

STRUCTURAL GENERAL NOTES

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH--072--1(52)	2008	28	64

1. General Specifications: Hawaii Department of Transportation, 2005 Standard Specifications for Road and Bridge Construction, together with Special Provisions prepared for this Contract.

2. Design Specifications:

- (A) AASHTO 2007 LRFD Bridge Design Specifications (Fourth Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.
- (B) AASHTO 2001 Standard specifications for structural supports for Highway Signs, Luminaries and Traffic Signals (Fourth Edition) and its subsequent interim specifications with interim supplements and modifications by the Highways Division, Department of Transportation, State of Hawaii.

3. Loads:

- (A) Wind Load: 105 mph. Value is a 3 second gust speed at 32.8 ft above ground for Exposure C category and is associated with an annual probability of 0.02 (50 year mean recurrence interval).
- (B) Recurrence Interval of 50 Years for Traffic Signal Standards, Recurrence Interval of 25 years for Roadway Light Standards.

4. Materials:

(A) All concrete strengths shall be as noted below:

Item No.	Structural Parts	Classes of Concrete	Specified Compressive Strength, f'c (28 Days)
(1)	Drilled shafts	-	4500 PSI
(2)	Except as noted otherwise, all others	A	3000 PSI

All concrete with a 28 days compressive strength of 4000 psi or greater shall have a maximum W/C Ratio of 0.45. The W/C Ratio for other class of concrete shall follow the Standard Specifications.

- (B) All reinforcing steel shall be ASTM A615 Grade 60 unless otherwise noted.
- (C) All structural steel shall be hot dip galvanized after fabrication, unless otherwise noted.
- (D) All anchor bolts, washers and nuts shall be hot dip galvanized after fabrication, unless otherwise specified.

5. Reinforcement:

- (A) The minimum covering measured from the surface of the concrete to the face of any reinforcing bars shall be as follows, except as otherwise shown:
- (1) Concrete cast against and permanently exposed to earth = 3"
- (2) All others unless otherwise noted = 2".

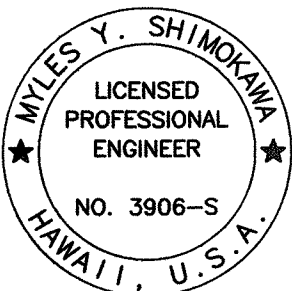
5. Reinforcement (Cont.):

- (B) Reinforcing bars shall be detailed in accordance with the latest edition of the design specification in note 2 unless otherwise noted.
- (C) Minimum clear spacing between parallel bars shall be 1 1/2 times the diameter of bars (for non bundled bars). In no case shall the clear distance between the bars be less than 1 1/2 times the maximum size of the coarse aggregate or 1 1/2".
- (D) All dimensions relating to reinforcing bars are to centers of bars unless otherwise noted.
- (E) Reinforcing bars shall be securely tied at all intersections and lap splices except where the spacing of intersections is less than one foot in each direction, in which case alternate intersections shall be tied.

6. Construction Notes:

- (A) See Standard Specifications and Special Provisions.
- (B) Except as otherwise noted, all vertical dimensions are measured plumb.
- (C) The Contractor shall verify all site conditions and not rely upon these plans for stream location, etc. Conditions may differ from those shown.
- (D) The Contractor shall verify the location of all utility lines and notify the respective owners before commencing with excavation, and any temporary piling or sheeting.
- (E) For concrete finish see Standard Specifications and Special Provisions.
- (F) Construction joints may be relocated or additional ones added subject to the approval of the Engineer.
- (G) Unless otherwise noted, all exposed concrete edges shall be chamfered 3/4"x3/4".

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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NOTE BOOK	No.	

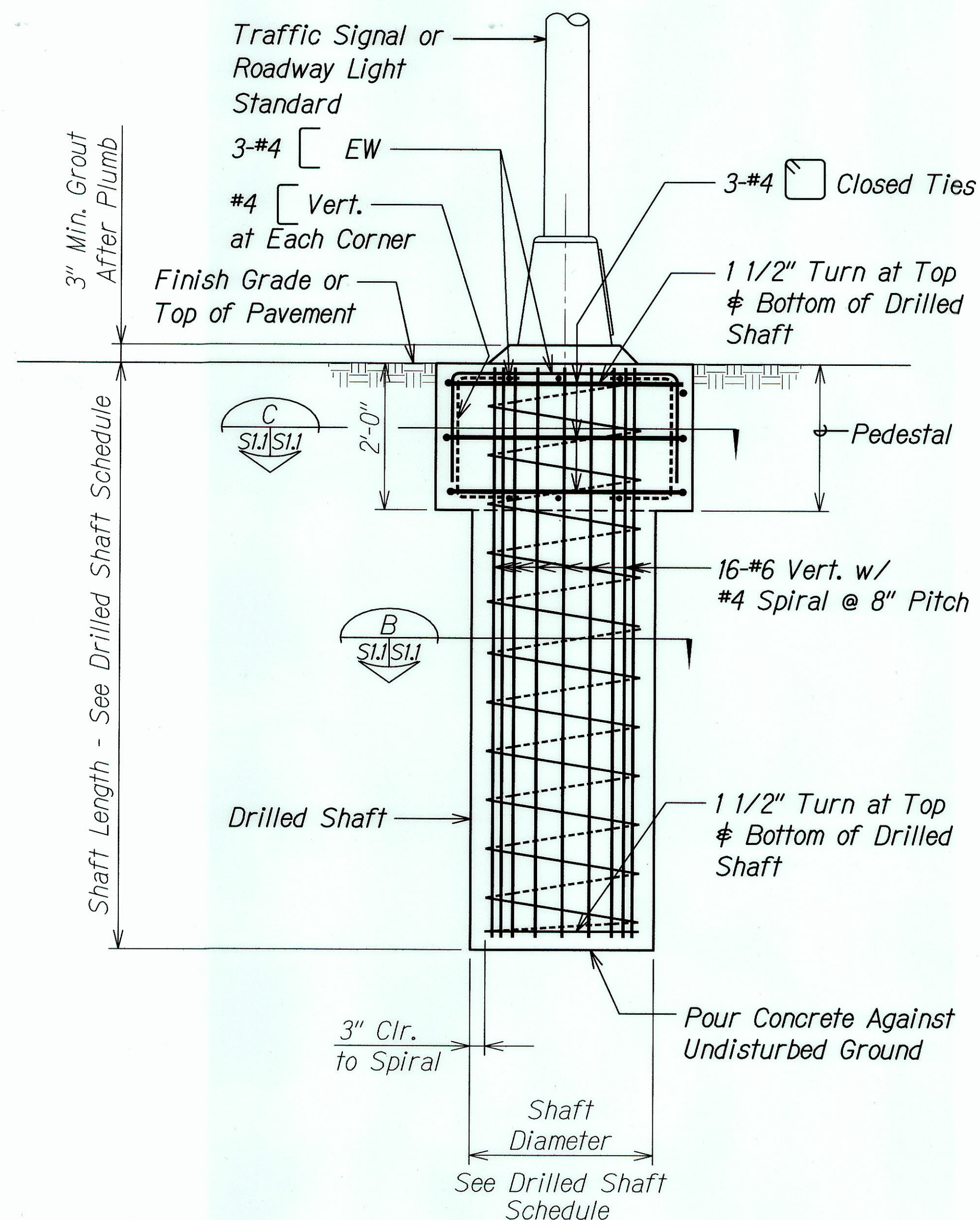


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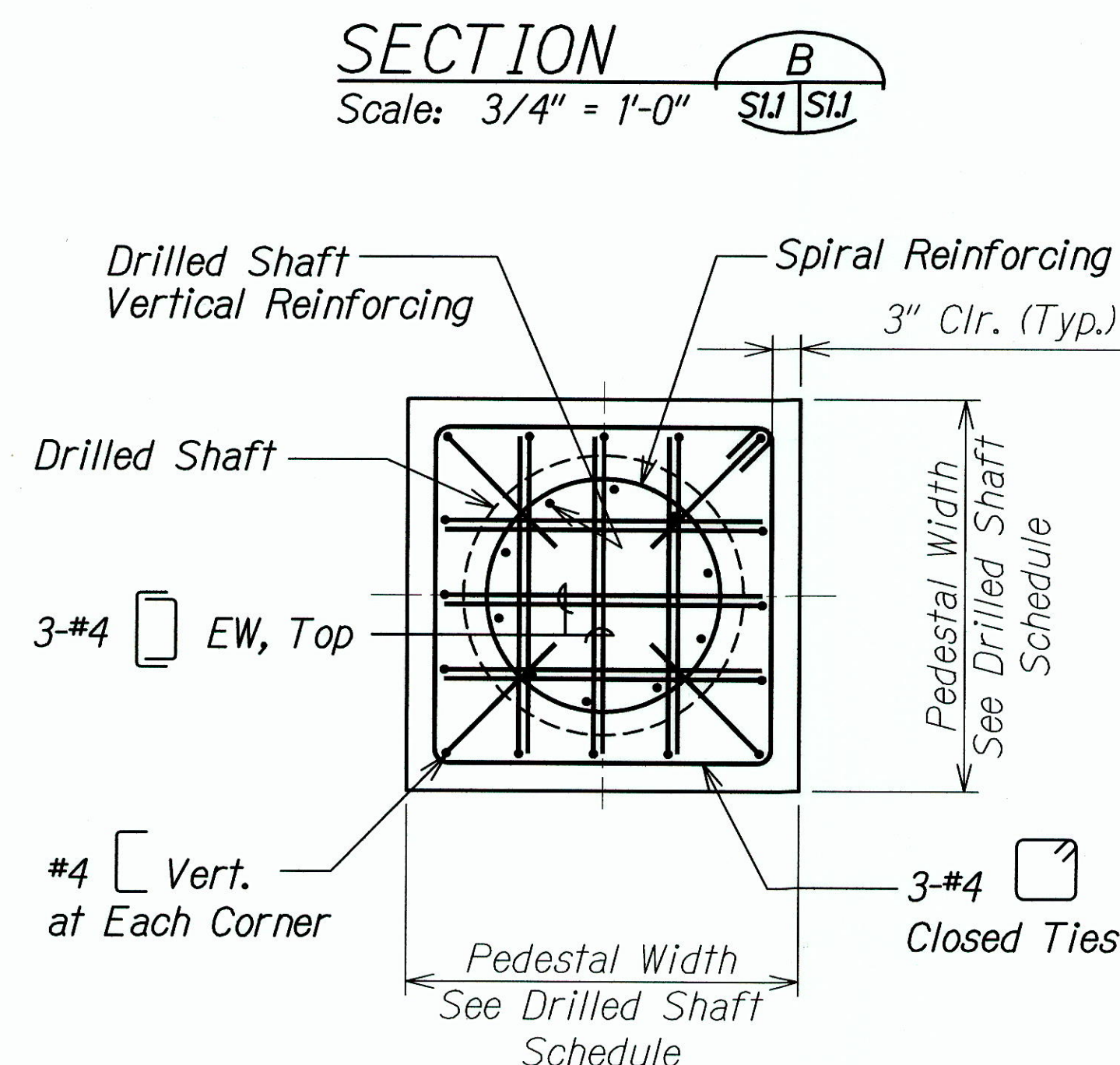
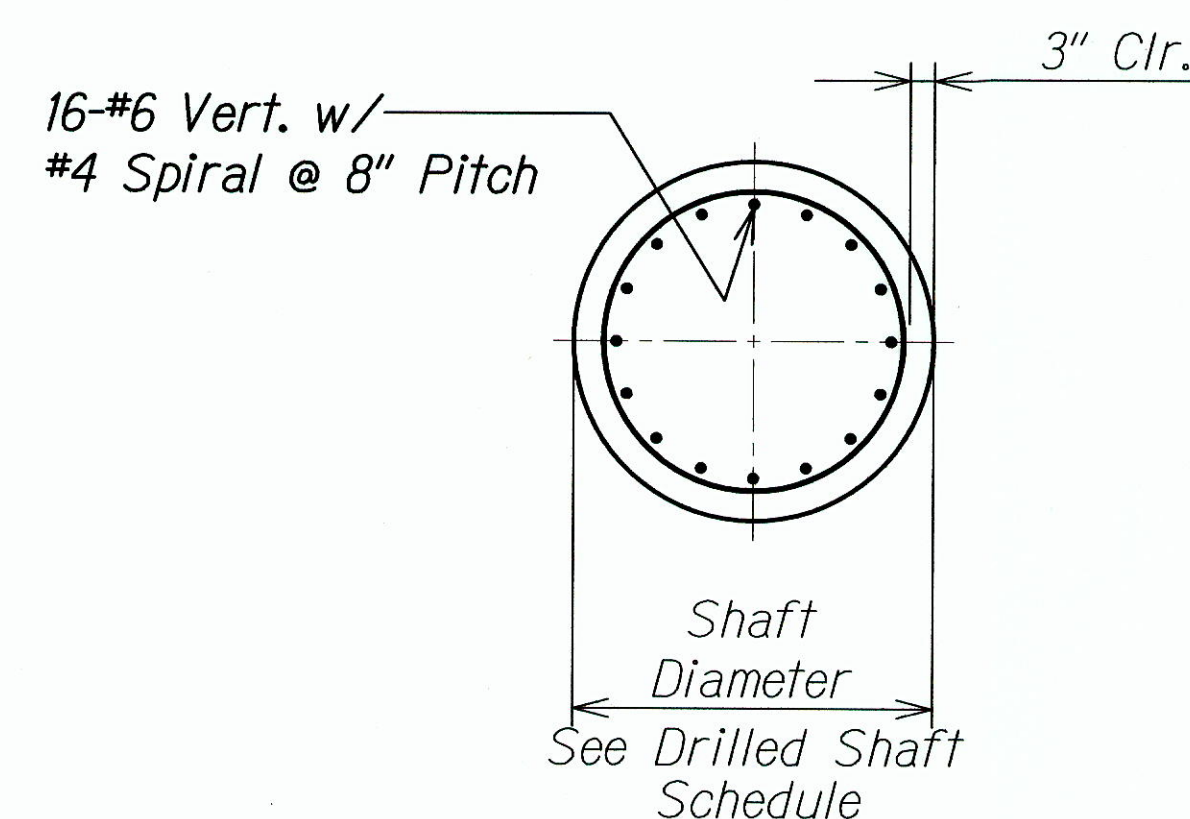
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
STRUCTURAL GENERAL NOTES
KALANIANA'OLE HIGHWAY IMPROVEMENTS VICINITY OF HAWAII KAI DRIVE TO KEAHOLE STREET FEDERAL-AID PROJECT NO. NH-072-1(52) SCALE: None DATE: November 2008
SHEET No. S0.1 OF 3 SHEETS



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(52)	2008	29	64



**TYPICAL POLE FOUNDATION**  
Scale: 3/4" = 1'-0"



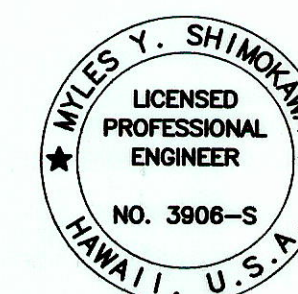
**SECTION C**  
Scale: 3/4" = 1'-0"

**Notes:**

1. See electrical drawings for anchor bolts, weephole, leveling nuts, and additional details.
2. Traffic signal standard pole and roadway light standard pole manufacturer's recommendations shall be followed.
3. The pedestal shall not be paid for separately and shall be considered incidental to the cost of the drilled shaft.

Drilled Shaft Schedule			
	Shaft Diameter Inches	Shaft Length Feet	Pedestal Width Inches
Roadway Light Standard (30'-0" Mounting height)	30	5	36
Roadway Light Standard (35'-0" Mounting height)	30	7	36
Type II Traffic Signal Standard	<del>30</del> 42	9	54

**LEGEND FOR AS-BUILT POSTING**  
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 Roadway Text for as-built posting



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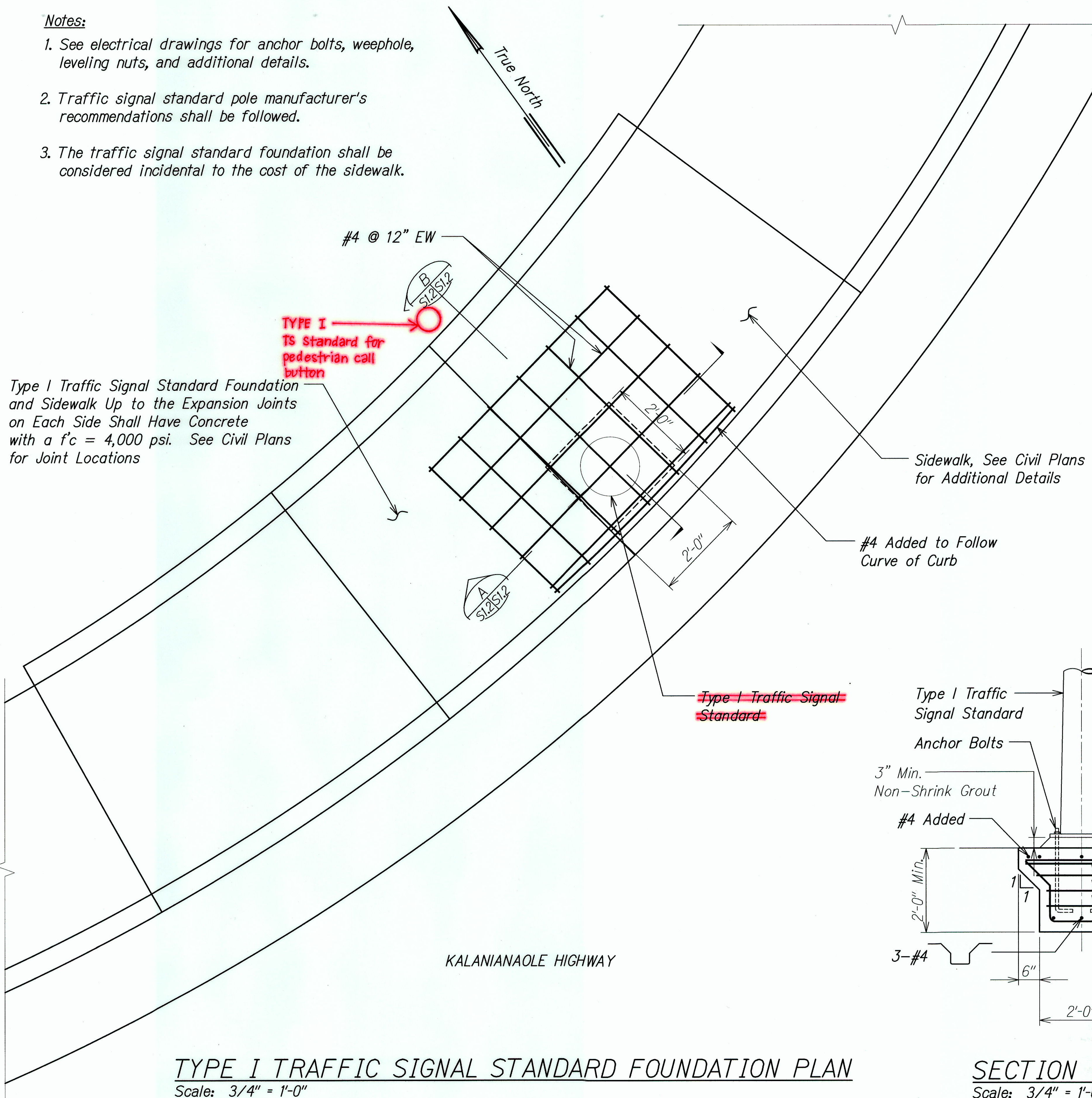
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**TYPICAL SIGNAL LIGHT  
 POLE FOUNDATION**  
 KALANIANA'OLE HIGHWAY IMPROVEMENTS  
 VICINITY OF HAWAII KAI DRIVE  
 TO KEAHOE STREET  
 FEDERAL-AID PROJECT NO. NH-072-1(52)  
 SCALE: As Noted DATE: November 2008  
 SHEET No. S1.1 OF 3 SHEETS

**"AS-BUILT"**

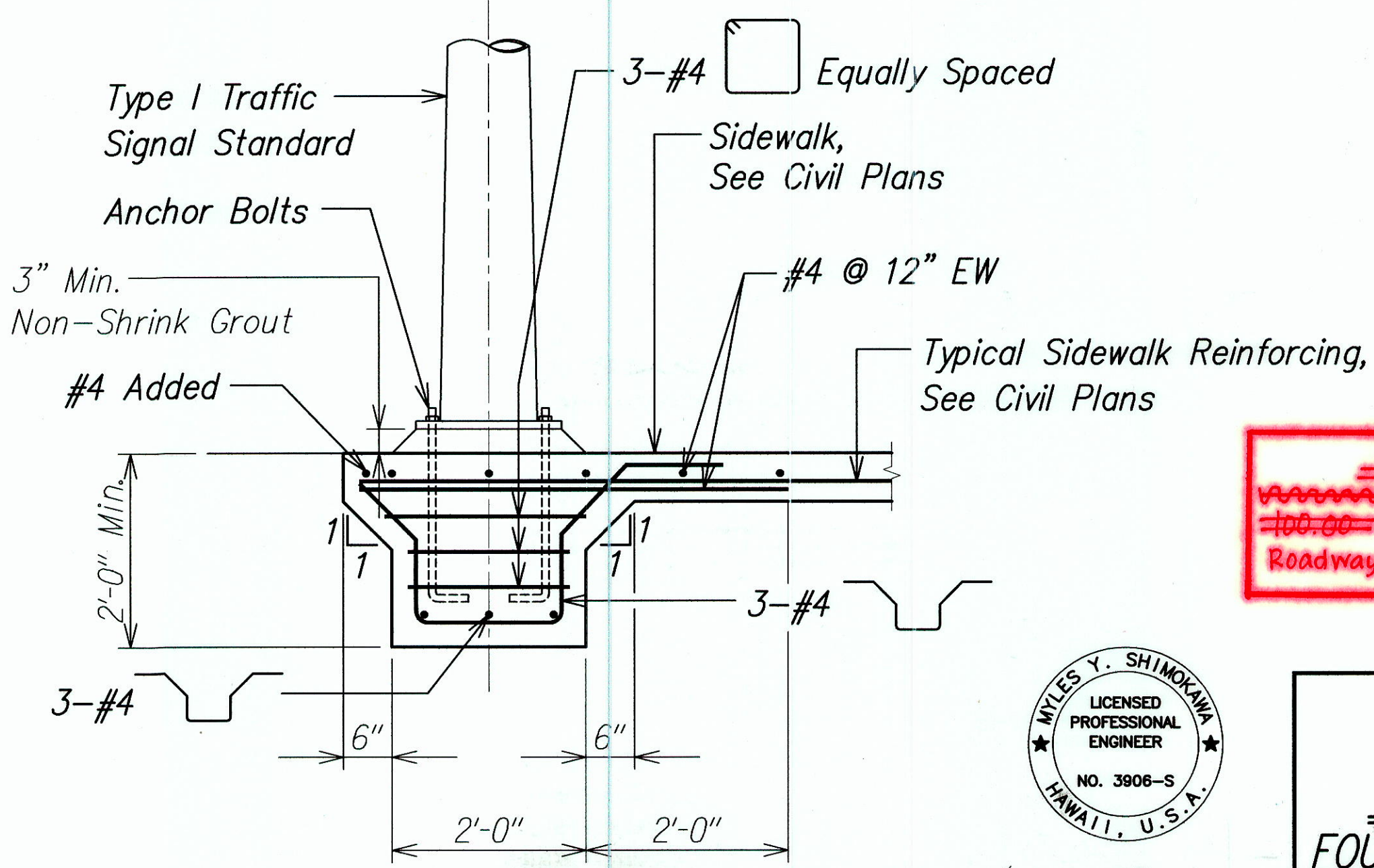
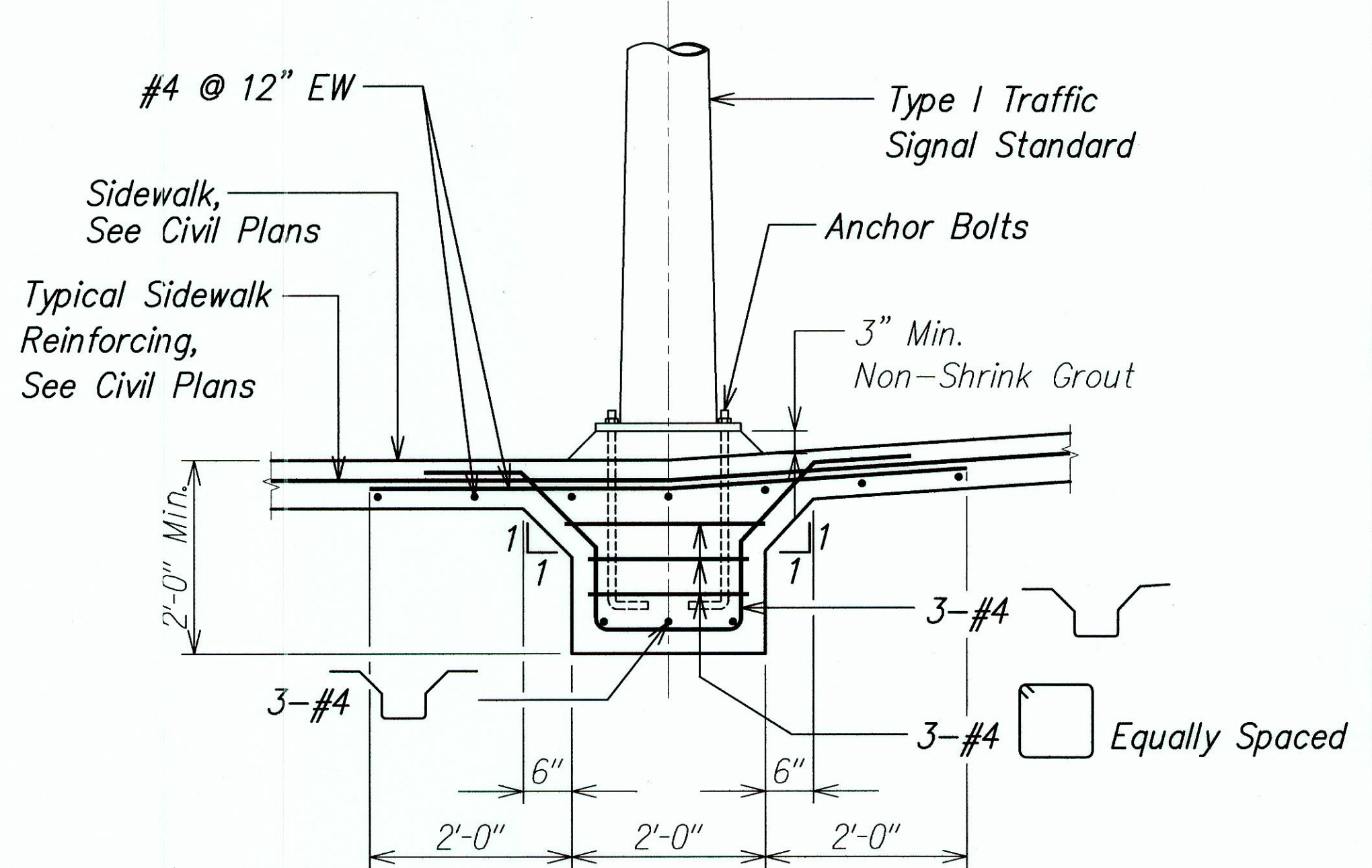


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-072-1(52)	2008	30	64

- Notes:
1. See electrical drawings for anchor bolts, weephole, leveling nuts, and additional details.
  2. Traffic signal standard pole manufacturer's recommendations shall be followed.
  3. The traffic signal standard foundation shall be considered incidental to the cost of the sidewalk.



KEAHOLE STREET



**LEGEND FOR AS-BUILT POSTING**  
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**TYPE I TRAFFIC SIGNAL STANDARD FOUNDATION PLAN**  
 Scale: 3/4" = 1'-0"

**SECTION B**  
 Scale: 3/4" = 1'-0"



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STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION  
**TYPE I TRAFFIC SIGNAL**  
**FOUNDATION PLAN AND SECTIONS**  
 KALANIANA'OLE HIGHWAY IMPROVEMENTS  
 VICINITY OF HAWAII KAI DRIVE  
 TO KEAHOLE STREET  
 FEDERAL-AID PROJECT NO. NH-072-1(52)  
 SCALE: As Noted DATE: November 2008  
**SHEET No. S1.2 OF 3 SHEETS**

"AS-BUILT"