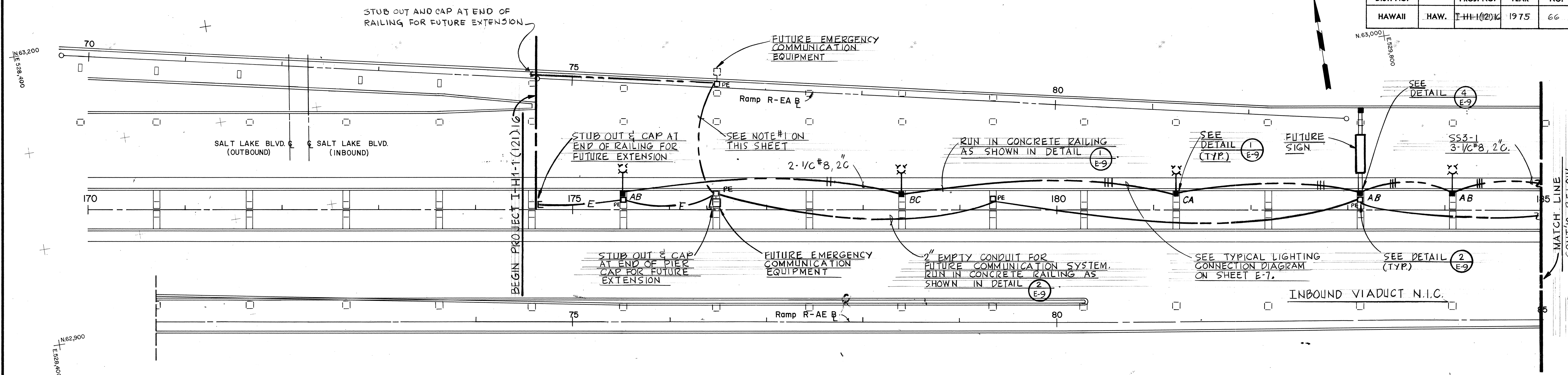
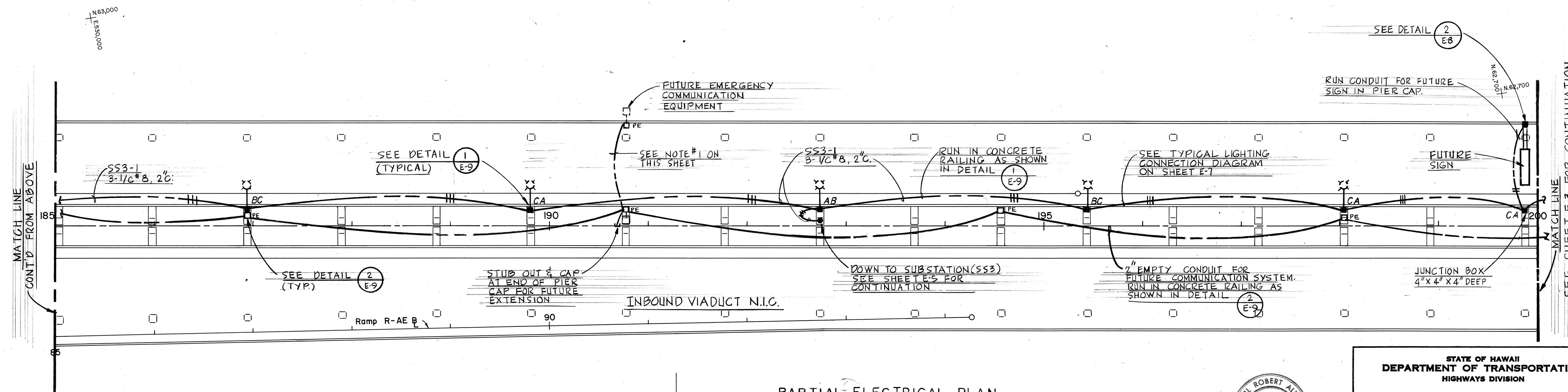


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(12)16	1975	66	207



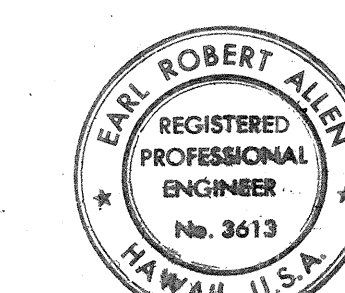
PARTIAL ELECTRICAL PLAN OUTBOUND VIADUCT

NOTES: 1. RUN 2" CONDUIT FOR FUTURE EMERGENCY COMMUNICATION EQUIPMENT IN PIER CAP.



PARTIAL ELECTRICAL PLAN OUTBOUND VIADUCT

OHOKIA ST.



Earl R. Allen

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY LIGHTING
OUTBOUND VIADUCT ST. 174+70
TO 200+00

AIRPORT INTERCHANGE
P.A.T. PROJ. NO. I-H-1(12)16

SCALE: 1"=50'

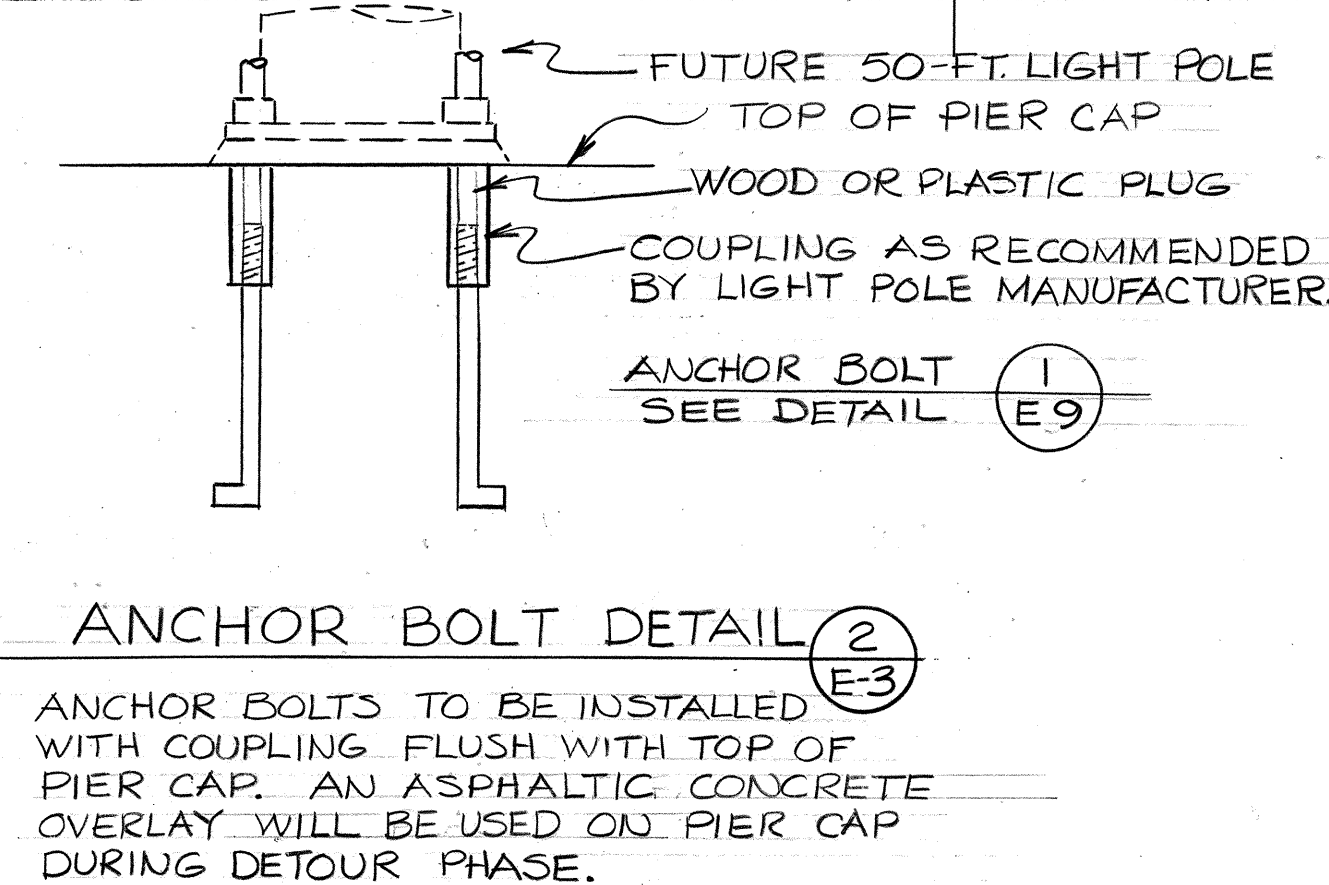
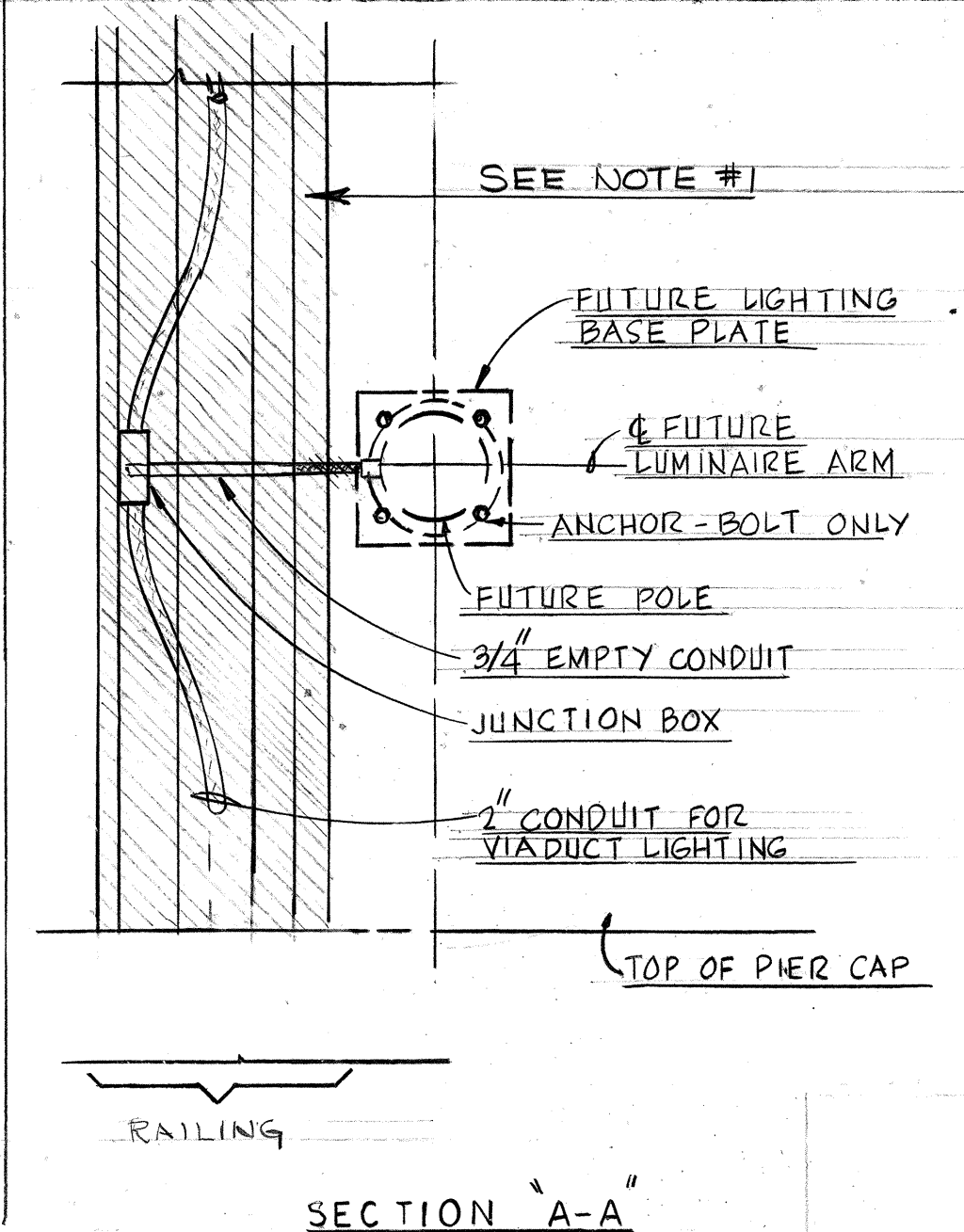
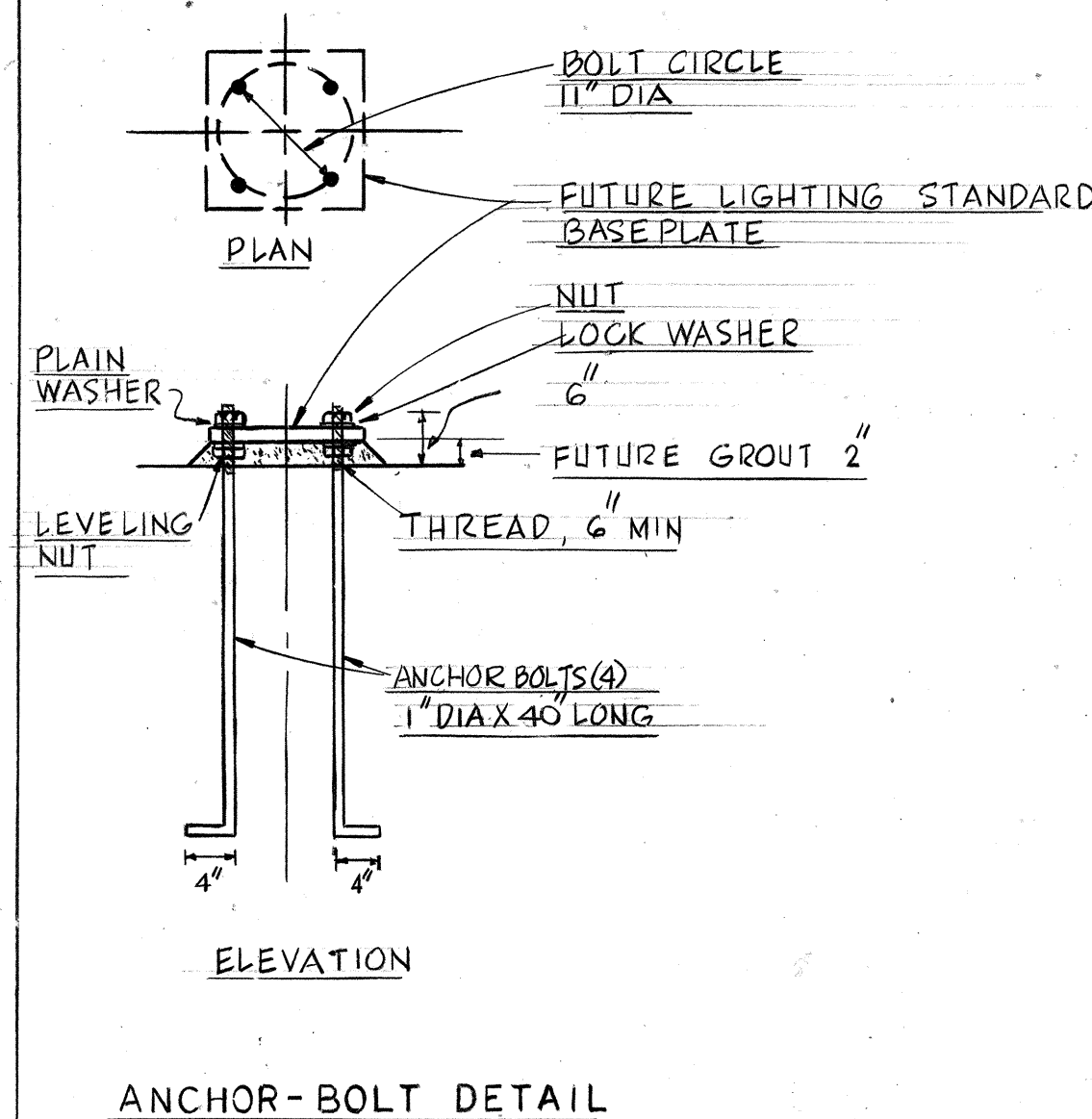
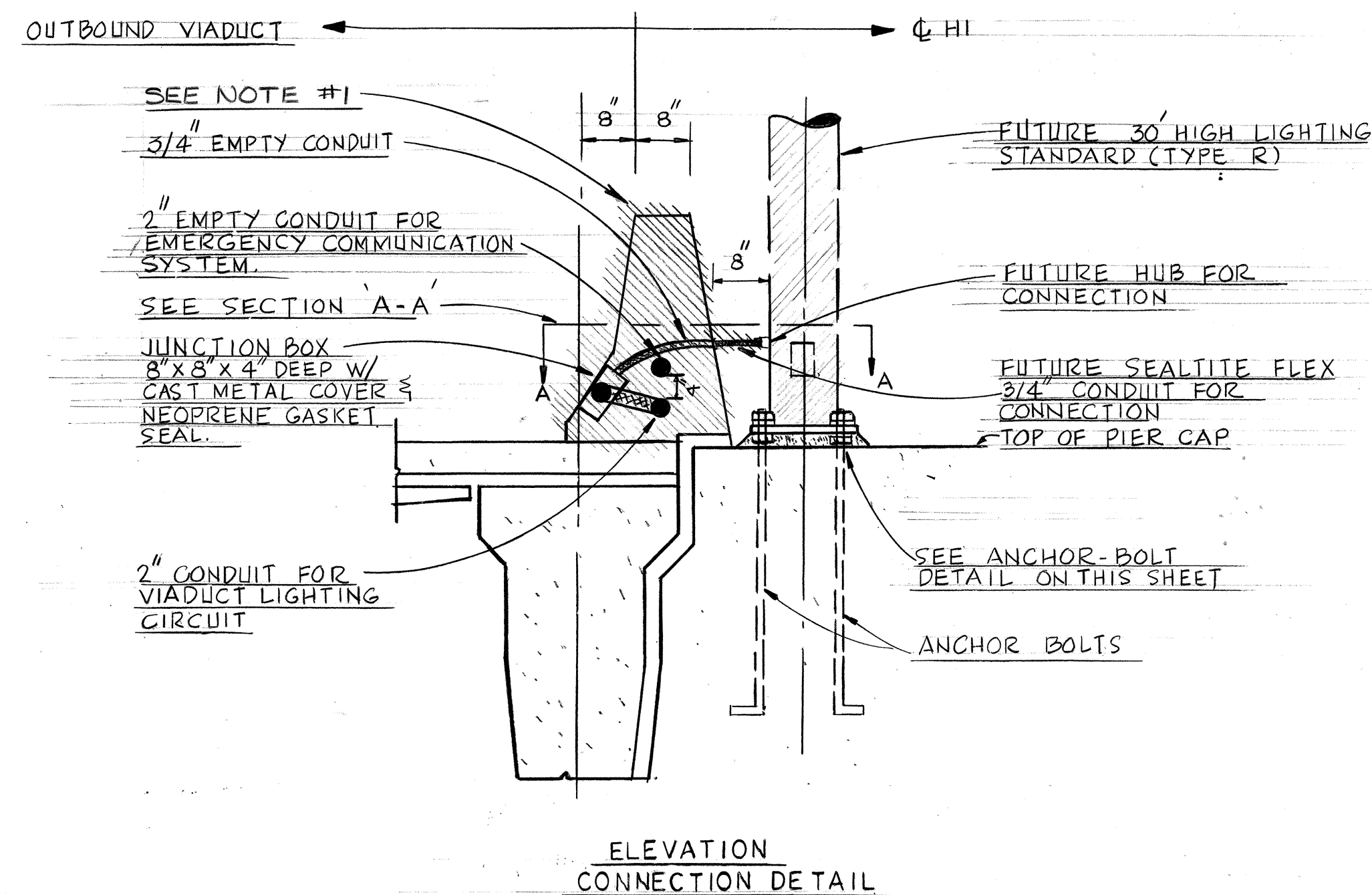
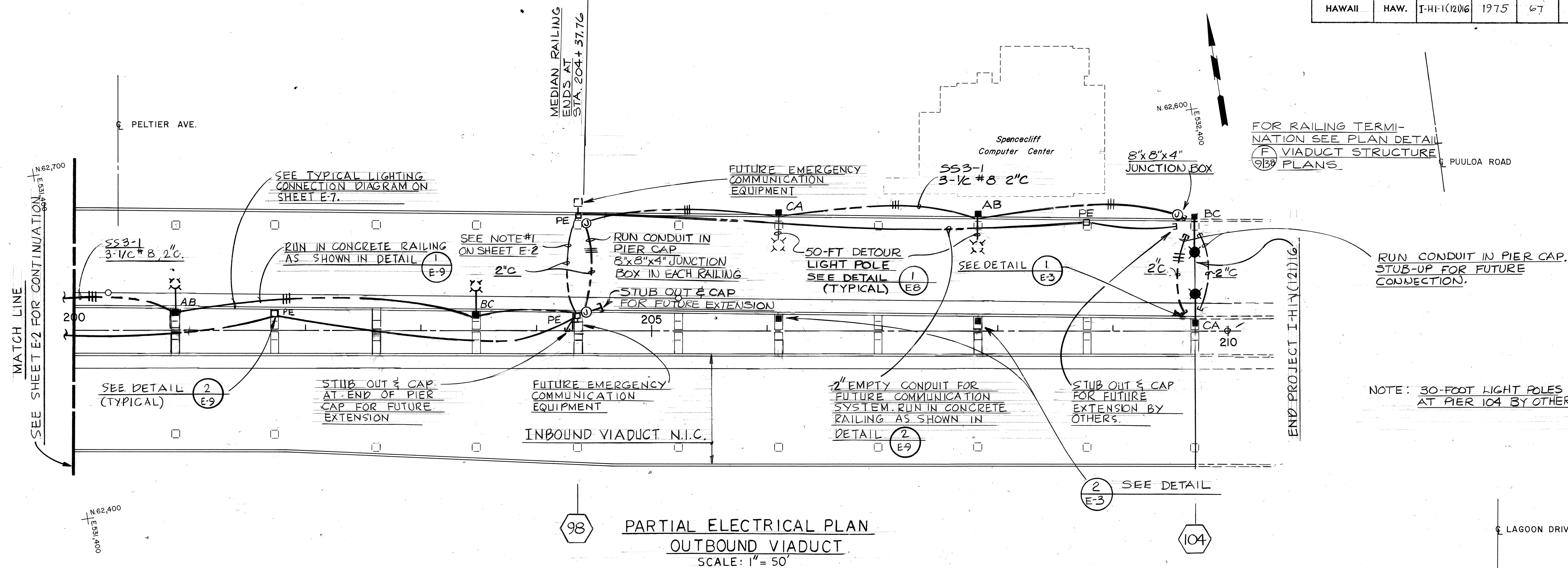
DATE: MAY 1, 1975

SHEET No. 12 OF 11 SHEETS

E 2

66

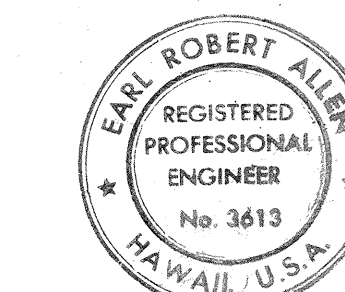
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(12)16	1975	67	207



NOTES:
WORK IN CROSS-HATCHED AREA IS NIC AND WILL BE ACCOMPLISHED UNDER A FUTURE CONTRACT.

MOUNTING AND CONNECTION DETAIL
OUTBOUND VIADUCT LIGHT TYPE "R"
N.T.S.

12-28-76	Relocated Conduit from Pier 98 to Pier 104. Added Anchor Bolt Detail (2)
DATE	REVISION



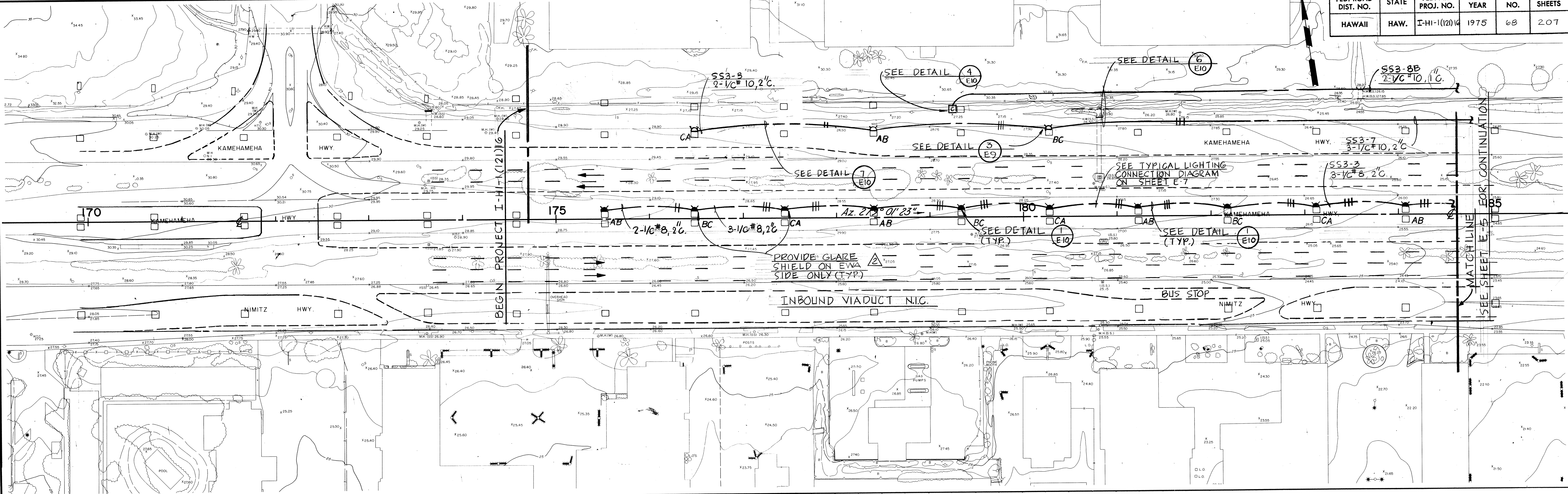
Earl R. Allen
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY LIGHTING
OUTBOUND VIADUCT ST. 200+00 TO 210+00
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(12)16
SCALE: AS SHOWN
DATE: MAY 1, 1975
SHEET No. 3 OF 11 SHEETS

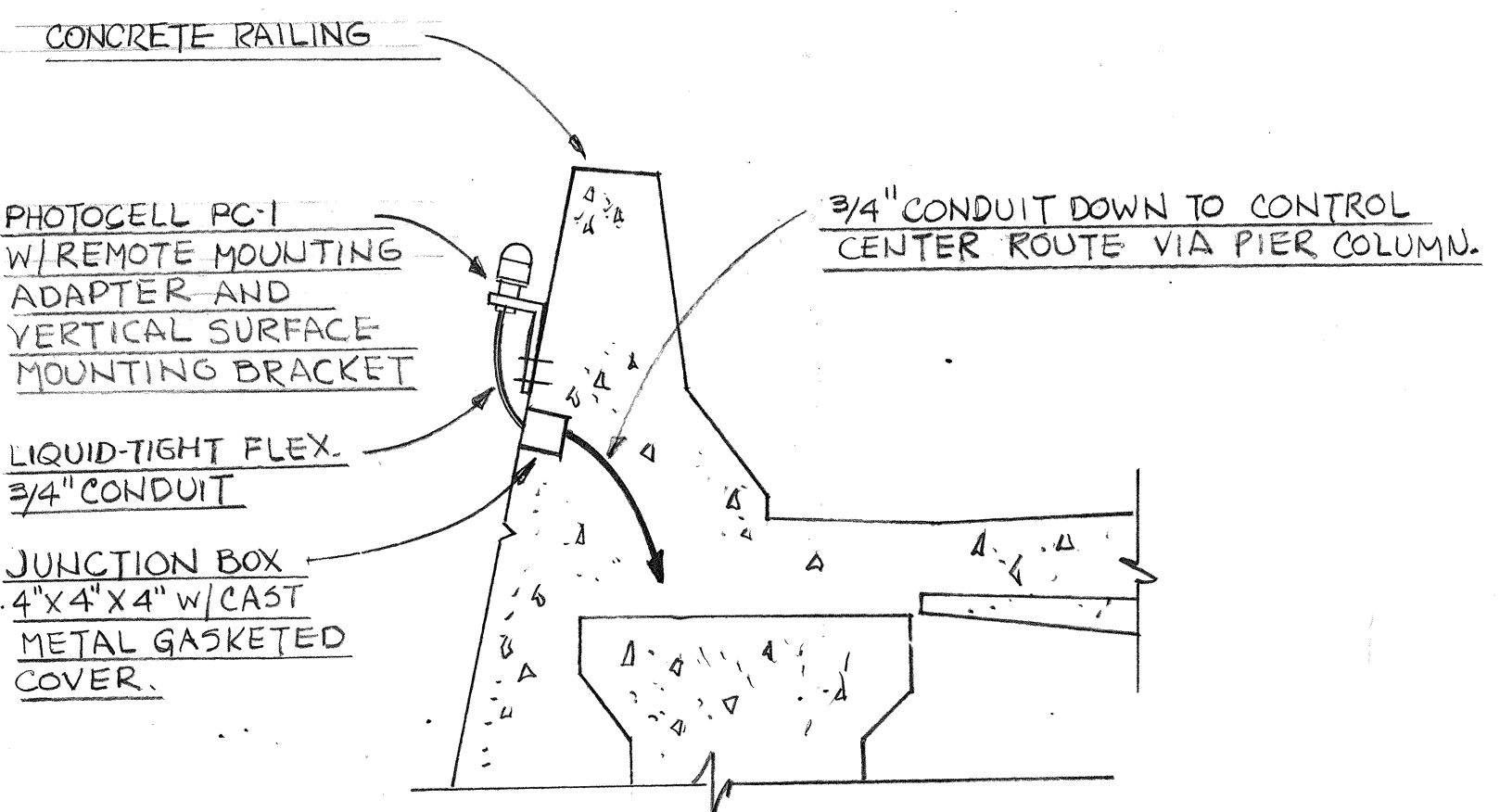
DATE	.....
SURVEY PLOTTED BY	.....
DESIGNED BY	.....
QUANTITIES BY	.....
CHECKED BY	.....
ORIGINAL PLAN	.....
NOTE BOOK	.....
No.	.....

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(121)16	1975	68	207



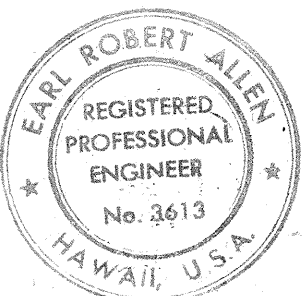
**PARTIAL ELECTRICAL PLAN
OUTBOUND FRONTAGE ROAD AND BIKE PATH**
SCALE 1" = 50'

NOTE: 1. THE LUMINAIRE "N" SHALL BE SO DESIGNED THAT THE GLARE SHIELD CAN BE MOVED TO OTHER SIDE AS WILL BE REQUIRED IN FUTURE CONTRACTS. FOR ALL LUMINAIRES ON MAUKA SIDE OF ϕ COLUMNS PLACE GLARE SHIELDS ON EWA SIDE. ALL OTHERS AS DIRECTED BY THE ENGINEER.



PHOTOCELL MOUNTING DETAIL (1)
NTS

2	7-1-75	REVISED NOTE
1	7-1-75	ADDED NOTE 1
NO.	DATE	REVISION



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**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

**ROADWAY LIGHTING
OUTBOUND FRONTAGE ROAD
ST 174+70 TO 185+00
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(121)16**

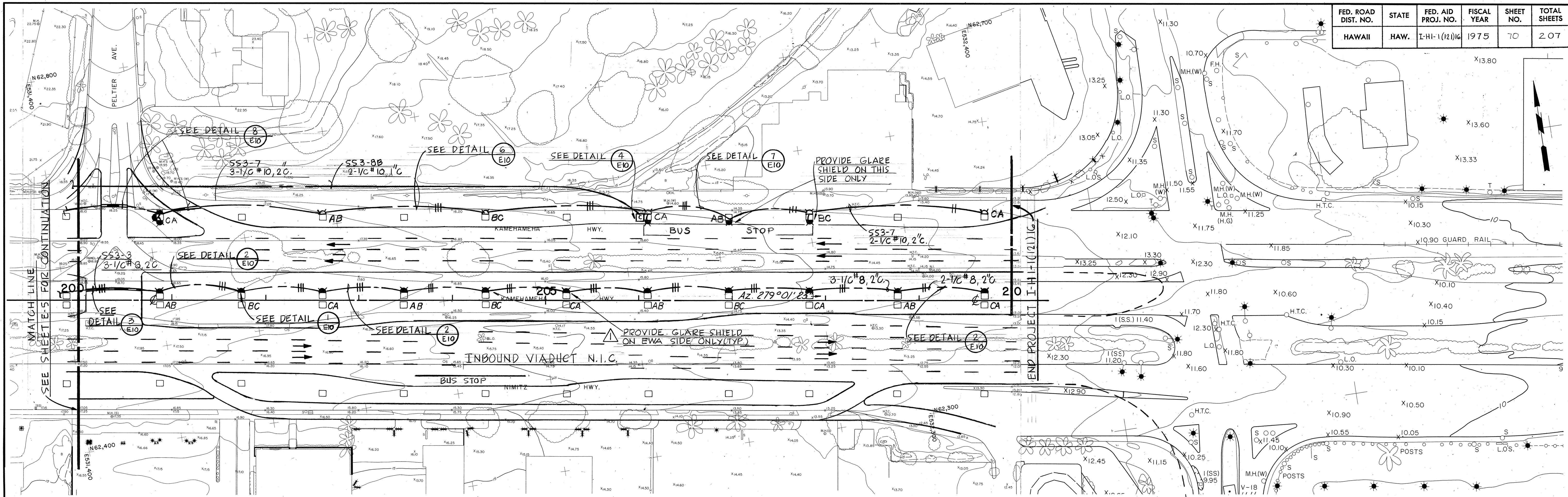
SCALE: AS SHOWN DATE: MAY 1, 1975

SHEET No. 4 OF 11 SHEETS

PLAN	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		

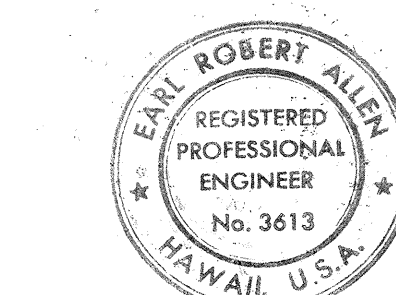
PROFILE	DATE	BY
SURVEYED		
NOTE BOOK		
NO.		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(121)16	1975	70	207



PARTIAL ELECTRICAL PLAN
 OUTBOUND FRONTAGE ROAD AND BIKE PATH
 SCALE 1" = 50'

2	7-1-75	ADDED LUMINAIRE LT. 206+00
1	7-1-75	REVISED NOTE
NO.	DATE	REVISION



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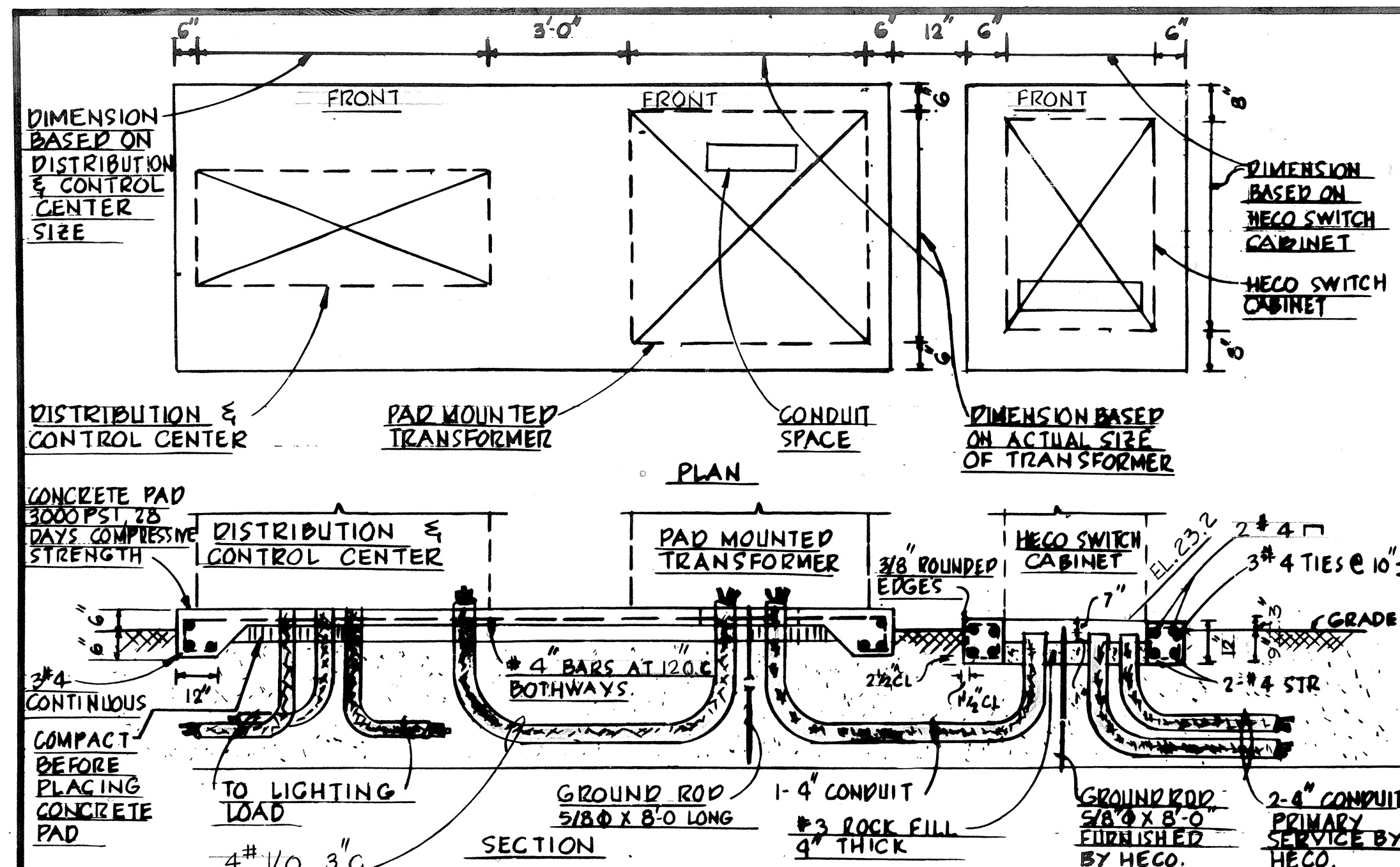
STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

ROADWAY LIGHTING
 OUTBOUND FRONTAGE ROAD
 ST. 200+00 TO 210+00
 AIRPORT INTERCHANGE
 E.A.I. PROJ. NO. I-H-1(121)16

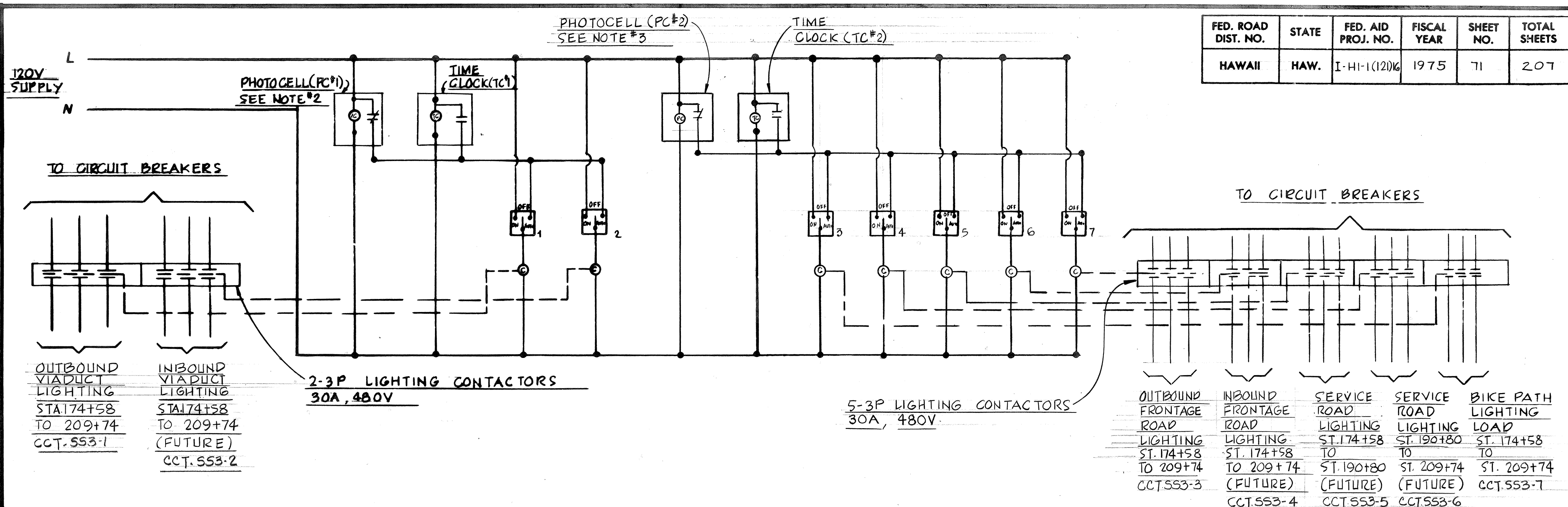
SCALE: 1" = 50'-0" DATE: MAY 1, 1975
 SHEET No. 6 OF 11 SHEETS

ADD 70

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-H-1(120)6	1975	71	207

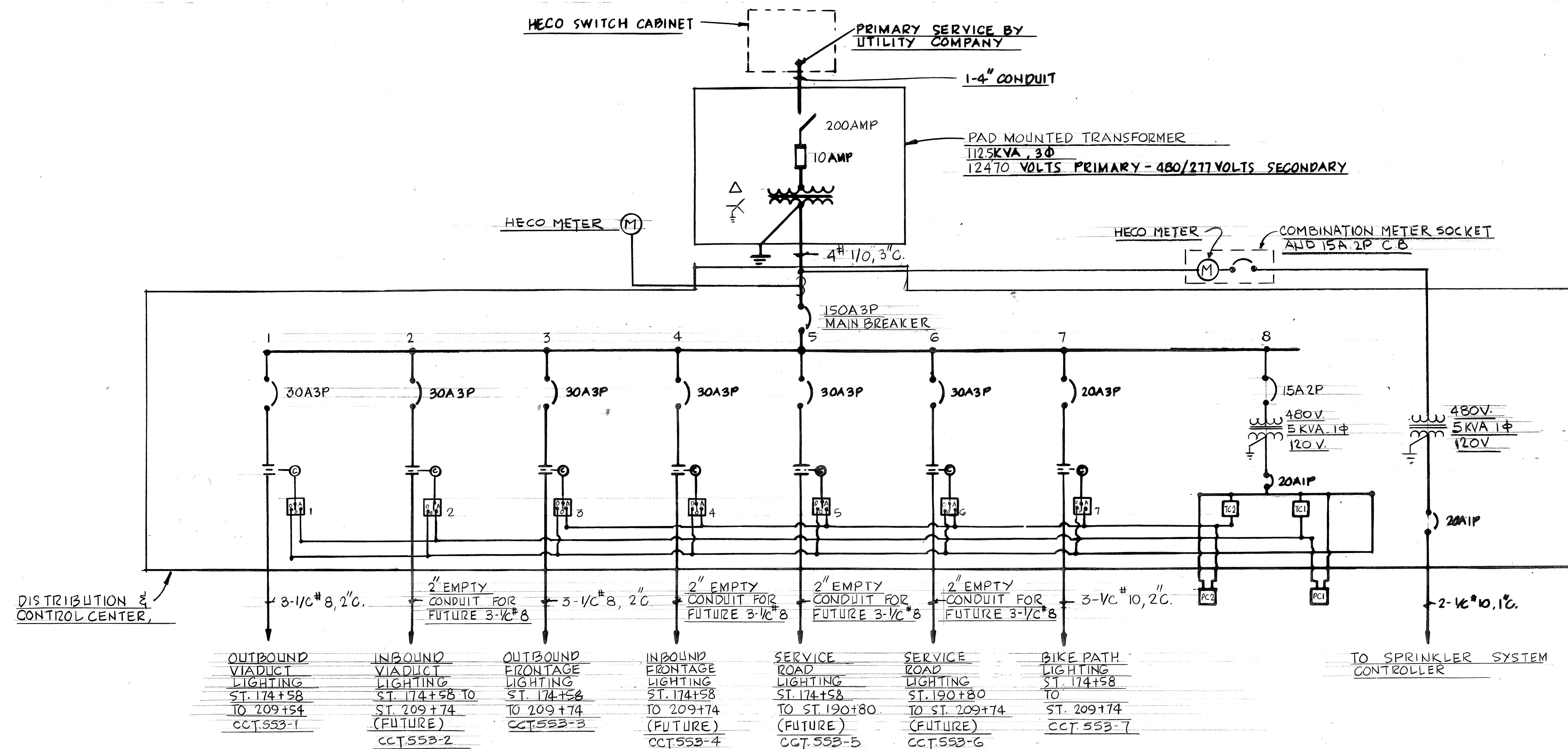


SUBSTATION PAD DETAIL (E-7)



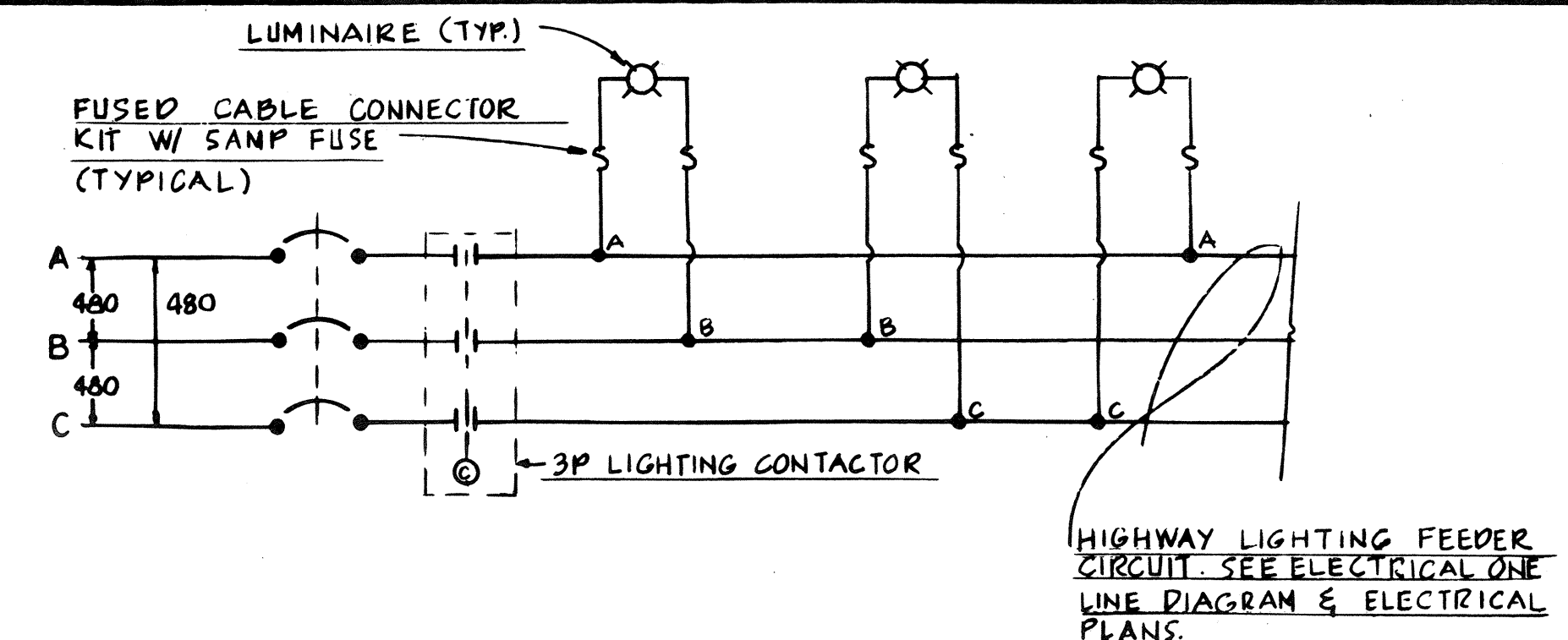
LIGHTING CONTROL DIAGRAM

- NOTES:** 1. SEE ELECTRICAL ONE LINE DIAGRAM ON THIS SHEET.
2. INSTALL PHOTOCELL (PC#1) ON EDGE OF RAILING, FACING NORTH SIDE.
3. INSTALL PHOTOCELL (PC#2) ON PIER COLUMN AT +16'-0" ABOVE GRADE.

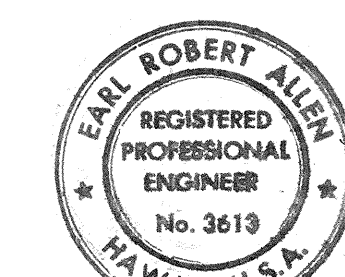


ELECTRICAL ONE LINE DIAGRAM - SUBSTATION (SS3)

NOTE: 1. SEE LIGHTING CONTROL DIAGRAM ON THIS SHEET.



TYPICAL LIGHTING CONNECTION DIAGRAM



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**STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION**

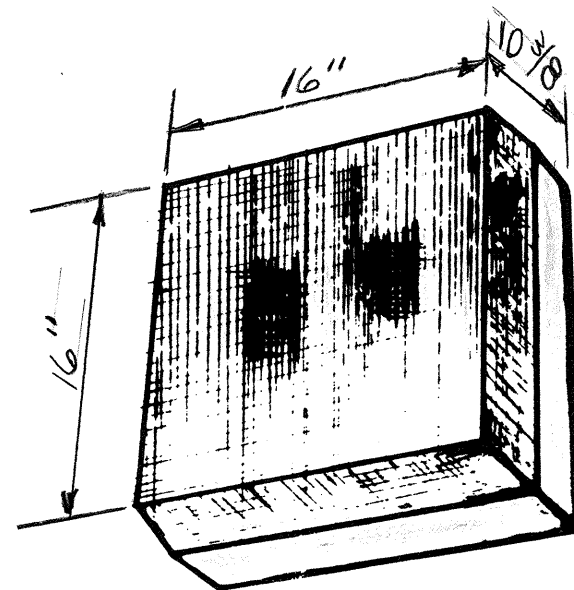
**ROADWAY LIGHTING
ELECTRICAL DETAILS**

**AIRPORT INTERCHANGE
E.A.I. PROJ. NO. I-H-1(121)16**

SCALE: AS SHOWN DATE: MAY 1, 1975

SHEET No. 7 OF 11 SHEETS

E-7



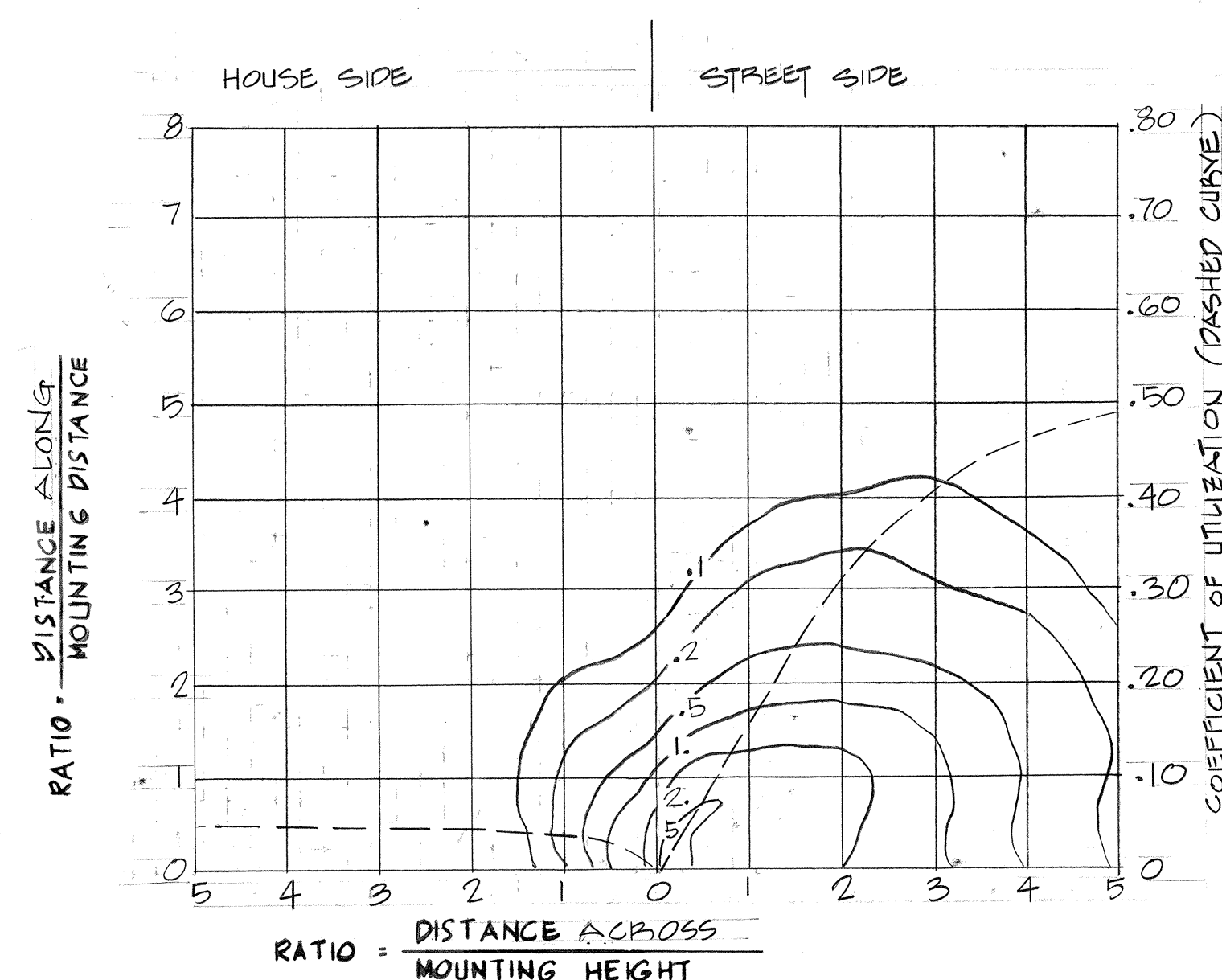
NOTES:

1. CONTRACTOR, AT HIS OPTION, MAY REPLACE EXISTING LUMINAIRES, WITH NEW LUMINAIRES OR REPLACE BALLASTS, OPTICAL ASSEMBLIES, AND LAMPS, WHICHEVER IS LESS EXPENSIVE.
2. IF EXISTING LUMINAIRES ARE REPLACED, RETURN EXISTING LUMINAIRES TO STATE OF HAWAII. IF PARTS ARE REPLACED, RETURN REMOVED PARTS TO THE STATE.

TYPE 'P' FIXTURE

WALL MOUNTED LUMINAIRE
MOUNTING HEIGHT: 15'
WATTAGE: 150W
LAMP: LL-150 (HPS)
LUMENS: 16,000 (INITIAL)

DATA TAKEN FROM HOLOPHANE CO. SHEET I-1525-14E



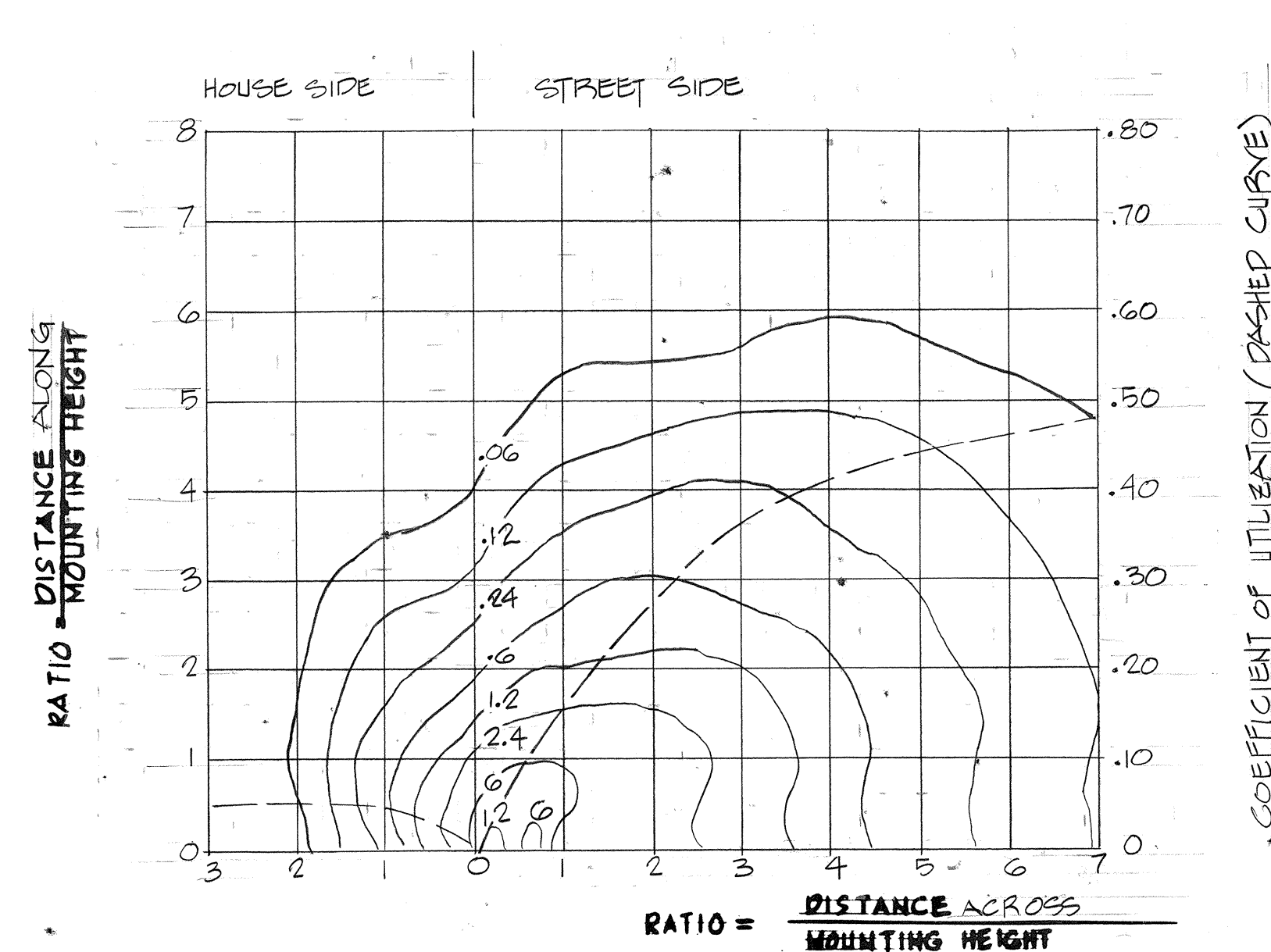
ISOFOOTCANDLE DIAGRAM

TYPE 'N' FIXTURE

WALL MOUNTED LUMINAIRE
MOUNTING HEIGHT: 15'
WATTAGE: 250W
LAMP: LL-250 (HPS)
LUMENS: 30,000 (INITIAL)

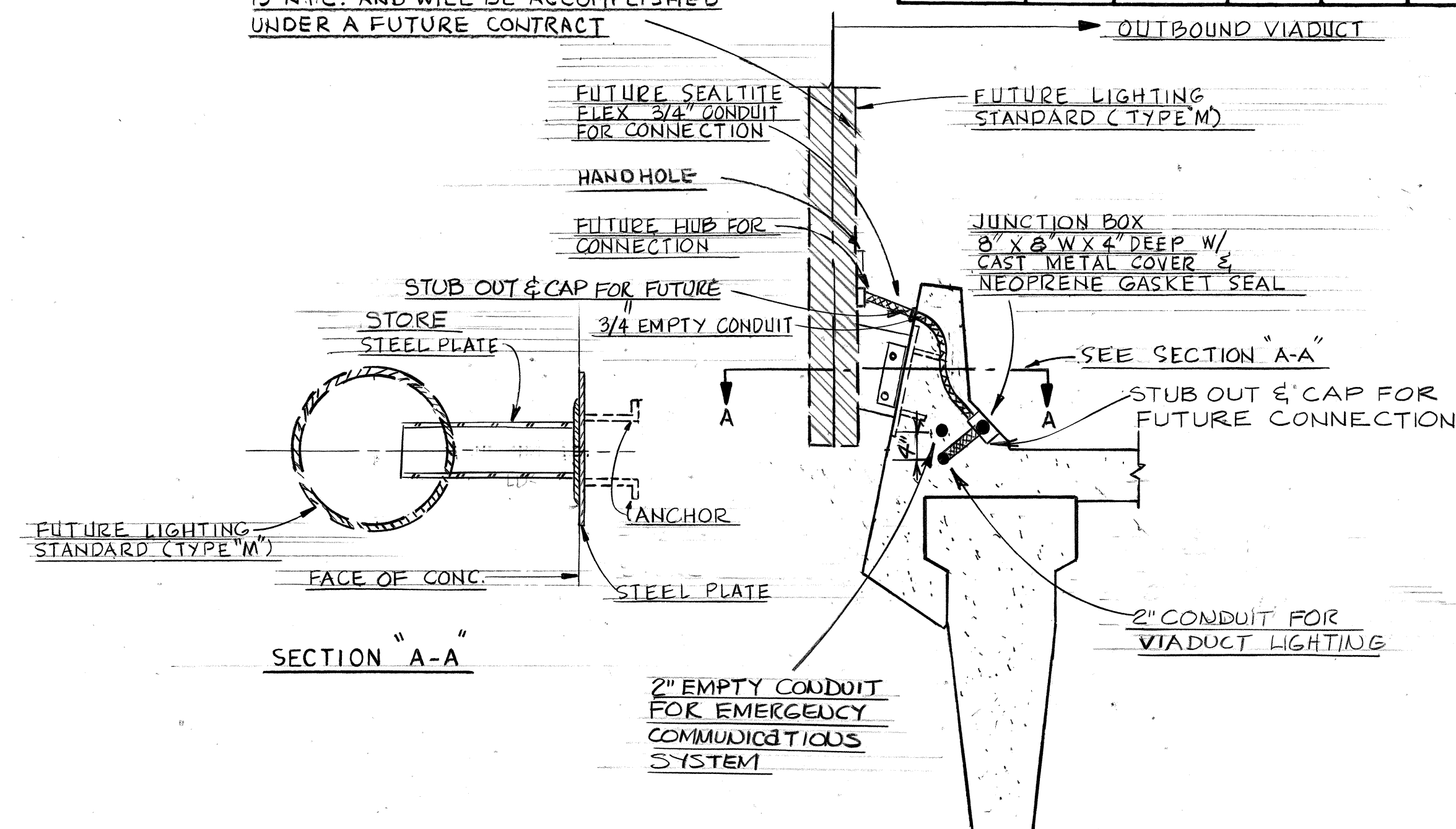
SHIELDED ONE SIDE

DATA TAKEN FROM HOLOPHANE CO. SHEET NO. I-1537-14E



ISOFOOTCANDLE DIAGRAM

WORK IN CROSS HATCHED AREA IS N.T.C. AND WILL BE ACCOMPLISHED UNDER A FUTURE CONTRACT

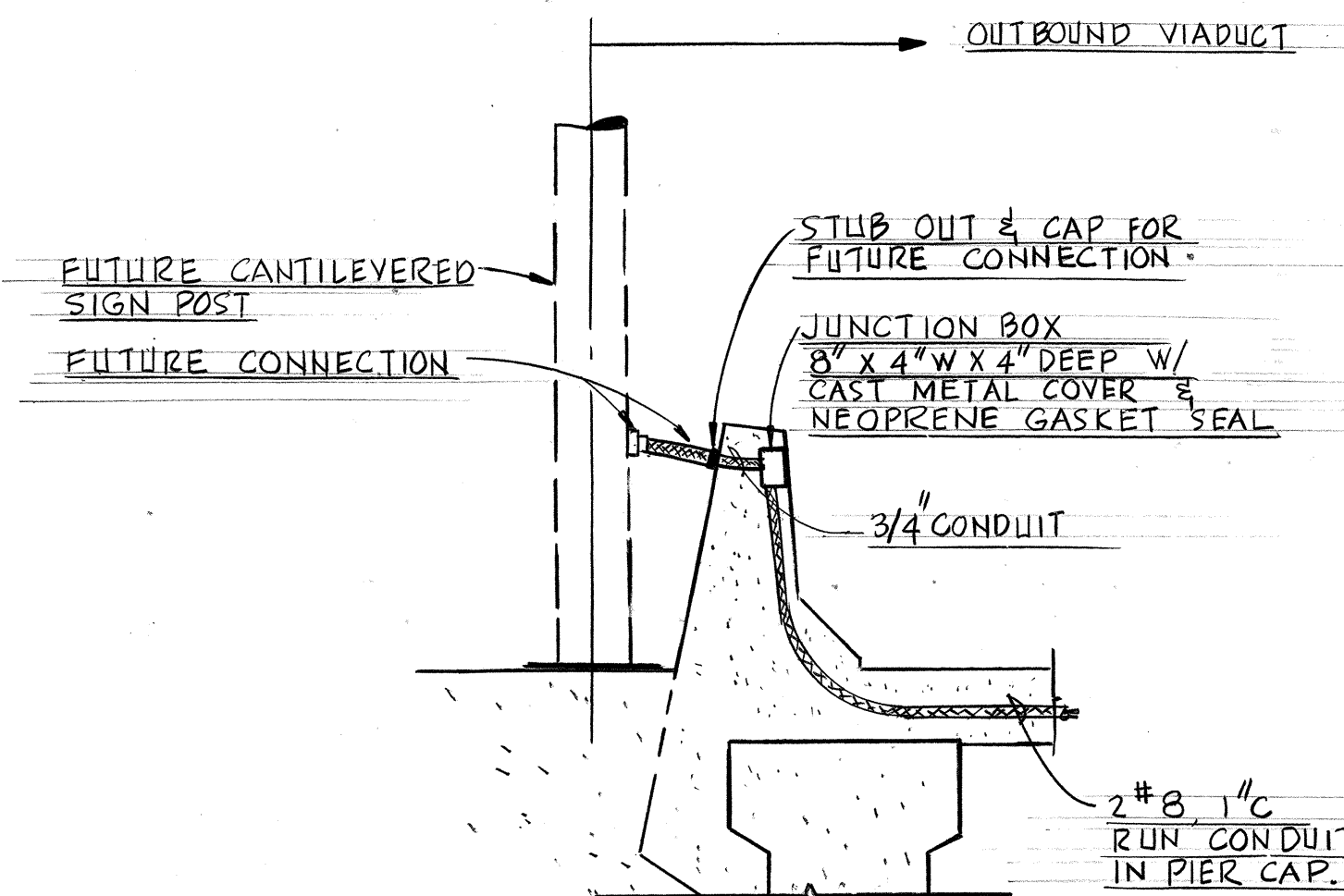


NOTE: ANCHOR # TO BE INSTALLED. SUPPORT BRACKET ASSEMBLY TO BE STORED FOR INSTALLATION UNDER PROJECT I-H-1(121)16. LIGHT STANDARD TO BE FURNISHED AND INSTALLED BY PROJECT I-H-1(121)16. SEE SHEET CO 102 S-1

MOUNTING AND CONNECTION DETAIL OUTBOUND VIADUCT LIGHT TYPE 'M'

N.T.S.

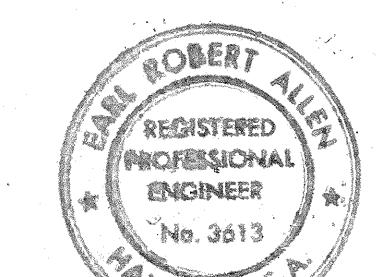
NOTE: SEE STRUCTURAL DRAWING FOR EXACT DIMENSION & MOUNTING DETAIL, SHEET CO 102 S-1



CONNECTION DETAIL SIGN POST

N.T.S.

6-7-78	CHANGED LAMP AND ISO CANDLE DIAGRAMS FOR TYPE 'P' & 'N' LUMINAIRES, ADDED NOTES
12-28-76	Changed Detail #1 to show detour lighting on mauka railing
DATE	REVISION



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

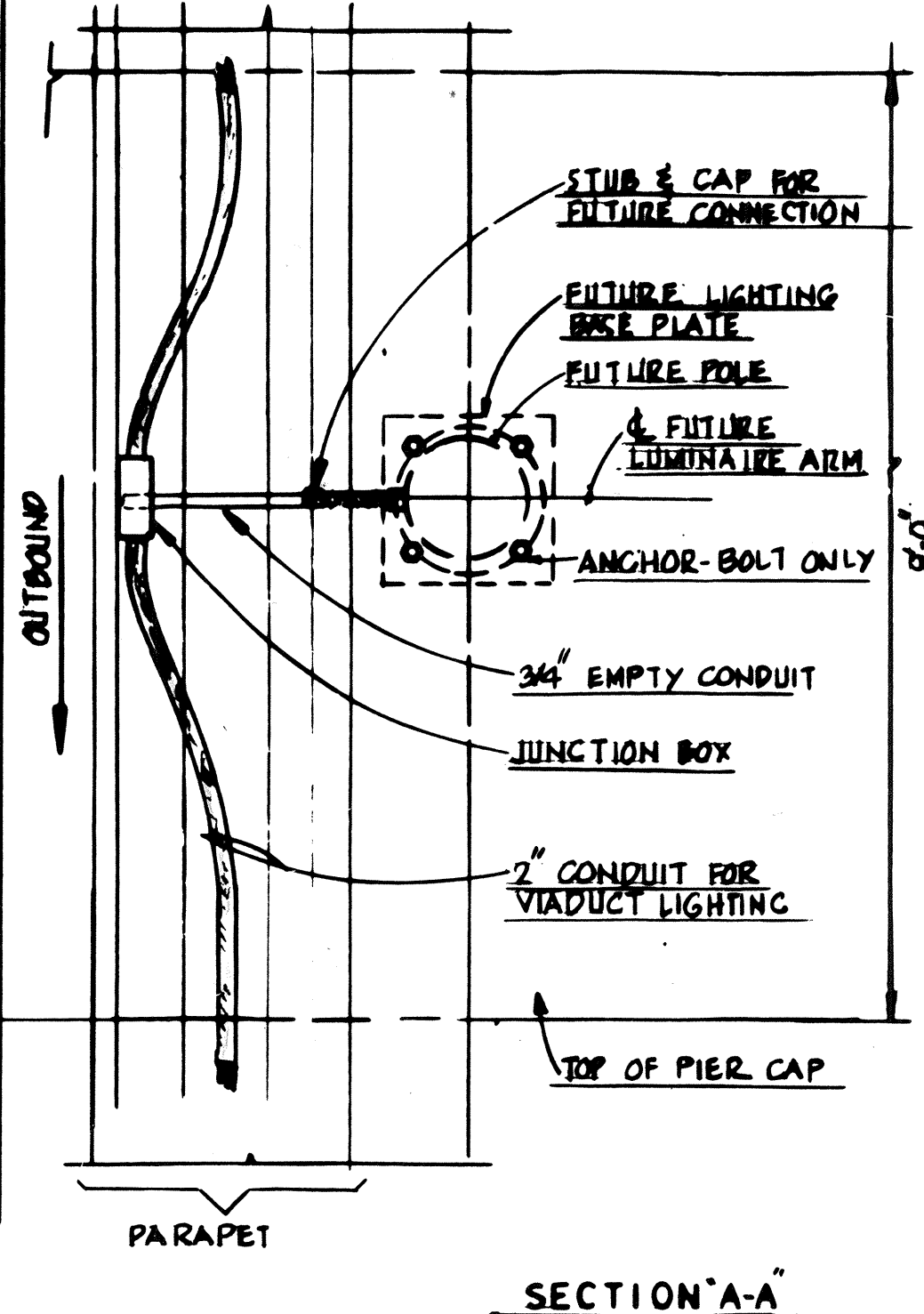
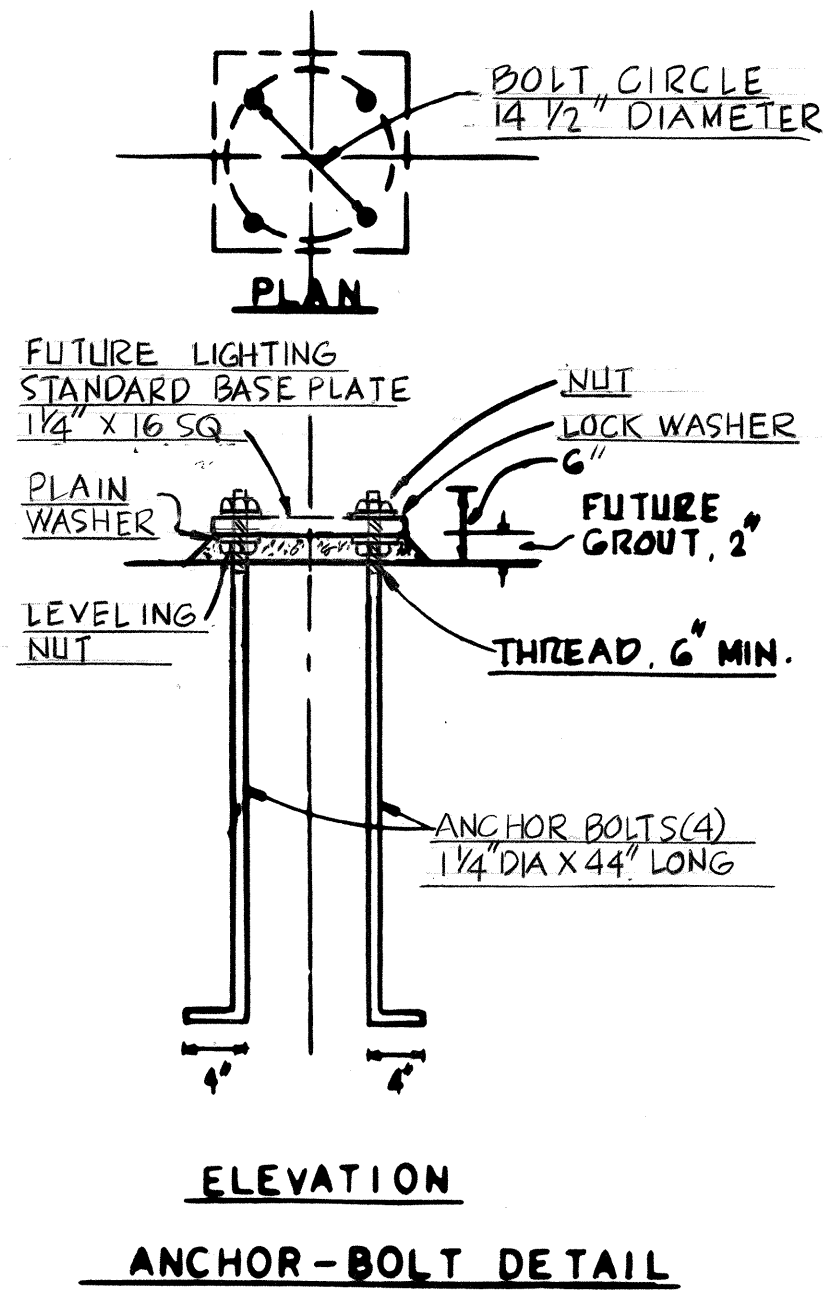
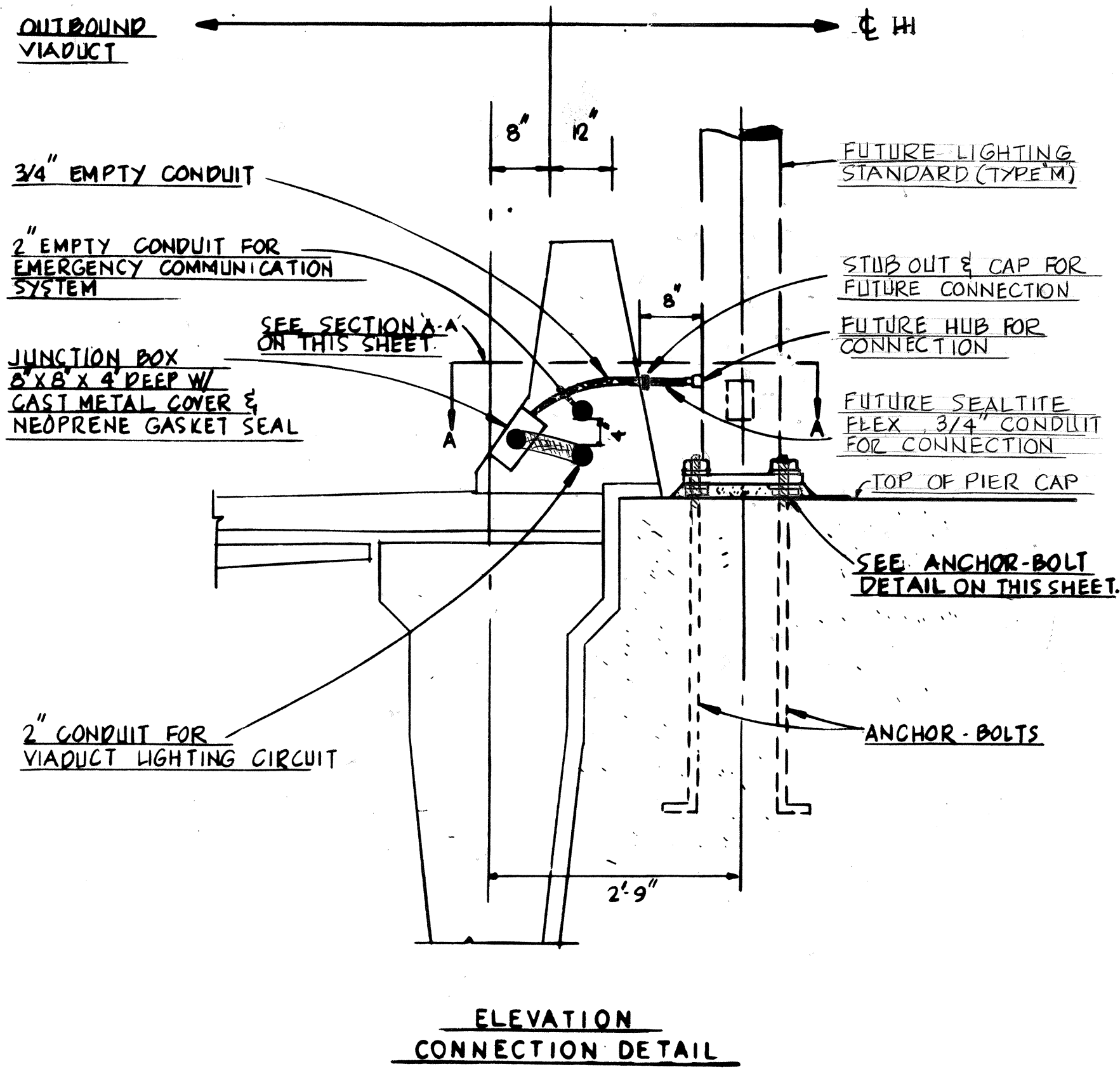
ROADWAY LIGHTING ELECTRICAL DETAILS

AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-H-1(121)16

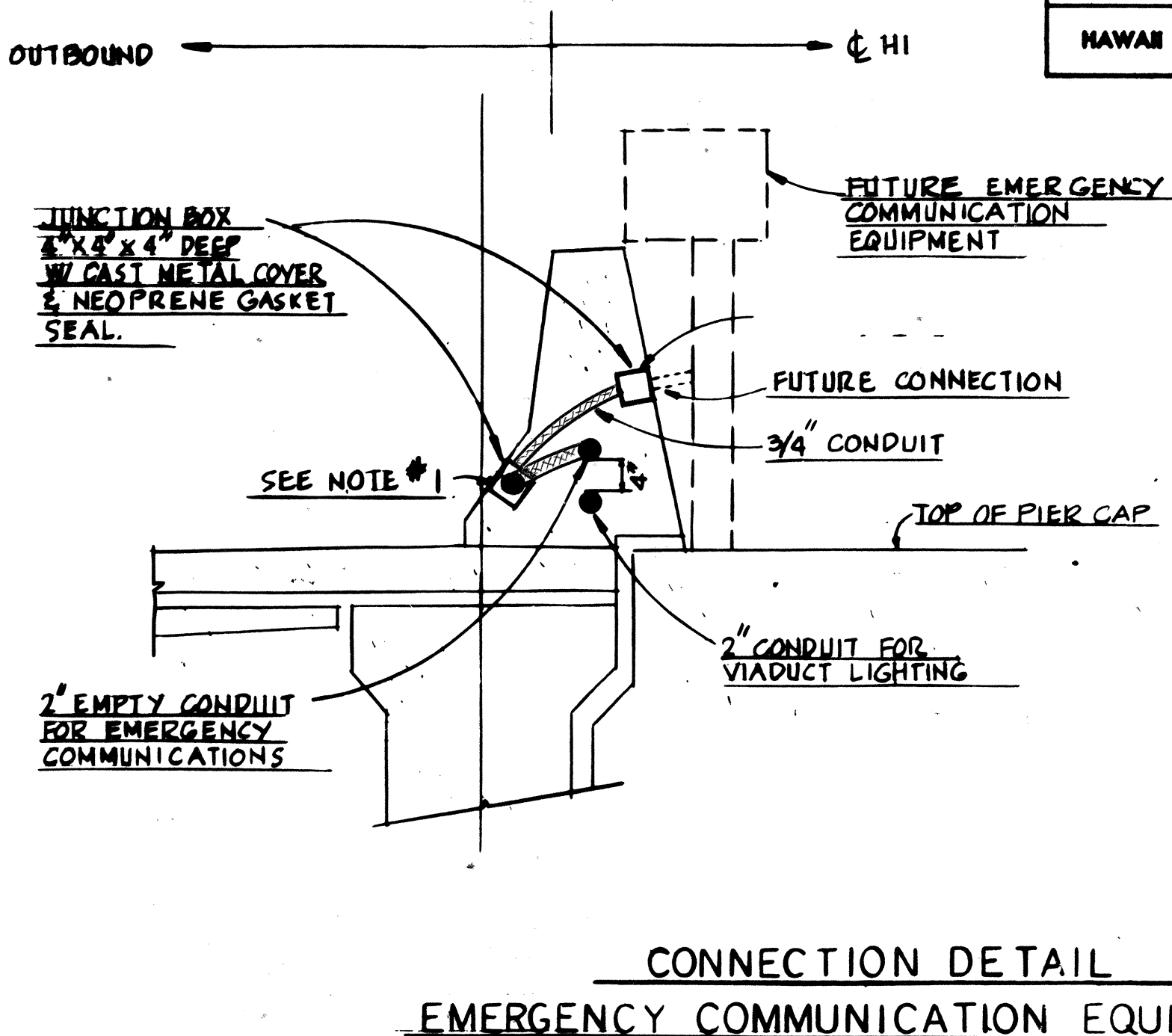
SCALE: AS SHOWN DATE: MAY 1, 1975

SHEET No. 8 OF 11 SHEETS

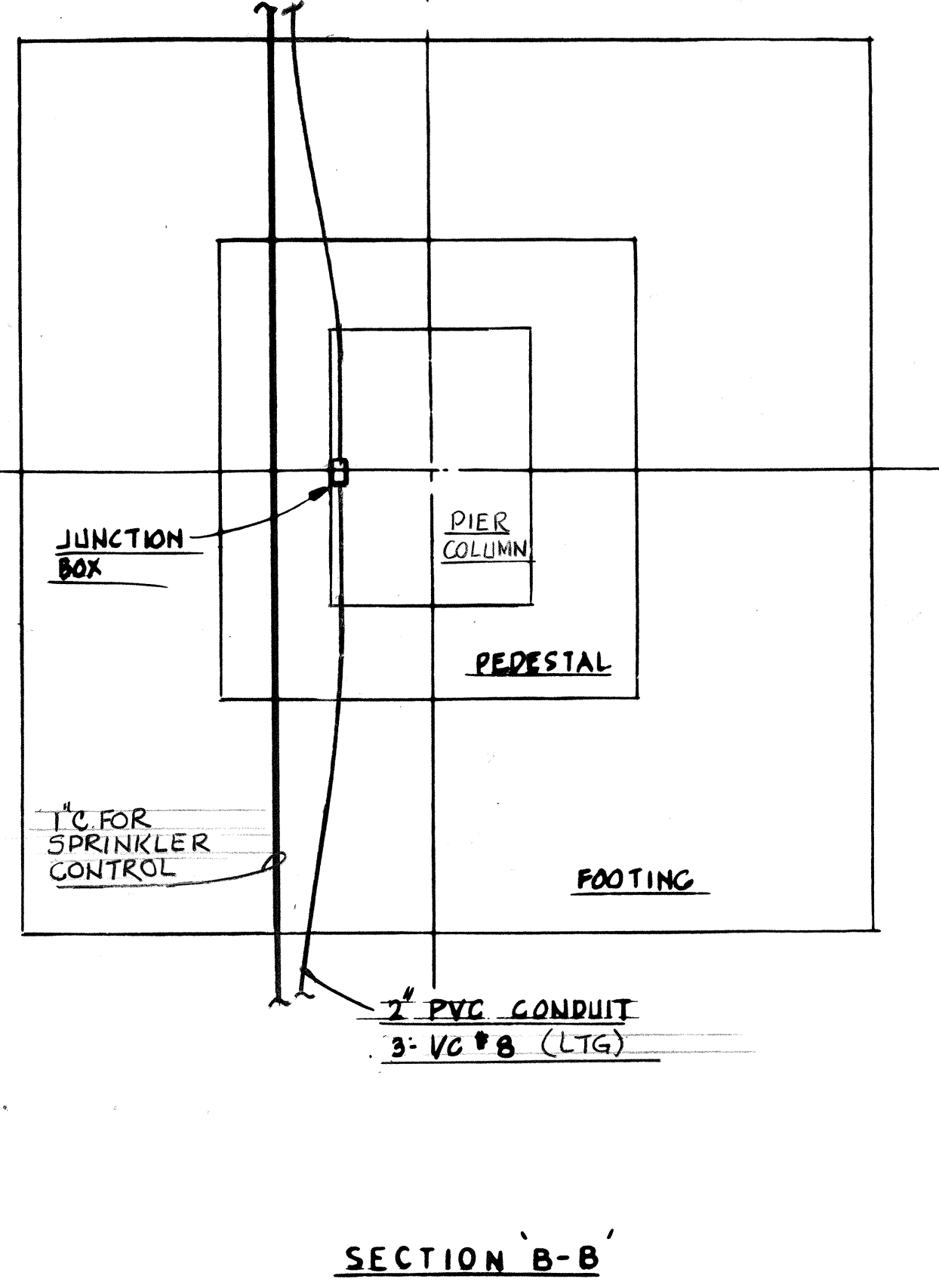
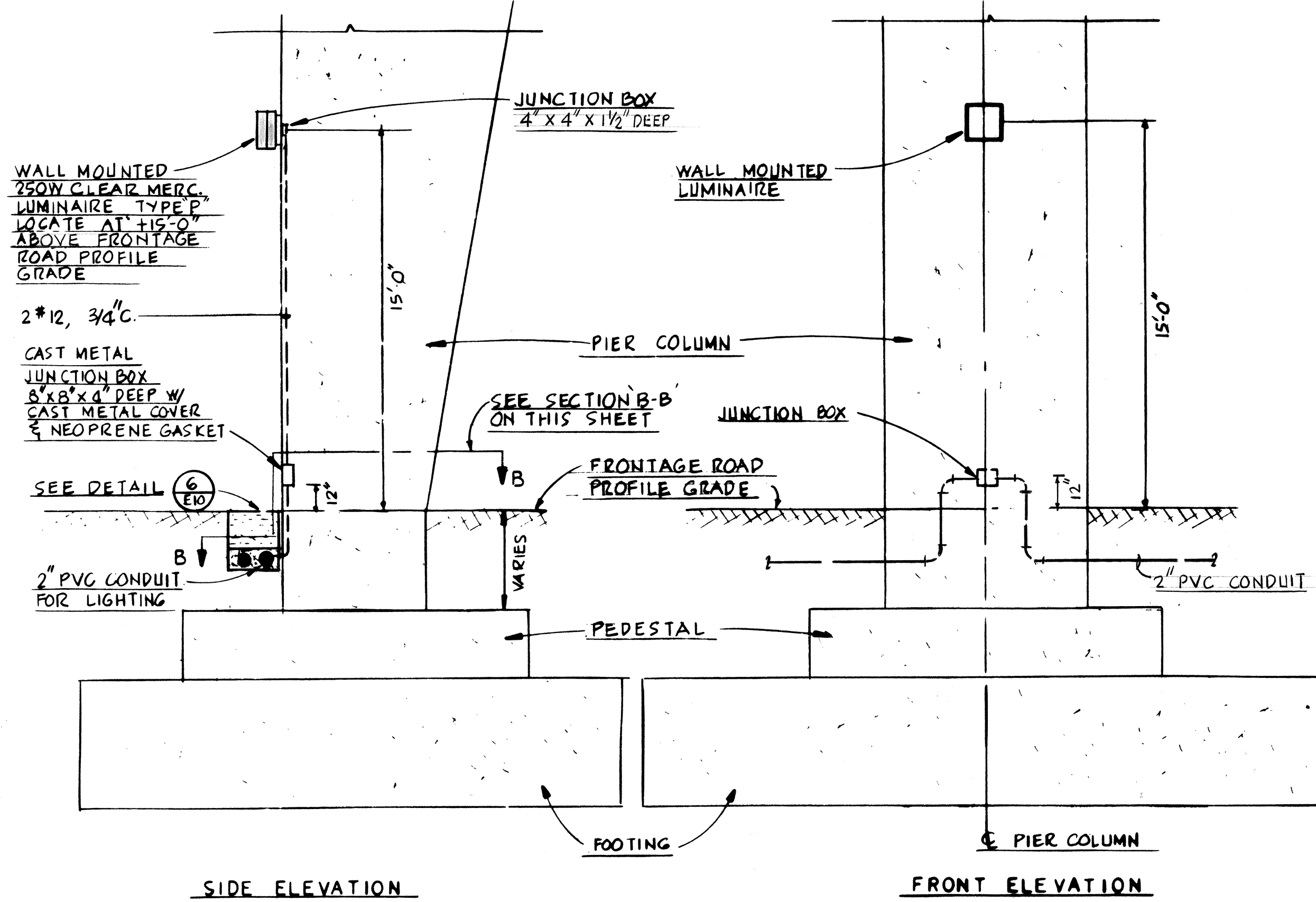
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(121)16	1975	73	207



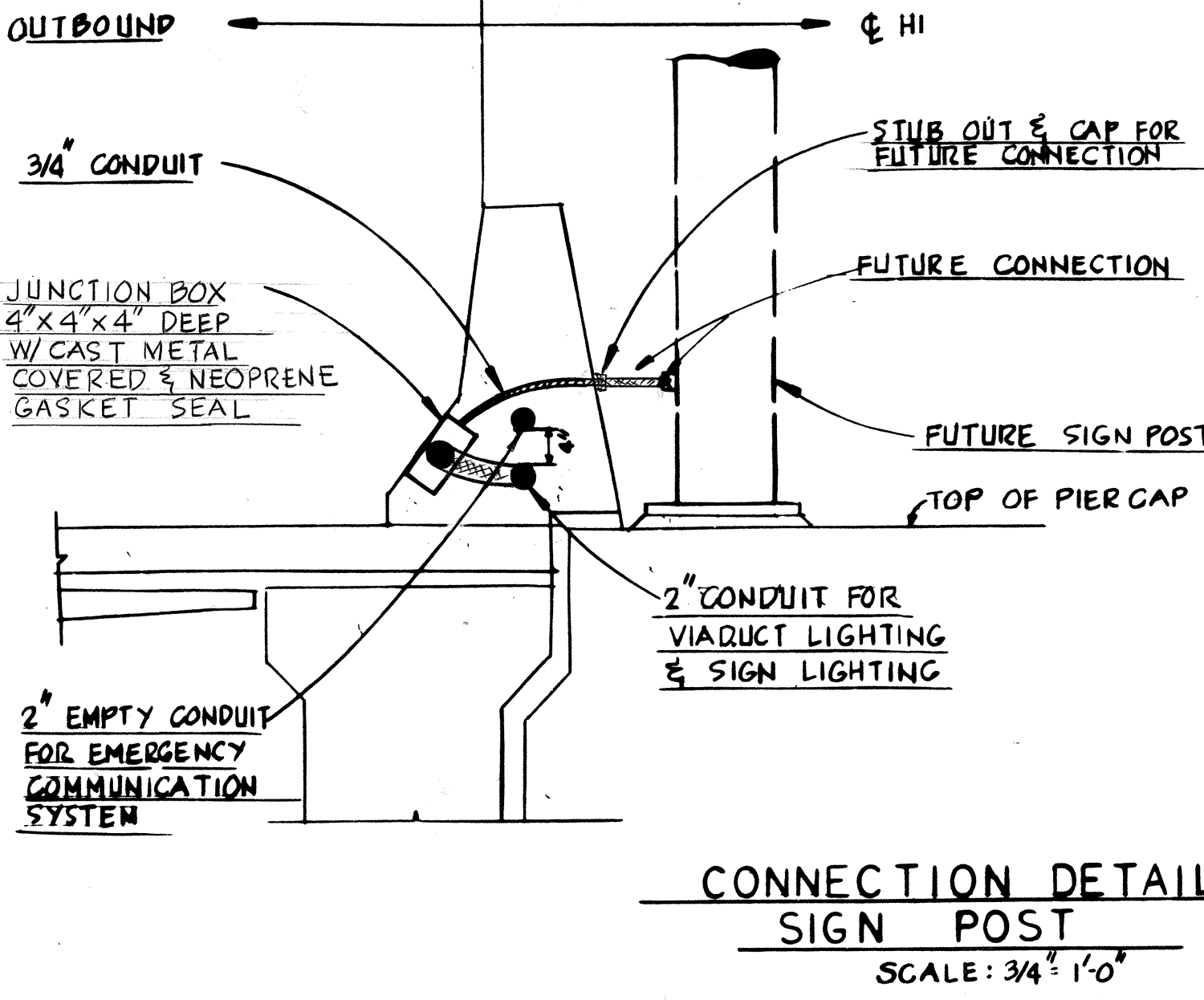
MOUNTING AND CONNECTION DETAIL
OUTBOUND VIADUCT LIGHT TYPE 'M'
SCALE: 3/4" = 1'-0"



CONNECTION DETAIL
EMERGENCY COMMUNICATION EQUIPMENT
SCALE: 3/4" = 1'-0"
NOTE : 1 LOCATE EMERGENCY PULL BOX ADJACENT TO & ABOVE LIGHTING JUNCTION BOX WHEN BOTH ARE LOCATED AT SAME PIER.



MOUNTING AND CONNECTION DETAIL
BIKE PATH LIGHTING TYPE 'P'
SCALE: 1/4" = 1'-0"



CONNECTION DETAIL
SIGN POST
SCALE: 3/4" = 1'-0"

DESIGNED BY	DATE
CHECKED BY	
IN CHARGE	
NOTED BY	
QUANTITY BY	
CHECKED BY	

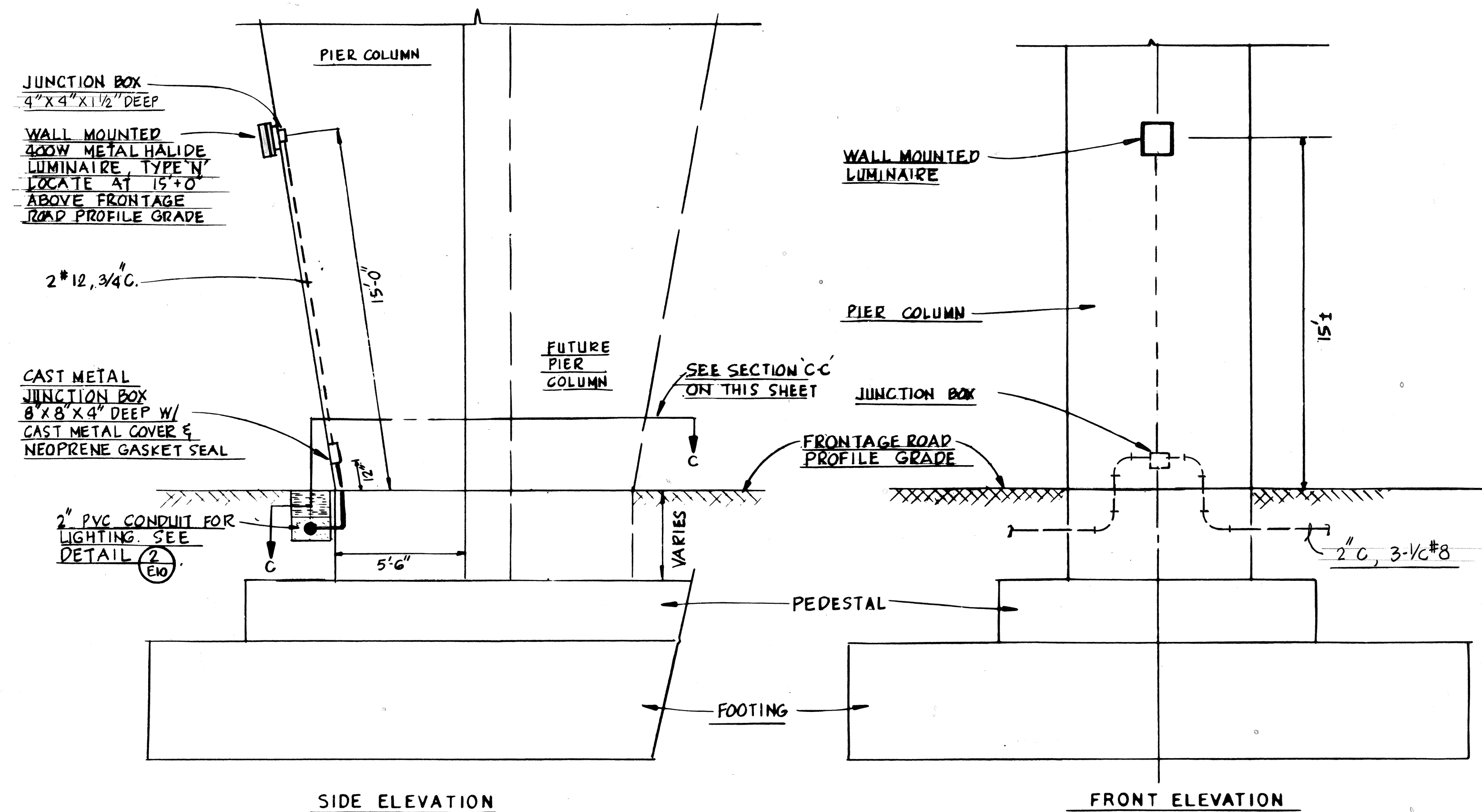
EARL ROBERT ALLEN
REGISTERED PROFESSIONAL ENGINEER
No. 3613
HAWAII, U.S.A.
E. R. Allen
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

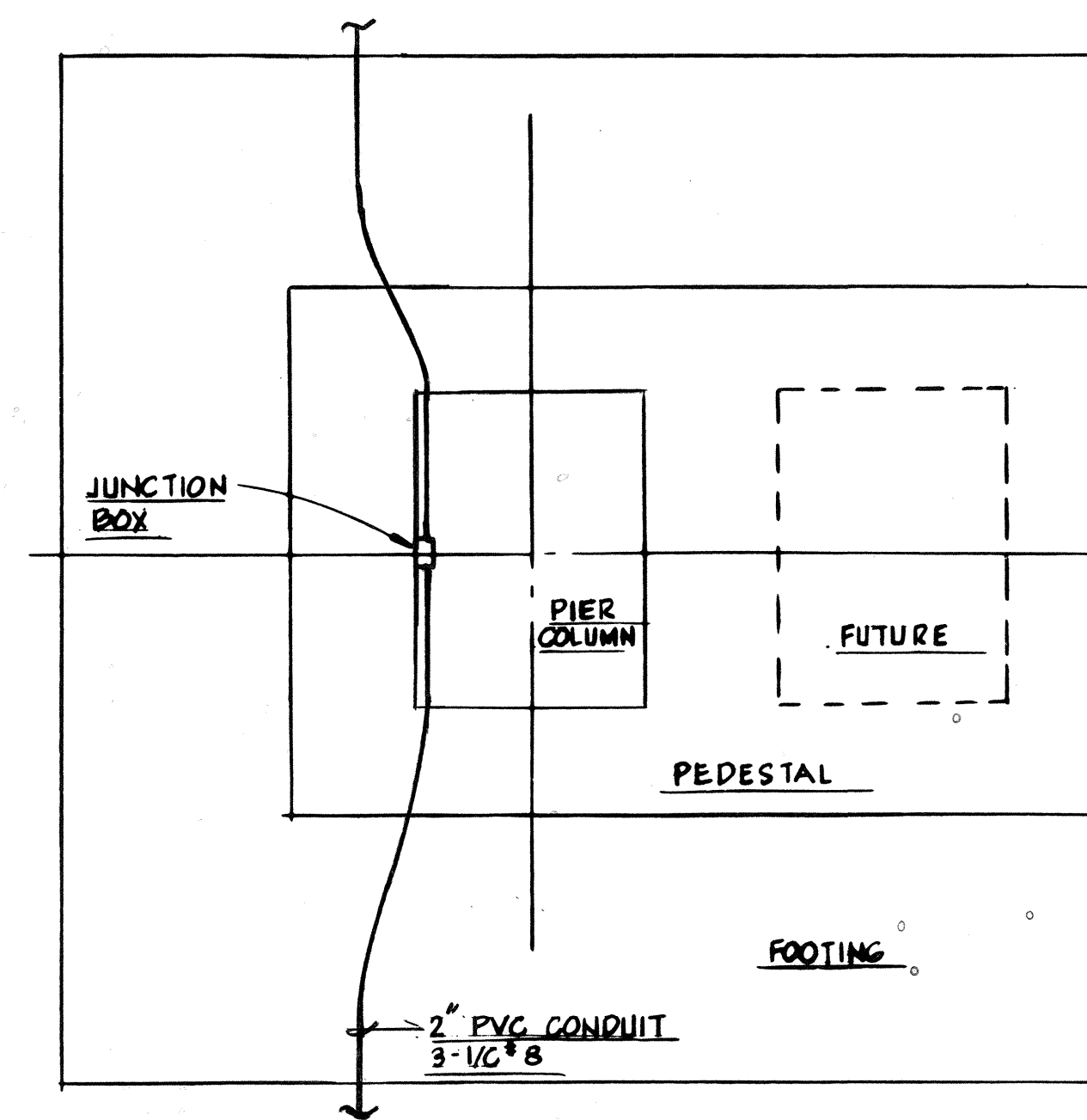
ROADWAY LIGHTING
ELECTRICAL DETAILS
AIRPORT INTERCHANGE
F.A.J. PROJ. NO I-HI-1(121)16
SCALE: AS SHOWN DATE: MAY 1, 1975
SHEET No. 9 OF 11 SHEETS

E-9

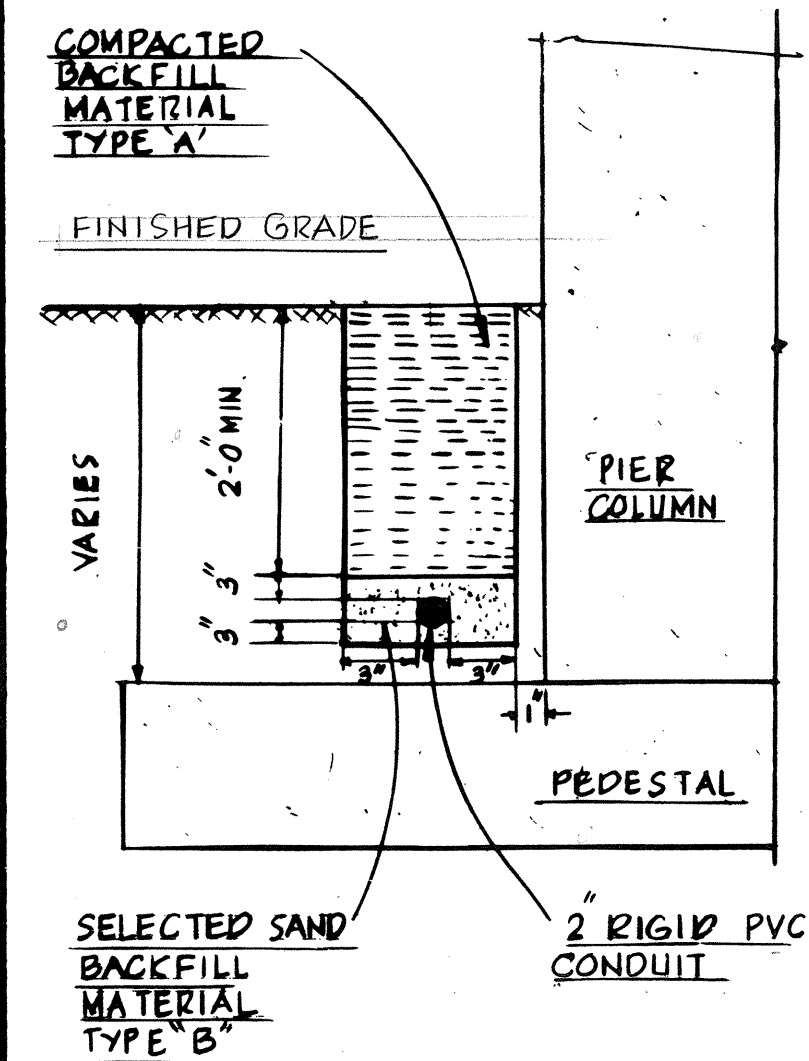
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-1(121)16	1975	74	207



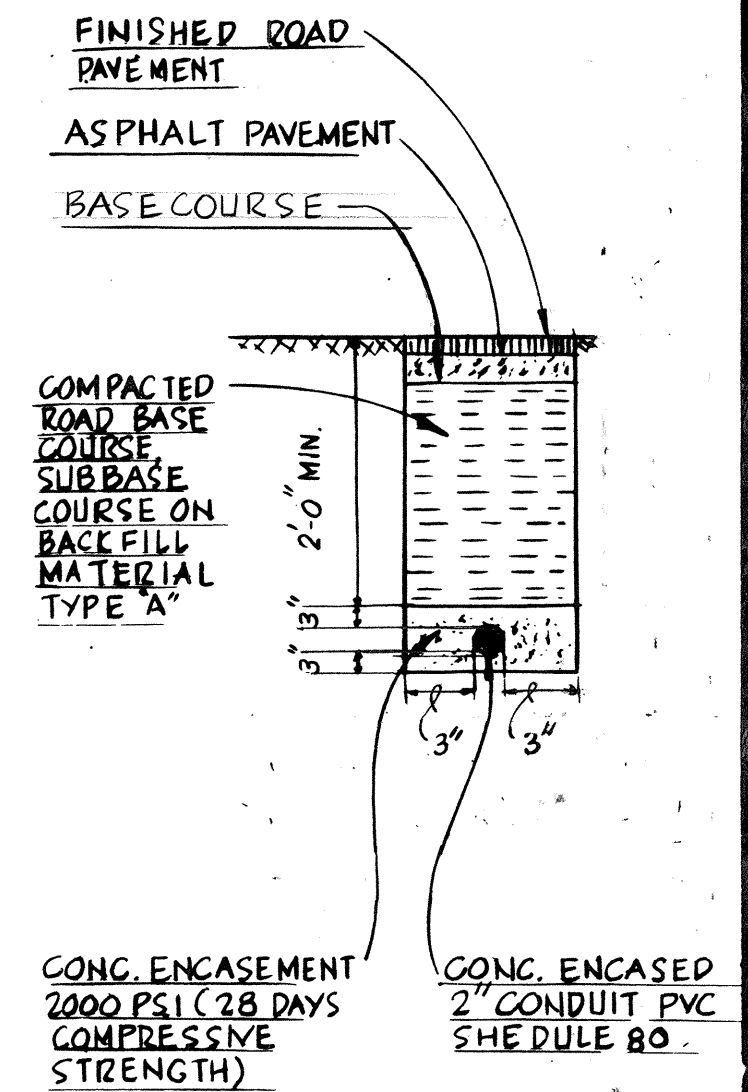
MOUNTING AND CONNECTION DETAIL
OUTBOUND FRONTAGE ROAD LIGHT-TYPE "N"
SCALE: 3/4" = 1'-0"



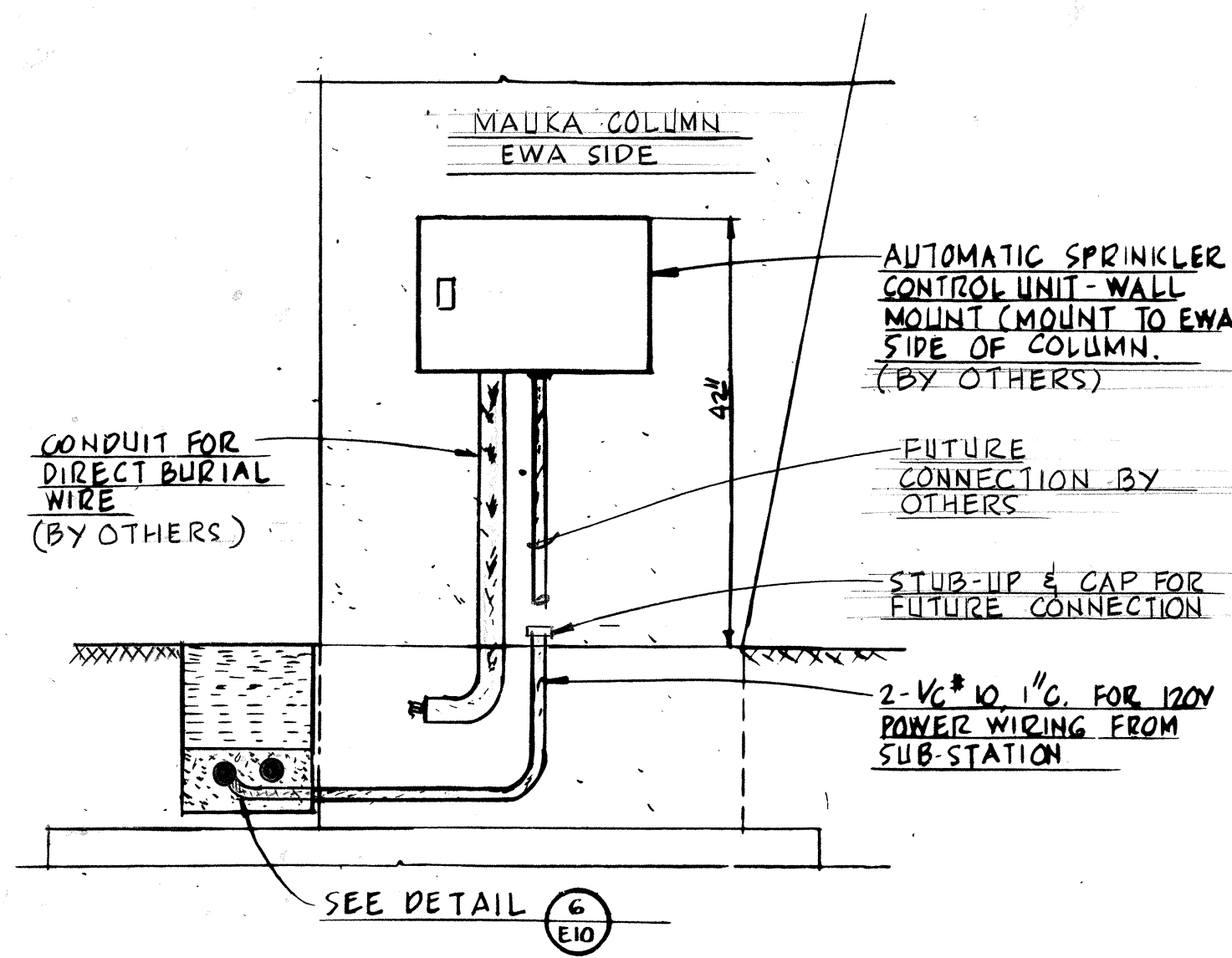
SECTION C-C



TYPICAL ELECTRICAL TRENCH BURIAL DETAIL
N.T.S.

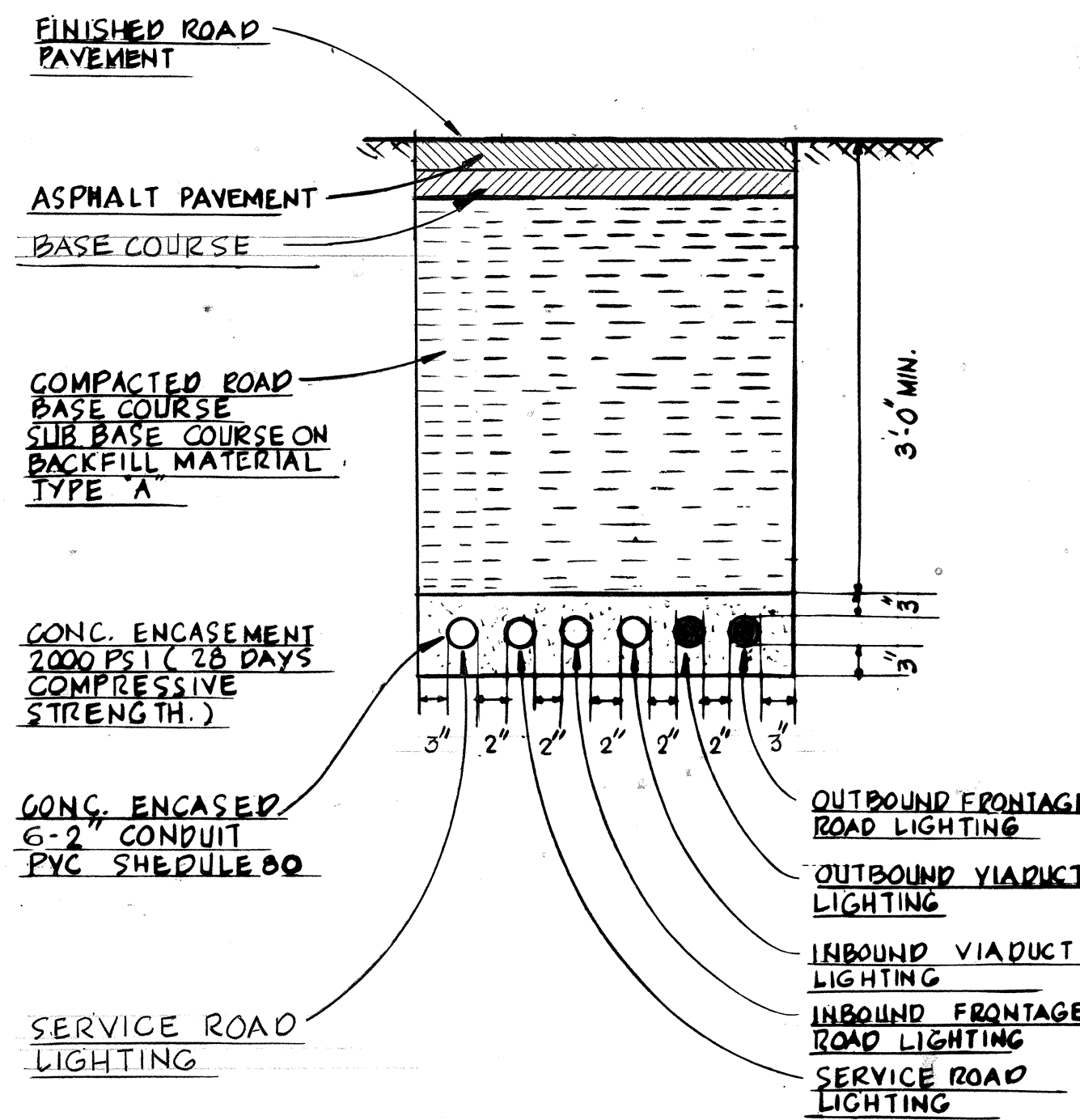


TYPICAL CONCRETE ENCASED RACEWAY DETAIL
N.T.S.

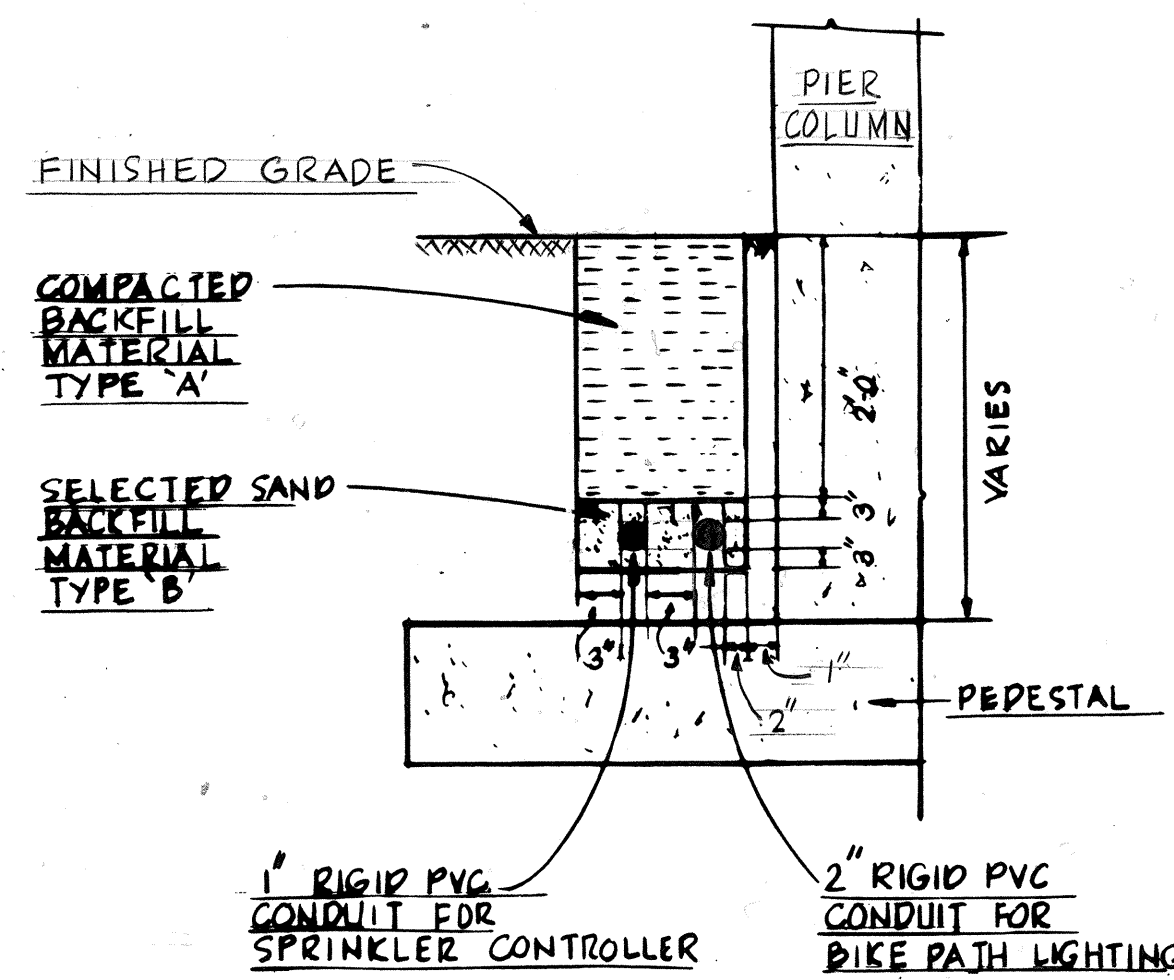


SPRINKLER CONTROLLER DETAIL
N.T.S.

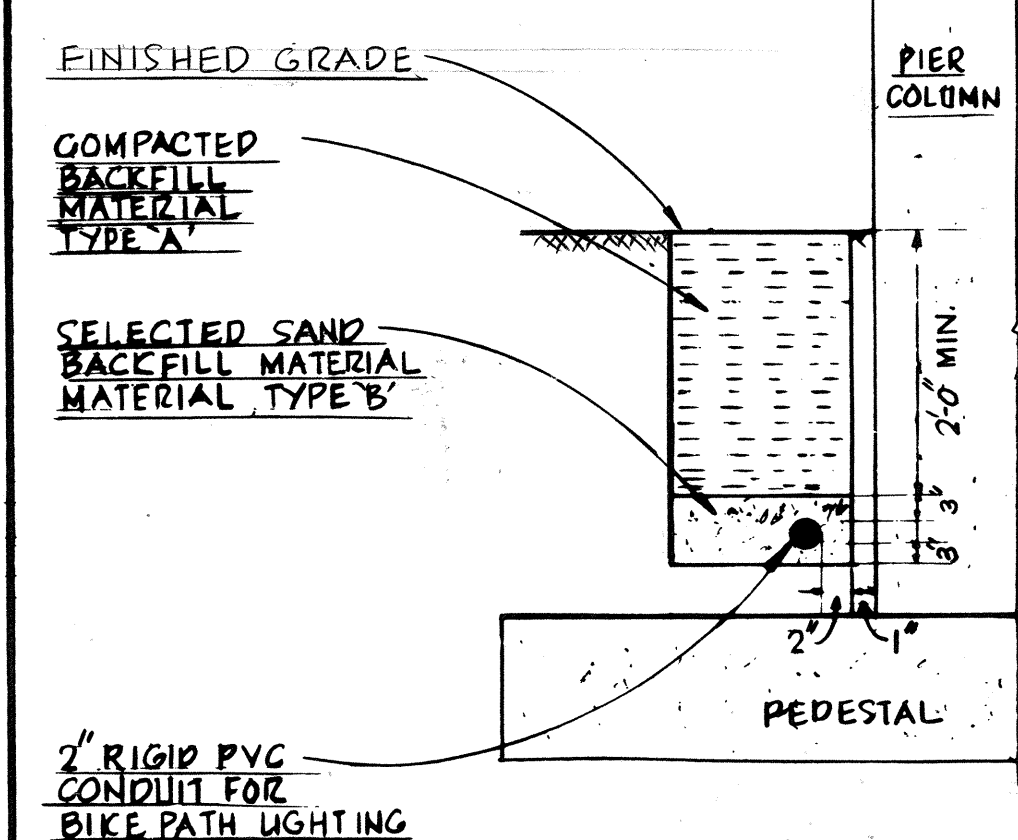
NOTES: 1. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL ABOVE GRADE & PVC BELOW GRADE.
2. SEE PARTIAL ELECTRICAL PLANS FOR CONTROLLER LOCATION.



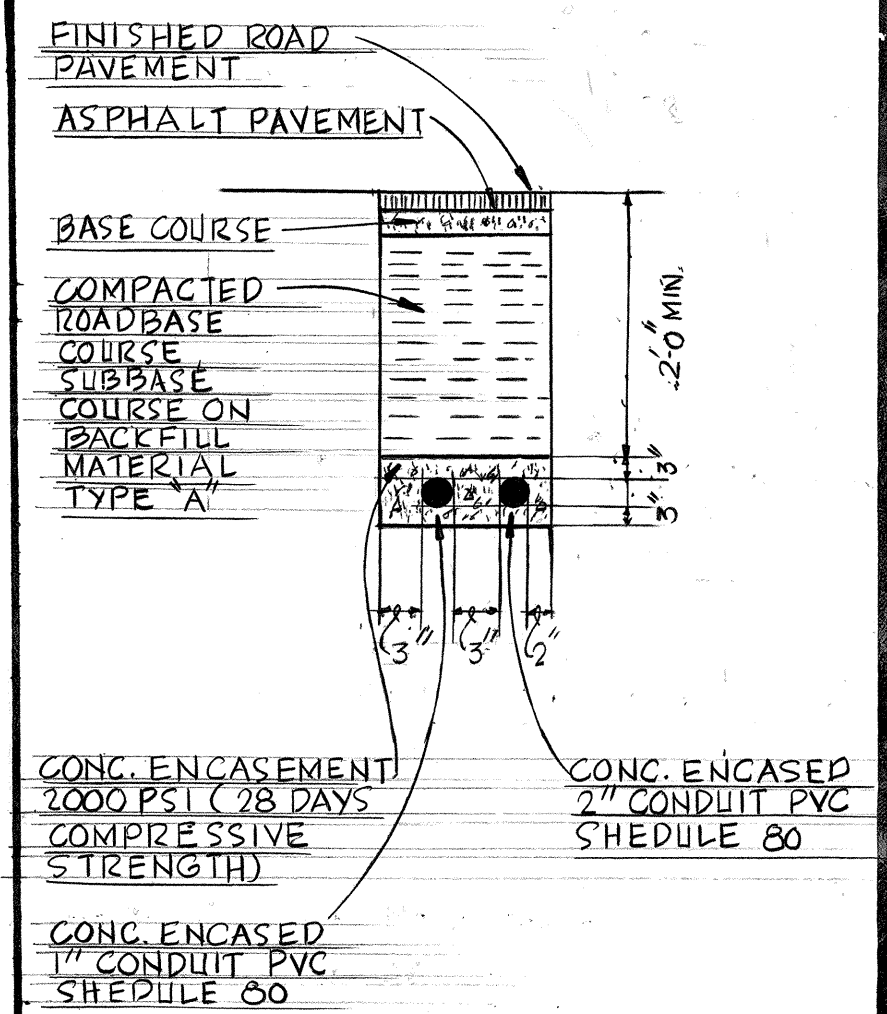
TYPICAL CONCRETE ENCASED RACEWAY DETAIL
N.T.S.



TYPICAL ELECTRICAL TRENCH BURIAL DETAIL
N.T.S.



TYPICAL ELECTRICAL TRENCH BURIAL DETAIL
N.T.S.



TYPICAL CONCRETE ENCASED RACEWAY DETAIL
N.T.S.

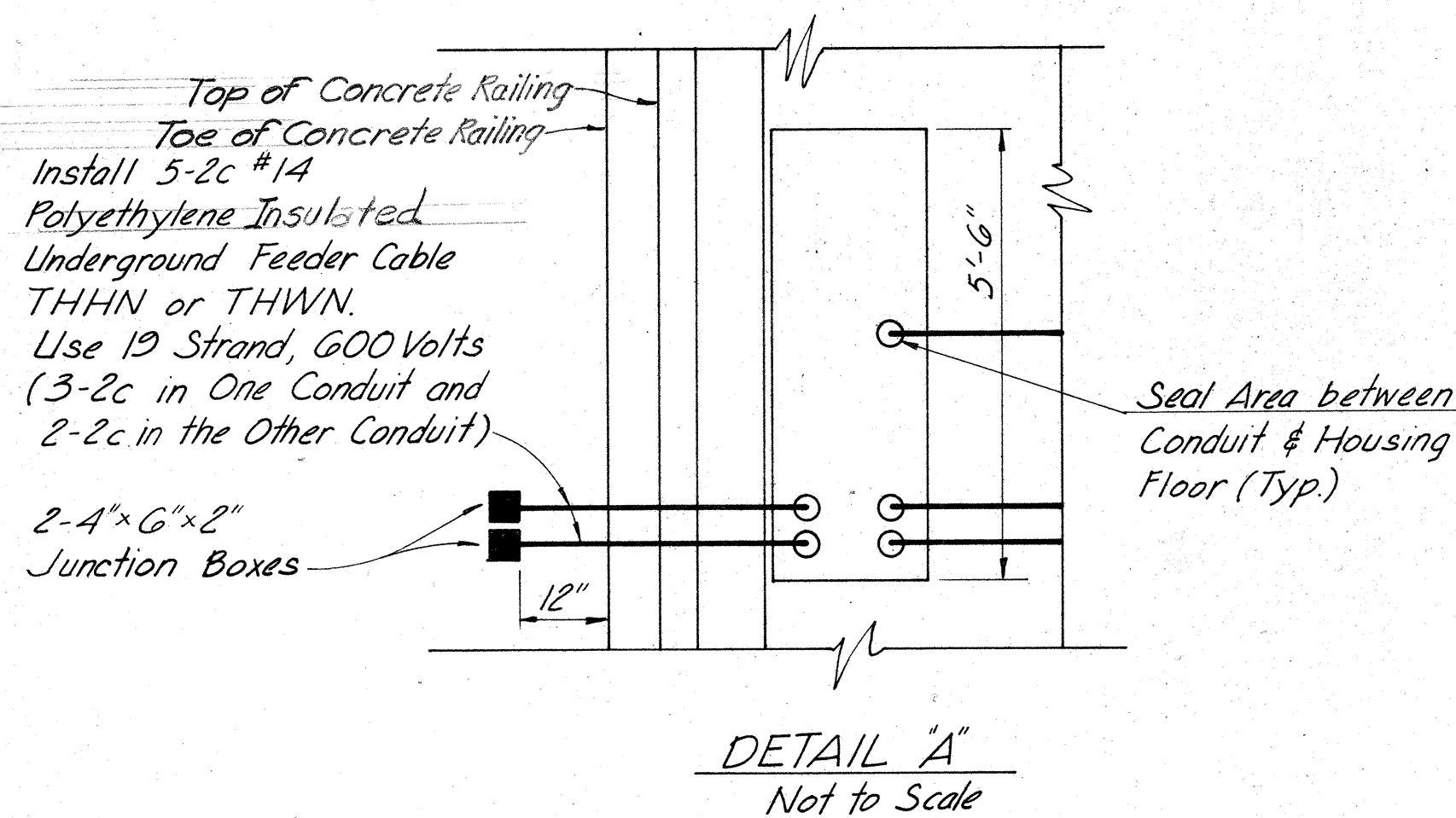
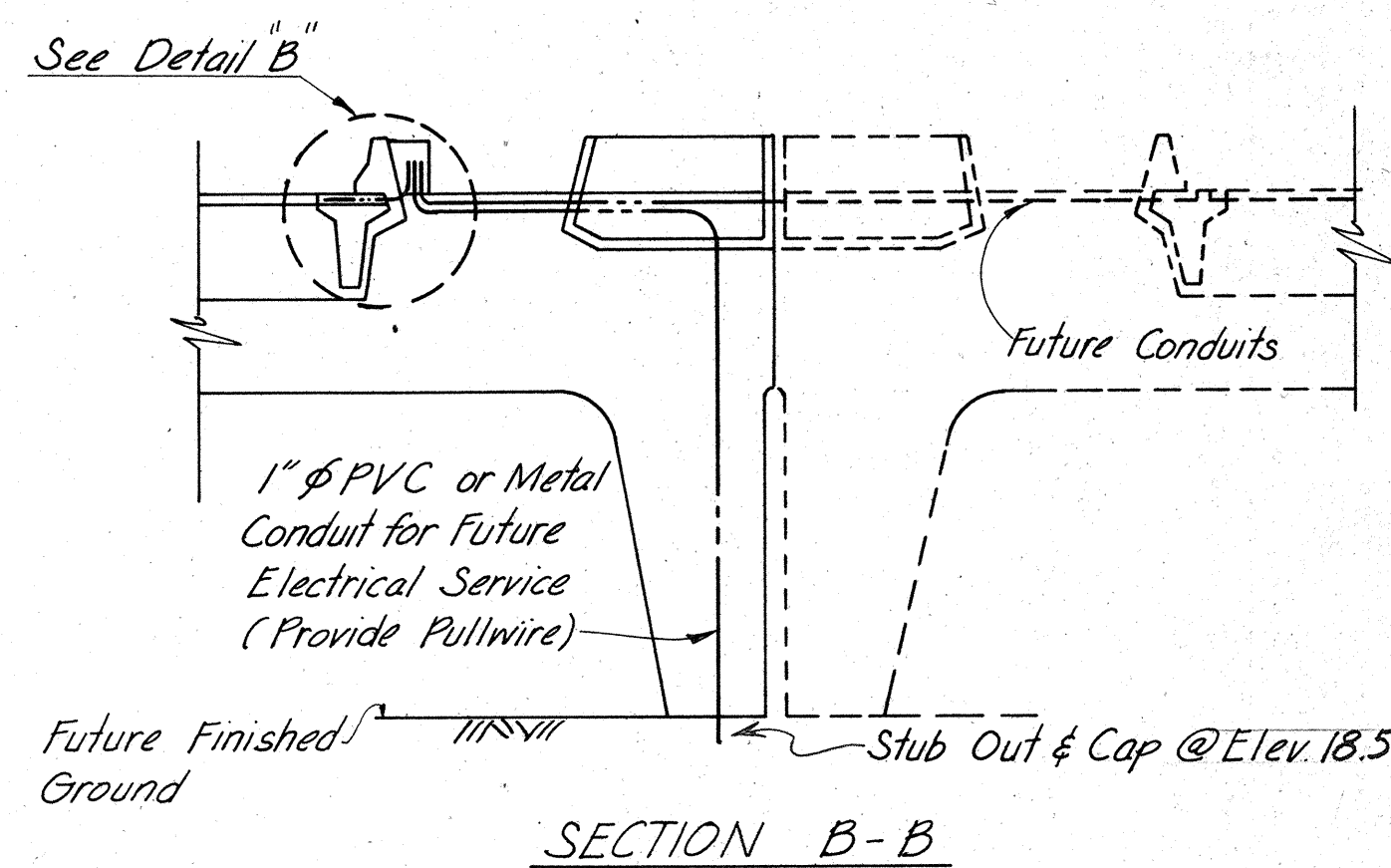
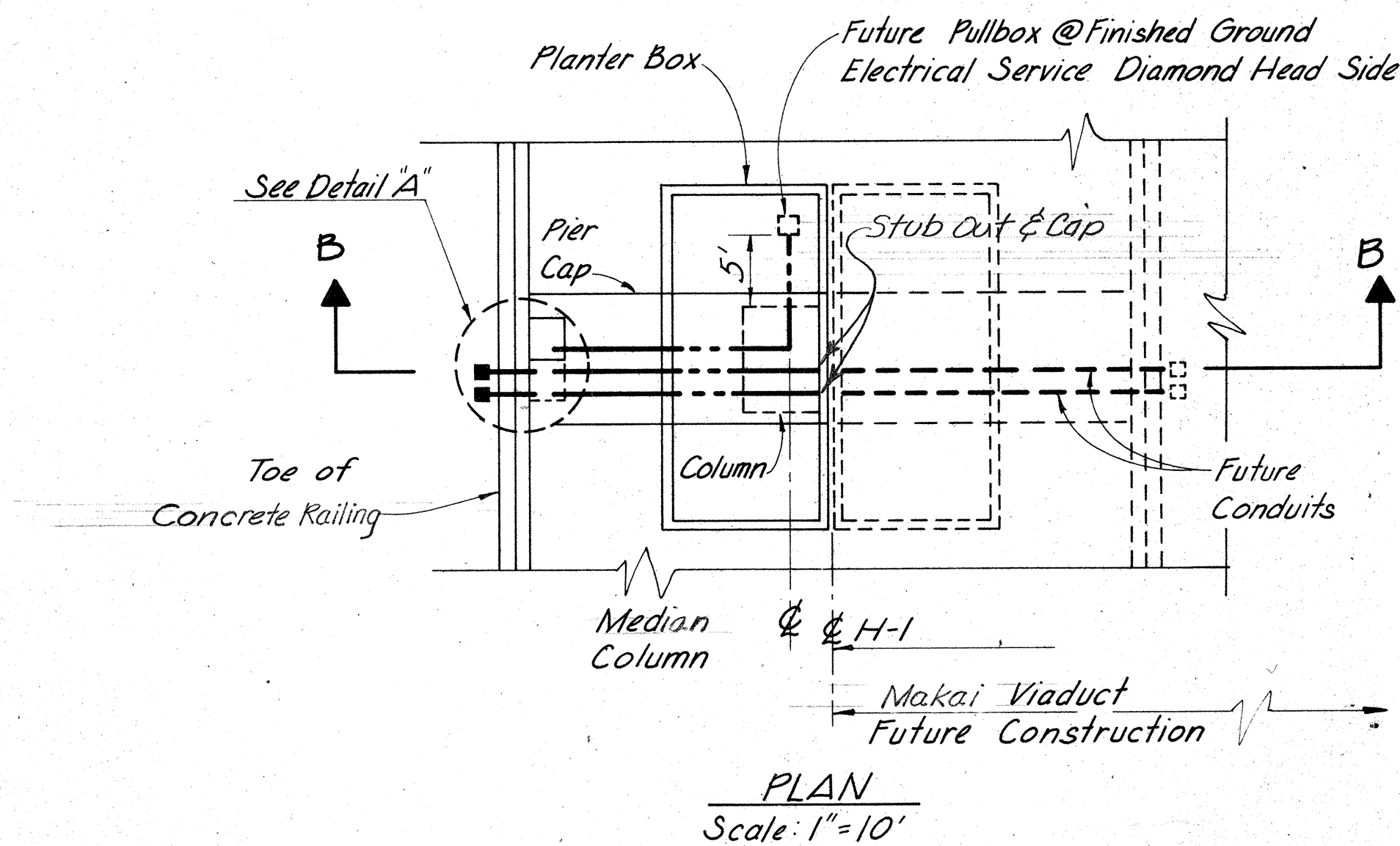


Earl R. Allen
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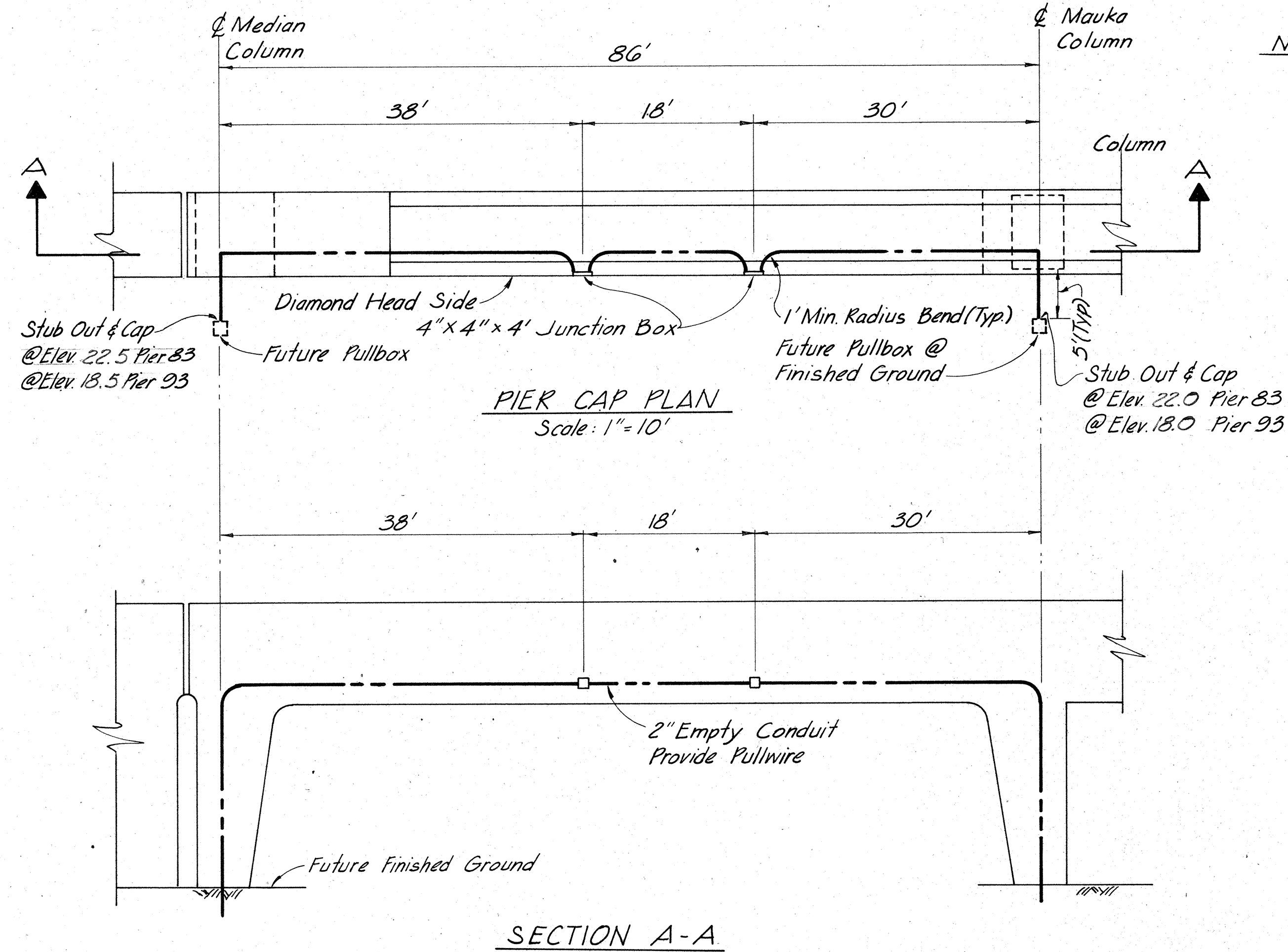
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ROADWAY LIGHTING ELECTRICAL DETAILS
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1(121)16
SCALE: AS SHOWN DATE: MAY 1, 1975
SHEET No. 10 OF 11 SHEETS

DATE	.....
DESIGNED BY	.....
CHECKED BY	.....
QUANTITY BY	.....
NOTE BOOK	.....
ORIGINAL PLAN	.....

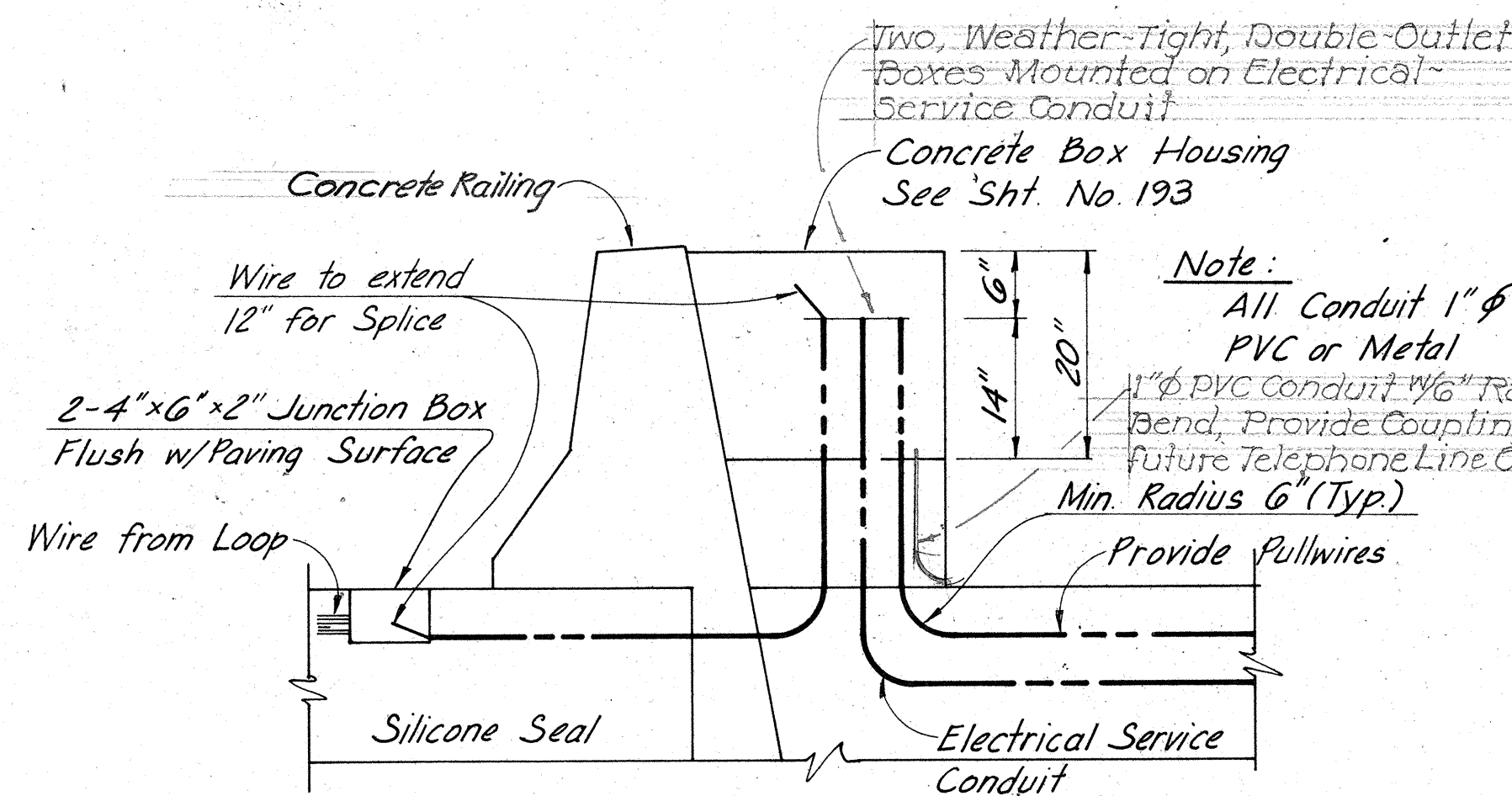
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	I-HI-10(2)-16	1975	75	207



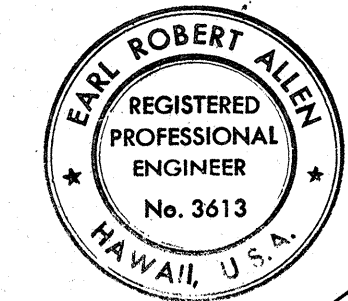
TRAFFIC COUNTER INSTALLATION PIER 93



CONDUIT FOR FUTURE SIGNALIZATION PIERS 83 & 93 DIAMOND HEAD SIDE



- Notes:
1. Cost of Cable, Conduit, Miscellaneous Materials and Installation is incidental to other Structure Items.
 2. Contractor shall notify HWY-PH two days prior to deck concrete pour. HWY-PH will install loop detectors on top of reinforcing steel.
 3. Pair and Code wires from Junction Boxes to Housing.



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY LIGHTING
ELECTRICAL DETAILS

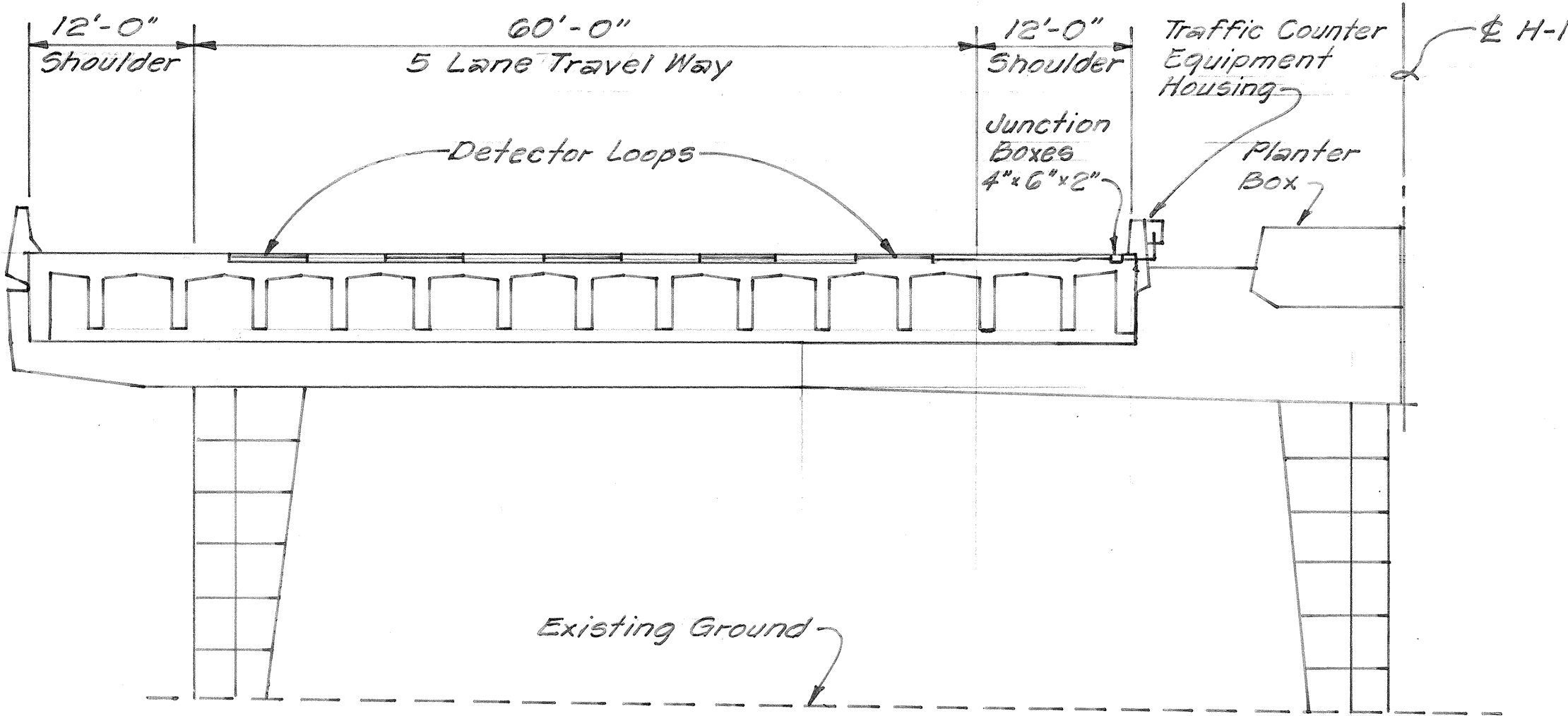
AIRPORT INTERCHANGE
F.A.I. PROJ. NO. I-HI-1 (121)-16
SCALE: AS SHOWN DATE: MAY 1, 1975
SHEET No. 11 OF 11 SHEETS

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

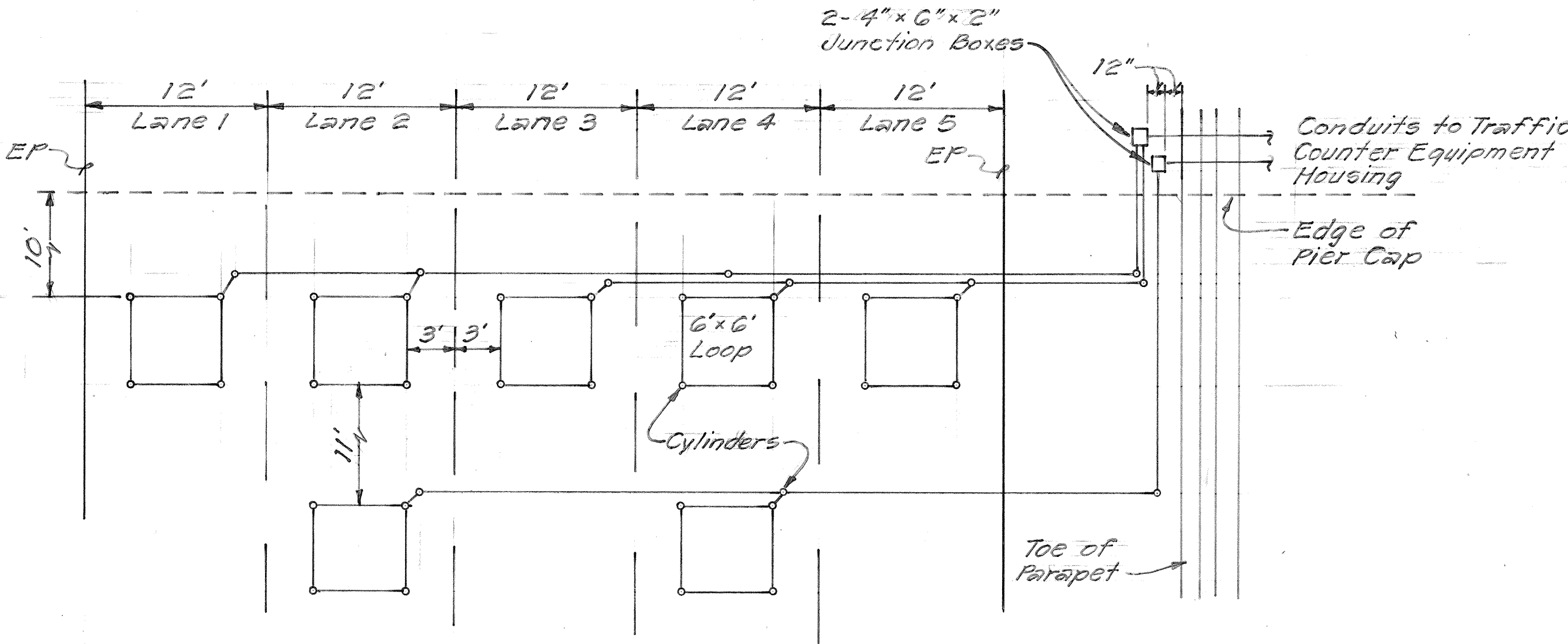
E-11

75

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				



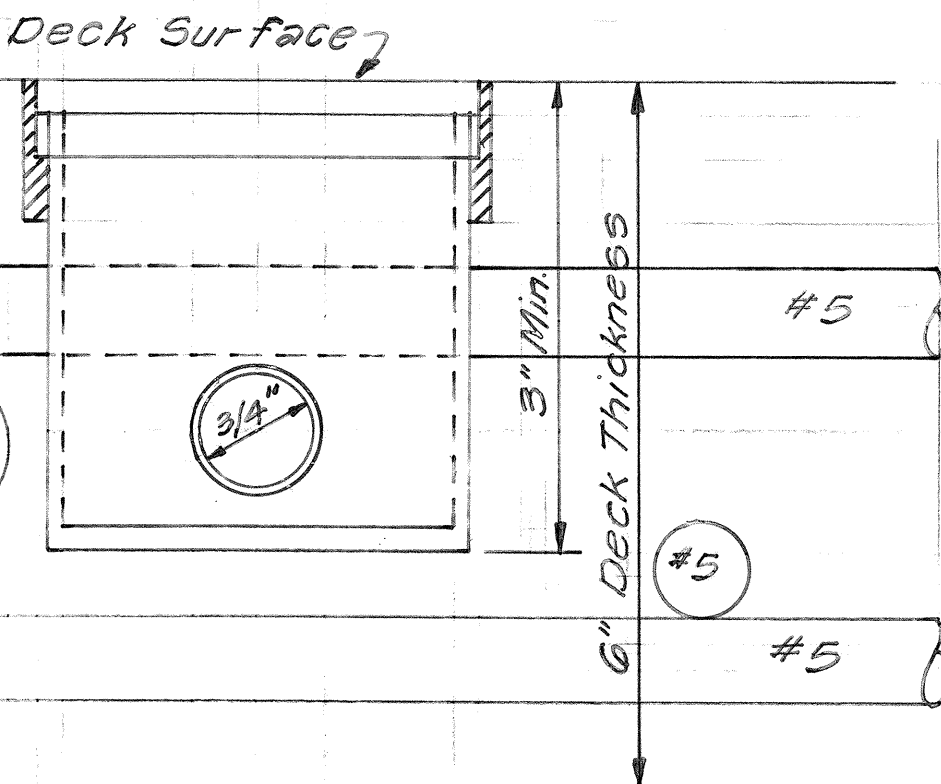
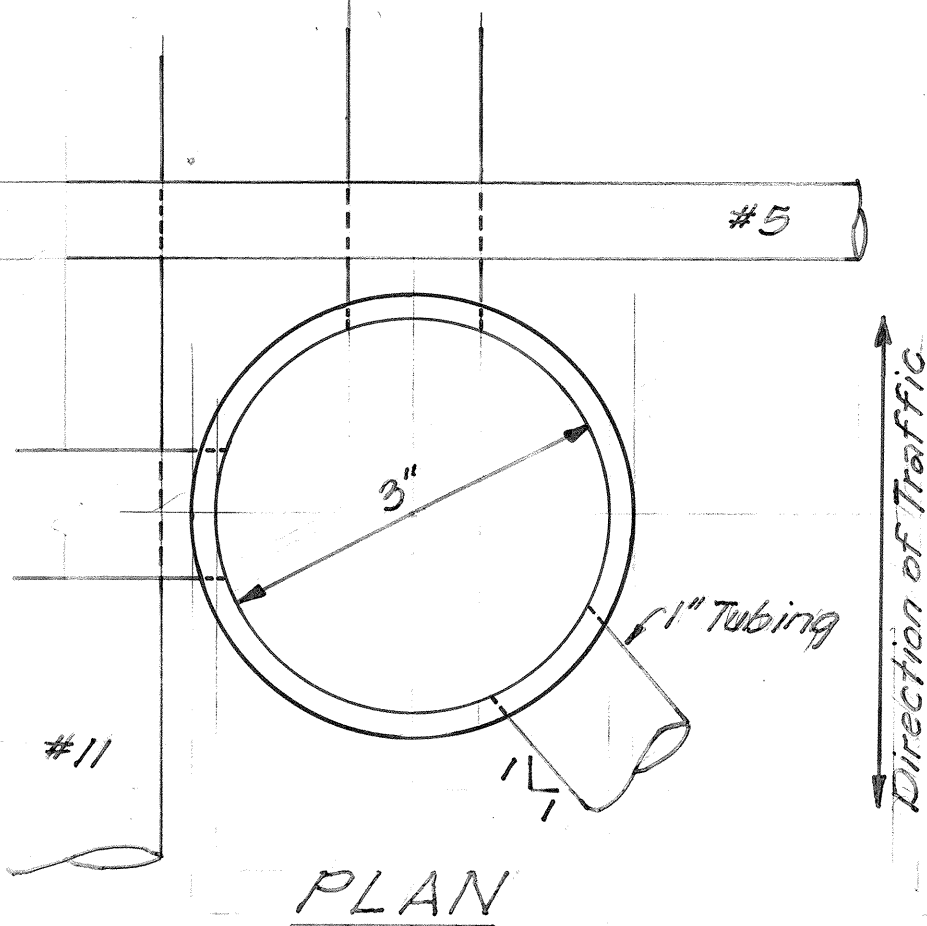
LAYOUT OF TRAFFIC COUNTING SYSTEM
ON H-1 FREEWAY VIADUCT
Not to Scale



DETECTOR LOOP LAYOUT
ON H-1 VIADUCT
Not to Scale

GENERAL NOTES

- Refer to Plan Sheet 75 for location of loops.
- Detector Loops shall consist of Four Turns of 1/4, 14 AWG, RHW-USE-XLP Wire in Lanes 1, 2 and 3 and 3 Turns of wire in Lanes 4 and 5.
- Each Loop and Lead-In shall be one continuous wire and enclosed in one-inch tubing (O.D.) up to the 4'x6'x2" watertight junction boxes.
- Lead-In Wires from same loop shall be twisted two turns per foot and labeled and identified by lane number and by First and Last Turn.
- Junction Box locations shall be as shown and shall supercede the locations shown on sheet 75 of the plans.
- Note 2 on sheet 75 of the plans shall be deleted.



DETAIL OF THREE INCH
CYLINDER
Not to Scale

GENERAL NOTES

- Three inch (I.D.) cylinders, and One inch (O.D.) tubings shall be made of PVC or Plexiglass Plastics or combination.
- All connection joints between cylinder and tubing shall be sealed with silicone compound.
- Provision should be made for removing cylinder cap after concrete pour on deck.
- All cylinders shall be filled with sand and topped with a layer of epoxy.
- Lead-in Wires run from the junction boxes should extend at least Five Feet beyond flexible conduits into the housing.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

AIRPORT INTERCHANGE
F.A.I. PROJ. No. I-HI-1 (121) 16
Not to Scale

SHEET NO. OF SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
No.	DESIGNED BY	
	CHECKED BY	