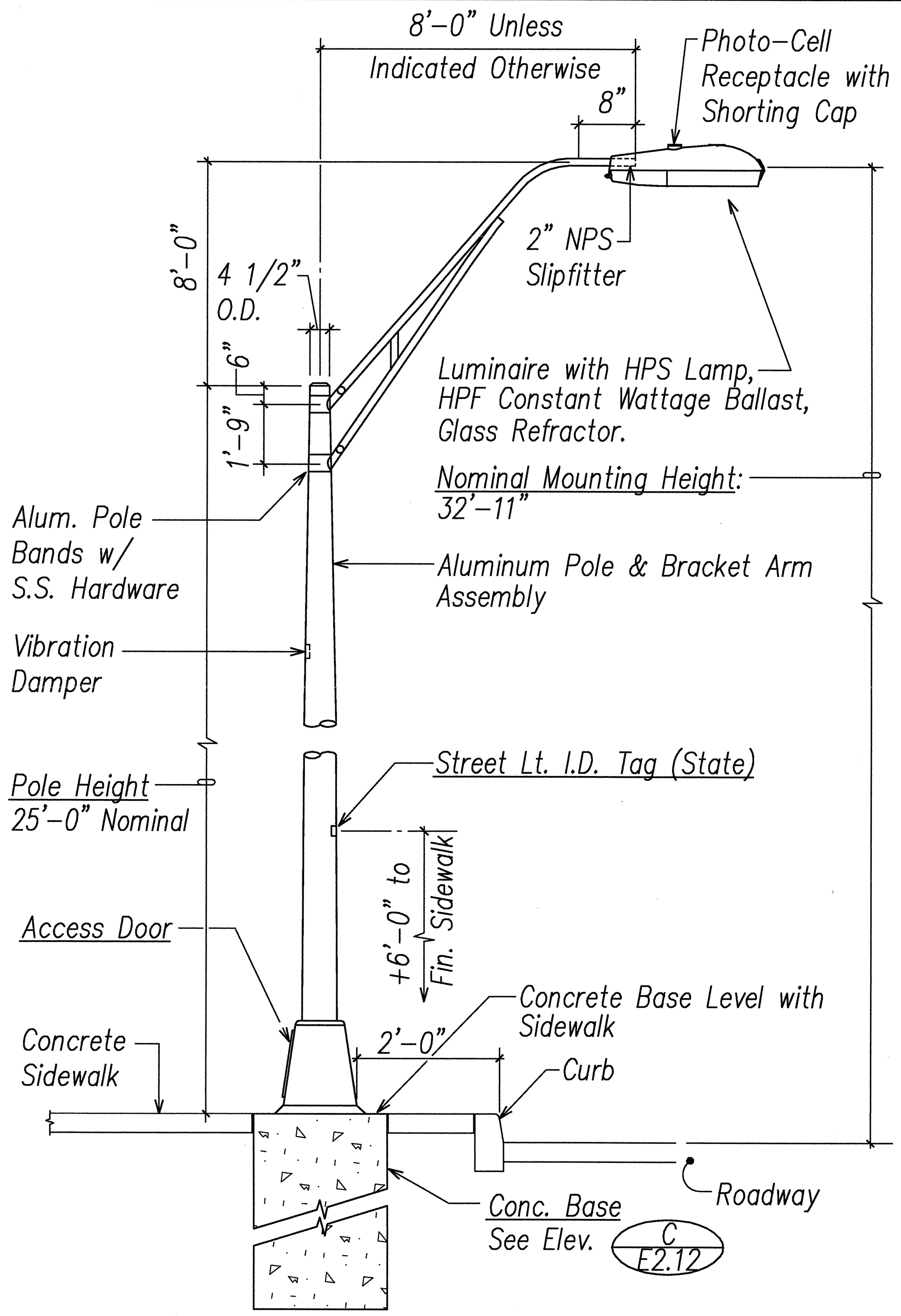
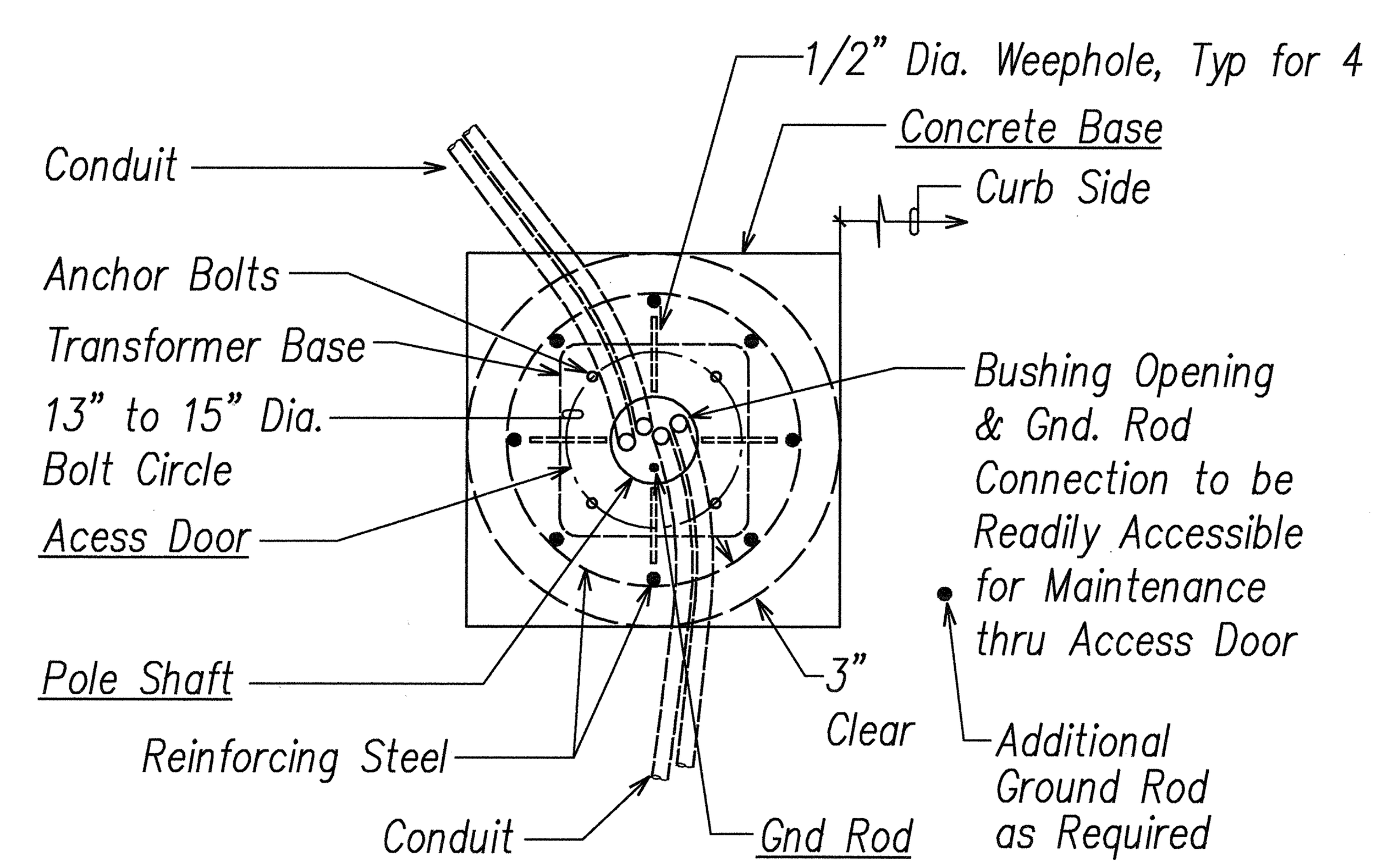
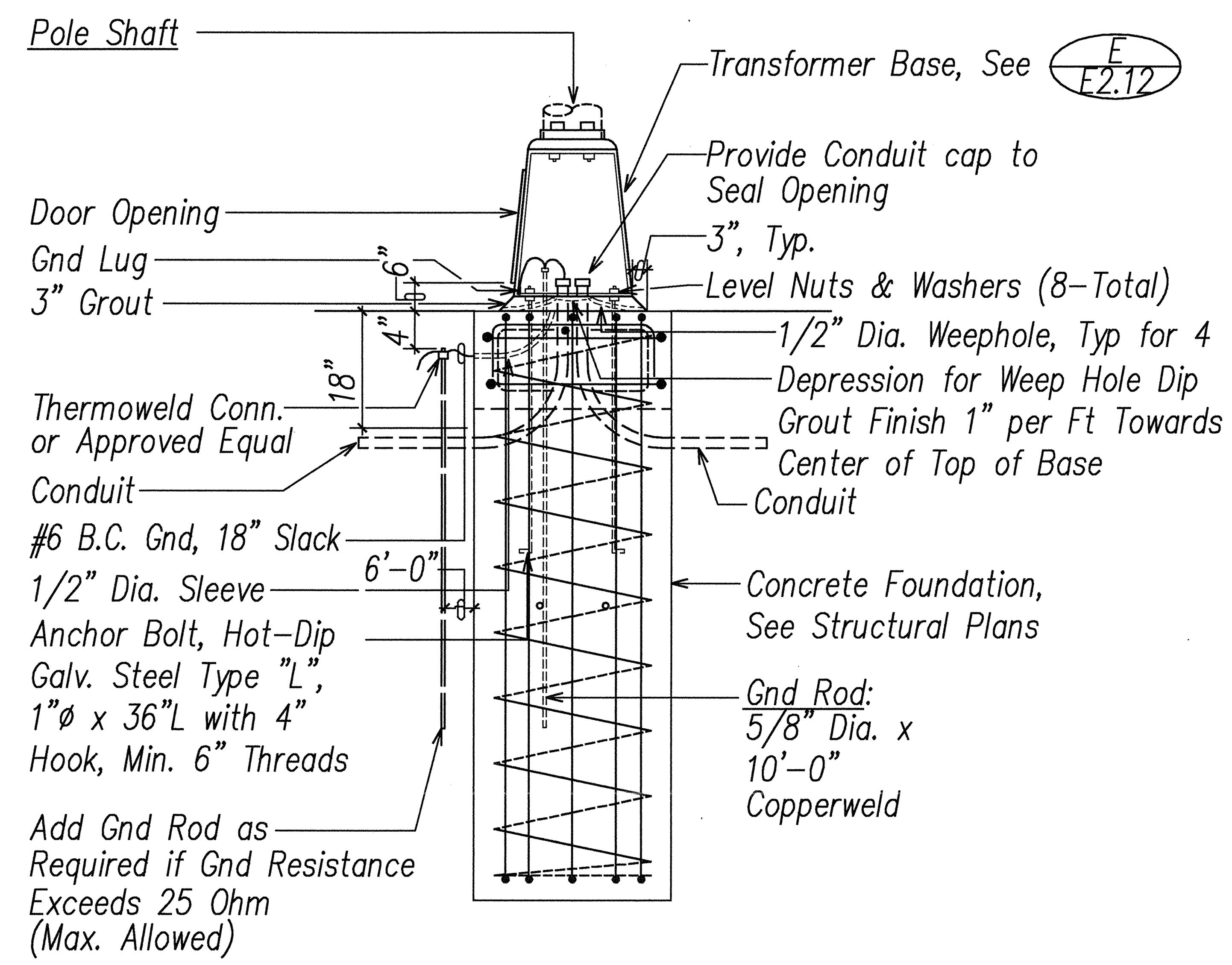
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	293	331



A
E2.12
STREET LIGHT STANDARD I
Not to Scale

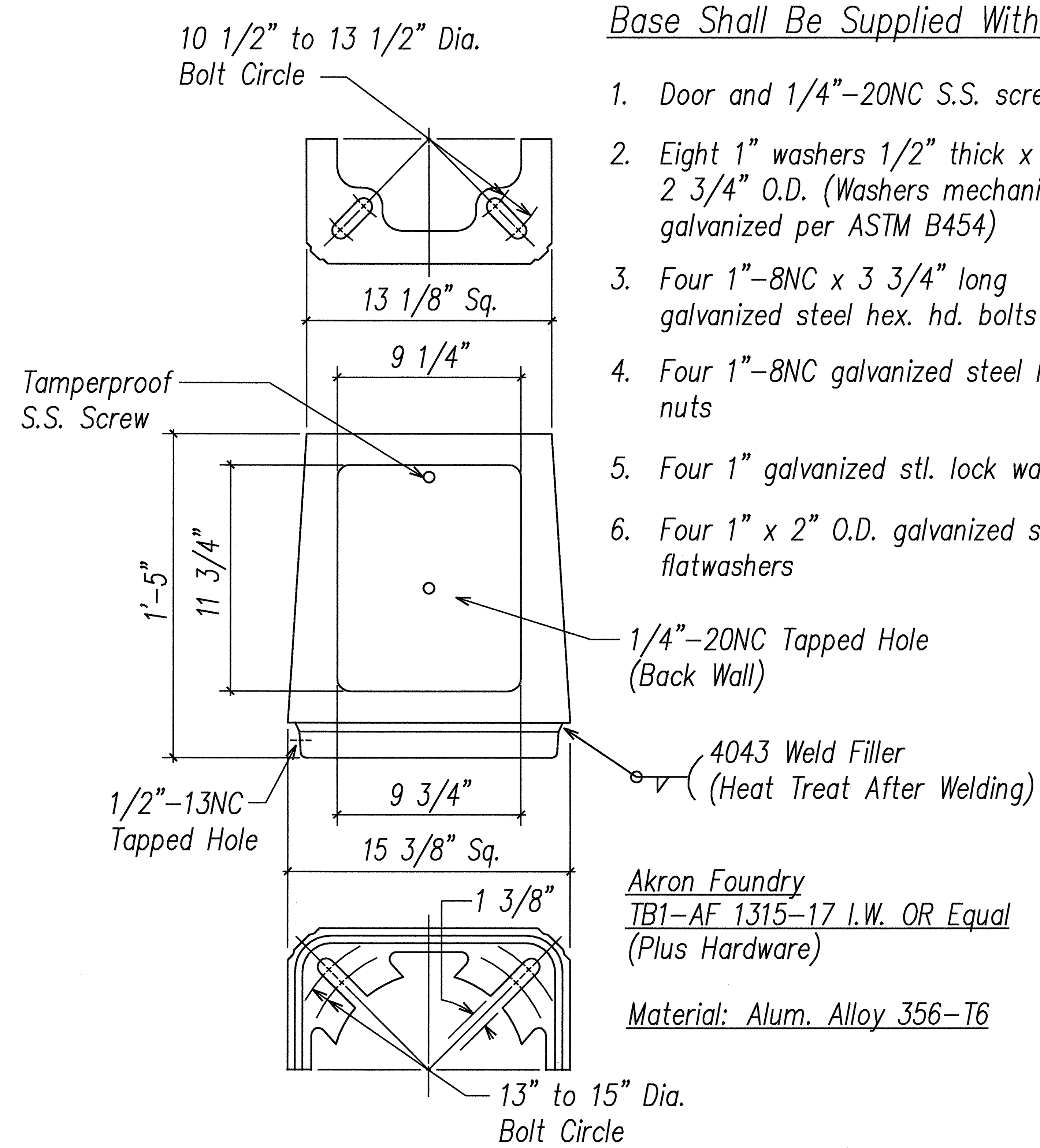


B
E2.12
CONCRETE BASE PLAN
Not to Scale



Note: See Concrete Base Plan B/E2.12 & Structural Drawings

C
E2.12
CONCRETE BASE ELEVATION
Not to Scale



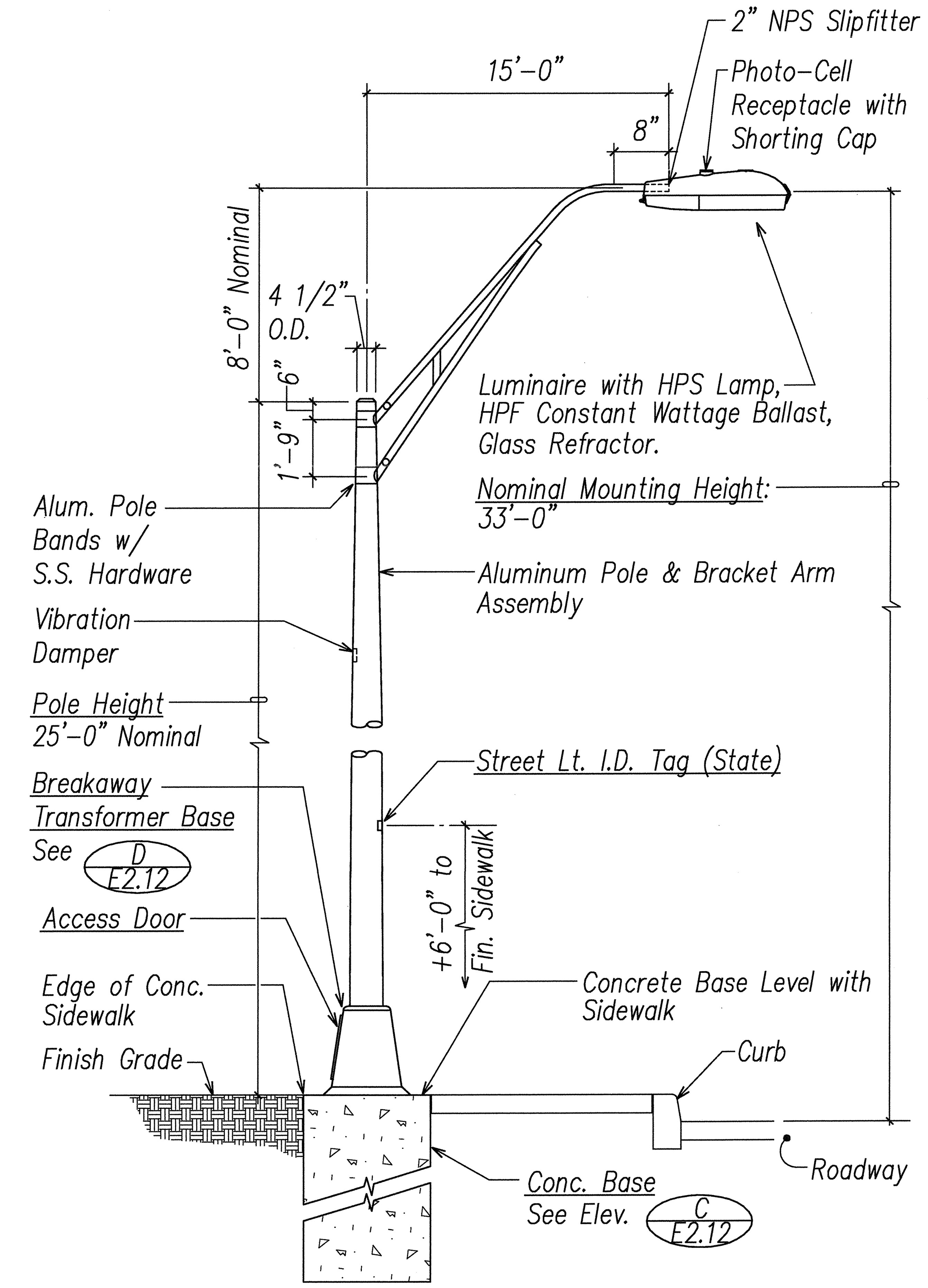
Base Shall Be Supplied With:

1. Door and 1/4"-20NC S.S. screw
2. Eight 1" washers 1/2" thick x 2 3/4" O.D. (Washers mechanical galvanized per ASTM B454)
3. Four 1"-8NC x 3 3/4" long galvanized steel hex. hd. bolts
4. Four 1"-8NC galvanized steel hex. nuts
5. Four 1" galvanized stl. lock washers
6. Four 1" x 2" O.D. galvanized stl. flatwashers

Akron Foundry
TB1-AF 1315-17 I.W. OR Equal
(Plus Hardware)

Material: Alum. Alloy 356-T6

D
E2.12
BREAKAWAY TRANSFORMER BASE (ALUMINUM) DETAIL
NOT TO SCALE



E
E2.12
STREET LIGHT STANDARD II
Not to Scale

GARY I. FUNASAKI
LICENSED PROFESSIONAL ENGINEER
No. 4105-E
HAWAII, U.S.A.

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20 FEB 2007

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT (STATE)
DETAILS I

North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

Scale: AS NOTED
Date: Feb 21, 2007

DATE	REVISION

SHEET No. E2.12 OF 62 SHEETS

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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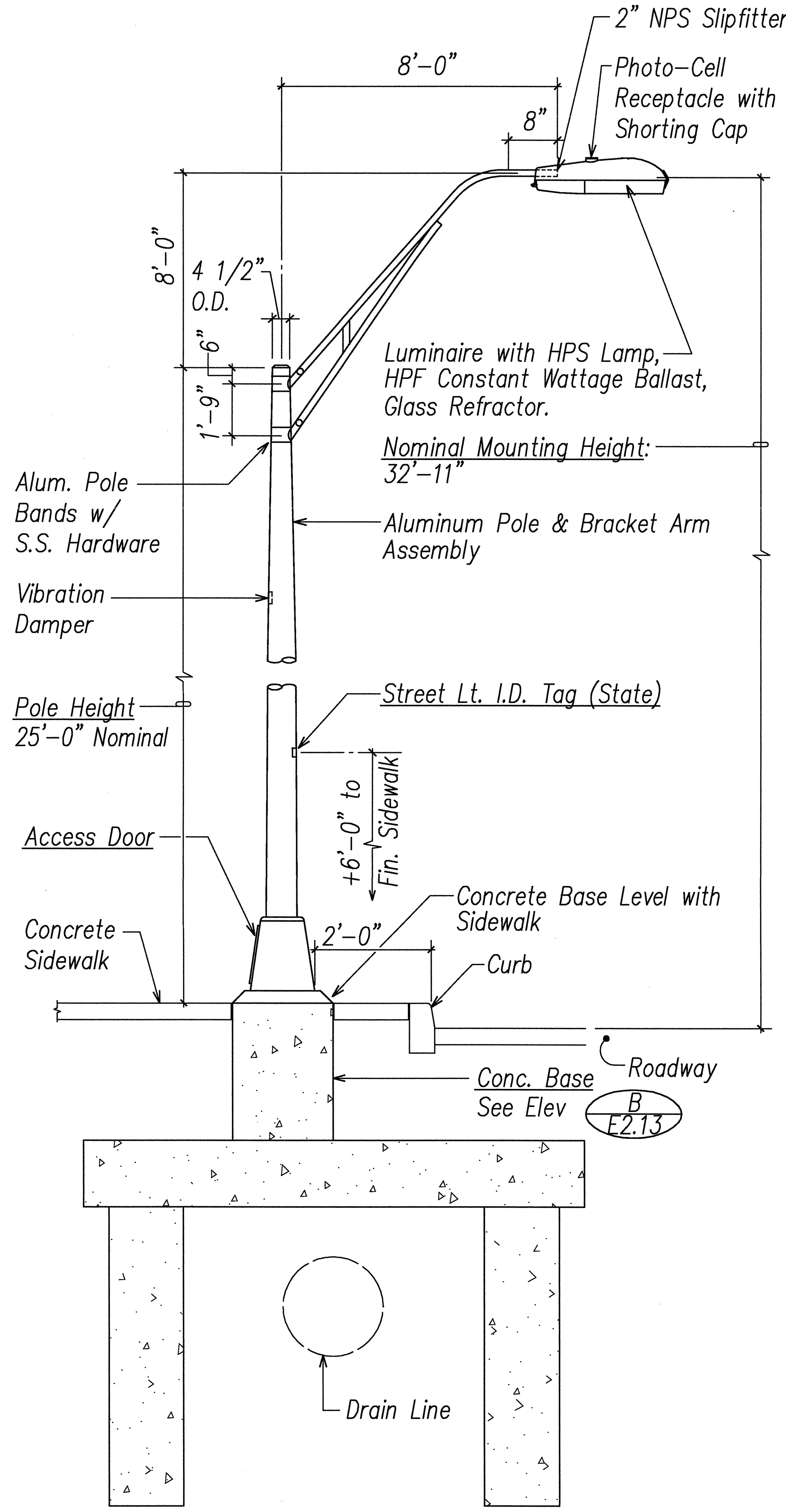
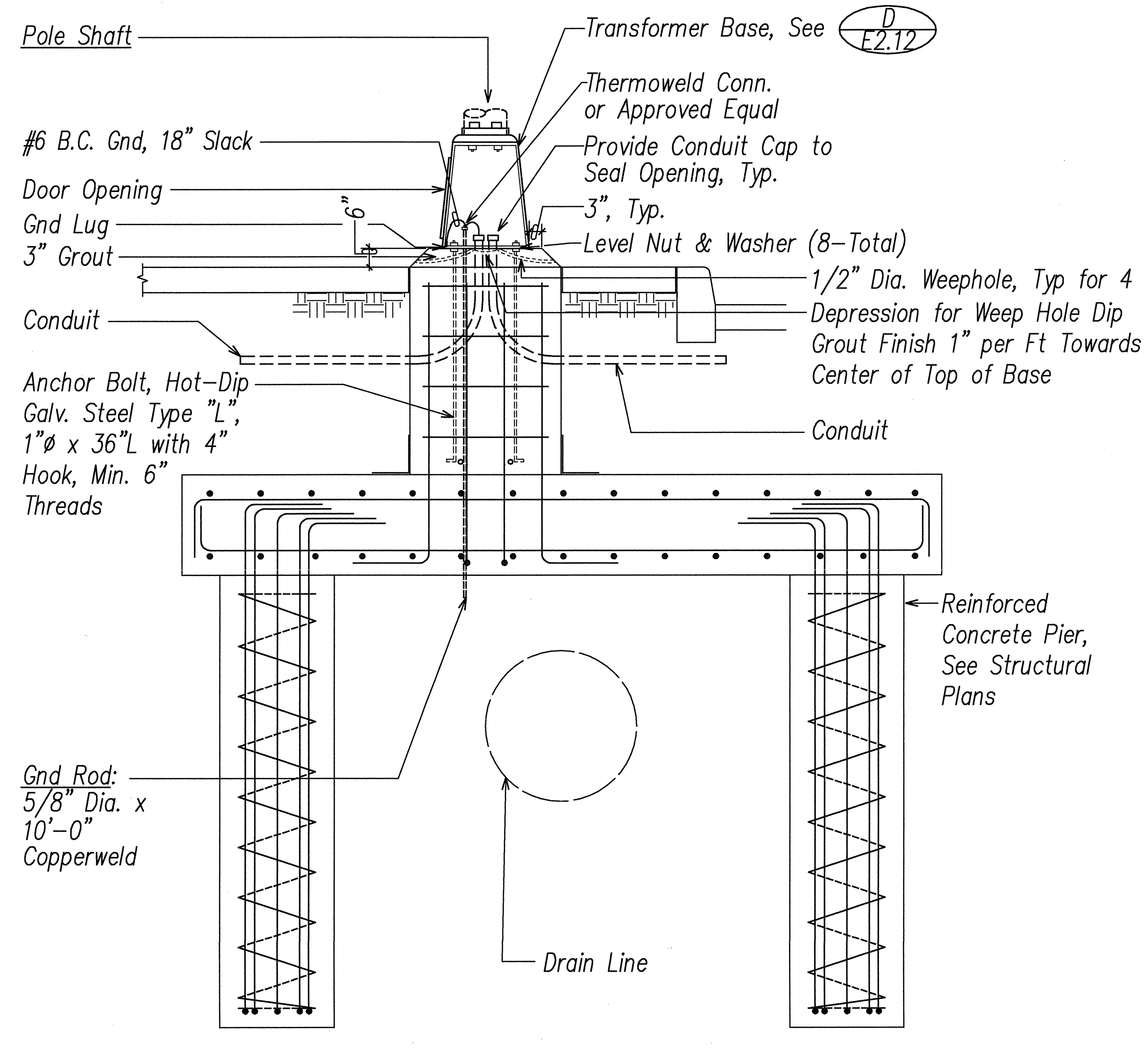
	TRACED BY	
	DESIGNED BY	
	QUANTITIES BY	
	CHECKED BY	
No.		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	294	331

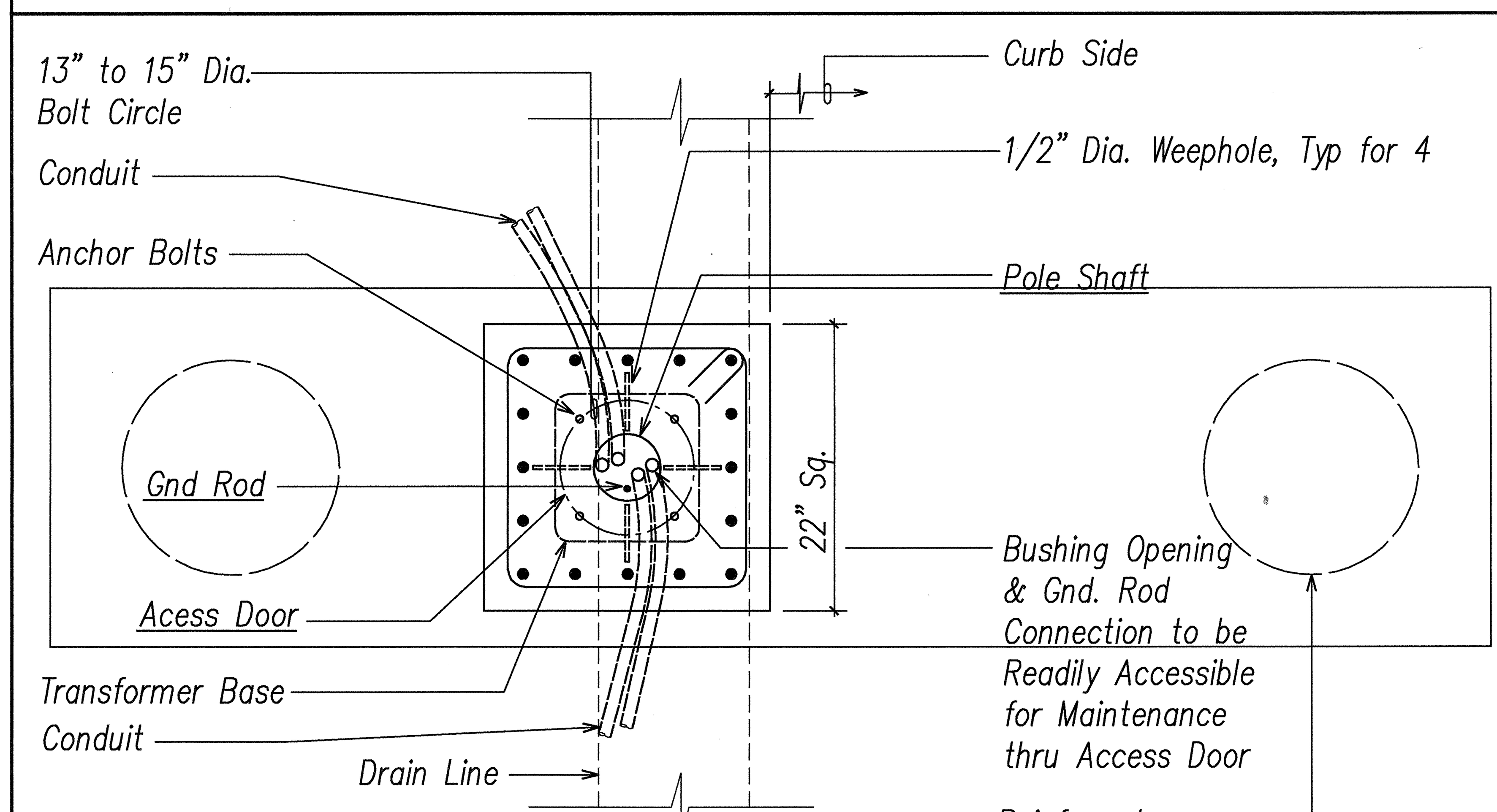


A E2.13 **STREET LIGHT STANDARD I MODIFIED (FOUNDATION)**
Not to Scale

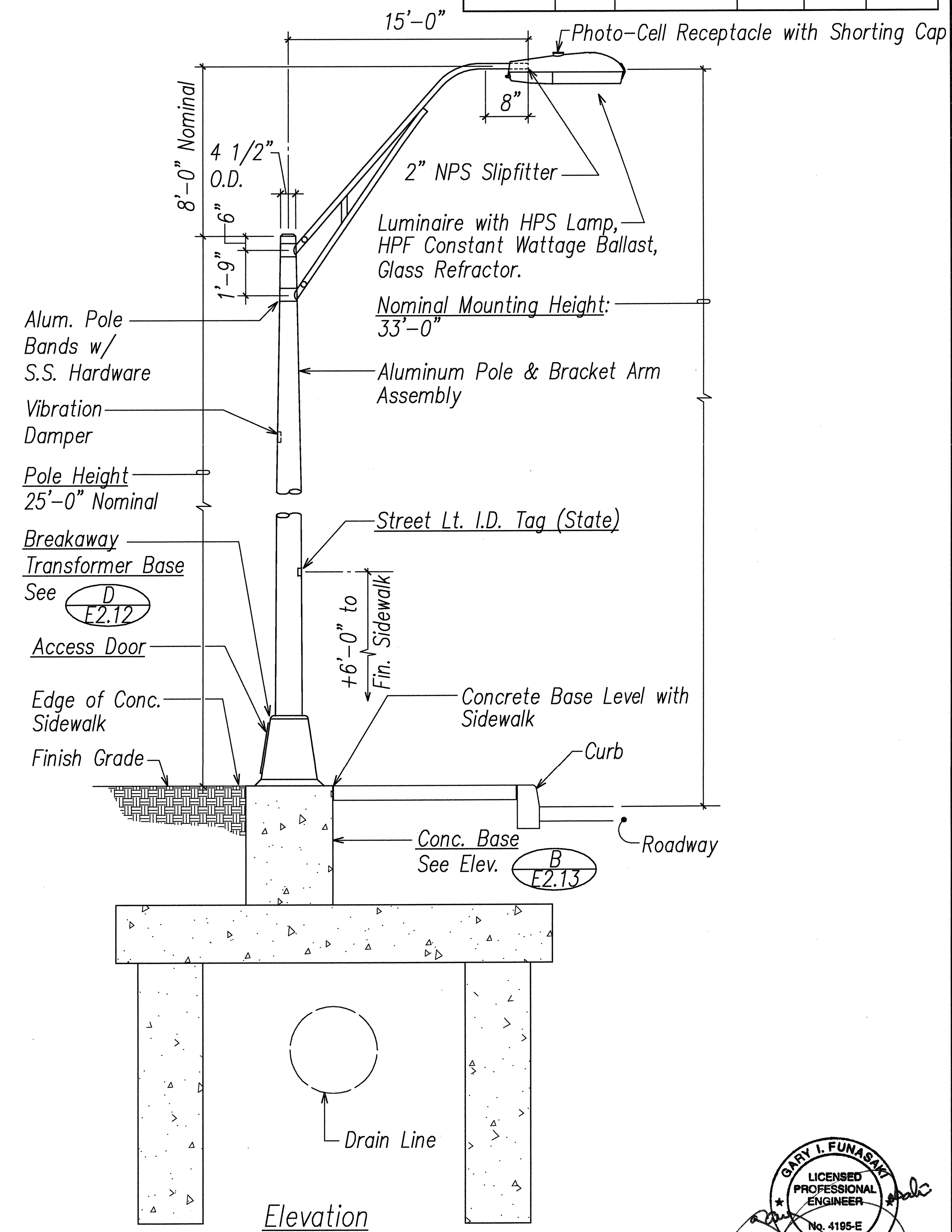


Note: See Concrete Base Plan C/E2.13 & Structural Drawings

B E2.13 **CONCRETE BASE ELEVATION**
Not to Scale



C E2.13 **CONCRETE BASE PLAN**
Not to Scale



D E2.13 **STREET LIGHT STANDARD II MODIFIED (FOUNDATION)**
Not to Scale

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT (STATE)
DETAILS II

North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

Scale: AS NOTED Date: Feb 21, 2007

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SHEET No. E2.13 OF 62 SHEETS

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NOTE BOOK		

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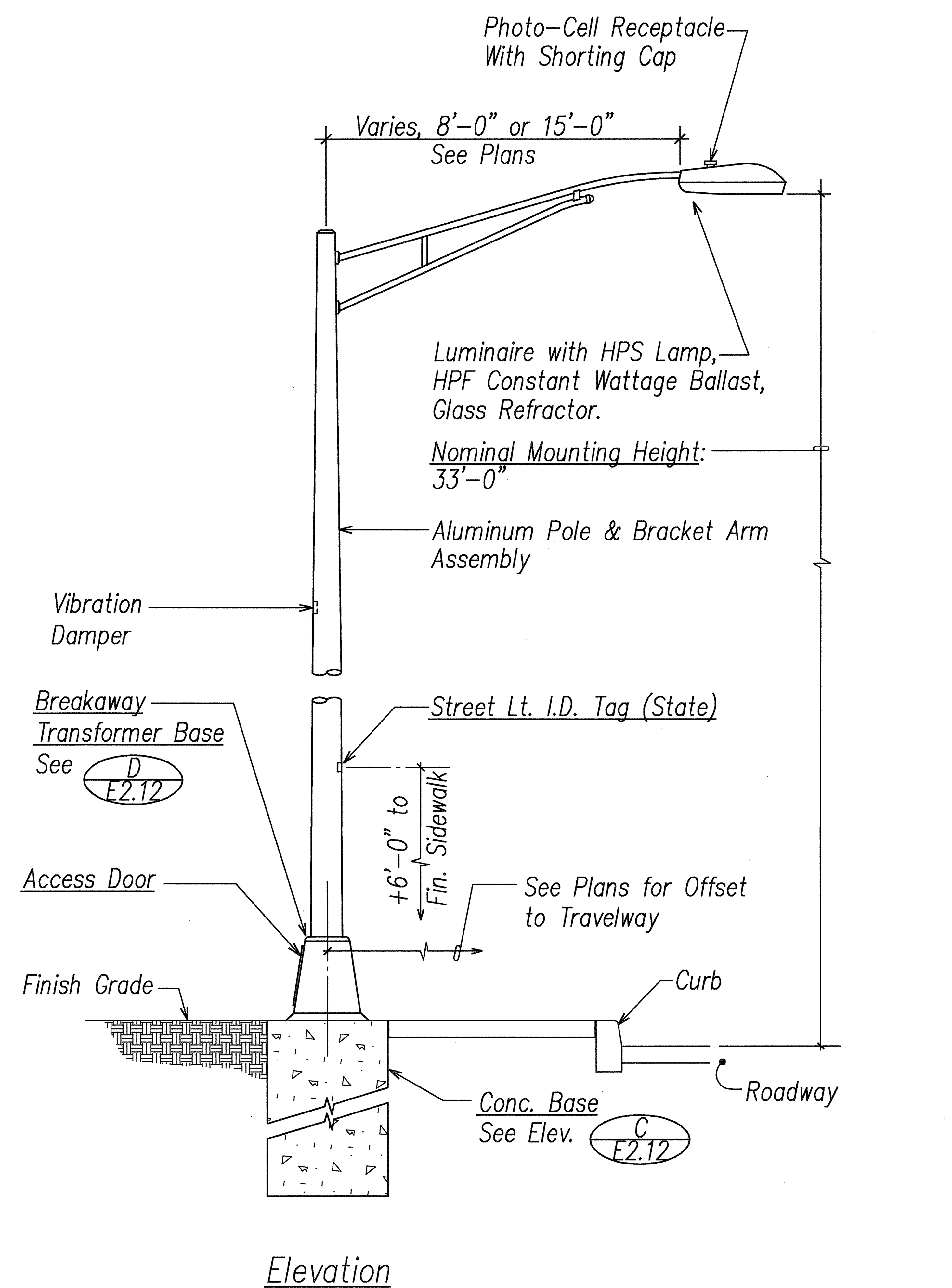
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	295	331

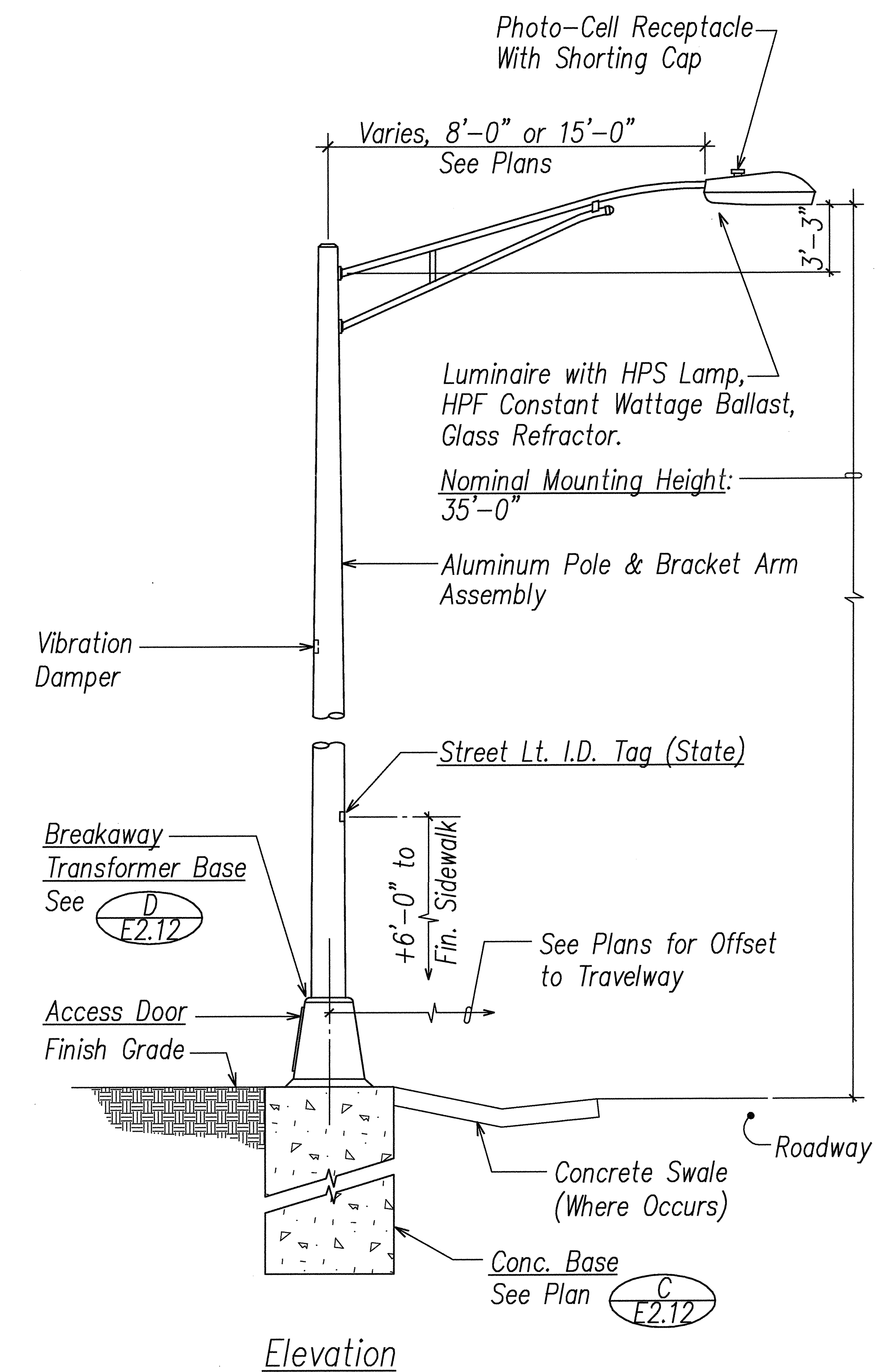
NEW DESIGN REQUIREMENTS FOR LUMINAIRES, POLE STANDARDS AND TRAFFIC SIGNAL STANDARDS

Highway lighting luminaires, pole standards, bracket arms, traffic signal standards and mast arms being furnished for this project shall conform with the design requirements noted below. Design shall be in accordance with AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaires and Traffic Signals, 4th Edition, including the latest interim revisions, published by the American Association of State Highway and Transportation Officials with the following modifications:

1. *Basic Wind Speed [Article 3.8.2] to determine the design wind pressure shall be 105 mph.*
2. *Wind Importance Factor [Article 3.8.3] noted in Table 3–2 used to determine the design wind pressure shall be based on the following recurrence intervals:*
   a. *For traffic signal structures: 50 years*
   b. *For luminaire support structures: 25 years*
3. *Fatigue Importance Factors [Article 11.6] noted in Table 11–1 for traffic signal structures shall be based on Fatigue Category 1. Luminaire support structures with round cross sections under 50 feet do not need to be designed for fatigue.*
4. *Galloping [Article 11.7.1]. Traffic signal support structures shall be designed for galloping–induced cyclic loads unless approved vibration mitigation devices are installed.*
5. *Vortex Shedding [Article 11.7.2]. Nontapered lighting structures shall be designed to resist vortex shedding–induced loads including cantilevered mast arms and lighting structures that have tapers less than 0.14 in/ft.*
6. *Natural Wind Gust [Article 11.7.3]. Traffic signal structures shall be designed to resist an equivalent static natural wind gust pressure.*
7. *Truck–Induced Gust [Article 11.7.4]. Traffic signal support structures shall be designed to resist an equivalent static truck gust pressure range based on a truck speed of 20 mph over the posted speed.*
8. *Equipment manufacturers providing structural supports for luminaires and traffic signals are responsible to provide the Engineer with any information that will impact the current foundation design.*



A E2.14 **STREET LIGHT STANDARD III**
Not to Scale



B E2.14 **STREET LIGHT STANDARD IV**
Not to Scale

GARY I. FUNASAKI LICENSED PROFESSIONAL ENGINEER No. 4195-E HAWAII, U.S.A.

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20 FEB 2007

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT (STATE)
DETAILS III

North–South Road
Phase 1B
F.A.I. Proj. No. STP–8930(2)

Scale: AS NOTED Date: Feb 21, 2007

SHEET No. E2.14 OF 62 SHEETS

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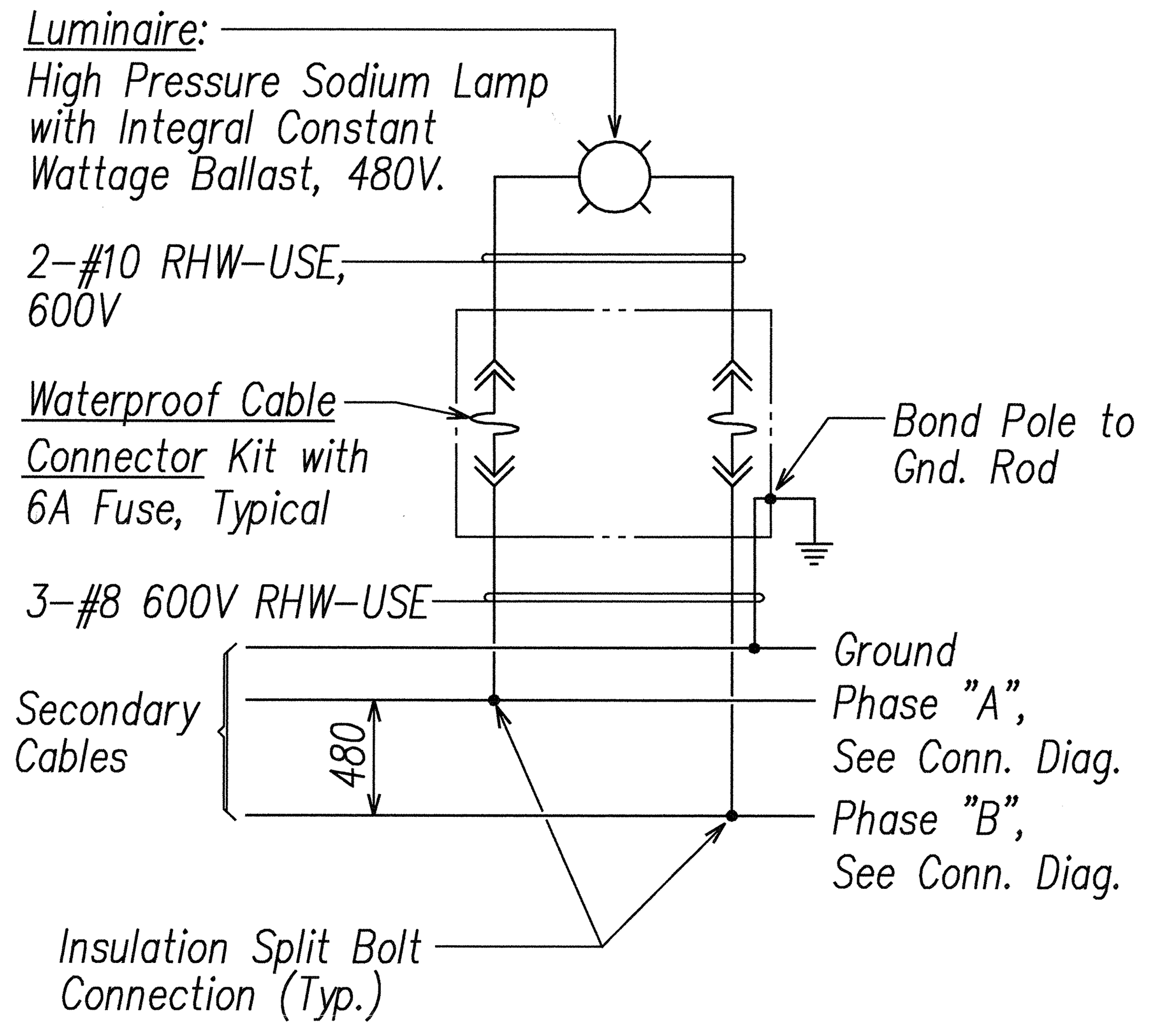
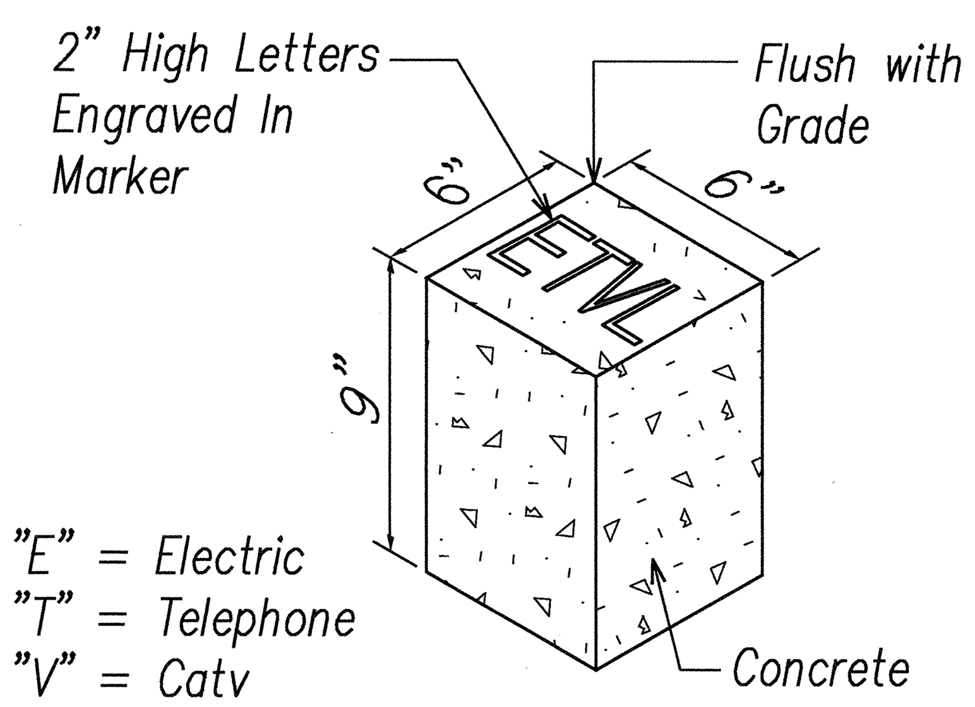
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-8930(2)	2007	296	331



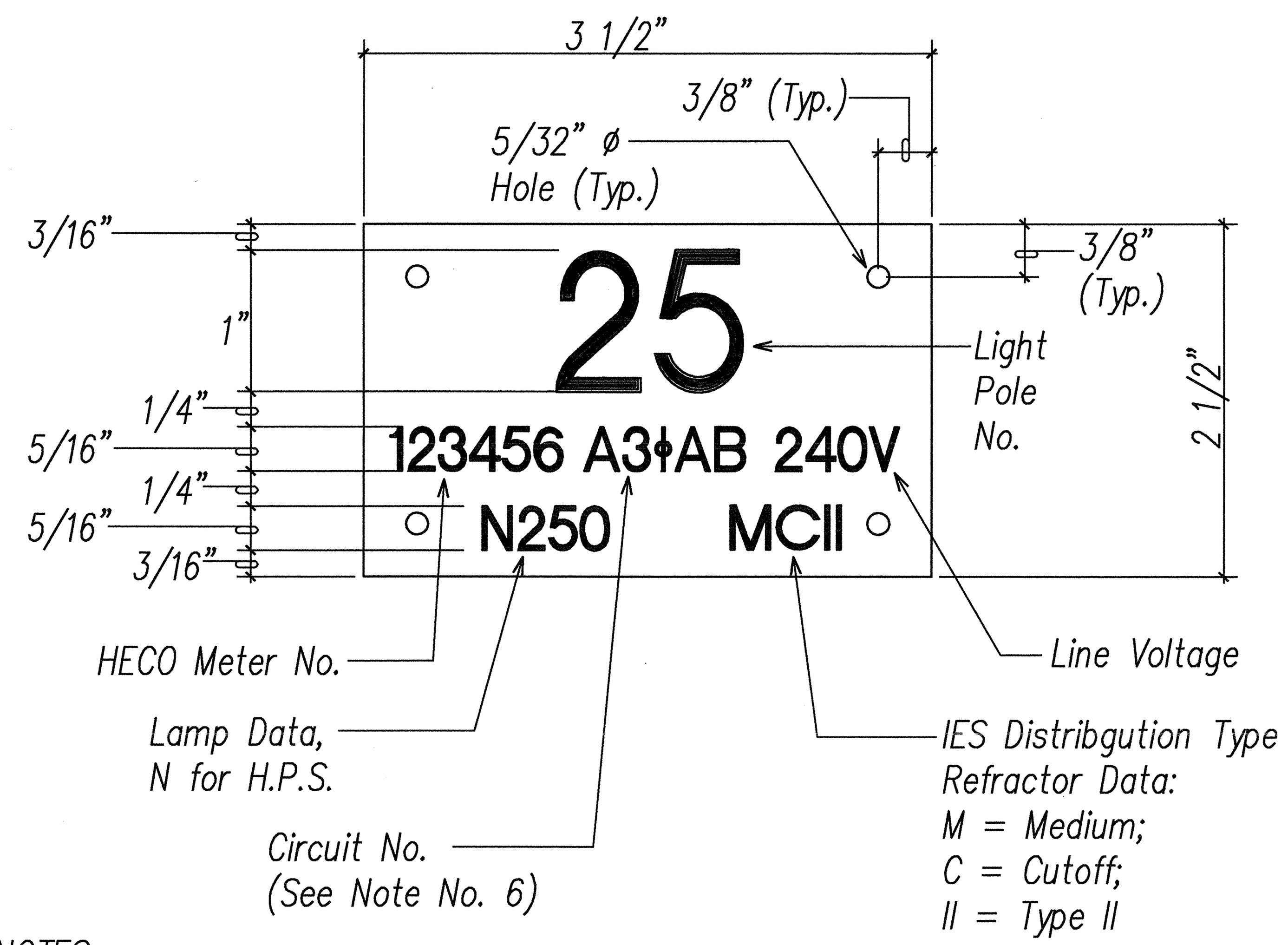
Note: All Neutral Conductors shall be identified with white insulation. Other means of identification is not acceptable.

A / E2.15 **STREET LIGHT CONNECTION DIAGRAM** (480V Metered System)



"E" = Electric
"T" = Telephone
"V" = Catv
"L" = Light

B / E2.15 **CONCRETE CONDUIT STUB-OUT MARKER**
Not to Scale



NOTES:

1. 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".
2. Light pole number size shall be 1" high and engraved 1/8" wide, white in color (number as required).
3. Nomenclature size shall be 5/16" high and engraved 1/32" wide, white in color (meter number, circuit number, line voltage, lamp data and refractor data as required).
4. Attach to aluminum pole with no. 8 stainless steel, 1/2" long drive screws in 1/8" drill hole.
5. Numbers and letters are inscribed by cutting through "black cap sheet" to expose "white letters".
6. Assign circuit number (letter indicates panelboard; number indicates circuit; "øAB" indicates connection to Phase "A" & "B").
7. Contractor to verify all items of I.D. tag with State D.O.T. prior to fabrication.

C / E2.15 **HIGHWAY LIGHT I.D. TAG DETAIL**
NOT TO SCALE

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DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

STREET LIGHT (STATE)
DETAILS IV

North-South Road
Phase 1B
F.A.I. Proj. No. STP-8930(2)

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SHEET No. E2.15 OF 62 SHEETS

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