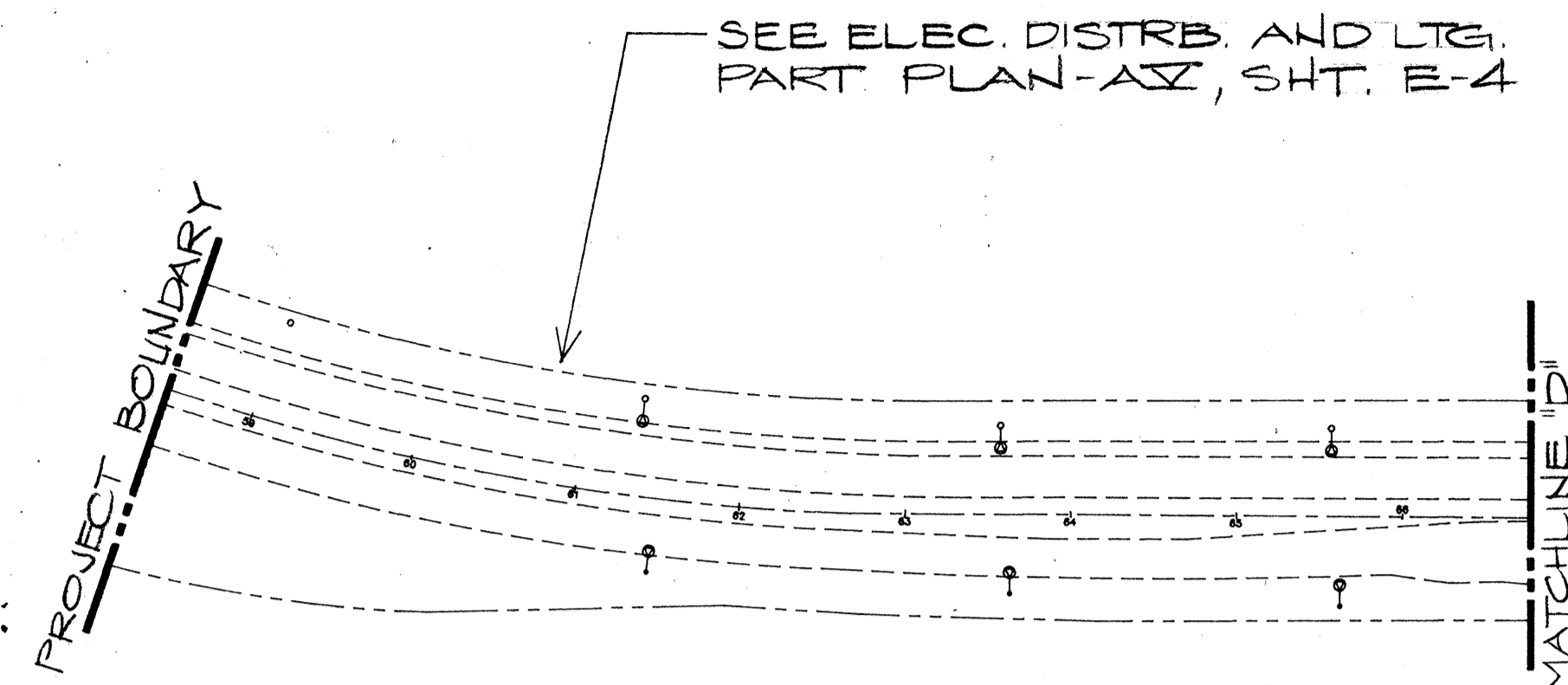


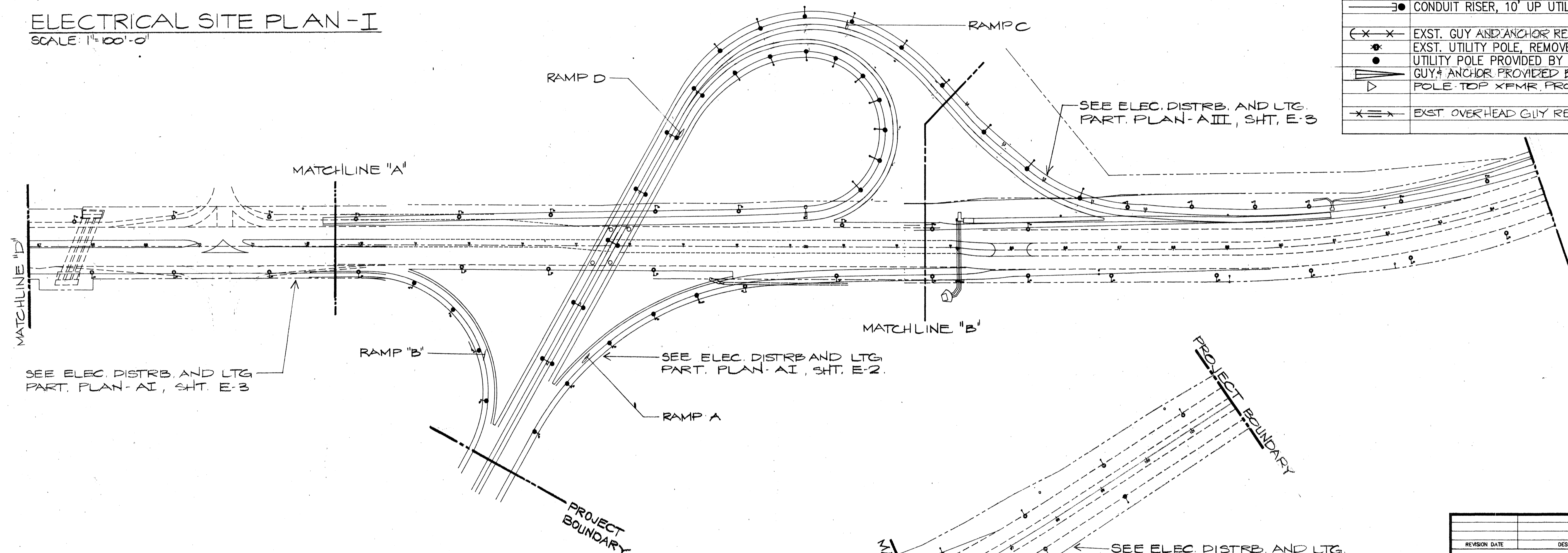
ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION
	6' x 11' HECO HANDHOLE
	5' x 8' HECO HANDHOLE
	2' x 4' CATV HANDHOLE
	2' x 3' ST. HWYS. CONC. PULLBOX
	19' x 28' ST. HWYS. TYPE "B" PULLBOX
	250W HPS, SINGLE MAST ARM ON JOINT UTILITY POLE, 1/4" GR3 RISER & WIRING. SEE C/E-2
	150W HPS, DOUBLE ARM LT. STANDARD
	150W HPS, SINGLE ARM LT. STANDARD
	250W HPS, SINGLE ARM LT. STANDARD
	UNDERPASS LIGHT & FLEX CONDUIT & WIRING TO JB.
	DUCTLINE BELOW FIN. GRADE, I - TYPE "2L" CONDUIT AND TYPE "B" DUCT SECTION INDICATED.
	EXISTING OVERHEAD ELECTRIC & COMMUNICATIONS CABLES REMOVED BY RESPECTIVE UTILITY COMPANIES.
	EXISTING OVERHEAD LINE TO REMAIN
	OVERHEAD ELECTRIC & COMMUNICATIONS CABLES CABLE PROVIDED BY RESPECTIVE UTILITY COMPANIES.
	CONDUIT RISER, 10' UP UTILITY POLE
	EXST. GUY AND ANCHOR REMOVED BY HECO.
	EXST. UTILITY POLE, REMOVED BY HECO
	UTILITY POLE PROVIDED BY HECO
	GUY & ANCHOR PROVIDED BY HECO
	POLE TOP XFMR. PROVIDED BY HECO
	EXST. OVERHEAD GUY REMOVED BY HECO



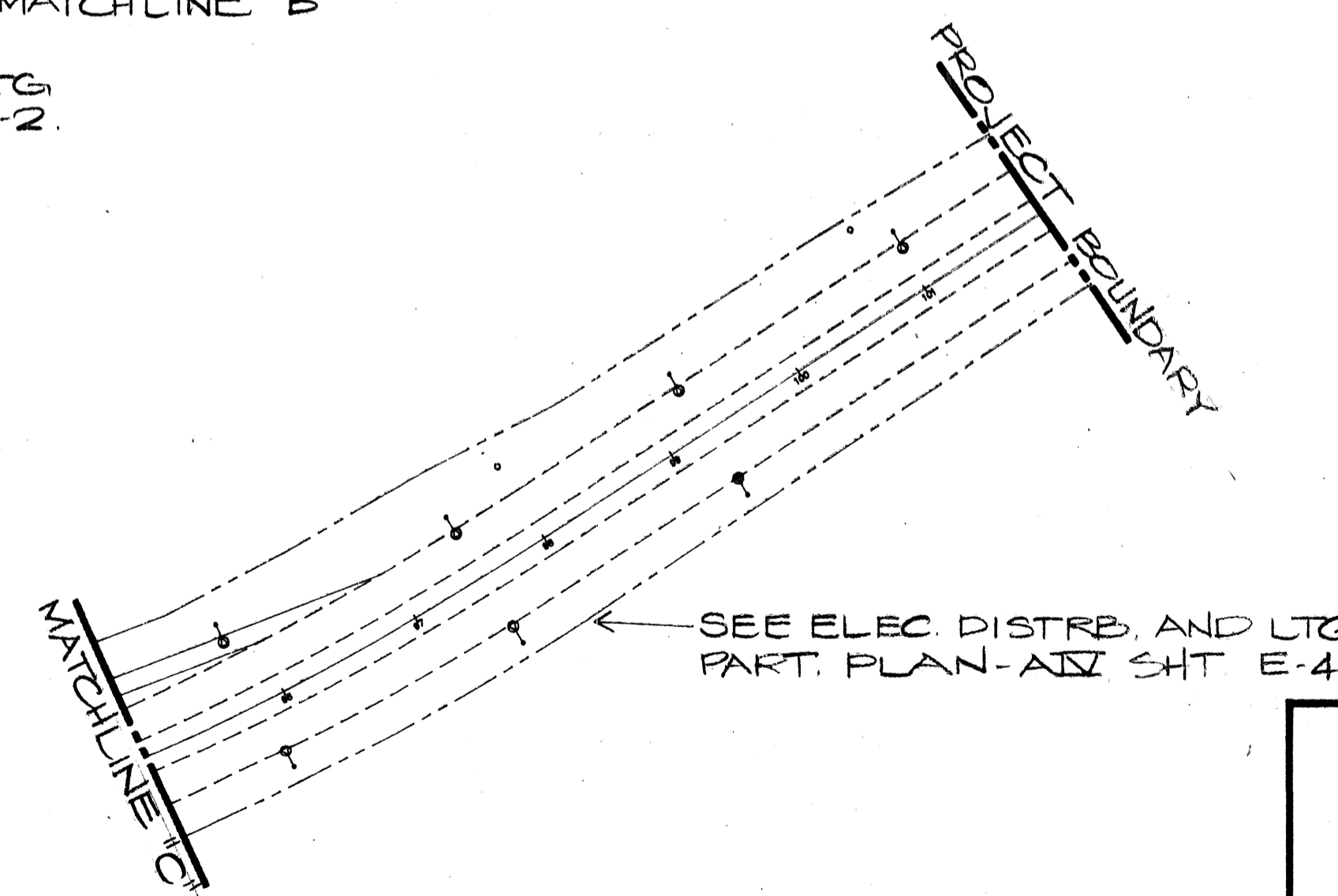
ELECTRICAL SITE PLAN-I
SCALE: 1" = 100'-0"

NOTE: COORDINATE ALL JOINT POLE WORK WITH UTILITY COMPANIES AND WITH STATE HIGHWAYS DISTRICT ENGINEER.

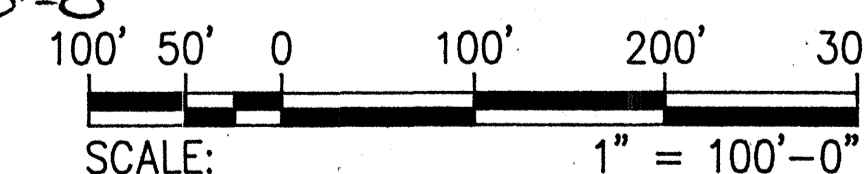


ELECTRICAL SITE PLAN-II
SCALE: 1" = 100'-0"

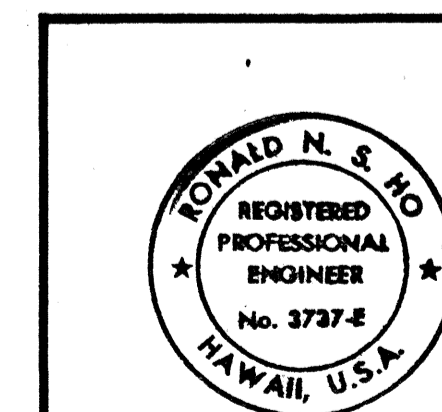
COORDINATE ALL EXCAVATION WITHIN STATE RIGHT-OF-WAY ALONG INBOUND LANES OF FARRINGTON HIGHWAY WITH AT&T FIELD OPERATIONS - MR. O. J. HOBBS @ P.H. - 455-4185. CONTRACTOR SHALL COORDINATE & PAY FOR STAKE-OUT OF UNDERGROUND LINE. CONTRACTOR SHALL ALSO PAY FOR & REPAIR ANY DAMAGE TO EXISTING LINE.



ELECTRICAL SITE PLAN-III
SCALE: 1" = 100'-0"



GRAPHIC SCALE



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

Ronald N. S. Ho 7/6/91

E-1

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03:02; 9-2-03: POR 2; 9-1-15: POR 3			
FARRINGTON HIGHWAY INTERCHANGE ELECTRICAL SITE PLAN & SYMBOLS			
APPROVED: <i>[Signature]</i> 9/1/91 DATE: 7/6/91 HAWAIIAN TELEPHONE COMPANY			
SHEET 80 OF 87 SHEETS			

RECORD DRAWINGS

SHEET 80 OF 87 SHEETS

81

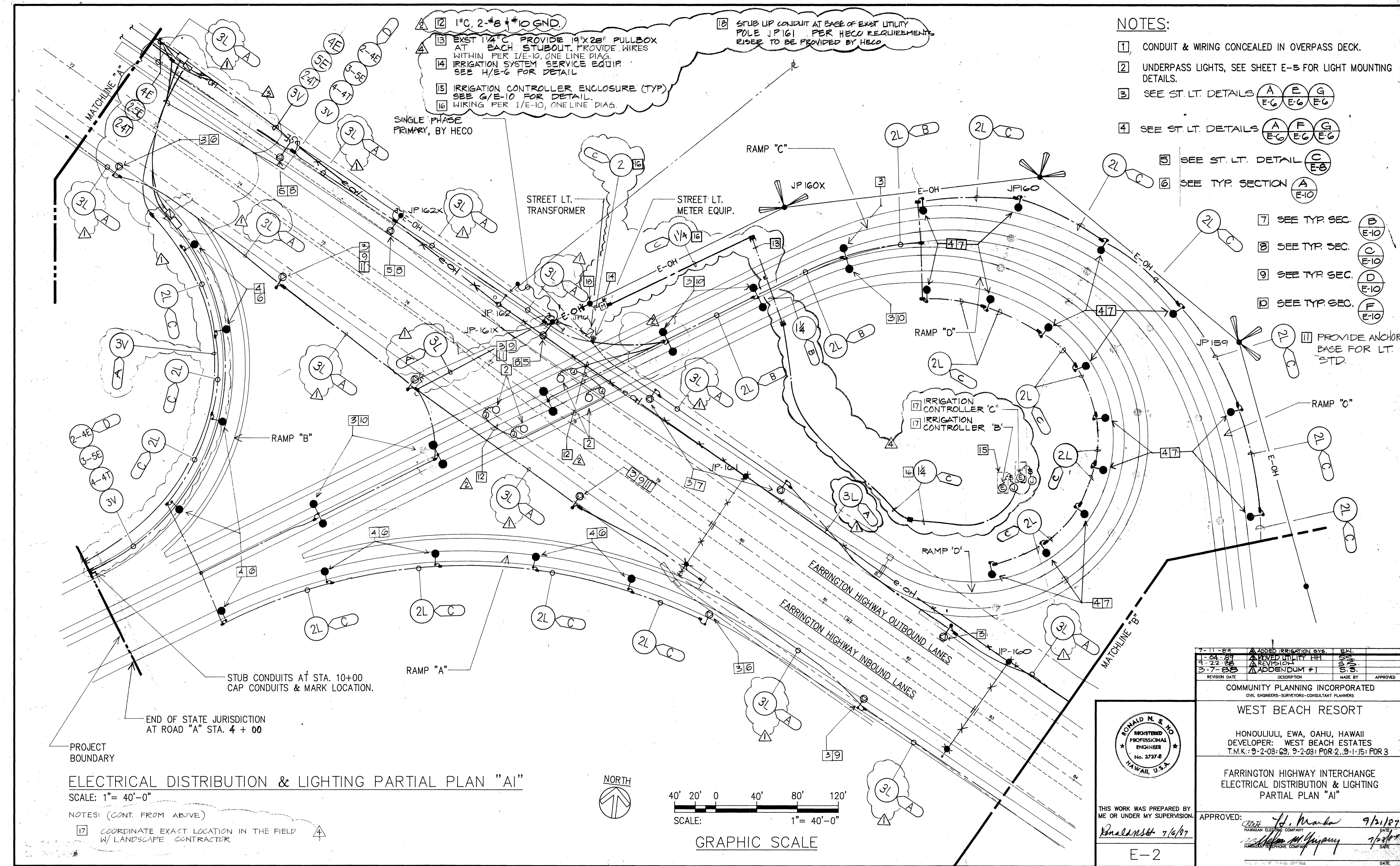
- 12 1" C, 2-#8 + #10 GND.
 13 EXIST 1/4" C PROVIDE 19"x28" PULLBOX AT EACH STUBOUT. PROVIDE WIRES WITHIN PER I/E-10, ONE LINE DIAG.
 14 IRRIGATION SYSTEM SERVICE EQUIP. SEE H/E-6 FOR DETAIL.
 15 IRRIGATION CONTROLLER ENCLOSURE (TYP) SEE G/E-10 FOR DETAIL.
 16 WIRING PER I/E-10, ONE LINE DIAG.

SINGLE PHASE PRIMARY, BY HECO

- 18 STUB UP CONDUIT AT BASE OF EXIST UTILITY POLE JP 161 PER HECO REQUIREMENTS. RISE TO BE PROVIDED BY HECO

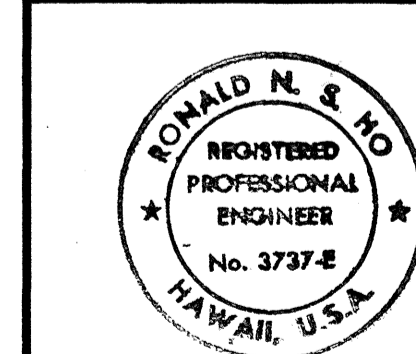
NOTES:

- 1 CONDUIT & WIRING CONCEALED IN OVERPASS DECK.
 2 UNDERPASS LIGHTS, SEE SHEET E-5 FOR LIGHT MOUNTING DETAILS.
 3 SEE ST. LT. DETAILS $\begin{matrix} A & E & G \\ E-G & E-G & E-G \end{matrix}$
 4 SEE ST. LT. DETAILS $\begin{matrix} A & F & G \\ E-G & E-G & E-G \end{matrix}$
 5 SEE ST. LT. DETAIL $\begin{matrix} C \\ E-8 \end{matrix}$
 6 SEE TYP. SECTION $\begin{matrix} A \\ E-10 \end{matrix}$
 7 SEE TYP. SEC. $\begin{matrix} B \\ E-10 \end{matrix}$
 8 SEE TYP. SEC. $\begin{matrix} C \\ E-10 \end{matrix}$
 9 SEE TYP. SEC. $\begin{matrix} D \\ E-10 \end{matrix}$
 10 SEE TYP. SEC. $\begin{matrix} F \\ E-10 \end{matrix}$
 11 PROVIDE ANCHOR BASE FOR LT. STD.



REVISION DATE	DESCRIPTION	MADE BY	APPROVED
7-11-86	ADDED IRRIGATION SVE.	E.H.	
4-23-87	REVISED UTILITY HH	S.M.	
3-7-88	ADDENDUM #1	S.S.	

COMMUNITY PLANNING INCORPORATED
 CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS
 WEST BEACH RESORT
 HONOLULU, EWA, OAHU, HAWAII
 DEVELOPER: WEST BEACH ESTATES
 T.M.K.: 9-2-03: 69, 9-2-03: POR 2, 9-1-15: POR 3

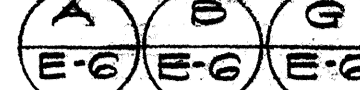







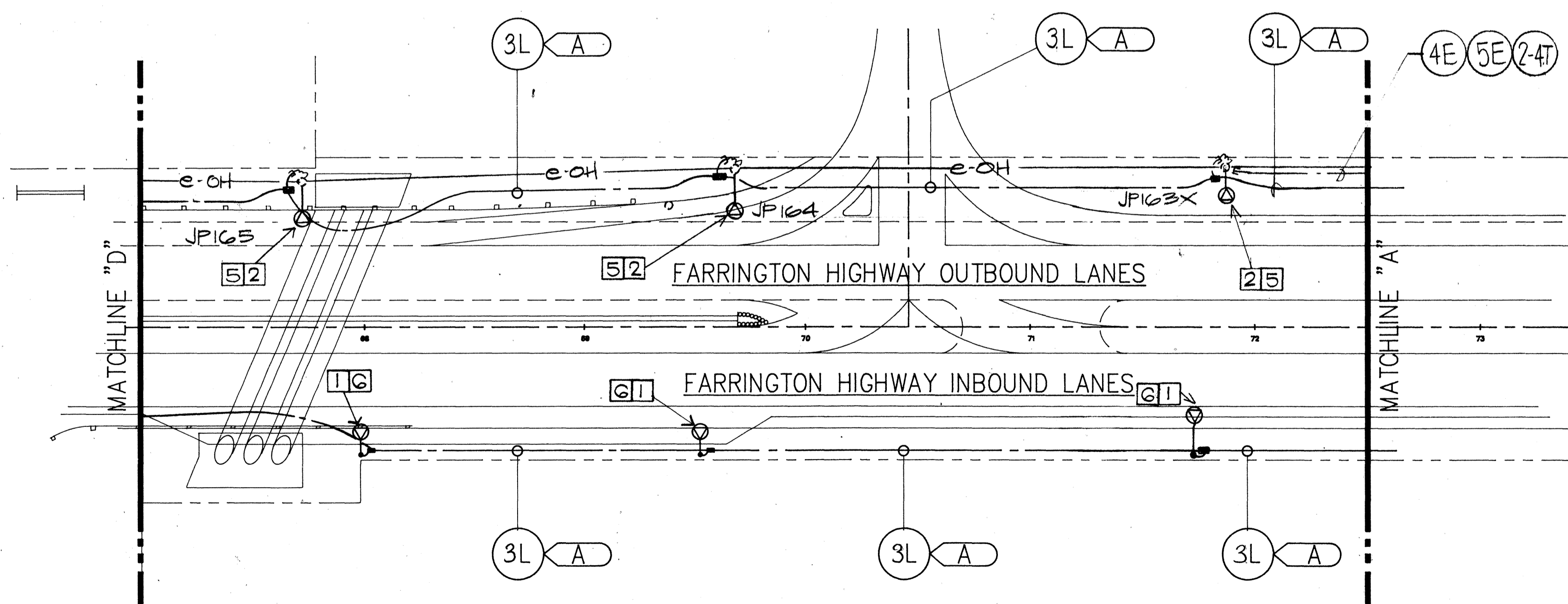
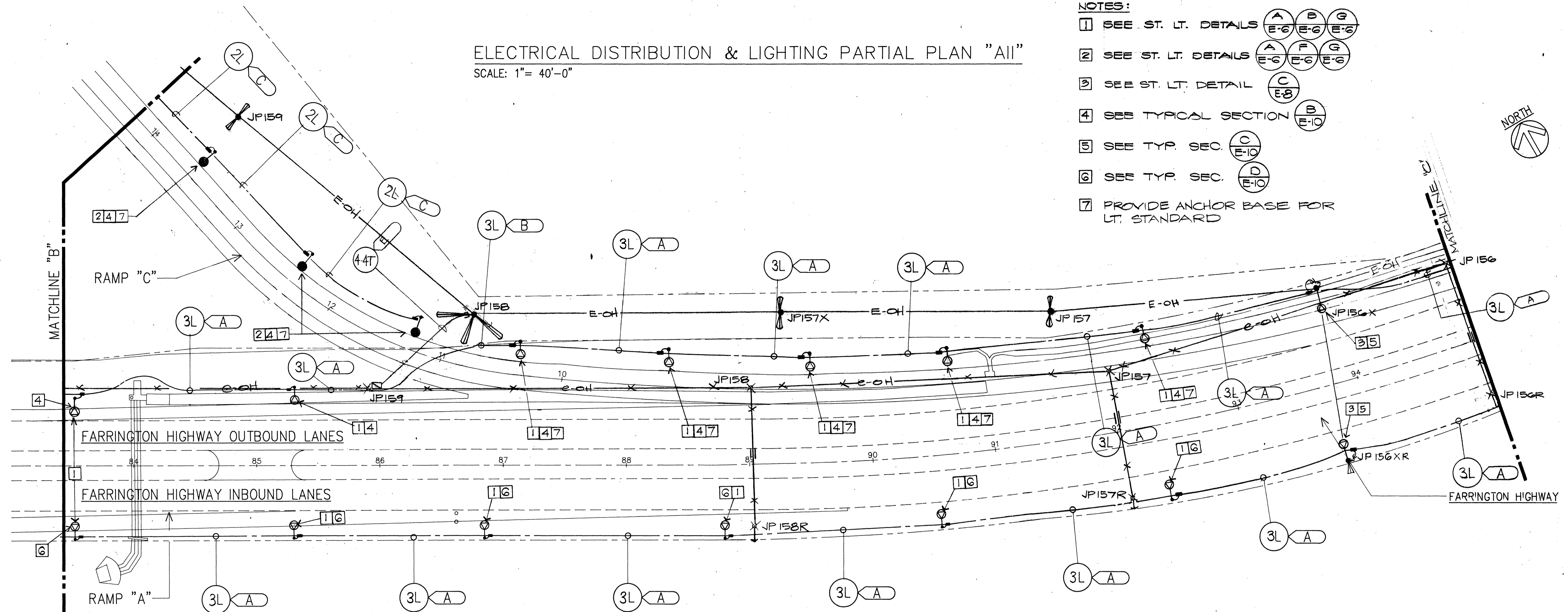
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 Ronald M. M. 7/6/87

FARRINGTON HIGHWAY INTERCHANGE
 ELECTRICAL DISTRIBUTION & LIGHTING
 PARTIAL PLAN "AI"
 APPROVED: *H. M. M.* 7/21/87
R. M. M. 7/21/87
 HAWAIIAN ELECTRIC COMPANY
 HAWAIIAN TELEPHONE COMPANY
 DATE

SCALE: 1"= 40'-0"

NOTES:

- 1 SEE ST. LT. DETAILS 
- 2 SEE ST. LT. DETAILS 
- 3 SEE ST. LT. DETAIL 
- 4 SEE TYPICAL SECTION 
- 5 SEE TYP. SEC. 
- 6 SEE TYP. SEC. 
- 7 PROVIDE ANCHOR BASE FOR LT. STANDARD

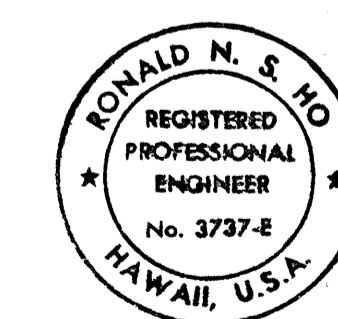


SCALE: 1" = 40'-0"

40' 20' 0 40' 80' 120'

SCALE: 1" = 40'-0"

GRAPHIC SCALE



THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

Donaldson 7/6/87

E-3

COMMUNITY PLANNING INCORPORATED
CIVIL ENGINEERS—SURVEYORS—CONSULTANT PLANNERS

WEST BEACH RESORT

HONOLULU, EWA, OAHU, HAWAII
DEVELOPER: WEST BEACH ESTATES
T.M.K.: 9-2-03: 69, 9-2-03: POR 2, 9-1-15: POR 3

FARRINGTON HIGHWAY INTERCHANGE
ELECTRICAL DISTRIBUTION & LIGHTING
PARTIAL PLAN "AII"

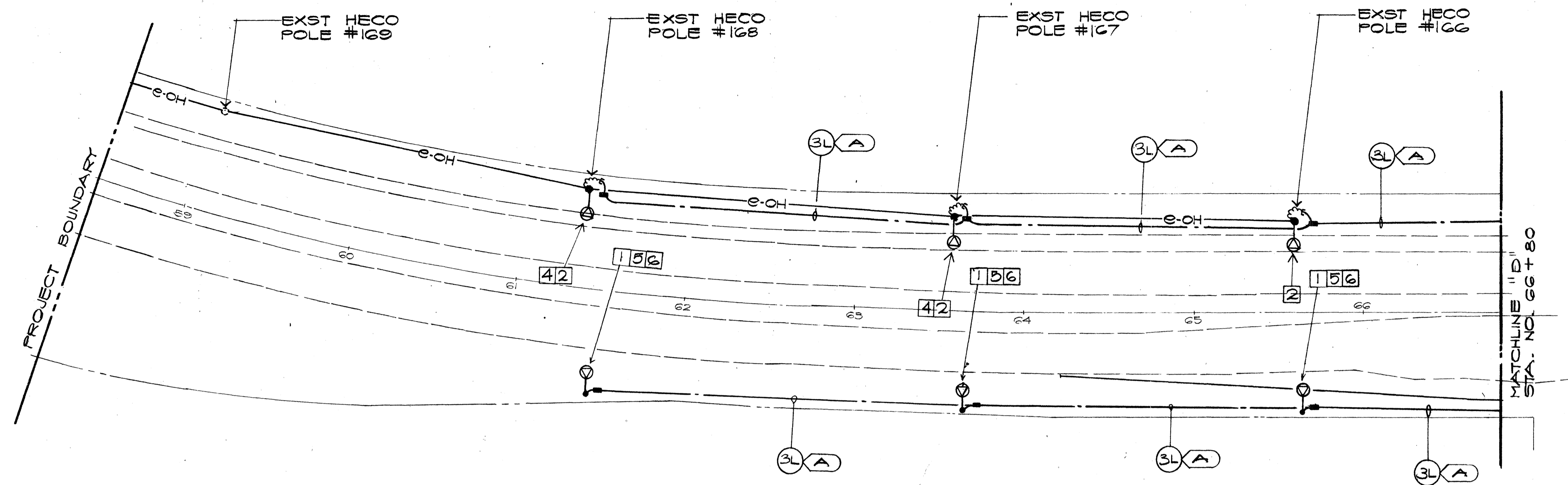
APPROVED:

0: <i>RTH H. Manda</i> HAWAIIAN ELECTRIC COMPANY	9/21/57 DATE
<i>W. H. M. Gungary</i> HAWAIIAN TELEPHONE COMPANY	7/25/57 DATE

RECORD DRAWINGS

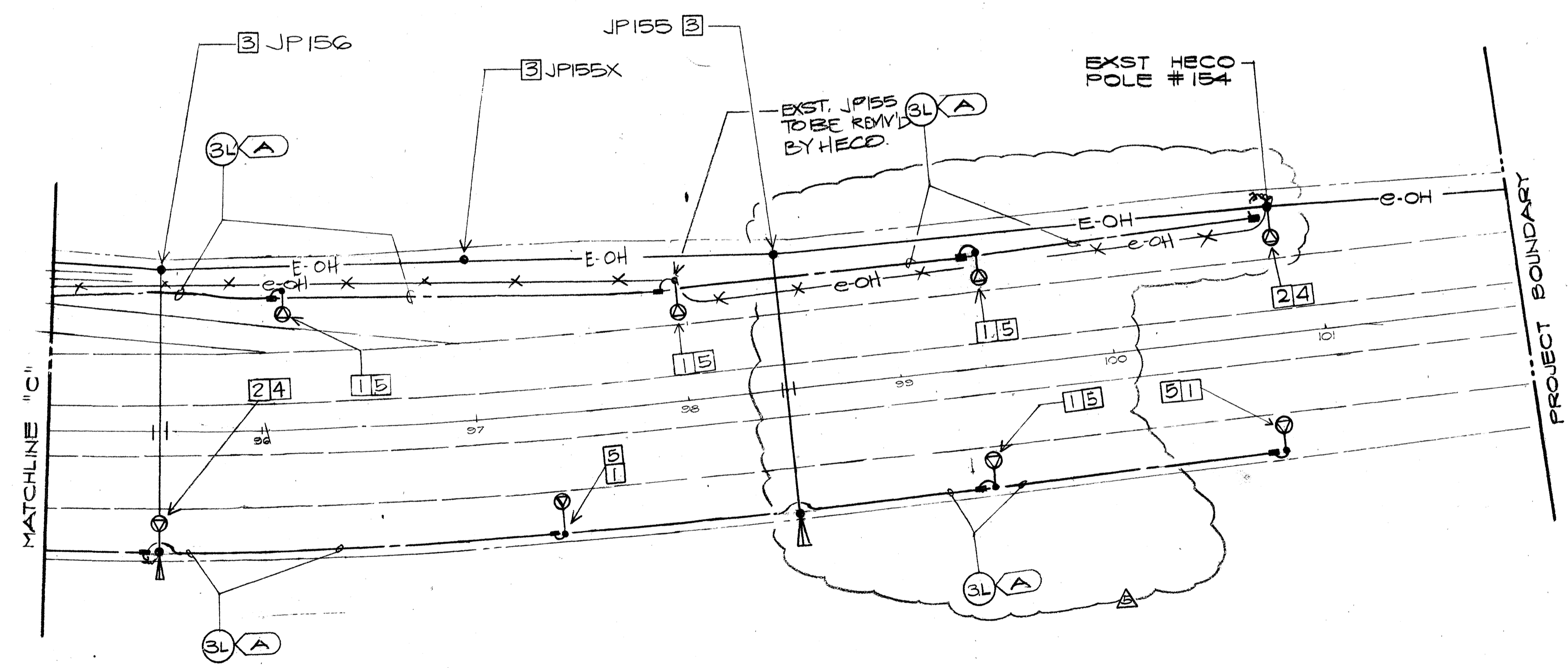
SHEET 82 OF 89 SHEETS

FILE	POCKET	FOLDER	NO.
	92		

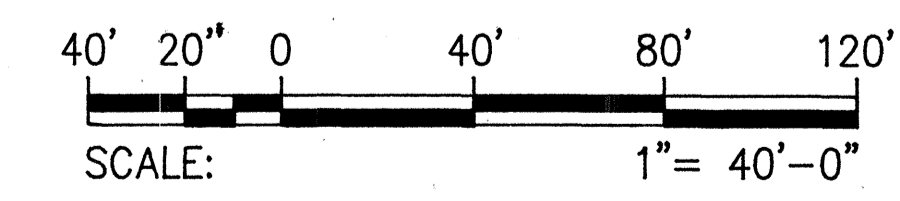


- NOTE:
- 1 SEE ST. LT. DETAILS (A) (B) (G)
E-6 E-6 E-6
 - 2 SEE ST. LT. DETAILS (C)
E-8
 - 3 UTILITY POLE PROVIDED BY
UTILITY CO.
 - 4 SEE TYP. SEC. (C)
E-10
 - 5 SEE TYP. SEC. (D)
E-10
 - 6 PROVIDE ANCHOR BASE FOR
LIGHT STANDARD.

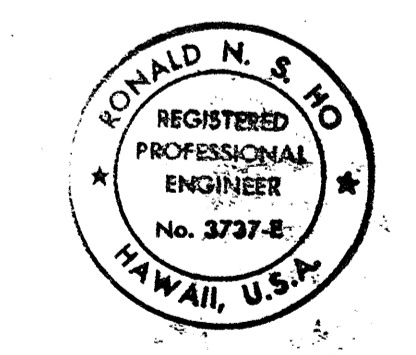
ELECTRICAL DISTRIBUTION & LIGHTING PARTIAL PLAN "AV"
SCALE: 1" = 40'



ELECTRICAL DISTRIBUTION & LIGHTING PARTIAL PLAN "AIV"
SCALE: 1" = 40'



GRAPHIC SCALE

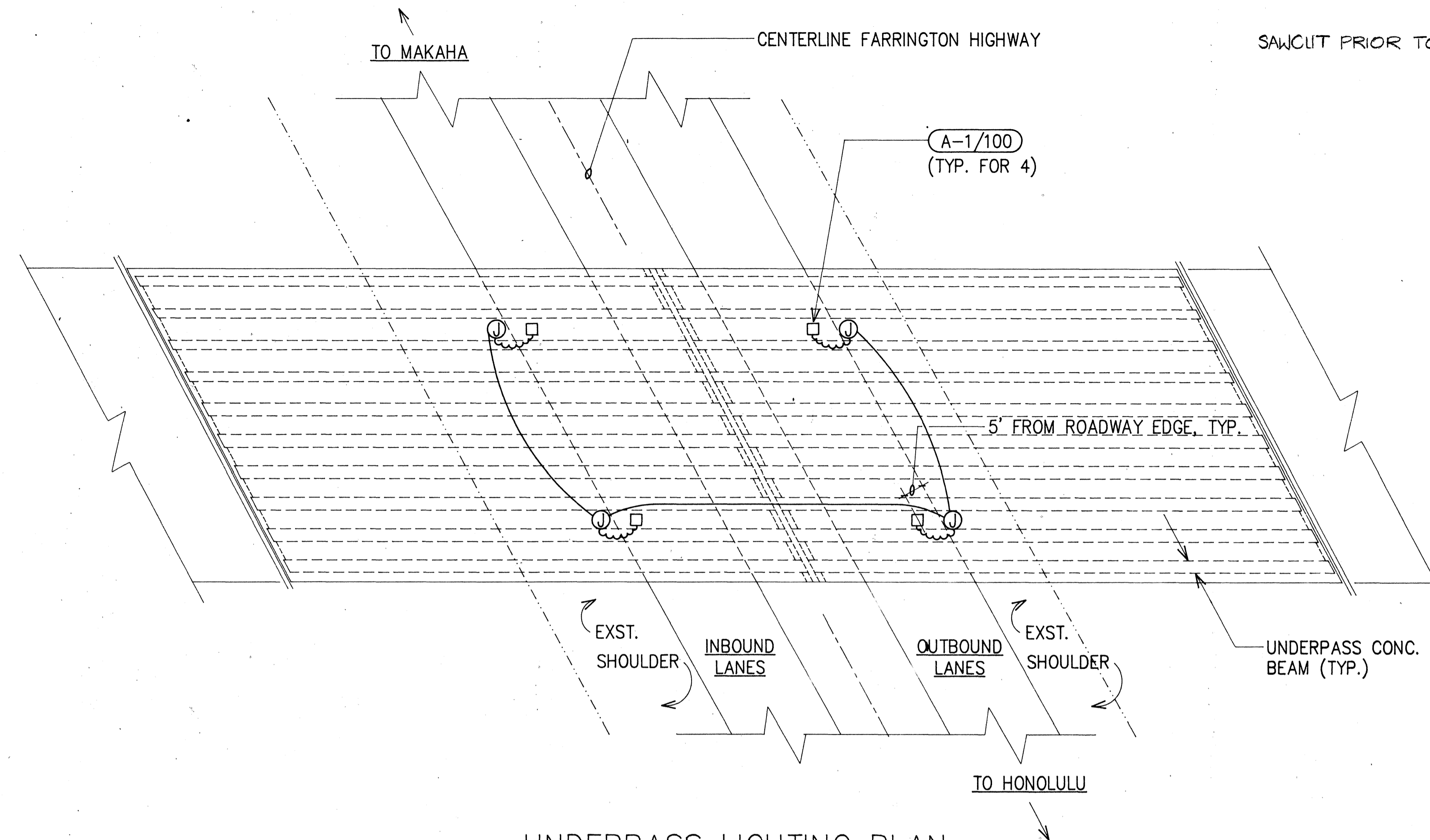


THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION.
Ronald N. S. Ho 7/6/87

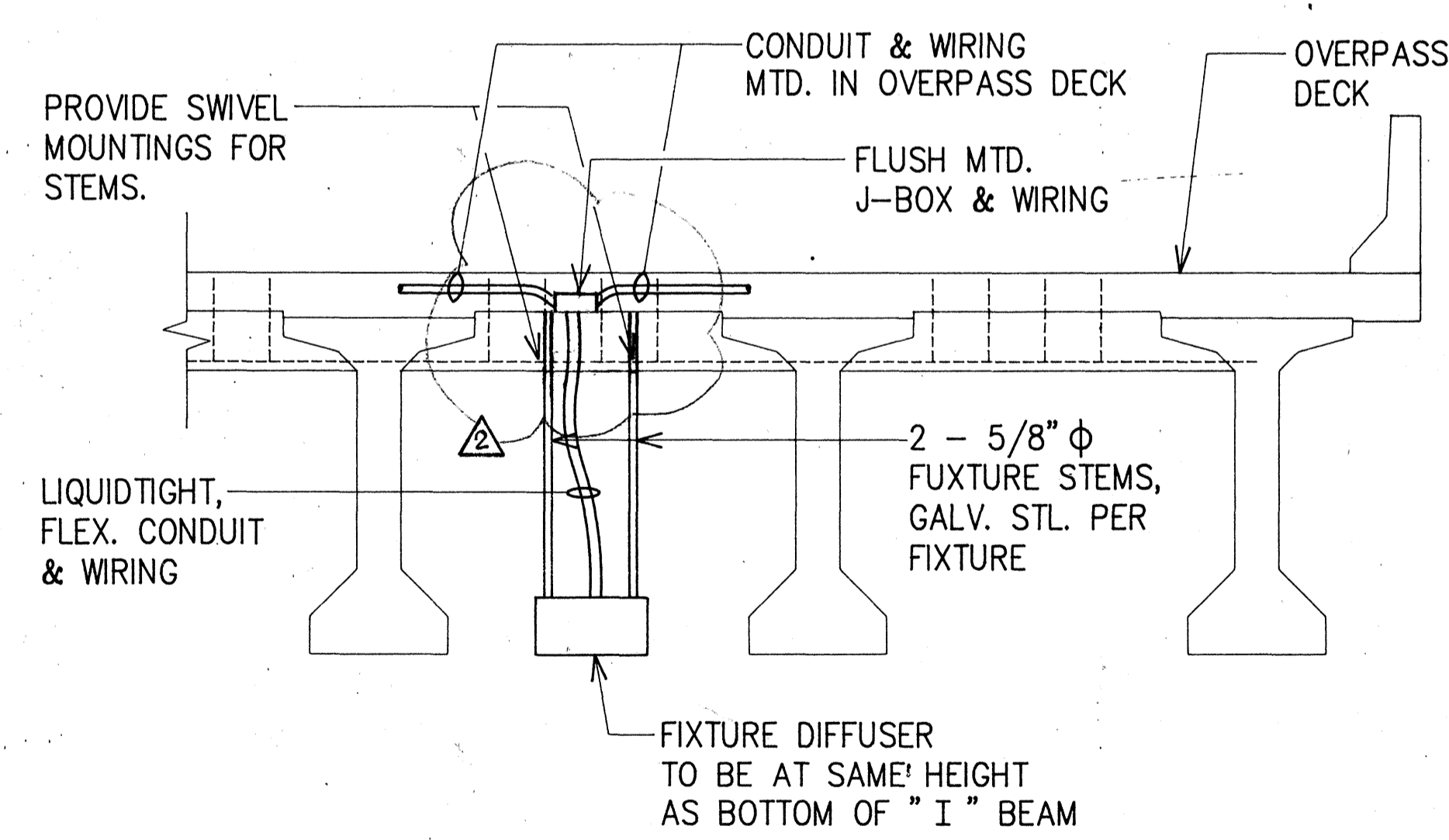
E-4

REVISION DATE	ADOPTED ST. LT.	SS	MADE BY	APPROVED
15 DEC. 1989				
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS				
WEST BEACH RESORT				
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03:69, 9-2-03: POR 2, 9-1-15: POR 3				
FARRINGTON HIGHWAY INTERCHANGE ELECTRICAL DISTRIBUTION & LIGHTING PARTIAL PLANS - "AIX" & "AIV"				
APPROVED: <i>[Signature]</i> 9/2/87 <i>[Signature]</i> 7/2/87				
DATE				

RECORD DRAWINGS

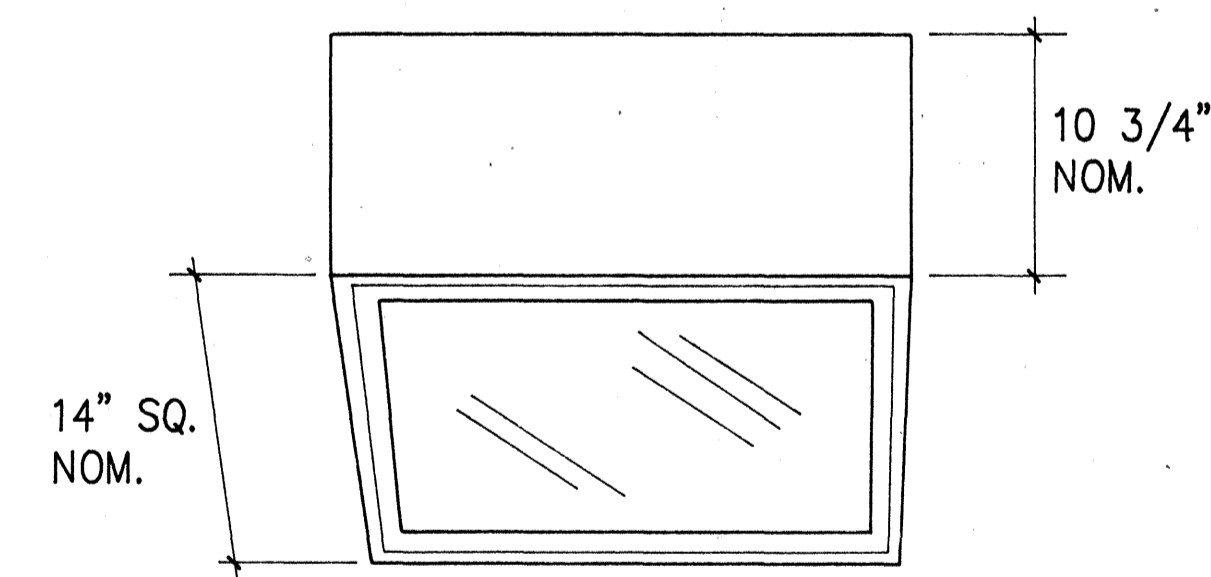


UNDERPASS LIGHTING PLAN
SCALE: 1' = 20'-0"



TYPICAL UNDERPASS FXTR. MTG. DETAIL
NOT TO SCALE

FIXTURE SCHEDULE

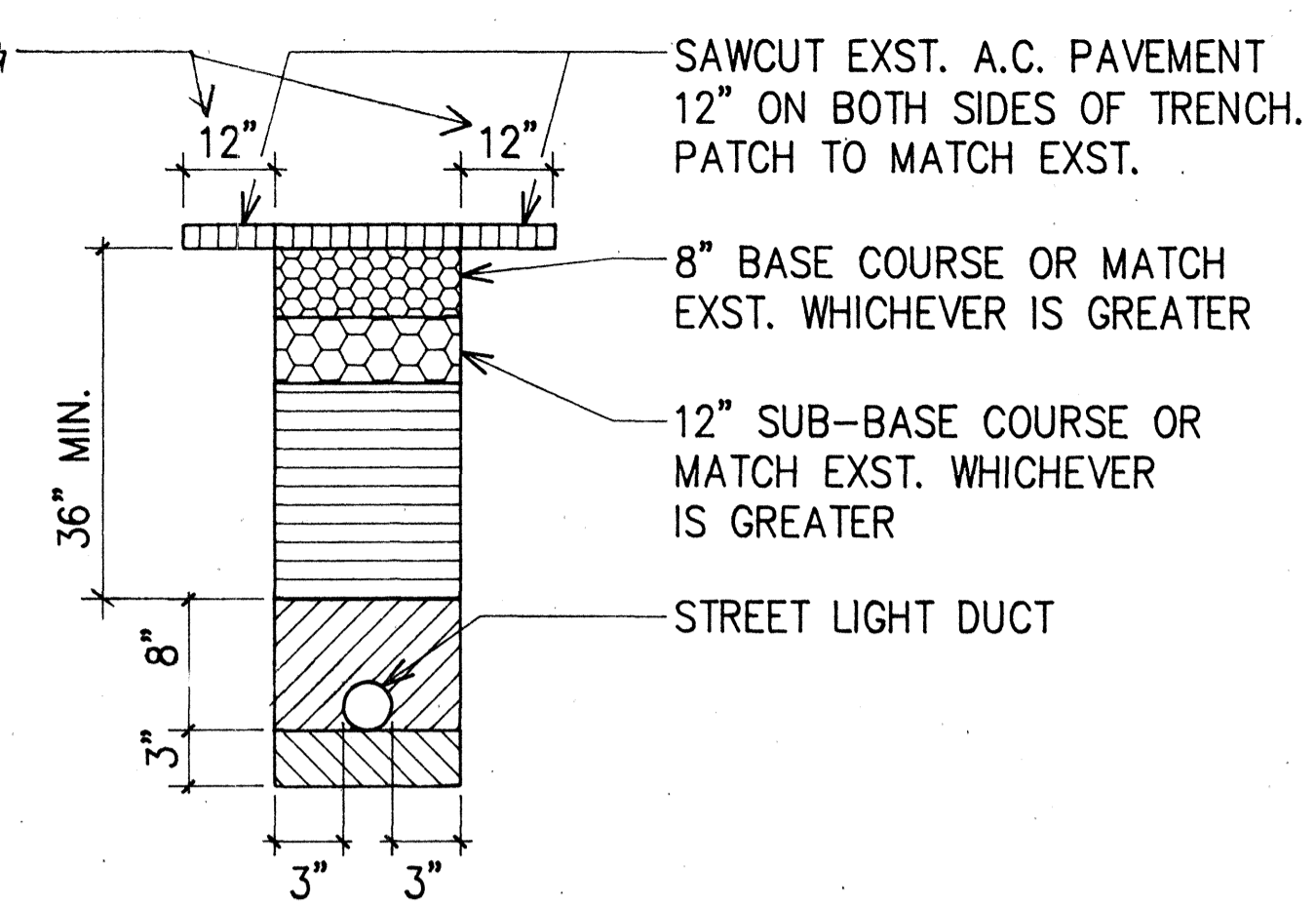


TYPE "A"

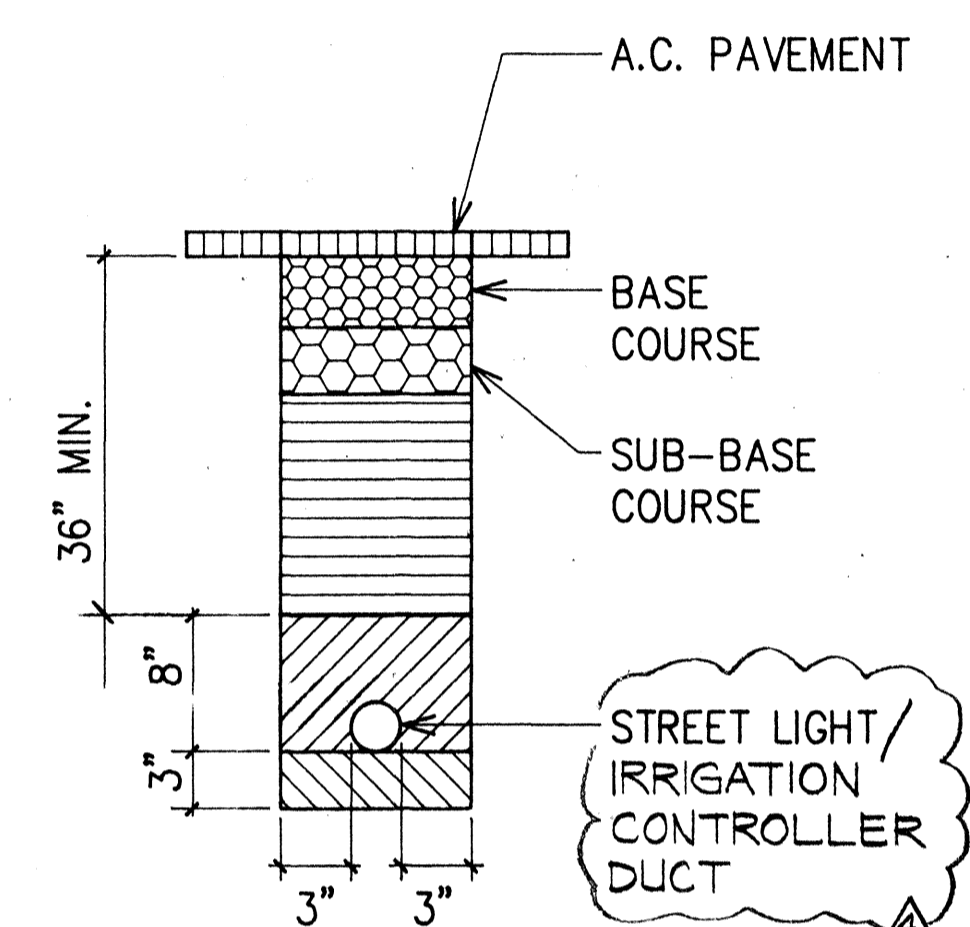
LAMP: 100W HPS, CLEAR

DESCRIPTION: EXTRUDED ALUM. CHASSIS WITH MITERED, WELDED CORNERS, DARK BRONZE ANODIZED FINISH, U.L. LISTED FOR WET LOCATIONS, CLEAR, TEMPERED GLASS DIFFUSER, HYDROFORMED SPECULAR ALUMINUM REFLECTOR WITH IES TYPE III OPTICS, HPF, CONSTANT WATTAGE AUTOTRANSFORMER BALLAST. AS A STANDARD FEATURE, FIXTURE SHALL BE SUITABLE FOR STEM MOUNTING.

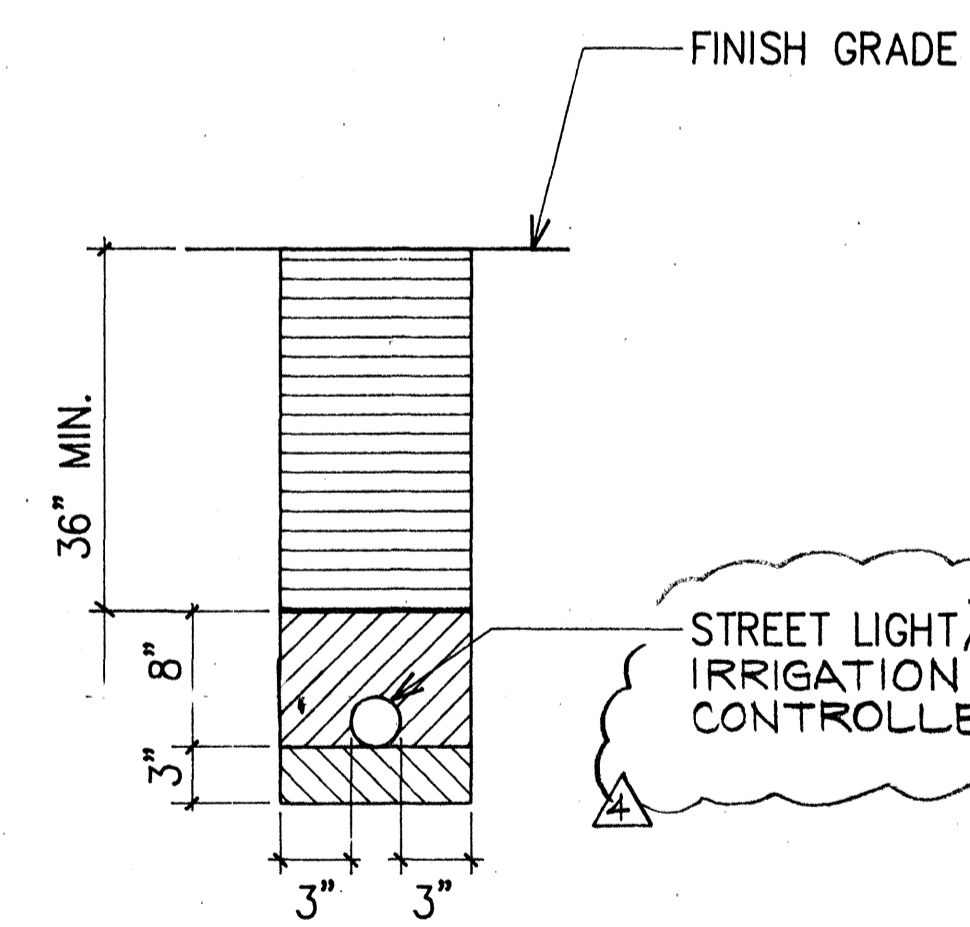
SAWCUT PRIOR TO TRENCHING



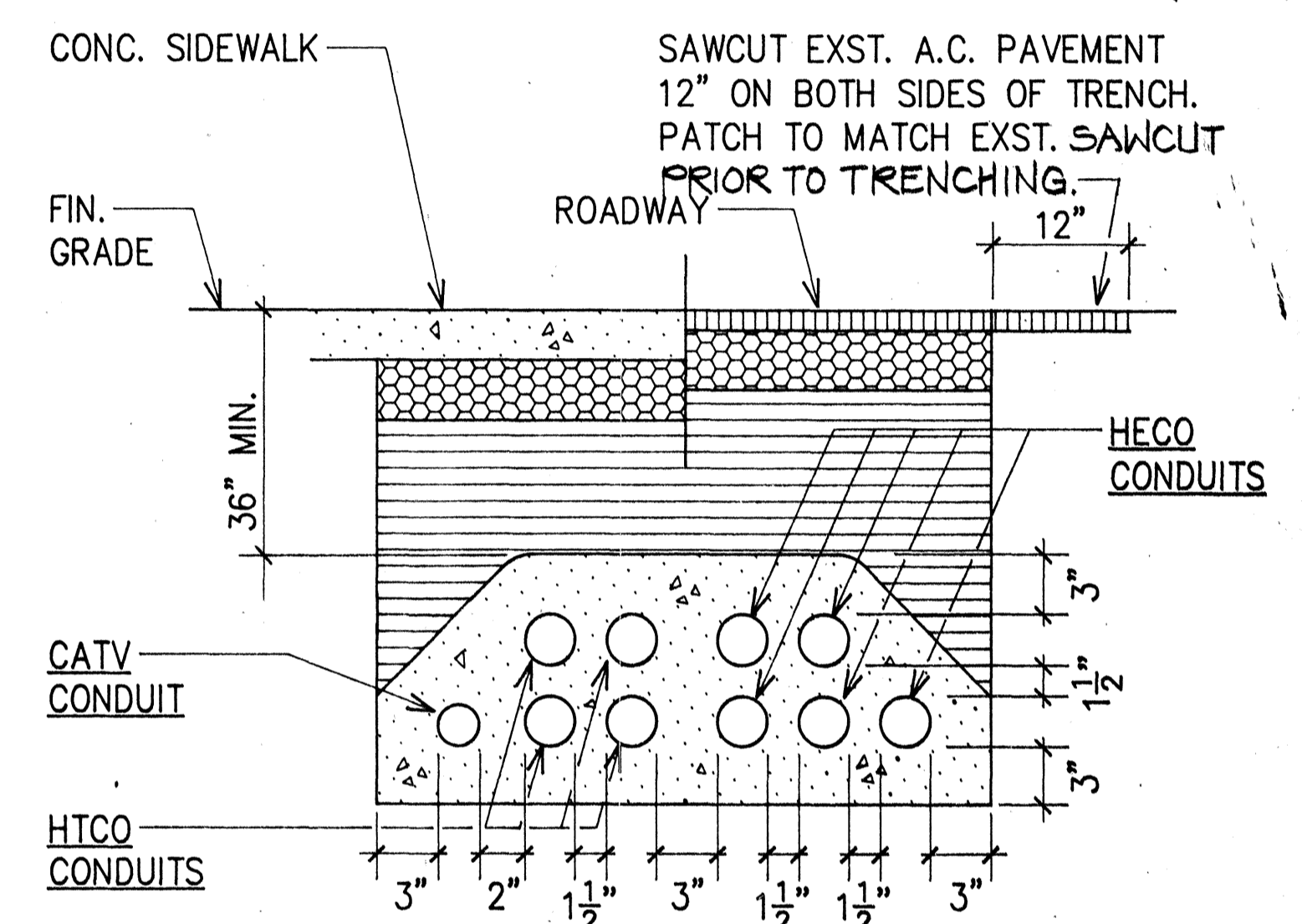
SECTION (A)



SECTION (B)



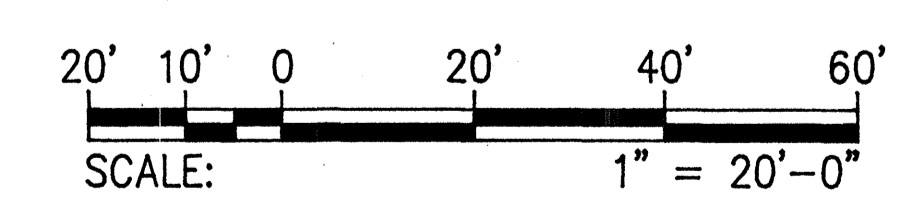
SECTION (C)



SECTION (D)

NOTE: BASE COURSE & SUB-BASE COURSE PER 1985 STATE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.

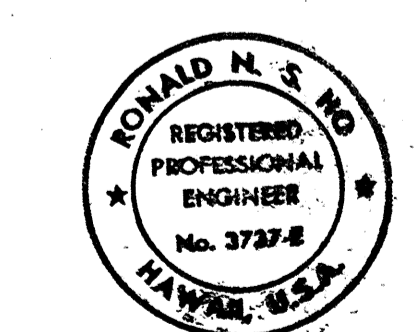
DUCT SECTIONS NOT TO SCALE



GRAPHIC SCALE

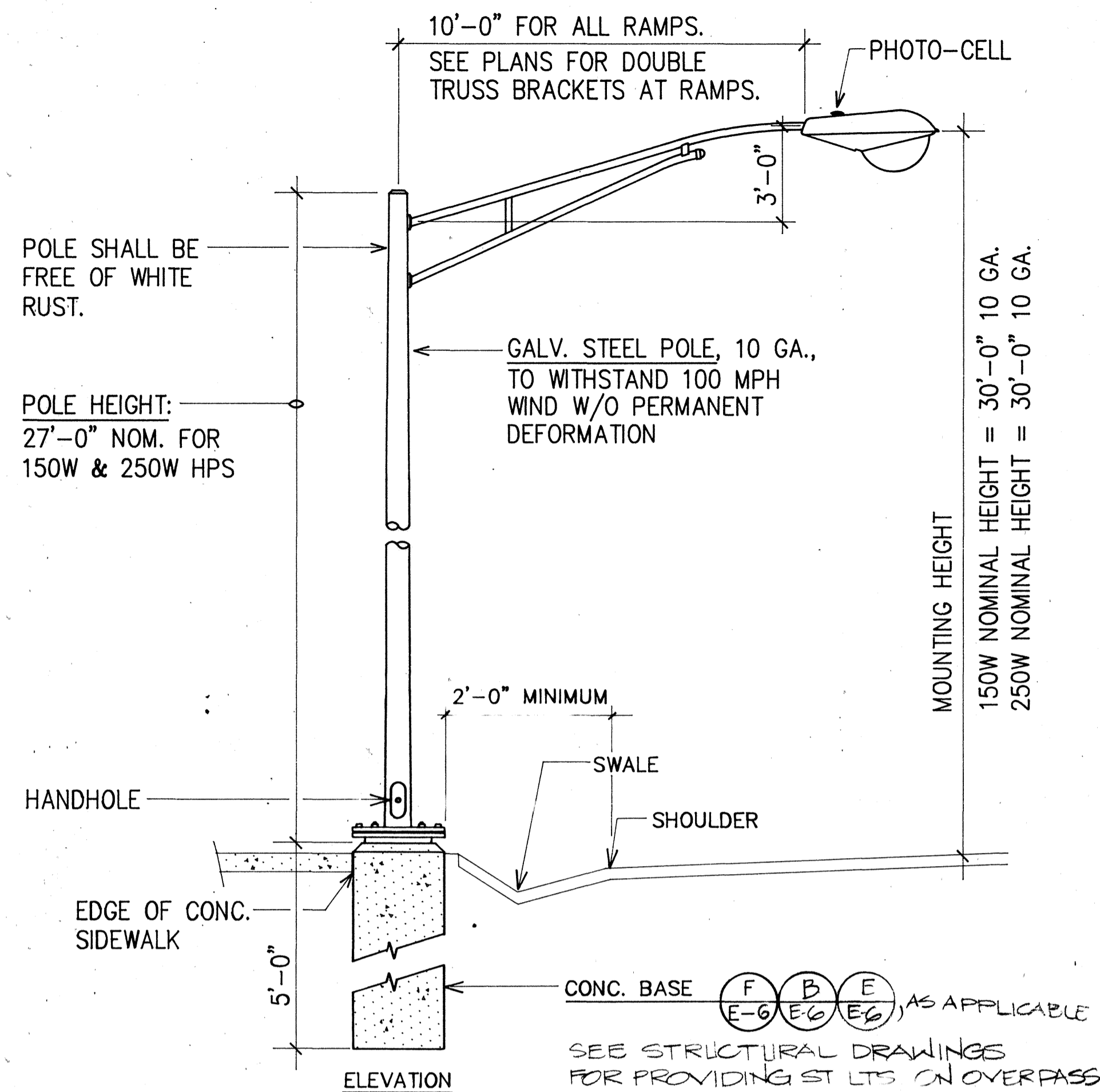
BACKFILL NOTES:

- TRENCH BACKFILL MATERIAL "B"
 1. SAND EQUIVALENT ≥ 2
 2. 8" MAX. LIFT
 3. 95% COMPACTION
- TRENCH BACKFILL MATERIAL "A"
 1. SAND EQUIVALENT ≥ 20
 2. 8" MAX. LIFT
 3. 95% COMPACTION
- IF MATERIAL BELOW DUCT IS NOT EQUIVALENT TO BACKFILL MATERIAL "A", EXCAVATE MATERIAL & PROVIDE 3" BACKFILL MATERIAL "A". SEE ABOVE
- CONCRETE - 3" ENCASEMENT, 2500 PSI COMPRESSIVE STRENGTH @ 28 DAYS.

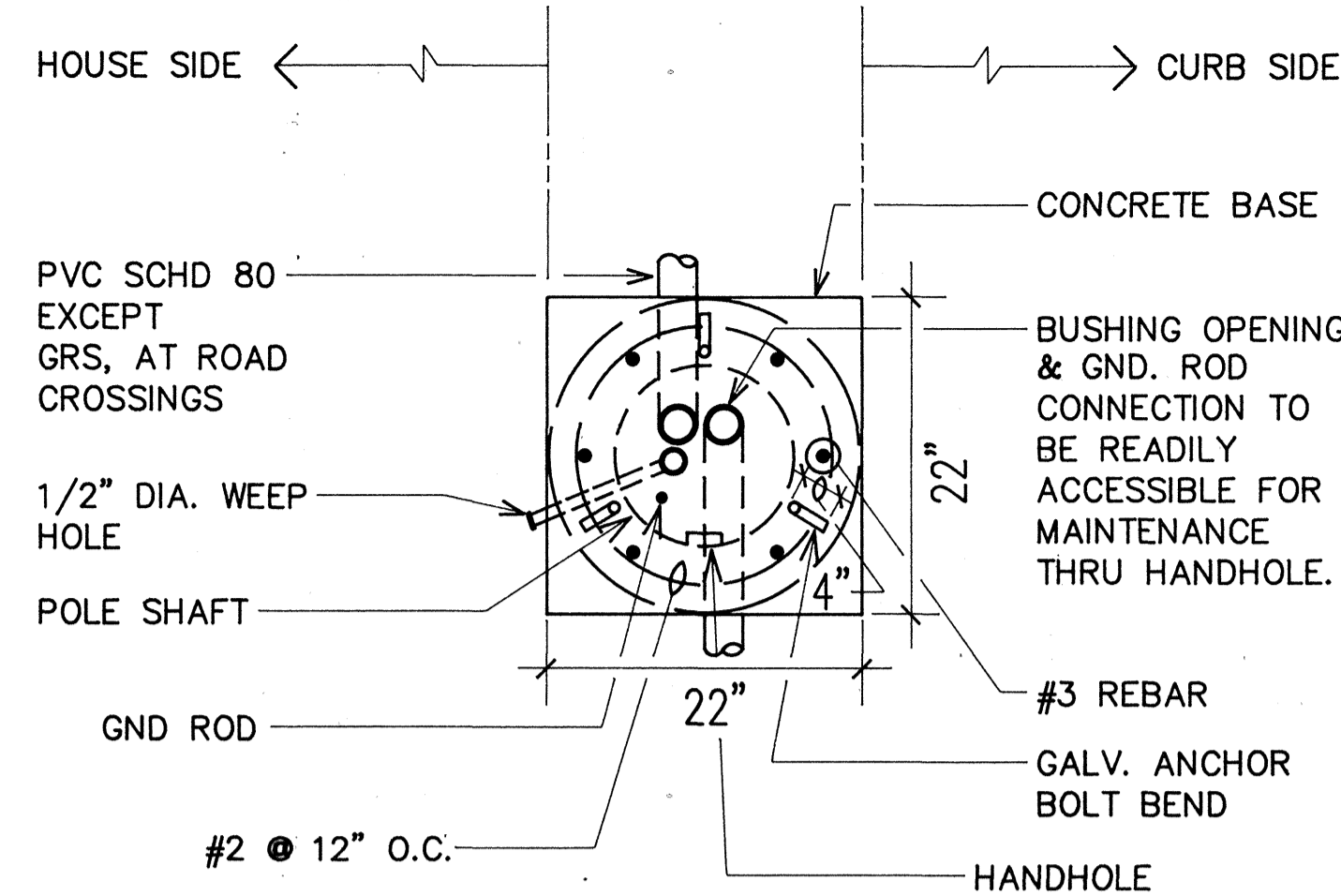


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
 E-5
 7/2/87

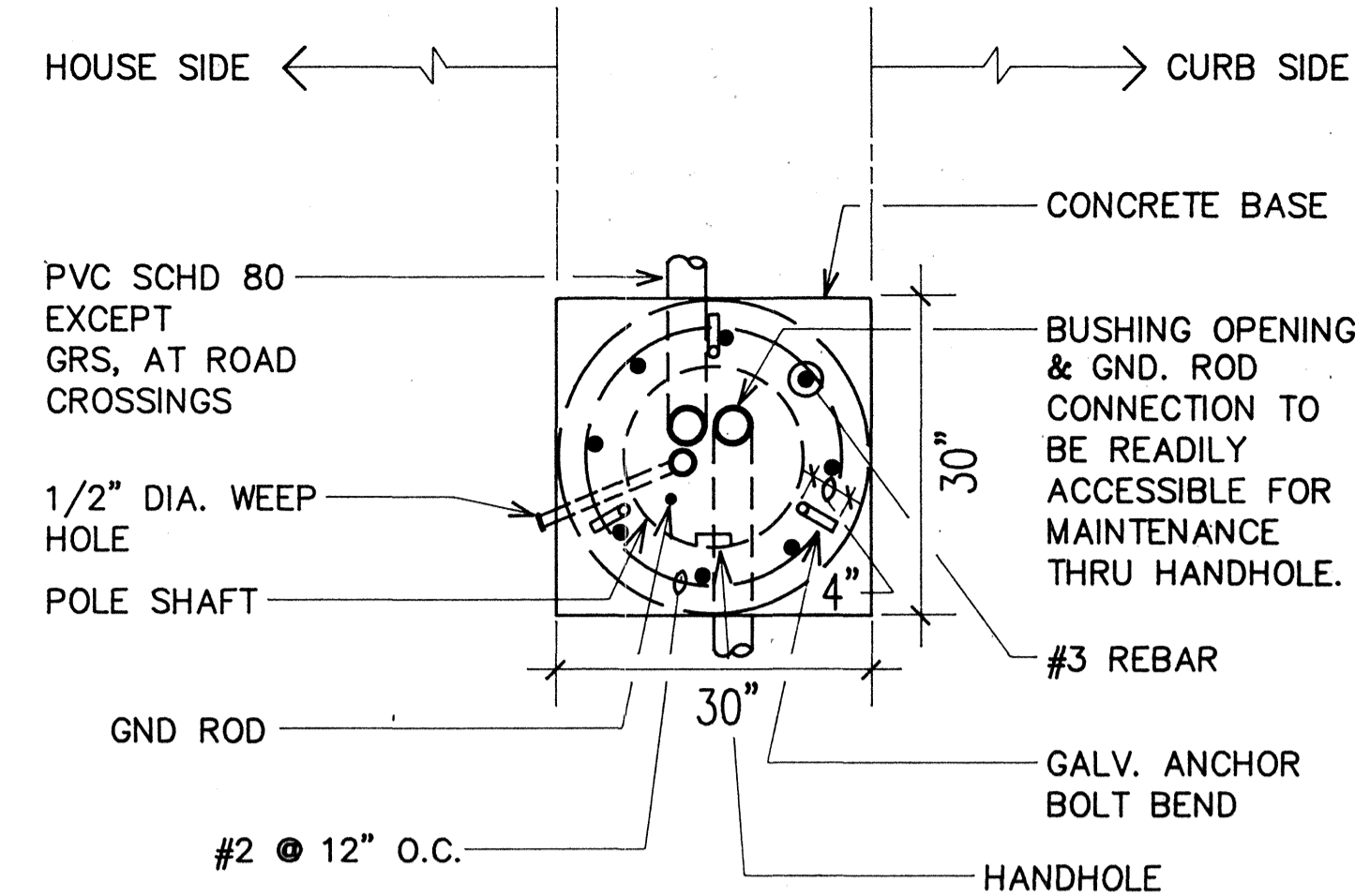
7-11-89	ADDED IRRIGATION SYS.	E. W.	
9-22-88	REVISION	E. W.	
REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03: 69, 9-2-03: POR 2, 9-1-15: POR 3			
FARRINGTON HIGHWAY INTERCHANGE UNDERPASS LIGHTING PLAN, DUCT SECTIONS, DETAIL & FIXTURE SCHEDULE			
APPROVED: <i>R. H. H. H.</i>		DATE: 7/2/87	
HAWAIIAN ELECTRIC COMPANY		DATE: 7/2/87	
HAWAIIAN TELEPHONE COMPANY		DATE: 7/2/87	
FILE FOLDER NO.			



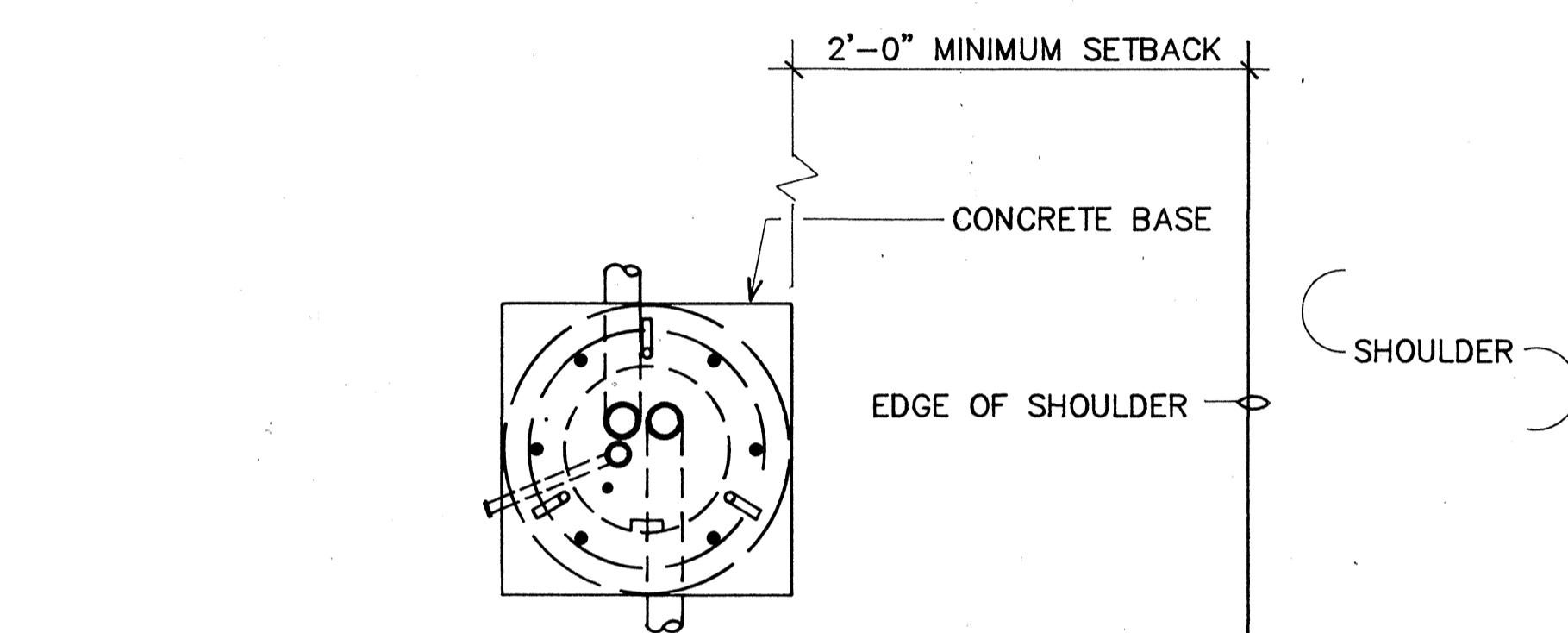
A STREET LIGHT STANDARD
E-6 NOT TO SCALE



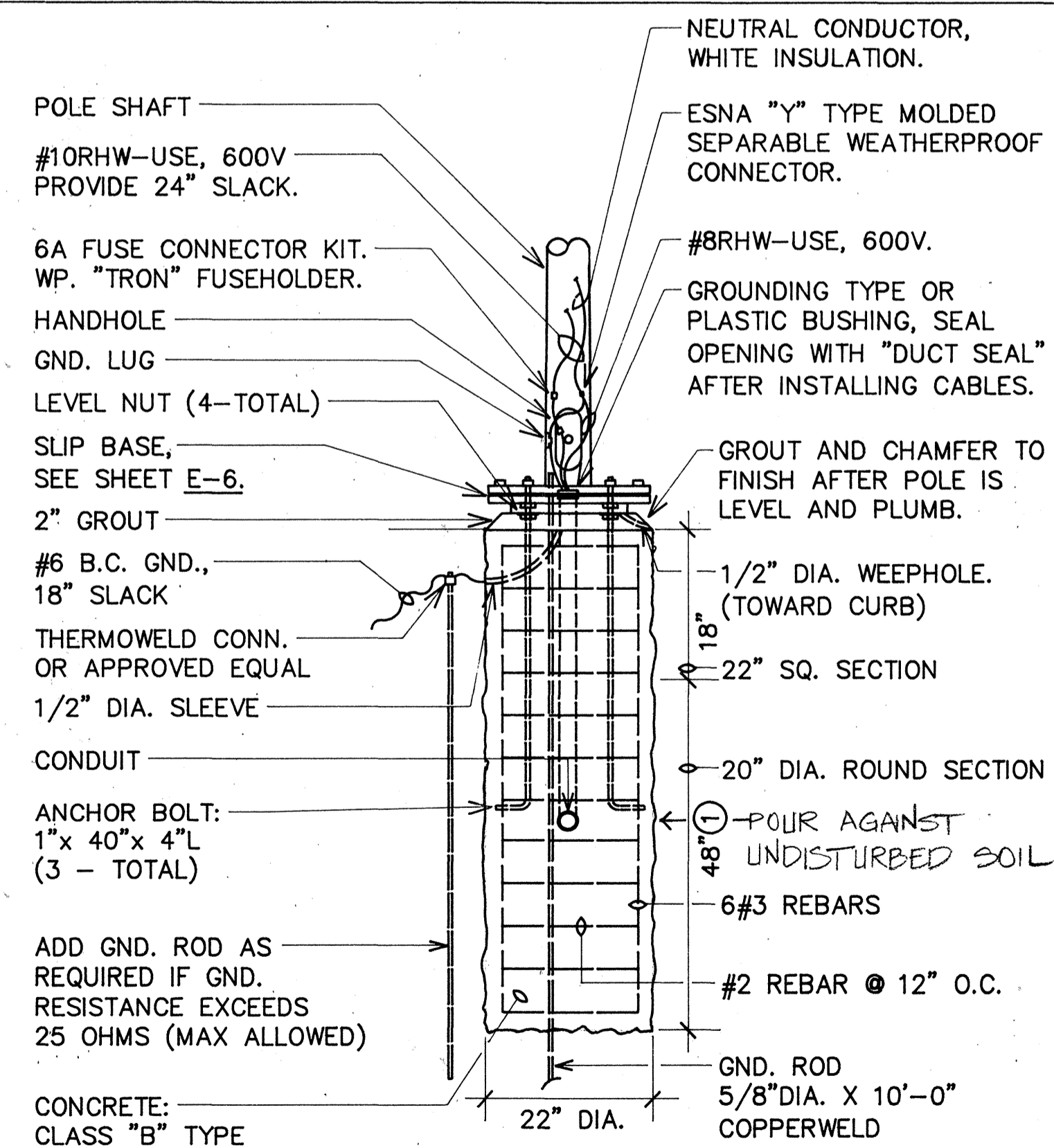
C CONCRETE BASE PLAN
E-6 NOT TO SCALE



D CONCRETE BASE PLAN
E-6 NOT TO SCALE (FULL SLOPE)

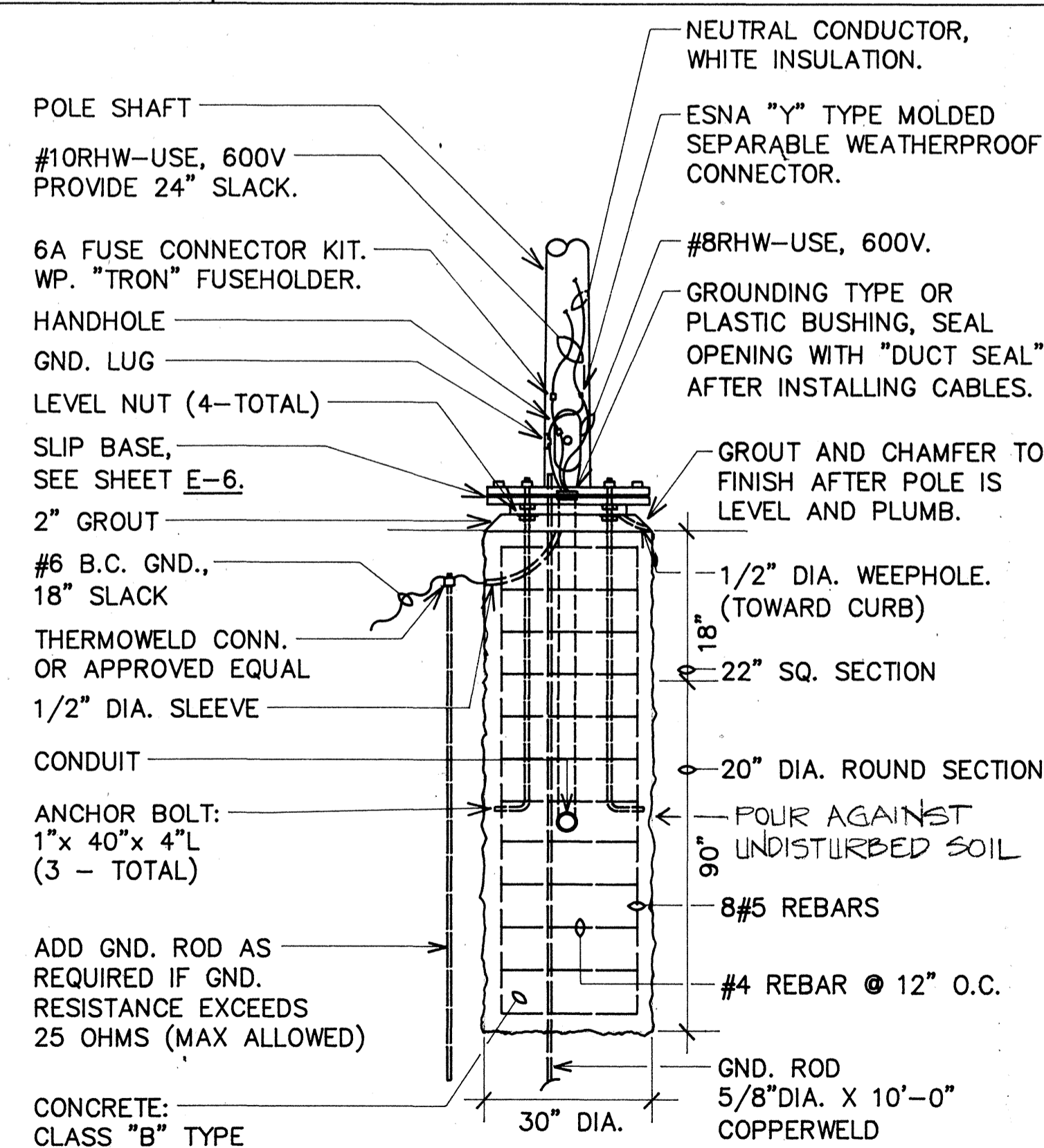


G BASE PLAN, TYPICAL
E-6 NOT TO SCALE



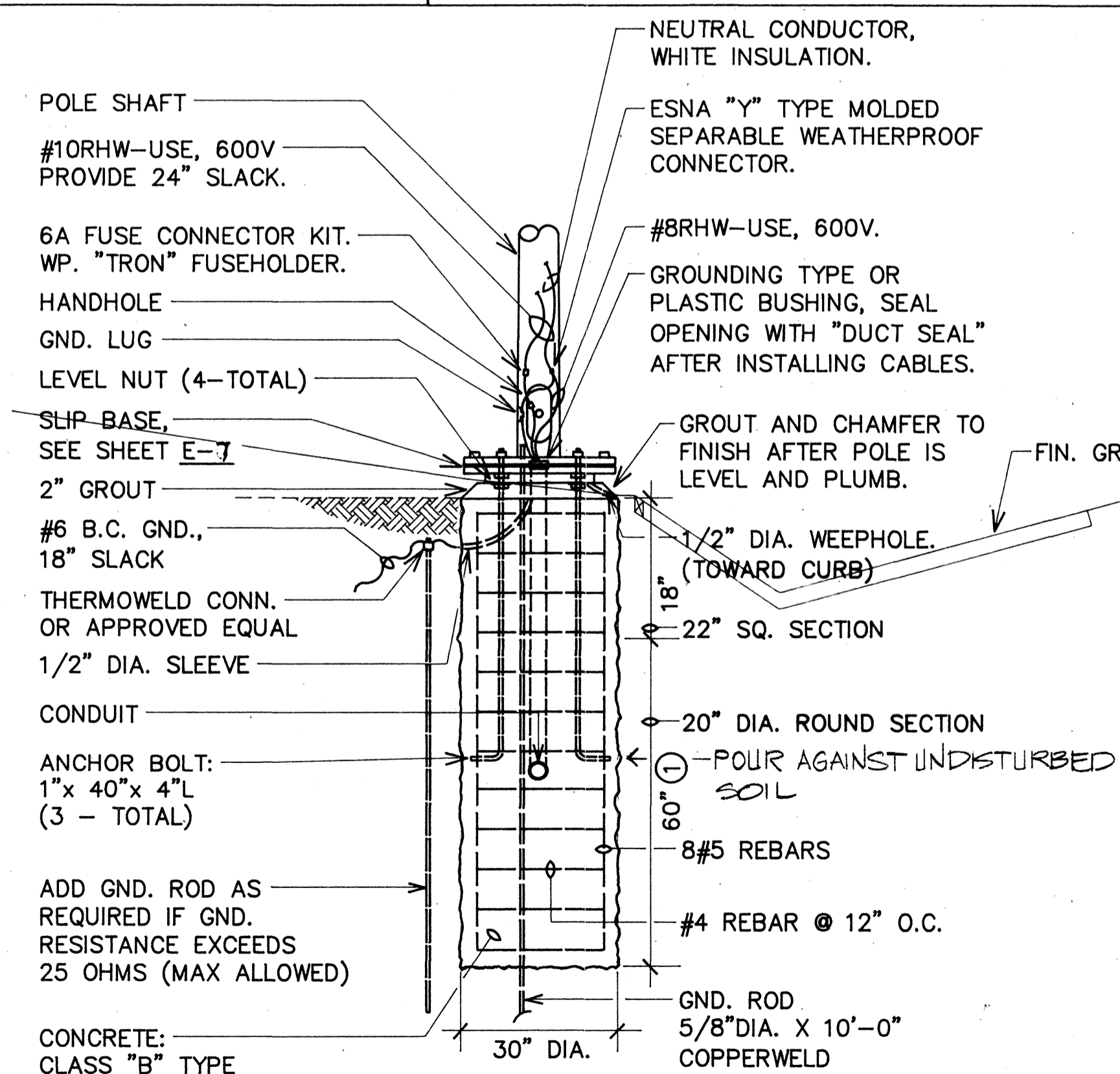
NOTE: SEE DETAIL C/E-6

B CONCRETE BASE ELEVATION
E-6 NOT TO SCALE (SINGLE ARM, LEVEL SLOPE)



NOTE: SEE DETAIL D/E-6

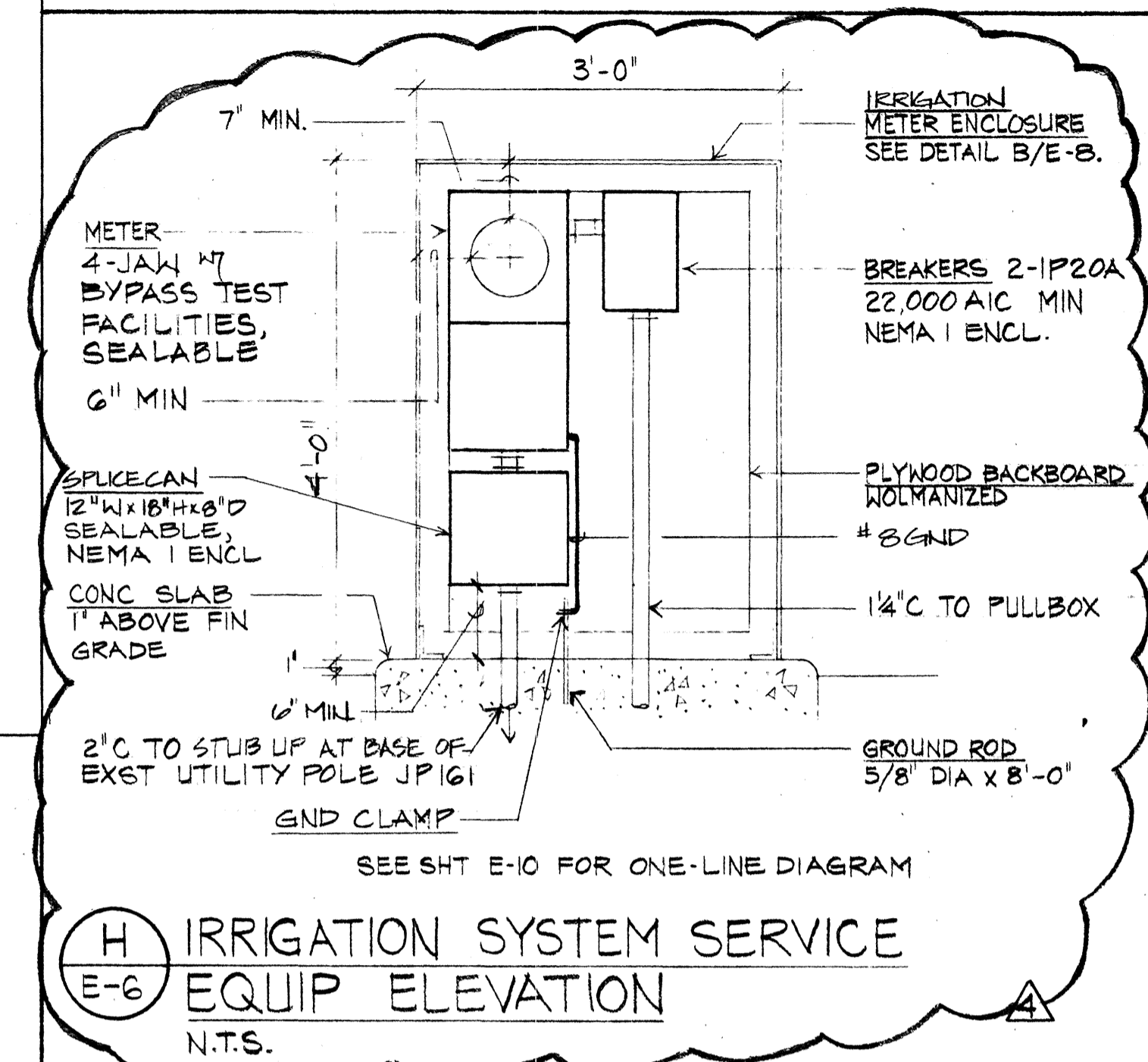
E CONCRETE BASE ELEVATION
E-6 NOT TO SCALE (DOUBLE ARM)



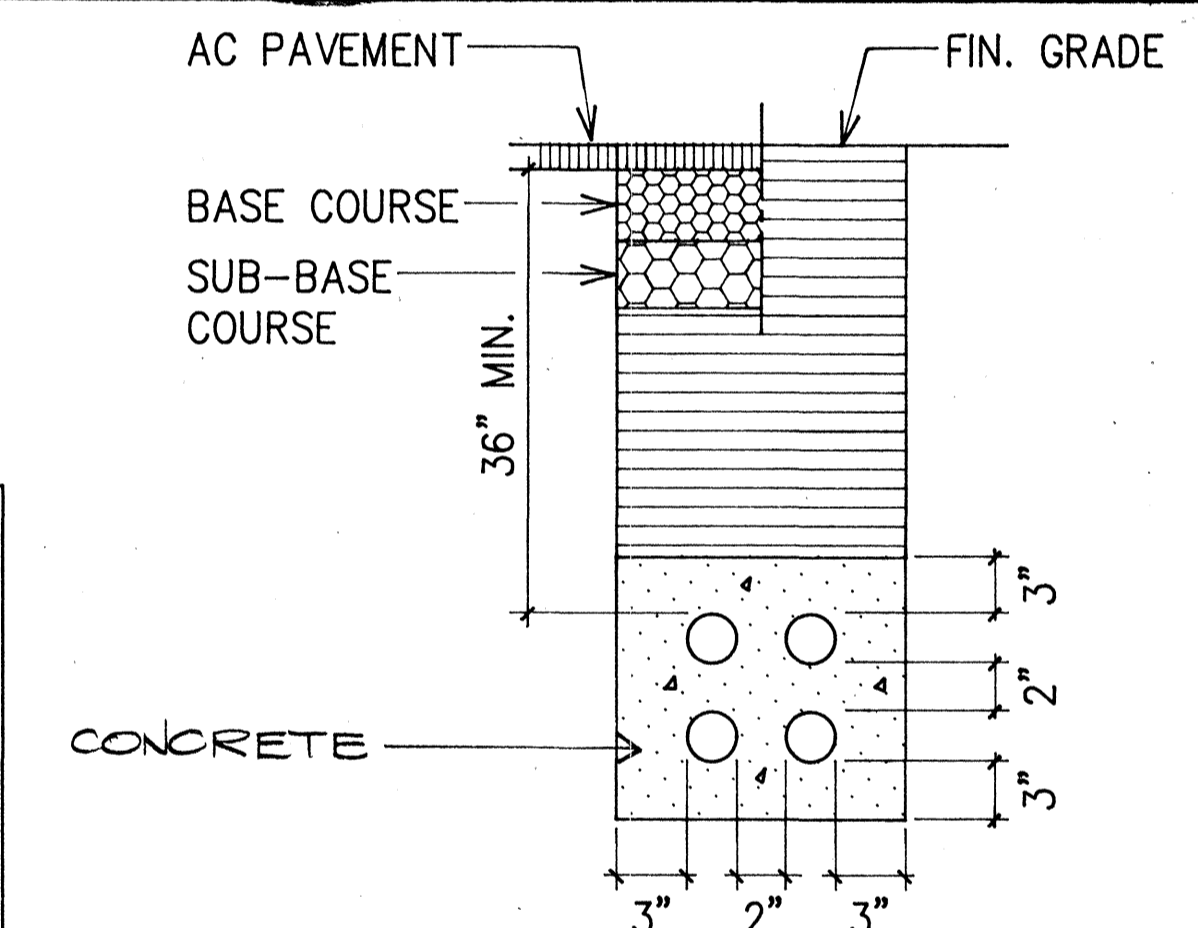
NOTE: SEE DETAIL D/E-6

F CONCRETE BASE ELEVATION
E-6 NOT TO SCALE (FILL OR CUT SLOPE)

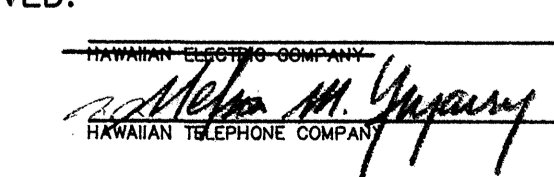
NOTES:
① FOR 50'-0" POLE, INCREASE DEPTH TO 72".



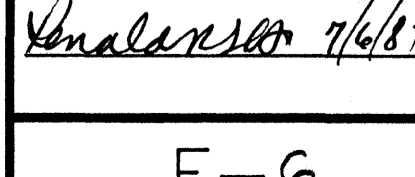
H IRRIGATION SYSTEM SERVICE EQUIP ELEVATION
E-6 N.T.S.



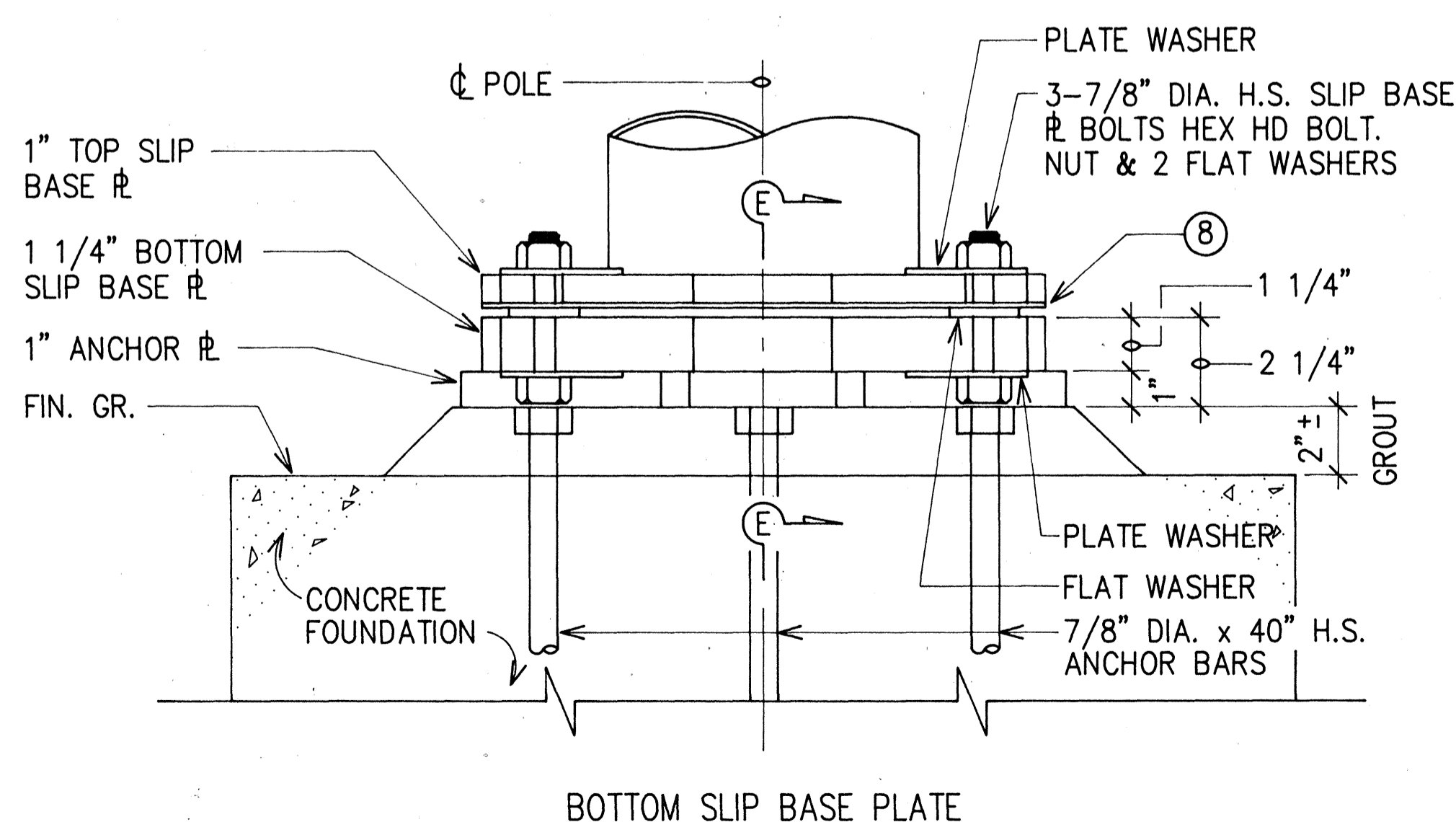
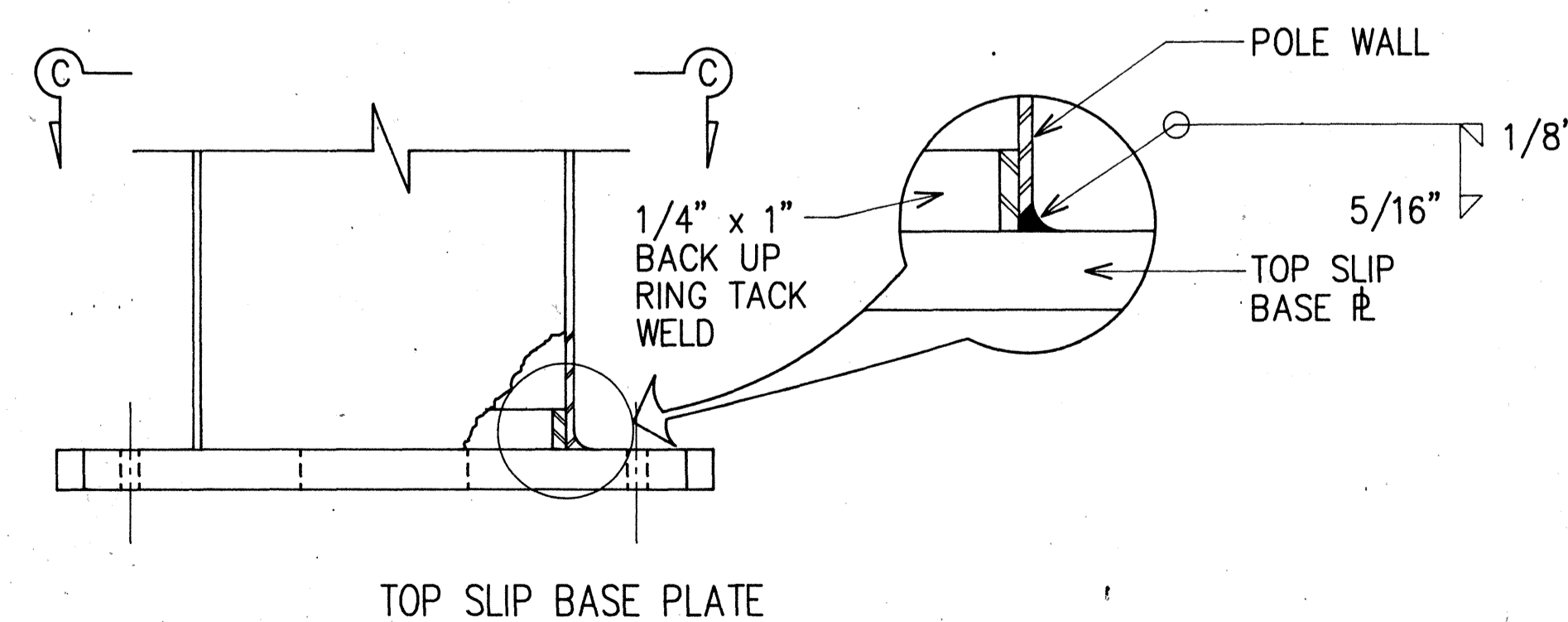
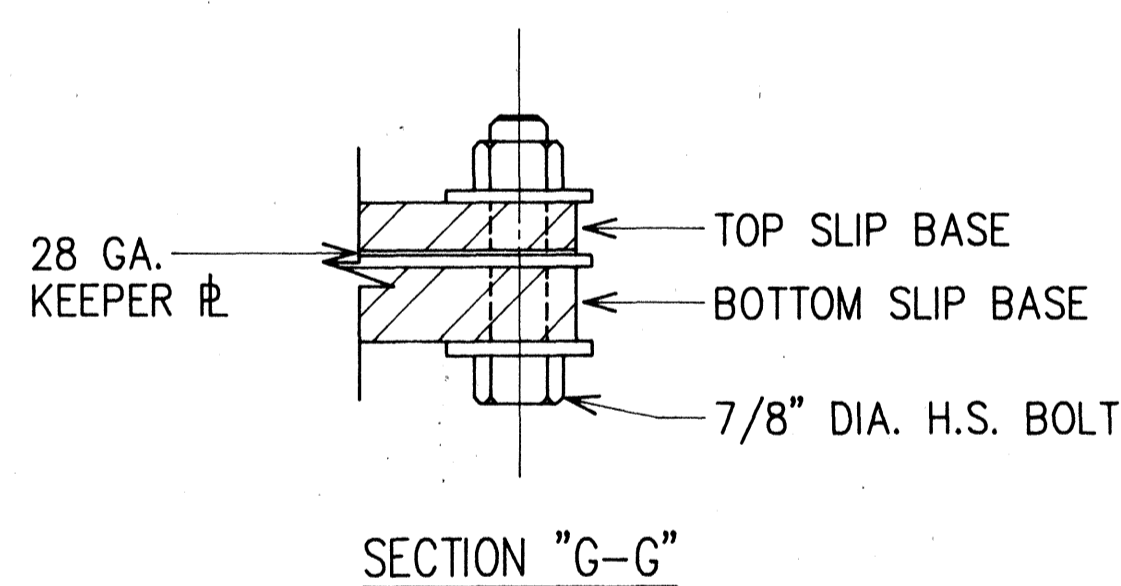
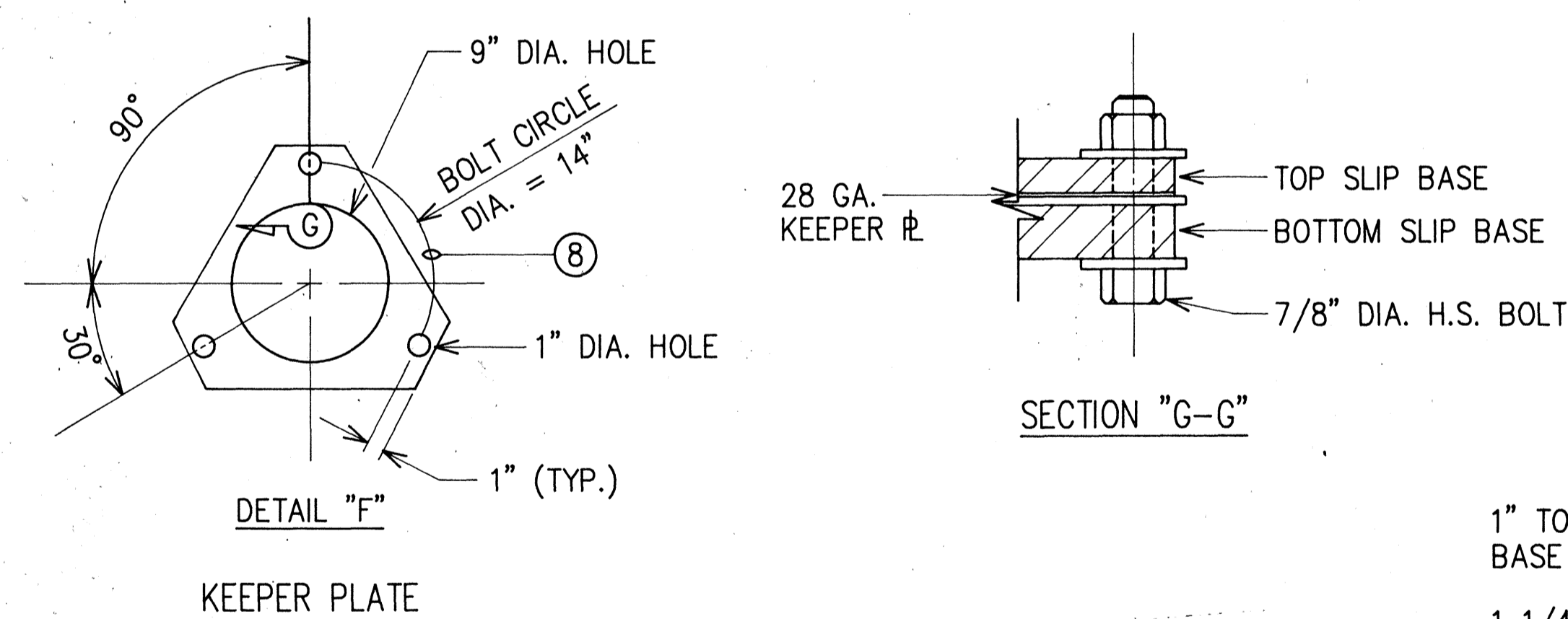
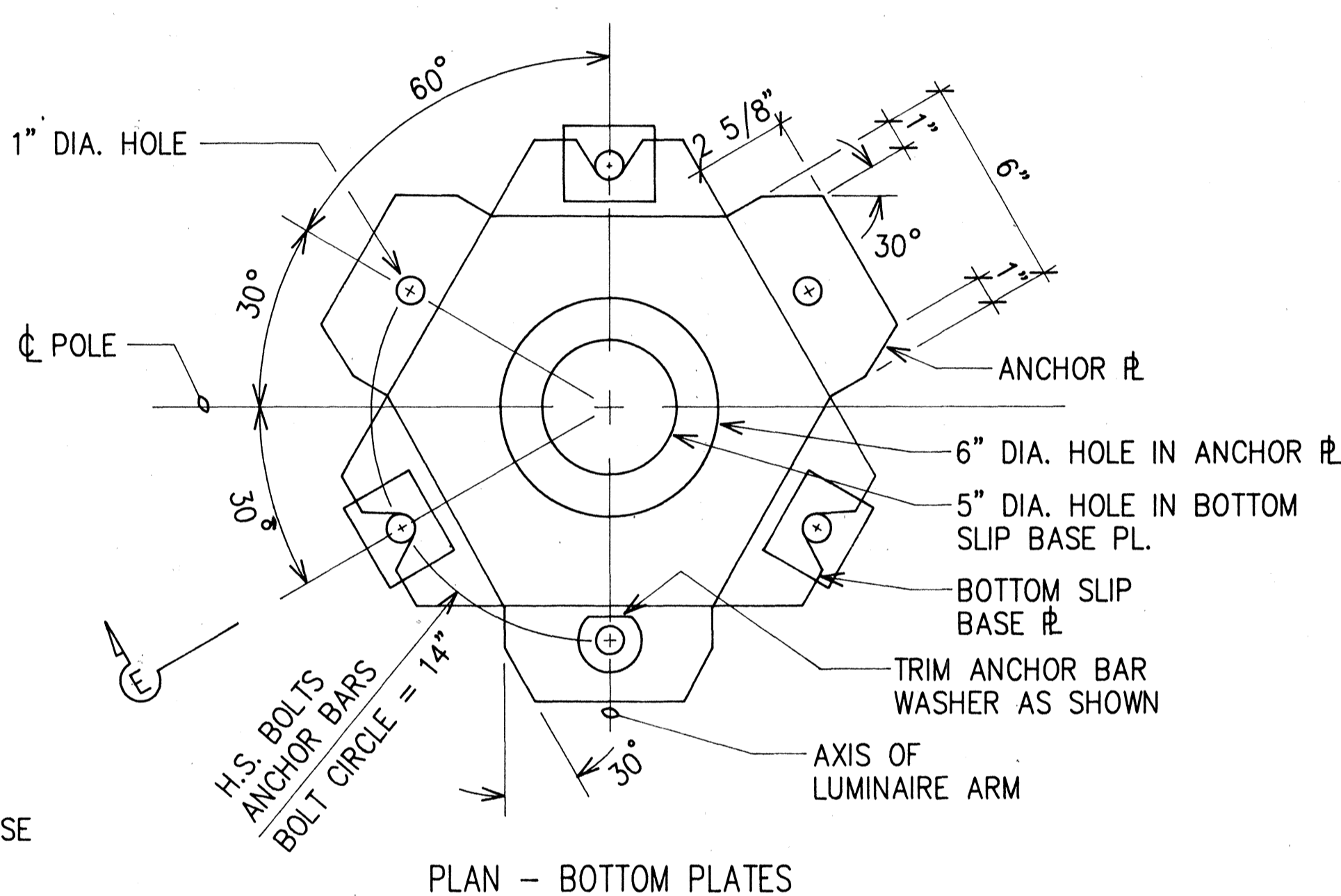
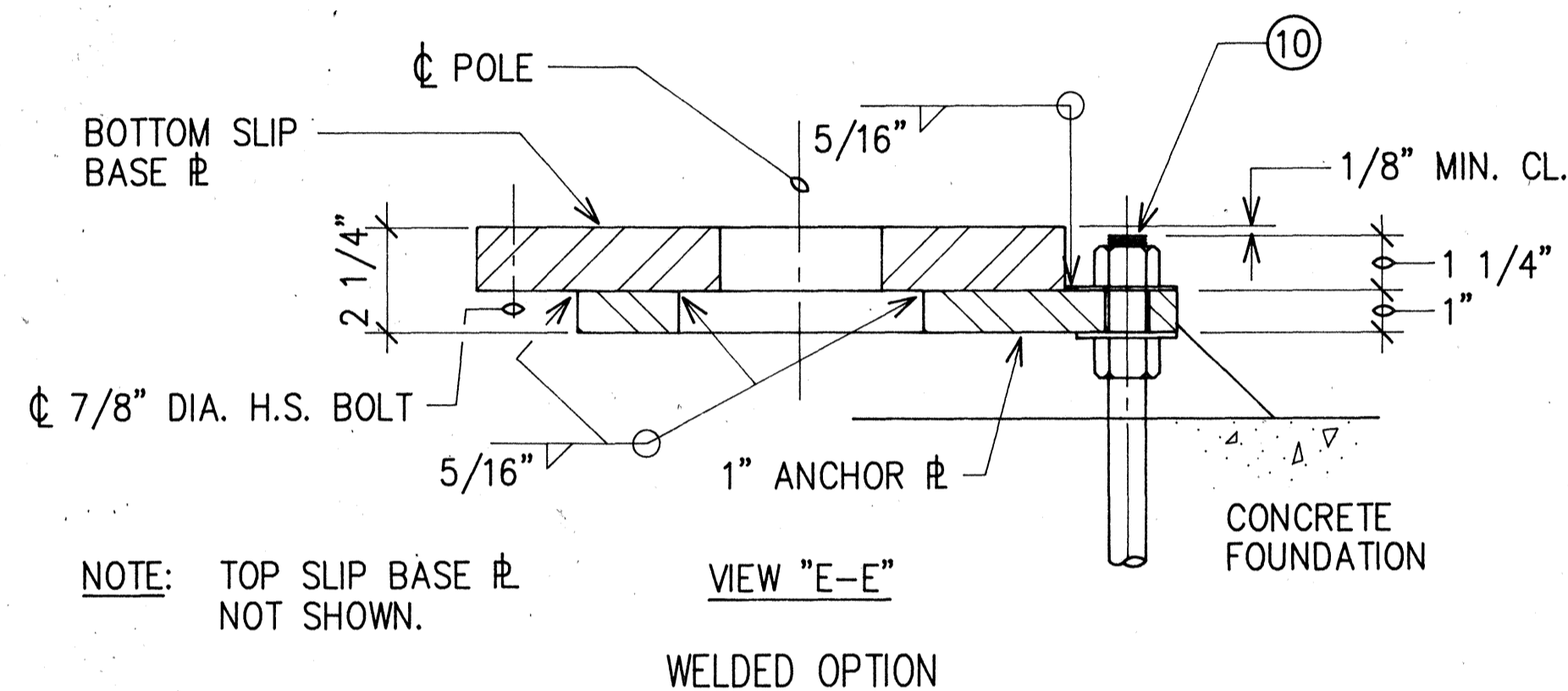
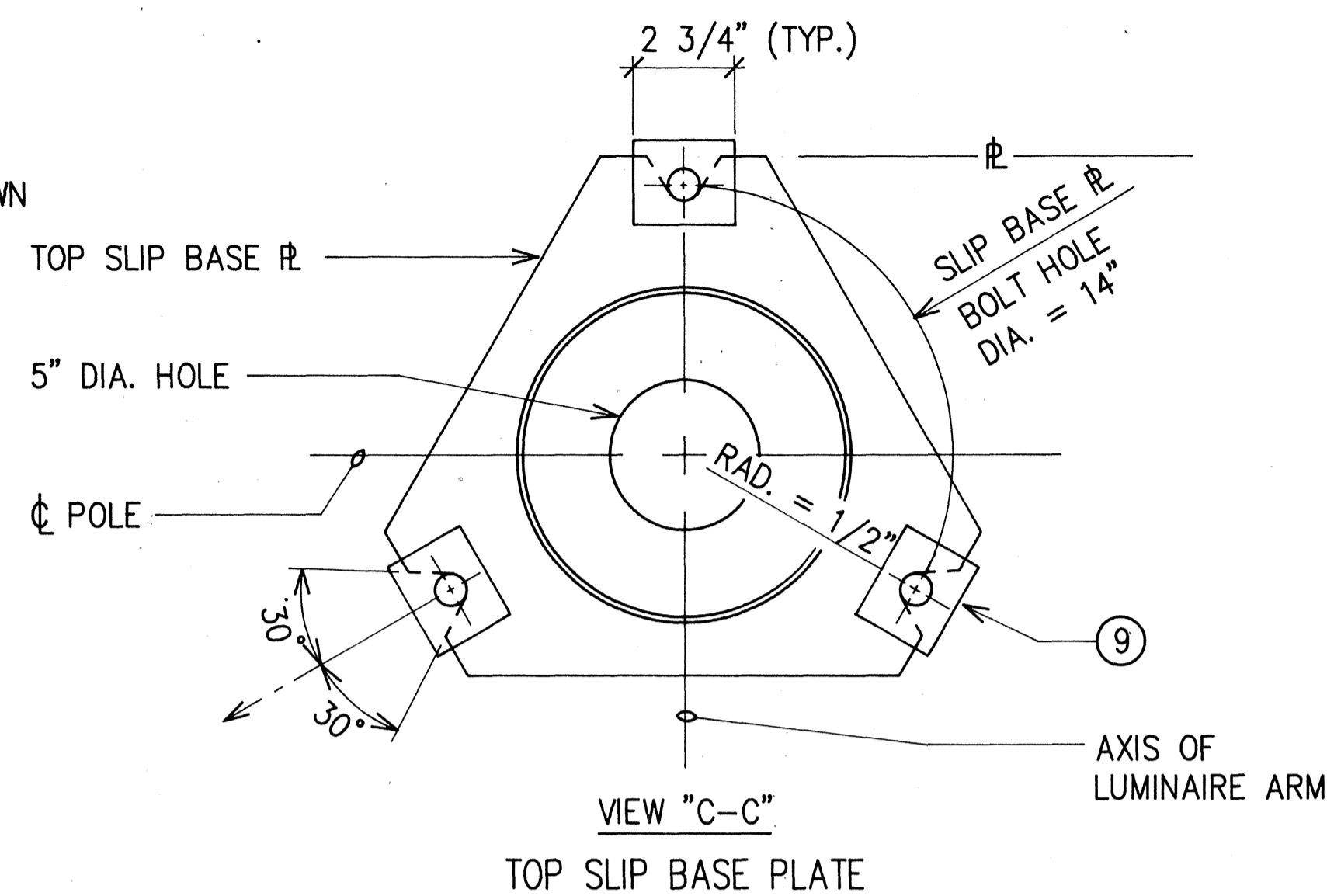
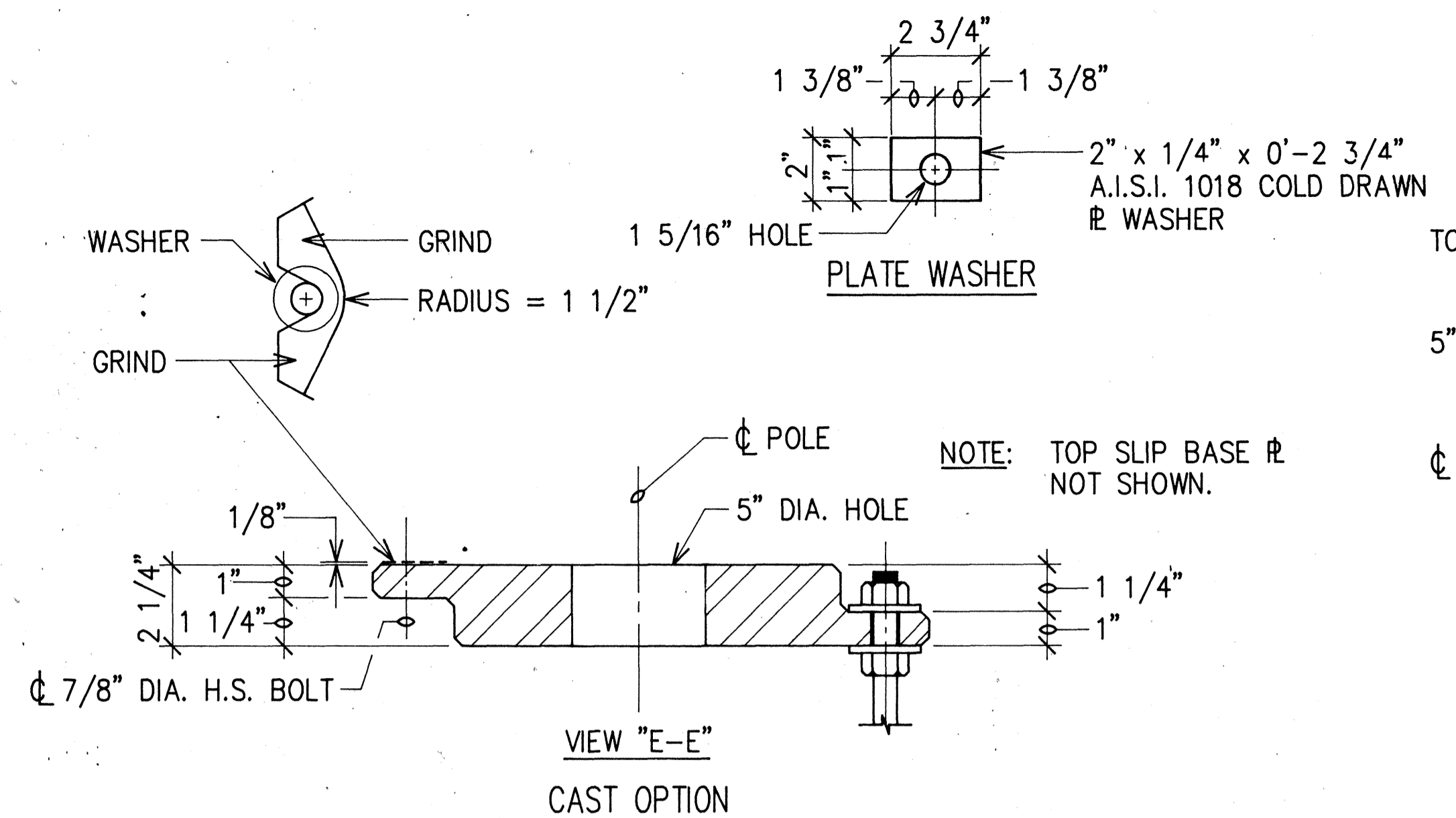
SECTION E
SEE SHT. E-5 FOR BACKFILL NOTES.

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
8-24-89	ADDED IRRIGATION S/S	E.W.	
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03:69, 9-2-03:FOR 2, 9-1-15:FOR 3			
FARRINGTON HIGHWAY INTERCHANGE STREET LIGHT DETAILS & MISC. DETAILS			
APPROVED:			
			
E-6			

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.



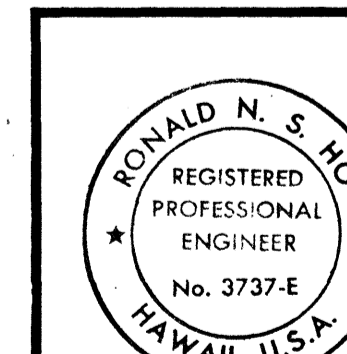
E-6



SLIP BASE DETAIL
NOT TO SCALE

NOTES:

- ALL STEEL SHAFTS, PLATES, MAST ARMS, BOLTS, SCREWS, NUTS & WASHERS TO BE GALVANIZED AFTER FABRICATION OR MODIFICATION.
- PLATES TO CONFORM TO ASTM A-36.
- CAST OPTION TO CONFORM TO ASTM A-486 CL. 90.
- TORQUE 7/8" DIAMETER H.S. SLIP BASE PLATE BOLTS TO 84 FEET PER POUND.
- 7/8" DIAMETER H.S. ANCHOR BARS, WRENCH TIGHTEN - TORQUE REQUIREMENT WAIVED.
- FABRICATORS ELECTING LARGER THAN MINIMUM ARM DIAMETERS MUST ADJUST DETAILS AS REQUIRED TO PERMIT SOLID SEATING OF CAP SCREWS. IN LIEU OF TORQUE REQUIREMENTS FOR H.S. BOLTS, CAP SCREWS SHALL BE TIGHTENED BY THE TURN OF NUT METHOD 1/6 TURN FROM SNUG CONDITION. NO WASHER WILL BE REQUIRED.
- 4" x 6 1/2" HANDHOLE REINFORCED WITH #3 GAUGE RING 1/2" WIDE WELDED TO OUTSIDE OF POLE COVER OF 10 GAUGE PLATE LOCATE 90 DEGREES OF MAST ARM UNLESS SHOWN OTHERWISE.
- 28 GAUGE KEEPER PLATE, PLACE ON TOP OF MIDDLE FLAT WASHER, ASTM A-526 125 COMMERCIAL.
- PLATE WASHER.
- 3 - 7/8" DIAMETER H.S. BARS, THREAD 6" & GALVANIZED 10", WITH HEX., HEAD, NUT, LEVELING NUT & WASHER.
- HEX. HEAD NUT SHOWN OR AS AN ALTERNATE DETAIL ANCHOR PLATES MAY BE RETAINED WITH 5/16" FILLET WELDS ALL AROUND OR FORMED HEADS.
- ROUND TAPERED STEEL TUBE WITH MAXIMUM TAPER OF 0.15"/FOOT.
- NO. 11 GAUGE SHEET STEEL OF WELDABLE GRADE ACCEPTABLE IF STEEL AFTER FABRICATION HAS A MINIMUM YIELD STRENGTH OF 40,000 P.S.I.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

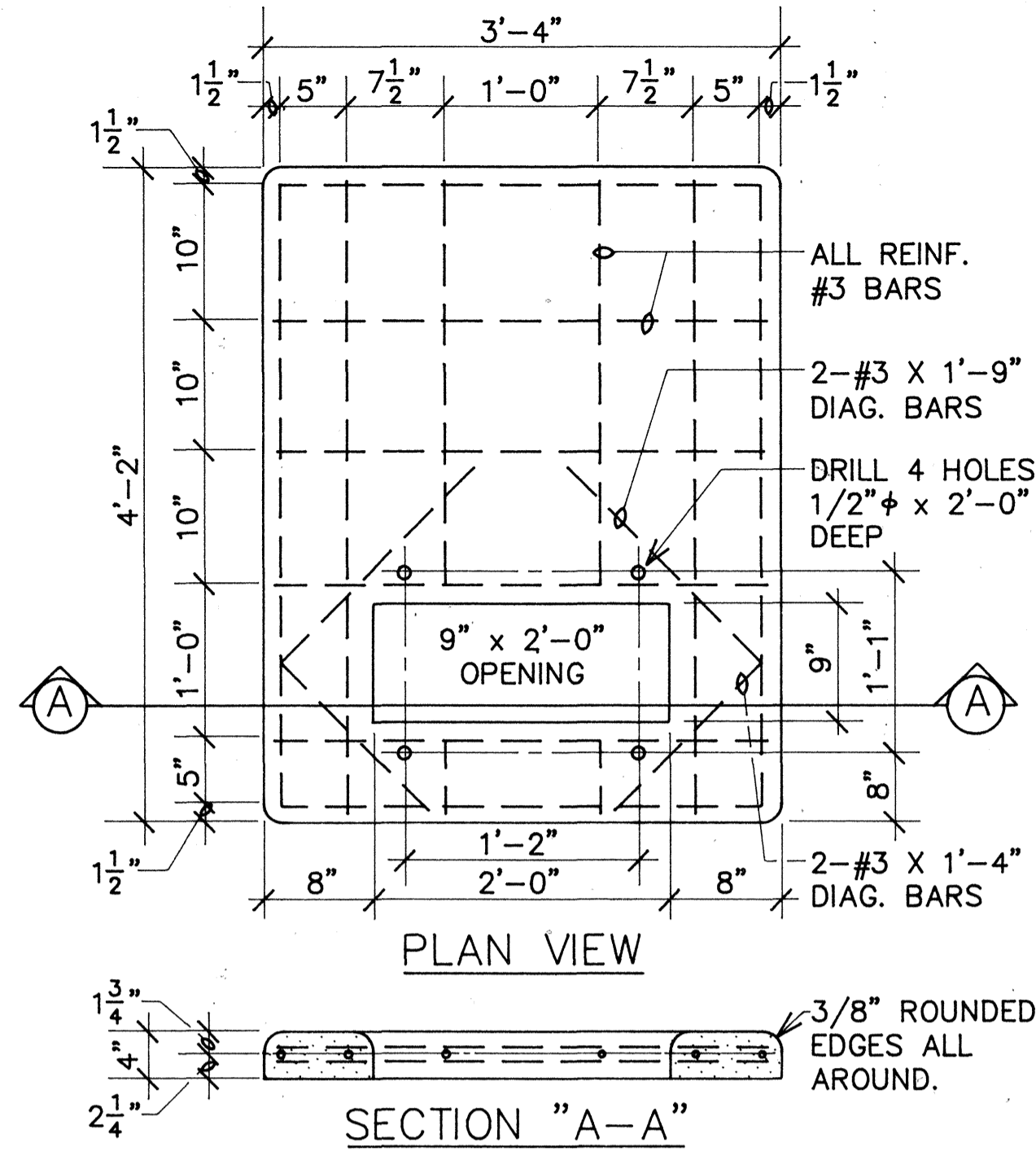
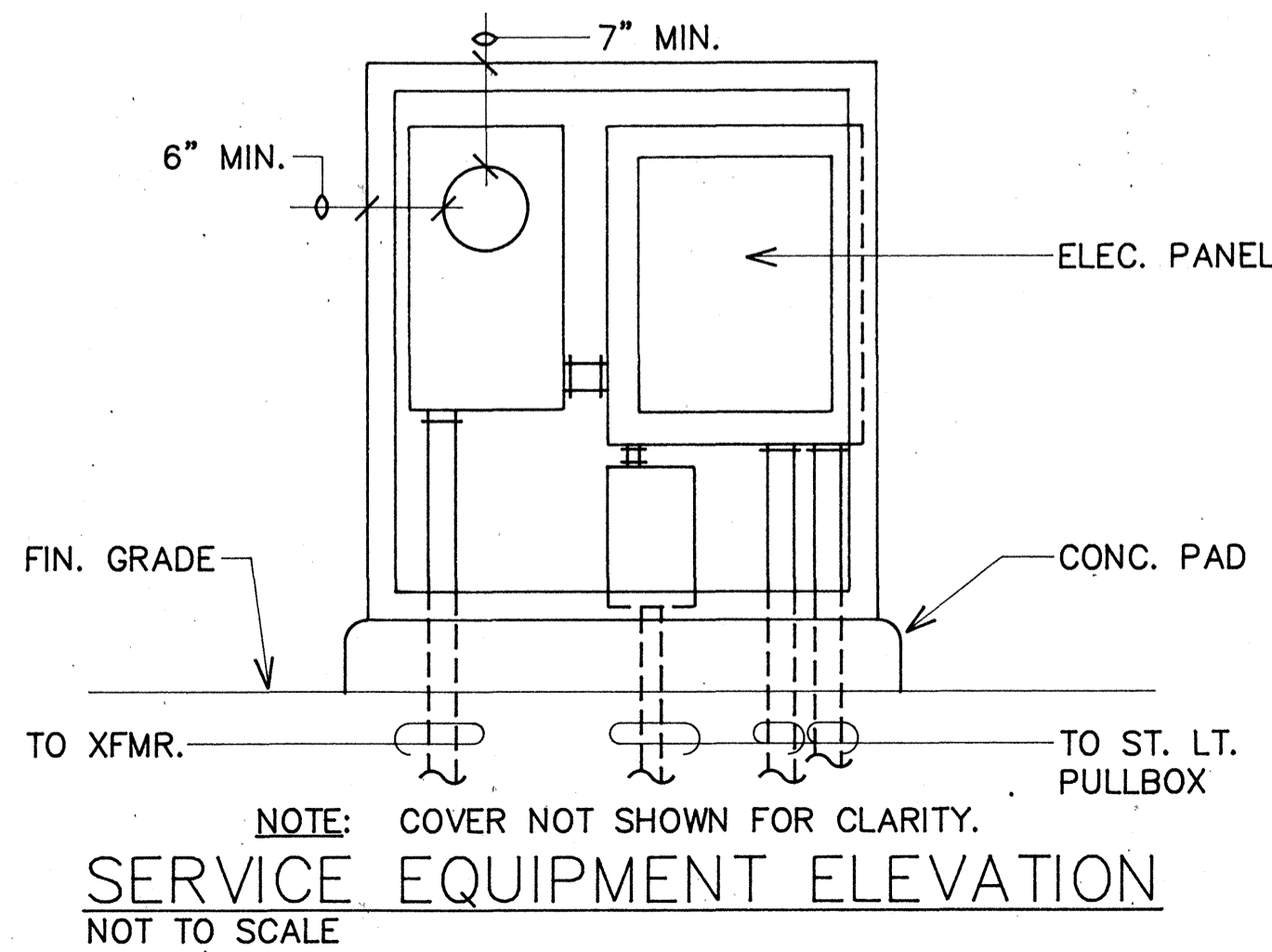
DATE 7/23/11

E-7

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03: 69, 9-2-03: POR 2, 9-1-15: POR 3			
FARRINGTON HIGHWAY INTERCHANGE SLIP BASE DETAIL			
APPROVED:		DATE 7/23/11	
HAWAIIAN TELEPHONE COMPANY		HAWAIIAN TELEPHONE COMPANY	

NOTES FOR CONSTRUCTION WITHIN STATE RIGHT-OF-WAY:

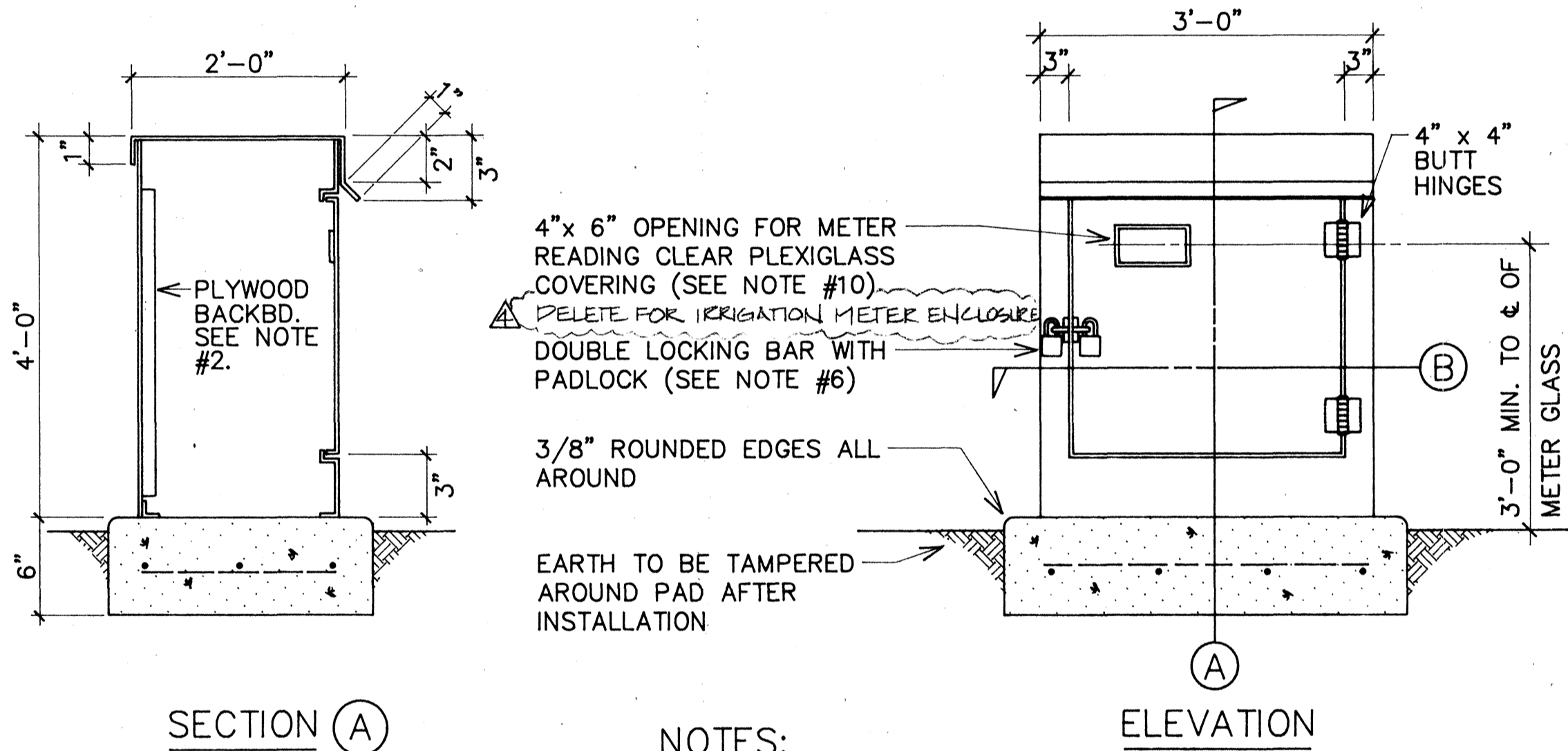
1. CONTRACTOR SHALL OBTAIN A CONSTRUCTION PERMIT FROM STATE'S HIGHWAY DISTRICT ENGINEER AT 727 KAKOI STREET PRIOR TO COMMENCEMENT OF WORK WITHIN THE STATE RIGHT-OF-WAY.
2. CONSTRUCTION & RESTORATION OF ALL EXISTING HIGHWAY FACILITIES WITHIN STATE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH ALL APPLICABLE SECTIONS OF THE CURRENT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", & THE "SPECIFICATION FOR INSTALLATION OF MISCELLANEOUS IMPROVEMENTS WITHIN STATE HIGHWAYS", OF THE STATE HIGHWAYS DIVISION.
3. ALL LANES SHALL BE OPEN TO TRAFFIC DURING MORNING PEAK HOURS FROM 6:00 AM TO 8:30 AM & DURING AFTERNOON PEAK HOURS FROM 3:00 PM TO 6:00 PM, & DURING OFF-WORK HOURS. ONLY ONE LANE OF FARRINGTON HIGHWAY SHALL BE CLOSED AT ANY OTHER TIME.
4. CONTRACTOR SHALL PROVIDE, INSTALL & MAINTAIN ALL NECESSARY SIGNS, LIGHTS, FLARES, BARRICADES, MARKERS, CONES, & OTHER PROTECTIVE FACILITIES & SHALL TAKE ALL NECESSARY PRECAUTIONS FOR THE PROTECTION & FOR THE CONVENIENCE & SAFETY OF PUBLIC TRAFFIC. ALL SUCH PROTECTIVE FACILITIES & PRECAUTIONS TO BE TAKEN SHALL CONFORM WITH THE "ADMINISTRATIVE RULES OF HAWAII GOVERNING THE USE OF TRAFFIC CONTROL DEVICES AT WORK SITES ON OR ADJACENT TO PUBLIC STREETS & HIGHWAYS" ADOPTED BY THE DIRECTOR OF TRANSPORTATION, & THE CURRENT U.S. FEDERAL HIGHWAY ADMINISTRATION "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS & HIGHWAYS, PART VI - TRAFFIC CONTROL FOR HIGHWAY CONSTRUCTION & MAINTENANCE OPERATIONS", DATED 1985. IF LANE CLOSURES ARE REQUIRED DURING CONSTRUCTION, A TRAFFIC CONTROL PLAN SHALL BE INCORPORATED INTO THE CONSTRUCTION PLANS AND MUST BE APPROVED BY THE DIVISION PRIOR TO THE ISSUANCE OF THE PERMIT.
5. THE MINIMUM PAVEMENT STRUCTURE SHALL CONSIST OF:
 - A. COMMERCIAL DRIVEWAYS, SIDEROADS & UTILITY INSTALLATIONS ON MINOR HIGHWAYS
 - (1) 2-1/2" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE & 12" AGGREGATE SUBBASE, OR 2-1/2" ASPHALT CONCRETE & 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE.
 - (2) 6" OF CLASS "A" CONCRETE REINFORCED WITH 6"x 6" - 6/6 WIRE MESH ON 12" AGGREGATE SUBBASE IF DEEMED NECESSARY BY ENGINEER.
 - B. CHANNELIZED INTERSECTIONS & UTILITY INSTALLATIONS ON MAJOR HIGHWAYS
 - (1) 4" ASPHALT CONCRETE, 8" AGGREGATE BASE COURSE & 12" AGGREGATE SUBBASE, OR 4" ASPHALT CONCRETE & 8" ASPHALT CONCRETE BASE COURSE OR ASPHALT CONCRETE, OR MATCH EXISTING PAVEMENT STRUCTURE, WHICHEVER IS GREATER.
6. NO MATERIAL AND/OR EQUIPMENT SHALL BE STOCKPILED OR OTHERWISE STORED WITHIN HIGHWAY RIGHT-OF-WAY EXCEPT AT LOCATIONS DESIGNATED IN WRITING & APPROVED BY THE DISTRICT ENGINEER.
7. CONTRACTOR SHALL BE REQUIRED TO PROVIDE ADEQUATE, SAFE, NON-SKID BRIDGING MATERIAL OVER TRENCHES, INCLUDING SHORING, WHEN TRENCHING IN PAVEMENT AREAS TO HANDLE ALL TYPES OF VEHICULAR TRAFFIC.
8. LONGITUDINAL DRAINAGE ALONG THE HIGHWAY SHALL BE MAINTAINED.
9. APPROVAL OF PERMIT CONSTRUCTION PLANS SHALL BE VALID FOR A PERIOD OF ONE YEAR THEREOF FROM THE DATE OF NOTIFICATION OF APPROVAL TO THE APPLICANT. IN THE EVENT CONSTRUCTION DOES NOT COMMENCE WITHIN THIS ONE-YEAR PERIOD, THE APPLICANT WILL BE REQUIRED TO RESUBMIT THIS CONSTRUCTION PLANS FOR DIVISION'S REVIEW AND APPROVAL.
10. ALL REGULATORY, GUIDE AND CONSTRUCTION SIGNS AND BARRICADES SHALL BE OF HIGH INTENSITY REFLECTIVE SHEETING.



NOTES:

1. COMPRESSIVE STRENGTH OF CONCRETE: 3000 PSI IN 28 DAYS.
2. REINFORCING BAR SHALL BE CLEAN & NEW.
3. CURE CONCRETE BY APPROVED METHOD.
4. TOP OF CONCRETE PAD TO BE SMOOTH, TRUE AND LEVEL, FREE FROM DEFECTS.
5. CONTRACTOR HAS OPTION OF FURNISHING CAST-IN-PLACE OR PRECAST CONCRETE TRANSFORMER PAD.

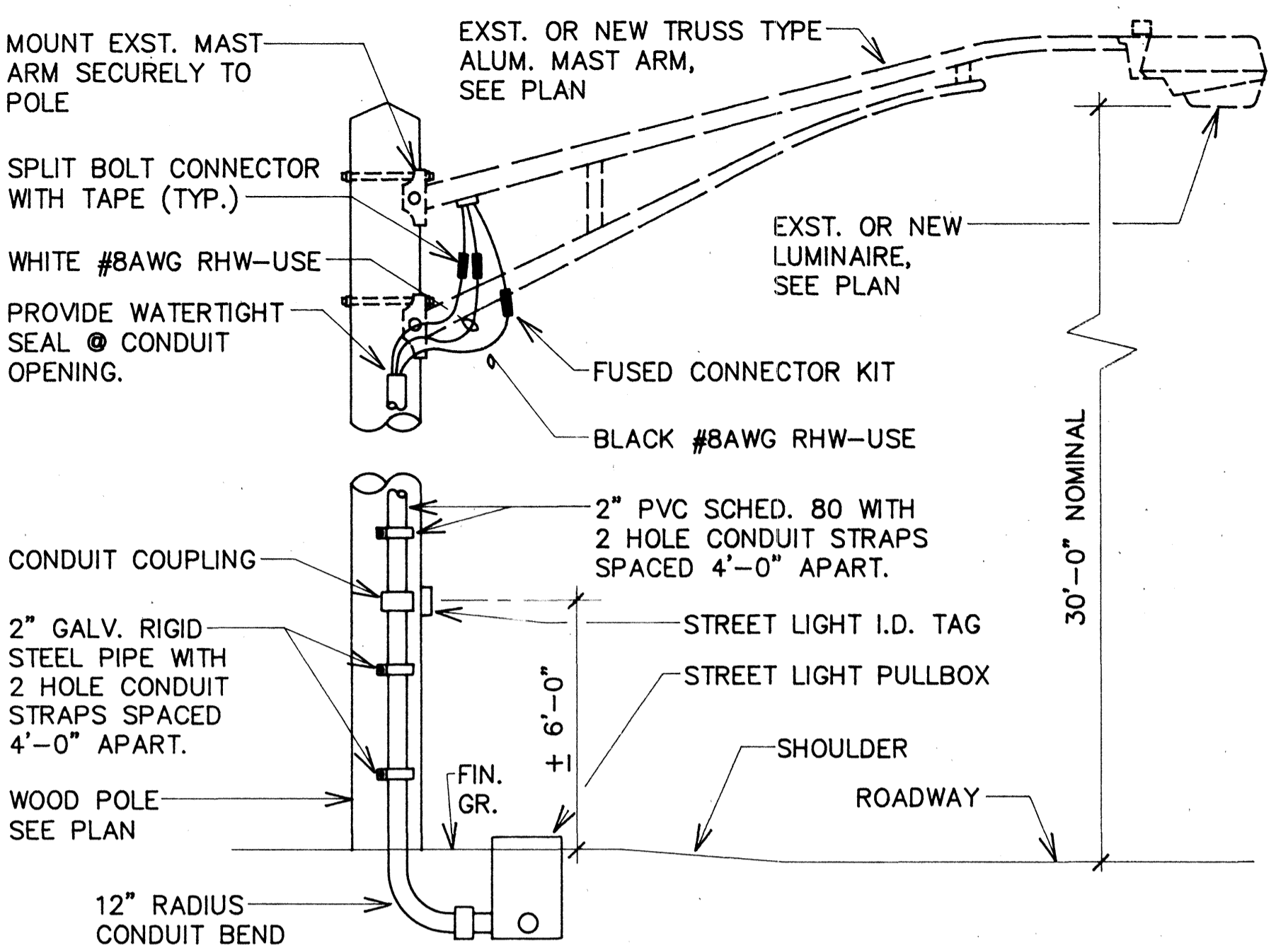
A
E-8
CONCRETE TRANSFORMER
PAD DETAIL
NOT TO SCALE



NOTES:

1. CABINET TO BE PRIMED WITH ONE COAT SHOP PRIMER.
2. PLYWOOD BACKBOARD SHALL BE 3/4" THK x 42" WOLMANIZED TREATED.
3. MADE FROM 10 GA GALV SHEET STEEL.
4. ACRYLIC PAINT TO MATCH TRANSFORMER.
5. SECURE TO CONCRETE PAD WITH 4-5/8" DIA ANCHOR BOLTS.
6. ONE CORBIN SESAME COMBINATION LOCK PROVIDED BY CONTRACTOR; ONE PADLOCK PROVIDED BY HECO.
7. METER CABINET SHALL BE NEMA 3R CONSTRUCTED.
8. SHOP DRAWINGS SHALL BE SUBMITTED FOR APPROVAL.
9. 6" CONCRETE PAD WITH REINF #4 BARS @ 12" O. C. BOTHWAYS.
10. LOCATION OF OPENING FOR METER READER TO CORRESPOND WITH LOCATION OF METER.
11. CONTRACTOR SHALL PROVIDE NUMBER OF CONDUITS REQUIRED.
12. MOUNT METERING EQUIPMENT SECURELY TO PLYWOOD BACKBOARD.
13. PROVIDE 7" TOP, 6" SIDE & 6" FRONT MIN CLEARANCE FOR METER GLASS.
14. SEE SHEET E-9 FOR STREET LIGHT CONNECTION DIAGRAM
15. SEE SHEET E-10 FOR IRRIGATION SYSTEM ONE-LINE DIAGRAM

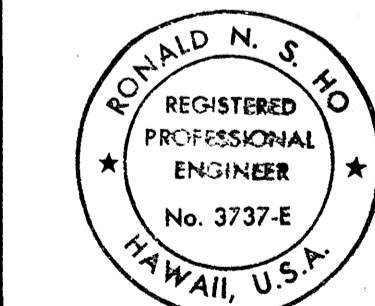
B
E-8
METERING ENCLOSURE DETAIL
NOT TO SCALE



EQUIPMENT SCHEDULE

The Hawaiian Electric Co., Inc. Hawaiian Telephone Co., Community Antenna Television & Street Lighting Pullboxes, and Handholes shall be constructed by the Contractor as shown in these drawings & in accordance with the following standard drawings:

Type	Description
6' X 11' HECO. Handhole	6' X 11' Type 611 reinforced concrete handhole with precast concrete covers, provided in accordance with HECO. Standard Drawing No. 18844.
5' X 8' HECO. Manhole	5' X 8' reinforced concrete manhole provided accordance with HECO. Standard Drawing No. 34062.
2' X 4' Communications Pullbox	2' X 4' precast concrete pullbox with precast concrete cover similar to HC&D type 435TB, except with "COMMUNICATIONS" inscribed on the cover.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
DATE: 9/21/87
E-8

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
0-24-89	ADDED IRRIGATION SYS	EW	
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03: C9, 9-2-03: FOR 2, 9-1-15: FOR 3			
FARRINGTON HIGHWAY INTERCHANGE NOTES & MISCELLANEOUS DETAILS			
APPROVED: <i>[Signature]</i> 9/21/87		DATE: 7/23/88	
HAWAIIAN ELECTRIC COMPANY		HAWAIIAN TELEPHONE COMPANY	
FILE		FOLDER	
SHEET 27 OF 27 SHEETS		NO.	

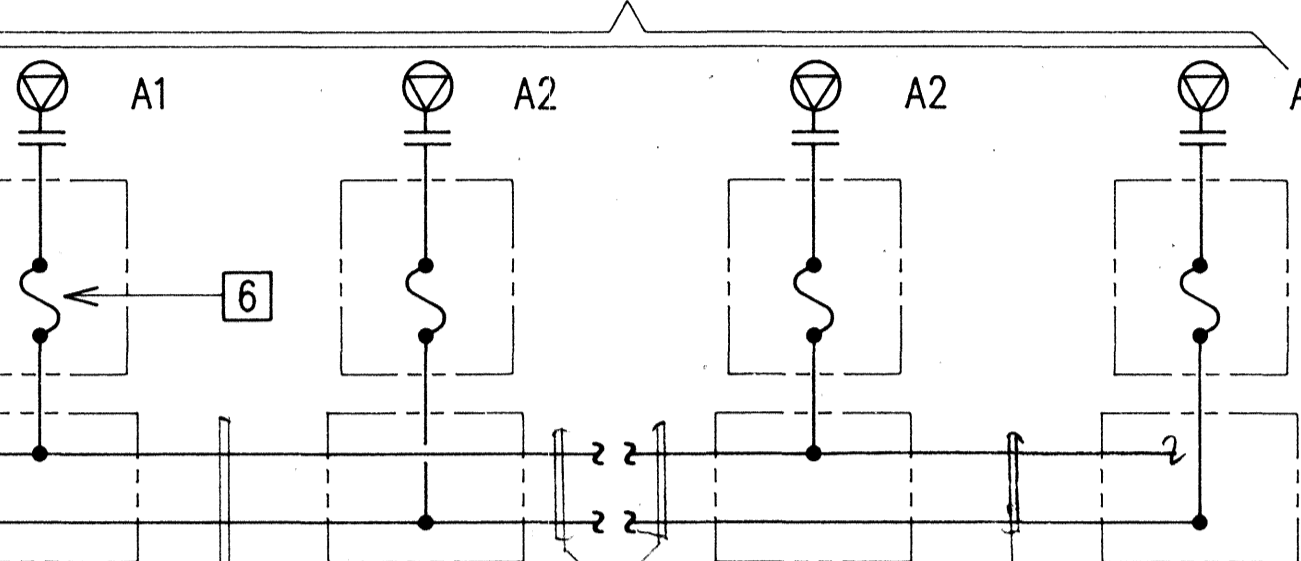
LOAD CALCULATION CKT. NO. CALCULATION

A1: 13 @ 305VA	= 3965VA
A2: 13 @ 305VA	= 3965VA
A3: 13 @ 305VA	= 3965VA
A4: 13 @ 305VA	= 3965VA
A5: 2 @ 400VA + 10 @ 200VA	= 2800VA
A6: 2 @ 400VA + 12 @ 200VA	= 3200VA
A7: 3 @ 400VA + 11 @ 200VA	= 3400VA

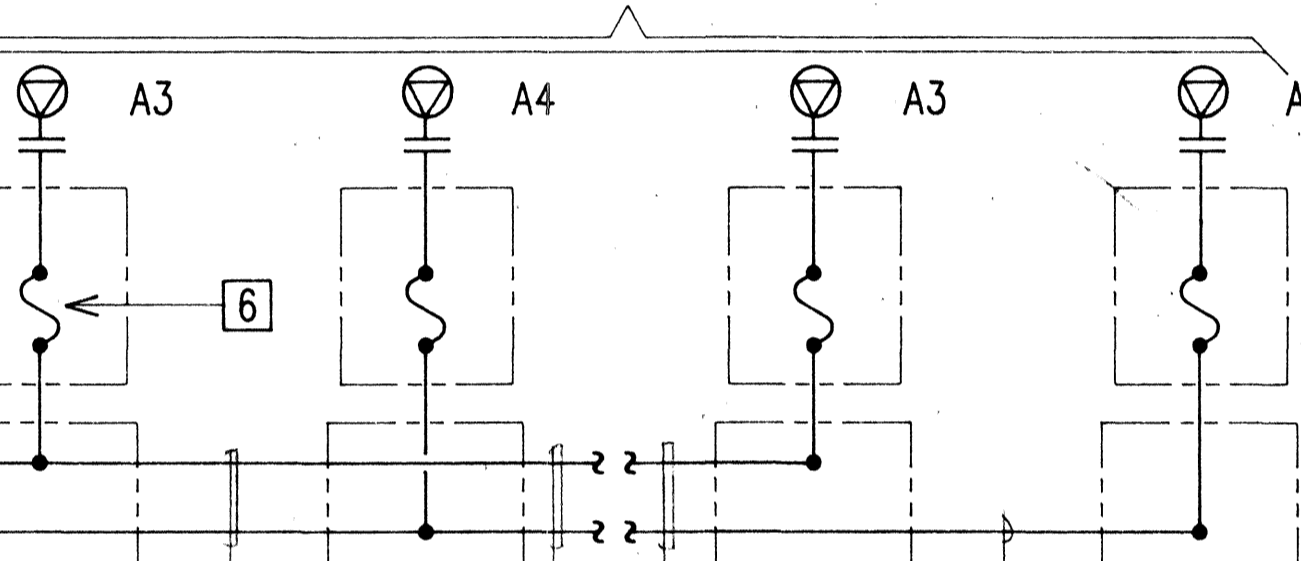
TOTAL 25,260VA

25,260VA/480V = 52.7A

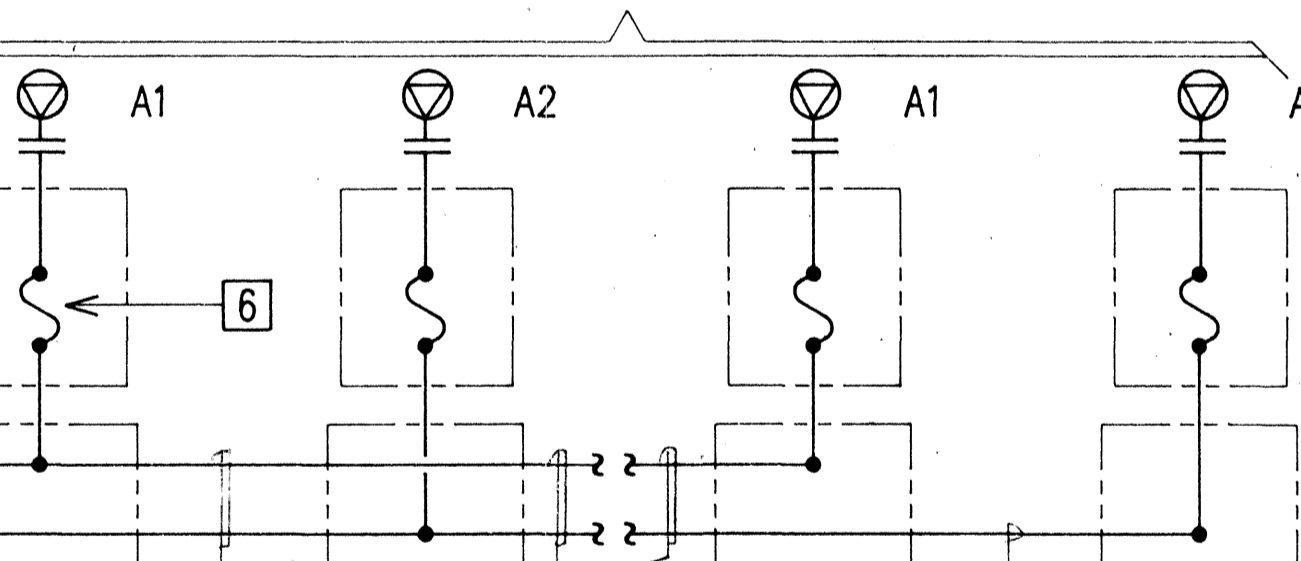
16 LTS. TOTAL, STA. 78+50 TO STA. 100+80 OUTBOUND LANES



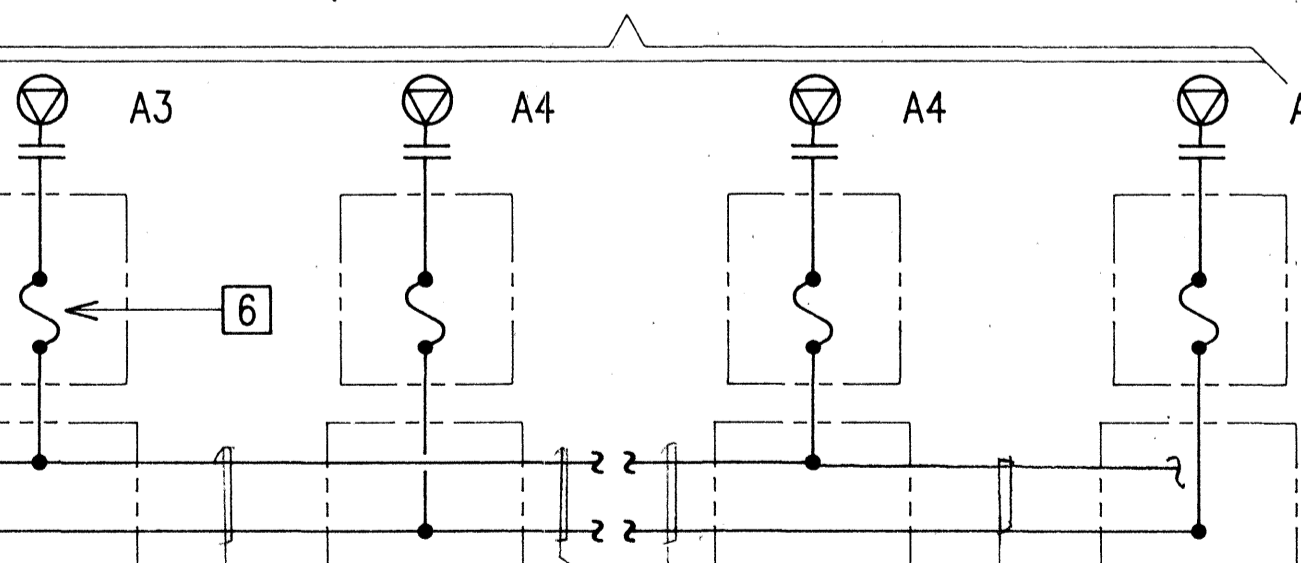
10 LTS. TOTAL, STA. 76+50 TO STA. 59+00 OUTBOUND LANES



10 LTS. TOTAL, STA. 76+50 TO STA. 58+00 INBOUND LANES



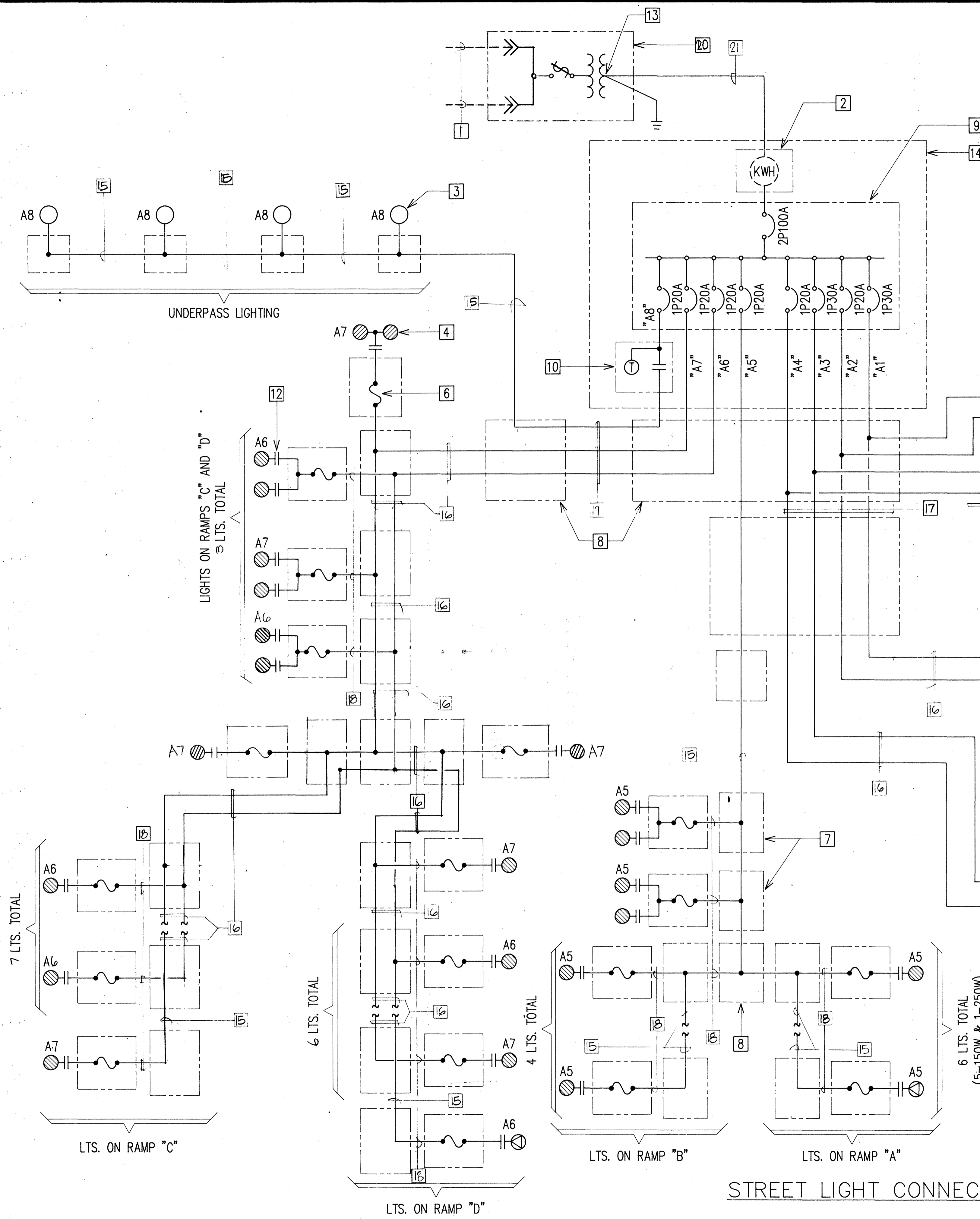
16 LTS. TOTAL, STA. 78+50 TO STA. 100+80 INBOUND LANES



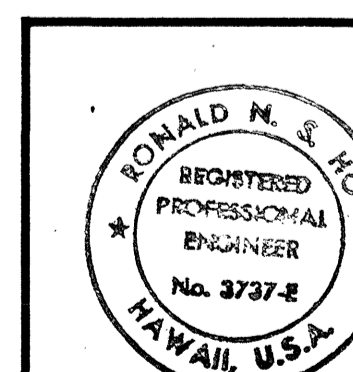
NOTE: ALTHOUGH NEUTRAL AND GROUND WIRE NOT INDICATED, CONTRACTOR SHALL PROVIDE FULL SIZE NEUTRAL & MIN. #10 GROUND.

NOTES:

1. PRIM. CABLES, FINAL CONN. BY HECO.
2. METER SOCKET, 100A, 5-JAW, FOR 240/480V SERVICE, WITH FACTORY INSTALLED BY-PASS TEST FACILITIES.
3. 100W, HPS, TYPICAL.
4. 150W, HPS, TYPICAL.
5. 250W, HPS, TYPICAL.
6. 3A CLF, WITH IN-LINE, WATERPROOF CONNECTOR, TYPICAL.
7. 19" x 28" STATE ST. LT. PULLBOX, TYPICAL.
8. 2' x 4' STATE ST. LT. PULLBOX.
9. PANEL "A", 600V, 100A MAIN BKR.
10. TIME SWITCH, 40A CONTACTS, ASTRONOMIC DIAL FOR OPERATION AT 21" N. LATITUDE, 8 HR. SPRING WOUND CARRY-OVER.
11. METERING EQUIPMENT ENCLOSURE, SEE SHEET E-6.
12. PHOTOELECTRIC CELL, TYPICAL.
13. GROUND ROD FURNISHED BY HECO, CONTRACTOR INSTALLED.
14. METER EQUIPMENT ENCLOSURE, SEE DETAIL A/E-8.
15. 3"C., 2-#10RHW-USE 1-#2 GND.
16. 3"C., 3-#10RHW-USE 1-#2 GND.
17. 3"C., 6-#10RHW-USE 1-#10 GND.
18. 1"C., 2-#8RHW-USE 1-#10 GND.
19. 2"C., 5-#4RHW-USE 1-#4 GND.
20. 30KVA PAD-MTD. TRANSFORMER, 7.2KV: 480/240V, 1-#3W, WITH: OIL INSULATION, LOAD-BREAK ELBOWS & INSERTS, LBOR SWITCH, CURRENT-LIMITING FUSES, TAP CHANGER, SPACE TO PARK HV CABLE, SEC. LUGS, PRESSURE RELIEF DEVICE & OIL FILL & DRAIN PLUGS.
21. 3"C., 3-#10RHW-USE 1-#2 GND.



STREET LIGHT CONNECTION DIAGRAM



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Ronald N. S. Ho 7/4/87

E-9

REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII DEVELOPER: WEST BEACH ESTATES T.M.K.: 9-2-03:63, 9-2-03:POR 2, 9-1-15:POR 3			
FARRINGTON HIGHWAY INTERCHANGE STREET LIGHT CONNECTION DIAGRAM			
APPROVED:		DATE	
[Signature]		10/2/87	
[Signature]		7/25/87	
DATE			

RECORD DRAWINGS

SHEET 88 OF 89 SHEETS

HAWAIIAN ELECTRIC CO. NOTES

1. LOCATION OF HECO FACILITIES

THE LOCATION OF HECO'S OVERHEAD FACILITIES SHOWN ON THE PLANS ARE FROM EXISTING RECORDS WITH VARYING DEGREES OF ACCURACY AND ARE NOT GUARANTEED AS SHOWN. THE CONTRACTOR SHALL EXERCISE EXTREME CAUTION WHENEVER CONSTRUCTION CROSSES OR IS IN CLOSE PROXIMITY OF UNDERGROUND LINES AND SHALL MAINTAIN ADEQUATE CLEARANCE WHEN OPERATING EQUIPMENT WITHIN OR UNDER AND OVERHEAD LINES.

2. COMPLIANCE WITH DOSH

THE CONTRACTOR SHALL COMPLY WITH THE STATE OF HAWAII'S OCCUPATIONAL SAFETY AND HEALTH LAW (DOSH).

3. EXCAVATION PERMIT

THE CONTRACTOR SHALL OBTAIN AN EXCAVATION PERMIT FROM HECO'S MAPPING AND RECORDS DIVISION LOCATED AT 820 WARD AVENUE, 4TH FLOOR, TWO WEEKS PRIOR TO STARTING CONSTRUCTION.

4. EXCAVATIONS

WHEN TRENCH EXCAVATION IS ADJACENT TO OR BENEATH HECO'S EXISTING STRUCTURES OR FACILITIES, THE CONTRACTOR IS RESPONSIBLE FOR:

- SHEETING AND BRACING THE EXCAVATION TO PREVENT SLIDES, CAVE-INS AND SETTLEMENTS.
- PROTECTING EXISTING STRUCTURES OR FACILITIES WITH BEAMS, STRUTS OR UNDER-PINNING.

5. POLE BRACING

FOR POLE BRACING INSTRUCTIONS, THE CONTRACTOR SHALL CALL THE HECO DISTRICT CONSTRUCTION SUPERINTENDENT AT PHONE NO. 455-2933, A MINIMUM OF 72 HOURS IN ADVANCE.

6. RELOCATION OF HECO FACILITIES

ANY WORK REQUIRED TO RELOCATE HECO FACILITIES SHALL BE DONE BY HECO AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COORDINATION, AND FOR ALL COSTS IF APPLICABLE.

7. TEMPORARY RELOCATION OF HECO FACILITIES

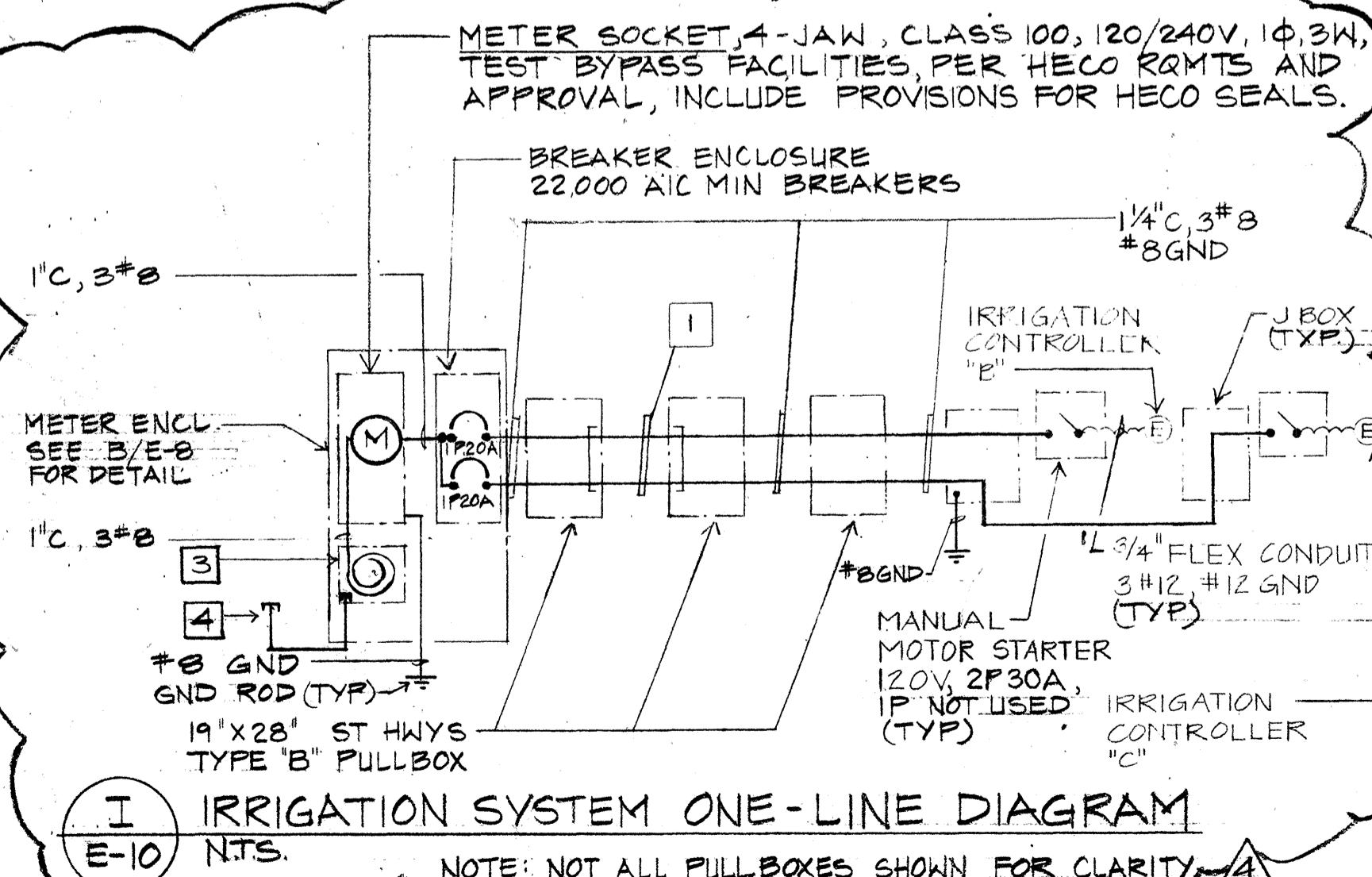
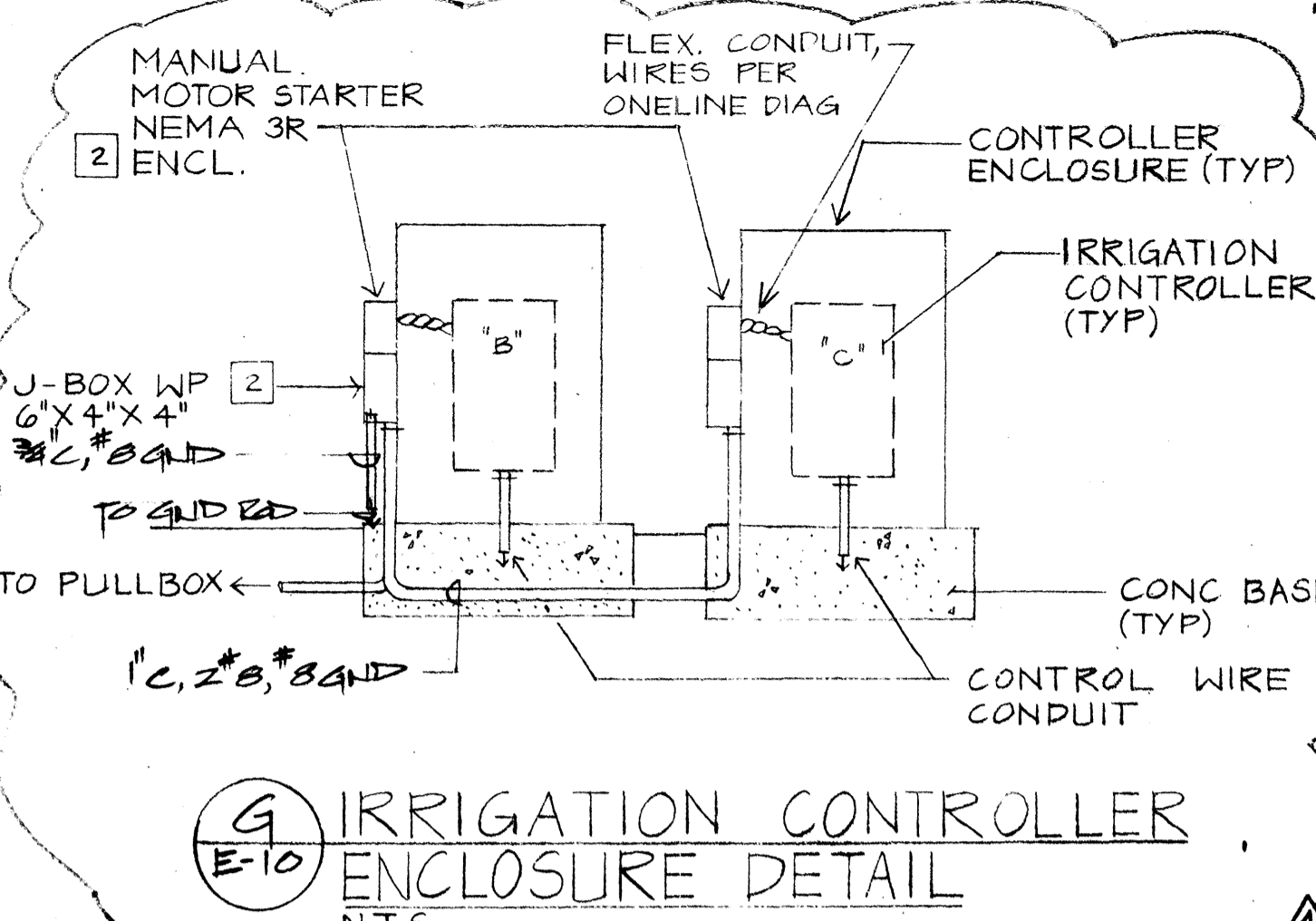
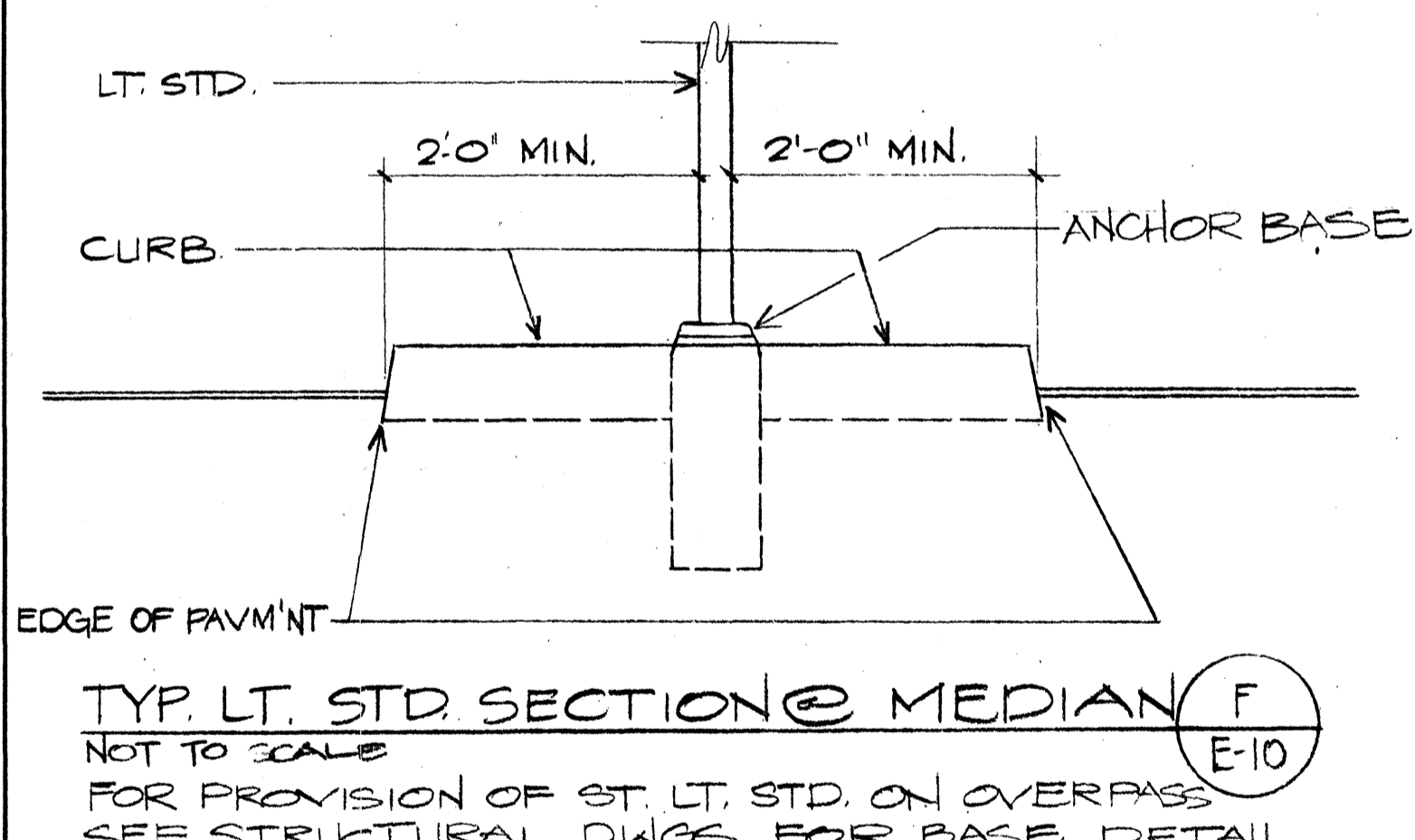
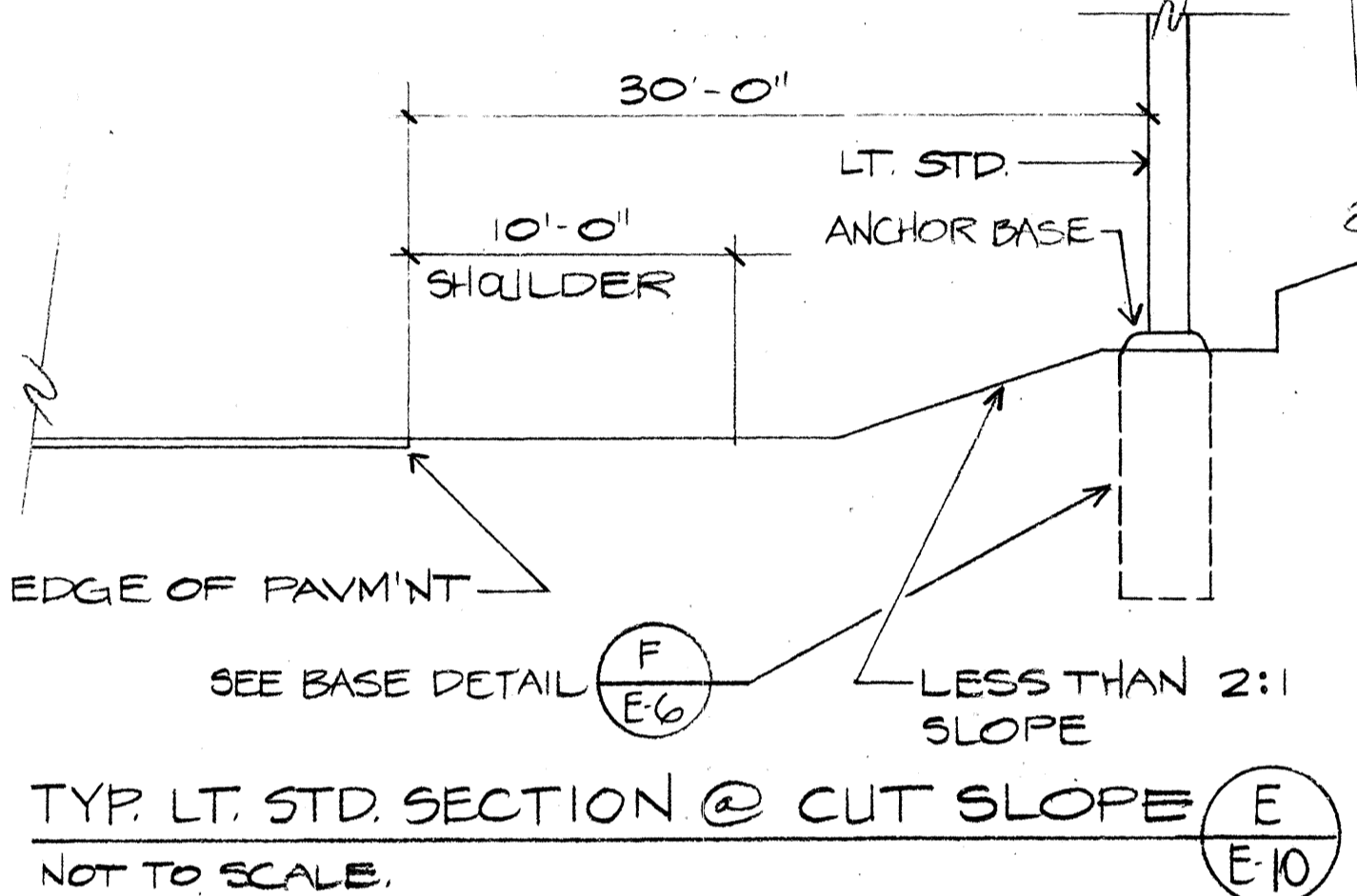
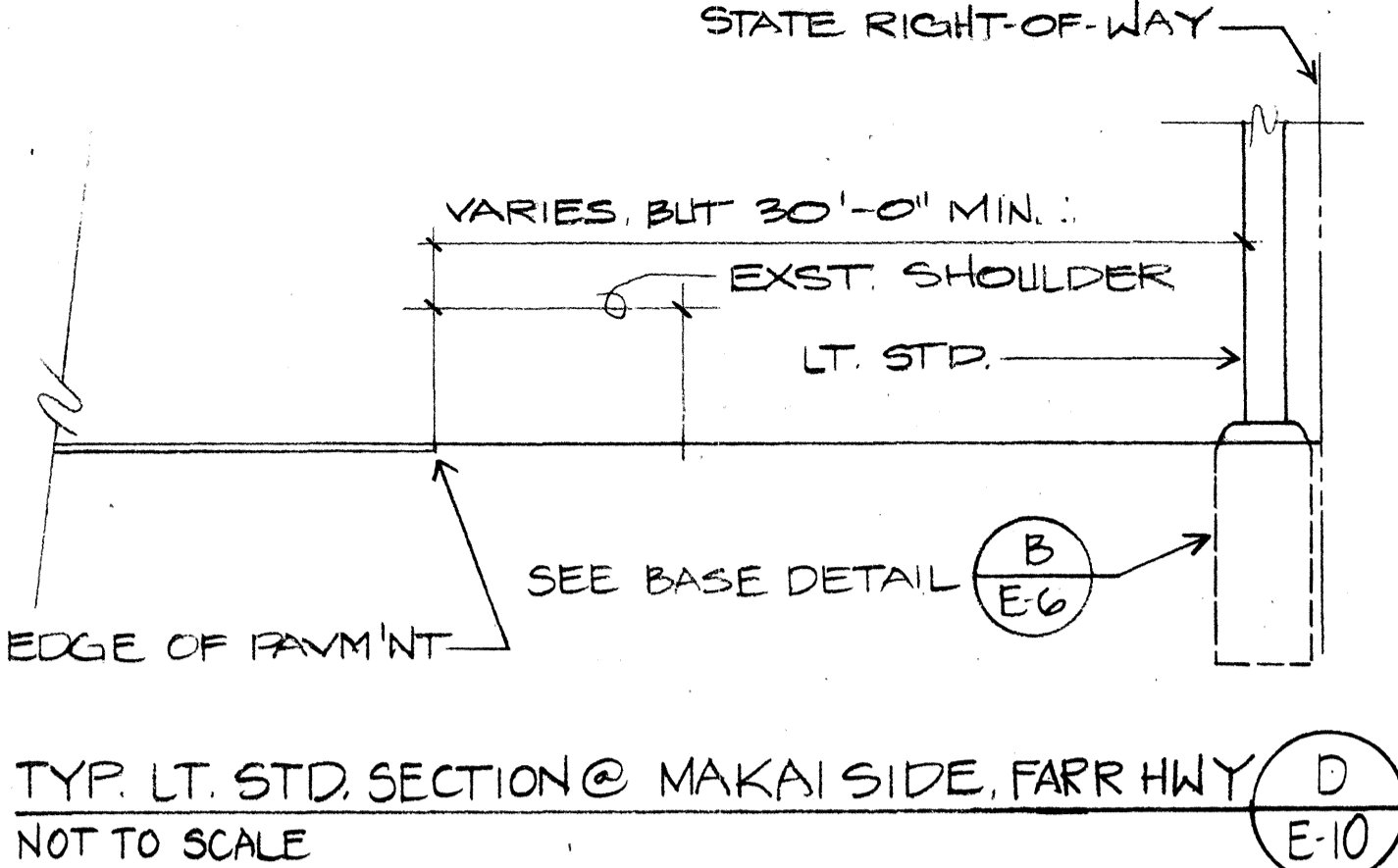
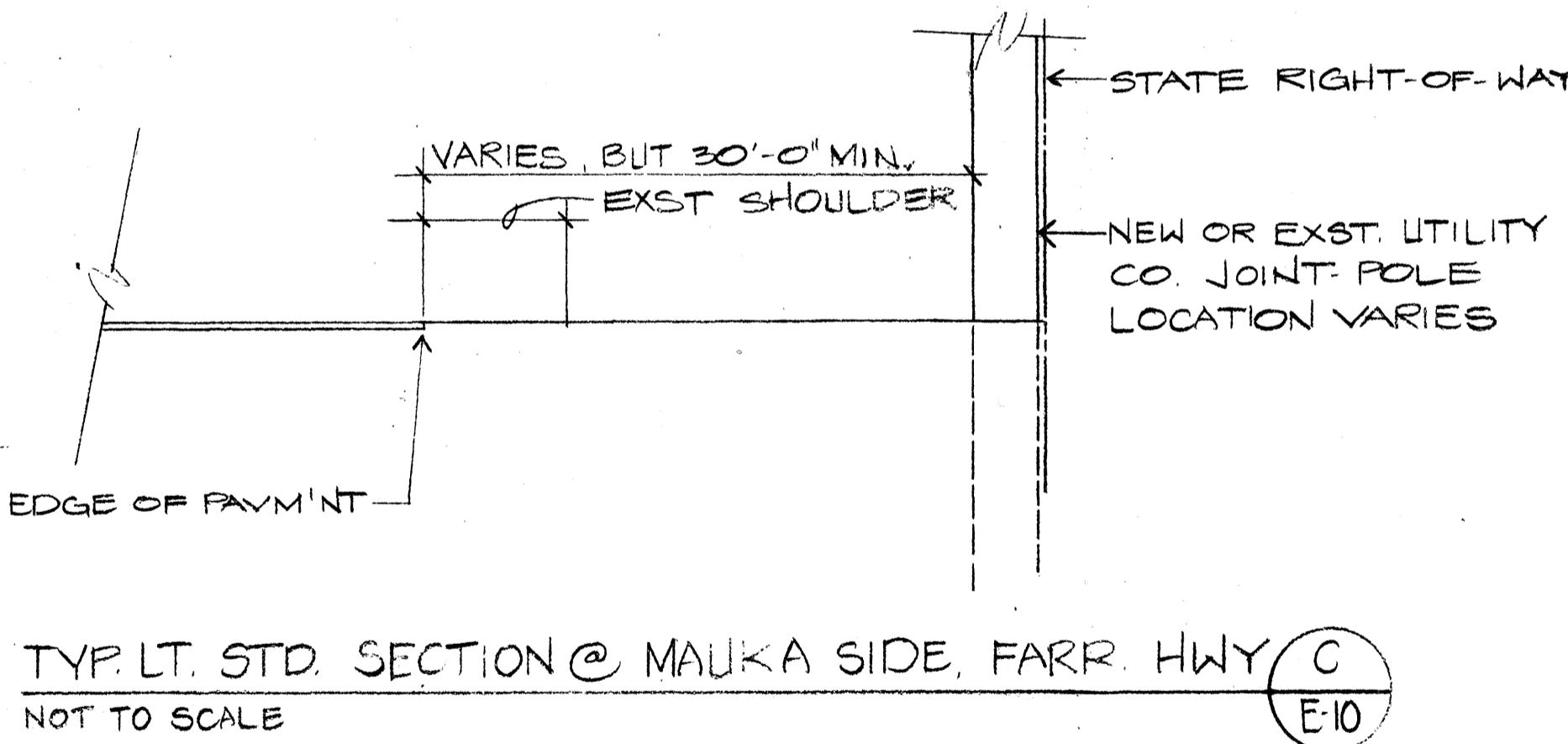
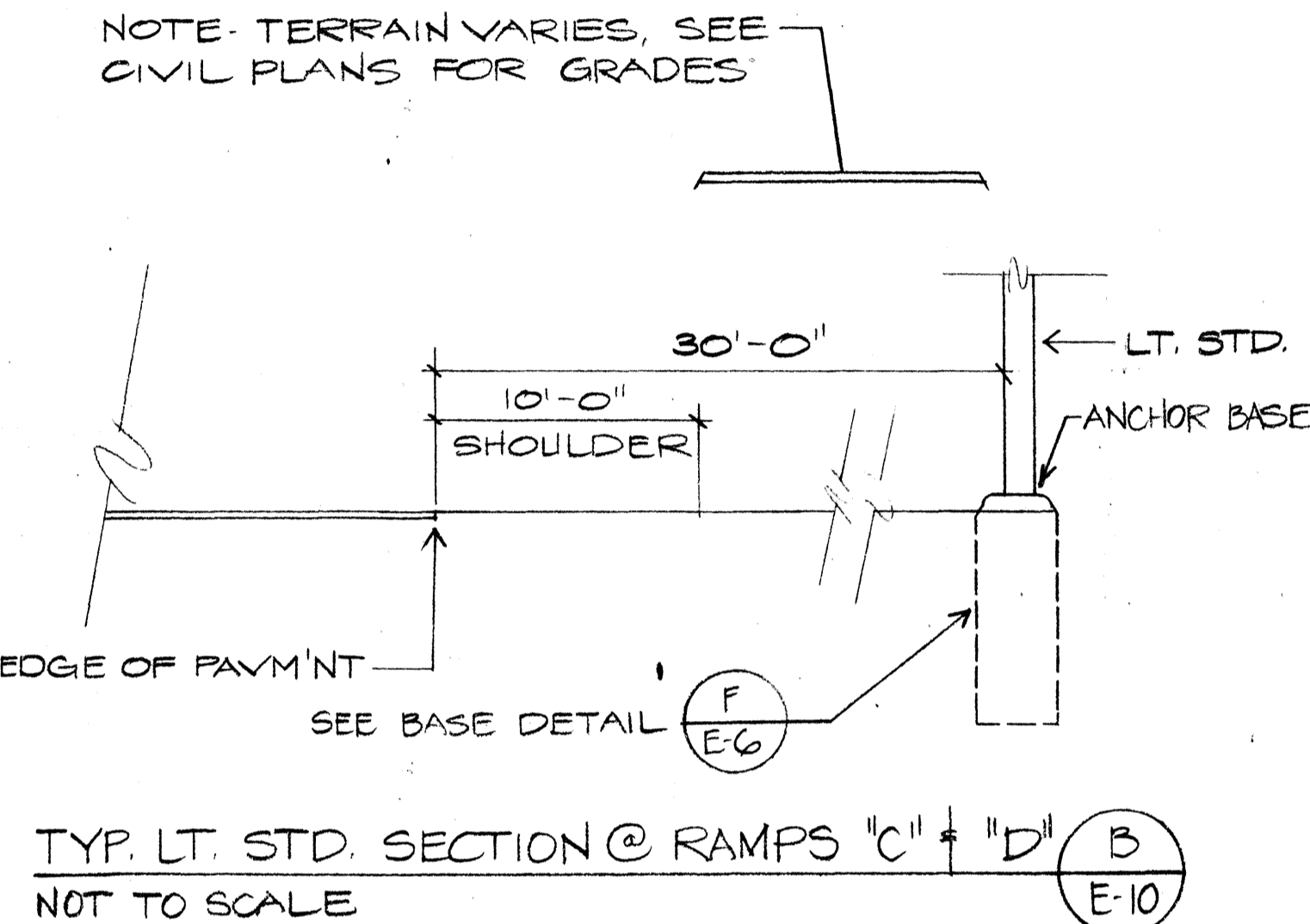
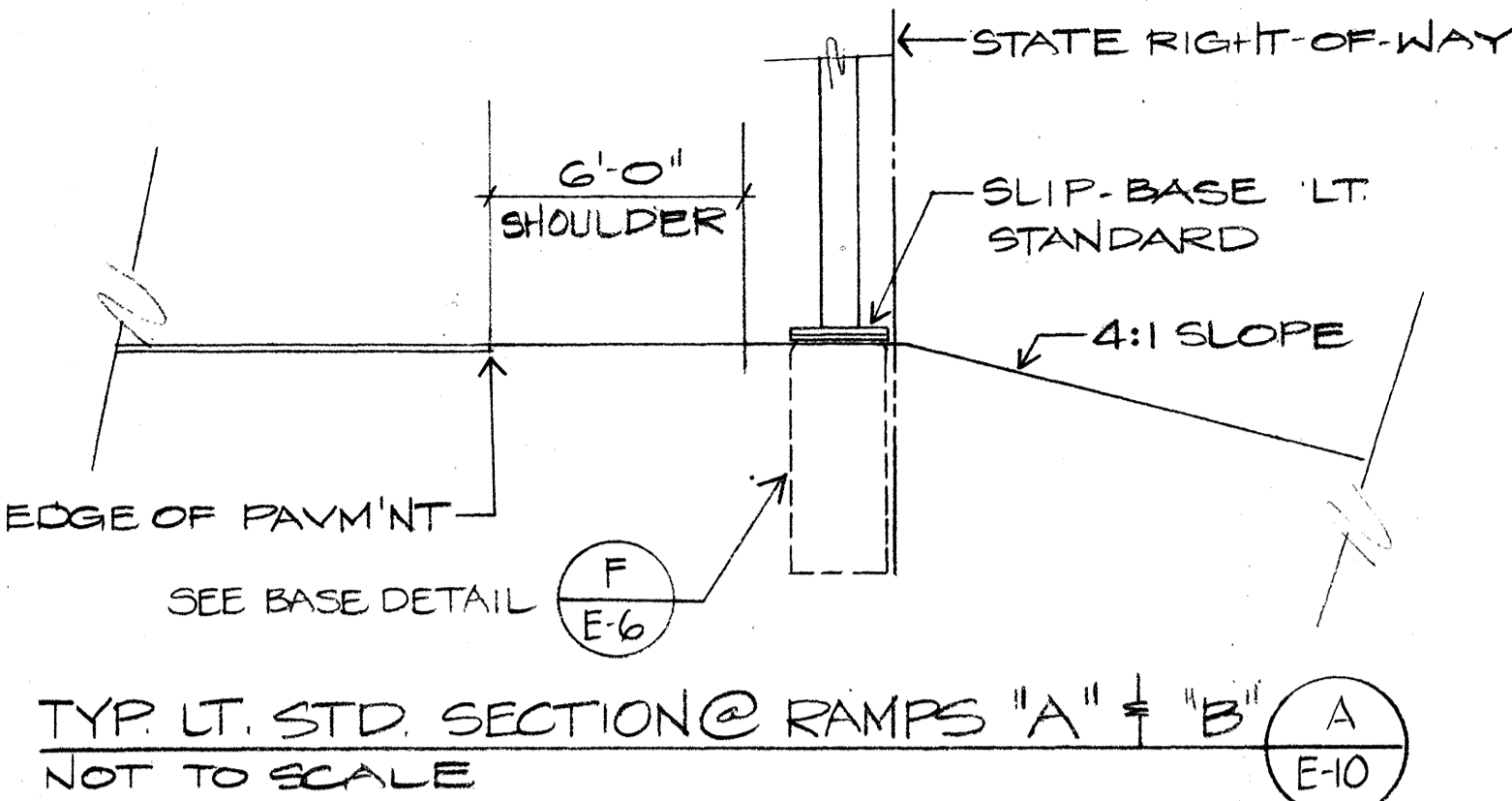
SHOULD IT BECOME NECESSARY TO TEMPORARILY RELOCATE ANY HECO FACILITIES TO ENABLE THE CONTRACTOR TO PERFORM HIS WORK IN A SAFE AND EXPEDITIOUS MANNER IN FULFILLING HIS CONTRACT OBLIGATIONS, THESE TEMPORARY RELOCATIONS WILL BE DONE BY HECO, OR BY THE CONTRACTOR UNDER HECO'S SUPERVISION, WITH ALL COSTS BEING BORNE BY THE CONTRACTOR.

8. DAMAGE TO HECO FACILITIES

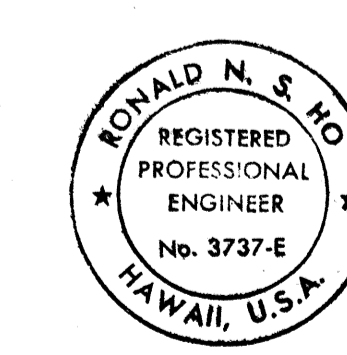
ANY DAMAGE TO HECO'S FACILITIES WILL BE REPORTED IMMEDIATELY TO HECO'S TROUBLE DISPATCHER AT 548-7961.

9. LIABILITY FOR DAMAGES

ALL HECO OVERHEAD AND UNDERGROUND FACILITIES SHOWN ON THESE PLANS OR WHOSE APPROXIMATE LOCATIONS WITHIN THE PROJECT BOUNDARIES HAVE BEEN MADE KNOWN BY ANY REASONABLE MEANS AT ANY TIME TO THE CONTRACTOR SHALL BE PROTECTED AT ALL TIMES BY THE CONTRACTOR DURING CONSTRUCTION. COSTS FOR DAMAGES TO HECO FACILITIES MAY BE BORNE BY THE CONTRACTOR. THIS REPAIR WORK



- NOTES:
- EXISTING 1/4" C, PROVIDE 3 #8, #8 GND WITHIN.
 - SECURED TO CONTROLLER ENCL. W/ STAINLESS STEEL SCREWS.
 - SPLICE CAN, 12" X 18" X 8" D. NEATLY COIL WIRES FROM METER SOCKET WITHIN, FINAL CONNECTION BY HECO
 - PROVIDE 2" C, PVC SCHED 40, STUB UP AT BASE OF EXST UTILITY POLE 10' PER HECO REQUIREMENTS.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

E-10

7-21-89	ADDED IRIGATION	EW	EW
REVISION DATE	DESCRIPTION	MADE BY	APPROVED
COMMUNITY PLANNING INCORPORATED			
CIVIL ENGINEERS-SURVEYORS-CONSULTANT PLANNERS			
WEST BEACH RESORT			
HONOLULU, EWA, OAHU, HAWAII			
DEVELOPER: WEST BEACH ESTATES			
T.M.K.: 9-2-03:69, 9-2-03:POR. 2, 9-1-15:POR. 3			
FARRINGTON HIGHWAY INTERCHANGE			
NOTES AND SECTIONS			
APPROVED: <i>Ph. Maeda</i> 9/21/89		DATE	
HAWAIIAN ELECTRIC COMPANY		DATE	
E-10		DATE	

RECORD DRAWINGS

SHEET 82 OF 89 SHEETS