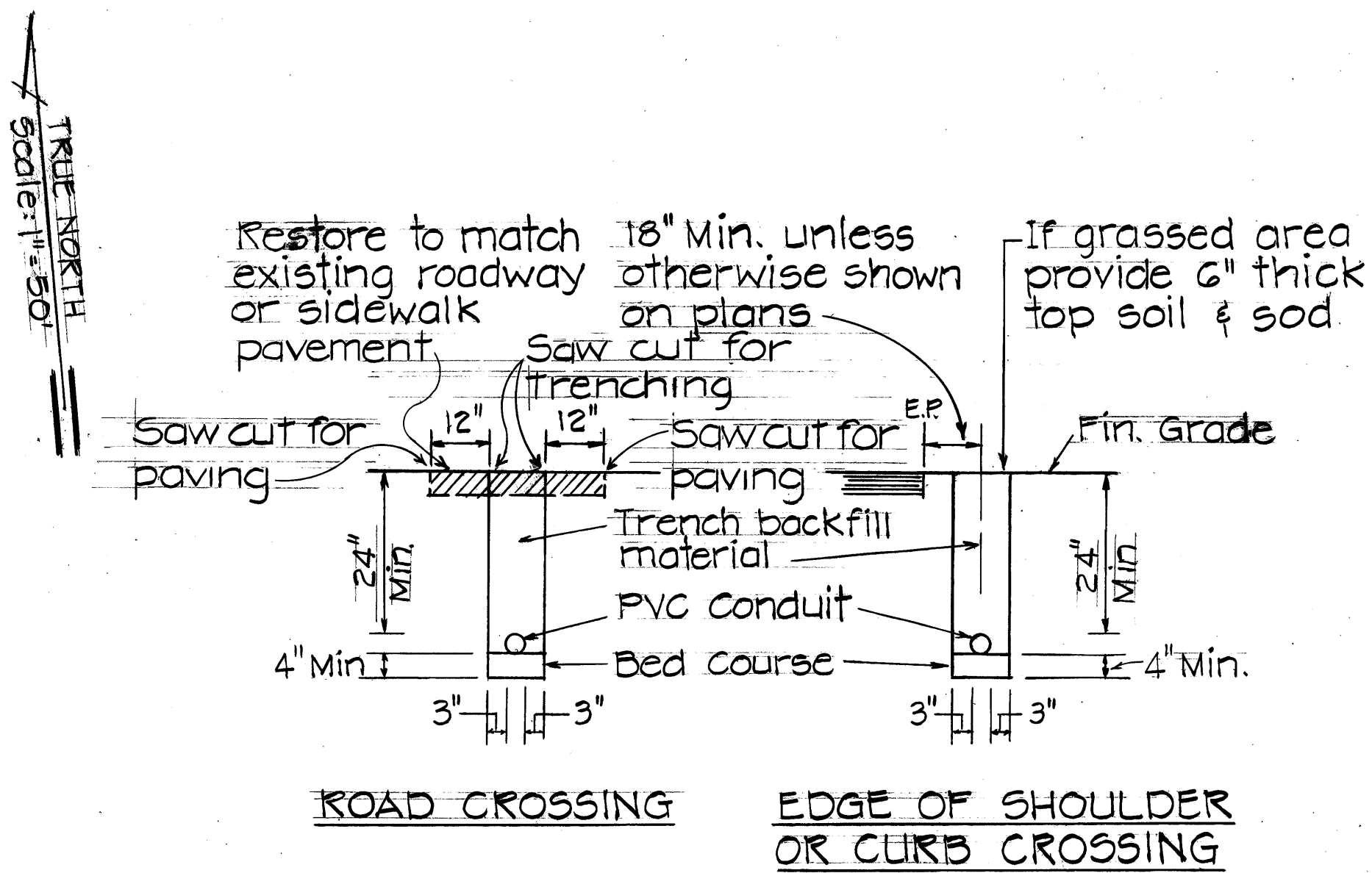
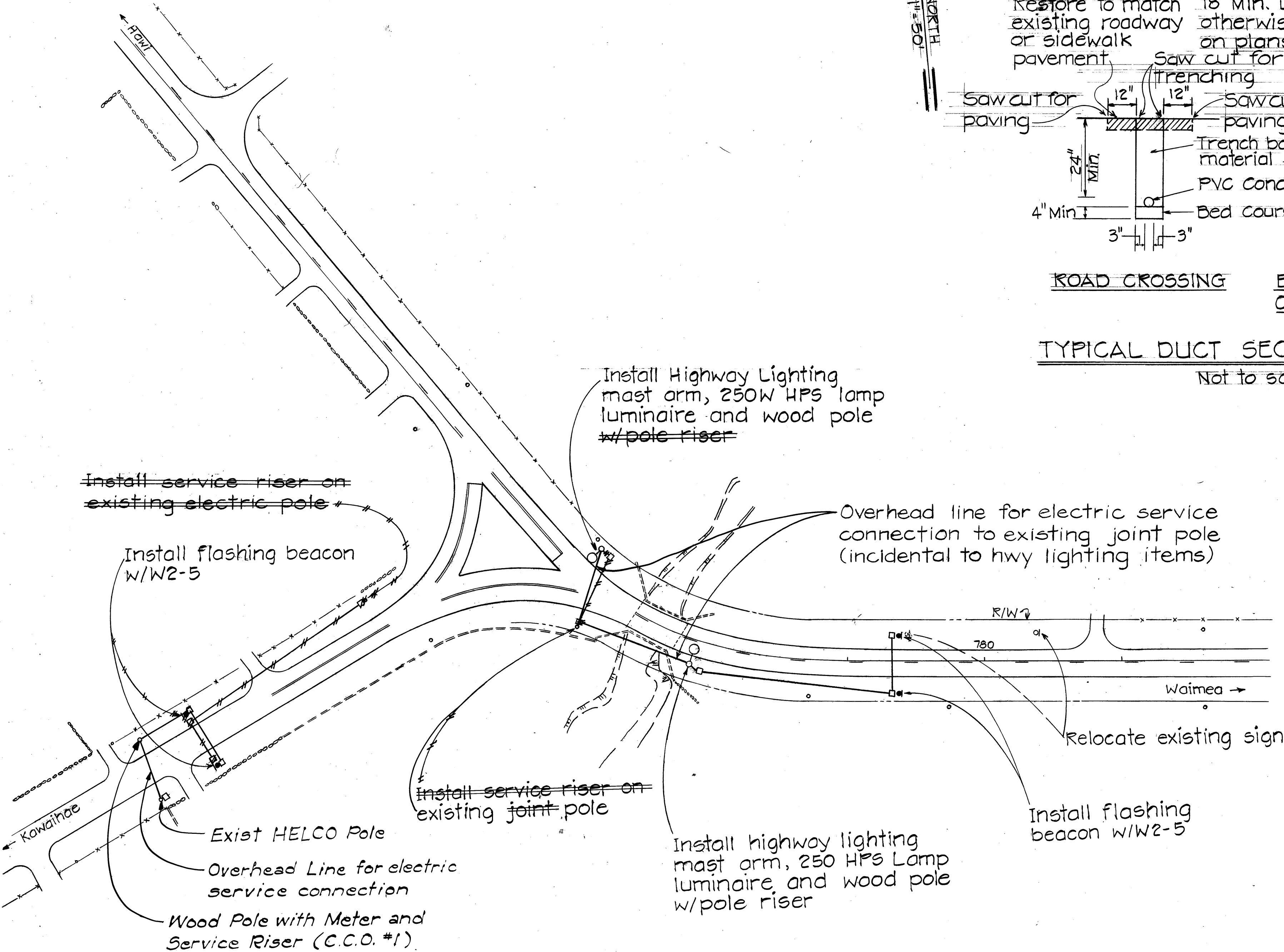


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19D-01-87M	1987	5	8



TYPICAL DUCT SECTION DETAIL
Not to scale



LEGEND

- Pullbox
- Flashing beacon w/W2-5 Sign
- Highway lighting mast arm, 250 W high pressure sodium lamp luminaire and wood pole w/pole riser

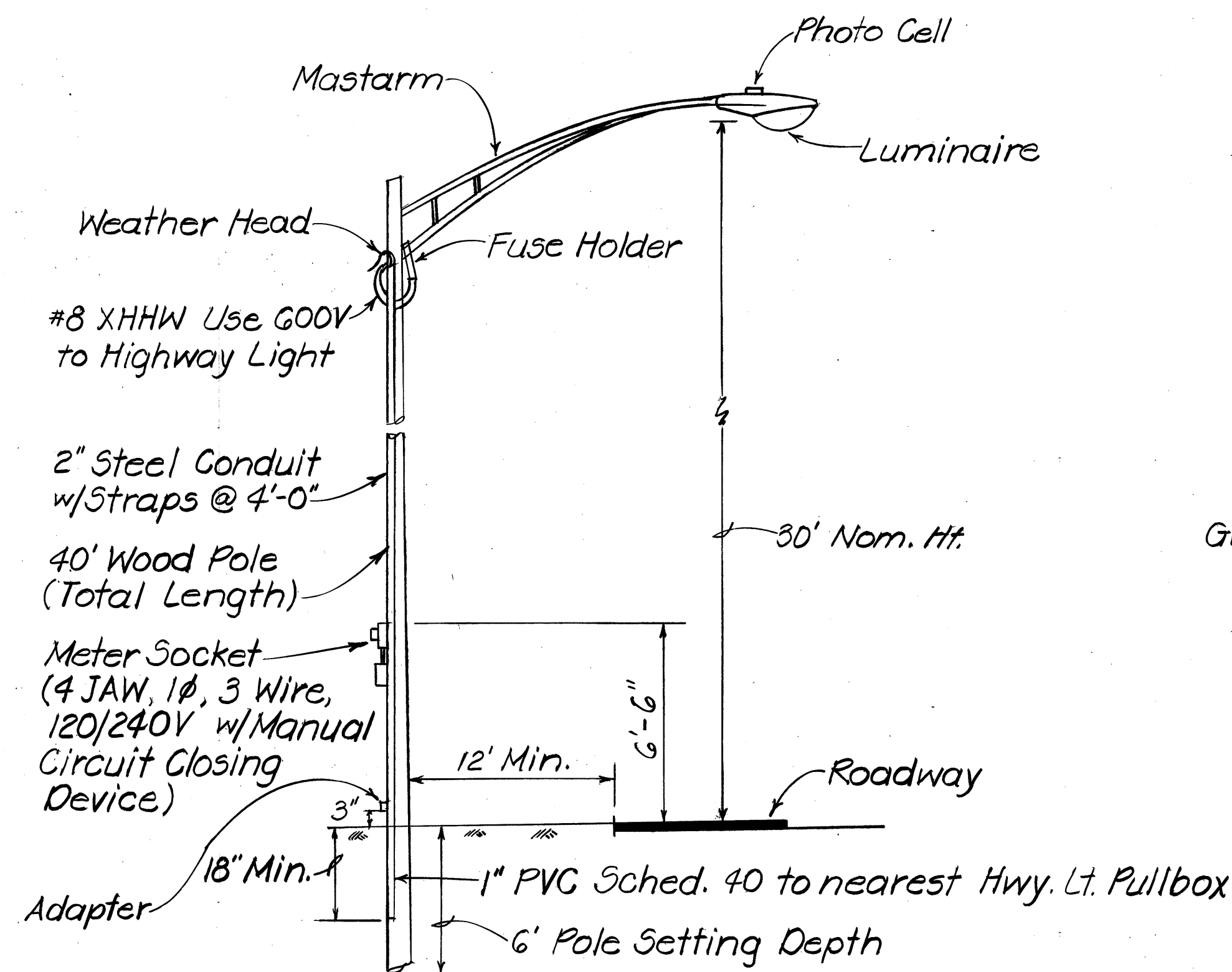
8/22/86	Revise hwy. lighting location. Revise electric service connection.
Date	Revision

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
HIGHWAY LIGHTING AND
FLASHING BEACON SIGN
KAWAIIHAE-WAIMEA ROAD
IMPROVEMENTS
Proj. No. 19D-01-87M
Scale: As Shown Date: July, 1986
SHEET NO. 1 OF 3 SHEETS

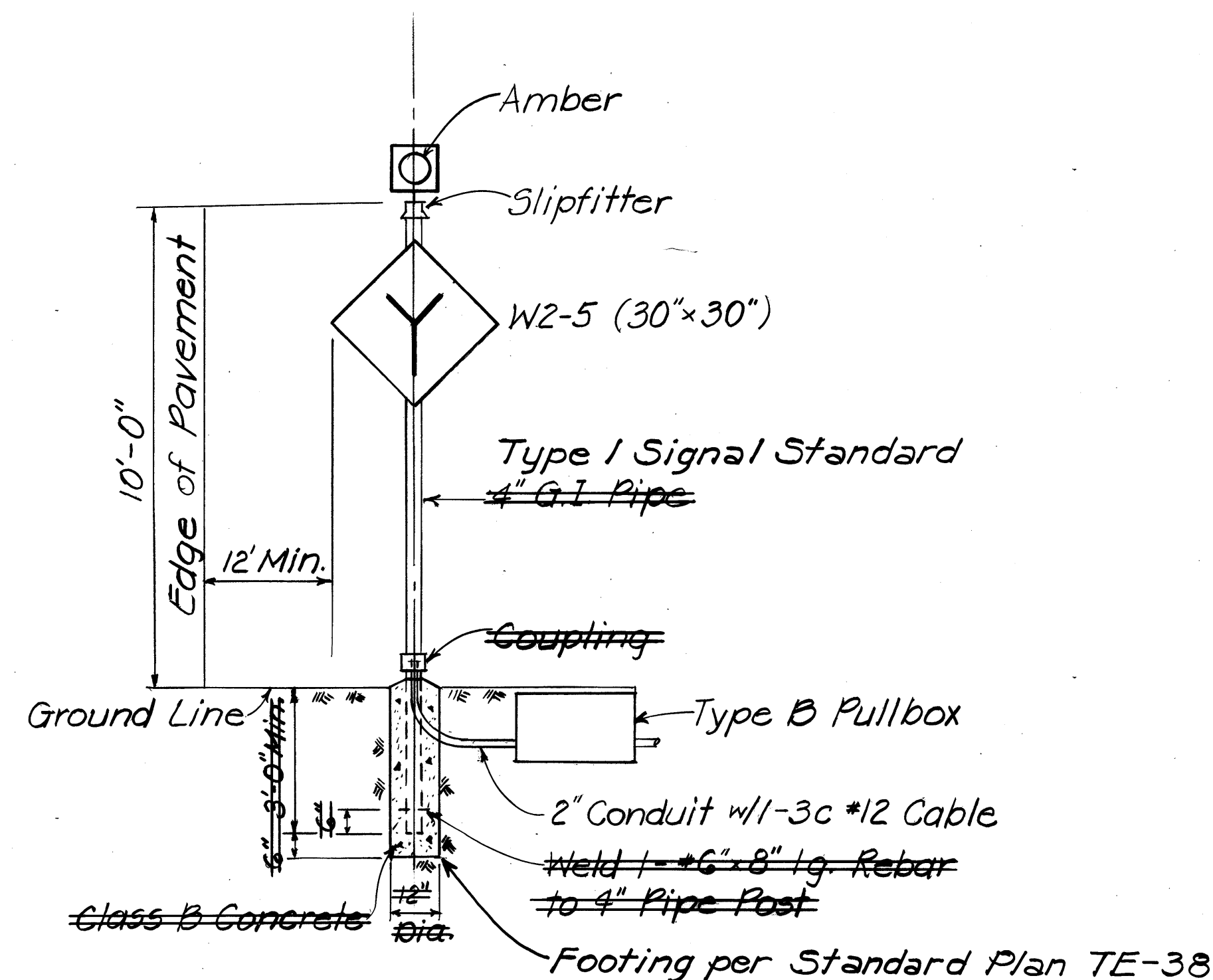
ADD. 5

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

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19D-01-87M	1986	6	8

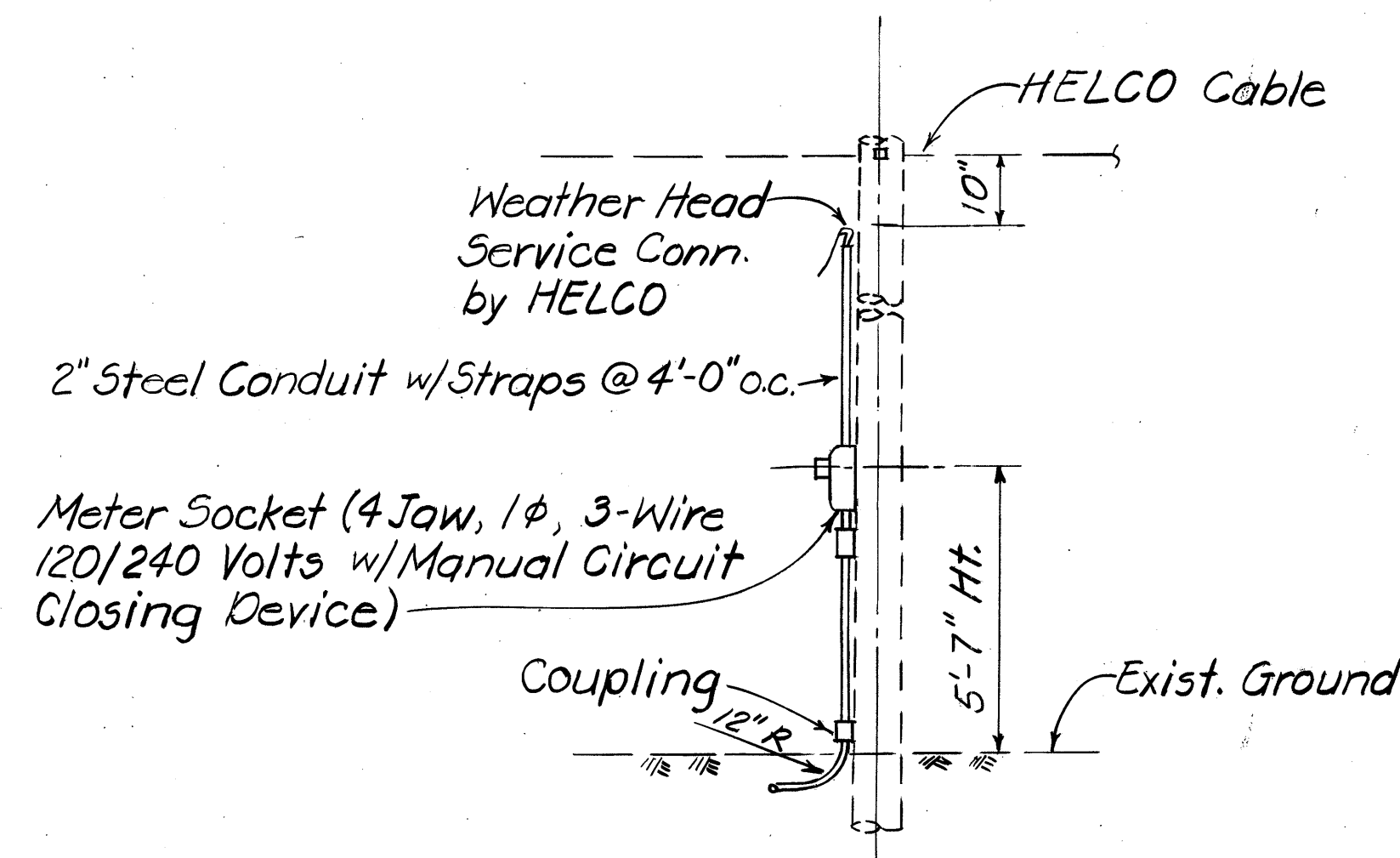


HIGHWAY LIGHTING STANDARD & POLE RISER DETAIL
N.T.S.



FLASHING BEACON w/W2-5 SIGN
N.T.S.

NOTE:
10'-0" Type I Signal Standard
and Footing installed per TE-38.



SERVICE RISER DETAIL
N.T.S.

NOTES:

1. All existing utilities whether or not shown on the plans shall be protected at all times during construction, and any damages to them shall be repaired and paid for by the Contractor.
2. All new conduits under roadways and driveways shall be steel or PVC Schedule 80 unless otherwise noted. The Contractor shall have the option of using PVC Schedule 40 for new conduits not under Roadway.
3. All ductlines under asphalt concrete roadways and driveways shall have backfill resurfaced with asphalt concrete Mix I with thickness to match existing.
4. All secondary ckt. extensions on the HELCO cable shall be provided by the Contractor to the nearest service box. Connections shall be by HELCO and paid for by the Contractor.
5. The Contractor shall be responsible for coordinating and informing HELCO of light pole locations on site and connections required prior to installation of their secondary cables.
6. Relocating existing signs and posts will not be paid for but shall be considered incidental to the various sign items.

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
<u>HIGHWAY LIGHTING AND FLASHING</u> <u>BEACON DETAILS AND NOTES</u> <u>KAWAIHAE - WAIMEA ROAD</u> <u>IMPROVEMENTS</u> <u>PROJ. NO. 19D-01-87M</u> <u>Not to Scale</u> <u>June 1986</u> <u>SHEET NO. 2 OF 3 SHEETS</u>

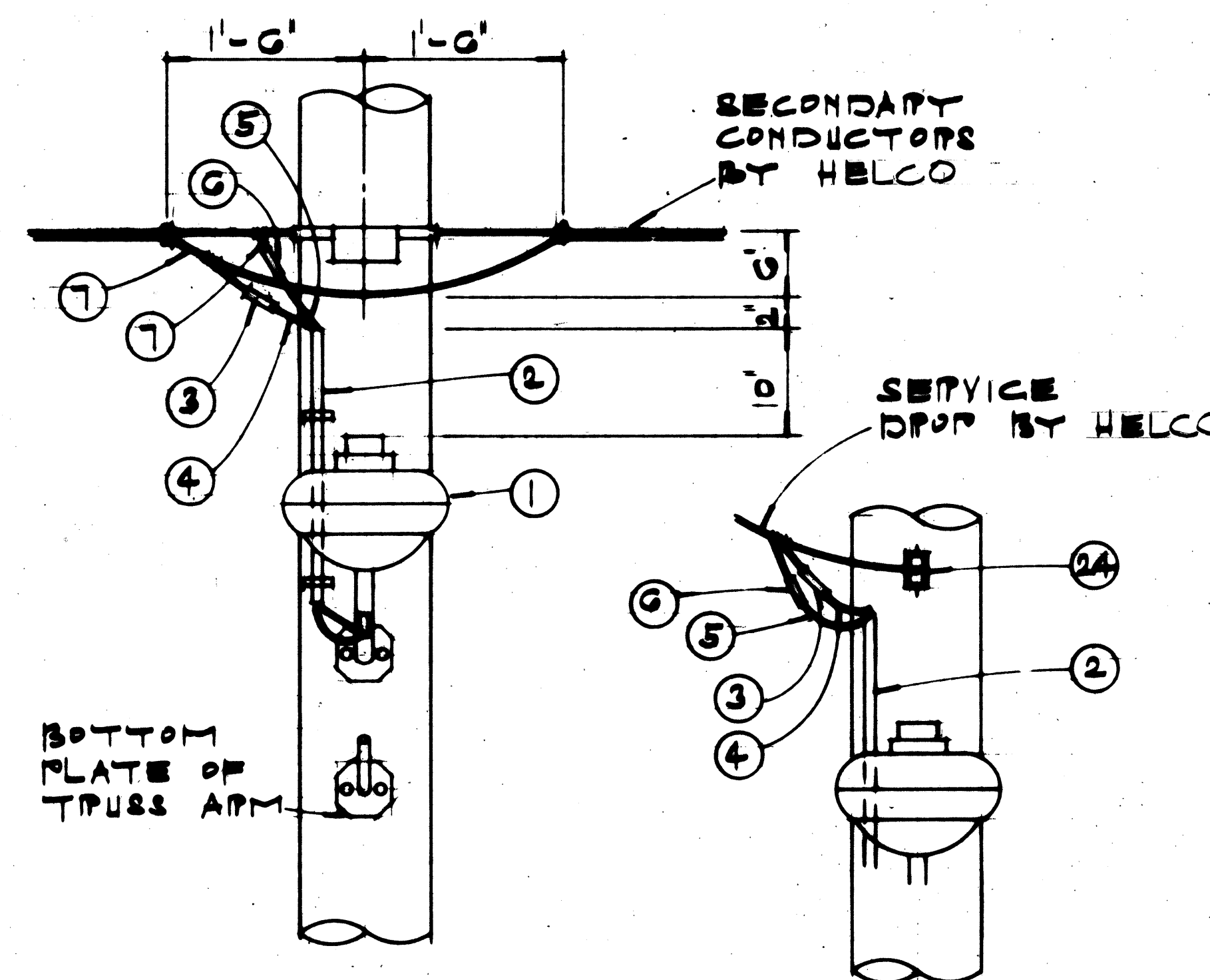
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	19D-01-57M	1987	7	8

MATERIAL LIST

ITEM NO.	DESCRIPTION
1	LUMINAIRE (TYPE AS RECD. ON PLANS), & BRACKET (AS RECD.) WITH PHOTO-ELECTRIC CONTROL (AS RECD.).
2	CONDUIT, 3/4" PVC SCHEDULE 80 & STRAPS.
3	IN LINE FUSE HOLDER W/10A FUSE.
4	WIPE, #10 AWG STRANDED COPPER, TYPE PHW BLACK.
5	WIPE, #10 AWG STRANDED COPPER, TYPE PHW WHITE.
6	IN LINE UNFUSED, INSULATED SEPARABLE CONNECTOR.
7	WIPE #8 AWG 7-STRAND ALUMINUM, TYPE PHW.
8	THIMBLE CLEVIS, ALUM. ALLOY W/ ALUM. ALLOY EYELET.
9	WIRES, 2-#1/0 CROSS-LINKED POLYETHYLENE ALUM. W/ #3/0 AAAC NEUTRAL MESSENGER.
10	PREFORMED GUY WIRE
11	GUY WIRE, 3/8" EHS, GALV.
12	ANCHOR GUY HOOK W/ 3/4" THRU BOLT & 2 1/4" SQ. WASHER.
13	MESSENGER HANGER, CAST ALUM. W/ 5/8" ALUM. ALLOY THRU BOLT & 2 1/4" ALUM. ALLOY SQ. WASHER.
14	ALUM. SHEET WRAP (AROUND MESSENGER)
15	5/8" ALUM. ALLOY THRU BOLT W/ 2 1/2" SQ. ALUM. ALLOY CURVED WASHER (LENGTH AS RECD.).
16	ALUM. ALLOY SUSPENSION CLAMPS W/ LINE GUARD & ALUM. ALLOY EYELET.
17	ALUM. ALLOY PREFORMED DEADEND.
18	ANCHOR ROD 1" x 8'-0" COPPER CLAD.
19	CONCRETE DEADMAN 1'-0" x 6" W/ GALV. SQ. WASHER.
20	GUY WIRE GUARD, GALV.
21	INSULATOR, PORCELAIN.
22	LAG SCREW (SIZE AS RECD.)
23	5/8" GALV. THRU BOLT W/ 2 1/2" SQ. GALV. WASHER (LENGTH AS RECD.).
24	DEADEND SPOOL & FORK
25	ALUM. COMPRESSION TAP CONDUCTOR, #1/0 ALUM.
26	ALUM. COMPRESSION TAP CONDUCTOR, #3/0 ALUM.

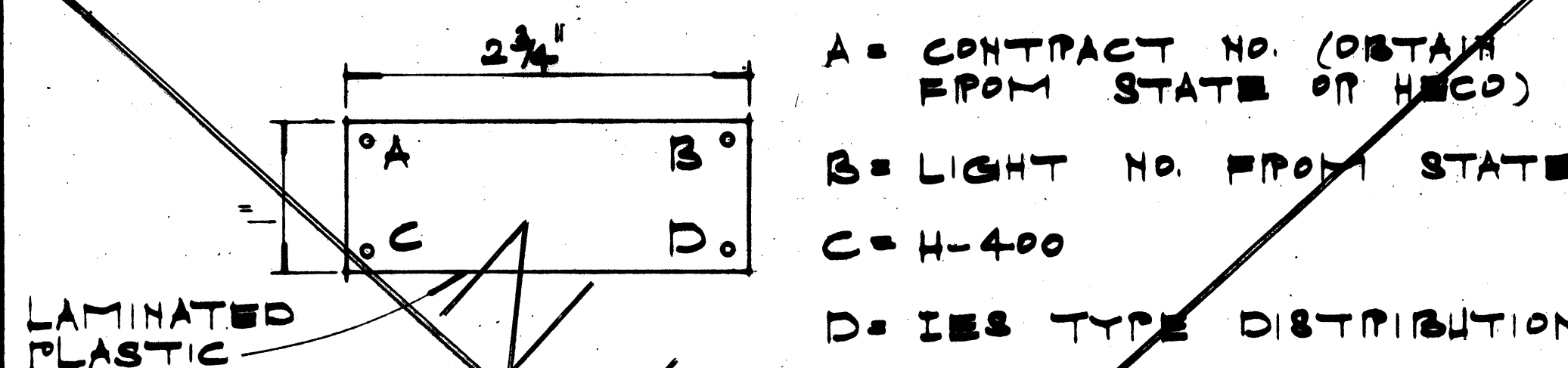
NOTE:
ALL HARDWARE UNLESS INDICATED AS ALUM. OR ALUM. ALLOY, SHALL BE HOT DIPPED GALV. STEEL.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
TYPICAL DETAILS
HIGHWAY LIGHTING
LUMINAIRE MOUNTED
ON WOOD POLE
NOT TO SCALE MAY 1976
SHEET NO. 3 OF 3 SHEETS



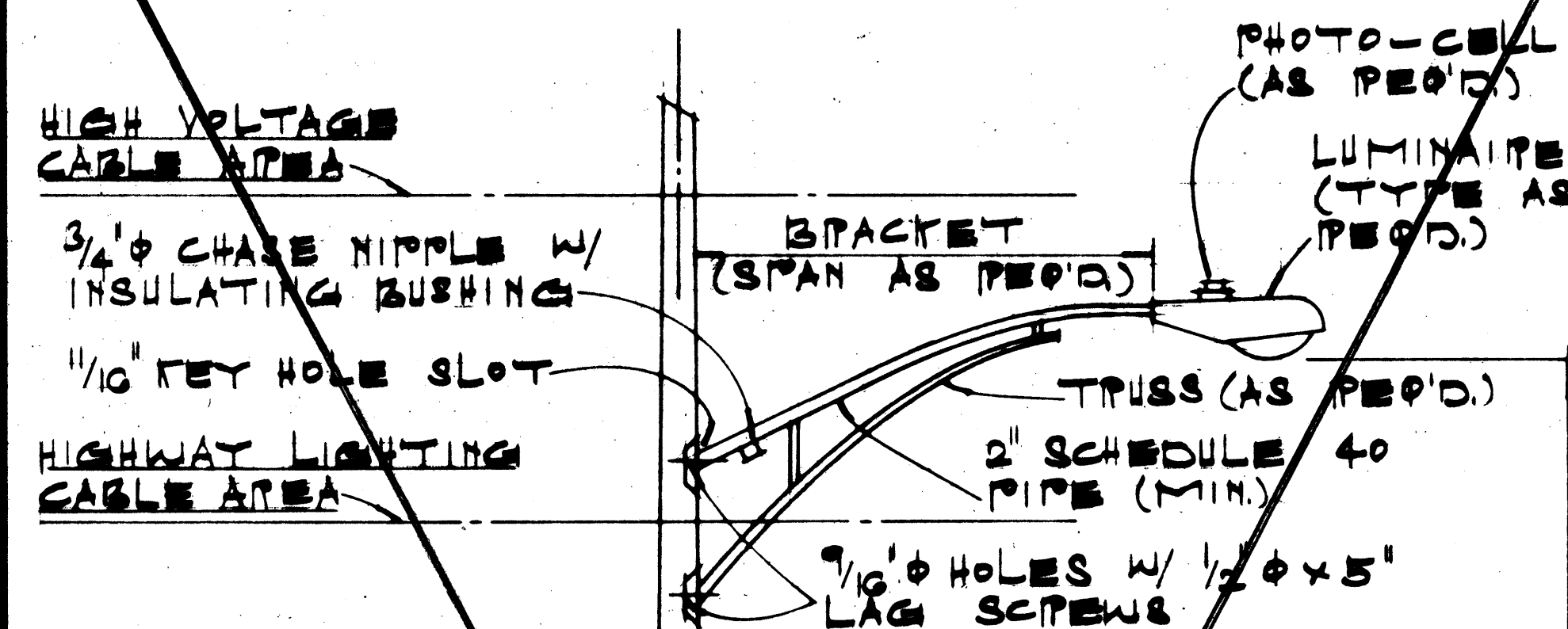
NOTE:
PROVIDE ENOUGH CABLE SLACK FOR HELCO TO TAKE UP & MAKE CONNECTION.

HELCO SECONDARY CONNECTION DETAIL



IDENTIFICATION TAG

NOTE:
1. PROVIDE IDENTIFICATION TAG ON ALL POLES UNLESS OTHERWISE SPECIFIED.
2. HIGHWAY LIGHT NUMBERS ON PLANS MAY NOT CORRESPOND W/ NUMBERS ON IDENTIFICATION TAGS. VERIFY LIGHT NUMBERS W/ STATE OF HAWAII.



TRAFFIC SIGNAL CABLE AREA

COMMUNICATION CABLE AREA

IDENTIFICATION TAG (AS RECD.), INSTALL FACING ROADWAY

MOUND TAMP FIN. GR.

BACKFILL

POLE LENGTH	"D" HOLE DEPTH
35'-0"	6'-0"
40'-0"	6'-0"
45'-0"	6'-0"

LUMINAIRE MOUNTED
ON WOOD POLE

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	