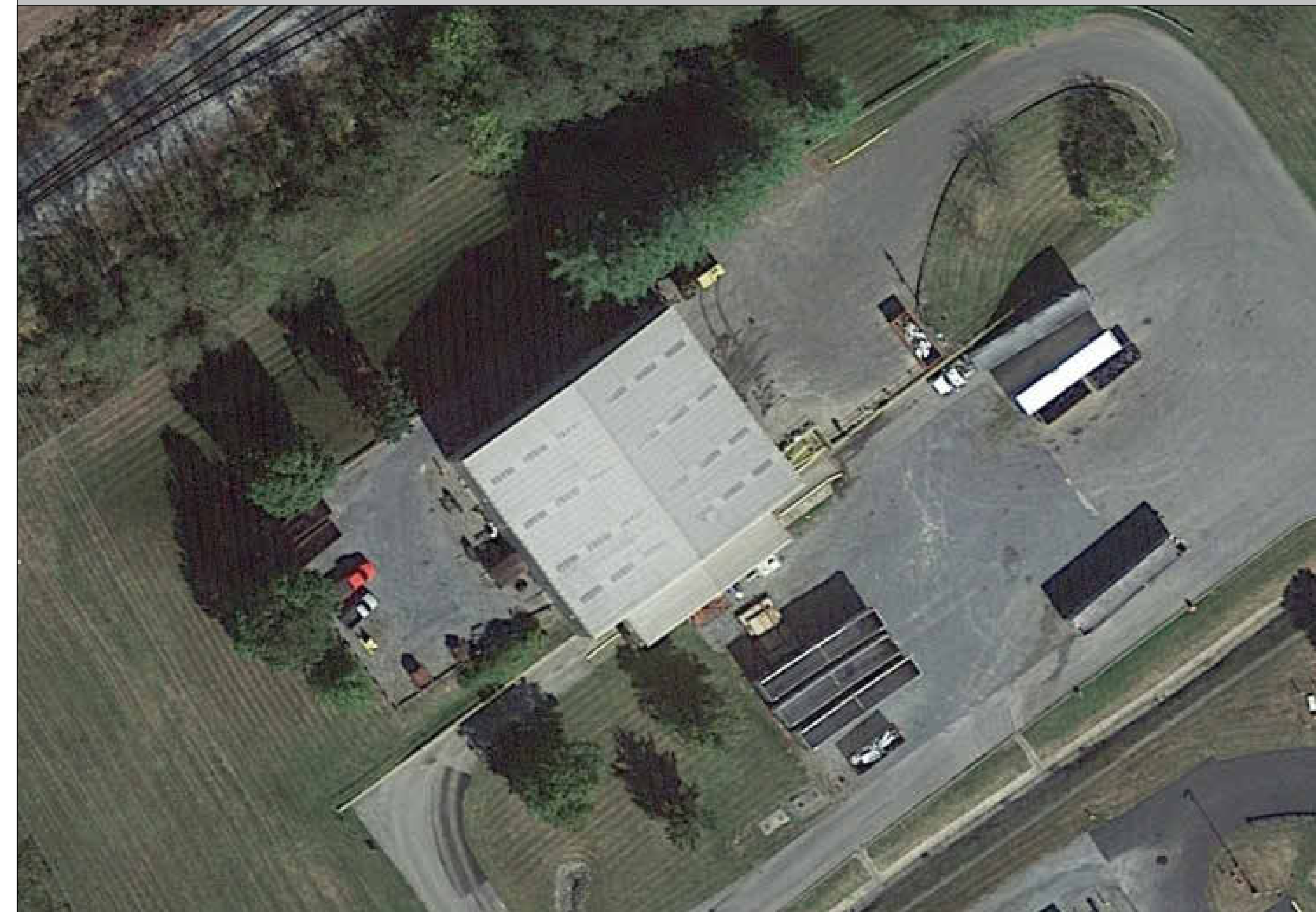




WASHINGTON COUNTY TRANSFER STATION REPLACEMENT SLAB

JUNE 20, 2024
PE2024038

LOCATION



STRUCTURAL NOTES:

STRUCTURAL (RENOVATION):

- A. SPECIAL INSPECTIONS ARE REQUIRED BY THE BUILDING CODE. REFER TO PROJECT SPECIFICATIONS, AND SCHEDULE OF SPECIAL INSPECTIONS FOR SPECIFIC REQUIREMENTS.
- THE CONTRACTOR SHALL COORDINATE INSPECTIONS WITH A MINIMUM OF 48 HOUR NOTICE TO THE INSPECTOR.
 - THE CONTRACTOR SHALL PROVIDE FULL ACCESS TO ALL ITEMS NECESSARY FOR INSPECTION - IF ITEMS NEED TO BE REMOVED FOR ACCESS, THE CONTRACTOR SHALL REMOVE AT NO COST TO OWNER.
- B. STRUCTURAL REVIEW AND DESIGN IS LIMITED TO THE AREAS INDICATED. THE STRUCTURAL ENGINEER ASSUMES NO RESPONSIBILITY FOR THE EXISTING BUILDING STRUCTURE EXCEPT AS SPECIFICALLY MODIFIED OR INDICATED.
- C. THE CONTRACTOR SHALL VERIFY THE REQUIREMENT OF OTHER TRADES FOR SLEEVES, CHASES, HANGERS, INSERTS, ANCHORS, HOLES AND ADDITIONAL ITEMS TO BE PLACED OR SET SIMULTANEOUS WITH STRUCTURAL WORK.
- D. DETAILS AND SECTIONS SHOWN ARE TYPICAL AND APPLY TO SIMILAR OR LIKE CONDITIONS.
- WHEN THE WORD "SIMILAR" (SIM.) OR "TYPICAL" (TYP.) APPEARS ON THE DRAWINGS, IT HAS A GENERAL MEANING AND MUST NOT BE INTERPRETED AS MEANING IDENTICAL. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING DRAWINGS, LOCATING SIMILAR AND TYPICAL CONDITIONS AND WORKING OUT DETAILS IN RELATION TO THEIR LOCATION AND CONNECTION WITH OTHER PARTS OF THE WORK.
- E. DO NOT SCALE DRAWINGS, FOLLOW DIMENSIONS ON PLANS.
- F. DO NOT CHANGE THE SIZE, LENGTH OR SPACINGS OF STRUCTURAL ELEMENTS WITHOUT THE APPROVAL OF THE STRUCTURAL ENGINEER.
- G. DESIGN, ADEQUACY, AND SAFETY OF ERECTION BRACING, SHORING AND TEMPORARY SUPPORTS IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. CONTRACTOR IS RESPONSIBLE FOR COMPLYING WITH OSHA SAFETY REGULATIONS.
- H. THE CONTRACTOR SHALL VERIFY EXISTING CONDITIONS INCLUDING DIMENSIONS TO EXISTING STRUCTURES, GRADES, UTILITIES, FRAMING, FOUNDATIONS, AND HIDDEN CONDITIONS AND COORDINATE THESE CONDITIONS WITH THE CONTRACT DOCUMENTS. NOTIFY THE ENGINEER OF EXISTING CONDITIONS THAT ARE NOT AS SHOWN.
- I. DO NOT CUT, CORE, ALTER, OR DAMAGE EXISTING STRUCTURAL ELEMENTS (FOOTINGS, COLUMNS, BEAMS, JOISTS, ETC.) OF THE BUILDING UNLESS SPECIFICALLY DETAILED. SHOULD ACCIDENTAL DAMAGE OCCUR, CONTACT THE STRUCTURAL ENGINEER PRIOR TO PROCEEDING.

BUILDING CODE		
	2021 VIRGINIA UNIFORM STATEWIDE BUILDING CODE	
	PART I - VIRGINIA CONSTRUCTION CODE	
	PART II - VIRGINIA EXISTING BUILDINGS CODE	
	2021 INTERNATIONAL BUILDING CODE	
	2021 INTERNATIONAL EXISTING BUILDING CODE	
	ASCE 7-16	
RISK CATEGORY	2021 IBC TABLE 1604.5	II
SLAB ON GRADE	SINGLE AXLE TRUCK CAPACITY (NO IMPACT)	10,000 LB
	TRUCK WHEEL SPACING (FOR REFERENCE ONLY)	72 INCH
SNOW	SNOW IMPORTANCE FACTOR, I_s	1.0
	GROUND SNOW LOAD, P_g	15 PSF
	FLAT ROOF SNOW LOAD, P_f	12.3 PSF
	SNOW EXPOSURE FACTOR, C_e	1.0
	THERMAL FACTOR, C_t	1.2
	SLOPE FACTOR, C_s	1.0
	RAIN ON SNOW SURCHARGE (FOR REFERENCE ONLY)	5 PSF
WIND	PROCEDURE	DIRECTIONAL (CH. 27 ASCE 7)
	BASIC WIND SPEED, V	115 MPH
	ALLOWABLE STRESS DESIGN WIND SPEED, V_{asd}	90 MPH
	WIND EXPOSURE CATEGORY (FOR REFERENCE ONLY)	B
SEISMIC	SEISMIC IMPORTANCE FACTOR, I_e	1.0
	MAPPED SPECTRAL RESPONSE, S_s	27.50%
	MAPPED SPECTRAL RESPONSE, S_1	8.50%
	SITE CLASS	D
	SPECTRAL RESPONSE COEFFICIENT, S_{ds}	29.00%
	SPECTRAL RESPONSE COEFFICIENT, S_{d1}	13.60%
	SEISMIC DESIGN CATEGORY (FOR REFERENCE ONLY)	C
RAILINGS	UNIFORM LOAD - ANY DIRECTION - APPLIED TO TOP	50 PLF
	CONCENTRATED LOAD - ANY DIRECTION - APPLIED TO TOP COMPONENTS (OVER 1 SQUARE FOOT)	200 LBS
SOIL	NET ALLOWABLE BEARING PRESSURE	2000 PSF
	UNIT WEIGHT OF SOIL - No. 57 STONE	110 PCF
	MODULUS OF SUBGRADE REACTION	125 PCI

SEQUENCING:

- A. ALL INTERIOR 8 INCH SLAB WORK IS TO BE COMPLETED WITHIN A SINGLE PLACEMENT.
- A PERIOD OF (14) CALENDAR DAYS HAS BEEN ALLOWED FOR COMPLETING THE INTERIOR SLAB TO A STATE SUITABLE FOR OWNER USE.
 - CUT AND INSTALL DEADMAN ANCHOR NEAR HOPPER WALL ALONG WITH ROD TIES TO THE WALL. SLAB BETWEEN THE DEADMAN ANCHOR AND THE HOPPER WALL IS TO REMAIN IN PLACE UNTIL THE DEADMAN ANCHOR IS ALLOWED TO CURE A MINIMUM OF (4) DAYS.
 - CUT AND REMOVE EXISTING SLAB TO EXTENTS SHOWN ON THE PLAN (AS DEFINED BY THE NEW INTERIOR SLAB AREA INDICATED ON THE PLAN), WITH EXCEPTION OF THE AREA BETWEEN THE DEADMAN AND THE HOPPER WALL - SEE NOTE 2 ABOVE.
 - REMOVE AND STAGE EXISTING CONCRETE BLOCKS. SEE PLAN FOR BLOCKS TO BE REMOVED.
 - CAREFULLY REMOVE EXISTING PORTION OF SLAB THAT AT HOPPER WALL THAT INCLUDES EXISTING STEEL CHUTE. CHUTE IS TO BE REMOVED FROM THE CONCRETE IN WHICH IT IS ANCHORED AND RE-INSTALLED IN THE NEW SLAB.
 - VERIFY PRESENCE OF VAPOR RETARDER. PATCH/REPLACE AS REQUIRED.
 - VERIFY SUB-SLAB BEARING CONDITIONS. SEE EARTHWORK NOTES.
 - PREP SURFACES FOR NEW SLAB. INSTALL PERIMETER DOWELS PER SECTIONS. INSTALL NEW BOLLARDS. COORDINATE POSITIONS WITH OWNER.
 - VERIFY SLOPES - NEW TO MATCH EXISTING.
 - PLACE NEW SLAB, CUT JOINTS AS SHOWN, WET-CURE.
 - SEE CONCRETE NOTES - SLAB IS TO ACHIEVE 70% OF STRENGTH IN (4) DAYS.
 - REPLACE CONCRETE BLOCKS.
- B. EXTERIOR 6 INCH SLAB TO BE PLACED IN (2) PHASES TO ALLOW OWNER CONTINUED USE OF THE FACILITY ONCE INTERIOR SLAB IS IN OPERATION.
- CUT AND REMOVE EXISTING SLAB TO EXTENTS SHOWN ON THE PLAN (AS DEFINED BY THE NEW EXTERIOR SLAB AREA INDICATED ON THE PLAN).
 - VERIFY SUB-SLAB BEARING CONDITIONS. SEE EARTHWORK NOTES.
 - PREP SURFACES FOR NEW SLAB. INSTALL DOWELS PER SECTIONS. INSTALL NEW BOLLARDS. COORDINATE POSITIONS WITH OWNER.
 - VERIFY SLOPES - NEW TO MATCH EXISTING.
 - PLACE NEW SLAB, CUT JOINTS AS SHOWN, WET-CURE.
 - SEE CONCRETE NOTES - SLAB IS TO ACHIEVE 70% OF STRENGTH IN (7) DAYS.

CONCRETE AND REINFORCEMENT:

A. GENERAL CONCRETE SHALL BE:

LOCATION	WEIGHT	STRENGTH (PSI) @ 28 DAYS	AIR (%) (+/- 1.5%)	SLUMP (IN.) (+/- 1)	MAX. W/C RATIO	MAX. AGG. SIZE (INCH)	EXPOSURE CLASSES (SEE ACI 318)
INTERIOR SLAB-ON-GRADE WITH STEEL FIBERS	NW	6500	5.5	4	0.41	1 1/2	F2 S0 W1 C1
EXTERIOR SLAB-ON-GRADE WITH STEEL FIBERS	NW	5000	5.5	4	0.46	1 1/2	F2 S0 W1 C1
DEADMAN (NO FIBER)	NW	4500	-	4	0.50	1 1/2	F0 S0 W0 C0

FIELD SAMPLING SHALL BE OBTAINED PRIOR TO INCLUSION OF FIBERS TESTING AGENCY TO OBTAIN A MINIMUM OF (3) CYLINDERS FOR TESTING AT 3, 4, 7, 14 AND 28 DAYS, WITH (3) SPARES. SAMPLES TO BE TAKEN

- NORMAL WEIGHT (NW) CONCRETE SHALL BE 145 - 150 PCF
- SLUMPS ABOVE ARE PRIOR TO ADDITION OF PLASTICIZERS OR MID-RANGE WATER REDUCER. MAXIMUM SLUMP AFTER APPROVED ADDITIVES SHALL BE (8) INCHES MAXIMUM.
- MATERIALS:

- CEMENT: ASTM C 150 TYPE I, TYPE II OR TYPE III
- FLY ASH: ASTM C618 CLASS C OR F, 15% MAX.
- CEMENTITIOUS MATERIALS AND ADMIXTURE COMBINATION, USED IN CONCRETE MUST BE THE SAME AS THAT USED IN THE CONCRETE REPRESENTED BY SUBMITTED FIELD TEST RECORDS OR USED IN TRIAL MIXTURES AND MUST HAVE DEMONSTRATED ACCEPTABLE PERFORMANCE IN A MINIMUM OF 5 PROJECTS WITHIN THE LAST 3 YEARS.

ALTERNATIVELY, SUPPLIER TO PROVIDE 3-POINT CURVE STATISTICAL ANALYSIS WITH RANGE OF STRENGTHS ACROSS THE REQUIRED STRENGTHS TO BE PROVIDED. DATA SHALL INDICATE 3 (OR 4), 7, AND 28 DAY AVERAGES.

- CONCRETE MIX / TEST BATCHES MUST HAVE BEEN PERFORMED WITHIN THE LAST YEAR AND REPRESENT MATERIALS PROPOSED FOR THIS PROJECT.
- AGGREGATE: ASTM C33, GRADED

- STEEL FIBERS: APPROVED PRODUCT: SIKAFIBER NOVOCON CS-1000 TYPE II STEEL FIBERS - ASTM A820 'STANDARD SPECIFICATION FOR STEEL FIBERS FOR FIBER-REINFORCED CONCRETE', LENGTH 1 INCH, ASPECT RATIO 4:1 BACHED AT PLANT AND DELIVERED IN ACCORDANCE WITH ASTM C1116 SLAB DOSAGE NOT TO BE LESS THAN (REFER TO PLAN):

INTERIOR SLAB-ON-GRADE - 70 LBS/CY
EXTERIOR SLAB-ON-GRADE - 50 LBS/CY
ALLOW 6 MINUTE MINIMUM MIX TIME ONCE FIBERS ARE ADDED TO MIX. SIKAFIBER REPRESENTATIVE TO BE ON SITE DURING PRIOR TO AND DURING DOSING. COMPLY WITH ALL MANUFACTURER RECOMMENDATIONS.

- LOW SHRINKAGE MIX: APPROVED PRODUCT: SIKACONTROL NS SHRINKAGE PERCENTAGE PER FT. (<0.045%) SHRINKAGE REDUCING AND COMPENSATING ADMIXTURE - ASTM C494 TYPE S DOSAGE - 5% BY WEIGHT OF CEMENT MASS

- HIGH EARLY STRENGTH: CONCRETE MIX IS TO ACHIEVE: INTERIOR SLAB - 70% OF DESIGN COMPRESSIVE STRENGTH AT (4) DAYS EXTERIOR SLAB - 70% OF DESIGN COMPRESSIVE STRENGTH AT (7) DAYS ADMIXTURES SHALL BE COMPATIBLE WITH ALL OTHER MATERIALS

- B. CONCRETE WORK SHALL BE IN FULL ACCORDANCE WITH: AMERICAN CONCRETE INSTITUTE (ACI 211.1, 301, 315, AND 318) CRSI RECOMMENDED PRACTICE OF PLACING REINFORCING BARS ACI 117 FOR PLACEMENT TOLERANCES (CONCRETE AND REINFORCEMENT) ACI 302.1 CONCRETE FLOOR AND SLAB CONSTRUCTION ACI 306 AND ACI 305 COLD/HOT WEATHER CONCRETING ACI 308.1 FOR CURING OF CONCRETE ACI 308.8S GUIDE FOR CONSOLIDATION OF CONCRETE ACI 347-04 (CHAPTER 5) GUIDE TO FORMWORK FOR CONCRETE ACI 544.2R MEASUREMENT OF PROPERTIES OF FIBER REINFORCED CONCRETE ACI 544.3R GUIDE FOR SPECIFYING, PROPORTIONING, AND PRODUCTION OF FIBER-REINFORCED CONCRETE ACI 544.4R GUIDE TO DESIGN WITH STEEL FIBER REINFORCED CONCRETE ACI 'MANUAL OF STANDARD PRACTICES FOR DETAILING REINFORCED CONCRETE STRUCTURES'.

- C. SLABS ON GRADE
- CEMENTITIOUS MATERIAL CONTENT IN ACCORDANCE WITH TABLE 8.4.4b OF ACI 302.1. MINIMUM CEMENTITIOUS MATERIAL CONTENT BY AGGREGATE SIZE:
1 1/2 INCH 600 LB/CY
 - FINE AGGREGATE: NATURAL
 - MORTAR FRACTION (VOLUME PERCENTAGE OF CEMENTITIOUS MATERIALS, AGGREGATE, WATER AND AIR THAT PASS THE NO. 8 SIEVE) SHALL BE 55 TO 57 PERCENT.
 - FOR STEEL FIBER REINFORCED CONCRETE, SLAB SHALL BE WET CURED A MINIMUM OF 7 DAYS
 - SLAB LOADING SHALL NOT EXCEED:
% OF DESIGN LOAD TIME AFTER PLACEMENT
75 4 DAYS
90 14 DAYS
100 AFTER 28 DAYS

- COMBINED AGGREGATE GRADATIONS:
1 INCH STONE OR LARGER 8 TO 22 PERCENT ON EACH SIEVE ABOVE 100
#4 TO #16 0 TO 4 PERCENT (ROUND SHAPED AGGREGATE)
#30 AND #50 SIEVES 4 TO 8 PERCENT (SLIVERED, SHARP OR ELONGATED)
#100 SIEVE 8 TO 15 PERCENT ON EACH
1 1/2 TO 5 PERCENT

- PERCENT RETAINED ON TWO ADJACENT SIEVE SIZES SHALL NOT FALL BELOW (5) PERCENT
- PERCENT RETAINED ON THREE ADJACENT SIEVE SIZES SHALL NOT FALL BELOW (8) PERCENT
- IF PERCENT RETAINED ON TWO ADJACENT SIEVE SIZES IS LESS THAN (8) PERCENT, THEN THE TOTAL PERCENT RETAINED ON EITHER SIEVE AND ADJACENT OUTSIDE SIEVE SHALL BE AT LEAST (13) PERCENT

- FLOOR FLATNESS:
a. PER ACI 302 AND ACI 117
b. SLOPE TO MATCH EXISTING SLAB (APPROXIMATELY 1.1%) - SEE PLAN & FIELD VERIFY.

- D. SLAB CONTROL JOINTS:
- CUT IN ACCORDANCE WITH ACI 302.1R
 - CUT AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN 4 HOURS OF SLAB PLACEMENT
 - USE SOFT CUT EARLY-ACCESS SAW - USE HIGH SPEED 3800 RPM (MIN.)
 - EPOXY JOINT FILLER (SIKADUR 51NS) SHALL BE INSTALLED IN SLAB JOINTS AFTER ALL CONSTRUCTION TRAFFIC HAS TERMINATED.

- E. REINFORCING:
- ASTM A615, GRADE 60 FOR DEFORMED BARS
 - DEVELOPMENT LENGTH FOR REINFORCEMENT (d_b = BAR DIAMETER):

STRENGTH	#6 AND SMALLER	#7 AND LARGER	HOOK, LDH
4500 PSI	36 d_b	45 d_b	18 d_b
5000 PSI	34 d_b	42 d_b	17 d_b
6500 psi	30 d_b	38 d_b	15 d_b

- DEVELOPMENT LENGTH MINIMUM OF 12 INCHES. HOOK DEVELOPMENT LENGTH MINIMUM 6 INCHES. DEVELOPMENT LENGTH ADJUSTMENTS:
CLASS B TENSION LAPS: ABOVE MULTIPLIED BY 1.3.
- SPLICES SHALL BE CLASS B TENSION SPLICES UNLESS NOTED. IF APPROVED BY THE STRUCTURAL ENGINEER PRIOR TO USE, MECHANICAL SPLICES SHALL DEVELOP 125% OF THE BAR YIELD STRENGTH. CONCRETE CLEAR COVER SHALL BE (UNLESS NOTED OTHERWISE):
SLABS 2" MIN. OR AS INDICATED

- H. CONCRETE FINISHES:
- FINISHER SHALL HAVE A MINIMUM OF 5 YEARS EXPERIENCE FINISHING FLATWORK WITH STEEL FIBERS.
 - STEEL FIBERS PROTRUDING THROUGH TO SURFACE SHALL BE TRIMMED FLUSH AND SMOOTH WITH SLAB SURFACE
 - SLAB SHALL RECEIVE A TROWEL FINISH.
 - SLAB SHALL RECEIVE A TROWEL FINISH. PROVIDE 1-INCH CHAMFER AT EXPOSED CONCRETE CORNERS AS INDICATED IN SECTIONS.

- I. DO NOT POSITION CONDUITS OR PIPES SHALL NOT BE PLACED WITHIN THE THICKNESS OF THE SLAB.

STRUCTURAL SHEET INDEX

SHEET NUMBER	SHEET NAME
S000	STRUCTURAL NOTES
S001	SPECIAL INSPECTIONS
S100	SLAB PLAN
S300	SECTIONS
S500	TYPICAL DETAILS

CONCRETE AND REINFORCEMENT (CONTINUED):

- J. REINFORCING STEEL AND EMBEDDED ITEMS SHALL BE ACCURATELY PLACED IN THE POSITIONS SHOWN, TIED AND SUPPORTED BEFORE CONCRETE IS PLACED TO PREVENT DISPLACEMENT BEYOND PERMITTED TOLERANCES.

- K. EPOXY GROUTING OF DEFORMED BAR DOWELS OR ANCHOR RODS INTO EXISTING OR HARDENED CONCRETE SHALL BE INSTALLED ACCORDING TO EPOXY MANUFACTURERS RECOMMENDATION TO PROVIDE FULL DEVELOPMENT OF THE BAR OR BOLT FOR THE SPECIFIC CONCRETE STRENGTH AT POINT OF ATTACHMENT.
- APPLY LOADS ONLY AFTER EPOXY HAS REACHED FULL STRENGTH.
 - ALL PARTS OF ANCHORING SYSTEM (RODS, NUTS, WASHERS, BITS, EPOXY, ETC.) SHALL BE FROM A SINGLE SUPPLIER.

- L. NO REPAIR OR RUBBING OF CONCRETE SHALL BE MADE PRIOR TO INSPECTION BY ARCHITECT/ENGINEER OR OWNER'S REPRESENTATIVE.

- M. CURING:
- COMPLY WITH ACI 308.1: 'EXTERNAL CURING OF CAST-IN-PLACE CONCRETE'
 - BEGIN CURING IMMEDIATELY AFTER FINISHING CONCRETE
 - WET CURE WITH USE OF ABSORPTIVE COVER, MOISTURE-RETAINING COVER, OR CONTINUOUS SPRINKLING FOR A MINIMUM OF (4) DAYS OR UNTIL 70% STRENGTH IS ACHIEVED.

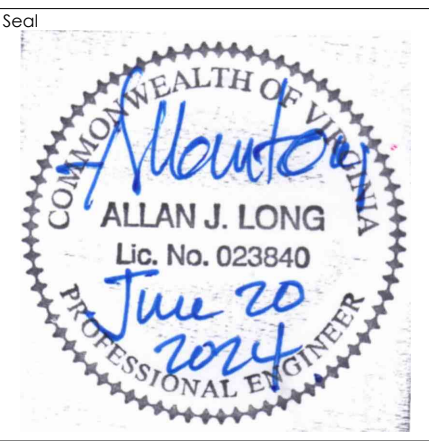
STRUCTURAL STEEL:

- A. STRUCTURAL STEEL SHALL BE IN ACCORDANCE WITH:
- ANSI/AISC 360-10 'SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS' - ALLOWABLE STRESS DESIGN
 - AISC 303-10 'CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES'
 - AWS D1.1 'STRUCTURAL WELDING CODE - STEEL'
 - AISC 'SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
- B. MATERIALS SHALL COMPLY WITH:
- STRUCTURAL PIPE STD ASTM A53 GRADE B
 - STRUCTURAL PLATES & BAR ASTM A36 OR ASTM A572 GRADE 50
 - ANCHOR RODS ASTM F1554 GRADE 36
- C. AISC PLANT CERTIFICATION IS NOT A REQUIREMENT.
- D. COATINGS:
- STRUCTURAL STEEL SHALL BE GALVANIZED PER ASTM A-123
 - STEEL BELOW GRADE SHALL BE COATED WITH HEAVY CONSTRUCTION GRADE MASTIC MATERIALS.
- E. WELDING SHALL BE:
- PERFORMED BY AWS CERTIFIED WELDERS
 - ELECTRODES PER TABLE 4.1 OF ANSIIAWS D1.1

EARTHWORK FOR STRUCTURES:

- A. SUBGRADES AND COMPACTED FILL SHALL BE OBSERVED BY A GEOTECHNICAL ENGINEER REGISTERED AS A PROFESSIONAL ENGINEER IN THE COMMONWEALTH OF VIRGINIA TO VERIFY CONFORMANCE. OBSERVING ENGINEER SHALL APPROVE SUBGRADES PRIOR TO CONCRETE PLACEMENT.
- B. SITE PREPARATION:
- BLASTING IS NOT PERMITTED
 - PROOFROLLING INVESTIGATIONS ARE NOT EXPECTED TO BE REQUIRED. HOWEVER, FINAL DETERMINATION TO BE MADE BY THE INSPECTING GEOTECHNICAL ENGINEER. IF PROOFROLLING IS FOUND TO BE REQUIRED:
 - PROOFROLL USING A LOADED DUMP TRUCK OR RUBBER Tired ROLLER IN CRISS-CROSS PATTERN (4 PASSES MINIMUM).
 - AREAS WHICH EXHIBIT EXCESSIVE PUMPING, WEAVING OR RUTTING SHALL BE UNDERCUT, ALLOWED TO DRY AND RECOMPACTED OR EXCAVATED AND REPLACED OPEN GRADED STONE OR AS DIRECTED BY THE GEOTECHNICAL ENGINEER.
- C. SLAB-ON-GRADE PREPARATION:
- CONTRACTOR/GEOTECH ARE TO EVALUATE EXISTING SUB-GRADES DURING SLAB DEMOLITION AND REPORT FINDINGS TO THE STRUCTURAL ENGINEER. THE EXISTENCE OF EXISTING STONE SUB-BASE IS UNCERTAIN.
 - VERIFY MINIMUM MODULUS OF SUBGRADE
 - PROOFROLL SUBGRADE IF RECOMMENDED BY THE GEOTECHNICAL ENGINEER.
 - INTERIOR SLABS:
 - VERIFY UNDERLAIN BY 6 INCHES (MIN.) NO. 57 CRUSHED STONE BED - SEE NOTE C.1 ABOVE.
 - DO NOT PLACE PIPE/CONDUIT WITHIN THE STONE BED.
 - REMOVE EXISTING VAPOR RETARDER AND REPLACE WITH (10)-MIL (MIN.) ASTM 1745 ON TOP OF STONE.
TAPE ALL SEAMS WITH MANUFACTURER'S SUPPLIED TAPE
VERIFY EXISTENCE OF CURRENT 6 MIL VAPOR RETARDER. CUT TO LEAVE 3 FT. MINIMUM OVERLAP WITH NEW VAPOR RETARDER. CLEAN SURFACE AND TAPE NEW TO OLD.
TAPE/SEAL ALL EDGES AND ALL PENETRATIONS
REPAIR/PATCH ANY DAMAGE OR PUNCTURES
CLEAR VAPOR RETARDER OF ALL DEBRIS PRIOR TO PLACEMENT OF CONCRETE
 - EXTERIOR SLABS:
 - VERIFY UNDERLAIN BY MINIMUM 6 INCHES THICK NO. 57 CRUSHED STONE BED.
 - DO NOT PLACE PIPE/CONDUIT WITHIN THE STONE BED.
- D. COMPACTED FILL/BACKFILL:
- CONSIST OF MATERIALS CLASSIFYING:
 - NO. 57 STONE
 - AS APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO DELIVERY AND PLACEMENT.
 - USE ONLY MECHANICAL HAND TAMPS OR SMALL VIBRATORY COMPACTORS/ROLLERS, NOT EXCEEDING 3000 POUNDS WEIGHT, WHEN CLOSER TO BELOW GRADE WALLS THAN A DISTANCE EQUAL TO THE HEIGHT OF THE BACKFILL ABOVE THE TOP OF THE FOUNDATIONS (1:1 SLOPE)
 - BACKFILL EACH SIDE OF FOUNDATION WALLS SIMULTANEOUSLY.
 - SUBGRADES REQUIRING UNDERCUTTING SHALL BE FILLED WITH COMPACTED FILL AS DESCRIBED HEREIN TO THE ORIGINAL DESIGN SUBGRADE ELEVATION.
- E. EXCAVATIONS:
- EXCAVATIONS SHALL BE BRACED OR SLOPED IN ACCORDANCE WITH CURRENT OSHA REGULATIONS. THE CONTRACTOR SHALL STAGE CONSTRUCTION SEQUENCE SO AS NOT TO UNDERMINE AN ADJACENT BUILDING, PREVIOUSLY CAST FOUNDATION, SLOPE OR OTHER STRUCTURE DURING THE CONSTRUCTION.
 - IF NON-UNIFORM ROCK OR DISINTEGRATED ROCK IS ENCOUNTERED AT FOUNDATION DESIGN SUBGRADE ELEVATION, UNDERCUT THIS MATERIAL ONE FOOT MINIMUM AND REPLACE WITH COMPACTED FILL.
- F. SURFACE WATER MANAGEMENT: SLOPE EXCAVATIONS. INSTALL SWALES AND/OR DEWATERING PUMPS TO MAINTAIN DRY SOIL CONDITIONS AND PREVENT STANDING WATER IN EXCAVATIONS FOR FOUNDATIONS AND SLABS.

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REFUSE TRANSFER STATION
REPLACEMENT SLAB
WASHINGTON COUNTY

MARK	DATE	DESCRIPTION
		Revision Schedule

Project No: PE2024038
Issue Date: 06-20-24
Drawn By: KC
Chk'd By: AL

Sheet Description
STRUCTURAL NOTES

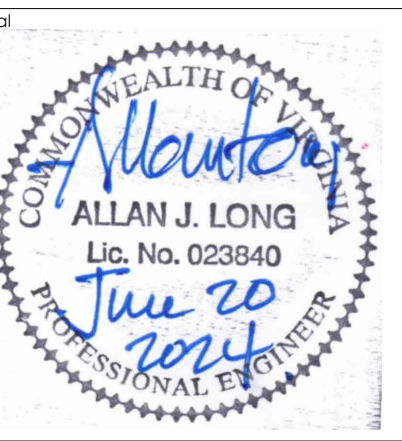
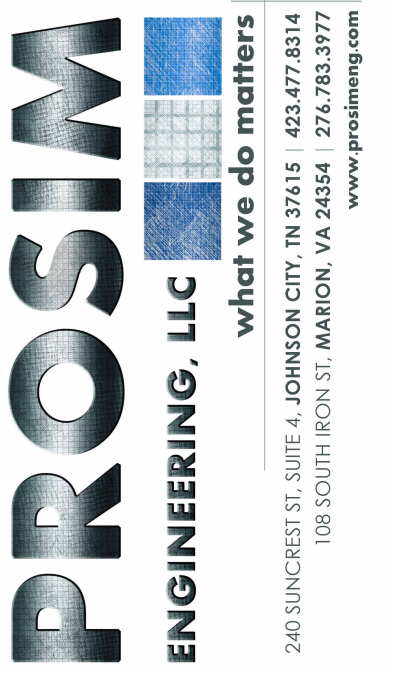
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SCHEDULE OF SPECIAL INSPECTION NOTES	
1.	Special Inspections shall comply with the requirements of: 2018 Virginia Construction Code - Chapter 17 2018 International Building Code - Chapter 17
2.	The Inspection and Testing Agency(s) shall be engaged by the Owner or the Owner's Agent and not by the Contractor or Sub-Contractor whose work is to be inspected or tested. Any conflict of interest must be disclosed to the Building Official prior to commencing work. The Qualifications of the Special Inspector(s) and/or testing agencies must be subject to the approval of the Building Official and/or the Design Professional. A pre-inspection meeting is to occur between the Special Inspector, Contractor, Owner, Geotechnical Engineer, Architect, Structural Engineer and Civil Engineer (Building Official to be invited). The following shall be reviewed (minimum): List of inspectors that will be on site, with discipline and copy of qualifications/certifications for each Contractor anticipated schedule of work for inspectors. This is to be updated monthly. Establish notice time for Contractor to contact Special Inspector to notify of work to be inspected. Contact information within Special Inspection firm for Contractor (primary, backup) and method of contact. Special Inspector shall have a full set of contract documents, specifications along with updates. Contractor shall provide Special Inspector a copy of approved shop drawings that are relevant to inspections. Code Requirements for Special Inspector. Review list of required special inspectors for Project. Special Inspector shall present samples of each checklist to be utilized by inspectors that directly correlates to required IBC inspections. Examples are: Structural Fill Observations, Summary of Field Density, Foundation Excavation Observations, Reinforcement Observations, Concrete Placement Observations, Concrete/Grout Truck Field Log, Structural Masonry CMU, Mortar, Grout and Reinforcement Observations. Special Inspection reports to be submitted to Contractor, Owner, Architect, Structural Engineer, Civil Engineer and Building Official no later than: Noted Deficiency that is not immediately addressed and reinspected: 24 hours Test Reports: 24 hours Inspection / Field Reports: 72 hours Deficiency Log (updated): Once per month Special Inspector / Report Requirements: Digital photos (12 megapixel sensor size, 3200 image resolution) must be taken of EVERY inspection observed. Key photos and photos of deficiencies are to be contained within report, other photos are to be maintained by Special Inspector sorted by date of inspection, inspection report number and location of inspection. Photos are to be available immediately to learn upon request. At closure of project, provide copy of digital photos to Owner. Contained in each field report, a graphical copy of the floor plan (or appropriate portion) shall be highlighted to show where the inspection took place. Report shall clearly indicate project name, date and time of inspection, inspectors name, weather (including temperature), location (see above graphic requirement), items inspected/observed and condition thereof, deficiencies (with resolution if applicable), any areas that could not be inspected, and any areas where work had occurred without notification for inspectors Special Inspector, upon request, shall be on site during Structural or Civil Engineer visits to site. 3. The list of Special Inspectors may be submitted as a separate document, if noted so above. 4. Special Inspections as required by IBC Section 1704.2.5 are not required where the fabricator is approved in accordance with IBC Section 1704.2.5.1. 5. Observe on a random basis; operations need not be delayed pending these inspections. Perform these tasks for each welded joint, bolted connection or steel element. 6. NDT of welds completed in an approved fabricator's shop may be performed by that fabricator when approved by the AHJ. Refer to AISC 306. N6. 7. RDP shall review fabricator/supplier/producer certificates and/or shop drawings for conformance with appropriate standards of practice, quality assurance and compliance with contract documents 8. Review records and test results for conformance with requirements and specifications 9. P - Inspections performed prior to final acceptance of item 10. PR - Task performed for each bolted connection OB - Observe on a random basis. Operations need not be delayed pending these inspections Are Requirements for Seismic Resistance included in the Statement of Special Inspections? No Are Requirements for Wind Resistance included in the Statement of Special Inspections? No Registered Design Professional (RDP) in Responsible Charge: <u>Allen Long, P.E.</u> <i>Allen Long</i> Signature 6/4/2024 Date

2018 IBC SCHEDULE OF SPECIAL INSPECTION SERVICES									
1705.3 CONCRETE CONSTRUCTION (IBC TABLE 1705.3 - MODIFIED)									
MATERIAL	ITEM	WORK UNDERWAY/INSPECTION	SERVICE	REQ'D	REFERENCE STANDARD	IBC REFERENCE	FREQUENCY		
							CONTINUOUS	PERIODIC	NOTE
Reinf. Steel	1	Inspect reinforcement, including prestressing tendons and verify placement	Shop (4) and Field Inspection	X	ACI 318 CH 20, 25.2, 25.3, 26.6.1-26.6.3	1908.4	-	X	-
	2	Reinforcing bar welding:							
	2a	Verify weldability of reinforcing bars other than ASTM A 706	Shop (4) and Field Inspection		AWS D1.4, ACI 318: 26.6.4		X	-	7
	2b	Inspect single-pass fillet welds, maximum 5/16 in.	Shop (4) and Field Inspection				X	-	7
	2c	Inspect all other welds	Shop (4) and Field Inspection				X	-	7
Anchors	3	Inspect anchors cast in concrete	Shop (4) and Field Inspection	X	ACI 318: 17.8.2		-	X	7
	4	Inspect anchors post-installed in hardened concrete members:							
	4a	Adhesive anchors installed in horizontally or upwardly inclined orientations to resist sustained tension loads	Field Inspection	X	ACI 318: 17.8.2.4	Table 1705.3 Footnote (b)	X	-	7
	4b	Mechanical anchors and adhesive anchors not defined in (4a)	Field Inspection		ACI 318: 17.8.2		-	X	7
		Inspection of anchors and reinforcing steel post-installed in hardened concrete: per research reports including verification of anchor type, anchor dimensions, hole dimensions, hole cleaning procedures, anchor spacing, edge distances, concrete minimum thickness, and/or embedment and tightening torque.	Field Inspection				-	Or as required by the research report issued by an approved agency	7
Concrete	5	Verify use of required mix design	Shop (4) and Field Inspection	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3	-	X	7
	6	Prior to concrete placement, fabricate specimens for strength tests, perform slump and air content tests, and determine the temperature of concrete	Shop (4) and Field Inspection	X	ASTM C 172, ASTM C 31, ACI 318: 26.5, 26.12	1908.10	X	-	8
	7	Inspect concrete and shotcrete placement for proper application techniques.	Field Inspection	X	ACI 318: 26.5	1908.6, 1908.7, 1908.8	X	-	-
	8	Verify maintenance of specified curing temperatures and techniques	Field Inspection	X	ACI 318: 26.5.3-26.5.5	1908.9	-	X	8
	8a	Verify fiber dosage.	Field Inspection	X	-	-	-	X	8
	8b	Verify proper mix time for post-fiber dose	Field Inspection	X	-	-	-	X	8
Prestressed	9	Inspect prestressed concrete:							
	9a	Application of prestressing forces	Field Inspection		ACI 318: 26.10		X	-	7
	9b	Grouting of bonded prestressing tendons	Field Inspection		ACI 318: 26.9		X	-	7
Precast	10	Inspect erection of precast concrete members	Field Inspection		ACI 318: 26.11.2	Per Construction Documents	-	X	-
		Perform inspections of welding and bolting in accordance with Section 1705.2	Field Inspection			1705.2	-	X	-
Post Tension	11	Verify in-situ concrete strength, prior to stressing tendons in post-tensioned concrete prior to removal of shores and forms from beams and structural slabs	Shop (4) and Field Inspection		ACI 318: 26.11.2		-	X	-
Formwork	12	Inspect formwork for shape, location and dimensions of the concrete member being formed, shoring and reshoring	Field Inspection		ACI 318: 26.11.1.2 (b)		-	X	-

2018 IBC SCHEDULE OF SPECIAL INSPECTION SERVICES									
1705.6 SOILS (IBC TABLE 1705.6)									
MATERIAL	ITEM	WORK UNDERWAY/INSPECTION	SERVICE	REQ'D	REFERENCE STANDARD	IBC REFERENCE	FREQUENCY		
							CONTINUOUS	PERIODIC	NOTE
Soil	1	Verify materials below slabs are adequate to achieve the design bearing capacity	Field Inspection	X		1705.6	-	X	-
	2	Verify excavations are extended to proper depth and have reached proper material	Field Inspection			1705.6	-	X	-
	3	Perform classification and testing of compacted fill materials (if used)	Field Inspection	X		1705.6	-	X	-
	4	Verify use of proper materials, densities and lift thicknesses during placement and compaction of compacted fill	Field Inspection	X		1705.6	X	-	-
	5	Prior to placement of compacted fill, inspect subgrade and verify that site has been prepared properly	Field Inspection	X		1705.6	-	X	-



REFUSE TRANSFER STATION
 REPLACEMENT SLAB
 WASHINGTON COUNTY

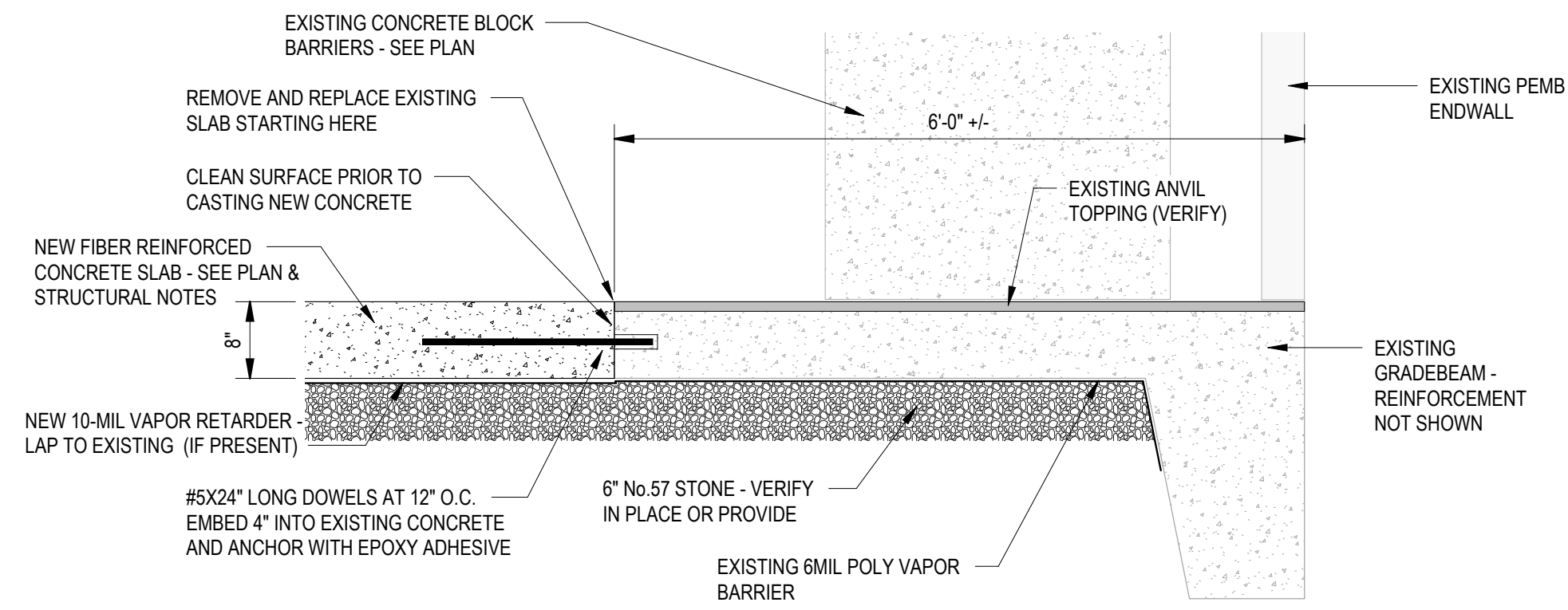
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		Revision Schedule

Project No: PE2024038
 Issue Date: 06-20-24
 Drawn By: KC
 Chk'd By: AL

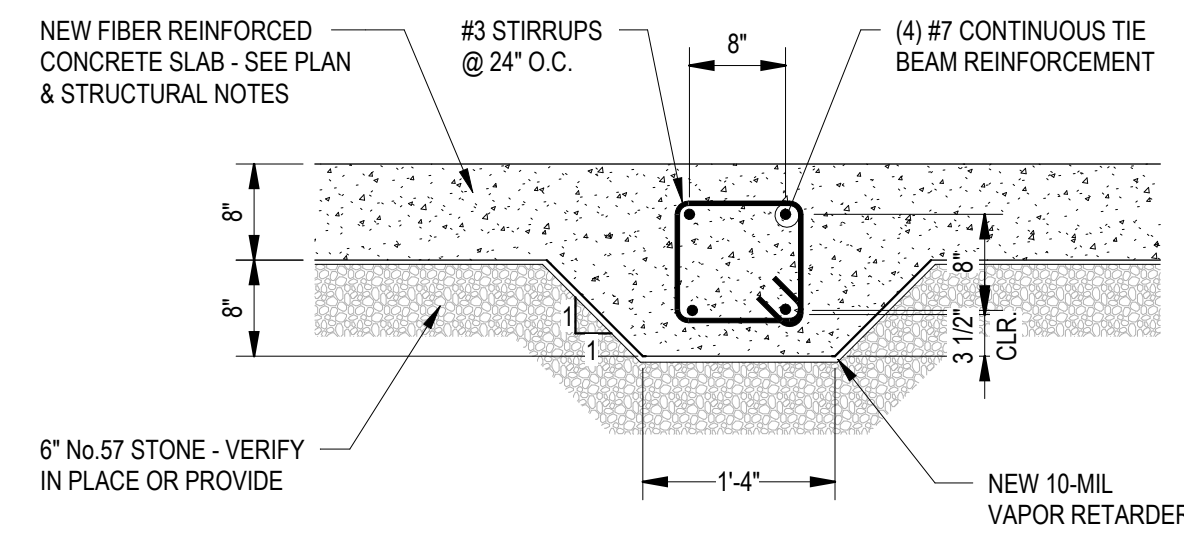
Sheet Description
 SPECIAL INSPECTIONS

S001

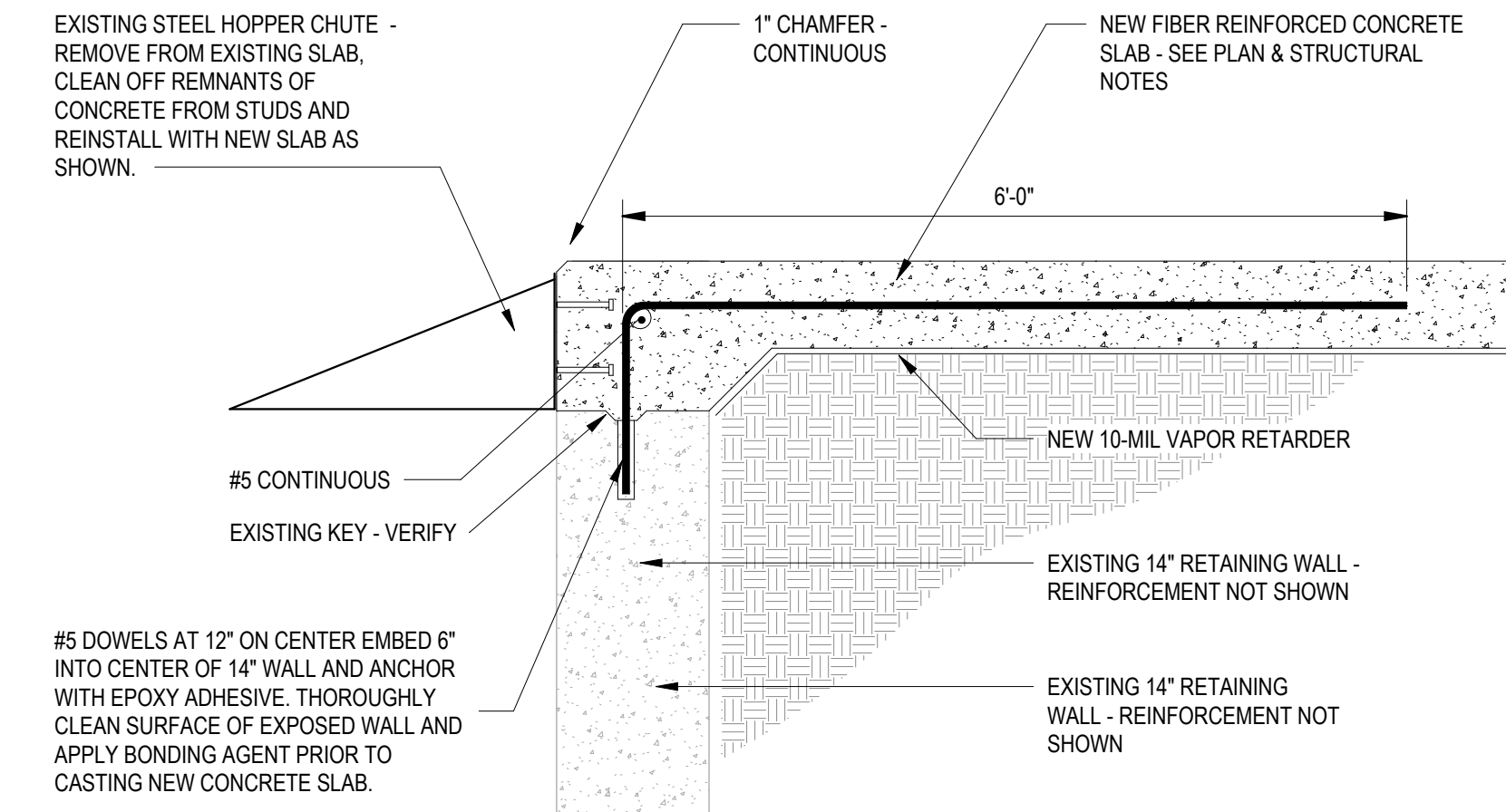




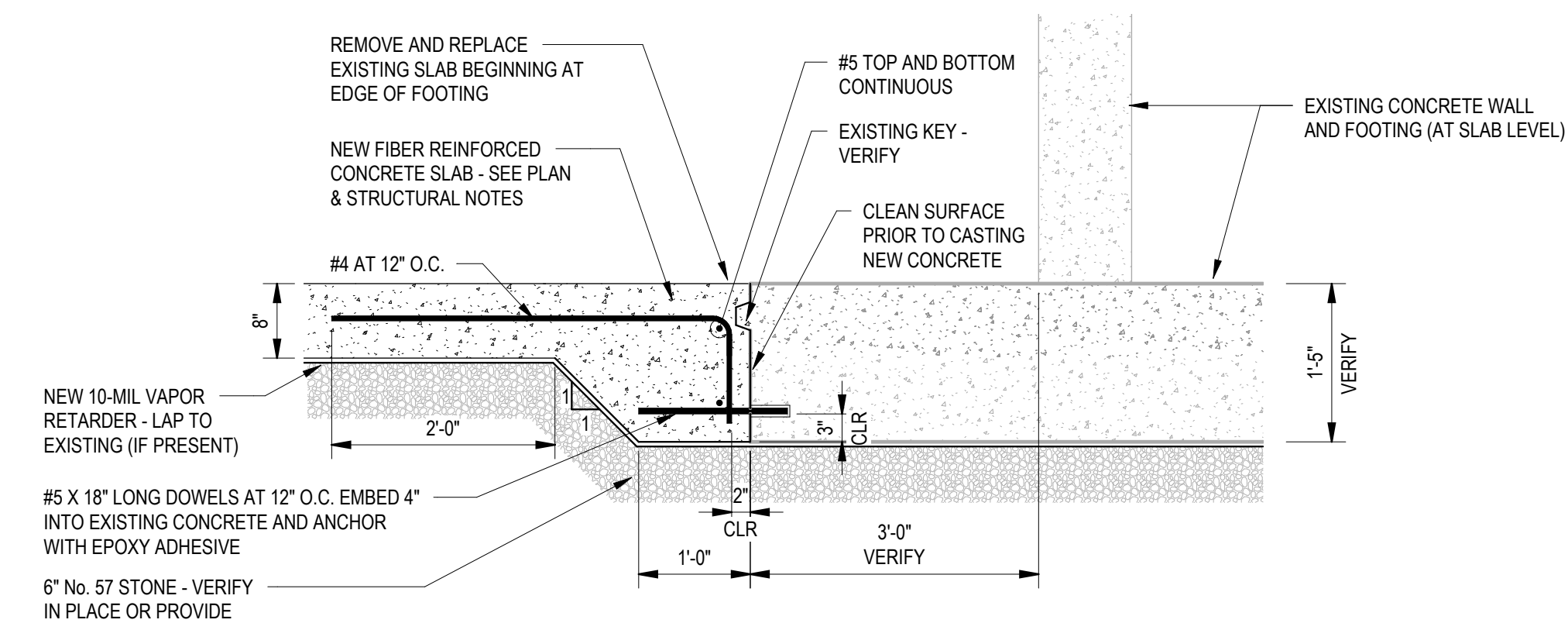
1 EDGE OF SLAB ENDWALL
SCALE: 3/4" = 1'-0"



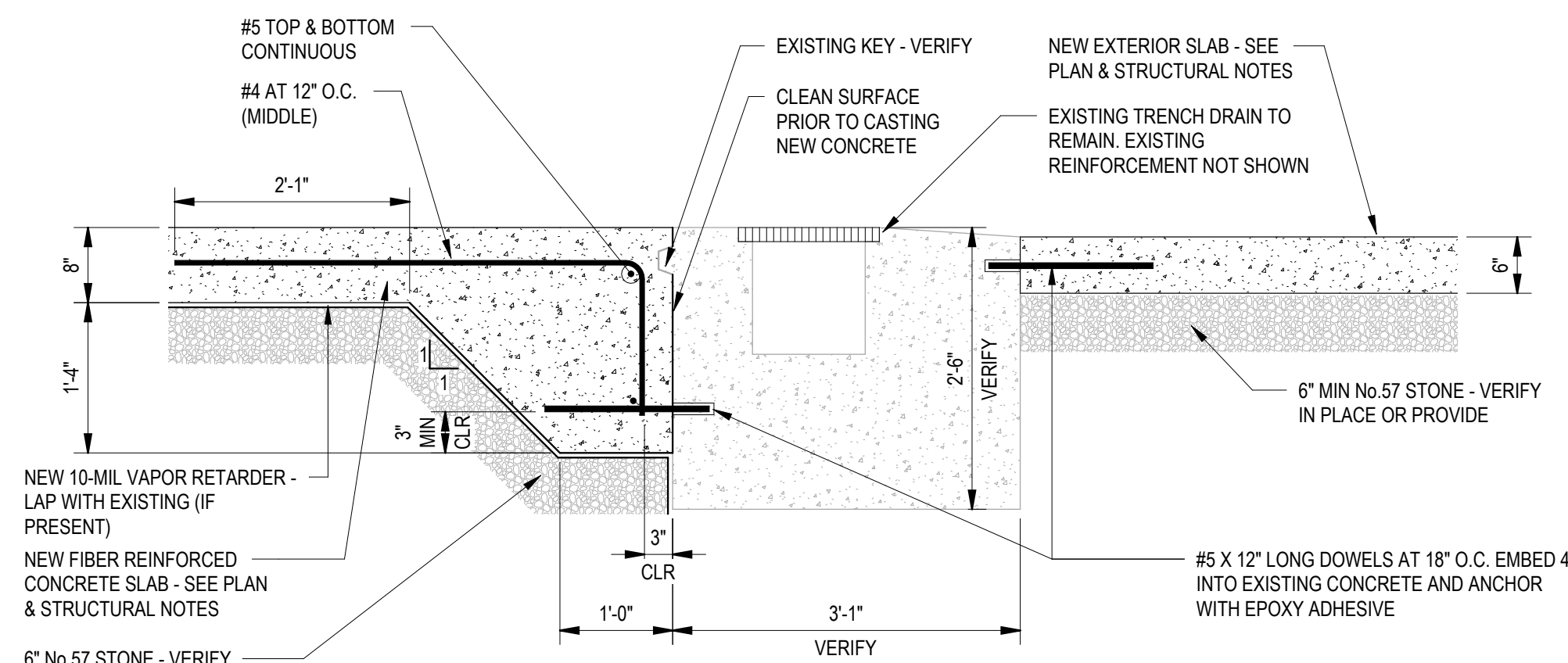
2 GRADEBEAM
SCALE: 3/4" = 1'-0"



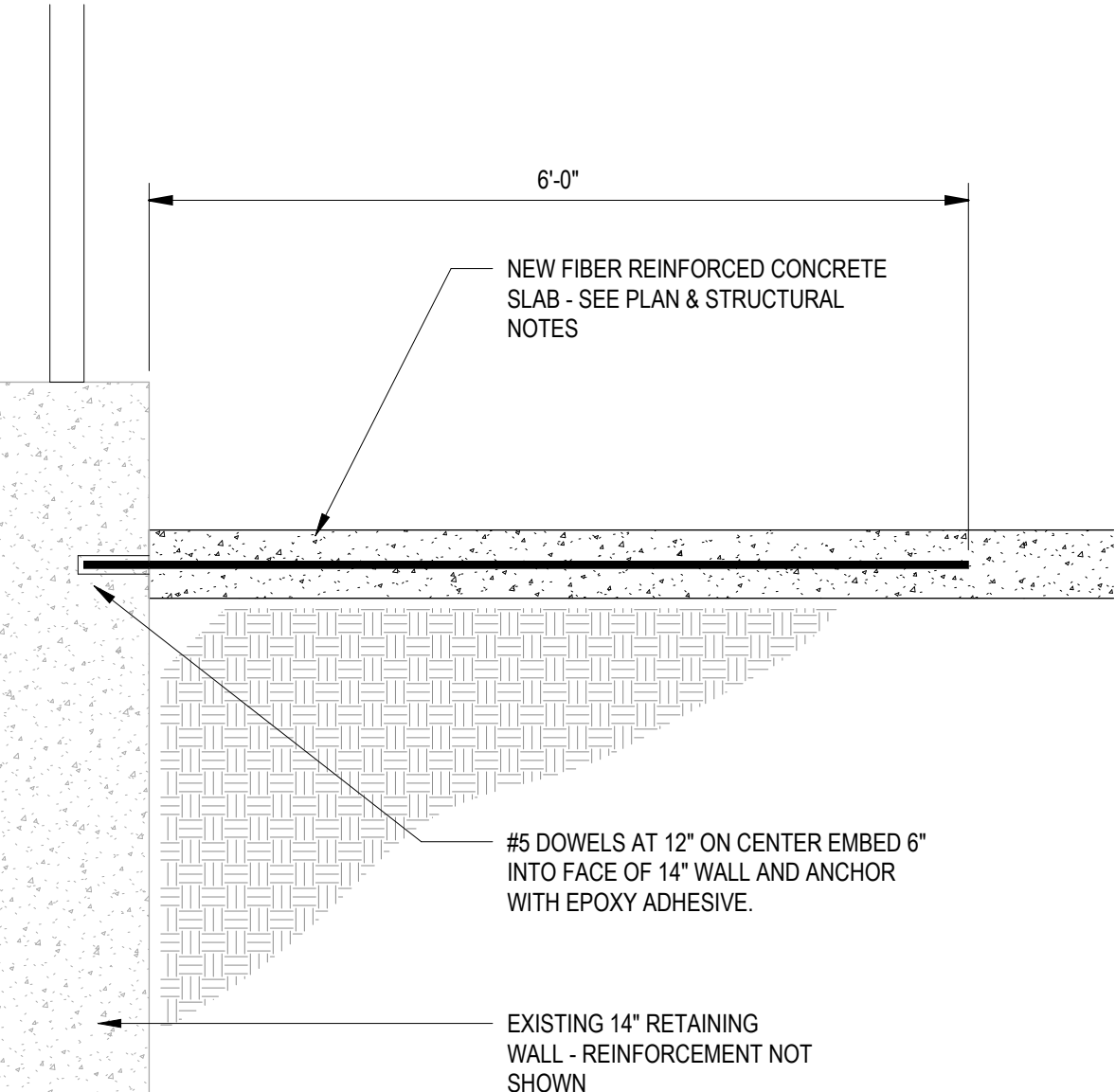
3 HOPPER WALL/SLAB CONNECTION
SCALE: 3/4" = 1'-0"



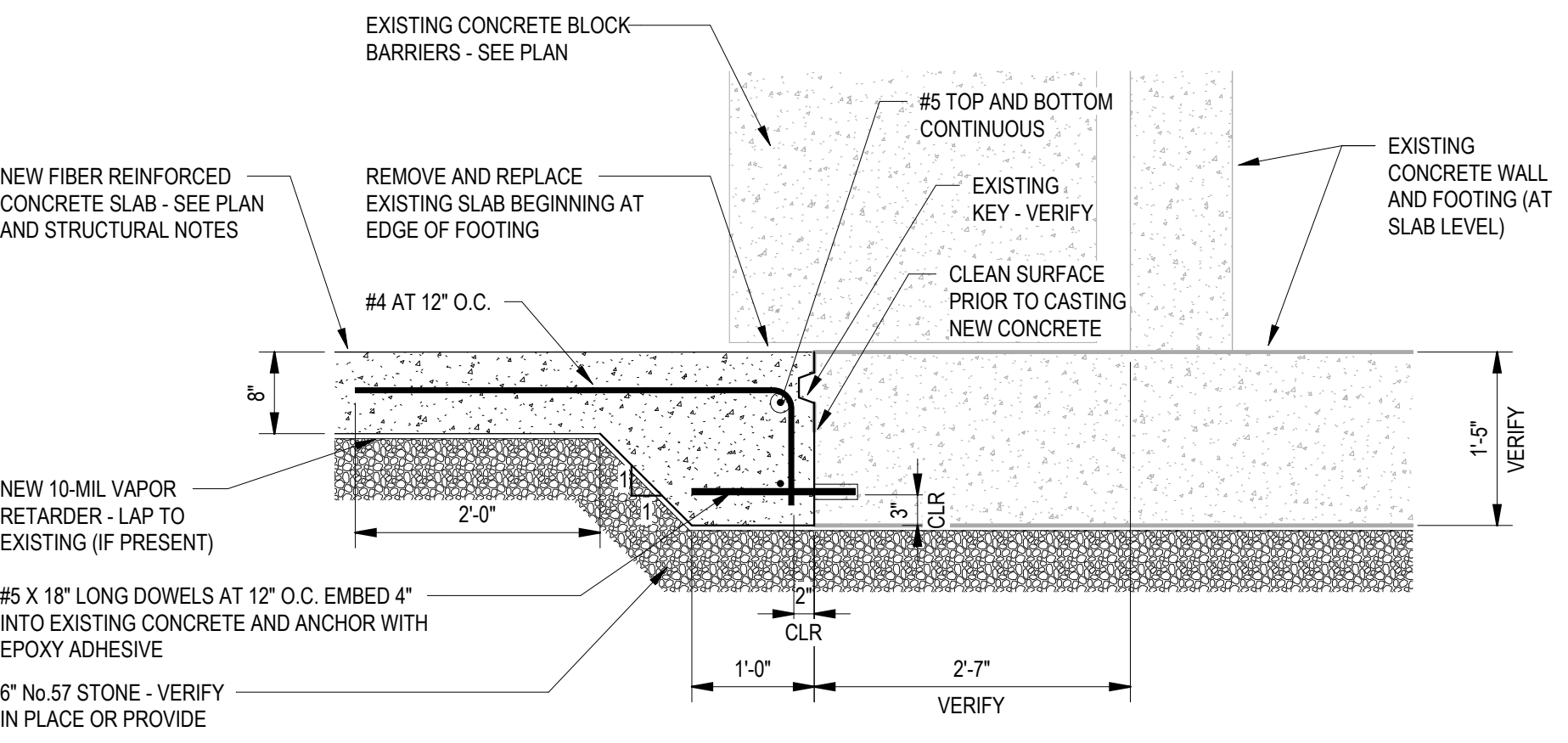
4 RETAINING WALL FTG
SCALE: 3/4" = 1'-0"



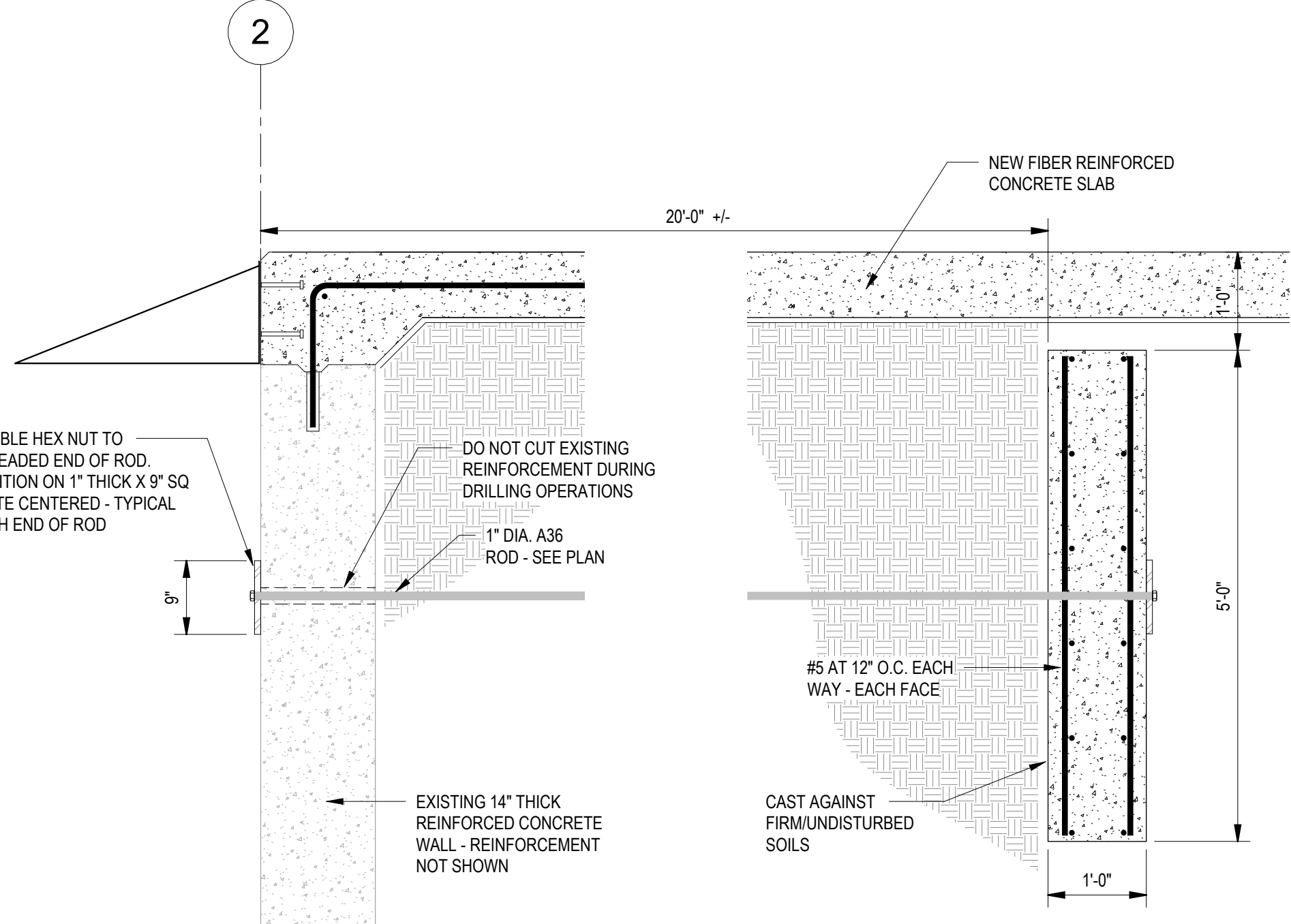
5 TRENCH DRAIN
SCALE: 3/4" = 1'-0"



8 SLAB AT EXT. STAIRWELL
SCALE: 3/4" = 1'-0"



6 RETAINING WALL FTG 2
SCALE: 3/4" = 1'-0"



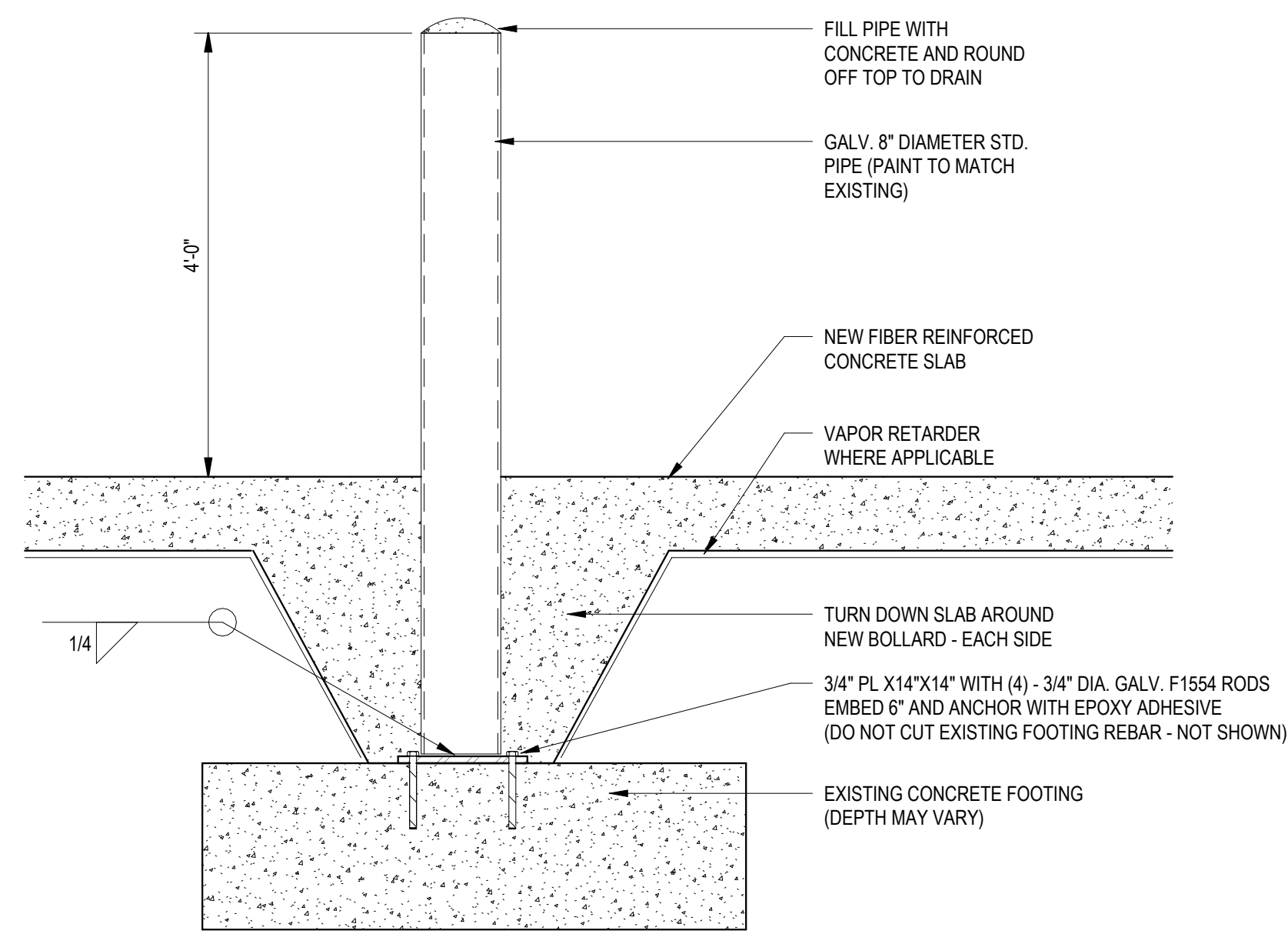
7 DEADMAN
SCALE: 3/4" = 1'-0"

MARK	DATE	DESCRIPTION
		Revision Schedule

Project No: PE2024038
Issue Date: 06-20-24
Drawn By: KC
Chk'd By: AL

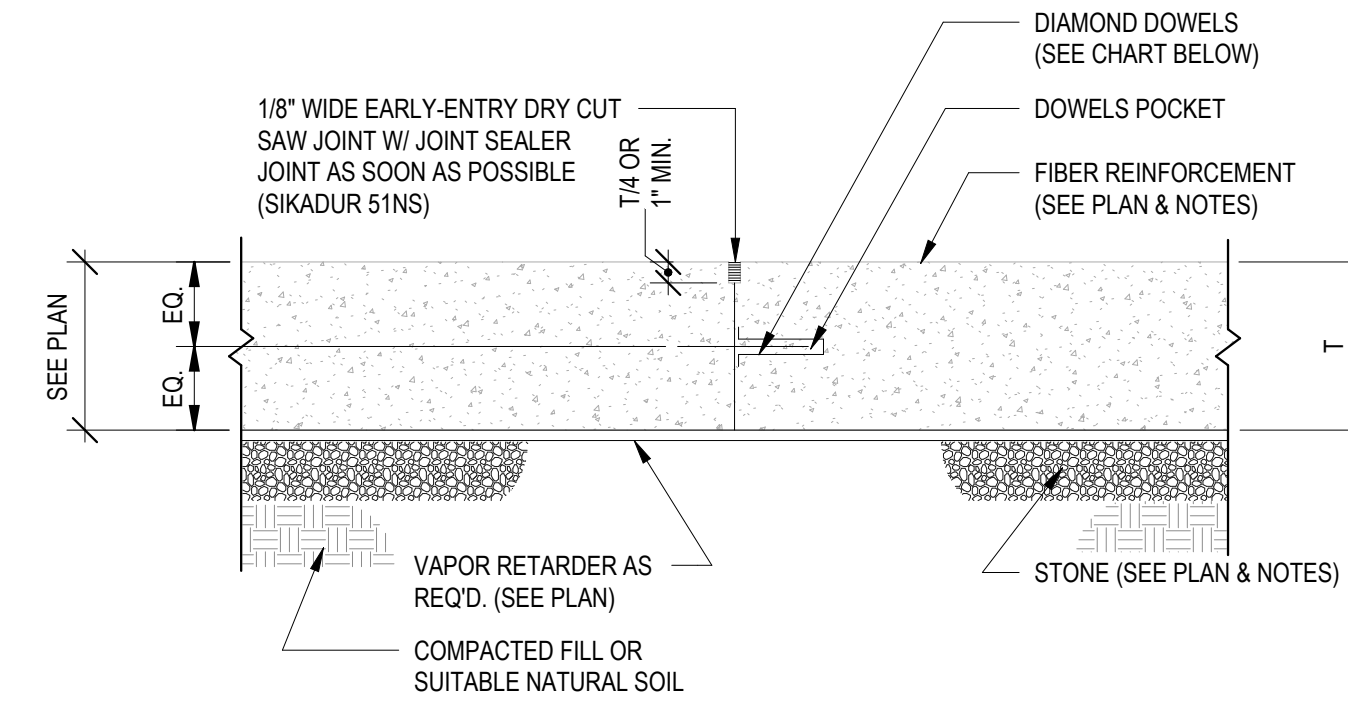
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SECTIONS

S300



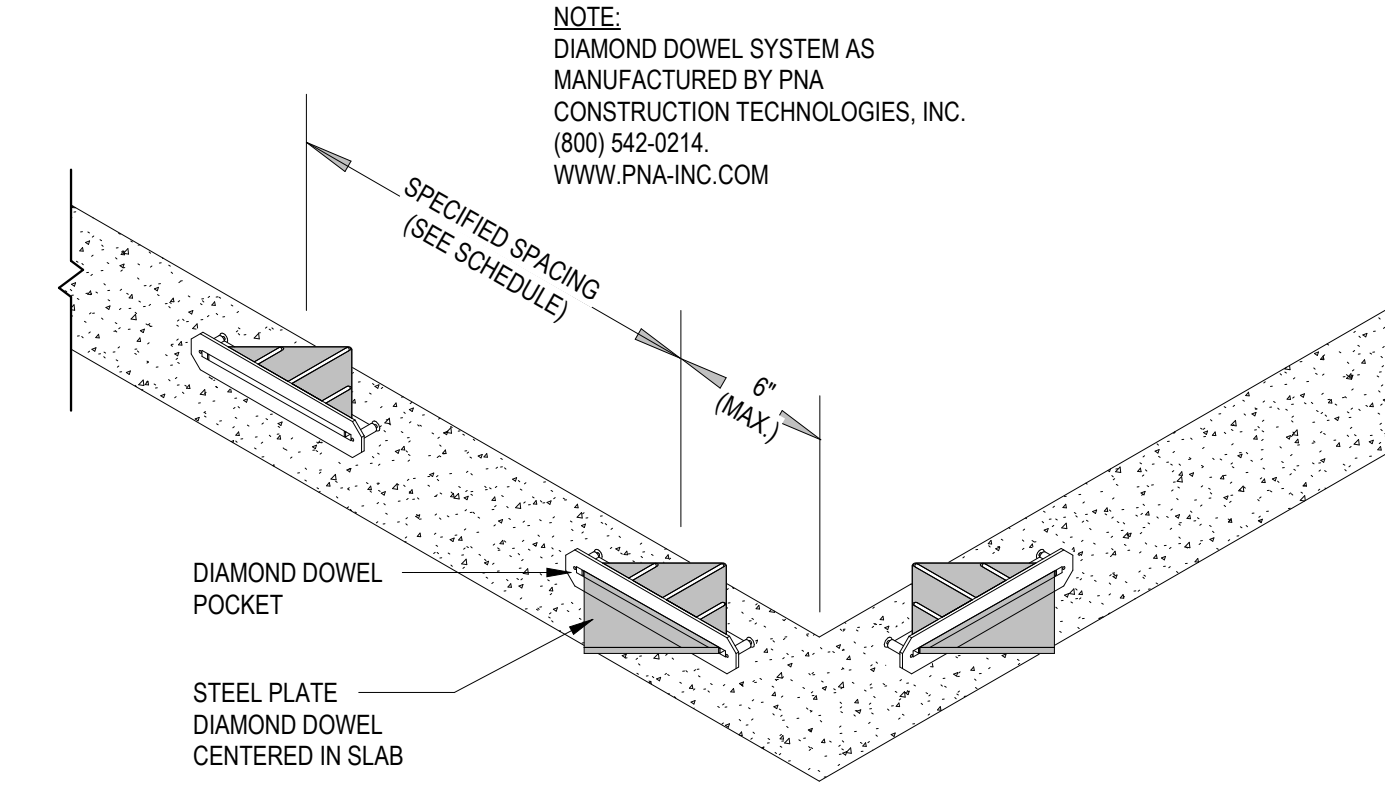
BOLLARD ON FOOTING

N.T.S.



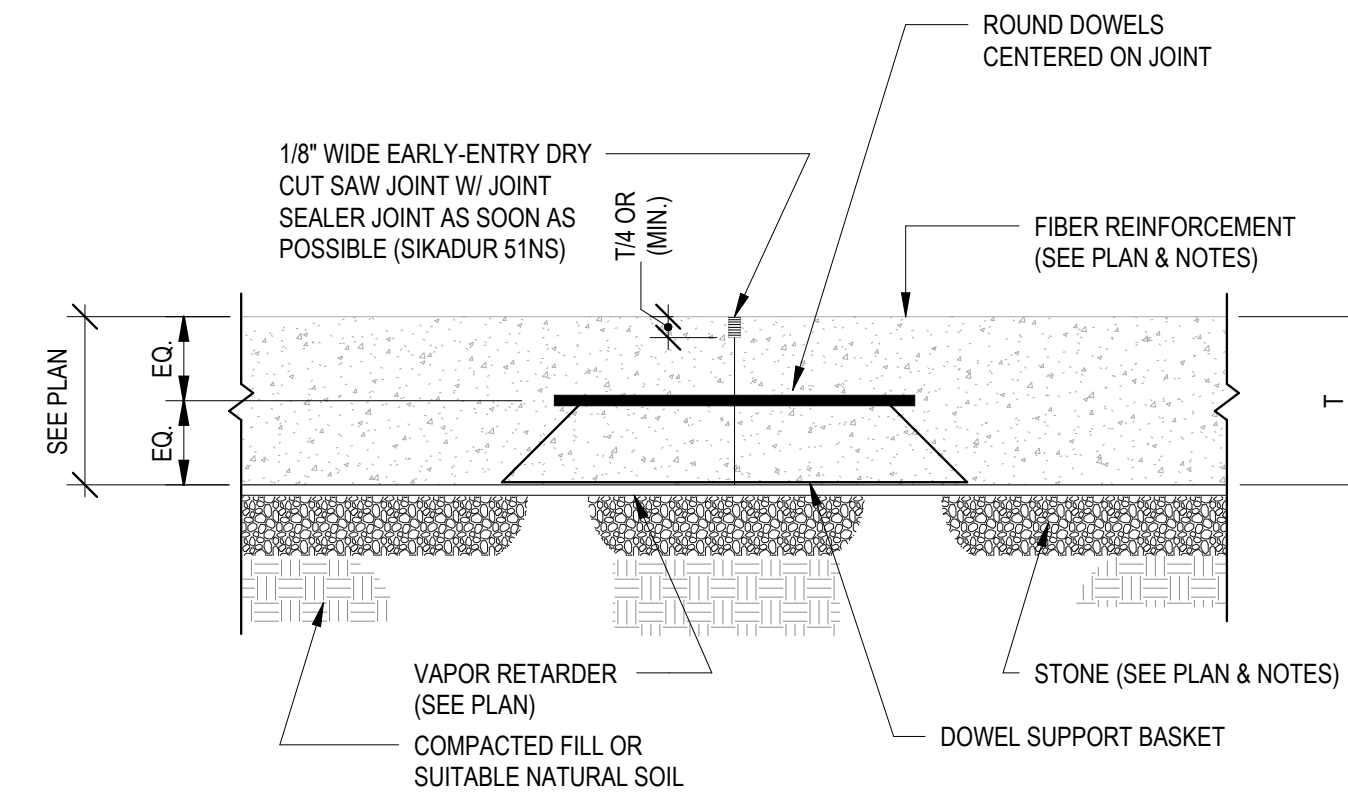
DOWEL SIZE AND SPACING CHART

SLAB THICKNESS (IN.) (T)	DIAMOND DOWEL DIMENSIONS (IN.)	DOWEL SPACING C/C (IN.)
4-6	1/4 X 4 1/2 X 4 1/2	18
7-8	3/8 X 4 1/2 X 4 1/2	18



FIBER REINF. SLAB CONSTRUCTION JOINT (CSJ) DETAIL

N.T.S.

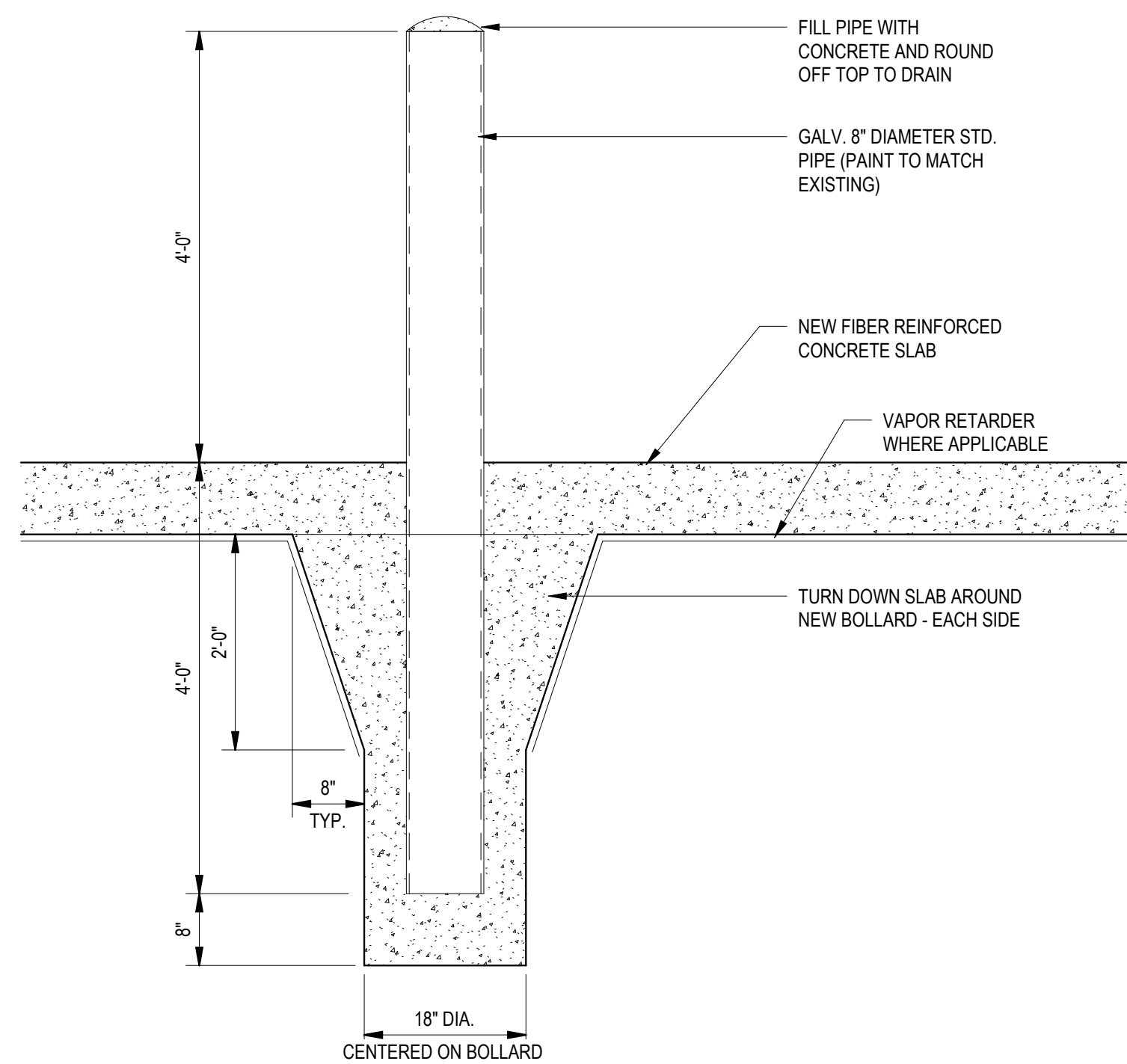


DOWEL SIZE AND SPACING CHART

SLAB THICKNESS (IN.) (T)	DOWEL DIMENSIONS (IN.) DIAMETER X LENGTH	DOWEL SPACING (IN.)
4-6	3/4 X 13	12
7-8	1 X 16	12

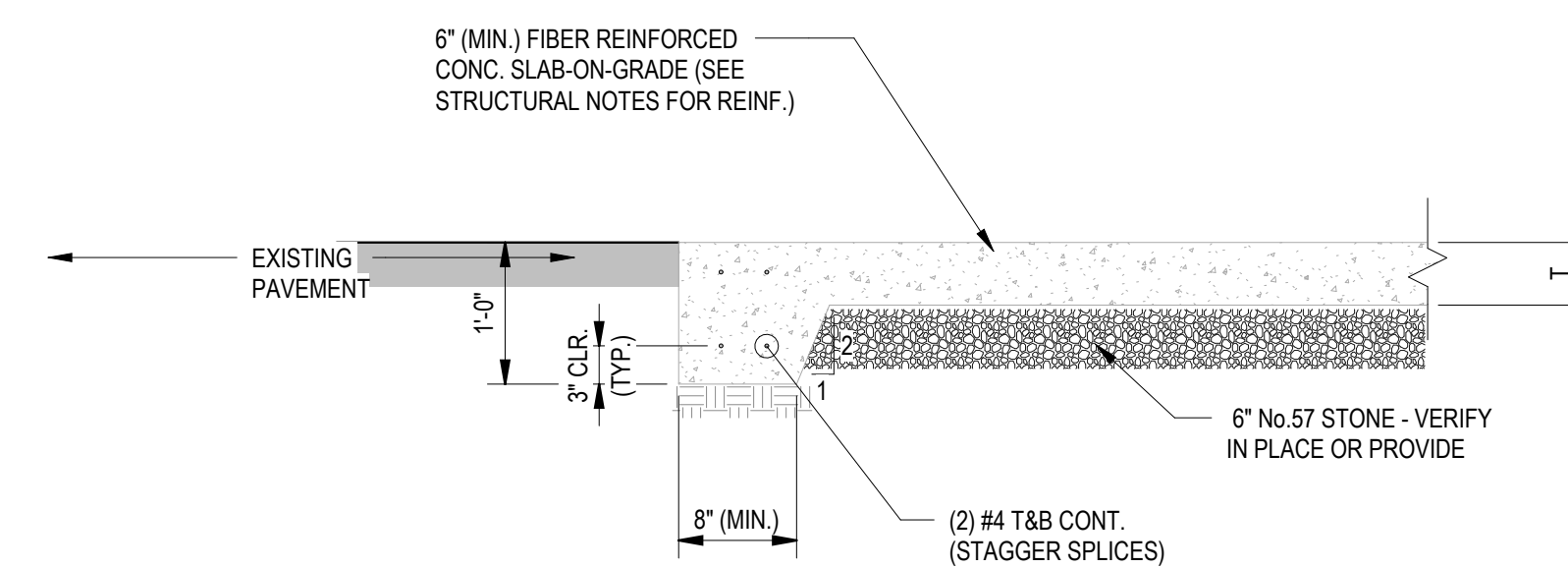
FIBER REINF. SLAB CONTRACTION JOINT (CTJ)

N.T.S.



BOLLARD

N.T.S.



12" SLAB TURN DOWN DETAIL

N.T.S.

MARK	DATE	DESCRIPTION
		Revision Schedule

Project No: PE2024038
Issue Date: 06-20-24
Drawn By: KC
Chk'd By: AL

Sheet Description
TYPICAL DETAILS

\$500