

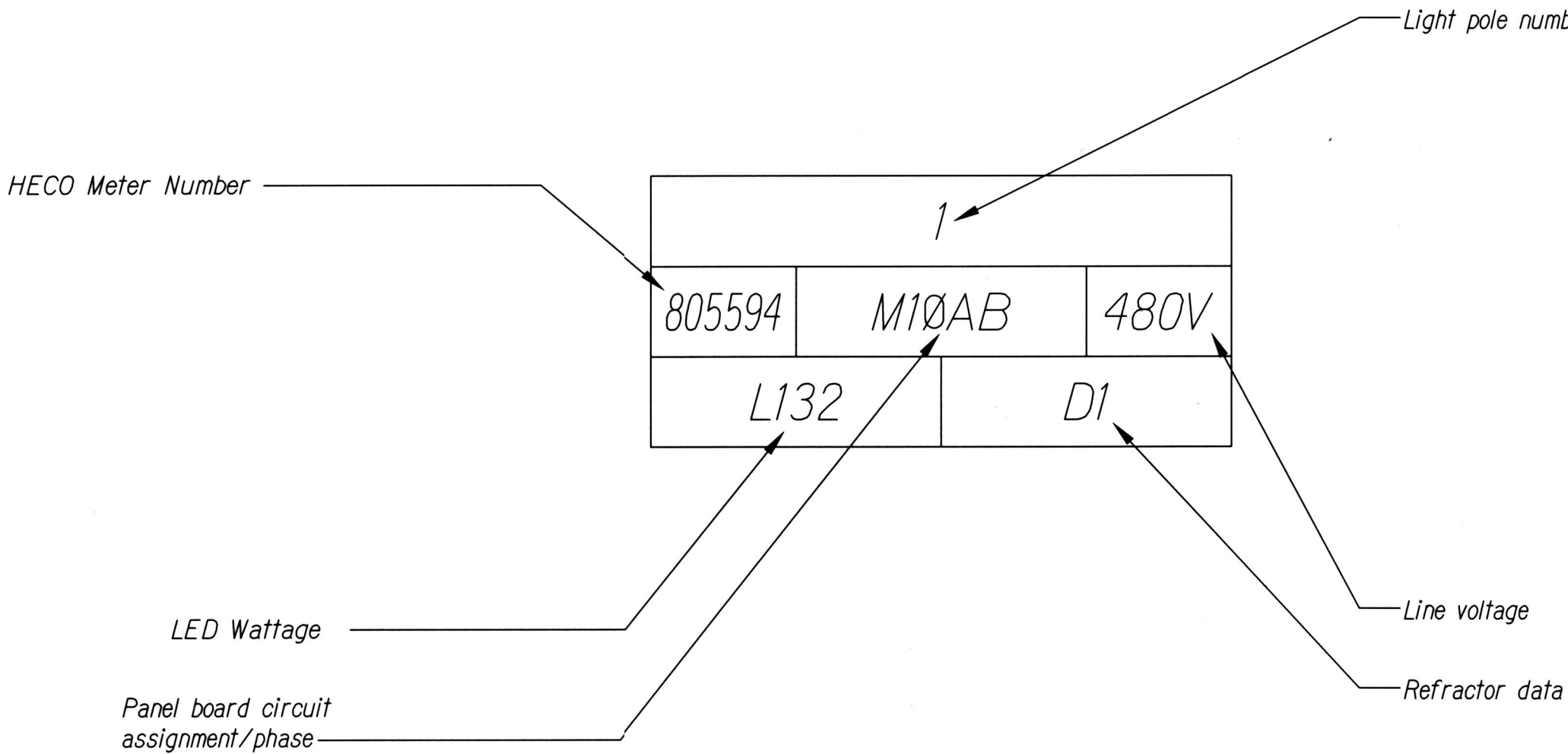
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 119	171

GENERAL NOTES:

- CONTRACTOR TO PROVIDE NEW LED BASED LIGHTING SYSTEM THAT MEETS THE LATEST AASHTO ROADWAY LIGHTING DESIGN STANDARD AND AS SPECIFIED BY THIS CONTRACT.
- EXISTING CONDITION BASED ON LIMITED FIELD OBSERVATION AND REFERENCE DRAWINGS. CONTRACTOR TO VERIFY EXISTING CONDITION AND REPORT DISCREPANCY TO ENGINEER PRIOR TO CONSTRUCTION.
- 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.
- COORDINATE ALL WORK WITH UTILITY COMPANIES.
- 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.
- SEE EROSION CONTROL, TRAFFIC CONTROL, AND STRUCTURAL PLANS AND DETAILS, AND PROVIDE ELECTRICAL WORK AS APPROPRIATE.
- 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.
- ALL WIRES SHALL BE INSULATED COPPER CONDUCTORS AND INSTALLED IN RACEWAYS UNLESS INDICATED OTHERWISE.
- ALL RACEWAYS SHALL BE PVC COATED GRS WHERE EXPOSED AND CONCRETE ENCASED SCHEDULE 40 PVC FOR UNDERGROUND USE.
- TONE AREA OF TRENCHES PRIOR TO NEW UNDERGROUND WORK.
- REPAIR ANY DAMAGE MADE TO STRUCTURES AND UTILITIES CAUSED BY CONSTRUCTION.
- EXPOSED JUNCTION BOXES SHALL BE CAST METAL TYPE OR NEMA 4X S/S WITH NO UNUSED FACTORY KNOCK-OUTS.
- 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.
- PROVIDE GROUND WIRES FOR ALL STREET LIGHT CIRCUITS.
- TEST COMPLETE STREET LIGHTING SYSTEM AND CORRECT ANY DEFICIENCIES.
- 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. REMOVE LIGHT POLE CONCRETE FOUNDATION 12" BELOW FINISH GRADE. LIGHT POLE FOUNDATIONS INTEGRATED INTO EXISTING RETAINING WALL AND CONCRETE BARRIERS SHALL REMAIN. CUT ANCHOR BOLTS FLUSH W/ SURFACE.
- REMOVE STREET LIGHTING ASSEMBLY WHERE INDICATED ON PLANS, INCLUDING THE ASSOCIATED WIRES. REMOVE EXPOSED CONDUIT & HANDHOLES. ABANDON IN PLACE UNDERGROUND DUCTLINES AND INACCESSIBLE HANDHOLES. FIELD VERIFY EXISTING CONDITION.
- RESTORE LANDSCAPING TO MATCH EXISTING CONDITION IN PLANTER & SHOULDER AREAS.
- SALVAGE ALL LUMINAIRES AND RETURN TO DEPARTMENT OF TRANSPORTATION AS DIRECTED.

ELECTRICAL SYMBOLS:

EXISTING	REMOVE	NEW	
			STREET LIGHTING ASSEMBLY - SINGLE 132 WATT LED LUMINAIRE
			STREET LIGHTING ASSEMBLY - DOUBLE 132 WATT LED LUMINAIRES
			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
			WEATHER PROOF
			LED CANOPY-SOFFIT LIGHT FIXTURE CREE CPY250 , CPY250-A-DM-D-B-UH-BZ-40K-PML



STREET LIGHT POLE TAG DETAIL

SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
QUANTITIES BY	
CHECKED BY	
No.	



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

DATE	REVISION
9/22/17	Revised Underpass Lighting Model Number
9/13/17	Added Note 19, Revised Symbol List, Added New Light Fixture

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION GENERAL ELECTRICAL NOTES, SYMBOLS MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005) Scale: NTS Date: August 2017 SHEET No. E-1 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 121	171

CONSTRUCTION NOTES & MATERIAL LIST:

- 1

Exist Highway Lighting Service Conduits to the HECo Service Point. Notify HECo Prior to Removal of Lighting Conductors. Abandon Conduit in Place.
- 2

Highway Lighting Conduit 1-2".
- 3

Highway Lighting Type "A" Pullbox. See HDOT Standard Plans TE-37A.
- 4

Communication Type Pullbox. See HDOT Standard Plans TE-37B.
- 5

Junction Box NEMA 4X Stainless Steel 2 each, 1 Highway Lighting and 1 Communication.
- 6

Communication Conduits 2-2".
- 7

Conduit in Concrete Glare Screen.
- 8

Not Used.
- 9

PVC coated GRS Conduit Mounted on Side of Bridge, Overpass Structure, or above grade. See E-49 for details.
- 10

Conduit Under Roadway, Shoulder Area, or Grass Area.
- 11

Conduit in Microtunnel.
- 12

Highway Lighting Standard on Top of New Median Wall. See

4

SL.4

SL.4

2

SL.5

SL.5

2

SL.6

SL.6

 See Erosion Control plans for roadway elevation to determine which details should apply.
- 13

Highway Lighting Standard on Grade. See

1

S4.1

S4.1
- 14

Highway Lighting Standard in Planter. See

3

SL.7

SL.7
- 15

Highway Lighting Standard Mounted on Side of Barrier Wall or Bridge. See

1

S3.1

S3.3

2

S3.1

S3.3
- 16

Highway Lighting Standard Mounted on Retaining Wall. See

1

S2.1

S2.1

2

S2.1

S2.1
- 17

Electrical/Communication Cutout in Median, Barrier, or Retaining Wall. See

5

S4.1

S4.1
- 18

Highway Lighting 1-2" and ITS Power 1-2" Conduits (2-2" Total).
- 19

ITS Communication Conduits 2-2" and Power Conduit 1-2" (3-2" Total).
- 20

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

1

S3.1

S3.3

2

S3.1

S3.3
- 21

Highway Lighting Conduit 1-3/4".

<div>3</div>	9/22/17	Updated Notes
<div>1</div>	9/13/17	Revised Construction Note List
DATE		REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL CONSTRUCTION NOTES

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: Date: August 2017

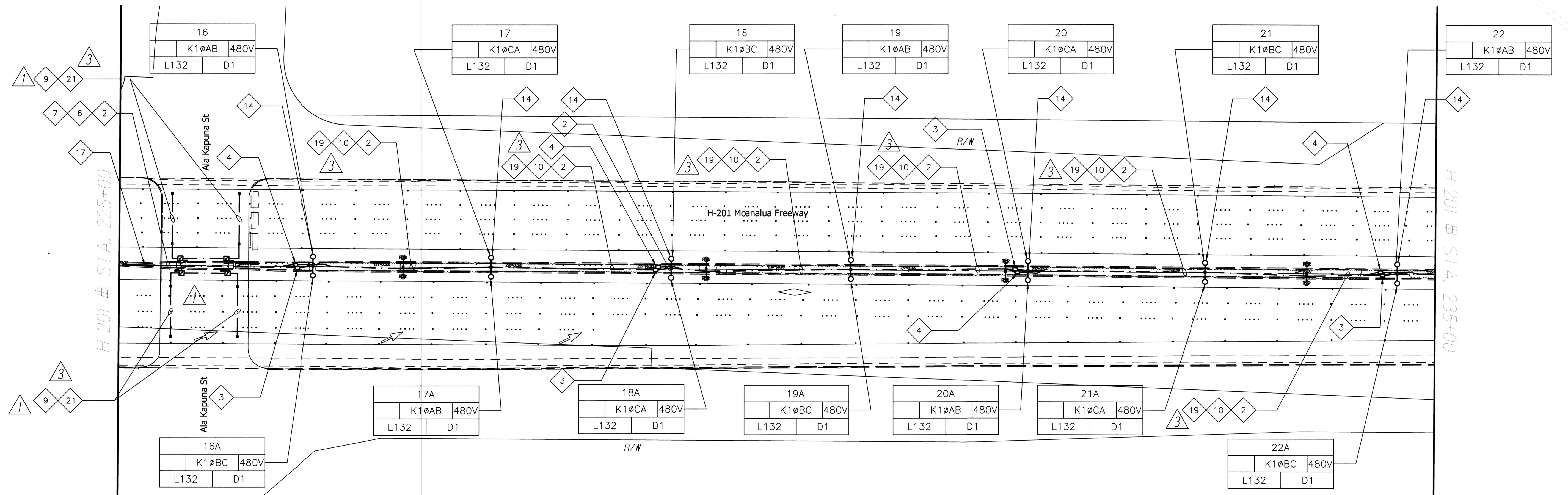
SHEET No. E-3 OF 53 SHEETS



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

SURVEY PLOTTED BY	DATE
DRAWN 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.	NH-H201(005)	2017	ADD. 126	171



3	9/22/17	Revised Light Fixture and Conduit Labels
1	9/13/17	Revised Conduit and added Light Fixtures for Underpass Areas
DATE	REVISION	



Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION



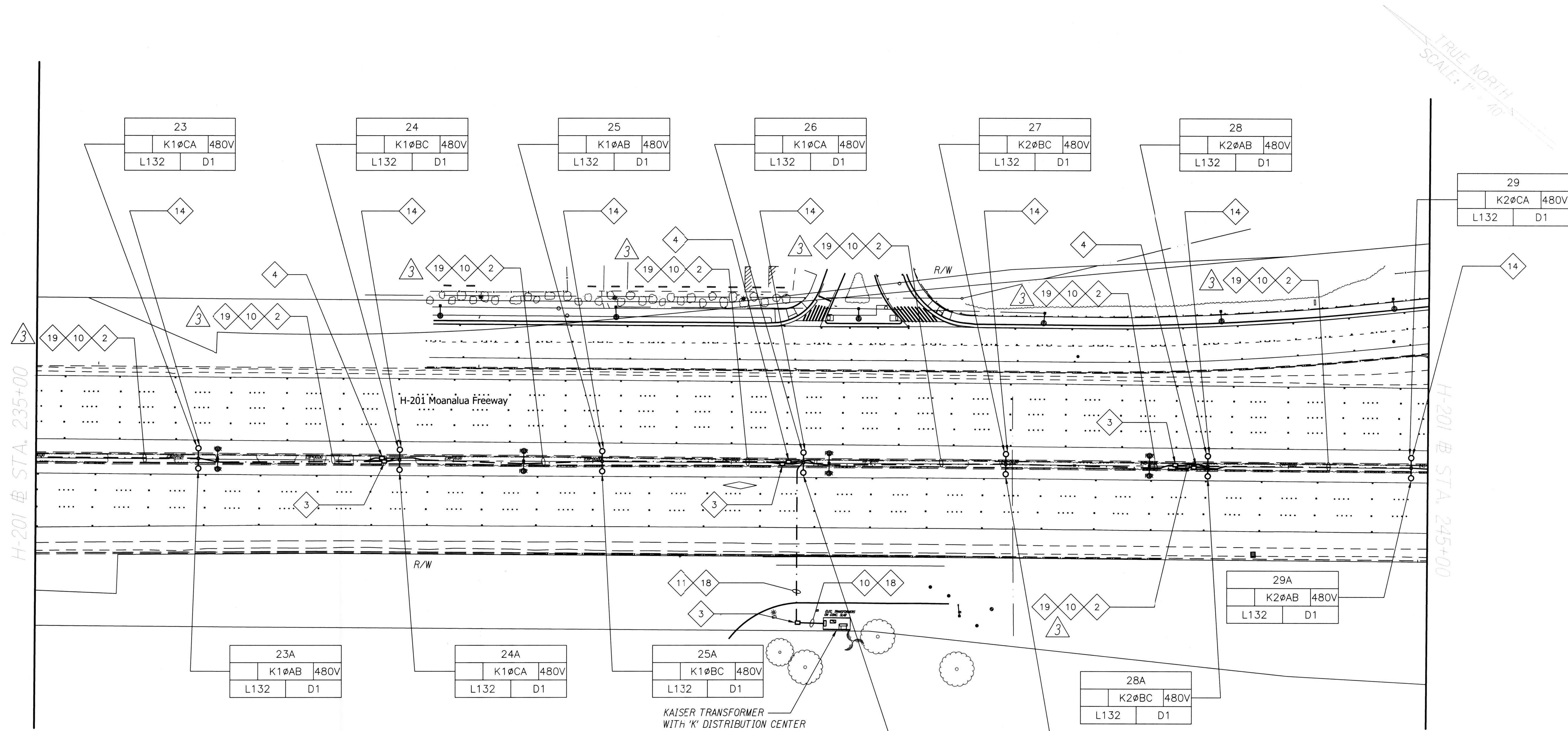
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 225+00 TO 235+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET No. E-8 OF 53 SHEETS

ADD. 126

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

H-201 LIGHTING PLAN-3
Scale 1"=40'-0"

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 127	171



SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
No.	

H-201 LIGHTING PLAN-4
Scale 1"=40'-0"

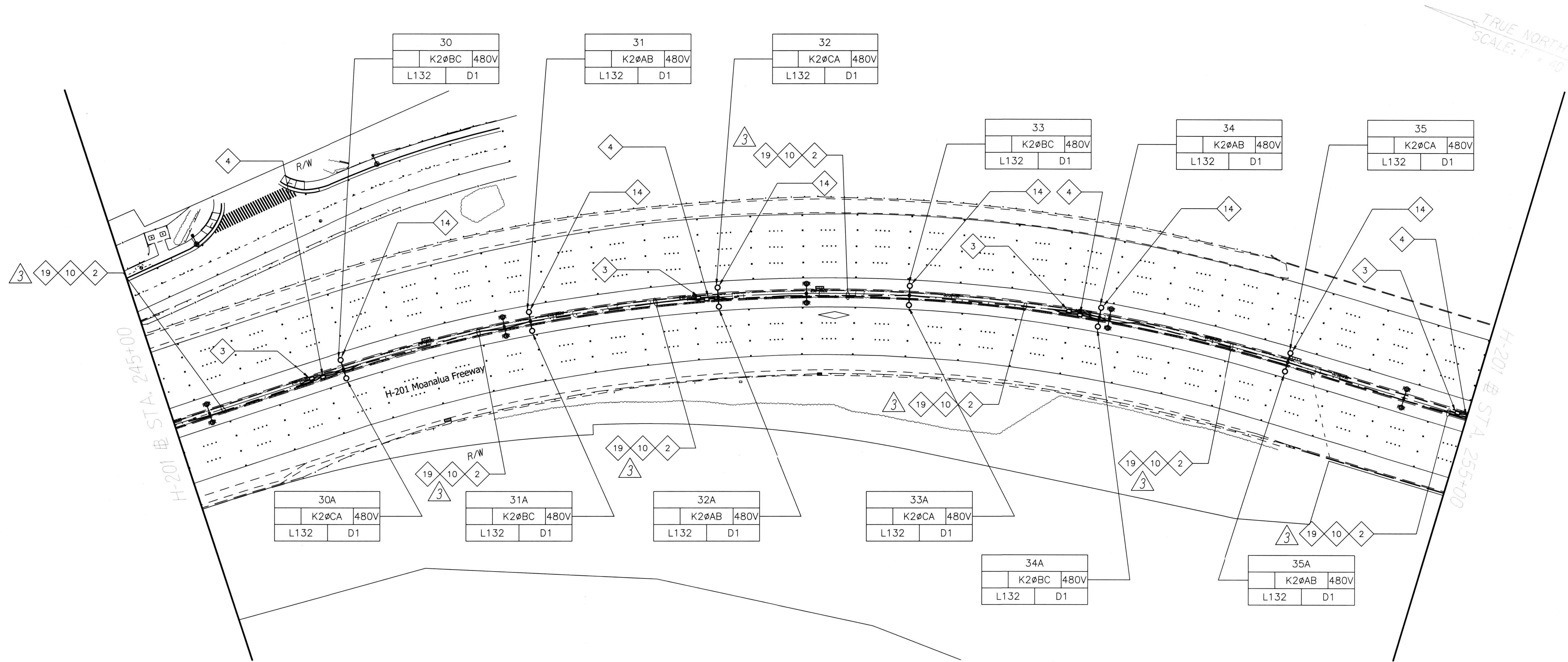


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
DATE		REVISION

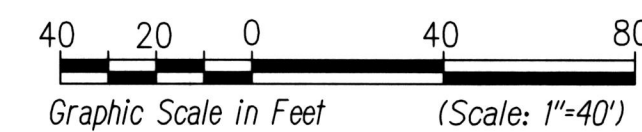
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 235+00 TO 245+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET No. **E-9** OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 128	171



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

H-201 LIGHTING PLAN-5
Scale 1"=40'-0"

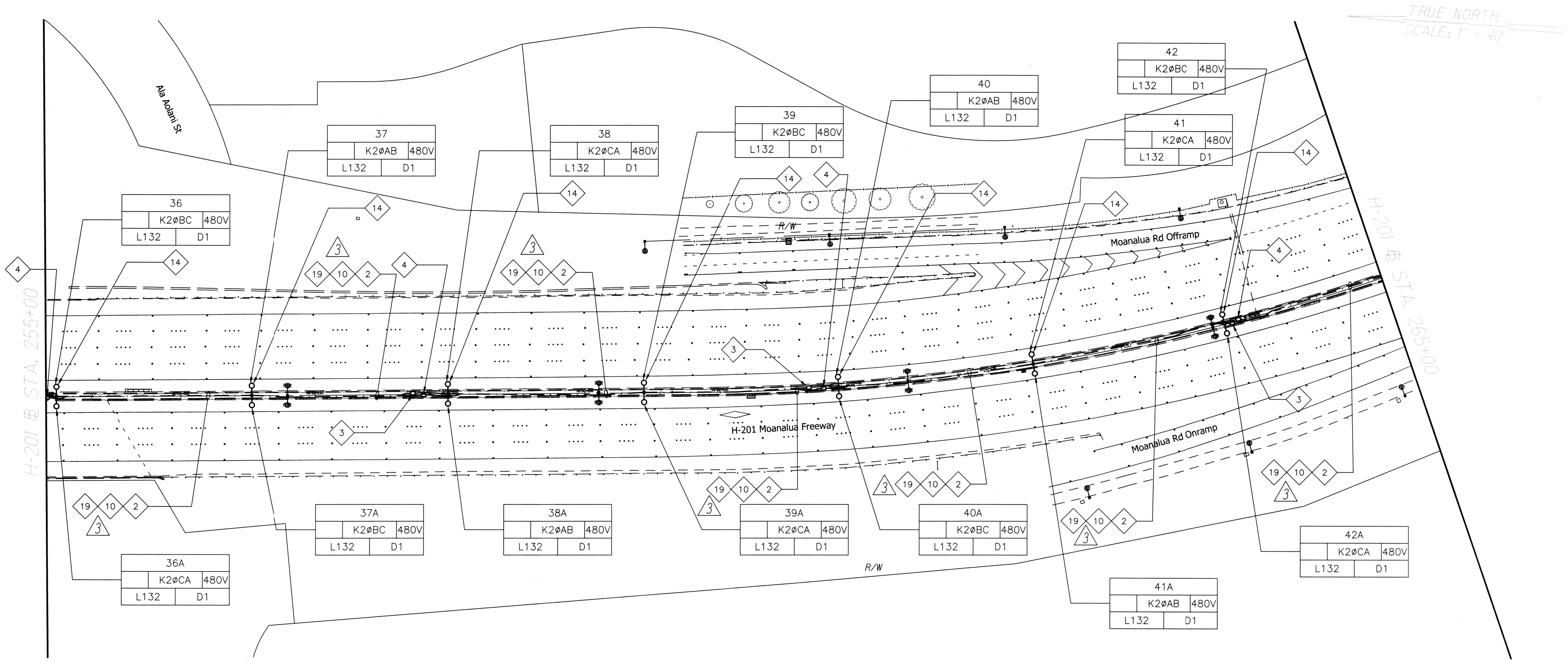


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
DATE		REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 245+00 TO 255+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET No. E-10 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 129	171



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

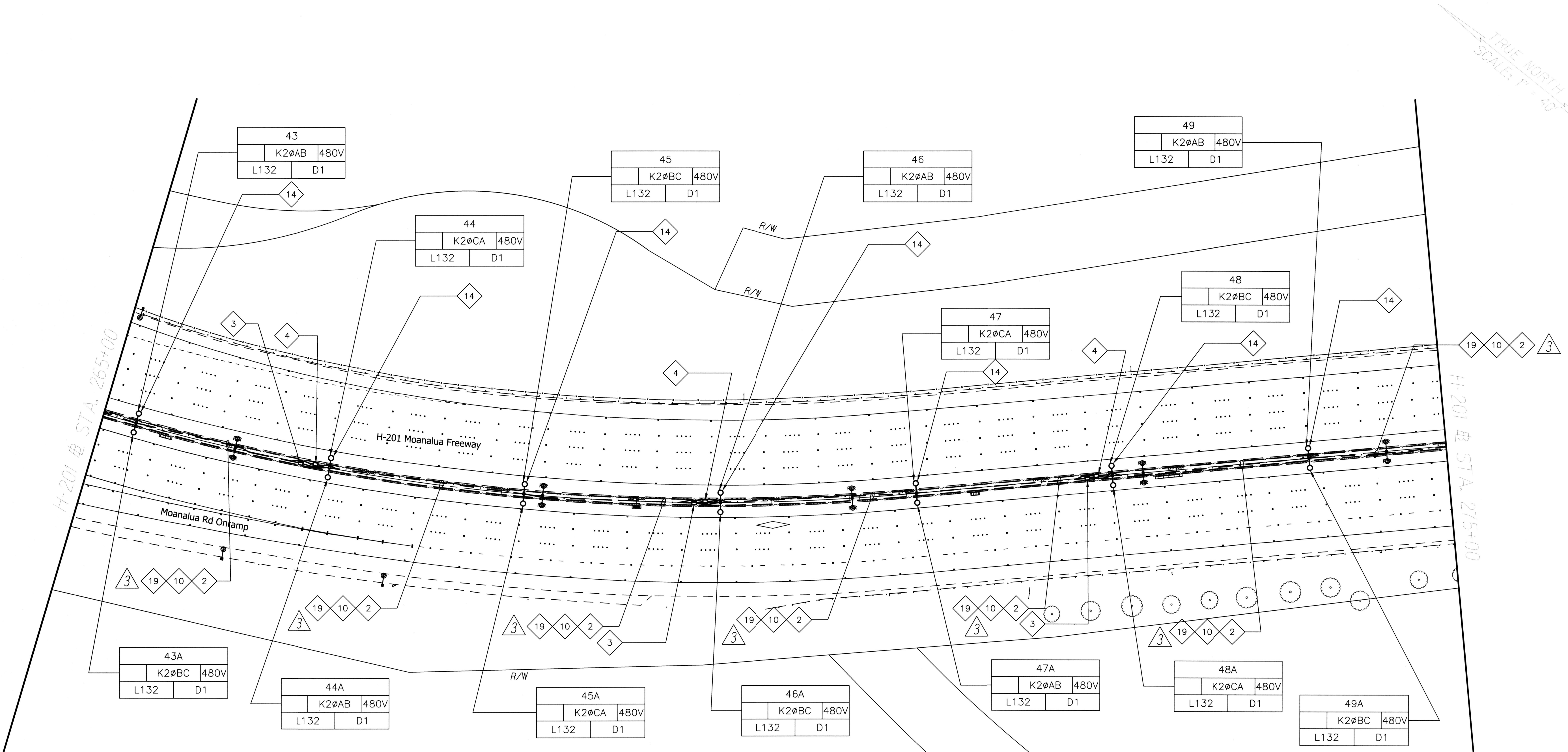
H-201 LIGHTING PLAN-6
Scale 1"=40'-0"



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

9/22/17	Revised Light Fixture and Conduit Labels
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION H-201 LIGHTING PLAN STA. 255+00 TO 265+00 MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005)	
Scale: 1" = 40'-0"	Date: August 2017
SHEET No. E-11 OF 53 SHEETS	

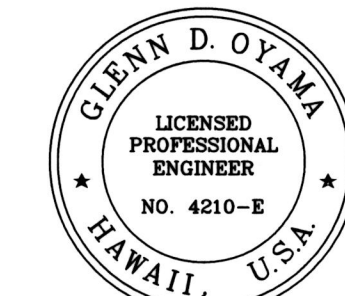
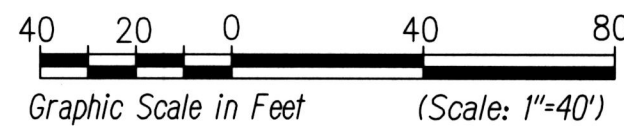
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 130	171



TRUE NORTH
SCALE: 1" = 40'

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

H-201 LIGHTING PLAN-7
Scale 1"=40'-0"

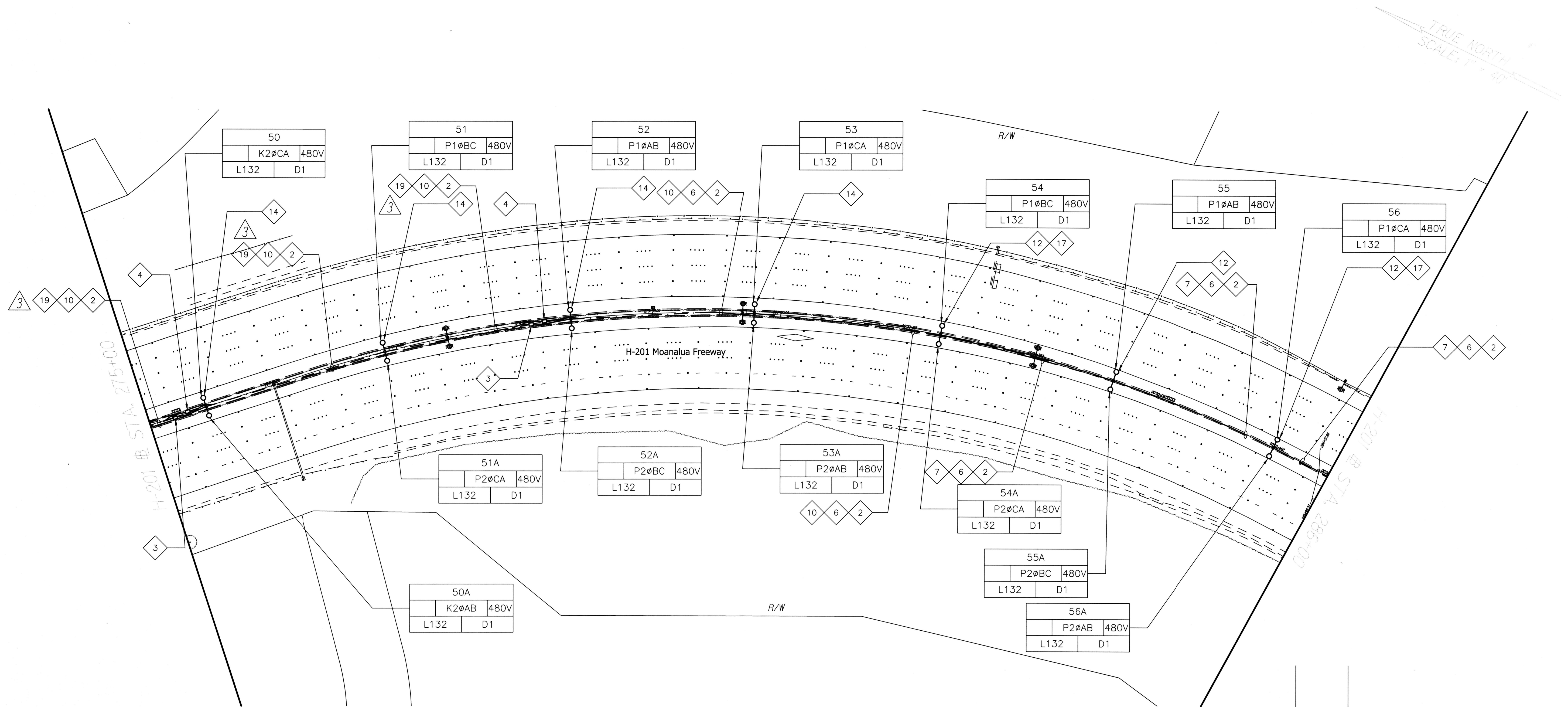


EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
DATE		REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 265+00 TO 275+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET No. E-12 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 131	171



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

H-201 LIGHTING PLAN-8
Scale 1"=40'-0"

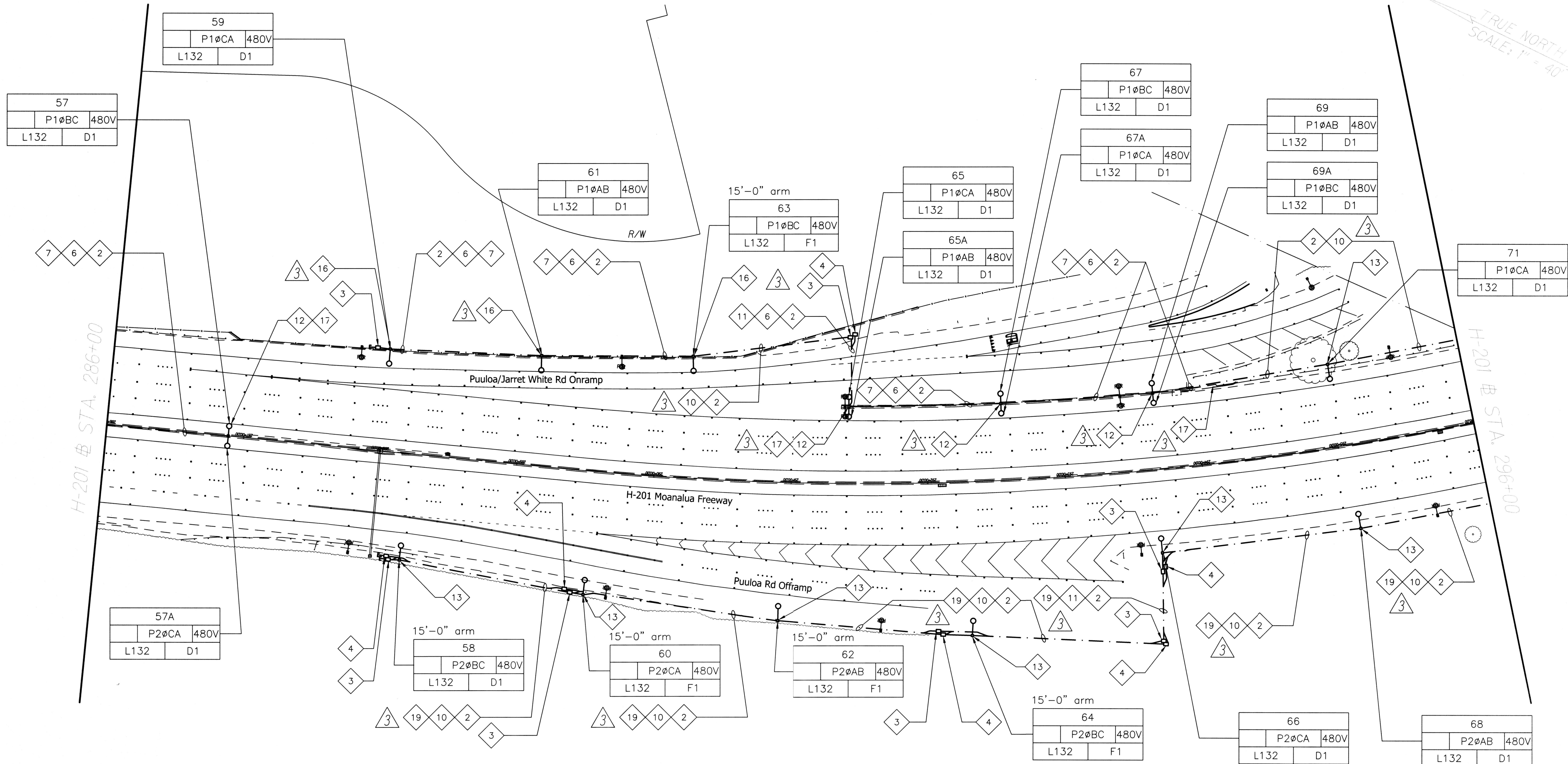


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 12/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
DATE		REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 275+00 TO 286+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET NO. E-13 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 132	171



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

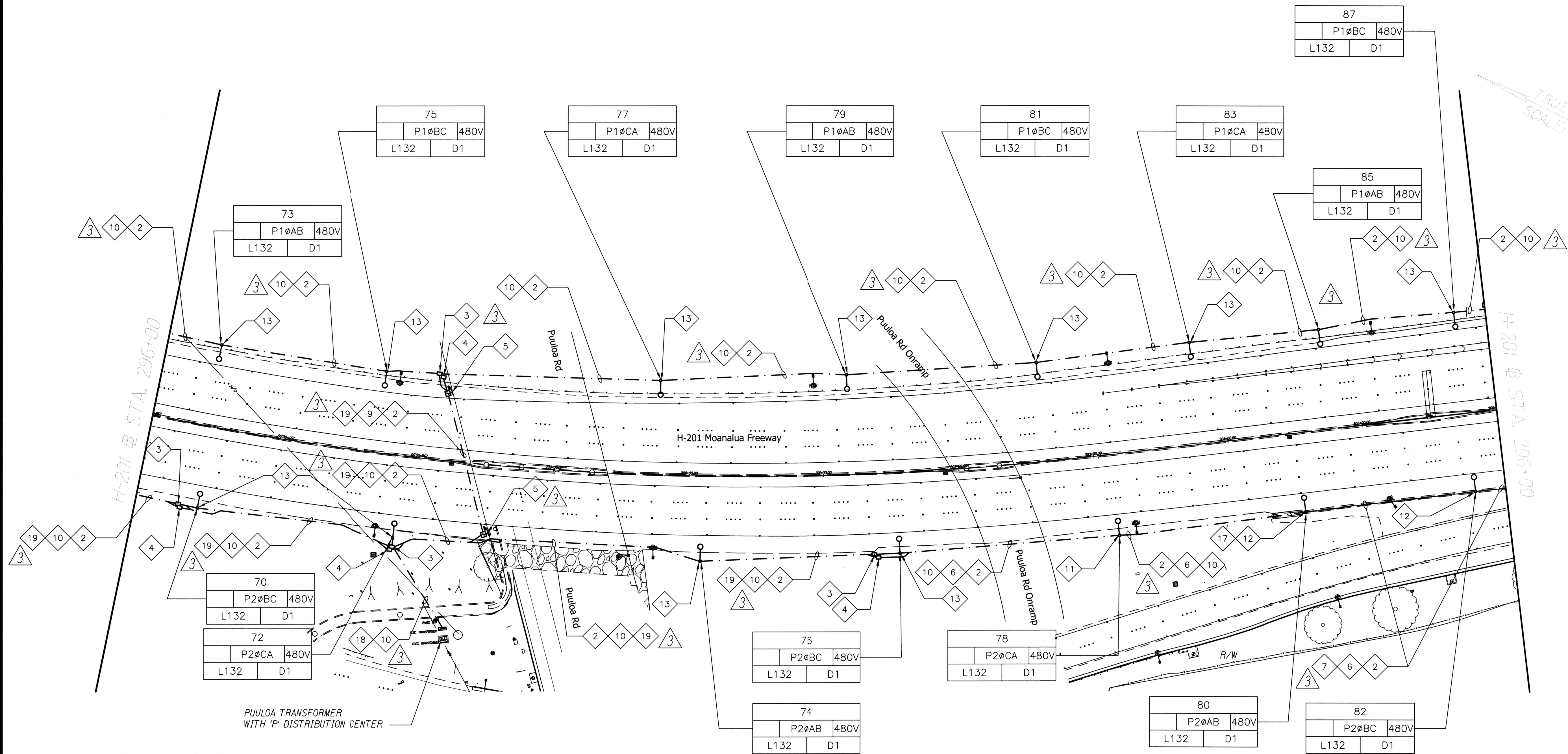
H-201 LIGHTING PLAN-9
Scale 1"=40'-0"



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

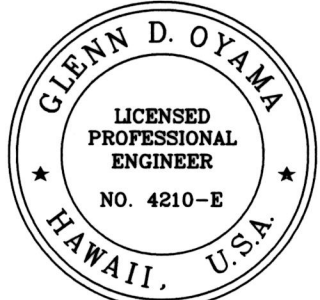
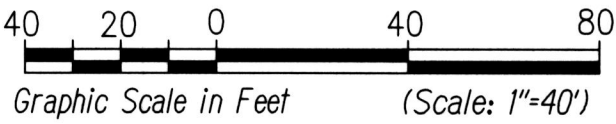
9/22/17	Revised Light Fixture and Conduit Labels
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION H-201 LIGHTING PLAN STA. 286+00 TO 296+00 MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005)	
Scale: 1" = 40'-0"	Date: August 2017
SHEET No. E-14 OF 53 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 133	171



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

H-201 LIGHTING PLAN-10
Scale 1"=40'-0"

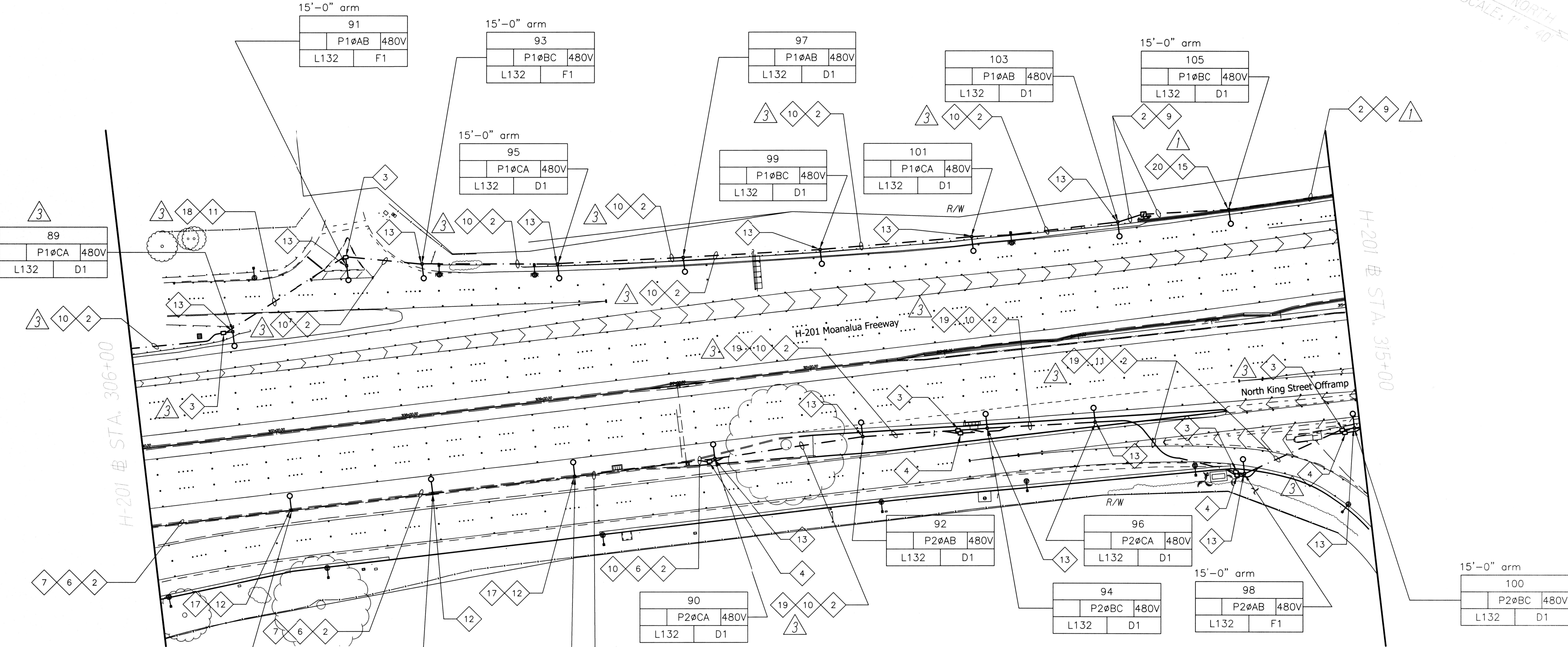


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
DATE	REVISION	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 296+00 TO 306+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

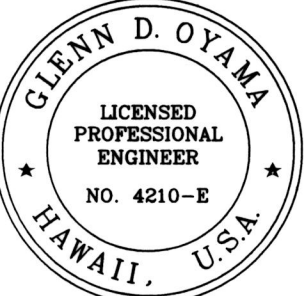
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 134	171



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

H-201 LIGHTING PLAN-11
Scale 1"=40'-0"

3	9/22/17	Revised Light Fixture and Conduit Labels
1	9/13/17	Revised for bridge conduit and pole mounting
DATE	REVISION	

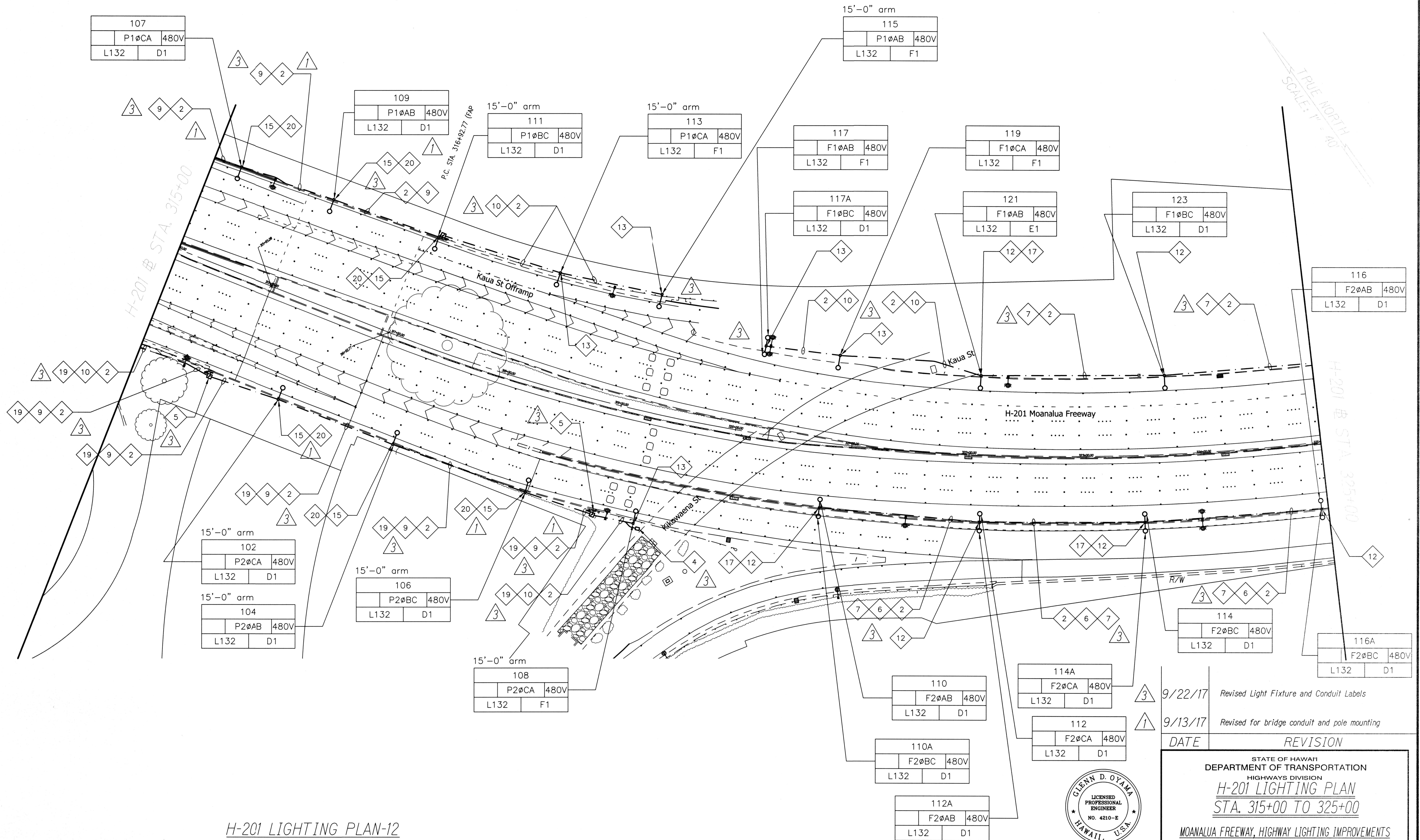


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 306+00 TO 315+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

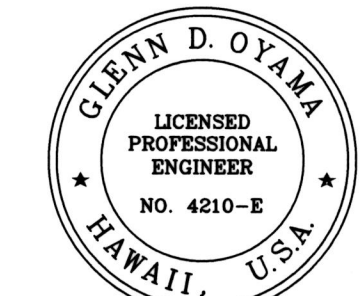
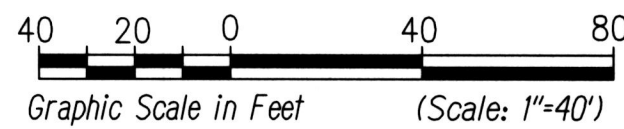
Scale: 1" = 40'-0"
Date: August 2017
SHEET No. E-16 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 135	171



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

H-201 LIGHTING PLAN-12
Scale 1"=40'-0"



Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

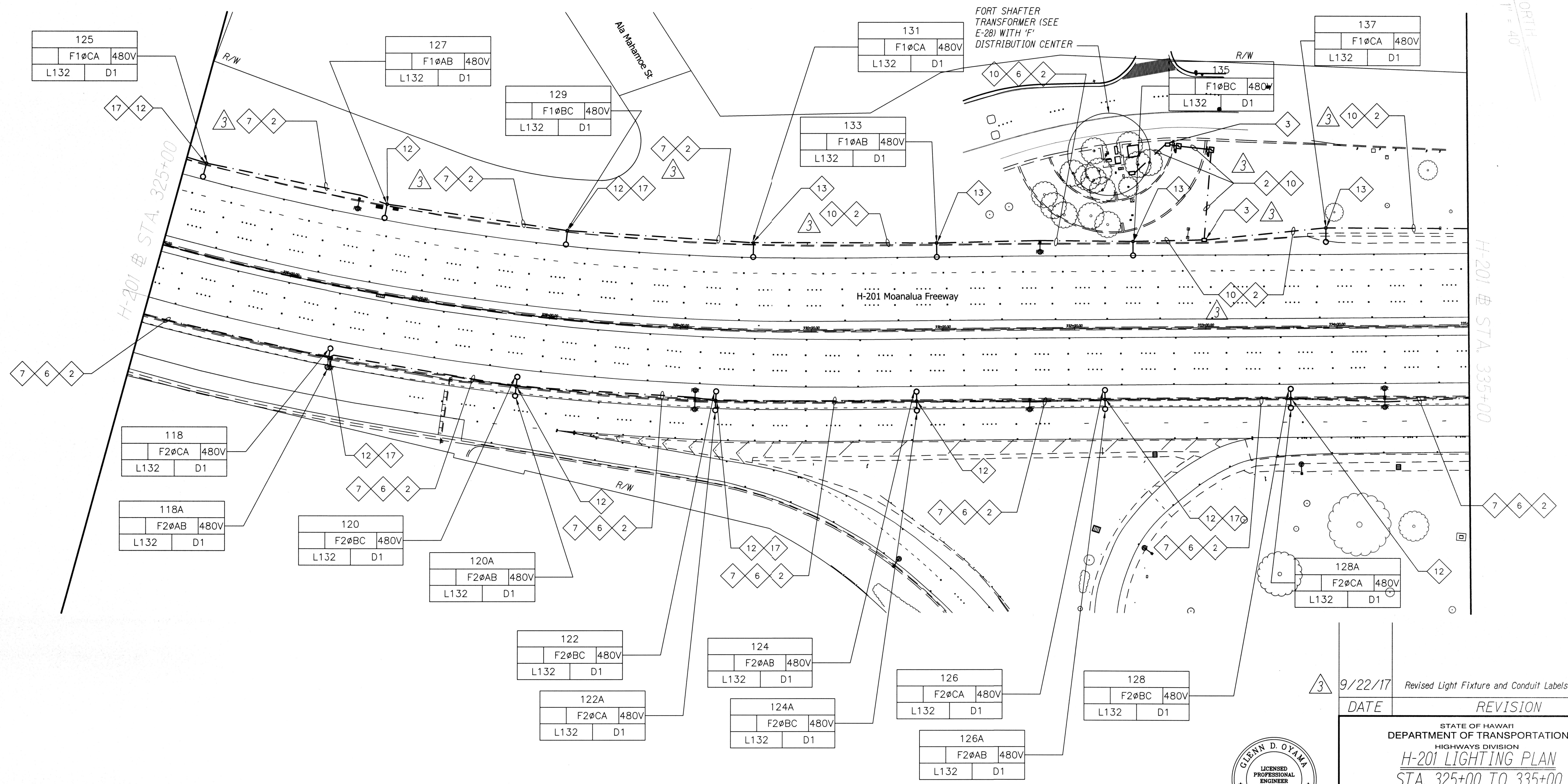
9/22/17	Revised Light Fixture and Conduit Labels
9/13/17	Revised for bridge conduit and pole mounting
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 315+00 TO 325+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: 1" = 40'-0" Date: August 2017

SHEET No. E-17 OF 53 SHEETS

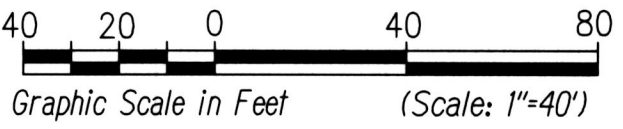
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 136	171



TRUE NORTH
SCALE: 1" = 40'

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

H-201 LIGHTING PLAN-13
Scale 1"=40'-0"

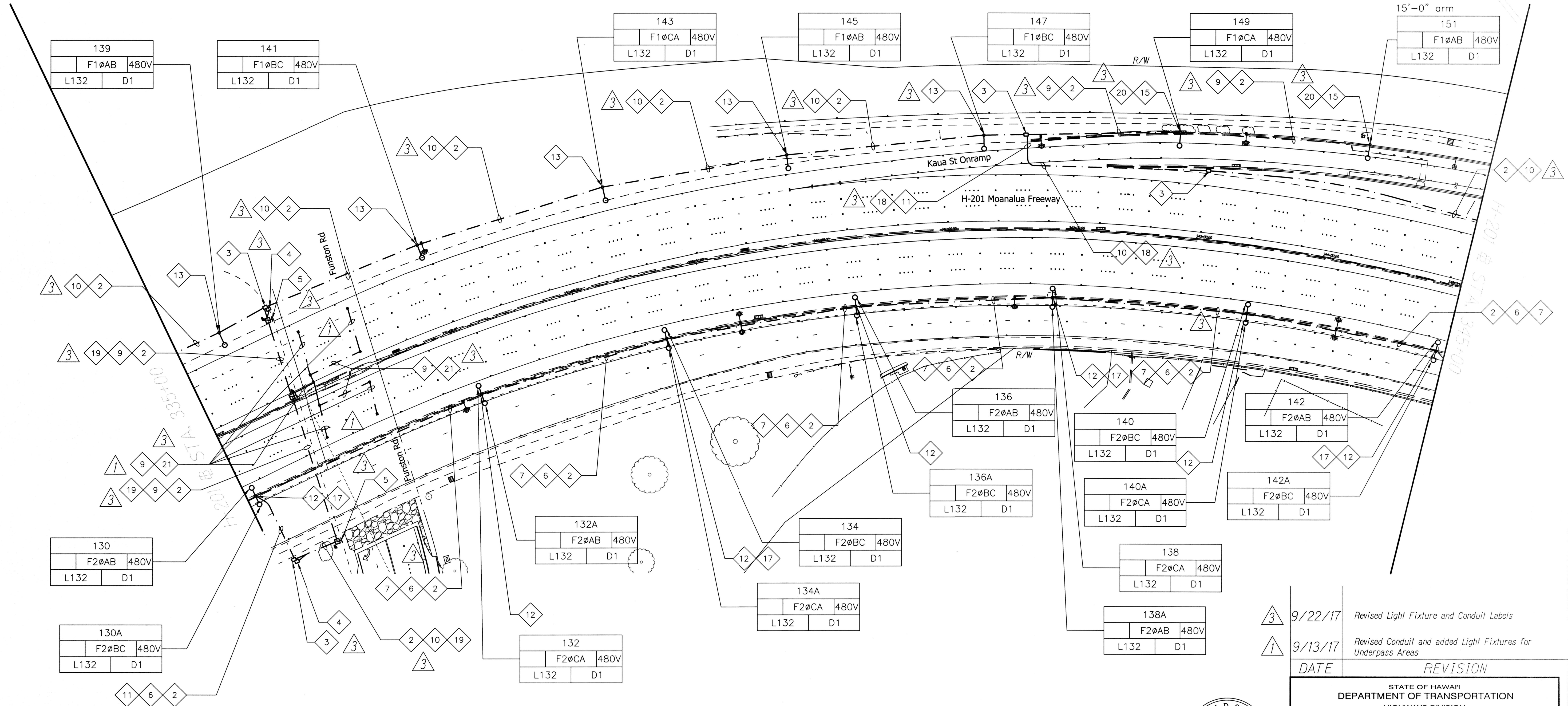


EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

DATE	REVISION
9/22/17	Revised Light Fixture and Conduit Labels

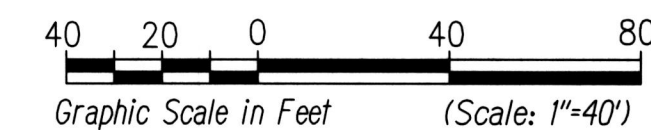
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 325+00 TO 335+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 137	171



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

H-201 LIGHTING PLAN-14
Scale 1"=40'-0"



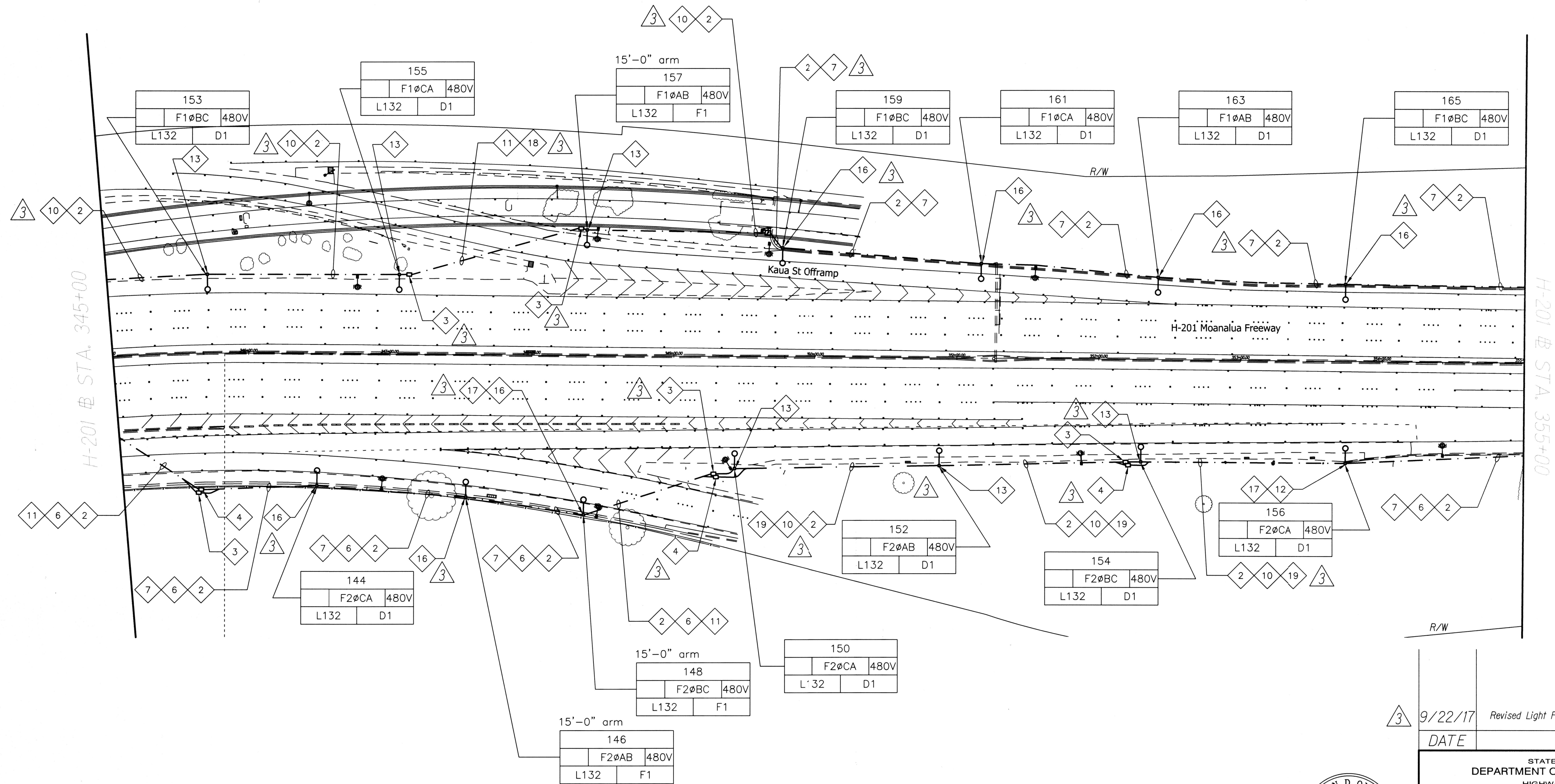
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

DATE	REVISION
9/22/17	Revised Light Fixture and Conduit Labels
9/13/17	Revised Conduit and added Light Fixtures for Underpass Areas

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 335+00 TO 345+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET NO. E-19 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 138	171

TRUE NORTH
SCALE: 1" = 40'

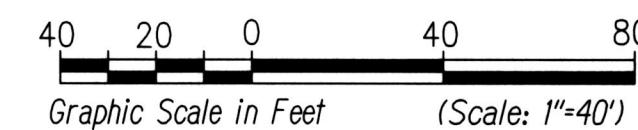


H-201 LIGHTING PLAN-15
Scale 1"=40'-0"

DATE	REVISION
9/22/17	Revised Light Fixture and Conduit Labels



Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

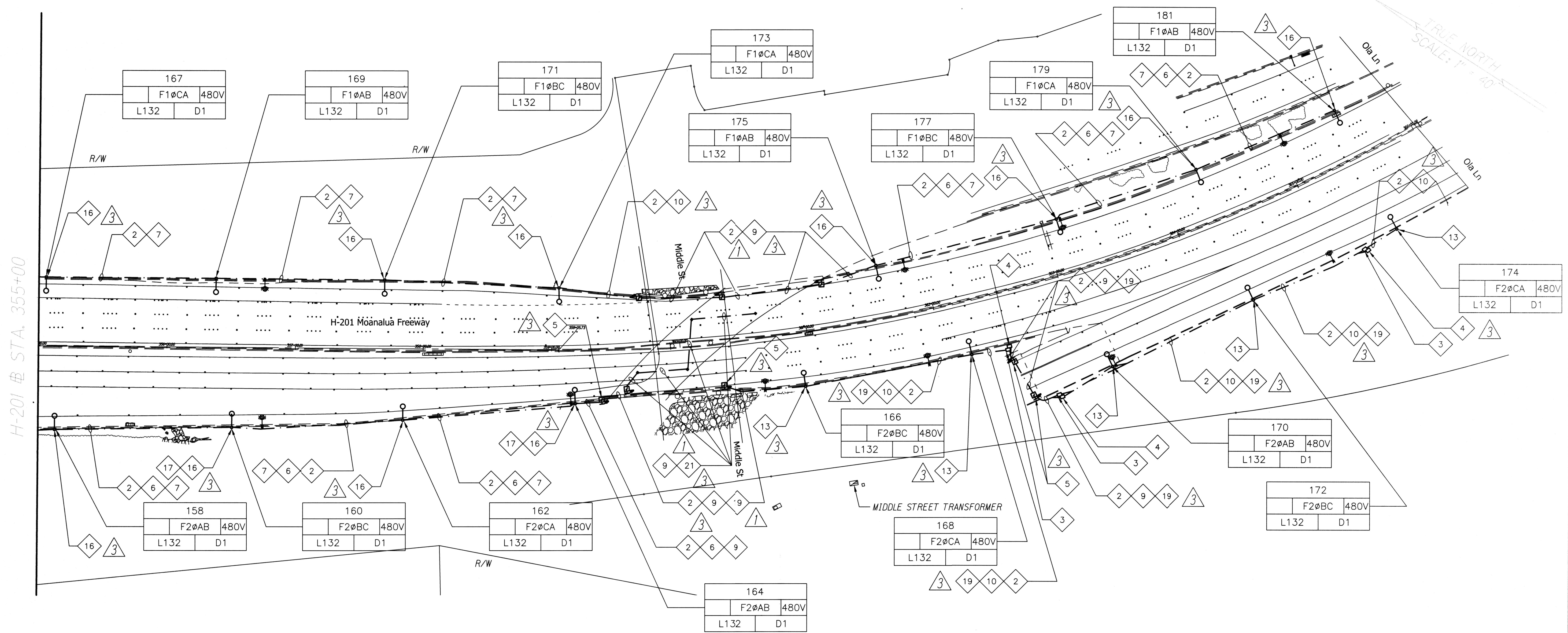


MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: 1" = 40'-0" Date: August 2017
SHEET No. E-20 OF 53 SHEETS

ADD. 138

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 139	171



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

H-201 LIGHTING PLAN-16
Scale 1"=40'-0"

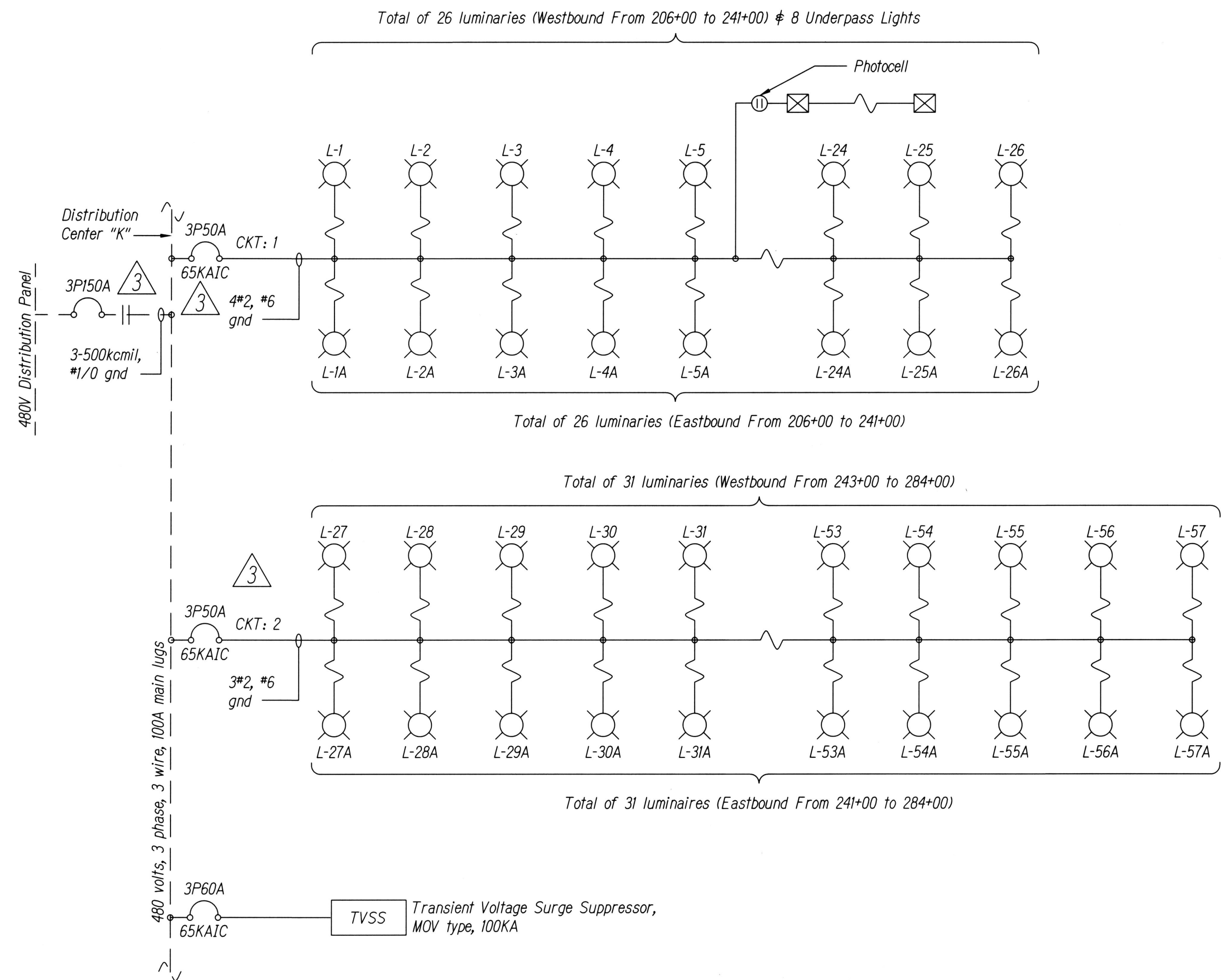


Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Light Fixture and Conduit Labels
1	9/13/17	Revised Conduit and added Light Fixtures for Underpass Areas
DATE	REVISION	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
H-201 LIGHTING PLAN
STA. 355+00 TO 359+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)
Scale: 1" = 40'-0" Date: August 2017
SHEET No. E-21 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 161	171



KAISER DISTRIBUTION CENTER - PARTIAL ONE-LINE DIAGRAM

NO SCALE

NOTES:

- Dashed lines denote existing condition
- Solid lines denote new work

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

9/22/17	Updated Notes, added KAIC ratings
DATE	REVISION



Glenn D. Oyama
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

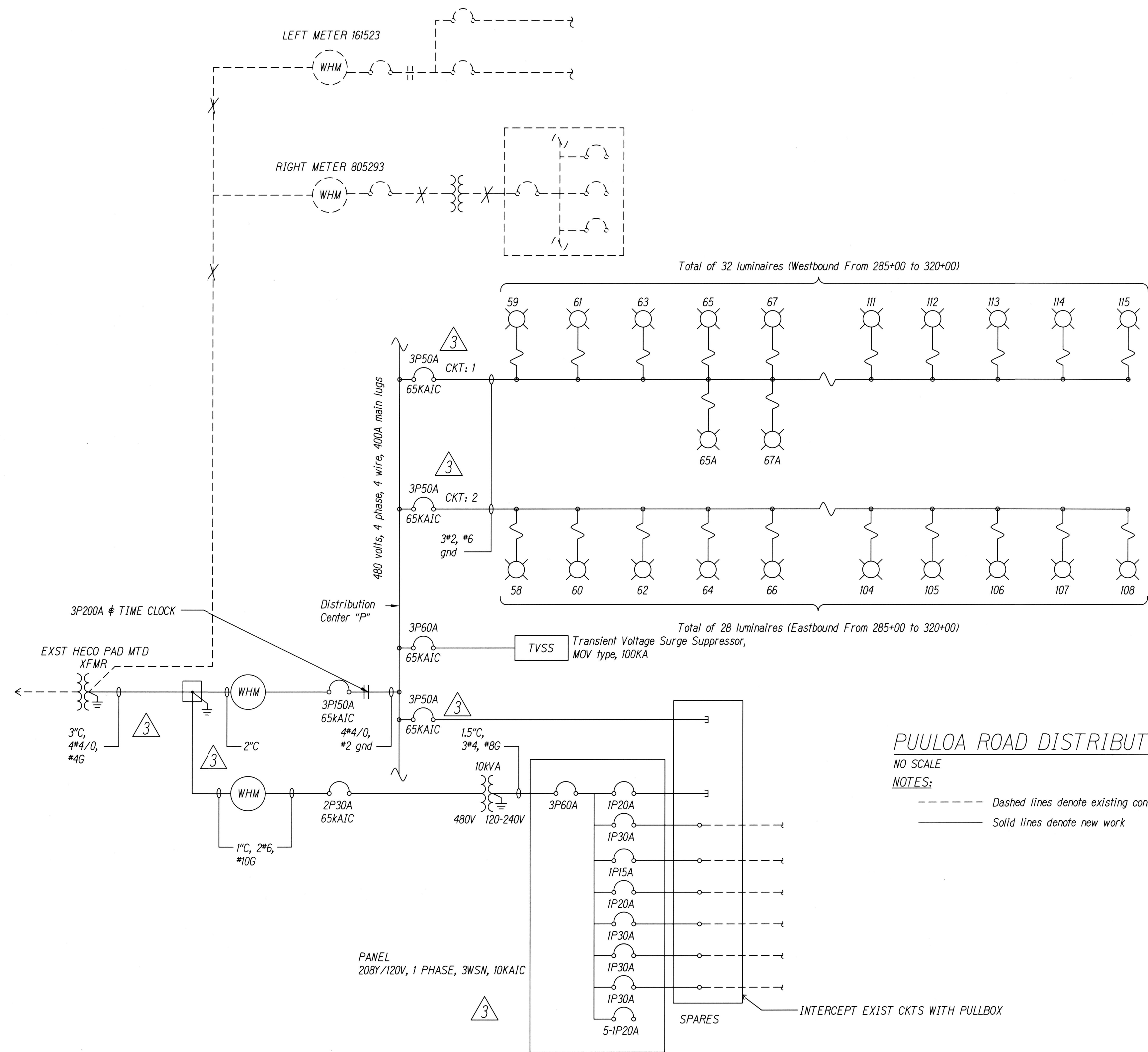
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ONE-LINE DIAGRAM -
KAISER STA 241+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: Date: August 2017

SHEET No. E-43 OF 53 SHEETS

ADD. 161

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 162	171



PUULOA ROAD DISTRIBUTION CENTER - PARTIAL ONE-LINE DIAGRAM

NO SCALE
NOTES:
----- Dashed lines denote existing condition
————— Solid lines denote new work

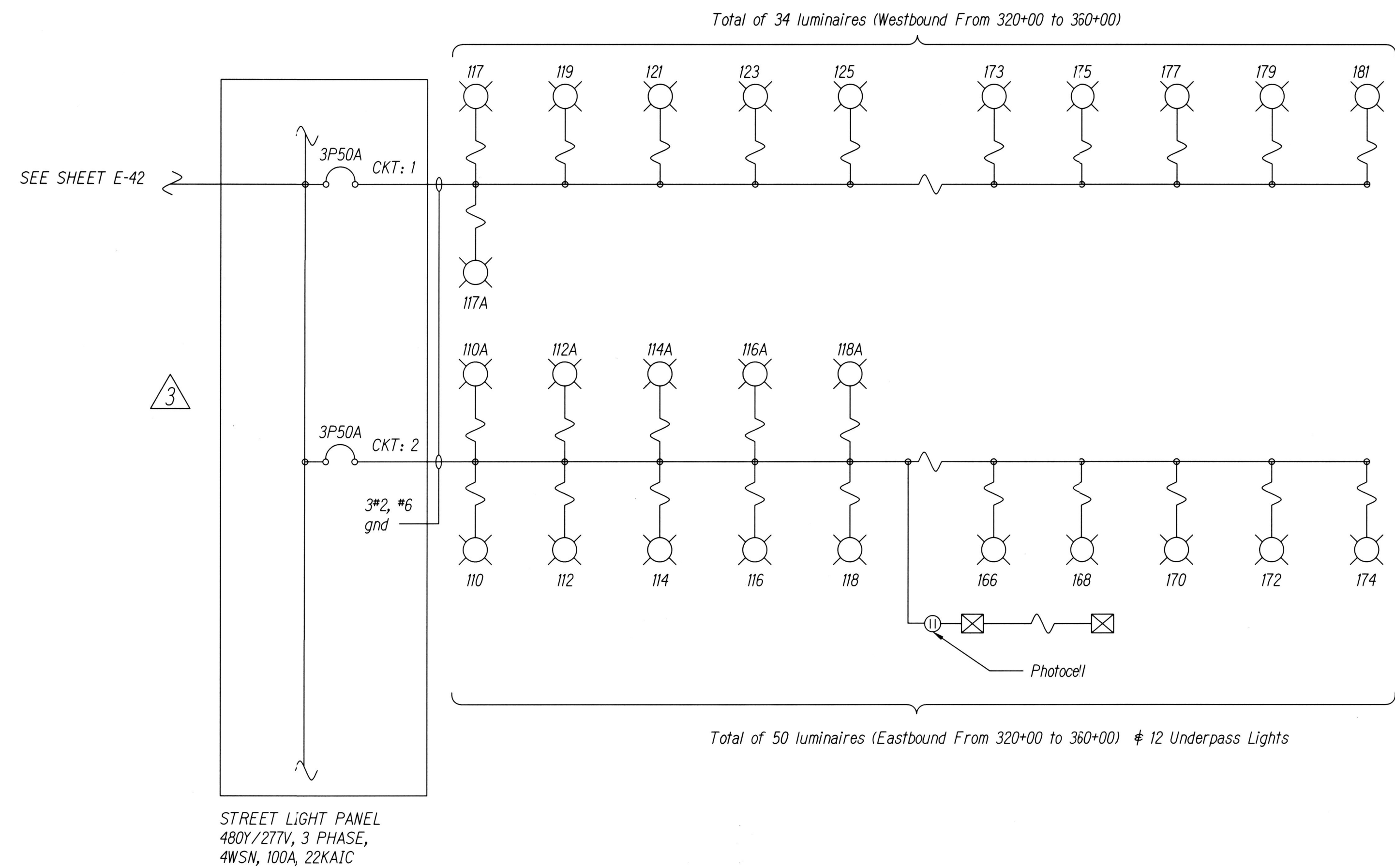
SURVEY PLOTTED BY	DATE
DESIGNED BY	
TRACED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
No.	



Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

9/22/17	Updated One Line Diagram
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION ONE-LINE DIAGRAM - PUULOA RD STA 298+00 MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005) Scale: Date: August 2017 SHEET No. E-44 OF 53 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 163	171



3 FORT SHAFTER DISTRIBUTION CENTER - PARTIAL ONE-LINE DIAGRAM
NO SCALE

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	

3	9/22/17	Updated One Line Diagram
	DATE	REVISION

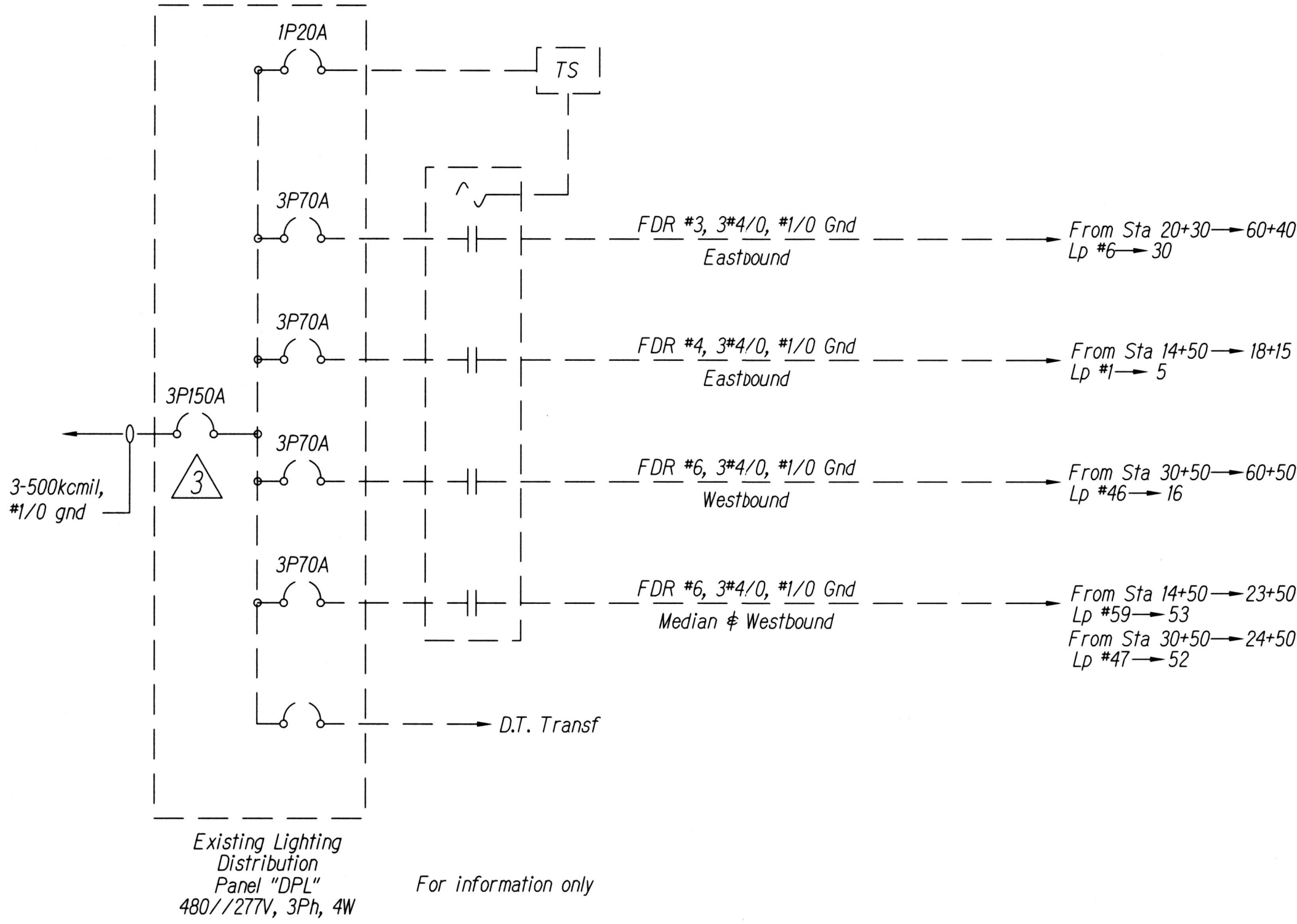
Glenn D. Oyama
EXPIRATION DATE OF THE LICENSE: 4/30/2018
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ONE-LINE DIAGRAM -
FORT SHAFTER STA 332+00
MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: Date: August 2017

SHEET No. E-45 OF 53 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 164	171

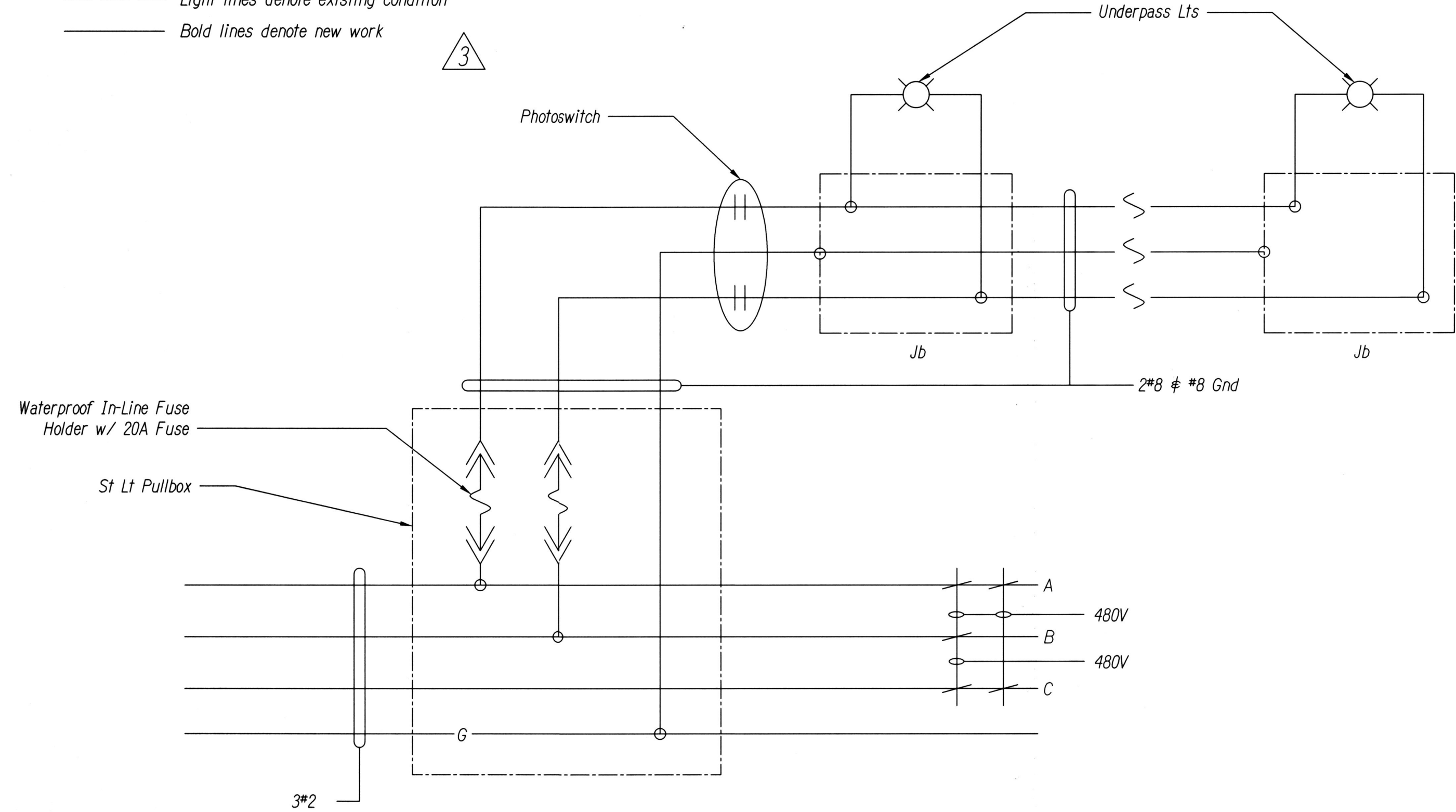


MIDDLE STREET DISTRIBUTION CENTER - PARTIAL ONE-LINE DIAGRAM

NO SCALE

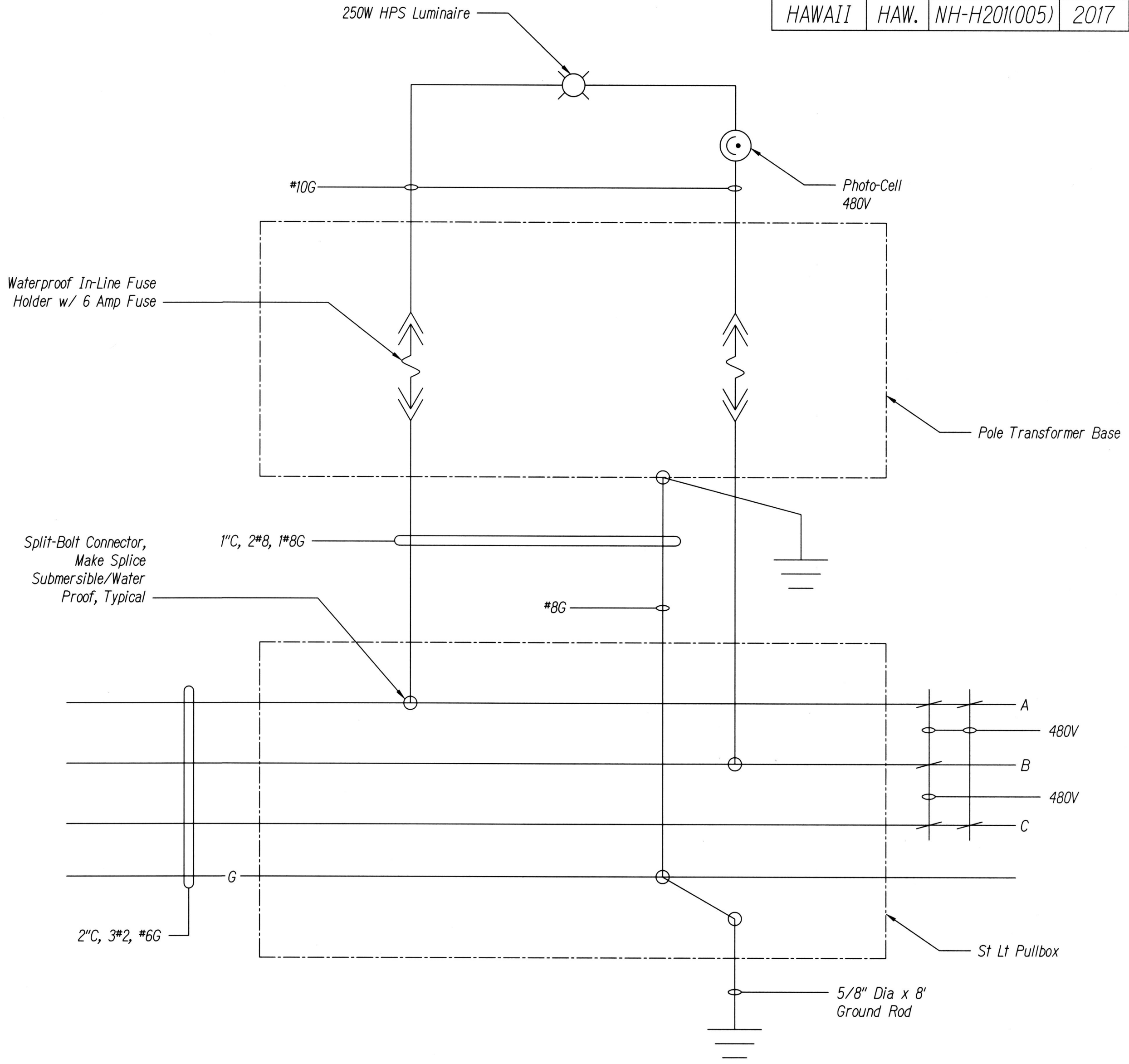
NOTES:

- Light lines denote existing condition
- Bold lines denote new work



TYPICAL UNDERPASS LIGHT WIRING DIAGRAM

NO SCALE



TYPICAL STREET LIGHT WIRING DIAGRAM

NO SCALE

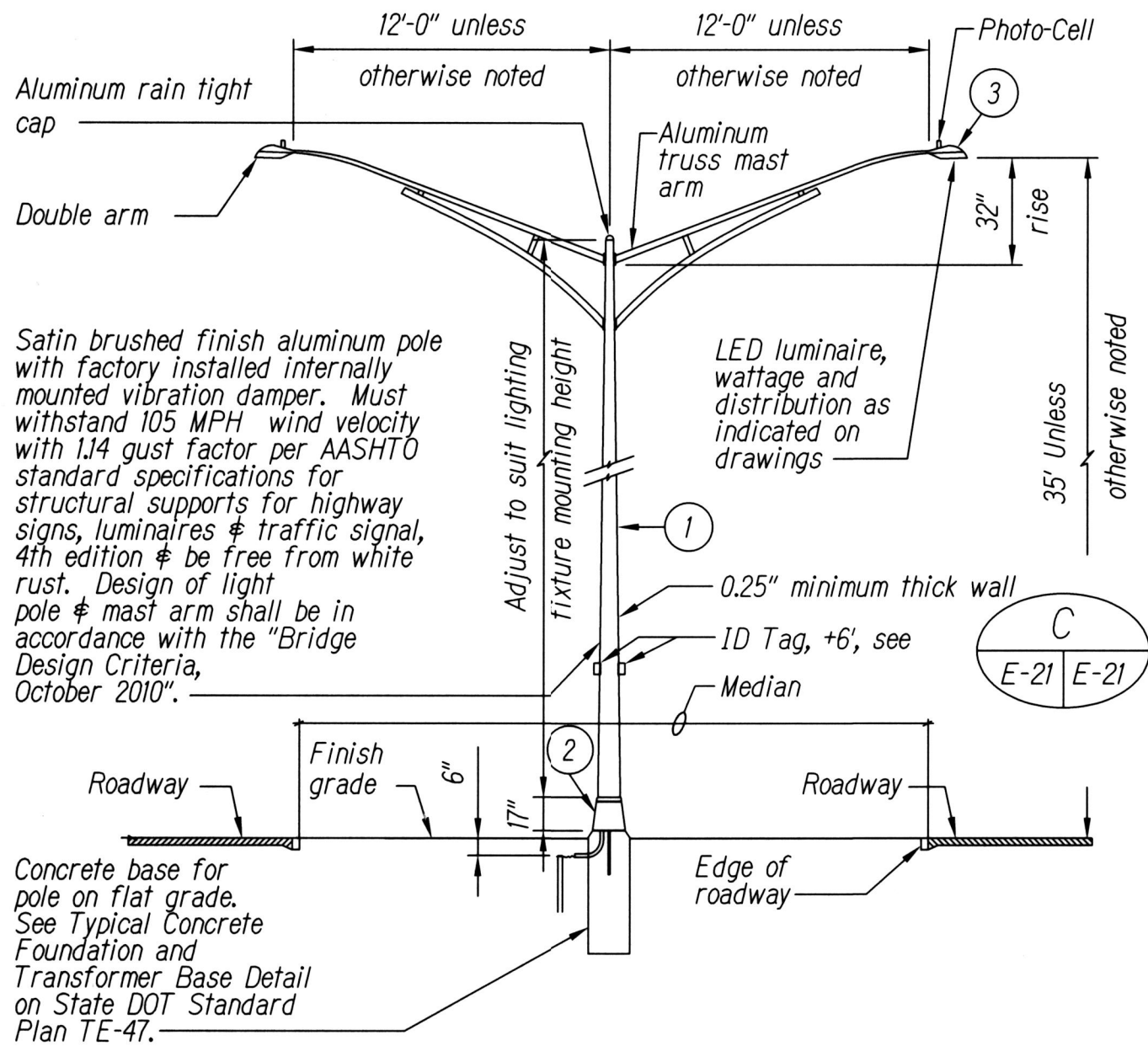
ORIGINAL PLAN	SURVEY DOTTED BY	DATE
NOTE BOOK	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	



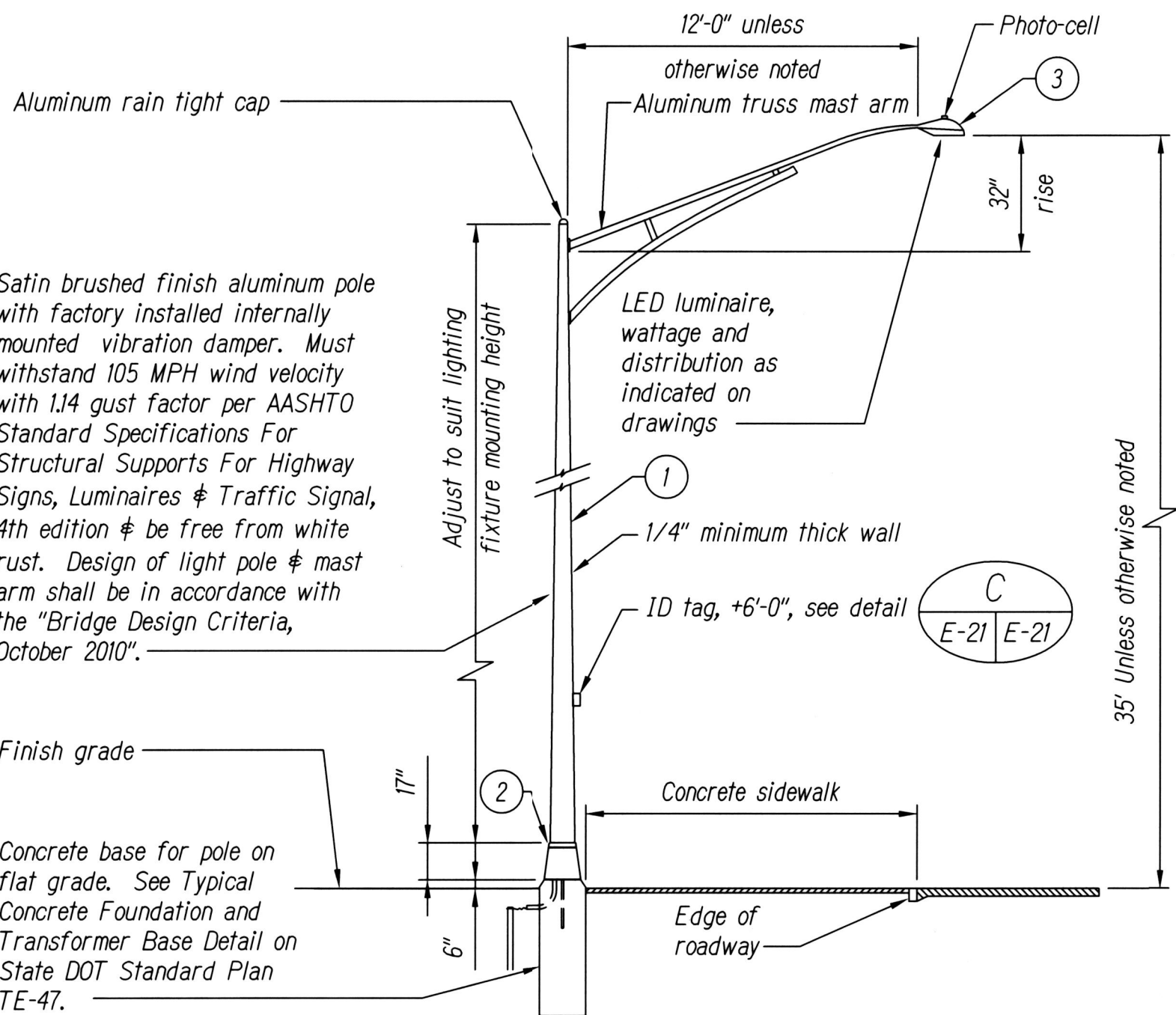
9/22/17	Updated and Added Diagrams
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION MIDDLE STREET ONE-LINE & TYPICAL LIGHT DIAGRAMS MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005)	
Scale:	Date: August 2017
SHEET No. E-46 OF 53 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 166	171

For use within State of Hawaii
right-of-way

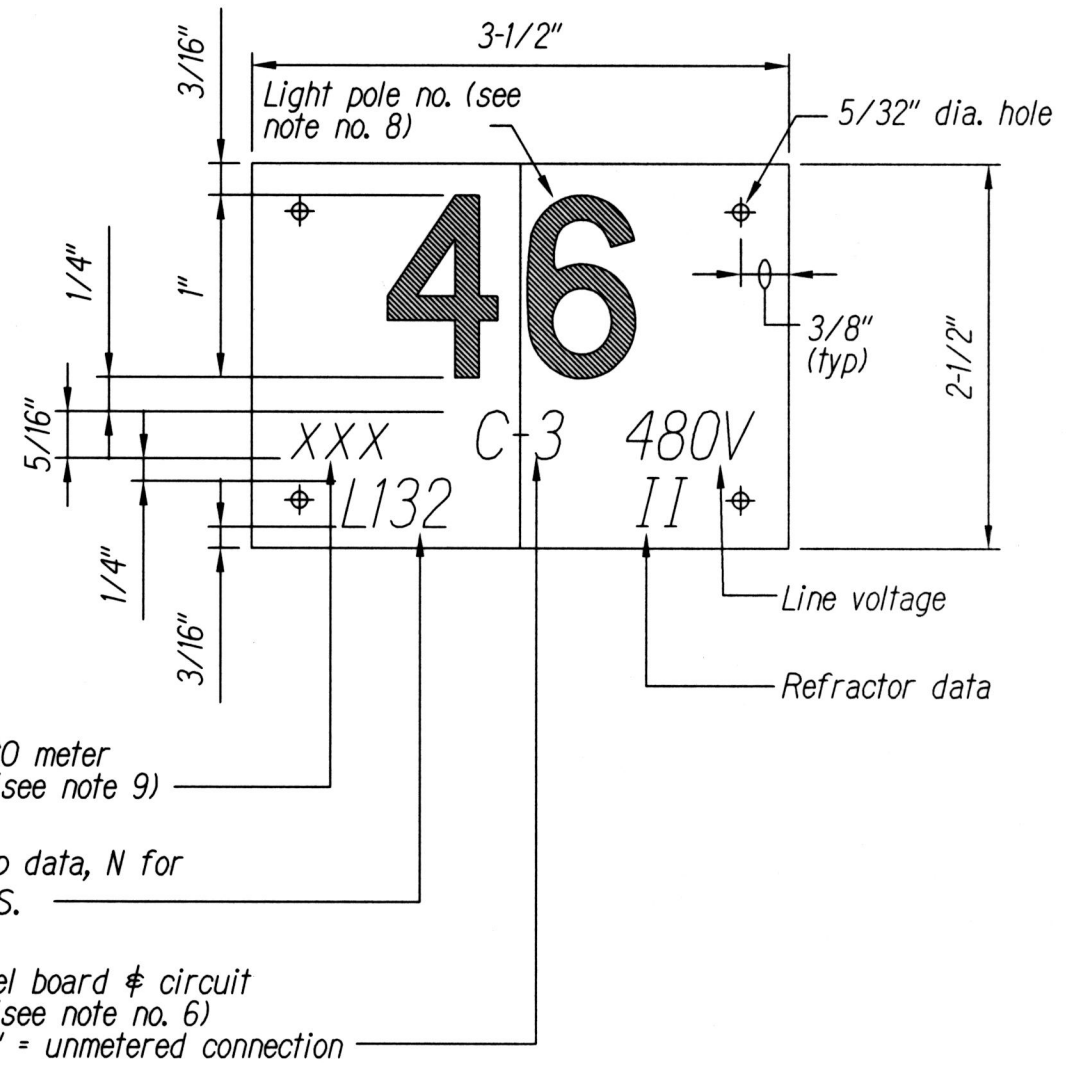


STREET LIGHT STANDARD DETAIL A
NTS



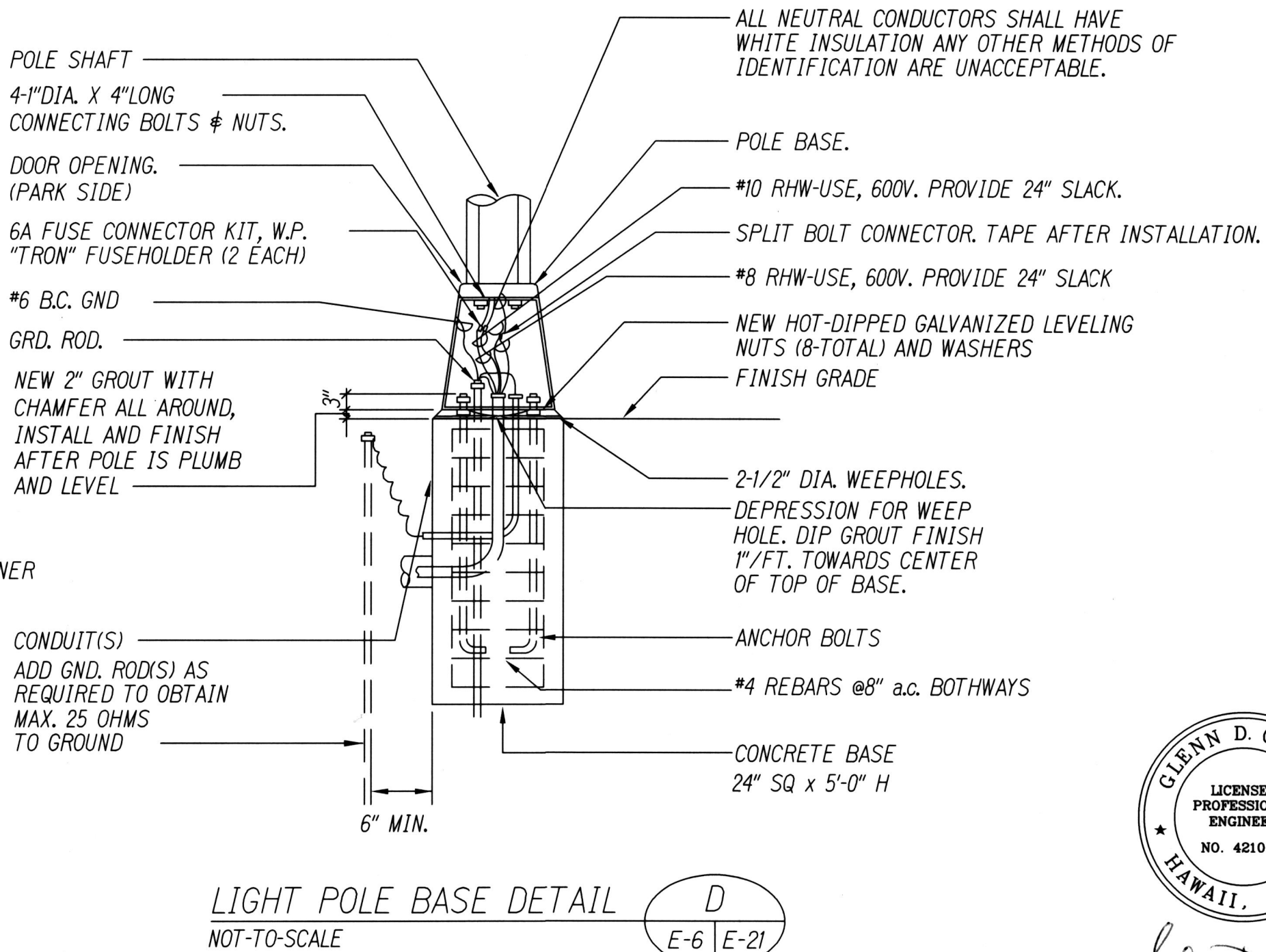
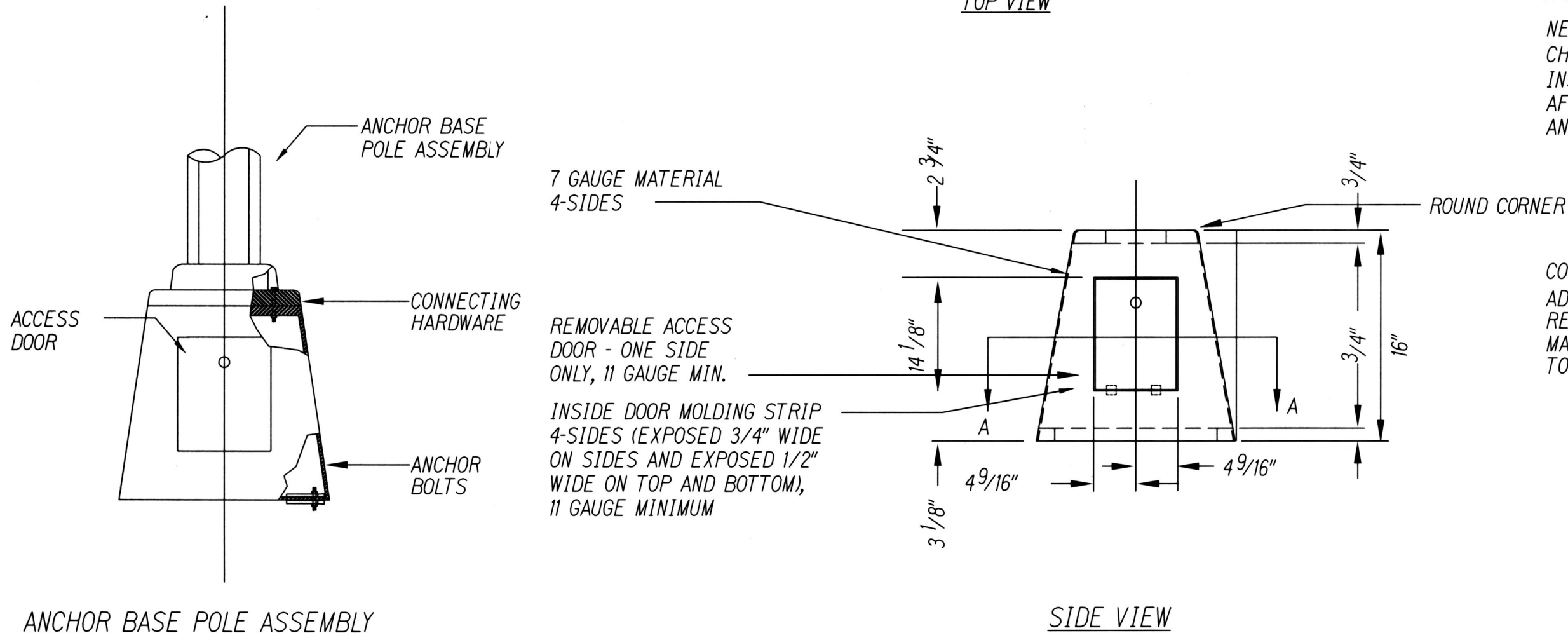
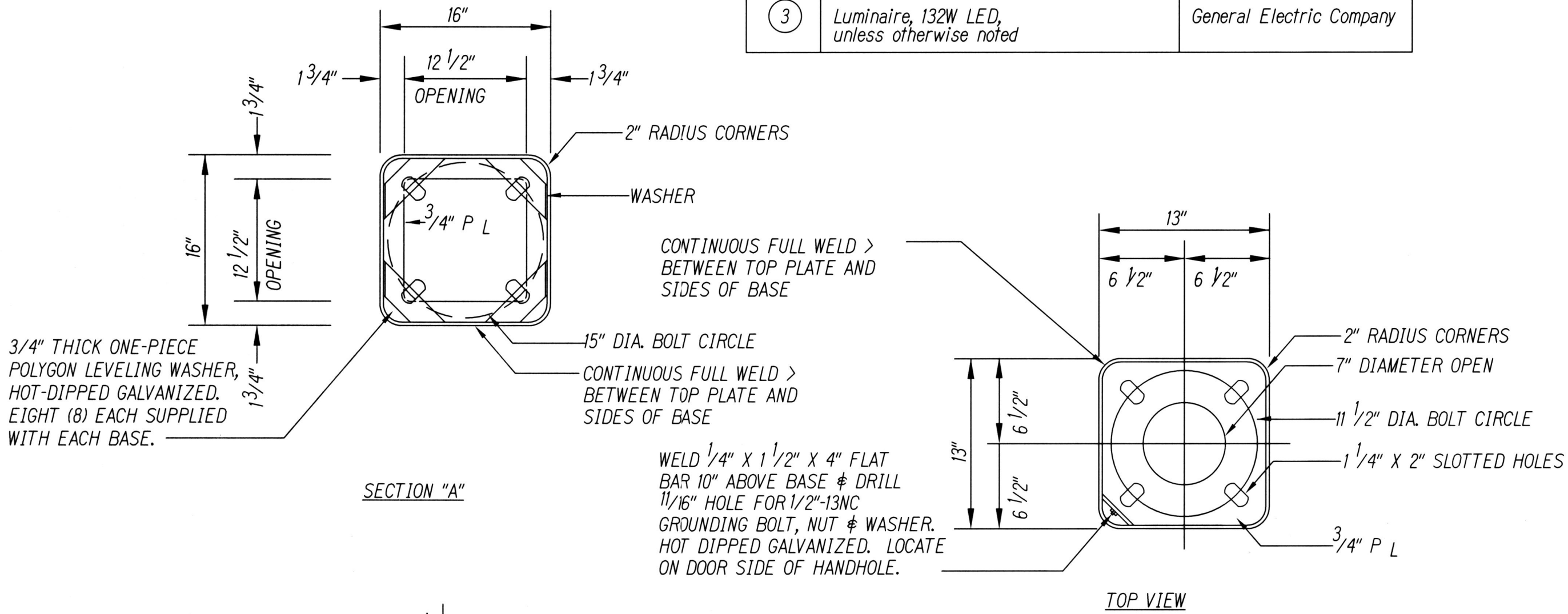
STREET LIGHT STANDARD DETAIL B
NTS

MATERIAL LIST		
Item	Description	Manufacturer
1	Light Pole, Alum	General Electric Company
2	Transformer Base (Alum) (Breakaway Type)	
3	Luminaire, 132W LED, unless otherwise noted	



STREET LIGHT POLE TAG DETAIL C
NTS

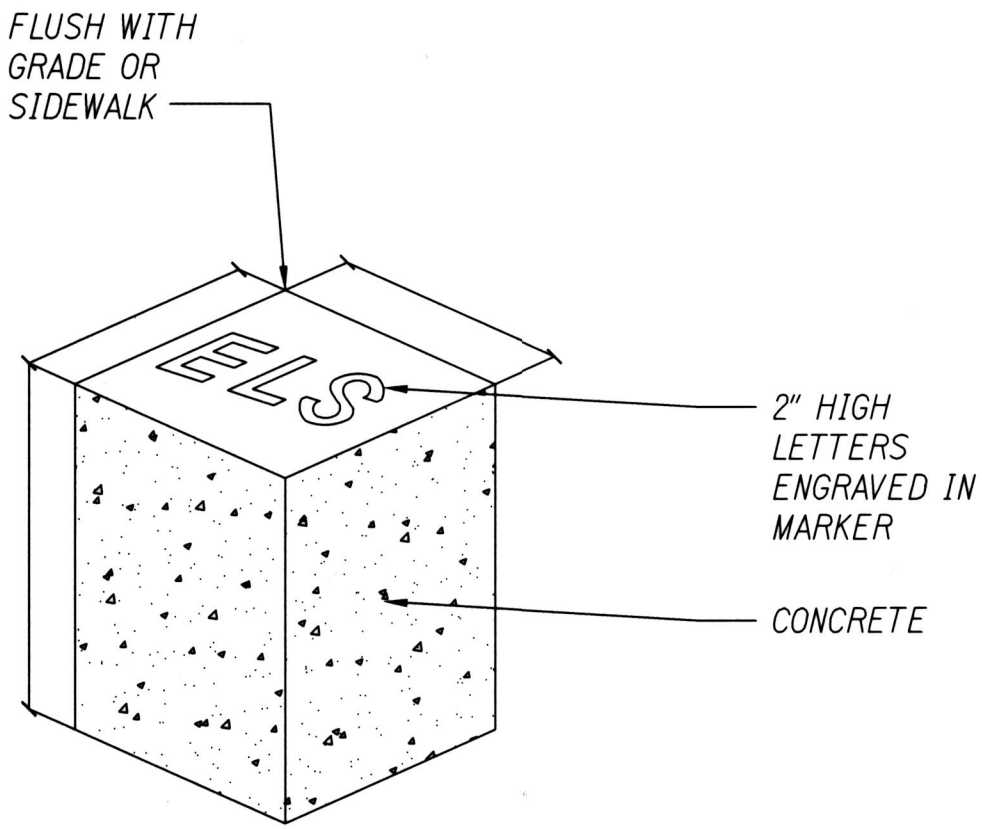
- NOTES:
- Use 3 ply laminated flexible plastic black-white-black thickness black cap sheet-0.010", white base sheet-0.052", black base sheet-0.010".
 - Light pole number size shall be 1" high and engraved 1/8" wide, white in color (number as required).
 - Nomenclature size shall be 5/16" high and engraved 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 in 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.



LIGHT POLE BASE DETAIL D
NOT-TO-SCALE

DATE	9/22/17	Updated Details
REVISION		
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION SL STANDARD DETAIL, TAG DETAIL, POLE BASE DETAIL MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS Halawa Heights Off-ramp to Middle St. Overpass FAP NO. NH-H201(005)		
Scale:	Date: August 2017	
SHEET No. E-48 OF 53 SHEETS		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-H201(005)	2017	ADD. 169	171

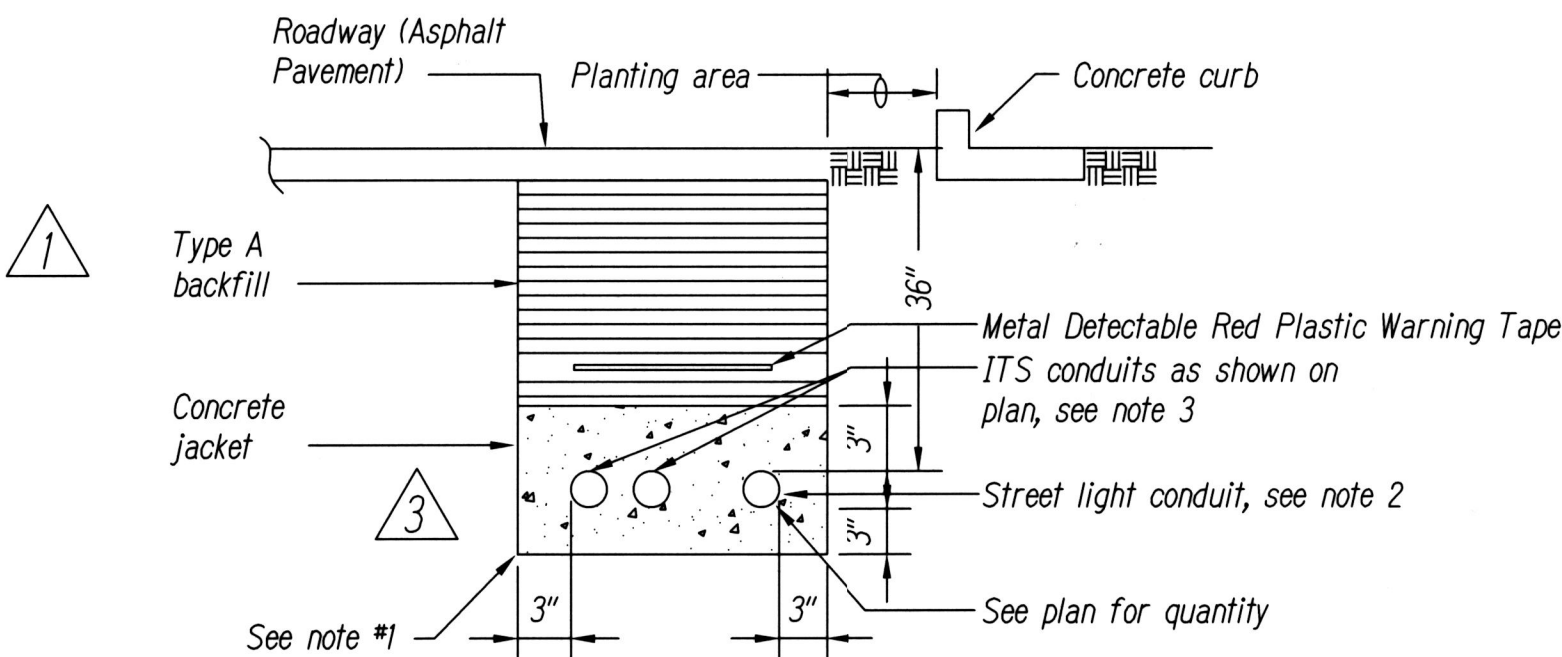


CONDUIT STUB-OUT MARKER

SCALE: NTS

NOTES:

1. "E"-Electric
"L"-Light
"S"-Traffic Signal



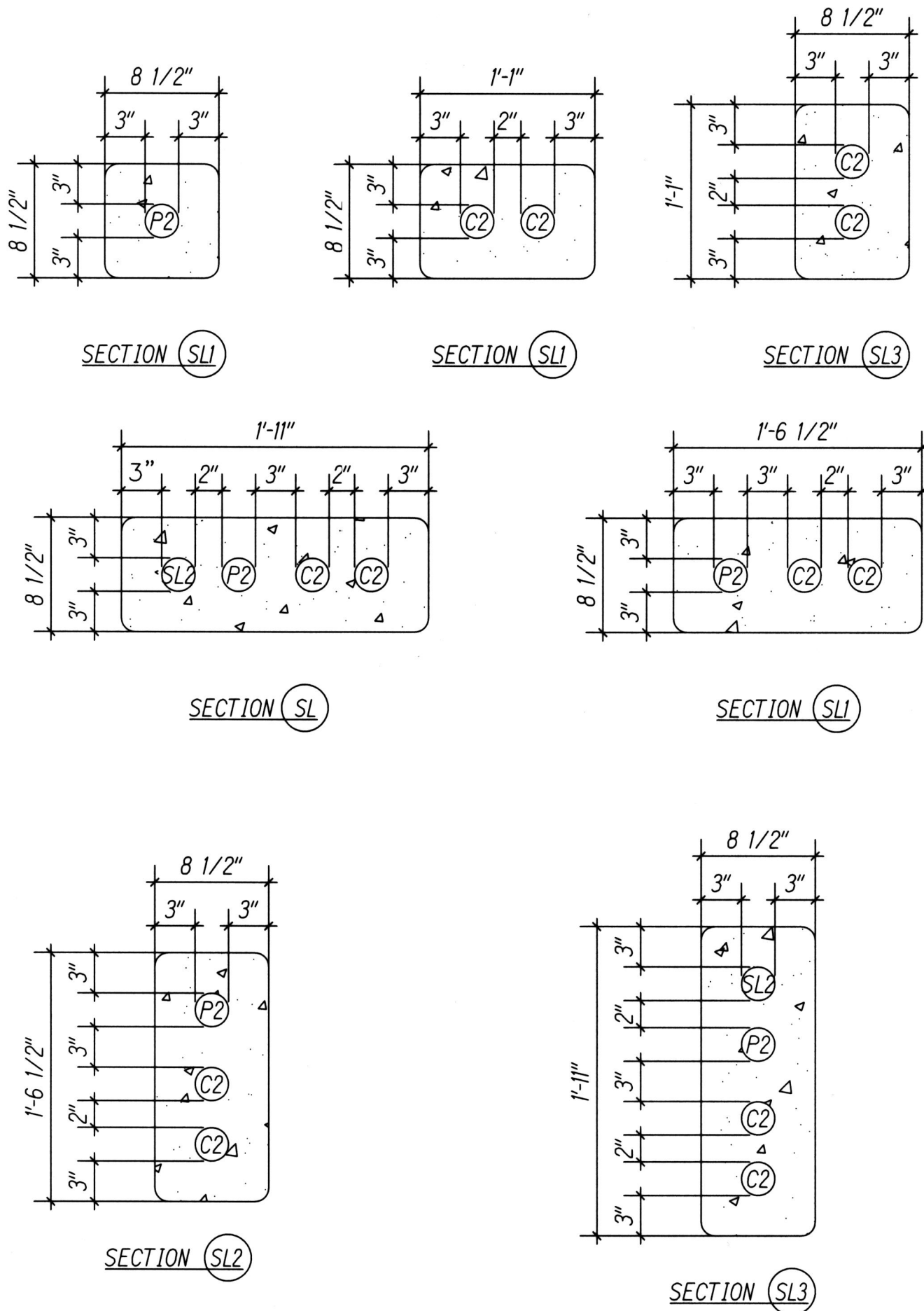
TRENCHING DETAIL

TYPE "A": Beach sand, earth or earth & gravel. If earth & gravel used, max. rock size shall be 1" & mixture shall contain not more than 50% by volume or rock particles. 95% compaction

- NOTES:
1. All street light conduits shall be PVC schedule 40 with 3" concrete jacket. 2800 PSI @ 28 days compressive strength.
 2. All ITS conduits shall be PVC schedule 40 with 3" concrete jacket. 2800 PSI @ 28 days compressive strength.

Duct Separation Requirements:

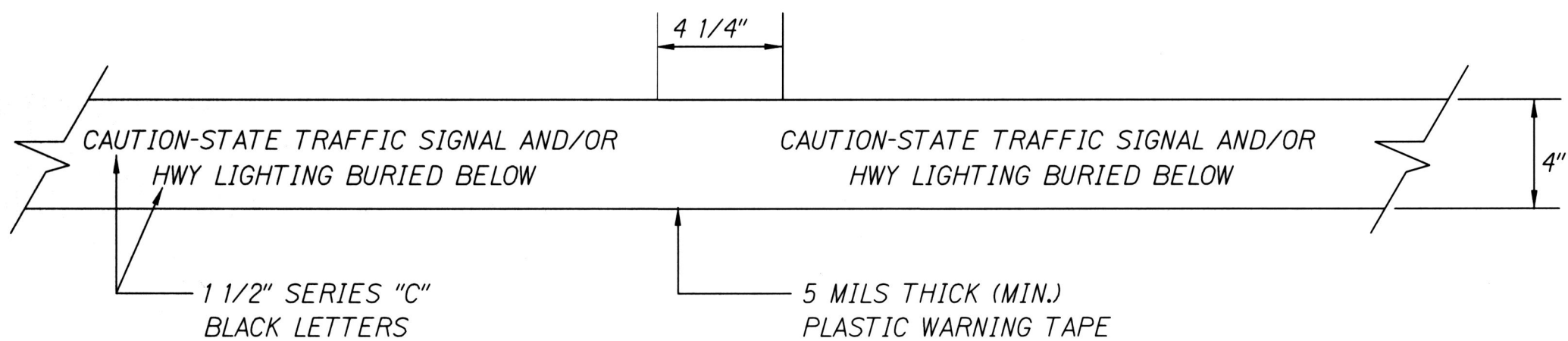
ELEC TO ELEC	2"
ELEC TO COMM	3"
COMM TO COMM	2"



DUCT DETAILS

NOTES:

1. Contractor to determine applicability of duct section based on the duct complement noted on the plans.



METAL DETECTABLE RED PLASTIC WARNING TAPE

SCALE: NTS

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



EXPIRATION DATE OF THE LICENSE 4/30/2018
THIS WORK WAS PREPARED BY
ME OR UNDER MY SUPERVISION

3	9/22/17	Revised Trenching and Duct Details
1	9/13/17	Revised Trenching and Duct Details
DATE	REVISION	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CONDUIT DUCT DETAILS

MOANALUA FREEWAY, HIGHWAY LIGHTING IMPROVEMENTS
Halawa Heights Off-ramp to Middle St. Overpass
FAP NO. NH-H201(005)

Scale: Date: August 2017

SHEET No. E-51 OF 53 SHEETS