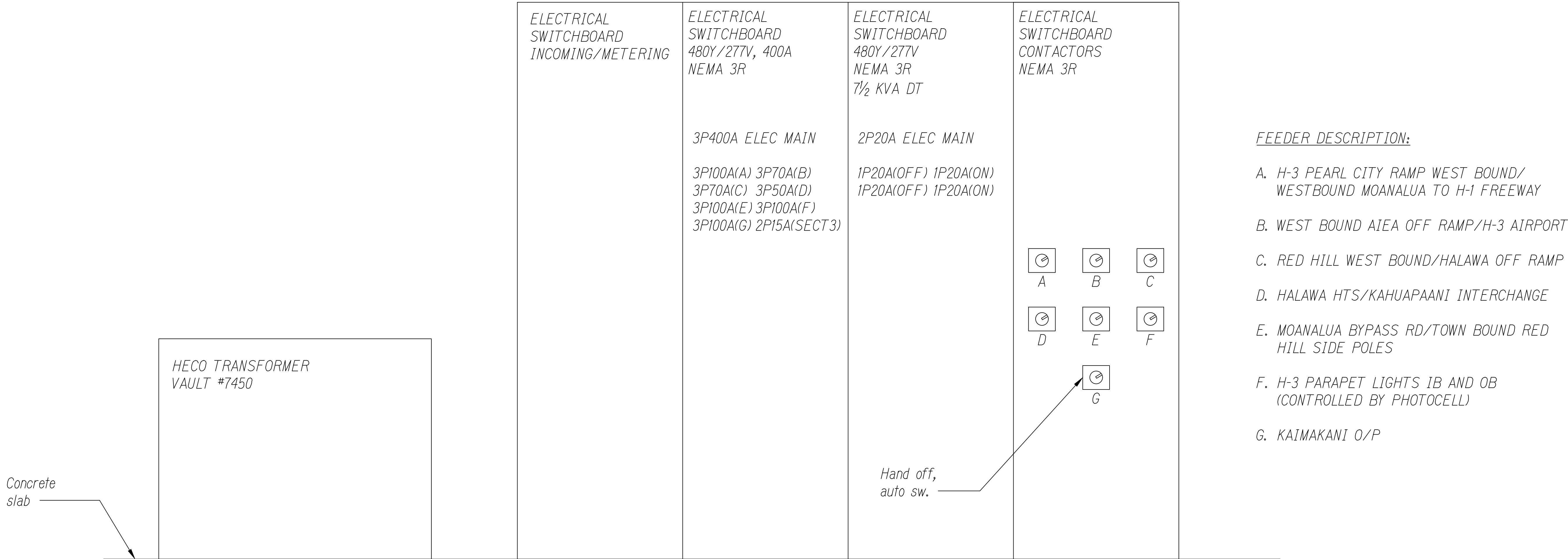


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	104	111



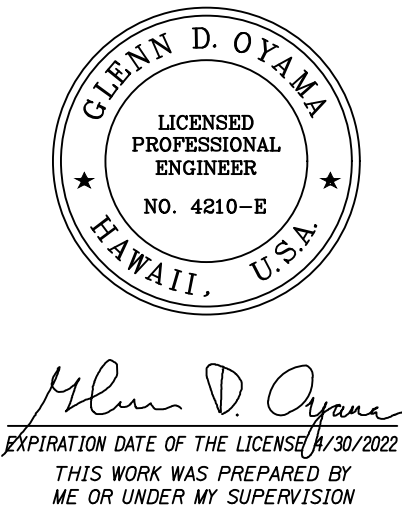
EXISTING DISTRIBUTION CENTER "H" EQUIPMENT ELEVATION

SCALE: NTS

NOTES:

1. Replace existing switchboard with new switchboard. Install & energize new switchboard prior to removal of existing.
2. New distribution center to be similar except NEMA 4X S/S and fit in space allocated in compliance with HECO & NEC requirements.
3. Submit shop drawing of switchboard for HECO & HDOT approval.

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



STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

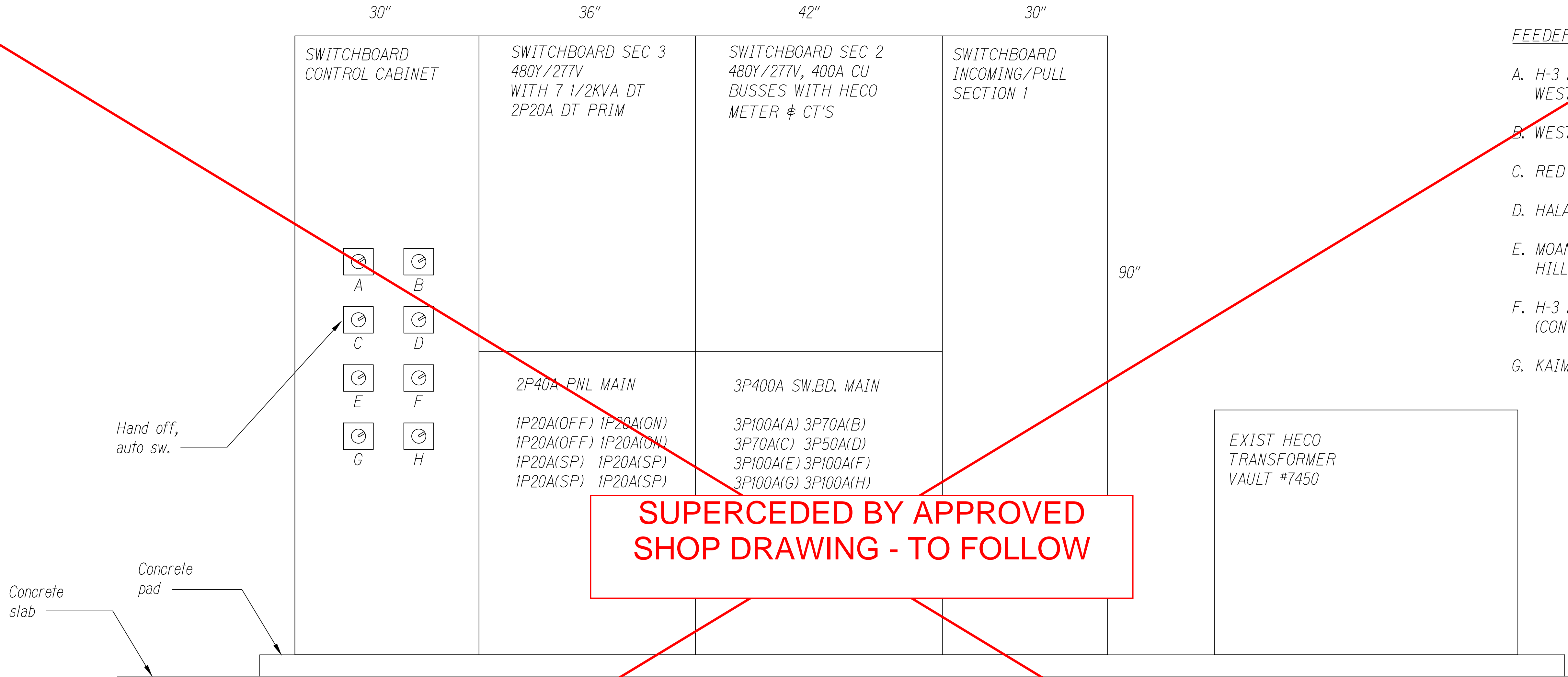
EXISTING DISTRIBUTION CENTER-H  
EQUIPMENT ELEVATION

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)

Scale: Date: July 2020

SHEET No. E-22 OF 29 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	105	111



- FEEDER DESCRIPTION:
- A. H-3 PEARL CITY RAMP WEST BOUND/ WESTBOUND MOANALUA TO H-1 FREEWAY
  - B. WEST BOUND AIEA OFF RAMP/H-3 AIRPORT
  - C. RED HILL WEST BOUND/HALAWA OFF RAMP
  - D. HALAWA HTS/KAHUAPAANI INTERCHANGE
  - E. MOANALUA BYPASS RD/TOWN BOUND RED HILL SIDE POLES
  - F. H-3 PARAPET LIGHTS IB AND OB (CONTROLLED BY PHOTOCELL)
  - G. KAIMAKANI O/P

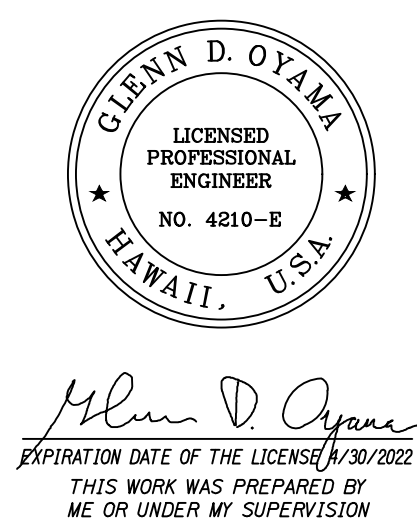
NEW DISTRIBUTION CENTER "H" EQUIPMENT ELEVATION

SCALE: NTS

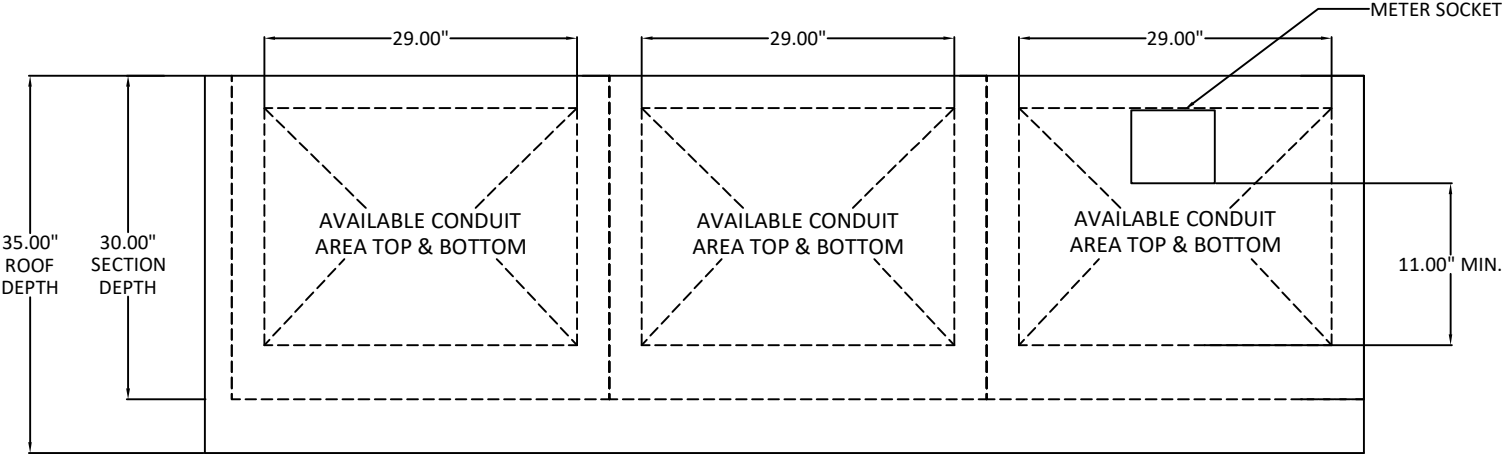
NOTES:

1. Provide new switchboard to replace existing switchboard.
2. Install & energize new switchboard prior to removal of existing transfer feeders from existing switchboard to new switchboard. When existing loads are not in operation.
3. New distribution center to be similar to existing except with NEMA 4X S/S enclosure and sized to fit in space allocated in compliance with HECO & NEC requirements.
4. Switchboard busses shall be copper & feeder breakers shall have interchangeable trips when available & be rated at 65,000 AIC minimum.
5. Submit shop drawing of switchboard for HECO & HDOT approval.

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

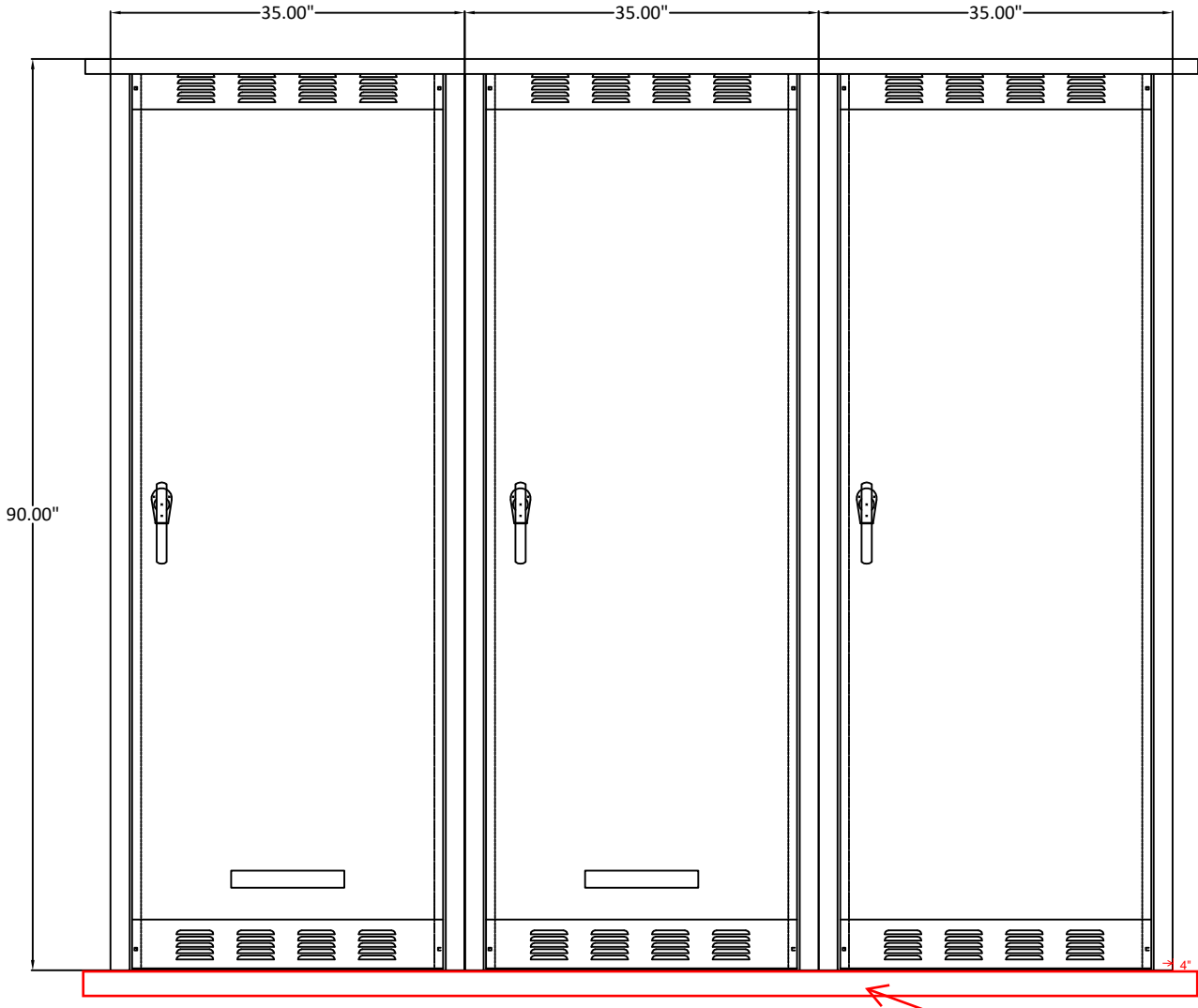


STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**NEW DISTRIBUTION CENTER-H  
EQUIPMENT ELEVATION**  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)  
Scale: \_\_\_\_\_ Date: July 2020  
SHEET No. E-23 OF 29 SHEETS

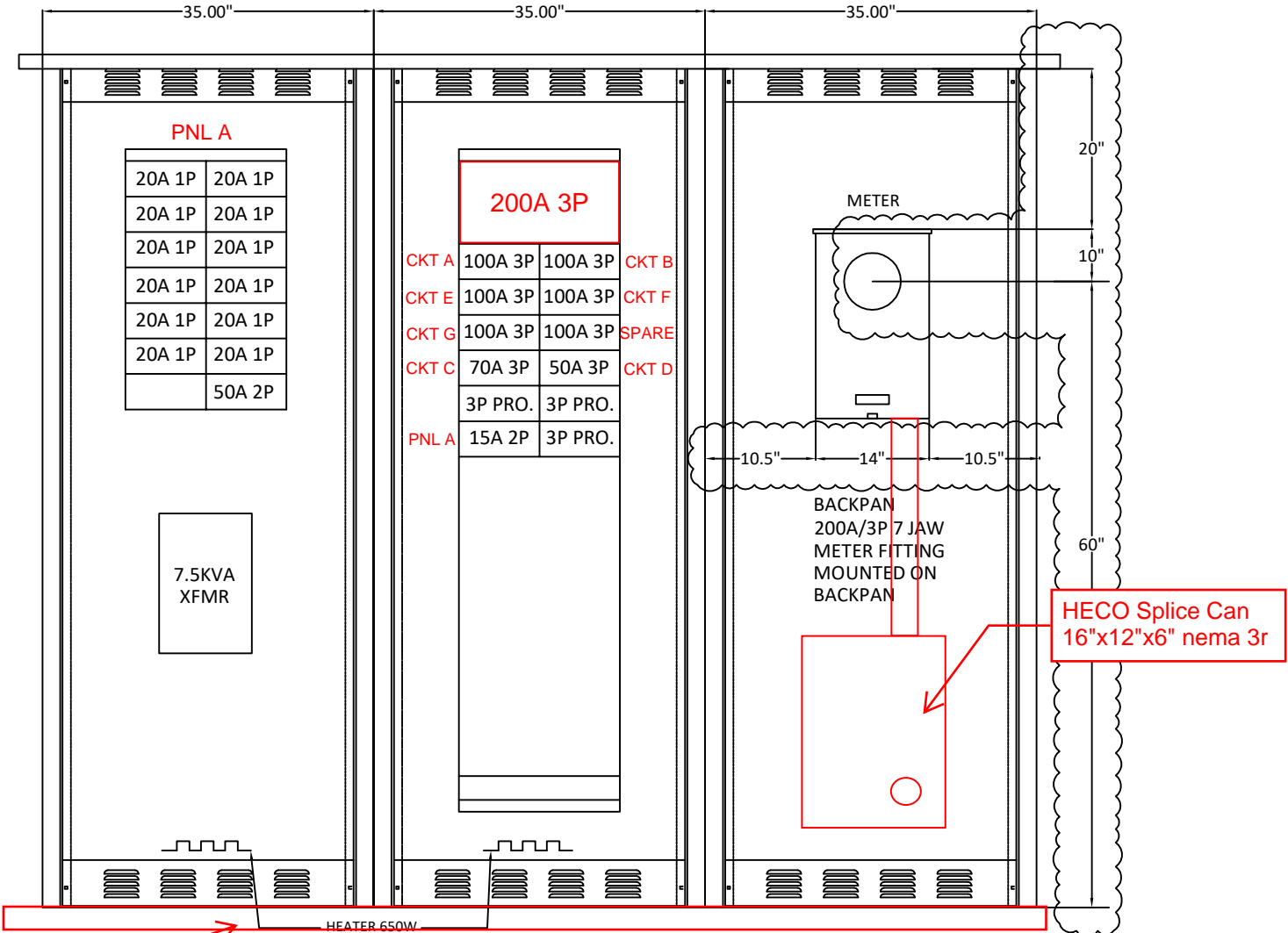


PLAN VIEW

- CONSTRUCTION NOTES**
1. SWITCHBOARD SHALL BE OF NEMA 3R BOLTED CONSTRUCTION OF FORMED CORNER POST AND SUPPORT BRACKETS MADE OF STAINLESS STEEL. THERE SHALL BE FORMED ACCESS COVERS OR DOORS ON THE FRONT, SIDES, AND REAR.
  2. ALL BUS WORK SHALL BE SILVER PLATED HARD DRAWN COPPER, 98% CONDUCTIVE, SIZE BASED ON 1000 AMPERES PER SQUARE INCH MAXIMUM CURRENT DENSITY.
  3. ALL BUS SUPPORTS TO BE FABRICATED FROM GLASTIC TYPE GPO-3 FIBERGLASS STANDOFF INSULATORS, SHEETS, AND EXTRUDED SHAPES.
  4. SWITCHBOARD SHALL BE UNDERWRITERS' LABORATORIES INC. LISTED PER UL891 PROCEDURE AND STANDARD.
  5. METER SOCKET MILBANK #127TB, 200A, 3Ø 4W 7 TERMINAL.



FRONT VIEW



FRONT VIEW

Elevated equipment pad

REV2 - 01-18-2023 - REVISED DRAWING AS CLOUDED - HMS  
REV1 - 12-28-2022 - REVISED DRAWING AS CLOUDED - HMS

CHICAGO SWITCHBOARD LLC  
470 W. WRIGHTWOOD AVE.  
ELMHURST, IL 60126  
TEL #630-833-2266  
FAX #630-833-2277

GRAYBAR  
DEXTER LAKE SOLUTIONS

CONTRACTOR

HALAWA DISTRIBUTION CENTER

NAME OF JOB  
AND LOCATION

400A SERVICE SWITCHBOARD  
480/277V, 3PH 4W, 65kAIC

DESCRIPTION

DRAWN BY HMS

CHECKED BY BB

S.O. NO. 52560

DATE 11/18/2022

DATE

DWG. NO. 52560 - 1B

"AS-BUILT"

105



JOB/ITEM	MFR	PART NUMBER	DESCRIPTION	QTY
A	SIEMENS	HJXD63B400	400AF/200AT 3P BREAKER, (2) 3/0-500kcmil LUGS, UL LISTED, 65kAIC	1
A1	SIEMENS	SI1D	JD FRAME DEEP MOUNT STRAP KIT	1
B	SIEMENS	LGB3B100B	100A 3P BREAKER, (1) #8-1/0 LUGS, UL LISTED, 65kAIC	6
C	SIEMENS	LGB3B070B	70A 3P BREAKER, (1) #8-1/0 LUGS, UL LISTED, 65kAIC	1
D	SIEMENS	LGB3B050B	50A 3P BREAKER, (1) #8-1/0 LUGS, UL LISTED, 65kAIC	1
E	SIEMENS	LGB2B015B	15A 2P BREAKER, (1) #8-1/0 LUGS, UL LISTED, 65kAIC	1
E1	SIEMENS	S3VA41TD	LGB FRAME DEEP MOUNT STRAP KIT	7
F	SIEMENS	B120H	20A 1P BREAKER, UL LISTED, 22kAIC	12
G	SIEMENS	B250H	50A 2P BREAKER, UL LISTED, 22kAIC	1
I	SQUARE D	7S1F	7.5KVA, 480/240VAC, 60Hz, 115 DEG C TEMP RISE, 1PH 3W	1
J	STEGO	027019-00	HEATER 650W WITH THERMOSTAT	2

CHICAGO SWITCHBOARD LLC  
470 W. WRIGHTWOOD AVE.  
ELMHURST, IL 60126  
TEL #630-833-2266  
FAX #630-833-2277

GRAYBAR  
DEXTER LAKE SOLUTIONS

**CONTRACTOR**

HALAWA DISTRIBUTION CENTER

NAME OF JOB  
AND LOCATION

400A SERVICE SWITCHBOARD  
480/277V, 3PH 4W, 65kAIC

## DESCRIPTION

DRAWN BY HMS

DATE 11/18/2022

CHECKED BY BB

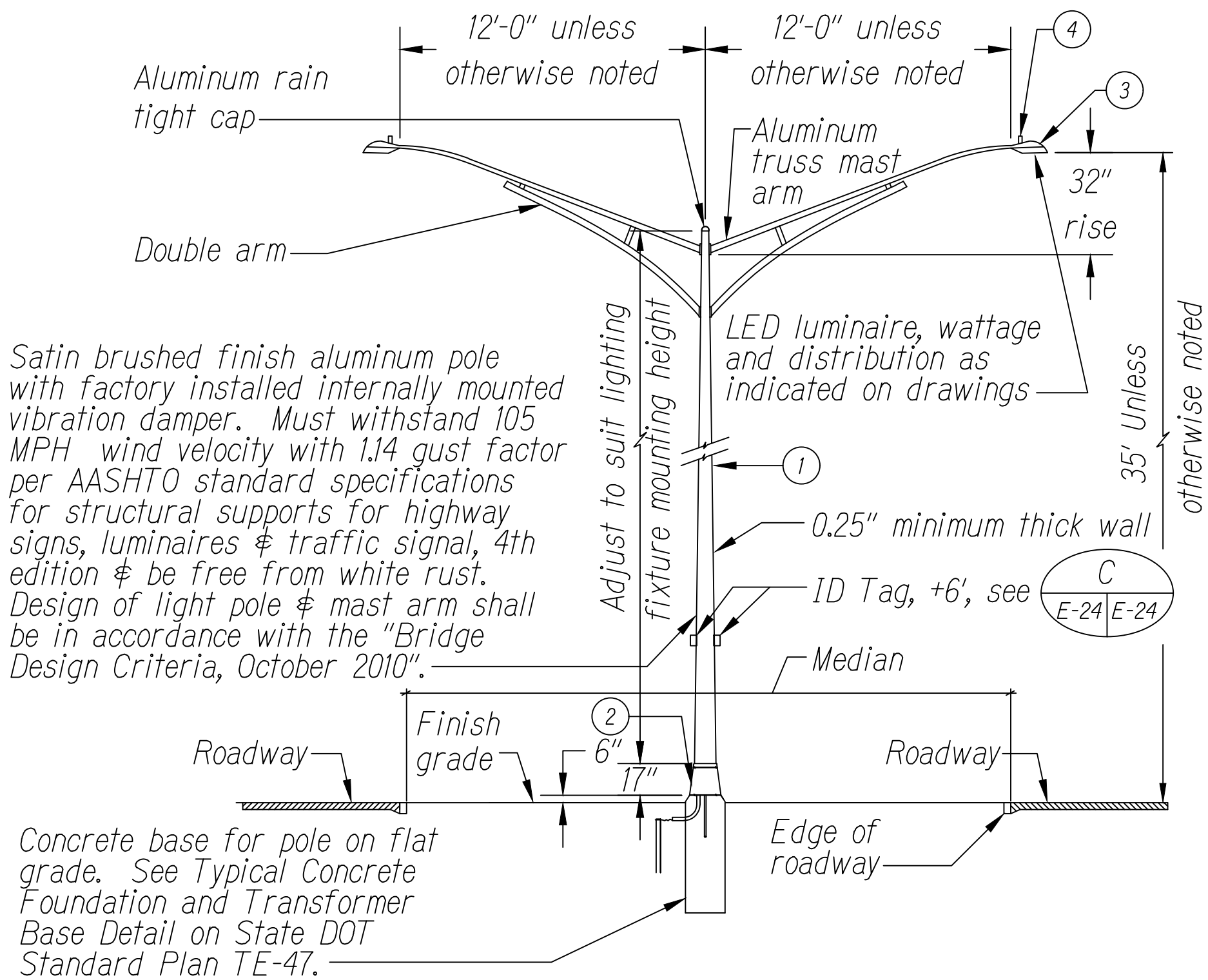
DATE \_\_\_\_\_

S.O. NO. 52560

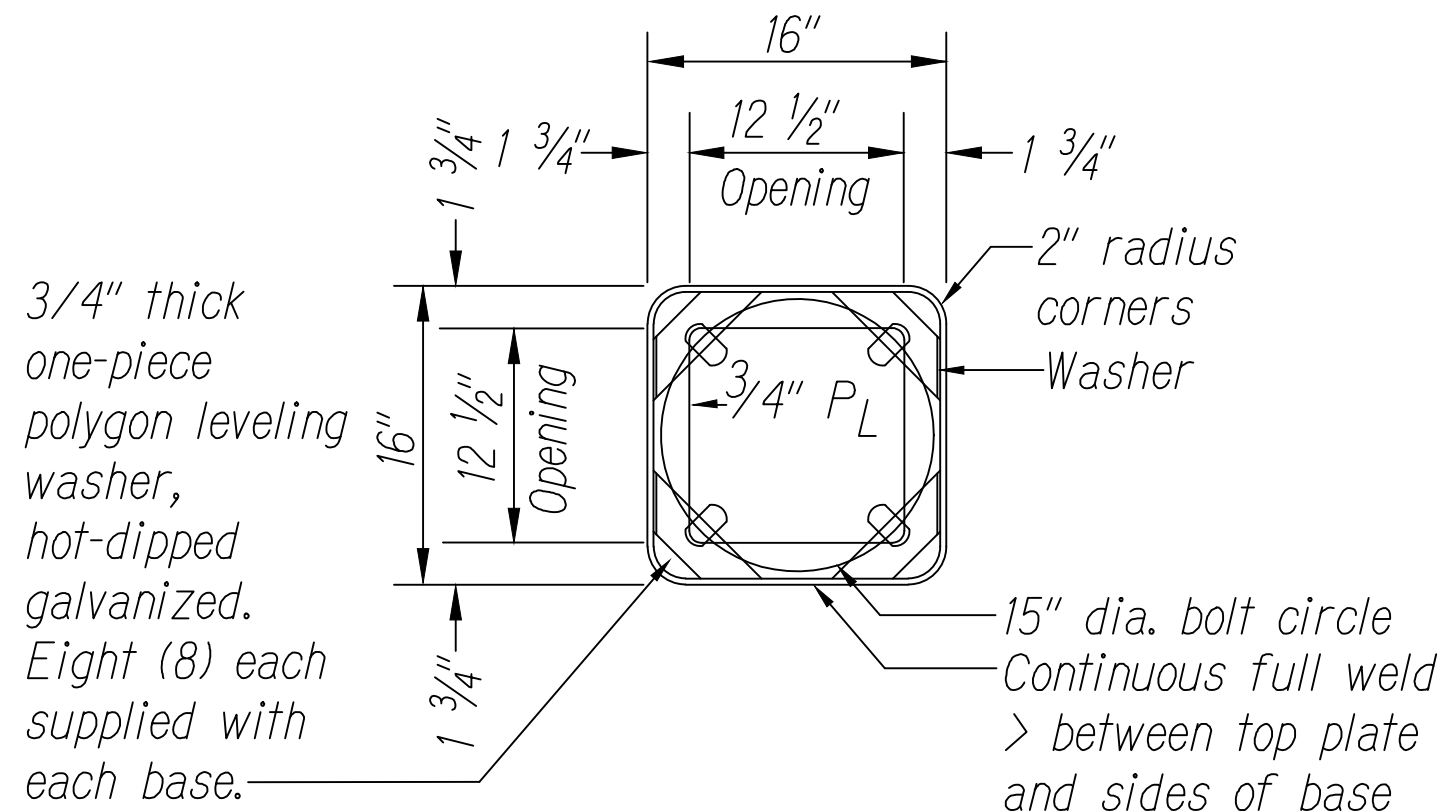
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## "AS-BUILT"

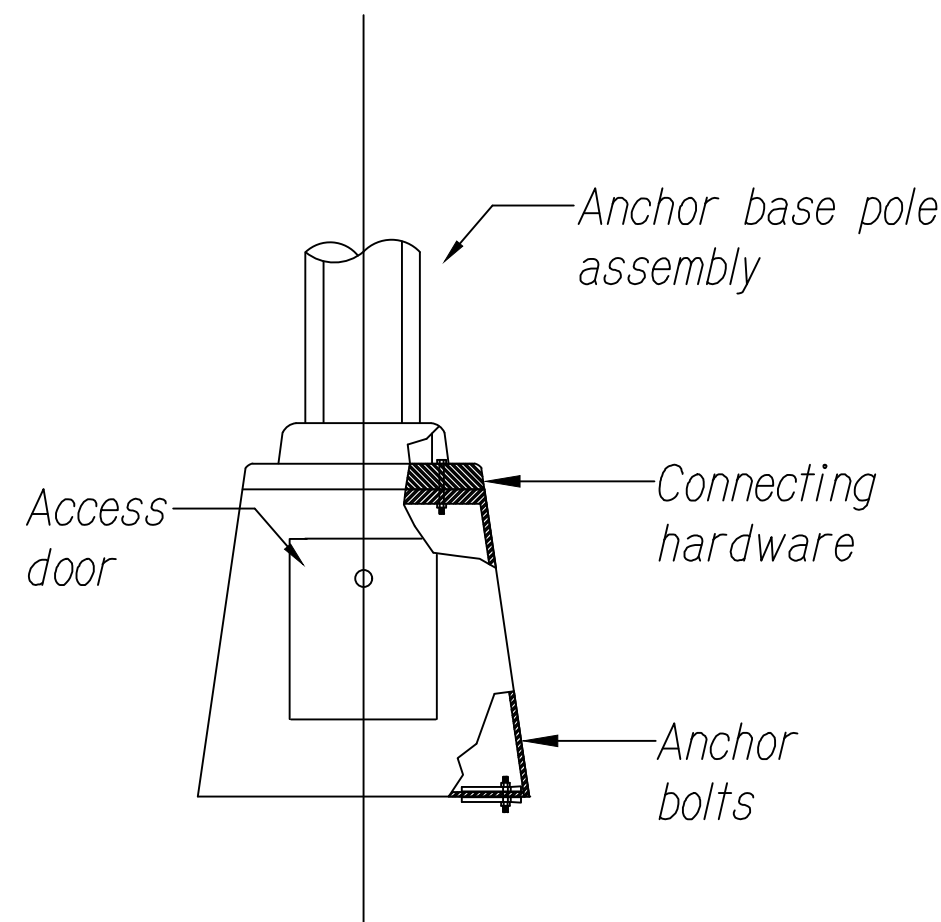
105 S-1



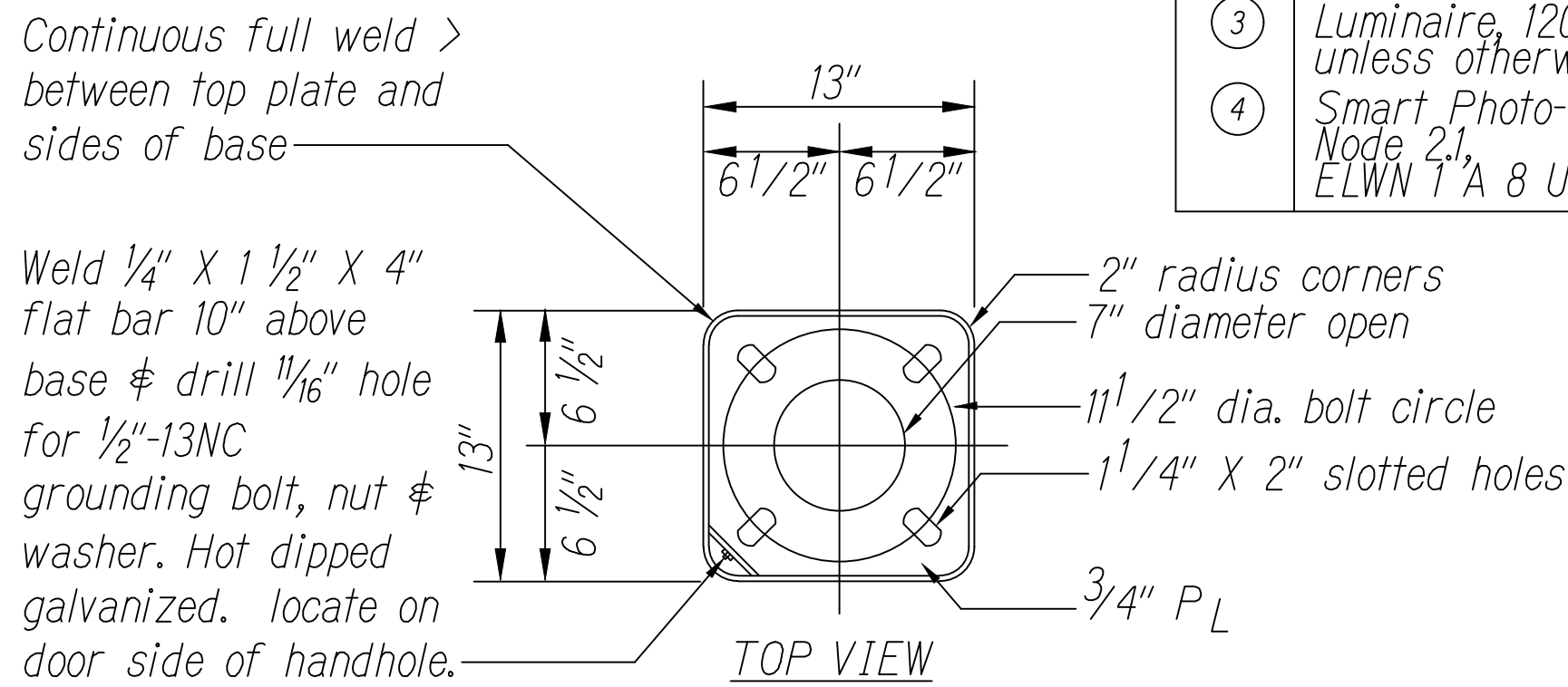
STREET LIGHT STANDARD DETAIL A E-24 SCALE: NTS



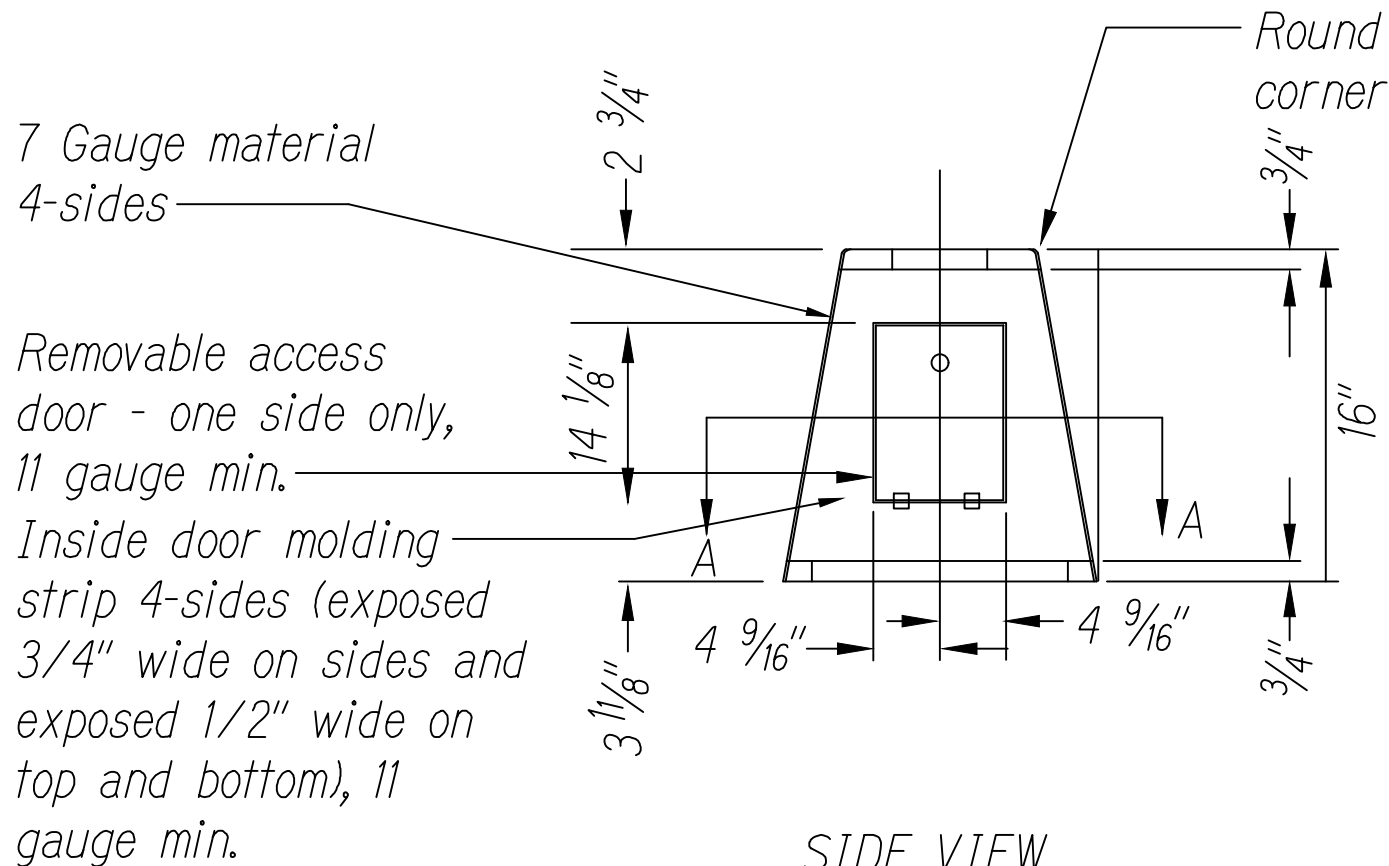
SECTION "A"



ANCHOR BASE POLE ASSEMBLY



TOP VIEW



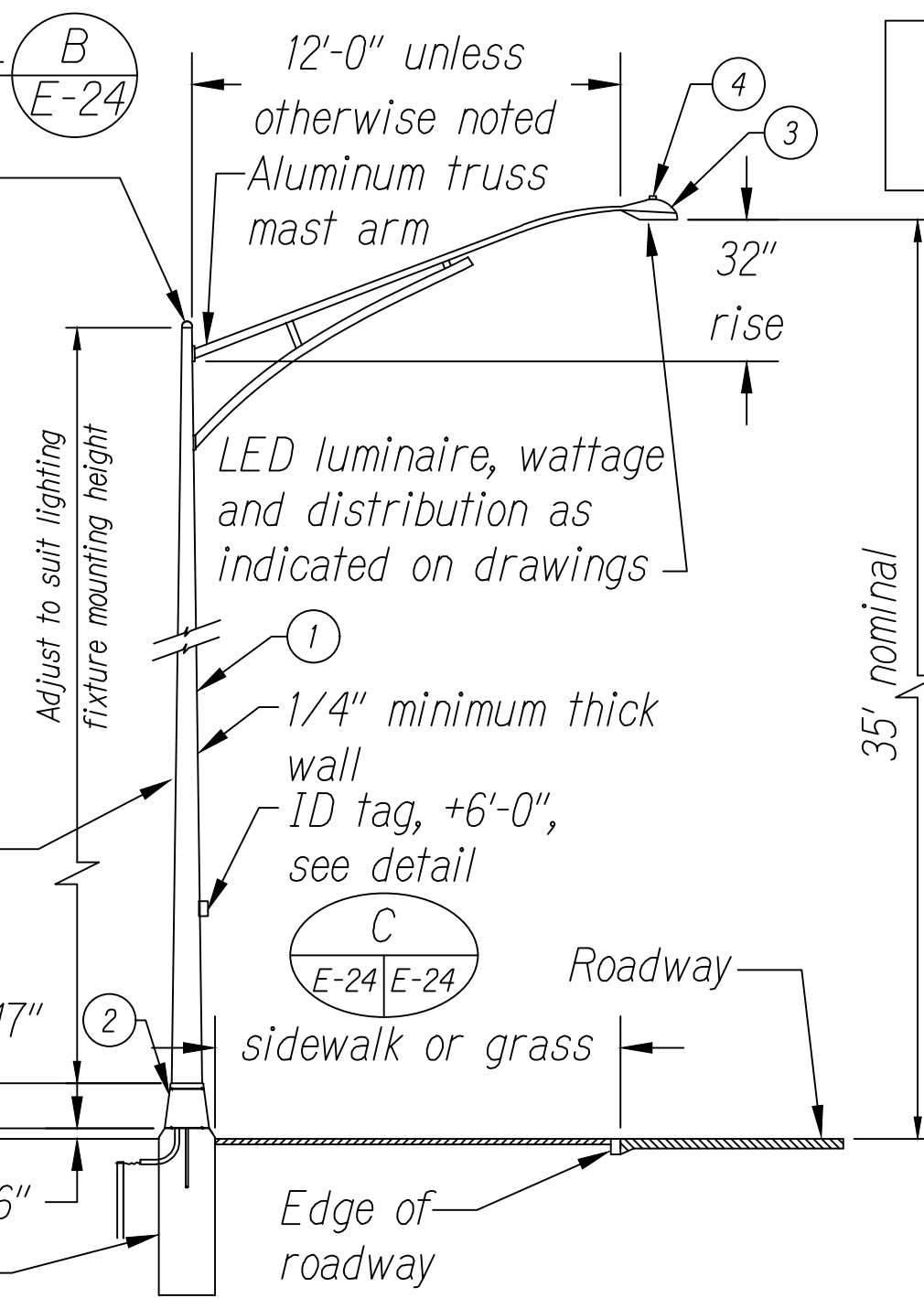
SIDE VIEW

LIGHT POLE BASE DETAIL D E-24 SCALE: NTS

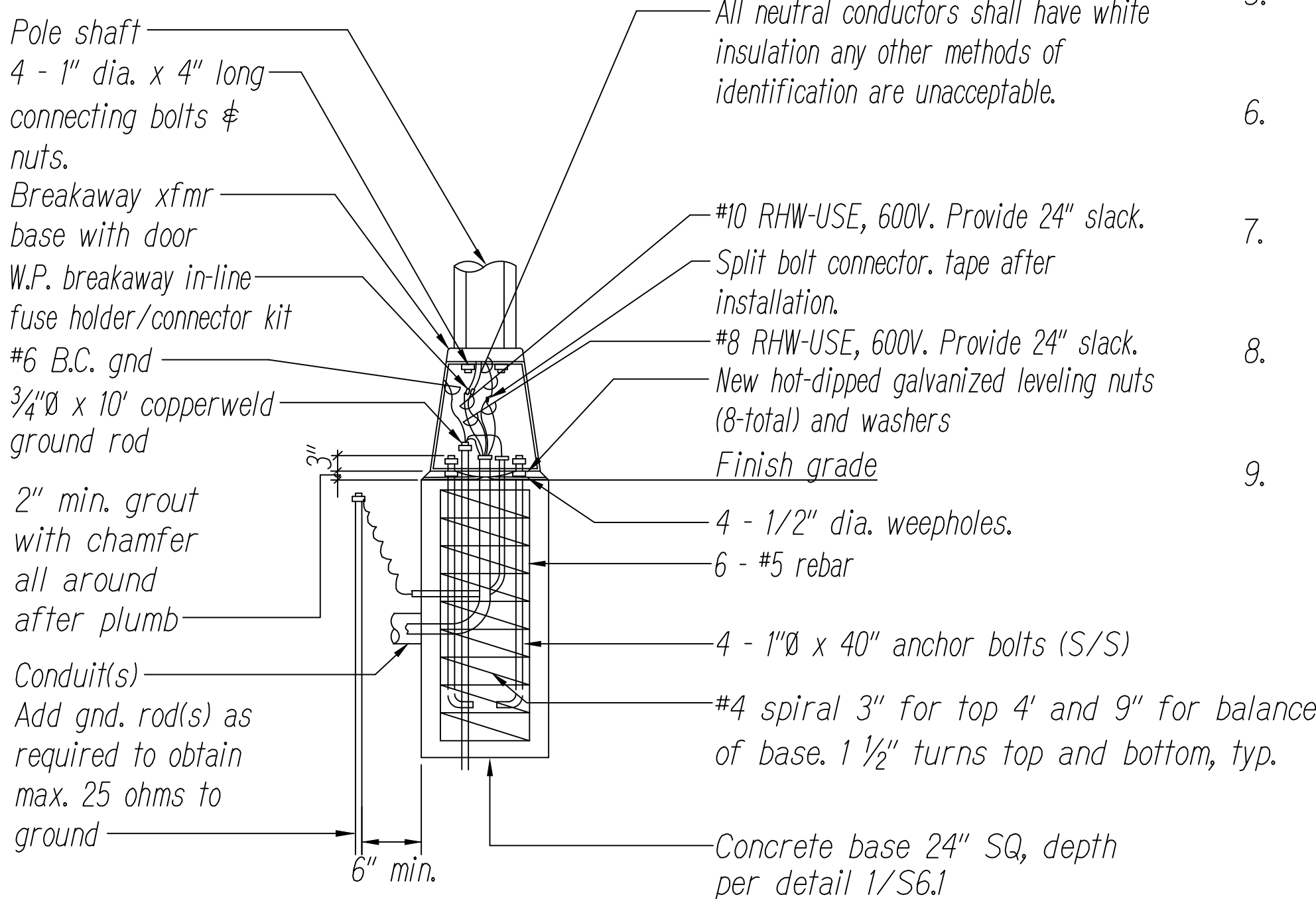
STREET LIGHT STANDARD DETAIL B E-24 SCALE: NTS

Satin brushed finish aluminum pole with factory installed internally mounted vibration damper. Must withstand 105 MPH wind velocity with 1.14 gust factor per AASHTO Standard Specifications For Structural Supports For Highway Signs, Luminaires & Traffic Signal, 4th edition & be free from white rust. Design of light pole & mast arm shall be in accordance with the "Bridge Design Criteria, October 2010".

Concrete base for pole on flat grade. See Typical Concrete Foundation and Transformer Base Detail on State DOT Standard Plan TE-47.

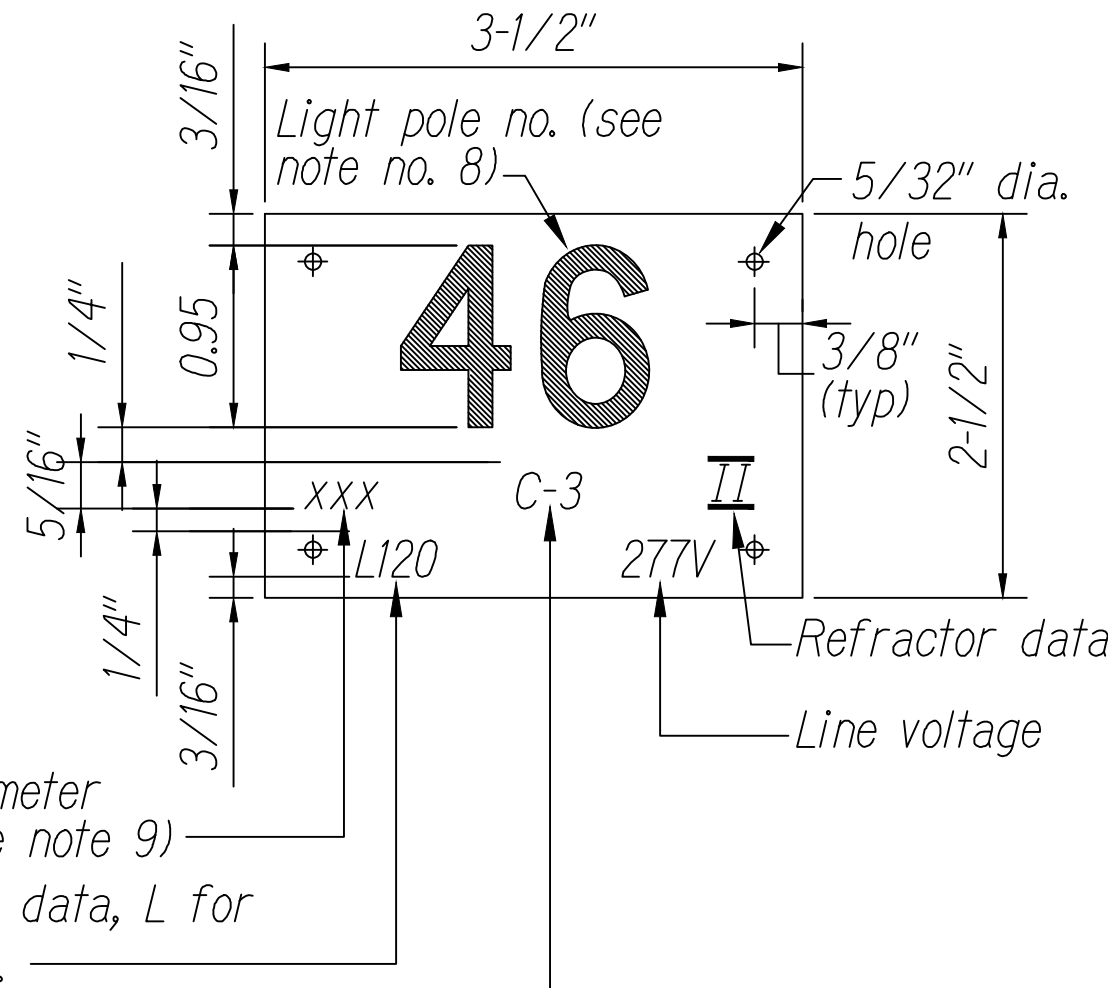


MATERIAL LIST		
Item	Description	Manufacturer
①	Light Pole, Alum	
②	Transformer Base (Alum) (Breakaway Type)	
③	Luminaire, 120W LED, unless otherwise noted	General Electric Company
④	Smart Photo-Cell, LightGrid Node 2, ELWN 1 A 8 U B X X XX AD	General Electric Company



For use within State of Hawaii right-of-way

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	106	111



STREET LIGHT POLE TAG DETAIL C E-24 SCALE: NTS

NOTES:

- Use 3 ply laminated fflexible plastic black-white-black thickness black cap sheet-0.010", white base sheet-0.052", black base sheet-0.010".
- Light pole number size shall be 1" high and engraved 1/8" Wide, white in color (number as required).
- Nomenclature size shall be 5/16" high and engraved 1/32" wide, white in color (HECO meter number panel board and circuit number, line voltage, lamp data and refractor data as required).
- Attach to aluminum and steel post with no. 8 stainless steel, 1/2" long drive screws in 1/8" drill hole. Attach to wood poles with 4D aluminum nail.
- Numbers are inscribed by cutting through "Black Cap Sheet" to expose "White Letters."
- Nomenclature required for systems with two or more circuits (letter indicates panel board, number indicates circuit).
- For light poles installed on ramp, assign numbers to include ramp I.D. and light number. Legend may be less than one (1) inch n height.
- Light numbers shall be obtained from the state. Use an alphabet suffix to designate lights mounted on the same pole (e.g. 123A & 123B).
- For non-metered system, call out the contract number.



Glenn D. Oyama  
EXPIRATION DATE OF THE LICENSE: 11/30/2022  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

STREET LIGHT DETAILS

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)

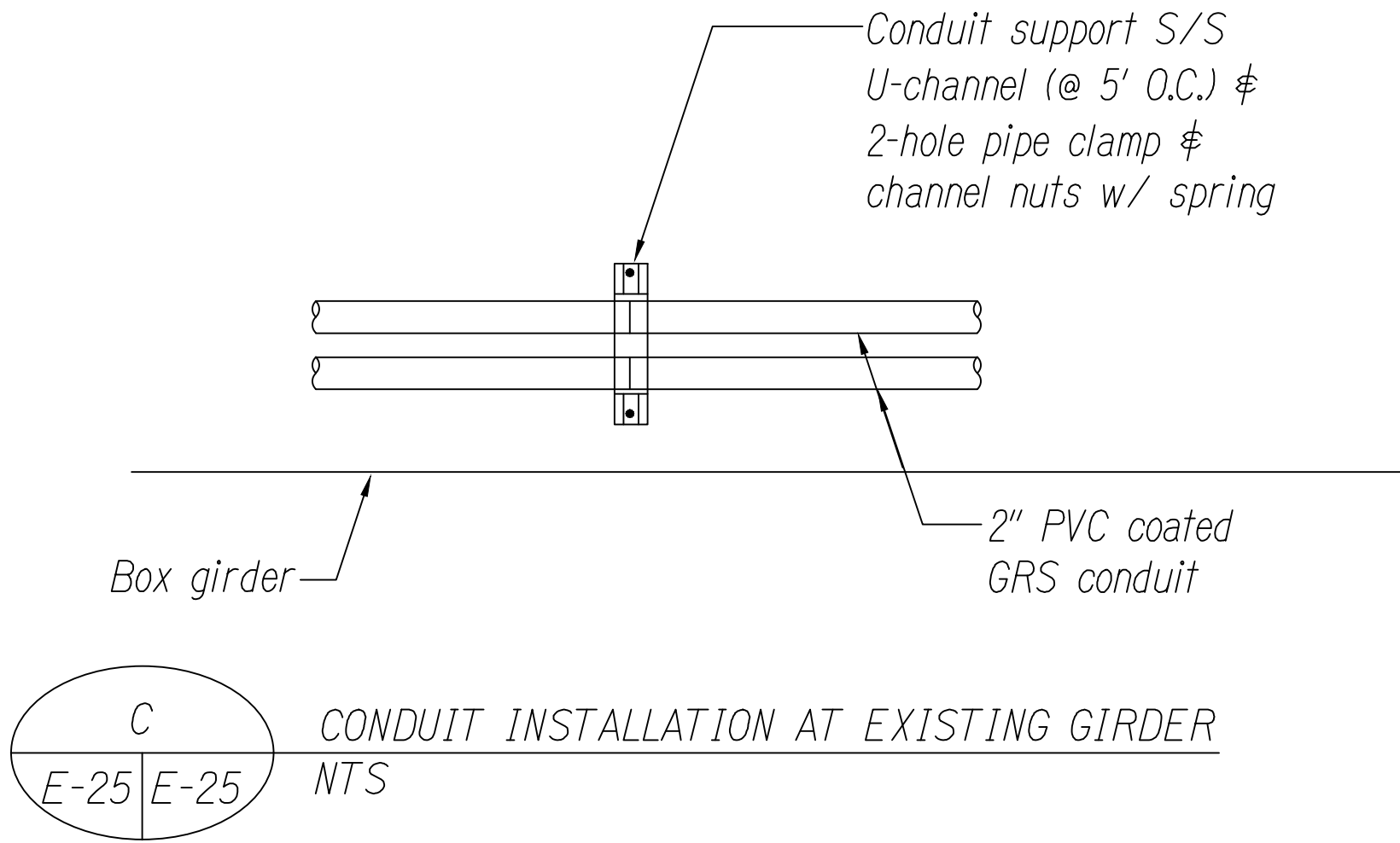
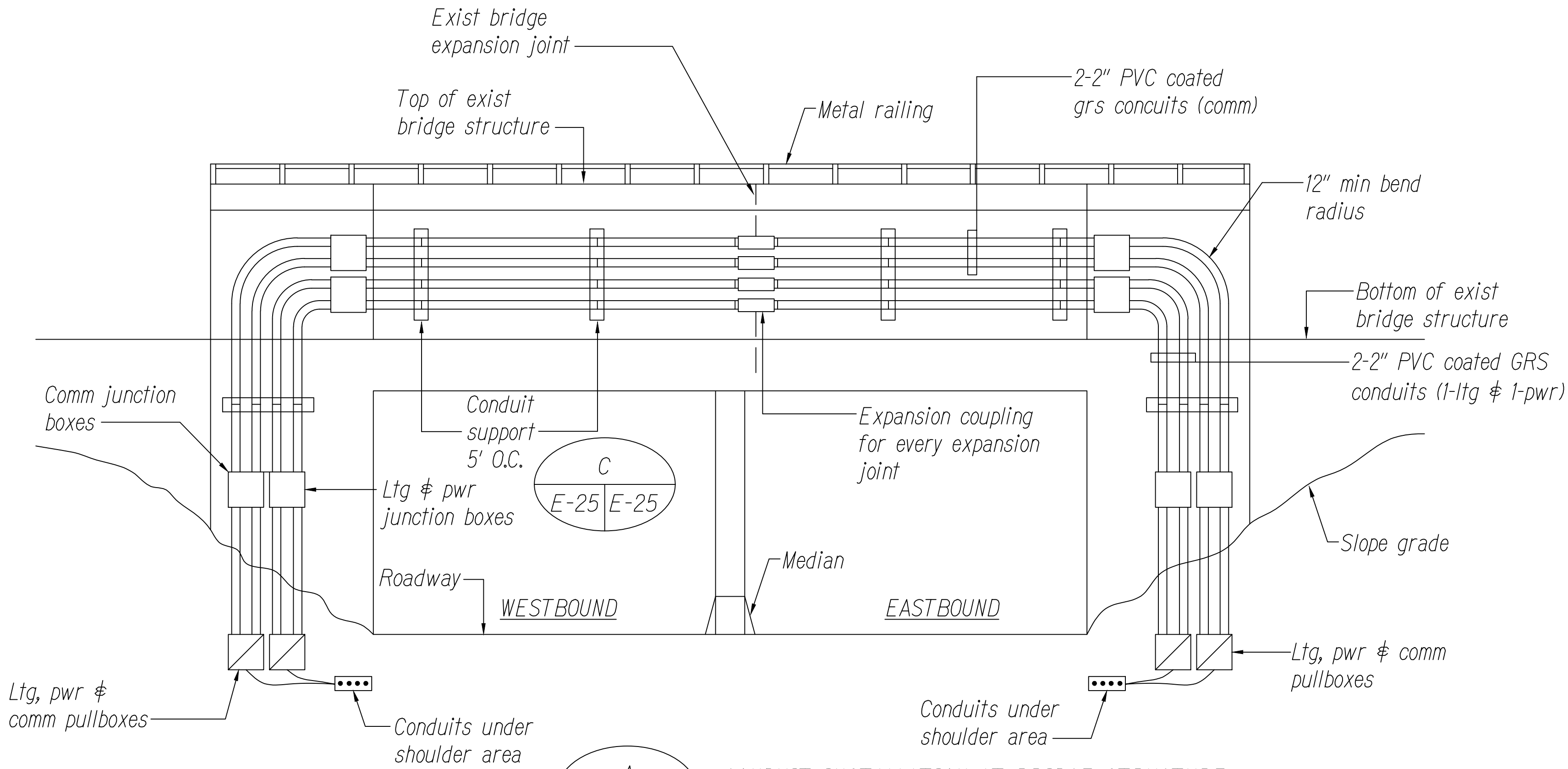
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SHEET No. E-24 OF 29 SHEETS

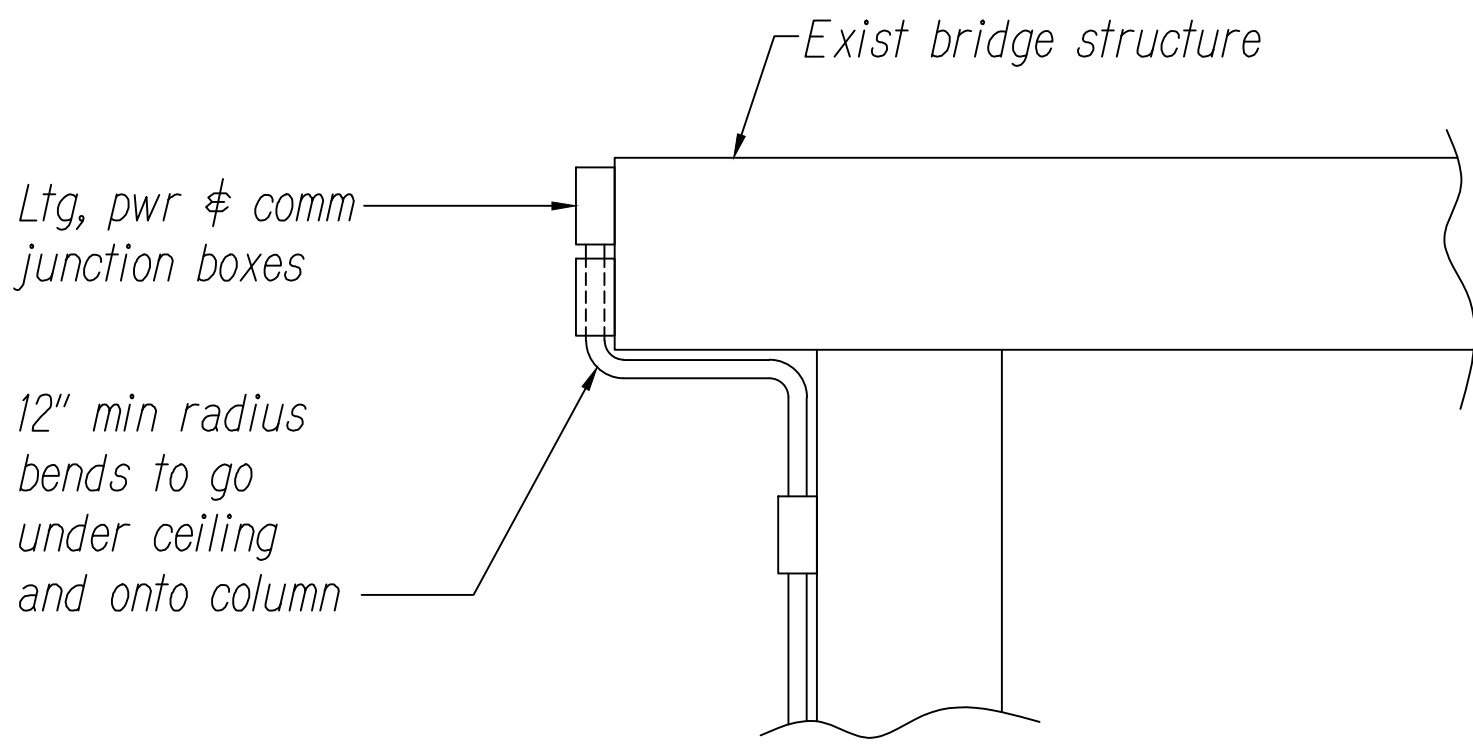
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DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	107	111

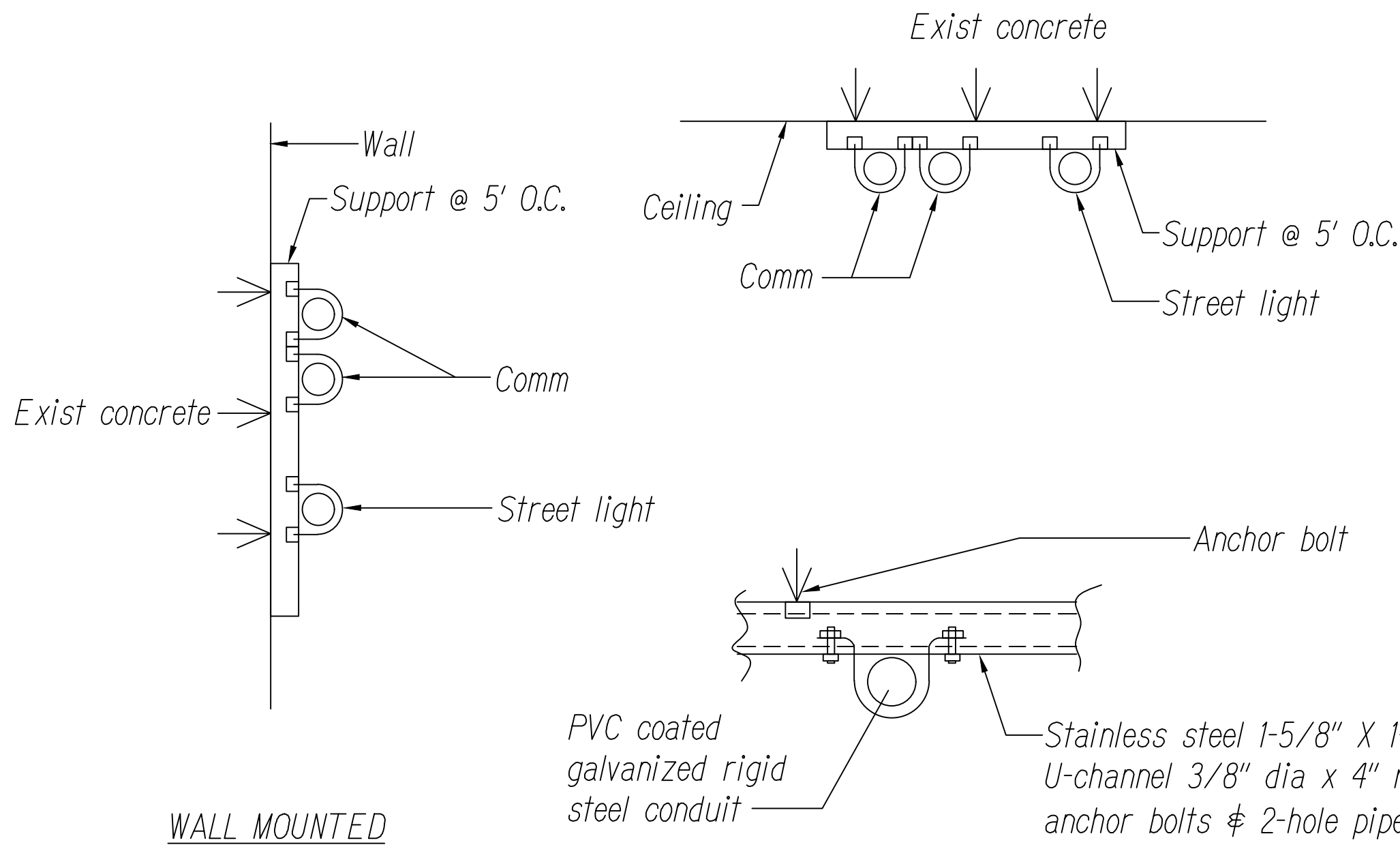
For use within State of Hawaii  
right-of-way



**A**  
E-25 E-25  
CONDUIT INSTALLATION AT BRIDGE STRUCTURE  
NTS

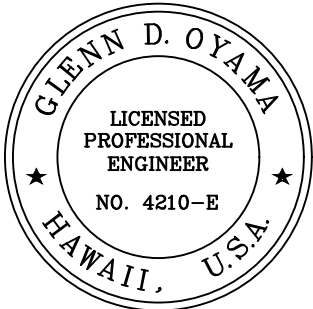


**B**  
E-25 E-25  
CONDUIT INSTALLATION ONTO COLUMN  
NTS



**D**  
E-25 E-25  
CONDUIT MOUNTING DETAIL  
NTS

ORIGINAL PLAN	DATE
NOTE BOOK	
No.	



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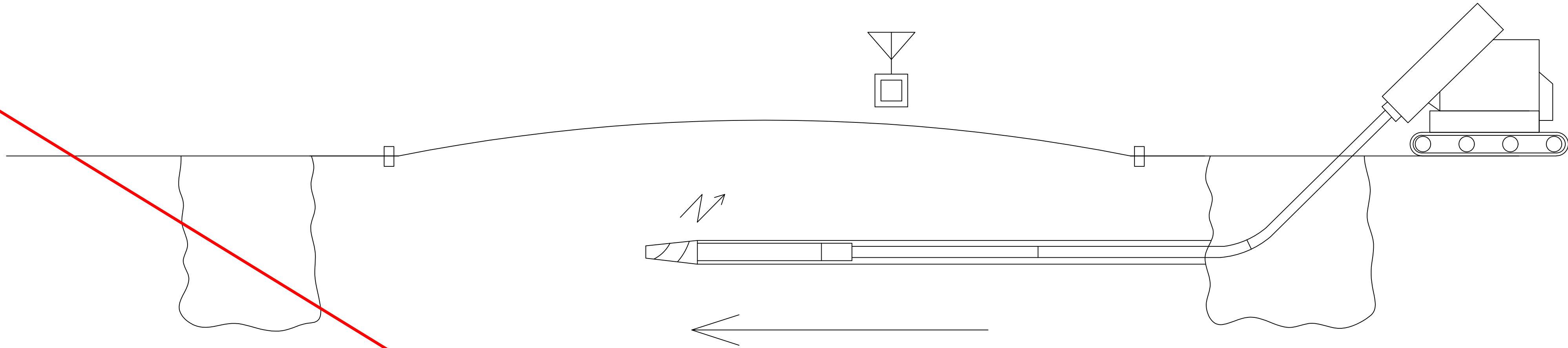
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**CONDUIT INSTALLATION  
ON BRIDGE DETAIL**  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)

Scale: Date: July 2020

SHEET No. E-25 OF 29 SHEETS

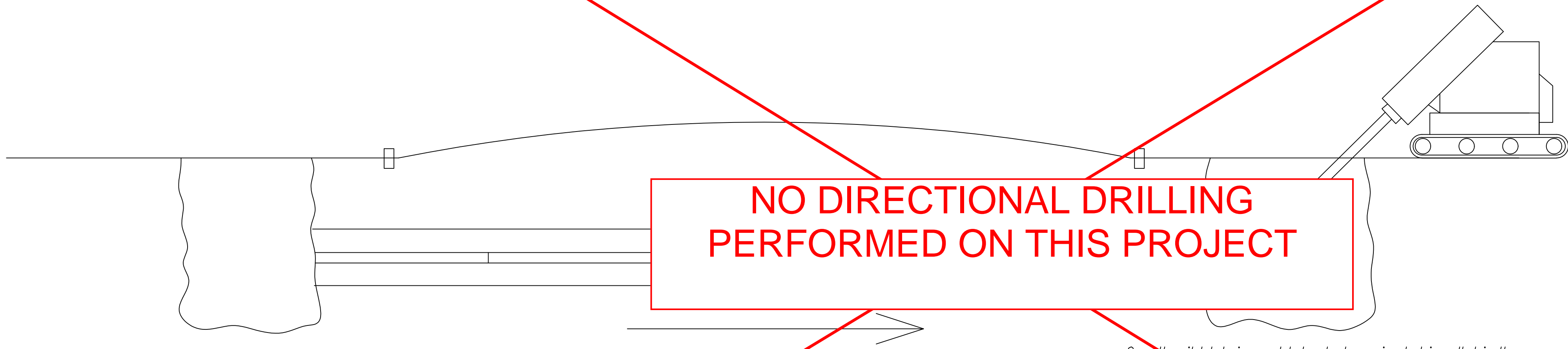
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	108	111

- NOTES:
- Horizontal directional drilling shall be used for all highway road crossings to avoid trenching.
  - This detail is provided as a guide only.
  - NESC & DOT standards for ductline installation must be adhered to.



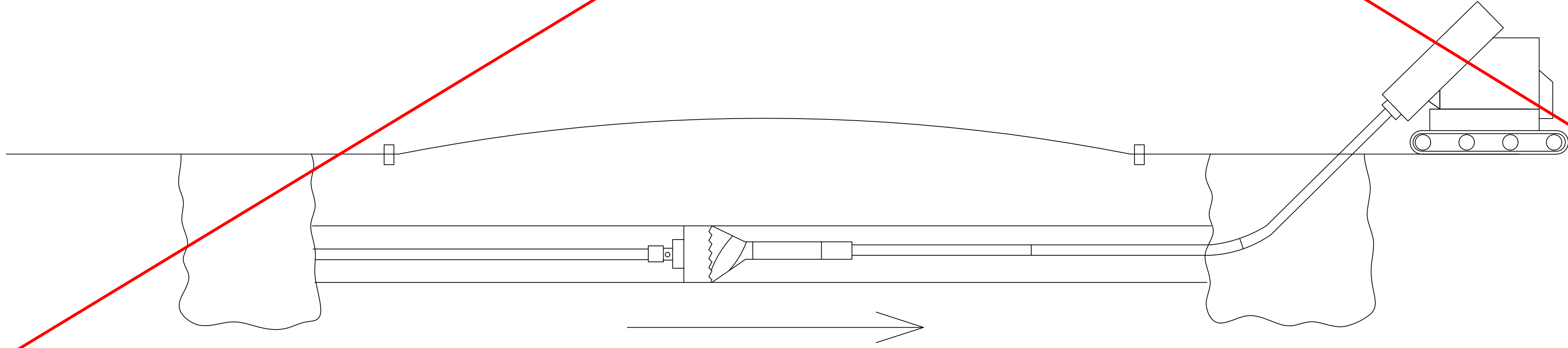
PILOT (GUIDE) HOLE

A pilot hole is first made by a drill head being pushed through the ground with the addition of rods one after another to reach the desired drilled length. Also directly behind the drill head is a location system that is used to guide the depth, pitch & direction of the drill head.



ENLARGING HOLE

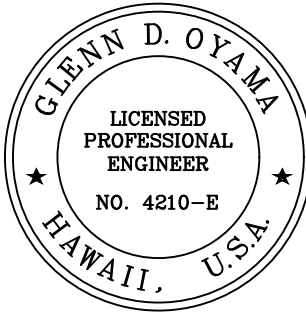
Once the pilot hole is completed, a back reaming tool is pulled in the reverse direction to enlarge the hole while rods are being continuously added to the back reaming tool. Drilling liquid is also introduced into the bore hole for removal of mud & strengthening of the walls of the hole.



PIPE PULLING

After the back reaming tool is pulled back to the drilling rig, the pipe can be pulled. A swivel head is attached between the pipe and the end of the rods that were connected to the back reaming tool, and is pulled back to the drilling rig. The pipe & voids are then filled with cementitious material.

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



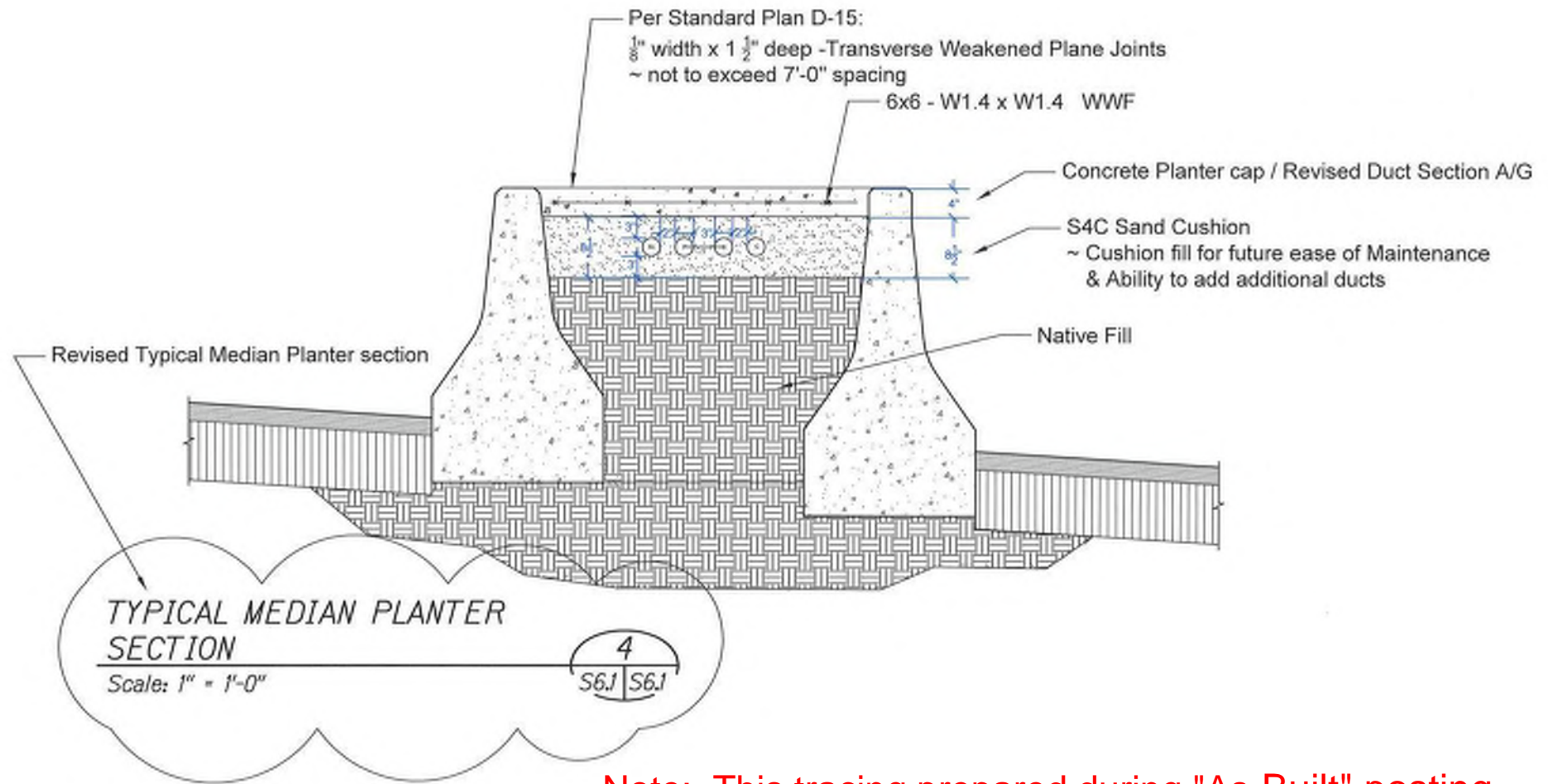
*Glenn D. Oyama*  
EXPIRATION DATE OF THE LICENSE 11/30/2022  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**DIRECTIONAL DRILLING**  
**DETAILS**  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)  
Scale: \_\_\_\_\_ Date: July 2020  
SHEET No. E-26 OF 29 SHEETS

"AS-BUILT"



## SECTION C: Planter Duct Section Per RFI FACS-002 (see next sheet)

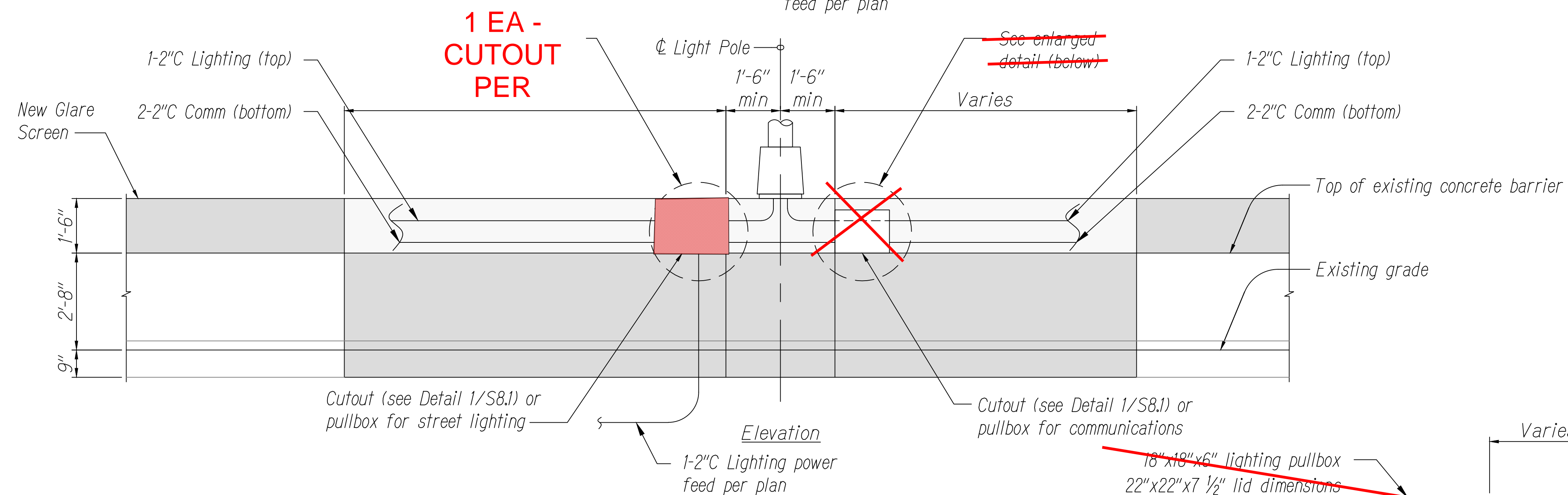
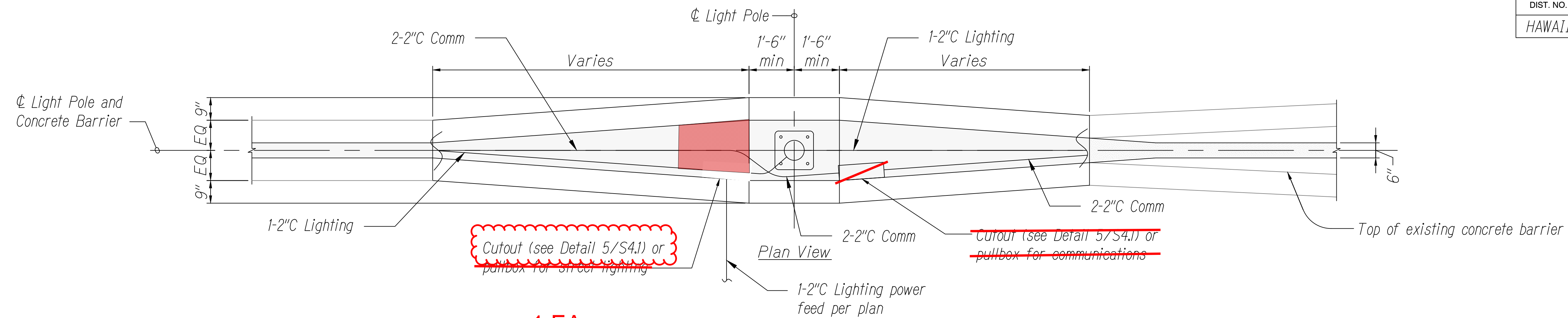


Note: This tracing prepared during "As-Built" posting.

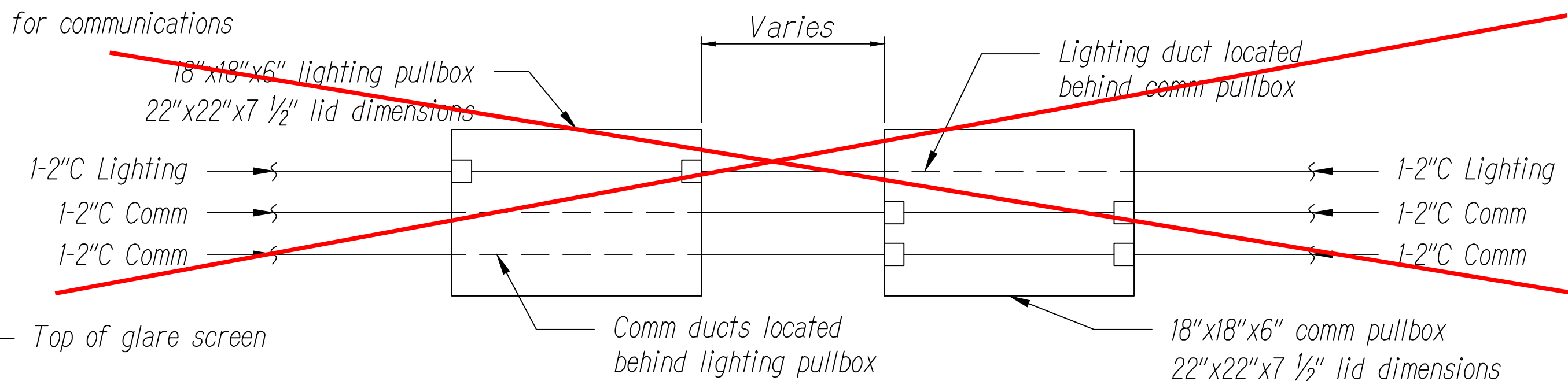
"AS-BUILT"

109 S-1

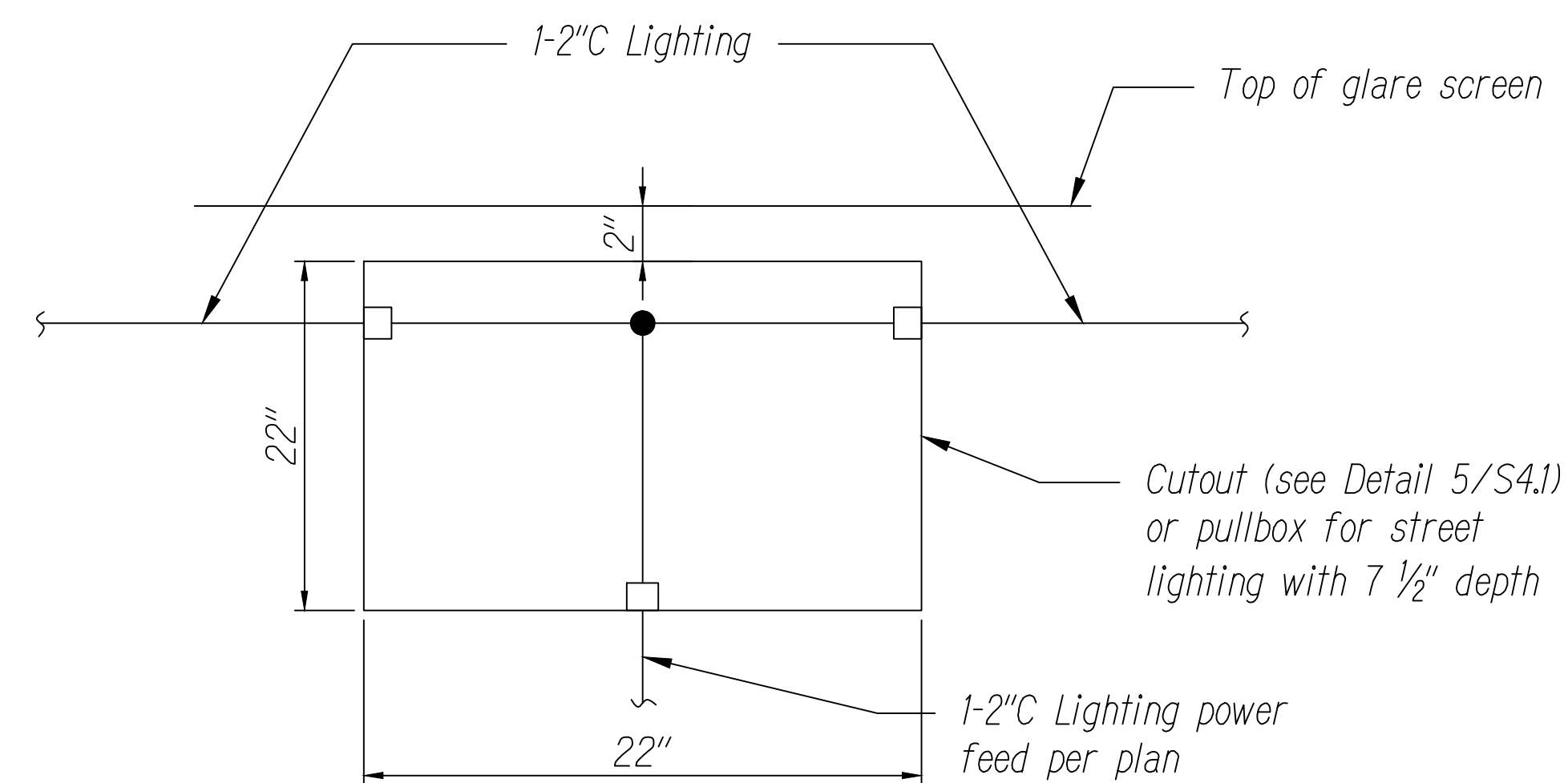
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	110	111



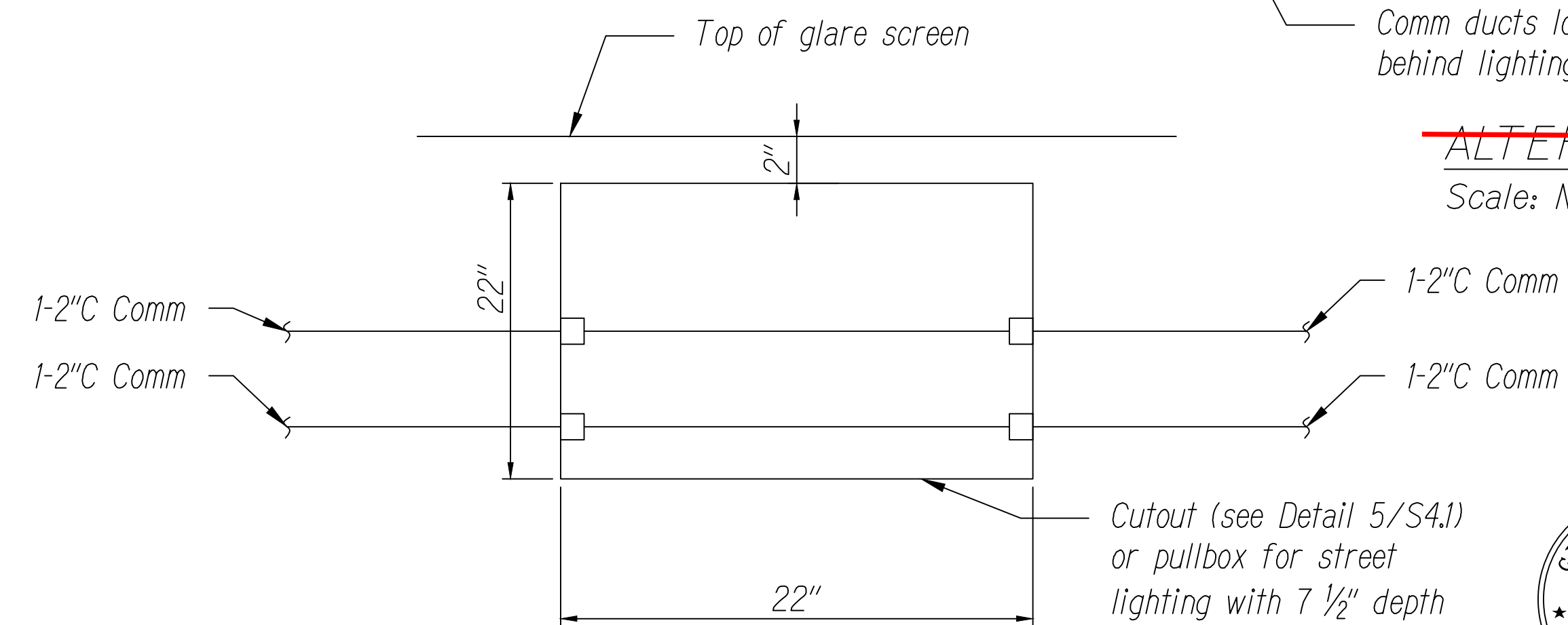
MEDIAN BARRIER CONDUIT DETAIL  
Scale: NTS



ALTERNATIVE PULLBOX DETAIL TYPICAL  
Scale: NTS



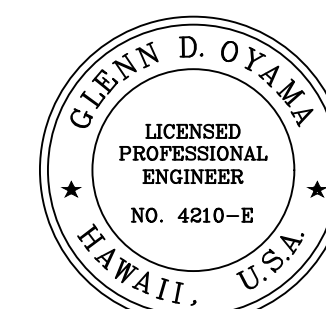
ENLARGED CUTOUT/PULLBOX FOR STREET LIGHT DETAIL  
Scale: NTS



ENLARGED CUTOUT/PULLBOX FOR COMMUNICATIONS DETAIL  
Scale: NTS

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ORIGINAL PLAN	No.
NOTE BOOK	

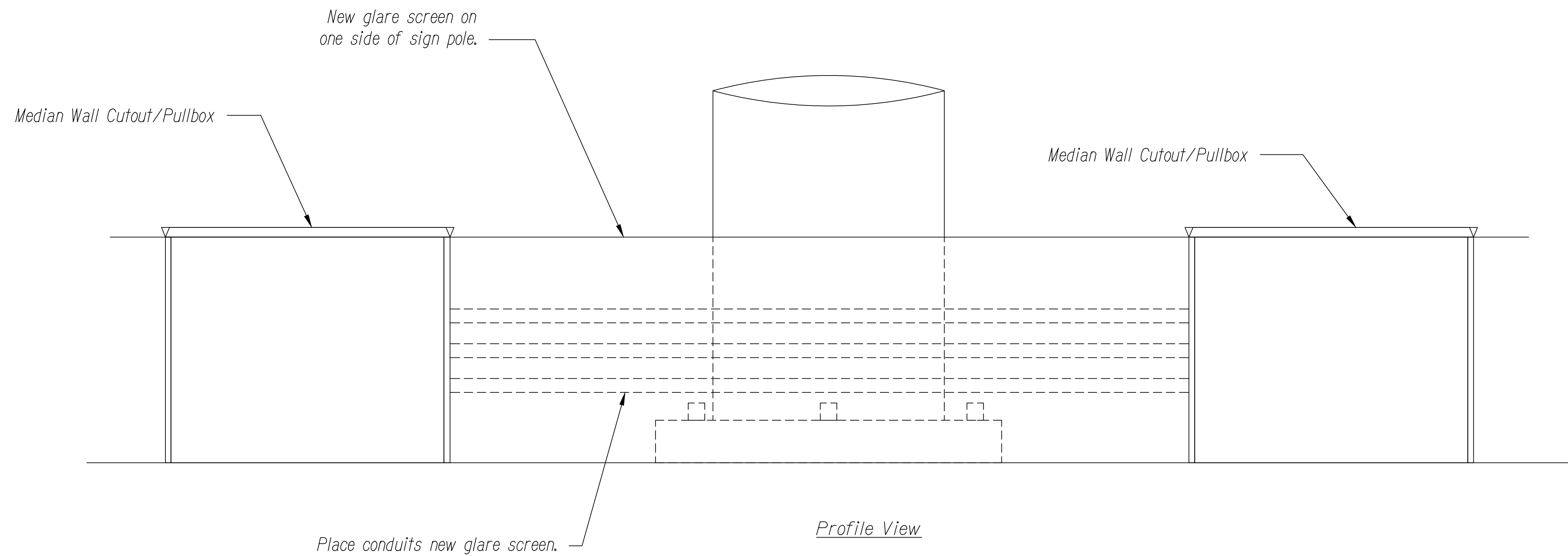
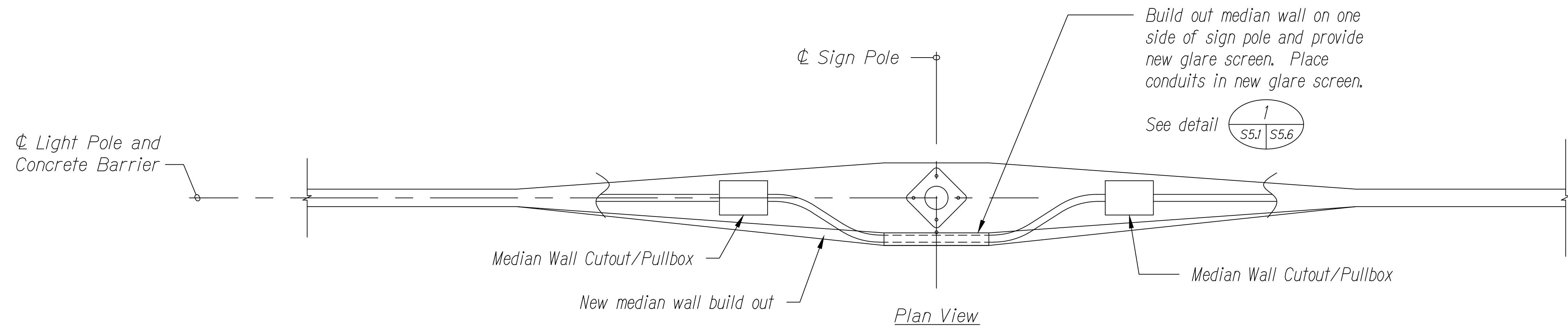


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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**MEDIAN WALL PULLBOX & CUTOUT DETAIL**  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)  
Scale: \_\_\_\_\_ Date: July 2020  
SHEET No. E-28 OF 29 SHEETS

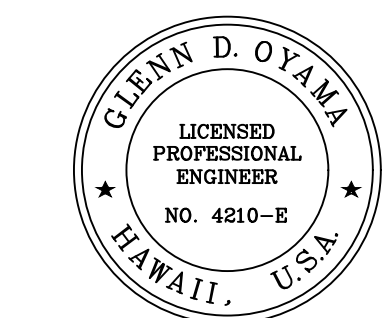
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	111	111



MEDIAN CONDUIT SIGN POLE DETAIL  
Scale: NTS

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



*Glenn D. Oyama*  
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STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
MEDIAN CONDUIT SIGN  
POLE DETAIL  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)

Scale: \_\_\_\_\_ Date: July 2020

SHEET No. *E-29* OF 29 SHEETS