

GENERAL NOTES:

1. This project includes the furnishing and installation of a new LED highway lighting system that complies with the latest AASHTO roadway lighting design standard and as specified by this contract. Demolish and remove the existing highway lighting system as indicated on the plans within the specified project limits. Modify existing median, retaining, and bridge wall structures to accommodate new street lights. Drill shafts and pour foundations for new street lights. furnish and install new conduits in the ground via trenching or directional boring and surface mounted to existing structures. Furnish and install new pullboxes in the ground and in median/retaining walls, median wall cutouts, metal covers, and junction boxes as necessary to create a complete and operable lighting system. Furnish and install new LED street lights mounted on new poles and under overpasses.
- A. Base bid: Provide new LED highway lighting system for Moanalua Freeway H201 between H-1 underpass and Kahuapaani St overpass.
- B. Additive alternates:
- 1) Additive alternate #1: Provide new LED highway lighting system for Moanalua Freeway H201 between Kahuapaani St overpass and H-3 underpass.
- 2) Additive alternate #2: Replace existing meters and electrical cabinet at the end of Halawa Heights Rd.
2. Existing condition based on limited field observation and reference drawings. Contractor to verify existing condition and report discrepancy to engineer prior to construction.
3. All electrical work shall comply with the requirements of the Department of Transportation, NEC and local codes and amendments, State of Hawaii rules and regulations, NEC (ANSI C2), utility applicable company standards and requirements.
4. Coordinate all work with utility companies.
5. Drawings are diagrammatic and symbolic and may not show all components and details. Install all work in a neat and logical manner and provide all components for a complete and operable system within intent indicated on drawings and specifications.
6. See erosion control, traffic control, and structural plans and details, and provide electrical work as appropriate.
7. Coordinate all work with other trades to avoid conflicts. adjust location of the new electrical equipment and wiring as required to clear obstructions and equipment. Provide the required mounting accessories needed to properly install the electrical equipment and wiring.
8. Tone area of new trenches prior to new underground work.
9. All wires shall be insulated copper conductors and installed in raceways unless indicated otherwise.
10. Provide ground wires for all street light circuits.
11. Repair any damage made to structures and utilities caused by construction.
12. All raceways shall be PVC coated GRS where exposed, concrete encased schedule 40 PVC For underground use, and flexible metal conduit for installation of dry type transformers and galvanized rigid metal conduit elsewhere in properly rated weatherproof enclosures.

13. Exposed junction boxes shall be cast metal type or NEMA 4X S/S with no unused factory knock-outs. All electrical apparatus shall have NEMA 4X S/S enclosures.
14. Paint all exposed metal raceways and boxes with two coats two-part epoxy based primer and two coats polyurethane enamel finish to match surrounding surfaces.
15. Test complete street lighting system within the project limits, and make adjustments to the street lighting system as necessary to correct any measured and observed lighting level deficiencies. Reconnect any existing street lights that may have been disconnected by this work.
16. Existing highway lighting system shall remain in operation at all times. Remove light poles and conductors only after the new lighting system is in operation. See detail 5/S6.1 in the structural drawings for foundation and anchor bolt removal instructions.
17. Trace existing highway lighting & electrical circuits. Maintain power to all street lights & other circuits.
18. Remove street lighting assembly where indicated on plans, including the associated wires. Remove exposed conduit & handholes that are no longer in use. Abandon in place underground ductlines and inaccessible handholes. Field verify existing condition.
19. Restore landscaping to match existing condition in shoulder areas. Planter area to be paved over with concrete with welded wire reinforcement per Standard Specification 634.
20. Salvage all luminaires and return to Department of Transportation as directed.
21. Contractor to notify contracting officer of the existence of any devices and equipment mounted to the existing street lights that are being removed. Remove and return to Department of Transportation as directed unless noted on the drawings.

ELECTRICAL SYMBOLS			
EXISTING	REMOVAL	NEW	DESCRIPTION
			Street Lighting Assembly - Single 120 Watt LED Luminaire
			Street Lighting Assembly - Twin 120 Watt LED Luminaires
			Underpass Light LED Canopy-Soffit Light Fixture CREE CPY250, PY250-B-DM-D-A-UH-BZ-40K
			Pullbox - Type as Specified on Drawing
			Underground Ductlines, Exposed Raceways or Concealed Raceways Within Structure, with Wires, Quantity and Size as Specified on Drawing
			Underground Ductline Stub-out, 5'-0" From Edge of Pavement or as Indicated on Plan. Provide Concrete Stub-out Marker.
			Weather Proof Junction Box, Wall Mounted, NEMA 4X S/S Size per NEC
			Cut

2 SL 4 (A) NEW DUCT SECTION INDICATOR

DUCT DESIGNATION

2 SL 4 (A)

DUCT SECTION "A" SEE DUCT SECTION DETAILS

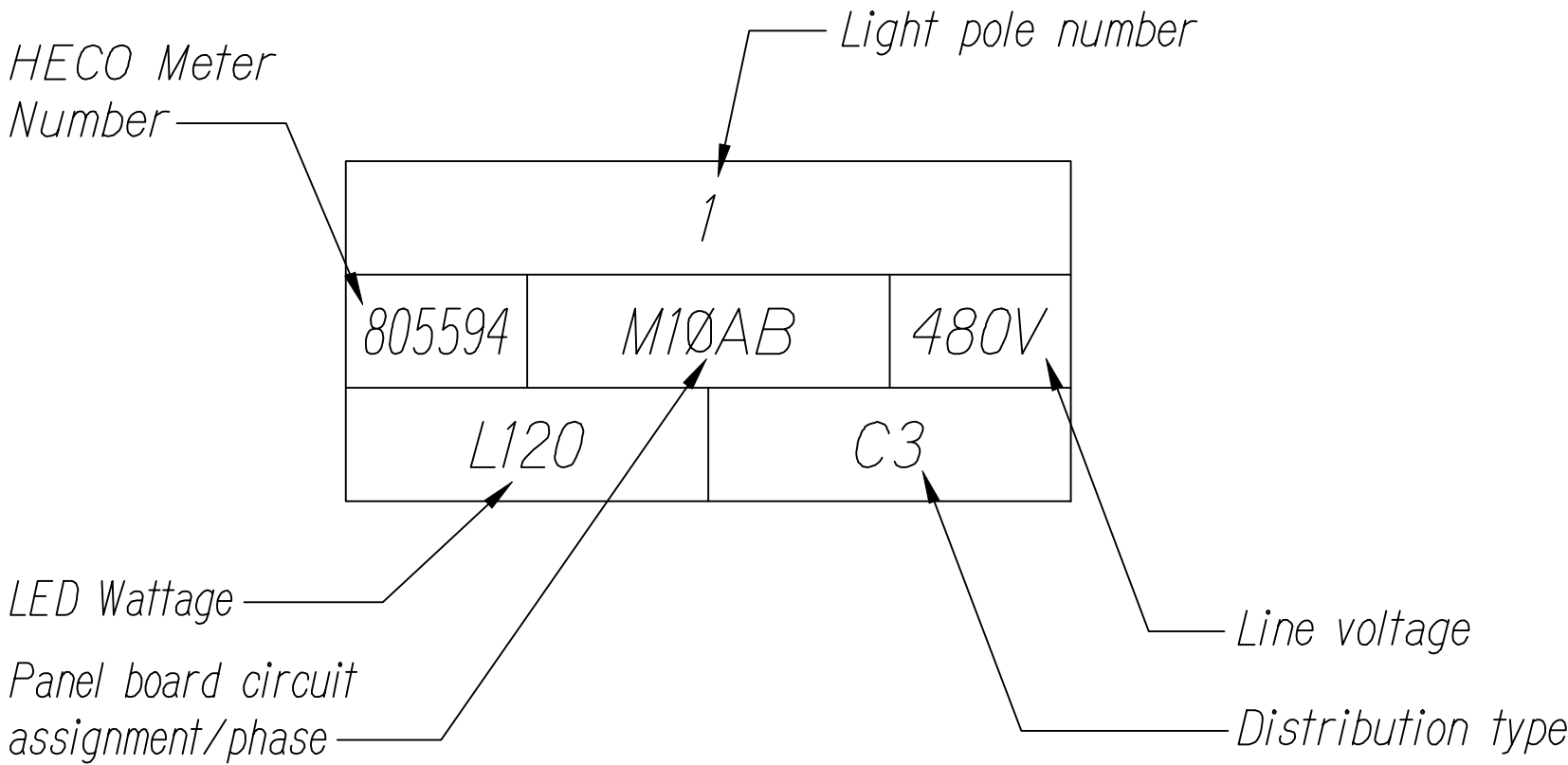
CONDUIT SIZE

SYSTEM "SL" HIGHWAY LIGHTING

"P" ITS POWER

"C" ITS COMMUNICATIONS

NUMBER OF DUCTS



STREET LIGHT POLE TAG DETAIL



Glenn D. Oyama  
EXPIRATION DATE OF THE LICENSE 11/30/2022  
THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION



02/19/21	Revised Note 19 for planter concrete to include welded wire reinforcement.
DATE	REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**GENERAL ELECTRICAL NOTES,**  
**SYMBOLS**  
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS  
Halawa to H-3 Freeway Underpass  
FAP NO. NH-H201(006)

Scale: NTS Date: July 2020

SHEET No. E-1 OF 29 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(006)	2020	84	111

CONSTRUCTION NOTES & MATERIAL LIST:

1 Existing Highway Lighting Conduits to Halawa Heights Rd Sub-Station.

2 Highway Lighting Type "A" Pullbox in Shoulder or Grass Area. See HDOT Standard Plans TE-37A.

2B

Hwy Ltg Type "A" Non-Traffic Rated Pullbox in Planter.See HDOT Plans TE-37. Per RFI 004

2A Highway Lighting Type "B" Pullbox in Shoulder or Grass Area. See HDOT Standard Plans TE-37C.

2C

Hwy Ltg Type "B" Non-Traffic Rated Pullbox in Planter.See HDOT Plans TE-37. Per RFI 004

3 Communication Type "B" Pullbox in Grass Area. See HDOT Standard Plans TE-37C.

3A

Communication "B" Non-Traffic Rated Pullbox in Planter.See HDOT Plans TE-37. Per RFI 004

4 Surface Mounted Junction Box NEMA 4X Stainless Steel 2 Total, 1 for Highway Lighting and 1 for Communication.

4A Surface Mounted Junction Box NEMA 4X Stainless Steel for Highway Lighting.

5 Conduit in Concrete Glare Screen. See  $\frac{3}{S1.3|S1.3}$   $\frac{4}{S1.3|S1.3}$

5A Conduit in Concrete Glare Screen around Sign Posts. See  $\frac{1}{S5.1|S5.6}$

6 PVC coated GRS Conduit Mounted on Side of Bridge, Overpass Structure, or Above Grade. See E-25 for Details.

7 Conduit under Roadway, Shoulder Area, or Grass Area.

8 Conduit in Microtunnel. See E-26 for Details.

9 Highway Lighting Standard on Top of New Median Wall. See  $\frac{1}{S1.1|S1.6}$   $\frac{1}{S2.1|S2.5}$

10 Highway Lighting Standard on Grade. See  $\frac{1}{S6.1|S6.1}$

11 Highway Lighting Standard in Planter. See  $\frac{4}{S6.1|S6.1}$

12 Highway Lighting Standard Mounted on Halawa Interchange Structure No. 2 Median Wall. See  $\frac{1}{S3.1|S3.5}$

12A Highway Lighting Standard Mounted on Halawa Interchange Structure No. 4 Median Wall. See  $\frac{1}{S4.1|S4.5}$

13 Highway Lighting Standard Mounted on Retaining Wall.

14 Electrical/Communication Cutout/~~Pullbox~~ in Median, Barrier, or Retaining Wall. Provide 1 for Highway Lighting and 1 for Communication. See E-28 and  $\frac{1}{S8.1|S8.1}$

15 Electrical/Communication Pullbox. Minimum Sized per NEC for Power and TIA 569-B for Communication in Bridge Wall.

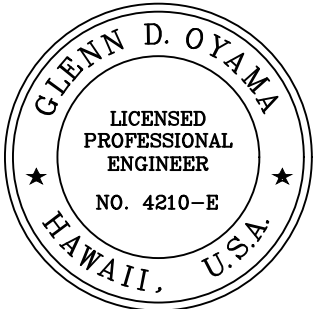
16 Connect Street Light to Existing Highway Lighting Circuit.

17 Replace Existing Street Light Being Removed with a New Electrical Pullbox.

18 Splice New and Existing Street Lighting Conductors in Pullbox.

19 Relocate Spot Speed Detection Assembly to Nearby New Street Light Pole.

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



Glenn D. Oyama  
EXPIRATION DATE OF THE LICENSE 11/30/2022  
THIS WORK WAS PREPARED BY  
ME OR UNDER MY SUPERVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

CONSTRUCTION NOTES

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

Scale: Date: July 2020

SHEET No. E-2 OF 29 SHEETS