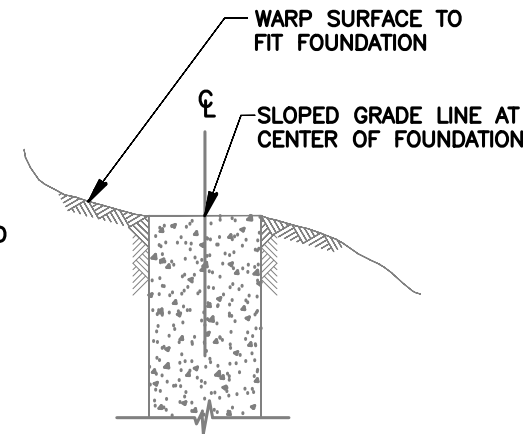


**BIOSWALE SECTION**

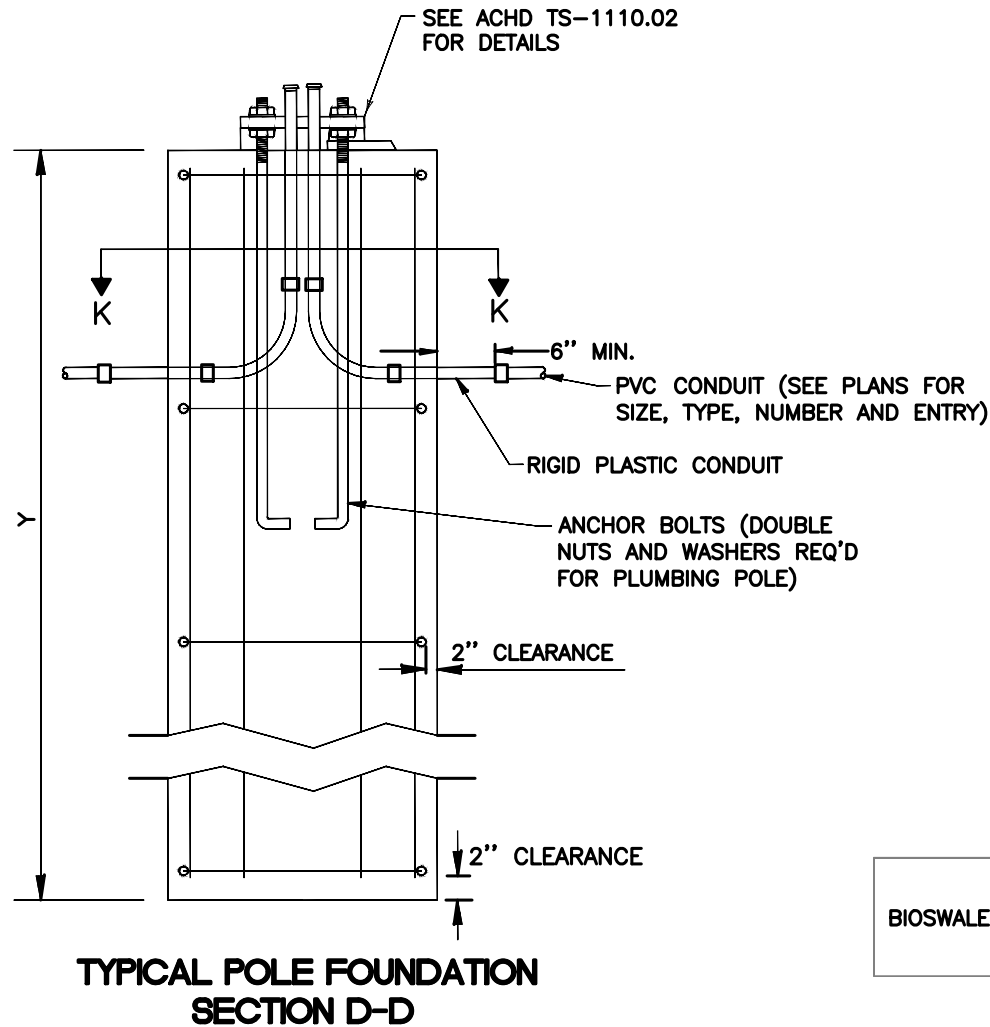


**ALTERNATE SLOPED GRADE SECTION**

- NOTES:**
- THE FOUNDATIONS SHALL BE LOCATED AS INDICATED ON THE PROJECT PLAN SHEETS. FOUNDATION LOCATIONS SHALL BE FIELD VERIFIED BY ACHD PRIOR TO FOUNDATION INSTALLATION.
  - ALL CONDUIT ELBOWS USED IN CONCRETE BASES SHALL BE RPC.
  - SPARE STUBOUTS SHALL BE TERMINATED WITH A COUPLING AND PLASTIC PUSH PLUG AT BOTH ENDS.
  - A TYPE X SIGNAL POLE CAN CARRY UP TO:
    - DUAL 45' MAST ARMS
    - A 50' MAST ARM AND UP TO A 40' MAST ARM
    - A 55' MAST ARM AND UP TO A 30' MAST ARM
 A TYPE XI SIGNAL POLE CAN CARRY UP TO:
    - A 60' MAST ARM AND UP TO A 55' MAST ARM
    - A 65' MAST ARM AND UP TO A 40' MAST ARM
  - UNIT STRESSES:
 

CONCRETE:  $f'_c = 4000$  PSI;  $f_c = 1600$  PSI  
 METAL REINFORCEMENT: AASHTO M31, GRADE 60;  $f_y = 60,000$  PSI
  - NATIVE SOIL PARAMETERS:
 

ALLOWABLE BEARING PRESSURE = 2000 PSF  
 ALLOWABLE LATERAL BEARING PRESSURE = 300 PSF  
 FRICTION ANGLE = 30°



POLE TYPE	MT.HT.	MASTARM LENGTH	FOUNDATION TYPE	X	Y	HOOPS		VERTICAL RODS		CU. YDS. CONCRETE		
						NO.	SIZE	NO.	SIZE			
						LIN.FT.	LIN.FT.					
PEDESTRIAN SIGNAL POLE	12'	-	A	2'-0"	5'-0"	4	#4	23'-0"	6	#4	28'-0"	0.6
LIGHT/DETECTOR POLE	30'	ALL	A	2'-0"	5'-0"	4	#4	23'-0"	6	#4	28'-0"	0.6
LIGHT POLE	35'	ALL	B	2'-6"	7'-0"	4	#4	29'-4"	6	#6	40'-0"	1.3
LIGHT POLE	40'-50'	ALL	C	3'-0"	8'-0"	5	#4	44'-2"	8	#6	61'-4"	2.1
SIGNAL POLE	-	20' - 45'	D	3'-0"	9'-0"	5	#4	44'-2"	8	#6	69'-4"	2.4
PED. PUSHBUTTON POLE	4' 10"	-	E	2'-0"	2'-6"	-	-	-	-	-	-	0.3
DUAL MASTARM SIGNAL POLE	-	SEE NOTE 4	F/G	-	-	-	-	-	-	-	-	-
TYPE X SIGNAL POLE	-	50' - 55'	F	3'-0"	12'-0"	8	#5	70'-8"	12	#6	140'	3.1
TYPE XI SIGNAL POLE	-	60' - 65'	G	3'-6"	14'-0"	9	#5	78'-10"	12	#6	166'	5.0
CCTV POLE	50'	-	F	3'-0"	12'-0"	8	#5	70'-8"	12	#6	140'	3.1
CCTV POLE	55'	-	F	3'-0"	12'-0"	8	#5	70'-8"	12	#6	140'	3.1

BIOSWALE	POLE TYPE	MT.HT.	MASTARM LENGTH	FOUNDATION TYPE	X	Y	Z	HOOPS		VERTICAL RODS		CU. YDS. CONCRETE		
								NO.	SIZE	NO.	SIZE			
								LIN.FT.	LIN.FT.					
	LIGHT/DETECTOR POLE	30'	ALL	H	2'-0"	7'-6"	5'-6"	7	#4	40'-3"	6	#4	43'-0"	1.6
	LIGHT POLE	35'	ALL	J	2'-6"	7'-3"	5'-3"	7	#4	51'-4"	6	#6	41'-6"	1.3
	LIGHT POLE	40'-50'	ALL	K	3'-0"	9'-4"	7'-4"	9	#4	79'-6"	8	#6	72'-0"	2.4

NO.	DATE	BY	DESCRIPTION
1		JES	Added foundation details for bioswale placement.

• REVISIONS •

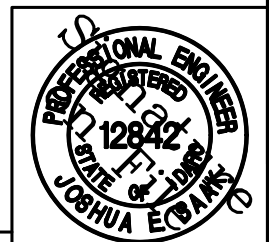
**ACHD**  
Traffic Engineering Division  
3775 Adams Street Boise, ID 83714  
www.achdidaho.org

• SIGNATURES •

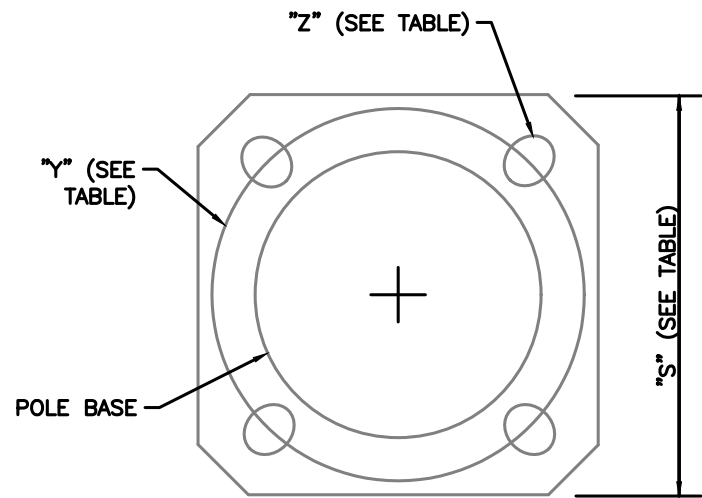
Scale: NTS	Drawn By: Joshua Saak
Date: 4/15/1997	Design By: Joshua Saak
File: TS-1110.01.DWG	Approved By: Shawn Martin

• SHEET TITLE •

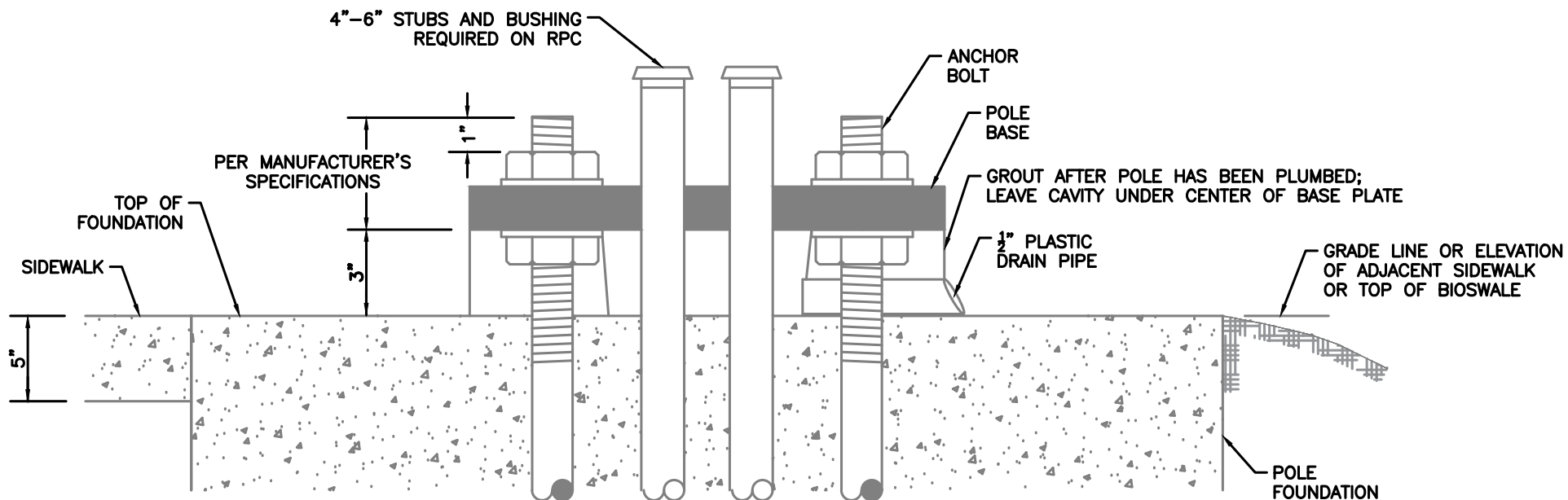
Standard Signal and CCTV Pole Foundation Detail



• STANDARD DETAIL NO. •  
TS-1110.01

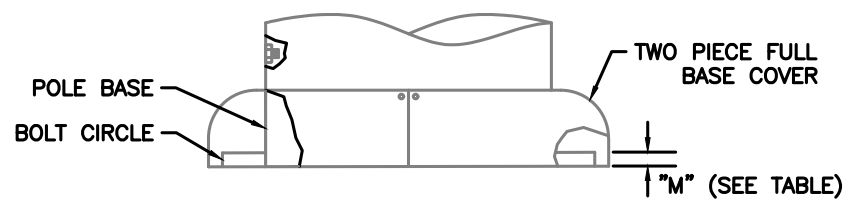


**TYPICAL SIGNAL POLE BASE AND FOUNDATION BOLT DETAIL - PLAN VIEW**

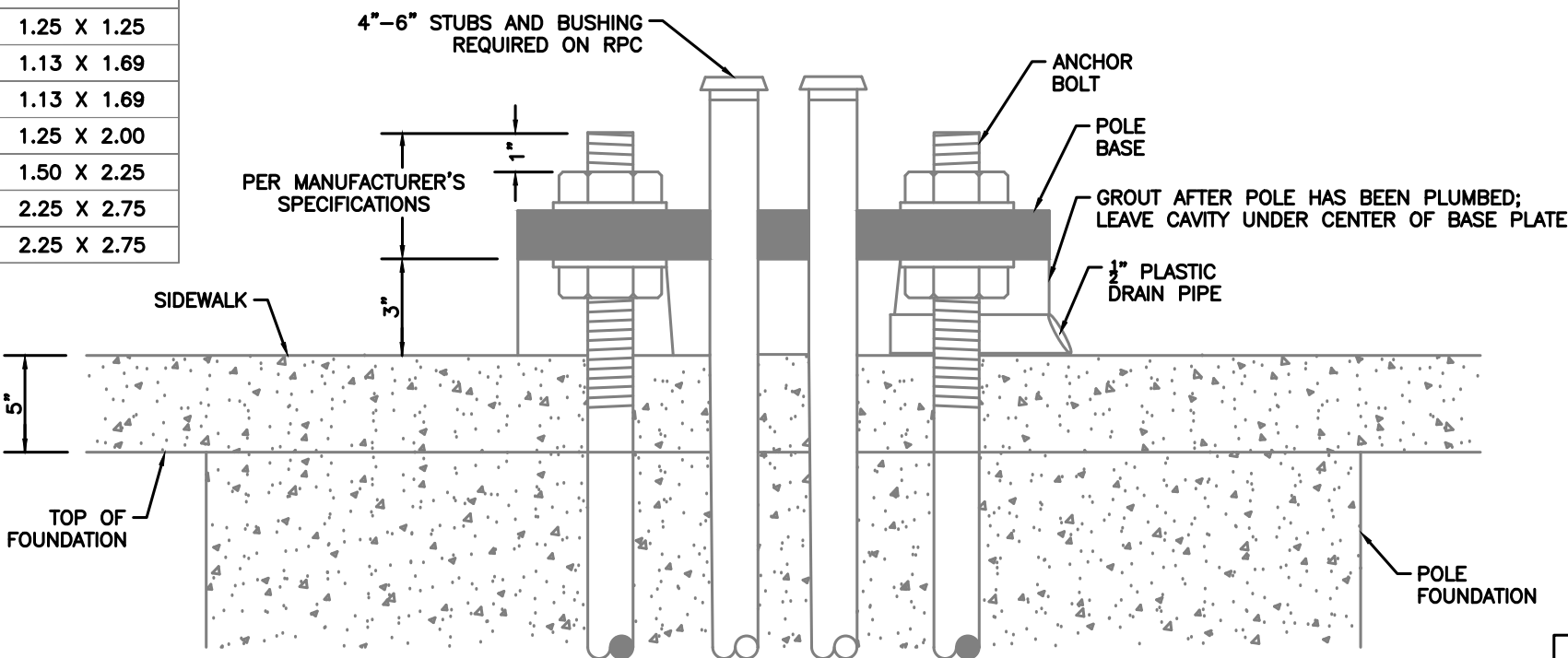


**TYPICAL SIGNAL POLE BASE AND FOUNDATION BOLT DETAIL**  
(USED FOR SIGNAL FOUNDATIONS NOT PLACED IN SIDEWALK OR ADJACENT TO SIDEWALK)

POLE DATA					
POLE TYPE	MASTARM LENGTH	POLE BASE			
		SQUARE "S" (IN.)	BOLT CIRCLE "Y" (IN.)	THK. "M" (IN.)	HOLE / SLOT "Z" (IN.)
PED PUSHBUTTON POLE	—	12.00	8.50	0.50	1.00 X 1.00
PEDESTRIAN SIGNAL POLE	—	13.88	12.75	0.75	1.25 X 1.25
BREAKAWAY POLE	—	13.88	12.75	0.75	1.25 X 1.25
LUMINAIRE POLE, STANDARD	30'	13.88	12.75	1.00	1.13 X 1.69
	40'	13.88	12.75	1.00	1.13 X 1.69
LUMINAIRE POLE, DAVIT STYLE	30'	11.50	10.50	0.75	1.25 X 2.00
	40'	13.50	12.50	1.50	1.50 X 2.25
TYPE X SIGNAL POLE	20' - 55'	19.00	18.00	2.00	2.25 X 2.75
TYPE XI SIGNAL POLE	60' - 65'	22.00	21.00	2.00	2.25 X 2.75



**TYPICAL SIGNAL POLE BASE AND FOUNDATION BOLT DETAIL - PROFILE VIEW**

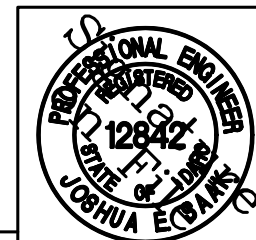


**TYPICAL SIGNAL POLE BASE AND FOUNDATION BOLT DETAIL**  
(USED FOR SIGNAL FOUNDATIONS PLACED IN SIDEWALK)

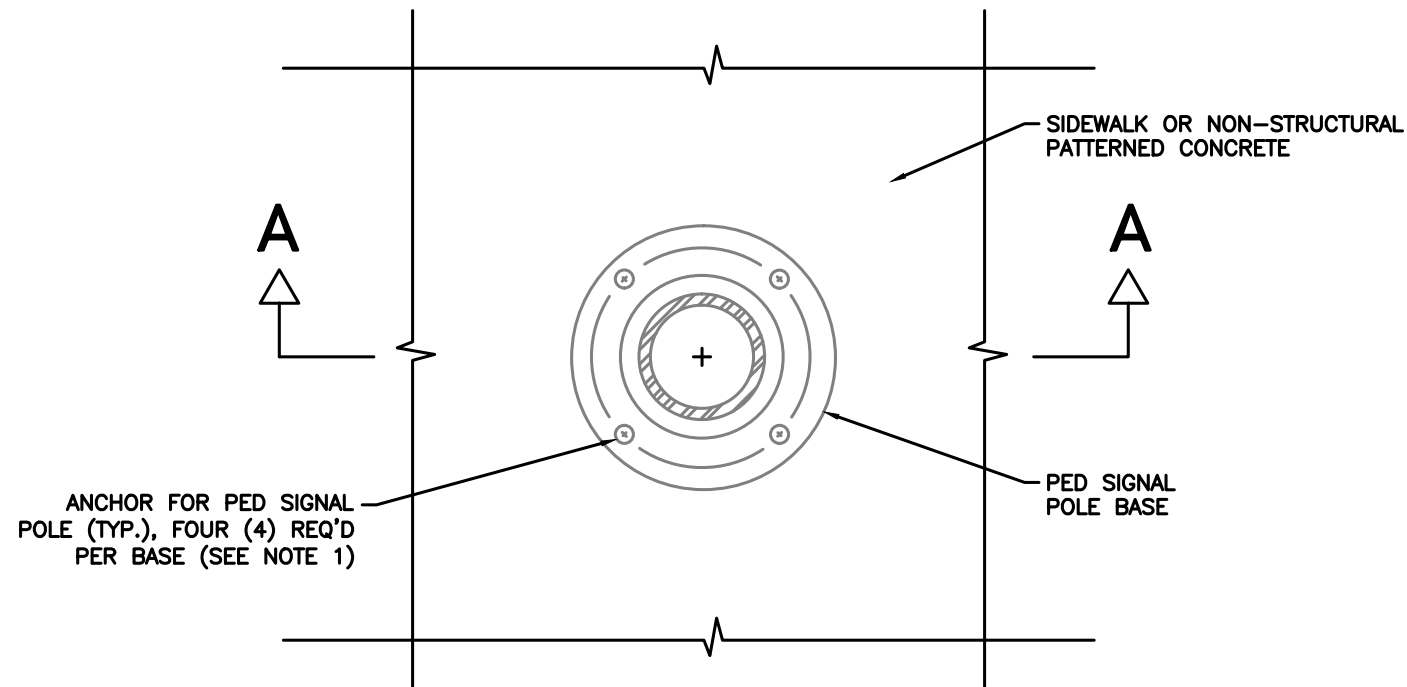
NO.	DATE	BY	DESCRIPTION
12/2021	JES		Added breakaway pole data
11/2019	JES		Modified pole data table
10/2016	JES		Added bioswale note



• SIGNATURES •		• SHEET TITLE •	
Scale: NTS	Drawn By: Joshua Snak	Standard Signal Pole Foundation Detail	
Date: 1/15/1999	Design By: Joshua Snak		
File: TS-1110.02.DWG	Approved By: Shawn Martin		



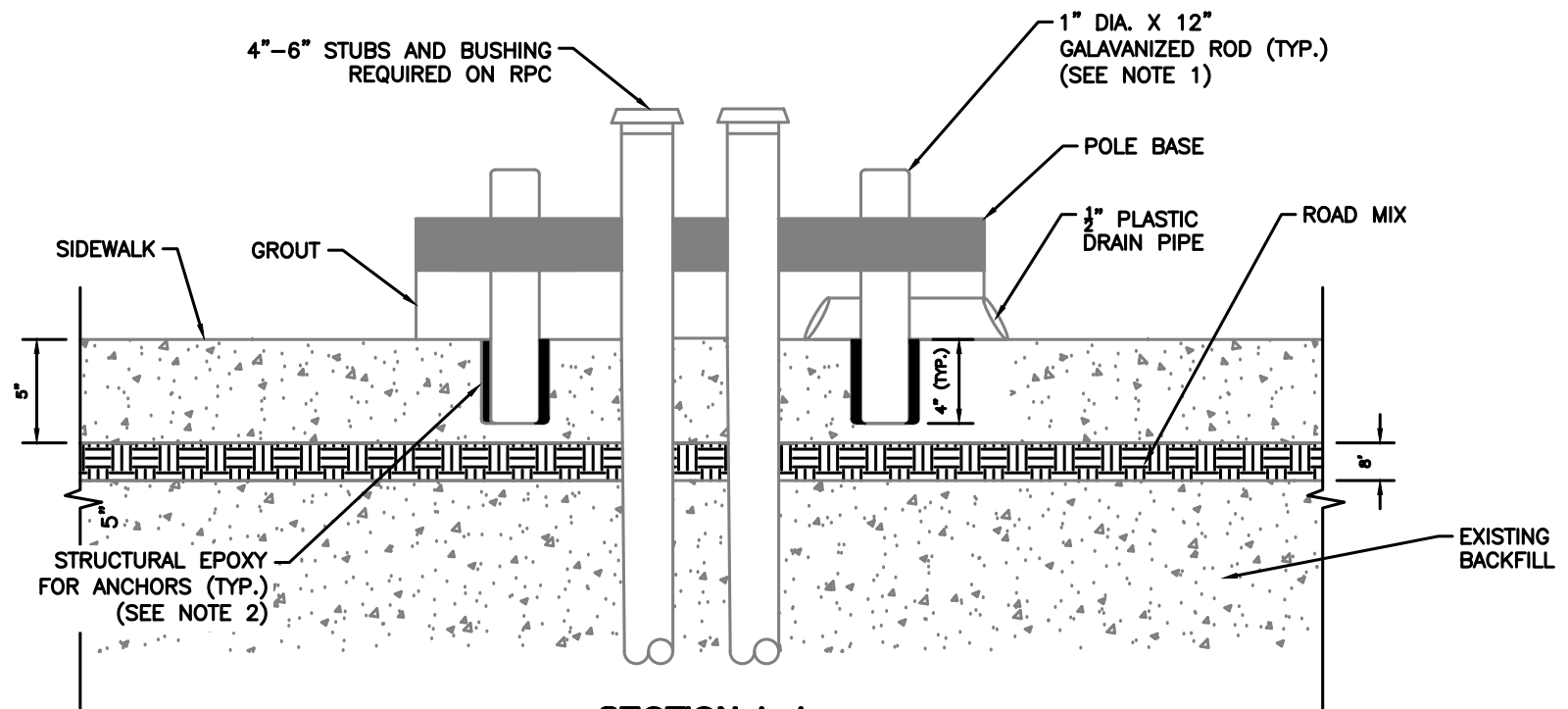
STANDARD DETAIL NO. TS-1110.02



**PED SIGNAL POLE AND  
PED PUSH BUTTON SIGNAL POLE FOUNDATION DETAIL**

**NOTES:**

1. PED SIGNAL ANCHORS SHALL BE 1/2" MIN. DIAMETER STAINLESS STEEL HILTI HAS-R THREADED RODS WITH 4" EMBEDMENT INTO THE SIDEWALK (OR APPROVED EQUAL). ANCHOR DIAMETER SHALL BE INCREASED AS REQUIRED BY PED SIGNAL SLIP BASE MANUFACTURER. EACH POLE SHALL HAVE A MINIMUM OF FOUR (4) ANCHORS WITH A MINIMUM ANCHOR BOLT PATTERN DIAMETER OF 7.5".
2. STRUCTURAL EPOXY FOR ANCHORS SHALL BE QUALIFIED FOR USE PER ACI 318, APPENDIX D, ACI 355.2, AND HAVE CURRENT ICC CERTIFICATION. USE SIMPSON SET-XP, HILTI RE-500 SD, OR POWERS PE 1000+. THE EPOXY SHALL BE APPLICABLE FOR BONDING EITHER VERTICAL OR HORIZONTAL ANCHORS INTO THE SIDEWALK OR STRUCTURE. THE MANUFACTURER'S RECOMMENDATIONS REGARDING MIXING, DRILL HOLE DIAMETER, APPLICATION, CURING TEMPERATURE, AND CURING CONDITIONS SHALL BE STRICTLY OBSERVED. HOLES SHALL BE CLEAN AND CLEAR OF DEBRIS PRIOR TO ADHESIVE PLACEMENT. THE ANCHOR EMBEDMENT OPTION SHOWN ON THE PLANS SHALL NOT BE INCREASED OR DECREASED.
3. ALL SIGNAL COMPONENTS SHALL BE LEVELED AFTER THE POLE HAS BEEN PLUMBED.
4. SPECIFIC LOCATION OF EACH POLE INSTALLATION SHALL BE AS INDICATED ON THE PROJECT PLAN SHEETS. THE LOCATION SHALL BE FIELD VERIFIED BY ACHD PRIOR TO FOUNDATION INSTALLATION.



**SECTION A-A  
TYPICAL PED SIGNAL POLE BASE  
(USED FOR PED SIGNAL POLES ANCHORED IN SIDEWALK)**

NO.	DATE	BY	DESCRIPTION
• REVISIONS •			
12/2021	JES		Added breakaway pole data
11/2019	JES		Modified pole data table
10/2018	JES		Added bio-swale note

**ACHD**  
Traffic Engineering Division

• SIGNATURES •	
Scale: NTS	Drawn By: Joshua Saak
Date: 12/20/2023	Design By: Joshua Saak
File: TS-1110.03.DWG	Approved By: Shawn Martin

• SHEET TITLE •
Standard Signal Pole Foundation Detail – Sidewalk Anchor

PROFESSIONAL ENGINEER  
REGISTERED  
12842  
STATE OF IDAHO  
JOSHUA E. CAHANE

• STANDARD DETAIL NO. •  
TS-1110.03