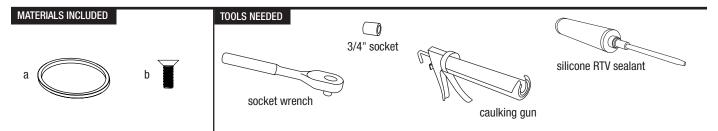
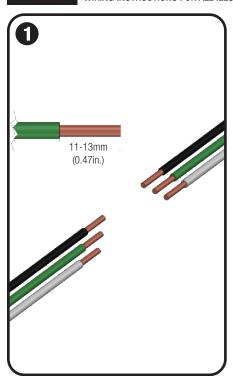
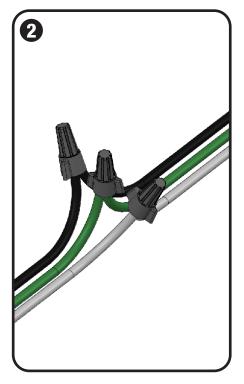
HELIO M30-P1 SECURITY BOLLARD, SERIES 900

SECURITY BOLLARD WIRING & INSTALLATION INSTRUCTIONS



STEP BY STEP WIRING INSTRUCTIONS FOR ALL ILLUMINATED HELIO BOLLARDS WITH EMBEDDED SECURITY CORES





NOTES

- Installation should be performed only by qualified individuals.
- Wire used should be 22-14 AWG copper conductors.
- Caution: Installation of a surge protector as part of each unit's wiring is recommended.
 Light fixture rated for 120-277 VAC power.

Locate and prepare wires

- Before proceeding with wiring of luminary, check to ensure that all applicable site wiring and safety codes have been followed.
- Locate wires at base of light fixture.
- Ensure power supply is shut off and circuit being used is isolated.
- Prepare wiring from site junction box and bollard by stripping and removing 11-13mm (.47") of insulation.

Connect wires

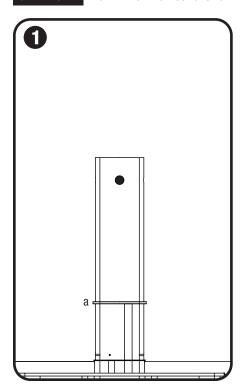
- Insert ground (green), neutral (white), and positive (black) wires into provided wire nuts, being sure to match wire color codes from junction box to bollard.
- Tighten wire nuts until exposed wire ends are below bottom of wire nut.
- Inspect all wiring and connections before.

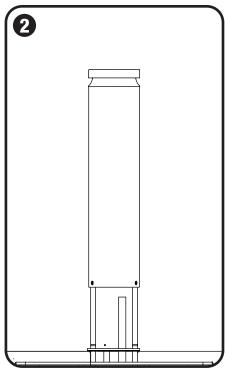
FORMS+SURFACES®

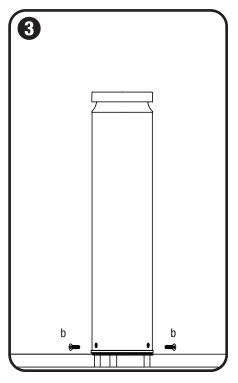
HELIO M30-P1 SECURITY BOLLARD, SERIES 900

SECURITY BOLLARD WIRING & INSTALLATION INSTRUCTIONS

STEP BY STEP INSTALLATION INSTRUCTIONS FOR ALL HELIO BOLLARDS WITH EMBEDDED SECURITY CORES







Install trim ring

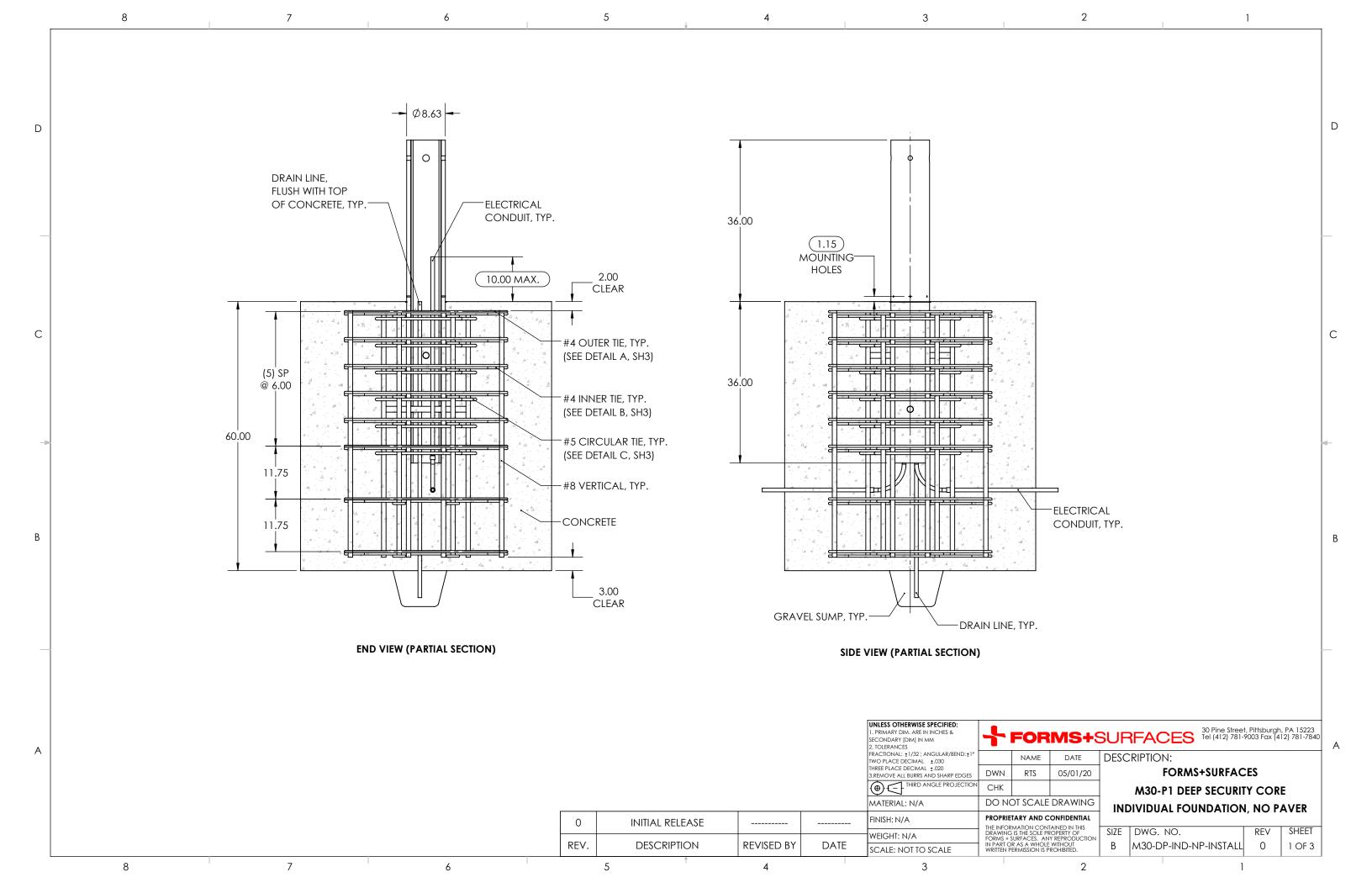
- Apply a thin bead of waterproof clear silicone to the top of the flange on the security core. Take care not to over apply.
- Slide trim ring (a) over security core and drop down to flange on security core. Press down on trim ring to ensure it is fully seated on the flange.

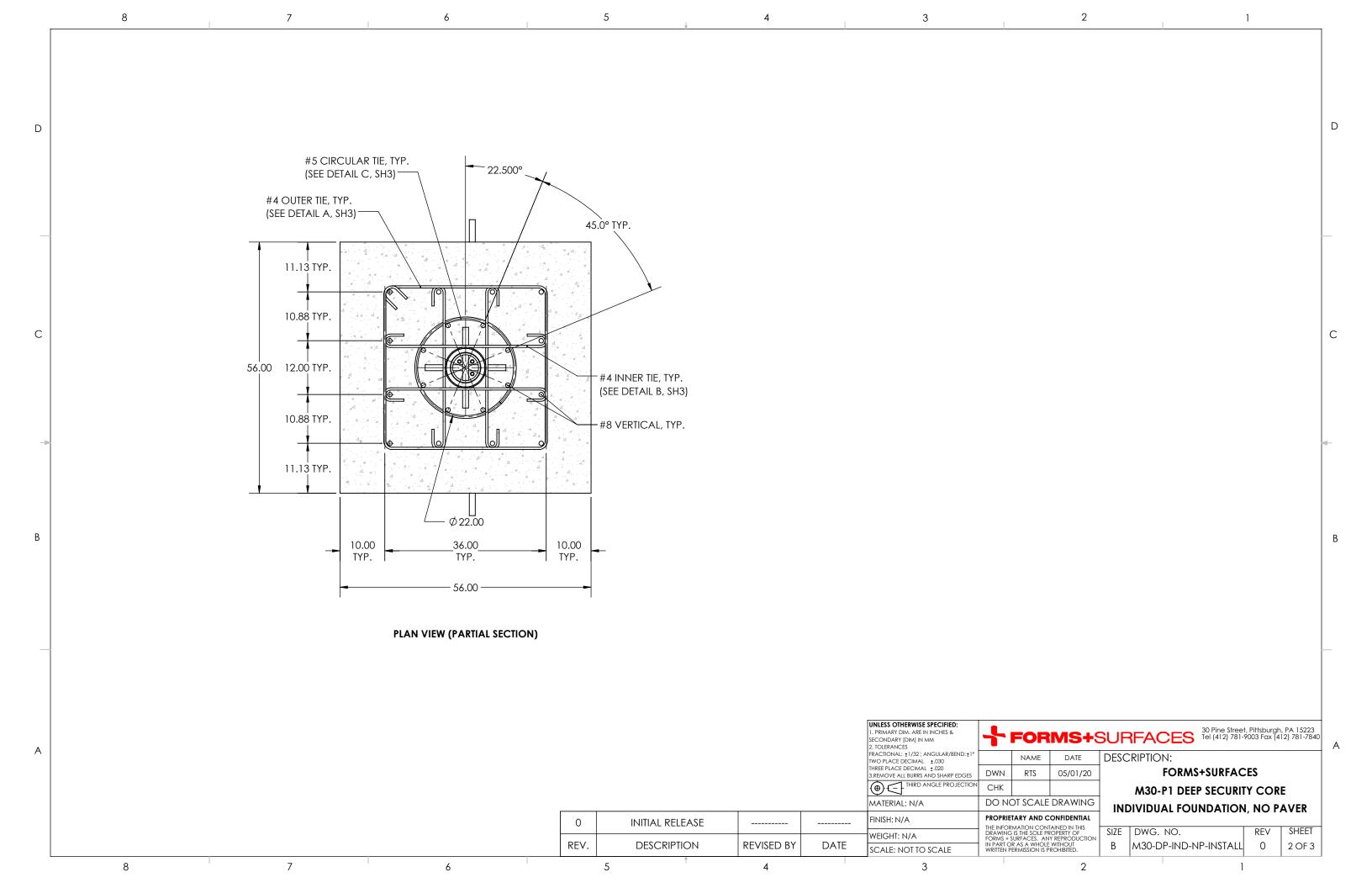
Position bollard over security core

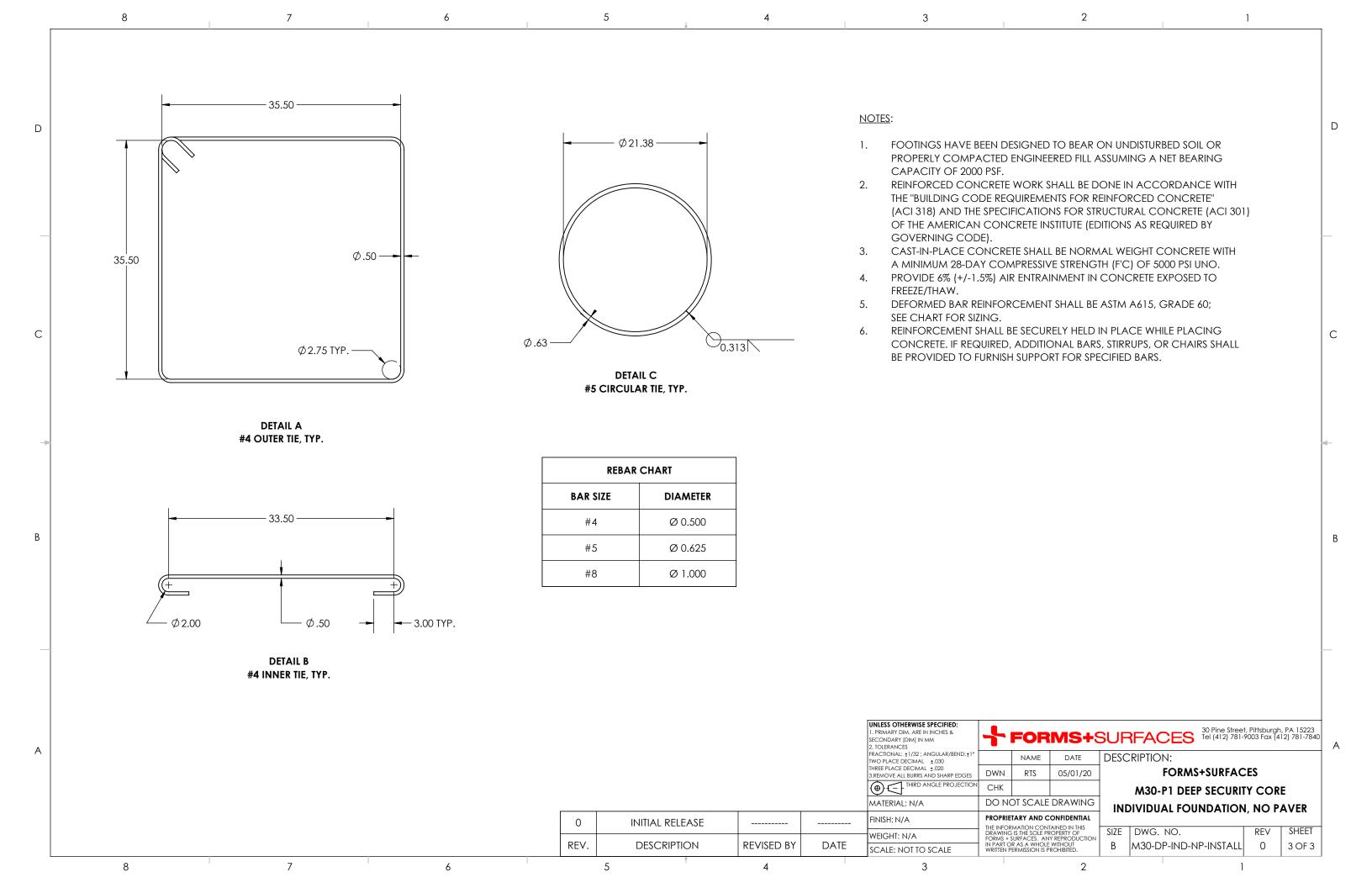
- Inspect security core for moisture. If moisture is present allow to dry before installing bollard. Do not install bollard unless security core is completely dry.
- Slide bollard over security core so that mounting holes in bollard body align with tapped holes in security core.

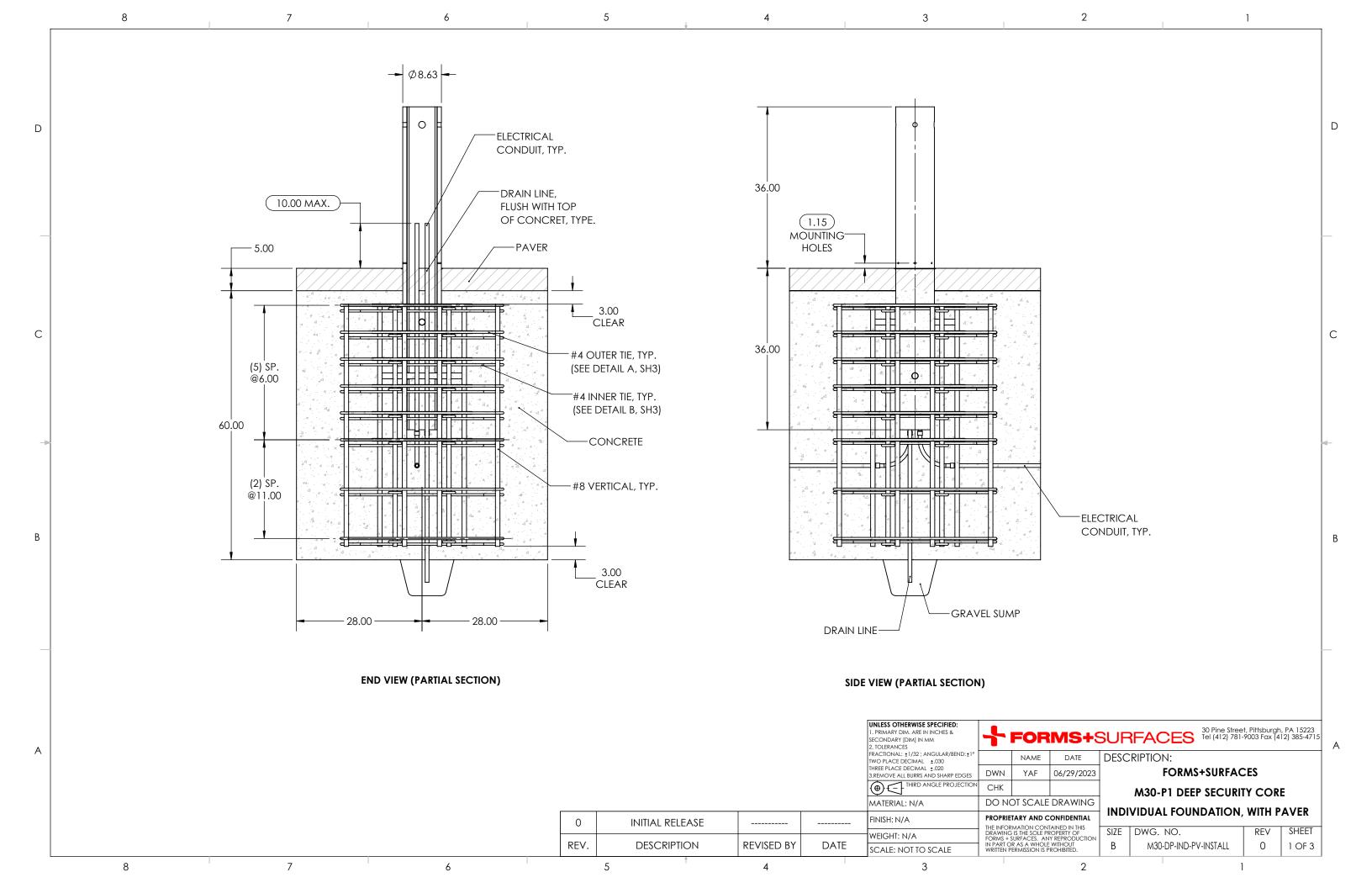
Attach bollard to security core

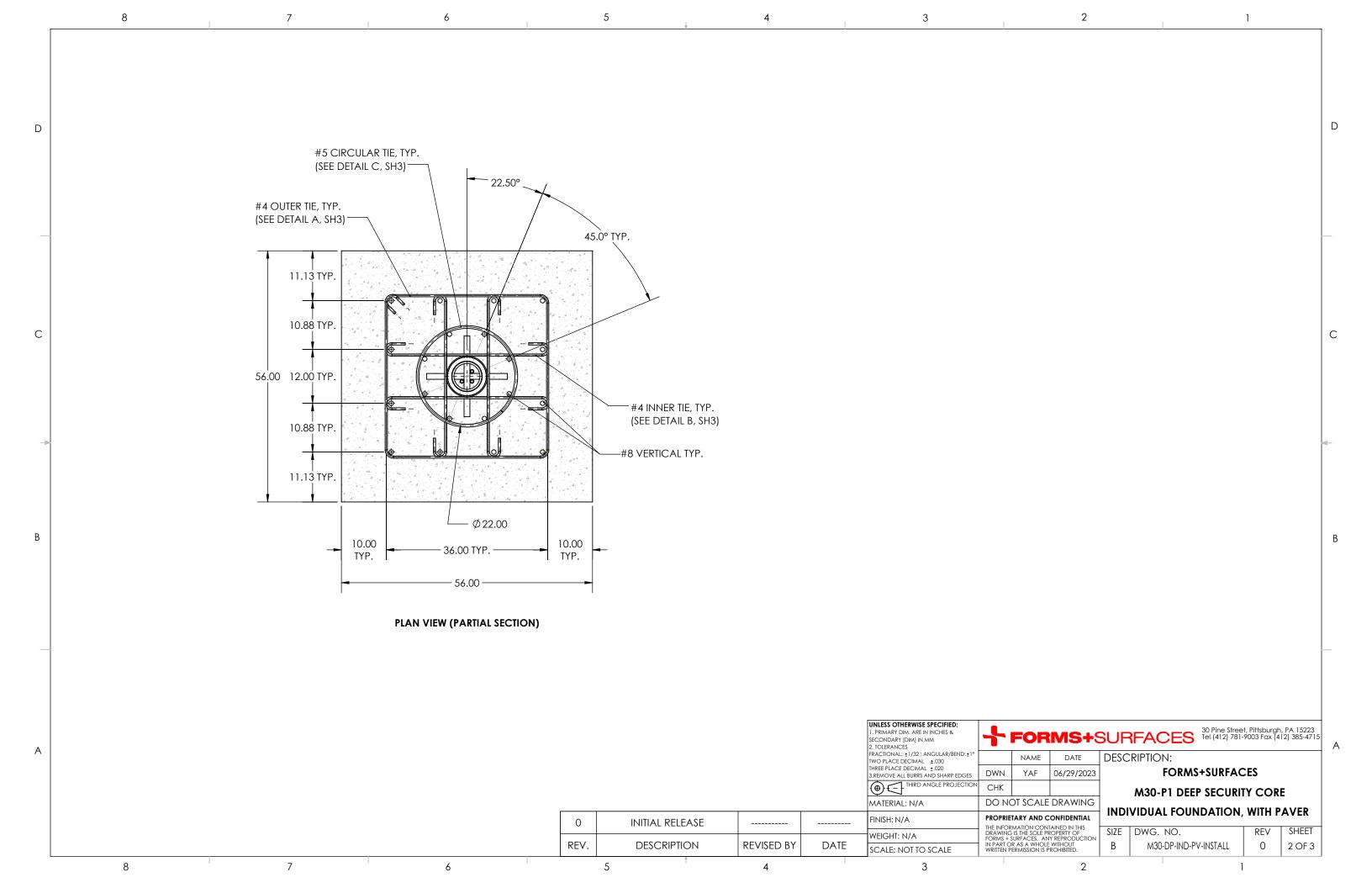
- Thread 5/16"-18x1" tamper-resistant flat head bolts (b) into each hole.
- Use provided T40 Torx bit for tamperresistant bolts to tighten all bolts until snug.

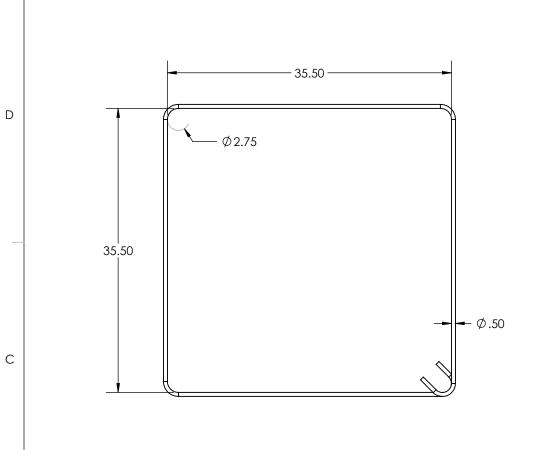




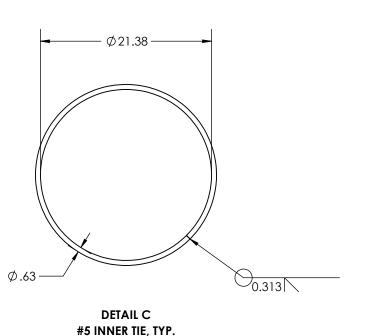




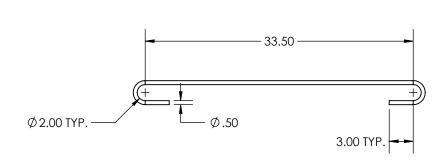




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DETAIL A #4 OUTER TIE, TYP.



DETAIL B #4 INNER TIE, TYP.

REBAR CHART				
BAR SIZE	DIAMETER			
#4	Ø 0.500			
#5	Ø 0.625			
#8	Ø 1.000			

NOTES:

1. FOOTINGS HAVE BEEN DESIGNED TO BEAR ON UNDISTURBED SOIL OR PROPERLY COMPACTED ENGINEERED FILL ASSUMING A NET BEARING CAPACITY OF 2000 PSF.

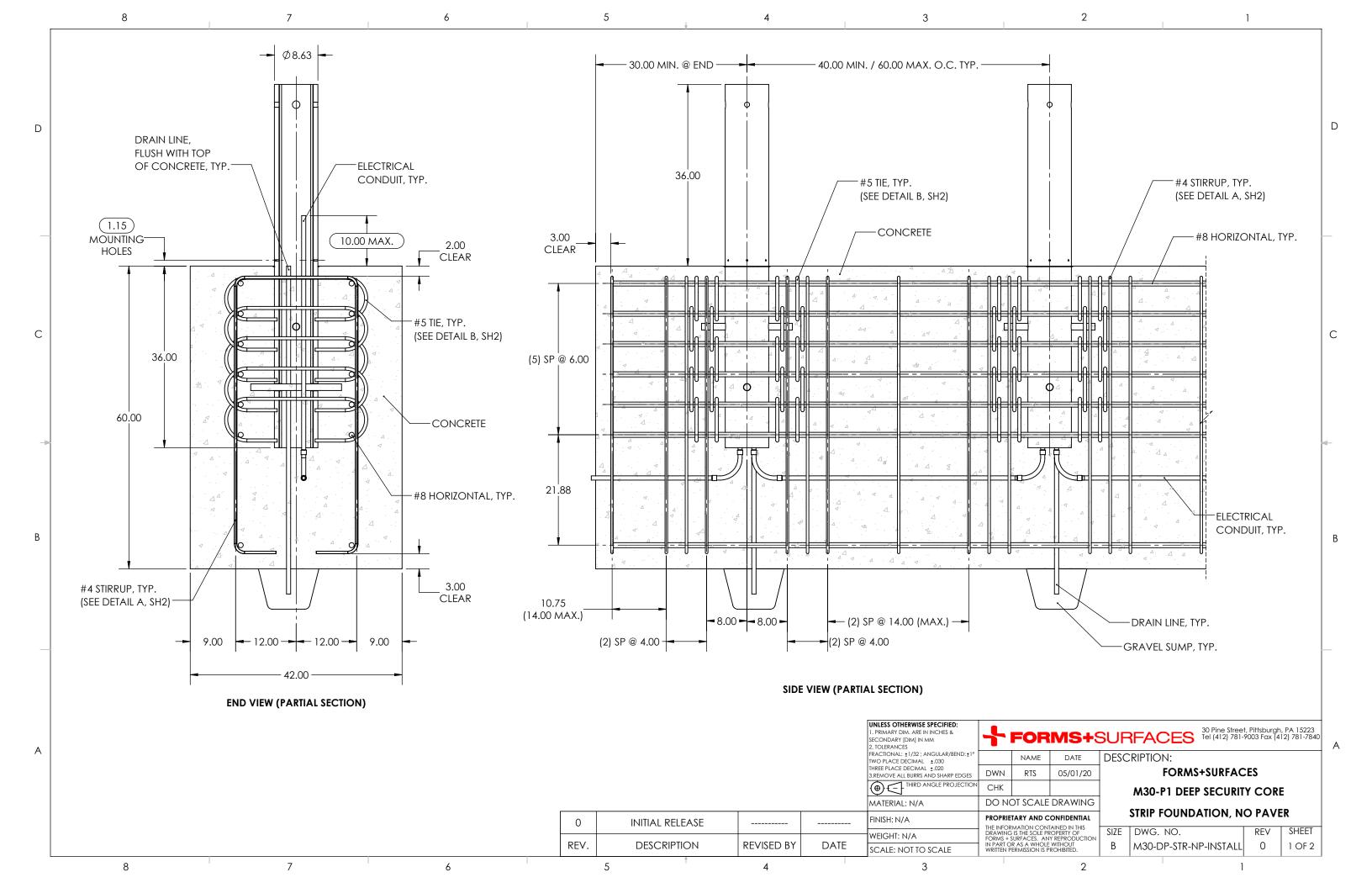
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- 2. REINFORCED CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH THE "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318) AND THE SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301) OF THE AMERICAN CONCRETE INSTITUTE (EDITIONS AS REQUIRED BY GOVERNING CODE).
- 3. CAST-IN-PLACE CONCRETE SHALL BE NORMAL WEIGHT CONCRETE WITH A MINIMUM 28-DAY COMPRESSIVE STRENGTH (F'C) OF 5000 PSI UNO.
- 4. PROVIDE 6% (+/-1.5%) AIR ENTRAINMENT IN CONCRETE EXPOSED TO FREEZE/THAW.
- 5. DEFORMED BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60; SEE CHART FOR SIZING.
- 6. REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS, STIRRUPS, OR CHAIRS SHALL BE PROVIDED TO FURNISH SUPPORT FOR SPECIFIED BARS.

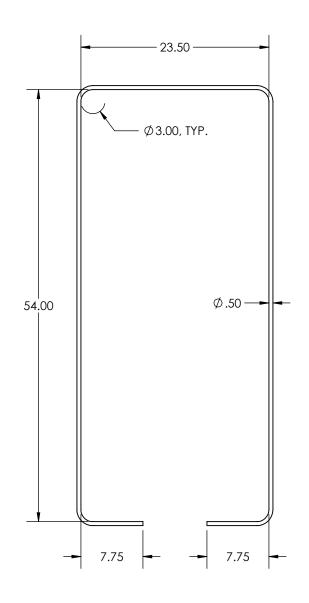
UNLESS OTHERWISE SPECIFIED:

1. PRIMARY DIM. ARE IN INCHES & ** FORMS+SURFACES 30 Pine Street, Pittsburgh, PA 15223 Tel (412) 781-9003 Fax (412) 781-7840 SECONDARY [DIM] IN MM 2. TOLERANCES FRACTIONAL: ±1/32; ANGULAR/BEND:±1
TWO PLACE DECIMAL ±.030 DESCRIPTION: NAME DATE THREE PLACE DECIMAL ±.020 3.REMOVE ALL BURRS AND SHARP EDGES **FORMS+SURFACES** DWN YAF 06/29/2023 THIRD ANGLE PROJECTION CHK M30-P1 DEEP SECURITY CORE MATERIAL: N/A DO NOT SCALE DRAWING INDIVIDUAL FOUNDATION, WITH PAVER PROPRIETARY AND CONFIDENTIAL FINISH: N/A THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FORMS + SURFACES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED. SHEET SIZE DWG. NO. REV WEIGHT: N/A M30-DP-IND-PV-INSTALL 0 3 OF 3 SCALE: NOT TO SCALE

7 6 5 4 3 2



8 7 6 5 4 3 2 1



DETAIL A #4 STIRRUP, TYP.

	·1	9.50 —		
(+		Ø.63		
Ø7.63 TYF	P		→	— 6.00 ТҮР.
DETAIL B #5 TIE, TYP.				

REBAR CHART			
BAR SIZE	DIAMETER		
#4	Ø 0.500		
#5	Ø 0.625		
#8	Ø 1.000		

NOTES:

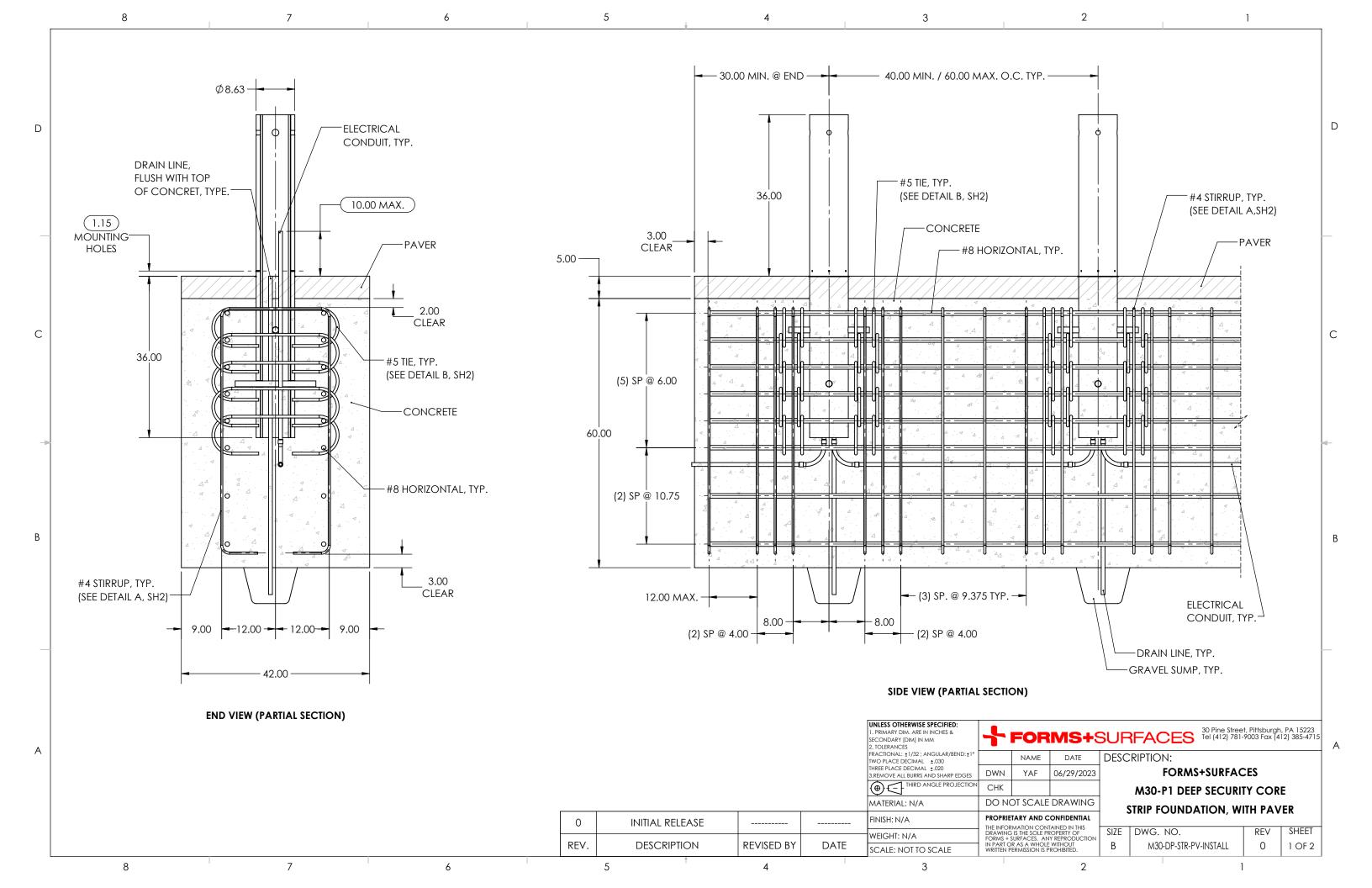
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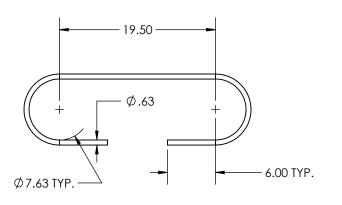
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- 4. PROVIDE 6% (+/-1.5%) AIR ENTRAINMENT IN CONCRETE EXPOSED TO FREEZE/THAW.
- 5. DEFORMED BAR REINFORCEMENT SHALL BE ASTM A615, GRADE 60; SEE CHART FOR SIZING.
- REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS, STIRRUPS, OR CHAIRS SHALL BE PROVIDED TO FURNISH SUPPORT FOR SPECIFIED BARS.

UNLESS OTHERWISE SPECIFIED: 1. PRIMARY DIM. ARE IN INCHES & SECONDARY [DIM] IN MM 2. TOLERANCES	4	FOR	MS+S	SUF	RFACES 30 Pine Stree	t, Pittsburgh 9003 Fax (4	, PA 15223 12) 781-7840
FRACTIONAL: ±1/32; ANGULAR/BEND:±1° TWO PLACE DECIMAL ±.030		NAME	DATE	DESC	RIPTION:		
THREE PLACE DECIMAL ±.020 3.REMOVE ALL BURRS AND SHARP EDGES	DWN	RTS	05/01/20		FORMS+SURFAC	CES	
THIRD ANGLE PROJECTION	CHK				M30-P1 DEEP SECURIT	Y CORI	E
MATERIAL: N/A	DO NOT SCALE DRAWING		STRIP FOUNDATION, NO PAVER			FR	
FINISH: N/A	PROPRIETARY AND CONFIDENTIAL			ondi roond/mon, n	0 1711	-10	
WEIGHT: N/A	THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FORMS + SURFACES, ANY REPRODUCTION		SIZE	DWG. NO.	REV	SHEET	
SCALE: NOT TO SCALE	IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED.		В	M30-DP-STR-NP-INSTALL	0	2 OF 2	

7 6 5 4 3



8 23.50 D Ø3.00 TYP. Ø.50 -54.00 7.75 7.75 **DETAIL A** #4 STIRRUP, TYP.

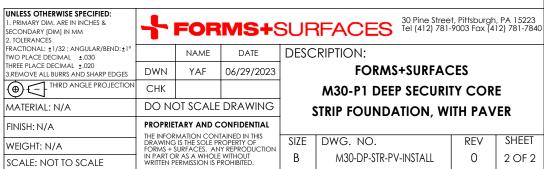


DETAIL B #5 TIE, TYP.

REBAR CHART				
BAR SIZE	DIAMETER			
#4	Ø 0.500			
#5	Ø 0.625			
#8	Ø 1.000			

NOTES:

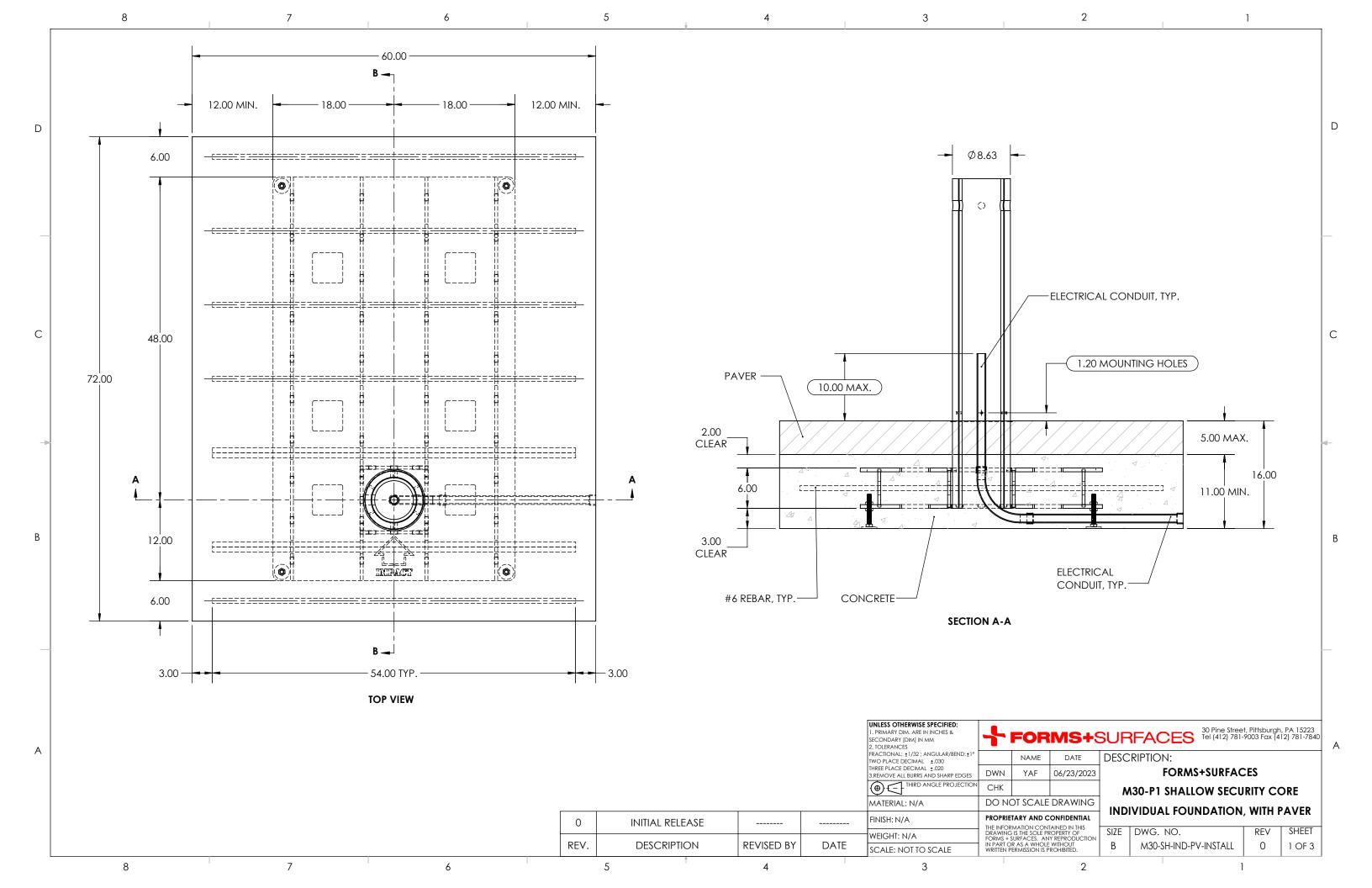
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- PROVIDE 6% (+/-1.5%) AIR ENTRAINMENT IN CONCRETE EXPOSED TO FREEZE/THAW.
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- REINFORCEMENT SHALL BE SECURELY HELD IN PLACE WHILE PLACING CONCRETE. IF REQUIRED, ADDITIONAL BARS, STIRRUPS, OR CHAIRS SHALL BE PROVIDED TO FURNISH SUPPORT FOR SPECIFIED BARS.



2

3

D



36.00 DOUBLE #6 REBAR, BOTH SIDES OF CORE -PAVER 5.00 #6 REBAR, TYP. 6.00 — 11.00 -- 11.00 -— 11.00 -**SECTION B-B**

NOTES:

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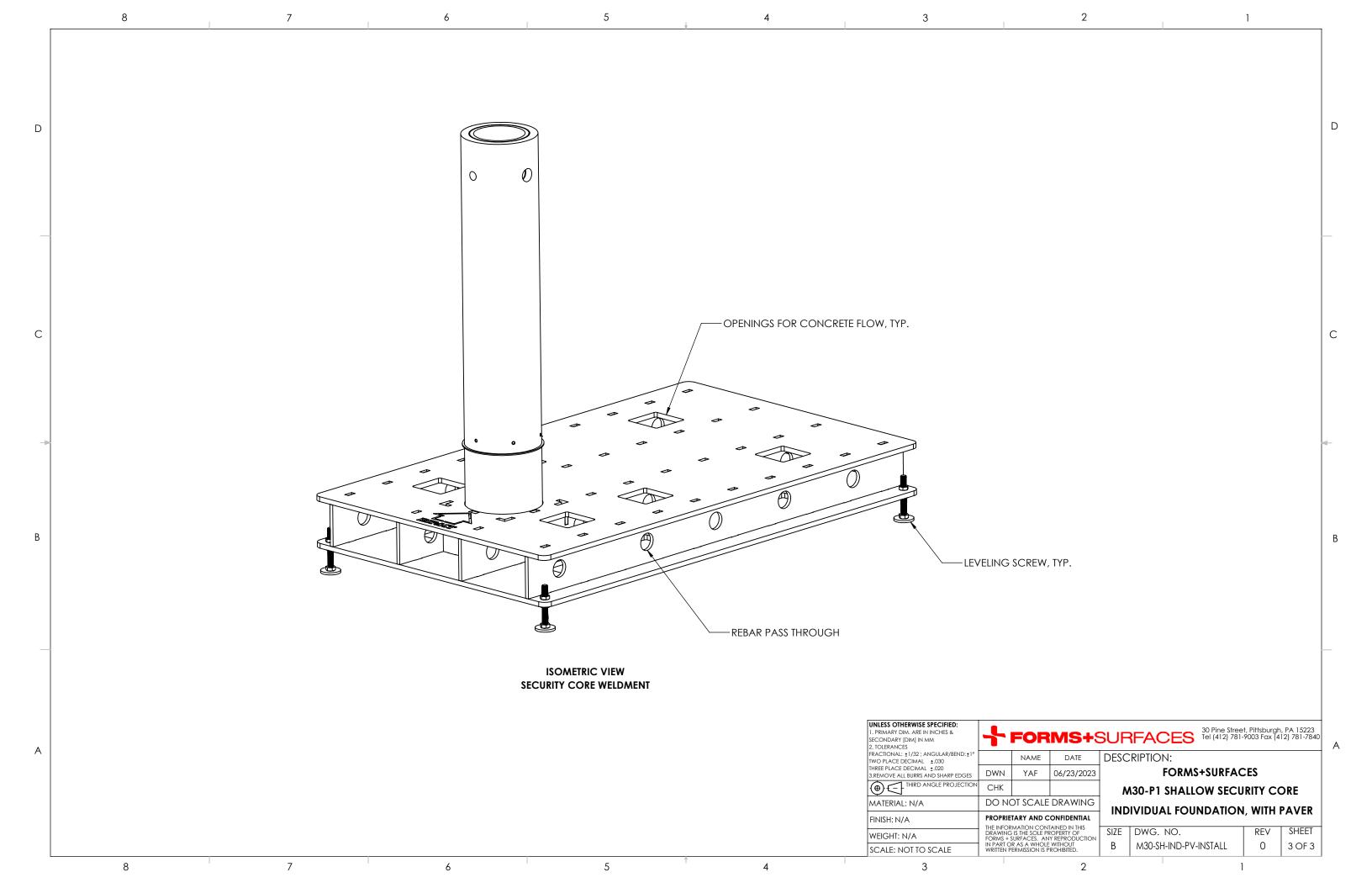
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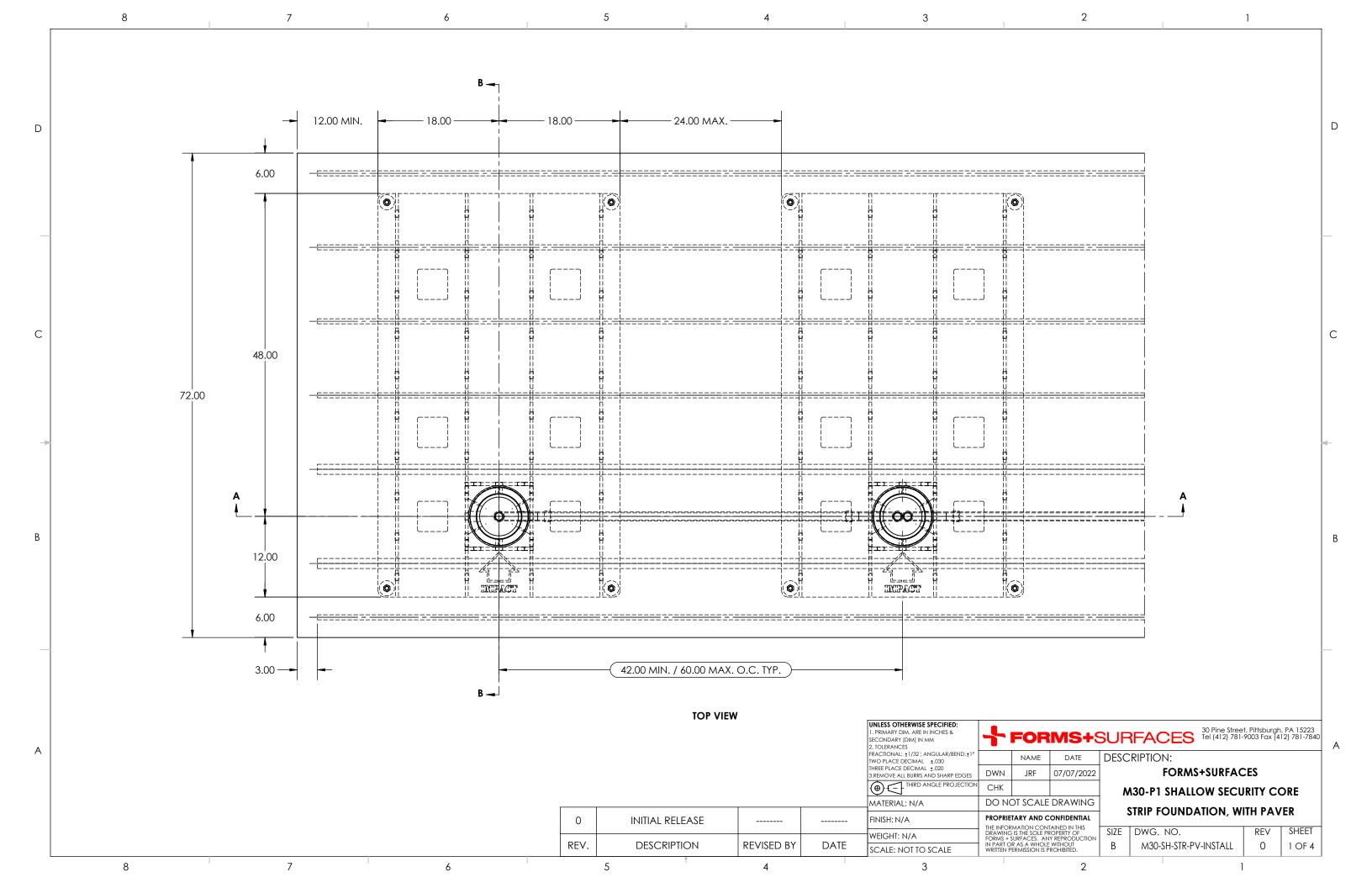
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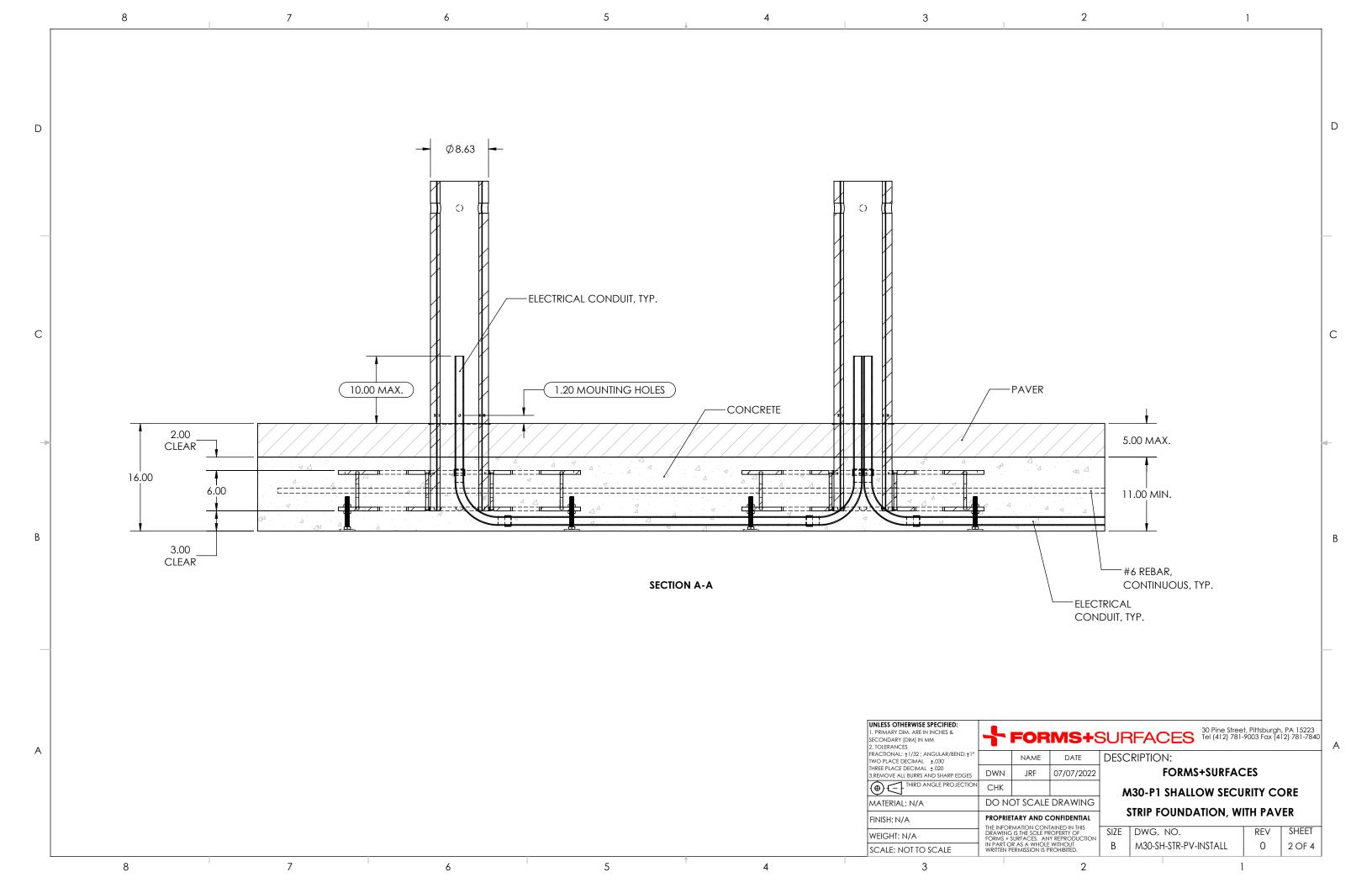
REBAR CHART		
BAR SIZE	DIAMETER	
#6	Ø 0.750	

UNLESS OTHERWISE SPECIFIED: FORMS+SURFACES 30 Pine Street, Pittsburgh, PA 15223 Tel (412) 781-9003 Fax (412) 781-7840 . PRIMARY DIM. ARE IN INCHES & SECONDARY [DIM] IN MM 2. TOLERANCES FRACTIONAL: ±1/32; ANGULAR/BEND:±1
TWO PLACE DECIMAL ±.030 DESCRIPTION: DATE THREE PLACE DECIMAL ±.020 3.REMOVE ALL BURRS AND SHARP EDGES **FORMS+SURFACES** DWN YAF 06/23/2023 THIRD ANGLE PROJECTION M30-P1 SHALLOW SECURITY CORE MATERIAL: N/A DO NOT SCALE DRAWING INDIVIDUAL FOUNDATION, WITH PAVER PROPRIETARY AND CONFIDENTIAL FINISH: N/A THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FORMS + SURFACES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED. SHEET SIZE DWG. NO. WEIGHT: N/A M30-SH-IND-PV-INSTALL 0 2 OF 3 SCALE: NOT TO SCALE

7 6 5 4 3







36.00 DOUBLE #6 REBAR, CONTINUOUS, BOTH CONCRETE-SIDE OF CORE -PAVER 5.00 -#6 REBAR, CONTINUOUS, TYP. 6.00 **SECTION B-B**

8

NOTES:

1. FOOTINGS HAVE BEEN DESIGNED TO BEAR ON UNDISTURBED SOIL OR PROPERLY COMPACTED ENGINEERED FILL ASSUMING A NET BEARING CAPACITY OF 2000 PSF.

D

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REBAR CHART		
BAR SIZE	DIAMETER	
#6	Ø 0.750	

UNLESS OTHERWISE SPECIFIED: FORMS+SURFACES 30 Pine Street, Pittsburgh, PA 15223 Tel (412) 781-9003 Fax (412) 781-7840 . PRIMARY DIM. ARE IN INCHES & SECONDARY [DIM] IN MM 2. TOLERANCES FRACTIONAL: ±1/32; ANGULAR/BEND:±1
TWO PLACE DECIMAL ±.030 DESCRIPTION: DATE THREE PLACE DECIMAL ±.020
3.REMOVE ALL BURRS AND SHARP EDGES **FORMS+SURFACES** DWN JRF 07/07/2022 THIRD ANGLE PROJECTION M30-P1 SHALLOW SECURITY CORE MATERIAL: N/A DO NOT SCALE DRAWING STRIP FOUNDATION, WITH PAVER PROPRIETARY AND CONFIDENTIAL FINISH: N/A THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF FORMS + SURFACES. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT WRITTEN PERMISSION IS PROHIBITED. SHEET SIZE DWG. NO. WEIGHT: N/A M30-SH-STR-PV-INSTALL 0 3 OF 4 SCALE: NOT TO SCALE

7 6 5 4 3

