

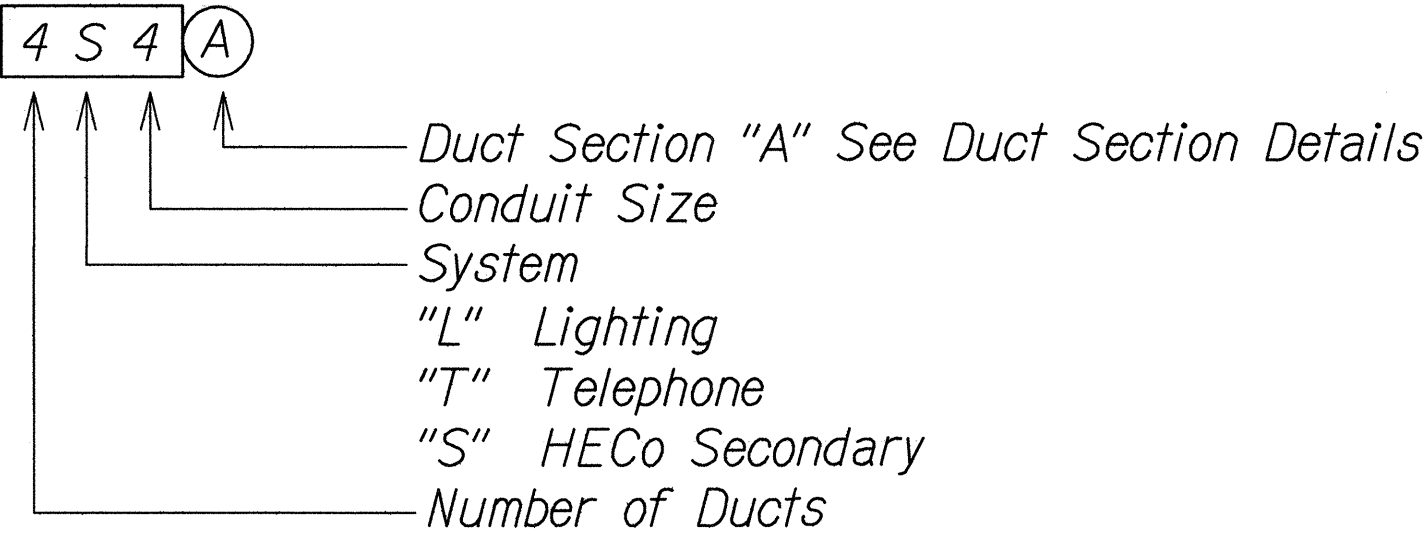
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	121	230

ELECTRICAL SYMBOLS

Existing	New	Description
		St Lt Luminaire on Joint Pole
		St Lt Pole to Remain
		Remove St Lt Pole, Luminaire & Bracket Arm. HTCom to Remove Wood Pole
		Remove St Lt Standard, Demolish Conc. Base 24" Below Grade
		St Lt Luminaire on Wood Pole, See , Wood Pole, Furnished & Installed by HTCom
		Overhead St Lt Conductors & Tel Cables
		Remove St Lt Conductors (HTcom to Remove Tel Cables)
		Underground St Lt Conduit to Remain
		Remove Underground St Lt Conductor, Abandon Conduit In Place
		St. Lt. Standard. See
		Underground Telephone Ducts
		Pole Guy & Anchor
		St. Lt. Conduit
		St. Lt. Identification Tag. See
		St. Lt. Pullbox Type "A". See
		St. Lt. Pullbox Type "C". See

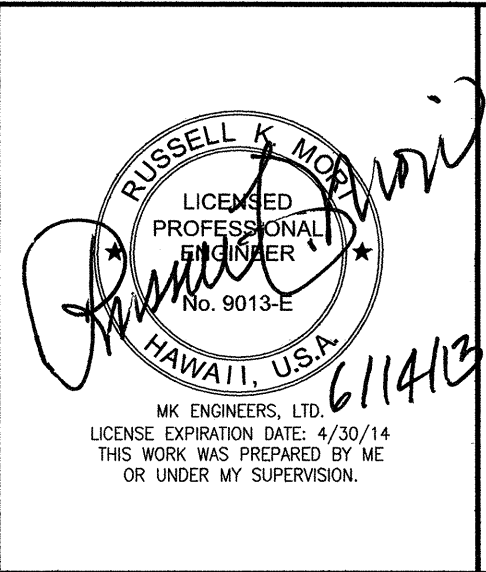
1
M8 C1 240V
N250 II

DUCT DESIGNATION



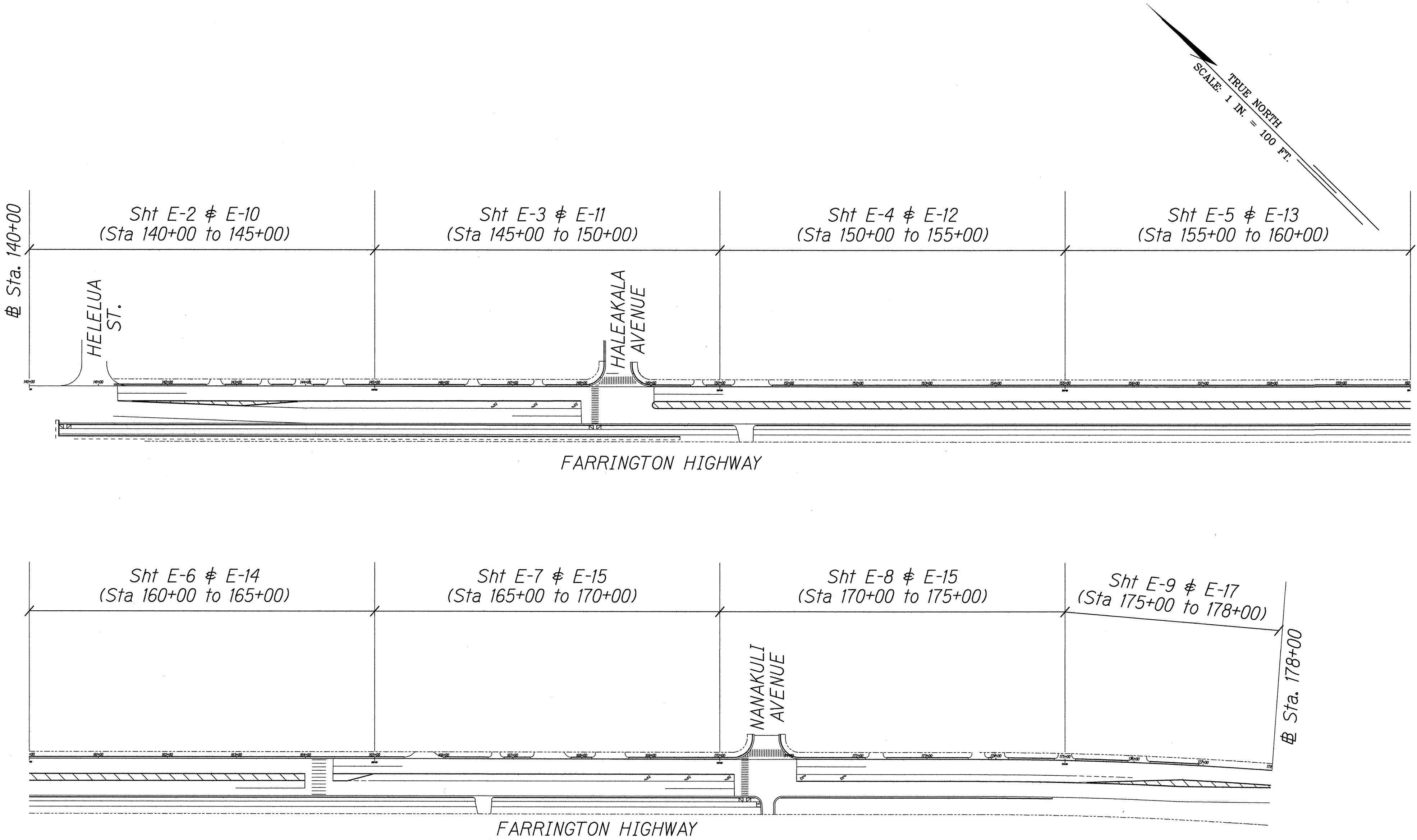
GENERAL NOTES

- Existing Highway Lighting System Shall Remain in Operation at all Times. Remove Luminaires, Bracket Arms and Conductors Only After the New Lighting System is in Operation.
- Extra Care Shall be Taken While Excavating for the Light Pole Foundation and Ductlines. Contractor Shall Tone for Location of Utility Lines Prior to Excavation.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ELECTRICAL SYMBOLS & LAYOUT
Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)
Scale: As Noted Date: June 2013
SHEET No. E-1 OF 25 SHEETS

10030

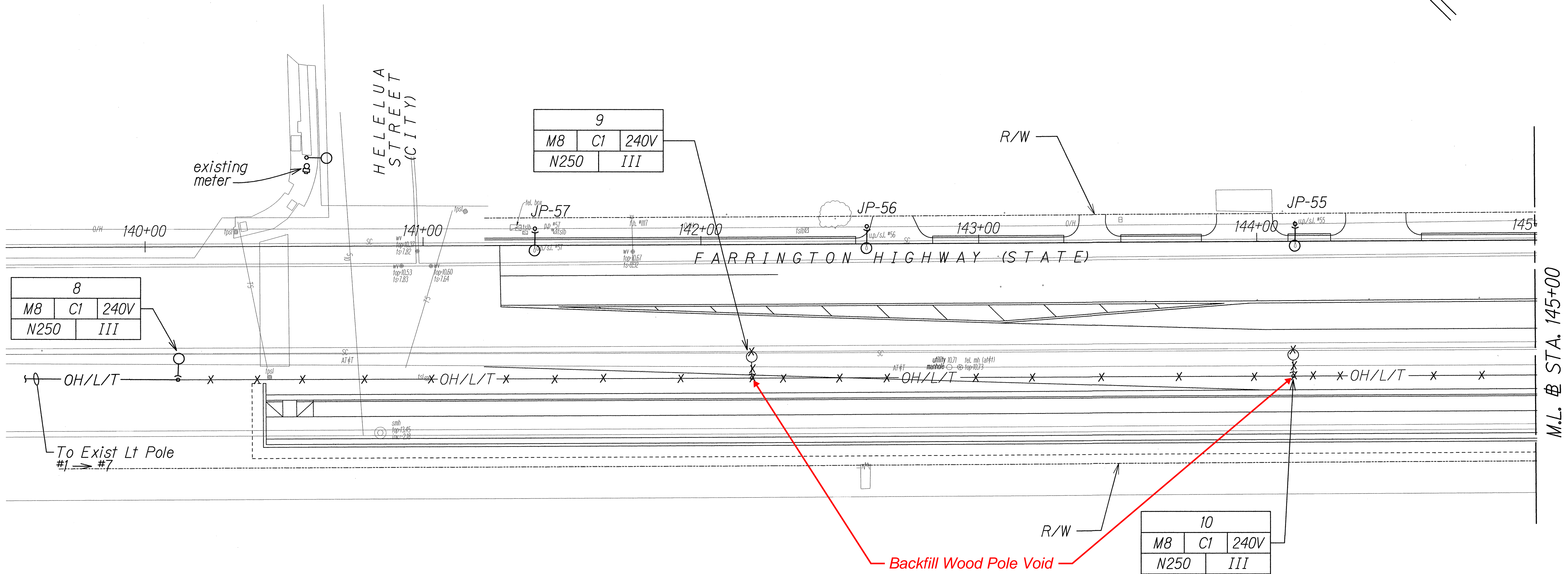
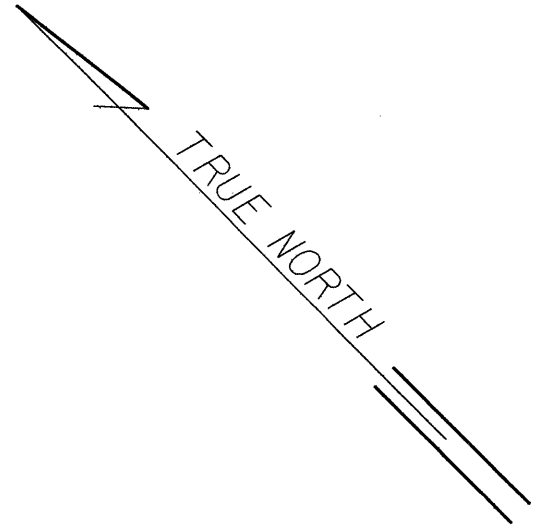


LAYOUT PLAN

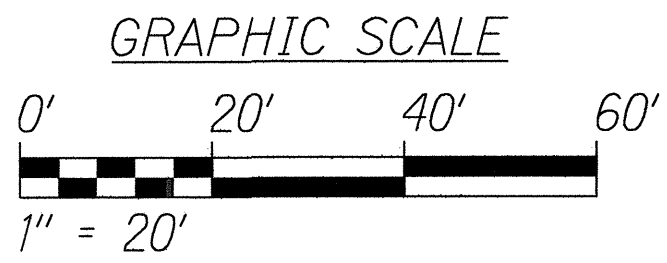
SURVEY PLOTTED BY	DATE
DRAWN BY	
TRACED BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
N.	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	122	230

10030



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



CONTRACT CHANGE ORDER NO. 37

RUSSELL K. MORK
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 140+00 TO 145+00

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

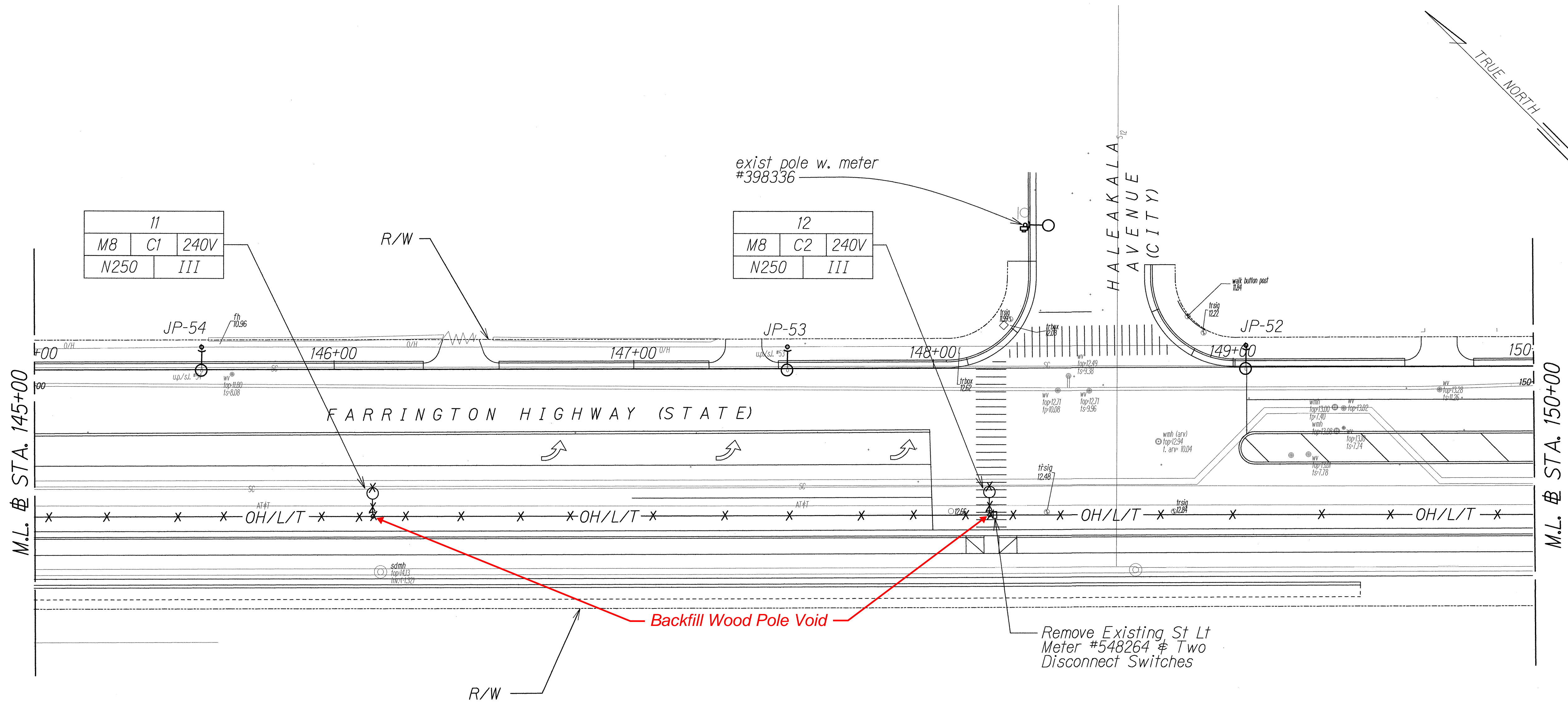
Scale: 1" = 20' Date: June 2013

SHEET No. E-2 OF 25 SHEETS

"AS-BUILT"

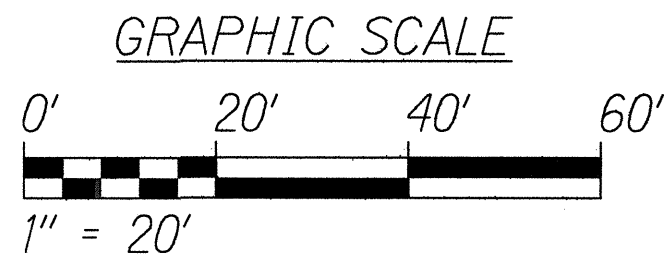
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	123	230

10030



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

CONTRACT CHANGE ORDER NO. 37



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 145+00 TO 150+00

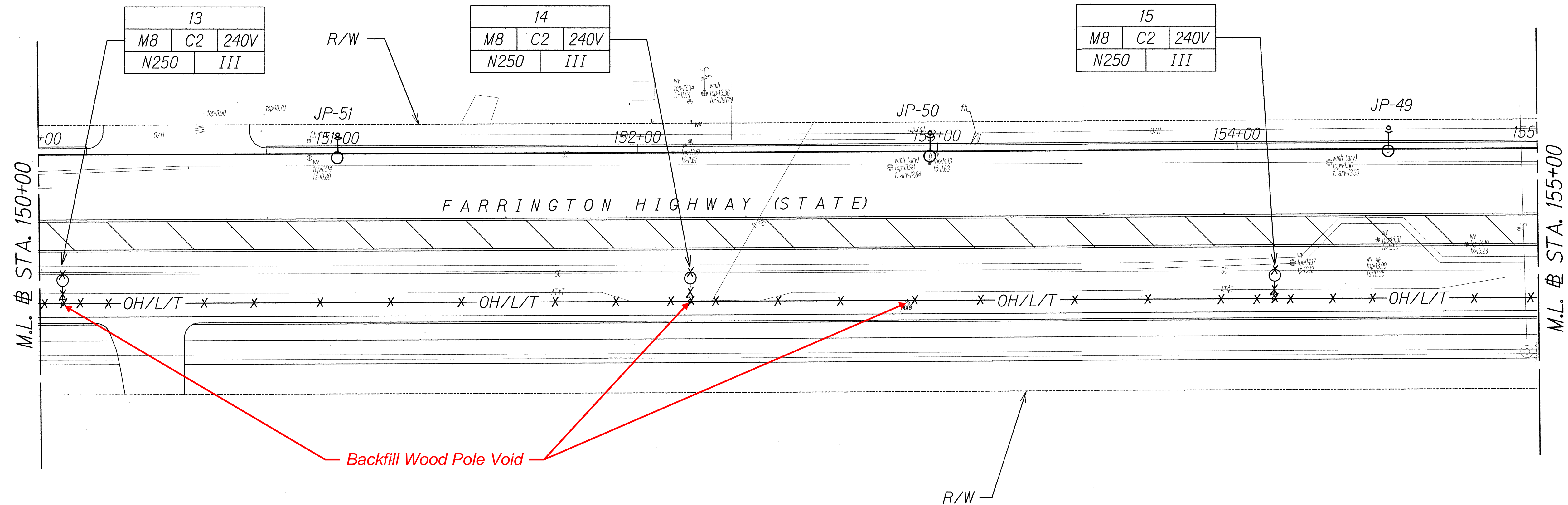
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

"AS-BUILT"

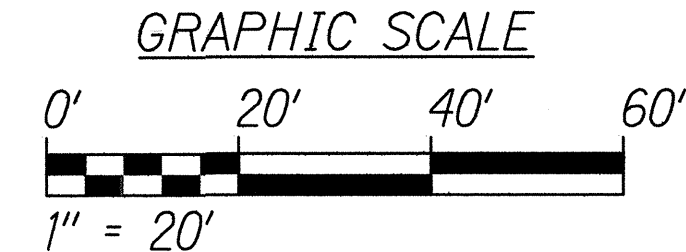
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	124	230

10030



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

CONTRACT CHANGE ORDER NO. 37



RUSSELL K. MOKU
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, U.S.A.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 150+00 TO 155+00

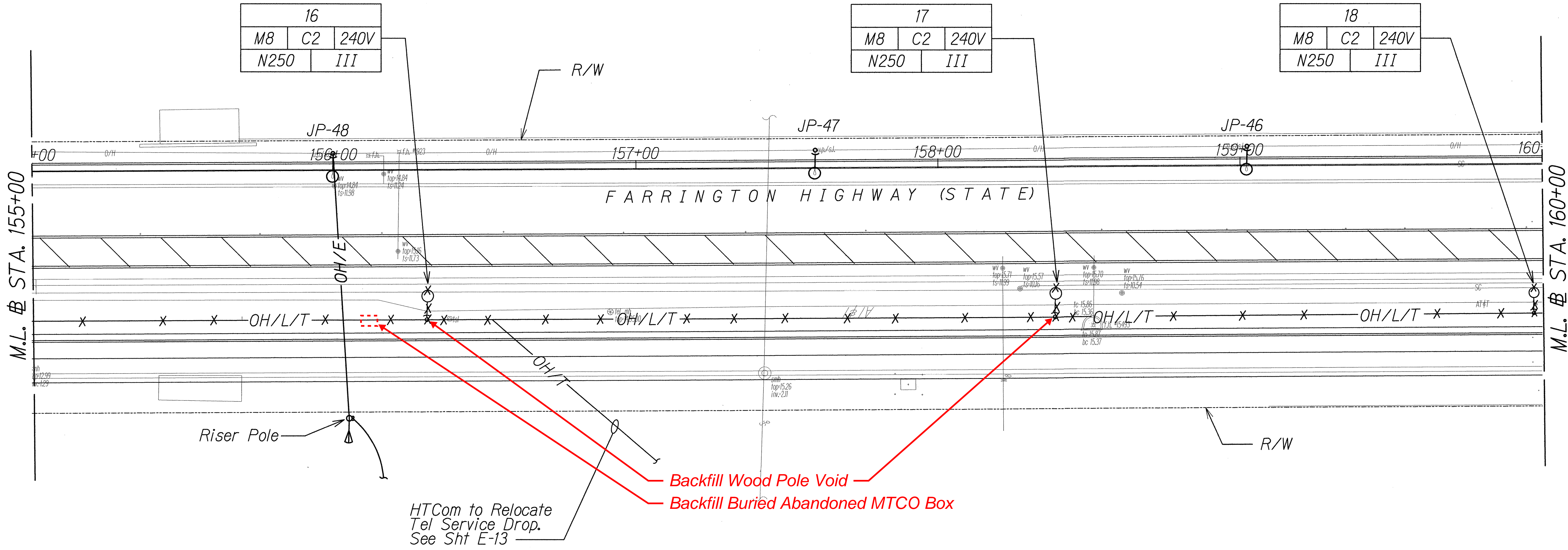
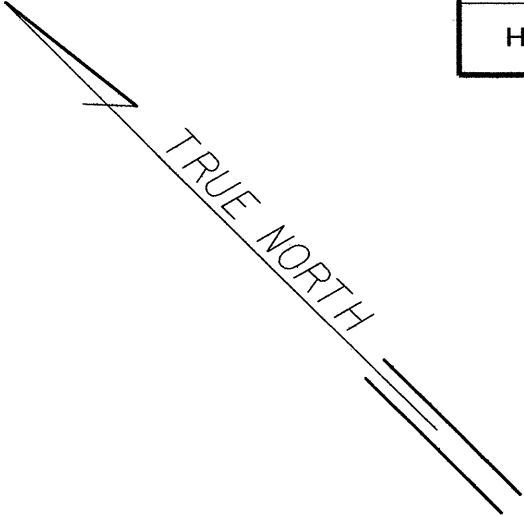
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

"AS-BUILT"

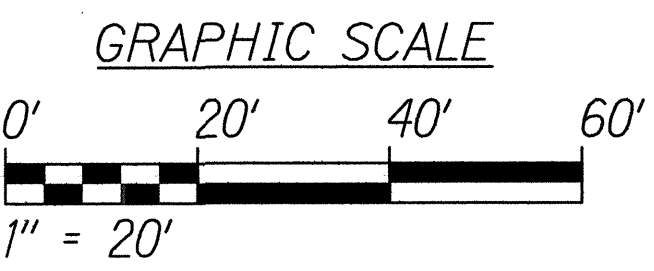
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	125	230

10030



ORIGINAL PLAN	DATE
QUANTITY PLOTTED BY	
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	

CONTRACT CHANGE ORDER NO. 37

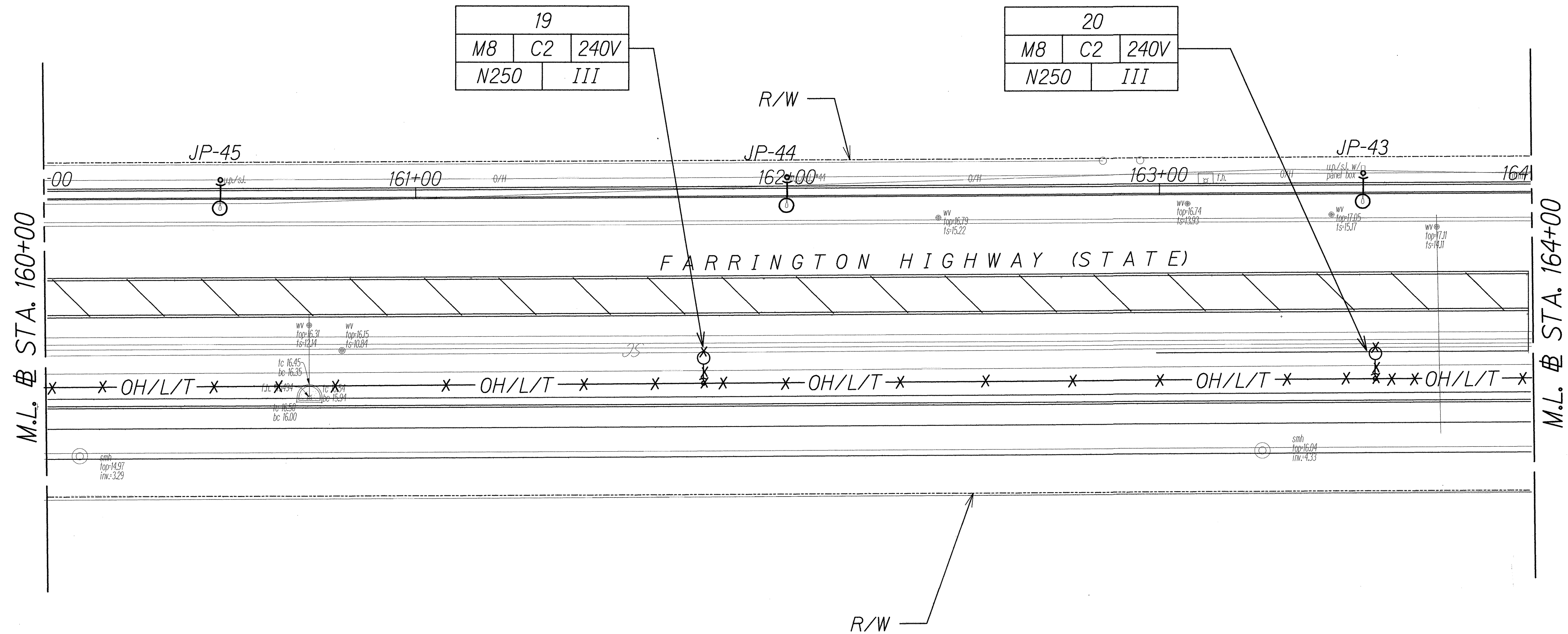
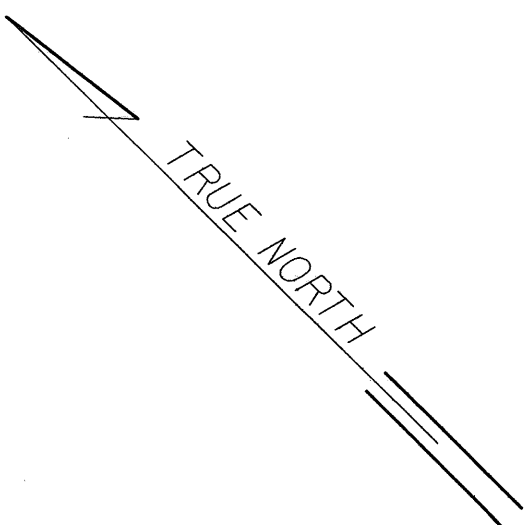


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
LIGHTING DEMOLITION PLAN
STA. 155+00 TO 160+00
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*
Scale: 1" = 20' Date: June 2013
SHEET No. E-5 OF 25 SHEETS

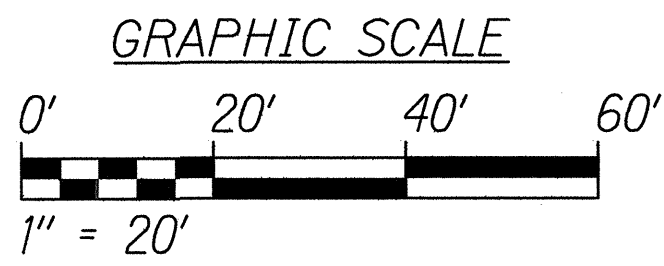
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	126	230

10030



SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	
N.	



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 160+00 TO 164+00

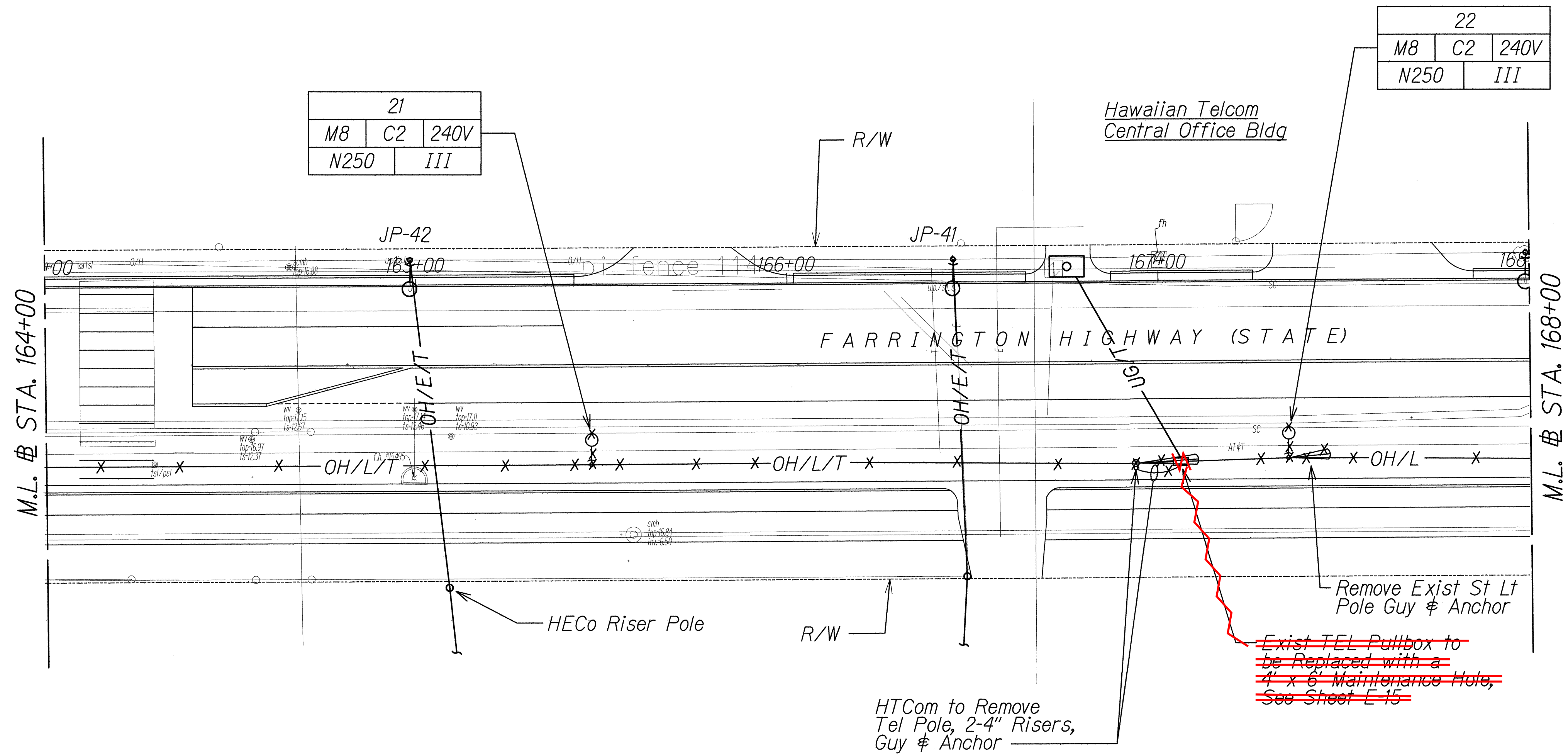
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

SHEET No. E-6 OF 25 SHEETS

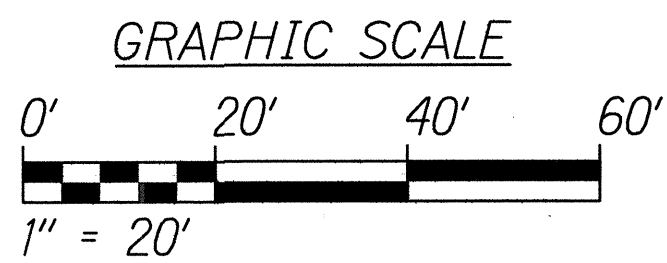
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	127	230

10030



ORIGINAL PLAN	DATE
DESIGNED BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
TRACED BY	
PLOTTED BY	

CONTRACT CHANGE ORDER NO. 37



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 164+00 TO 168+00

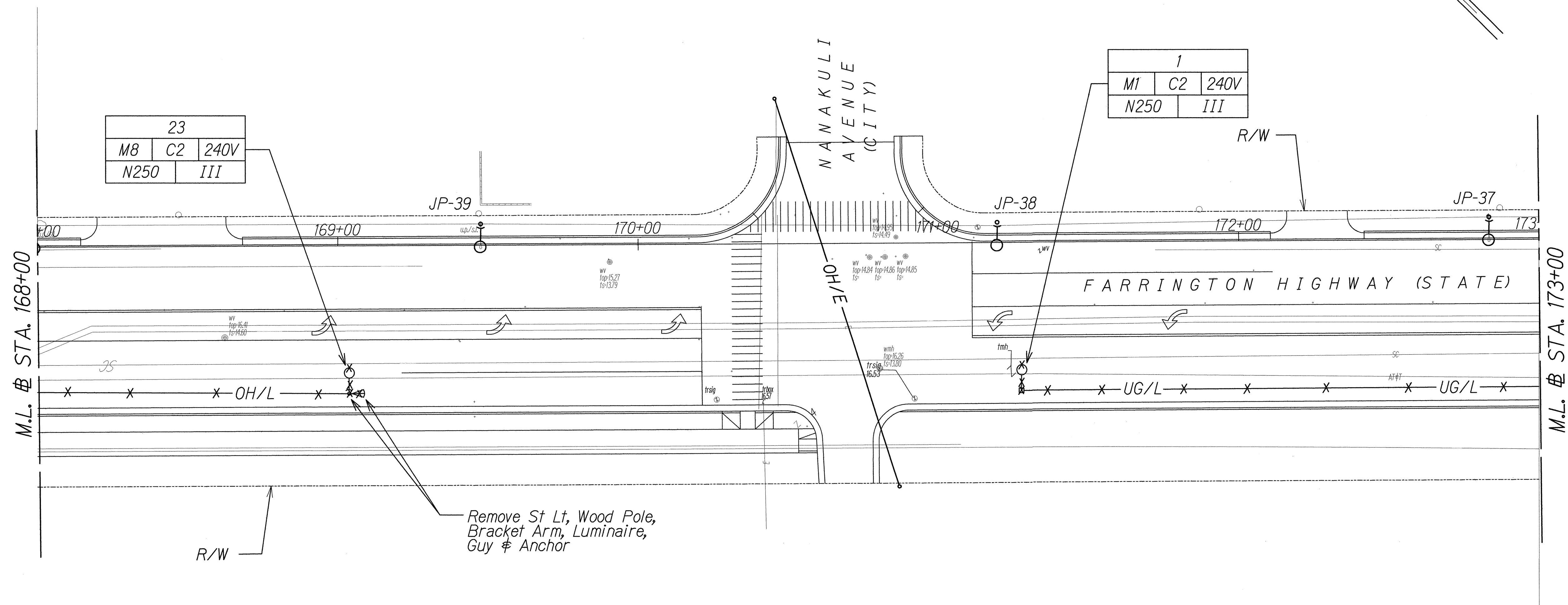
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

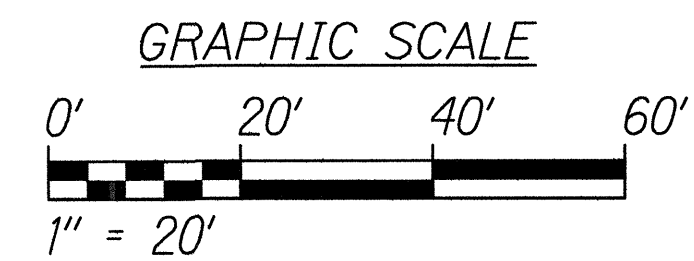
"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	128	230

10030



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



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING DEMOLITION PLAN
STA. 168+00 TO 173+00

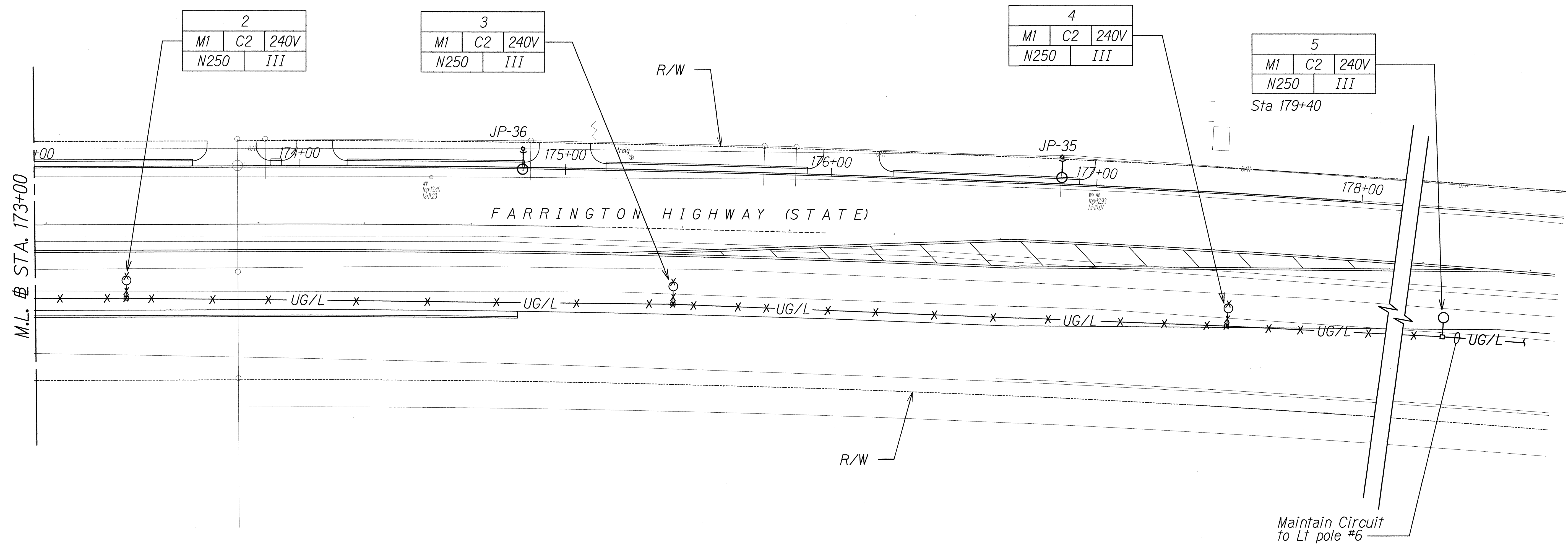
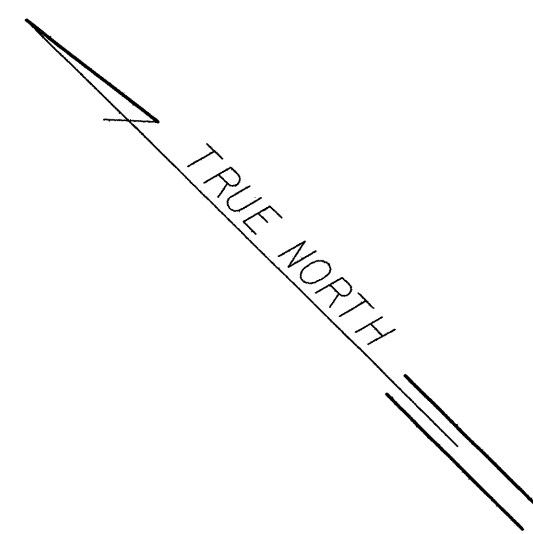
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue*
Federal-Aid Project No. STP-093-1(22)

Scale: 1" = 20' Date: June 2013

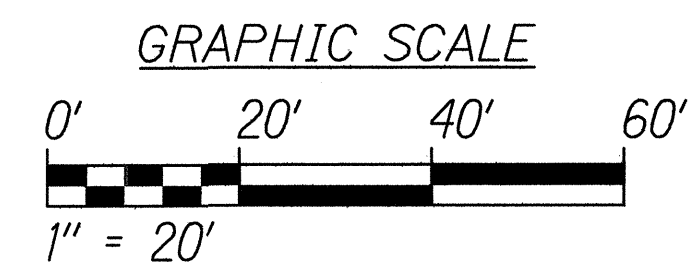
SHEET No. E-8 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	129	230

10030



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



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

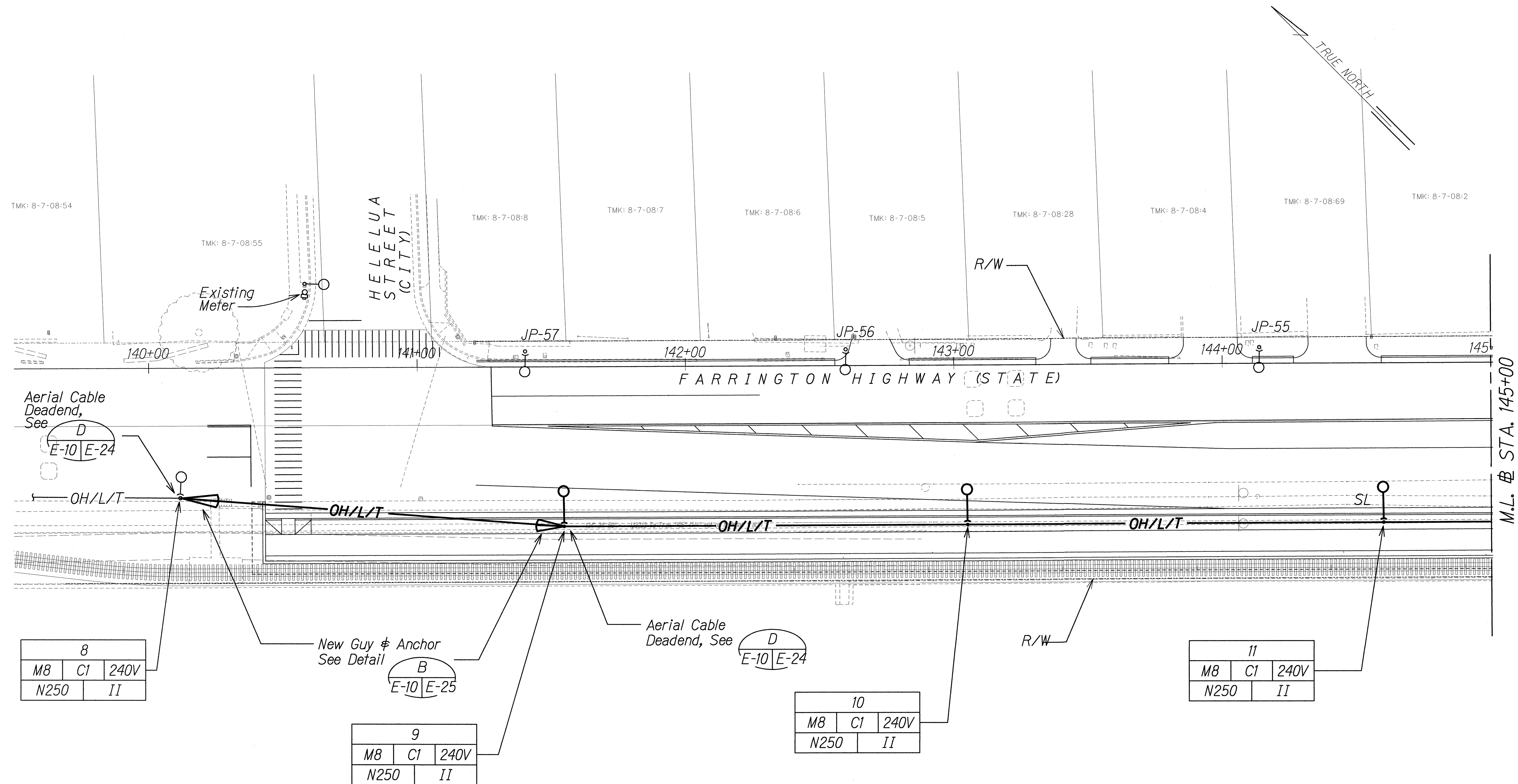
LIGHTING DEMOLITION PLAN
STA. 173+00 TO 178+00

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

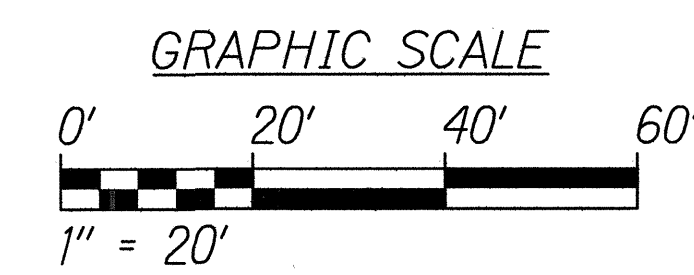
Scale: 1" = 20' Date: June 2013

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	130	230

10030



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



RUSSELL K. MOORE
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, U.S.A.

6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

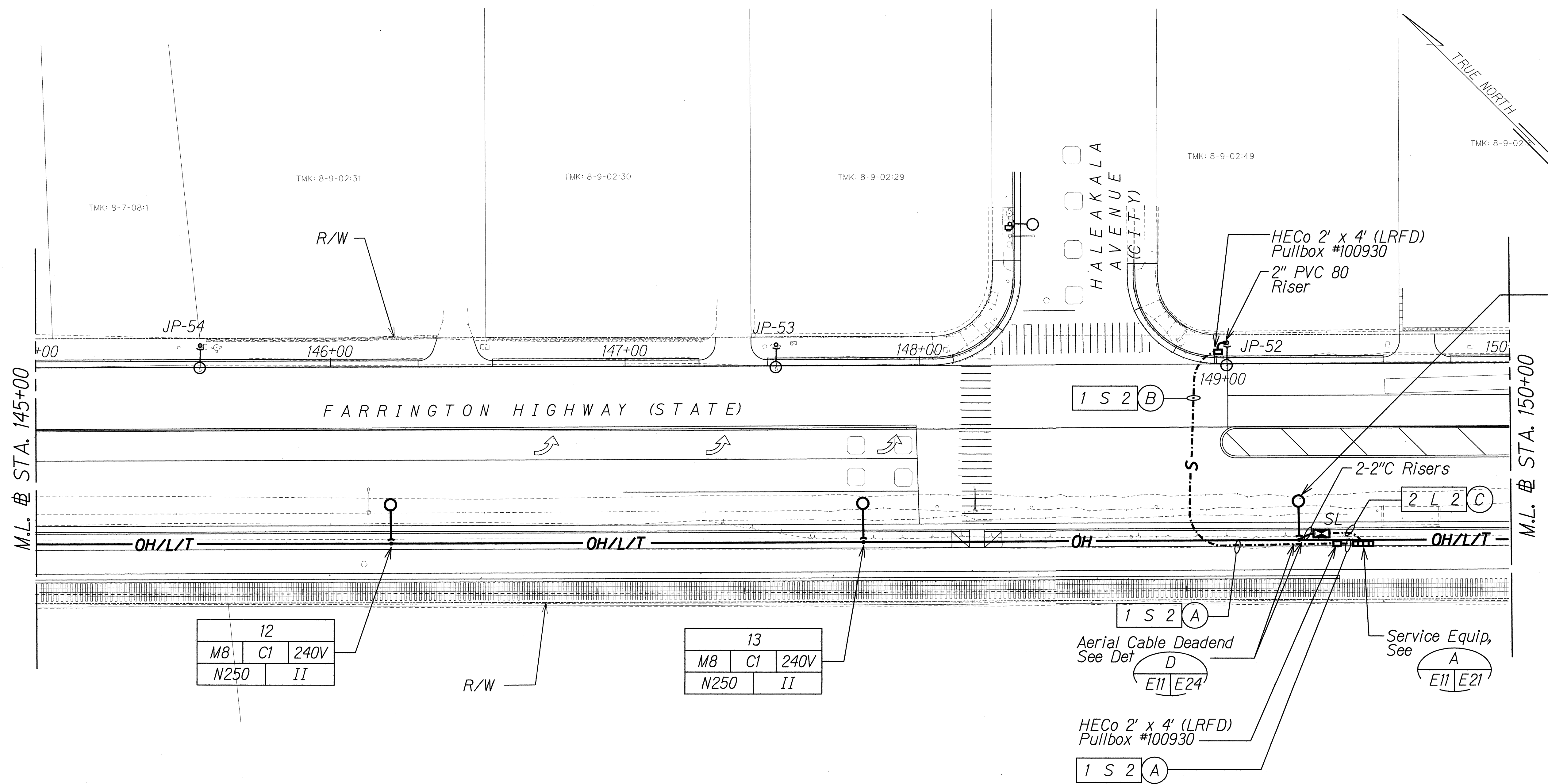
LIGHTING PLAN
STA. 140+00 TO 145+00

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

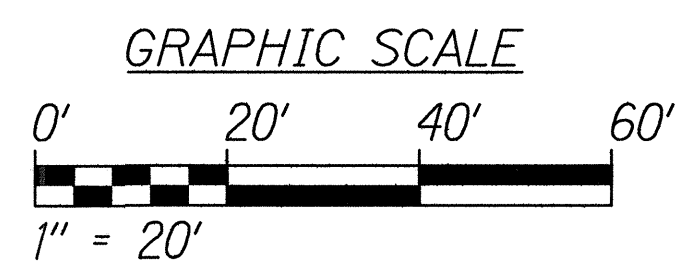
Scale: 1" = 20' Date: June 2013

SHEET No. E-10 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	131	230



SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
STA. 145+00 TO 150+00

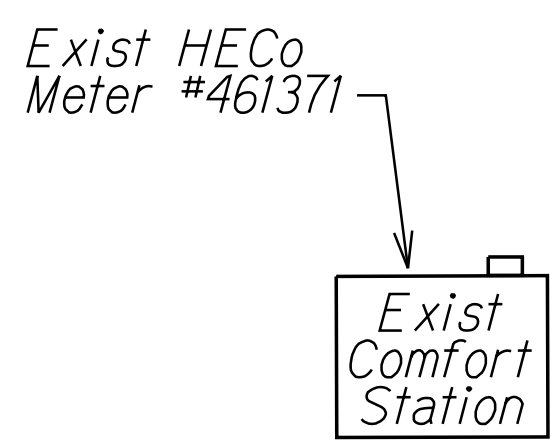
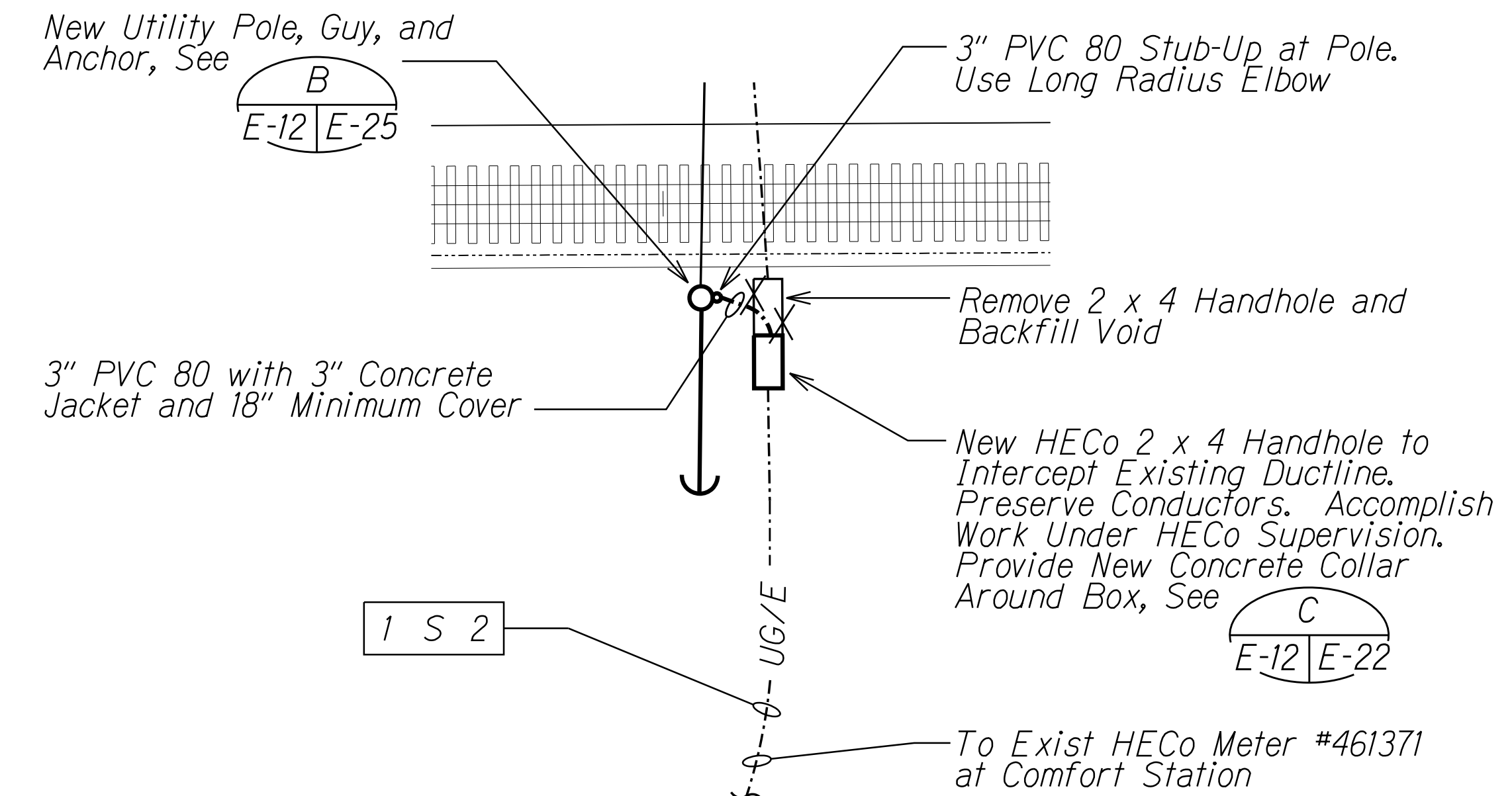
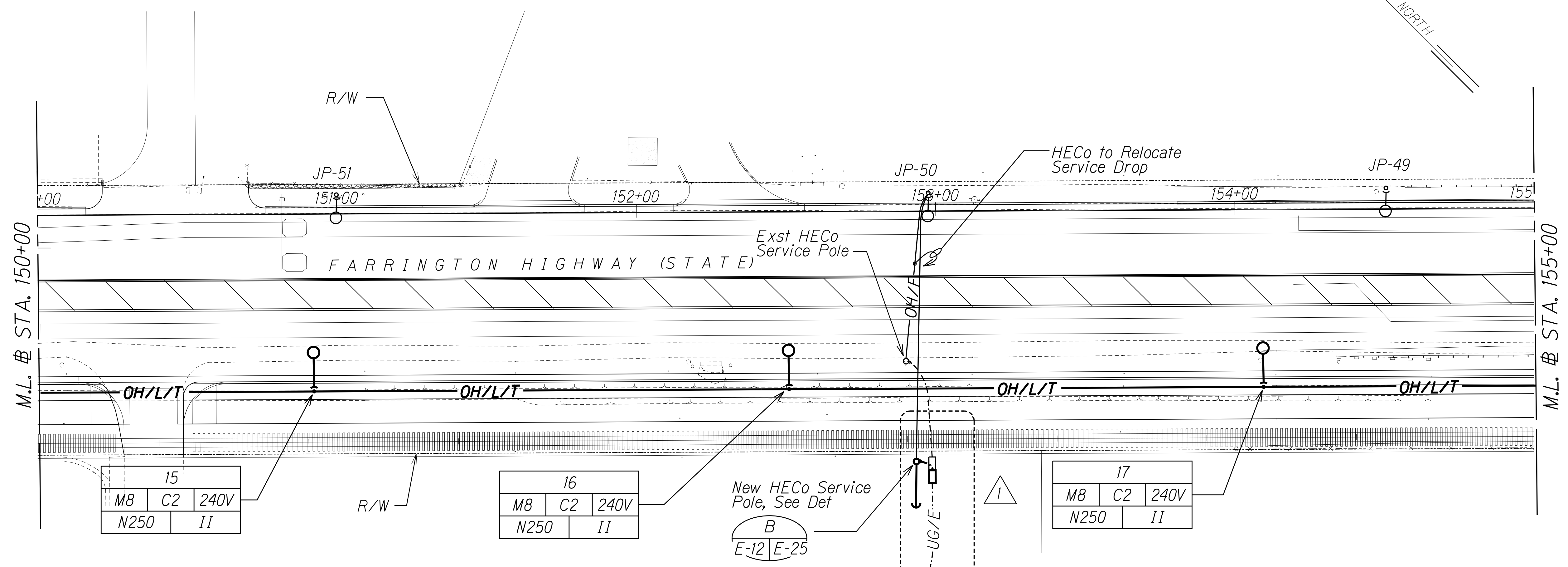
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

SHEET No. E-11 OF 25 SHEETS

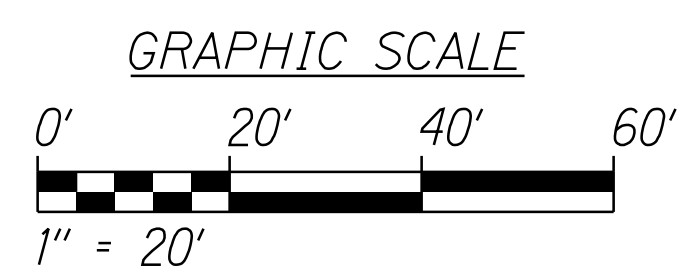
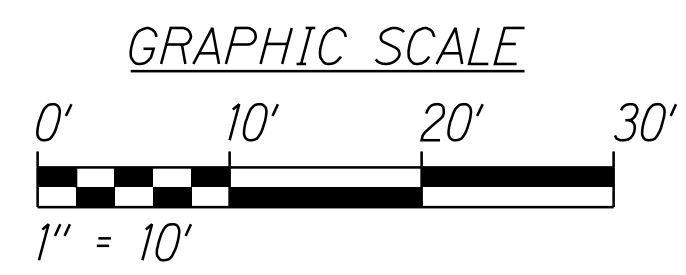
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	C.O. 132	230

10030

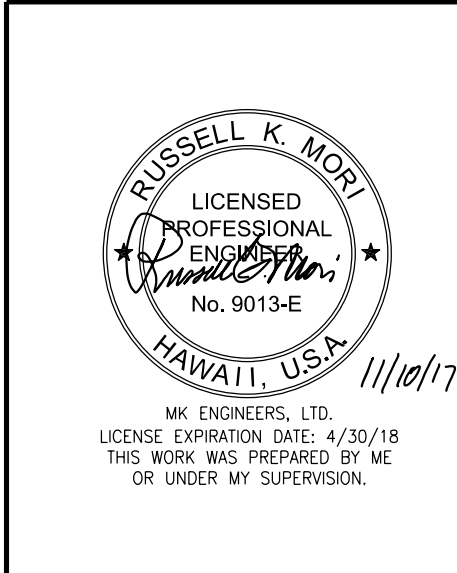


See Enlarged Site Electrical Plan on this Sheet

ENLARGED SITE ELECTRICAL PLAN
Scale: 1" = 10'-0"



DATE	REVISION
11/10/17	1 Relocate HECO Service Pole



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
STA. 150+00 TO 155+00

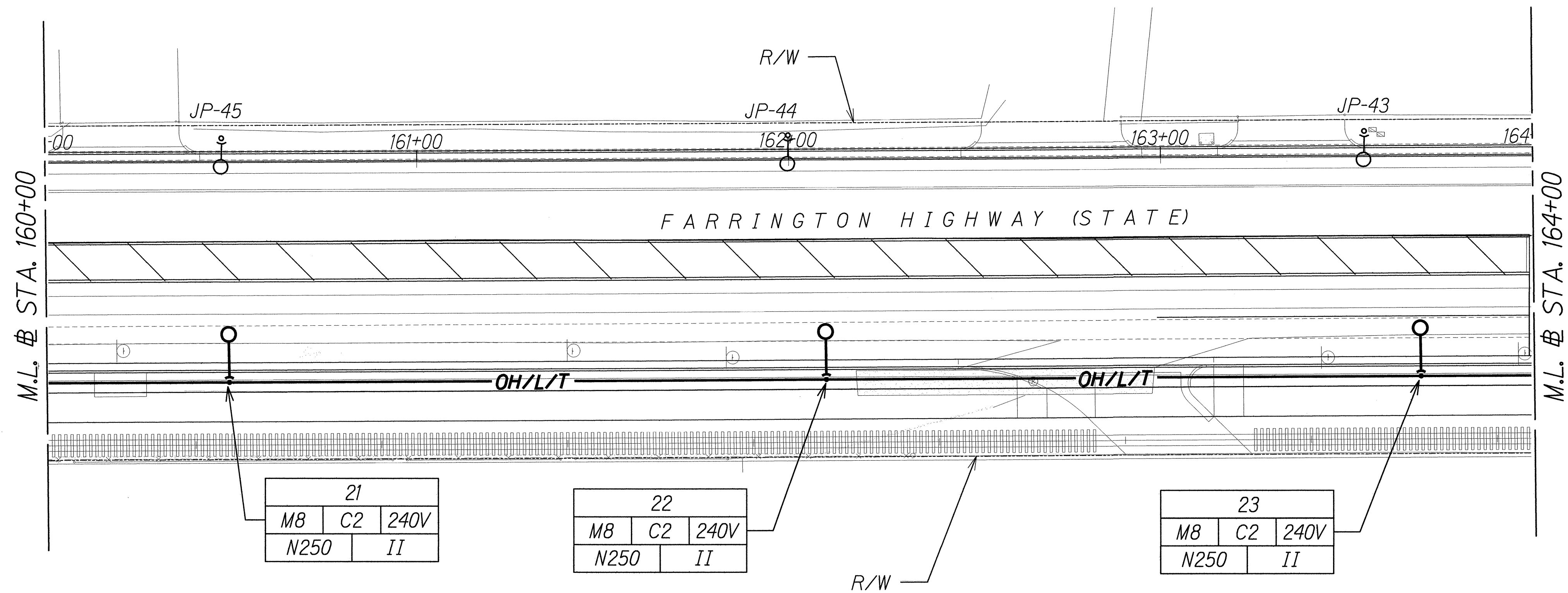
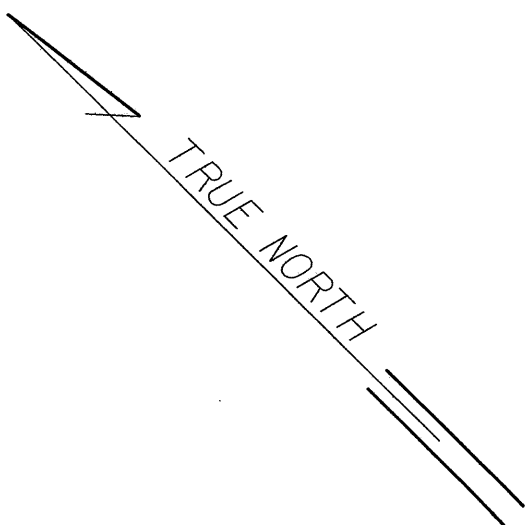
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

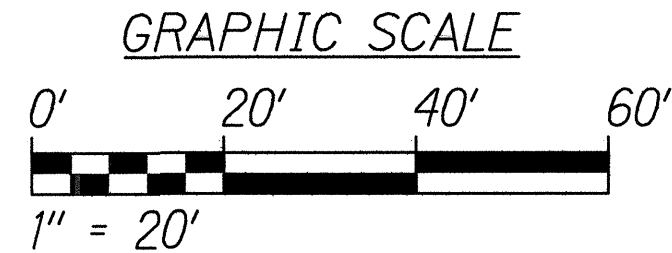
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
Ne	

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	134	230

10030



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTED BY	DRAWN BY	
QUANTITIES BY	TRACED BY	
CHECKED BY	NOTED BY	
N.		



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

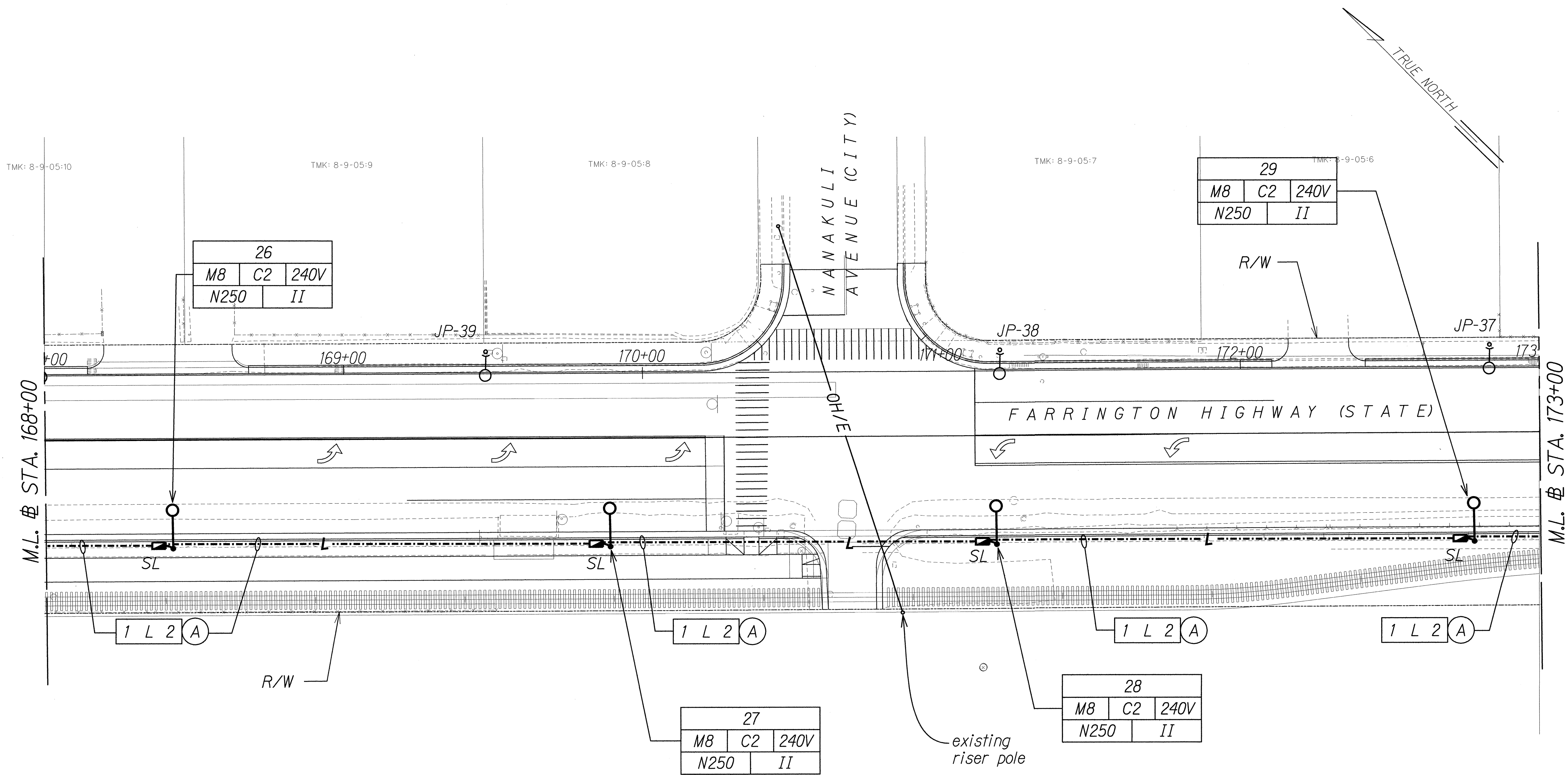
LIGHTING PLAN
STA. 160+00 TO 164+00

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

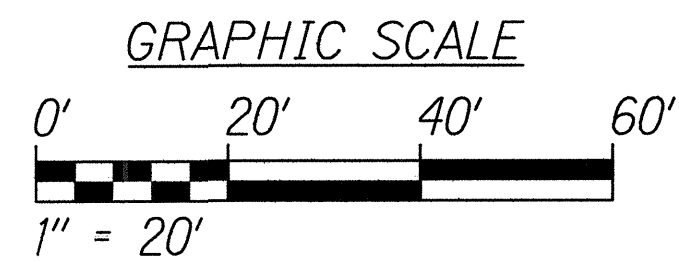
Scale: 1" = 20' Date: June 2013

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	136	230

10030



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



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
STA. 168+00 TO 173+00

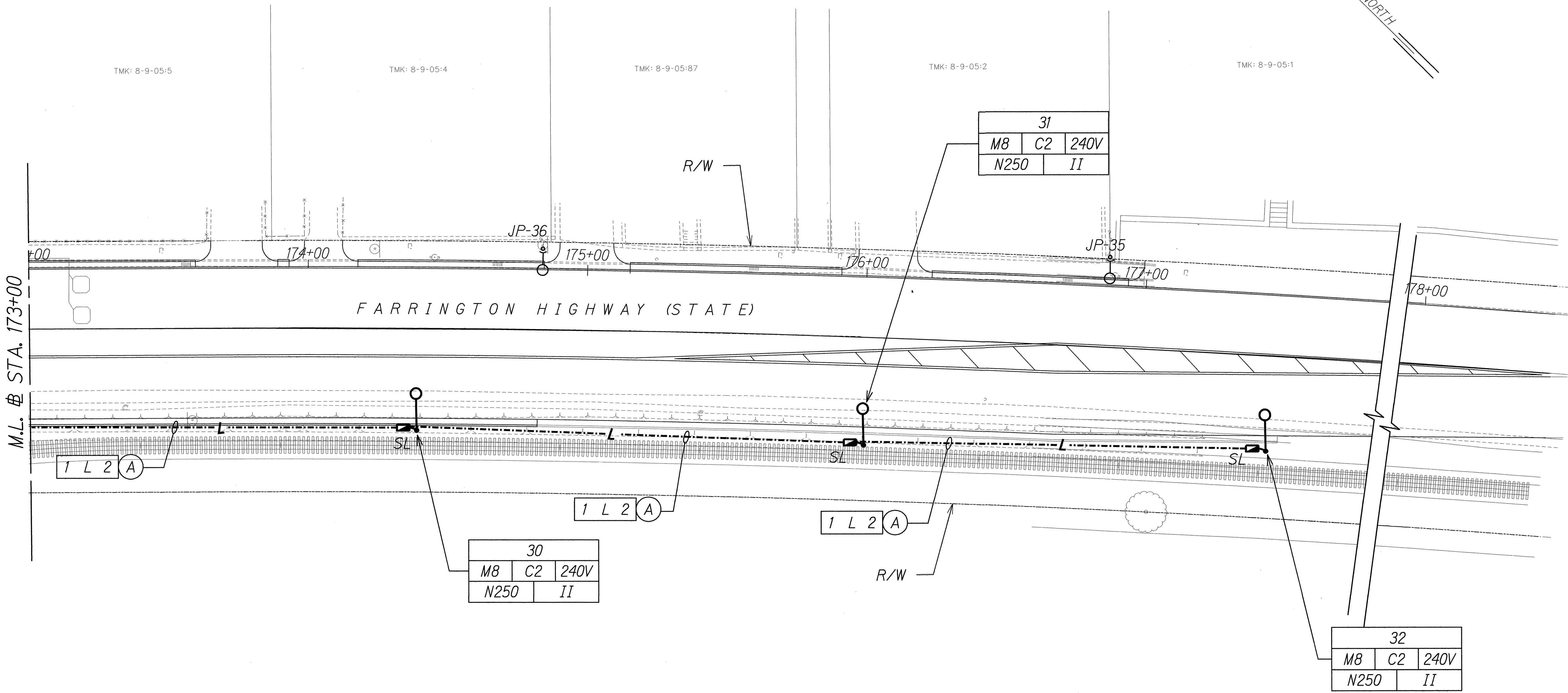
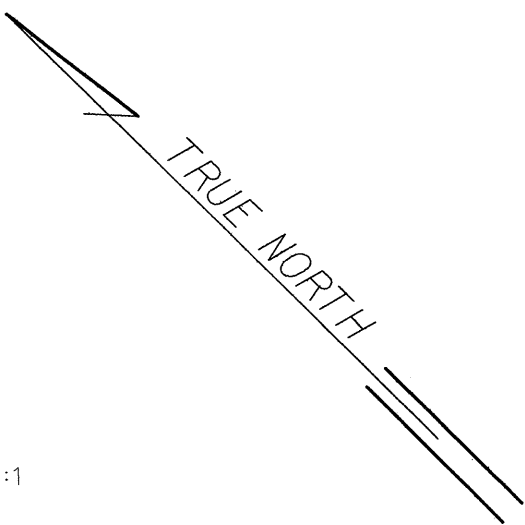
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Scale: 1" = 20' Date: June 2013

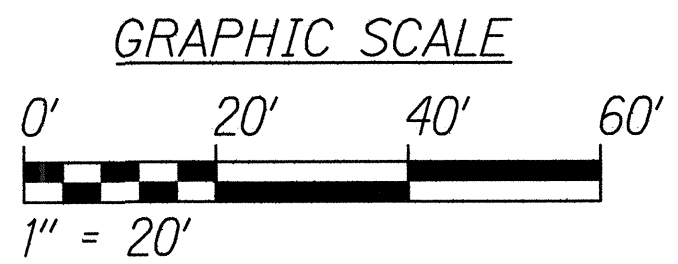
SHEET No. E-16 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	137	230

10030



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
TRACED BY		
NOTE BOOK		
QUANTITIES BY		
CHECKED BY		
N.		



RUSSELL K. MORIN
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, U.S.A.
MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/14
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

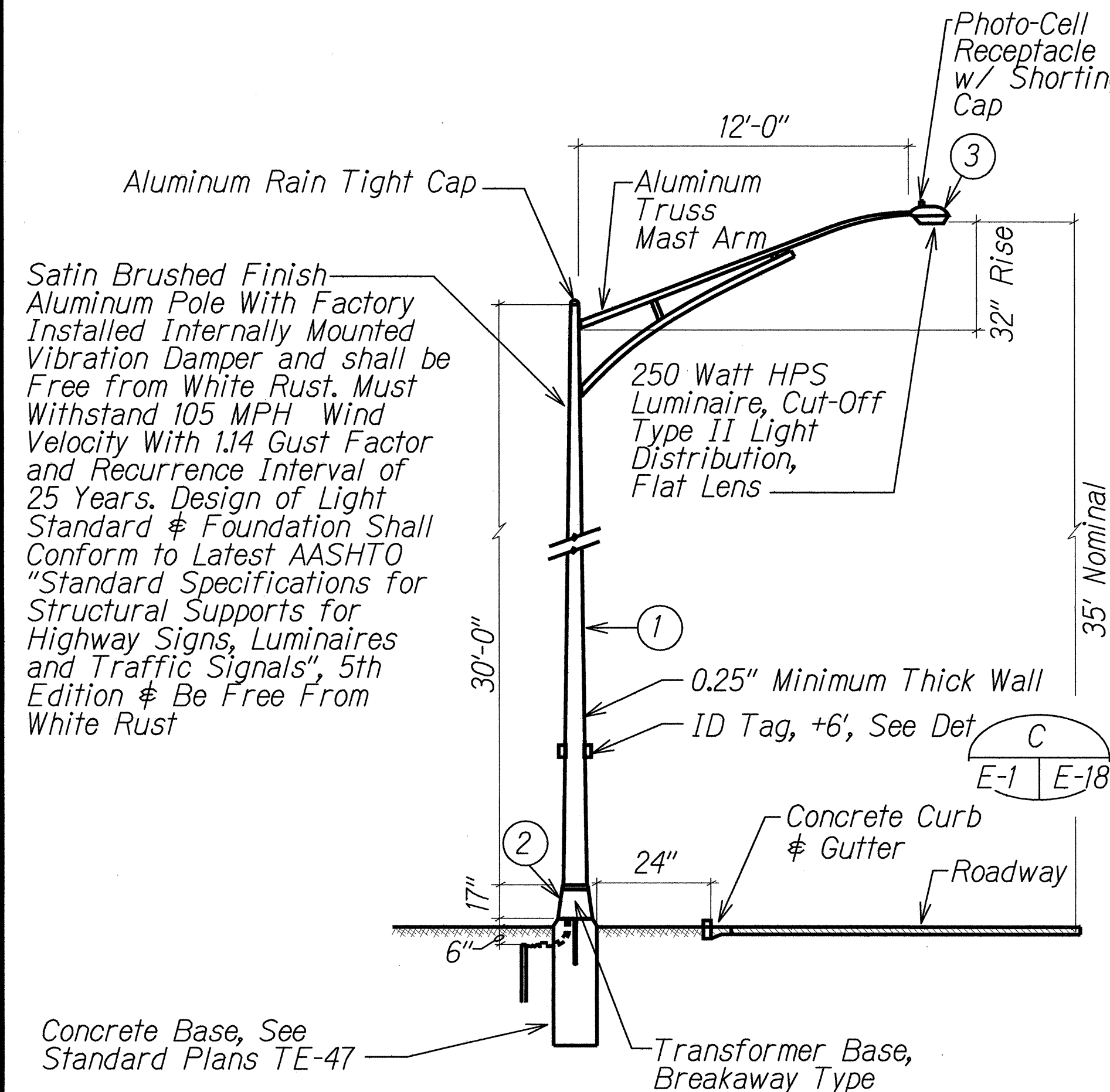
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LIGHTING PLAN
STA. 173+00 TO 178+00

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

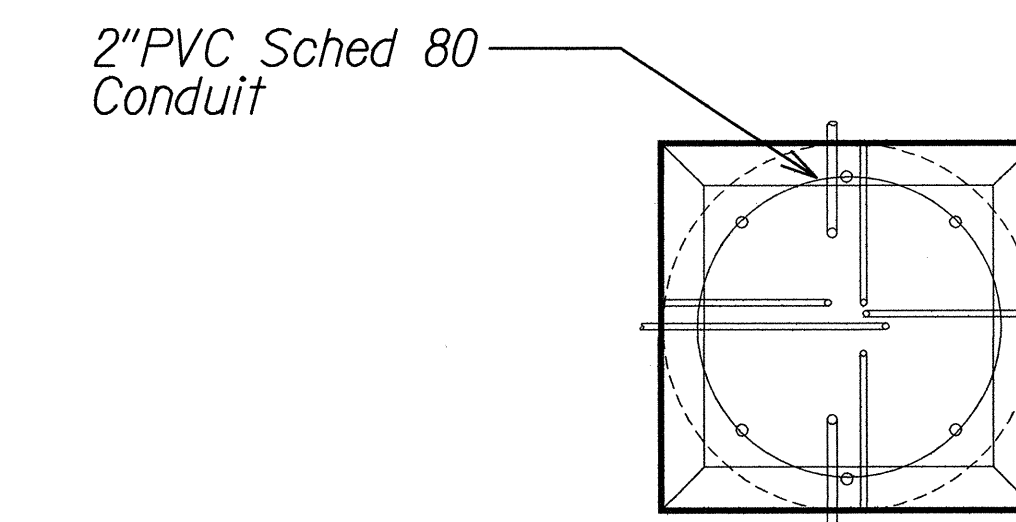
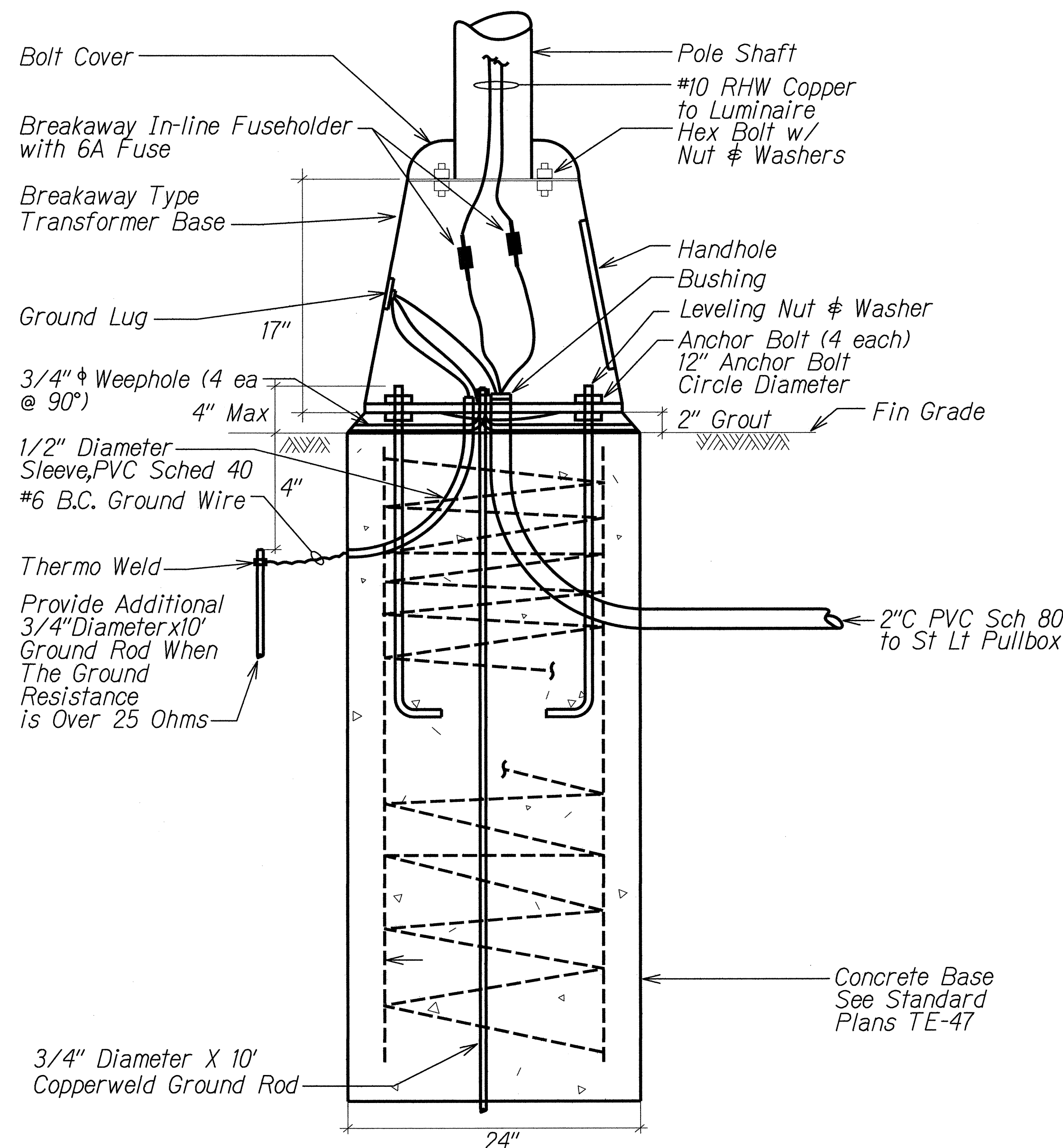
Scale: 1" = 20' Date: June 2013

SHEET No. E-17 OF 25 SHEETS



A STREET LIGHT STANDARD DETAIL
E-1 E-18 NTS

MATERIAL LIST		
ITEM	DESCRIPTION	MANUFACTURER
①	Light Pole, 30', Alum	
②	Transformer Base (Alum) (Breakaway Type)	
③	Luminaire, 250W HPS	



C STREET LIGHT POLE TAG DETAIL
E-1 E-18 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 (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).

B TYPICAL TRANSFORMER BASE WIRING DETAIL
E-18 E-18 NTS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT STANDARD DETAILS

Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-K(22)

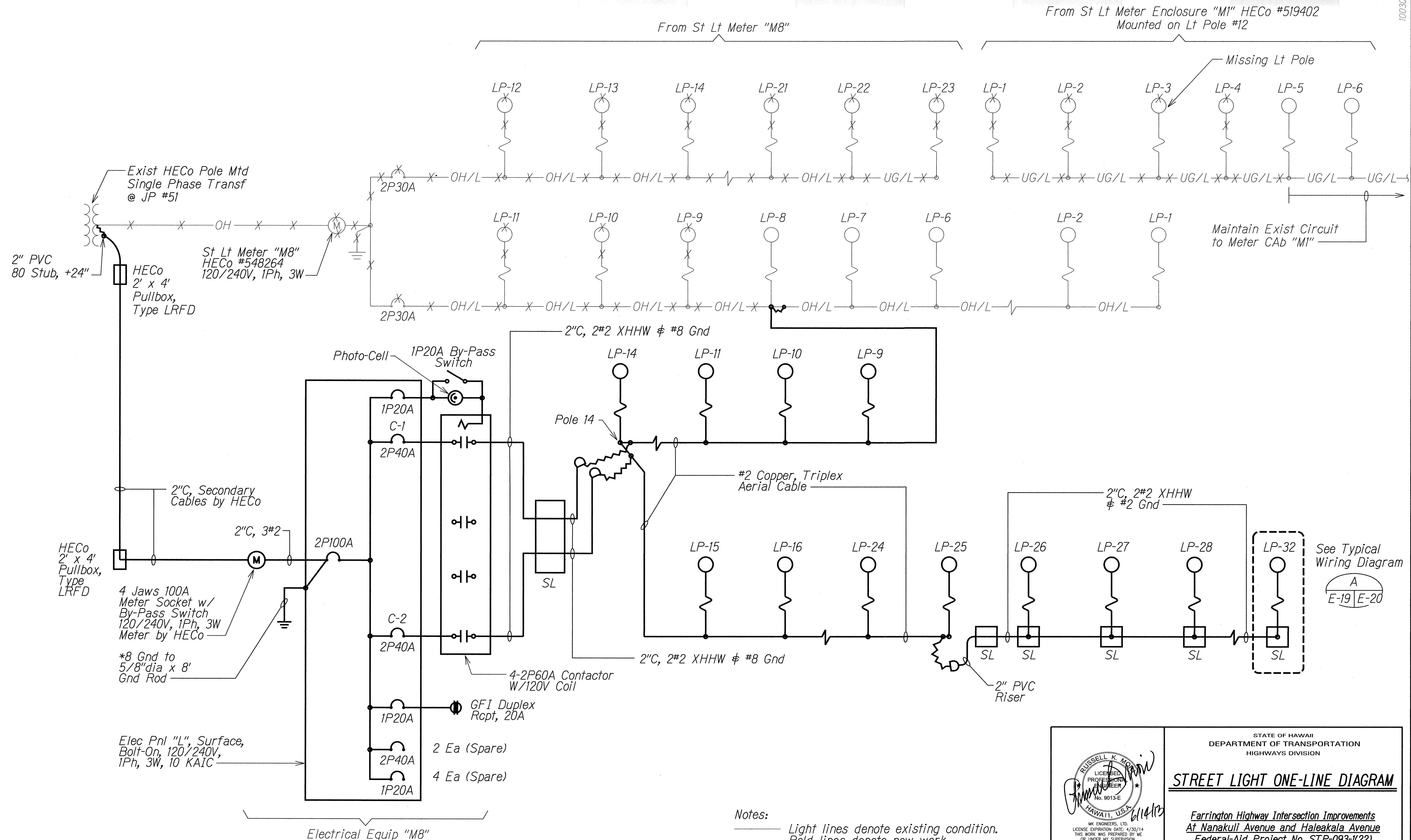
Not to Scale Date: June 2013

SHEET No. E-18 OF 25 SHEETS

10030

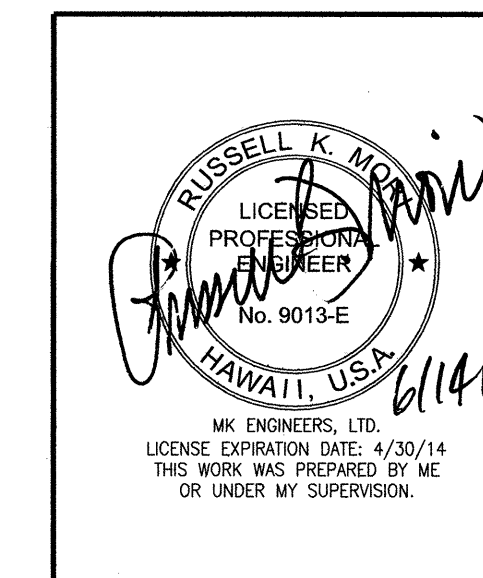
138

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	139	230



Notes:

- Light lines denote existing condition.
- Bold lines denote new work.
- X Denote Removal Work.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT ONE-LINE DIAGRAM

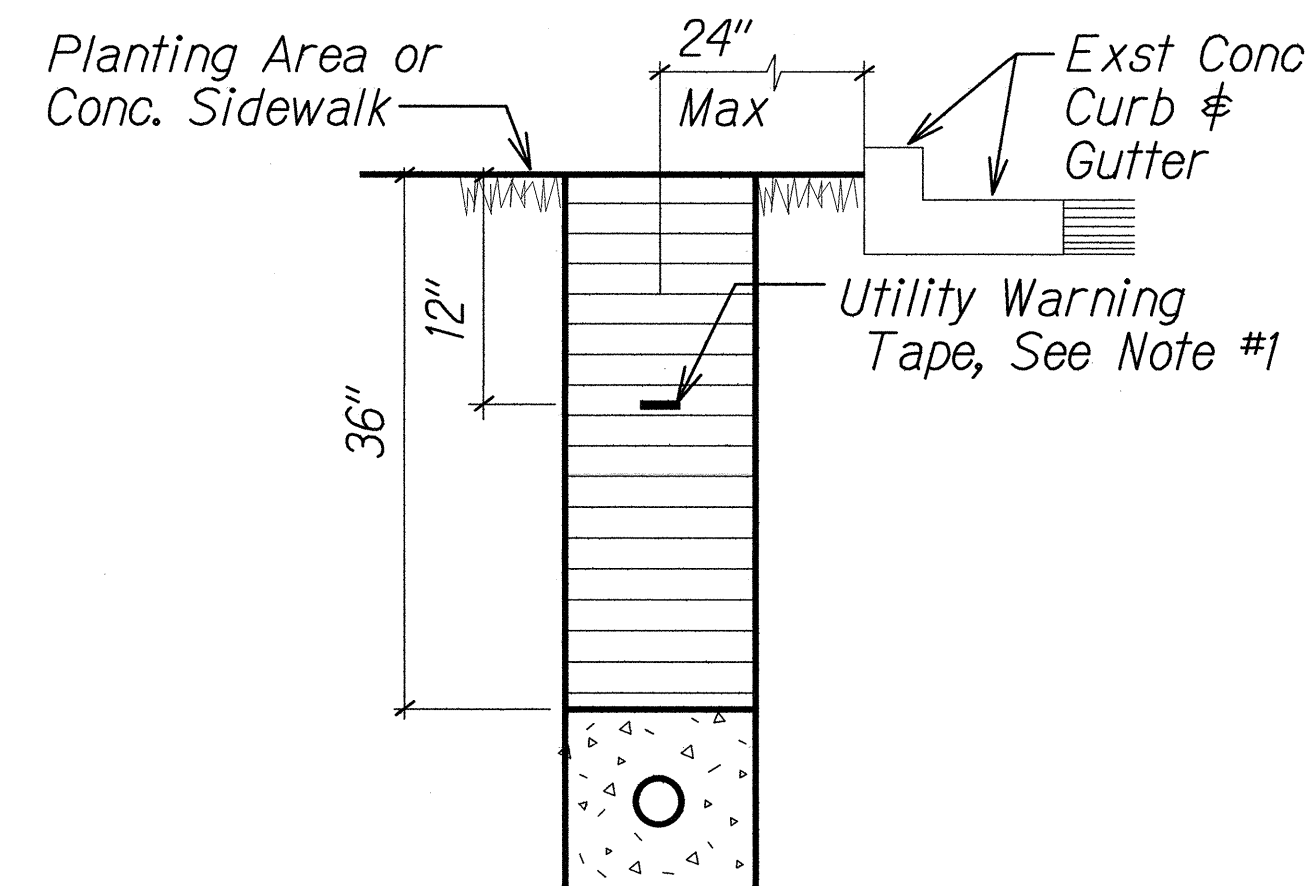
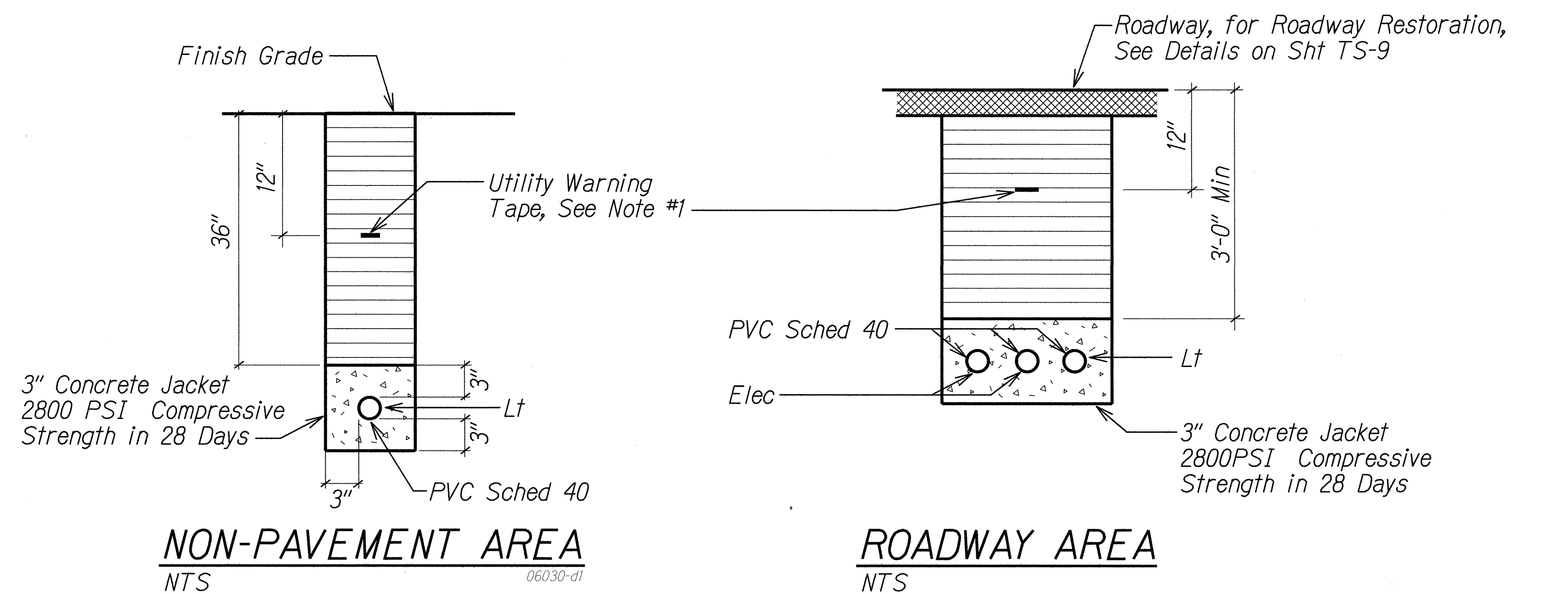
*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

Not to Scale Date: June 2013

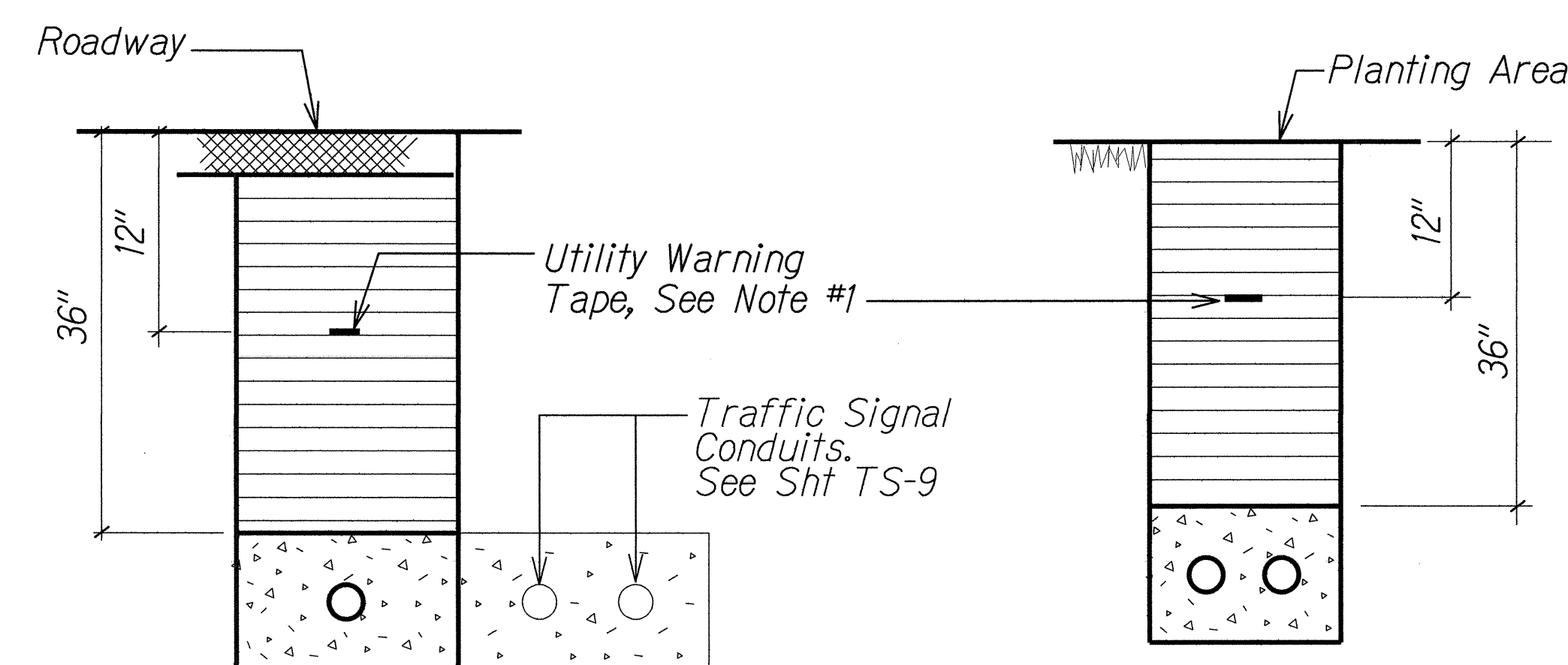
SHEET No. E-19 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	140	230

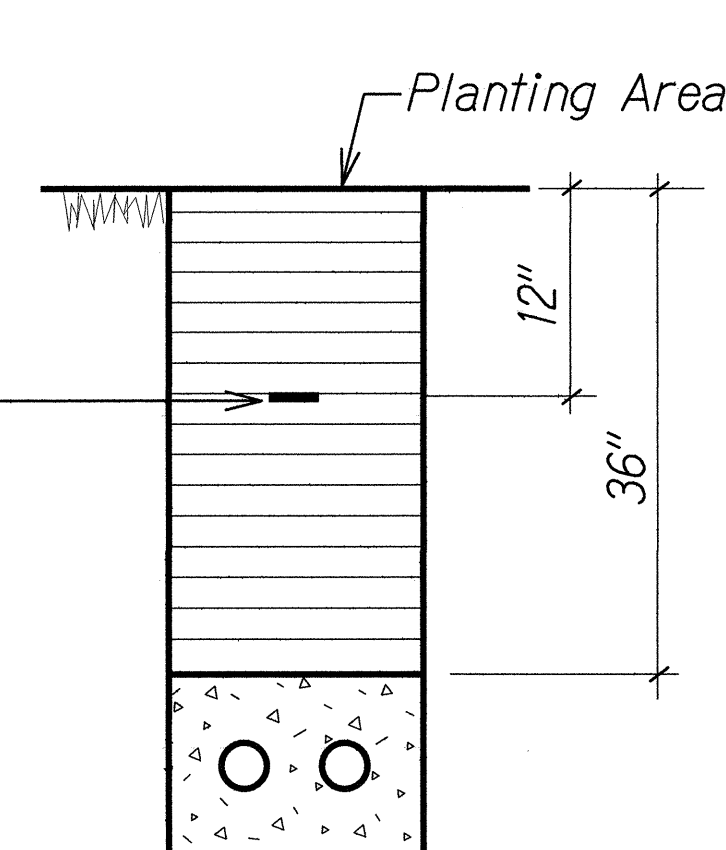
10030



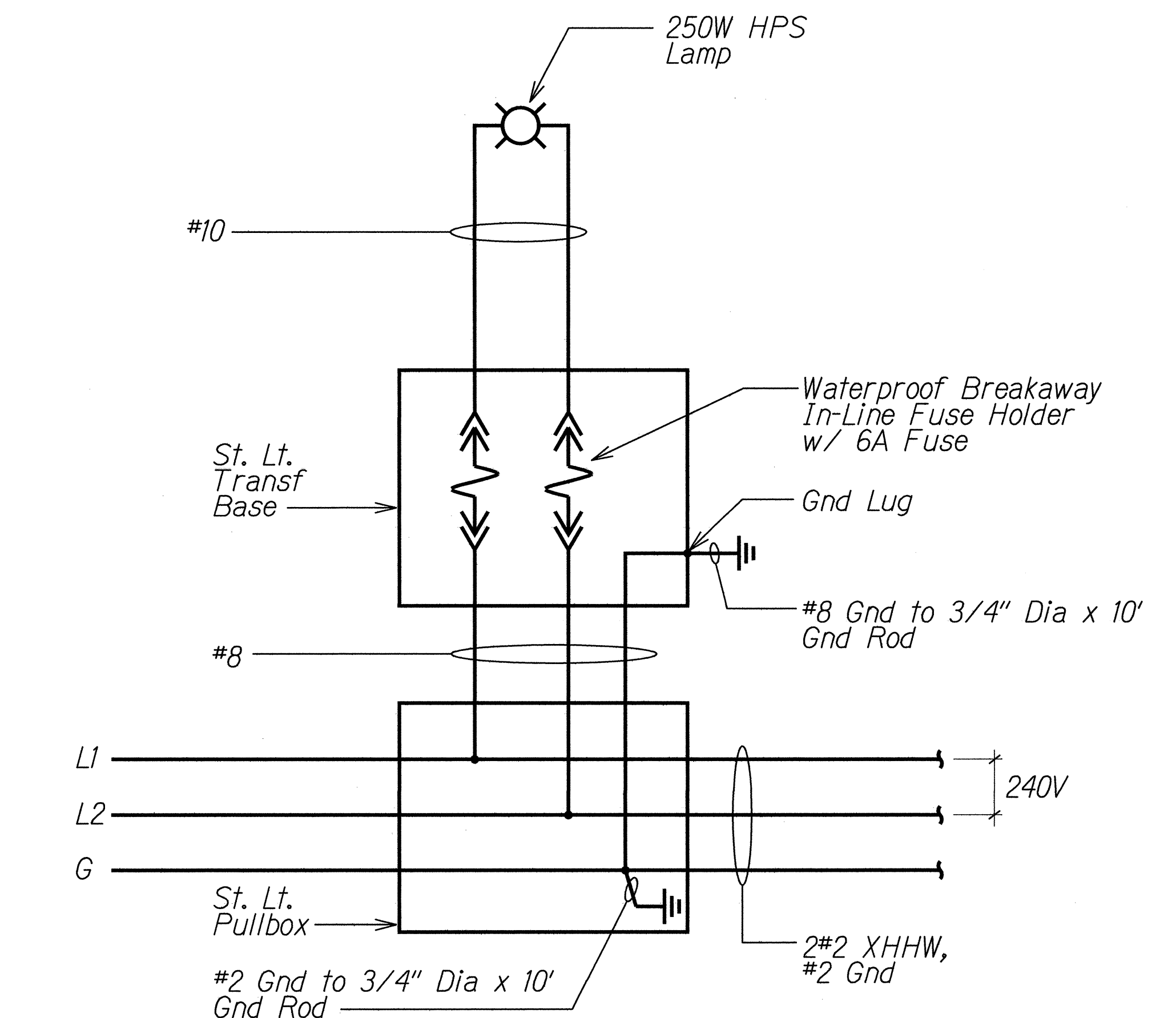
DUCT SECTION (A)
NTS



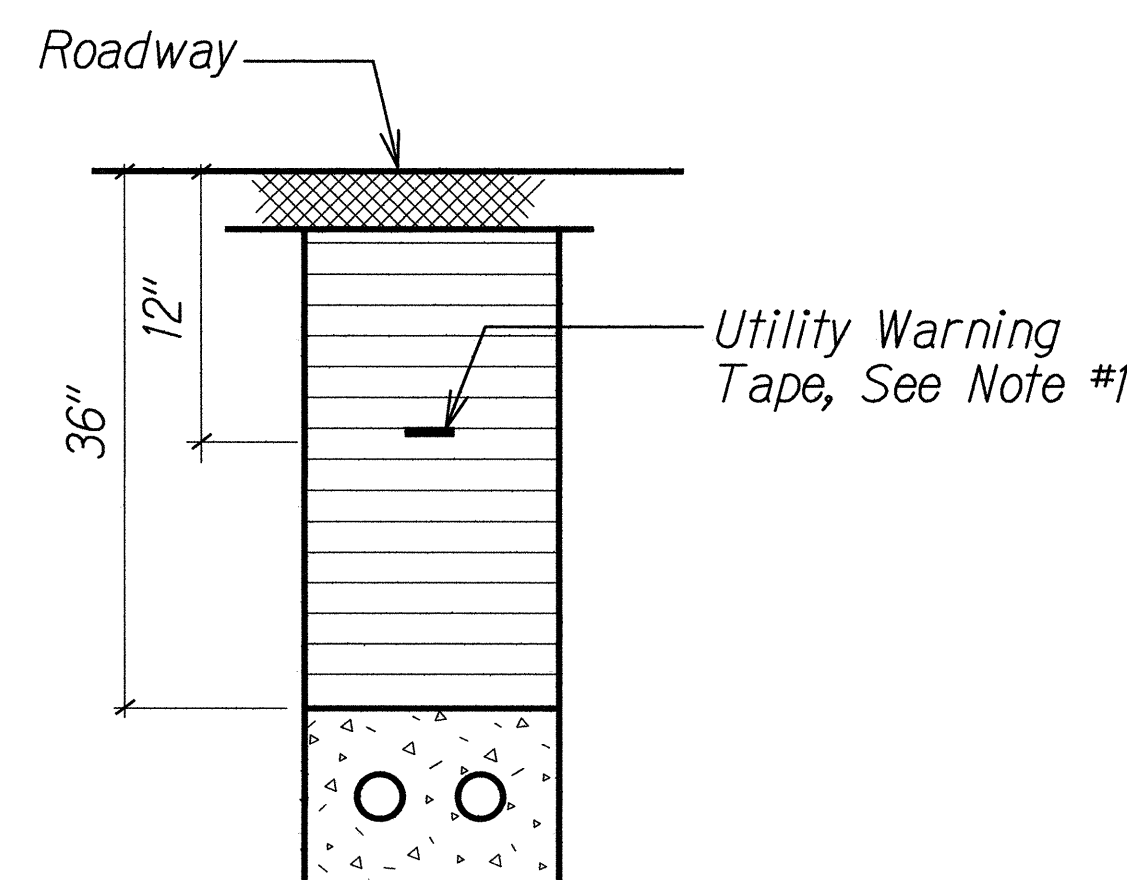
DUCT SECTION (B)
NTS



DUCT SECTION (C)



TYPICAL WIRING DIAGRAM
A
E-19 E-20



DUCT SECTION (D)

TYPICAL DUCT SECTIONS

NTS

NOTES:

- 8 MIL Thick Red Colored Plastic Warning Tape 3" Wide, Entire Length of Duct. Tape to Have Continuous Metallic Backing and Corrosion Resistant Foil Core. Warning and Identification to be Imprinted on Tape and Shall Read "Caution Buried Electric Cable Below". Message Shall Be Repeated Approximately Every Ten Feet.

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

6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DUCT SECTIONS

Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)

Not to Scale Date: June 2013

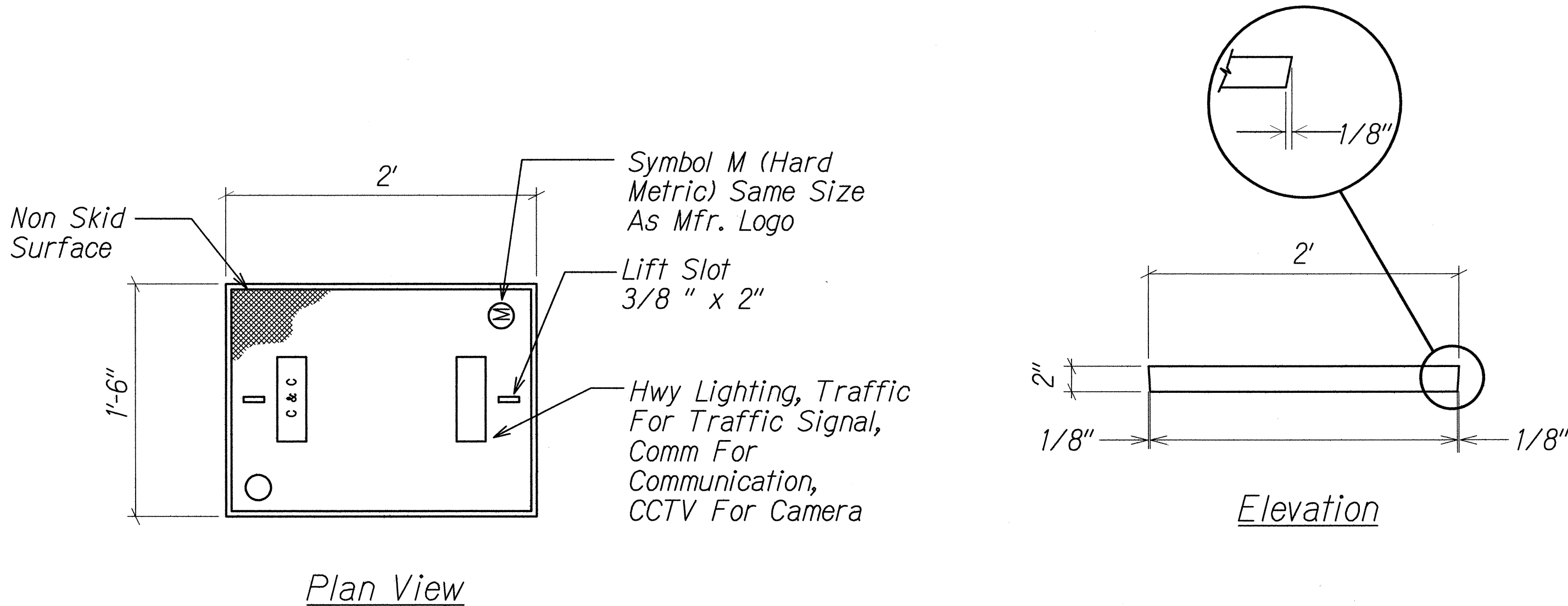
SHEET No. E-20 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013	143	230

10030

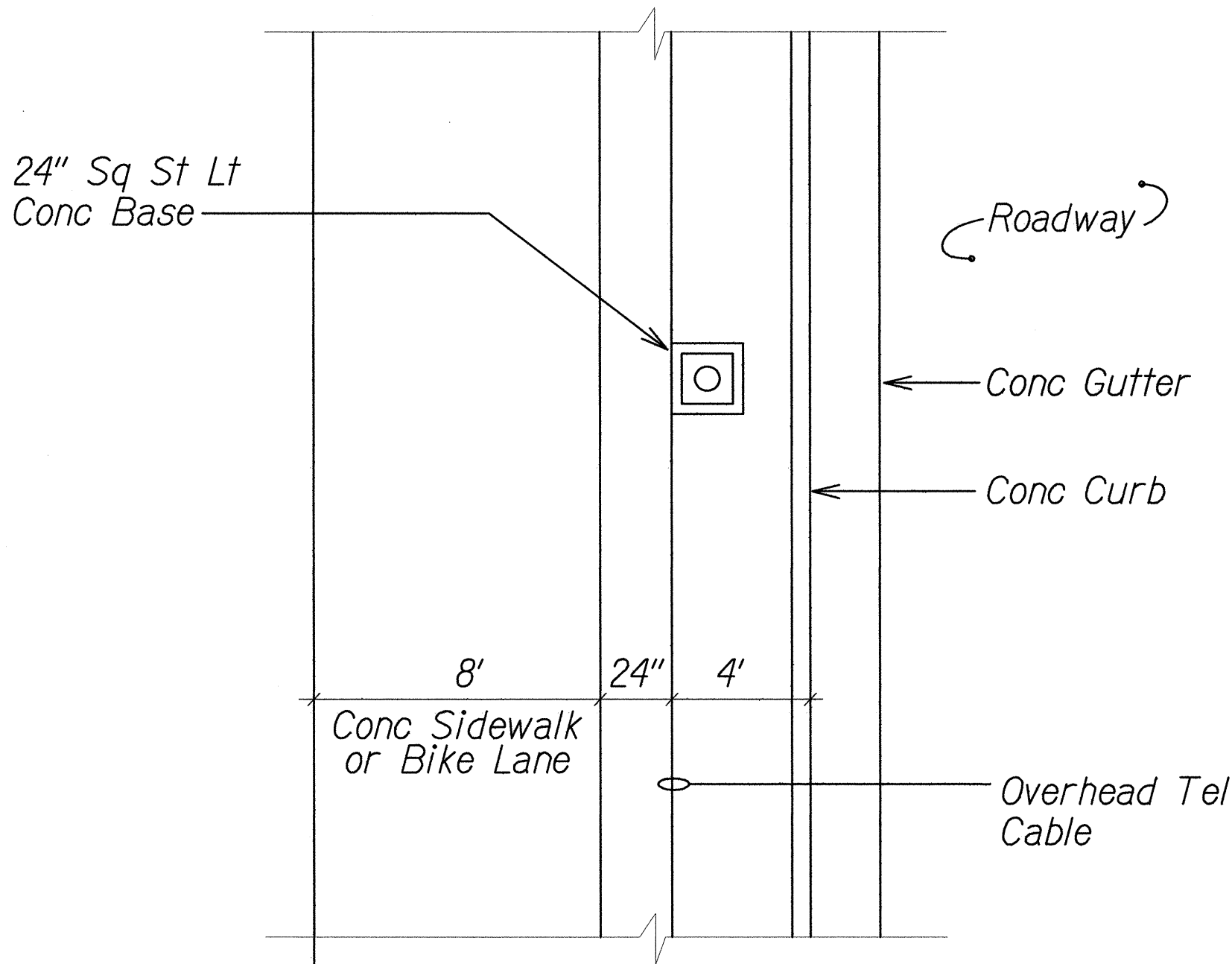
GENERAL NOTES:

- Provide a Minimum Of One 3/4 Dia. x 10 Ft Copperweld Ground Rod In Each Pullbox. When Directed by the Street Light Inspector/Engineer, Install Additional Ground Rods. Cost of Ground Rods Shall be Incidental to the Pullboxes.
- All Pre-Coast Concrete Pullboxes Shall be Manufactured in Two Pieces.
- The Pullbox with Cover Shall be Capable of Supporting an MS 18 Loading.
- The Maximum Weight of the Pullbox Cover Shall Not Exceed 27 Kilograms.
- The Openings for the Conduits on All Pullboxes Shall be Pre-Cast Concrete knockouts.
- After Installing the Conduits in the Openings of the Pullboxes, the Contractor Shall Fill the Excess Opening in the Pre-Cast Knockouts with Concrete Mortar.
- Prior to Installing the Pullboxes, the Contractor Shall Level the Bottom of the Trench and Achieve a Minimum of 95% Relative Compaction of the Bottom of the Trench.
- All Concrete Shall be Class a (25MPa, Min).
- Rebars Shall be Grade 300 and All Lapped Spaces Shall be 360 mm Minimum.
- The #57 or #67 Size Aggregate Shall Conform to Latest Version of AASHTO M43 (ASTM D 448).
- Pullbox Shall be Installed in a Location Protected From Vehicular Traffic (I.E. Raised Sidewalk, Behind A.C. Curbs, Street Light Standard or Pipe Guards).

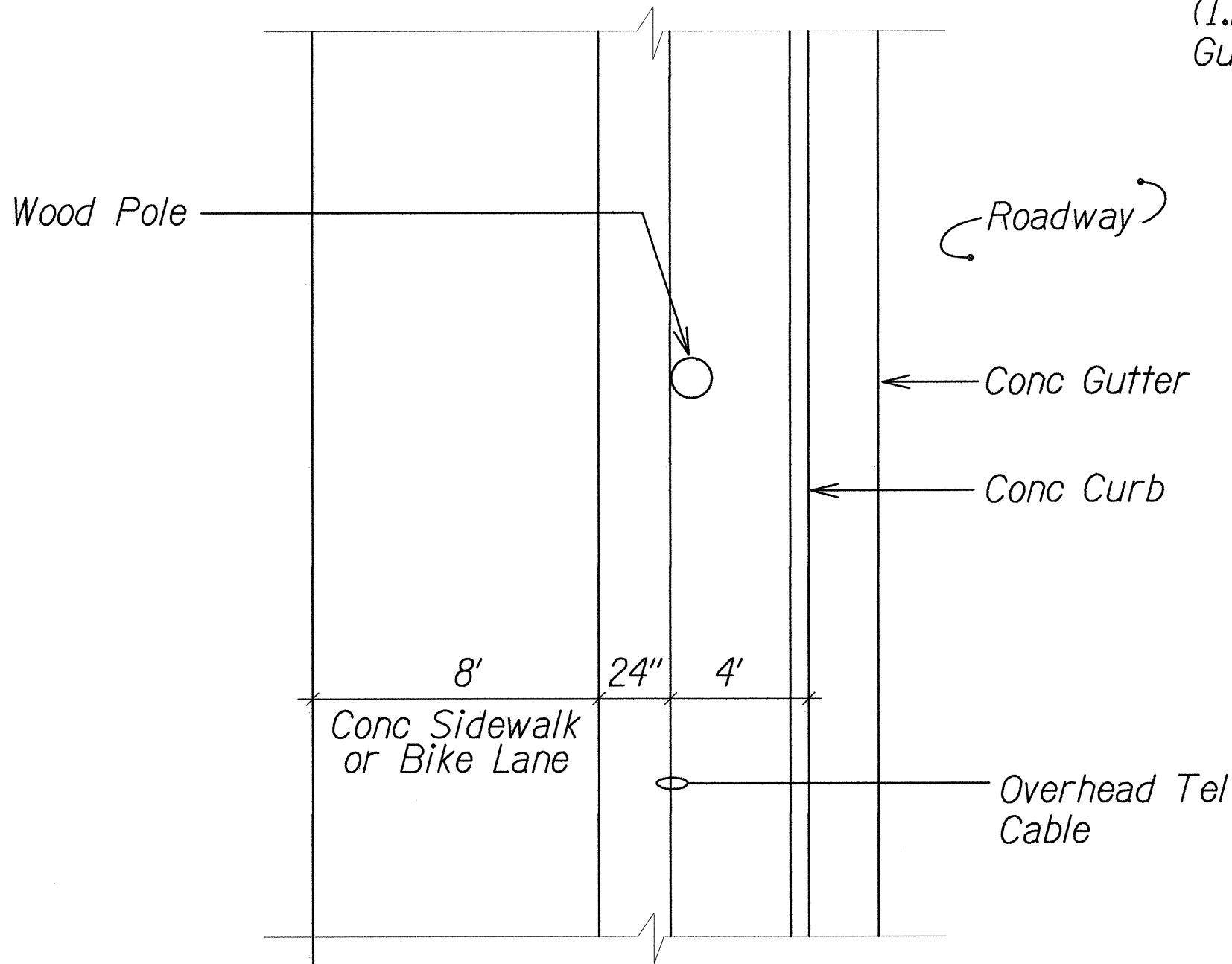


POLYMER CONCRETE COVER

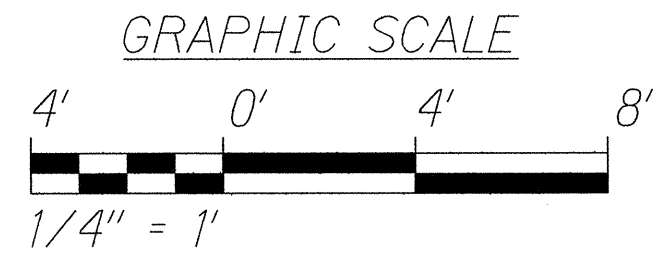
NOT TO SCALE



A TYPICAL ST LT STANDARD LOCATION PLAN
E-1 E-23 Scale: 1/4" = 1'-0"



B TYPICAL ST LT WOOD POLE LOCATION PLAN
E-1 E-23 Scale: 1/4" = 1'-0"



6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

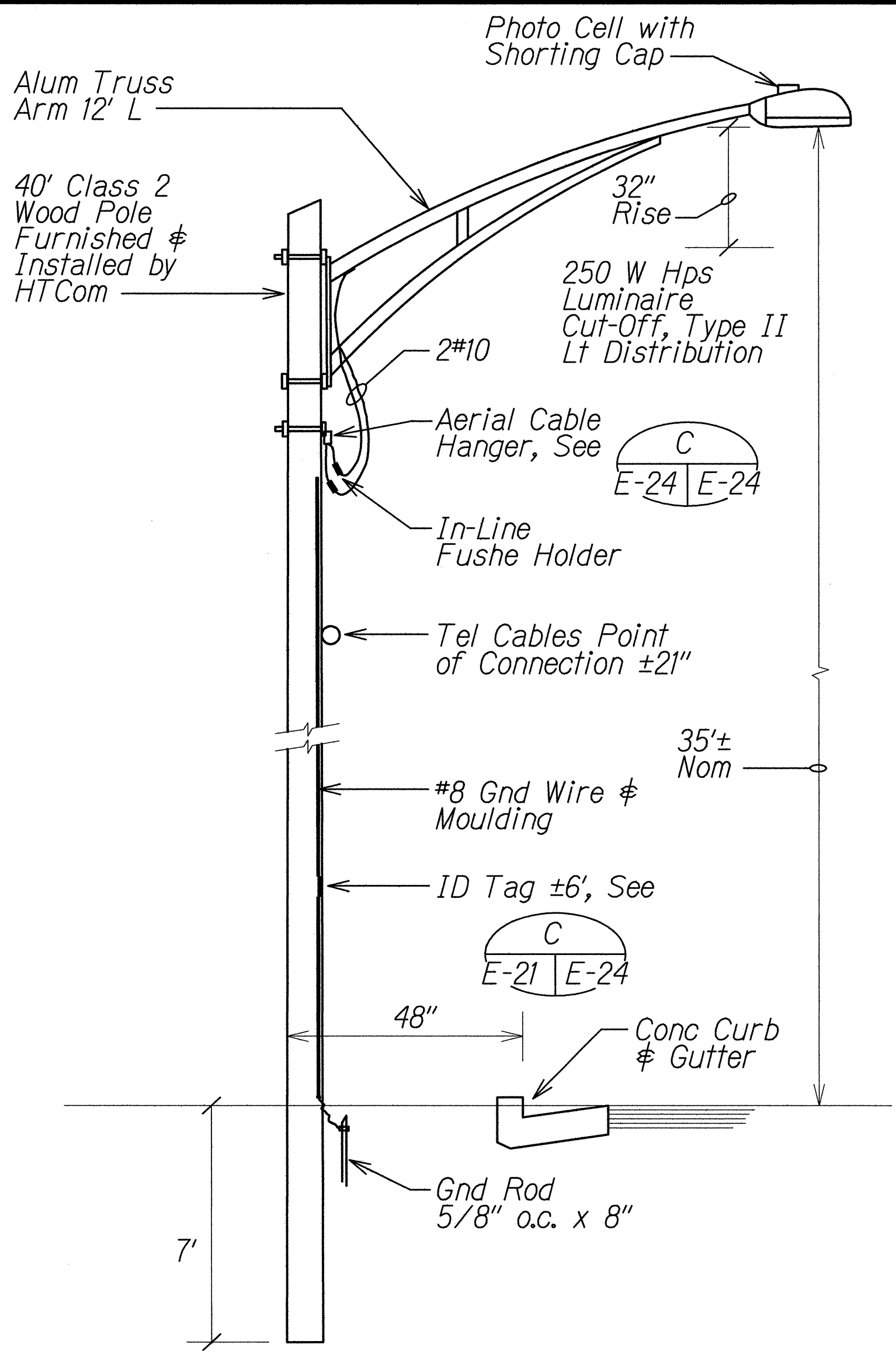
PULLBOX DETAILS

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)*

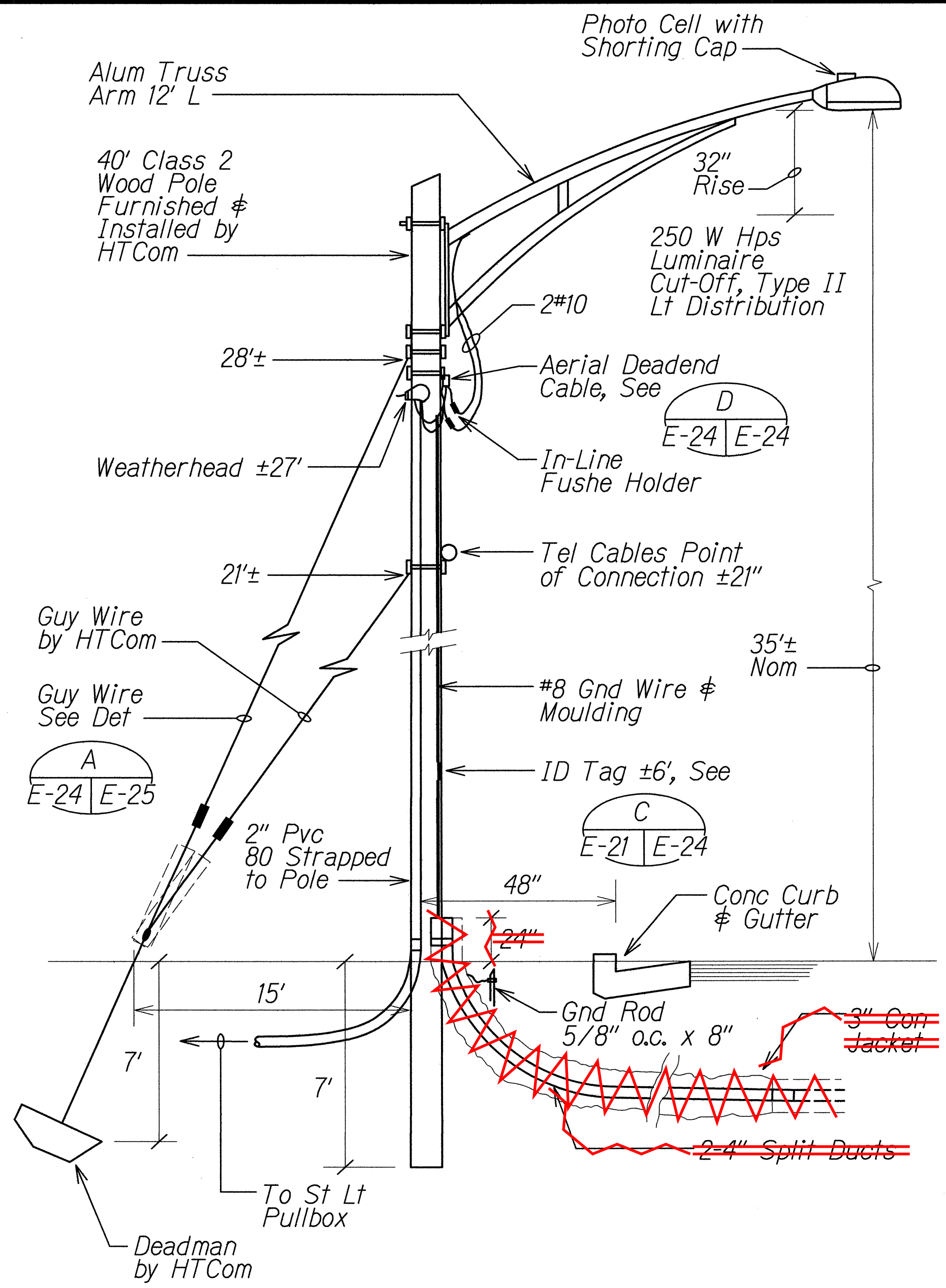
Scale: Not to Scale Date: June 2013

SHEET No. E-23 OF 25 SHEETS

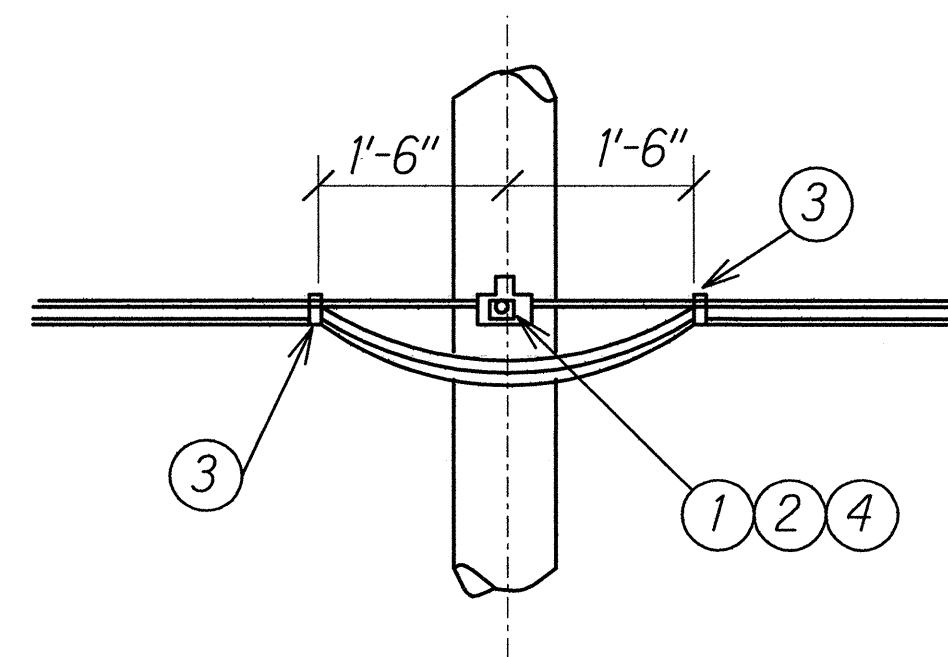
SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
N.	



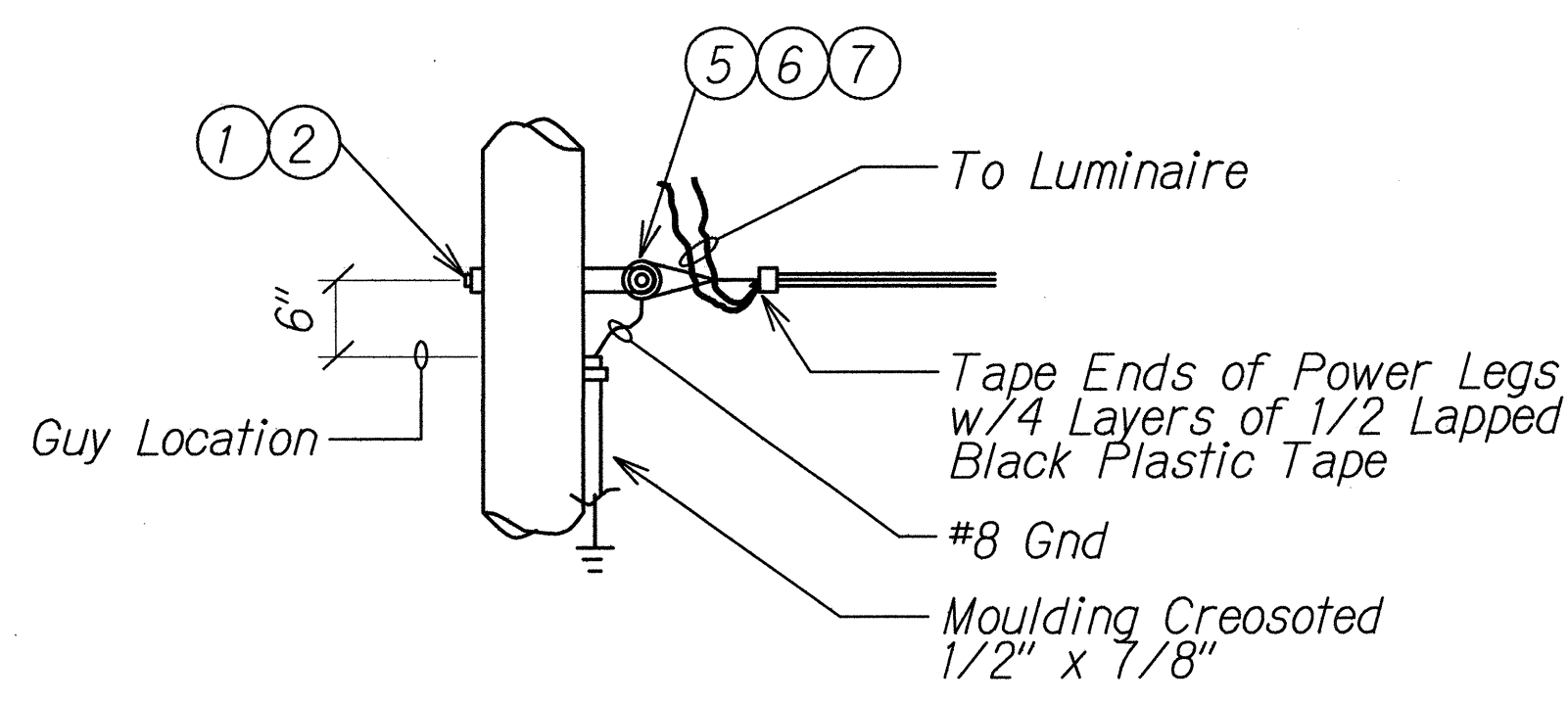
A ST. LT / TEL WOOD POLE
E-1 E-24 NOT TO SCALE



B ST. LT / TEL WOOD POLE
E-15 E-24 NOT TO SCALE



C AERIAL CABLE
STRAIGHT LINE OR TANGENT
E-24 E-24 NOT TO SCALE (DEVIATION ANGLE 0°-10°)



D AERIAL CABLE DEADEND
E-24 E-24 NOT TO SCALE
E-10
E-11
E-12
E-15

MATERIAL LIST	
Item	Description
1	Bolt, 5/8" x 12" Galv. Mach.
2	Washer, 2-1/2" Galv. Sq. Curved
3	Tape, Black Plastic
4	Breacket, Al. Alloy Support with Hanger, Al. Alloy Msgr. Threaded Hole
5	Grip, Al. Deadend. 34", 3/0 AAAC
6	Eyelet, Galv.
7	Thimble, Al. Alloy Deadend
8	Clamp, Susp. Al. alloy
9	Line Guard, # 3/0 Al. Alloy
10	Connector, Al. Alloy Compr. Tap
11	Bolt, 5/8" x 14" Galv. Mach.

CONTRACT CHANGE ORDER NO. 37

6/14/13

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

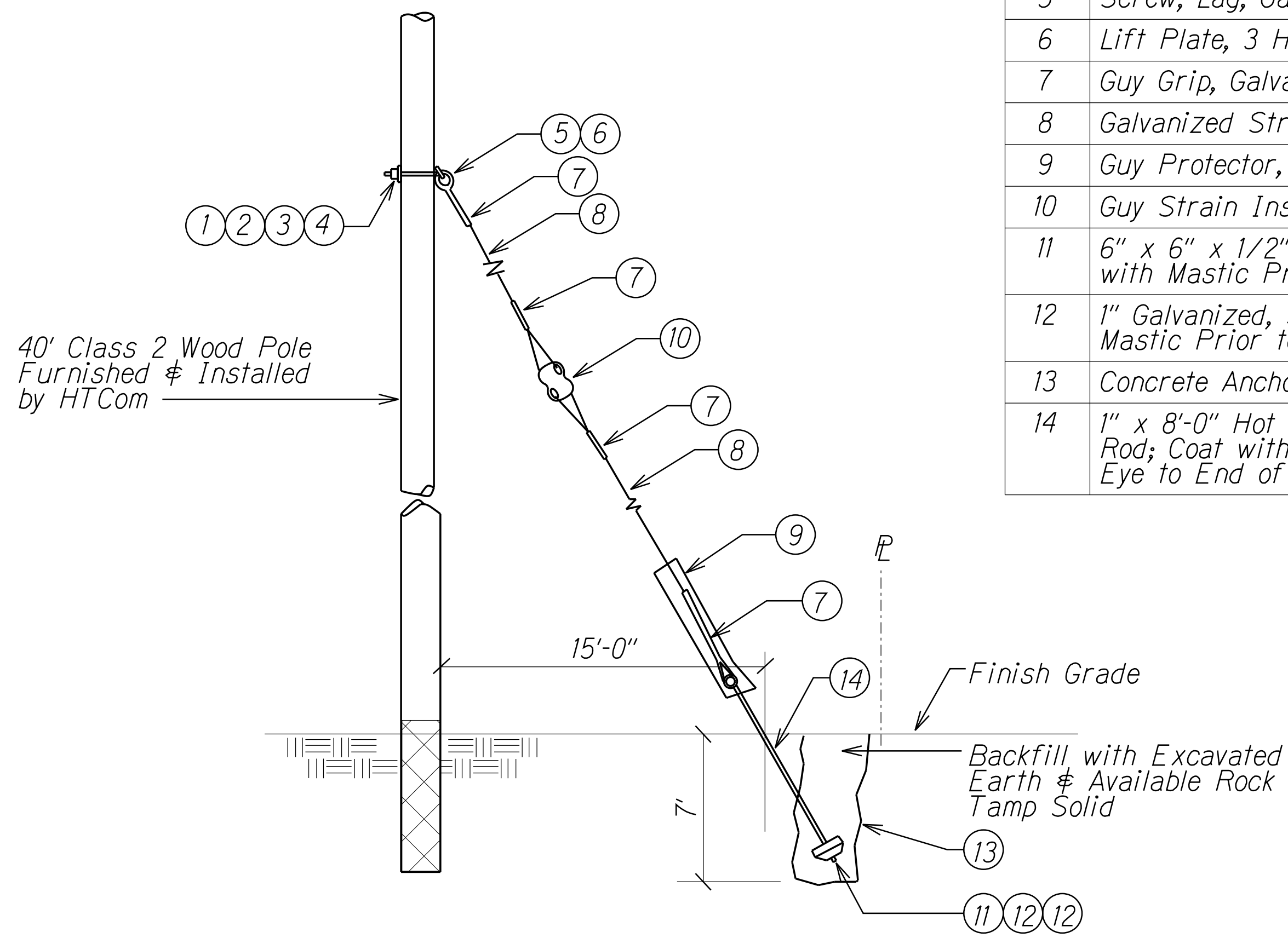
Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)

Scale: Not to Scale Date: June 2013

"AS-BUILT"

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-I(22)	2013	C.O. 145	230

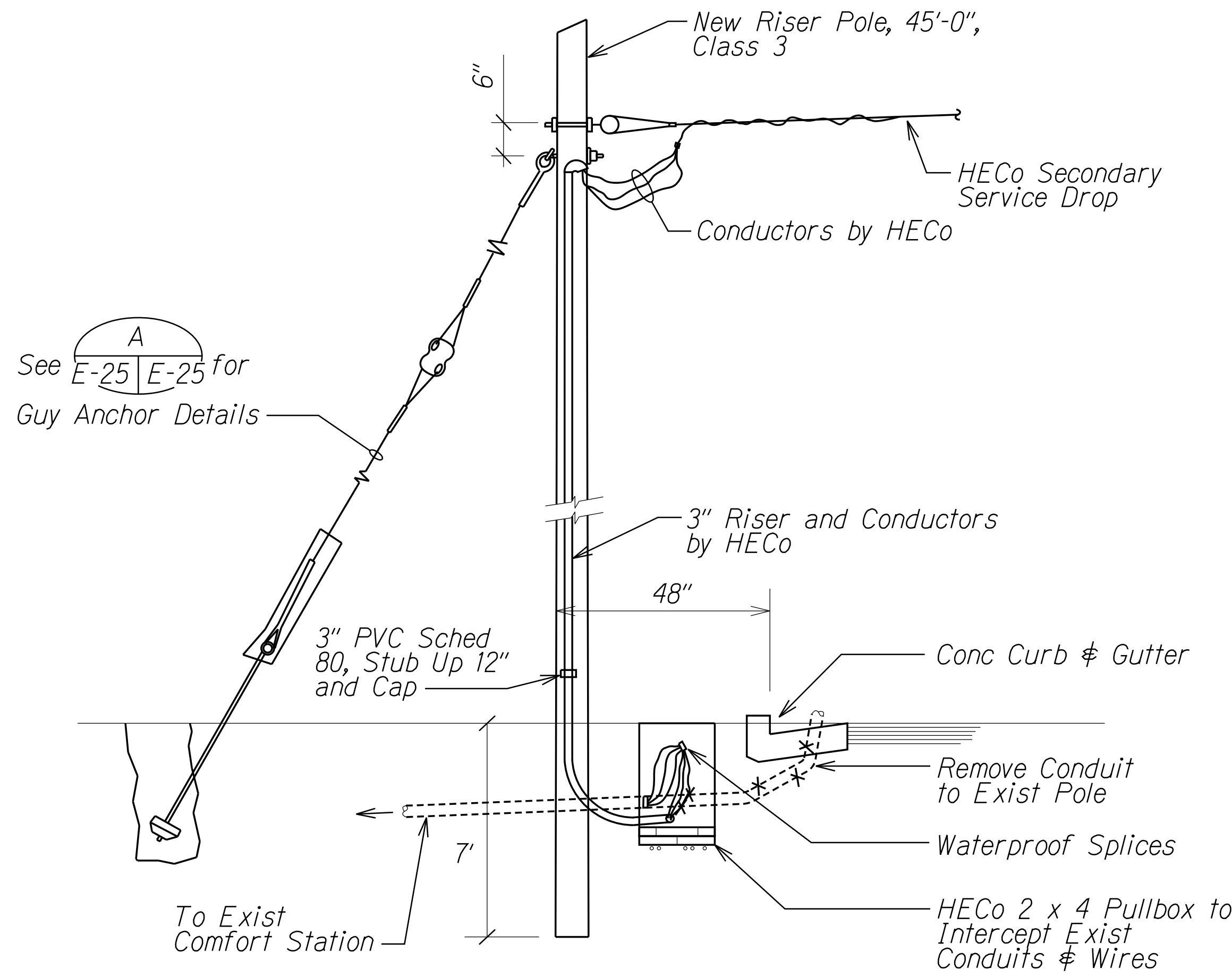
10030



Item	Description
1	Washer, Round, Galvanized, 3/8"
2	Nut, Square Head, Galvanized, 5/8"
3	M-F Locknut. 5/8"
4	Angle Thimble Eye Bolt, 5/8"
5	Screw, Lag, Galvanized, 1/2" x 4"
6	Lift Plate, 3 Hole, 1/4" Steel Plate
7	Guy Grip, Galvanized
8	Galvanized Stranded Guy Wire, 5/8" Dia.
9	Guy Protector, 8'-0" PVC or Vinyl
10	Guy Strain Insulator
11	6" x 6" x 1/2" Galvanized Washer; Coat with Mastic Prior to Assembly
12	1" Galvanized, Square Head Nut; Coat with Mastic Prior to Assembly
13	Concrete Anchor, 24" Diameter
14	1" x 8'-0" Hot Dipped Galvanized Anchor Rod; Coat with Mastic from Below the Eye to End of Rod. See note 1

A
E-24 E-25
GUY ANCHOR DETAIL
NOT TO SCALE

Note:
1. After the Mastic has Dried, the Coated Part of the Rod Shall be Taped with Electrical Tape, Half Lapped from Bottom of the Eye to Where the Threads Begin. After the Rod and Anchor, Nuts and Bolts are Field Assembled, the Thread Part of the Rod, Washer, and Nuts Shall be Painted with Mastic Again Prior to Installation



B
E-12 E-25
HECO SERVICE WOOD POLE
NOT TO SCALE

Note:
1. See Sht E-24 for Material List.

SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
NOTE BOOK	
Scale	

11/10/17	1 Modify HECO Service Pole
DATE	REVISION

11/10/17

MR. ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/18
THIS WORK WAS PREPARED BY ME
OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

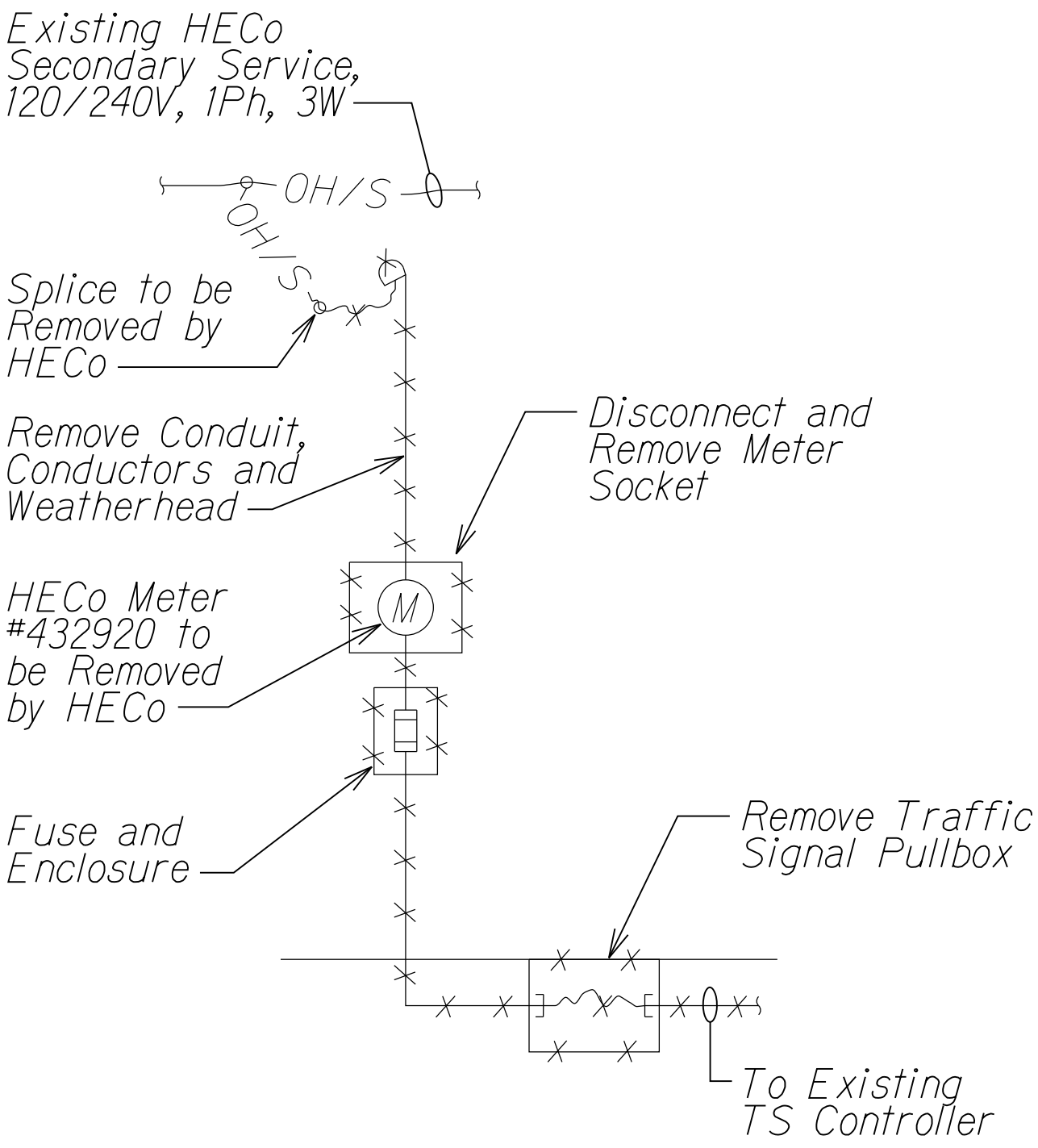
MISCELLANEOUS DETAILS

*Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-I(22)*

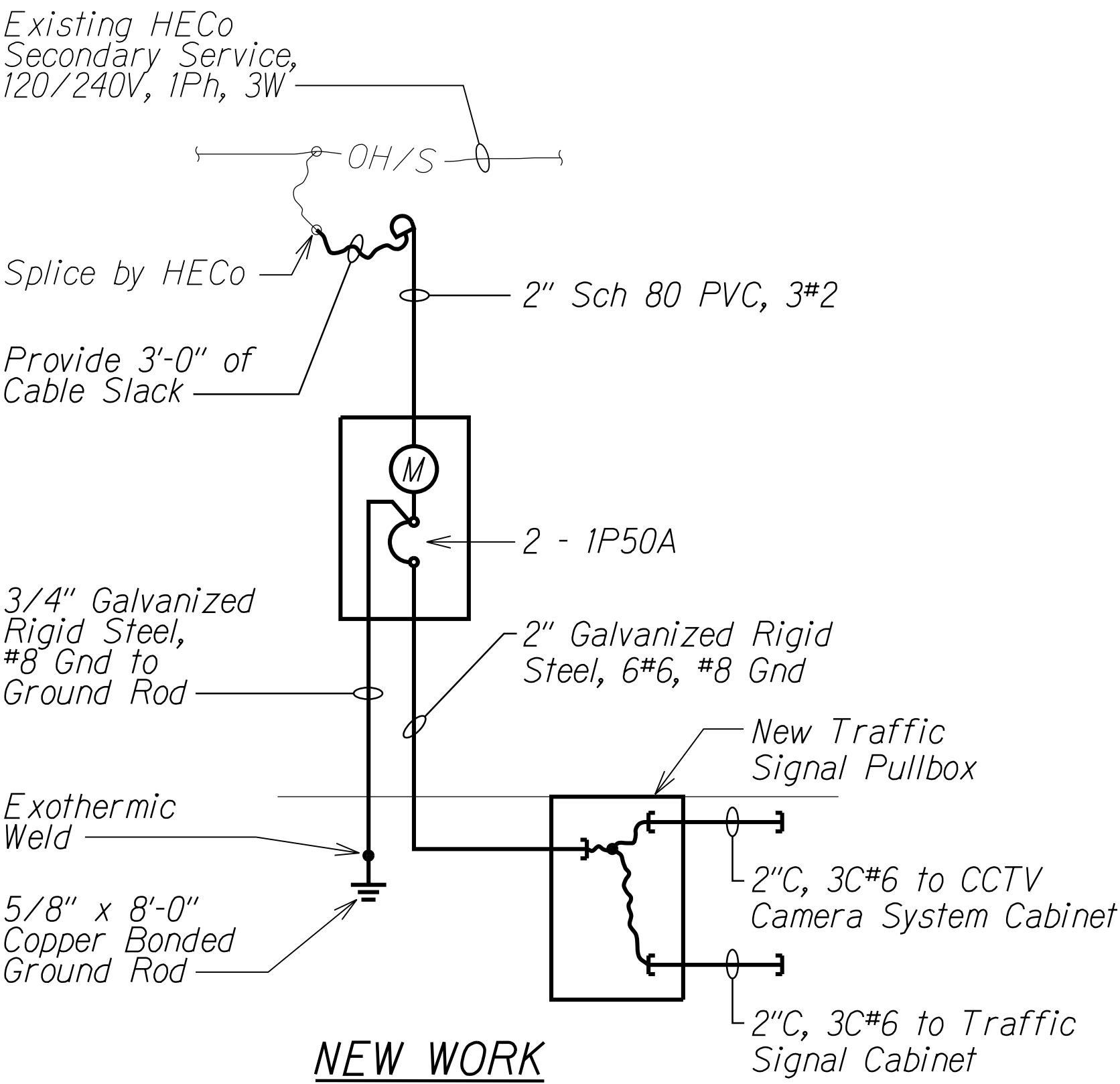
Scale: Not to Scale Date: June 2013

SHEET No. E-25 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-093-1(22)	2013		230



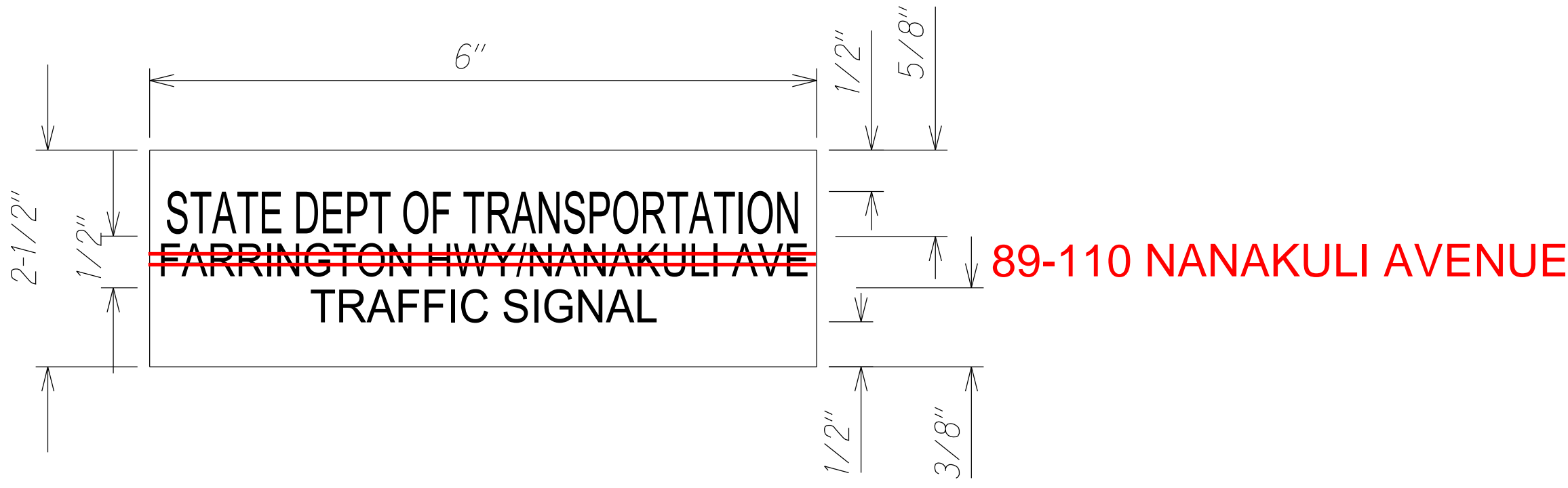
DEMOLITION WORK



NEW WORK

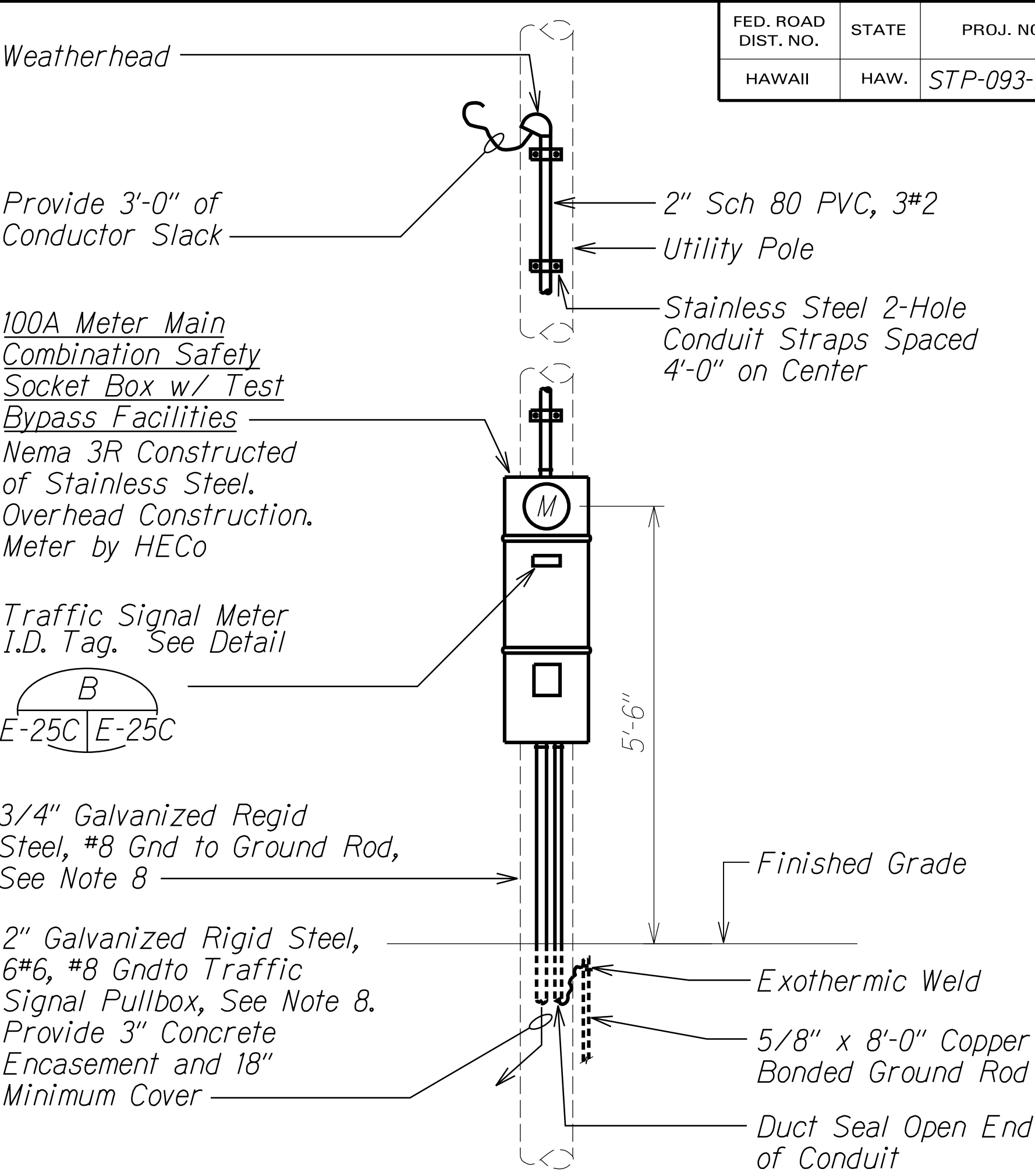
A ONE-LINE DIAGRAM (TRAFFIC SIGNAL SYSTEM)
E-25C E-25C NOT TO SCALE

- NOTES:
- Light Lines Denote Existing Condition
 - Bold Lines Denote New Work
 - "X" Denotes Removal Work



B METER I.D. TAG DETAIL
E-25C E-25C Not To Scale

- 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".
 - Attach to Meter Box Using Scotch 3M Brand Very High Bond (VHB) Double Coated Acrylic Foam Tape or Equivalent.
 - Letters/Numbers Shall be 1/16" Stroke, (White in Color).
 - Letters/Numbers Shall be Inscribed by Cutting Through "Black Cap Sheet" to Expose White Letters/Numbers.



C EQUIPMENT ELEVATION - TRAFFIC SIGNAL METER
E-25C E-25C NOT TO SCALE

- NOTES:
- Conduit Fasteners and Mounting Hardware Shall Be 316 Stainless Steel.
 - * - NEMA 3R, HECo Sealable.
 - Service Equipment Shall be Installed in Accordance with HECo ESIM Requirements.
 - Provide a Minimum of 4 Feet of Clear and Level Workspace Clearance in Front of Metering and Service Equipment.
 - Provide Plastic Meter Socket Cover and Band for All Blank Meter Sockets. Label Plastic Cover with Contractor's Name and Number so Cover can be Returned After Meter Installation.
 - Provide a Permanent Phenolic Nameplate (Black with White Letters) for All Meter Sockets to Identify the Address, Unit, Space, Area or Load Served (E.G. "Parking Lot").
 - The Grounding Electrode Conductor Shall Not Pass Through HECo's Sealable Sections or Compartments.
 - Wrap Conduit with Polyvinyl Chloride Film Coated with a Rubber Resin Adhesive (Dottie 220 or Equivalent) with Minimum 1/2" Overlap for Entire Length of Conduit.

1/25/18	3 New Sheet
DATE	REVISION

RUSSELL K. MORI
LICENSED PROFESSIONAL ENGINEER
No. 9013-E
HAWAII, USA
4/2/18

MK ENGINEERS, LTD.
LICENSE EXPIRATION DATE: 4/30/18
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

**MISCELLANEOUS ELECTRICAL
DETAILS - TRAFFIC SIGNAL SYSTEM**

Farrington Highway Intersection Improvements
At Nanakuli Avenue and Haleakala Avenue
Federal-Aid Project No. STP-093-1(22)

Scale: As Noted Date: June 2013

CONTRACT CHANGE ORDER NO. 30

"AS-BUILT"

C.O. 145S-3

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