



**DETAILED  
DEVELOPMENT PLAN  
(APRIL 29, 2016)**

key

project  
**WILLS WHARF  
OFFICE/HOTEL**

HARBOR POINT  
BALTIMORE, MARYLAND

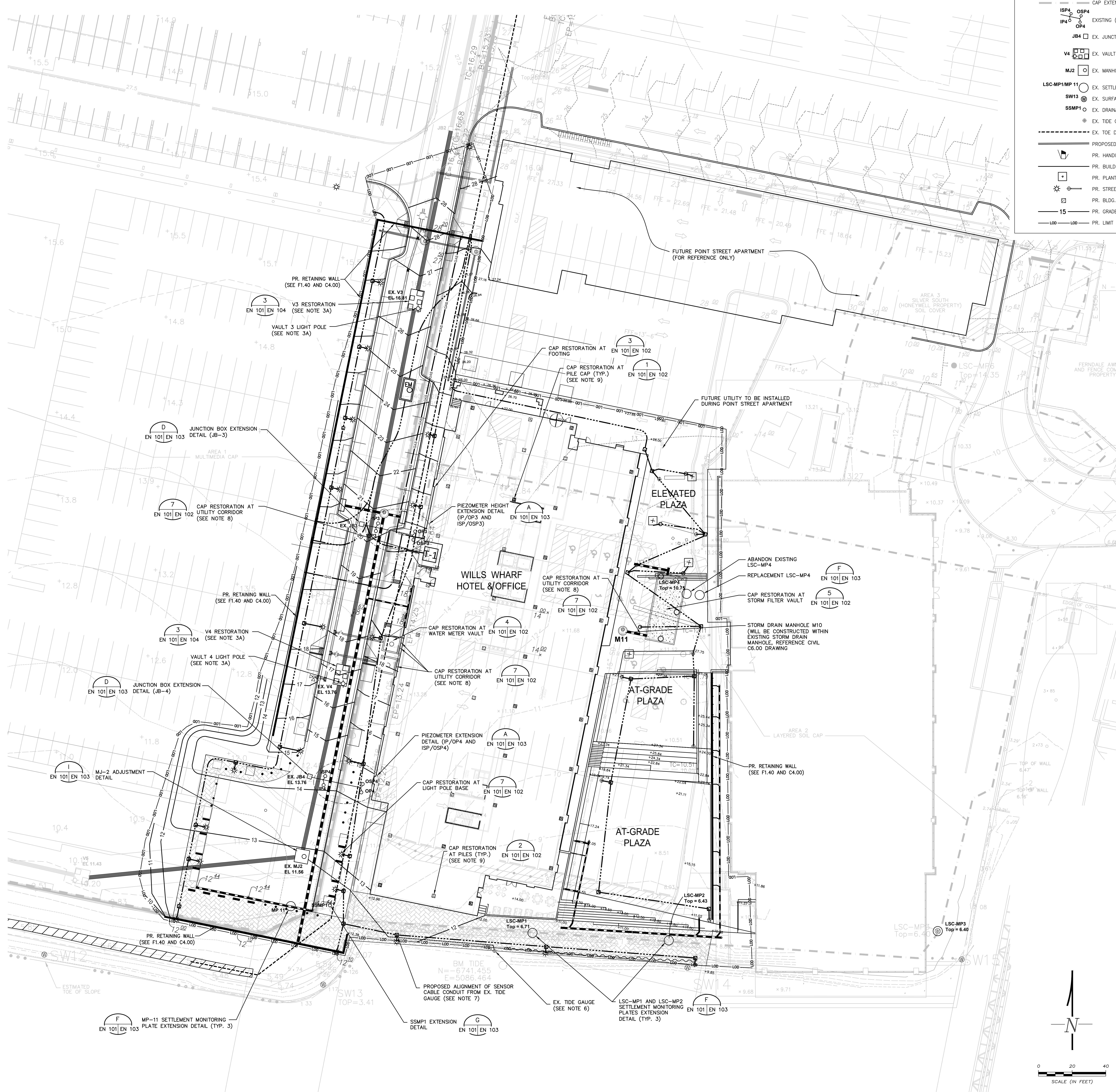
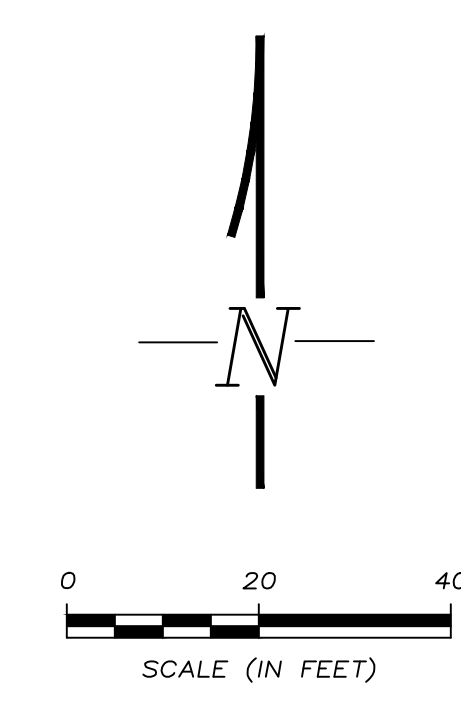
**ENVIRONMENTAL  
REMEDiation  
SYSTEMS -  
MODIFICATIONS**

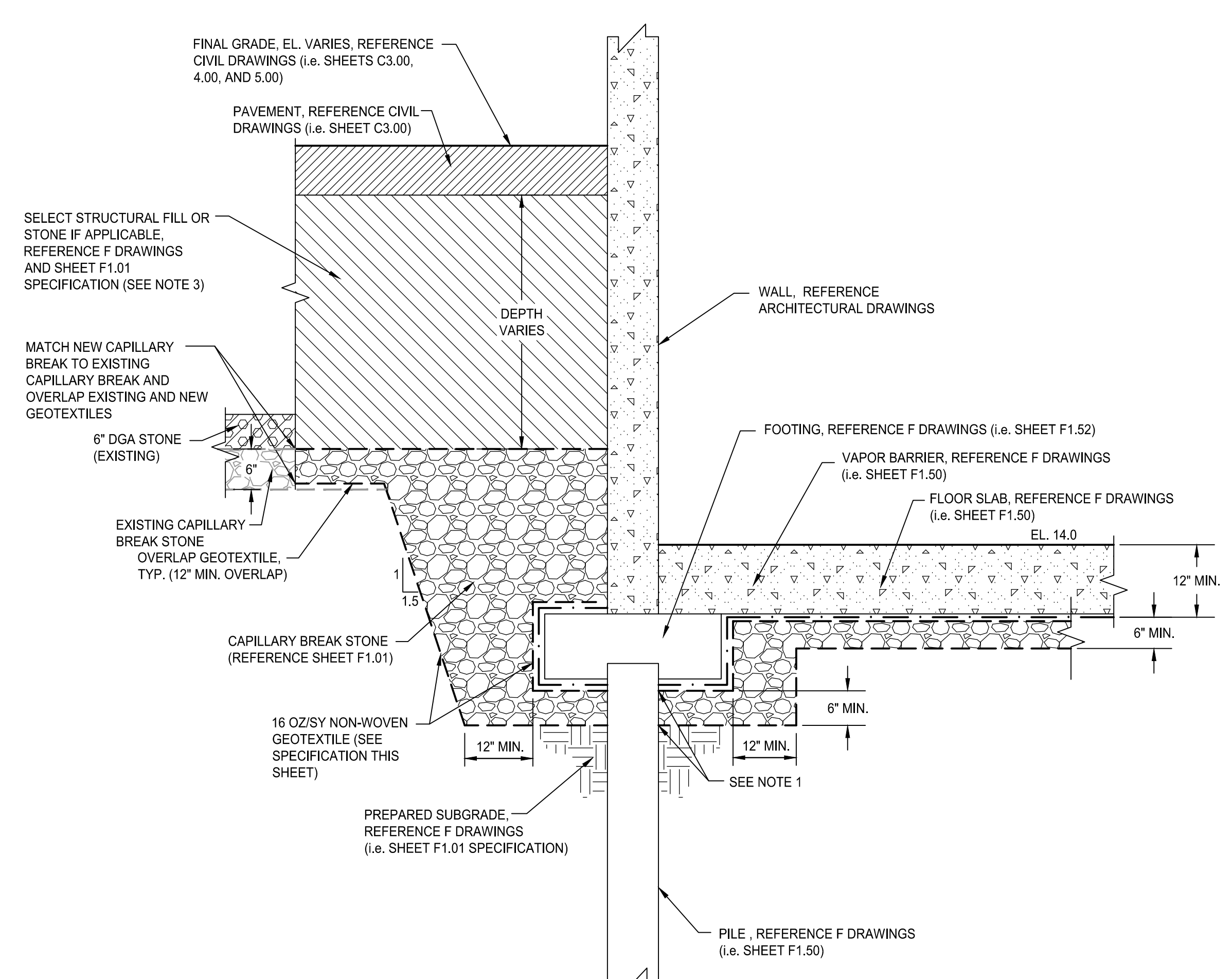
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**LEGEND**

— 10 —	EXISTING GRADE CONTOUR	— — — — —	PR. STORM DRAIN
— — — — —	CAP EXTENT	⊙	PR. STORM DRAIN MANHOLE
— IP4 —	EXISTING (EX.) PIEZOMETER SET	⊕	PR. STORM DRAIN CURB INLET
— OP4 —	EXISTING (EX.) PIEZOMETER SET	⊖	PR. STORM DRAIN GRATE INLET
— JB4 —	EX. JUNCTION BOX	— — — — —	PR. WATER LINE
— V4 —	EX. VAULT	⊕	PR. WATER VALVE
— MJ2 —	EX. MANHOLE JUNCTION	⊖	PR. WATER VALVE
— LSC-MP1/MP 11 —	EX. SETTLEMENT MONITORING PLATE	⊕	PR. WATER VALVE & VAULT
— SW13 —	EX. SURFACE WATER SAMPLING POINT	— — — — —	PR. SANITARY LINE
— SSMP1 —	EX. DRAINAGE SAMPLING POINT	⊙	PR. SANITARY MANHOLE
⊕	EX. TIDE GAUGE	— — — — —	PR. ELECTRIC LINE
— — — — —	EX. TIDE DRAIN	⊕	PR. ELECTRIC TRANSFORMER
— — — — —	PROPOSED (PR.) CURB	⊖	PR. ELECTRICAL MANHOLE
— — — — —	PR. HANDICAP RAMP	⊕	PR. FIBER OPTIC MANHOLE
— — — — —	PR. BUILDING	— — — — —	PR. GAS LINE
— — — — —	PR. PLANTER	— — — — —	
— — — — —	PR. STREET LIGHT		
— — — — —	PR. BLDG. SUPPORT COLUMN		
— 15 —	PR. GRADE CONTOUR		
— 100 — 100 —	PR. LIMIT OF DISTURBANCE		

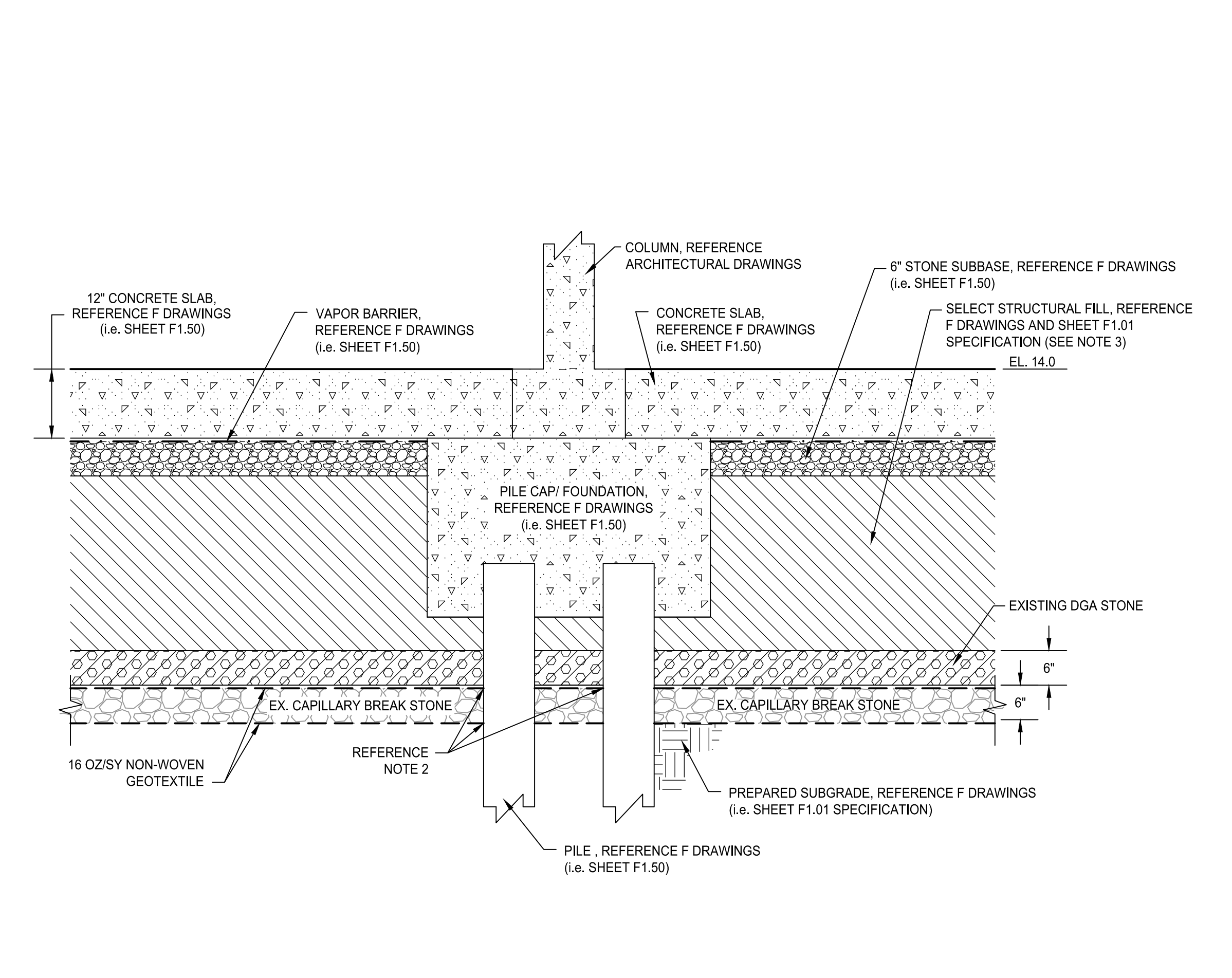
- NOTES:**
- THIS DRAWING IS INTENDED TO IDENTIFY MODIFICATIONS TO THE ENVIRONMENTAL REMEDIATION SYSTEM (ERS) AS SUMMARIZED IN NOTES 2 AND 3 HEREIN. ALL OTHER PROJECT ELEMENTS SHOWN HEREIN (SUCH AS CIVIL, FOUNDATION, STRUCTURAL AND ARCHITECTURAL) ARE PRESENTED FOR REFERENCE PURPOSES ONLY. REFERENCE CIVIL OR FOUNDATION DRAWINGS FOR ALL OTHER PROJECT ELEMENTS INCLUDING BUT NOT LIMITED TO GRADES, UTILITIES, FOUNDATION, RETAINING WALL, ROADWAYS, LANDSCAPING, AND OTHER FEATURES THAT ARE NOT CALLED OUT WITH A DETAIL BUBBLE.
  - THE ENVIRONMENTAL REMEDIATION SYSTEM (ERS) COMPONENTS AFFECTED BY THE WILLS WHARF PROJECT INCLUDE THE FOLLOWING:
    - AREA 1 MULTIMEDIA CAP (MMC), INCLUDING TIDE DRAIN, RESTORATION OF THE CAP AND OTHER MODIFICATIONS SHOWN ON 'F' DRAWINGS.
    - AREA 2 SOL COVER, RESTORATION OF THE COVER SOIL AND OTHER MODIFICATIONS SHOWN ON 'EN' DRAWINGS. SEE DETAILS ON EN 102.
    - NON-DESIGNATED AREAS CAP AND COVER, RESTORATION OF THE CAP AND OTHER MODIFICATIONS TO MMC SHOWN ON 'F' DRAWINGS, RESTORATION OF THE COVER SOIL AND OTHER MODIFICATIONS TO SOL COVER CONSISTENT WITH AREAS 2 AND 3 SHOWN ON 'EN' DRAWINGS. SEE DETAILS ON EN 102 FOR SOIL COVER RESTORATIONS.
    - HEAD MAINTENANCE SYSTEM (HMS), INCLUDING VAULTS 3 AND 4, PIEZOMETER SETS 3 AND 4, JUNCTION BOXES 3 AND 4, AND MANHOLE MJ-2. REFERENCE NOTE 3 THIS SHEET FOR DRAWING REFERENCES.
    - HYDRAULIC BARRIER, MODIFICATIONS SHOWN ON 'F' DRAWINGS.
    - DRAINAGE SAMPLING POINT SSMP-1. ADJUST SSMP-1 ELEVATION TO NEW FINISH ELEVATION. SEE DETAIL ON EN 103.
    - SETTLEMENT MONITORING PLATES MP-11, LSC-MP1, LSC-MP2, AND LSC-MP4. ADJUST MP1, LSC-MP1, AND LSC-MP2 ELEVATIONS TO NEW FINISH ELEVATION. ABANDON EXISTING LSC-MP4 AND INSTALL REPLACEMENT IN THE LOCATION SHOWN ON THIS DRAWING. SEE DETAIL ON EN 103.
  - SPECIFIC MODIFICATIONS AND/OR ADJUSTMENT TO THE HMS COMPONENTS PRESENTED BELOW WILL BE REQUIRED. SEE EN 103 AND EN 104 FOR DETAILS.
    - VAULTS 3 AND 4: STRUCTURAL DESIGN MODIFICATIONS AND MANWAY HEIGHT ADJUSTMENT ARE SHOWN ON FOUNDATION DRAWING F1-54. ADJUSTMENT OF THE ACCESS LADDER TO FINAL SURFACE AFTER HEIGHT ADJUSTMENT IS SHOWN ON EN 104. THE EXISTING LIGHT POLE INCLUDING POLE ATTACHMENTS THAT ARE ON VAULTS 3 AND 4 SHALL BE REMOVED PRIOR TO DESIGN MODIFICATIONS.
    - PIEZOMETER SETS 3 AND 4: PIEZOMETER SET 3 (IP3, OP3, ISP3, OSP3) AND PIEZOMETER SET 4 (IP4, OP4, ISP4, OSP4) WILL REQUIRE ELEVATION ADJUSTMENT. SEE DETAILS ON EN 103.
    - JUNCTION BOX 3 AND 4: REPLACE AND ADJUST JB 3 AND JB4 TO NEW FINISH ELEVATION. SEE DETAILS ON EN 103.
    - JUNCTION MANHOLE MJ-2: ADJUST MJ-2 TO NEW FINISH ELEVATION. SEE DETAIL ON EN 103.
  - TYPICAL RESTORATION OF ALL AREA 2 CAP PENETRATIONS FROM INSTALLATION OF PILE FOUNDATIONS AND UTILITIES ARE SHOWN ON EN 102.
  - DURING THE INSTALLATION OF SHEET PILE THROUGH THE EXISTING HYDRAULIC BARRIER WALL, INBOARD AND OUTBOARD PIEZOMETERS IP3, OP3, ISP3, OSP3, IP4, OP4, ISP4, AND OSP4 SHALL REMAIN OPERATIONAL USING TEMPORARY MEANS (WIRE EXTENSION OR WIRELESS). ANY DOWNTIME FOR MODIFICATIONS PRESENTED HEREIN SHALL BE COORDINATED WITH HONEYWELL. IN THE EVENT THAT A SEVERED COMMUNICATION LINE BETWEEN PIEZOMETERS TAKES MORE THAN ONE DAY (24 HOURS) TO REPAIR, A TEMPORARY WIRELESS I/O (RECEIVER/TRANSMITTER/TRANSDUCER) SHALL BE INSTALLED AS NECESSARY TO MAINTAIN COMMUNICATION FOR DATA LOGGING OR CONTROLS BETWEEN PIEZOMETERS SET. AFTER INSTALLATION OF THE SHEET PILE, THE CONNECTION SHALL BE RESTORED IN ACCORDANCE WITH DETAILS IN EN 103 AND EXISTING SUBPROJECT-3 HMS DRAWINGS AND SPECIFICATIONS FOR THE HMS.
  - THE TIDE GAUGE IS A PVC PIPE ATTACHED TO THE SIDE OF THE EXISTING METAL RETAINING WALL. THE GAUGE CONTAINS A WATER LEVEL SENSOR. THE EXISTING CONDUIT FOR THE SENSOR APPEARS TO GO NORTH THROUGH THE EXISTING PARKING LOT INTO JUNCTION BOX 4 (JB-4) AND FROM JB 4 TO VAULT 4 WHERE THE LEVEL CONTROLLER FOR THE TIDE SENSOR IS LOCATED. THE CABLE IS A SINGLE SHIELDED TWISTED PAIR CABLE TO PROTECT THE INSTRUMENT DURING CONSTRUCTION, AS WELL AS TO AVOID CONFLICT WITH THE PROPOSED BUILDING FOUNDATION AND OTHER UTILITIES, THE EXISTING CABLE SHALL BE DISCONNECTED AT VAULT 4 AND AT THE GAUGE LOCATION. A NEW PERMANENT CONDUIT SHALL BE CONTINUOUSLY RUN FROM VAULT 4 THROUGH MJ-2 TO THE GAUGE ALONG THE ALIGNMENT SHOWN IN THIS DRAWING. AT ANY UTILITY CROSSING THE CONDUIT SHALL BE AT A MINIMUM 12 INCH BELOW THE BOTTOM OF 24-INCH THICK PROTECTIVE STONE BARRIER SHOWN ON DETAIL 7 OF EN 102. AFTER COMPLETION OF REPAIRING THE CONTRACTOR SHALL VERIFY WITH THE TS/HMS OPERATOR THAT THE SENSOR IS RESTORED AND OPERATIONAL.
  - DURING CONSTRUCTION THE CABLE SHALL BE ENCASED IN A 1-INCH DIAMETER STEEL-WIRE FLEXIBLE CONDUIT AS A TEMPORARY PROTECTION MEANS. THE ARMORED PROTECTION CABLE SHALL RUN ALONG THE EXISTING METAL RETAINING WALL SUCH THAT IT IS MINIMALLY EXPOSED TO THE CONSTRUCTION IN THAT AREA. CARE SHALL BE PROVIDED NOT TO SPLICE OR BREAK THE CABLE.
  - ANYTIME A UTILITY PENETRATES AREA 2 CAPILLARY BREAK, THE LOCATION SHALL BE RESTORED USING THE RESTORATION DETAIL AT UTILITY CORRIDOR SHOWN ON EN 102.
  - NO PILES OR PILE CAPS ARE SHOWN ON THIS SHEET. FEATURE SHOWN AT THE CALLOUT LOCATION IS A TYPICAL BUILDING COLUMN LOCATED ABOVE PILE CAPS. DEPENDING ON THE LOCATION OF THE PILE CAP, EITHER PILE CAP PENETRATES THE CAPILLARY BREAK OR THE PILE CAP IS ABOVE CAPILLARY BREAK AND ONLY PILE COLUMN PENETRATES THE CAPILLARY BREAK. RESTORATION DETAILS FOR BOTH SCENARIOS ARE SHOWN ON EN 102.
  - CONTRACTOR SHALL PROTECT THE INTEGRITY OF ALL ELEMENTS OF THE HMS THROUGHOUT CONSTRUCTION. DAMAGE TO ANY HMS COMPONENTS SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER OR DEVELOPER.
  - SUBPROJECT-3 HMS DRAWINGS SET AND SPECIFICATIONS ARE INCORPORATED INTO THIS DESIGN IN THEIR ENTIRETY BY REFERENCE FOR PURPOSES OF MAINTAINING HMS SYSTEM OPERATION DURING CONSTRUCTION, AND FOR POST CONSTRUCTION HMS SYSTEM RESTORATION UNLESS OTHERWISE SPECIFIED ON THE PLANS OR APPROVED BY THE ENGINEER.
  - THE CONTRACTOR SHALL COORDINATE WITH THE HMS OPERATOR TO PROVIDE SCHEDULED ACCESS TO THE HMS SYSTEM, AS NECESSARY, FOR THE OPERATOR TO MAINTAIN REGULARLY. THE CONTRACTOR SHALL HALT CONSTRUCTION ACTIVITIES AS NECESSARY TO PROVIDE OPERATION ACCESS. ALL HMS ELEMENTS ARE OPERATIONAL CONTINUOUSLY (24 HOURS PER DAY) THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL ENSURE THAT ALL HMS ELEMENTS ARE OPERATIONAL CONTINUOUSLY THROUGHOUT CONSTRUCTION.
  - CONTRACTOR SHALL PRESSURE TEST WATER, AIR AND CONVEYANCE LINES UPON COMPLETION OF SHEET PILES TO ENSURE INTEGRITY OF EXISTING HMS PIPING.





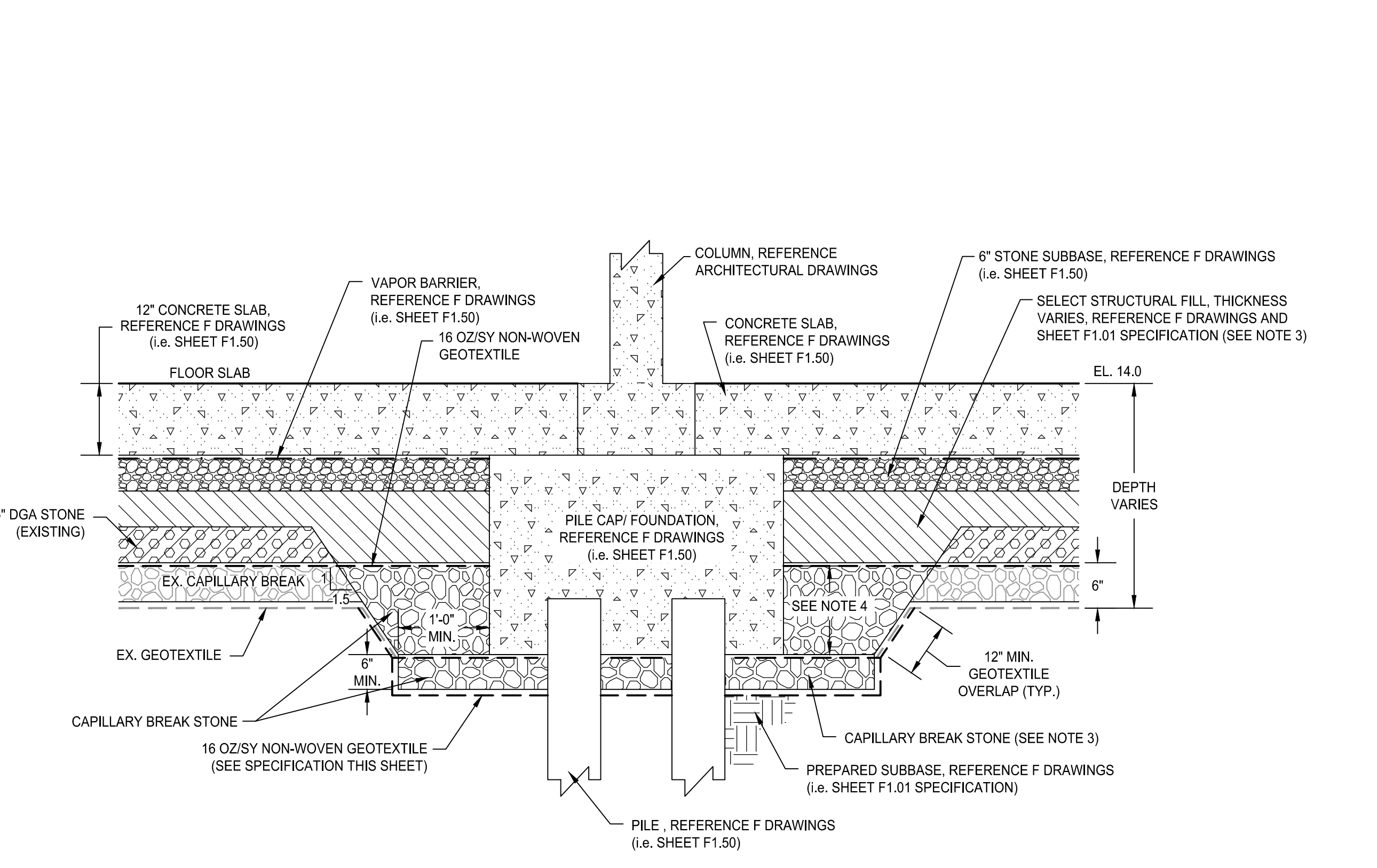
3 CAP RESTORATION AT FOOTING DETAIL  
NOT TO SCALE

- NOTES:
- CUT AND REMOVE THE GEOTEXTILE ABOVE EXISTING CAPILLARY BREAK AT PILE PENETRATION A MINIMUM 2\"/>



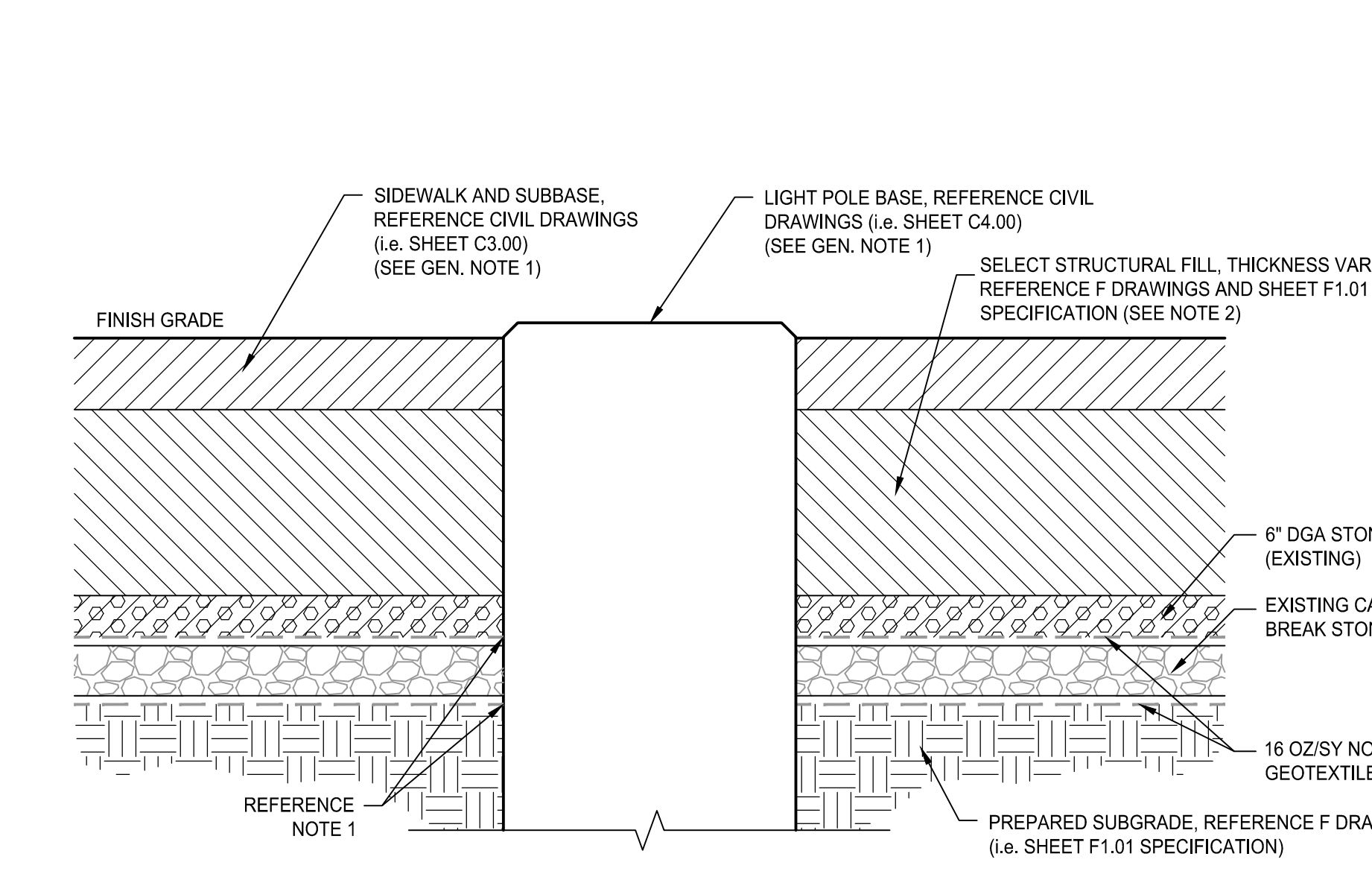
2 CAP RESTORATION AT PILES DETAIL  
NOT TO SCALE

- NOTES:
- THIS DETAIL APPLIES TO SOLELY PILE OR PILE CAPS THAT ARE ENTIRELY ABOVE THE EXISTING CAPILLARY BREAK LAYER.
  - CUT AND REMOVE THE GEOTEXTILE ABOVE EXISTING CAPILLARY BREAK AT PILE PENETRATION A MINIMUM 2\"/>



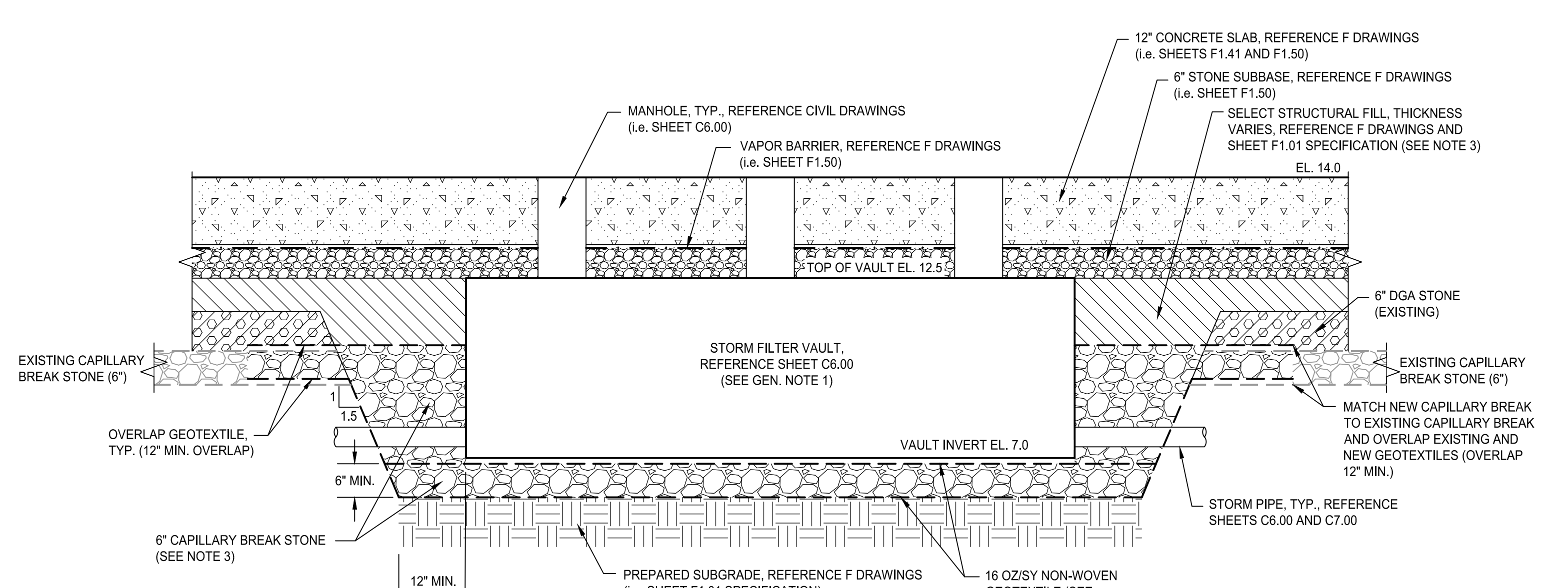
1 TYPICAL CAP RESTORATION AT PILE CAPS DETAIL  
NOT TO SCALE

- NOTES:
- THIS DETAIL APPLIES TO ALL PILE CAPS THAT INTERSECT THE EXISTING CAPILLARY BREAK LAYER.
  - CUT AND REMOVE THE GEOTEXTILE ABOVE EXISTING CAPILLARY BREAK AT PILE PENETRATION A MINIMUM 2\"/>



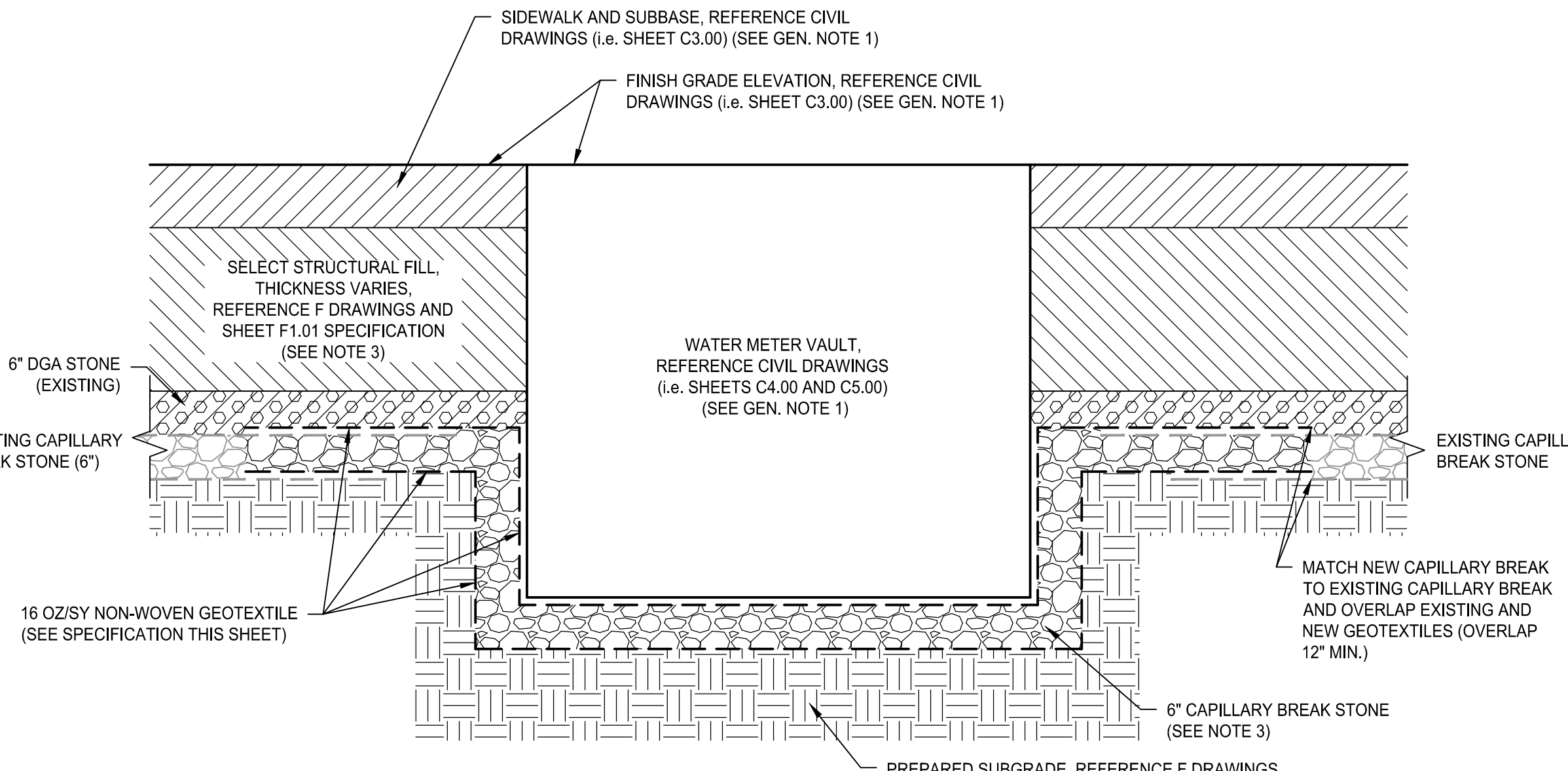
6 CAP RESTORATION AT LIGHT POLE BASE  
NOT TO SCALE

- NOTES:
- CUT AND REMOVE GEOTEXTILE AT POLE BASE PENETRATION A MINIMUM 12 INCHES ALL AROUND.
  - THE THICKNESS OF STRUCTURAL FILL VARIES BASED ON THE ELEVATION OF TOP OF EXISTING DGA OF AREA 2 CAP. SEE FOUNDATION DRAWING (F1.01) FILL MATERIAL AND PLACEMENT SPECIFICATIONS FOR SELECT STRUCTURAL FILL.



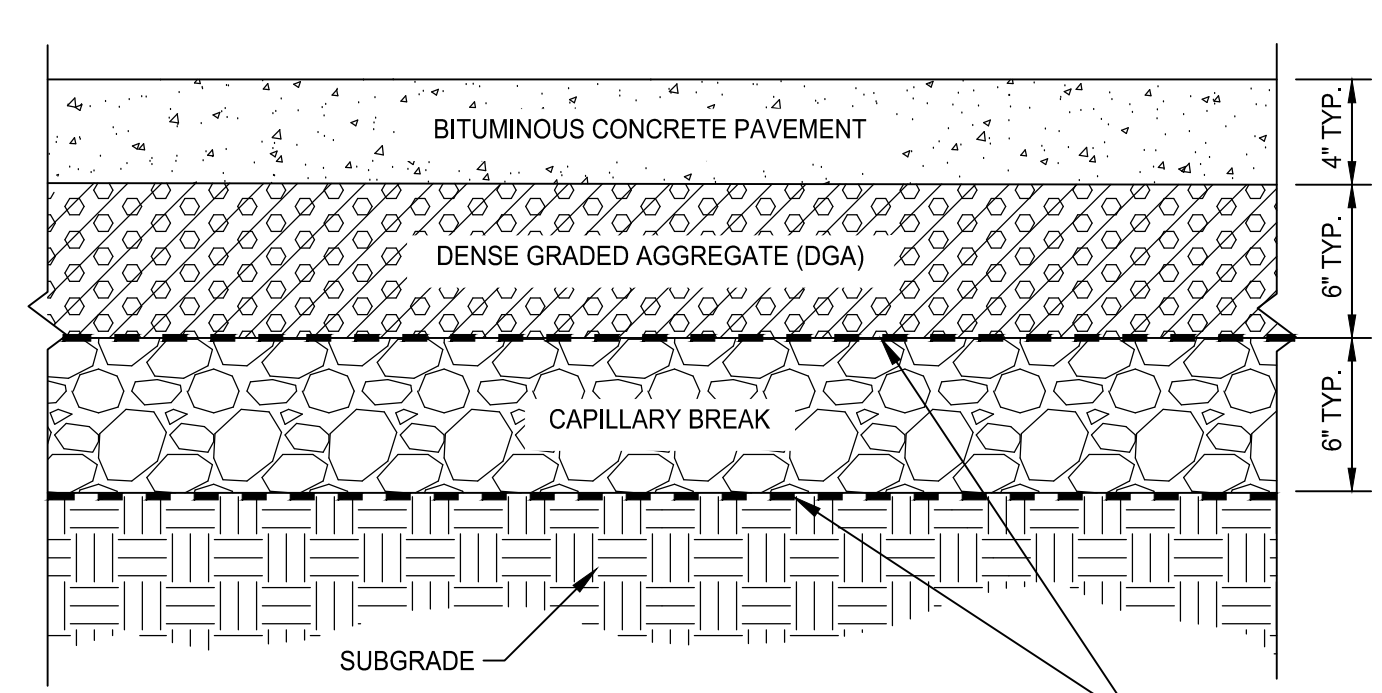
5 CAP RESTORATION AT STORM FILTER VAULT  
NOT TO SCALE

- NOTES:
- REFER TO CIVIL DRAWING C6.00 FOR DESIGN OF ALL FEATURES ASSOCIATED WITH STORM FILTER VAULT INCLUDING ACCESSWAY, FRAME AND COVER, SIDEWALK AND SUBBASE.
  - REMOVE AND STOCKPILE EXISTING CAPILLARY BREAK STONE IN AREA OF STORM FILTER VAULT. REFERENCE CIVIL DRAWINGS FOR PREPARATION AND INSTALLATION OF THE FILTER VAULT. EXISTING CAPILLARY BREAK STONE THAT WAS REMOVED SHALL BE RE-USED IN THE LOWEST LIFT UNDER THE VAULT.
  - THE THICKNESS OF STRUCTURAL FILL VARIES BASED ON THE ELEVATION OF TOP OF CAPILLARY BREAK OF AREA 2 CAP. SEE FOUNDATION DRAWING (F1.01) FILL MATERIAL AND PLACEMENT SPECIFICATIONS FOR CAPILLARY BREAK STONE AND A SELECT STRUCTURAL FILL.



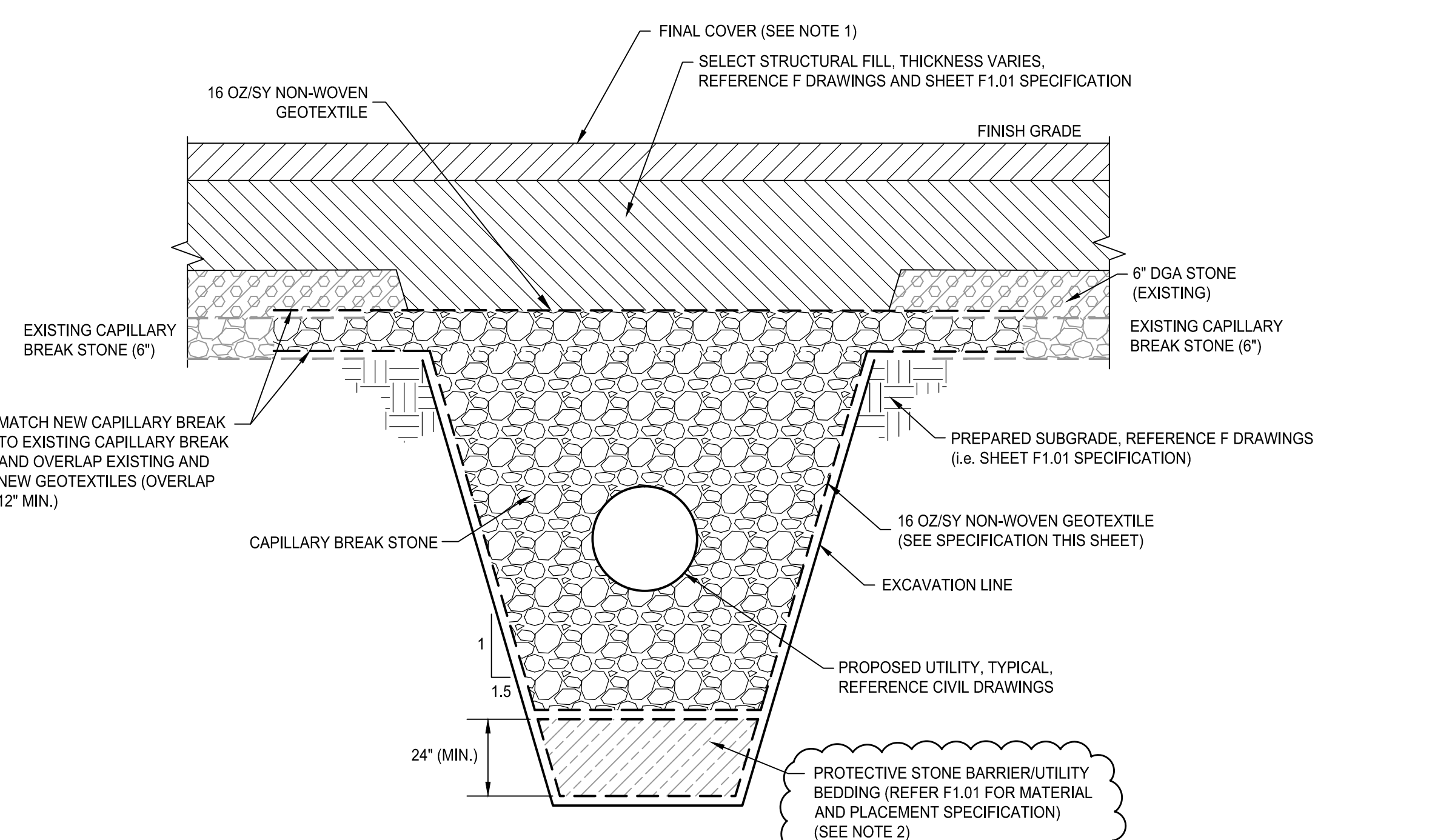
4 CAP RESTORATION AT WATER METER VAULT DETAIL  
NOT TO SCALE

- NOTES:
- REFER TO CIVIL DRAWINGS FOR DESIGN OF ALL FEATURES ASSOCIATED WITH WATER METER VAULT INCLUDING ACCESSWAY, FRAME AND COVER, SIDEWALK AND SUBBASE.
  - REMOVE AND STOCKPILE EXISTING CAPILLARY BREAK STONE IN AREA OF WATER METER VAULT. REFERENCE CIVIL DRAWINGS FOR PREPARATION AND INSTALLATION OF THE WATER METER VAULT. EXISTING CAPILLARY BREAK STONE THAT WAS REMOVED SHALL BE RE-USED IN THE LOWEST LIFT UNDER THE VAULT.
  - THE THICKNESS OF STRUCTURAL FILL VARIES BASED ON THE ELEVATION OF TOP OF CAPILLARY BREAK OF AREA 2 CAP. SEE FOUNDATION DRAWING (F1.01) FILL MATERIAL AND PLACEMENT SPECIFICATIONS FOR CAPILLARY BREAK AND A SELECT STRUCTURAL FILL.



8 AREA 2 LAYERED SOIL CAP (EXISTING)  
NOT TO SCALE

- NOTES:
- THE AREA 2 CAP DETAIL IS BASED ON SUBPROJECT NO. 5 - SOIL CAP FOR AREA 2 AS-BUILT DRAWING.

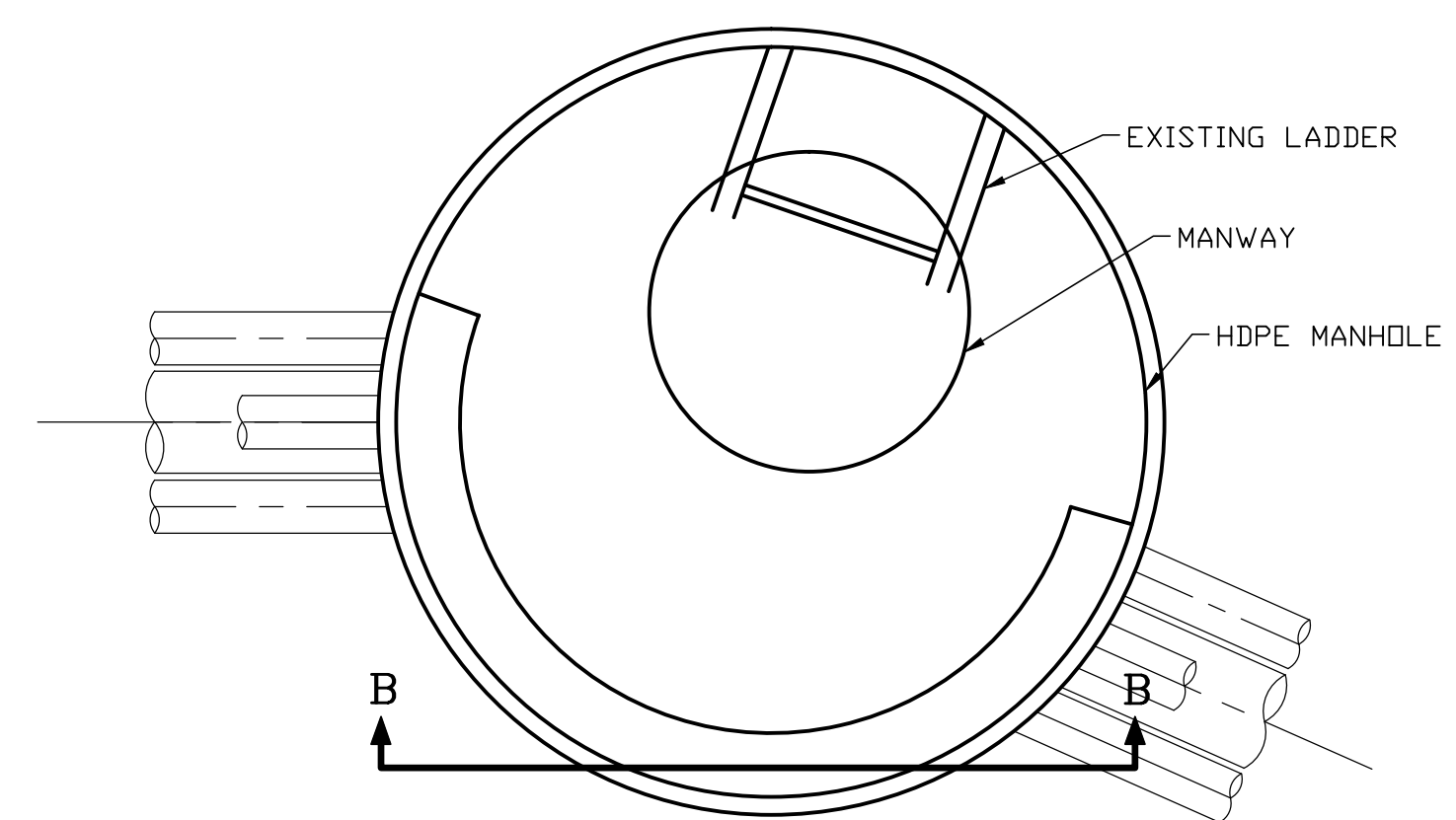


7 CAP RESTORATION AT UTILITY CORRIDOR  
NOT TO SCALE

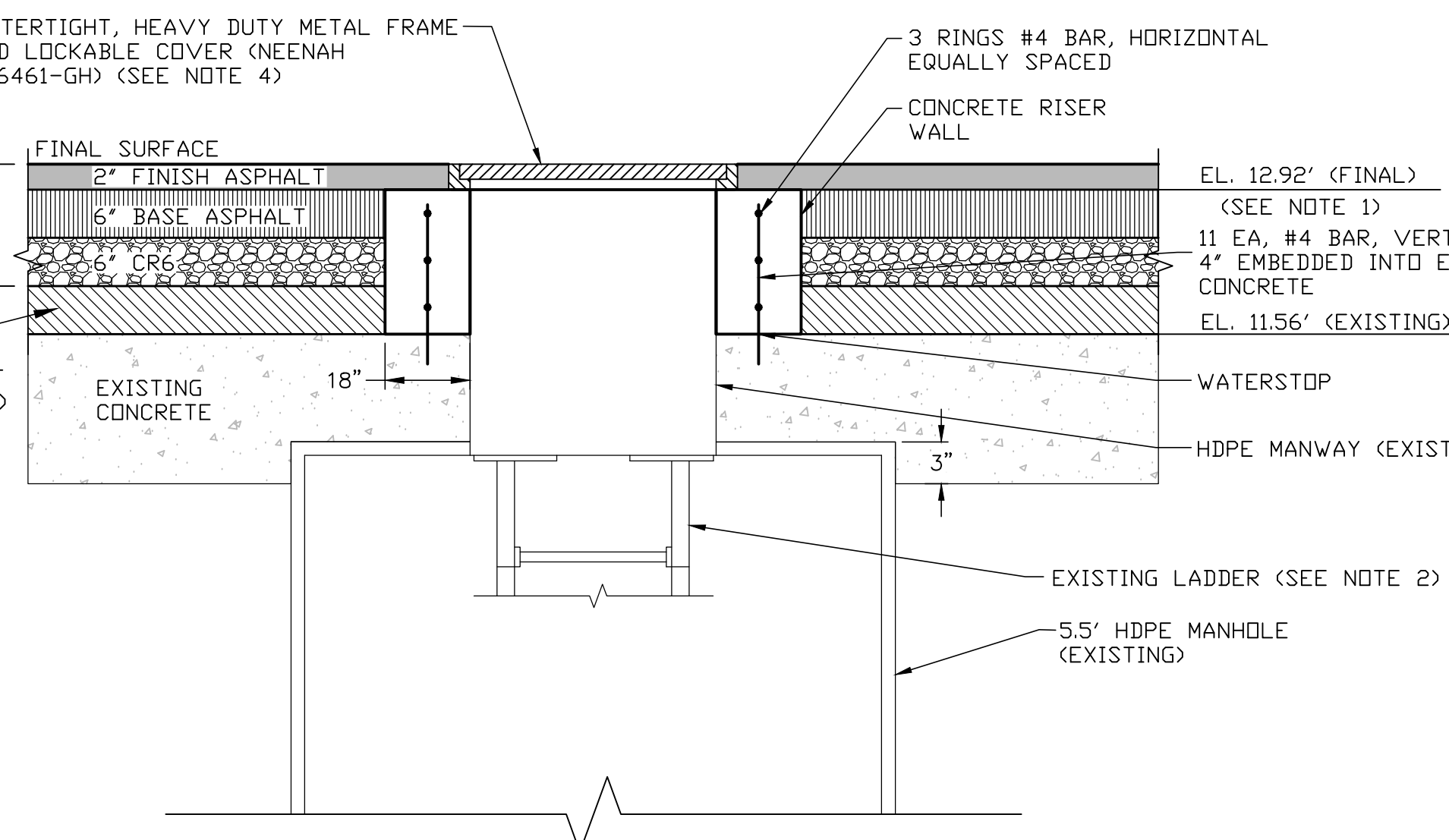
- NOTES:
- THE FINAL COVER VARIES BASED ON THE LOCATION OF UTILITY PENETRATION. SEE CIVIL DRAWINGS (C3.00, C4.00, AND C4.00) FOR FINAL COVER DESIGN ABOVE VARIOUS UTILITY LINES.
  - THE 2 FOOT THICK PROTECTIVE STONE IS REQUIRED ONLY FOR UTILITIES THAT ARE LOCATED WITHIN THE PUBLIC RIGHT-OF-WAY AS AN ADDITIONAL MEANS OF PROTECTION AGAINST OVER-EXCAVATION DURING REPAIR WORK AND PREVENTING CONTACT WITH THE UNDERLYING IMPACTED MATERIALS.

GENERAL NOTES:

- VARIOUS CIVIL AND STRUCTURAL AND FOUNDATION ELEMENTS ARE SHOWN ON THIS DRAWING FOR REFERENCE PURPOSES ONLY TO PRESENT THE INTEGRATION OF THE CAP WITH THE REFERENCE FEATURE. THIS DRAWING DOES NOT PRESENT THE DETAIL DESIGN OF ANY CIVIL, STRUCTURAL, OR FOUNDATION COMPONENTS. RATHER IT PRESENTS THE MODIFICATION TO THE CAPILLARY BREAK AND UNDERLYING OVERLAYING GEOTEXTILES ONLY. THE CONTRACTOR SHALL REFERENCE OTHER DRAWINGS AND SPECIFICATION FOR ALL ELEMENTS ABOVE AND BELOW THE CAPILLARY BREAK STONE AND GEOTEXTILE.
- 16 OZ/SY NON-WOVEN GEOTEXTILE SPECIFICATION:
- HEAVY-DUTY GEOTEXTILE SHALL BE NON-WOVEN POLYPROPYLENE GEOTEXTILE, MBRAFI 1160N MANUFACTURED BY TENCATE OR APPROVED EQUIVALENT
- CARE SHOULD BE TAKEN TO AVOID DAMAGE TO GEOTEXTILES DURING UNLOADING AND ON-SITE TRANSPORT
- STORE GEOTEXTILES ON DUNNAGE OR PALLETS. GEOTEXTILES SHOULD NOT BE STORED DIRECTLY ON THE GROUND
- COVER GEOTEXTILES WHILE IN STORAGE TO PROTECT FROM WEATHER, ULTRAVIOLET RAYS AND OTHER SOURCES OF DAMAGE.
- GEOTEXTILE SHOULD BE INSPECTED FOR DAMAGE OR OTHER DEFECTS DURING PLACEMENT. ANY DAMAGE PORTIONS OF THE GEOTEXTILE SHOULD BE REPAIRED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.
- THE SUBGRADE SHALL BE INSPECTED BY THE CONTRACTOR PRIOR TO PLACEMENT OF GEOTEXTILES TO ENSURE PROPER SUBGRADE PER MANUFACTURER'S RECOMMENDATION. GEOTEXTILE SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S REQUIREMENTS
- GEOTEXTILE SHALL BE PLACED TO PROVIDE A MINIMUM OF 2 FEET OF OVERLAP FOR EACH JOINT.



PLAN

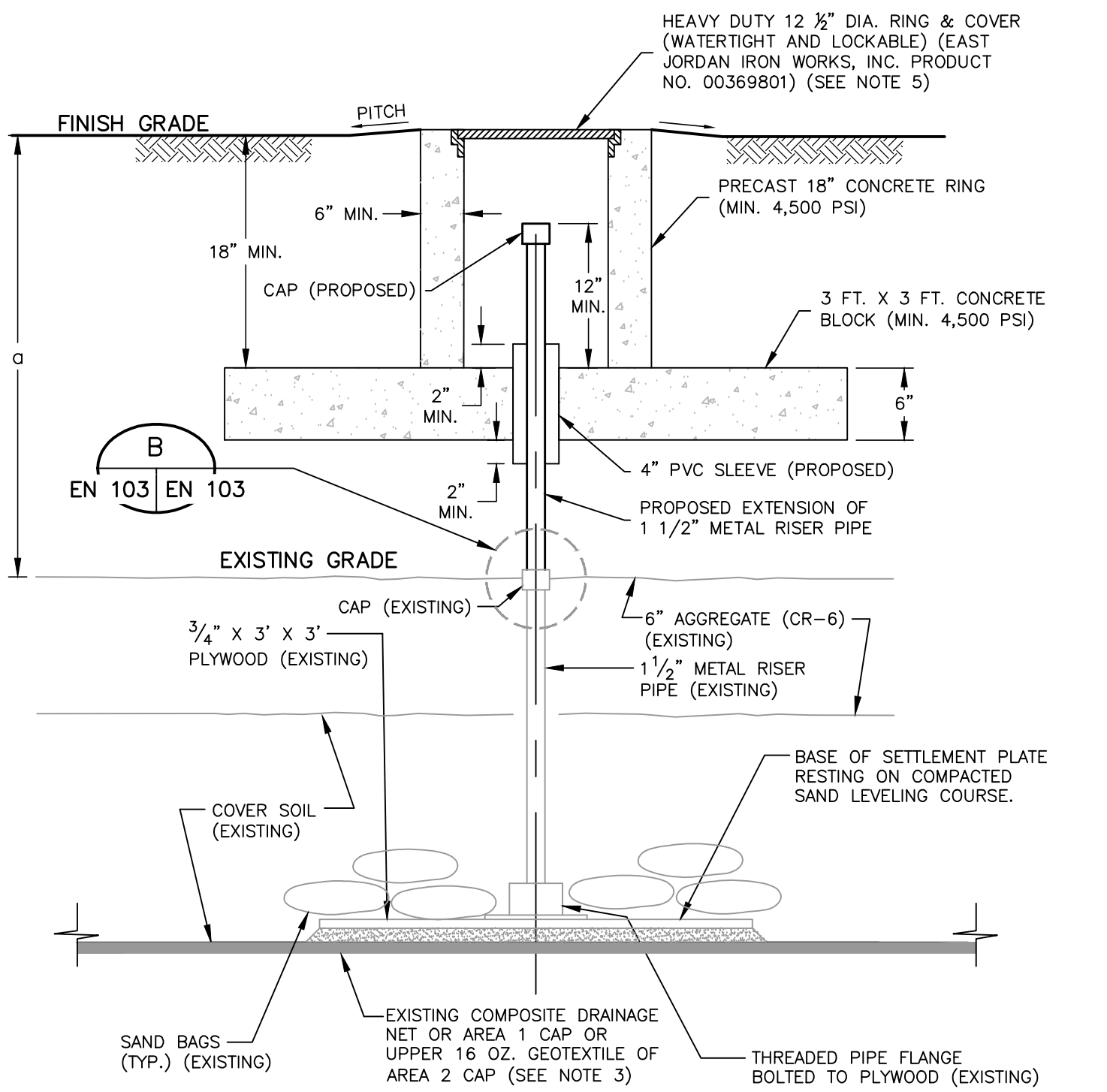


SECTION B-B

NOTES:  
1. MJ-2 HEIGHT ADJUSTMENT INCLUDES EXTENSION OF MANWAY AND LADDER IN ACCORDANCE TO THE DETAIL SHOWN HEREIN. THE FINAL GRADE NOTED IS THE FINISH ELEVATION OF THE MJ-2 COVER. THE COVER ELEVATION SHALL BE ADJUSTED AND SLOPED, IF REQUIRED, SUCH THAT THE COVER IS FLUSH WITH THE FINISH ROAD. REFER TO ROAD GRADING PLAN FOR THE FINAL ROAD ELEVATIONS.  
2. EXISTING LADDER SHALL BE EXTENDED SUCH THAT THERE IS NO MORE THAN 18 INCHES OF VERTICAL SEPARATION BETWEEN FINAL GRADE (MJ-2 COVER) AND TOP RUNG/STEP OF THE LADDER.  
3. 4-INCH VERTICAL EMBEDMENT OR REINFORCEMENT IN THE EXISTING CONCRETE SHALL BE EPOXY COATED.  
4. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

MJ-2 HEIGHT ADJUSTMENT

NOT TO SCALE

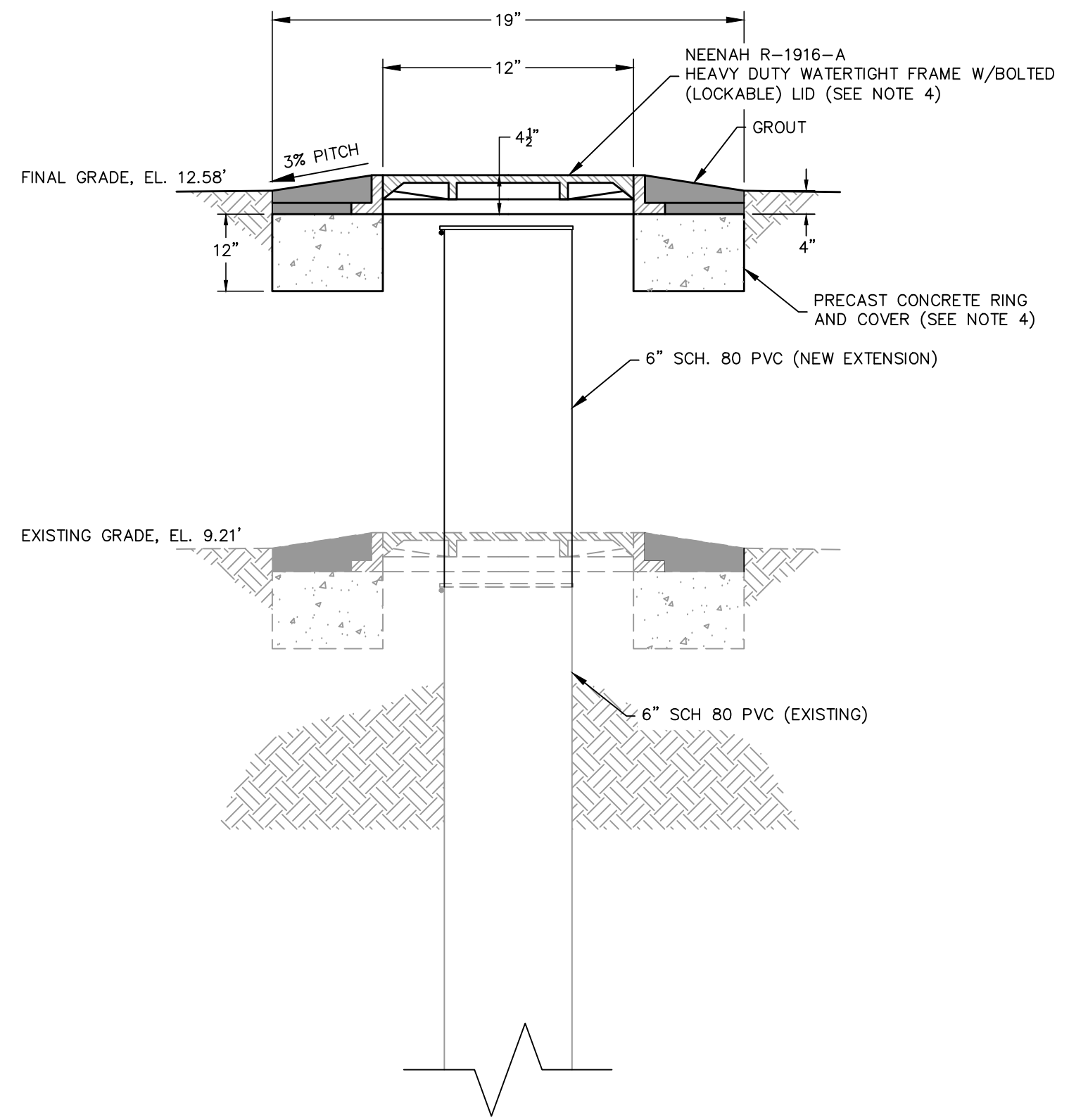


SETTLEMENT MONITORING PLATE EXTENSION DETAIL

NOTES:  
1. DURING CONSTRUCTION, THE CONTRACTOR SHALL PROTECT THE SETTLEMENT MONITORING PLATES BY MEANS OF VISUAL AND PHYSICAL BARRIERS.  
2. THE ABOVE DETAIL SHOWS VERTICAL EXTENSION OF EXISTING SETTLEMENT MONITORING POINTS MP-11, LSC-MP1, AND LSC-MP2. REPLACEMENT MONITORING POINT LSC-MP4 SHALL BE CONSTRUCTED USING THE FEATURES SHOWN ON THIS DETAIL.  
3. FOR MONITORING POINT MP-1 LOCATED IN AREA 1, THE BASE OF SETTLEMENT PLATE IS SET ON TOP OF GEOCOMPOSITE DRAINAGE MAT OR MAC. FOR MONITORING POINTS (LSC-MP1, LSC-MP2, AND LSC-MP4) LOCATED IN AREA 2, THE BASE OF SETTLEMENT PLATE IS ASSUMED TO BE SET ON UPPER GEOTEXTILE ON TOP OF CAPLAVARY BEAM. FOR REPLACEMENT LSC-MP4, THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING CONDITION, AND SET THE BASE OF THE REPLACEMENT PLATE LSC-MP4 IN ACCORDANCE WITH THE EXISTING CONDITION.  
4. THE PROPOSED FINISH ELEVATION PROVIDED IN THE TABLE BELOW IS THE ELEVATION OF THE FINISH SURFACE OF THE SETTLEMENT PLATE. THE SETTLEMENT PLATE FINISH ELEVATION SHALL BE ADJUSTED SUCH THAT IT IS FLUSH WITH THE FINAL ROAD OR FINAL SURROUNDING SURFACE. REFER TO CIVIL DRAWING FOR THE FINAL SURFACE ELEVATIONS.  
5. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

SETTLEMENT PLATE EXTENSION SCHEDULE

MP#	EXISTING FINISH ELEVATION (FT.)	FINAL FINISH ELEVATION (FT.)	EXTENSION "a" FT.
MP-11	10.0	12.5	2.5
LSC-MP1	6.71	11.5	4.79
LSC-MP2	6.43	10.5	4.07
LSC-MP4	10.75	27.75	(RELOCATE - SEE EN1.01)

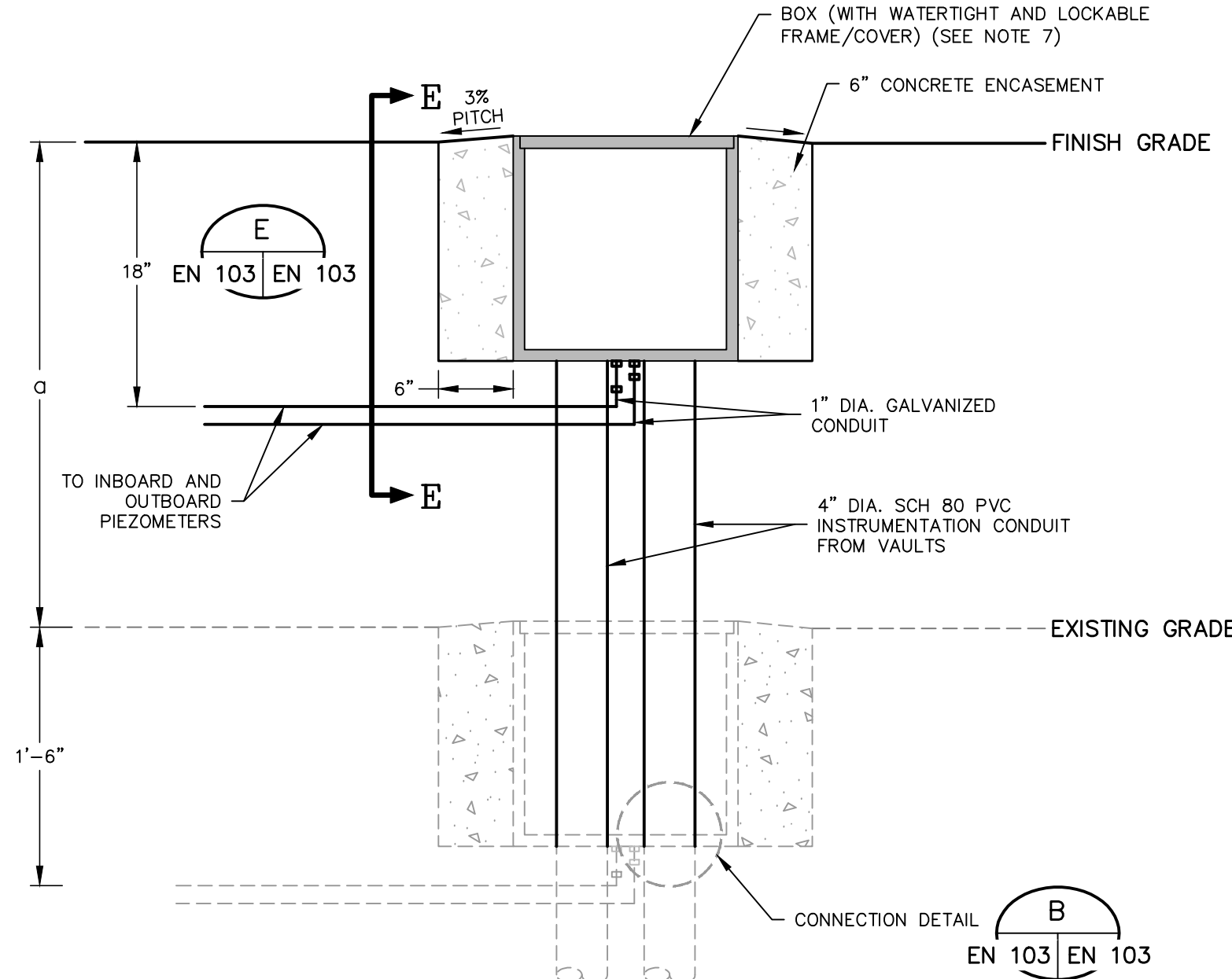


SSMP-1 EXTENSION DETAIL

NOTES:  
1. THE FINISH ELEVATION SHALL BE ADJUSTED SUCH THAT THE FINISH GRADE IS PITCHED WITH THE FINAL ROAD OR FINAL SURROUNDING SURFACE. REFER TO CIVIL DRAWING FOR THE FINAL SURFACE ELEVATION.  
2. NEW PRECAST CONCRETE RING SHALL BE INSTALLED.  
3. REMOVE AND STORE EXISTING MANHOLE COVER (NEENAH) FOR REUSE.  
4. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

SURFACE FINISHING OF PIEZOMETERS

NOTES:  
1. THE FINISH ELEVATION SHALL BE ADJUSTED SUCH THAT THE FINISH GRADE IS PITCHED WITH THE FINAL ROAD OR FINAL SURROUNDING SURFACE. REFER TO CIVIL DRAWING FOR THE FINAL SURFACE ELEVATION.  
2. NEW PRECAST CONCRETE RING SHALL BE INSTALLED.  
3. REMOVE AND STORE EXISTING MANHOLE COVER (NEENAH) FOR REUSE.  
4. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

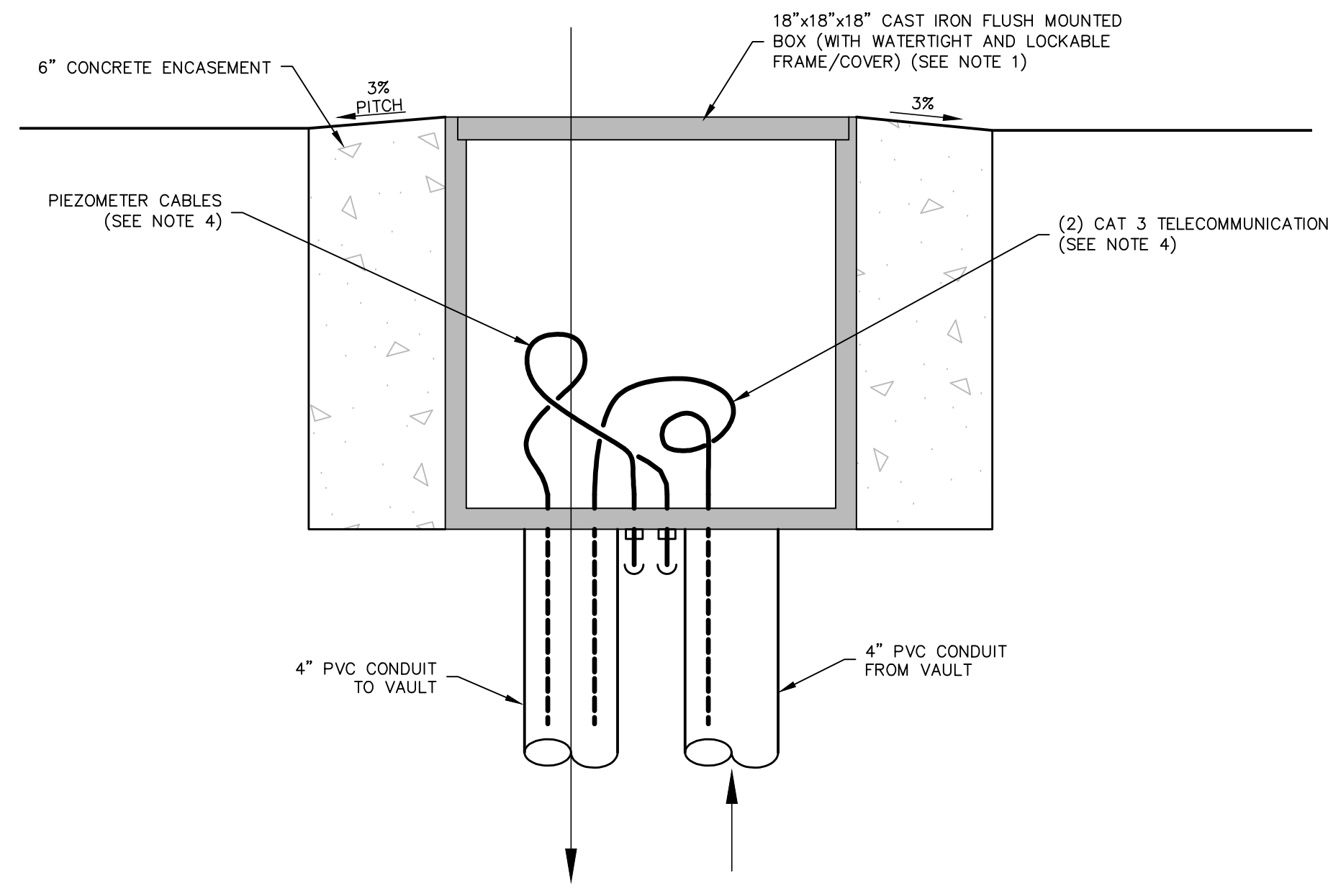


JUNCTION BOX EXTENSION DETAIL

NOTES:  
1. THE EXISTING GRADE ELEVATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED.  
2. EXISTING JUNCTION BOXES SHALL BE REPLACED WITH THE NEW JUNCTION BOXES. THE 1\"/>

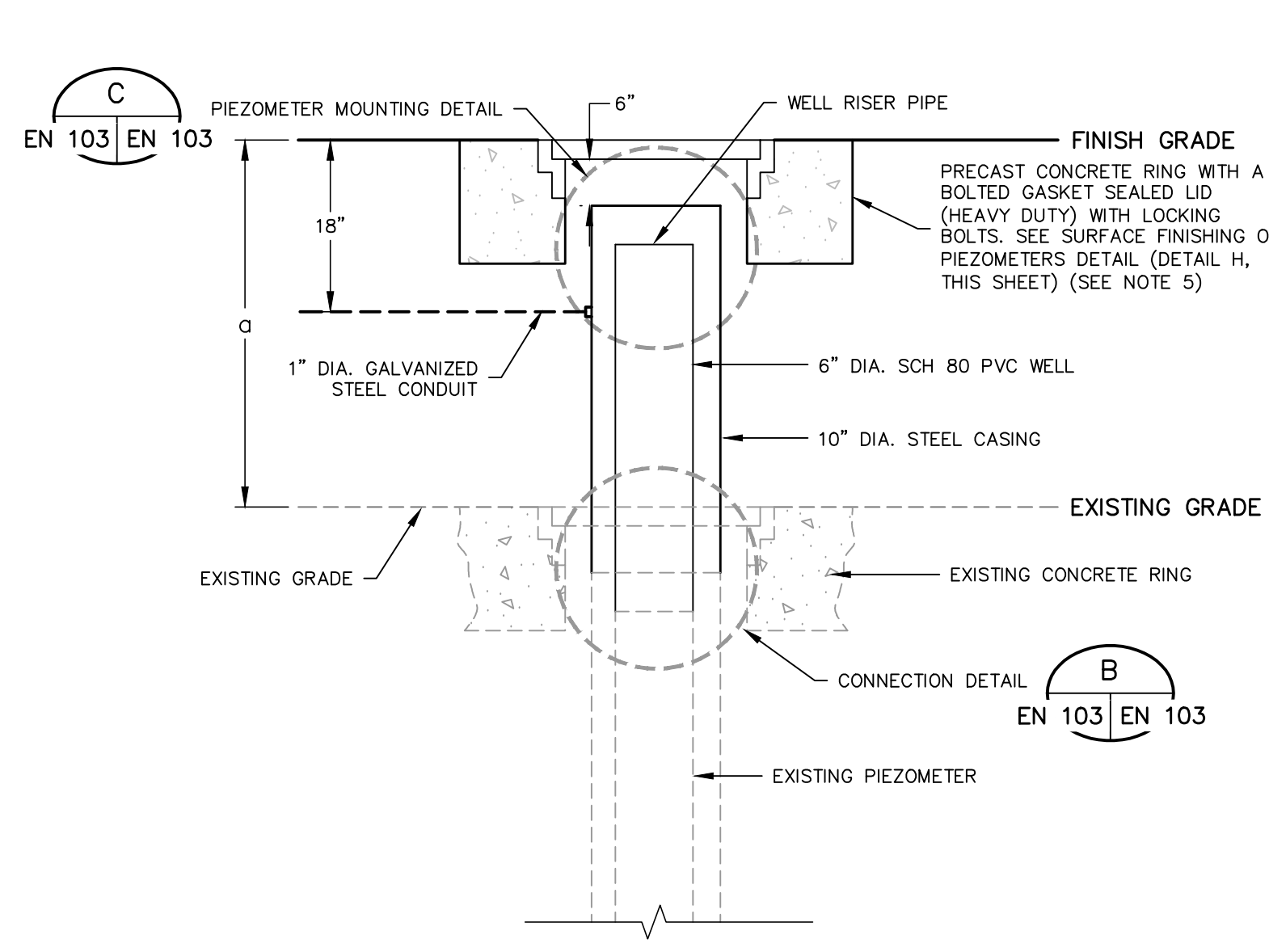
JUNCTION BOX EXTENSION SCHEDULE

JB #	EXISTING FINISH ELEVATION (FT.)	FINAL FINISH ELEVATION (FT.)	EXTENSION "a" FT.
JB-3	15.17	20.32	5.15
JB-4	12.35	14.36	2.01



SECTION E-E

NOTES:  
1. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

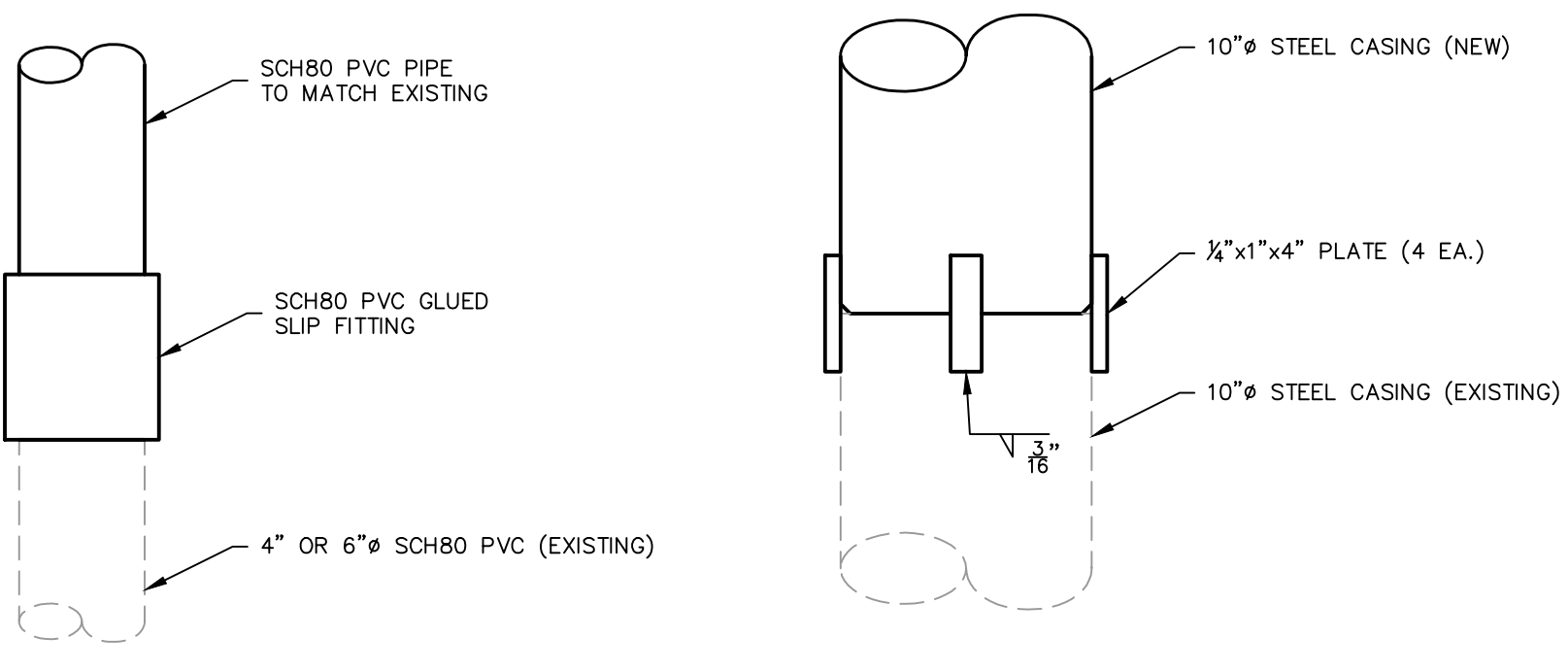


PIEZOMETER EXTENSION DETAIL

NOTES:  
1. THE EXISTING GRADE ELEVATIONS AND DIMENSIONS SHALL BE FIELD VERIFIED.  
2. PIEZOMETERS SHALL BE ADJUSTED TO THE HEIGHT INDICATED IN THE SCHEDULE BELOW. THE FINISH GRADE SHALL CONFORM WITH FINAL GRADING PLAN AND SHALL BE ADJUSTED TO FIELD CONDITIONS, SUCH THAT THE FINAL ELEVATION COMPLETES WITH DETAILS A, B, C, AND H.  
3. ANY ADJUSTMENT SHALL BE COORDINATED WITH GRADING AND ROAD CONSTRUCTION WORK.  
4. THE PROPOSED FINISH ELEVATION PROVIDED IN THE TABLE BELOW IS THE ELEVATION OF THE FINISH SURFACE OF THE PIEZOMETER BASED ON THE FINAL CIVIL GRADES. THE PIEZOMETER FINISH ELEVATION SHALL BE ADJUSTED, AS NEEDED, SUCH THAT IT IS PITCHED WITH THE FINAL ROAD OR FINAL SURROUNDING SURFACE IN ACCORDANCE WITH DETAIL W. REFER TO CIVIL DRAWING FOR THE FINAL SURFACE ELEVATIONS.  
5. COVER SHALL MEET OR EXCEED AASHTO M 306 PROOF LOAD REQUIREMENTS.

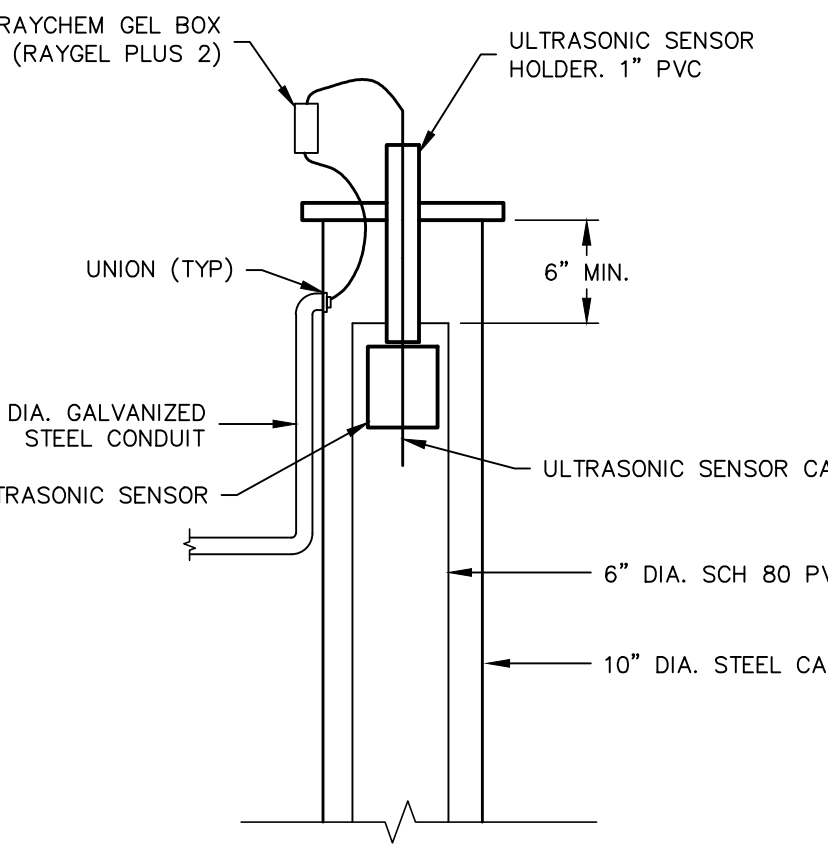
PIEZOMETER EXTENSION SCHEDULE

LOCATION	EXISTING FINISH ELEVATION (FT.)	PROPOSED FINISH ELEVATION (FT.)	FINISH ELEVATION ADJUSTMENT (FT.) "a"
IP3	15.31	20.44	5.13
ISP3	15.25	20.21	4.96
OP3	15.36	20.77	5.45
OSP3	15.26	20.45	5.29
IP4	12.28	14.14	1.86
ISP4	12.41	14.34	1.93
OP4	12.22	14.31	2.09
OSP4	12.30	14.56	2.26



CONNECTION DETAIL

NOTES:  
1. ALL PVC FITTINGS SHALL BE IN ACCORDANCE WITH ASTM D-2564 AND D-2855



PIEZOMETER MOUNTING DETAIL

NOT TO SCALE

SINCE HONEYWELL'S REVIEW AND COMMENTS PROVIDED ON MARCH 24, 2016, ERW MADE MINOR EDITS TO EACH DETAIL TO PROVIDE FURTHER CLARIFICATION. NO SIGNIFICANT OR CONCEPTUAL CHANGES WERE MADE IN THE DETAILS.

