

PROJECT DESCRIPTION:

- PUSH PIER ANCHORS AND SMART JACK SUPPORTS ARE TO BE VOLUNTARILY INSTALLED TO PREVENT AND STABILIZE FURTHER SUBSIDENCE OF THE EXISTING BUILDING.

GENERAL REQUIREMENTS:

- ALL DETAIL CUTS SHALL BE CONSIDERED TYPICAL AT LIKE CONDITIONS. WHERE ANY DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, NOTES AND SPECIFICATIONS, THE GREATER REQUIREMENT SHALL GOVERN.
- THE CONTRACTOR SHALL PROVIDE BRACING AND SUPPORT REQUIRED FOR TEMPORARY CONSTRUCTION LOADS AND FOR STRUCTURAL COMPONENTS AS REQUIRED DURING ERECTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF ALL WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COORDINATION OF THE EXCAVATION, SHORING, AND OTHER WORK WITH ALL UTILITIES AND ADJACENT PROPERTIES. CALL THE UTILITY LOCATE SERVICE PRIOR TO ANY WORK AT (800) 332-2344
- MANUFACTURER'S INSTALLATION INSTRUCTIONS FOR ALL HARDWARE AND MANUFACTURED STRUCTURAL PRODUCTS SHALL BE AVAILABLE ON THE JOBSITE AT THE TIME OF INSPECTION, FOR THE INSPECTOR'S USE AND REFERENCE.
- THESE PLANS HAVE BEEN DEVELOPED TO ADDRESS A VOLUNTARY FOUNDATION REPAIR IN SPECIFIC AREAS OF CONCERN BY THE BUILDING OWNER. THE SPECIFIED AREAS OF REPAIR MAY NOT ADDRESS ALL AREAS REQUIRING ATTENTION. THESE PLANS DO NOT CONSTITUTE A GUARANTEE OF THE INSTALLED WORK.
- VISTA STRUCTURAL ENGINEERING, LLC DOES NOT RECOMMEND LIFTING OF THE EXISTING STRUCTURE. SHOULD LIFTING BE DESIRED, THE CONTRACTOR AND HOMEOWNER ASSUME ALL LIABILITY.

CODE REQUIREMENTS:

- ALL DESIGN AND CONSTRUCTION SHALL CONFORM TO THE INTERNATIONAL RESIDENTIAL CODE 2018, AS ADOPTED BY THE AUTHORITY HAVING JURISDICTION.

DESIGN LOADS:

DEAD LOADS	
ROOF	15 PSF
CEILING	5 PSF
FLOORS	15 PSF
WALLS (EXTERIOR)	13 PSF
WALLS (INTERIOR)	9 PSF
CONCRETE WEIGHT	150 PCF
MASONRY WEIGHT	78 PSF
CHIMNEY WEIGHT	45 PSF

LIVE LOADS	
ROOF (SNOW + RAIN-ON-SNOW SURCHARGE)	20 PSF
FLOORS (SLEEPING)	30 PSF
FLOORS (NON-SLEEPING)	40 PSF

GEOTECHNICAL INFORMATION:

- PUSH PIERS HAVE BEEN DESIGNED WITH THE FOLLOWING PARAMETERS PER IBC TABLE 1806.2:

ALLOWABLE BEARING PRESSURE	1500 PSF
LATERAL BEARING PRESSURE	100 PSF/FT
ACTIVE EARTH PRESSURE	60 PSF/FT
COEFFICIENT OF FRICTION	0.30
- CONVENTIONAL FOUNDATIONS HAVE BEEN DESIGNED WITH THE FOLLOWING PARAMETERS:

ALLOWABLE BEARING PRESSURE	2000 PSF
ALLOWABLE BEARING PRESSURE GRAVEL BASE	3000 PSF

CORROSION PROTECTION:

- SACRIFICIAL DESIGN THICKNESS - CAPACITIES INCLUDE A SCHEDULED LOSS IN STEEL THICKNESS DUE TO CORROSION FOR BUCK, UNCOATED STEEL. ANCHORS ARE DESIGNED FOR 60-YEAR SCHEDULED SACRIFICIAL THICKNESS LOSS IN ACCORDANCE WITH ICC-ES AC308.

PUSH PIER INSTALLATION:

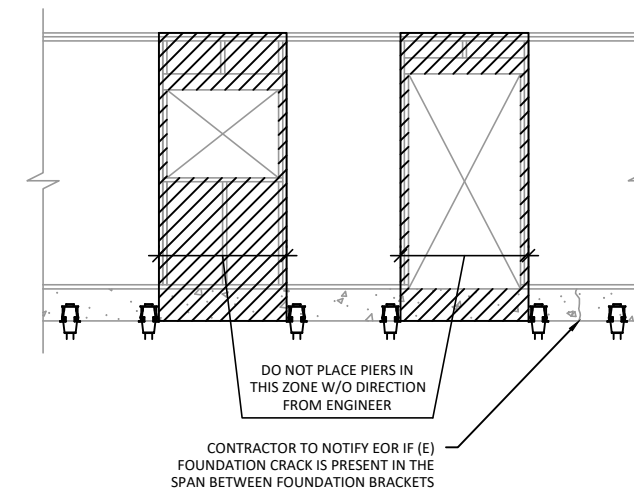
- THE PUSH PIER SYSTEM SHALL BE INSTALLED PER THE MANUFACTURERS RECOMMENDATIONS.
- THE MINIMUM INSTALLATION PRESSURE IS TO BE DETERMINED BY THE FOLLOWING EQUATION:
 - PUSH PIER INSTALLATION PRESSURE (PSI): $[ALLOWABLE\ LOAD] \times [FS = 2] / [HYDRAULIC\ RAM\ AREA = 9.62\ IN^2]$
- THE MINIMUM INSTALLATION DEPTH IS 8'-0" UNO.

PUSH PIER SPLICING:

- PILES ARE TO BE GRAVITY SPLICED WITH FITTING COUPLERS. BUILDING WEIGHT WILL ENSURE JOINTS DO NOT SEPARATE.

PUSH PIER MATERIALS	
BRACKET PLATES	ASTM A36
PIER TUBES	ASTM A500 GRADE B OR C
EXTERNAL SLEEVE	ASTM A500 GRADE B OR C
PIER CAP	ASTM A529 GRADE 50
ALL-THREAD ROD	ASTM A193 GRADE B7
STEEL ANGLE SHAPES	ASTM A36

TYPICAL INSTALLATION REQUIREMENTS AT DOORS AND WINDOWS:



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REGIONAL FOUNDATION & CRAWL SPACE REPAIR

CLIENT: REGIONAL FOUNDATION & CRAWL SPACE REPAIR

JOB TITLE: COOK FOUNDATION REPAIR

JURISDICTION: 28 PORT TACK, SANFORD, NC 27332



12-07-2023

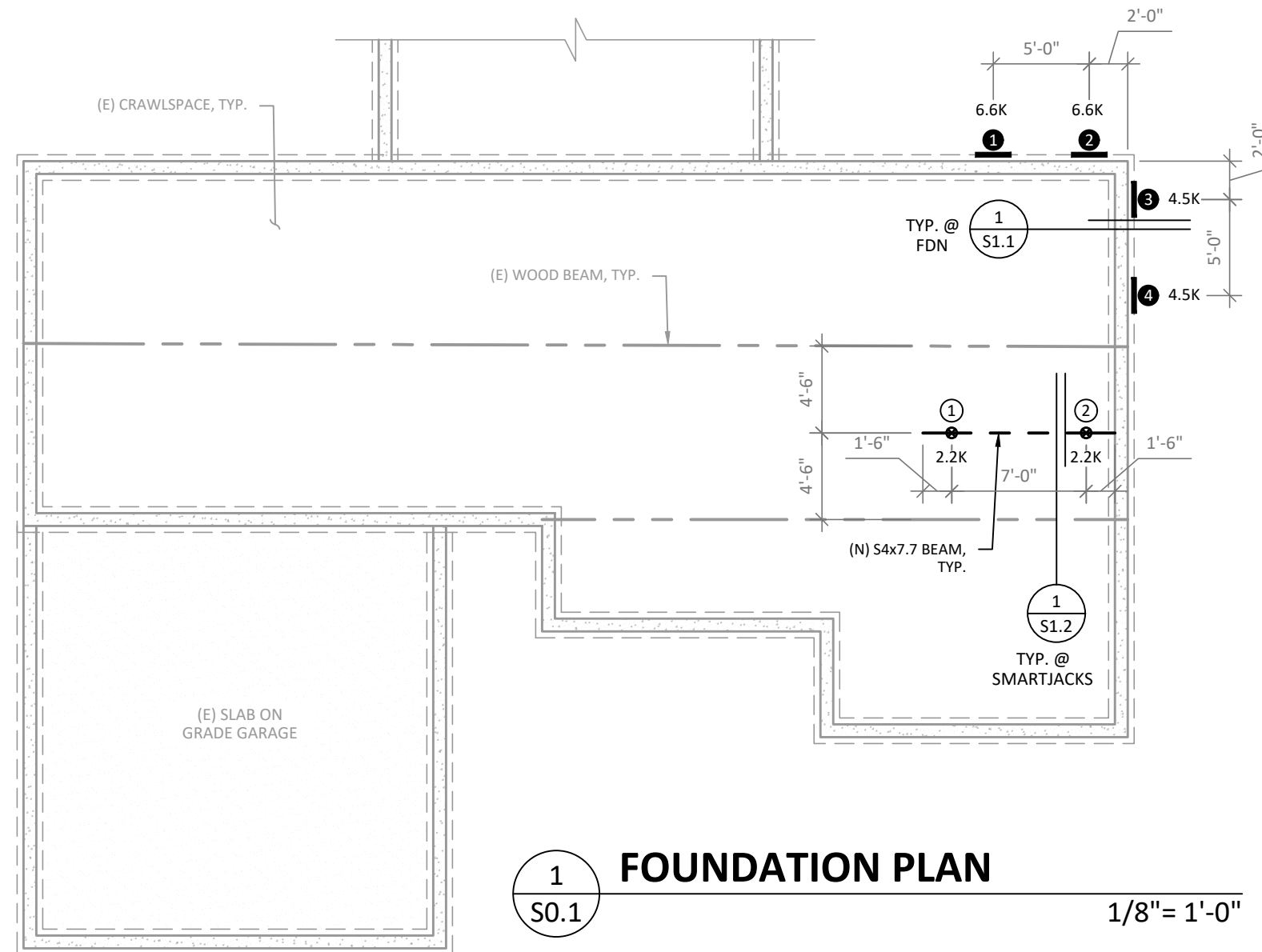
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GENERAL NOTES

ENGINEER: JC	CHECKED BY: DMH
DATE: 12-07-2023	DRAWN BY: AG

SHEET NUMBER

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CONTRACTOR NOTE:
BEFORE EXCAVATION, NOTIFY EOR IF PIER LAYOUT PROPOSED ON STRUCTURAL PLANS PLACES PUSH PIER(S) UNDER ANY OPENINGS (WINDOW, DOOR, FDN VENT, ETC.).

SPECIAL NOTE:
THE PUSH PIER ANCHORS SHOWN ARE TO BE VOLUNTARILY INSTALLED TO PREVENT AND STABILIZE FURTHER SUBSIDENCE OF THE EXISTING BUILDING.

(E) FOUNDATION/(N) PIER & SMARTJACK LAYOUT PLAN NOTES

- STRUCTURAL DESIGN HAS BEEN PERFORMED BASED ON INFORMATION FROM THE CONTRACTOR. CONTRACTOR TO NOTIFY EOR OF DISCREPANCIES BETWEEN FIELD CONDITIONS AND THOSE SHOWN IN THESE DOCUMENTS PRIOR TO CONSTRUCTION/INSTALLATION.
- IN ADDITION TO THE NOTES & SPECIFICATIONS DETAILED IN THIS PLAN SET, ALL WORK & MATERIALS SHALL CONFORM TO THE **2018 IRC (R301.1.3 - ACCEPTED ENGINEERING PRACTICE)** AND THE CONTRACTOR SHALL MEET ALL REQUIRED BUILDING CODE CONDITIONS IN ACCORDANCE WITH THE LOCAL JURISDICTION.
- X.XK #** INDICATES PUSH PIER AND DESIGN LOAD (KIPS).
- X X.XK** INDICATES SMARTJACK (SJ288) AND DESIGN LOAD (KIPS).
- PUSH PIER INSTALLATION NOTES**
 - PP288** (2.875"Ø (O.D.) x 0.276" THICK WALL)
 - FS288E548** (3 1/2"Ø (O.D.)x 48" LONGx 0.216" THICK WALL) EXTERNAL PIPE SLEEVE
 - FS288B** RETROFIT BRACKET (REF. ESR-3074 REPORT) REFER TO DETAIL **2/S1.1** FOR BRACKET SPECIFICATIONS.
 - MINIMUM **1,400** PSI INSTALLATION PRESSURE OR REFUSAL, WHICHEVER COMES FIRST
 - MINIMUM **8'-0"** INSTALLATION DEPTH
 - MAXIMUM **1/4"** FOUNDATION LIFT DURING INSTALLATION.
- PIER SPACING SHALL BE INDICATED ON PLAN.
- MAXIMUM PIER SPACING AND DESIGN IS BASED ON AN ASSUMED TOTAL STEM WALL AND FOOTING DEPTH OF **3'-8" @ THE CRAWLSPACE**. FIELD VERIFY AND CONSULT ENGINEER IF TOTAL STEM WALL AND FOOTING DEPTH IS LESS.
- CONTRACTOR TO NOTIFY EOR IF (E) FOUNDATION CRACK IS PRESENT IN THE SPAN BETWEEN FOUNDATION BRACKETS.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO IDENTIFY ALL UTILITIES AND PROTECT AS REQUIRED DURING THE COURSE OF CONSTRUCTION.
- SEE SHEET **S0.0** FOR ADDITIONAL NOTES.

PUSH PIER SPECIAL NOTE: STRUCTURAL ANGLE

IF CRACK IN FOUNDATION IS PRESENT, IT IS THE RESPONSIBILITY OF THE GC TO INSTALL A 4"x6"x3/8" STRUCTURAL ANGLE BETWEEN PIERS AT CRACK LOCATIONS.

STRUCTURAL ANGLE INSTALLATION PROCEDURE:

GC IS PERMITTED TO UNDERMINE ONLY ONE SPAN SECTION AT A TIME TO INSTALL THE ANGLE AND PIERS ON EACH SIDE.

IF FOOTING EXISTS, IT SHALL BE REMOVED ALONG THE ENTIRE LENGTH WHERE ANGLE IS TO BE INSTALLED.

THE ANGLE IS ALLOWED TO HAVE A SPLICE AT THE PIER LOCATIONS, EXCEPT AT CORNER LOCATIONS WHERE IT WILL SPAN PAST THE PIER TO THE CORNER.

ADDITIONALLY, AT CORNER LOCATIONS WHERE THERE ARE PIERS IN BOTH DIRECTIONS, IT IS ONLY PERMITTED TO UNDERMINE/EXCAVATE SOIL UNDER ONE WALL AT A TIME. ONCE PIERS ARE INSTALLED AND IN PLACE UNDER THE FIRST WALL, THE PERPENDICULAR WALL (AROUND THE CORNER) CAN BE EXCAVATED AND THE ANGLE CAN BE INSTALLED ACCORDINGLY.

DO NOT UNDERMINE THE FOUNDATION AROUND EACH SIDE OF ANY GIVEN CORNER AT THE SAME TIME.



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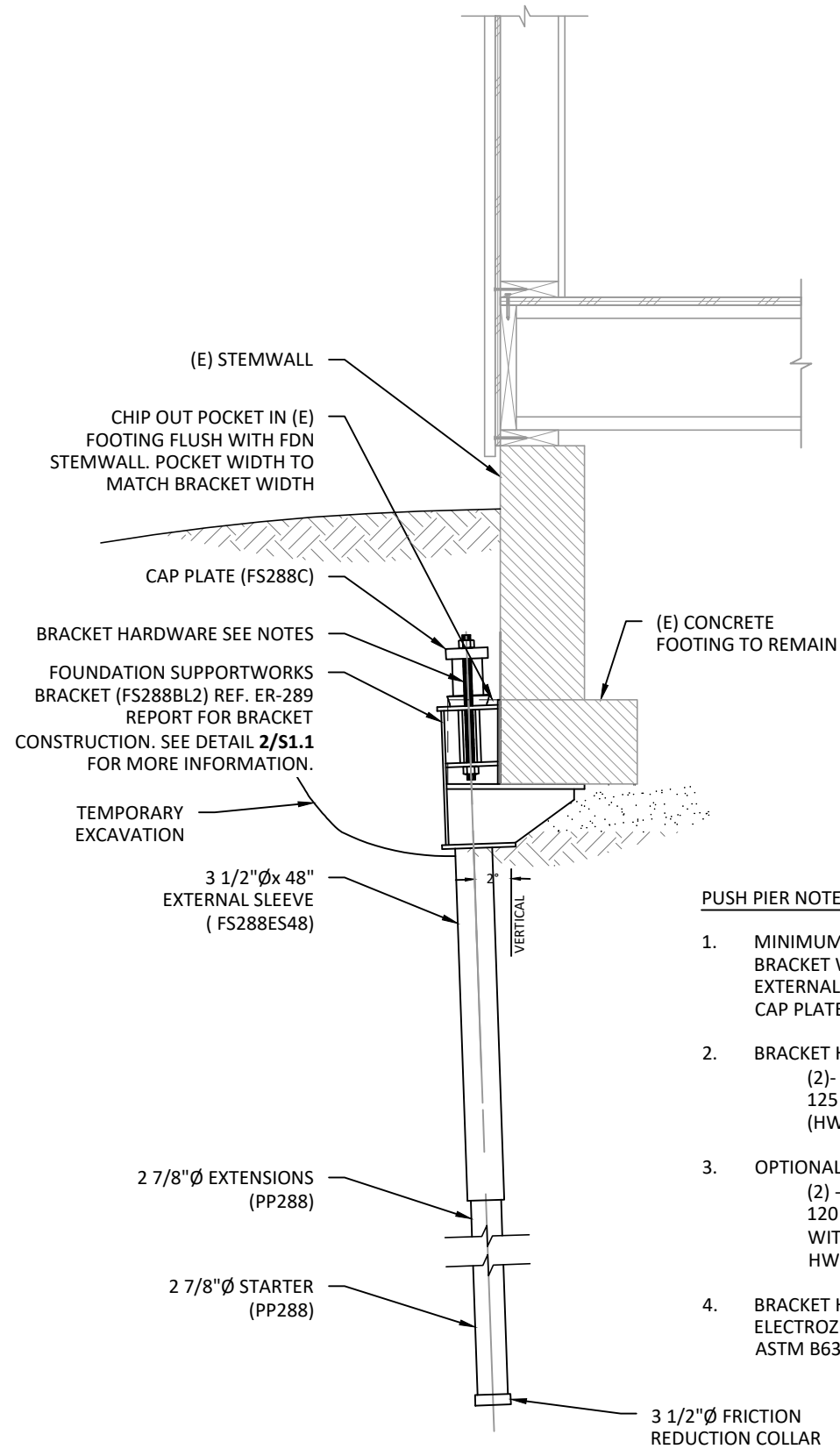
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FOUNDATION PLAN

ENGINEER: JC	CHECKED BY: DMH
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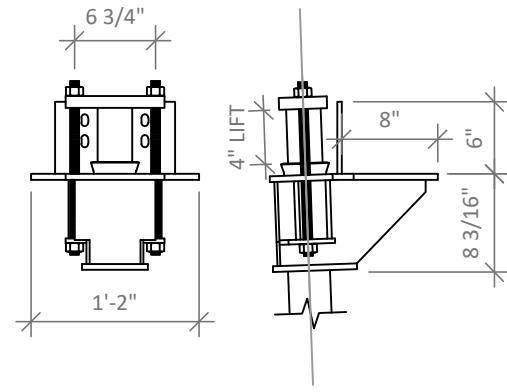
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PUSH PIER NOTES:

1. MINIMUM MATERIAL REQUIREMENTS:
BRACKET WELDMENT - ASTM A36
EXTERNAL SLEEVE - Fy = 50 ksi, Fu = 62 ksi
CAP PLATE - ASTM A572 GRADE 65
2. BRACKET HARDWARE:
(2)- $\frac{3}{4}$ " x 16" LONG GRADE B7 - Fu = 125 ksi ALL-THREAD ROD WITH NUTS (HWTR-S210-Z-075-16 & HWH8N-Z-075)
3. OPTIONAL BRACKET HARDWARE -
(2) - $\frac{3}{4}$ " x 16" LONG AISI 1045 - Fu = 120 ksi CONTOUR (COIL) THREAD ROD WITH NUTS (HWCR-S250-Z-075-16 & HWCN-Z-075)
4. BRACKET HARDWARE IS PROVIDED AS ELECTROZINC PLATED IN ACCORDANCE WITH ASTM B633.

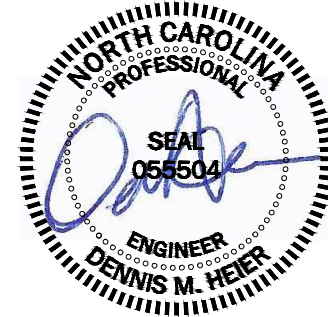
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S1.1 **PUSH PIER DETAIL**
3/4" = 1'-0"



2
S1.1 **RETROFIT BRACKET DETAIL**
3/4" = 1'-0"

NOTES:

1. MINIMUM MATERIAL REQUIREMENTS:
BRACKET WELDMENT - ASTM A36
EXTERNAL SLEEVE - Fy = 50 ksi, Fu = 62 ksi
CAP PLATE - ASTM A572 GRADE 65
BRACKET HARDWARE -
(2) - $\frac{3}{4}$ " x 16" LONG GRADE B7 - Fu = 125 ksi ALL-THREAD ROD WITH NUTS (HWTR-S210-Z-075-16 & HWH8N-Z-075)
OPTIONAL BRACKET HARDWARE -
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2. BRACKET HARDWARE IS PROVIDED AS ELECTROZINC PLATED IN ACCORDANCE WITH ASTM B633.
3. MINIMUM MATERIAL REQUIREMENTS:
SHAFTS - Fy = 60 ksi, Fu = 70 ksi
COUPLERS - Fy = 70 ksi, Fu = 80 ksi
HELIX PLATES - ASTM A572 Gr.50
SHAFT COUPLING HARDWARE - (2) - $\frac{3}{4}$ " GRADE 5 BOLTS WITH NUTS
4. HELIX PLATES HAVE A NOMINAL 3" PITCH WITH LEADING AND TRAILING EDGES BEING NO MORE THAN $\frac{1}{4}$ " OUT OF PARALLEL.



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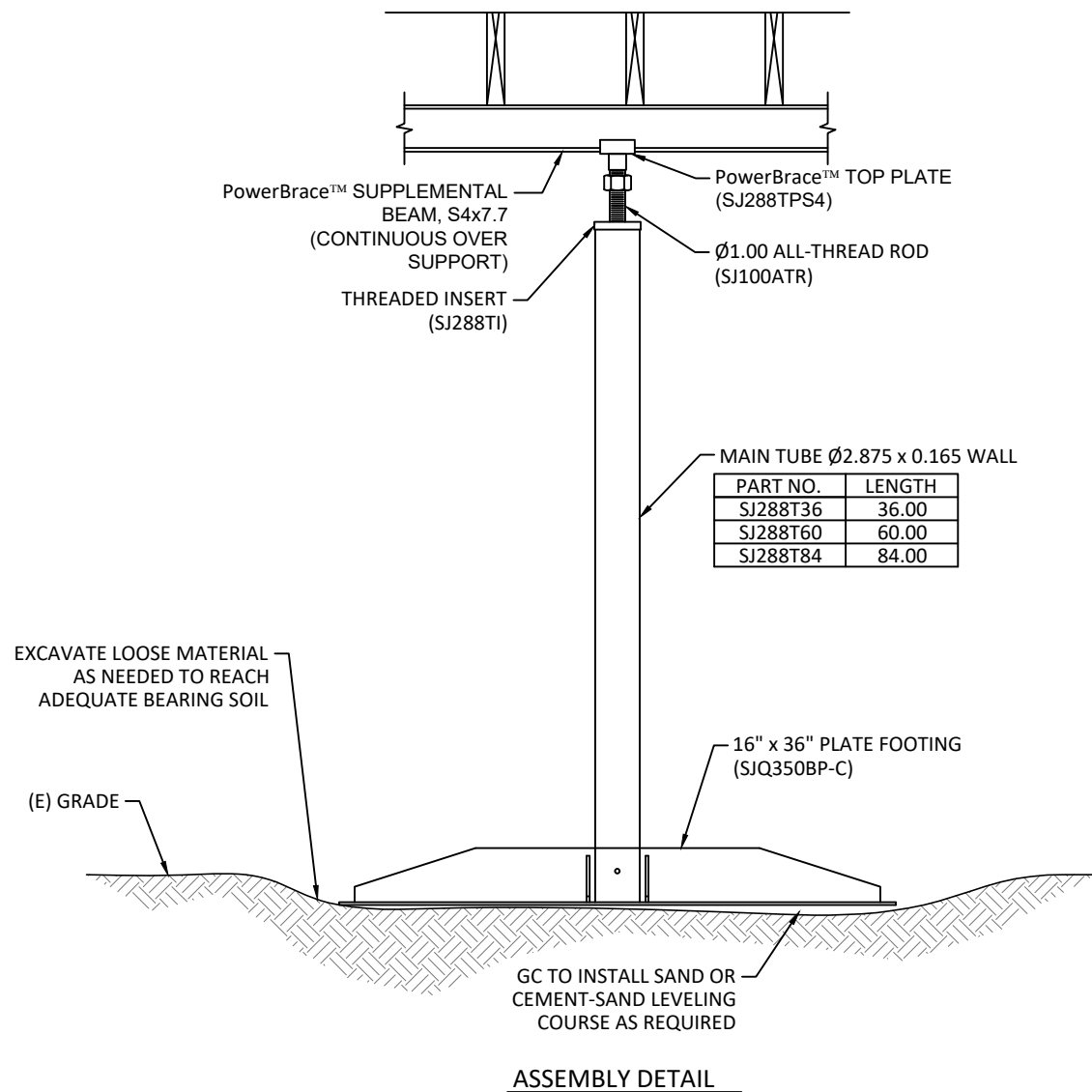
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DETAILS

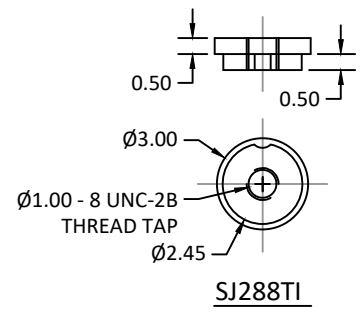
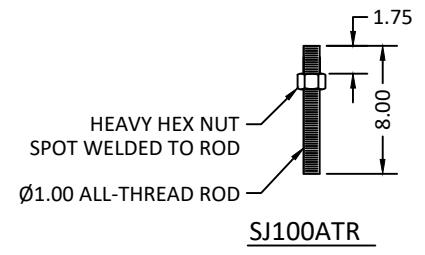
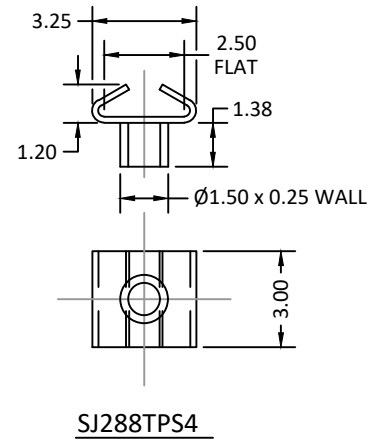
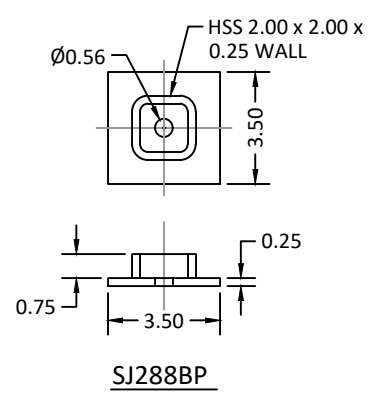
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SHEET NUMBER

S1.1



PART NO.	LENGTH
SJ288T36	36.00
SJ288T60	60.00
SJ288T84	84.00



- NOTES:
- MINIMUM MATERIAL REQUIREMENTS:
 MAIN TUBE - Fy = 50 ksi, Fu = 55 ksi
 OTHER PIPES - ASTM A53
 PLATES - ASTM A36
 ALL-THREAD ROD - Fu = 85 ksi
 THREADED INSERT - ASTM A108 Gr. 1018
 CAST ALUMINUM BASE - AISI/AA 356.0-T6
 - TUBE SECTIONS ARE TRIPLE COATED IN-LINE GALVANIZED. ALL OTHER STEEL COMPONENTS ARE ZINC PLATED PER ASTM B633.
 - THIS DOCUMENT IS MEANT TO SERVE AS A GENERAL DESCRIPTION FOR THE PRODUCTS SHOWN FOR SUBMITTAL PURPOSES. MORE DETAILED MANUFACTURING DRAWINGS ARE AVAILABLE UPON REQUEST.

1 SMART JACK 288 DETAIL
 S1.2 NTS



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S1.2