

ARCHAEOLOGICAL NOTES:

1.

In the event that an archaeological or historic structure within the work area is inadvertently damaged during construction, cease work in the vicinity of the site and notify the Engineer and the State Historic Preservation Division (SHPD) of the Department of Land and Natural Resources of the damage. SHPD will determine the appropriate mitigation measures.

2.

In the event that a previously unknown archaeological feature is exposed by construction, cease work in the vicinity of the new feature and notify the Engineer and SHPD of the new discovery.

3.

In the event that previously unknown human remains are exposed by construction, cease all work in the area of the remains, and protect the area with an appropriate material. Notify the Engineer and SHPD at 692-8015.

4.

If human remains are discovered, HAR Title 13, Subtitle 13, Chapter 300 states that further disturbances and activities shall cease in any area or nearby area suspected to overlie remains, and the State Historic Preservation Division and the Police Department will be contacted. The appropriate process would then proceed in conformance with HAR 13-300 Subchapter 4, "Procedures for Proper Treatment of Burial Sites and Human Skeletal Remains."

5.

If any lava tube or coral cavern is uncovered during earthwork operations, the Contractor shall cease all ground work in the area and immediately notify the Archaeological Monitor and the Engineer. With or without the help of the Archaeological Monitor, the Engineer will assess the situation. If the Engineer has any doubts as to the extent and/or significance of the discovery, the Engineer will contact the appropriate regulatory agency (e.g., State Historic Preservation Division).
4.

The existence and location of underground utilities and structures as shown on the plans are from the latest available data, but are not guaranteed as to their accuracy or the encountering of other obstacles during the course of the work. The Contractor shall be responsible and pay for all damages to existing utilities. The Contractor shall not assume that where no utilities are shown, that none exist.

5.

The Contractor shall be responsible for the protection of all waterlines during construction. The Contractor shall be especially careful when excavating behind waterlines, tees, and bends wherever there is a possibility of waterline movement due to the removal of the supporting earth beyond the existing reaction blocks. The Contractor shall take whatever measures necessary to protect the waterlines, such as constructing special reaction blocks (with BWS approval) an/or modifying his construction method.

6.

Re-approval shall be required if this project is not under construction within a period of two (2) years.

7.

Prior to any excavating, the Contractor shall verify in the field, the location of existing waterlines and appurtenances.

8.

Any adjustments to the existing water system required during construction, to meet the requirements of the BWS Standards, whether shown on the plans or not, shall be done by the Contractor at no cost to the Board.

9.

At the electrical/cable/signal ductline water crossings, adjust all electrical/cable/signal ductline elevations to maintain 12" vertical clear separation from all waterlines at no cost to the Board of Water Supply.

10.

Maintain 3'-0" minimum horizontal clear separation between all waterlines, and the nearest electical/cable/signal ductlines paralleling the water system at no cost to the Board of Water Supply.

11.

Maintain 3'-0" minimum horizontal clear separation between electrical/cable/signal appurtenances, (including any modular units) and the nearest water line or water appurtenance. Contractor shall field verify for any conflicts at each electrical/cable/signal appurtenance location. Where conflicts occur, the Contractor shall coordinate with the project engineer to revise the electrical/cable/signal appurtenance to provide the required clearances at no cost to the BWS.

BOARD OF WATER SUPPLY NOTES:

1.

Unless otherwise specified, all materials and construction of water system facilities and appurtenances shall be in accordance with the STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, dated 1994, as amended, of the Hawaii Highways Division, Department of Transportation, and the City and County of Honolulu Board of Water Supply's "WATER SYSTEM STANDARD", DATED 2002, THE "WATER SYSTEM EXTERNAL CORROSION CONTROL STANDARDS", VOLUME 3, DATED 1991, and all subsequent amendments and additions.
2.

All plans approved by the Board of Water Supply are based solely on the adequacy of the water supply.
3.

The Contractor shall notify BWS Capital Projects Division, Construction Section in writing one week prior to commencing work on the water system.

MANAGER AND CHIEF ENGINEER, BWS  
(FOR WORK AFFECTING BWS FACILITIES IN CITY/STATE  
R/W AND BWS EASEMENTS ONLY)

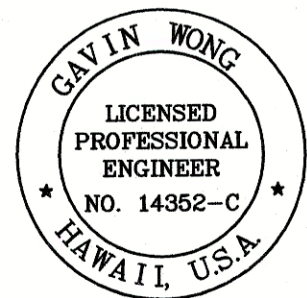
DATE

ABBREVIATIONS:

AFG	Above Finished Grade
BL	Base Line
BC	Bottom Curb
cb	Catch Basin
CL	Center Line
CRM	Concrete Rubble Masonry
di	Drain Inlet
Dia.	Diameter
ep	Existing Edge of Pavement
Ep	Edge of Pavement
es	Existing Edge of Shoulder
ES	Edge of Shoulder
et	Existing Edge of Travel Way
ET	Edge of Travel Way
Exist.	Existing
F'c	Minimum Specified Compressive Strength of Concrete
HDOT	Hawaii Department of Transportation
HMA	Hot Mix Asphalt
KAL	Kalaniana'ole Highway Alignment
LF	Linear Feet
Lt.	Left
MBGR	Existing Metal Beam Guardrail
Max.	Maximum
MGS	Midwest Guardrail System
Min.	Minimum
No.	Number
NTS	Not to Scale
NWC	Normal Weight Concrete
o.c.	On Center
O/S, o/s	Offset
PC	Point of Curvature
PCF	Pounds per Cubic Foot
PT	Point of Tangency
P	Property Line
R	Radius
RPM	Raised Pavement Marker
R/W, r/w	Right-of-way
Rt.	Right
SF	Square Feet
Shts.	Sheets
SOH	State of Hawaii
Sta.	Station
TC	Top Curb
Thk.	Thick
TMK	Tax Map Key
Typ.	Typical
UNO	Unless Noted Otherwise

LEGEND

◦ <sub>rm</sub>	Existing Reflector Marker
⊠ <sub>lp</sub>	Existing Light Pole
—swl—	Single White Line
—syl—	Single Yellow Line
==dyl==	Double Yellow Line
s/bar	Existing Stop Bar
byl	Existing Broken Yellow Line
● <sub>mon.</sub>	Existing Monument
⊥	Existing Traffic Sign
↘ <sub>r/w</sub>	Existing Right-of-Way Line
—+—+—+—	Existing Fence



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.

SIGNATURE

4/30/20

EXPIRATION DATE  
OF LICENSE

12/18/19 Addressed BWS Review Comments

DATE REVISION

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

GENERAL NOTES, LEGEND, & ABBREVIATIONS

KALANIANA'OLE HIGHWAY  
TRAFFIC SIGNAL INSTALLATION AT WAA ST.  
Project No. 72C-01-19

Date: November 2019

SHEET No. 3 OF 3 SHEETS

ADD. 4

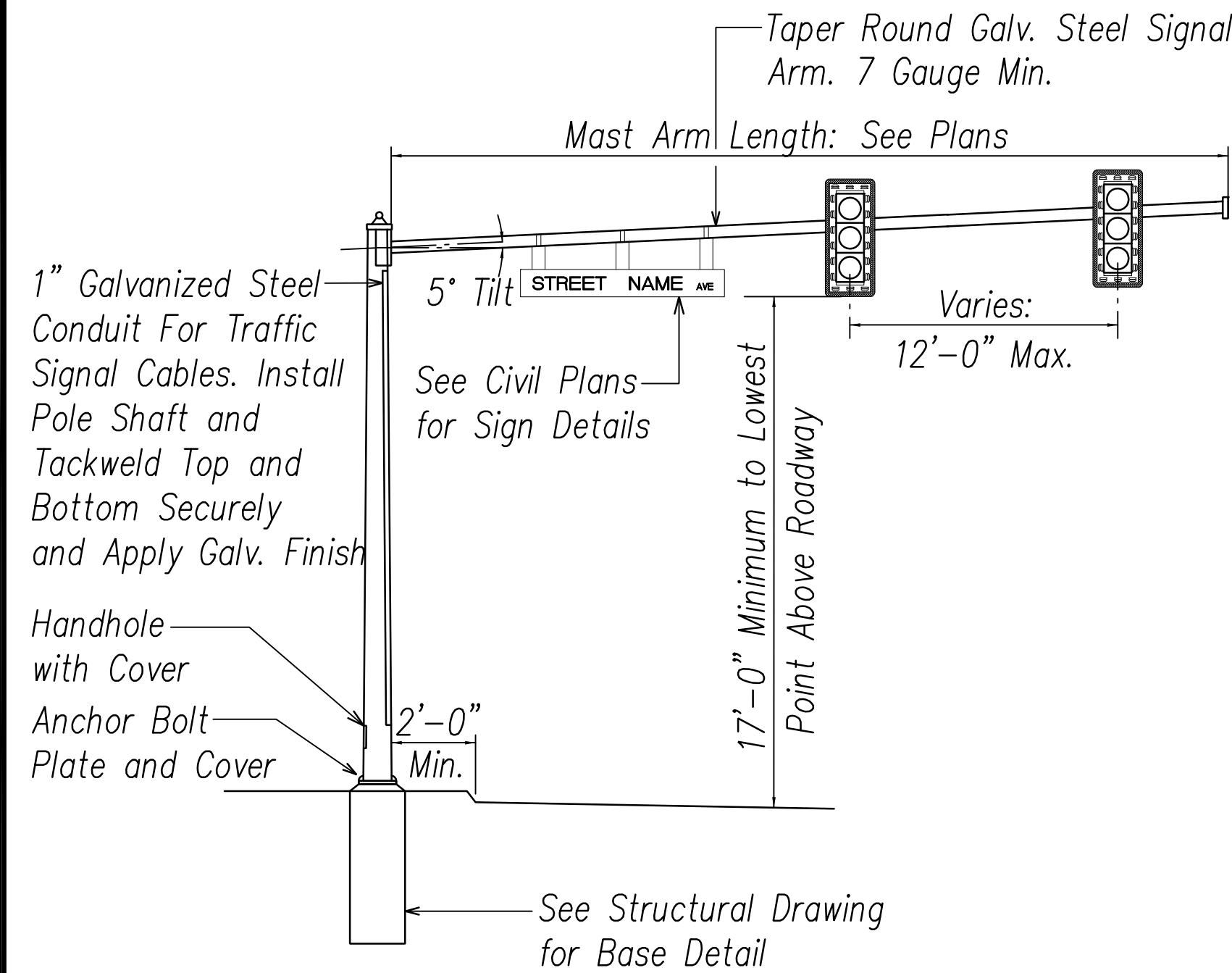








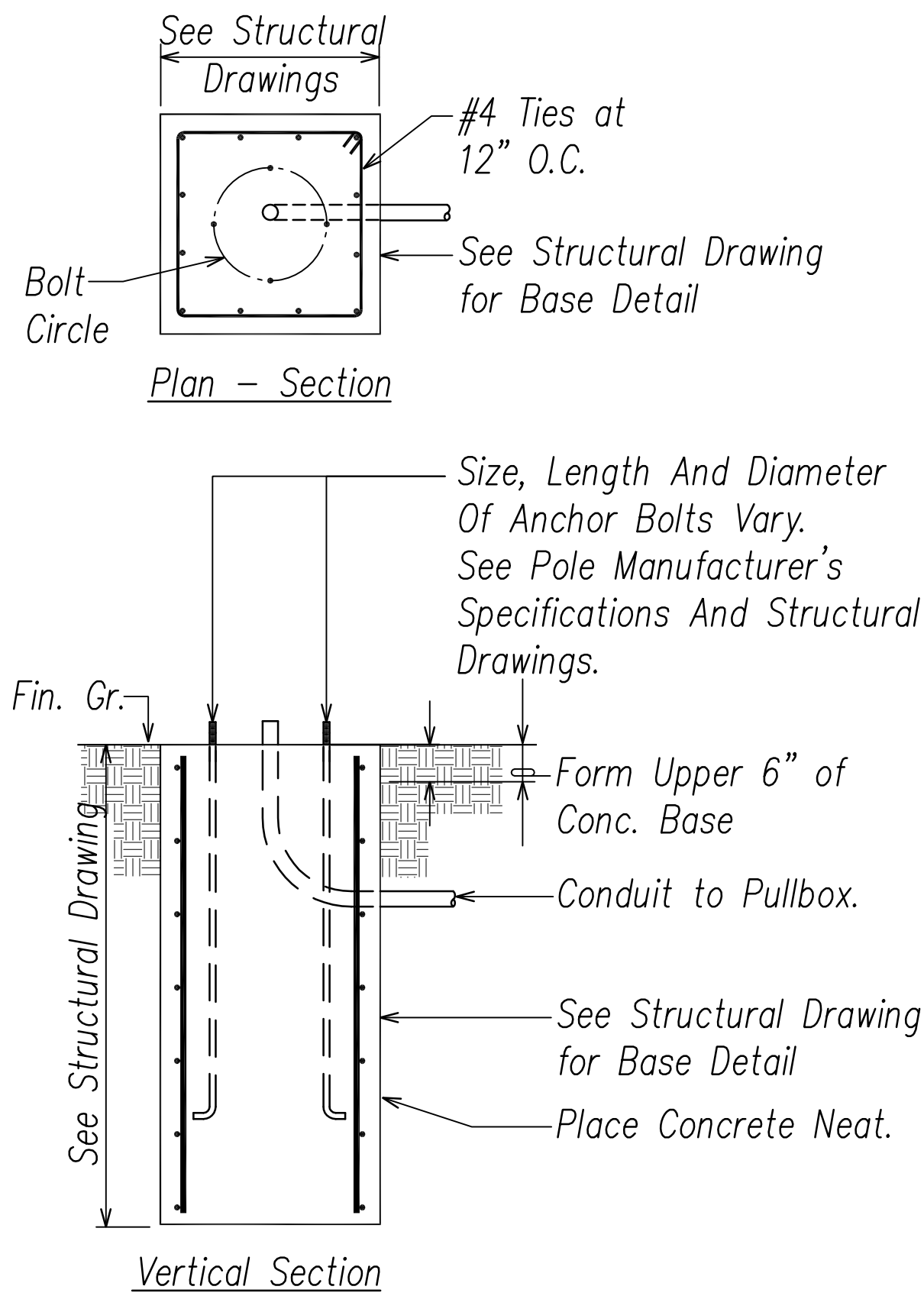
DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	72C-01-19	2019	ADD. 41	48



**Notes:**

- Standard and Mast Arm Shall be Designed in Accordance with Latest Edition of "Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals", with Revisions Noted on Sheet E012.
- Mounting: Signals At Intermediate Points of Mast Arm Shall be of The Adjustable Type.
- Signals Shall be Centered Over Lane Lines.
- Submit Shop Drawings for Approval.
- Back Plate to be Installed on All Traffic Signal Heads Attached to Mast Arms. See Detail D/E014.

**A**  
E013 **Type II Traffic Signal Standard**  
Not to Scale



**Notes:**

- Design Lateral Pressure: 1,500 PSF.
- Conduit Bend is Incidental to Concrete Base.

**B**  
E013 **Type II Traffic Signal Standard Base Detail**  
Not to Scale

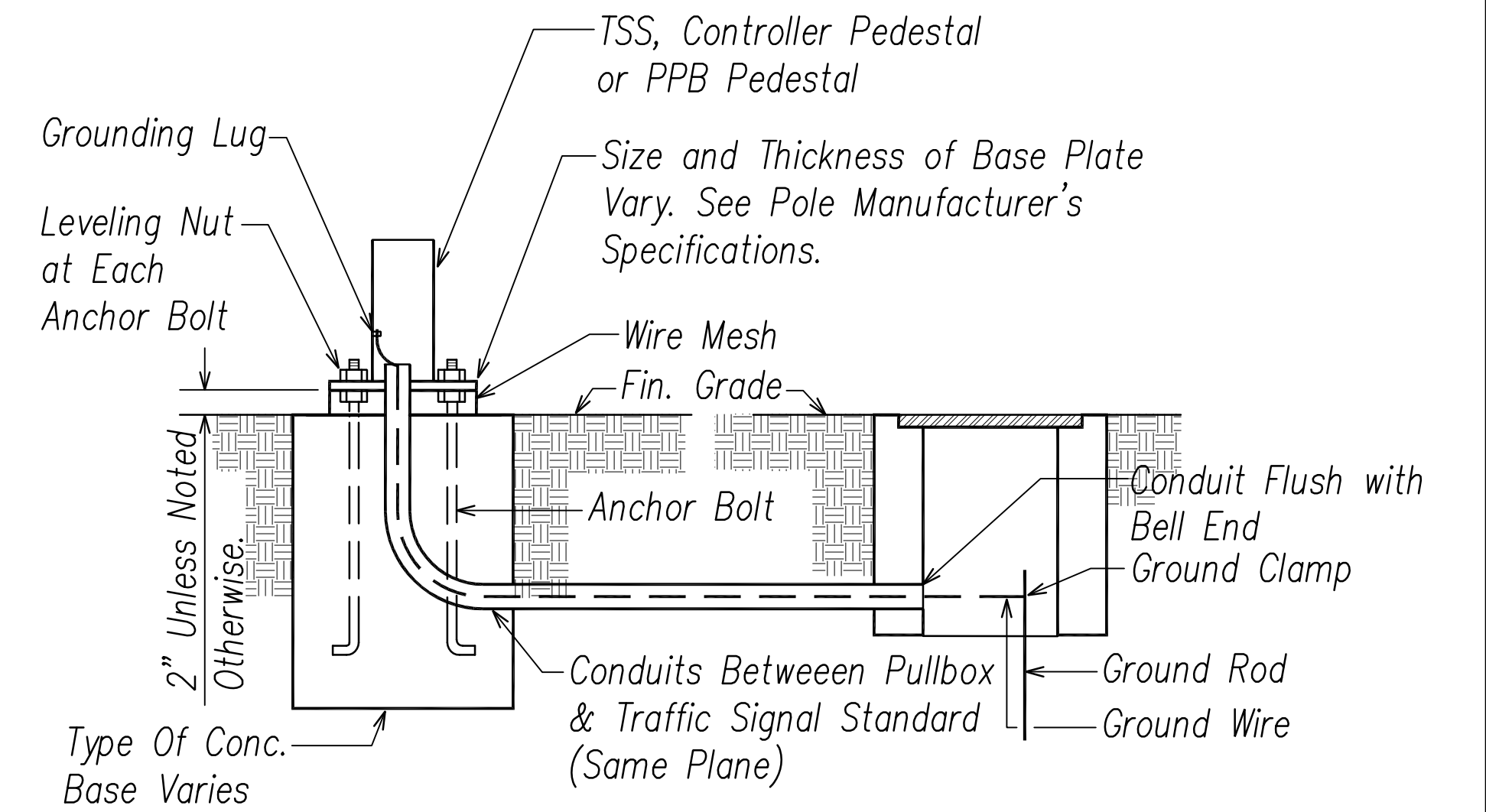
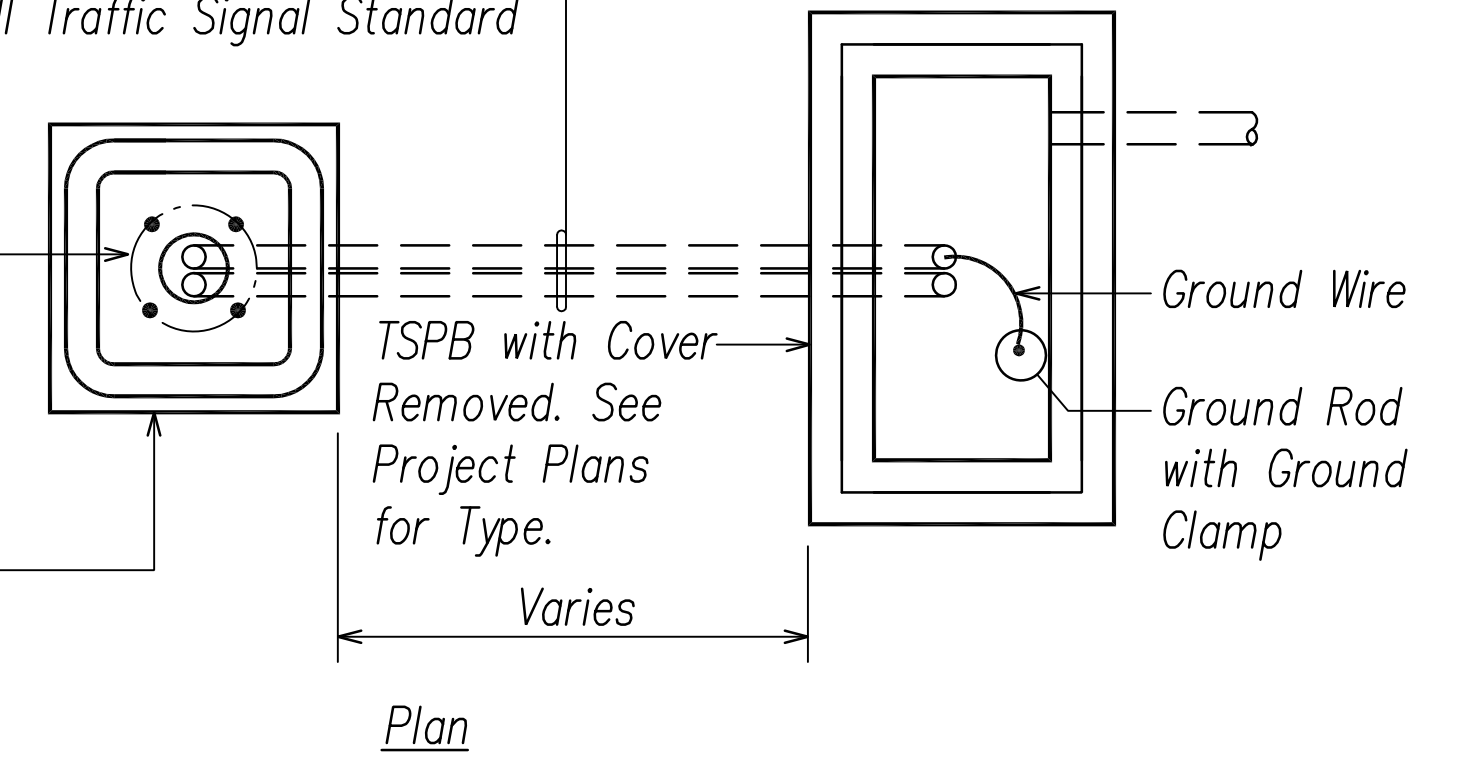
Traffic Standard Designation	
Pole	Designation
A	I-10
B	I-10
C	II-55
D	I-10
E	I-10
F	I-10
G	II-25, II-45
H	I-10

Type  
Typical Standard Designation: II - 25  
Mast Arm Length

1-2" Pvc Conduit Between Pullbox & Type I Traffic Signal Standard. 2-3" PVC Conduits Between Pullbox & Type II Traffic Signal Standard or as Noted on Plans

Bolt Size, Length and Diameter of Bolt Circle Vary. See Manufacturer's Specifications

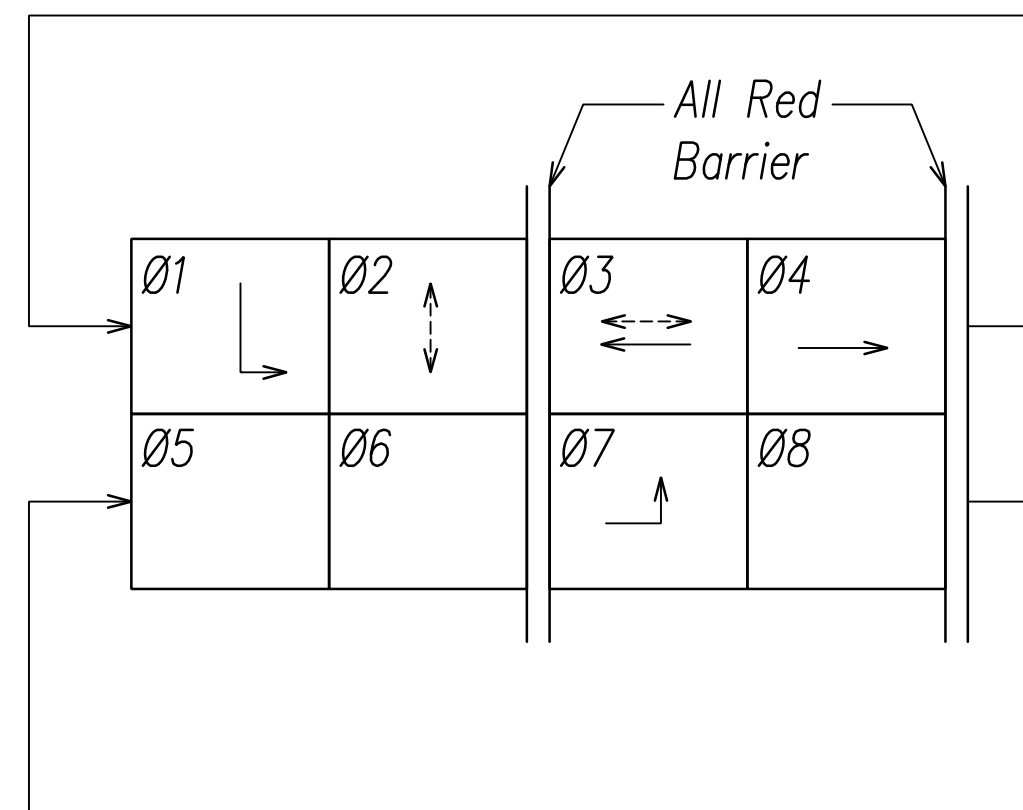
Type "A", "B", "C" or "E" Conc. Base



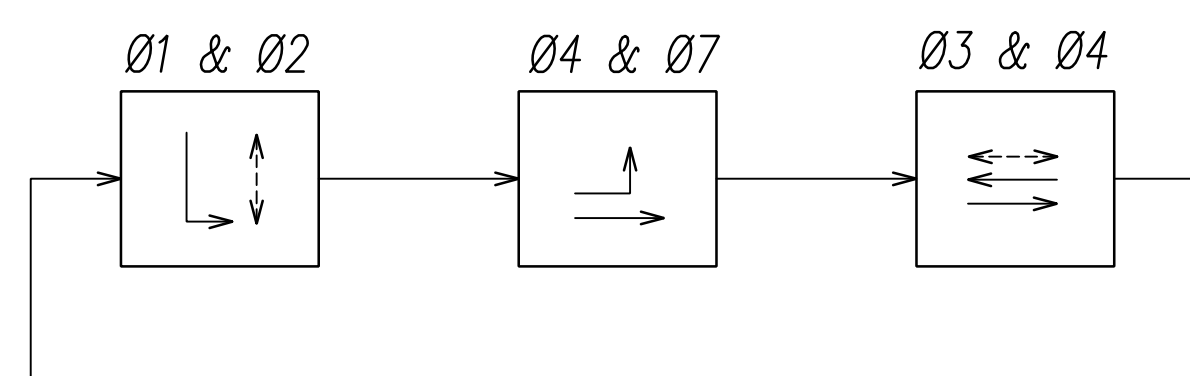
**C**  
E013 **Typical Standard & Pedestal Detail**  
Not to Scale

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

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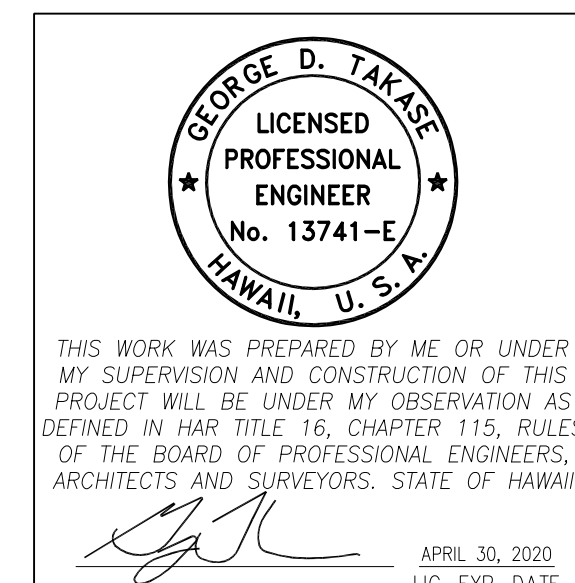


Phase Assignment



Phase Sequence

**Wa'a Street and Kalaniana'ole Highway Intersection Phase Diagram**



1/6/20	Removed Note 3 from Detail "B"
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION <b>TRAFFIC SIGNAL DETAILS I</b>  KALANIANA'OLE HIGHWAY TRAFFIC SIGNAL INSTALLATION AT WAA ST. Project No. 72C-01-19 Scale: AS NOTED Date: NOVEMBER 2019	
E013	SHEET No. OF 48 SHEETS

**ADD. 41**