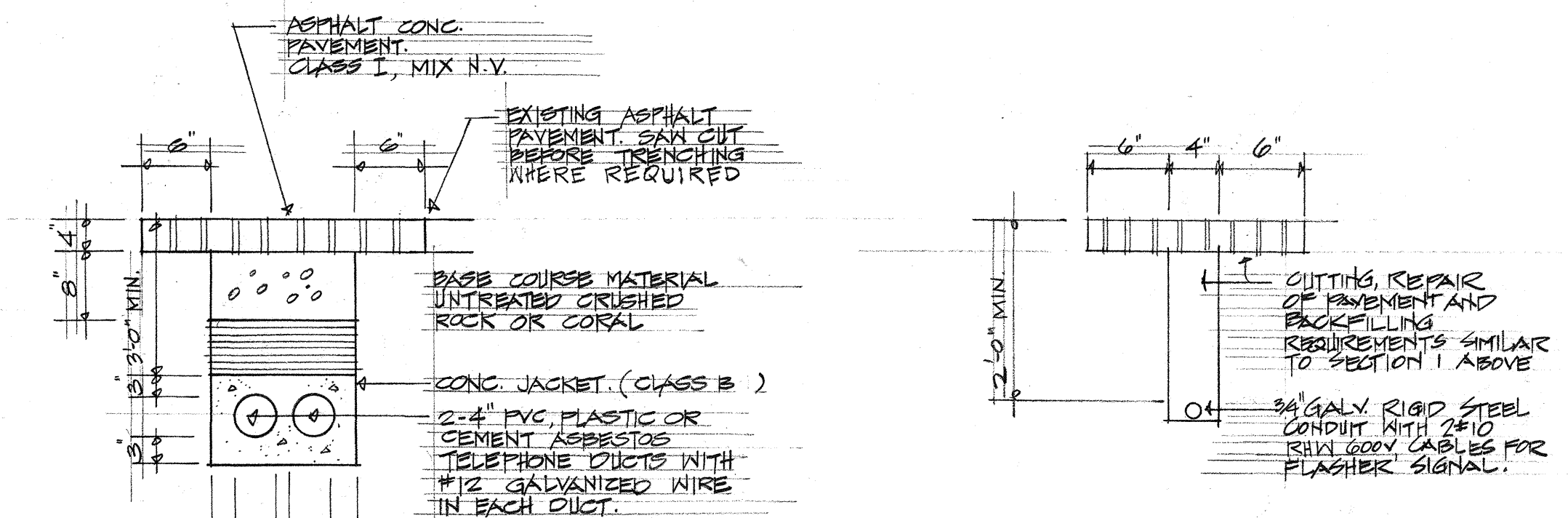
SECTION _____ SECTION 2



SECTION 3 SECTION 4

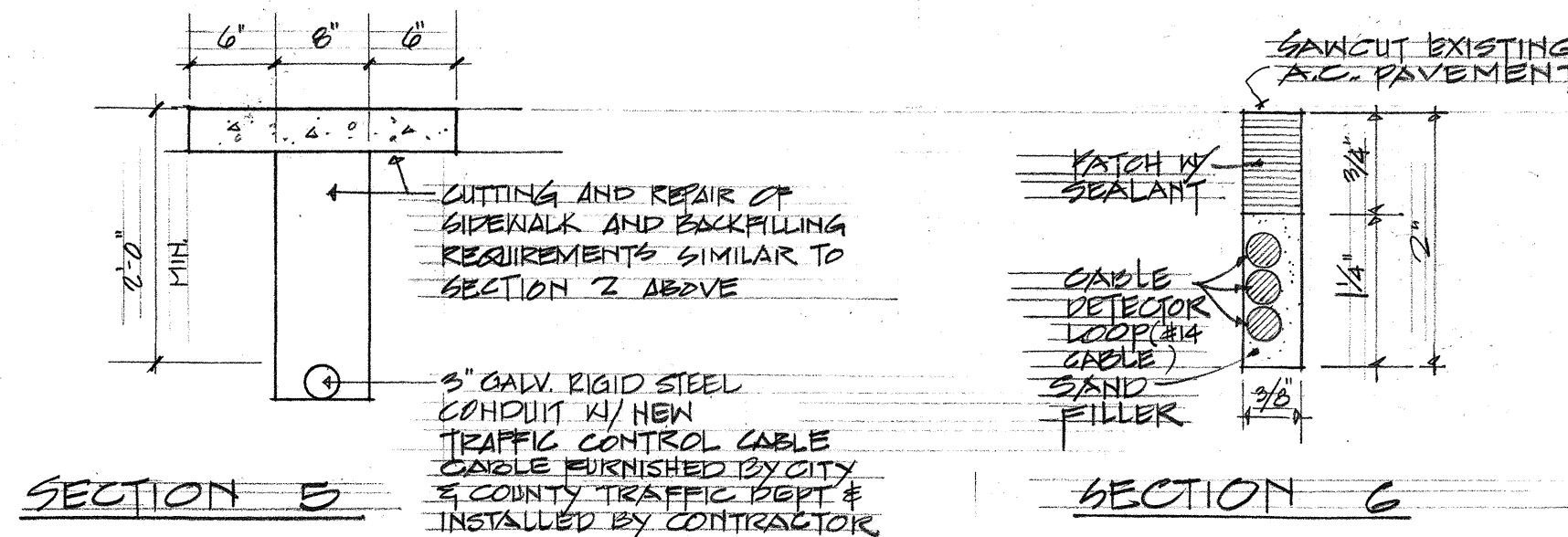


D TYPICAL POLE RISER DETAIL
E-4 NOT TO SCALE.



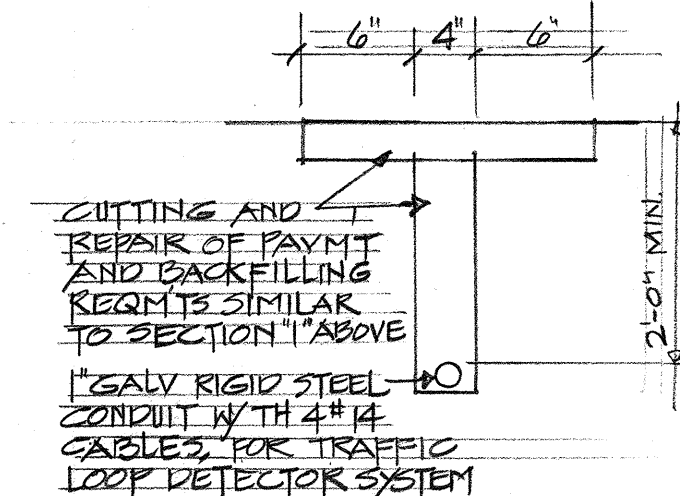
SECTION 9

<u>APPROVED</u>	<u>DATE</u>
<i>ACT by C/mtc Affinity</i>	<i>7/25/69</i>
HAWAIIAN ELECTRIC CO., INC.	
<i>C/young</i>	<i>8-7-69</i>
HAWAIIAN TELEPHONE CO.	



SECTION 5

C DUCT SECTIONS
E-4 NOT TO SCALE



SECTION

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

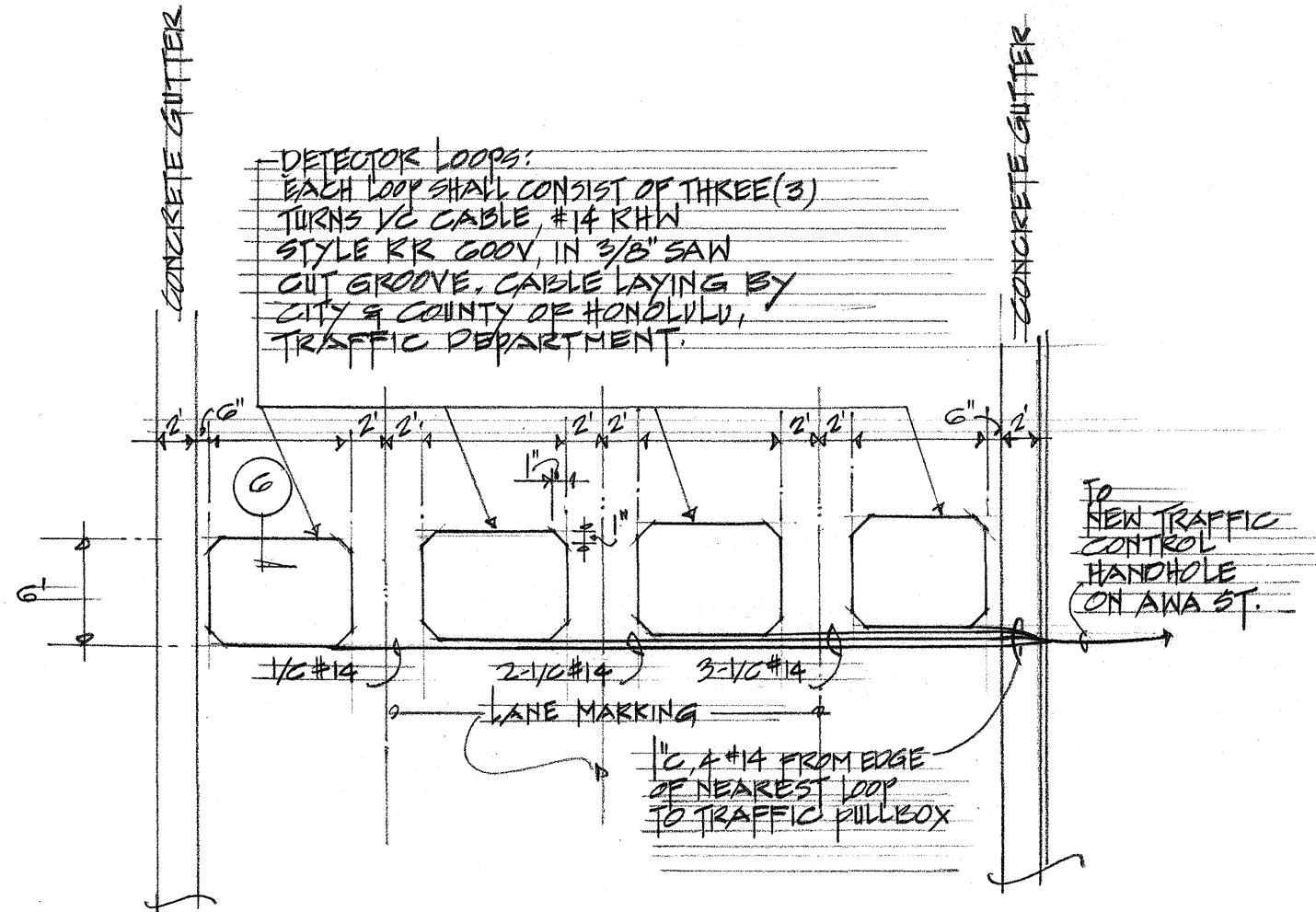
MISC. DETAILS

NIMITZ HIGHWAY IMPROVEMENTS
SUMNER STREET TO AWA STREET
PROJECT NO. U-092-1(8)

SCALE: AS NOTED DATE: 19 DEC 1969

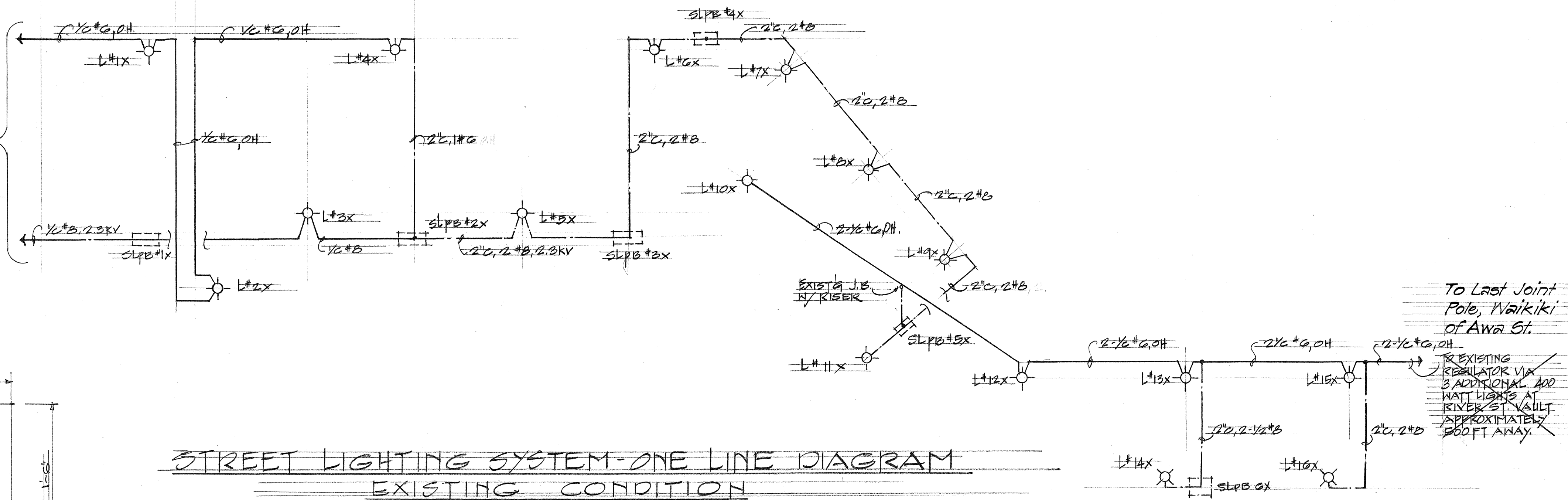
SHEET No. 4 OF 8 SHEETS (E-4)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-092-1(8)	1970	33	41

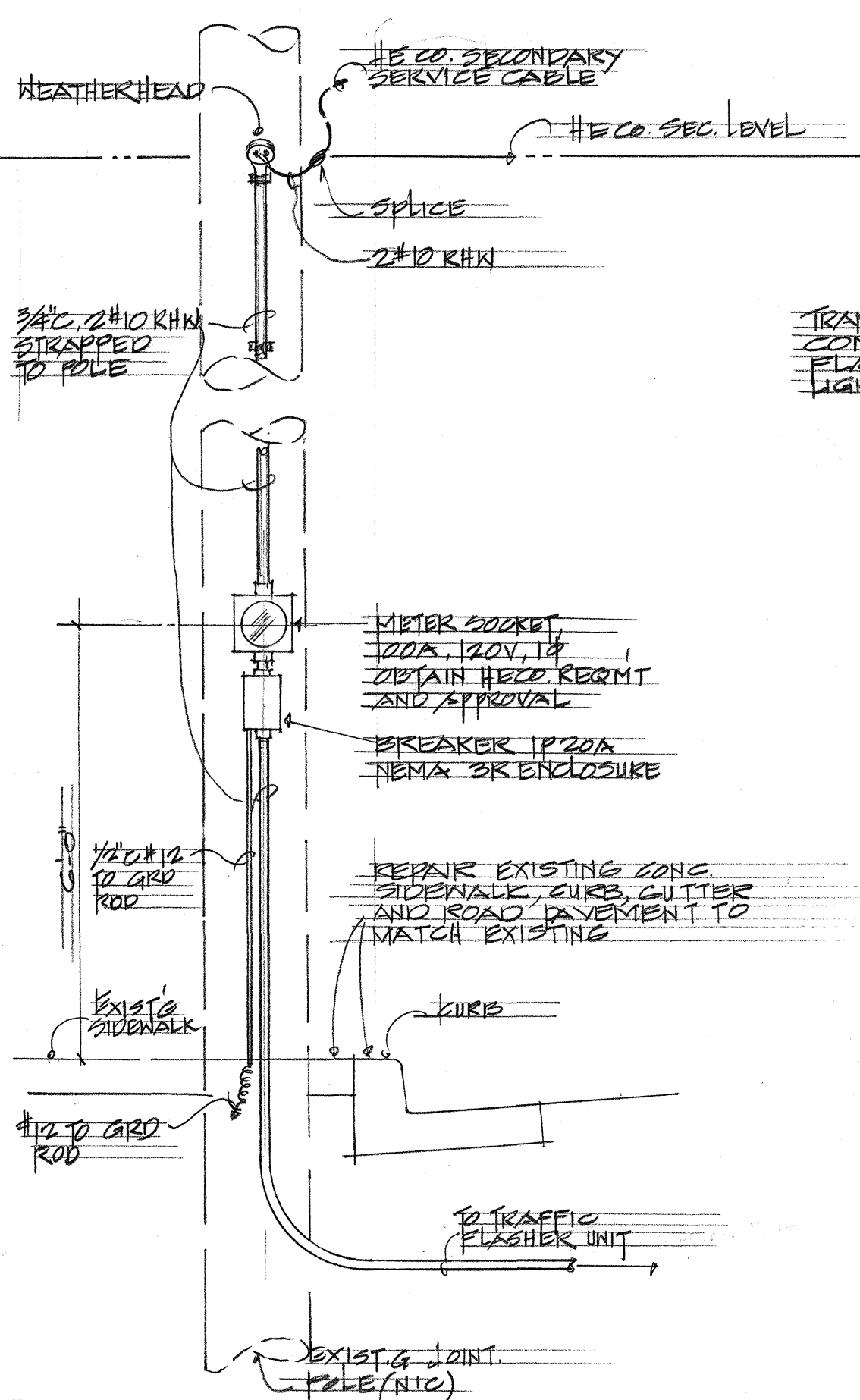


(A) DETAIL PLAN-TRAFFIC DETECTOR
E-1 LOOP INSTALLATION NOT TO SCALE

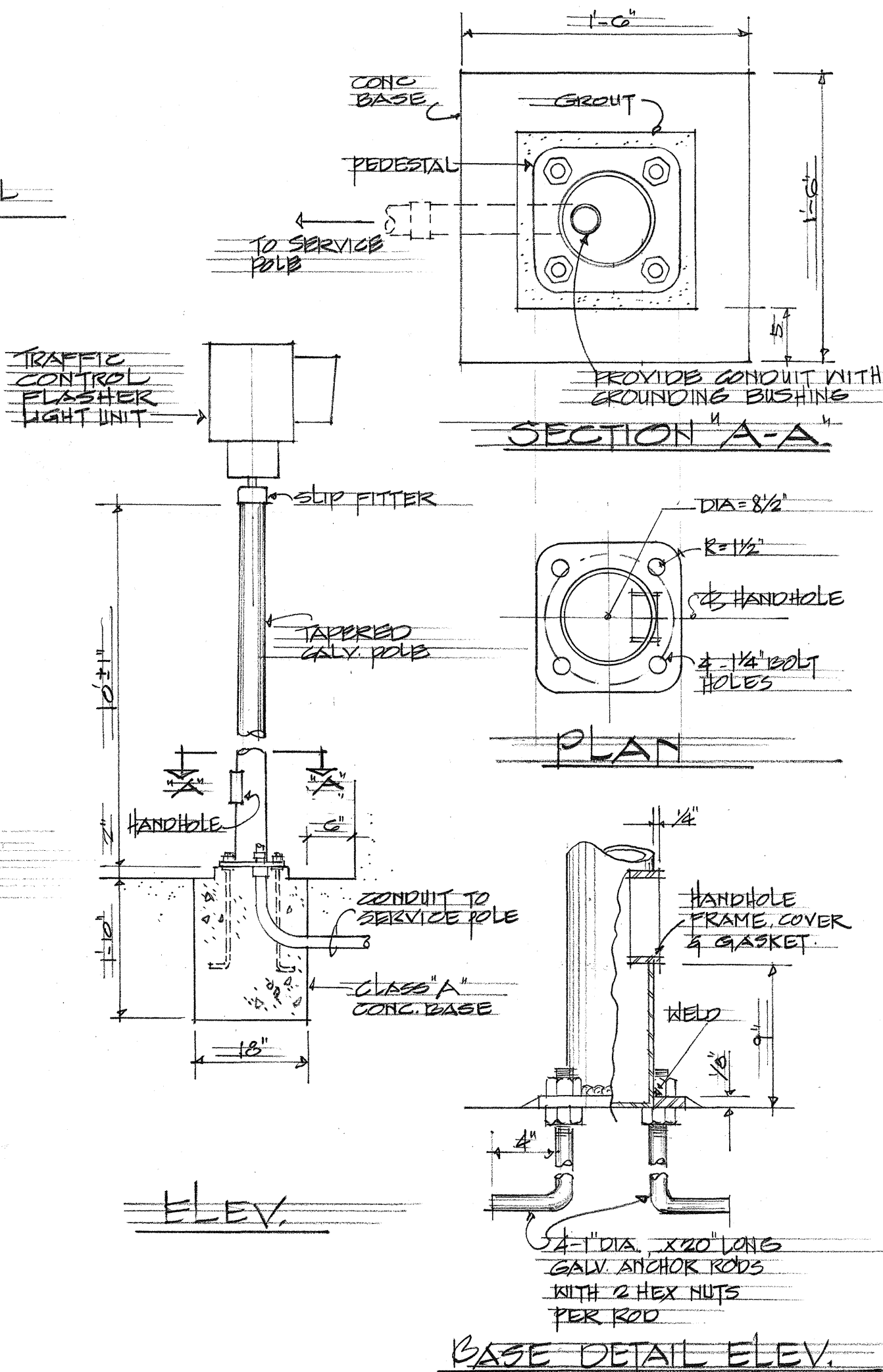
TO EXISTING
REGULATOR VIA
21 EXISTING
400V LIGHTS
REGULATOR:
20KV, 2.3KV
G.G.A.
(APPROXIMATELY
2200 FT. AWAY)



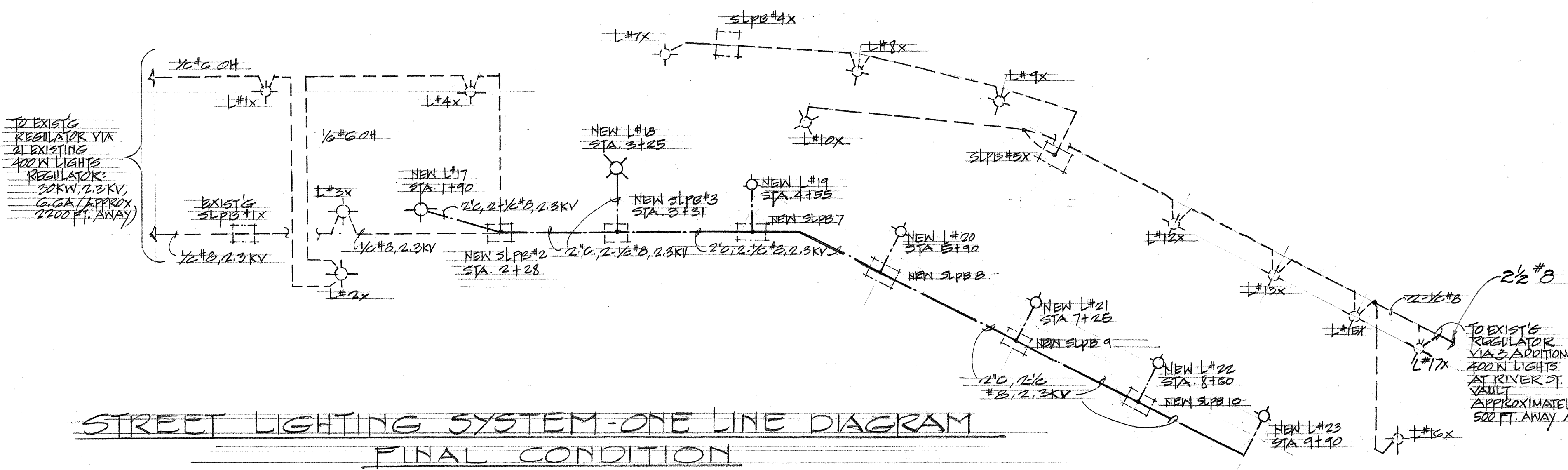
STREET LIGHTING SYSTEM-ONE LINE DIAGRAM
EXISTING CONDITION



(B) MOUNTING DETAIL OF
E-2 FLASHER SERVICE EQUIPMENT NOT TO SCALE



(C) TRAFFIC FLASHER
E-3 UNIT NOT TO SCALE



STREET LIGHTING SYSTEM-ONE LINE DIAGRAM
FINAL CONDITION

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

FLASHER DETAIL #ONE LINE DIAGRAM

NIMITZ HIGHWAY IMPROVEMENTS

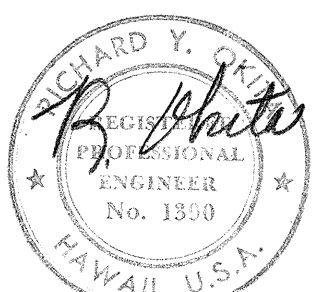
SUMNER STREET TO AWA STREET

PROJECT NO. U-092-1(8)

SCALE: AS NOTED

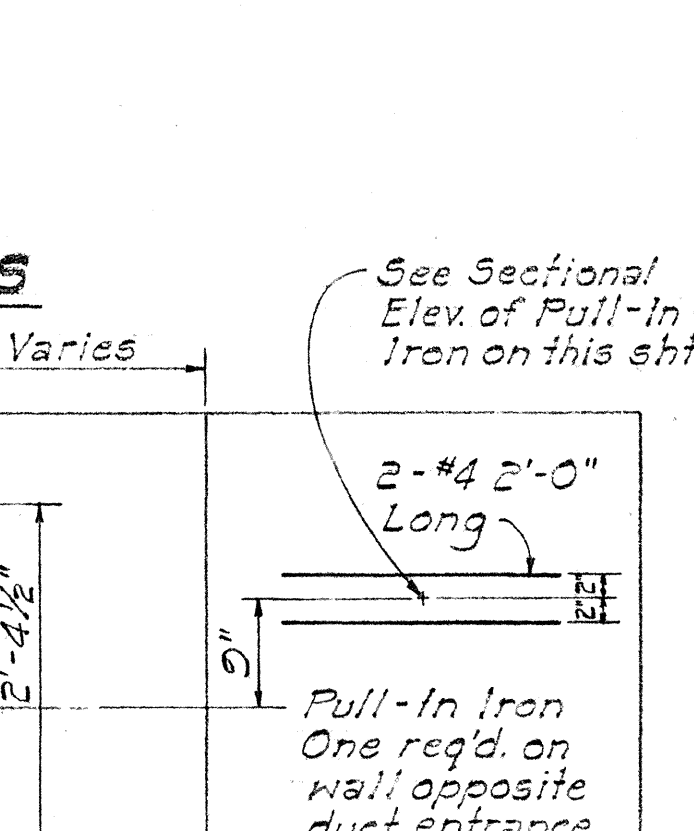
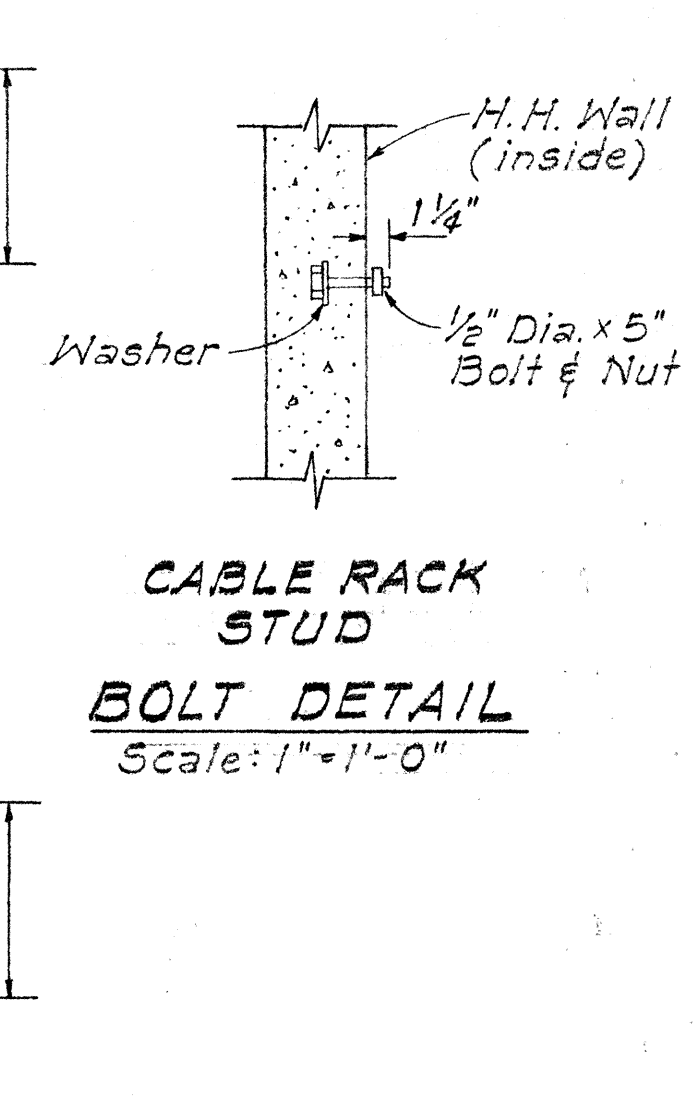
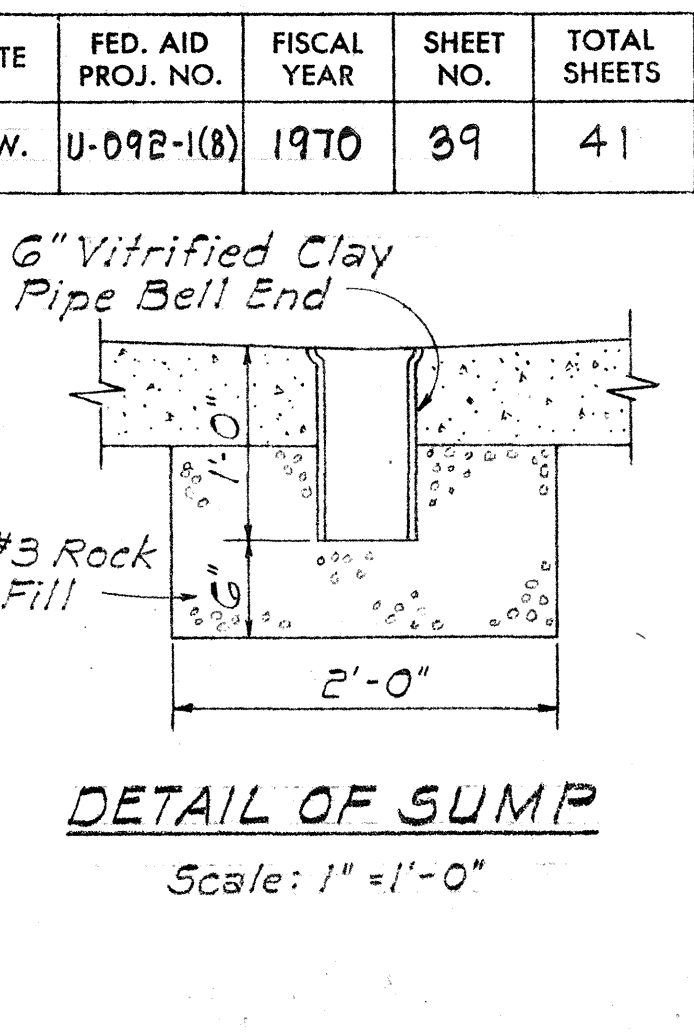
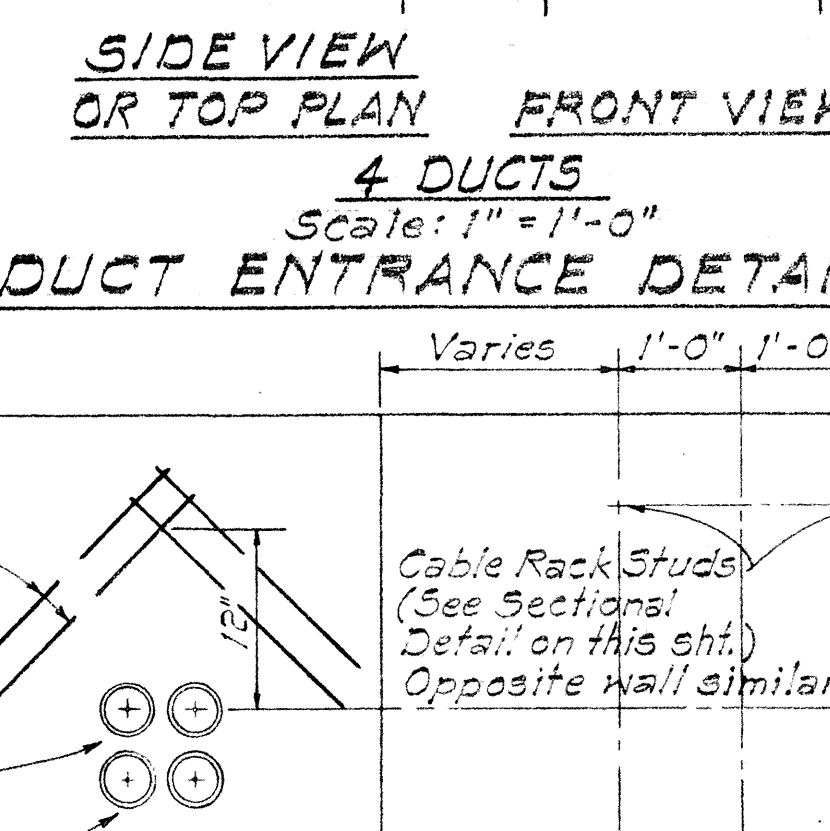
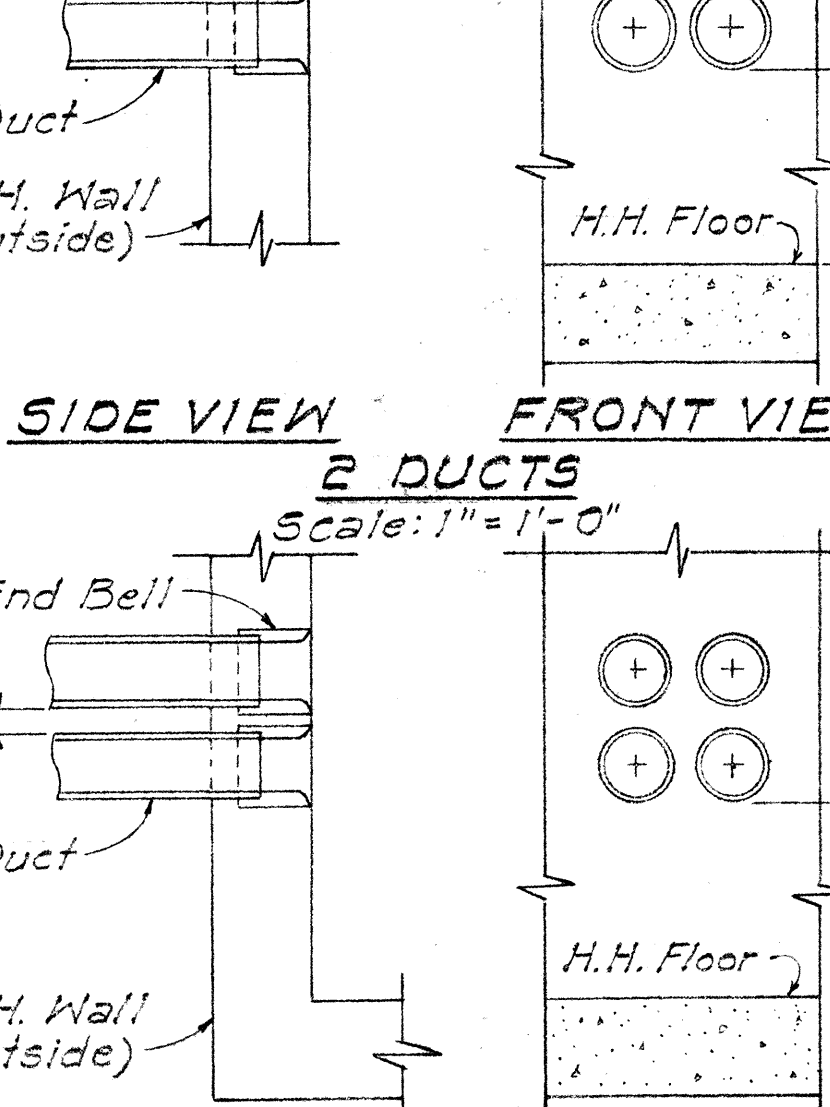
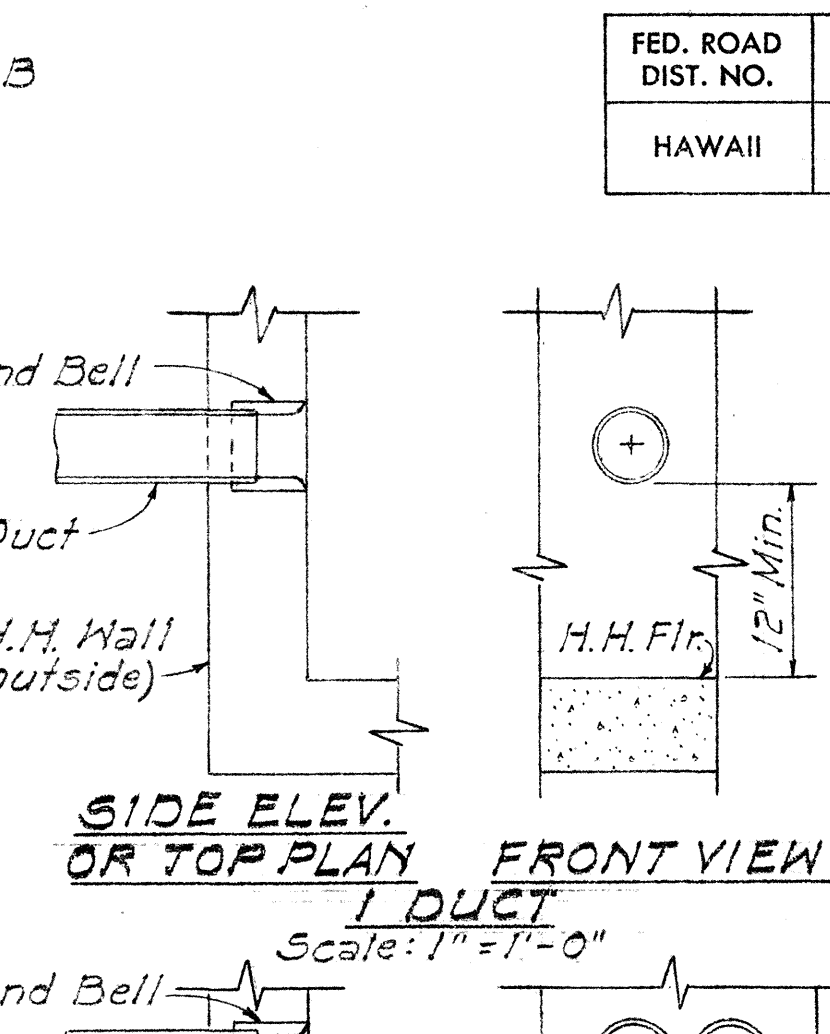
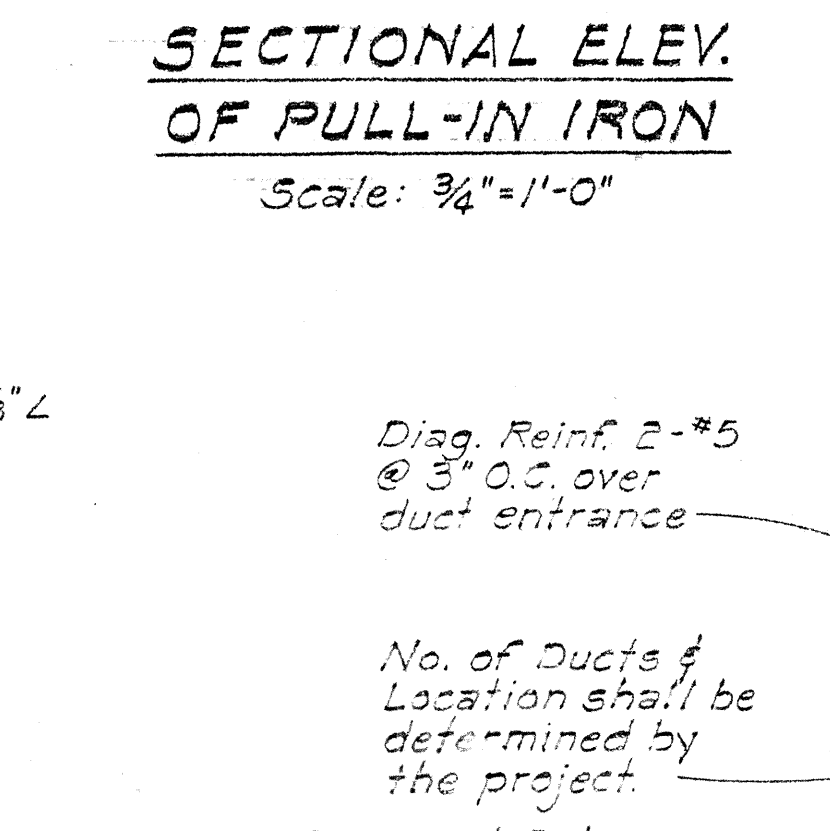
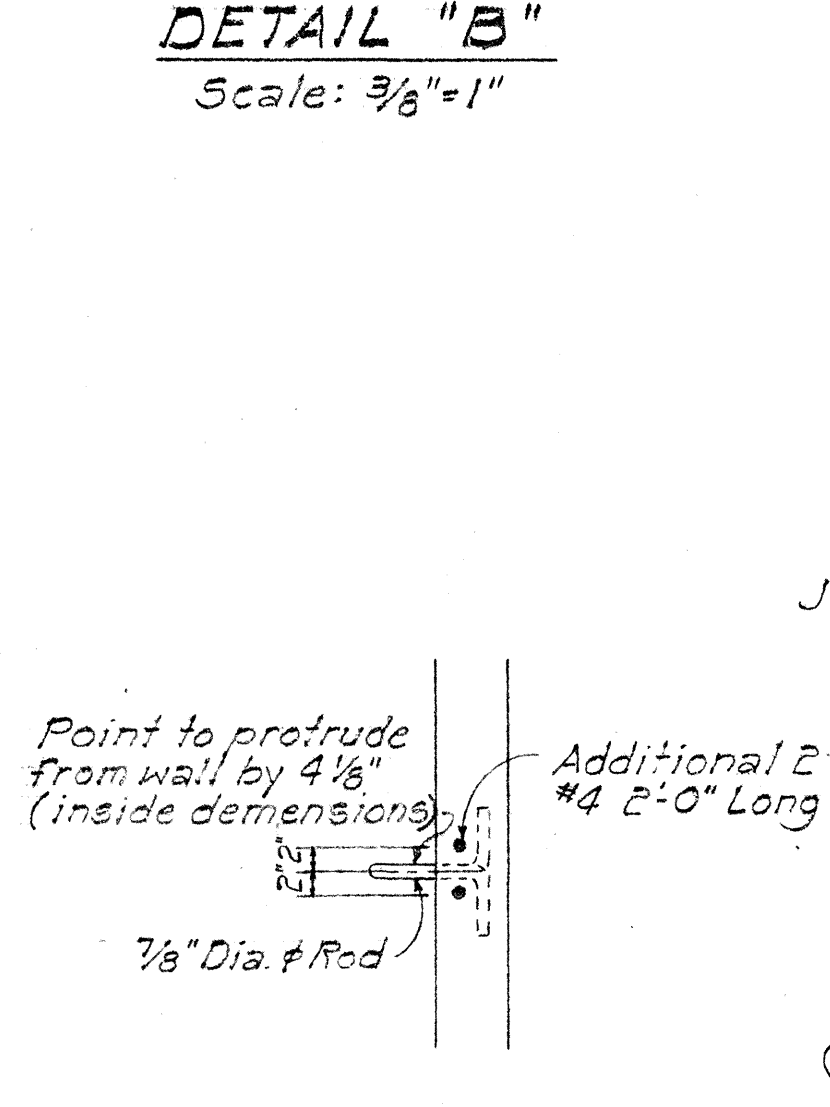
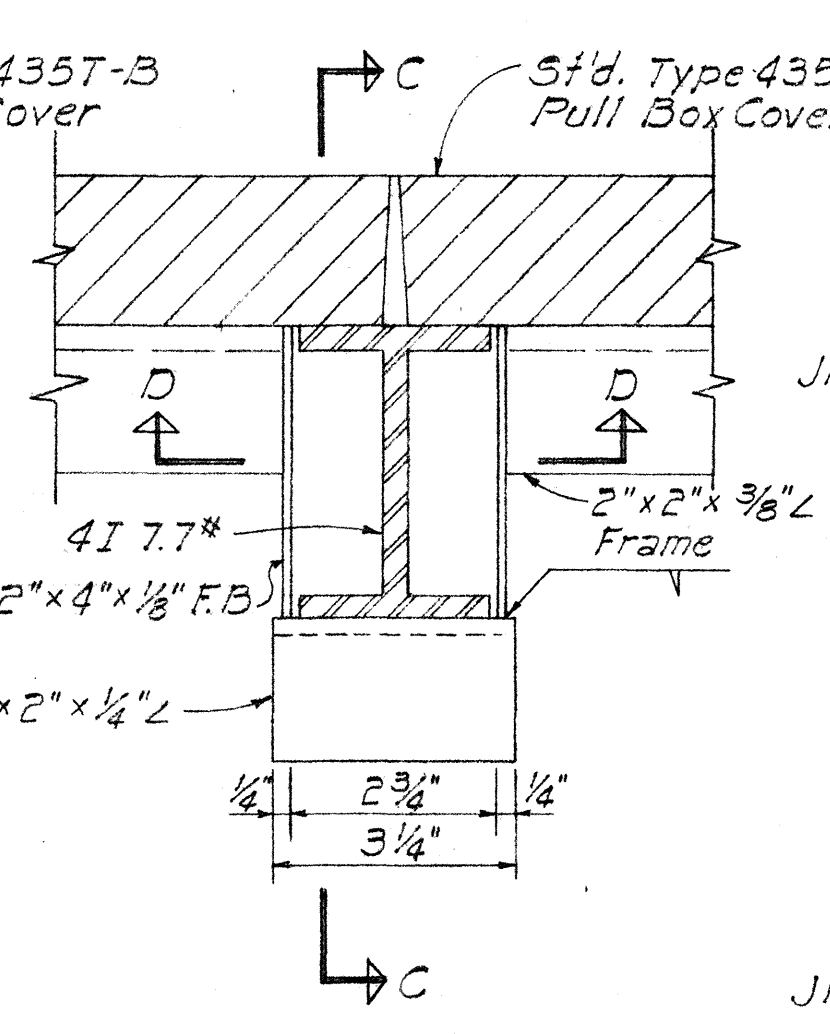
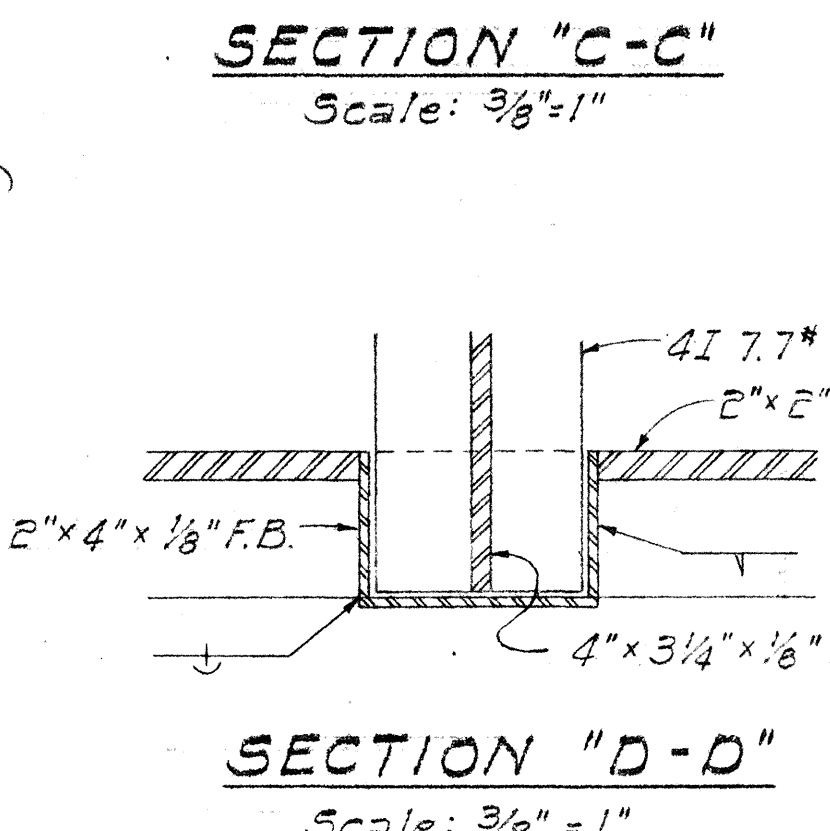
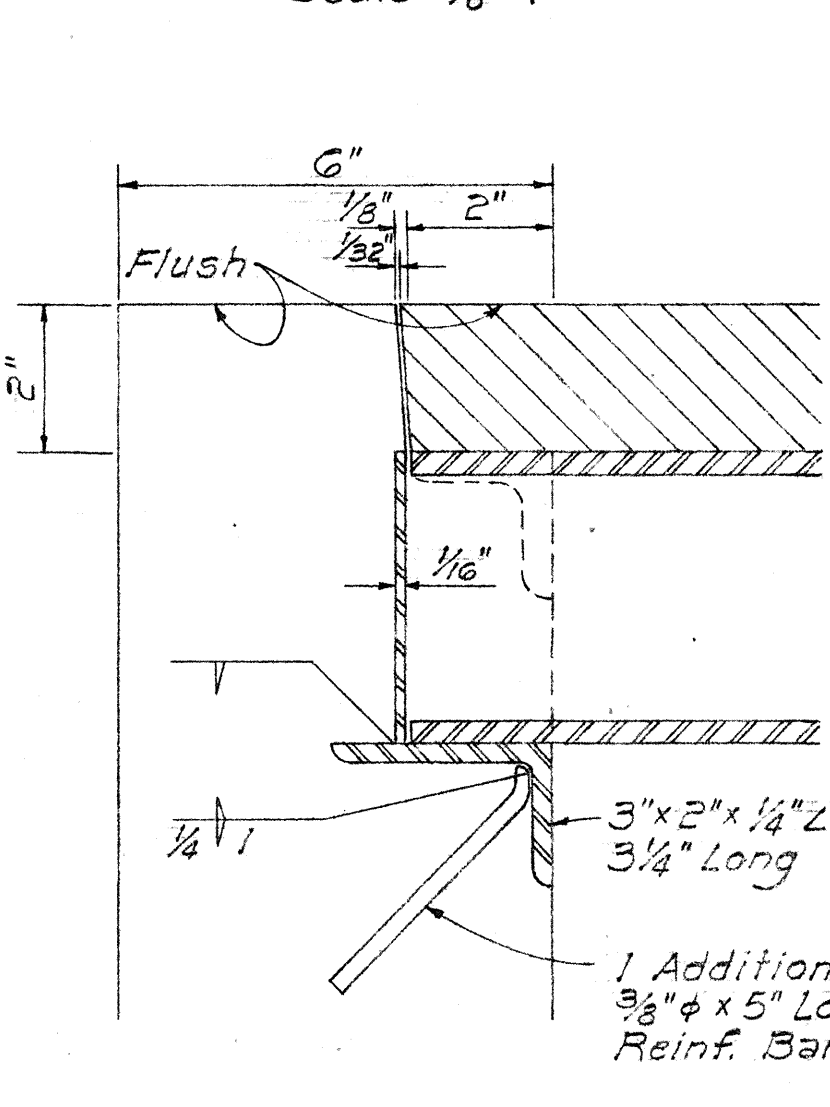
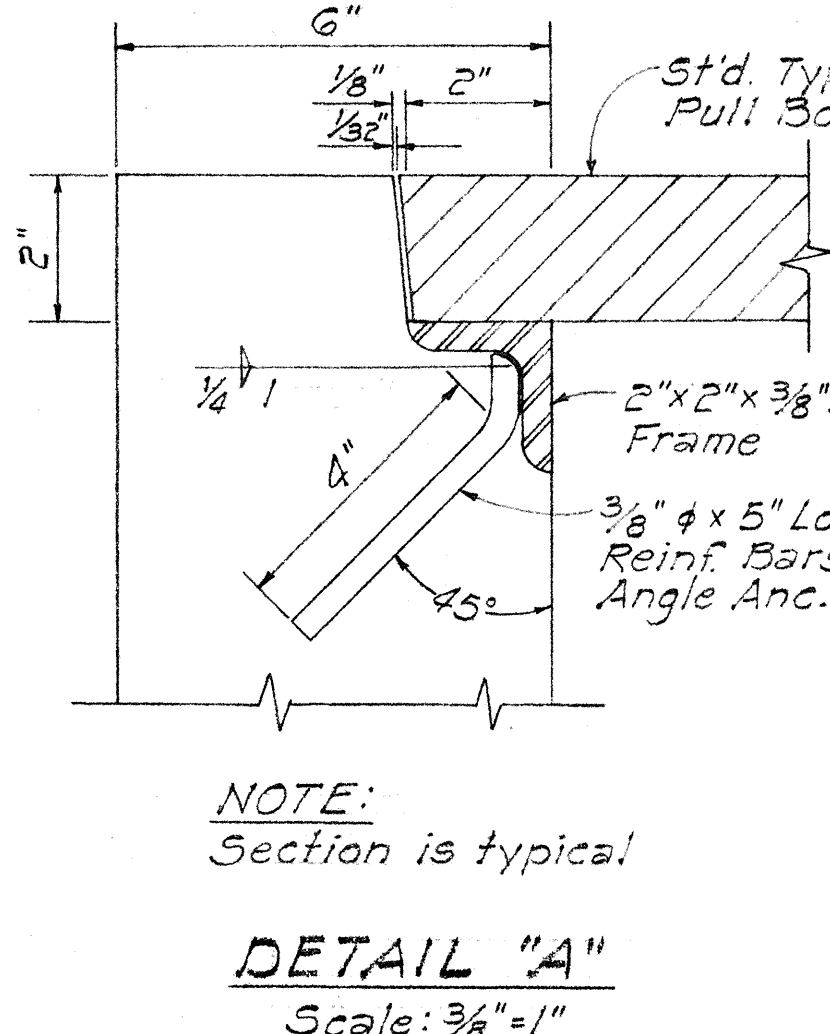
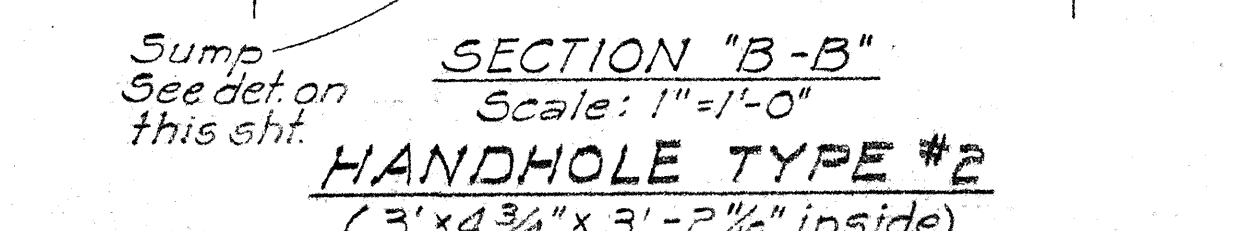
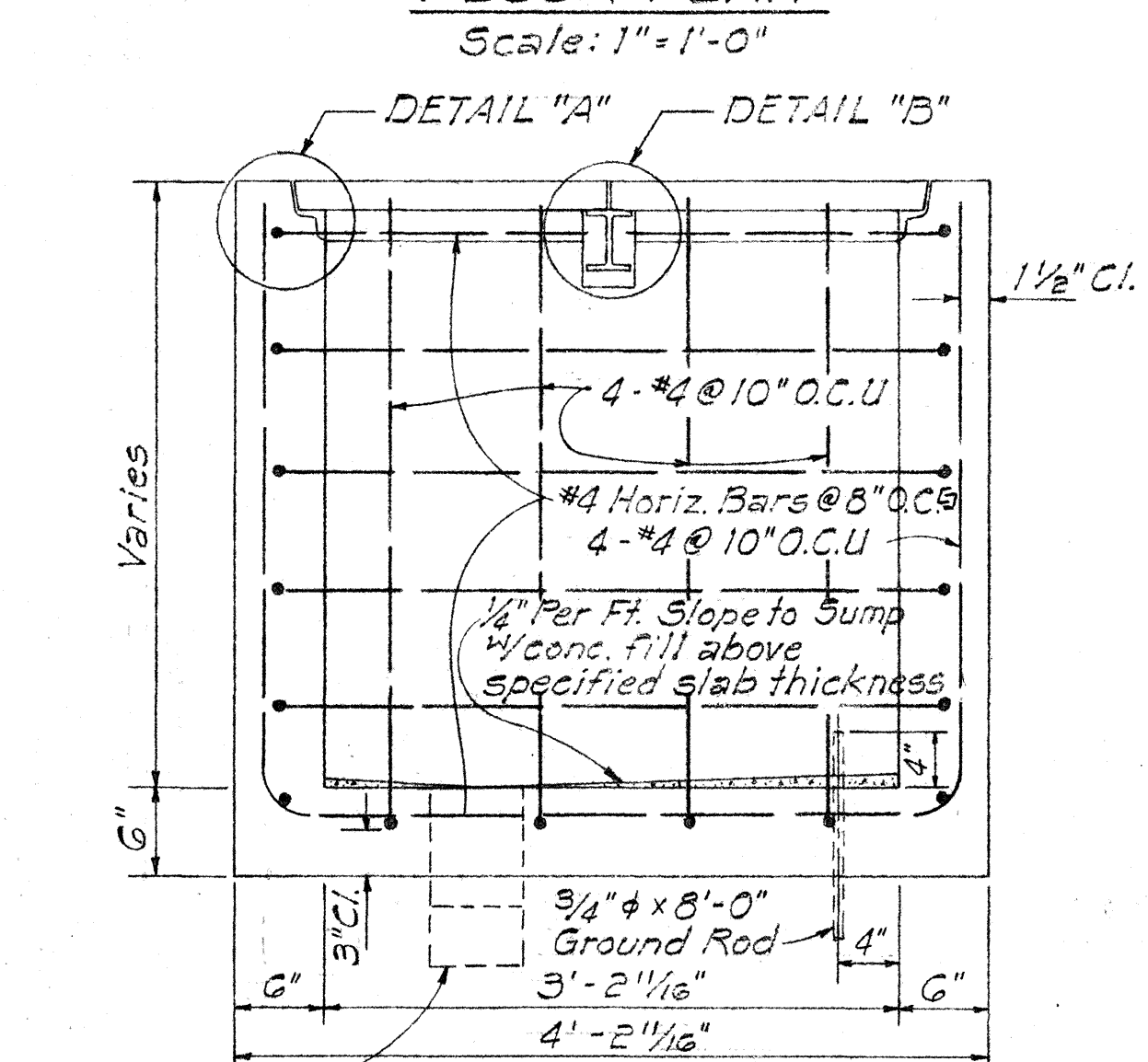
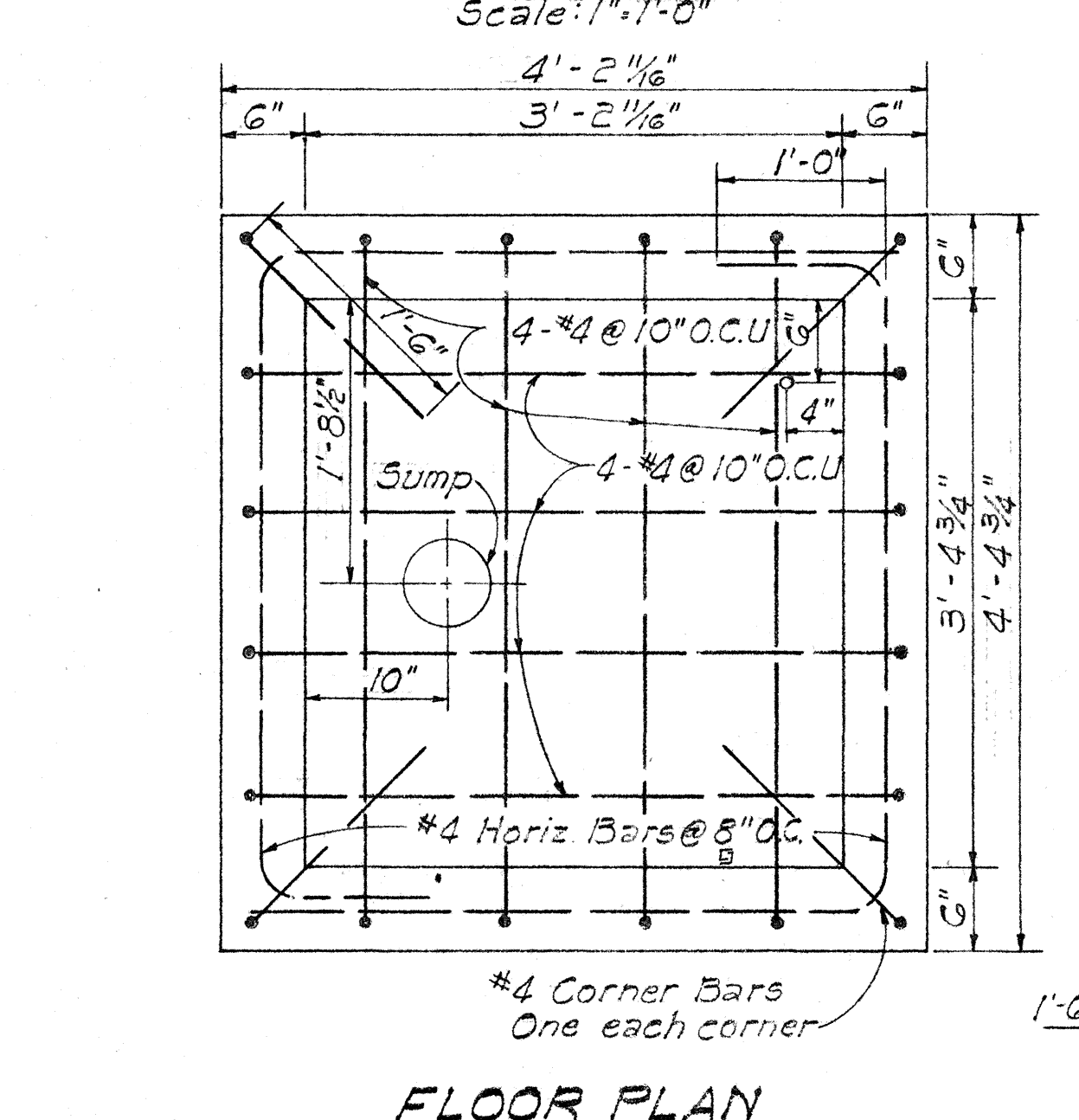
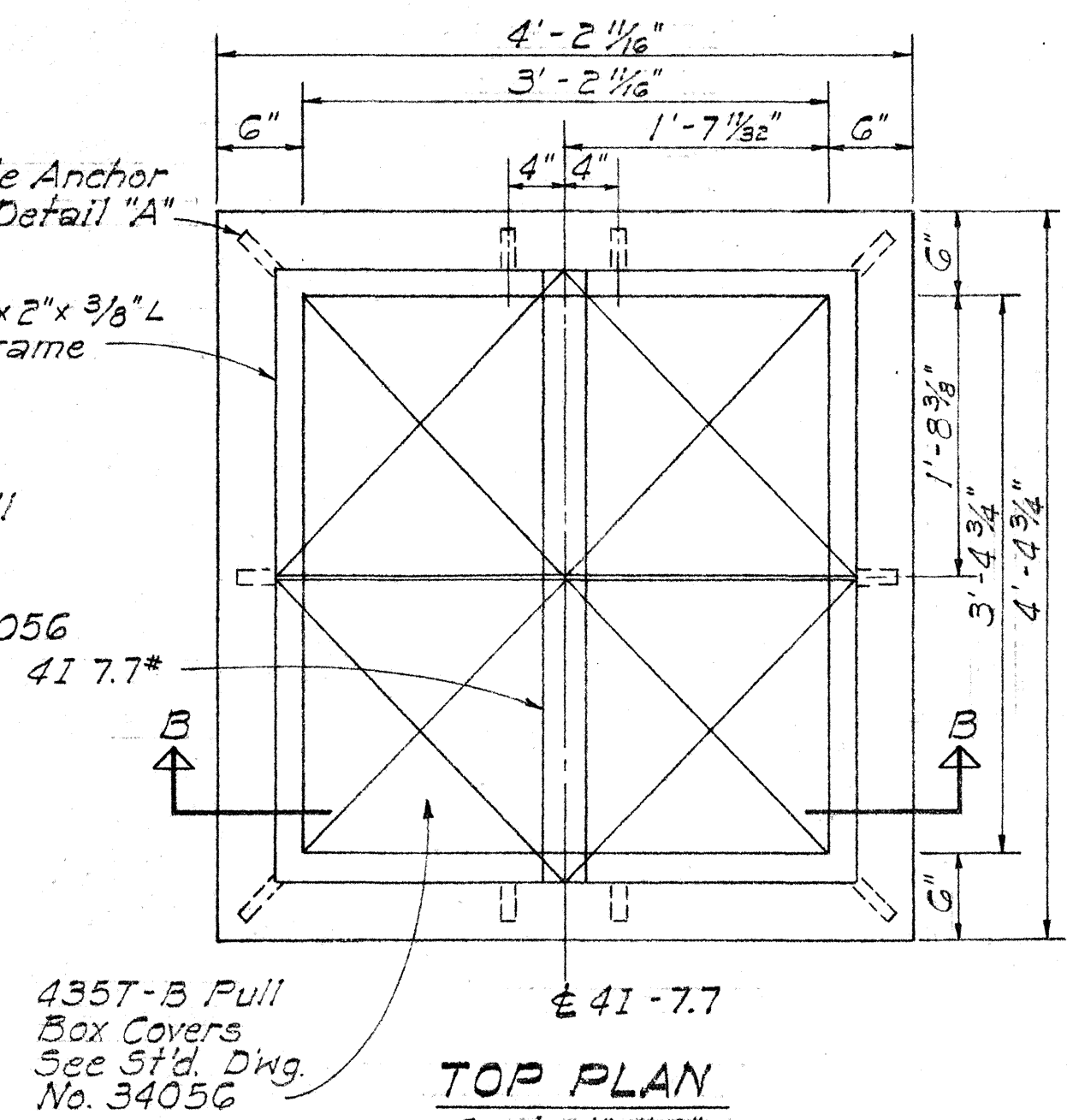
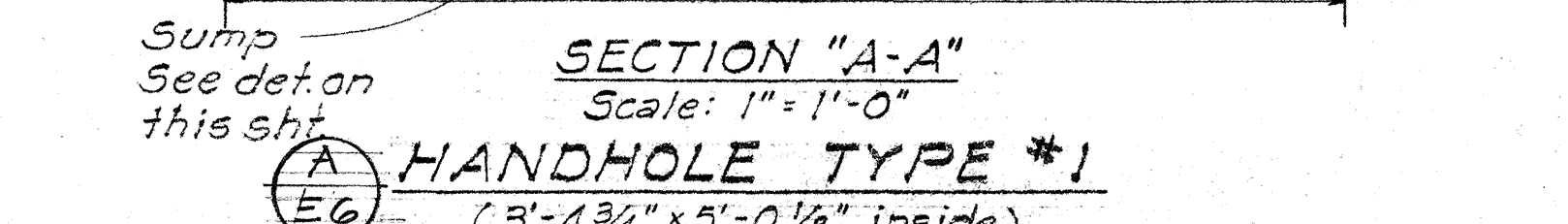
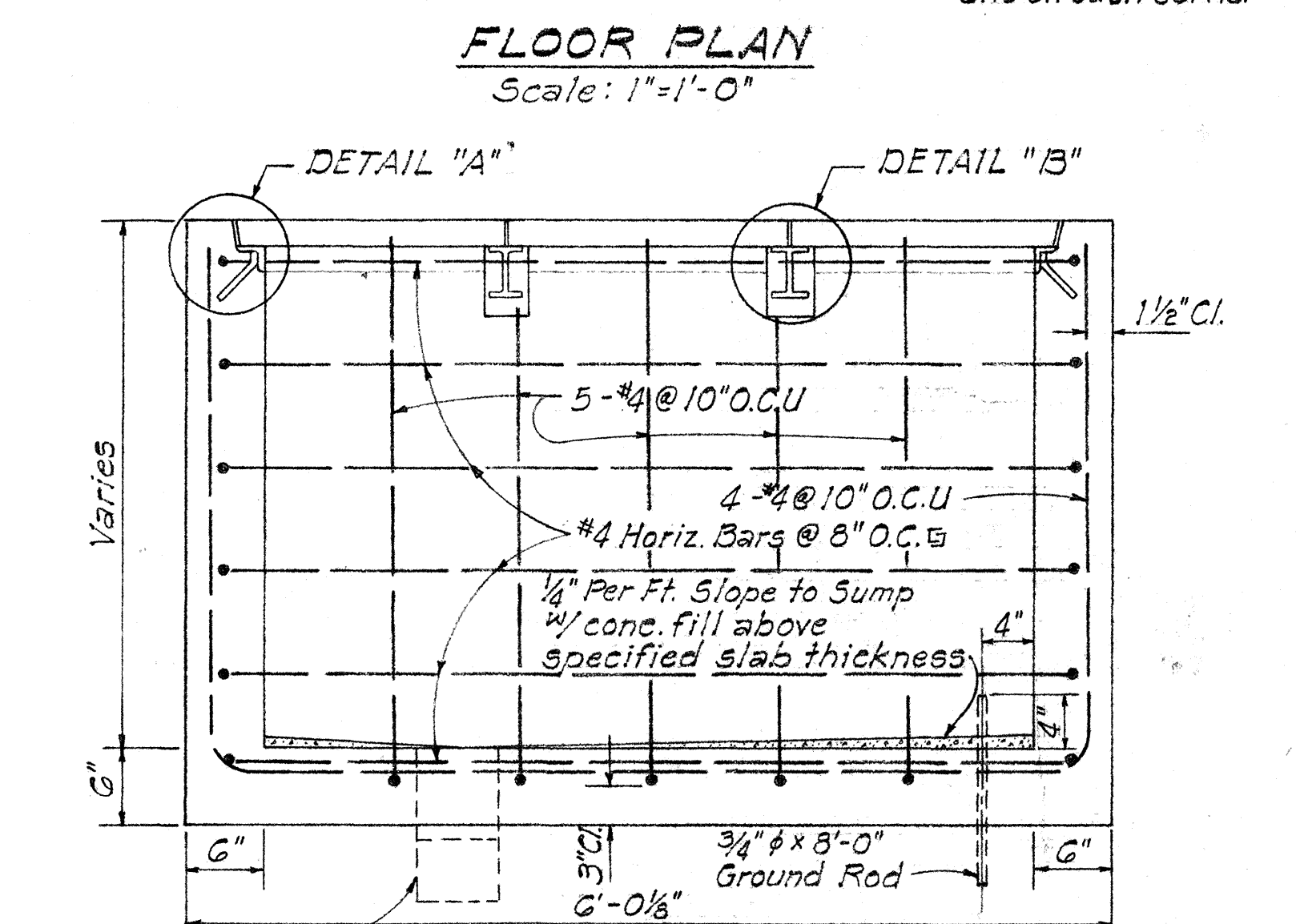
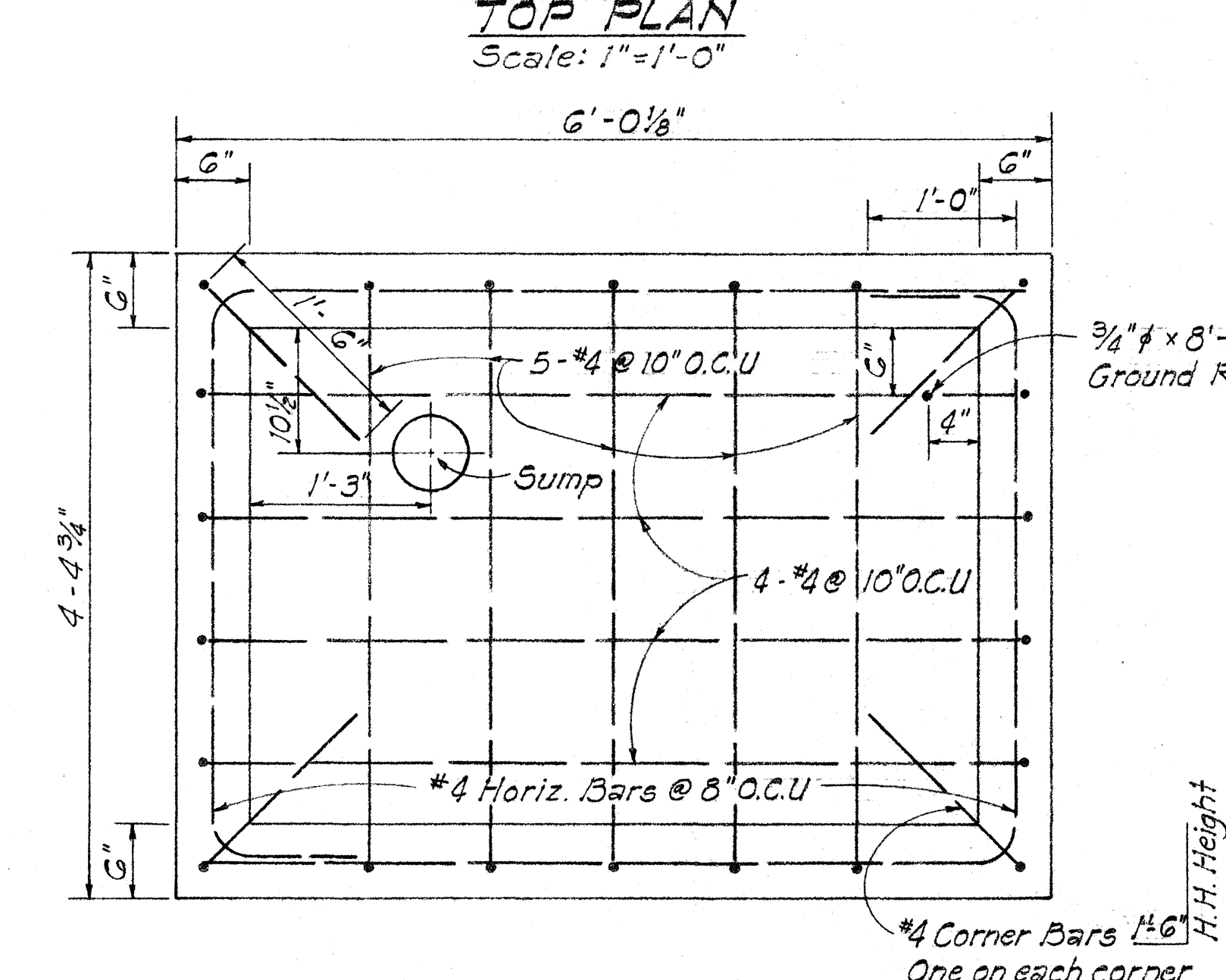
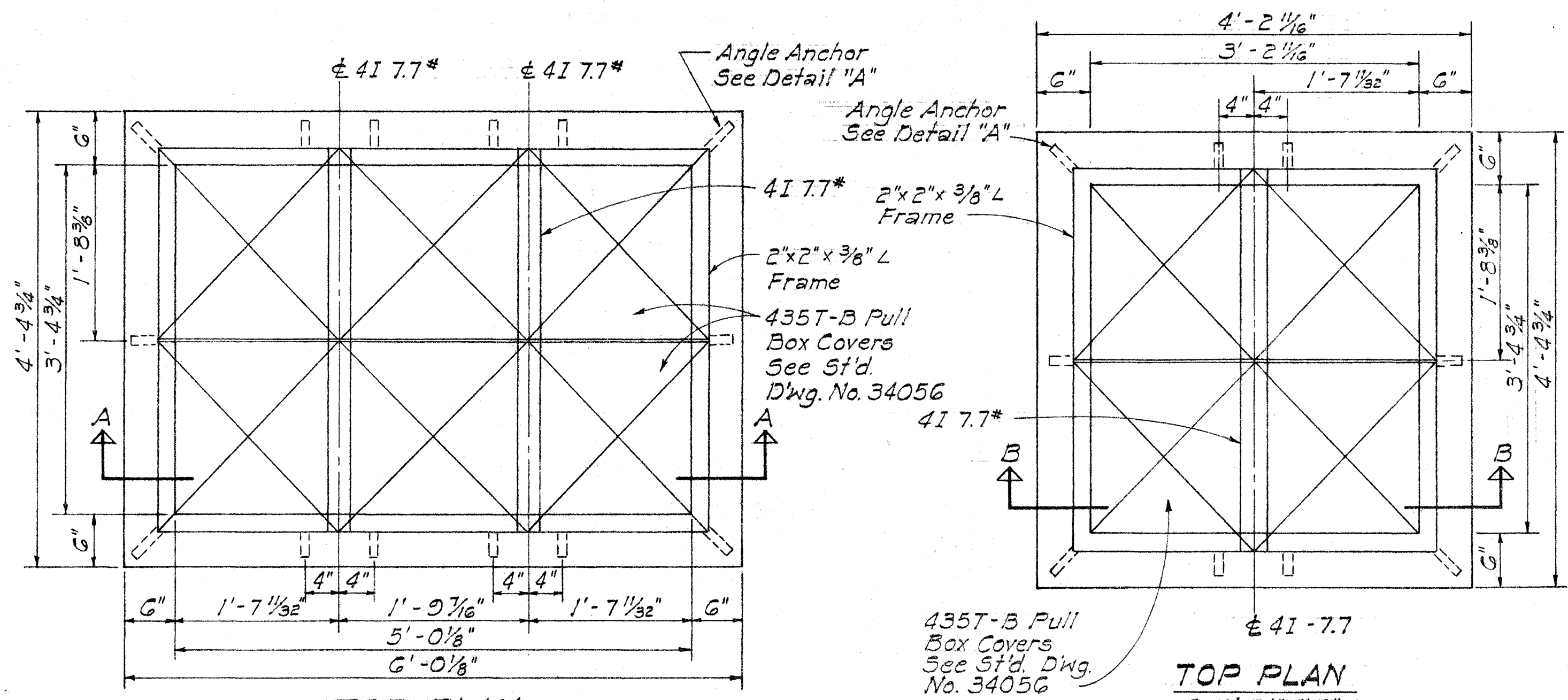
DATE: DEC. 1969

SHEET No. 5 OF 8 SHEETS (E-3)



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	U-092-1(8)	1970	39	41



GENERAL NOTES:

- Concrete finish: floors - wood floated finish - exposed wall surfaces and edges - smooth and free from defects.
- Concrete to develop compressive strength - 3000 p.s.i. in 28 days.
- Steel work all structural steel shall be hot dip galvanized after fabrication.
- For duct line construction standards, see std. dwg. No. 34028.
- These handholes are designed for installation in areas other than roadways.

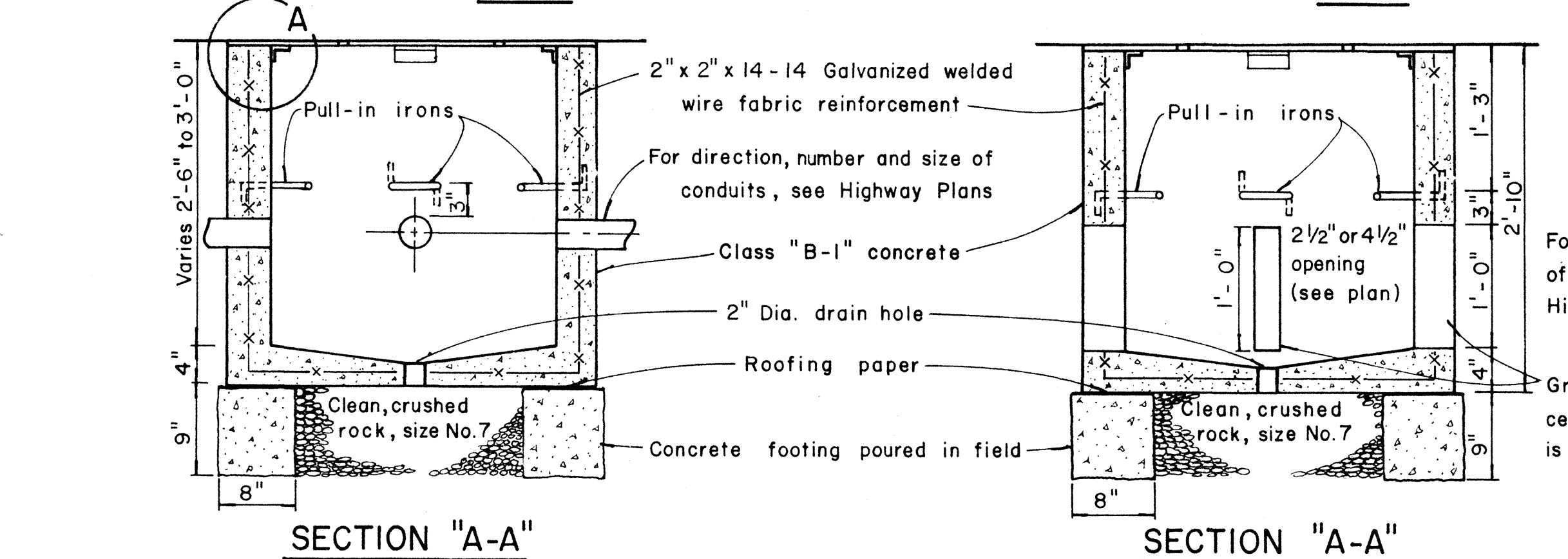
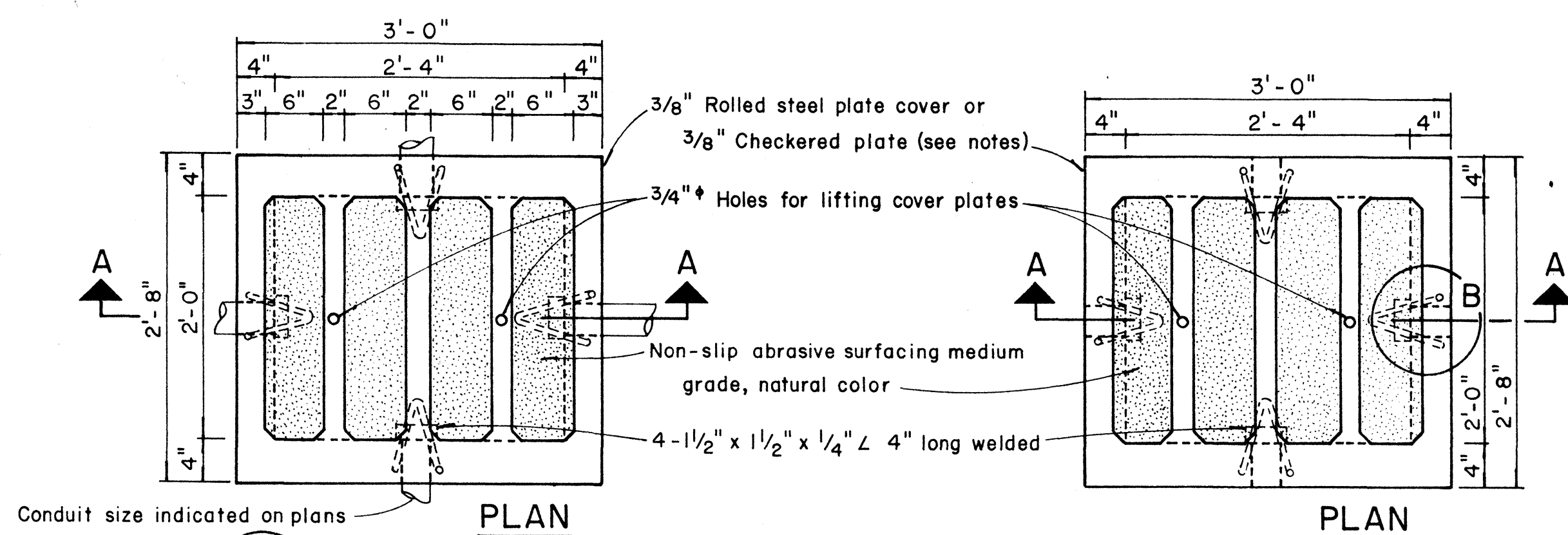
APPROVED:
Abraham H. Young
 HAWAIIAN TELEPHONE CO. 6-8 TO DATE

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

STANDARD HANDHOLE
 TYPE #1 & 2 USING TYPE
 435T-B PULLBOX COVERS

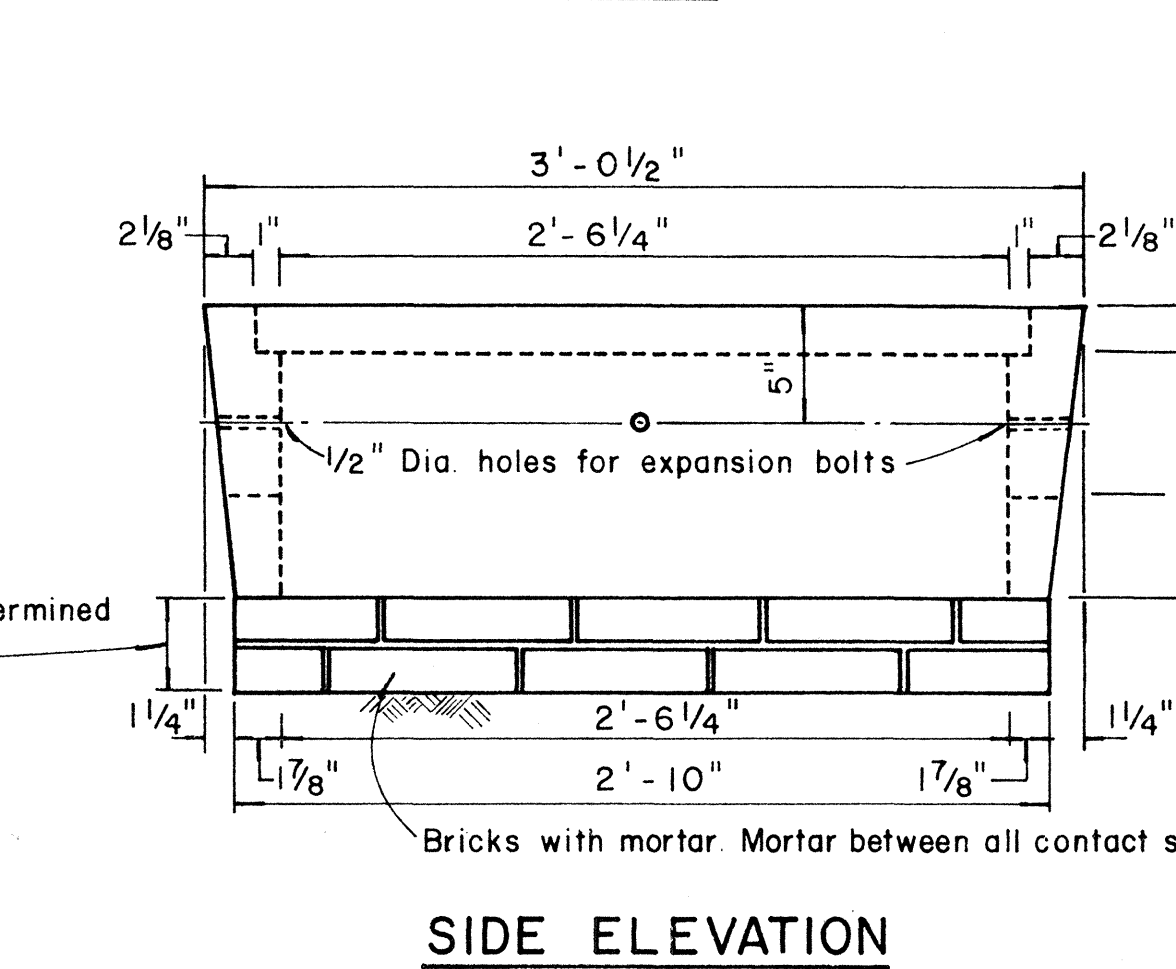
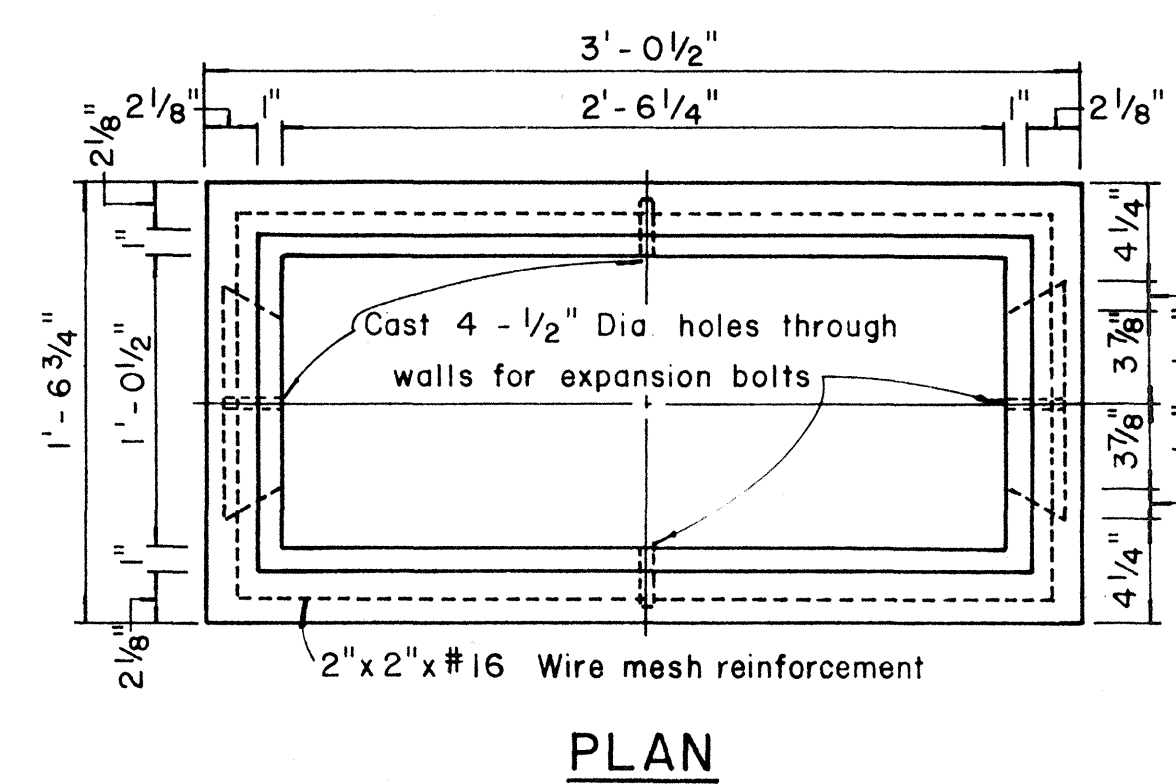
Scale: As Shown Date: 10 DEC 1969

SHEET No. 6 OF 8 SHEETS (E-G)

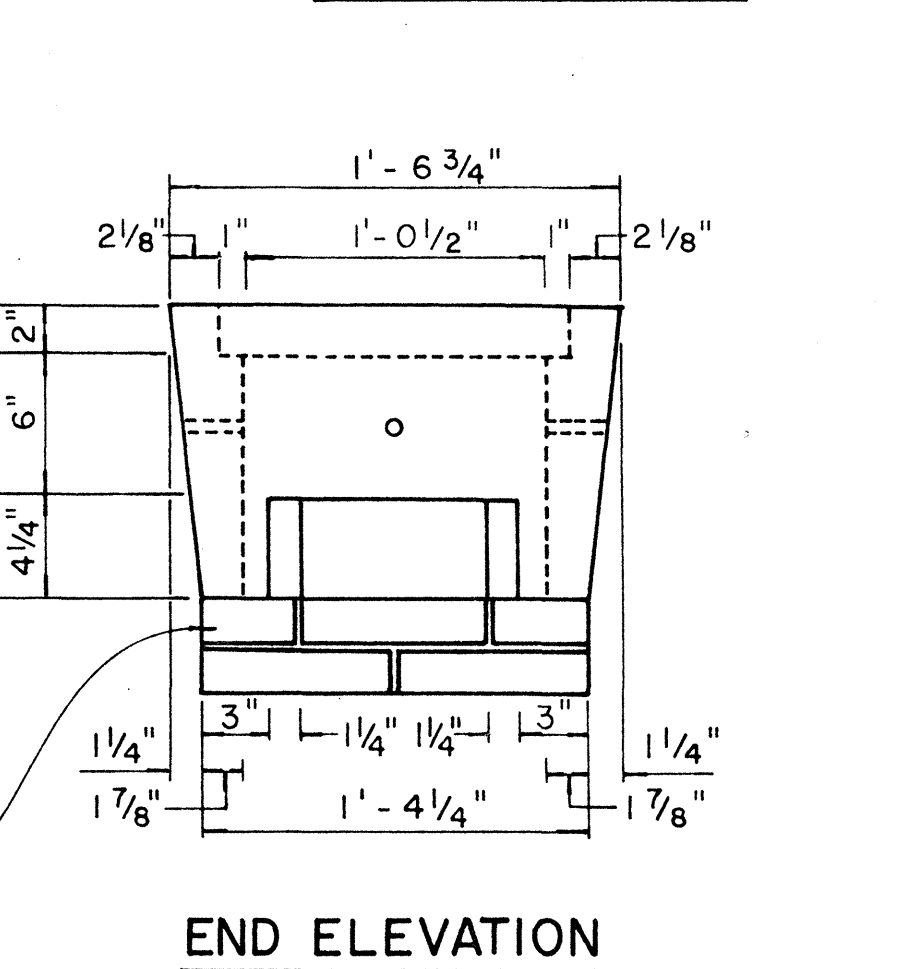
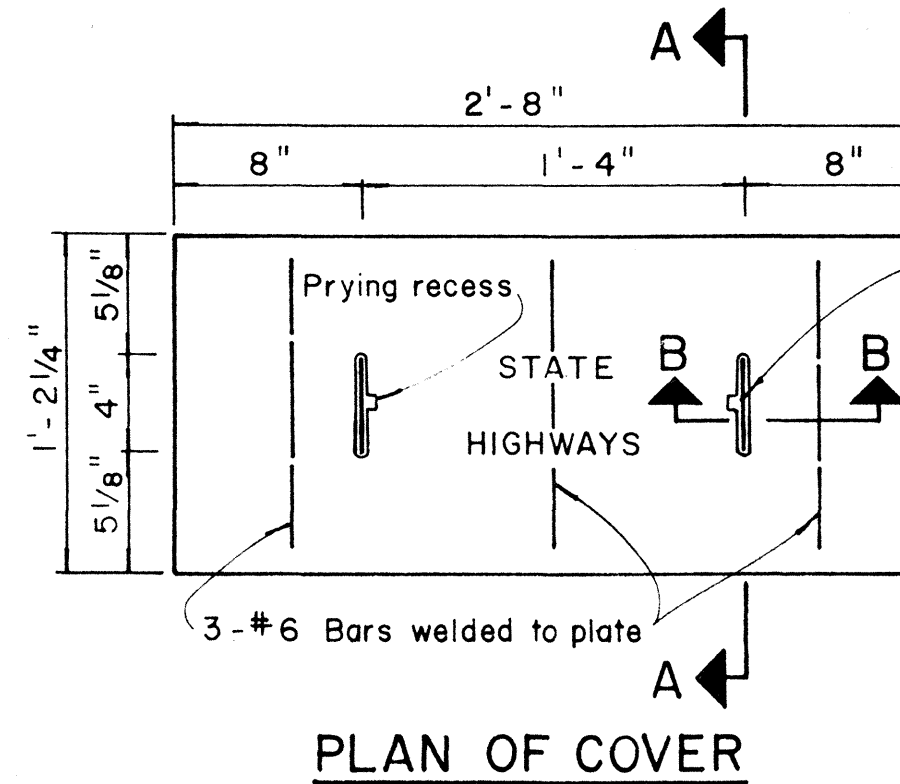


TYPE "A" PULLBOX CAST-IN-PLACE
Scale: 1" = 1'-0"

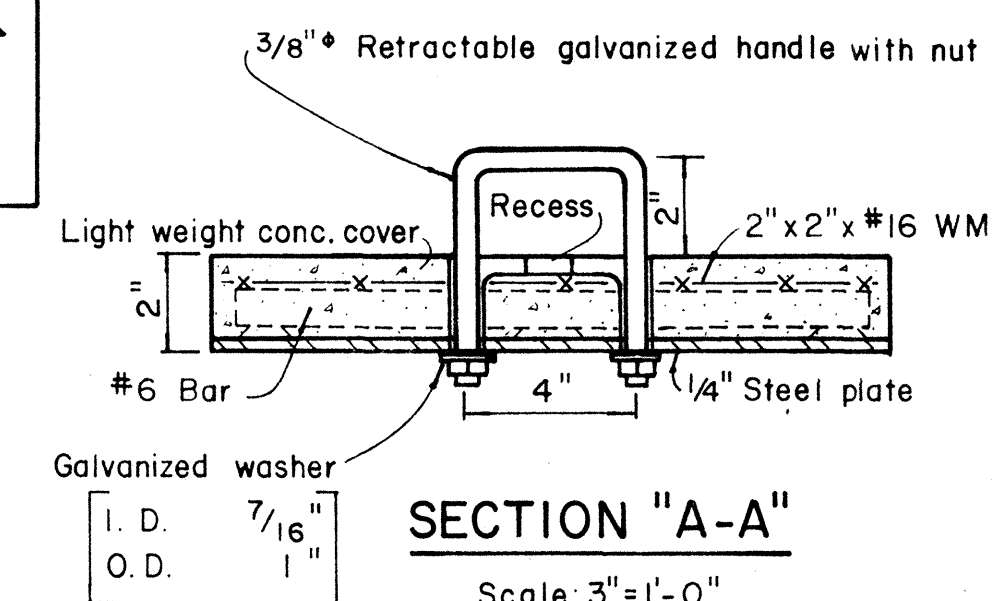
TYPE "A" PULLBOX PRECAST
Scale: 1" = 1'-0"



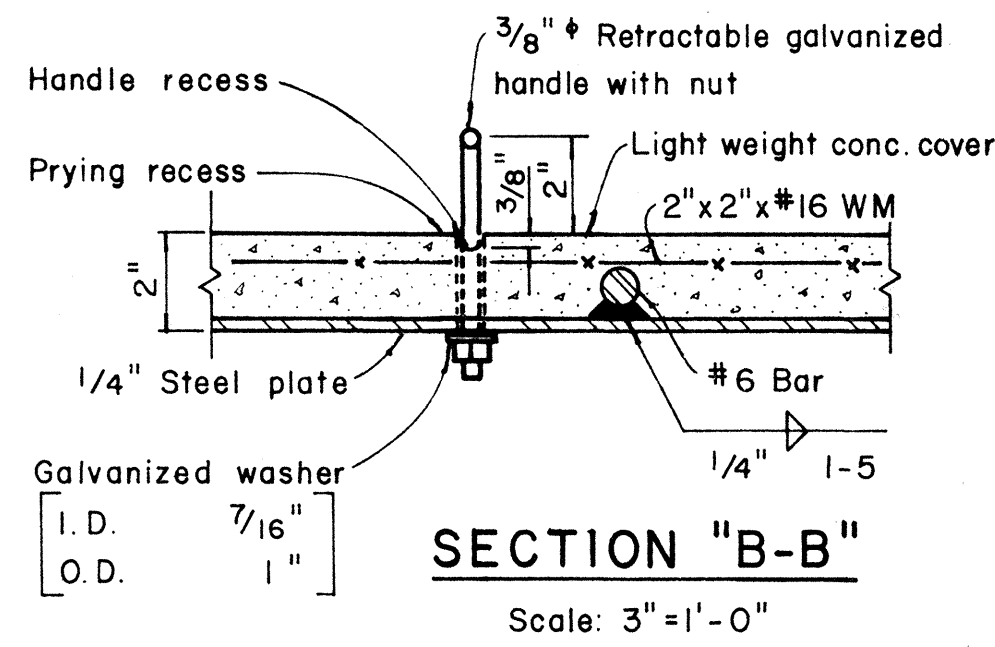
TYPE "C" PULLBOX
Scale: 1 1/2" = 1'-0"



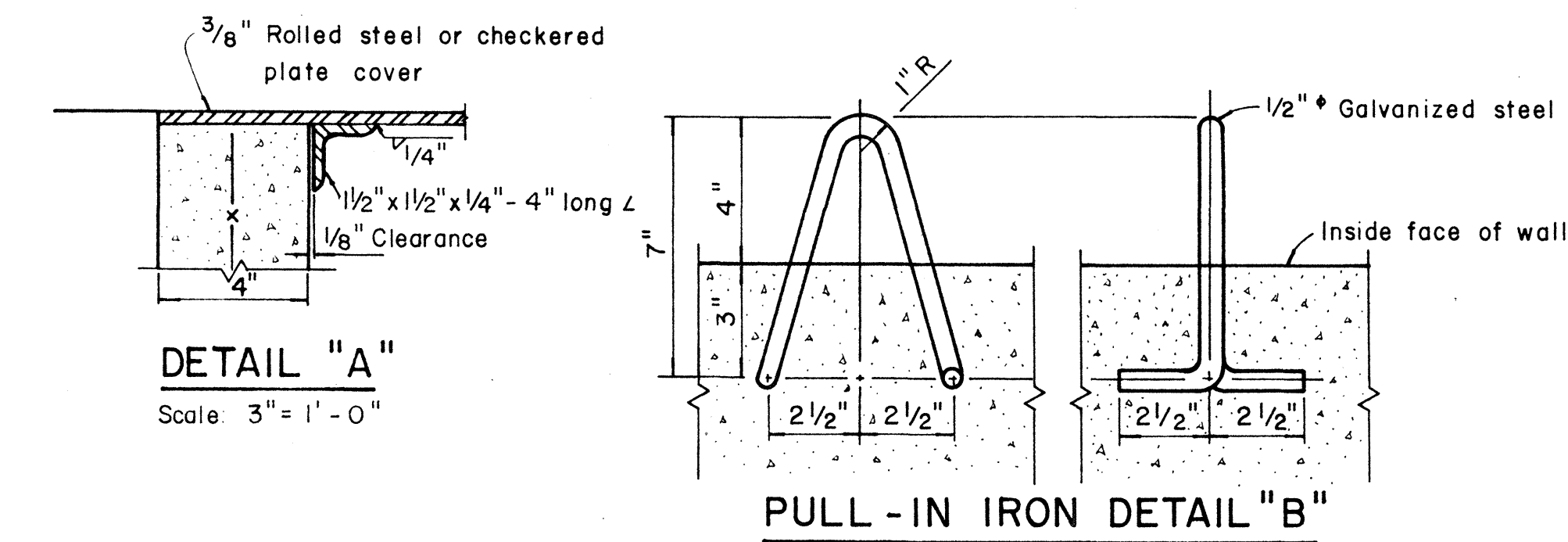
TYPE "C" PULLBOX
Scale: 1 1/2" = 1'-0"



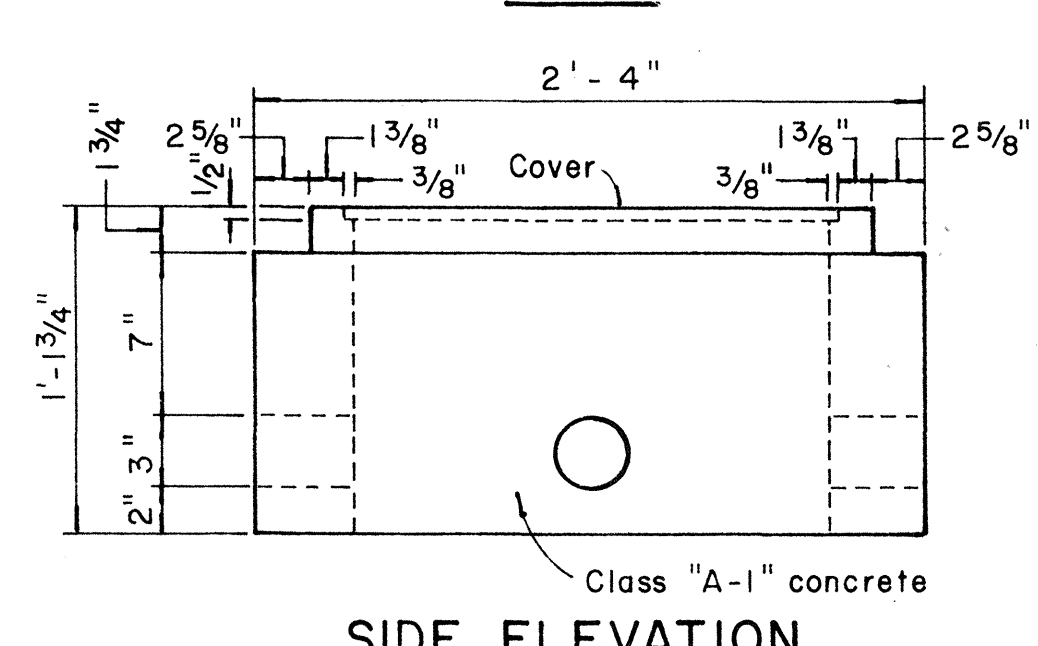
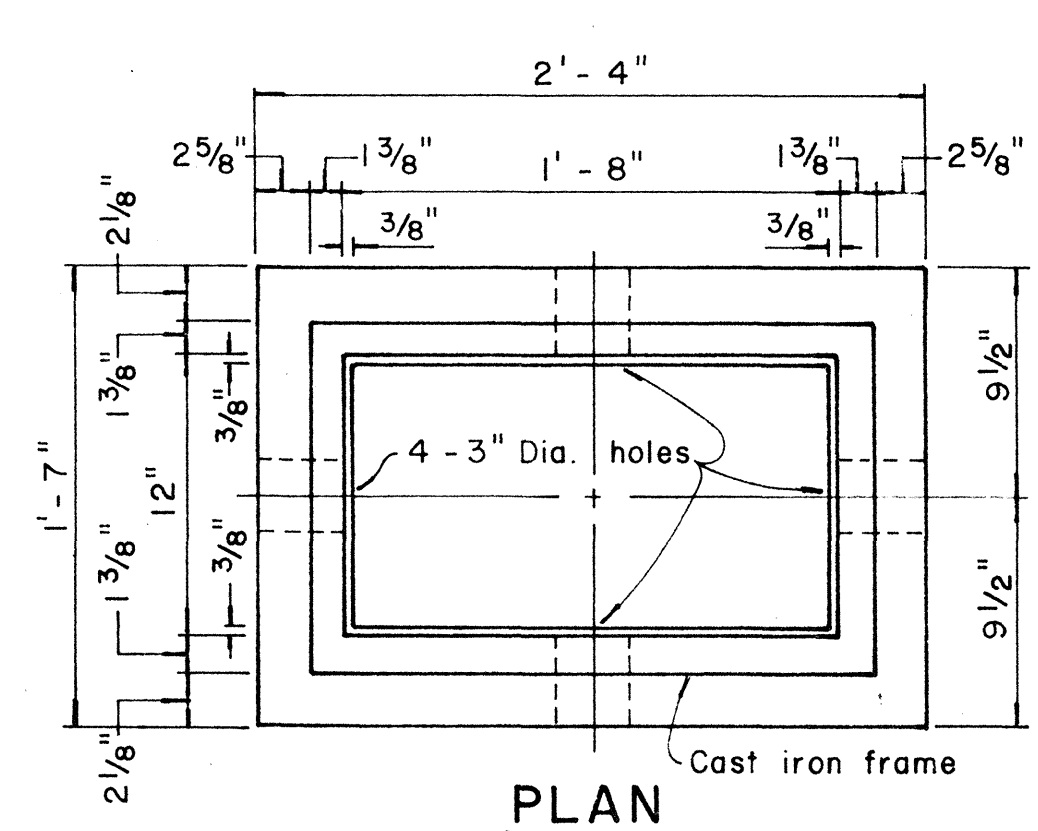
SECTION "A-A"
Scale: 3" = 1'-0"



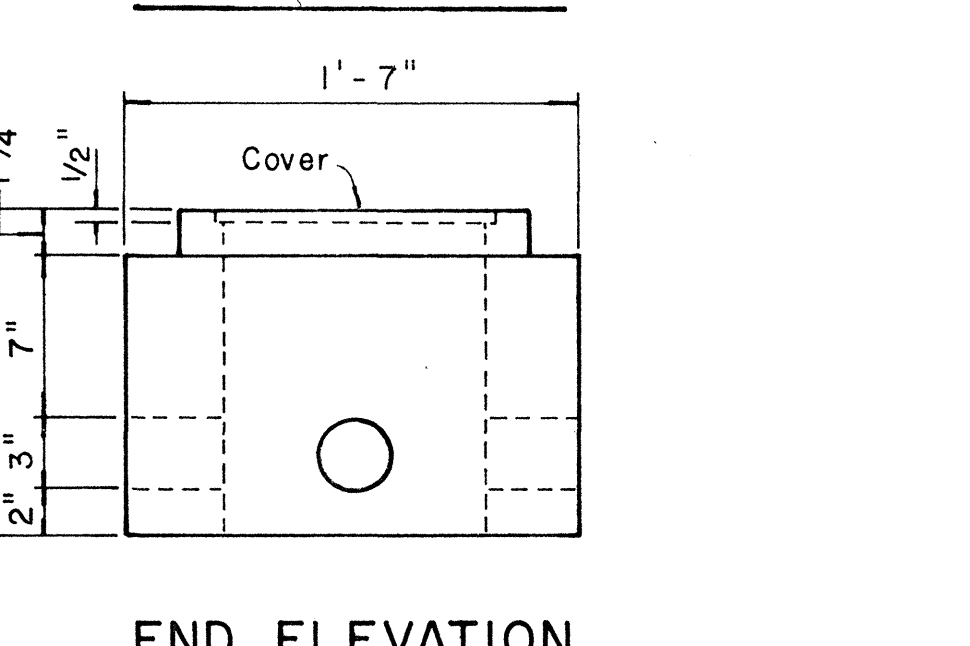
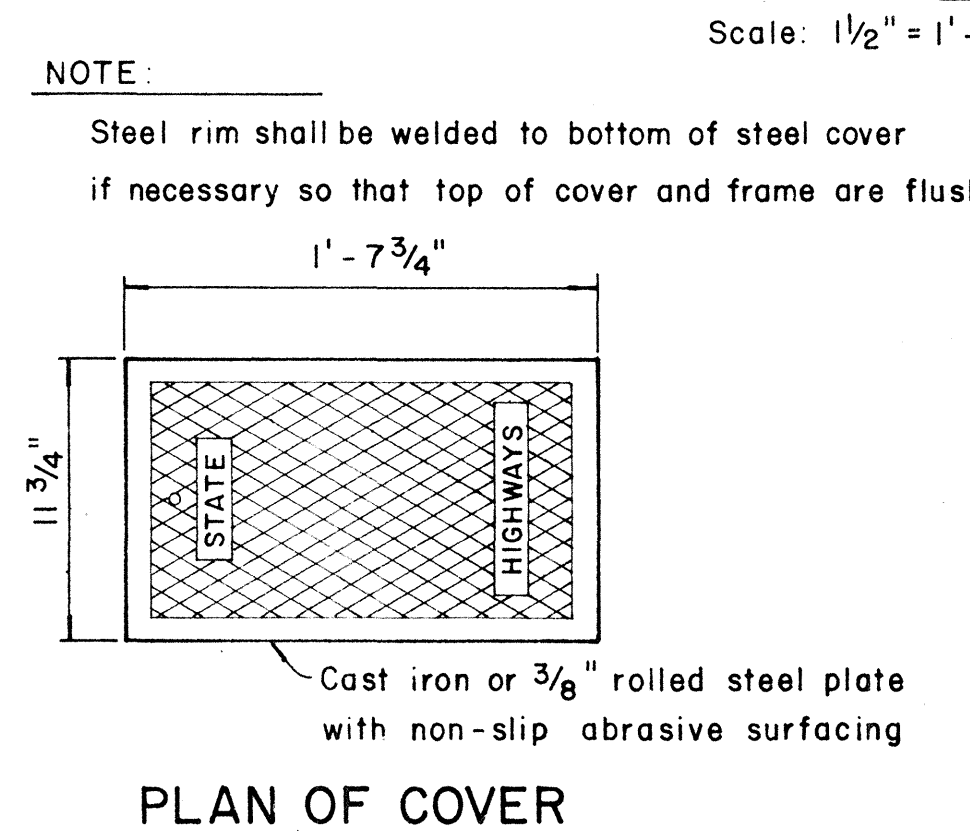
SECTION "B-B"
Scale: 3" = 1'-0"



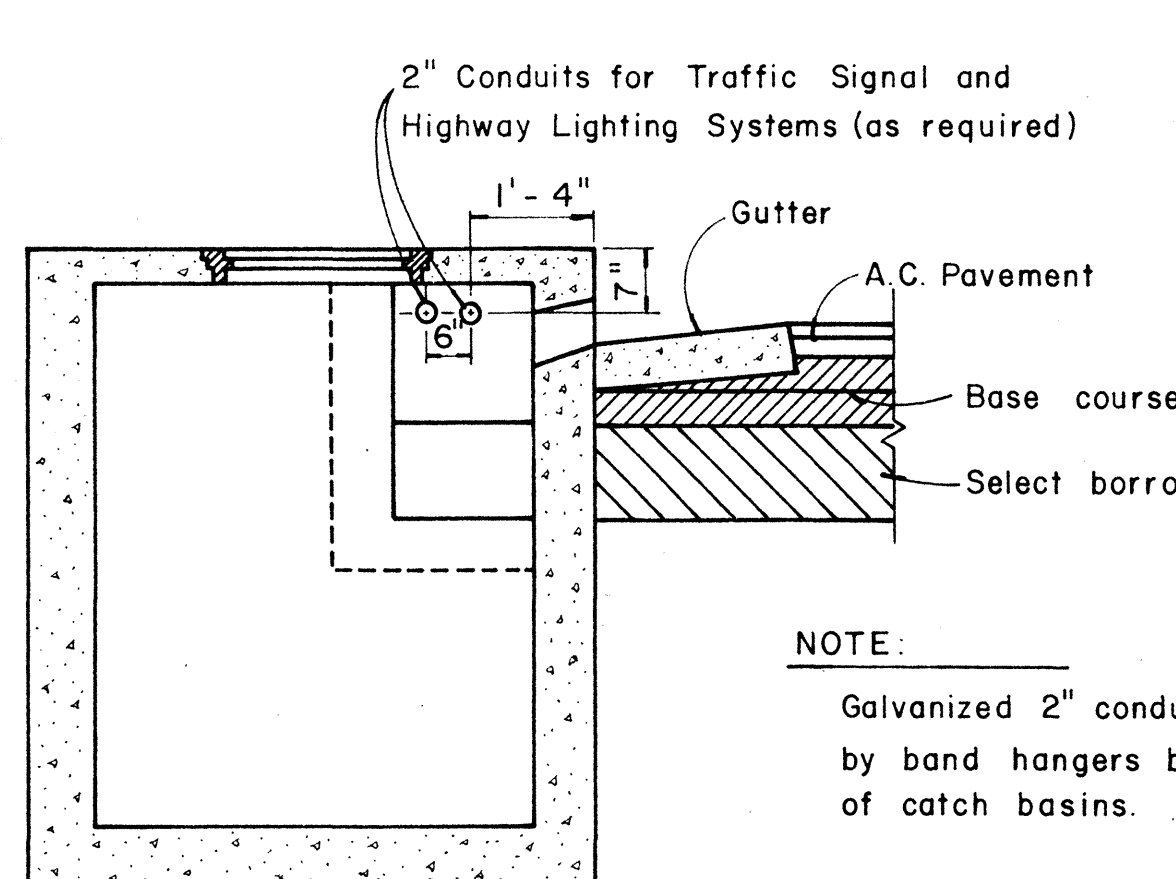
- NOTES: (FOR TYPE "A" PULLBOX)**
- 3/8" Rolled steel plate cover with non-slip abrasive surfacing medium grade, natural color shall be used on all pullboxes located on sidewalk areas where pedestrians are walking.
 - 3/8" Checkered plate cover shall be used on all pullboxes located in median areas and other locations where there are no pedestrians walking.
 - Pull irons shall be placed opposite each conduit slot.
 - Covers on all pullboxes located in sidewalk areas shall be set flush with the concrete sidewalk.
 - Each pullbox shall have a pair of pull irons opposite each other for lifting purposes.



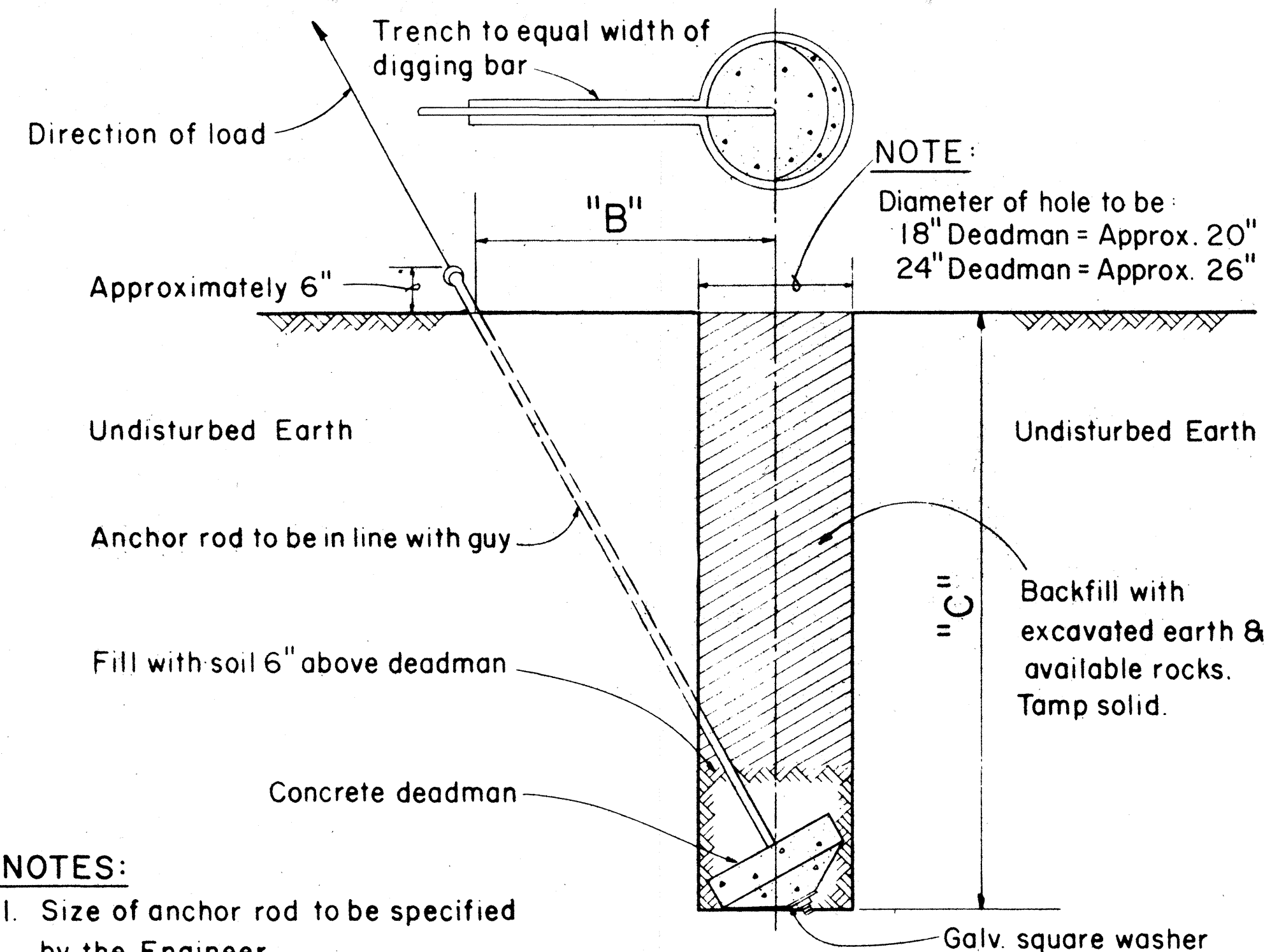
TYPE "B" PULLBOX
Scale: 1 1/2" = 1'-0"



TYPE "B" PULLBOX
Scale: 1 1/2" = 1'-0"



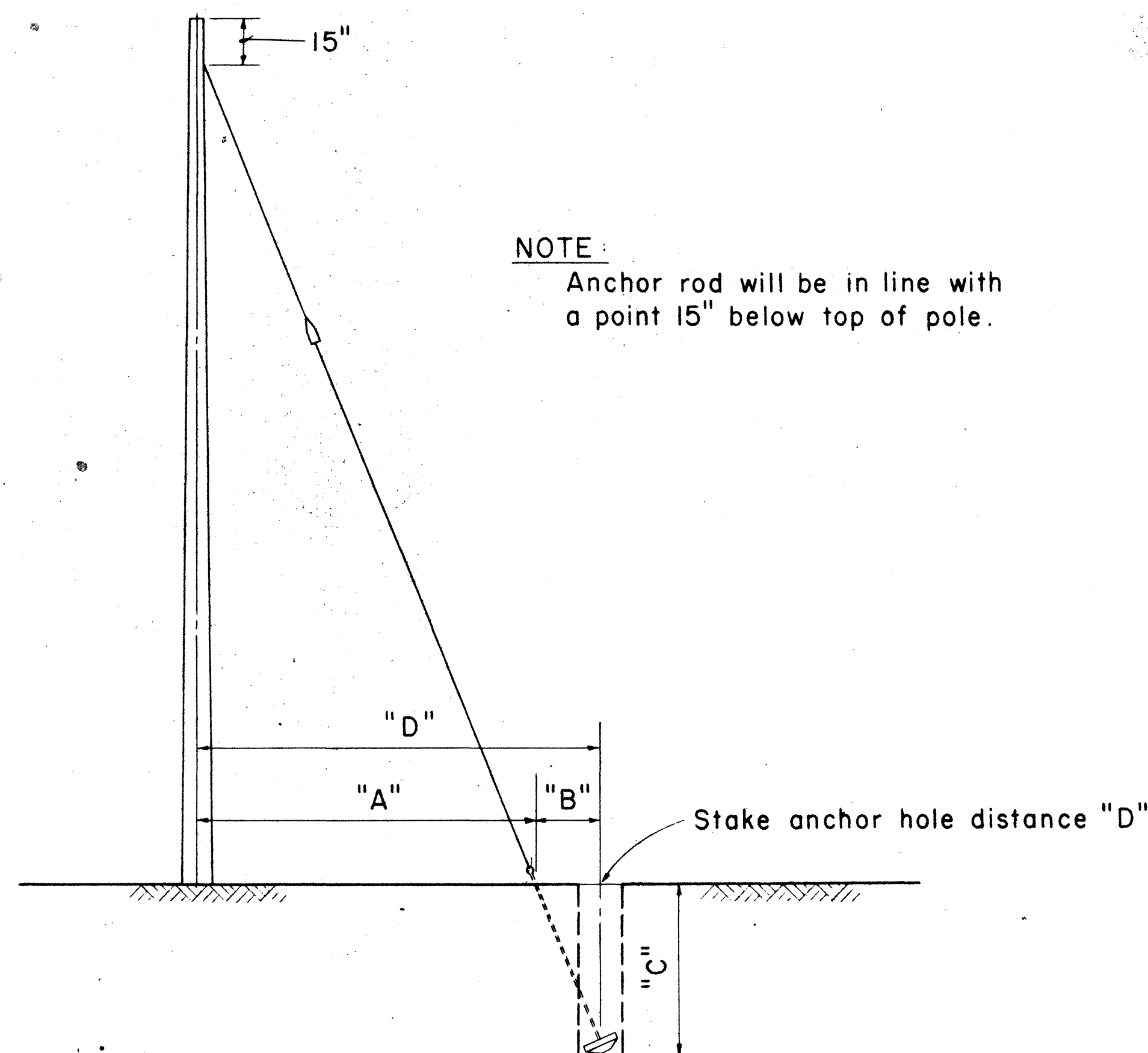
TYPICAL SECTION SHOWING CONDUITS PASSING THROUGH CATCH BASINS
Scale: 1/2" = 1'-0"



- NOTES:**
1. Size of anchor rod to be specified by the Engineer
 2. Use Anchoring Data.

GUY ANCHOR DEADMAN

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



Not to Scale

FOR 25' & 30' POLES WITH 8'-0" ANCHOR RODS				
"A"	"B"	"C"	"D" = ("A" + "B")	
LEAD-ANCHOR ROD TO C.O.F. POLE	ANCHOR ROD TO C.O.F. HOLE	VERTICAL DEPTH 18" D.M. 24" D.M.	TOTAL DISTANCE POLE TO HOLE	
5' - 0"	1' - 8"	7' - 1"	7' - 4"	6' - 8"
10' - 0"	3' - 0"	6' - 7"	7' - 0"	13' - 0"
15' - 0"	4' - 0"	6' - 1"	6' - 6"	19' - 0"
20' - 0"	4' - 8"	5' - 6"	5' - 10"	24' - 8"
25' - 0"	5' - 2"	4' - 11"	5' - 4"	30' - 2"

FOR 35' THRU 70' POLES WITH 8'-0" ANCHOR RODS				
5' - 0"	1' - 0"	7' - 3"	7' - 4"	6' - 0"
10' - 0"	1' - 11"	7' - 1"	7' - 3"	11' - 11"
15' - 0"	2' - 8"	6' - 9"	7' - 1"	17' - 8"
20' - 0"	3' - 3"	6' - 6"	6' - 10"	23' - 3"
25' - 0"	3' - 10"	6' - 2"	6' - 7"	28' - 10"

FOR 40' THRU 70' POLES WITH 1 1/4" x 10'-0" ANCHOR RODS				
5' - 0"	1' - 7"		9' - 4"	6' - 7"
10' - 0"	3' - 0"		9' - 0"	13' - 0"
15' - 0"	4' - 2"		8' - 6"	19' - 2"
20' - 0"	5' - 3"		7' - 11"	25' - 3"
25' - 0"	6' - 2"		7' - 3"	31' - 2"

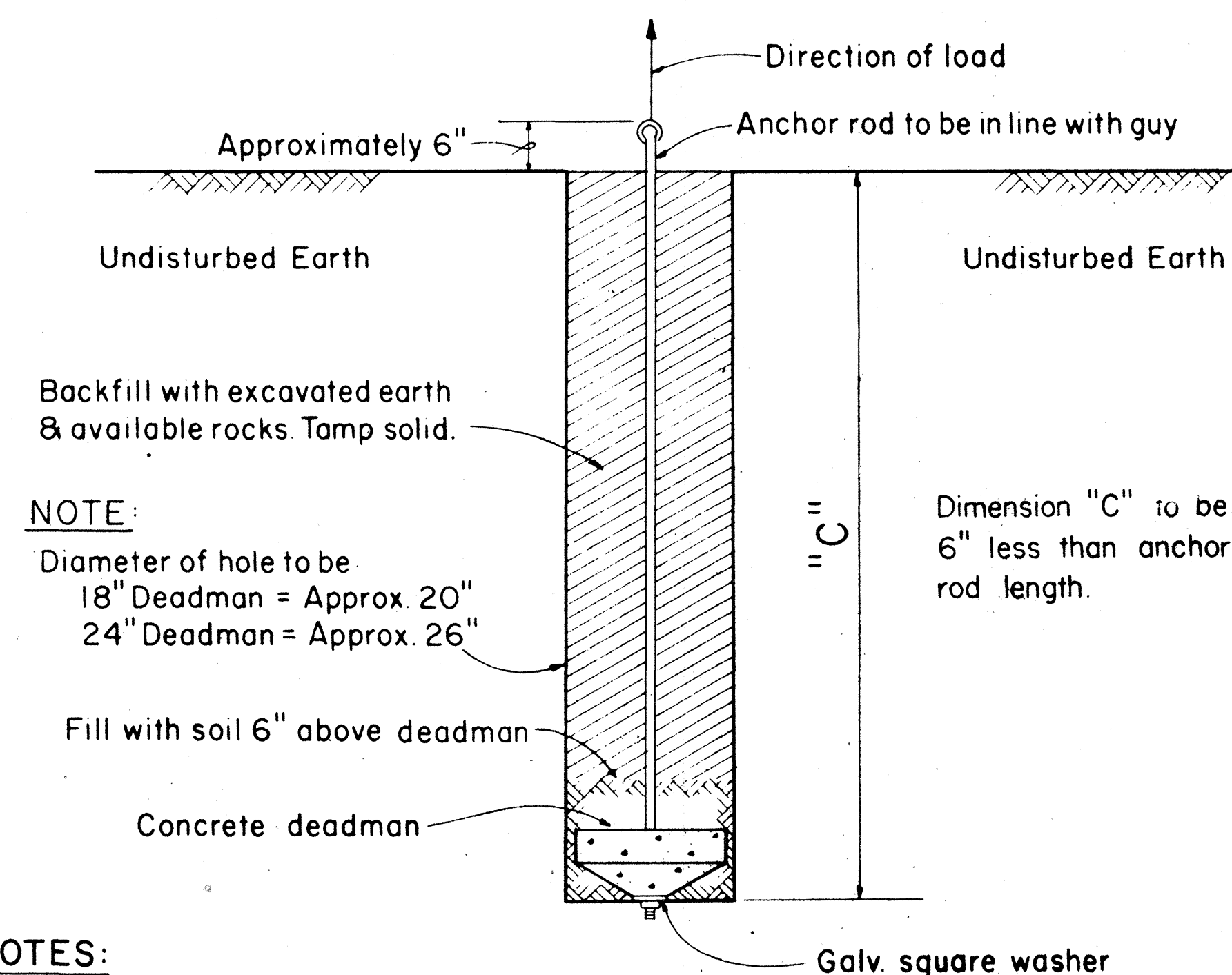
D. M. = Deadman

TABLE 2 ANCHOR ROD - ANCHOR SLUG - SQUARE WASHER COMBINATION

H.E. CODE NO.	ANCHOR ROD	WORKING TENSION 1/2 ULT (LBS.)	H.E. CODE NO.	CONC. ANC. (IN.)	H.E. CODE NO.	WASHER SIZE	QTY.
617	5/8" x 8'-0" Steel	8,000	518	18	2320	4" x 4" x 3/16"	2
615	5/8" x 8'-0" Cu Cov Stl	9,250	518	18	**	3" x 3" x 1/8"	2
618	3/4" x 8'-0" Steel	11,500	518	18	2330	6" x 6" x 3/8"	1
619	1" x 8'-0" Steel	18,000	524	24	2331	6" x 6" x 1/2"	1
616	1" x 8'-0" Cu Cov Stl	22,500	524	24	**	4" x 4" x 3/16"	2
613	1 1/4" x 10'-0" Steel	29,000	524	24	2330	6" x 6" x 3/8"	2

** Use bronze square washers included in anchor rod assembly on copper covered steel (Cu Cov Stl) anchor rods.

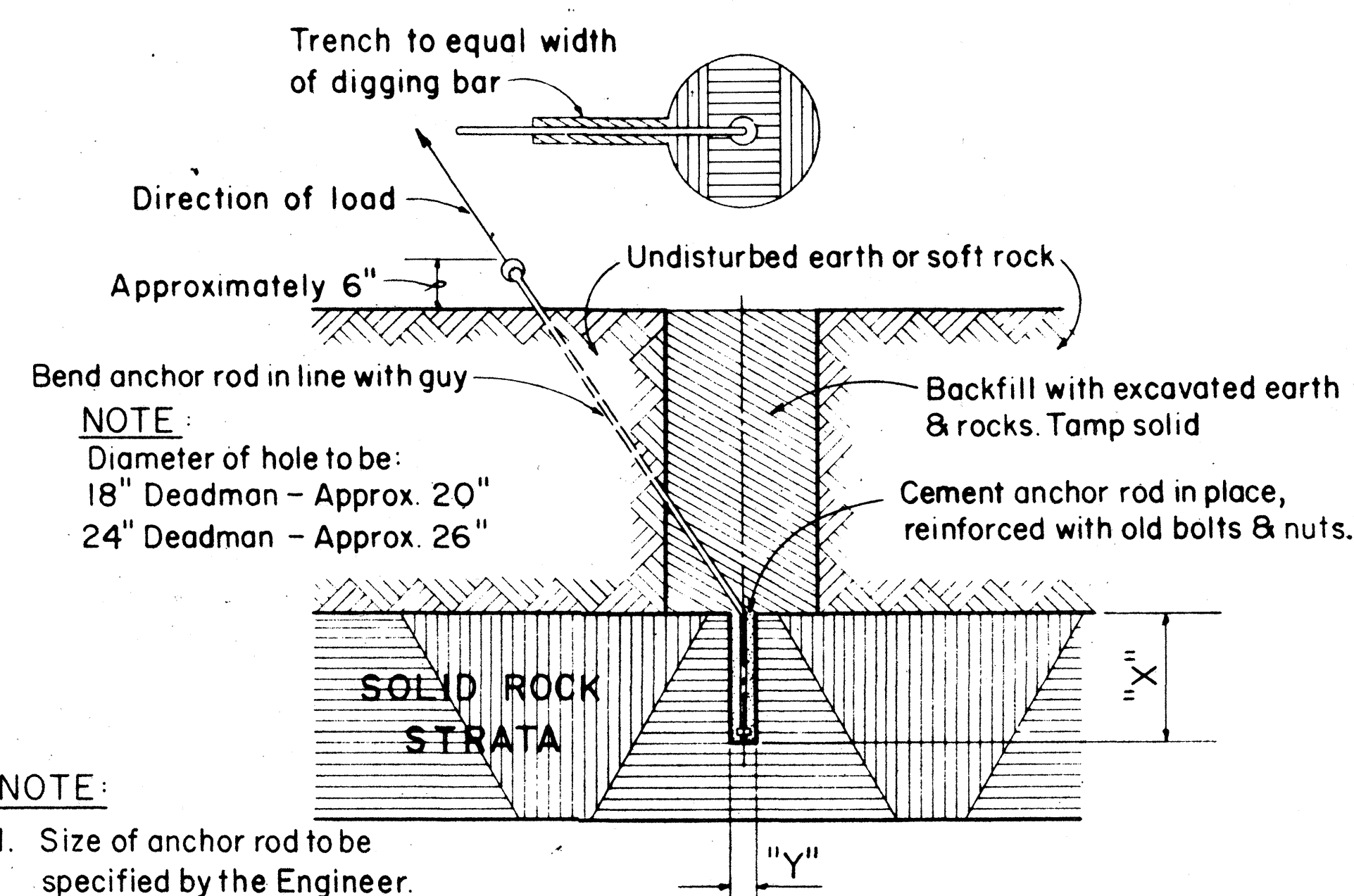
ANCHORING DATA



- NOTES:**
1. Size of anchor rod to be specified by the Engineer.
 2. Use Anchoring Data.

SIDE - WALK ANCHOR

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



- NOTE:**
1. Size of anchor rod to be specified by the Engineer.
 2. "X" Should not be less than 24". If "X" is less than 24" complete hole & install anchor.
 3. "Y" - 5/8" Anchor rod drill 2" hole
3/4" Anchor rod drill 2" hole
1" Anchor rod drill 2 1/2" hole
1 1/4" Anchor rod drill 3" hole
 4. Use Anchoring Data.

ROCK ANCHOR

Not to Scale

APPROVED:

William H. Young
HAWAIIAN TELEPHONE CO.

6-8-70
DATE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
STANDARD DETAILS
H.E. Co. AND H.T. Co.
ANCHOR DETAILS AND
ANCHORING DATA

Scales: As Noted Date

SHEET No. 8 OF 8 SHEETS