



## UNIVERSITY FACILITIES MANAGEMENT

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### ADDENDUM NO. 1 - OUTLINE AND SUMMARY INFORMATION

Project Name: Precast Structural Concrete 7<sup>th</sup> Avenue      PPA No.: 22-0006  
Location: Bozeman, Montana      Date: 3/16/23

To: *All Plan Holders of Record*

*The Plans and Specification prepared by **Morrison-Maierle and TD&H** dated **March 3, 2023** shall be clarified and added as follow. The bidder proposes to perform all the following clarifications or changes. It is understood that the Base Bid shall include any modification of Work or Additional Work that may be required by reason of the following change or clarifications.*

*The Bidders are to acknowledge the receipt of this Addendum by inserting its number and date into their Bid Forms. Failure to acknowledge may subject the Bidder to disqualification and rejection of the bid. This Addendum forms part of the Contract Documents as if bound therein and modifies them as follows:*

- I. BID DATE CHANGED TO THURSDAY 3/23/23 AT 1PM
- II. AMENDMENTS TO THE DRAWINGS
  - A. See attached updated drawing TS-1, TS-2 and TS-3. Changes are clouded.
- III. GENERAL INFORMATION
  - A. **Question:** A615 and A706 rebar is specified. Most precasters will only be using these as supplemental reinforcement and typically use A497 welded wire mesh.  
**Answer:** Where deformed wire mesh is utilized in the sections, it shall conform to ASTM A497. Where standard reinforcing bars are utilized in the sections (e.g. haunches, around openings, around embedded connections, etc.), it shall conform to ASTM A615, Grade 60. And where standard reinforcing bars needing to be welded are utilized in the sections, it shall conform to ASTM A706.
  - B. Foundation walls which are laterally supported and can be expected to undergo a slight amount of deflection should be designed for a lateral earth pressure computed on the basis of an equivalent fluid unit weight of 90 pcf. This value considers and includes increased lateral forces associated with earthquake motions.
- IV. ATTACHMENTS
  - A. Sheet TS-1, TS-2, TS-3.



**STATEMENT OF SPECIAL INSPECTION AND TESTING NOTES:**

SPECIAL INSPECTIONS SHALL CONFORM TO CHAPTER 17 OF THE INTERNATIONAL BUILDING CODE (IBC), CONTRACT DOCUMENTS, AND APPROVED SUBMITTALS. THE OWNER SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PERFORM INSPECTIONS AND TESTING DESCRIBED HEREIN.

SPECIAL INSPECTIONS AND ASSOCIATED TESTING SHALL BE PERFORMED BY AN APPROVED AND ACCREDITED INDEPENDENT AGENCY MEETING THE REQUIREMENTS OF ASTM E329 (GENERAL), ASTM D3740 (SOILS), ASTM C1077 (CONCRETE), ASTM A880 (STEEL), AND ASTM E543 (NON-DESTRUCTIVE). THE INSPECTION AND TESTING AGENCY SHALL FURNISH TO THE ARCHITECT AND ENGINEER A COPY OF THEIR SCOPE OF ACCREDITATION. SPECIAL INSPECTORS SHALL BE APPROVED BY THE BUILDING OFFICIAL. WELDING INSPECTORS SHALL BE QUALIFIED PER AWS D1.1.

THE CONSTRUCTION OR WORK FOR WHICH SPECIAL INSPECTION IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS.

THE SPECIAL INSPECTOR SHALL OBSERVE THE INDICATED WORK FOR COMPLIANCE WITH THE APPROVED CONTRACT DOCUMENTS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONTRACTOR FOR CORRECTION AND NOTED IN THE INSPECTION REPORTS. ISSUES REQUIRING IMMEDIATE CORRECTIVE ACTIONS OR ENGINEERING INPUT ARE TO BE BROUGHT TO THE ENGINEER'S ATTENTION IMMEDIATELY UPON DISCOVERY.

THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS FOR EACH INSPECTION TO THE BUILDING OFFICIAL, ARCHITECT, ENGINEER, CONTRACTOR, AND OWNER. THE SPECIAL INSPECTION AGENCY SHALL SUBMIT A FINAL REPORT STATING THAT THE WORK REQUIRING SPECIAL INSPECTION WAS INSPECTED, IS IN CONFORMANCE WITH THE APPROVED CONTRACT DOCUMENTS, AND THAT ALL DISCREPANCIES NOTED IN THE REPORTS HAVE BEEN CORRECTED.

EACH CONTRACTOR RESPONSIBLE FOR THE INSTALLATION AND CONSTRUCTION OF TUNNEL SECTIONS AND CONNECTORS, OR COMPONENT LISTED SHALL SUBMIT A WRITTEN STATEMENT OF RESPONSIBILITY TO THE BUILDING OFFICIAL AND THE OWNER PRIOR TO COMMENCEMENT OF WORK ON THE SYSTEM OF COMPONENT. THE CONTRACTOR'S STATEMENT OF RESPONSIBILITY SHALL CONTAIN ACKNOWLEDGEMENT OF AWARENESS OF THE SPECIAL REQUIREMENTS CONTAINED HEREIN.

- INSPECTION FREQUENCY:**
- A. CONTINUOUS INSPECTION: THE SPECIAL INSPECTOR SHALL BE PRESENT WHEN AND WHERE THE WORK IS BEING PERFORMED AT ALL TIMES.
  - B. PERIODIC INSPECTION: THE SPECIAL INSPECTOR SHALL BE INTERMITTENTLY PRESENT WHEN AND WHERE THE WORK IS BEING PERFORMED. THE INSPECTOR SHALL OBSERVE THE WORK AT ITS COMMENCEMENT, AT PERIODIC INTERVALS THEREAFTER, AND WHEN THE WORK IS COMPLETED.
  - C. OBSERVE: THE INSPECTOR SHALL OBSERVE THESE FUNCTIONS ON A RANDOM BASIS. OPERATIONS NEED NOT BE DELAYED PENDING OBSERVATIONS (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION).
  - D. PERFORM: THESE INSPECTIONS SHALL BE PERFORMED PRIOR TO FINAL ACCEPTANCE OF THE ITEM (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION).
  - E. DOCUMENT: THE INSPECTOR SHALL PREPARE REPORTS INDICATING THAT THE WORK HAS BEEN PERFORMED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS (REFERENCE AISC 360 AND AISC 341 FOR ADDITIONAL INFORMATION).

SPECIAL INSPECTIONS ARE NOT REQUIRED WHERE THE WORK IS DONE ON THE PREMISES OF A FABRICATOR REGISTERED AND APPROVED TO PERFORM SUCH WORK WITHOUT SPECIAL INSPECTION. APPROVAL SHALL BE BASED UPON REVIEW OF THE FABRICATOR'S WRITTEN PROCEDURAL AND QUALITY CONTROL MANUALS AND PERIODIC AUDITING OF FABRICATION PRACTICES BY AN APPROVED SPECIAL INSPECTION AGENCY. AT COMPLETION OF FABRICATION, THE APPROVED FABRICATOR SHALL SUBMIT A CERTIFICATE OF COMPLIANCE TO THE BUILDING OFFICIAL STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

- A. STEEL FABRICATORS AND INSTALLERS CERTIFIED THROUGH AISC COMPLY WITH THIS PROVISION. THE FABRICATOR AND OR INSTALLER MUST STILL COMPLETE AND DOCUMENT THE QUALITY CONTROL TASKS AND NON-DESTRUCTIVE TESTING OUTLINED IN AISC 360 AND AISC 341, AS APPLICABLE.

REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS				
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY	REMARKS
VERIFY MATERIALS BELOW SHALLOW FOUNDATION ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY	TABLE 1705.6	GEOTECHNICAL REPORT	PERIODIC	BY THE GEOTECHNICAL ENGINEER
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL			PERIODIC	
VERIFY USE OF PROPER MATERIALS, DENSITIES, AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL			CONTINUOUS	
PRIOR TO PLACEMENT OF COMPACTED FILL, OBSERVE SUBGRADE AND VERIFY THAT THE SITE HAS BEEN PREPARED PROPERLY			PERIODIC	
VERIFY INSTALLATION PROCEDURES AND QUALITY ASSURANCE SERVICES FOR THE INSTALLATION OF E.A.P.'S	PROJECT SPECIFICATIONS		CONTINUOUS	

REQUIRED SPECIAL INSPECTIONS AND TESTS OF CONCRETE CONSTRUCTION				
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY	REMARKS
INSPECTION OF REINFORCING STEEL AND PLACEMENT	TABLE 1705.3	ACI 318: Ch. 20, 25.2, 25.3, 26.6.1-26.6.3	PERIODIC	
INSPECTION OF PRESTRESSING TENDONS AND PLACEMENT			PERIODIC	
WELDING REINFORCING: VERIFICATION OF WELDABILITY OF REINFORCING STEEL OTHER THAN ASTM A706			PERIODIC	
WELDING REINFORCING: LONGITUDINAL REINFORCING IN BEAMS AND COLUMNS OF INTERMEDIATE AND SPECIAL MOMENT FRAMES			CONTINUOUS	
WELDING REINFORCING: LONGITUDINAL AND TRANSVERSE REINFORCING IN BOUNDARY ELEMENTS OF SPECIAL STRUCTURAL WALLS	TABLE 1705.3	AWS D1.4 ACI 318: 26.6.4	CONTINUOUS	
WELDING REINFORCING: TRANSVERSE REINFORCING IN BEAMS AND COLUMNS			CONTINUOUS	
WELDING REINFORCING: OTHER STEEL NOT PREVIOUSLY LISTED			PERIODIC	
INSPECTION OF ANCHORS CAST-IN CONCRETE	ACI 318: 17.8.2		PERIODIC	
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE: VERIFY ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, PRODUCT EXPIRATION DATE (IF APPLICABLE), COMPLIANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE (IF APPLICABLE) FOR:	ACI 318: 17.8.2.4 PRODUCT EVALUATION REPORT		CONTINUOUS	
a) ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS				
INSPECTION OF ANCHORS POST-INSTALLED IN HARDENED CONCRETE: VERIFY ANCHOR PRODUCT NAME, TYPE, AND DIMENSIONS, HOLE DIMENSIONS, COMPLIANCE WITH DRILL BIT REQUIREMENTS, CLEANLINESS OF THE HOLE AND ANCHOR, PRODUCT EXPIRATION DATE (IF APPLICABLE), COMPLIANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS, ANCHOR EMBEDMENT, AND TIGHTENING TORQUE (IF APPLICABLE) FOR:	ACI 318: 17.8.2 PRODUCT EVALUATION REPORT		PERIODIC	
b) MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN a)				
VERIFY USE OF REQUIRED MIX DESIGN	TABLE 1705.3	ACI 318: CH. 19, 26.4.3, 26.4.4	PERIODIC	
INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES		ACI 318: 26.5, 26.12	CONTINUOUS	
INSPECTION OF SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES		ACI 318: 26.5.3-25.5.5	PERIODIC	
INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		ACI 318: 26.5.3-25.5.5	PERIODIC	
PRESTRESSED CONCRETE: APPLICATION OF PRESTRESSING FORCE		ACI 318: 26.10	CONTINUOUS	
PRESTRESSED CONCRETE: GROUTING OF BONDED PRESTRESSING TENDONS IN THE SEISMIC FORCE RESISTING SYSTEM		ACI 318: 26.9	PERIODIC	
ERECTION OF PRECAST CONCRETE MEMBERS		ACI 318: 26.11.2	PERIODIC	
VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO STRESSING TENDONS IN POST-TENSIONED CONCRETE		ACI 318: 26.11.2	PERIODIC	
VERIFICATION OF IN-SITU CONCRETE STRENGTH PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS		ACI 318: 26.11.2(b)	PERIODIC	
INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED		ACI 318: 26.11.1, 2(b)	PERIODIC	

INSPECTION OF MECHANICAL AND ELECTRICAL COMPONENTS FOR SEISMIC RESISTANCE				
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY	REMARKS
ANCHORAGE OF ELECTRICAL EQUIPMENT FOR EMERGENCY OR STANDBY POWER SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F	1705.12.6.1		PERIODIC	
ANCHORAGE OF OTHER ELECTRICAL EQUIPMENT IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY E OR F	1705.12.6.2		PERIODIC	
INSTALLATION AND ANCHORAGE OF PIPING SYSTEMS DESIGNED TO CARRY HAZARDOUS MATERIALS AND THEIR ASSOCIATED MECHANICAL UNITS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F	1705.12.6.3		PERIODIC	
INSTALLATION AND ANCHORAGE OF DUCTWORK DESIGNED TO CARRY HAZARDOUS MATERIALS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F	1705.12.6.4		PERIODIC	
INSTALLATION AND ANCHORAGE OF VIBRATION ISOLATION SYSTEMS IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F WHERE THE CONSTRUCTION DOCUMENTS REQUIRE A NOMINAL CLEARANCE OF 1/4 INCH OR LESS BETWEEN THE EQUIPMENT SUPPORT FRAME AND RESTRAINT	1705.12.6.5		PERIODIC	
INSTALLATION OF MECHANICAL AND ELECTRICAL EQUIPMENT, INCLUDING DUCT WORK, PIPING SYSTEMS AND THEIR STRUCTURAL SUPPORTS, WHERE AUTOMATIC FIRE SPRINKLER SYSTEMS ARE INSTALLED IN STRUCTURES ASSIGNED TO SEISMIC DESIGN CATEGORY C, D, E OR F TO VERIFY ONE OF THE FOLLOWING: MINIMUM CLEARANCES HAVE BEEN PROVIDED AS REQUIRED BY SECTION 13.2.3 ASCE/SEI 7 OR A NOMINAL CLEARANCE OF NOT LESS THAN 3 INCHES (76 MM) HAS BEEN PROVIDED BETWEEN FIRE PROTECTION SPRINKLER SYSTEM DROPS AND SPRIGS AND STRUCTURAL MEMBERS NOT USED COLLECTIVELY OR INDEPENDENTLY TO SUPPORT THE SPRINKLERS; EQUIPMENT ATTACHED TO THE BUILDING STRUCTURE, AND OTHER SYSTEMS; PIPING	1705.12.6.6	ASCE 7-16 SECTION 13.2.3	PERIODIC	WHERE FLEXIBLE SPRINKLER HOSE FITTINGS ARE USED, SPECIAL INSPECTION OF MINIMUM CLEARANCES IS NOT REQUIRED.

TESTING OF SOILS AND FOUNDATIONS			
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY
PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS	TABLE 1705.6	PROJECT GEOTECHNICAL REPORT	PERIODIC
PROOF TESTING OF DEEP FOUNDATION ELEMENTS		PROJECT GEOTECHNICAL REPORT	

TESTING OF CONCRETE CONSTRUCTION			
TASK	IBC REFERENCE	REFERENCE STANDARD	FREQUENCY
CONCRETE STRENGTH TEST SPECIMENS	TABLE 1705.3	ASTM C31 AND C39	FOR EACH CLASS OF CONCRETE (E.G. FOOTINGS, WALLS, OR SLAB ON GRADE), ONE SET OF SPECIMENS EACH DAY OR LESSER OF: ONE SET FOR EACH 150 YDS OF CONCRETE OR ONE SET FOR EACH 5,000 SQUARE FEET OF SLABS OR WALL
AT THE TIME FRESH CONCRETE IS SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE TEMPERATURE OF CONCRETE		ASTM C172 ACI 318-14: 26.4 AND 26.12	FOR EACH SPECIMEN



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MONTANA STATE UNIVERSITY

FOR PRECAST CONC. BIDDING ONLY



DRAWN BY:	BDA	
REVIEWED BY:	KDV	
REV.	DESCRIPTION	DATE
1	ADDENDUM #1	3/16/23



PPA#22-0006  
A & E #: 22059.30

MMI #: 1552.013

SHEET TITLE  
STATEMENT OF  
SPECIAL INSPECTIONS

SHEET  
TS-2

DATE  
3/03/23

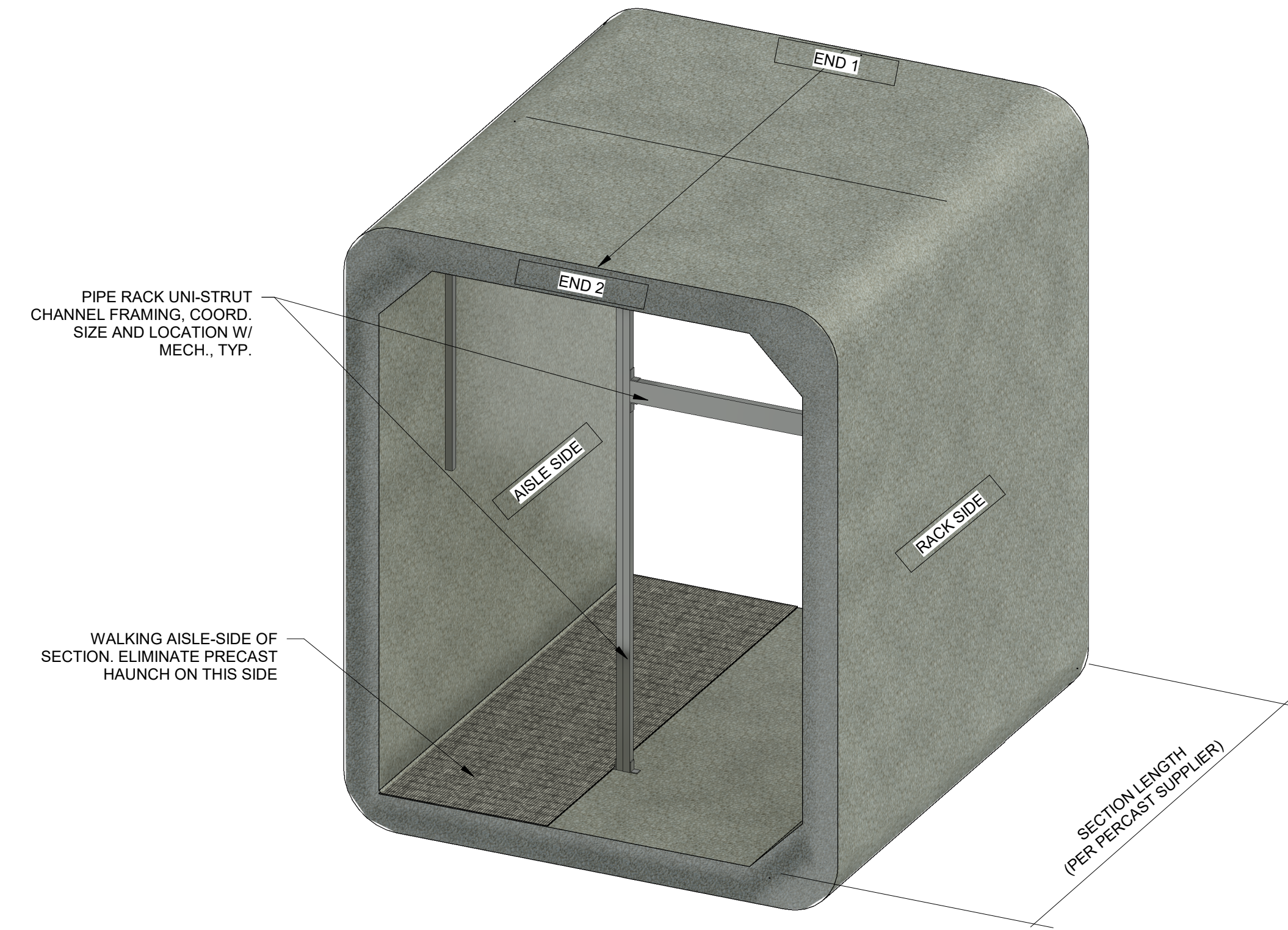
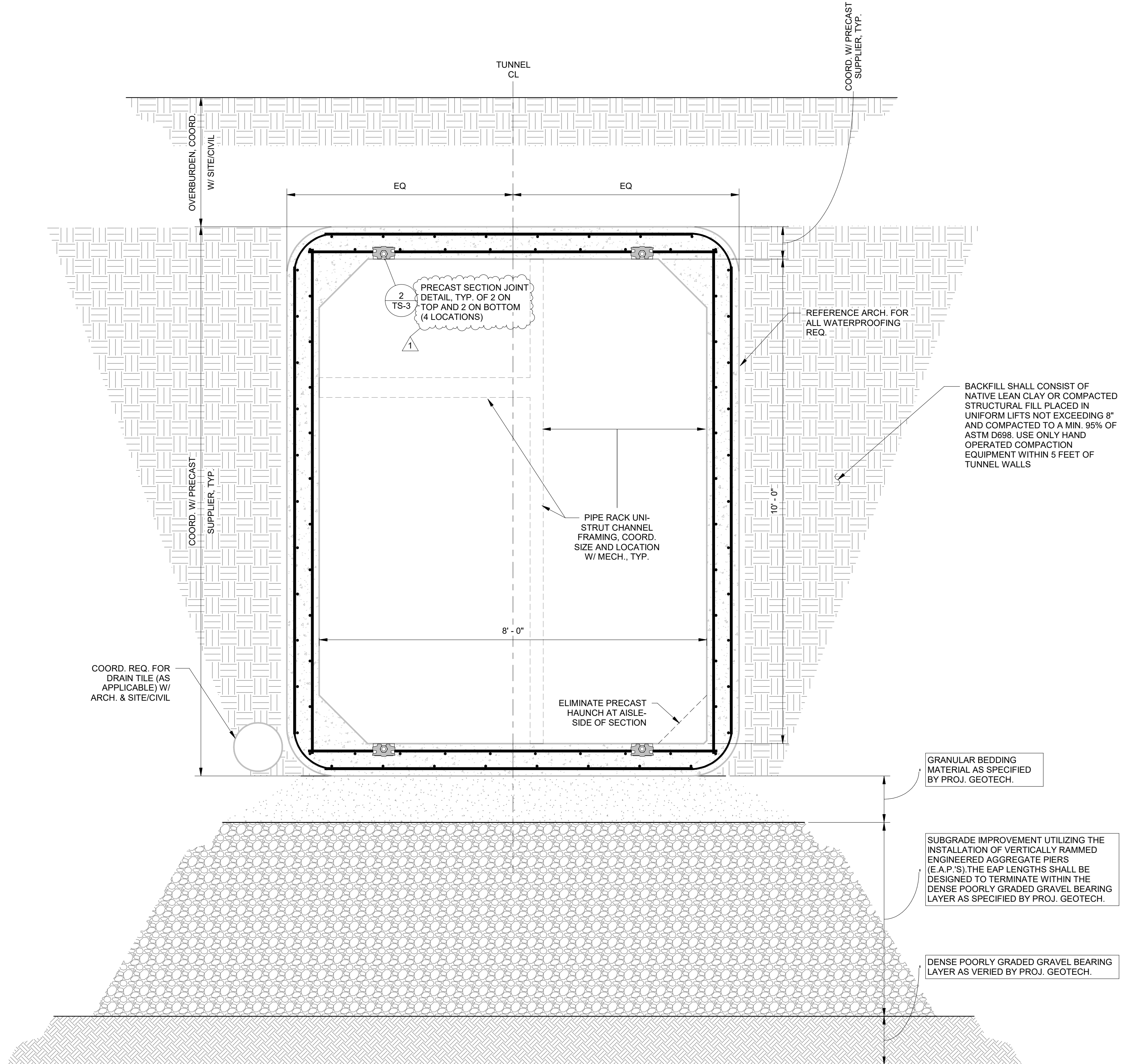
**SHEET NOTES**

- EXISTING BUILDING/SITE DIMENSIONS AND ASSUMED CONDITIONS ARE TO BE VERIFIED IN THE FIELD AND ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ALL DISCREPANCIES WHICH REQUIRE A SIGNIFICANT CHANGE IN THE DESIGN AND/OR CONSTRUCTION.
- ARCHITECT RESPONSIBLE FOR ALL UTILITY TUNNEL WATER-PROOFING AND JOINT SEALING REQUIREMENTS.
- REFERENCE SITE/CIVIL DRAWINGS FOR UTILITY TUNNEL SITE DRAINAGE REQUIREMENTS.
- COORDINATE ALL OPENINGS IN TUNNEL WALLS WITH ARCH., MECH., ELECT., AND PLUMBING. REFERENCE GENERAL STRUCTURAL NOTES FOR OPENING REQUIREMENTS IN PRECAST CONCRETE TUNNEL SECTIONS.
- PRECAST CONCRETE TUNNEL SECTION ENDS SHALL TERMINATE IN EITHER A MALE/FEMALE TONGUE AND GROOVE PROFILE, OR A SQUARE BUTT END PROFILE. REFERENCE DETAIL 1/TS-3 FOR TUNNEL SECTION ORIENTATION CONVENTION, AND CIVIL SHEET C1.0 FOR TUNNEL SECTION GENERAL ARRANGEMENT AND LAYOUT.
- SEE GENERAL STRUCTURAL NOTES ON SHT. TS-1 FOR ADDITIONAL REQUIREMENTS.

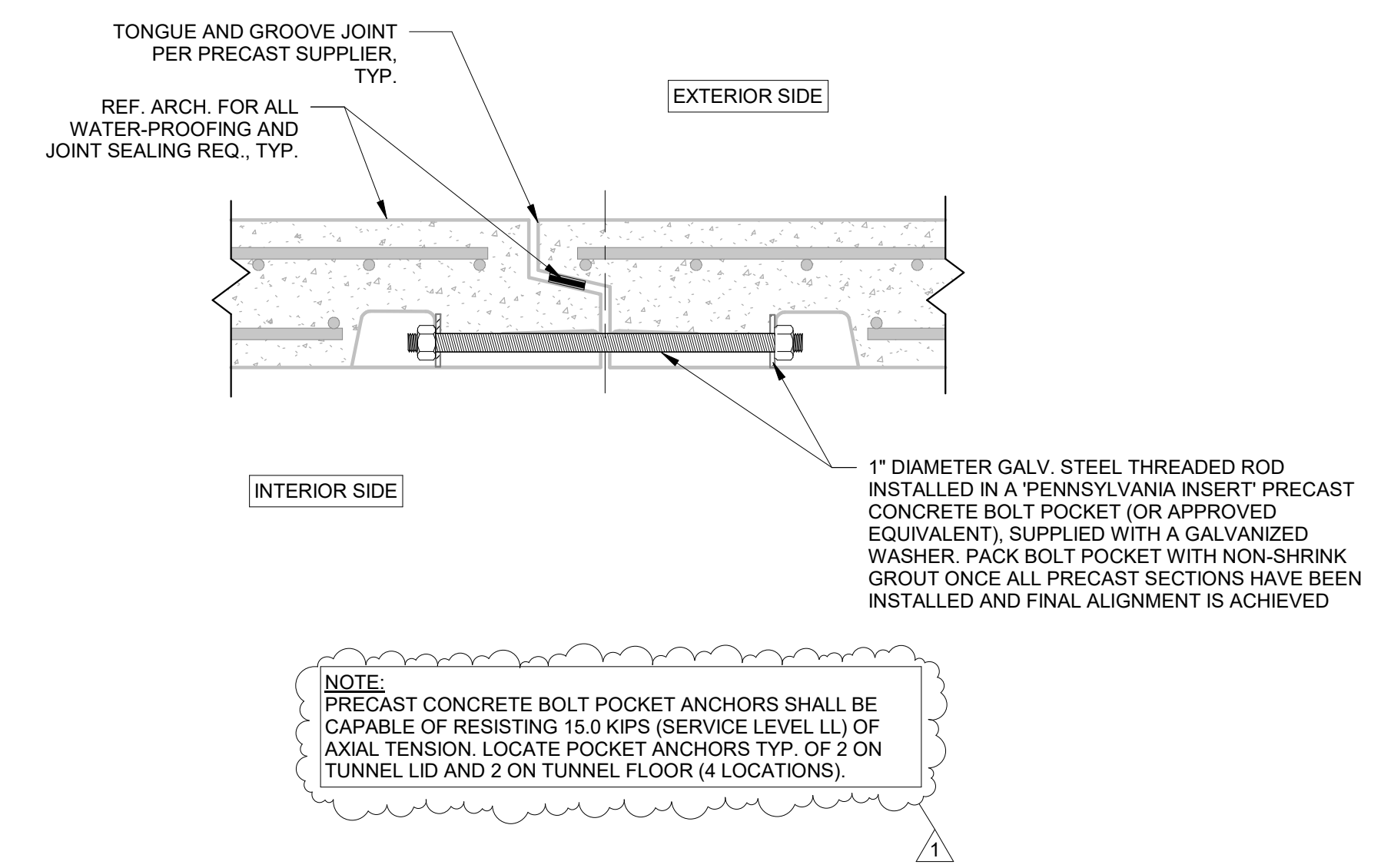
**PRECAST TUNNEL SECTION TYPES**

SECTION TYPE	END 1	END 2
TYPE "A"	MALE END	FEMALE END
TYPE "B"	BUTT END	FEMALE END
TYPE "C"	MALE END	BUTT END

PRECAST CONCRETE TUNNEL SECTION ENDS SHALL TERMINATE IN EITHER A MALE/FEMALE TONGUE AND GROOVE PROFILE, OR A SQUARE BUTT END PROFILE. REFERENCE DETAIL 1/TS-3 FOR TUNNEL SECTION ORIENTATION CONVENTION, AND CIVIL SHEET C1.0 FOR TUNNEL SECTION GENERAL ARRANGEMENT AND LAYOUT.



**1 TYP PRECAST CONC UTILITY TUNNEL SECTION**



**NOTE:**  
PRECAST CONCRETE BOLT POCKET ANCHORS SHALL BE CAPABLE OF RESISTING 15.0 KIPS (SERVICE LEVEL LL) OF AXIAL TENSION. LOCATE POCKET ANCHORS TYP. OF 2 ON TUNNEL LID AND 2 ON TUNNEL FLOOR (4 LOCATIONS).

**2 TYP PRECAST SECTION JOINT DTL (MALE/FEMALE ENDS REF. DTL. 1)**  
1 1/2" = 1'-0" REF: A/TS-3

**A TYP PRECAST CONC UTILITY TUNNEL SECTION**  
3/4" = 1'-0"

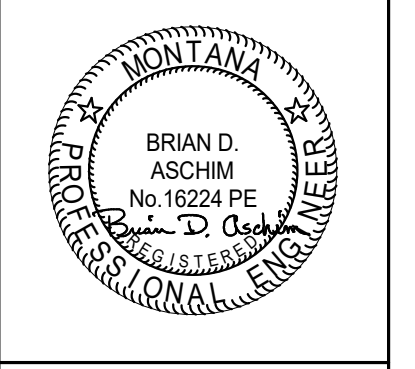


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**UTILITY TUNNEL EXTENSION**  
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DRAWN BY:	BDA	
REVIEWED BY:	KDV	
REV.	DESCRIPTION	DATE
1	ADDENDUM #1	3/16/23



**PPA#22-0006**

A & E #: 22059.30

MMI #: 1552.013

**SHEET TITLE**  
PRECAST UTILITY TUNNEL SECTION

**SHEET**  
**TS-3**

**DATE**  
3/03/23

FOR PRECAST CONC. BIDDING ONLY