

SLOPE STABILIZATION AND BUILDING MODIFICATION
 2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
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Sheet Title	
COVER SHEET	
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Sheet No.
G-001
1 of 41

SLOPE STABILIZATION AND BUILDING RENOVATION

2900 SOUTH EADS STREET ARLINGTON, VA

CONTRACT NO.: 638-15-11

PERMIT SUBMITTAL

DRAWING INDEX

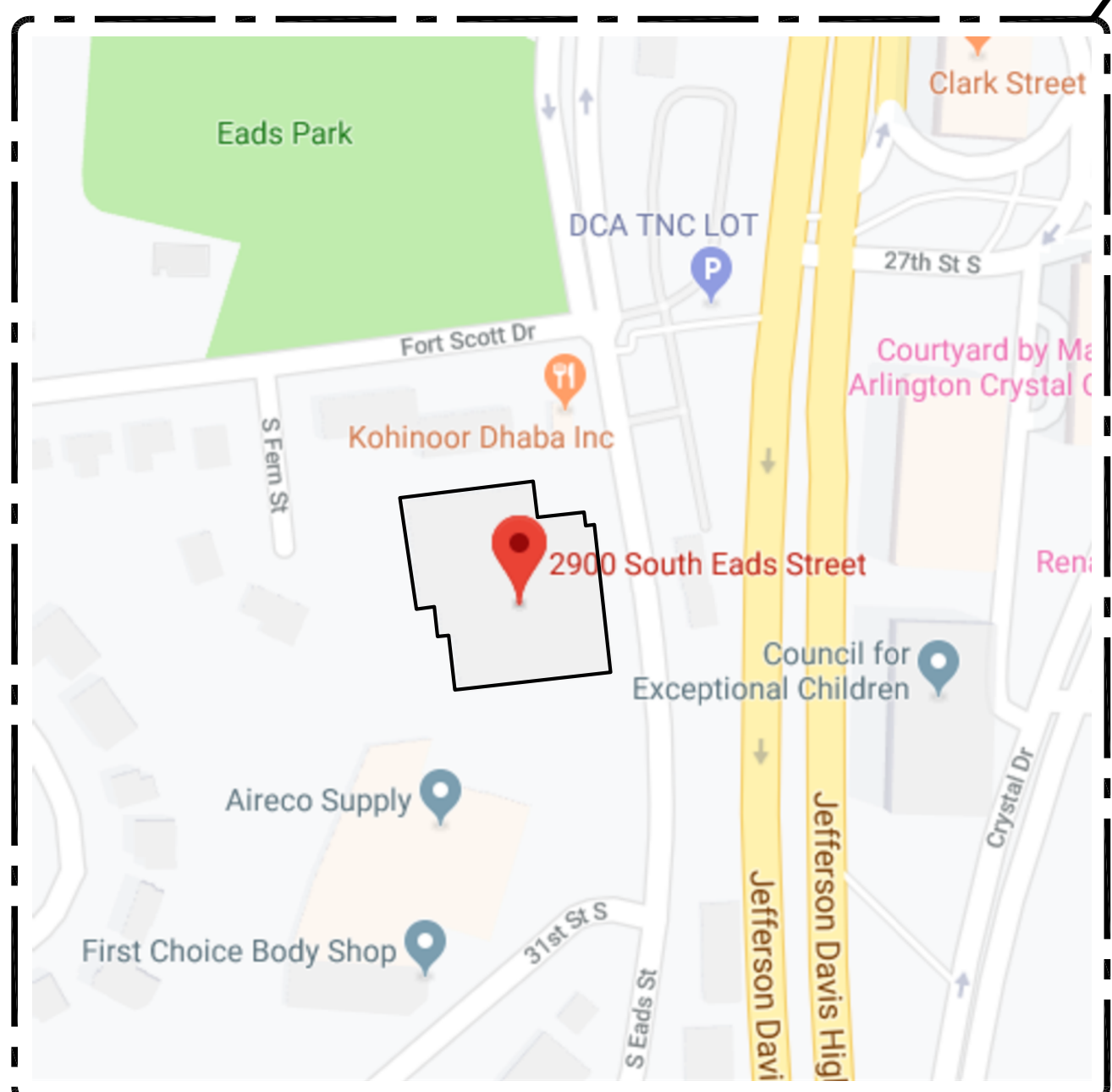
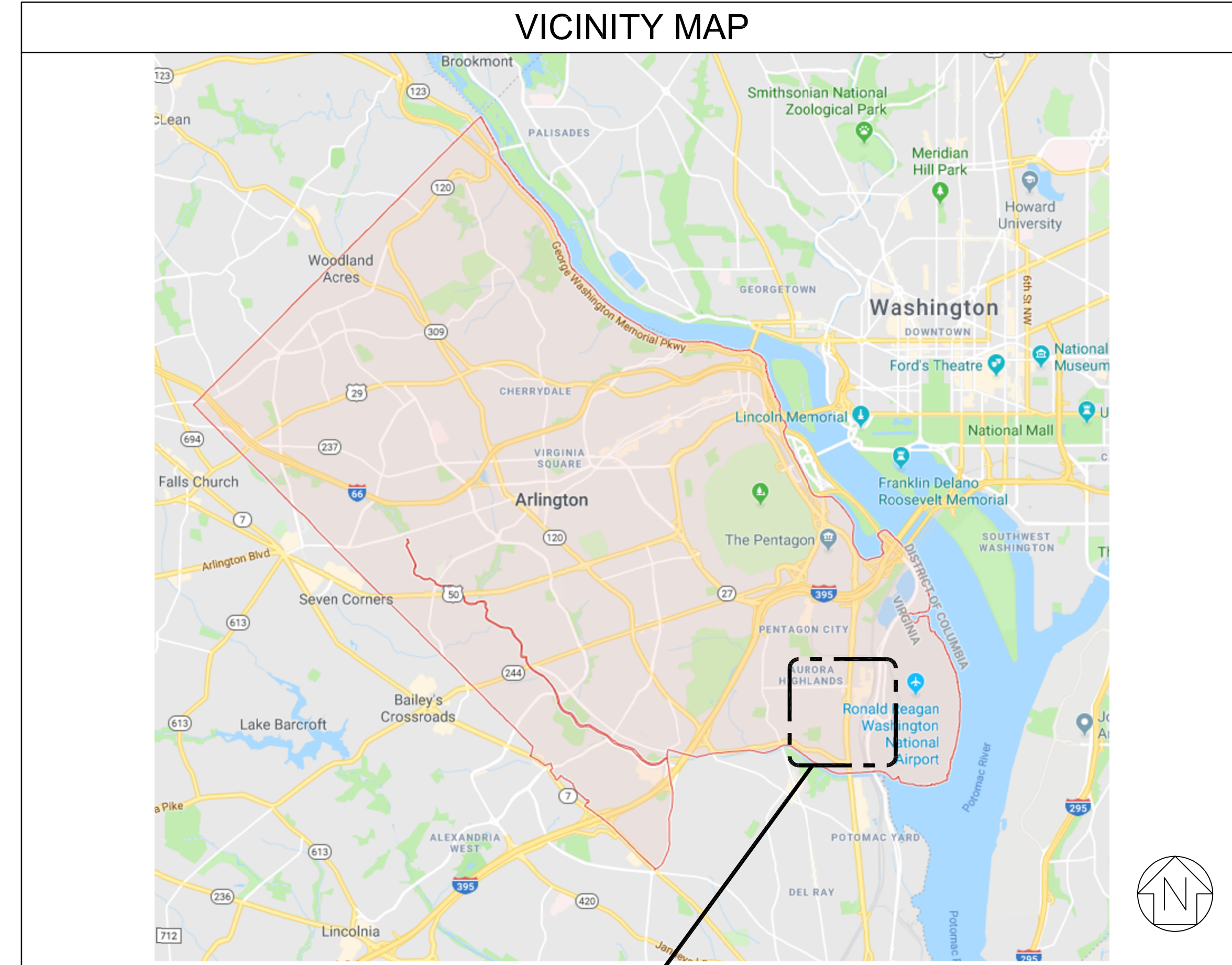
SHEET NO.	CODE NO.	SHEET TITLE	SHEET NO.	CODE NO.	SHEET TITLE
GENERAL SHEETS			STRUCTURAL SHEETS		
1	G-001	COVER SHEET	16	S-001	STRUCTURAL NOTES
GEOTECHNICAL SHEETS			17	S-002	STRUCTURAL NOTES
2	B-001	NOTES	18	S-003	SPECIAL INSPECTION NOTES
3	B-101	WALL PLAN VIEW	19	S-004	SPECIAL INSPECTION NOTES
4	B-301	WALL SECTIONS	20	SD101	FOUNDATION AND SLAB DEMOLITION PLAN
5	B-302	SOLDIER PILE WALL DETAILS	21	SD102	ROOF FRAMING DEMOLITION PLAN
6	B-303	SOLDIER PILE WALL DETAILS	22	SD301	BUILDING DEMOLITION SECTIONS
7	B-304	SOIL NAIL SLOPE DETAILS	23	S-101	FOUNDATION PLAN
8	B-601	WALL ELEVATION AND SCHEDULE	24	S-102	ROOF FRAMING PLAN
CIVIL SHEETS			25	S-301	BUILDING SECTIONS
9	C-100	EXISTING CONDITIONS PLAN	26	S-501	STRUCTURAL DETAILS
10	C-101	DEMOLITION PLAN	MECHANICAL SHEETS		
11	C-110	SITEPLAN	27	M-001	SYMBOLS AND ABBREVIATIONS
12	C-140	EROSION AND SEDIMENT CONTROL PHASE 1	28	MD101	GROUND FLOOR PLAN - DEMOLITION
13	C-141	EROSION AND SEDIMENT CONTROL PHASE 2	29	MD102	ROOF PLAN - DEMOLITION
14	C-142	SWM AND BMP COMPUTATIONS	30	M-101	GROUND FLOOR PLAN
14A	C-143	EROSION CONTROL & POLLUTION PREVENTION	ELECTRICAL SHEETS		
14B	C-300	PRE-POST DEVELOPMENT SWM-BMP DRAINAGE	31	E-001	SYMBOLS AND ABBREVIATIONS
15	C-301	SWM AND BMP COMPUTATIONS	32	ED101	GROUND FLOOR PLAN - DEMOLITION
15A	C-302	SWM AND BMP COMPUTATIONS	33	ED102	ROOF PLAN - DEMOLITION
15B	C-303	SWM AND BMP DETAILS			
15C	L-100	TREE PRESERVATION PLAN			
15D	L-101	TREE PRESERVATION PLAN			
15E	L-200	LANDSCAPE PLAN			
15F	L-201	LANDSCAPE PLAN NOTES & DETAILS			

A QUALITY CONTROL/QUALITY ASSURANCE CHECK HAS BEEN MADE ON THIS PROJECT'S DOCUMENTS AND CORRECTIONS HAVE BEEN MADE. THE UNDERSIGNED STATES THAT THESE PLANS AND SPECIFICATIONS SUBMITTED FOR REVIEW ARE COMPLETE.

Carrie J.K. Seferi
QAQC MANAGER

5/5/2021
DATE

VICINITY MAP



BUILDING CODE ANALYSIS:

- BUILDING ADDRESS:**
- 2900 S EADS STREET, ARLINGTON, VA
- BUILDING CODES:**
- VCC 2015
- PROJECT DESCRIPTION:**
- THE PROJECT WILL PROVIDE A SLOPE STABILIZATION SYSTEM, TO INCLUDE NEW RETAINING WALLS(S) AND PARTIAL BUILDING DEMOLITION. THE SLOPE STABILIZATION SYSTEM WILL ONLY CONSIST OF THE STABILIZATION OF THE WESTERN SLOPE SEPARATING THE 2900 S. EADS ST. PROPERTY AND THE PROPERTIES ALONG SOUTH FERN STREET. STABILIZATION OF THE NORTH SIDE OF THE PROPERTY IS NOT IN THE SCOPE OF WORK FOR THIS PROJECT.
 - PARTIAL BUILDING DEMOLITION AND RECONSTRUCTION WILL BE PERFORMED IN ADVANCE OF THE STABILIZATION SYSTEM INSTALLATION. THE BUILDING MODIFICATIONS WILL INCLUDE THE CHANGES TO THE EXISTING STEEL STRUCTURE, MECHANICAL SYSTEMS, ELECTRICAL SYSTEMS, AND FIRE PROTECTION SYSTEMS.
- OCCUPANCY:**
- STORAGE GROUP S-2
 - CHANGE OF OCCUPANCY: NO
- BUILDING STATISTICS:**
- HEIGHT: 19'-11"
 - TOTAL AREA EXISTING: 29,132 SF
 - TOTAL AREA PROPOSED: 26,080 SF
 - AREA OF 1979 ADDITION: ORIGINAL 7,707 SF; REDUCED TO 4,263 SF
 - LOT SIZE: 56,588 SF
 - EXISTING FLOOR AREA RATIO (FAR): 29,132/56,588=0.515
 - PROPOSED FLOOR AREA RATIO (FAR): 26,080/56,588=0.46
 - MAX FAR = 1.5 FOR M-1 DISTRICT
- CONSTRUCTION TYPE:**
- CONSTRUCTION TYPE: IIA
 - ORIGINAL CONSTRUCTION DATE: CONSTRUCTION DATE OF ORIGINAL BUILDING IS UNKNOWN. THE BUILDING ADDITION, THE ADDITION BEING MODIFIED, WAS DESIGNED IN FEBRUARY 1979.
 - PER VCC TABLE 503
 - ALLOWABLE HEIGHT = 55'
 - ALLOWABLE STORIES = 3
 - ALLOWABLE AREA = 26,000 SF
- FIRE PROTECTION:**
- SPRINKLER PROTECTION THROUGHOUT: NO SPRINKLER SYSTEM IN THE AREA BEING MODIFIED.
 - FIRE ALARM: SILENT KNIGHT 5207 CONTROL PANEL WITH CONNECTED SMOKE DETECTORS LOCATED THROUGHOUT THE WAREHOUSE SPACE ATTACHED TO THE BOTTOM OF THE OPEN WEB STEEL JOISTS.
 - FIRE EXTINGUISHERS: TO BE RELOCATED TO THE RELOCATED EXIT DOORS
- ADA/EGRESS:**
- TRAVEL DISTANCE HAS BEEN REDUCED AS A RESULT OF THE PARTIAL BUILDING DEMOLITION AND RELOCATION OF THE CURRENT EXIT DOORS.

STORM WATER MANAGEMENT #SWM 20-0181

BUILDING PERMIT #CTBO-12970

LAND DISTURBANCE PERMIT (LDA) #LDA-14862

OWNER:

- RAMI AL ASSAF
- 1400 N. UHLE STREET, SUITE 601
- ARLINGTON, VA 22201
- 703-228-4829
- RALASSAF@ARLINGTONVA.US

GENERAL NOTES:

- THIS DESIGN IS PROPRIETARY AND HAS BEEN PREPARED FOR EXCLUSIVE USE BY THE CONTRACTOR FOR THE CONSTRUCTION OF THE RETAINING WALL SYSTEM AT 2900 SOUTH EADS, ARLINGTON, VIRGINIA, AT THE LOCATION SHOWN. THE RETAINING SYSTEM CONSISTS OF SOLDIER PILES INSTALLED IN PREDRILLED HOLES, AND LAGGING, LATERALLY SUPPORTED BY TIEBACKS. IT ALSO CONSISTS OF A SOIL NAIL STABILIZED SLOPE WITH A SHOTCRETE FACING. THESE PLANS SHOULD NOT BE USED FOR OTHER SITEWORK. THE FOLLOWING PROCEDURES SHALL BE FOLLOWED.
- THIS DESIGN IS BASED ON THE THE GEOTECHNICAL ENGINEERING REPORT PREPARED BY SCHNABEL ENGINEERING, DATED APRIL 24, 2017 AND THE SITE SURVEY PROVIDED BY CHRISTOPHER CONSULTANTS.
- THIS DESIGN CONSIDERS THE GROUNDWATER TABLE LOCATED AT A MINIMUM OF 10 FT BELOW THE BOTTOM OF WALL. IF GROUNDWATER IS ENCOUNTERED AT A HIGHER ELEVATION, SCHNABEL SHOULD BE NOTIFIED IMMEDIATELY.
- LOCATE ALL UTILITIES PRIOR TO DRILLING ANY TIEBACKS, SOIL NAILS, OR INSTALLATION OF SOLDIER PILES. CONTACT MISS UTILITY PRIOR TO ANY SITE WORK. COORDINATE WITH ALL UTILITY COMPANIES AND RESOLVE ALL UTILITY ISSUES BEFORE STARTING WORK. EXISTING UTILITIES THAT INTERFERE WITH THE RETAINING WALL SYSTEM AND ASSOCIATED EXCAVATION SHALL BE ABANDONED OR RELOCATED AS DIRECTED IN CONTRACT DOCUMENTS PRIOR TO PERFORMING INSTALLATION OF SOLDIER PILES, TIEBACKS, SOIL NAILS OR EXCAVATION.
- A RECOMMENDED CONSTRUCTION SEQUENCE IS PROVIDED HEREIN. ANY DEVIATIONS FROM THE DRAWING AND SPECIFICATIONS SHALL BE REVIEWED AND APPROVED BY THE DESIGN ENGINEER PRIOR TO CONSTRUCTION.
- SCHNABEL SHOULD BE NOTIFIED BEFORE ANY SOLDIER PILE, TIEBACK, OR SOIL NAIL IS ADJUSTED OR RELOCATED TO AVOID OBSTRUCTIONS.
- EXCAVATION TO INSTALL THE LAGGING SHALL BE PERFORMED IN LIFTS NOT EXCEEDING 4 (FOUR) FEET. THIS HEIGHT MAY BE ADJUSTED BASED ON THE CONDITIONS ENCOUNTERED DURING EXCAVATION AS APPROVED BY THE ENGINEER.
- BACKFILL THE GAP BETWEEN LAGGING AND RETAINED SOIL WITH CLEAN SAND AS NECESSARY TO PREVENT LOCAL SLOUGHING.
- THE BOND LENGTH OF TIEBACKS AND SOIL NAILS IS ESTIMATED BASED ON SOIL CONDITIONS AS INTERPRETED FROM THE AVAILABLE SOIL BORINGS AND ASSUMPTION OF PRESSURE GROUTING WITH AT LEAST 50 PSI OF PRESSURE. THE CONTRACTOR SHALL EVALUATE THE BOND LENGTH IN ACCORDANCE WITH THE INSTALLATION AND GROUTING MEANS AND METHODS, AND CONFIRM THROUGH LOAD TESTING.
- NO CONTRACTOR, SUBCONTRACTOR, OWNER, AGENT, ETC. SHALL RELY ON DIMENSIONS, GRADES, AND LOCATIONS OF EXISTING UTILITY LINES, LOCATIONS OF ADJACENT FACILITIES OR OTHER EXISTING INFORMATION WITHOUT INDEPENDENTLY VERIFYING THE ACCURACY OF THE INFORMATION. EXISTING AND PROPOSED STRUCTURES SHOWN ON THIS PLANS ARE FOR INFORMATION ONLY.

MATERIALS

- SOLDIER PILES:** SOLDIER PILES SHALL CONSIST OF W12X96 AS INDICATED HEREIN (Fy=50 KSI), OR OTHER PILES WITH EQUAL OR GREATER CROSS SECTIONAL AREA, SECTION MODULUS, MOMENT OF INERTIA, AND Fy. THE SOLDIER PILES SHALL BE PLACED IN PRE-DRILLED HOLES, AND BACKFILLED WITH CONCRETE (F'c=3KSI) FROM A MAXIMUM 5 FT BELOW THE BOTTOM OF WALL, AND LEAN CONCRETE OR FLOWABLE FILL ABOVE. FULL SECTION CONNECTION SHALL BE PROVIDED FOR THE SOLDIER PILE SPLICE. SPLICE ON H-PILES SHALL BE MADE BY MEANS OF BUTT JOINTS WITH FULL PENETRATION WELDS.
- PRECAST CONCRETE LAGGING:** 6" THICK PRECAST CONCRETE LAGGINGS SHALL BE INSTALLED BEHIND THE FRONT FLANGE OF THE PILE WHERE SHOWN. THE LAGGING PANEL SHALL BE PLACED IN TIGHT CONTACT TO ADJACENT LAGGING PANELS. CONCRETE FOR LAGGING SHALL BE PROPORTIONED TO PROVIDE A MINIMUM COMPRESSIVE STRENGTH OF 5000 PSI AND SHALL BE CAST IN ACCORDANCE WITH ACI RECOMMENDATIONS FOR PRECAST CONCRETE.
- CONCRETE:** CONCRETE USED FOR BACKFILLING THE PRE-DRILLED SOLDIER PILE HOLES AND IN THE CAST-IN-PLACE CONSTRUCTION OF THE CAP BEAM SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 3500 PSI.
- SHOTCRETE:** SHOTCRETE USED FOR CONSTRUCTION OF THE SOIL NAIL WALL FACE SHALL HAVE A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI, AND A MINIMUM 2-DAY COMPRESSIVE STRENGTH OF 2000 PSI.
- DRAINAGE PANELS:** DRAINAGE PANELS SHALL CONSIST OF J-DRAIN ES 1100 SERIES OR EQUIVALENT.
- PORTLAND CEMENT:** PORTLAND CEMENT SHALL MEET THE REQUIREMENTS OF ASTM C150; BE OF CEMENT OF TYPES I, II, III, OR TYPE III; BE THE PRODUCT OF ONE MANUFACTURER. IF THE BRAND OR TYPE OF CEMENT IS CHANGED DURING THE PROJECT, ADDITIONAL GROUT MIX TESTS SHALL BE CONDUCTED TO ENSURE CONSISTENCY OF QUALITY AND PERFORMANCE IN SITU.
- STRUCTURAL STEEL:** STRUCTURAL STEEL SHALL CONFORM TO ASTM A572, 50KSI YIELD GRADE.
- REINFORCING STEEL:** REINFORCING STEEL SHALL CONFORM TO ASTM A615, 60KSI YIELD GRADE.
- TIEBACKS:** TIEBACKS SHALL CONSIST OF MULTI-0.6"Ø 7-WIRE STRAND ANCHORS (GRADE 270), UNLESS OTHERWISE NOTED
- SOIL NAILS:** SOIL NAILS SHALL BE #6, #8, OR #10 ASTM A615 GRADE 75 ALL-THREAD STEEL BARS AS SPECIFIED HEREIN. THE BARS SHALL BE EPOXY COATED IN ACCORDANCE TO ASTM A775 AND HAVE A MINIMUM THICKNESS OF 0.30 MM UP TO A MAXIMUM OF 0.43 MM AS APPLIED ELECTROSTATICALLY. SOIL NAILS SHALL BE CONTINUOUS WITHOUT SPLICES OR WELDS, NEW, STRAIGHT, UNDAMAGED AND EPOXY COATED. MECHANICAL BAR COUPLERS ARE NOT CONSIDERED SPLICES AND SHALL BE ALLOWED.
- BAR COUPLERS:** BAR COUPLERS, IF NEEDED, SHALL DEVELOP THE FULL NOMINAL TENSILE CAPACITY OF THE TENDON AS CERTIFIED BY THE MANUFACTURER.
- GROUT:** GROUT SHALL BE A PUMPABLE NEAT OR SAND/CEMENT MIXTURE WITH A MINIMUM 3-DAY COMPRESSIVE STRENGTH OF 3,000 PSI AND A MINIMUM 28-DAY COMPRESSIVE STRENGTH OF 4,000 PSI, IN ACCORDANCE WITH ASTM C109. CHEMICAL ADDITIVES, WHICH CONTROL BLEED OR RETARD SET, ARE TO BE USED ONLY WHEN APPROVED IN WRITING BY THE DESIGN ENGINEER. EXPANSIVE ADDITIVES SHALL NOT BE USED.
- CENTRALIZERS:** CENTRALIZERS SHALL BE FABRICATED FROM PLASTIC, STEEL OR MATERIAL NOT DETRIMENTAL TO THE TIEBACK OR SOIL NAIL STEEL. WOOD SHALL NOT BE USED. THE CENTRALIZERS SHALL PROVIDE A MINIMUM OF 1 INCH OF GROUT COVER OVER THE SOIL NAIL BARS AND TIEBACK STRANDS. CENTRALIZERS SHALL BE SPACED NO FARTHER THAN 10 FEET APART WITH AT LEAST TWO CENTRALIZERS PER ELEMENT. THE CENTRALIZERS SHALL BE SIZED TO POSITION THE ELEMENT WITHIN 1/2 INCH OF THE CENTER OF THE DRILL HOLE AND TO ALLOW TREMIE PIPE INSERTION TO THE BOTTOM OF THE DRILL HOLE AND TO ALLOW GROUT TO FREELY FLOW UP THE DRILL HOLE.
- ANCHOR HEADS, STRAND WEDGES AND PLATES:** ANCHOR HEADS AND WEDGES SHALL BE FURNISHED BY THE TIEBACK MANUFACTURER. PLATES SHALL CONFORM TO ASTM A572, GRADE 50.
- TIEBACK ANCHOR BEARING PLATES, TRUMPETS, AND CAPS:** ANCHOR BEARING PLATES, TRUMPETS, AND CAPS SHALL BE GALVANIZED TO CONFORM WITH ASTM A123.
- WELDED WIRE REINFORCEMENT (WWR):** WELDED WIRE REINFORCEMENT SHALL CONFORM WITH ASTM A1064, GRADE 60.
- HEADED STUDS:** HEADED STUDS SHALL CONFORM TO ASTM A572, 60KSI YIELD GRADE.
- ELECTRODE:** WELDING ELECTRODES SHALL BE E70XX CONFORMING WITH AWS A5.5 WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AWS D1.1 APPROVED WELDING PROCEDURES BY AWS CERTIFIED WELDERS
- SAND:** SAND FOR GROUT AND/OR SHOTCRETE SHALL MEET THE REQUIREMENTS OF ASTM C33.
- WATER:** WATER FOR MIXING GROUT AND/OR SHOTCRETE SHALL BE POTABLE. CLEAN AND FREE FROM SUBSTANCES THAT MAY BE IN ANY WAY DELETERIOUS TO GROUT, SHOTCRETE OR STEEL.

DRILLING AND GROUTING

- INSTALL SOLDIER PILE, TIEBACKS, AND SOIL NAILS TO OBTAIN THE ALLOWABLE CAPACITY SHOWN ON THE DRAWINGS.
- THE CONTRACTOR SHALL PROVIDE DRILLING EQUIPMENT AND METHODS SUITABLE FOR DRILLING AT THE SITE AND LIMIT DISTURBANCE OF THE GROUND OR OF ANY ADJACENT STRUCTURE, UTILITIES, OR SERVICES. THE DRILLING EQUIPMENT AND METHODS SHALL PROVIDE A STABLE BOREHOLE TO THE DEFINED NOMINAL DIAMETER, FULL LENGTH, PRIOR TO PLACING GROUT AND REINFORCEMENT.
- SOLDIER PILES AND TIEBACKS SHALL BE BACKFILLED AND GROUTED IMMEDIATELY AFTER COMPLETION OF

DRILLING. NO HOLE SHALL BE LEFT OPEN OVERNIGHT.

- DRILLING AND GROUTING PROCEDURES, AS WELL AS EQUIPMENT SPECIFICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW. THE CONTRACTOR IS ULTIMATELY RESPONSIBLE FOR SELECTING DRILLING AND GROUTING METHODS THAT MEET THE EXISTING GROUND CONDITIONS AND ALL OTHER ELEMENTS OF THE PROJECT AND DO NOT CAUSE DAMAGE TO NEARBY STRUCTURES AND UTILITIES.
- AFTER GROUTING, THE ANCHOR SHALL NOT BE LOADED FOR A MINIMUM OF 3 DAYS, UNLESS APPROVED BY SCHNABEL AND GROUT STRENGTH IS PROVEN BY TESTING.
- GROUT CONSISTENCY AS MEASURED BY GROUT SPECIFIC GRAVITY SHALL BE DETERMINED PER ASTM C188 OR API RP 13B-1 AT A FREQUENCY OF ONCE PER BATCH OF GROUT. THE BAROID MUD BALANCE, USED IN ACCORDANCE WITH API RP 13B-1, IS AN APPROVED DEVICE FOR DETERMINING THE SPECIFIC GRAVITY OF NEAT CEMENT GROUT. THE MEASURED SPECIFIC GRAVITY OF THE GROUT SHALL RANGE BETWEEN 1.80 AND 1.90. THE SPECIFIC GRAVITY SHALL BE THE PRIMARY CRITERIA FOR ACCEPTANCE OF THE GROUT. SIX 2 IN X 2 IN GROUT CUBES SHALL BE FORMED AT A FREQUENCY OF AT LEAST ONCE PER SHIFT. CUBES SHALL BE MOLDED AND CURED IN ACCORDANCE WITH THE REQUIREMENTS OF ASTM C109. "STANDARD TEST METHOD FOR COMPRESSIVE STRENGTH OF HYDRAULIC CEMENT MORTARS." SAMPLES WILL BE TESTED AT THE REQUEST OF SCHNABEL IN ACCORDANCE WITH THE REQUIREMENTS GIVEN IN ASTM C109. TEST REPORTS SHALL BE DELIVERED TO SCHNABEL WITHIN 24 HOURS OF TESTING.

CONSTRUCTION SEQUENCE

- THE CONSTRUCTION SEQUENCE CHOSEN BY THE CONTRACTOR, IF DIFFERENT FROM WHAT IS SPECIFIED BELOW, MUST BE REVIEWED BY SCHNABEL TO ENSURE THAT THE SYSTEM WILL REMAIN STABLE DURING ALL TEMPORARY CONSTRUCTION STAGES.
- THE APPROVED CONSTRUCTION SEQUENCE FOR TYPICAL SECTION A AND B (SOLDIER PILE AND TIEBACK WALL) IS AS FOLLOWS:
 - DRILL AND INSTALL SOLDIER PILES
 - INSTALL LAGGING, BACKFILL AND COMPACT TO TIEBACK ELEVATION
 - INSTALL AND STRESS TIEBACKS
 - INSTALL LAGGING, BACKFILL AND COMPACT TO FINAL GRADE
- THE APPROVED CONSTRUCTION SEQUENCE FOR TYPICAL SECTION C (WALL TRANSITION) IS AS FOLLOWS:
 - CONSTRUCT TEMPORARY ACCESS BERM
 - GRADE AND INSTALL SOIL NAIL STABILIZATION SYSTEM AS REQUIRED, BEGINNING WITH THE TOPMOST ROW OF SOIL NAILS AND WORKING DOWN
 - DRILL AND INSTALL SOLDIER PILES
 - EXCAVATE TO TIEBACK ELEVATION WHILE INSTALLING LAGGING
 - INSTALL AND STRESS TIEBACKS, IF REQUIRED
 - EXCAVATE AND INSTALL LAGGING TO FINAL GRADE
- THE APPROVED CONSTRUCTION SEQUENCE FOR TYPICAL SECTION D (SOIL NAIL STABILIZATION) IS AS FOLLOWS:
 - CONSTRUCT TEMPORARY ACCESS BERM
 - GRADE AND INSTALL SOIL NAIL STABILIZATION SYSTEM AS REQUIRED, BEGINNING WITH THE TOPMOST ROW OF SOIL NAILS AND WORKING DOWN. DO NOT EXCAVATE FOR LOWER NAILS UNTIL UPPER NAILS AND SHOTCRETE HAVE BEEN INSTALLED.

ANCHOR INSTALLATION

- THE LOCATION OF SOIL NAIL ELEMENTS MAY BE ADJUSTED BY THE CONTRACTOR, SUBJECT TO APPROVAL BY SCHNABEL, BASED ON ACTUAL FIELD GEOMETRY OF WALL, EXISTENCE OF OBSTRUCTIONS, UTILITIES, ETC. INDIVIDUAL ELEMENTS SHALL BE POSITIONED PLUS OR MINUS 6 in FROM THE DESIGN LOCATIONS SHOWN ON THE PLANS. LOCATION TOLERANCES SHALL BE CONSIDERED APPLICABLE TO ONLY ONE ELEMENT AND NOT CUMULATIVE OVER LARGE WALL AREAS. THE INCLINATION SHALL BE PLUS OR MINUS 3 DEGREES OF THAT SHOWN ON THE PLANS. THE ORIENTATION OF ELEMENTS IN PLAN (SPLAY ANGLE) SHALL BE WITHIN PLUS OR MINUS 2 DEGREES.
- A BEARING PLATE, WASHERS, AND NUT SHALL BE ATTACHED TO EACH ANCHOR HEAD AS SHOWN ON THE CONTRACT DRAWINGS.

CONCRETE

- UNLESS NOTED ON THE PLANS OTHERWISE, MINIMUM CONCRETE/SHOTCRETE COVER MEASURED FROM THE FACE OF CONCRETE/SHOTCRETE TO THE FACE OF ANY REINFORCING BAR OR METALLIC ELEMENT SHALL BE 2 INCHES.

EARTHWORK

- SUBGRADES TO RECEIVE COMPACTED STRUCTURAL FILL SHOULD BE STRIPPED OF DEBRIS, VEGETATION, TOPSOIL, AND ORGANIC MATTER AND SHOULD BE FREE OF SNOW, ICE, AND FROZEN SOILS. IF SNOW, ICE, OR FROZEN SOILS ARE PRESENT AT SUBGRADE LEVELS, THESE MATERIALS SHOULD BE REMOVED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. FILL SUBGRADES SHOULD CONSIST OF SUITABLE SOILS AS DETAILED HEREIN.
- VERY LOOSE OR SOFT NEAR-SURFACE SOILS ARE NOT CONSIDERED SUITABLE FOR SUPPORT OF NEW COMPACTED FILL. IF THESE SOILS ARE ENCOUNTERED, THEY SHOULD BE EXCAVATED FROM BENEATH THE AREAS TO RECEIVE FILL. REMOVAL OF UNSUITABLE SOILS NEAR THE EDGE OF FILL EMBANKMENTS SHOULD EXTEND AT LEAST 1/4 H HORIZONTALLY BEYOND THE LIMITS OF FILL, WHERE H IS THE DEPTH OF UNDERCUT BELOW FILL SUBGRADE LEVEL.
- COMPACTED STRUCTURAL FILL AND BACKFILL SHOULD CONSIST OF NON-ORGANIC SOILS CLASSIFYING AS SC, SM, SP, SW, GC, GM, GP, OR GW ACCORDING TO ASTM D2487. FILL AND BACKFILL MATERIALS SHOULD NOT CONTAIN PARTICLES LARGER THAN HALF OF THE LIFT THICKNESS. BACKFILL MATERIALS PLACED BEHIND THE NEW RETAINING WALLS MAY ALSO CONSIST OF OPEN-GRADED CRUSHED STONE SUCH AS VDOT (AASHTO M43) NO. 78 OR NO. 57 STONE.
- COMPACTED STRUCTURAL FILL SHOULD BE PLACED IN MAXIMUM 8-INCH THICK HORIZONTAL, LOOSE LIFTS WHEN COMPACTED WITH A ROLLER. FILL SHOULD BE COMPACTED TO AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY PER ASTM D698 (STANDARD PROCTOR). SOIL MOISTURE CONTENTS AT THE TIME OF COMPACTION SHOULD BE WITHIN 20 PERCENT OF THE SOILS' OPTIMUM MOISTURE CONTENT.
- BACKFILL PLACED IN EXCAVATIONS, TRENCHES, AND OTHER AREAS THAT LARGE COMPACTION EQUIPMENT CANNOT ACCESS SHOULD BE PLACED IN MAXIMUM 6-INCH THICK LIFTS. BACKFILL SHOULD MEET THE MATERIAL, PLACEMENT, AND COMPACTION REQUIREMENTS OUTLINED ABOVE.

LOAD TESTING NOTES

- TESTING EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR AND SHALL INCLUDE TWO DIAL GAUGES, A DIAL GAUGE SUPPORT, JACK AND PRESSURE GAUGE, A PUMP AND A REACTION FRAME. RECENT CALIBRATION CURVES FOR THE JACK, PUMP, AND GAUGES SHALL BE SUBMITTED TO SCHNABEL.
- A MINIMUM OF TWO DIAL GAUGES CAPABLE OF MEASURING TO 0.001 INCH SHALL BE AVAILABLE AT THE SITE TO MEASURE THE ANCHOR MOVEMENT. THE DIAL GAUGES SHALL HAVE MINIMUM TRAVEL SUFFICIENT TO ALLOW THE TEST TO BE PERFORMED WITHOUT RE-SETTING THE DIAL GAUGE. THE DIAL GAUGES SHALL BE ALIGNED WITHIN 5 DEGREES OF THE AXIS OF THE NAIL AND SHALL BE SUPPORTED INDEPENDENT OF THE JACKING SET UP AND THE WALL. A HYDRAULIC JACK, PRESSURE GAUGE AND PUMP SHALL BE USED TO APPLY AND MEASURE THE TEST LOAD.
- THE JACK AND PRESSURE GAUGE SHALL BE CALIBRATED BY AN INDEPENDENT TESTING LABORATORY AS A UNIT. THE PRESSURE GAUGE SHALL BE GRADUATED IN 100 PSI INCREMENT OR LESS AND SHALL HAVE A RANGE NOT EXCEEDING TWICE THE ANTICIPATED MAXIMUM PRESSURE DURING TESTING UNLESS APPROVED OTHERWISE BY SCHNABEL. THE RAM TRAVEL OF THE JACK SHALL BE SUFFICIENT TO ENABLE THE TEST TO BE PERFORMED WITHOUT RESETTING THE JACK. THE JACK SHALL BE CAPABLE OF APPLYING EACH TEST LOAD INCREMENT IN LESS THAN 1 MINUTE.
- THE JACK SHALL BE INDEPENDENTLY SUPPORTED AND CENTERED OVER THE ELEMENT SO THAT THE ELEMENT DOES NOT CARRY THE WEIGHT OF THE JACK. THE STRESSING EQUIPMENT SHALL BE PLACED OVER THE ELEMENT IN SUCH A MANNER THAT THE JACK, BEARING PLATES AND THE STRESSING ANCHORAGE ARE IN ALIGNMENT. THE JACK SHALL BE POSITIONED AT THE BEGINNING OF THE TEST SUCH THAT UNLOADING AND REPOSITIONING OF THE JACK DURING THE TEST WILL NOT BE REQUIRED.
- THE REACTION FRAME SHALL BE SUFFICIENTLY RIGID AND OF ADEQUATE DIMENSION SUCH THAT EXCESSIVE DEFORMATION OF THE TEST APPARATUS REQUIRING REPOSITIONING OF ANY COMPONENTS DOES NOT OCCUR DURING TESTING.
- TIEBACK LOAD TESTING**
 - PROOF TESTS SHALL BE PERFORMED ON EACH PRODUCTION TIEBACK EXCEPT THOSE SUBJECT TO PERFORMANCE TESTING. TIEBACKS SHALL BE LOCKED-OFF AT THE LOCK-OFF LOAD SPECIFIED IN SCHEDULE.
 - UNLESS OTHERWISE APPROVED, TESTING OF A TIEBACK SHALL NOT BE PERFORMED UNTIL THE MINIMUM COMPRESSIVE STRENGTH OF THE GROUT HAS REACHED 3,000 PSI, OR AFTER A MINIMUM OF 3 DAYS AFTER

- GROUT PLACEMENT, WHICHEVER OCCURS LAST.
- DL = DESIGN TIEBACK LOAD = SEE TIEBACK SCHEDULE SHOWN ON THE DRAWINGS.
- PERFORMANCE LOAD TESTS PROCEDURES:
 - AT LEAST THREE TIEBACKS, SPATIALLY DISTRIBUTED ALONG THE LENGTH OF THE WALL, SHALL BE PERFORMANCE LOAD TESTED TO 133% OF THE DESIGN LOAD IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

LOAD	HOLD TIME (MIN)	LOAD	HOLD TIME (MIN)
ALIGNMENT LOAD (AL)	1	AL	1
0.25 DESIGN LOAD (DL)	10	0.25DL	5
AL	1	0.50DL	5
0.25DL	5	0.75DL	5
0.50DL	10	1.00DL	5
AL	1	1.20DL	10
0.25DL	5	AL	1
0.50DL	5	0.25DL	5
0.75DL	10	0.50DL	5
AL	1	0.75DL	5
0.25DL	5	1.00DL	5
0.50DL	5	1.20DL	5
0.75DL	5	1.33DL	10 OR 60
1.00DL	10	AL	1
		0.90DL	1 (LOCK-OFF)

- THE ALIGNMENT LOAD (AL) SHOULD BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHOULD NOT EXCEED 10 PERCENT OF THE TEST LOAD. DIAL GAGES SHOULD BE ZEROED AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED
- THE PERFORMANCE TEST ANCHOR SHALL BE MONITORED FOR CREEP FOR 10 MINUTES AT THE 1.33 LOAD INCREMENT. THE TIEBACK MOVEMENT WITH RESPECT TO A FIXED REFERENCE SHALL BE MEASURED AND RECORDED AT 1 MINUTE, 2, 3, 4, 5, 6, AND 10 MINUTES. IF THE TIEBACK MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCH, THE MAXIMUM TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD-HOLD IS EXTENDED, THE TIEBACK MOVEMENTS SHALL BE RECORDED AT 20, 30, 40, 50, AND 60 MINUTES. THE LOAD DURING THE CREEP TEST SHALL BE MAINTAINED WITHIN 2 PERCENT OF THE INTENDED LOAD.
- THE ANCHOR SHALL BE UNLOADED IN INCREMENTS WITH MOVEMENT RECORDED AT EACH UNLOAD INCREMENT. EACH UNLOAD INCREMENT SHALL BE HELD ONLY FOR SUFFICIENT TIME TO ALLOW STABILITY OF THE MOVEMENT READINGS.
- ALL PRODUCTION TIEBACKS SHALL BE PROOF TESTED (EXCEPT FOR THOSE PERFORMANCE TESTED) TO 133% OF THE DESIGN LOAD IN ACCORDANCE WITH THE FOLLOWING SCHEDULE:

LOAD	HOLD TIME (MIN)	LOAD	HOLD TIME (MIN)
ALIGNMENT LOAD (AL)	1	1.00DL	5
0.25 DESIGN LOAD (DL)	5	1.20DL	5
0.50DL	5	1.33DL	10 OR 60
0.75DL	5	0.90DL	1 (LOCK-OFF)

- THE ALIGNMENT LOAD (AL) SHOULD BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHOULD NOT EXCEED 10 PERCENT OF THE TEST LOAD. DIAL GAGES SHOULD BE ZEROED AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.
- THE PROOF TEST ANCHOR SHALL BE MONITORED FOR CREEP FOR 10 MINUTES AT THE 1.33 LOAD INCREMENT. THE TIEBACK MOVEMENT WITH RESPECT TO A FIXED REFERENCE SHALL BE MEASURED AND RECORDED AT 1 MINUTE, 2, 3, 4, 5, 6, AND 10 MINUTES. IF THE TIEBACK MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCH, THE MAXIMUM TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD-HOLD IS EXTENDED, THE TIEBACK MOVEMENTS SHALL BE RECORDED AT 20, 30, 40, 50, AND 60 MINUTES. THE LOAD DURING THE CREEP TEST SHALL BE MAINTAINED WITHIN 2 PERCENT OF THE INTENDED LOAD.

- TEST ANCHOR ACCEPTANCE CRITERIA. A TEST TIEBACK SHALL BE CONSIDERED ACCEPTABLE WHEN:
 - FOR PERFORMANCE AND PROOF TESTS, A CREEP RATE LESS THAN 0.04 INCH PER LOG CYCLE OF TIME BETWEEN THE 1 AND 10 MINUTE READING IS OBSERVED. IF MORE THAN 0.04 INCHES IS OBSERVED IN THE 10-MINUTE LOG CYCLE, A CREEP RATE LESS THAN 0.08 INCH PER LOG CYCLE OF THE TIME BETWEEN THE 6 AND 60 MINUTE READINGS AND THE CREEP RATE IS LINEAR OR DECREASING THROUGHOUT THE CREEP TEST LOAD HOLD PERIOD.
 - THE TOTAL MOVEMENT AT THE MAXIMUM TEST LOAD EXCEEDS 80 PERCENT OF THE THEORETICAL ELASTIC ELONGATION OF THE TEST TIEBACK UNBONDED LENGTH.
 - A PULLOUT FAILURE DOES NOT OCCUR DURING TESTING. PULLOUT FAILURE IS DEFINED AS THE LOAD AT WHICH ATTEMPTS TO INCREASE THE TEST LOAD RESULT IN CONTINUED PULLOUT MOVEMENT OF THE TEST TIEBACK.
- INSTALLATION METHODS THAT DO NOT SATISFY THE TIEBACK TESTING REQUIREMENTS SHALL BE CONSIDERED INADEQUATE AND ALTERNATIVE METHODS SHALL BE PROPOSED BY THE CONTRACTOR. TESTING OF THE ALTERNATIVE METHOD, IF APPROVED BY SCHNABEL, IS REQUIRED.

SOIL NAIL TESTING

- SUCCESSFUL PROOF TESTING SHALL BE DEMONSTRATED ON AT LEAST 5 PERCENT OF PRODUCTION SOIL NAILS IN EACH NAIL ROW OR A MINIMUM OF ONE PER ROW. THE GEOTECHNICAL ENGINEER SHALL IDENTIFY THE LOCATIONS AND NUMBER OF PROOF TESTS IN EACH ROW.
- THE MAXIMUM TEST LOAD IN PROOF TESTS (PTL) SHALL BE CALCULATED BASED ON AS-BUILT BONDED LENGTHS PER SEC 7, CHAPTER 9.
- PROOF TEST NAILS SHALL HAVE A BONDED LENGTH AND A TEMPORARY UNBONDED LENGTH OF 3 FT AS DEFINED IN SEC 7.
- PROOF TESTS SHALL BE CONDUCTED BY INCREMENTALLY LOADING THE PROOF TEST NAIL ACCORDING TO THE FOLLOWING TEST LOADING SCHEDULE.

LOAD	HOLD TIME (MIN)
ALIGNMENT LOAD (AL)	1
0.17 PROOF TEST LOAD (PTL)	UNTIL MOVEMENT STABILIZES
0.33PTL	UNTIL MOVEMENT STABILIZES
0.50PTL	UNTIL MOVEMENT STABILIZES
0.67PTL	UNTIL MOVEMENT STABILIZES
0.83PTL	UNTIL MOVEMENT STABILIZES
1.0PTL (CREEP TEST)	10 OR 60
AL	1

- THE ALIGNMENT LOAD (AL) SHOULD BE THE MINIMUM LOAD REQUIRED TO ALIGN THE TESTING APPARATUS AND SHOULD NOT EXCEED 2.5 PERCENT OF THE PROOF TEST LOAD. DIAL GAGES SHOULD BE ZEROED AFTER THE ALIGNMENT LOAD HAS BEEN APPLIED.
- THE PROOF TEST ANCHOR SHALL BE MONITORED FOR CREEP FOR 10 MINUTES AT THE 1.0 LOAD INCREMENT. THE SOIL NAIL MOVEMENT WITH RESPECT TO A FIXED REFERENCE SHALL BE MEASURED AND RECORDED AT 1 MINUTE, 2, 3, 4, 5, 6, AND 10 MINUTES. IF THE SOIL NAIL MOVEMENT BETWEEN 1 MINUTE AND 10 MINUTES EXCEEDS 0.04 INCH, THE PROOF TEST LOAD SHALL BE HELD FOR AN ADDITIONAL 50 MINUTES. IF THE LOAD-HOLD IS EXTENDED, THE SOIL NAIL MOVEMENTS SHALL BE RECORDED AT 20, 30, 40, 50, AND 60 MINUTES. THE LOAD DURING THE CREEP TEST SHALL BE MAINTAINED WITHIN 2 PERCENT OF THE INTENDED LOAD. THE PERMANENT SOIL MOVEMENT MUST ALSO BE RECORDED.
- IF THE SOILS ARE RELATIVELY SUSCEPTIBLE TO DEFORMATION OR CREEP, EACH LOAD INCREMENT OTHER THAN THE 1.0PTL INCREMENT SHALL BE HELD FOR 10 MINUTES TO RECORD THE SOIL NAIL MOVEMENT AT 1, 2, 5, AND 10 MINUTES.
- TEST ANCHOR ACCEPTANCE CRITERIA. A TEST TIEBACK SHALL BE CONSIDERED ACCEPTABLE WHEN:
 - FOR PERFORMANCE AND PROOF TESTS, A CREEP RATE LESS THAN 0.04 INCH PER LOG CYCLE OF TIME BETWEEN THE 1 AND 10 MINUTE READING IS OBSERVED. IF MORE THAN 0.04 INCHES IS OBSERVED IN THE 10-MINUTE LOG CYCLE, A CREEP RATE LESS THAN 0.08 INCH PER LOG CYCLE OF THE TIME BETWEEN THE 6 AND 60 MINUTE READINGS AND THE CREEP RATE IS LINEAR OR DECREASING THROUGHOUT THE CREEP TEST LOAD HOLD PERIOD.
 - A PULLOUT FAILURE DOES NOT OCCUR DURING TESTING. PULLOUT FAILURE IS DEFINED AS THE LOAD AT WHICH ATTEMPTS TO INCREASE THE TEST LOAD RESULT IN CONTINUED PULLOUT MOVEMENT OF THE TEST SOIL NAIL.

MONITORING AND CONTINGENCY PLAN:

- THE SLOPE SHALL BE MONITORED DURING CONSTRUCTION. THE CONTRACTOR SHALL PREPARE A MONITORING AND CONTINGENCY PLAN AND OBTAIN APPROVAL FROM THE ENGINEER 30 DAYS PRIOR TO COMMENCING INSTALLATION OF THE SUPPORT OF EXCAVATION SYSTEM AND SUBSEQUENT EXCAVATION.
- READINGS ASSOCIATED WITH MONITORING FOR SUPPORT OF EXCAVATION SHALL BE TAKEN A MINIMUM OF TWICE PER WEEK.

ABBREVIATIONS:

AL	ALIGNMENT LOAD	MIN	MINIMUM
CL	CLEAR	C.C.	ON CENTER
DL	DEAD LOAD	PTL	PROOF TEST LOAD
EL	ELEVATION	SPA	SPACING
EMBED	EMBEDMENT	TYP	TYPICAL
GR	GRADE	WWM	WELDED WIRE MESH
LONG	LONGITUDINAL		

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ENGINEERING CONSULTANTS
5285 Shawnee Rd., Suite 100, Alexandria, VA 22312
Phone: 703-658-4400 Fax: 703-658-4404
E-mail: info@woodspeacock.com

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

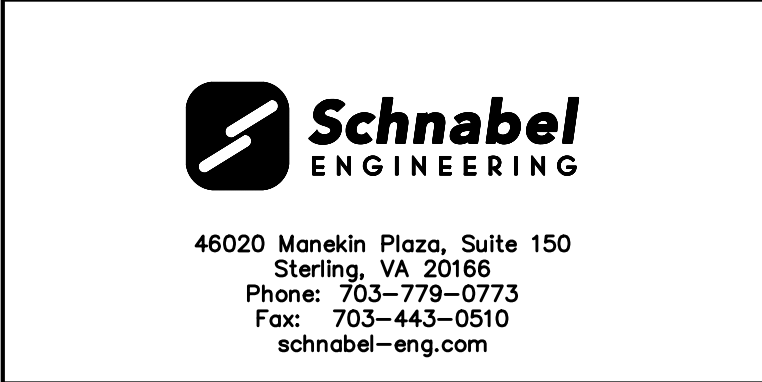
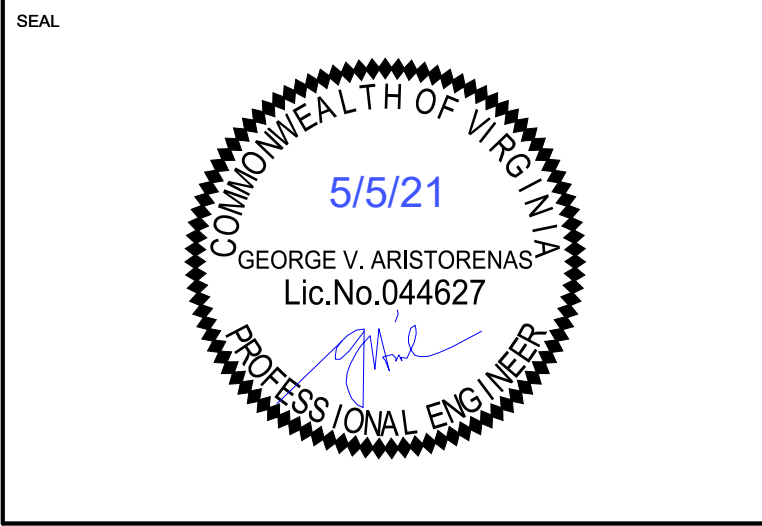
NOTES

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Scale: AS NOTED Date: 5/5/2021

Sheet No.

B-001

2 of 41



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
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Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

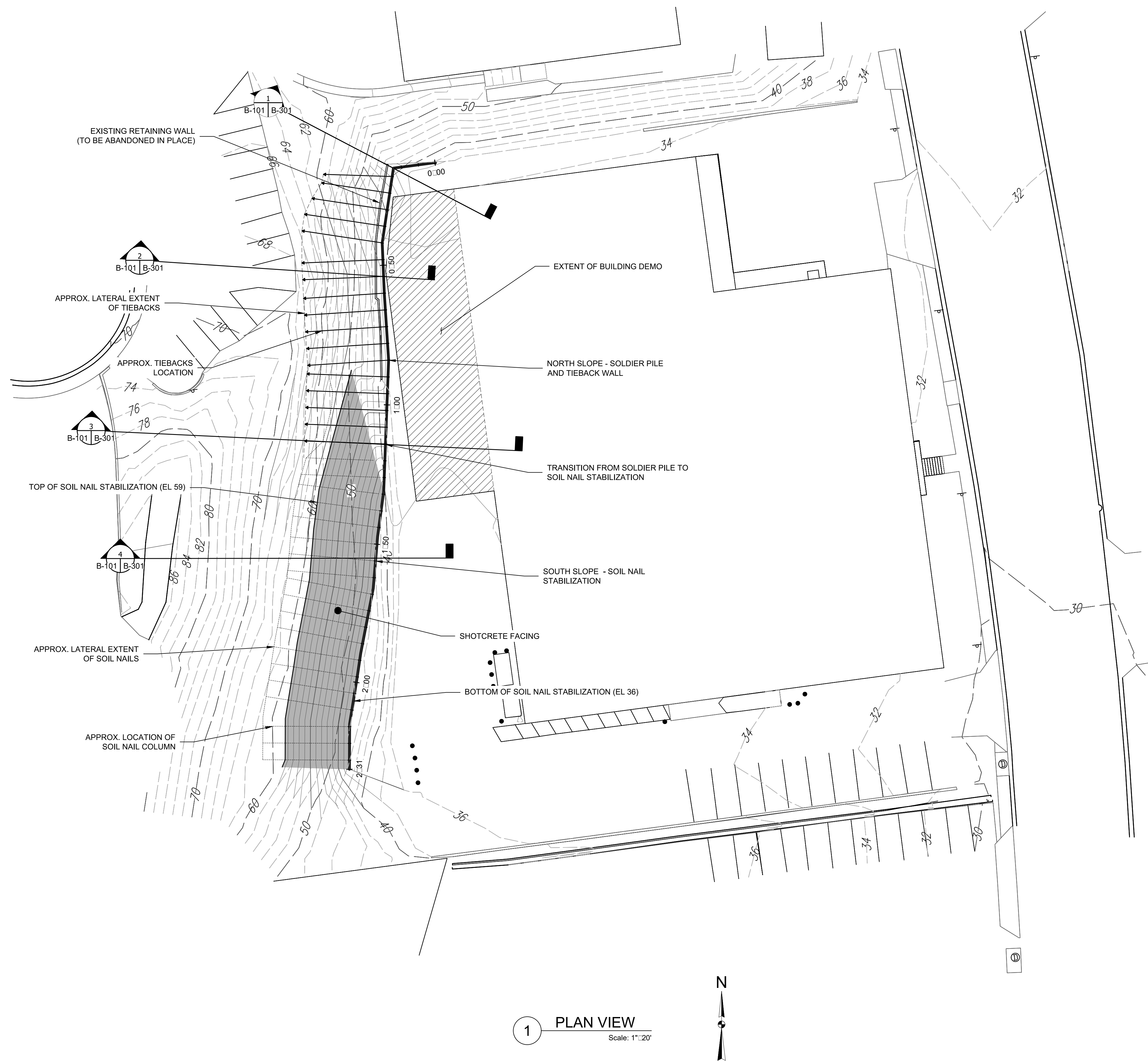
WALL PLAN VIEW

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 Scale: AS NOTED Date: 5/5/2021

Sheet No.

B-101

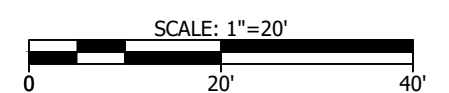
3 of 41

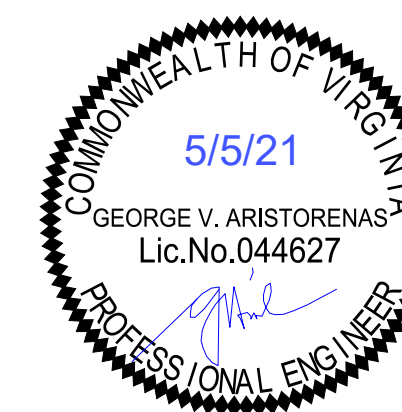


NOTES:

1. PLAN SHOWS ALIGNMENT OF SOLDIER PILE AND TIEBACK WALL ON NORTHERN PORTION OF SLOPE.
2. THE SOLDIER PILE AND TIEBACK WALL OF THE NORTHERN SECTION IS TO CONNECT WITH THE SOIL NAIL STABILIZED SLOPE OF THE SOUTHERN SECTION ALONG A TRANSITION SECTION. PLEASE SEE THE ELEVATION AND SECTION VIEWS FOR DETAILS.

1 PLAN VIEW
 Scale: 1"=20'





PROJECT INFORMATION

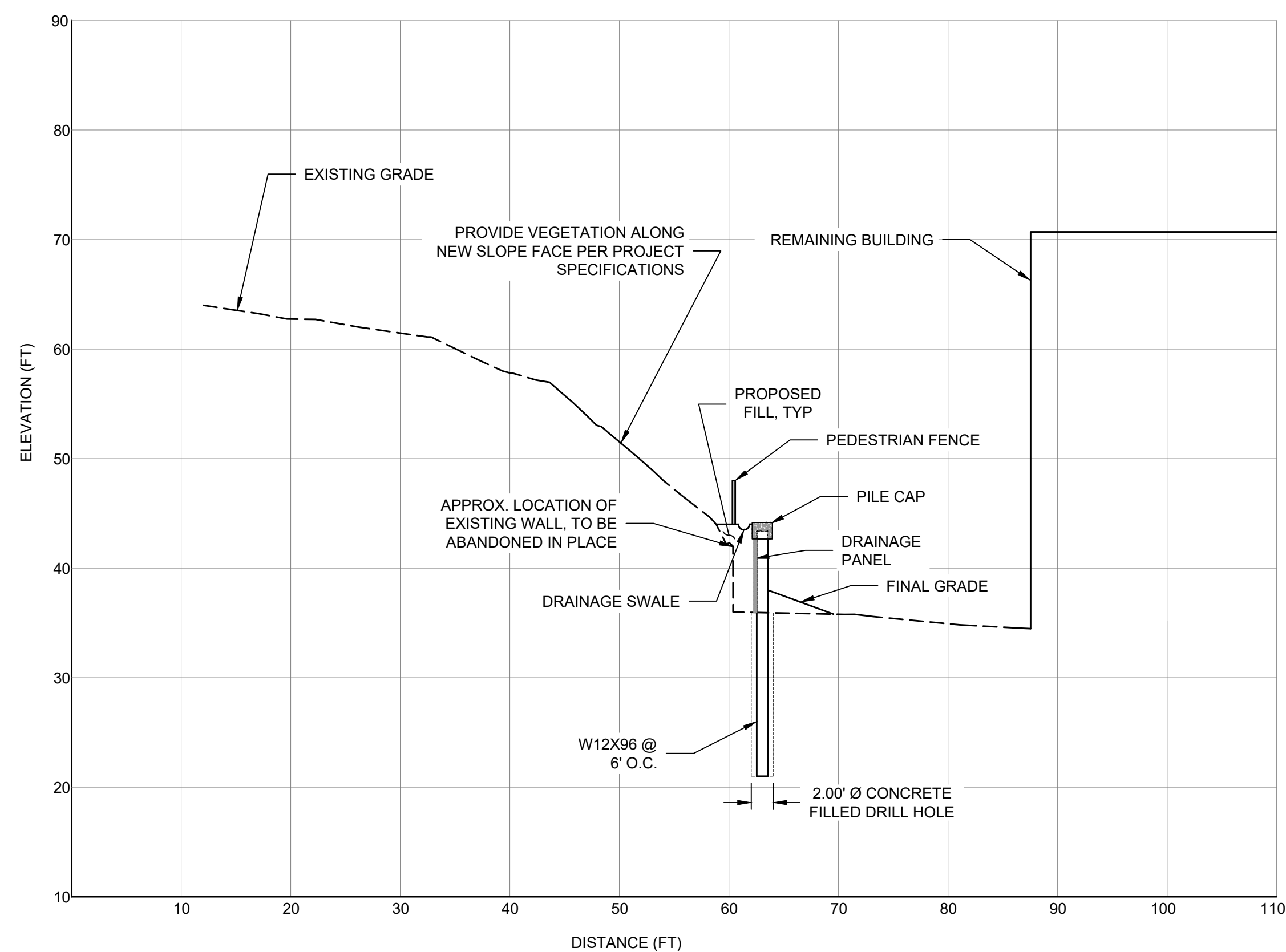
**SLOPE STABILIZATION
 AND
 BUILDING MODIFICATION**

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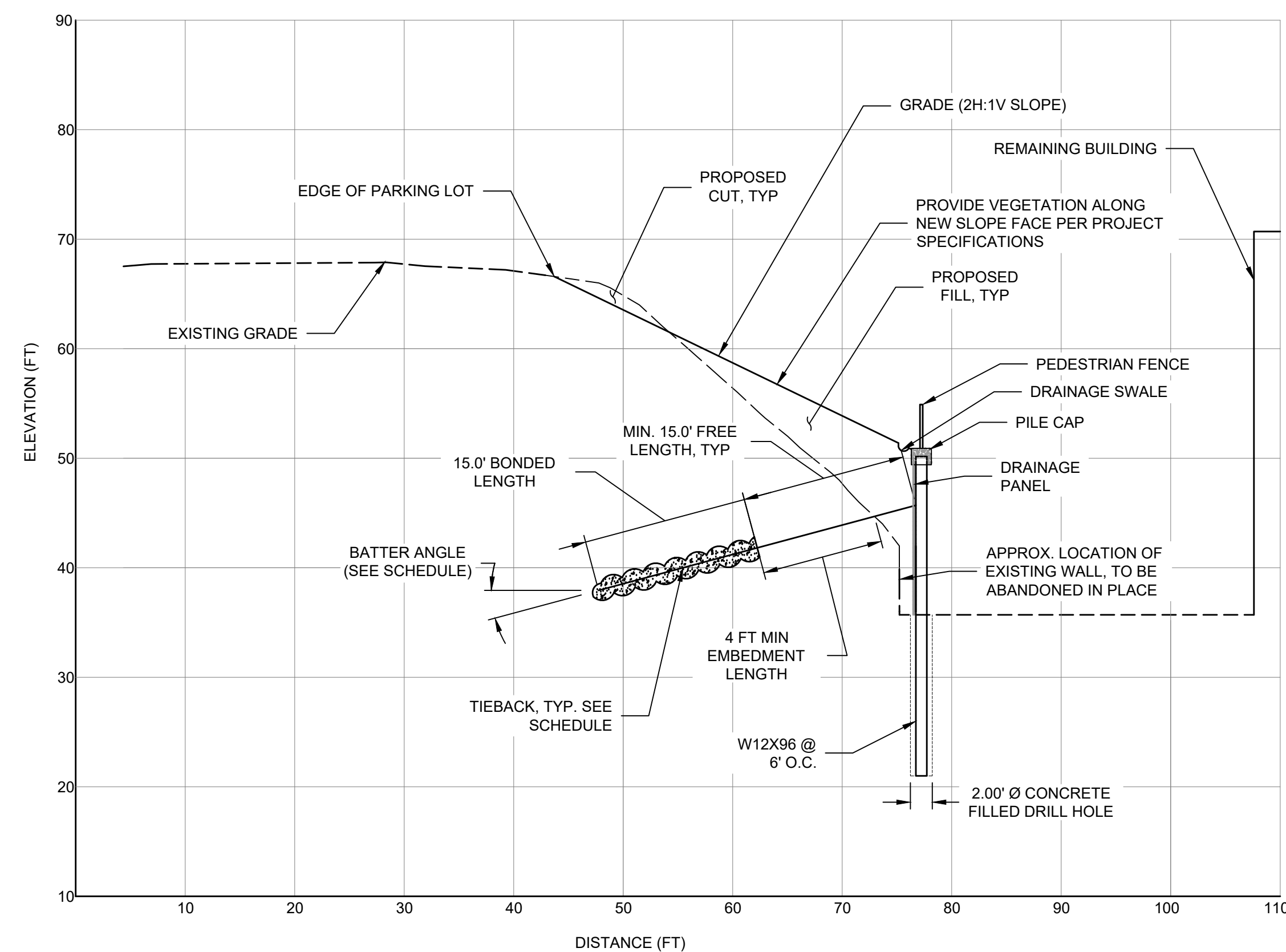
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1	4/29/2021	FOR BID	

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WALL SECTIONS	
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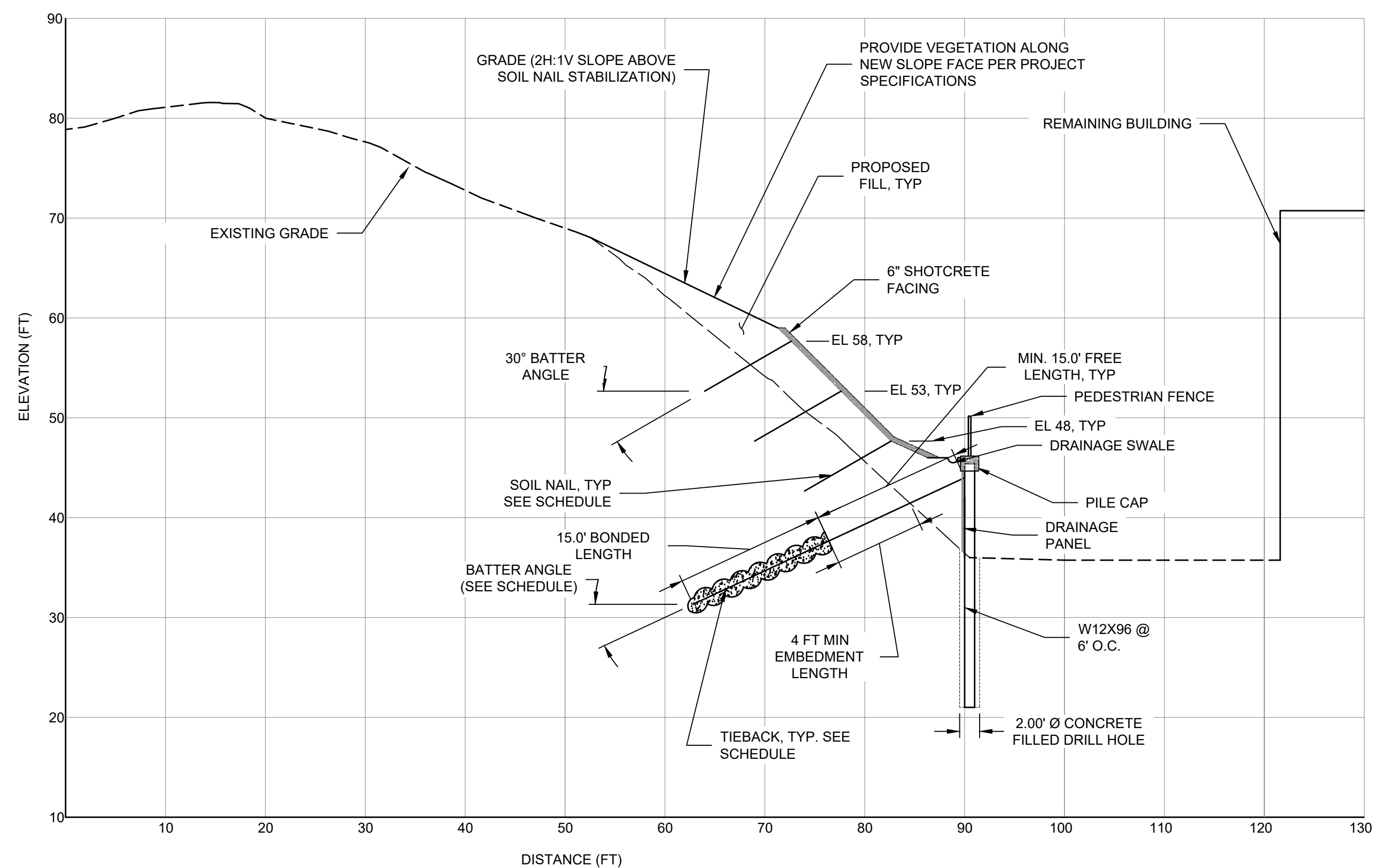
Sheet No.
B-301
4 of 41



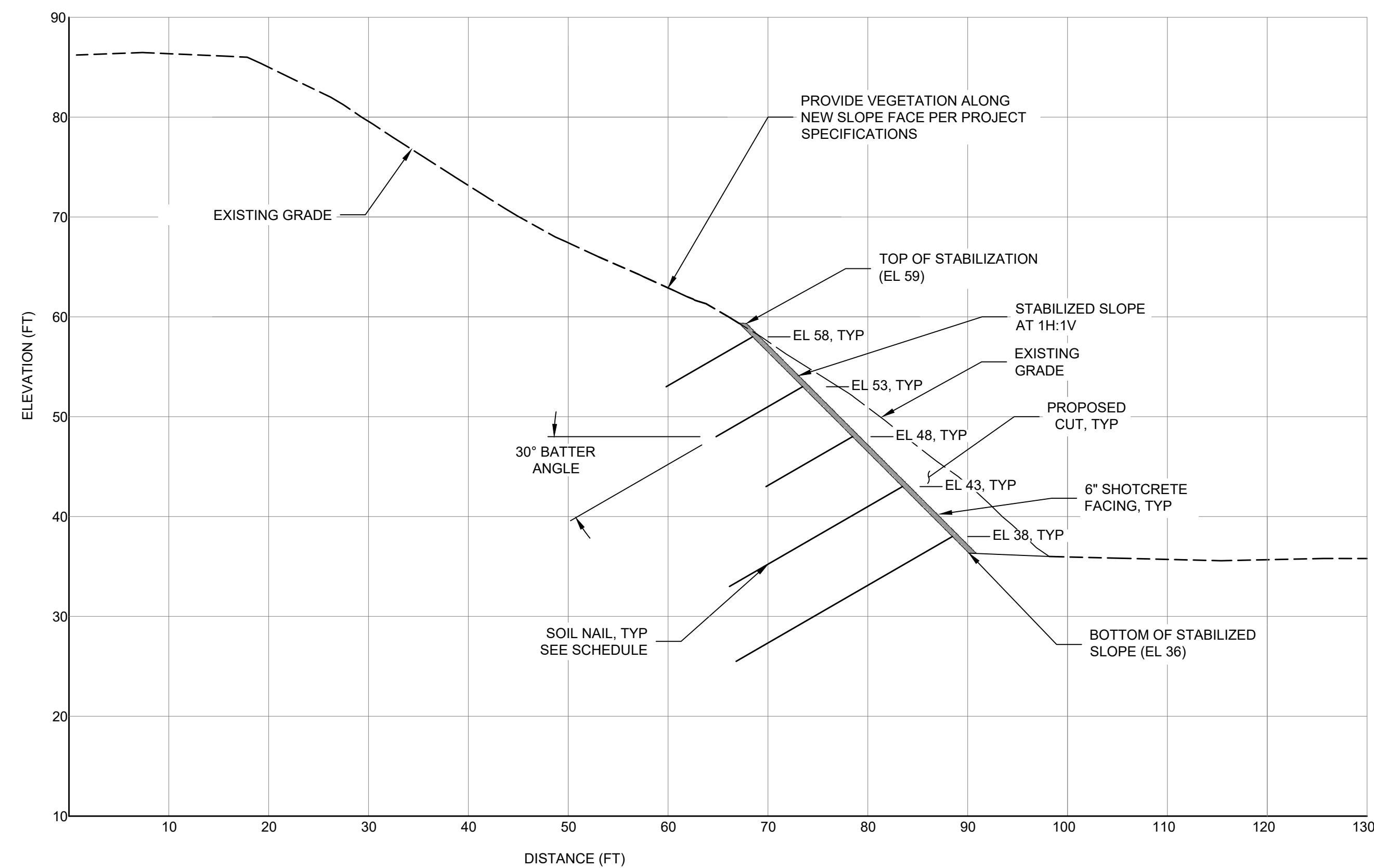
1 SECTION A - STA 0+15
 Scale: 1"=10'



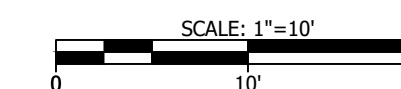
2 SECTION B - STA 0+54
 Scale: 1"=10'

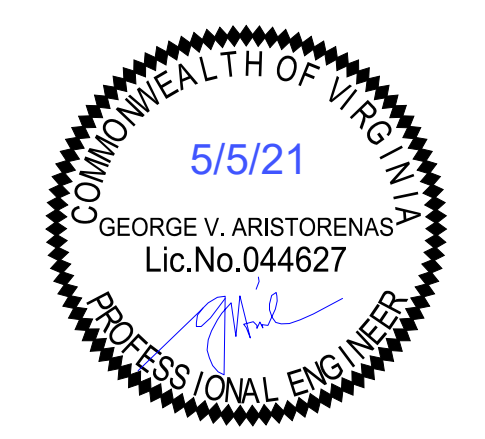


3 SECTION C - STA 1+14
 Scale: 1"=10'



4 SECTION D - STA 1+56
 Scale: 1"=10'



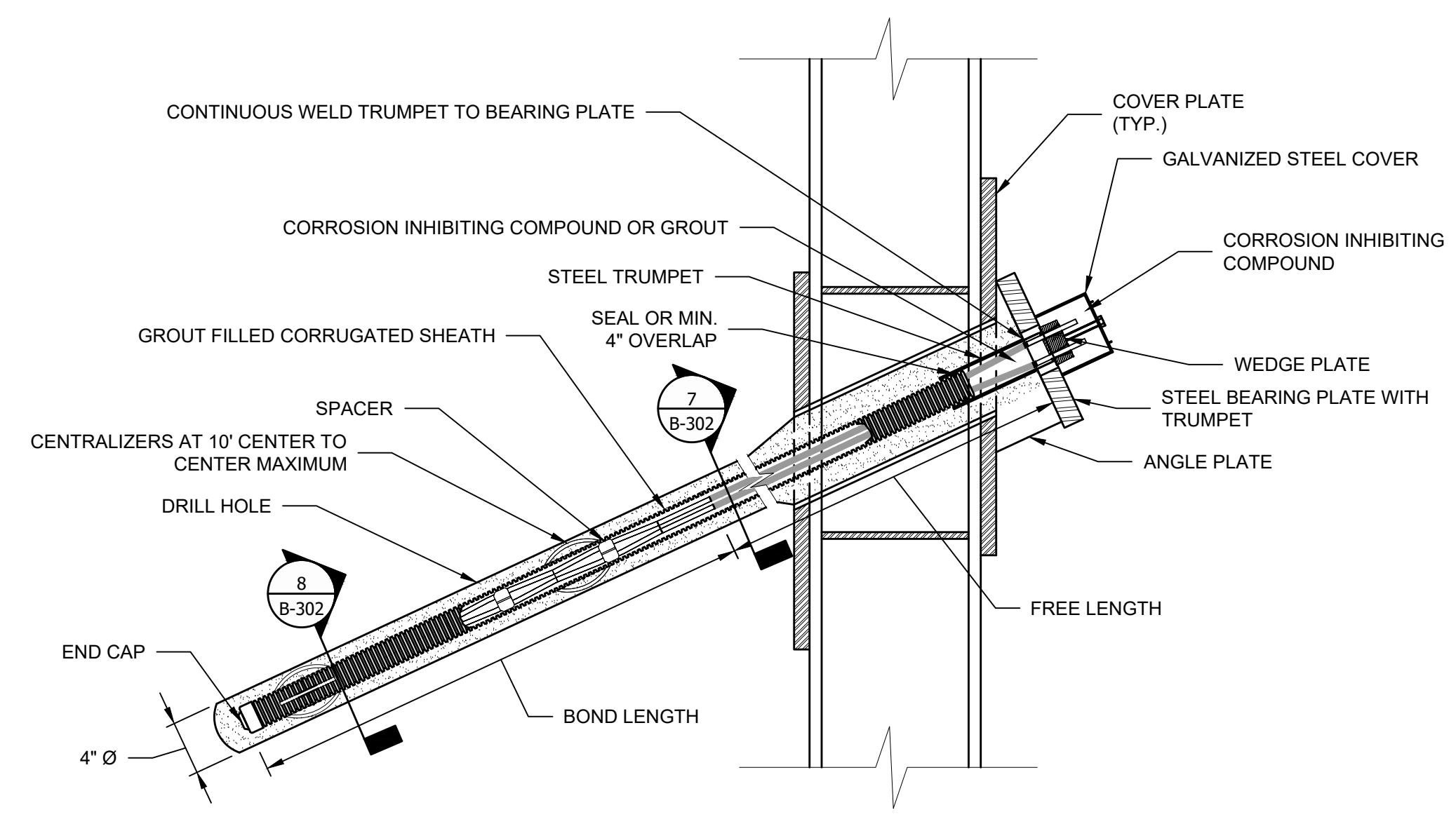


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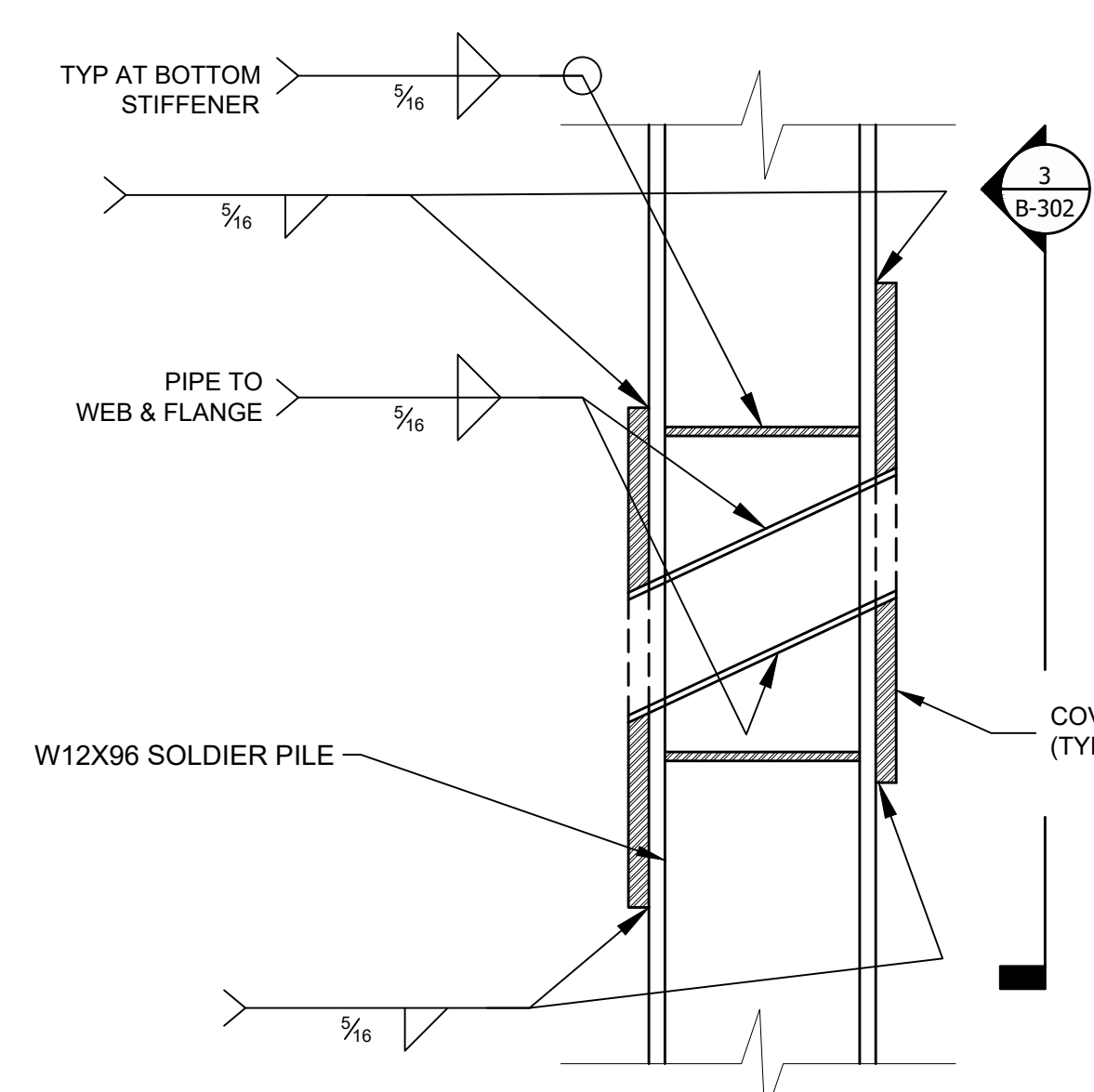
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1	4/29/2021	FOR BID	

Sheet Title
SOLDIER PILE WALL DETAILS
Drawn: GAB Approv: GVA
Scale: AS NOTED Date: 5/5/2021

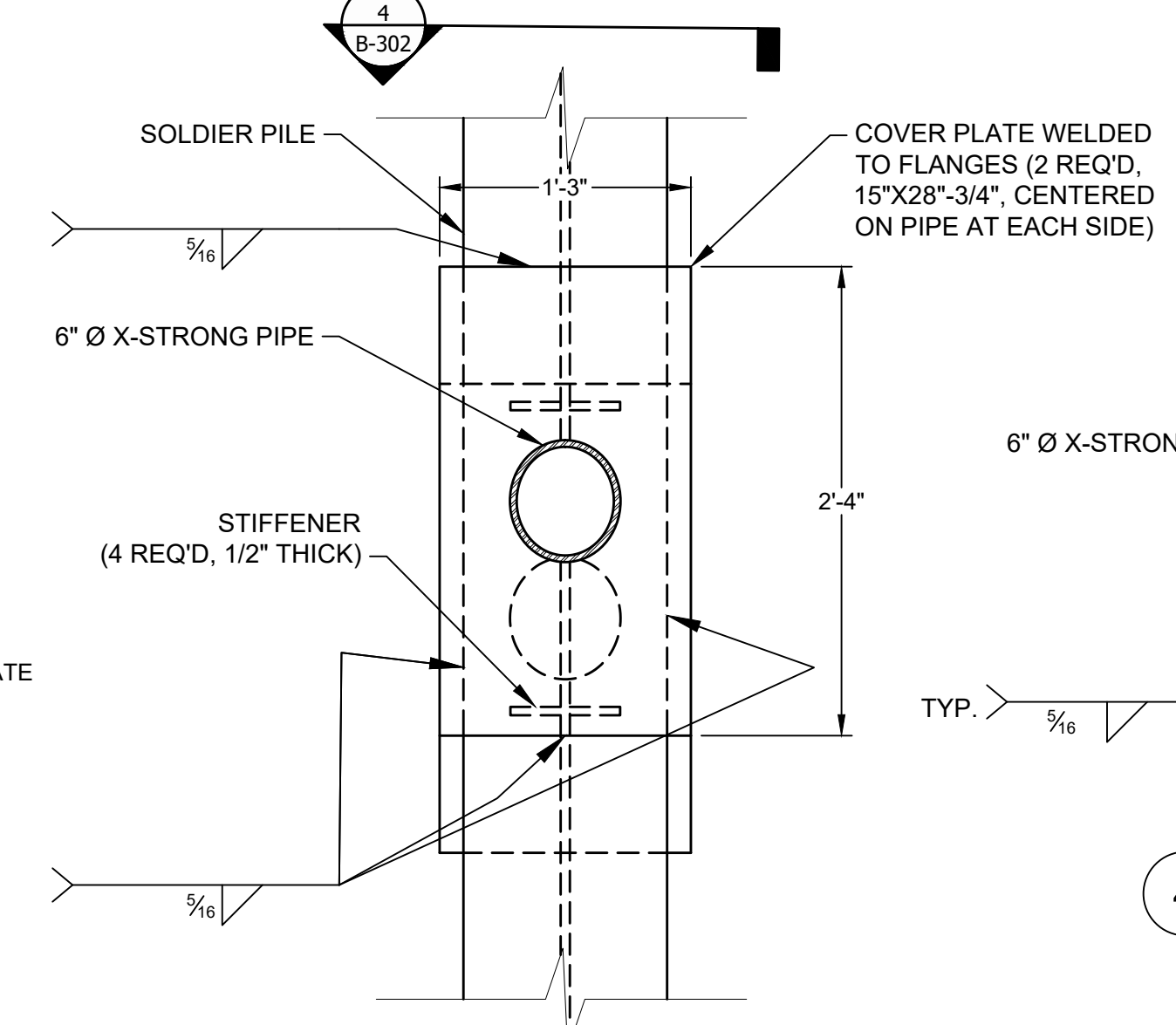
Sheet No.
B-302
5 of 41



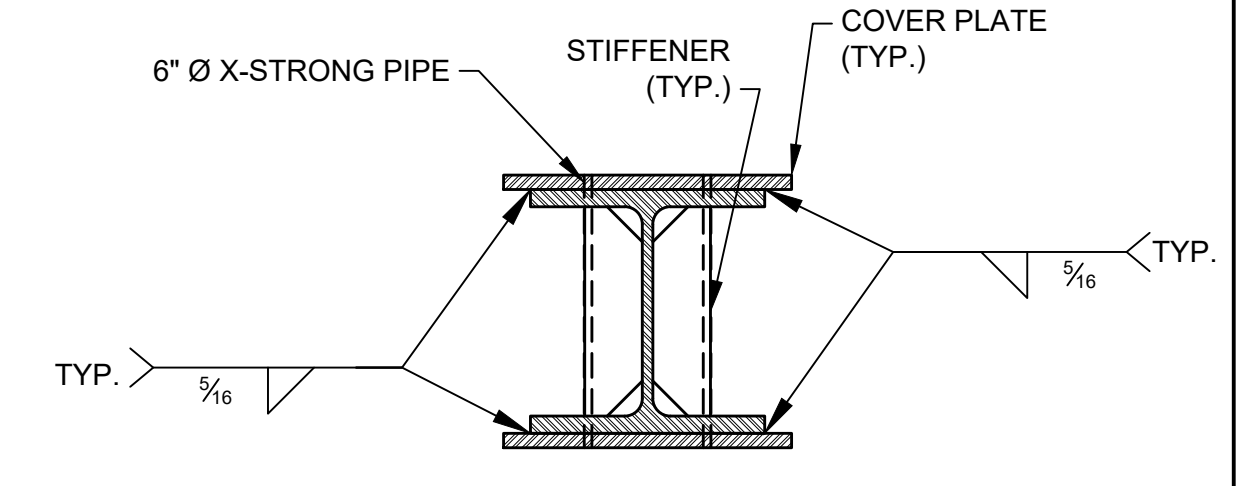
1 SECTION - TIEBACK THRU SOLDIER PILE
Scale: N.T.S.



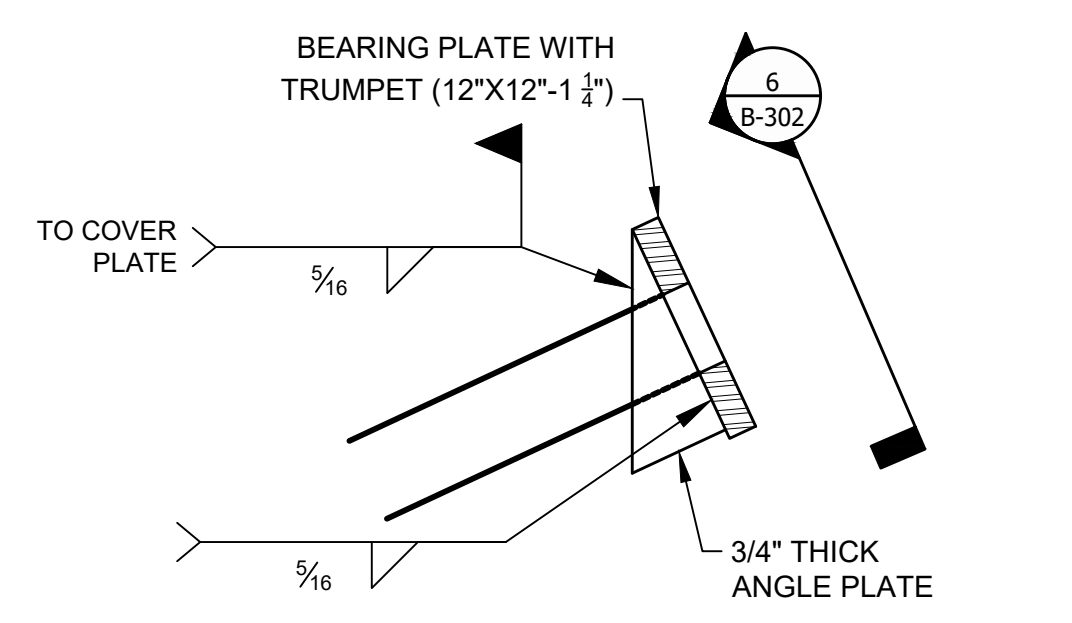
2 SECTION - SOLDIER PILE
Scale: N.T.S.



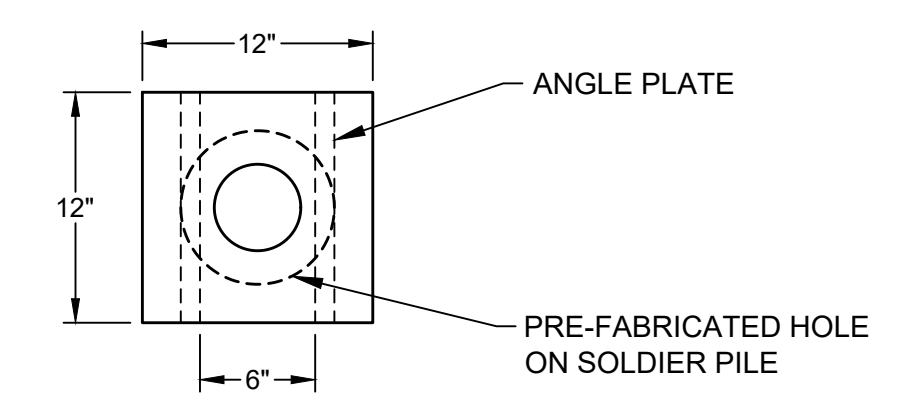
3 FRONT VIEW - SOLDIER PILE
Scale: N.T.S.



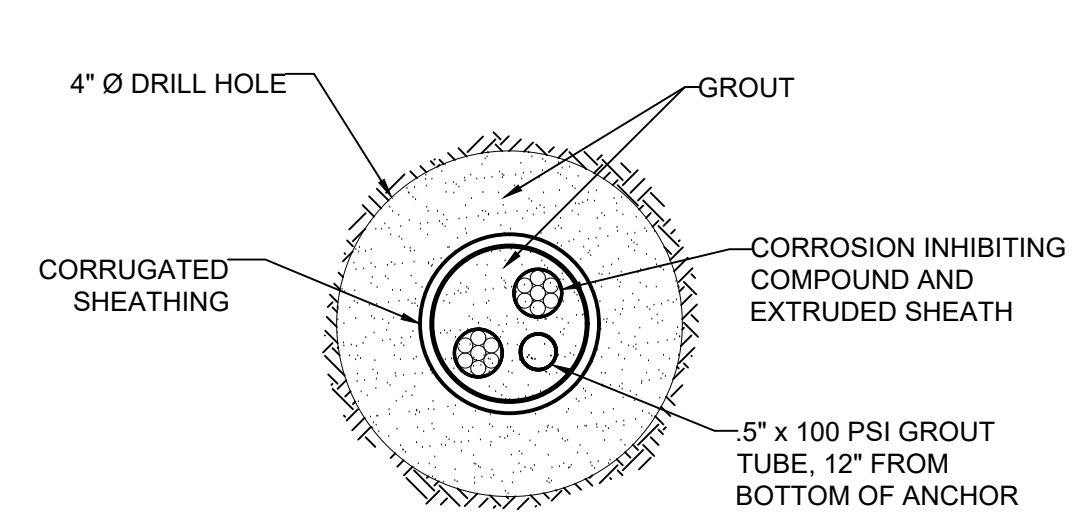
4 TOP VIEW - SOLDIER PILE
Scale: N.T.S.



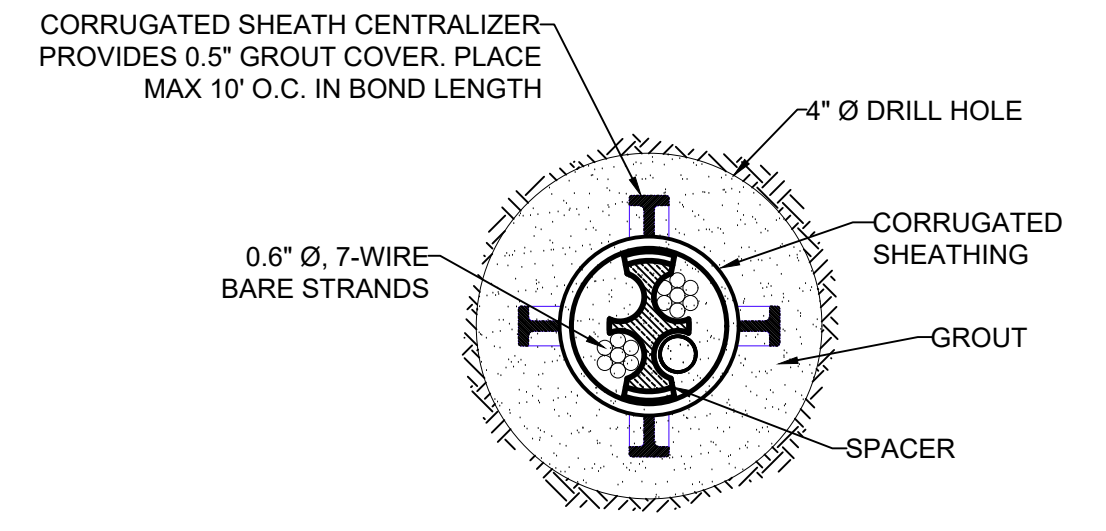
5 BEARING AND ANGLE PLATE DETAIL
Scale: N.T.S.



6 BEARING PLATE DETAIL
Scale: N.T.S.



7 TIEBACK SECTION - FREE LENGTH
Scale: N.T.S.

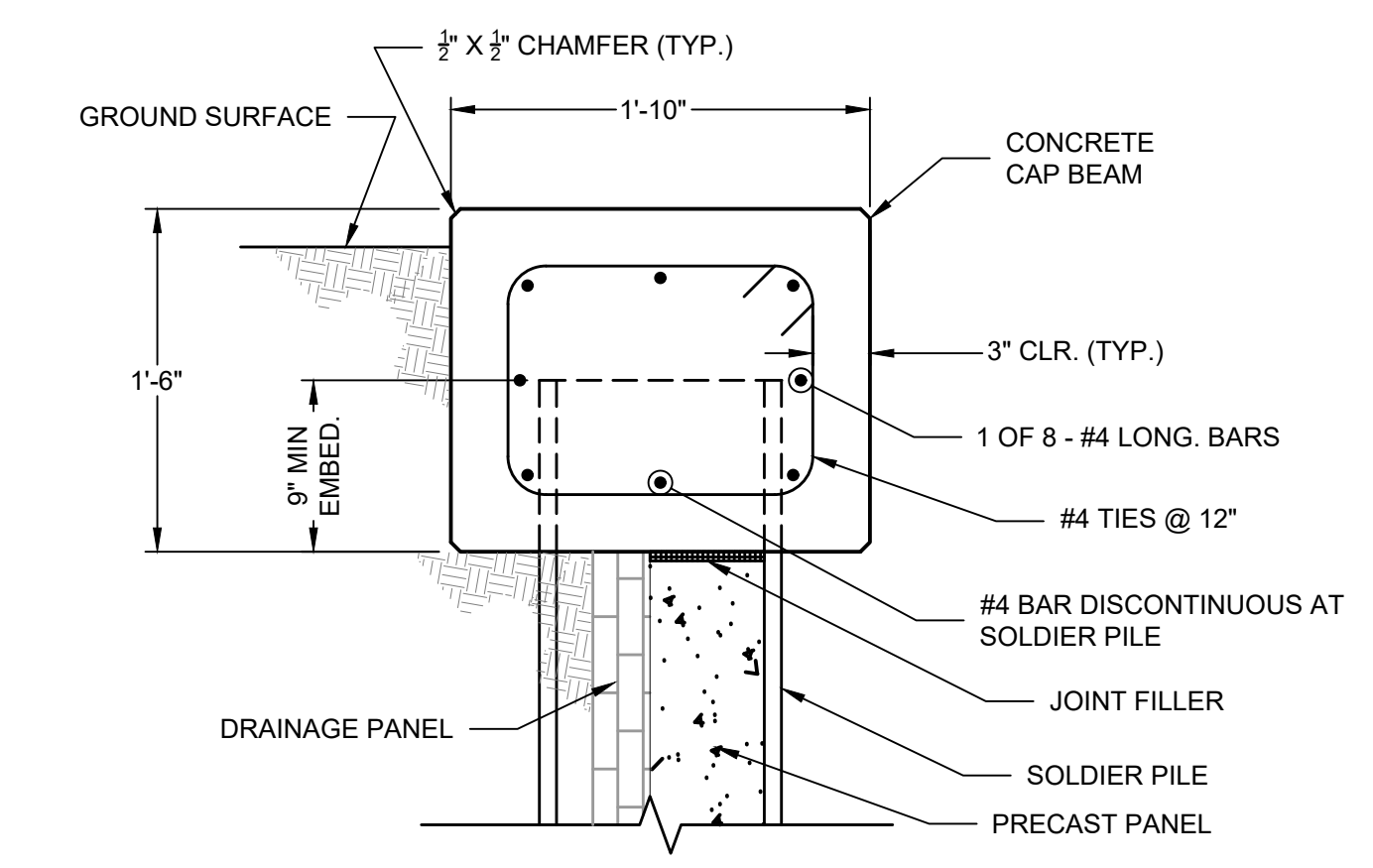


8 TIEBACK SECTION - BOND LENGTH
Scale: N.T.S.

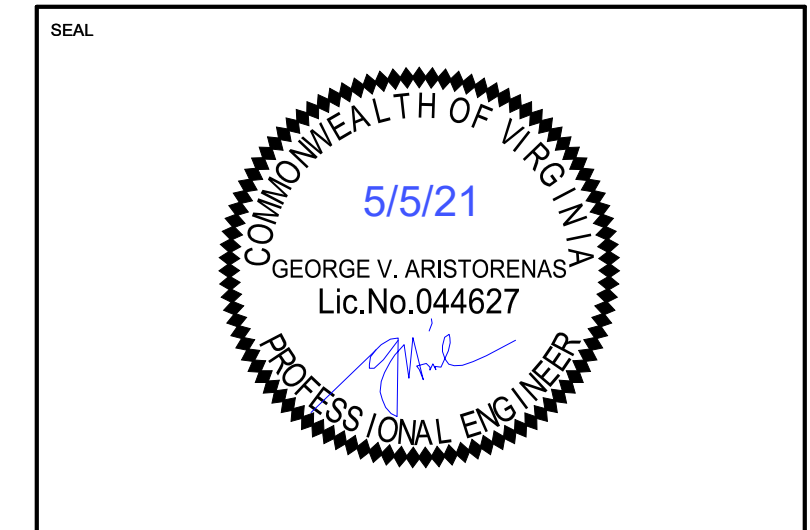
- STEEL**
1. GRADE: 50 KSI
 2. COVER PLATE: 15"X28"X3/4"
 3. X-STRONG PIPE: 6.6" O.D. AND 5.8" I.D.
 4. BEARING PLATE: 12"X12"X1-1/4"
 5. TRUMPET: 4-1/2" O.D. 4" I.D.
 6. WEDGE PLATE: 1" THICK
 7. STIFFENER: 3"X1/2" THICK

- TIEBACKS**
1. CORROSION PROTECTION CLASS: CLASS I PER PTI
 2. ANCHOR: 2-0.6"Ø 270 KSI STRANDS
 3. MIN. DRILLED HOLE DIA.: 4"

- REBAR**
1. GRADE: 60 KSI DEFORMED BARS



9 PILE CAP BEAM DETAIL
Scale: N.T.S.



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

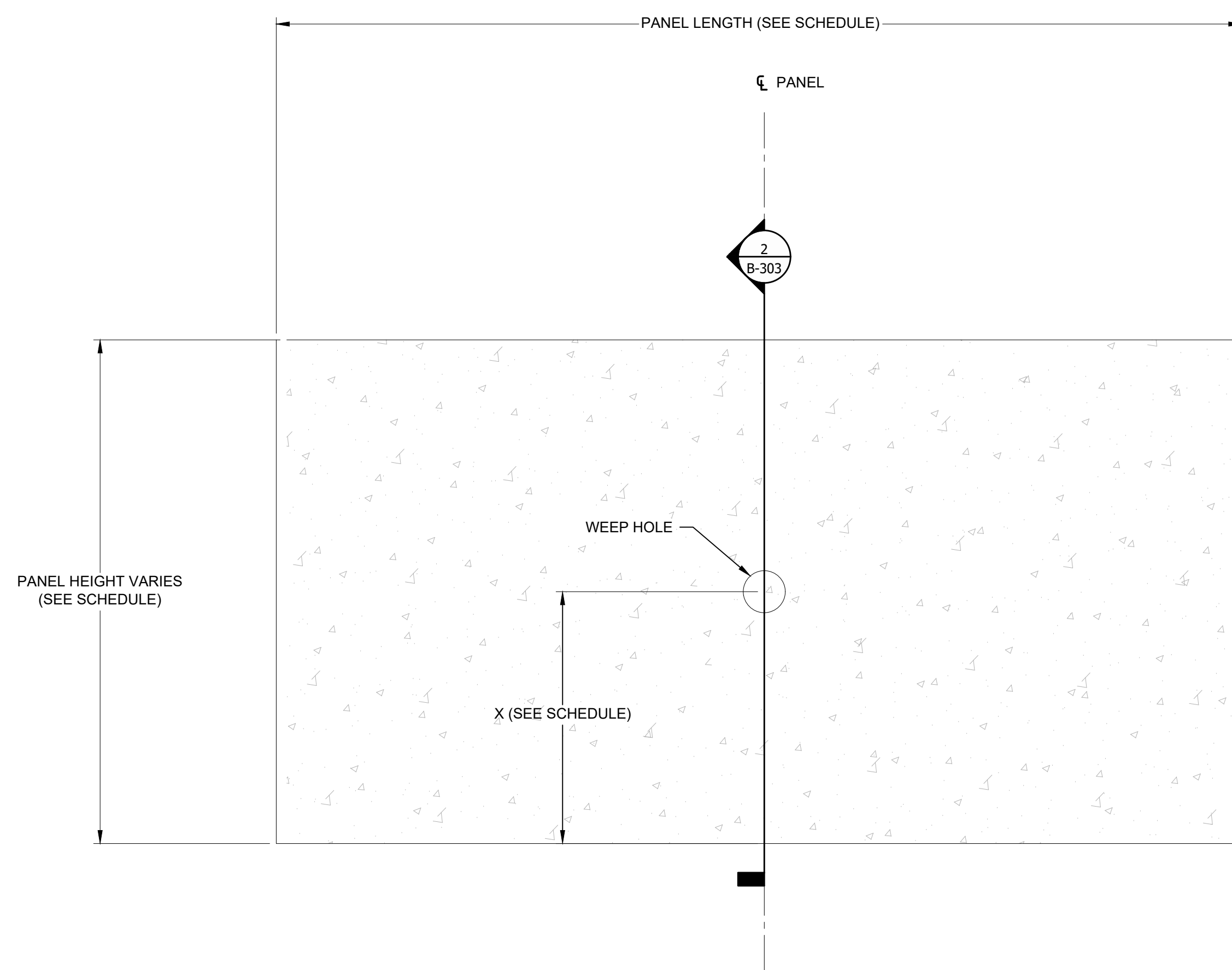
SOLDIER PILE WALL DETAILS

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 Scale: AS NOTED Date: 5/5/2021

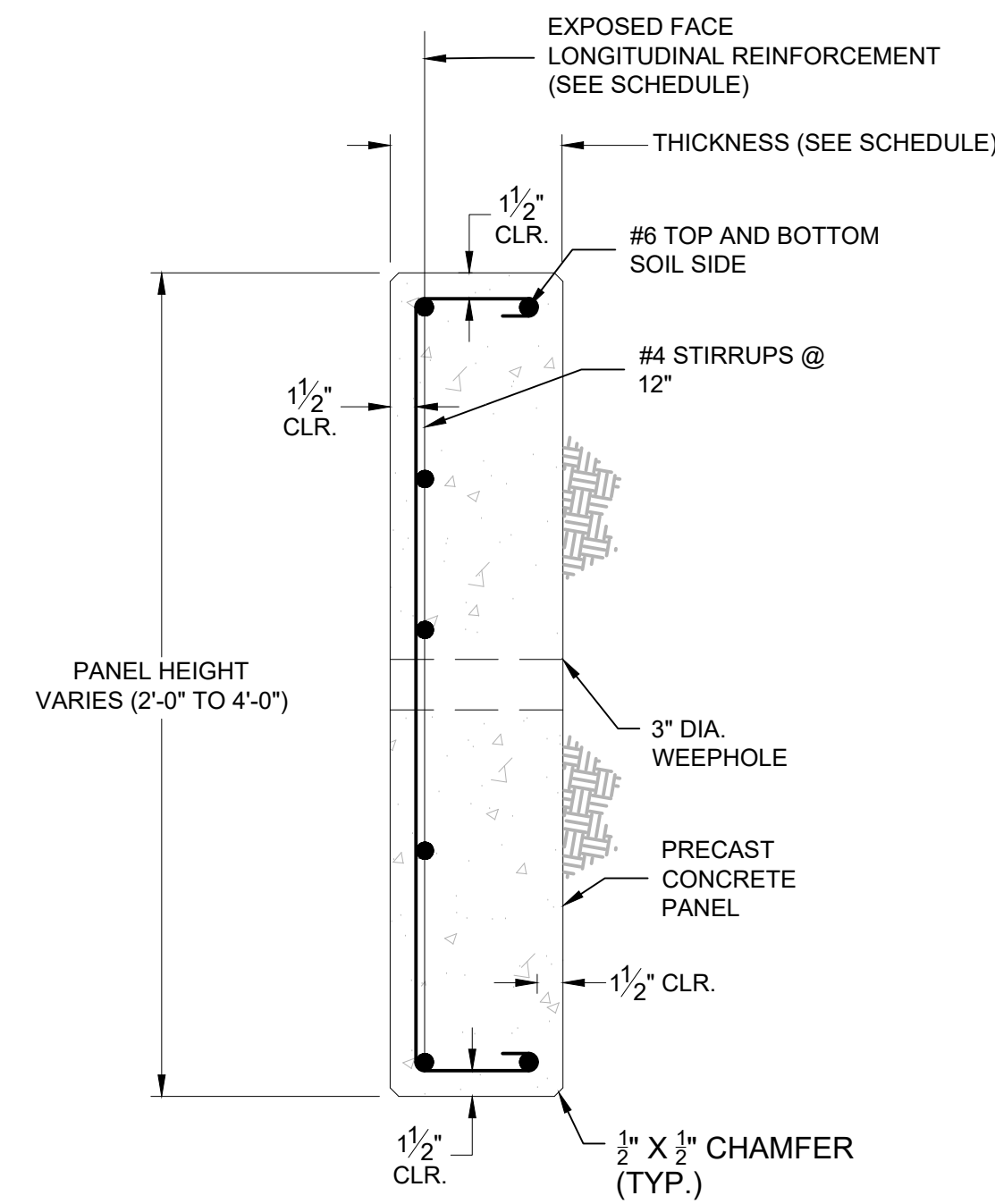
Sheet No.

B-303

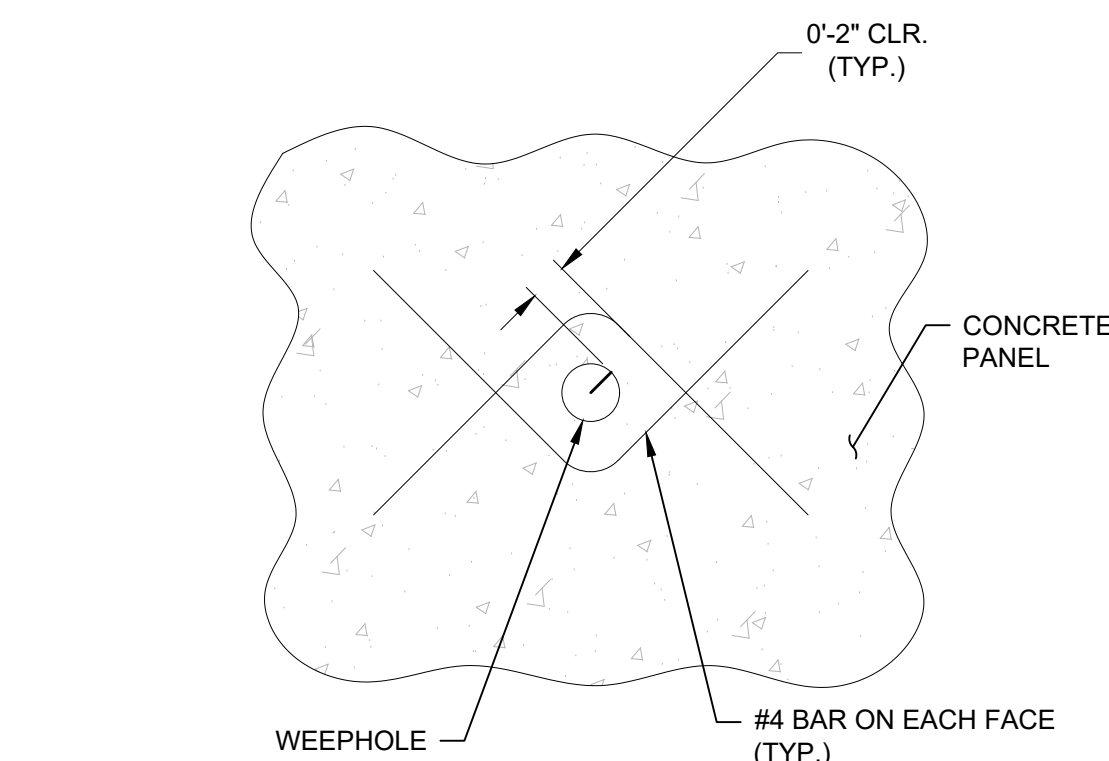
6 of 41



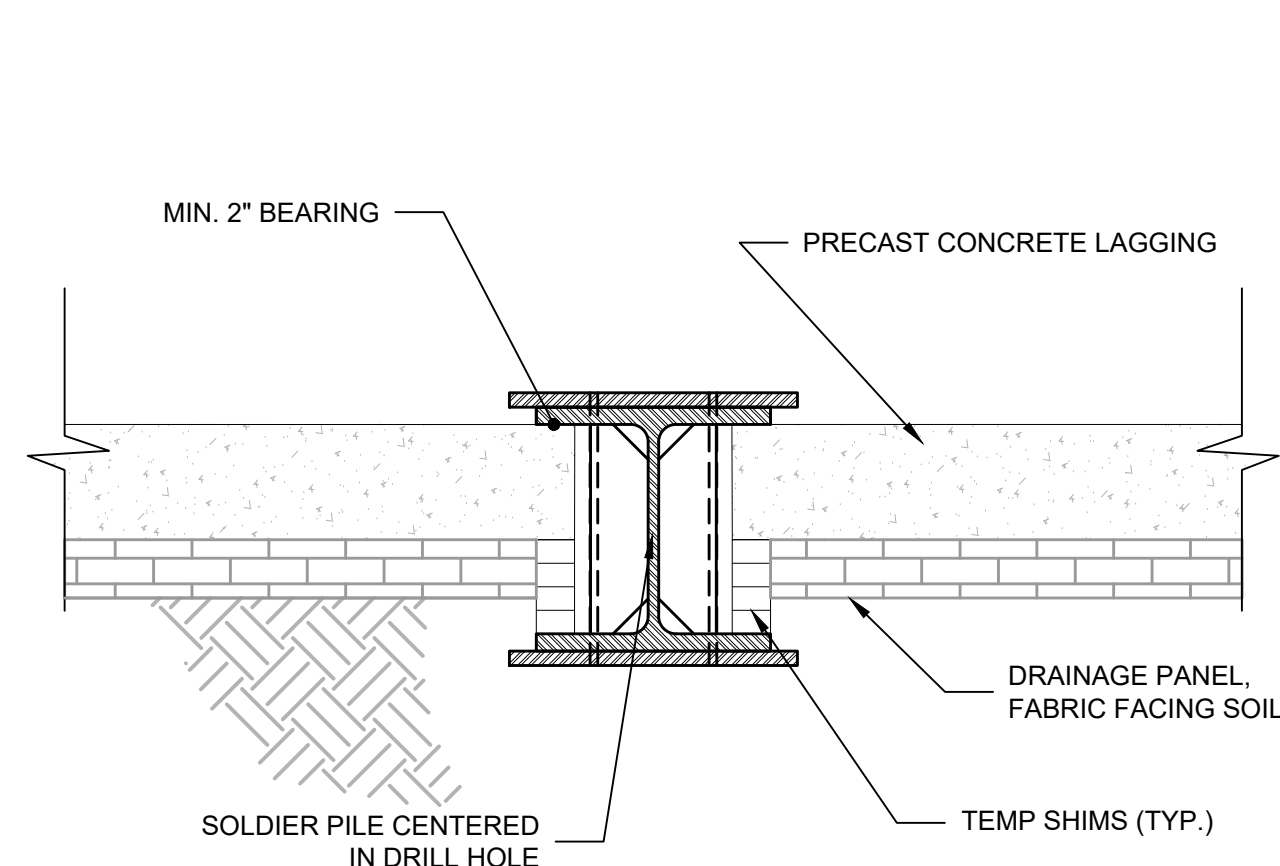
1 TYPICAL PRECAST CONCRETE PANEL DETAIL
 Scale: N.T.S.



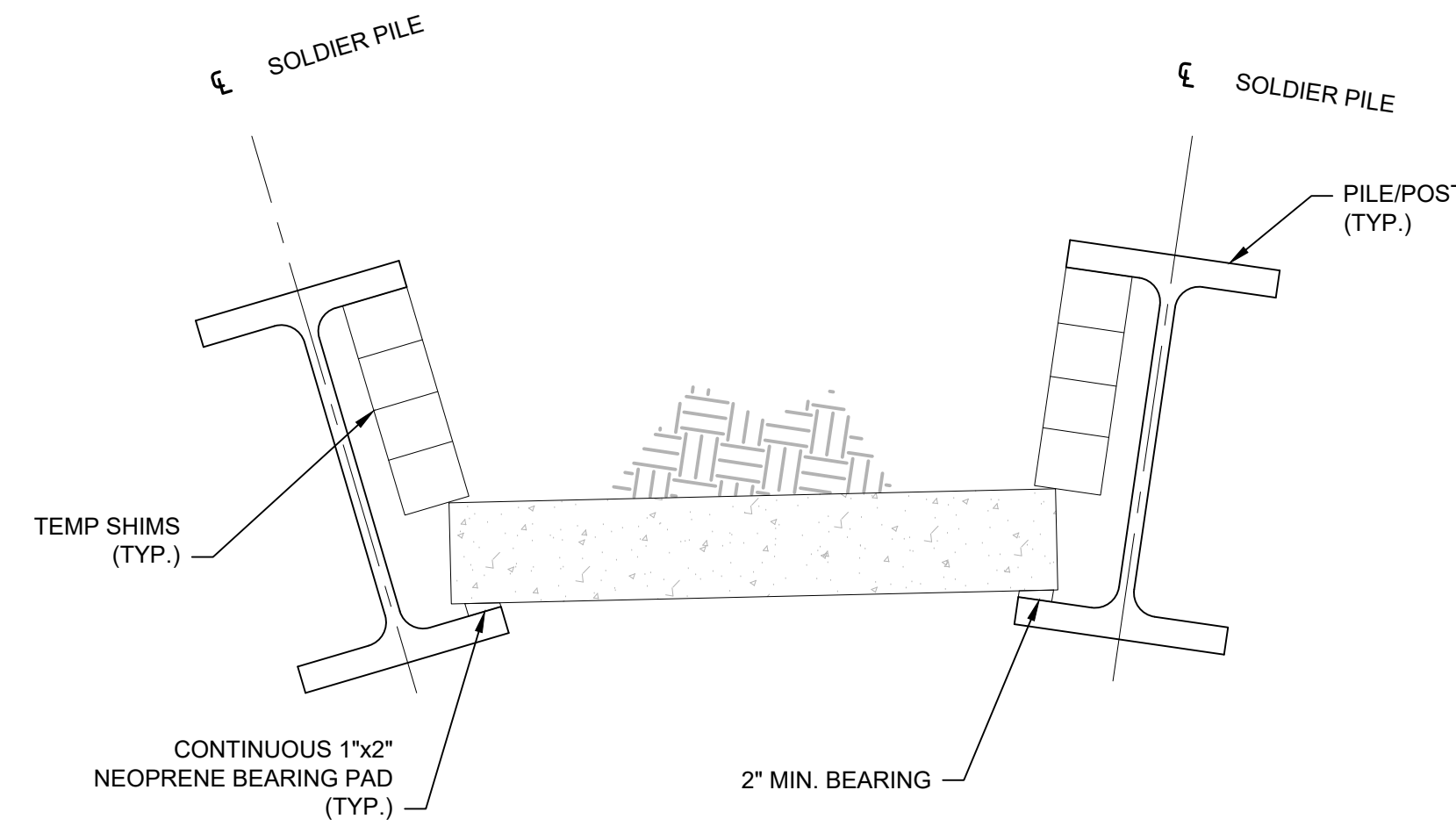
2 SECTION - PRECAST PANEL
 Scale: N.T.S.



3 TYPICAL WEEPHOLE REINFORCEMENT DETAIL
 Scale: N.T.S.



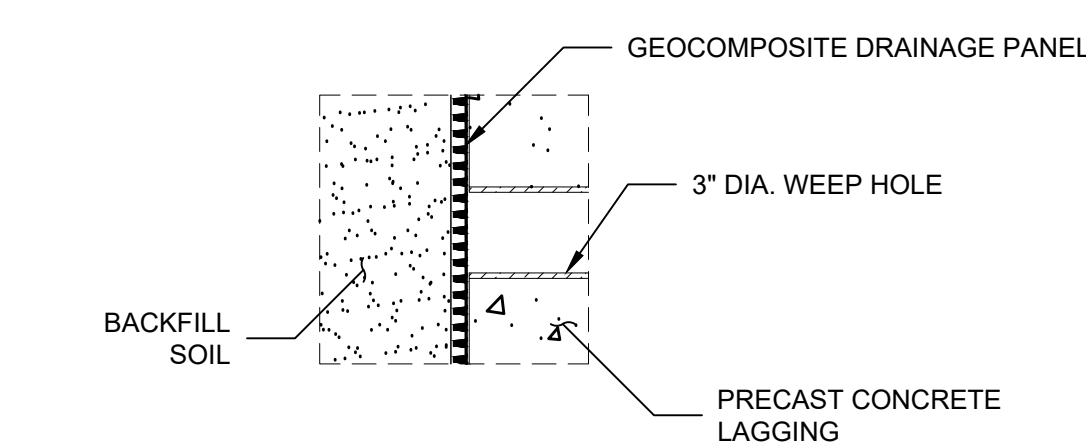
4 TYPICAL SOLDIER PILE PANEL DETAIL
 Scale: N.T.S.



5 TYPICAL WALL BEND DETAIL
 Scale: N.T.S.

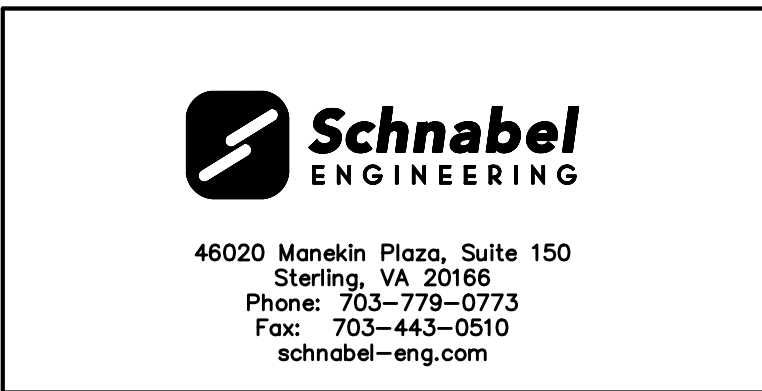
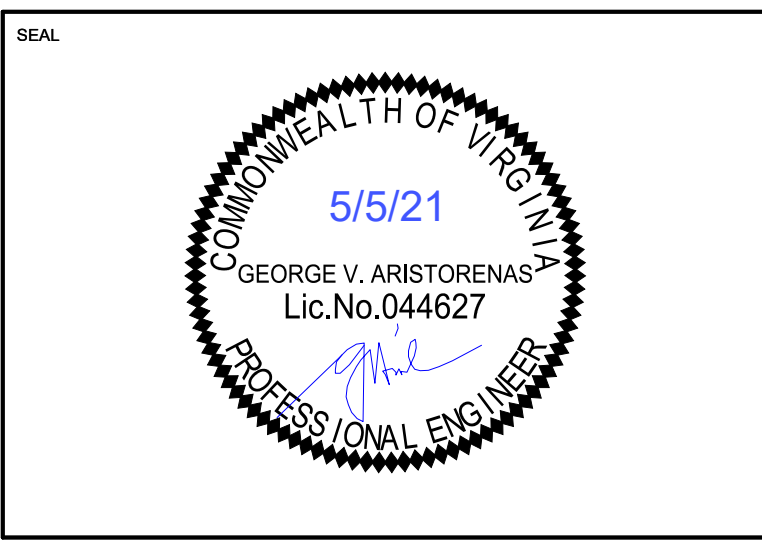
LENGTH (FT)	HEIGHT (FT)	THICKNESS (IN)	X (FT)	EXPOSED FACE LONG. REINF.
6	4	6	2	8-#6 @ Eq. SPA (6.4" MAX.)
6	2	6	-	4-#6 @ Eq. SPA (7" MAX.)
6	1	6	-	2-#6 @ Eq. SPA (9" MAX.)
3	4	6	2	8-#6 @ Eq. SPA (6.4" MAX.)
3	2	6	-	4-#6 @ Eq. SPA (7" MAX.)
3	1	6	-	2-#6 @ Eq. SPA (9" MAX.)

6 PRECAST PANEL SCHEDULE



7 WEEP HOLE CONNECTION DETAIL
 Scale: N.T.S.

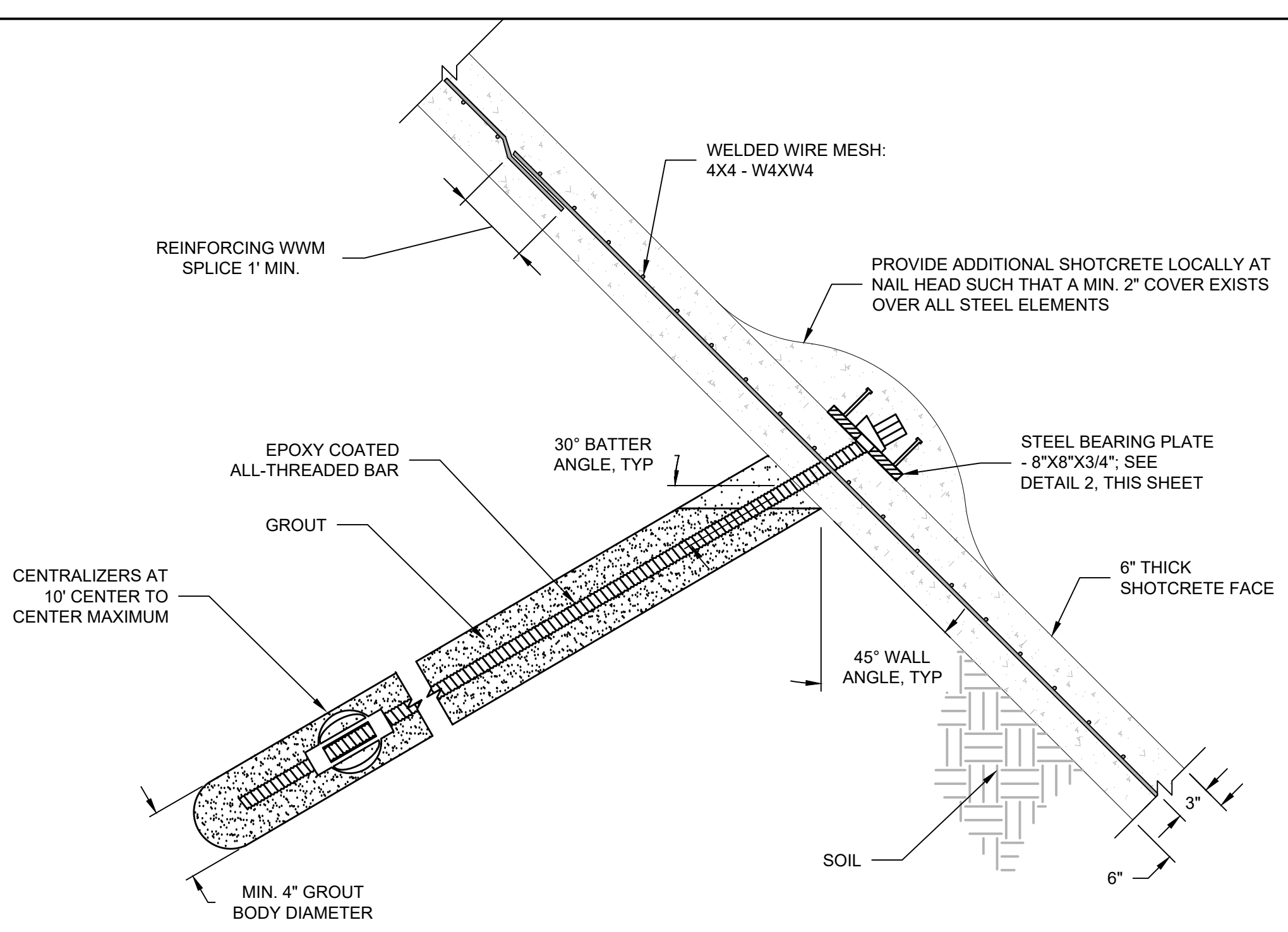
- NOTES**
- USE TEMPORARY WEDGES AS NEEDED TO HOLD CONCRETE PANELS IN PLACE BEFORE AND DURING BACKFILLING WITH SOIL.
 - PROVIDE WEEP HOLES IN THE BOTTOM ROW OF PANELS.
 - INSTALL DRAINAGE PANELS BEHIND ALL LAGGING.



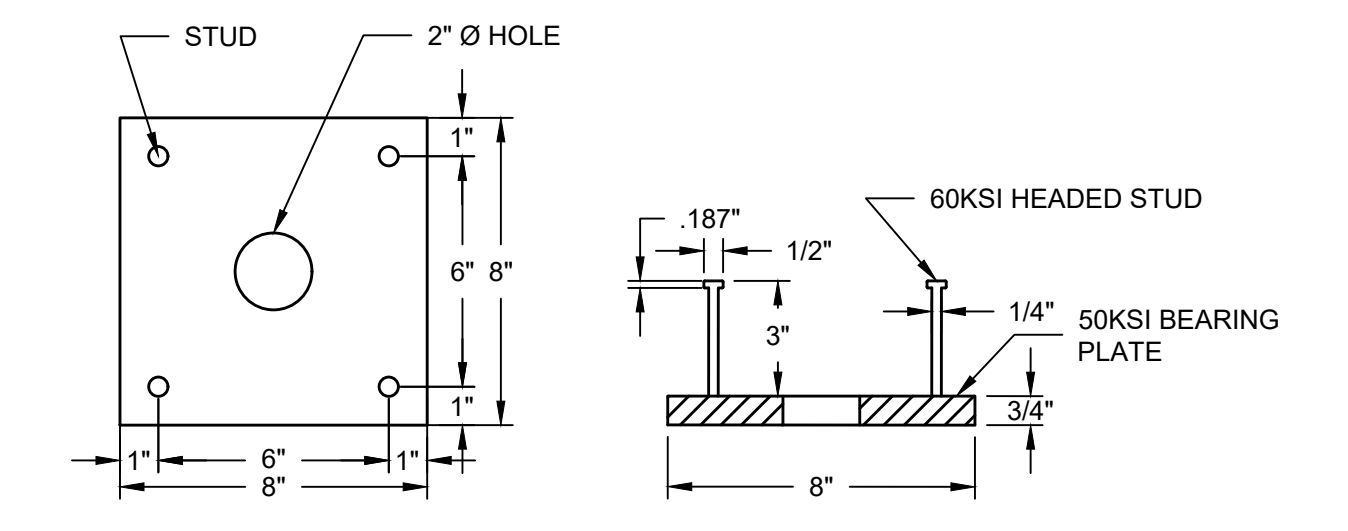
PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

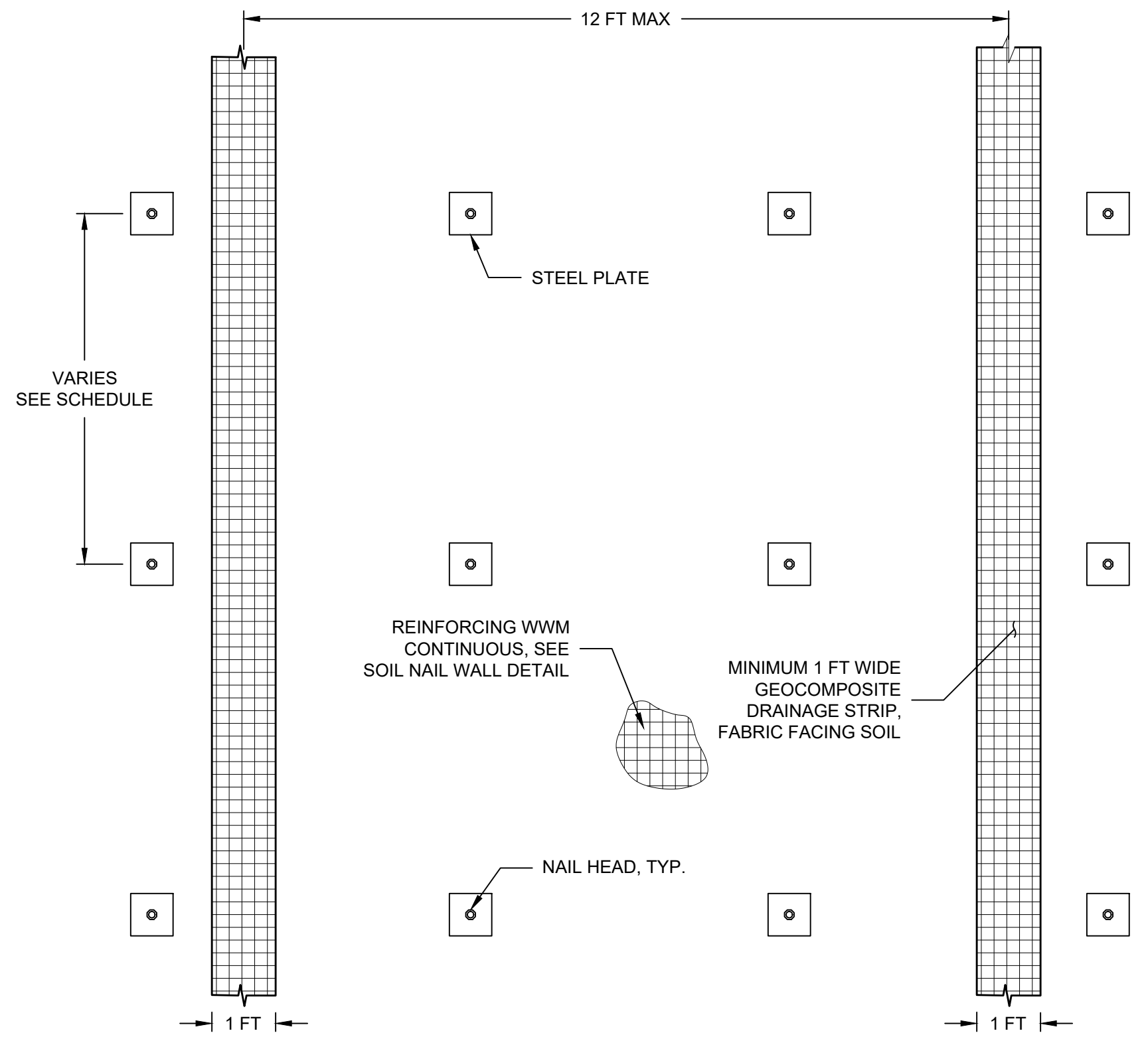
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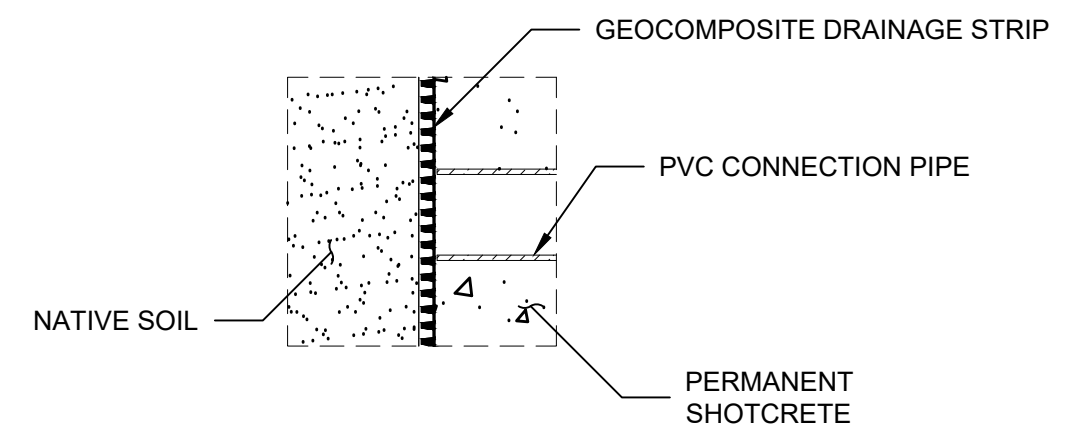
1 SOIL NAIL AND FACE DETAIL
 Scale: N.T.S.



2 SOIL NAIL BEARING PLATE WITH HEADED STUD
 Scale: N.T.S.



3 SOIL NAIL SLOPE DRAINAGE DETAIL
 Scale: N.T.S.



4 SOIL NAIL SLOPE WEEP HOLE CONNECTION DETAIL
 Scale: N.T.S.

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

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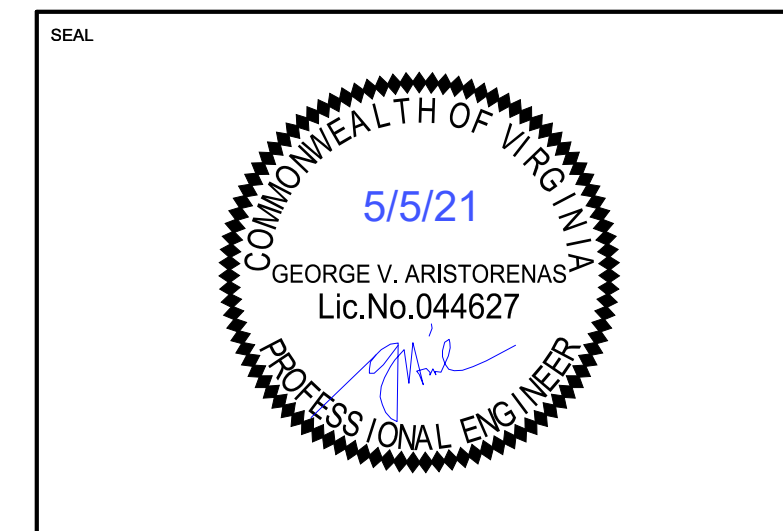
SOIL NAIL SLOPE DETAILS

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 Scale: AS NOTED Date: 5/5/2021

Sheet No.

B-304

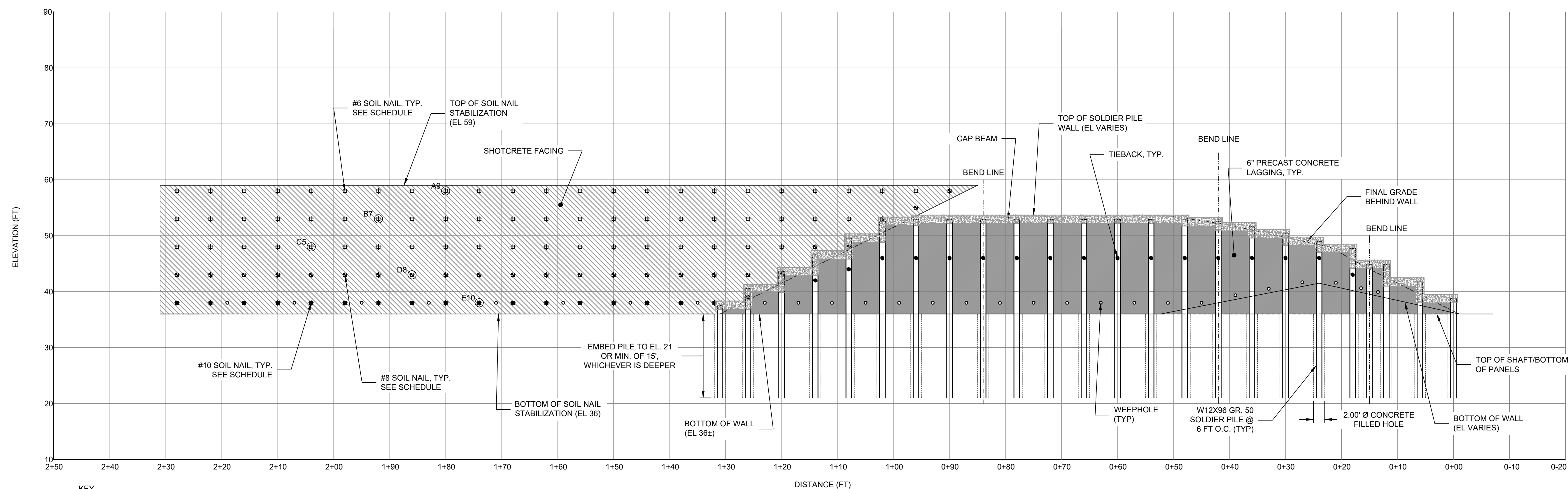
7 of 41



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
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KEY
D8 ○ SOIL NAIL DESIGNATED FOR PERFORMANCE LOAD TEST

1 ELEVATION VIEW
Scale: 1"=10'

		STA																							
		2+28	2+22	2+16	2+10	2+04	1+98	1+92	1+86	1+80	1+74	1+68	1+62	1+56	1+50	1+44	1+38	1+32	1+26	1+20	1+14	1+08	1+02	0+96	0+90
Level 1	EL	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58	58
	Size	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#8
Level 2	EL	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	53	55		
	Size	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#8	#8		
Level 3	EL	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48	48				
	Size	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#6	#8	#8			
Level 4	EL	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43	43					
	Size	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8	#8					
Level 5	EL	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38	38					
	Size	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10	#10					

NAIL	AVG. ULT. BOND STRENGTH (PSI)
A9	35
B7	35
C5	35
D8	30
E10	30

3 SOIL NAIL BOND STRENGTHS

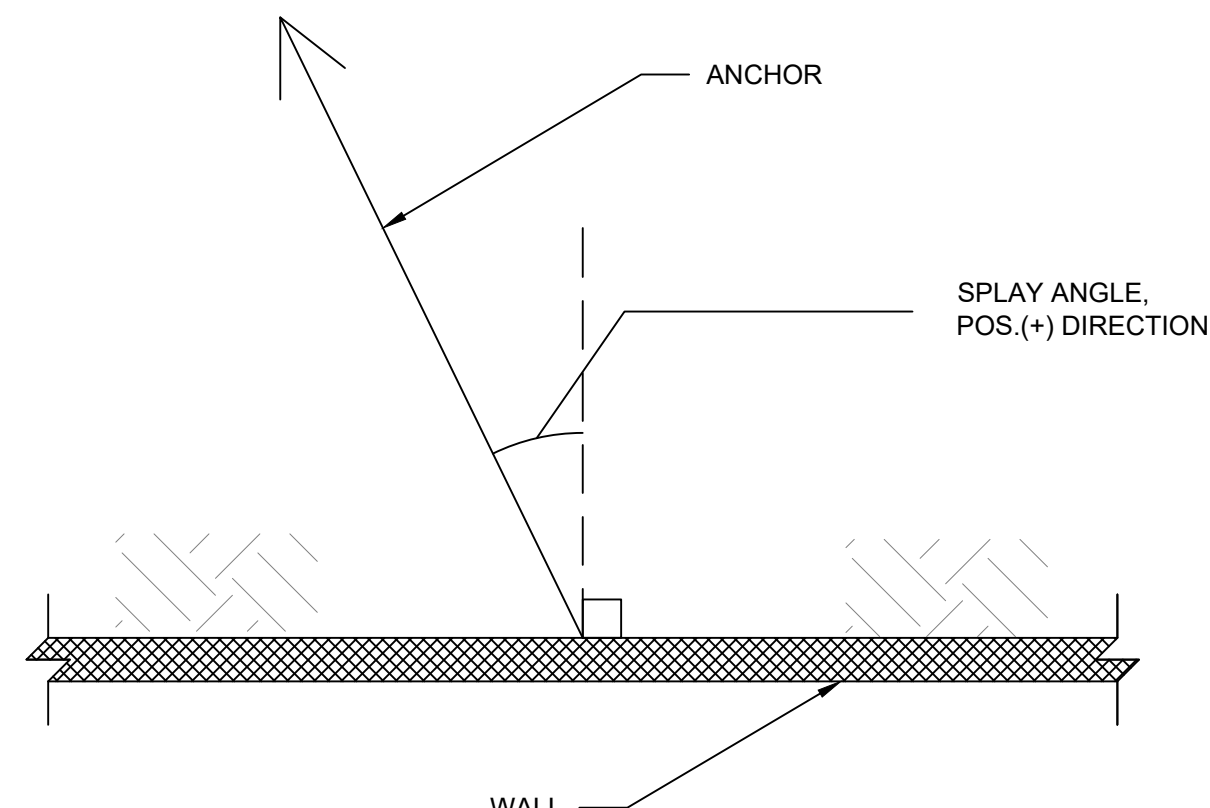
NOTES:
1. SOIL NAILS ARE EPOXY COATED GR-75 ALL-THREADED BARS
2. ALL SOIL NAILS ARE TO BE INSTALLED AT A 30-DEGREE BATTER ANGLE AS MEASURED FROM HORIZONTAL
3. ALL SOIL NAILS ARE TO BE INSTALLED PERPENDICULAR TO THE WALL ALIGNMENT

2 SOIL NAIL SCHEDULE

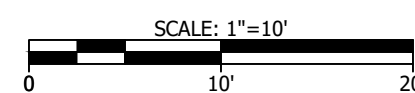
	STA																
	1+14	1+08	1+02	0+96	0+90	0+84	0+78	0+72	0+66	0+60	0+54	0+48	0+42	0+36	0+30	0+24	0+18
EL	42	44	46	46	46	46	46	46	46	46	46	46	46	46	46	46	43
BATTER ANGLE (DEG)	25	25	25	15	15	15	15	15	15	15	15	15	15	15	25	35	35
SPLAY ANGLE (DEG)	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	7

NOTES:
1. ALL TIEBACKS ARE 2-0.6" Ø GR.270 STRAND
2. ALL TIEBACKS ARE TO BE PRE-STRESSED TO 10 KIPS

4 TIEBACK SCHEDULE



5 SPLAY ANGLE KEY PLAN
Scale: N.T.S.



Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title
WALL ELEVATION AND SCHEDULE

Drawn: GAB Approv: GVA
Scale: AS NOTED Date: 5/5/2021

Sheet No.
B-601
8 of 41



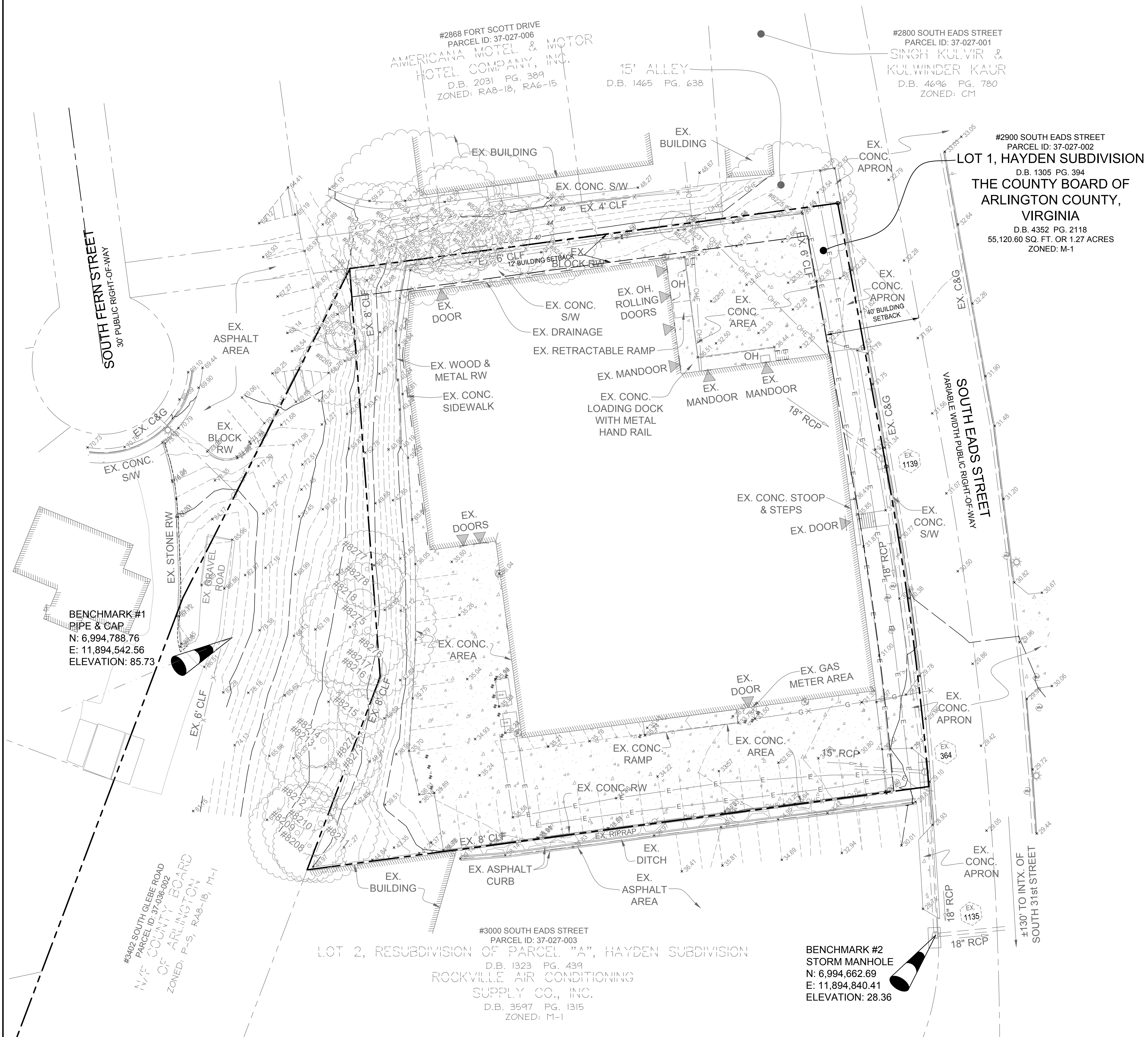
LEGEND

---	LOD	---	LOD	---	LIMIT OF DISTURBANCE
- - -		- - -		- - -	EX. INDEX CONTOUR (5')
- - -		- - -		- - -	EX. INT. CONTOUR (1')
- X -		- X -		- X -	EX. FENCE
- OHE -		- OHE -		- OHE -	EX. OVERHEAD ELECTRIC
- - -		- - -		- - -	EX. STORM PIPE
- - -		- - -		- - -	EX. DITCH CENTERLINE
- G -		- G -		- G -	EX. GAS LINE PAINT MARKING
- E -		- E -		- E -	EX. ELECTRIC PAINT MARKING
- - -		- - -		- - -	EX. PROPERTY LINE
- - -		- - -		- - -	EX. ADJOINING PROPERTY LINE
- - -		- - -		- - -	EX. ROAD CENTERLINE

⊕	EX. STORM MANHOLE
⊕	EX. STORM ROOF DRAIN
⊕	EX. WATER METER
⊕	EX. LIGHT POLE
⊕	EX. UTILITY POLE
⊕	EX. ELECTRIC BOX
⊕	EX. SIGN
⊕	EX. BOLLARD
⊕	EX. BUILDING HEIGHT
⊕	EX. FINISH FLOOR ELEVATION
⊕	EX. SPOT ELEVATION

[Pattern]	EX. ASPHALT
[Pattern]	EX. CONCRETE
[Pattern]	EX. GRAVEL
[Pattern]	EX. RIP RAP

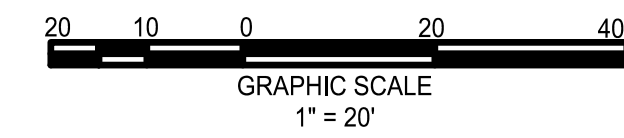
EX. CONC. S/W	EXISTING CONCRETE SIDEWALK
C&G	CURB AND GUTTER
RCP	REINFORCED CONCRETE PIPE
RW	RETAINING WALL
OH	OVERHANG
CLF	CHAIN LINK FENCE
TYP.	TYPICAL
FF	FINISHED FLOOR
IPF	IRON PIPE FOUND



BENCHMARK #1
 PIPE & CAP
 N: 6,994,788.76
 E: 11,894,542.56
 ELEVATION: 85.73

BENCHMARK #2
 STORM MANHOLE
 N: 6,994,662.69
 E: 11,894,840.41
 ELEVATION: 28.36

HORIZONTAL DATUM SHOWN HEREON IS REFERENCED TO THE VIRGINIA COORDINATE SYSTEM (VCS) 1983 NORTH AS ESTABLISHED FROM A CURRENT GPS SURVEY.
 VERTICAL DATUM SHOWN HEREON IS REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1985 (NAVD 88) AS ESTABLISHED FROM A CURRENT GPS SURVEY.



SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title
EXISTING CONDITIONS PLAN

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.
C-100

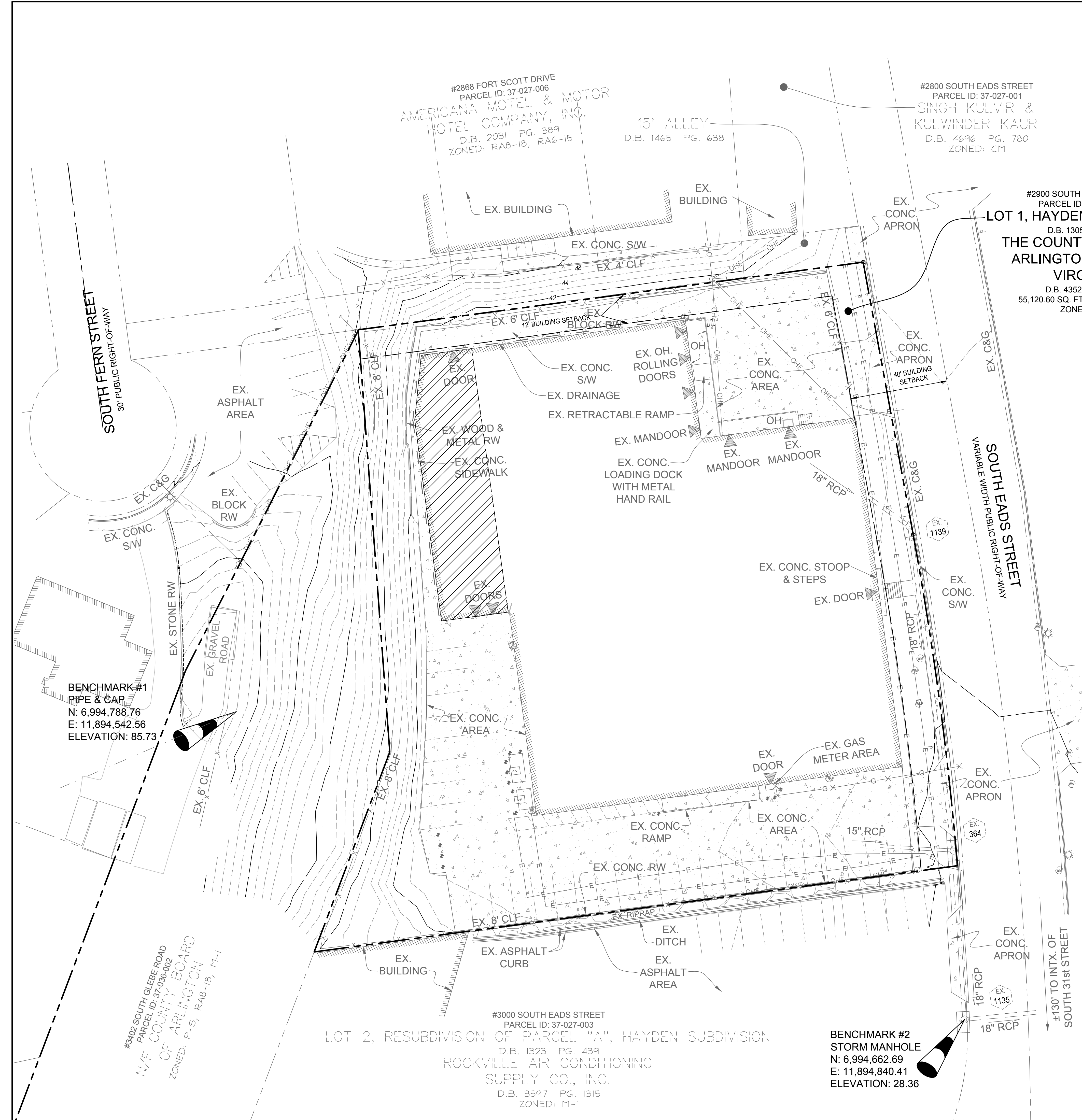
9 of 41



LEGEND

--- LOD	--- LOD	---	LIMIT OF DISTURBANCE
- - - - -	- - - - -	- - - - -	EX. INDEX CONTOUR (5')
- - - - -	- - - - -	- - - - -	EX. INT. CONTOUR (1')
- X - X -	- X - X -	- X - X -	EX. FENCE
- - - - -	- - - - -	- - - - -	EX. OVERHEAD ELECTRIC
- - - - -	- - - - -	- - - - -	EX. STORM PIPE
- - - - -	- - - - -	- - - - -	EX. DITCH CENTERLINE
- G - G -	- G - G -	- G - G -	EX. GAS LINE PAINT MARKING
- E - E -	- E - E -	- E - E -	EX. ELECTRIC PAINT MARKING
- - - - -	- - - - -	- - - - -	EX. PROPERTY LINE
- - - - -	- - - - -	- - - - -	EX. ADJOINING PROPERTY LINE
- - - - -	- - - - -	- - - - -	EX. ROAD CENTERLINE
⊙	⊙	⊙	EX. STORM MANHOLE
⊙	⊙	⊙	EX. STORM ROOF DRAIN
⊙	⊙	⊙	EX. WATER METER
⊙	⊙	⊙	EX. LIGHT POLE
⊙	⊙	⊙	EX. UTILITY POLE
⊙	⊙	⊙	EX. ELECTRIC BOX
⊙	⊙	⊙	EX. SIGN
⊙	⊙	⊙	EX. BOLLARD
⊙	⊙	⊙	EX. BUILDING HEIGHT
⊙	⊙	⊙	EX. FINISH FLOOR ELEVATION
⊙	⊙	⊙	EX. SPOT ELEVATION
⊙	⊙	⊙	EX. ASPHALT
⊙	⊙	⊙	EX. CONCRETE
⊙	⊙	⊙	EX. GRAVEL
⊙	⊙	⊙	EX. RIP RAP
⊙	⊙	⊙	EXISTING CONCRETE SIDEWALK
⊙	⊙	⊙	EXISTING CONCRETE CURB AND GUTTER
⊙	⊙	⊙	EXISTING REINFORCED CONCRETE PIPE
⊙	⊙	⊙	EXISTING RETAINING WALL
⊙	⊙	⊙	EXISTING OVERHANG
⊙	⊙	⊙	EXISTING CHAIN LINK FENCE
⊙	⊙	⊙	EXISTING TYPICAL FINISHED FLOOR
⊙	⊙	⊙	EXISTING IRON PIPE FOUND
⊙	⊙	⊙	EX. CONC. S/W
⊙	⊙	⊙	EX. C&G
⊙	⊙	⊙	EX. RW
⊙	⊙	⊙	EX. OH
⊙	⊙	⊙	EX. CLF
⊙	⊙	⊙	EX. TYP.
⊙	⊙	⊙	EX. FF
⊙	⊙	⊙	EX. IPF
⊙	⊙	⊙	TO BE REMOVED
⊙	⊙	⊙	TO BE RELOCATED
⊙	⊙	⊙	EX. BUILDING (TBR)

SEE SHEETS L-100 & L-101 FOR TREE PRESERVATION PLAN.

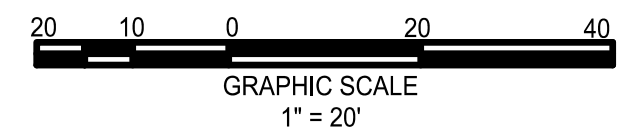


SLOPE STABILIZATION AND BUILDING MODIFICATION
 2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title
DEMOLITION PLAN
 Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.
C-101
 10 of 41





LEGEND

--- LOD --- LOD	LIMIT OF DISTURBANCE
--- 340 --- 340	EX. INDEX CONTOUR (5')
--- 346 --- 346	EX. INT. CONTOUR (1')
X X X X	EX. FENCE
OHE OHE	EX. OVERHEAD ELECTRIC
G G	EX. STORM PIPE
E E	EX. DITCH CENTERLINE
	EX. GAS LINE PAINT MARKING
	EX. ELECTRIC PAINT MARKING
	EX. PROPERTY LINE
	EX. ADJOINING PROPERTY LINE
	EX. ROAD CENTERLINE
--- 340 ---	EX. INDEX CONTOUR (10')
--- 346 ---	EX. INT. CONTOUR (2')
---	PROPOSED DITCH CENTERLINE
---	PROPOSED DITCH TOP
---	PROPOSED DITCH BOTTOM
---	PROPOSED TIEBACK EXTENTS
⊙	EX. STORM MANHOLE
⊙	EX. STORM ROOF DRAIN
⊙	EX. WATER METER
⊙	EX. LIGHT POLE
⊙	EX. UTILITY POLE
⊙	EX. ELECTRIC BOX
⊙	EX. SIGN
⊙	EX. BOLLARD
⊙	EX. BUILDING HEIGHT
⊙	EX. FINISH FLOOR ELEVATION
⊙	EX. SPOT ELEVATION
▭	EX. ASPHALT
▭	EX. CONCRETE
▭	EX. GRAVEL
▭	EX. RIP RAP
EX. CONC.	EXISTING CONCRETE
S/W	CONCRETE SIDEWALK
C&G	CURB AND GUTTER
RCP	REINFORCED CONCRETE PIPE
RW	RETAINING WALL
OH	OVERHANG
CLF	CHAIN LINK FENCE
TYP.	TYPICAL
FF	FINISHED FLOOR
IPF	IRON PIPE FOUND

NOTE:

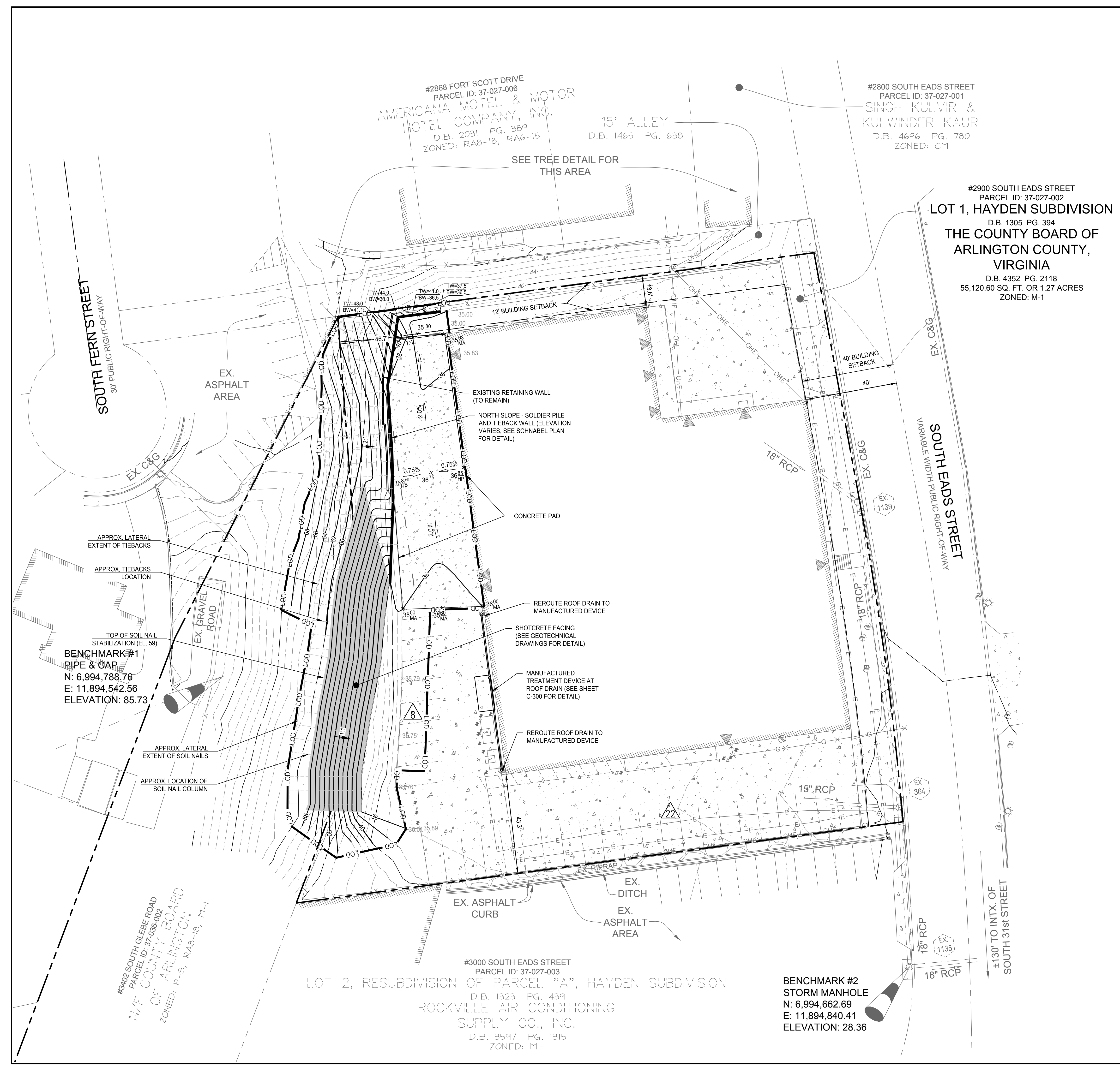
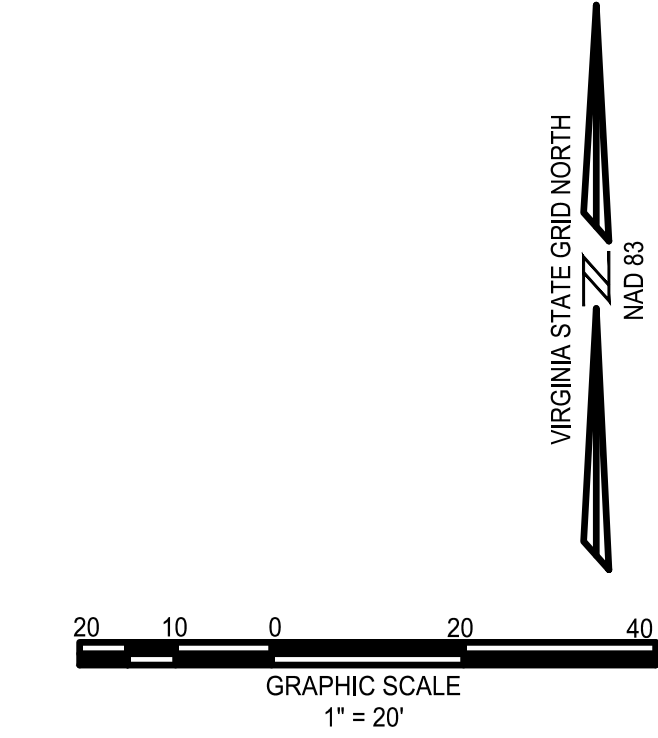
- OPTION SHOWS ALIGNMENT OF SOLDIER PILE AND TIEBACK WALL ON NORTHERN PORTION OF SLOPE. ASSUMING THE EXISTING BUILDING WILL BE PARTIALLY DEMOLISHED AND ALLOW RESTRICTED ACCESS OF CONSTRUCTION EQUIPMENT.
- THE SOLDIER PILE AND TIEBACK WALL OF THE NORTHERN SECTION IS TO CONNECT WITH THE SOLDIER PILE AND LAGGING WALL OF THE SOUTHERN SECTION.
- LATERAL EXTENT OF TIEBACKS ASSUMES A TOTAL TIEBACK LENGTH (BONDED + UNBONDED LENGTH) OF 30FT AND A 15° BATTER ANGLE.

BUILDING HEIGHT
 REQUIRED: 75' MAX
 PROVIDED: AVERAGE GRADE (31.0+32.6+35.5+35.2)/4=33.6
 SLAB ELEVATION: 36.3
 ROOF 19'11"
 19.92+(36.3-33.6) = 22.62' HGT

SETBACKS
 FRONT REQUIRED: 40' FROM CENTERLINE OF ROAD
 SIDE AND REAR REQUIRED: NONE
 ADJACENT TO RA: 8' FOR FIRST 10' HGT, THEN 2' FOR EVERY 10' HGT
 8' + 2' + 2' = 12' REQUIRED

FRONT PROVIDED: 40'
 SIDE ADJACENT TO RA: 13.8'

PARKING
 REQUIRED: 1 SPACE/1,000 OF FLOOR AREA OR 1 SPACE FOR EACH 2 EMPLOYEES WHICHEVER IS GREATER (26,080 SF BLDG/1,000 SF) 27 SPACES REQUIRED
 PROVIDED: 30 SPACES



SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

SITE PLAN

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.

C-110

11 of 41

#3000 SOUTH EADS STREET
 PARCEL ID: 37-027-003
 LOT 2, RESUBDIVISION OF PARCEL "A", HAYDEN SUBDIVISION
 D.B. 1323 PG. 439
 ROCKVILLE AIR CONDITIONING
 SUPPLY CO., INC.
 D.B. 3597 PG. 1315
 ZONED: M-1

BENCHMARK #2
 STORM MANHOLE
 N: 6,994,662.69
 E: 11,894,840.41
 ELEVATION: 28.36

#2900 SOUTH EADS STREET
 PARCEL ID: 37-027-002
 LOT 1, HAYDEN SUBDIVISION
 D.B. 1305 PG. 394
 THE COUNTY BOARD OF
 ARLINGTON COUNTY,
 VIRGINIA
 D.B. 4352 PG. 2118
 55,120.60 SQ. FT. OR 1.27 ACRES
 ZONED: M-1

#2868 FORT SCOTT DRIVE
 PARCEL ID: 37-027-006
 AMERICANA MOTEL & MOTOR
 HOTEL COMPANY, INC.
 D.B. 2031 PG. 389
 ZONED: RA8-18, RA6-15

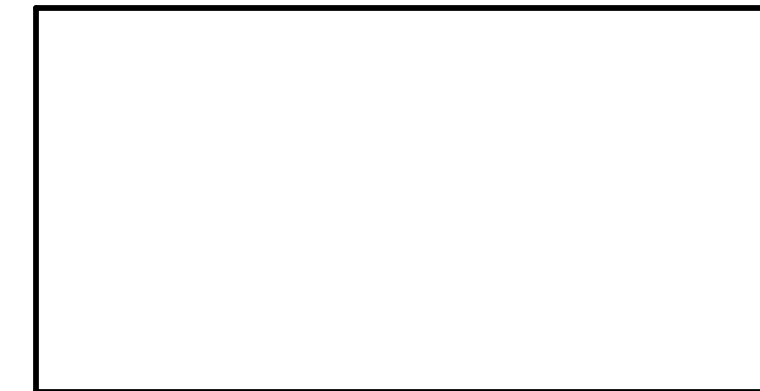
#2800 SOUTH EADS STREET
 PARCEL ID: 37-027-001
 SINGH KULVIR &
 KULWINDER KAUR
 D.B. 4696 PG. 780
 ZONED: CM

SOUTH FERN STREET
 30' PUBLIC RIGHT-OF-WAY

SOUTH EADS STREET
 VARIABLE WIDTH PUBLIC RIGHT-OF-WAY

#3402 SOUTH GLEBE ROAD
 PARCEL ID: 37-038-002
 N/F COUNTY BOARD
 OF ARLINGTON
 ZONED: P-S, RA8-18, M-1

BENCHMARK #1
 PIPE & CAP
 N: 6,994,788.76
 E: 11,894,542.56
 ELEVATION: 85.73



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title **EROSION AND SEDIMENT CONTROL PHASE 1**

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.
C-140

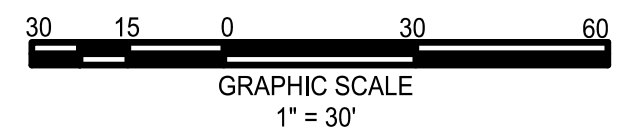
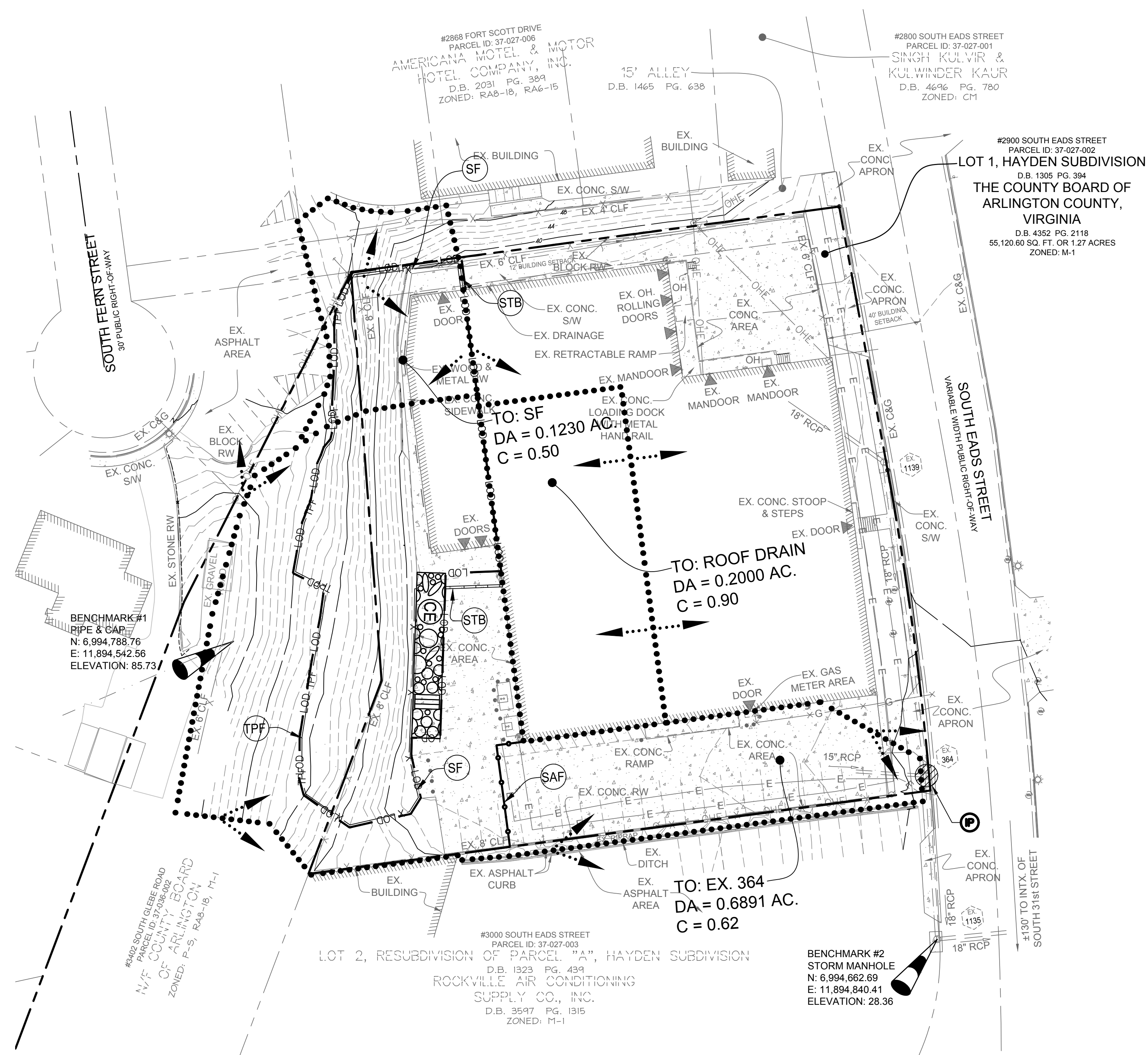
12 of 41

EROSION & SEDIMENT CONTROL LEGEND

- LOD LIMITS OF DISTURBANCE
- CE TEMPORARY CONSTRUCTION ENTRANCE, SPEC. 3.02
- IP INLET PROTECTION, SPEC. 3.07
- CIP CULVERT INLET PROTECTION, SPEC. 3.08
- SF SILT FENCE, SPEC. 3.05
- STB STRAW BALE BARRIER, SPEC. 3.04
- PRE DEVELOPMENT DRAINAGE DIVIDES
- ST SEDIMENT TRAP, SPEC. 2-11
- SAF SAFETY FENCE, SPEC. 3.01
- TPF 6' CHAIN LINK TREE PROTECTION FENCE SEE SHEET L-100 - TREE PRESERVATION PLAN

LEGEND

- LOD LIMIT OF DISTURBANCE
- EX. INDEX CONTOUR (5')
- EX. INT. CONTOUR (1')
- EX. FENCE
- EX. OVERHEAD ELECTRIC
- EX. STORM PIPE
- EX. DITCH CENTERLINE
- EX. GAS LINE PAINT MARKING
- EX. ELECTRIC PAINT MARKING
- EX. PROPERTY LINE
- EX. ADJOINING PROPERTY LINE
- EX. ROAD CENTERLINE
- EX. STORM MANHOLE
- EX. STORM ROOF DRAIN
- EX. WATER METER
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. ELECTRIC BOX
- EX. SIGN
- EX. BOLLARD
- EX. BUILDING HEIGHT
- EX. FINISH FLOOR ELEVATION
- EX. SPOT ELEVATION
- EX. ASPHALT
- EX. CONCRETE
- EX. GRAVEL
- EX. RIP RAP
- EX. CONC.
- CONC.
- S/W
- C&G
- RCP
- RW
- OH
- CLF
- TYP.
- FF
- IPF



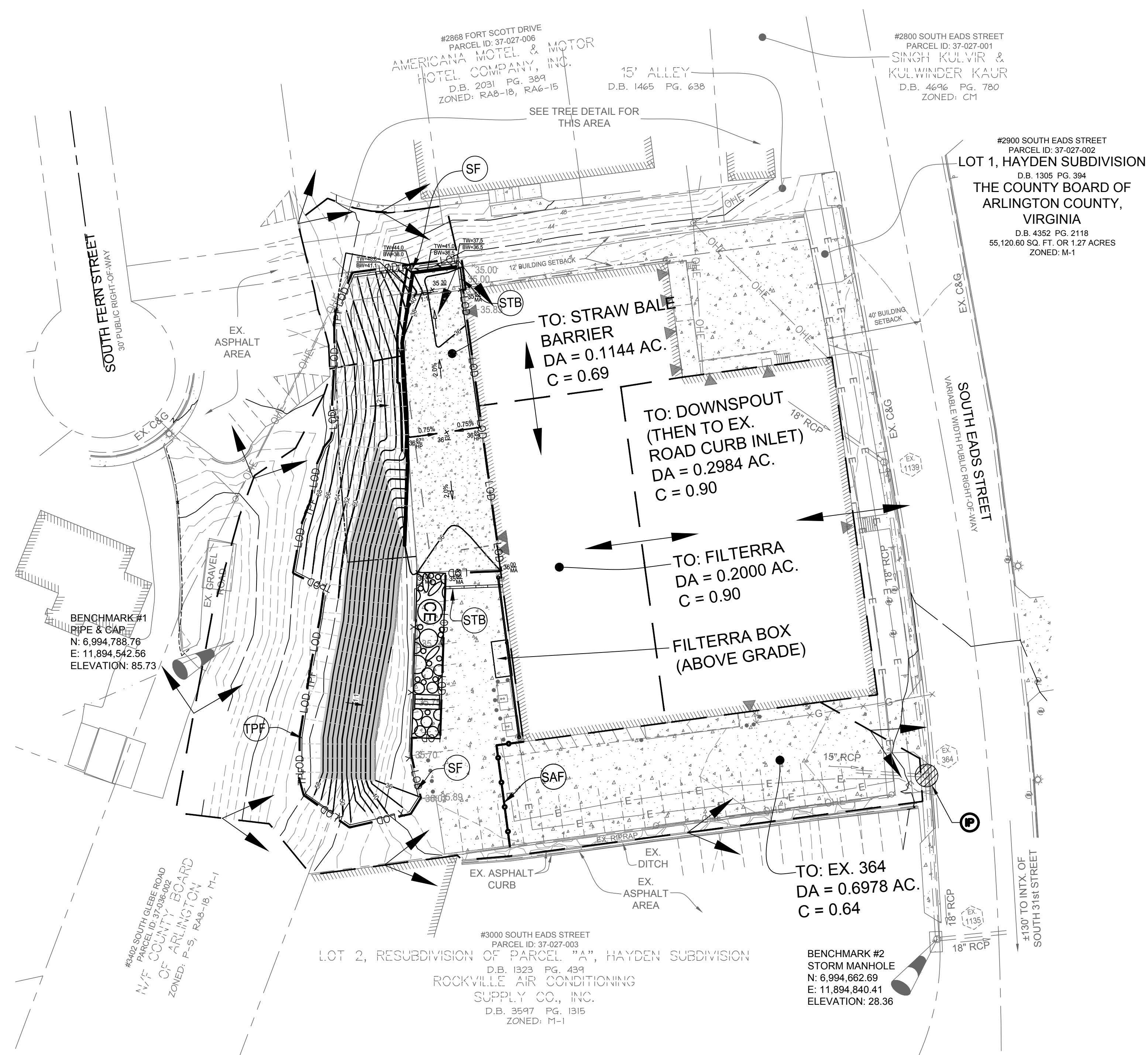


EROSION & SEDIMENT CONTROL LEGEND

- LOD LIMITS OF DISTURBANCE
- CE TEMPORARY CONSTRUCTION ENTRANCE, SPEC. 3.02
- IP INLET PROTECTION, SPEC. 3.07
- OP CULVERT OUTLET PROTECTION, SPEC. 3.18
- CIIP CULVERT INLET PROTECTION, SPEC. 3.08
- SF SILT FENCE, SPEC. 3.05
- POST DEVELOPMENT DRAINAGE DIVIDES
- SAF SAFETY FENCE, SPEC. 3.01
- TPF 6' CHAIN LINK TREE PROTECTION FENCE
SEE SHEET L-100 - TREE PRESERVATION PLAN

LEGEND

- LOD LIMIT OF DISTURBANCE
- EX. INDEX CONTOUR (5')
- EX. INT. CONTOUR (1')
- EX. FENCE
- EX. OVERHEAD ELECTRIC
- EX. STORM PIPE
- EX. DITCH CENTERLINE
- EX. GAS LINE PAINT MARKING
- EX. ELECTRIC PAINT MARKING
- EX. PROPERTY LINE
- EX. ADJOINING PROPERTY LINE
- EX. ROAD CENTERLINE
- PROPOSED TIEBACK EXTENTS
- EX. STORM MANHOLE
- EX. STORM ROOF DRAIN
- EX. WATER METER
- EX. LIGHT POLE
- EX. UTILITY POLE
- EX. ELECTRIC BOX
- EX. SIGN
- EX. BOLLARD
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- EX. FINISH FLOOR ELEVATION
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- EX. ASPHALT
- EX. CONCRETE
- EX. GRAVEL
- EX. RIP RAP
- EX. CONC.
- S/W
- C&G
- RCP
- RW
- OH
- CLF
- TYP.
- FF
- IPF
- EXISTING CONCRETE
- EXISTING SIDEWALK
- EXISTING CURB AND GUTTER
- EXISTING REINFORCED CONCRETE PIPE
- EXISTING RETAINING WALL
- EXISTING OVERHANG
- EXISTING CHAIN LINK FENCE
- EXISTING TYPICAL
- EXISTING FINISHED FLOOR
- EXISTING IRON PIPE FOUND



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

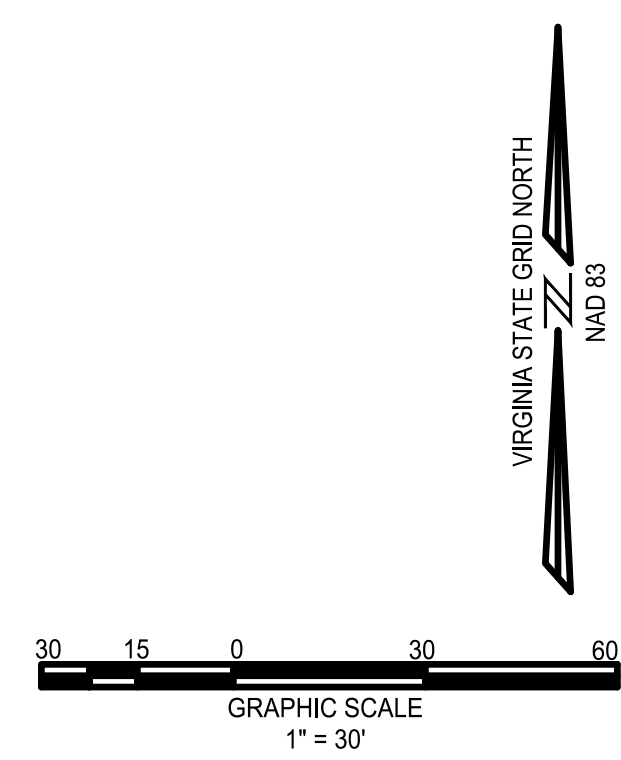
Sheet Title **EROSION AND SEDIMENT CONTROL PHASE 2**

Drawn: _____ Approv: _____

Scale: _____ Date: 05/05/21

Sheet No.
C-141

13 of 41



EROSION AND SEDIMENT CONTROL PLAN NARRATIVE

PROJECT DESCRIPTION:

THIS PROJECT IS LOCATED IN ARLINGTON COUNTY, VIRGINIA. THE ADDRESS IS 2900 SOUTH EADS STREET, ARLINGTON, VA 22202. THIS PROJECT PROPOSES TO REDEVELOP A PORTION OF THE SITE WITH A RETAINING WALL AND STORM WATER MANAGEMENT. A PORTION OF THE EXISTING STRUCTURE WILL BE DEMOLISHED AND NEW RETAINING WALL WILL BE CONSTRUCTED. THE SITE IS APPROXIMATELY 1.27 ACRES AND THE PROJECT PROPOSES TO DISTURB APPROXIMATELY 0.3260 ACRES.

EXISTING SITE CONDITIONS:

THE EXISTING PROJECT AREA CONSISTS OF AN EXISTING BUILDING, CONCRETE PARKING LOTS, AND WOODED AREA. NO FLOODPLAIN OR RPA IS PRESENT ON THE SITE.

DATE OF CONSTRUCTION:

CONSTRUCTION IS ANTICIPATED TO START AT TIME OF PLAN APPROVAL.

ADJACENT PROPERTIES:

WEST TO THE SITE IS S FERN STREET, TO THE EAST IS SOUTH EADS STREET, SOUTH IS AN ADJACENT PROPERTY PARCEL ID: 37-027-003, AND NORTH OF THE SITE IS ADJACENT PROPERTY ID: 37-027-006.

OFF-SITE AREAS:

THE PROJECT WILL REQUIRE OFF-SITE LAND DISTURBING ACTIVITIES. PROPOSED GRADING WILL BE PERFORMED ON THE ADJACENT PROPERTY AS SHOWN ON SHEET C-110.

CRITICAL AREAS:

CRITICAL SLOPE ARE FOUND ON SITE AND WILL BE STABILIZED.

SOILS:

THE SITE SOIL IS CATEGORIZED AS URBAN LAND UDORTHTENS COMPLEX.

STRUCTURAL PRACTICES:

- 3.01 SAFETY FENCE:** WILL BE INSTALLED AS A PROTECTIVE BARRIER TO PREVENT PUBLIC ACCESS TO THE CONSTRUCTION SITE AND E&S CONTROL MEASURES.
- 3.02 CONSTRUCTION ENTRANCE:** A TEMPORARY ENTRANCE IN ACCORDANCE WITH THE STATE STANDARDS WITH A LENGTH OF AT LEAST 75 LINEAR FEET WILL BE PROVIDED AT THE LOCATION SHOWN ON THE PLANS WHICH IS AT THE APPROPRIATE POINT OF THE PAVED ACCESS AND A WOVEN FILTER FABRIC UNDERLINER IS REQUIRED. THE ENTRANCE SHALL BE MAINTAINED IN GOOD REPAIR AND SHALL PROVIDE REMOVAL OF DEBRIS FROM VEHICLES PRIOR TO LEAVING THE CONSTRUCTION SITE. WATER FOR THE WASH RACK TO BE PROVIDED BY A WATER TANK TRUCK IF PUBLIC WATER IS NOT AVAILABLE.
- 3.05 SUPER SILT FENCE BARRIER - SUPER SILT FENCE** SHALL BE PROVIDED FOR PERIMETER CONTROL OR PROTECTION OF EXISTING OUTFALL SWALES THROUGH PLACEMENT AT THE BASE OF DENUDE SLOPE AREAS AND SHALL ALSO BE INSTALLED AROUND EXISTING TREES TO SERVE AS TREE PROTECTION. INSTALLATION SHALL BE ON CONTOUR IN CONFORMANCE WITH THE STATE RECOMMENDATIONS.
- 3.05 SILT FENCE BARRIER - SILT FENCE** SEDIMENT BARRIERS WITHOUT WIRE SUPPORT SHALL BE INSTALLED AS SHOWN ON THE APPROVED PLAN TO FILTER SEDIMENT-LADEN RUNOFF FROM THE CONSTRUCTION AREA.
- 3.07 INLET PROTECTION - INLET PROTECTION** WILL BE INSTALLED TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA.

SEQUENCE OF CONSTRUCTION:

A PRE-CONSTRUCTION MEETING SHALL BE SCHEDULE BEFORE ANY CONSTRUCTION

PHASE IA EROSION CONTROL

THE INITIAL CONTROL MEASURES SHALL BE AS FOLLOWS:

- CONSTRUCTION ENTRANCE SHALL BE INSTALLED AS INDICATED IN THE PLAN INSIDE THE CONSTRUCTION FENCE. MUD AND DEBRIS SHALL BE WASHED FROM ALL VEHICLES AND EQUIPMENT BEFORE LEAVING THE SITE AND BE CAPTURED BY SETTLING AREA.
- SUPER SILT FENCE AND SILT FENCE SHALL BE INSTALLED WHERE INDICATED IN THE PLAN. THE SILT FENCE SHALL BE TEMPORARILY REMOVED FOR CONSTRUCTION ACTIVITIES, BUT SHALL BE INSTALLED AT THE END OF EACH WORK DAY.
- AREAS INSIDE THE CONSTRUCTION FENCE WITH PRIVACY SCREENING WILL BE USED AS STAGING/DOWN AREAS AS MAY BE NEEDED FOR CONSTRUCTION.
- AFTER ESTABLISHMENT OF ALL INITIAL CONTROL MEASURES, THE CONTRACTOR SHALL PROCEED WITH DEMOLITION AND INSTALLATION OF IMPROVEMENTS UNDER PHASE 1B OF THE EROSION CONTROL PROGRAM.

PHASE 1B

- AFTER COMPLETING THE PHASE 1A ACTIVITIES, THE CONTRACTOR SHALL BEGIN DEMOLITION OF THE EXISTING BUILDING.
- ALL DEMOLITION OF THE EXISTING BUILDING AND PAVEMENT AREAS WILL BE PERFORMED UNDER THIS PHASE.

PHASE 2

- THIS PHASE WILL INCLUDE THE GRADING, UTILITY INSTALLATION, BMP FACILITY CONSTRUCTION AND ALL OTHER IMPROVEMENTS. THE REMAINING SITE AREA WILL BE STABILIZED WITH GRASS.
- ANY EXISTING EROSION CONTROL ITEMS WILL BE REMOVED UPON APPROVAL OF THE INSPECTOR AND ANY RESULTING DISTURBED AREAS WILL BE STABILIZED WITH GRASS.

GENERAL EROSION AND SEDIMENT CONTROL NOTES:

- ES-1 UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS 4VAC65-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2 THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE RE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.
- ES-3 ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- ES-4 A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
- ES-5 PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE

BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

- ES-6 THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
- ES-7 ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
- ES-8 THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURE PERIODICALLY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.

GENERAL LAND CONSERVATION NOTES:

- NO AREA WILL REMAIN DENUDE FOR MORE THAN 7 CALENDAR DAYS UNLESS OTHERWISE AUTHORIZED BY THE DIRECTOR OR HIS AGENT.
- ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN GRADING. FIRST AREAS TO BE CLEARED ARE TO BE THOSE REQUIRED FOR THE PERIMETER CONTROLS.
- ALL STORM SEWER LINES NOT IN STREETS ARE TO BE MULCHED AND SEEDED WITHIN 5 DAYS AFTER BACKFILL. NO MORE THAN 500 FEET ARE TO BE OPEN AT ANY ONE TIME.
- DURING CONSTRUCTION, ALL STORM SEWER INLETS WILL BE PROTECTED BY INLET PROTECTION DEVICES, MAINTAINED AND MODIFIED AS REQUIRED BY CONSTRUCTION PROGRESS.
- ANY DISTURBED AREA NOT COVERED BY NOTE #1 ABOVE AND NOT PAVED, SODDED OR BUILT UPON BY NOVEMBER 1ST, OR DISTURBED AFTER THAT DATE, SHALL BE MULCHED WITH HAY OR STRAW MULCH AT THE RATE OF 2 TONS PER ACRE AND OVER-SEEDED NO LATER THAN MAY 15TH.
- AT THE COMPLETION OF CONSTRUCTION PROJECT AND PRIOR TO BOND RELEASE, ALL TEMPORARY SEDIMENT CONTROLS SHALL BE REMOVED AND ALL DENUDE AREAS SHALL BE STABILIZED. ARLINGTON COUNTY INSPECTOR TO APPROVE REMOVAL OF ALL TEMPORARY SILTATION MEASURES.

MAINTENANCE PROGRAM:

THE SITE SUPERINTENDENT OR HIS OR HER REPRESENTATIVE SHALL MAKE A VISUAL INSPECTION OF ALL MECHANICAL CONTROLS AND NEWLY STABILIZED AREAS (I.E. SEEDED AND MULCHED AND/OR SODDED AREAS) ON A DAILY BASIS, ESPECIALLY AFTER A HEAVY RAINFALL EVENT TO INSURE THAT ALL CONTROLS ARE MAINTAINED AND PROPERLY FUNCTIONING. ANY DAMAGED CONTROLS SHALL BE REPAIRED PRIOR TO THE END OF THE WORKDAY INCLUDING RE-SEEDING AND MULCHING OR RE-SODDING, IF NECESSARY.

STORMWATER MANAGEMENT:

THE PROJECT DISTURBS APPROXIMATELY 0.31 ACRES. THE PROJECT PROPOSES TO DRAIN THE ROOF DRAINS TO A FILTERRA. THE DETAILS AND COMPUTATIONS AREA PROVIDED ON SHEET C-301. THE FILTERRAS TO MEET THE STORMWATER MANAGEMENT CRITERIA. THERE IS THEREFORE, NO ADVERSE IMPACT TO ADJACENT PROPERTIES. THIS MEETS THE STORMWATER MANAGEMENT REQUIREMENTS FOR WATER QUANTITY.

MS4 NOTE:

ONLY THE FOLLOWING NON-STORMWATER DISCHARGES ARE AUTHORIZED BY ARLINGTON COUNTY'S MS4 PERMIT, UNLESS THE STATE WATER CONTROL BOARD, THE VIRGINIA SOIL AND WATER CONSERVATION BOARD (BOARD), OR ARLINGTON COUNTY DETERMINES THE DISCHARGE TO BE A SIGNIFICANT SOURCE OF POLLUTANTS TO SURFACE WATERS:

WATER LINE FLUSHING; LANDSCAPE IRRIGATION; DIVERTED STREAM FLOWS; RISING GROUND WATERS; UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED AT 40 CFR 35.2005(20)); UNCONTAMINATED PUMPED GROUND WATER; DISCHARGES FROM POTABLE WATER SOURCES; FOUNDATION DRAINS; AIR CONDITIONING CONDENSATION; IRRIGATION WATER; SPRINGS; WATER FROM CRAWL SPACE PUMPS; FOOTING DRAINS; LAWN WATERING; INDIVIDUAL RESIDENTIAL CAR WASHING; FLOWS FROM RIPARIAN HABITATS AND WETLANDS; DECHLORINATED SWIMMING POOL DISCHARGES; DISCHARGES OR FLOWS FROM FIRE FIGHTING; AND, OTHER ACTIVITIES GENERATING DISCHARGES IDENTIFIED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY AS NOT REQUIRING VPDES AUTHORIZATION. APPROPRIATE CONTROLS MUST BE IMPLEMENTED TO PREVENT ANY NON-STORMWATER DISCHARGES NOT INCLUDED ON THE ABOVE LIST (E.G., CONCRETE WASH WATER, PAINT WASH WATER, VEHICLE WASH WATER, DETERGENT WASH WATER, ETC.) FROM BEING DISCHARGED INTO ARLINGTON COUNTY'S MS4 SYSTEM, WHICH INCLUDES THE CURB AND GUTTER SYSTEM, AS WELL AS CATCH BASINS AND OTHER STORM DRAIN INLETS, OR STREAM NETWORK. PER CHAPTER 26 OF THE ARLINGTON COUNTY CODE, IT SHALL BE UNLAWFUL FOR ANY PERSON TO DISCHARGE DIRECTLY OR INDIRECTLY INTO THE STORM SEWER SYSTEM OR STATE WATERS, ANY SUBSTANCE LIKELY, IN THE OPINION OF THE COUNTY MANAGER, TO HAVE AN ADVERSE EFFECT ON THE STORM SEWER SYSTEM OR STATE WATERS.

POLLUTION PREVENTION NOTES:

- ONLY THE FOLLOWING NON-STORMWATER DISCHARGES ARE AUTHORIZED BY ARLINGTON COUNTY'S MS4 PERMIT, UNLESS THE STATE WATER CONTROL BOARD, THE VIRGINIA SOIL AND WATER CONSERVATION BOARD (BOARD), OR ARLINGTON COUNTY DETERMINES THE DISCHARGE TO BE A SIGNIFICANT SOURCE OF POLLUTANTS TO SURFACE WATERS: WATER LINE FLUSHING; LANDSCAPE IRRIGATION; DIVERTED STREAM FLOWS; RISING GROUND WATERS; UNCONTAMINATED GROUND WATER INFILTRATION (AS DEFINED AT 40 CFR 35.2005(20)); UNCONTAMINATED PUMPED GROUND WATER; DISCHARGES FROM POTABLE WATER SOURCES; FOUNDATION DRAINS; AIR CONDITIONING CONDENSATION; IRRIGATION WATER; SPRINGS; WATER FROM CRAWL SPACE PUMPS; FOOTING DRAINS; LAWN WATERING; INDIVIDUAL RESIDENTIAL CAR WASHING; FLOWS FROM RIPARIAN HABITATS AND WETLANDS; DECHLORINATED SWIMMING POOL DISCHARGES; DISCHARGES OR FLOWS FROM FIRE FIGHTING; AND, OTHER ACTIVITIES GENERATING DISCHARGES IDENTIFIED BY THE DEPARTMENT OF ENVIRONMENTAL QUALITY AS NOT REQUIRING VPDES AUTHORIZATION.
- APPROPRIATE CONTROLS MUST BE IMPLEMENTED TO PREVENT ANY NON-STORMWATER DISCHARGES NOT INCLUDED ON THE ABOVE LIST (E.G., CONCRETE WASH WATER, PAINT WASH WATER, VEHICLE WASH WATER, DETERGENT WASH WATER, ETC.) FROM BEING DISCHARGED INTO ARLINGTON COUNTY'S MS4 SYSTEM, WHICH INCLUDES THE CURB AND GUTTER SYSTEM, AS WELL AS CATCH BASINS AND OTHER STORM DRAIN INLETS, OR STREAM NETWORK.
- PER CHAPTER 26 OF THE ARLINGTON COUNTY CODE, IT SHALL BE UNLAWFUL FOR ANY PERSON TO DISCHARGE DIRECTLY OR INDIRECTLY INTO THE STORM SEWER SYSTEM OR STATE WATERS, ANY SUBSTANCE LIKELY, IN THE OPINION OF THE COUNTY MANAGER, TO HAVE AN ADVERSE EFFECT ON THE STORM SEWER SYSTEM OR STATE WATERS.

Pre-Storm Erosion and Sediment Control Checklist

Per Erosion and Sediment Control General Note 6, the Contractor is responsible for the installation and maintenance of any additional erosion and sediment control (ESC) measures necessary to prevent erosion and sedimentation as determined by the County. These supplementary practices are in addition to those shown in an ESC plan. ESC practices shall be modified as needed to ensure only clear water is discharged from the site.

The following actions shall be taken prior to storm events with predicted heavy and/or large volume rainfall to prevent sediment discharges from a construction site. A typical summer thunderstorm is an example of a storm event with predicted heavy and/or large volume rainfall.

Perimeter controls

- Silt fence shall be checked for undermining, holes, or deterioration of the fabric. Fencing shall be replaced immediately if the fabric is damaged or worn. Silt fence must be trenched into the ground per state specifications (Std & Spec 3.09).
- Wooden stakes or steel posts shall be properly secured upright into the ground. Damaged posts or stakes must be replaced.
- Sediment that has accumulated against the silt fence should be removed. Accumulated sediment must be removed when the level reaches one-half the height of the fencing.
- Hay bales or a stone berm should be placed across the construction entrance to prevent sediment from leaving the construction site.

Exposed slopes and soil

- Exposed slopes not at the final stabilization phase shall be covered with tarps, plastic sheeting, or erosion control matting. Covering material shall be properly secured/anchored.
- Controls shall be installed to prevent concentrated flow down an exposed slope. Berms or diversion dikes shall be installed at the top of cut / exposed slopes to direct storm flow around the disturbed area.
- Exposed slopes at the final stabilization phase shall be stabilized using slope stabilization practices such as soil stabilization blankets or matting as specified in the Virginia Erosion and Sediment Control Handbook (VESCH) Std & Spec 3.36. Blankets or mats must be properly secured and anchored to the slope using staples, pins, or stakes.
- Seeded areas shall be checked and reseeded as necessary to cover exposed soil. Recently seeded areas shall be protected by straw or soil stabilization blankets to prevent seeding from being washed away.

Stockpiles

- Stockpiled soil and other loose materials that can be washed away shall be covered with a tarp, plastic sheeting, or other stabilization matting. The cover must be properly secured / anchored down to prevent it from being blown off and exposing materials to rain. Controls such as hay bales or booms should be placed along the perimeter of the stock pile (downhill side).

Inlet protection

- Inlet protection controls shall be inspected to ensure they are functioning properly and flooding will not occur. Clogged or damaged controls must be replaced immediately. Ensure controls allow for overflow / bypass of stormwater runoff during significant storm events.

In addition to these pre-storm actions, all erosion and sediment control (ESC) measures must be checked daily and after each significant rainfall.

4.0 Erosion & Sediment Controls

Select all that apply	Erosion & Sediment Control	Estimated Installation Date	Estimated Removal Date	Responsible Party
<input checked="" type="checkbox"/>	Construction Entrance (Std. & Spec. 3.02)	4/01/2021	10/01/2021	Construction Activity Operator (See Cover Page of this SWPPP)
<input checked="" type="checkbox"/>	Silt Fence (Std. & Spec. 3.05)	4/01/2021	10/01/2021	
<input type="checkbox"/>	Culvert Inlet Protection (Std. & Spec. 3.08)	Insert Date	Insert Date	
<input type="checkbox"/>	Outlet Protection (Std. & Spec. 3.18)	Insert Date	NA	
<input checked="" type="checkbox"/>	Temporary Seeding (Std. & Spec. 3.31)	As required by 3.31	NA	
<input checked="" type="checkbox"/>	Permanent Seeding (Std. & Spec. 3.32)	Insert Date	NA	
<input type="checkbox"/>	Sodding (Std. & Spec. 3.33)	Insert Date	NA	
<input type="checkbox"/>	Mulching (Std. & Spec. 3.35)	Insert Date	NA	
<input checked="" type="checkbox"/>	Safety Fence (Std. & Spec. 3.11)	4/01/2021	10/01/2021	
<input checked="" type="checkbox"/>	Storm Drain Inlet Protection (Std. & Spec. 3.08)	4/01/2021	10/01/2021	
<input type="checkbox"/>	Dewatering (Std. & Spec. 3.26)	Insert Date	Insert Date	
<input type="checkbox"/>	Turbidity Curtain (Std. & Spec. 3.27)	Insert Date	Insert Date	
<input checked="" type="checkbox"/>	Tree Protection (Arlington County Std. & Spec.)	4/01/2021	10/01/2021	
<input checked="" type="checkbox"/>	Straw Bale Barrier	4/01/2021	10/01/2021	

STORMWATER POLLUTION PREVENTION PLAN
2900 South Eads Street

5.0 Potential Sources of Pollution & Pollution Prevention Practices

Pollutant-Generating Activity	Likely Present at Your Project Site?	Pollutants										Pollution Prevention Practice	Responsible Party
		Sediment	Nutrients	Heavy Metals	pH (acids and bases)	Pesticides & Herbicides	Oil & Grease	Bacteria & Viruses	Trash, Debris, Solids	Other Toxic Chemicals			
Clearing, grading, excavating, and un-stabilized areas	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	X									X	(1)	Construction Activity Operator (See Cover Page of this SWPPP)
Paving operations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	X					X				X	(2)	
Concrete washout and cement waste	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			X	X					X	X	(3)	
Structure construction, stucco, painting, and cleaning	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			X	X						X	(4)	
Dewatering operations	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	X	X								X	(5)	
Material delivery and storage	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	X	X	X	X		X		X	X	X	(6)	
Material use during building process	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	X	X	X	X		X		X	X	X	(7)	
Solid waste disposal	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No										X	(8)	
Sanitary waste	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		X	X					X			(9)	
Landscaping operations	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	X	X	X		X			X	X	X	(10)	
Others [describe]	<input type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	(11)	

2.0 Authorized Non-Stormwater Discharges

Type of Authorized Non-Stormwater Discharge	Likely Present at Your Project Site?
External buildings wash down	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Uncontaminated foundation or footing drains	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Uncontaminated excavation dewatering	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Landscape irrigation	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Others [describe]	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

3/31/21
date

Qianqian Li, P.E.
ESC Program Administrator
Department of Environmental Services
2100 Clarendon Boulevard, Suite 813
Arlington, Virginia 22201

Re: Erosion and Sediment Control Permit Application for:

2900 SOUTH EADS STREET
street address

LOT 1, HAYDEN SUBDIVISION
lot, block, section subdivision

LDA-14852/LDA20169
permit number

Dear Mrs. Li:

I hereby certify that I accept the responsibilities of Responsible Land Disturber for the above referenced project. I understand that these responsibilities include:

- Reviewing the erosion and sedimentation (E&S) plan for the project.
- Walking the site prior to construction to identify critical areas.
- Conducting a pre-construction briefing with earth moving and site contractors to present the E&S plan and highlight the presence of critical areas, the limits of clearing and the required E&S controls and tree protection measures to be installed. Call 703-228-0760 to schedule pre-construction meeting.
- Regularly inspecting the site during construction to ensure that all E&S controls are functioning and are adequate to address erosion and sedimentation. Inspect the site 48 hours after a runoff-generating storm, and provide a copy of the inspection findings to the county.
- Reporting to the owner the presence inadequate or non functioning E&S controls when they are observed.
- Ensuring that temporary soil stabilization is applied within 7 days to areas denuded that will remain undisturbed for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.
- Calling (703) 228-0760 at least 80 hours before demolishing any structure.

I may be reached at 703-334-5643 with questions about this plan or my execution of the duties of

Responsible Land Disturber.

Sincerely,

Andrew J. Gorecki

Andrew J. Gorecki, PE

Professional Engineer #41404

professional registration (type and number)

NOTE:

THIS RLD CERTIFICATION IS FOR PLAN APPROVAL ONLY. CONTRACTOR TO PROVIDE RLD ONCE AWARDED CONTRACT.

TABLE 3.31-B
(Revised June 2003)
TEMPORARY SEEDING SPECIFICATIONS
QUICK REFERENCE FOR ALL REGIONS

APPLICATION DATES	SPECIES	APPLICATION RATES
Sept. 1 - Feb. 15	50/50 Mix of Annual Ryegrass (lolium multi-florum) & Cereal (Winter) Rye (Secale cereale)	50 -100 (lbs/acre)
Feb. 16 - Apr. 30	Annual Ryegrass (lolium multi-florum)	60 - 100 (lbs/acre)
May 1 - Aug. 31	German Millet	50 (lbs/acre)

FERTILIZER & LIME

- Apply 10-10-10 fertilizer at a rate of 450 lbs. / acre (or 10 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:

- A soil test is necessary to determine the actual amount of lime required to adjust the soil pH of site.
- Incorporate the lime and fertilizer into the top 4 - 6 inches of the soil by disking or by other means.
- When applying Slowly Available Nitrogen, use rates available in Erosion & Sediment Control Technical Bulletin #4, 2003 Nutrient Management for Development Sites at <http://www.dcr.state.va.us/sw/e&s.htm#pubs>

TABLE 3.32-D
(Revised June 2003)
PERMANENT SEEDING SPECIFICATIONS FOR PIEDMONT AREA

LAND USE	SEED ¹	
	SPECIES	APPLICATION PER ACRE
Minimum Care Lawn (Commercial or Residential)	Tall Fescue ¹	95-100%
	Perennial Ryegrass	0-5%
	Kentucky Bluegrass ¹	0-5%
	TOTAL:	175-200 lbs.
High-Maintenance Lawn	Tall Fescue ¹	TOTAL: 200-250 lbs.
General Slope (3:1 or less)	Tall Fescue ¹	128 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop ²	20 lbs.
	TOTAL:	150 lbs.
Low-Maintenance Slope (Steeper than 3:1)	Tall Fescue ¹	108 lbs.
	Red Top Grass or Creeping Red Fescue	2 lbs.
	Seasonal Nurse Crop ²	20 lbs.
	TOTAL:	150 lbs.

1 - When selecting varieties of turfgrass, use the Virginia Crop Improvement Association (VCIA) recommended turfgrass variety list. Quality seed will bear a label indicating that they are approved by VCIA. A current turfgrass variety list is available at the local County Extension office or through VCIA at 804-746-4884 or at <http://sudan.ces.vt.edu/html/Turf/turfpublications/publications2.html>

2 - Use seasonal nurse crop in accordance with seeding dates as stated below:

February 16 th - April	Annual Rye
May 1 st - August 15 th	Foxtail Millet
August 16 th - October	Annual Rye
November - February 15 th	Winter Rye

3 - Substitute Sericea lespedeza for Crownvetch east of Farmville, VA (May through September use hulled seed, all other periods, use unhulled Sericea). If Flatpea is used, increase rate to 30 lbs./acre. If Weeping Lovegrass is used, include in any slope or low maintenance mixture during warmer seeding periods, increase to 30 -40

FERTILIZER & LIME

- Apply 10-20-10 fertilizer at a rate of 500 lbs. / acre (or 12 lbs. / 1,000 sq. ft.)
- Apply Pulverized Agricultural Limestone at a rate of 2 tons/acre (or 90 lbs. / 1,000 sq. ft.)

NOTE:</

Instructions for completing and submitting the:

Stormwater Facility Maintenance and Monitoring Agreement

1. When grading plans are submitted, complete fields that are in all caps on the first (1) page of the Stormwater Facility Maintenance and Monitoring Agreement (Agreement) and leave at the counter in Suite 800 (or email to jhassan@arlingtonva.us) for preliminary review. *The Building Permit# and LDA# can be neatly handwritten for this draft submittal. The SWM# can be left blank if it is not currently assigned. If any corrections are needed, you will be notified within 3-4 business days by email.*

The signatures of all property owners will be required for the final Agreement submitted in Step 2. A blank agreement with multiple signature blocks can be requested to the above email address.

2. When the draft Agreement has been approved and a SWM# assigned, type the SWM# as well as Building Permit# and LDA# on the form and submit the signed, notarized, single-sided original of the Agreement to the counter at 2100 Clarendon Blvd., Suite 800.

3. Agreement will be routed internally. This step typically takes 3-4 business days.

4. When the Agreement has been executed by the County, you will be notified that you can pick up the Agreement from Suite 800.

5. Pick up the agreement and have it recorded at the Courthouse (1425 N Courthouse Rd., Suite 6200). Recording hours are 8 a.m. to 3:30 p.m., Monday – Friday. Court Land Records only accepts cash or check. They will provide you with a receipt.

Court Land Records now requires a cover sheet (effective 3/2/2015), this can be generated at: https://landrec.arlingtonva.us/public/barcode_generator/coversheet_generator.html

6. Return a copy of receipt to Suite 800.

Prior to the issuance of CO and closure of the LDA:

The applicant must submit for review a certification by an Engineer, Land Surveyor, Landscape Architect that the Stormwater Management Facilities (SWMFs) have been constructed and installed as designed, including photographs, elevations and receipts as outlined in the Construction Inspection Checklist. After submittal, 48 hours will be needed to review the package for completeness and to determine if the certification is acceptable. The applicant will be notified of acceptance/rejection via email. Each subsequent submittal will take up to 24 hours to review. If documentation is incomplete and/or the SWMF was not constructed properly, re-construction may be required. Acceptance of the certification will be noted in the comments on the CO and LDA permit. PLEASE ALLOW SUFFICIENT TIME IN YOUR CONSTRUCTION AND/OR FINANCING SCHEDULE FOR THIS REVIEW AND APPROVAL PROCESS.

Updated 02.15

**ARLINGTON COUNTY, VIRGINIA
 STORMWATER FACILITY
 MAINTENANCE AND MONITORING AGREEMENT**

THIS AGREEMENT ("Agreement"), made and entered into this ___ day of _____, 20___, by and between -NAME OF PROPERTY OWNER-, (hereinafter the "Landowner"), and The County Board of Arlington County, Virginia, a body corporate and politic (the "County");

WITNESSETH:

WHEREAS, the Landowner is the owner of certain real property located and situated in Arlington County, Virginia by virtue of a Deed recorded in Deed Book -BOOK-, Page -PAGE- (the "Property"), in the Land records of Arlington County, Virginia (the "Land Records"); and

WHEREAS, the Property is identified in the records of the Arlington County Department of Real Estate Assessments by Real Property Code (RPC) number(s) -RPC NUMBERS-; and

WHEREAS, the Landowner or its representative has submitted to the County, for review and approval, building and development plans for the Property entitled -NAME OF GRADING PLAN-, addressed as -ADDRESS OF PROJECT-, identified by Building Permit number(s) -BUILDING PERMIT NUMBER-, Land Disturbance Permit (LDA) number -LAND DISTURBANCE PERMIT NUMBER-; and identified by Stormwater Management (SWM) number -SWM NUMBER- (the "Plans"), which, in their final approved form as determined by the County's records, are expressly made a part hereof and are incorporated by reference herein; and

WHEREAS, the Plans depict the proposed construction of certain required facilities that provide for the control of stormwater quality and/or quantity within the confines of the Property; and

WHEREAS, Chapter 60 (Stormwater Management Ordinance) and Chapter 61 (Chesapeake Bay Preservation Ordinance) of the Arlington County Code (collectively the "Code") require that on-site stormwater management facilities, as shown on the Plans, be constructed and adequately maintained by the Landowner, its successors and assigns; and

WHEREAS, the Landowner desires to comply with the Code, construct the aforesaid stormwater management facilities ("Facilities") as shown on the Plans, and enter into the following agreement all as hereinafter set forth.

AGREEMENT

NOW, THEREFORE, in consideration of the foregoing premises and the mutual covenants contained herein, the Landowner and the County enter into this agreement subject to the following terms and conditions:

- The Facilities on the Property shall be constructed by the Landowner, its successors and assigns, in accordance with the approved Plans.
- The Landowner, its successors and assigns, shall perform the maintenance schedule for the Facilities as outlined and specified on the approved Plans and shall maintain the Facilities in good working order to ensure the approved design functions.
- The Landowner, successors and assigns, shall be responsible for the inspection and maintenance of the Facilities, according to the inspection qualifications, frequency, maintenance and reporting requirements noted on the Plans and/or specified in the Code. The purpose of the inspection shall be to ensure the safe and proper function of the Facilities. The inspection shall include but not be limited to the inspection of berms, vegetation, filtration media, inlet and outlet structures, pond areas, access, and any other related appurtenances. Deficiencies shall be noted in the inspection report. If deficiencies are noted, they shall be promptly corrected by the Landowner, or its successors and assigns, and a certification reflecting such corrections shall be submitted to the County indicating the safe and proper function of the Facilities.
- Should the Landowner, its successors and assigns, fail to complete the inspection required by paragraph 3 above, the Landowner, its successors and assigns hereby grant permission to the County, its authorized agents and employees, to enter upon the Property and to inspect the Facilities whenever the County deems necessary, and such inspection shall be performed at the Landowner, its successors and assigns expense. Whenever reasonably possible, the County shall attempt to notify the Landowner, its successors and assigns, prior to entering the Property. The purpose of inspection shall be to verify the safe and proper function of the Facilities, investigate reported deficiencies, and/or to respond to citizen complaints. The County shall provide to the Landowner, or its successors and assigns, copies of the inspection results and of any directive from the County outlining any necessary repairs or maintenance required to the Facilities, including a date by which such necessary repairs or maintenance shall be completed.

5. In the event the Landowner, its successors and assigns, fail to complete the necessary repairs or maintenance within thirty (30) days following the date required or in cases involving flooding, on or before the date required, the County shall have the right to enter the Property and take any and all steps necessary to bring the operation and function of the Facilities into compliance with all applicable codes and design standards, and to charge the costs of any repairs or maintenance and related administrative functions to the Landowner, its successors and assigns. This provision shall not be construed to allow the County to erect any structure of a permanent nature on the Property that is not associated with the proper function and operation of the Facilities. It is expressly understood and agreed that the County shall be under no obligation to maintain or repair the said Facilities, and in no event shall this Agreement be construed to impose any such obligation on the County.

6. In the event the County, pursuant to this Agreement, performs work of any nature, or expends any funds in the performance of said work for labor, use of equipment, supplies, materials and the like on account of the Landowner's or its successors' failure to perform such work, the Landowner, its successors and assigns, shall reimburse the County, upon demand, within 30 days of receipt thereof for all costs incurred by the County hereunder. If not paid within such 30-day period, the County shall post a lien against the Property in the amount of such costs, plus interest at the Enforcement Rate, and may enforce it in the same manner as a lien for Real Property taxes may be enforced. The County may also proceed to collect amounts due in any manner not prohibited by law.

7. The Landowner, its successors and assigns, shall indemnify and hold harmless the County, its agents and employees for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the County resulting from any repairs, construction, or corrective actions required to be performed by the County to bring the Facilities into compliance with all applicable codes and design standards due to Landowner's, its successors' and assigns', failure to comply with this Agreement.

8. The Landowner, its successors and assigns, shall indemnify and hold harmless the County, its agents and employees for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the County resulting from any construction or maintenance of the Facilities by the Landowner, its successors and assigns.

9. In the event a claim based upon the indemnities of paragraphs 7 or 8 is asserted against the County, its agents or employees, the County shall promptly notify the Landowners, their successors and assigns, who shall defend, at their own expense, any suit based on such claim. If, as a result of a claim, any judgment against the County, its agents or employees is allowed, the Landowner, its successors and assigns shall incur all costs and expenses associated therewith.

10. The Landowner, its successors and assigns, hereby grant permission unto the County, its authorized agents and employees to enter and access the Property, upon prior written notification from the County, to install, operate, and maintain at the County's sole expense equipment desired to monitor the stormwater flow characteristics, including pollutant content of the influent and effluent, at intermediate points on the Property, and within the Facility. No entry or access to the Property by the County pursuant to this paragraph will unreasonably interfere with the Landowner's, its successors' and assigns' use or operation of the Property.

11. The Landowner, its successors and assigns, hereby grant permission unto the County, its authorized agents, employees, and official guests to enter and access the Property, upon written request by the County, but at the convenience of Landowner, its successors and assigns, in order to conduct educational tours of the Facilities. The County agrees that it shall hold Landowner harmless for any and all damages, accidents, casualties, occurrences or claim which might arise or be asserted against the Landowner occurring as a result of such tours to the extent that such claims arise from the negligence of the County. The purpose of such tours shall be to expand the base of knowledge in the stormwater management field amongst public and private sector planners, engineers, scientists and other interested parties.

12. This Agreement shall be recorded among the Land Records, shall constitute a covenant running with the title of the Property or equitable servitude, and shall be binding on the Landowner, its administrators, executors, assigns, heirs and other successors in interest. Proof of recordation of this agreement shall be provided to the Arlington County Department of Environmental Services by the Landowner, its successors and assigns prior to the issuance by the County of the Building Permit for the Property.

WITNESS the following signatures and seals:

 (Landowner)
 -PRINTED NAME-
 Print or Type Name
 -TITLE-
 Title

ATTEST:

COMMONWEALTH/STATE OF _____
 COUNTY OF _____

I, _____, a Notary Public in and for the County and Commonwealth/State aforesaid, whose commission expires on the ___ day of _____, 20___, do hereby certify that name(s) is/are signed to the foregoing Agreement bearing date of the ___ day of _____, 20___, has acknowledged the same before me in the County and Commonwealth/State aforesaid.

GIVEN UNDER MY HAND THIS ___ day of _____, 20___.

 NOTARY PUBLIC
 THE COUNTY BOARD OF
 ARLINGTON COUNTY, VIRGINIA

BY: _____
 (Director Designee, Department of
 Environmental Services – Office of
 Sustainability and Environmental
 Management Bureau Chief)
 Jeffrey L. Ham
 Name

ATTEST:

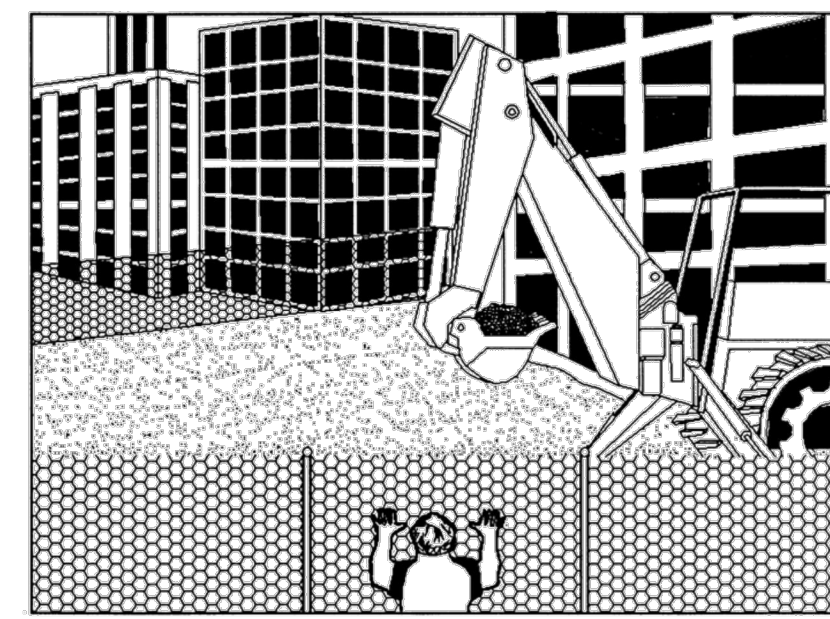
COMMONWEALTH OF VIRGINIA
 COUNTY OF ARLINGTON

I, _____, a Notary Public in Arlington County and for the Commonwealth of Virginia, whose commission expires on the ___ day of _____, 20___, do hereby certify that _____, representative for Arlington County, whose name is signed to the foregoing Agreement bearing the date of the ___ day of _____, 20___, has acknowledged the same before me in the County and Commonwealth aforesaid.

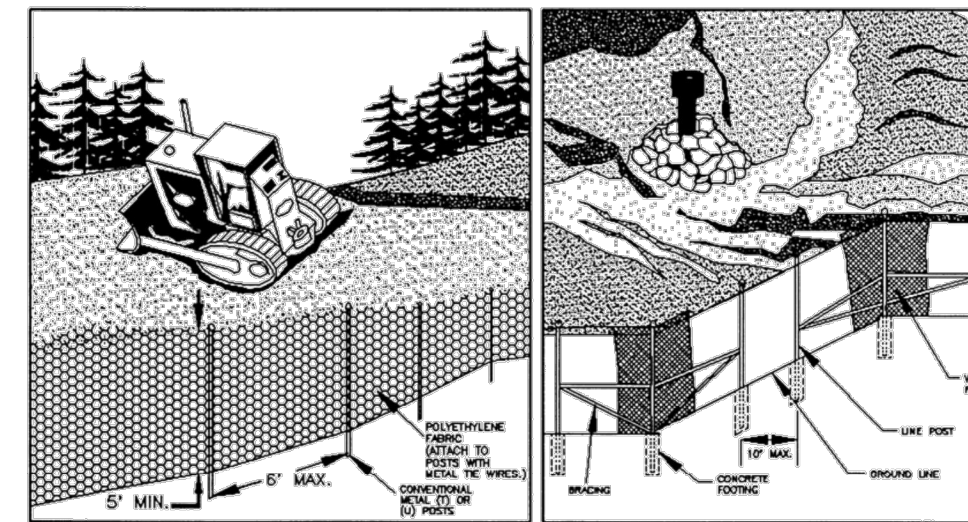
GIVEN UNDER MY HAND THIS ___ day of _____, 20___.

 NOTARY PUBLIC

SAFETY FENCE



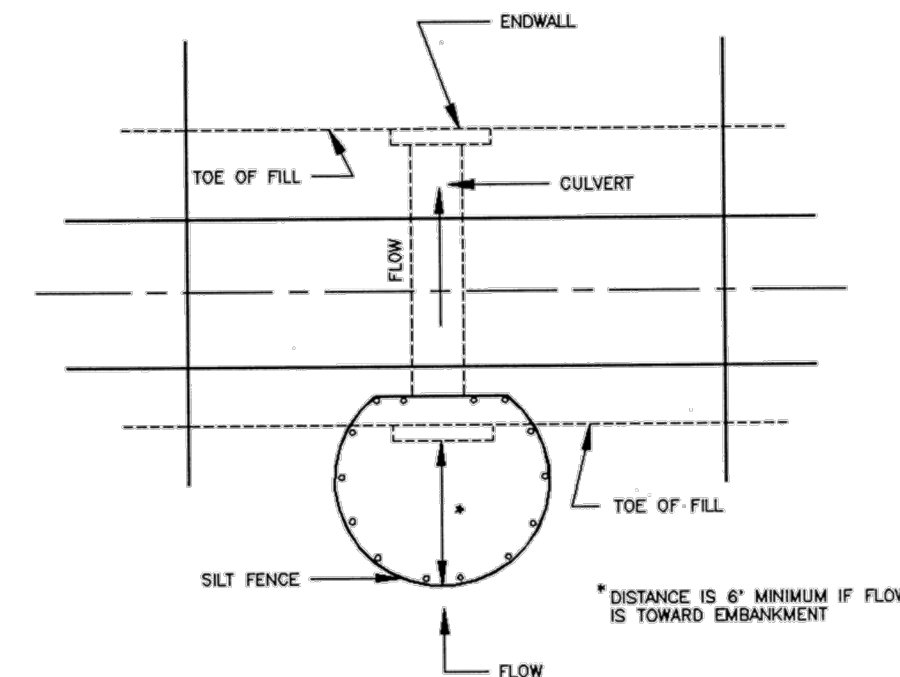
PERSPECTIVE VIEW



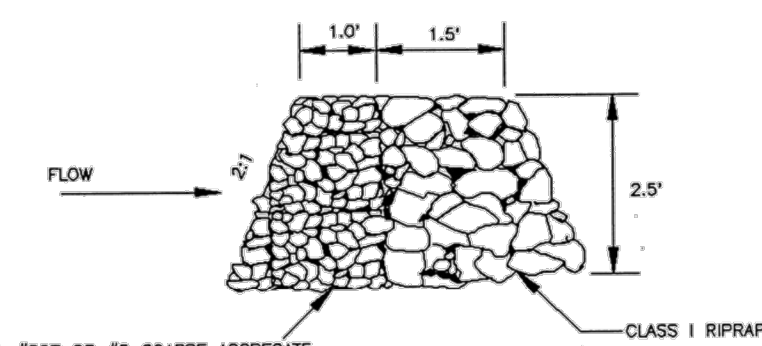
PERSPECTIVE VIEW PLASTIC FENCE PERSPECTIVE VIEW METAL FENCE

Source: Adapted from Conwed Plastics and VDOT Road and Bridge Standards Plate 3.01-1

SILT FENCE CULVERT INLET PROTECTION

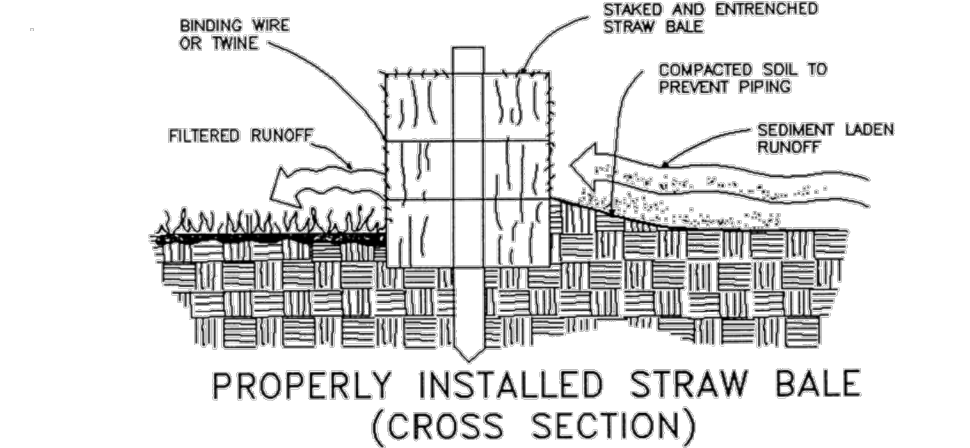


OPTIONAL STONE COMBINATION



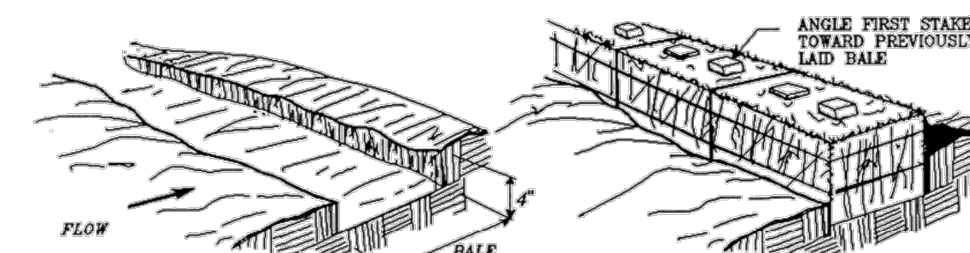
Source: Adapted from VDOT Standard Sheets and Va. DSWC Plate 3.08-1

STRAW BALE BARRIER



PROPERLY INSTALLED STRAW BALE (CROSS SECTION)

- EXCAVATE THE TRENCH.
- PLACE AND STAKE STRAW BALES.

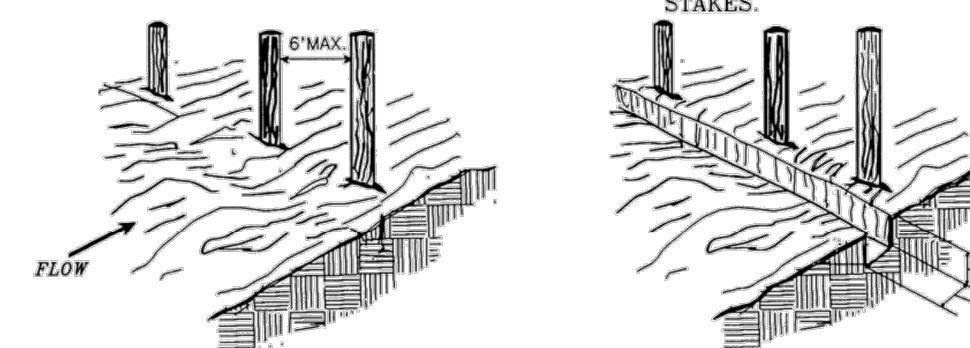


- WEDGE LOOSE STRAW BETWEEN BALES.
- BACKFILL AND COMPACT THE EXCAVATED SOIL.

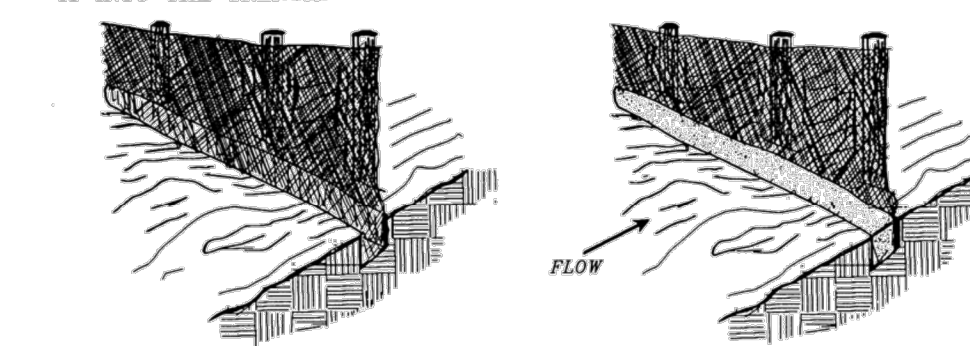
CONSTRUCTION OF STRAW BALE BARRIER

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

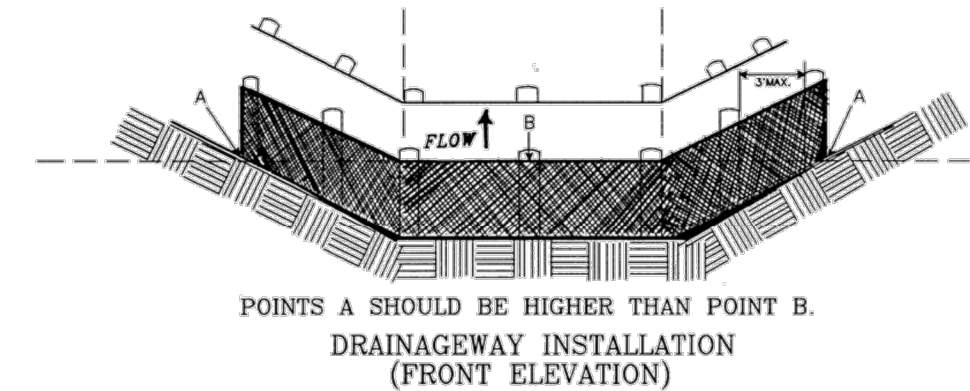
- SET THE STAKES.
- EXCAVATE A 4' X 4' TRENCH UP/SLOPE ALONG THE LINE OF STAKES.



- STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.
- BACKFILL AND COMPACT THE EXCAVATED SOIL.

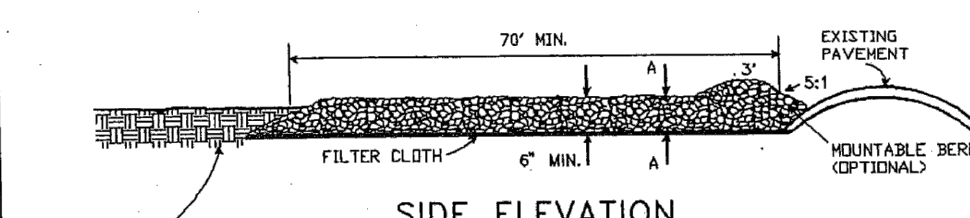


SHEET FLOW INSTALLATION (PERSPECTIVE VIEW)

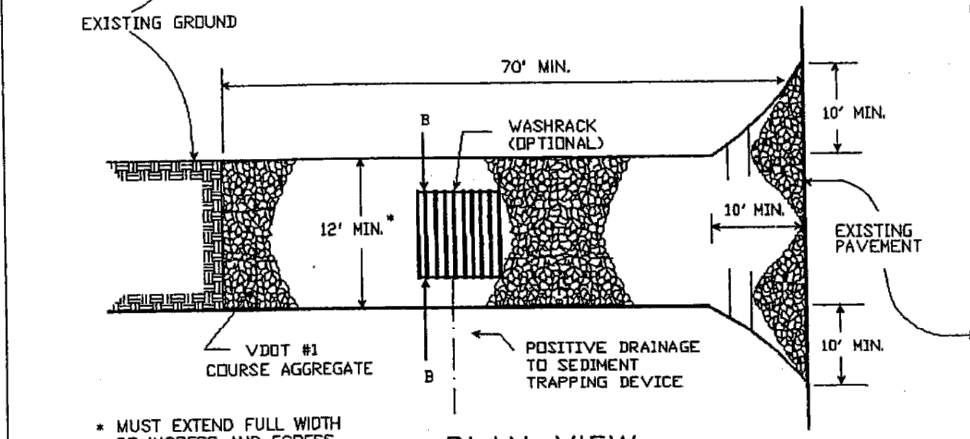


POINTS A SHOULD BE HIGHER THAN POINT B. DRAINAGE WAY INSTALLATION (FRONT ELEVATION)

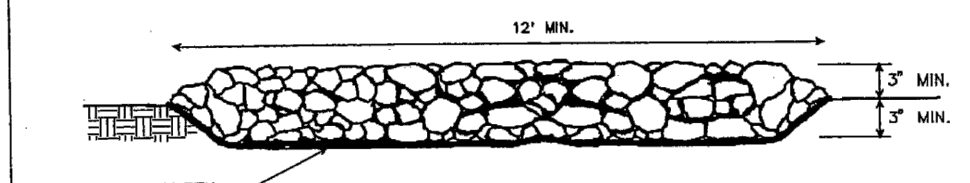
STONE CONSTRUCTION ENTRANCE



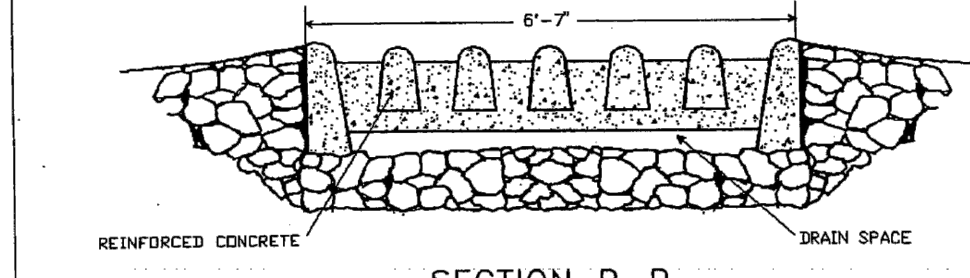
SIDE ELEVATION



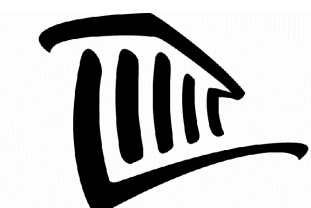
PLAN VIEW



SECTION A-A



SECTION B-B



ARLINGTON
 VIRGINIA

SEAL

PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

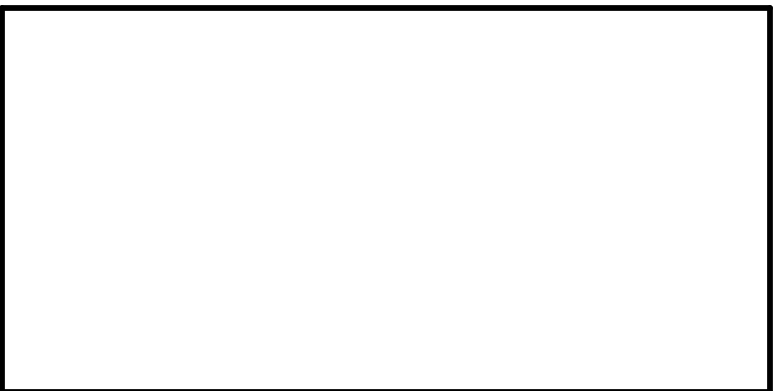
EROSION CONTROL & POLLUTION PREVENTION

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.

C-143

15 of 41



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

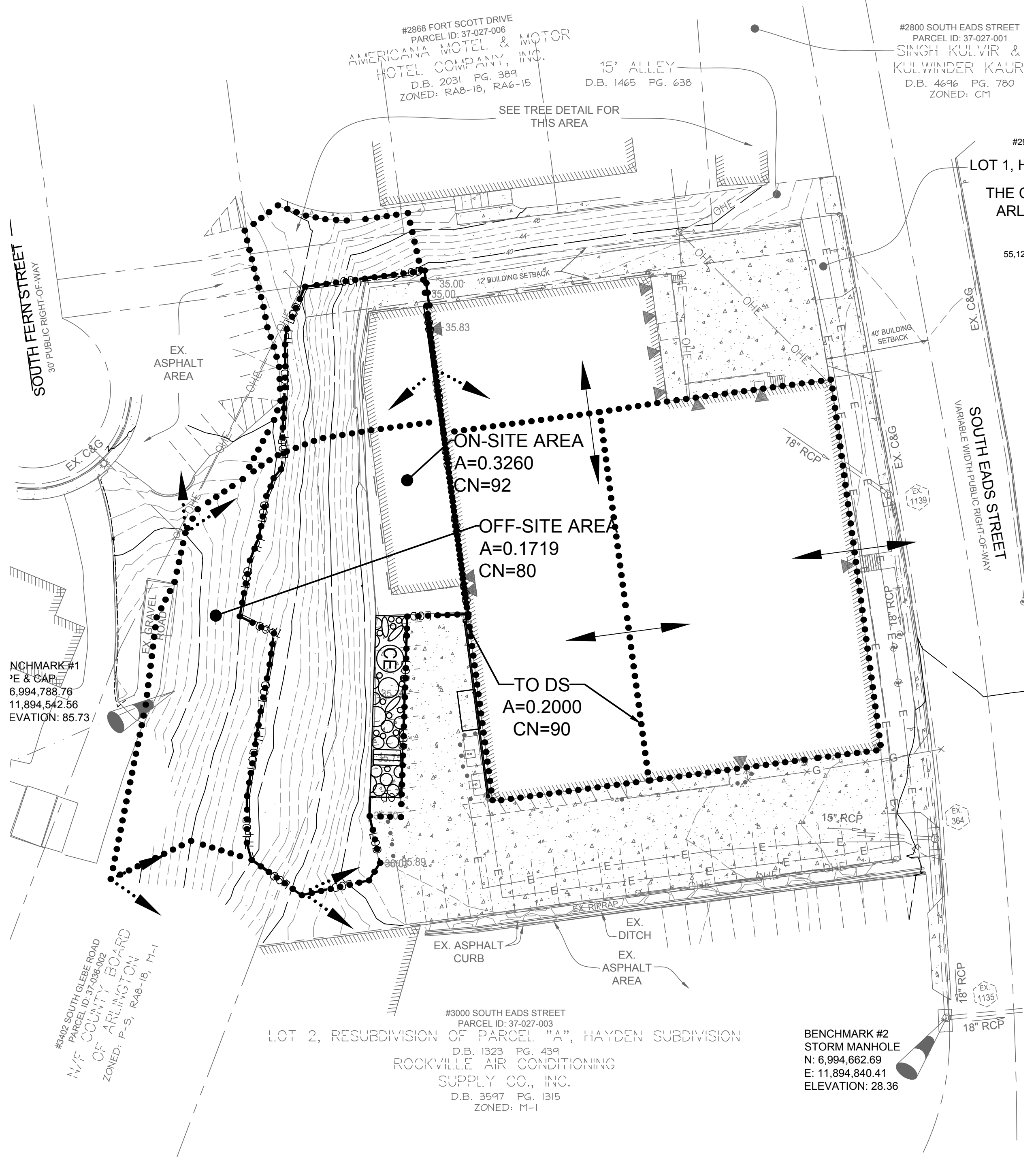
PRE-POST DEVELOPMENT SWM-BMP DRAINAGE

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.

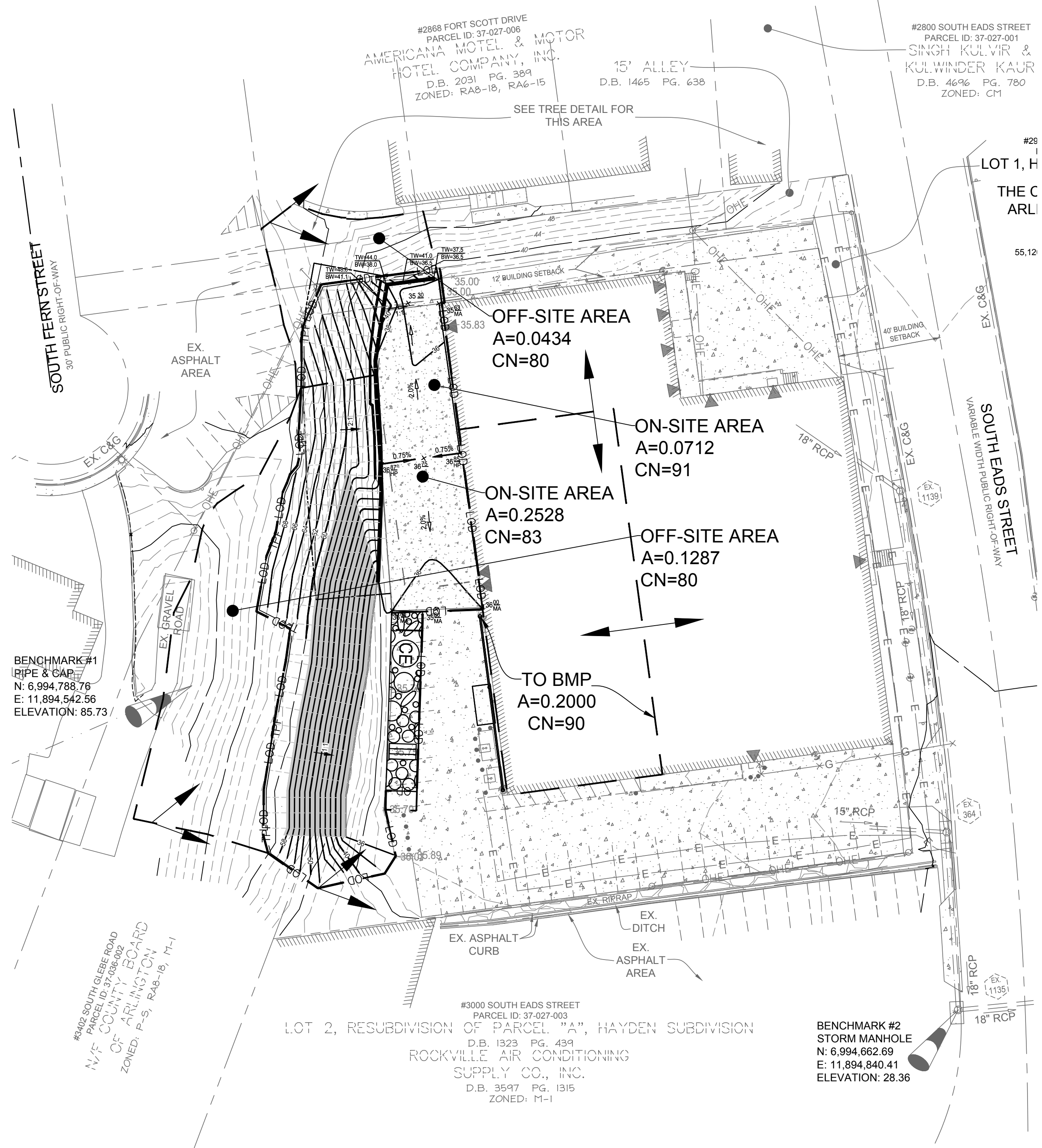
C-300

16 of 41



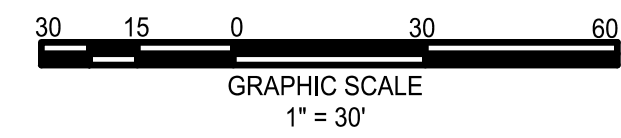
PRE-DEVELOPMENT

EXISTING IMPERVIOUS: 0.1014 AC
 EXISTING TURF: 0.2474 AC



POST DEVELOPMENT

PROPOSED IMPERVIOUS: 0.1703 AC
 PROPOSED TURF: 0.1785 AC



Project Name: 2900 SOUTH EADS STREET
 Date: 4/25/2019
 Linear Development Project? No

CLEAR ALL
 (Ctrl+Shift+R)

data input cells
 constant values
 calculation cells
 final results

CLEAR BMP AREAS

Site Information

Post-Development Project (Treatment Volume and Loads)

Enter Total Disturbed Area (acres) → 0.3260

Maximum reduction required: 10%
 The site's net increase in impervious cover (acres) is: 0.0000
 Post-Development TP Load Reduction for Site (lb/yr): 0.0504

Check:
 BMP Design Specifications List: 2013 Draft Stds & Specs
 Linear project? No
 Land cover areas entered correctly? ✓
 Total disturbed area entered? ✓

Pre-ReDevelopment Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed forest/open space					0.0000
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.1118	0.1118
Impervious Cover (acres)				0.2142	0.2142
Totals					0.3260

Post-Development Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested					0.0000
Managed Turf (acres) -- disturbed, graded for yards or other turf to be				0.1133	0.1133
Impervious Cover (acres)				0.2127	0.2127
Totals					0.3260

Area Check: OK, OK, OK, OK, 0.3260

Constants

Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Total Phosphorus (TP) EMC (mg/L)	0.26
Total Nitrogen (TN) EMC (mg/L)	1.86
Target TP Load (lb/acre/yr)	0.41
Pj (unitless correction factor)	0.90

Runoff Coefficients (Rv)

	A Soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

LAND COVER SUMMARY -- PRE-REDEVELOPMENT

Land Cover Summary-Pre		
Pre-ReDevelopment	Listed	Adjusted ¹
Forest/Open Space Cover (acres)	0.0000	0.0000
Weighted Rv(forest)	0.0000	0.0000
% Forest	0%	0%
Managed Turf Cover (acres)	0.1118	0.1118
Weighted Rv(turf)	0.2500	0.2500
% Managed Turf	34%	34%
Impervious Cover (acres)	0.2142	0.2142
Rv(impervious)	0.9500	0.9500
% Impervious	66%	66%
Total Site Area (acres)	0.3260	0.3260
Site Rv	0.7099	0.7099

LAND COVER SUMMARY -- POST DEVELOPMENT

Land Cover Summary-Post (Final)		
Post-Development	Final Post-Development	Adjusted ¹
Forest/Open Space Cover (acres)	0.0000	0.0000
Weighted Rv(forest)	0.0000	0.0000
% Forest	0%	0%
Managed Turf Cover (acres)	0.1133	0.1133
Weighted Rv(turf)	0.2500	0.2500
% Managed Turf	35%	35%
Impervious Cover (acres)	0.2127	0.2127
Rv(impervious)	0.9500	0.9500
% Impervious	65%	65%
Total Site Area (acres)	0.3260	0.3260
Final Post Dev Site Rv	0.7067	0.7067

Treatment Volume and Nutrient Load

Pre-ReDevelopment	Final Post-Development
Pre-ReDevelopment Treatment Volume (acre-ft)	0.0193
Pre-ReDevelopment Treatment Volume (cubic feet)	840.1272
Pre-Development TP Load (lb/yr)	0.5278
Pre-ReDevelopment TP Load per acre (lb/acre/yr)	1.6200
Baseline TP Load (lb/yr)	0.1337
0.41 lbs/acre/yr applied to pre-redevelopment area excluding pervious land proposed for new impervious cover	

Treatment Volume and Nutrient Load

Post-Development	Final Post-Development
Post-Development Treatment Volume (acre-ft)	0.0192
Post-Development Treatment Volume (cubic feet)	836.3157
Post-Development TP Load (lb/yr)	0.5255
Post-Development TP Load per acre (lb/acre/yr)	1.6100
Max. Reduction Required (Below Pre-Development Load)	10%
TP Load Reduction Required for Redeveloped Area (lb/yr)	0.0504
TP Load Reduction Required for New Impervious Area (lb/yr)	0

¹ Adjusted Land Cover Summary:
 Pre-Development land cover minus pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover.

Adjusted total acreage is consistent with Post-Development acreage (minus acreage of new impervious cover).

Column I shows load reduction requirement for new impervious cover (based on new development load limit, 0.41 lbs/acre/year).

Post-Development Requirement for Site Area

TP Load Reduction Required (lb/yr) 0.0504

Nitrogen Loads (Informational Purposes Only)

Pre-ReDevelopment TN Load (lb/yr)	3,7762	Final Post-Development TN Load (Post-Development & New Impervious) (lb/yr)	3,7590
-----------------------------------	--------	--	--------

SWM Water Quantity Energy Balance Worksheet

SITE AREA (acre)	1-year		10-year	
	PRE	POST (adjusted)	PRE	POST (adjusted)
P	2.69	2.69	4.84	4.84
CN	98	98	98	98
S=1000/CN-10	0.20	0.20	0.20	0.20
0.25	0.04	0.04	0.04	0.04
RV=(P-0.25)/(P-0.25)+S	2.46	2.46	4.60	4.60

	CHANNEL PROTECTION		FLOOD CONTROL	
	Qpre-development	Qpost-Development	Qpre-development	Qpost-Development
RVPost Development (with runoff reduction)	2.33	2.113	4.52	2.113
Qallowable	1.06	1.06	2.15	2.15
Qallowable/QPost Development	0.95	0.95	1.02	1.02
Vs/Vr	0.128	0.128	0.58	0.58
Vs	0.30	0.30	0.58	0.58
Storage required (cf)	353	353	685	685

Drainage Area A

Drainage Area A Land Cover (acres)

	A Soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv
Forest/Open Space (acres)					0.0000	0.0000
Managed Turf (acres)				0.0000	0.0000	0.0000
Impervious Cover (acres)				0.2000	0.2000	0.9500
Total					0.2000	

Total Phosphorus Available for Removal in D.A. A (lb/yr) 0.4333
 Post Development Treatment Volume in D.A. A (ft³) 689.7000

Stormwater Best Management Practices (RR = Runoff Reduction)

Practice	Runoff Reduction Credit (%)	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	Volume from Upstream Practice (ft ³)	Runoff Reduction (ft ³)	Remaining Runoff Volume (ft ³)	Total BMP Treatment Volume (ft ³)	Phosphorus Removal Efficiency (%)	Phosphorus Load from Upstream Practices (lb)	Untreated Phosphorus Load to Practice (lb)	Phosphorus Removed by Practice (lb)	Remaining Phosphorus Load (lb)	Downstream Practice to be Employed
14.c. Manufactured Treatment Device-Generic	0		0.2000	0.0000	0.0000	689.7000	689.7000	50	0.0000	0.4328	0.2164	0.2164	

DEQ Virginia Runoff Reduction Method Re-Development Compliance Spreadsheet - Version 3.0

BMP Design Specifications List: 2013 Draft Stds & Specs

Site Summary

Project Title: 2900 SOUTH EADS STREET
 Date: 4/35/80

Total Rainfall (in):	43
Total Disturbed Acreage:	0.3260

Update Summary Sheet

Print Preview Print

Site Land Cover Summary

Pre-ReDevelopment Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0000	0.0000	0.0000	0.1118	0.1118	34.2945
Impervious Cover (acres)	0.0000	0.0000	0.0000	0.2142	0.2142	65.7055
Totals					0.3260	100.0000

Post-ReDevelopment Land Cover (acres)

	A soils	B Soils	C Soils	D Soils	Totals	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0000	0.0000	0.0000	0.1133	0.1133	34.7546
Impervious Cover (acres)	0.0000	0.0000	0.0000	0.2127	0.2127	65.2454
Totals					0.3260	100.0000

Site Tv and Land Cover Nutrient Loads

	Final Post-Development (Post-ReDevelopment & New Impervious)	Post-ReDevelopment	Post-Development (New Impervious)	Adjusted Pre-Development
Site Rv	0.7067	0.7067	--	0.7099
Treatment Volume (ft ³)	836.3157	836.3157	--	840.1272
TP Load (lb/yr)	0.5255	0.5255	--	0.5278

	Pre-ReDevelopment TP Load per acre (lb/acre/yr)	Final Post-Development TP Load per acre (lb/acre/yr)	Post-ReDevelopment TP Load per acre (lb/acre/yr)
	1.6200	1.6100	1.6100

Total TP Load Reduction Required (lb/yr) 0.0504

	Final Post-Development Load (Post-ReDevelopment & New Impervious)	Pre-ReDevelopment
TN Load (lb/yr)	3.7590	3.7762

Site Compliance Summary

Maximum % Reduction Required Below Pre-Development Load 10%

Total Runoff Volume Reduction (ft ³)	0.0000
Total TP Load Reduction Achieved (lb/yr)	0.2164
Total TN Load Reduction Achieved (lb/yr)	0.0000
Remaining Post Development TP Load (lb/yr)	0.3090
Remaining TP Load Reduction (lb/yr) Required	0.0000

** TARGET TP REDUCTION EXCEEDED BY 0.166 LB/YEAR **

Drainage Area Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Managed Turf (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Impervious Cover (acres)	0.2000	0.0000	0.0000	0.0000	0.0000	0.2000
Total Area (acres)	0.2000	0.0000	0.0000	0.0000	0.0000	0.2000

Drainage Area Compliance Summary

	D.A. A	D.A. B	D.A. C	D.A. D	D.A. E	Total
TP Load Reduced (lb/yr)	0.2164	0.0000	0.0000	0.0000	0.0000	0.2164
TN Load Reduced (lb/yr)	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Drainage Area A Summary

	A Soils	B Soils	C Soils	D Soils	Total	% of Total
Forest/Open (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0
Managed Turf (acres)	0.0000	0.0000	0.0000	0.0000	0.0000	0
Impervious Cover (acres)	0.0000	0.0000	0.0000	0.2000	0.2000	100
Totals					0.2000	

BMP Selections

Practice	Managed Turf Credit Area (acres)	Impervious Cover Credit Area (acres)	BMP Treatment Volume (ft ³)	TP Load from Upstream Practices (lbs)	Untreated TP Load to Practice (lbs)	TP Removed (lb/yr)	TP Remaining (lb/yr)	Downstream Treatment to be Employed
S.B. Dry Swale #2 (Spec #10)	0.3047	0.0644	498.5987	0.0000	0.3129	0.2378	0.0751	

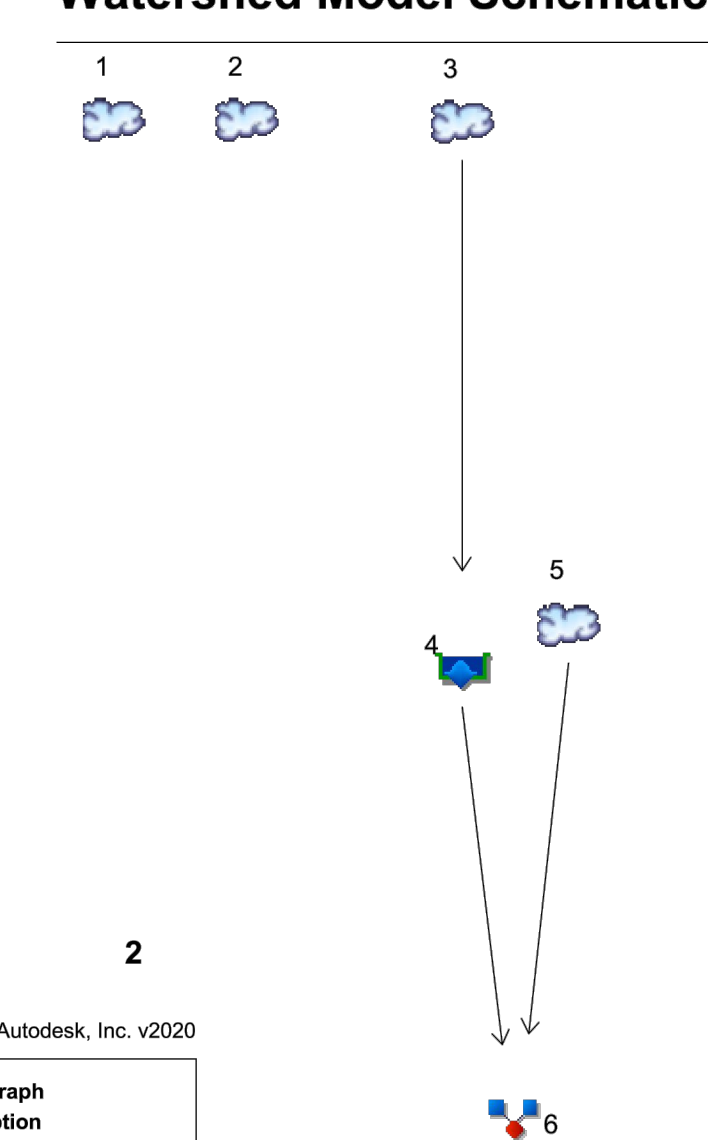
Total Impervious Cover Treated (acres)	0.2000
Total Turf Area Treated (acres)	0.0000
Total TP Load Reduction Achieved in D.A. (lb/yr)	0.2164
Total TN Load Reduction Achieved in D.A. (lb/yr)	0.0000

Hydrograph Return Period Recap

Hydroflow Hydrographs Extension for Autodesk® Civil 3D® by Autodesk, Inc. v2020

Hyd. No.	Hydrograph type (origin)	Inflow hyd(s)	Peak Outflow (cfs)								Hydrograph Description
			1-yr	2-yr	3-yr	5-yr	10-yr	25-yr	50-yr	100-yr	
1	SCS Runoff	----	1.113	----	----	----	2.113	----	----	----	Pre
2	SCS Runoff	----	1.113	----	----	----	2.113	----	----	----	Post
3	SCS Runoff	----	0.723	----	----	----	1.315	----	----	----	Roof to Contech
4	Reservoir	3	0.714	----	----	----	1.287	----	----	----	Filterra
5	SCS Runoff	----	0.338	----	----	----	0.710	----	----	----	Untreated Post
6	Combine	4, 5	1.052	----	----	----	1.983	----	----	----	Outfall

Watershed Model Schematic



Legend
 Hyd. Origin Description
 1 SCS Runoff Pre
 2 SCS Runoff Post
 3 SCS Runoff Roof to Contech
 4 Reservoir Filterra
 5 SCS Runoff Untreated Post
 6 Combine Outfall

WOODS • PEACOCK
 ENGINEERING CONSULTANTS
 5285 Shawnee Rd., Suite 100, Alexandria, VA 22312
 Phone: 703-658-4400 Fax: 703-658-4404
 E-mail: info@woodspeacock.com

ARLINGTON
 VIRGINIA

SEAL

PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1			



SEAL



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title	
SWM AND BMP DETAILS	
Drawn:	Approv:
Scale:	Date: 05/05/21

Sheet No.
C-303
19 of 41

SECTION (____)
 Filterra®
 Bioretention System Standard Specification

1.0 GENERAL

- 1.1 This item shall govern the furnishing and installation of the Filterra® Bioretention System by Contech Engineered Solutions LLC, complete and operable as shown and as specified herein, in accordance with the requirements of the plans and contract documents.
- 1.2 Contractor shall furnish all labor, materials, equipment and incidentals necessary to install the bioretention system, appurtenances and incidentals in accordance with the Drawings and as specified herein.
- 1.3 Bioretention system shall utilize the physical, chemical and biological mechanisms of an engineered biofiltration media, plant and microbe complex to remove pollutants typically found in urban stormwater runoff. The treatment system shall be a fully equipped, pre-constructed, drop-in-place unit designed for applications in the urban landscape to treat contaminated runoff from impervious surfaces.
- 1.4 Bioretention system shall be capable of stand-alone stormwater treatment.
- 1.5 Bioretention plants shall be incorporated into the system with plant material extending into the treatment zone of the engineered media at time of Activation.
- 1.6 The bioretention system shall be of a type that has been installed and in use for a minimum of five (5) consecutive years preceding the date of installation of the system. The Manufacturer shall have been, during the same consecutive five (5) year period, engaged in the engineering design and production of systems deployed for the treatment of storm water runoff and which have a history of successful production, acceptable to the Engineer of Record and/or the approving Jurisdiction. The Manufacturer of the Filterra Bioretention System shall be, without exception:

Contech Engineered Solutions LLC
 9025 Centre Pointe Drive
 West Chester, OH, 45069
 Tel: 1 800 338 1122

- 1.7 Applicable provisions of any Division shall govern work in this section.
- 1.8 American Society for Testing and Materials (ASTM) Reference Specifications
 - 1.8.1 ASTM C857: Standard Practice for Minimum Structural Design Loading for Underground Precast Concrete Utility Structures
 - 1.8.2 ASTM C858: Standard Specification of Underground Precast Concrete Utility Structures

- 3.1.1 Engineered biofiltration media minimum treatment flow rate shall be 140"/hr. The system shall be designed to ensure that high flow events shall bypass the engineered biofiltration media preventing erosion and resuspension of pollutants.
- 3.1.2 The system shall remove a minimum of 85% Total Suspended Solids (TSS).
- 3.1.3 The system shall remove a minimum of 62% Total Phosphorus (TP).
- 3.1.4 The system shall remove a minimum of 34% Total Nitrogen (TN).
- 3.2 The system shall have General Use Level Designation from Washington Department of Ecology for Basic (TSS), Phosphorus, Enhanced (Metals), and Oil/Grease and have Certification by New Jersey Department of Environment.
- 3.3 Quality Assurance and Quality Control procedures shall be followed for all batches of engineered biofiltration media produced. Engineered biofiltration media shall be certified by the Manufacturer for performance and composition.
 - 3.3.1 Media particle size distribution and composition shall be verified as per relevant ASTM Standards.
 - 3.3.2 Media pollutant removal performance shall be verified as per relevant ASTM Standards as well as a minimum of one scientific method approved by the USEPA.
 - 3.3.3 Media hydraulic performance shall be verified as per relevant ASTM Standards.
 - 3.3.4 Media fertility shall be verified as per a minimum of one published scientific method.
- 3.4 The Manufacturer shall ensure through third party full scale field testing of installed units that the design flow rate of the system is not reduced over time. Studies shall be performed on a minimum of 10 systems of various ages, maintenance frequencies, and land uses. At least 80% of the tested systems shall have been installed 2.5 or more years. At least 50% of the systems shall have previous maintenance intervals greater than 2 times the manufacturer's recommendation.

4.0 EXECUTION

- 4.1 Set precast vault on crushed rock base material that has been placed in maximum 6-inch lifts, loose thickness, and compacted to at least 95-percent of the maximum dry density as determined by the standard Proctor compaction test, ASTM D698, at moisture content of +/- 2% of optimum water content.
- 4.2 Inlet and outlet pipes shall be attached to provided couplers or grouted in and connected to precast concrete vault according to Engineer's requirements and specifications. All connections to be water tight.
- 4.3 All throat and grate protection covers shall remain in place until the system is activated.

- 1.8.3 ASTM C990: Standard Specification for Joints for Precast Box Sections Using Preformed Flexible Joint Sealants
- 1.8.4 ASTM C109: Standard Test Method for Compressive Strength of Hydraulic Cement Mortars

1.9 Manufacturer or authorized supplier to submit shop drawings for bioretention System with the vault, engineered biofiltration media and accessory equipment. Drawings shall include principal dimensions, engineered biofiltration media placement, location of piping and unit foundation.

- 1.9.1 Manufacturer or authorized supplier shall submit installation instructions to the contractor.
- 1.9.2 Manufacturer or authorized supplier shall submit Operations and Maintenance Manual to the contractor.
- 1.9.3 Before installation of the bioretention system, Contractor shall obtain the written approval of the Engineer of Record for the system drawings.

1.10 No product substitutions shall be accepted unless submitted 10 days prior to project bid date, or as directed by the Engineer of Record. Submissions for substitutions require review and approval by the Engineer of Record, for hydraulic performance, impact to project designs, equivalent treatment performance, and any required project plan and report (hydrology/hydraulic, water quality, stormwater pollution) modifications that would be required by the approving jurisdictions/agencies. Contractor to coordinate with the Engineer of Record any applicable modifications to the project estimates of cost, bonding amount determinations, plan check fees for changes to approved documents, and/or any other regulatory requirements resulting from the product substitution.

2.0 MATERIALS

2.1 All internal components including engineered biofiltration media, underdrain stone, PVC underdrain piping, and mulch must be included as part of the bioretention system and shall be provided by Contech Engineered Solutions LLC.

- 2.1.1 Engineered biofiltration media shall consist of both organic and inorganic components. Stormwater shall be directed to flow vertically through the media profile, saturating the full media profile without downstream flow control.
- 2.1.2 Underdrain stone shall be of size and shape to provide adequate bridging between the media and stone for the prevention of migration of fine particles. Underdrain stone must also be able to convey the design flow rate of the system without restriction and be approved for use in the Filterra Bioretention System by Contech Engineered Solutions LLC.
- 2.1.3 PVC Underdrain Piping shall be SDR35 with perforation pattern designed to convey system design flow rate without restriction.

4.4 Contractor to cast-in-place throat inlet to convey stormwater into bioretention System according to Engineer's requirements and specifications.

4.5 Engineered biofiltration media shall be delivered installed in the vault, unless otherwise agreed upon with the Manufacturer. Contractor shall take appropriate action to protect the media from sediment and other debris during construction. The method ultimately selected shall be at Contractor's discretion and Contractor's risk.

4.5.1 If media is shipped separately from vault, Manufacturer or a Manufacturer's certified representative shall install media into the vault or be present to supervise installation in order to ensure proper installation.

4.6 The bioretention system shall not be placed in operation (activated) until the project site is clean and stabilized (construction erosion control measures no longer required). The project site includes any surface that contributes storm drainage to the system. All impermeable surfaces shall be clean and free of dirt and debris. All catch basins, manholes and pipes shall be free of dirt and sediment. Activation shall be provided by Manufacturer or authorized supplier.

4.7 Each correctly installed system shall be maintained or have maintenance supervised by Manufacturer or authorized supplier for a minimum period of one year. The cost of this service shall be included in the price of the system.

- 4.7.1 Annual maintenance consists of a maximum of two (2) scheduled visits.
- 4.7.2 Each routine maintenance visit shall consist of only the following items: system inspection; removal of foreign debris, silt, loose plant material and trash; mulch removal; engineered biofiltration media evaluation; plant health evaluation and pruning; replacement of mulch; disposal of all maintenance refuse items; and updating of maintenance records

4.8 To ensure long term performance of the bioretention system, continuing annual maintenance programs should be performed or purchased by the owner per the latest Filterra Bioretention System Operation and Maintenance Manual.

2.1.4 Mulch shall be double shredded wood or bark mulch approved for use with the Filterra Bioretention System by Contech Engineered Solutions LLC.

2.2 Vegetation shall comply with the type and size required by the approved drawings and shall be alive and free of obvious signs of disease.

2.3 Precast concrete vault shall be provided by Manufacturer or authorized supplier according to ASTM C857 and C858.

2.3.1 Vault joint sealant shall be Conseal CS-101 or approved equal. Joints shall be sealed with preformed joint sealing compound conforming to ASTM C 990.

2.3.2 If interior concrete baffle walls are provided, baffle walls shall be cast-in or sealed to the interior vault walls and floor with a polyurethane construction sealant rated for use below the waterline, SikaFlex 1a or equal. Contractor to provide sealant material and installation unless completed prior to shipment.

2.4 Tree grates and access covers shall be cast iron. Tree grate frames shall be galvanized steel.

2.5 Curb Nosing (where applicable) shall be galvanized steel and where specified shall be cast into a top slab designed to support AASHTO HS-20 loading at the curb.

2.6 All contractor-provided components shall meet the requirements of this section, the plans specifications and contract documents. In the case of conflict, the more stringent specification shall apply.

2.6.1 Crushed rock base material shall be six-inch minimum layer of ¾-inch minus rock. Compact undisturbed sub-grade materials to 95% of maximum density at +/- 2% of optimum moisture content. Unsuitable material below sub-grade shall be replaced to engineer's approval.

2.6.2 Concrete shall have an unconfined compressive strength at 28 days of at least 3000 psi, with ¾-inch round rock, a 4-inch slump maximum, and shall be placed within 90 minutes of initial mixing.

2.6.3 Silicone Sealant shall be pure RTV silicone conforming to Federal Specification Number TT 5001543A or TT 500230C or Engineer approved.

2.6.4 Grout shall be non-shrink grout meeting the requirements of Corps of Engineers CRD-C588. Specimens molded, cured and tested in accordance with ASTM C-109 shall have minimum compressive strength of 6,200 psi. Grout shall not exhibit visible bleeding.

2.6.5 Backfill material shall be ¾-inch minus crushed rock, or approved equal.

3.0 PERFORMANCE

3.1 Treatment Capabilities shall be verified via third-party report following either TAPE or TARP protocols.

Routine Maintenance Guidelines

With proper routine maintenance, the biofiltration media within the Filterra system should last as long as traditional bioretention media. Routine maintenance is included by the manufacturer on all Filterra systems for the first year after activation. This includes a maximum of 2 visits to remove debris, replace pretreatment mulch, and prune the vegetation. More information is provided in the Operations and Maintenance Guidelines. Some Filterra systems also contain pretreatment or outlet bays. Depending on site pollutant loading, these bays may require periodic removal of debris, however this is not included in the first year of maintenance, and would likely not be required within the first year of operation.

These services, as well as routine maintenance outside of the included first year, can be provided by certified maintenance providers listed on the Contech website. Training can also be provided to other stormwater maintenance or landscape providers.

When to Maintain?

Contech includes a 1-year maintenance plan with each system purchase. Annual included maintenance consists of a maximum of two (2) scheduled visits. Additional maintenance may be necessary depending on sediment and trash loading (by Owner or at additional cost). The start of the maintenance plan begins when the system is activated.

Maintenance visits are scheduled seasonally; the spring visit aims to clean up after winter loads including salts and sands while the fall visit helps the system by removing excessive leaf litter.

It has been found that in regions which receive between 30-50 inches of annual rainfall, (2) two visits are generally required; regions with less rainfall often only require (1) one visit per annum. Varying land uses can affect maintenance frequency; e.g. some fast food restaurants require more frequent trash removal. Contributing drainage areas which are subject to new development wherein the recommended erosion and sediment control measures have not been implemented may require additional maintenance visits.

Some sites may be subjected to extreme sediment or trash loads, requiring more frequent maintenance visits. This is the reason for detailed notes of maintenance actions per unit, helping the Supplier and Owner predict future maintenance frequencies, reflecting individual site conditions.

Owners must promptly notify the (maintenance) Supplier of any damage to the plant(s), which constitute(s) an integral part of the bioretention technology. Owners should also advise other landscape or maintenance contractors to leave all maintenance to the Supplier (i.e. no pruning or fertilizing) during the first year.

Exclusion of Services

Clean up due to major contamination such as oils, chemicals, toxic spills, etc. will result in additional costs and are not covered under the Supplier maintenance contract. Should a major contamination event occur the Owner must block off the outlet pipe of the Filterra (where the cleaned runoff drains to, such as drop inlet) and block off the throat of the Filterra. The Supplier should be informed immediately.

Maintenance Visit Summary

Each maintenance visit consists of the following simple tasks (detailed instructions below).

- 1. Inspection of Filterra and surrounding area
- 2. Removal of tree grate and erosion control stones
- 3. Removal of debris, trash and mulch
- 4. Mulch replacement
- 5. Plant health evaluation and pruning or replacement as necessary
- 6. Clean area around Filterra
- 7. Complete paperwork

Maintenance Tools, Safety Equipment and Supplies

Ideal tools include: camera, bucket, shovel, broom, pruners, hoe/rake, and tape measure. Appropriate Personal Protective Equipment (PPE) should be used in accordance with local or company procedures. This may include impervious gloves where the type of trash is unknown, high visibility clothing and barricades when working in close proximity to traffic and also safety hats and shoes. A T-Bar or crowbar should be used for moving the tree grates (up to 170 lbs ea.). Most visits require minor trash removal and a full replacement of mulch. See below for actual number of bagged mulch that is required in each media bay size. Mulch should be a double shredded, hardwood variety. Some visits may require additional Filterra engineered soil media available from the Supplier.

Box Length	Box Width	Filter Surface Area (ft²)	Volume at 3" (ft³)	# of 2 ft³ Mulch Bags
4	4	16	4	2
6	4	24	6	3
8	4	32	8	4
6	6	36	9	5
8	6	48	12	6
10	6	60	15	8
12	6	72	18	9
13	7	91	23	12



TREE PRESERVATION SCHEDULE

TREE #	BOTANICAL NAME	COMMON NAME	SURVIVED DRIPLINE RADIUS (FEET)	CRITICAL ROOT ZONE RADIUS (FEET)	TRUNK DIAMETER (INCHES)	SPECIES RATING	CONDITION RATING	TOTAL SCORE	REPLACEMENTS REQUIRED	% CRZ IMPACTED	PROCEDURE	LOCATION
8225	AILANTHUS ALTISSIMA	TREE OF HEAVEN	28	24	24	0.25	0.65	4	1	0%	REMOVE	JOINTLY OWNED
8231	AILANTHUS ALTISSIMA	TREE OF HEAVEN	5	8	3	0.25	0.75	1	1	0%	REMOVE	ONSITE
8232	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.75	1	1	0%	REMOVE	JOINTLY OWNED
8243	AILANTHUS ALTISSIMA	TREE OF HEAVEN	18	16	16	0.25	0.55	2	1	0%	REMOVE	JOINTLY OWNED
8255	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	3	0.25	0.50	0	0	49%	REMOVE	JOINTLY OWNED
8278	PRUNUS SEROTINA	BLACK CHERRY	12	10	10	0.55	0.65	4	1	100%	REMOVE	JOINTLY OWNED
8208	ROBINIA PSEUDOACACIA	BLACK LOCUST	15	12	12	0.50	0.40	2	N/A	0%	PRESERVE	OFFSITE
8209	AILANTHUS ALTISSIMA	TREE OF HEAVEN	20	20	20	0.25	0.68	3	N/A	5%	PRESERVE	OFFSITE
8210	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	8	8	0.25	0.66	1	N/A	0%	PRESERVE	OFFSITE
8211	ROBINIA PSEUDOACACIA	BLACK LOCUST	24	20	20	0.50	0.68	7	N/A	27%	PRESERVE	OFFSITE
8212	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	9	9	0.25	0.72	2	1	30%	REMOVE	OFFSITE
8213	UNIDENTIFIED	DEAD TREE	8	8	6	0.00	0.00	0	N/A	100%	REMOVE	OFFSITE
8214	QUERCUS ALBA	WHITE OAK	25	22	22	0.85	0.76	14	3	71%	REMOVE	OFFSITE
8215	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	8	6	0.25	0.74	1	1	100%	REMOVE	OFFSITE
8216	UNIDENTIFIED	DEAD TREE	18	14	14	0.00	0.00	0	N/A	100%	REMOVE	OFFSITE
8217	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.73	1	1	100%	REMOVE	OFFSITE
8218	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.70	1	1	100%	REMOVE	OFFSITE
8245	AILANTHUS ALTISSIMA	TREE OF HEAVEN	14	12	12	0.25	0.70	2	N/A	0%	PRESERVE	OFFSITE
8246	AILANTHUS ALTISSIMA	TREE OF HEAVEN	12	10	10	0.25	0.72	2	N/A	0%	PRESERVE	OFFSITE
8247	AILANTHUS ALTISSIMA	TREE OF HEAVEN	8	8	6	0.25	0.65	1	N/A	0%	PRESERVE	OFFSITE
8248	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	3	0.25	0.70	1	N/A	0%	PRESERVE	OFFSITE
8249	AILANTHUS ALTISSIMA	TREE OF HEAVEN	8	8	6	0.25	0.70	1	N/A	0%	PRESERVE	OFFSITE
8250	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.65	1	N/A	0%	PRESERVE	OFFSITE
8251	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	8	8	0.25	0.74	1	N/A	2%	PRESERVE	OFFSITE
8252	AILANTHUS ALTISSIMA	TREE OF HEAVEN	8	8	6	0.25	0.73	1	N/A	17%	PRESERVE	OFFSITE
8253	AILANTHUS ALTISSIMA	TREE OF HEAVEN	7	8	4	0.25	0.70	1	N/A	0%	PRESERVE	OFFSITE
8254	AILANTHUS ALTISSIMA	TREE OF HEAVEN	8	8	6	0.25	0.72	1	N/A	30%	REMOVE	OFFSITE
8256	UNIDENTIFIED	DEAD TREE	8	8	6	0.25	0.00	0	N/A	37%	REMOVE	OFFSITE
8257	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	3	0.25	0.72	1	N/A	0%	PRESERVE	OFFSITE
8259	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.60	1	N/A	22%	PRESERVE	OFFSITE
8260	AILANTHUS ALTISSIMA	TREE OF HEAVEN	5	8	3	0.25	0.60	0	N/A	1%	PRESERVE	OFFSITE
8261	AILANTHUS ALTISSIMA	TREE OF HEAVEN	5	8	3	0.25	0.68	1	N/A	19%	PRESERVE	OFFSITE
8262	QUERCUS RUBRA	NORTHERN RED OAK	8	8	6	0.85	0.73	4	N/A	0%	PRESERVE	OFFSITE
8263	AILANTHUS ALTISSIMA	TREE OF HEAVEN	10	8	7	0.25	0.65	1	N/A	0%	PRESERVE	OFFSITE
8264	AILANTHUS ALTISSIMA	TREE OF HEAVEN	7	8	6	0.25	0.65	1	N/A	0%	PRESERVE	OFFSITE
8265	PRUNUS SEROTINA	BLACK CHERRY	15	10	10	0.55	0.60	3	1	56%	REMOVE	OFFSITE
8266	UNIDENTIFIED	DEAD TREE	8	8	6	0.50	0.00	0	N/A	95%	REMOVE	OFFSITE
8267	AILANTHUS ALTISSIMA	TREE OF HEAVEN	5	8	3	0.25	0.70	1	1	100%	REMOVE	OFFSITE
8268	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.68	1	1	95%	REMOVE	OFFSITE
8269	AILANTHUS ALTISSIMA	TREE OF HEAVEN	15	12	12	0.25	0.70	2	1	90%	REMOVE	OFFSITE
8270	AILANTHUS ALTISSIMA	TREE OF HEAVEN	20	20	20	0.25	0.68	3	N/A	6%	PRESERVE	OFFSITE
8271	AILANTHUS ALTISSIMA	TREE OF HEAVEN	18	16	16	0.25	0.60	2	N/A	2%	PRESERVE	OFFSITE
8273	QUERCUS RUBRA	NORTHERN RED OAK	18	14	14	0.85	0.73	9	2	100%	REMOVE	OFFSITE
8274	UNIDENTIFIED	DEAD TREE	14	12	12	0.00	0.00	0	N/A	100%	REMOVE	OFFSITE
8275	QUERCUS PALUSTRIS	PIN OAK	28	24	24	0.85	0.68	14	3	100%	REMOVE	OFFSITE
8276	QUERCUS MONTANA	CHESTNUT OAK	22	20	20	0.85	0.74	13	3	100%	REMOVE	OFFSITE
8277	QUERCUS RUBRA	NORTHERN RED OAK	16	12	12	0.85	0.72	7	2	100%	REMOVE	OFFSITE
8279	ROBINIA PSEUDOACACIA	BLACK LOCUST	12	10	10	0.50	0.67	3	N/A	0%	PRESERVE	OFFSITE
8280	ROBINIA PSEUDOACACIA	BLACK LOCUST	28	22	22	0.50	0.40	4	N/A	3%	PRESERVE	OFFSITE
8281	UNIDENTIFIED	DEAD TREE	14	12	12	0.50	0.00	0	N/A	0%	PRESERVE	OFFSITE
8282	ROBINIA PSEUDOACACIA	BLACK LOCUST	24	20	20	0.50	0.40	4	N/A	0%	PRESERVE	OFFSITE
8283	AILANTHUS ALTISSIMA	TREE OF HEAVEN	6	8	4	0.25	0.72	1	N/A	10%	PRESERVE	OFFSITE
8284	AILANTHUS ALTISSIMA	TREE OF HEAVEN	36	30	30	0.25	0.70	5	N/A	16%	PRESERVE	OFFSITE

REPLACEMENTS REQUIRED 26
 ADDITIONAL REPLACEMENTS REQUIRED 10
 TOTAL REPLACEMENTS REQUIRED 36

NOTES:

- SPECIES RATING IS BASED ON VALUES IN 2007 MAC-ISA MID-ATLANTIC TREE SPECIES RATING GUIDE.
- REPLACEMENTS SHOWN ON THIS SHEET REPRESENT REQUIREMENT PER SECTION 5 ARLINGTON COUNTY LANDSCAPE STANDARDS ONLY. ADDITIONAL TREE PLANTINGS MAY BE REQUIRED. SEE SHEET L-200 - LANDSCAPE PLAN FOR REPLACEMENT PLANTINGS.
- THERE IS AN ADDITIONAL OFFSITE TREE AREA CONTAINING A MIX OF MAINLY DECIDUOUS TREES THAT ARE APPROXIMATELY 3-12" DBH AND PREDOMINATELY TREE OF HEAVEN. THE CONTRACTOR WILL REPLACE WITH AN ADDITIONAL 10 TREES.

PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

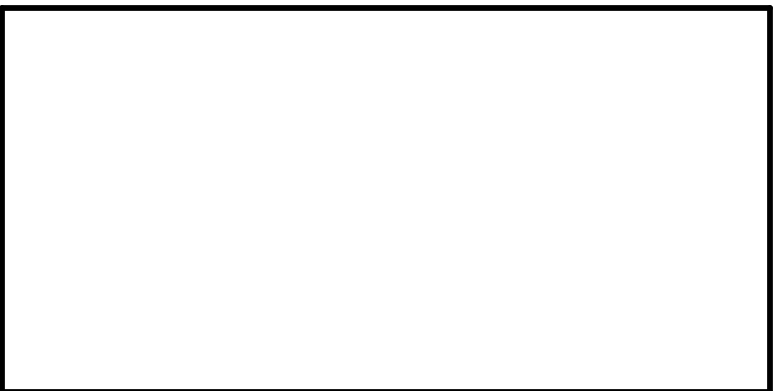
TREE PRESERVATION PLAN

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.

L-101

21 of 41



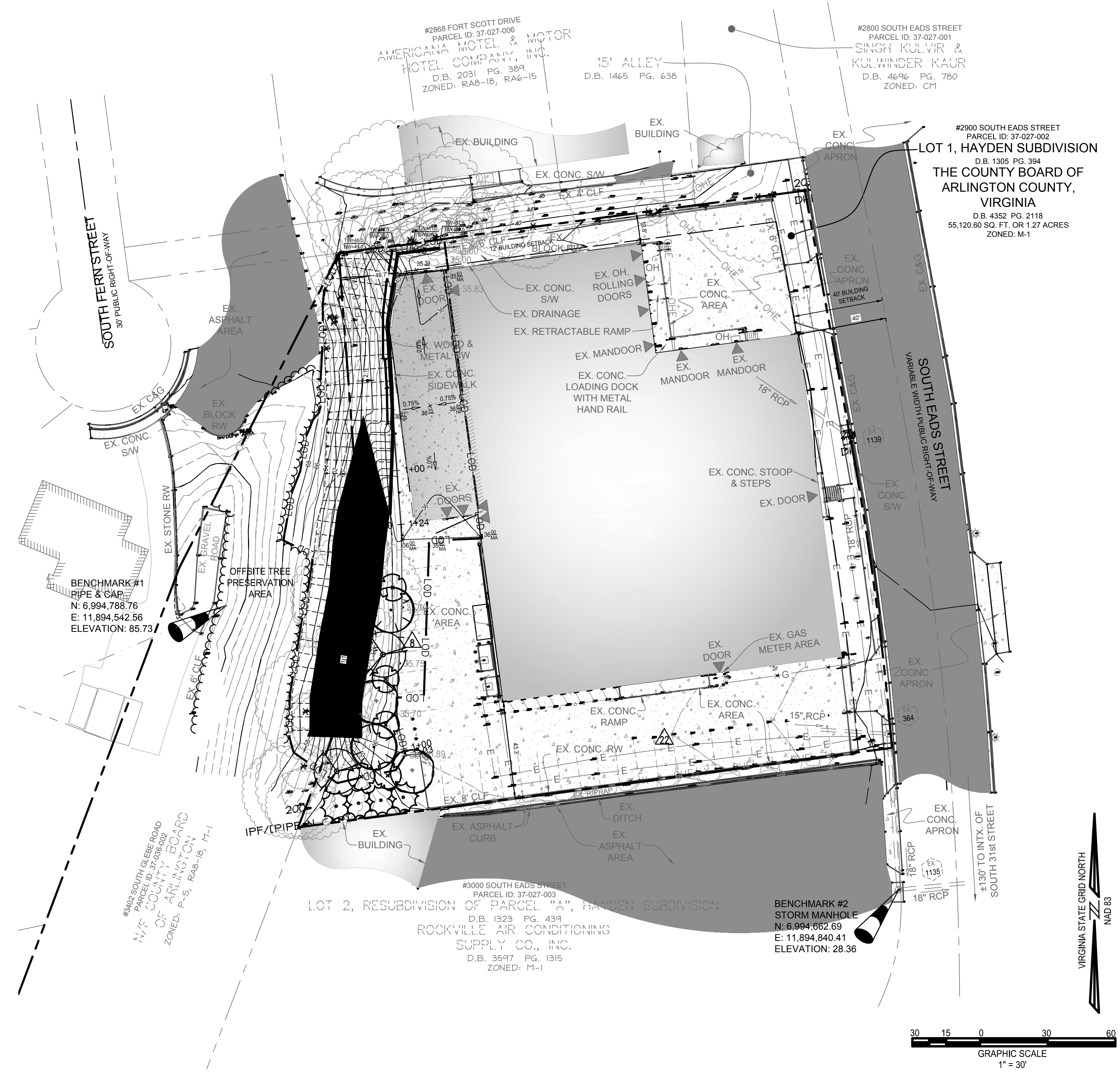
SLOPE STABILIZATION AND BUILDING MODIFICATION
 2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title
LANDSCAPE PLAN

Drawn: _____ Approv: _____
 Scale: _____ Date: 05/05/21

Sheet No.
L-200
 22 of 41



LEGEND

	CARPINUS CAROLINIANA AMERICAN HORNBEAM
	ILEX OPACA AMERICAN HOLLY
	QUERCUS ALBA WHITE OAK
	QUERCUS RUBRA NORTHERN RED OAK
	ULMUS AMERICANA 'NEW HARMONY' AMERICAN ELM

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	STOCK SIZE (CALIPER /HEIGHT)	STOCK TYPE	QUANTITY	20-YEAR CANOPY PER TREE (SF)	20-YEAR CANOPY SUBTOTAL (SF)
CARPINUS CAROLINIANA	AMERICAN HORNBEAM	2" CAL.	B&B	5	110	550
ILEX OPACA	AMERICAN HOLLY	10' HT.	B&B	4	110	440
QUERCUS ALBA	WHITE OAK	2" CAL.	B&B	2	315	630
QUERCUS RUBRA	NORTHERN RED OAK	2" CAL.	B&B	2	315	630
ULMUS AMERICANA 'NEW HARMONY'	AMERICAN ELM	2" CAL.	B&B	2	315	630

CANOPY CALCULATIONS

20-YEAR CANOPY COVERAGE PROVIDED WITH NATIVE SPECIES CREDIT MULTIPLIER (x1.25)	3,600
EXISTING TREE CANOPY COVERAGE PRESERVED WITH CREDIT MULTIPLIER (x2)	0
CANOPY COVERAGE PROVIDED ONSITE	3,600 7%
CANOPY COVERAGE PROVIDED OFFSITE	7,424 13%
55,120 SF SITE. CANOPY COVERAGE REQUIRED	11,024 20%

TREE REPLACEMENT CALCULATIONS

REQUIRED 36 TREES
 PROVIDED 9 TREES ONSITE

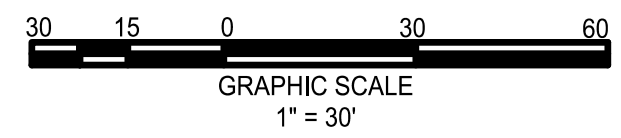
SEE TREE PRESERVATION PLAN FOR DETAILED CALCULATIONS. INCLUDES REPLACEMENT VALUE REDUCTION FOR SMALLER TREES. THE REMAINING 27 TREES TO BE PLANTED OFFSITE IN COORDINATION WITH ARLINGTON COUNTY URBAN FORESTRY. THE TREES MUST ALSO MEET CANOPY COVERAGE PROVIDED OFFSITE AND BE SHADE OR LARGE EVERGREEN TREES. CONTACT ADAM LIPERA, ALIPERA@ARLINGTONVA.US, 703-228-4747."

STREET TREE CALCULATIONS

REQUIRED 7 TREES
 PROVIDED 0 TREES PLANTED ALONG SOUTH EADS STREET. REQUIREMENT TO BE MET OFFSITE DUE TO EXISTING UTILITIES.

PARKING LOT LANDSCAPE CALCULATIONS

REQUIRED 3 TREES AT END ISLANDS
 PROVIDED 1 TREE AT END ISLANDS. ADDITIONAL TREES PLANTED ALONG SOUTHWESTERN EDGE OF PARKING LOT.



Specification: This is a summary of christopher consultants, Ltd. general landscape specification. All work shall follow the procedures outlined in the specifications and details contained herein, which are designed to exceed current industry standards. Should there exist a discrepancy between this specification and the included construction details, the written specification shall take precedence.

References: In lieu of providing comprehensive proprietary specifications, the following are referenced to be general default specifications with the following modifications. These modifications and the construction details shown in this plan set shall take precedence over the general referenced specifications.

- "Landscape Specification Guidelines" Landscape Contractors Association of MD, DC, VA - Most current edition.
- "American Standard for Nursery Stock - ANSI Z60.1" by AmericanHort - Most Current Edition
- "TT-77 Recommended Turfgrass Cultivars for Certified Sod Production in Maryland" - Maryland Turfgrass Council
- "Landscape Architecture/Design Specifications for Compost Use" - US Composting Council

If there are discrepancies or contradictions in specification sections or details, the stricter specification shall take precedence. A Request for Information (RFI) can also be submitted for clarification.

List of Plant Material: The contractor will verify plant quantities prior to bidding and any discrepancies shall be brought to the attention of the Owner's Representative. The Contractor shall furnish and install all plant materials required to complete the work as shown on the drawings. Quantities in the planting schedule shall take precedence over quantities graphically shown on the plan. Substitutions shall not be made without the written approval of the Owner's Representative.

Plant Identification: All trees shall be true to name as on plant schedule or shown on planting plans and shall be correctly labeled individually or in groups by genus, species, variety and cultivar. Labels are to remain intact until site is approved through agency inspection, substantial completion approval, or per Owner's Representative's instruction.

Plant Quality: All plant materials shall conform to the size and form standards set forth in the latest edition of AmericanHort's "American Standard for Nursery Stock - ANSI Z60.1". Above Ground: Trees shall be healthy with the color, shape, size, and distribution of trunk, stems, branches, buds and leaves typical of the plant specified. Any signs of stress, improper handling (wounds or broken branches), insect or disease damage, or dead/distorted branches should not be present. Trees shall have one central leader (unless otherwise specified) and grafts should be fully closed and visible above the soil line. Below Ground: A minimum of 3 structural roots should be reasonably distributed around the trunk (reject a tree with structural roots only on one side), the root crown should not be more than 2 inches below the soil line, the top 2 structural roots should not be more than 3 inches below the soil line when measured 4 inches away from the trunk. The top of the other structural root should not be more than 5 inches below the surface. The root system should be free of potentially stem-girdling or kinked roots above the root collar and main structural roots.

Inspection: Plants are to be inspected upon delivery to contractor by a contractor's representative and/or owner's representative. Trees not presenting proper form, incorrect variety, signs of poor health or over-stress, and girdling roots are to be rejected.

Storage & Transport: Plant materials should be protected from desiccation during transport via breathable fabric covering the canopy and by watering rootball/pot thoroughly immediately prior to transport. Plant materials should be installed on day of delivery to site. If that is not possible, a temporary storage area can be constructed on-site. Plants are not to be stored on bare asphalt. If storage area is asphalt, cover bare asphalt with a layer of woodchips. Storage should be in shade, and plants be regularly watered at root-ball level, and spaced so foliage from one plant does not interfere with foliage of another. Tall plant materials are to remain upright during storage. Longer term storage plants are to be heeled-in or stored in mulch to the top of the container/root ball. Plant materials shall not be stored on-site for more than three days, per Arlington County requirement. Plants stored improperly or for too long may be subject to rejection and replacement dependent on ultimate planting condition.

Planting: Plantings shall be installed in accordance with details and specifications on this sheet. Details and specifications for other specific landscape items, such as tree preservation or erosion control may be found elsewhere in this drawing set on their own respective sheet. For items not specifically addressed by this plan set, refer to the latest edition of the "Landscape Specification Guidelines" developed by the Landscape Contractors Association of MD, DC, and VA. Should there be any ambiguities or questions, please utilize the formal RFI/Submital process.

Trees: The planting hole diameter is to be at a minimum three times the diameter of the root ball. The depth of the planting hole shall be dug so that the shoulder of the root ball is level with the existing grade leaving the root flare slightly higher. When planting on a slope, the depth of the hole shall be dug so that the bottom of the root flare is at the level of the existing grade at the sides of the hole. If the planting hole is mechanically dug, the hole is to be scarified by slightly enlarging hole by hand digging the sides and bottom to prevent girdling. The sides of the hole should be vertical or sloping outwards. Holes are not to be dug when soil is saturated. For balled and burlapped trees, the wire root ball cage is to be removed and burlap is to be cut and completely removed from the top and a minimum of 8" to 12" down the side of the root ball. Do not fold burlap down into hole, it must be removed. Any synthetic materials are to be completely removed from the trunk and root ball. Backfill in lifts using the same soil dug to create the hole, being careful not to break up in fine pieces or over-compact the soil. Inoculate backfill soil or rootball with an approved balanced (Endo/Ecto) commercial mycorrhizae application. Do not amend or add fertilizer unless expressly specified to do so or is part of the approved mycorrhizae inoculant product. Do not place any soil on top of root ball. Trees are to be mulched to full depth specified immediately after planting. A 1/2" layer of approved compost is to be placed under the mulch layer. Do not place mulch against tree trunk.

Staking: Staking (if any) is to be installed per the accompanying details, utilizing tree webbing straps with grommets to prevent wire from coming in contact with the tree. While not preferred, full tree webbing systems are also permissible if approved through submittal, and installed per manufacturer's instructions. Wire is to be tensioned to allow for 1/2 inch of deflection up or down, and tension shall be rechecked and adjusted on a regular basis. Staking is to be removed as soon as possible after one year. GARDEN HOSE IS NOT TO BE UTILIZED FOR STAKING.

Irrigation: For permanent systems, irrigation should be largely installed prior to plant installation to avoid having to disturb planting beds or move plants to accommodate the installation of the irrigation system. For sites with no permanent irrigation system, Trees are to be irrigated until established by the use of temporary water bags through one growing year or until established. Shrubs, perennial beds, and lawns are to be thoroughly hand-watered or by movable temporary irrigation (sprinklers or drip hose) as necessary to reflect local weather conditions. Watering is to be deep into the soil and infrequent, as opposed to light surficial watering performed often.

Shrubs: For container shrubs, the planting hole is to be dug 3 times the width of the intact container. The container is to be completely removed and the sides of the soil/root clump scarified with a sterile sharp knife. They shall be planted so that the top of the soil level of the container is no more than 1.5" above the original grade. For balled and burlapped shrubs, remove as much burlap as possible from the top and sides of the rootball. Do not fold burlap into hole. Plant with the root flare slightly higher than the surrounding grade. Backfill with soil dug to create the hole. Do not cover top of root ball/clump.

Ground Covers/Perennials: Beds are to be prepared by tilling well to a minimum depth of 6", and soils shall be amended by incorporating 1" of compost meeting the US Composting Council reference specification, 1" of worm casings and/or well decomposed commercially produced compost, or a Class A biosolid also meeting the referenced US Composting Council specification prior to planting. Apply 3" of shredded non-tyed hardwood mulch immediately after planting.

Compacted or Poorly Drained Soils: For sites with heavily compacted or poorly draining soils, alternate planting methods will need to be employed. Contact project Landscape Architect for additional planting details and specifications should either unforeseen condition be encountered.

Conflicts with Existing Roots: Proposed landscape may be shown to be planted in the Critical Root Zones of existing large trees. Should, in the course of planting, large woody roots be discovered belonging to adjacent large trees that are to be preserved, shift the planting location of the tree to be planted to avoid cutting the woody root. Should a suitable planting location not be found within the proximity of where a proposed tree is to be planted, contact the project landscape architect for alternate planting location and recording of the discrepancy for landscape inspection/approval purposes.

Irrigation: New plant materials are to be watered as necessary to maintain health. If no permanent irrigation system is installed, trees are to be watered until established through the use of temporary water bags. Shrubs, perennials, and ground covers shall be hand-watered. Infrequent deep watering is preferred to more frequent quick/shallow watering.

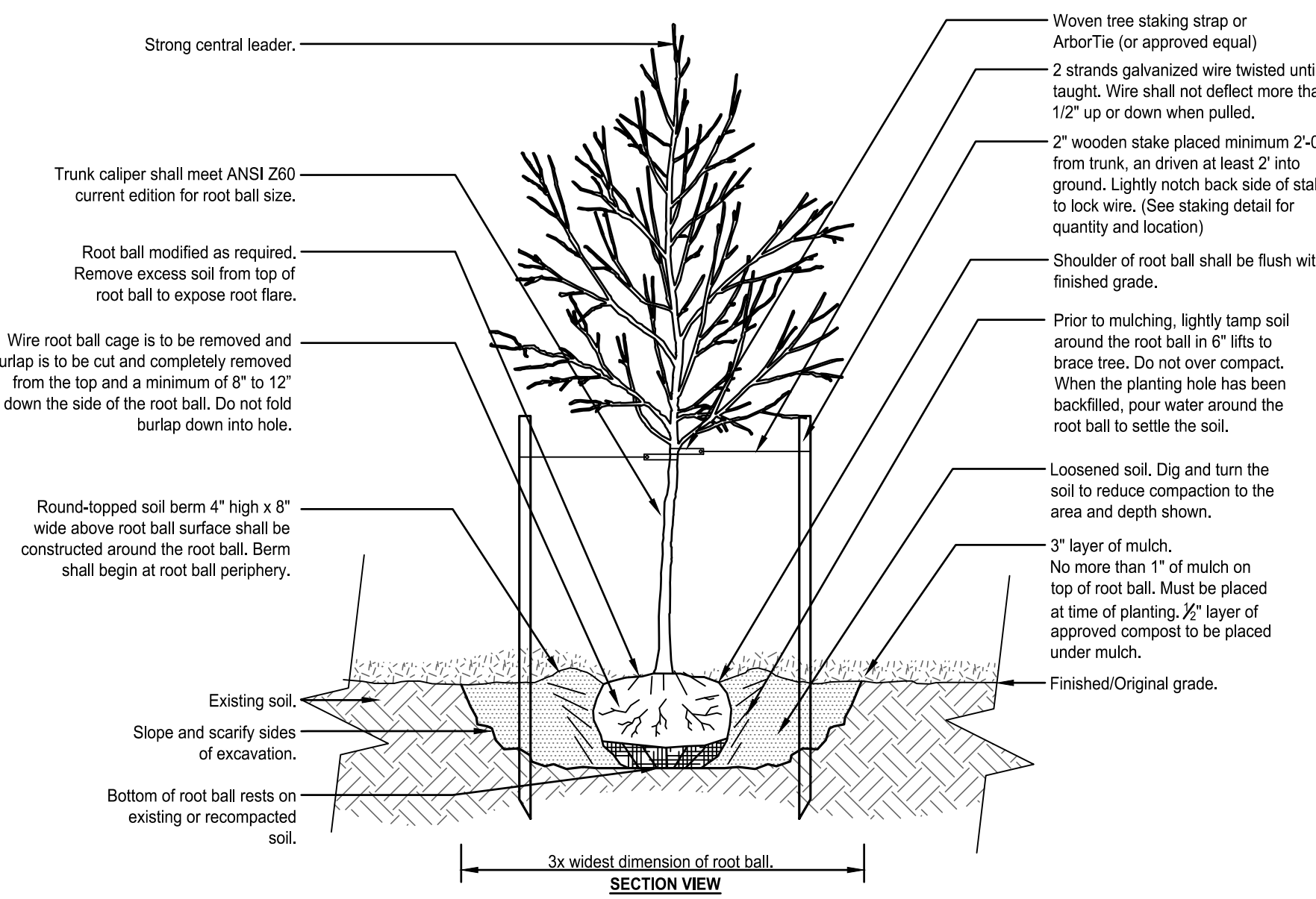
Lawn Areas:

Seeded Lawn Area: Areas to be seeded shall have planting soil tilled to a depth of 6" and free of stones greater than 1" diameter or length. Any amendments that are to be added should be tilled into soil prior to seeding. A seed mix composition chart shall be submitted for review prior to installation. Unless specified by the Owner's Representative, the seed mix must contain a minimum of three cultivars or types of grass in the blend, chosen from the recommended cultivars list of the most recent "TT-77 Recommended Turfgrass Cultivars for Certified Sod Production in Maryland" document produced by the University of Maryland and the Maryland Turfgrass Council. Use of cultivars also appearing on the Turfgrass Water Conservation Alliance approved list is encouraged. Seeds coatings that aid in germination, moisture retention and prevent loss to bird consumption are acceptable. Seeded areas are to be covered by a light and loose layer of rapidly degradable mulch such as straw or hydraulically applied cellulose. Use of erosion control blankets or any synthetic webbing is not permissible for lawn areas unless specified by the Owner's Representative.

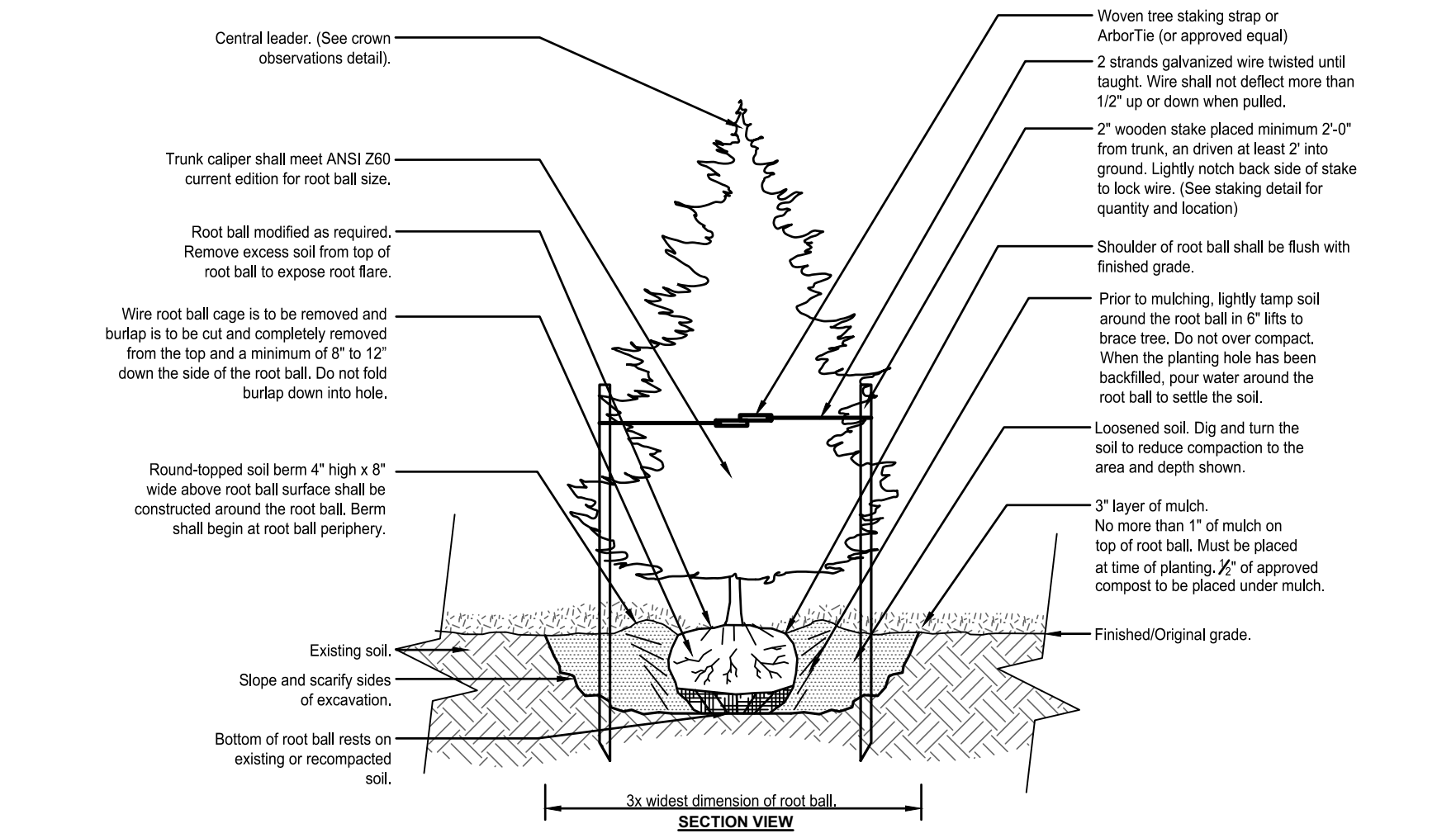
Sodded Lawn Area: Unless a proprietary sod is specified by the Owner's Representative, sod must be of a Maryland or Virginia certified variety suited to the specific growing requirements of where it is to be installed. Grower and variety to be submitted to Owner's Representative for review prior to ordering. Certification documentation for all sod is to be provided to the Owner's Representative upon delivery. For installation on slopes, the Contractor shall use biodegradable sod spikes to secure sod in place. Metal sod staples are not to be utilized for installation.

Invasive Species: Existing invasive species are to be removed utilizing appropriate approved methods including in the invasive species management plan (if applicable) prior to the installation of new plant materials, and is subject to inspection, and is a factor in the Certification of Installation.

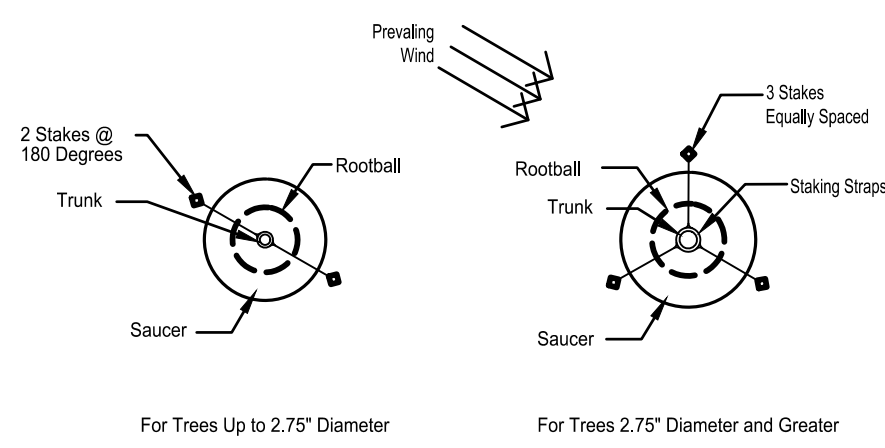
NOTE: These specifications and details are based on those developed by the Urban Tree Foundation, and have been improved to reflect current research into effective planting. The ISA has also replaced their own details and now reference the UTF details. The specifications and details illustrated in this plan set exceed the standards set in the ISA, LCA, and local jurisdictional planting details and specifications.



DECIDUOUS TREE PLANTING DETAIL
SCALE: NOT TO SCALE

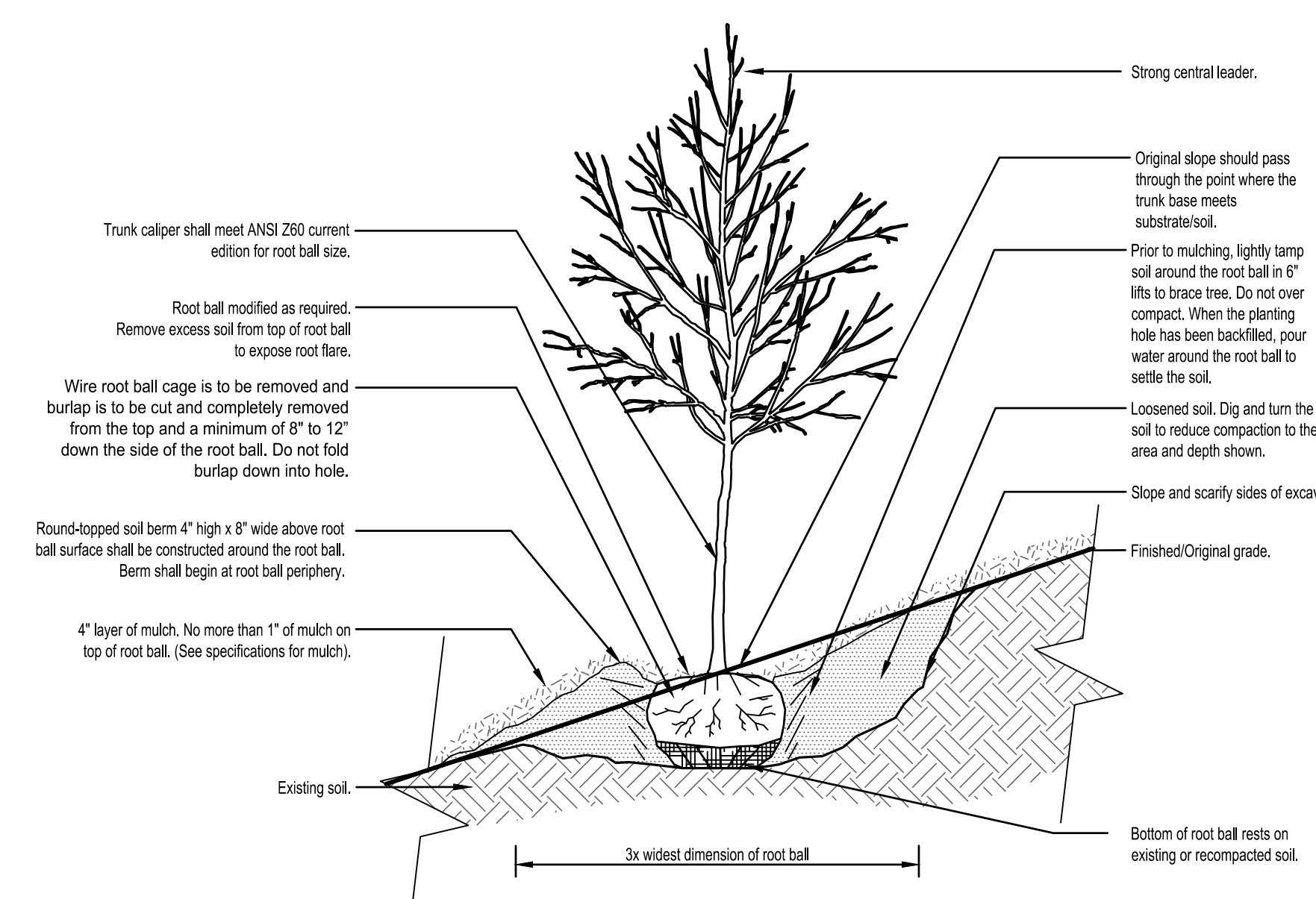


EVERGREEN TREE PLANTING DETAIL
SCALE: NOT TO SCALE

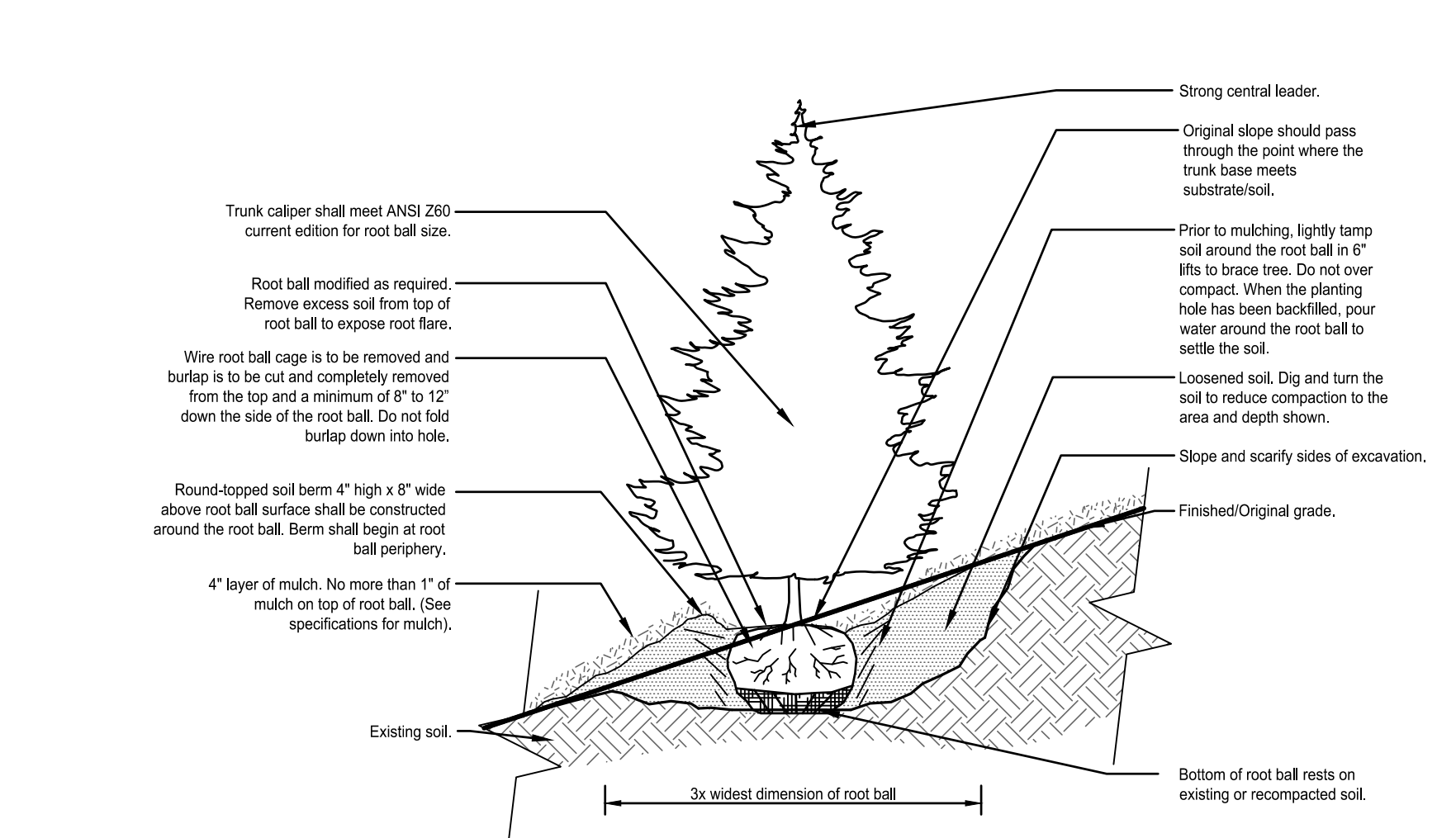


TREE STAKING DETAIL
SCALE: NOT TO SCALE

- Notes:
1. Utilize only Arbor-Tie or approved equal or staking straps against tree trunks.
 2. Reference manufacturer's detail of approved system for installation instructions.
 3. Wire tension (if used) should not allow greater than 1/2" of deflection in any direction.
 4. Staking should be removed on year after planting or as instructed.



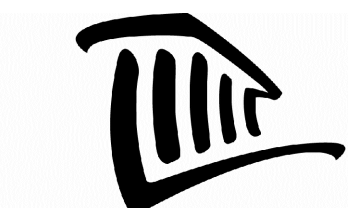
DECIDUOUS TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE



EVERGREEN TREE SLOPE PLANTING DETAIL
SCALE: NOT TO SCALE

ARLINGTON COUNTY LANDSCAPE AND PLANTING NOTES

1. MATERIAL SHALL BE FURNISHED AND INSTALLED AS INDICATED ON PLANS, INCLUDING ALL LABOR, MATERIALS, PLANTS, EQUIPMENT, INCIDENTALS, AND CLEAN-UP.
2. GRADING AND PLANTING OPERATIONS SHALL BE PERFORMED DURING PERIODS WHEN WEATHER AND SOIL CONDITIONS ARE SUITABLE, AND IN ACCORDANCE WITH ACCEPTED LOCAL PRACTICE AND STANDARDS. THE ACCEPTABLE PLANTING RANGE IS FROM MARCH-JUNE 15 AND SEPTEMBER-DECEMBER, FOR NON-TREE MATERIAL, AND OCTOBER - JUNE 15 FOR TREES. PLANTS SHALL NOT BE INSTALLED IN TOPSOIL THAT IS MUDDY OR FROZEN. CARE SHALL BE TAKEN TO PROVIDE PLANTS WITH ENOUGH WATER TO COMBAT HEAT STRESS DURING HOT/DRY WEATHER.
3. ALL LAWN AND PLANTING AREAS SHALL BE GRADED TO A SMOOTH, EVEN, AND UNIFORM PLANE WITH NO ABRUPT CHANGE OF SURFACE UNLESS OTHERWISE DIRECTED BY THE LANDSCAPE ARCHITECT OR REPRESENTATIVE. SOIL AREAS ADJACENT TO BUILDINGS SHALL SLOPE AWAY FROM BUILDING. ALL PLANTING AREAS SHALL BE GRADED AND MAINTAINED TO ALLOW FREE FLOW OF SURFACE WATER. CONTRACTOR SHALL REPORT ANY SOIL OR DRAINAGE CONDITIONS CONSIDERED DETRIMENTAL TO GROWTH OF PLANT MATERIAL.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PLANTING AT CORRECT GRADES AND ALIGNMENT PER APPROVED PLANS. NO TREES SHALL BE PLANTED LESS THAN TWO FEET FROM EXISTING STRUCTURES AND SIDEWALKS. LAYOUT OF PLANTS SHALL BE APPROVED BY LANDSCAPE ARCHITECT OR REPRESENTATIVE PRIOR TO INSTALLATION.
5. PLANTS SHALL BE TYPICAL OF THEIR SPECIES AND VARIETY, HAVE NORMAL GROWTH HABITS, WELL-DEVELOPED DENSELY FOLIATED BRANCHES, VIGOROUS ROOT SYSTEMS, AND BE FREE FROM DEFECTS AND INJURIES. QUALITY AND SIZE OF PLANTS, SPREAD OF ROOTS AND SIZE OF ROOTBALL SHALL BE IN ACCORDANCE WITH THE MOST RECENT VERSION OF ANSI "AMERICAN STANDARD FOR NURSERY STOCK" PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, INC.
6. ALL PLANT MATERIAL SHALL BE GUARANTEED BY THE INSTALLER TO BE IN VIGOROUS GROWING CONDITION. PROVISION SHALL BE MADE FOR A GROWTH GUARANTEE OF AT LEAST ONE YEAR FROM THE DATE OF ACCEPTANCE FOR ALL PLANT MATERIAL. REPLACEMENTS SHALL BE MADE AT THE BEGINNING OF THE FIRST SUCCEEDING PLANTING SEASON. ALL REPLACEMENTS SHALL HAVE A GUARANTEE EQUAL TO THAT STATED ABOVE.
7. PLANT MATERIAL SHALL BE PLANTED ON THE DAY OF DELIVERY IF PRACTICAL. IF THIS IS NOT POSSIBLE, THE CONTRACTOR SHALL PROTECT STOCK NOT PLANTED. PLANTS SHALL NOT REMAIN UNPLANTED FOR LONGER THAN A THREE-DAY PERIOD AFTER DELIVERY. ANY PLANTS NOT INSTALLED DURING THIS PERIOD SHALL BE REJECTED, UNLESS OTHERWISE DIRECTED BY THE ARLINGTON COUNTY LANDSCAPE ARCHITECT OR REPRESENTATIVE.
8. ALL INJURED ROOTS SHALL BE PRUNED USING ANSI A300 STANDARDS.
9. CONTRACTOR SHALL PROVIDE 4 IN. MINIMUM THICK TOPSOIL LAYER IN ALL PLANTING AREAS. TOPSOIL SHALL BE FREE OF WEEDS, DEBRIS, ROCKS LARGER THAN 2 IN., WOOD, ROOTS, VEGETABLE MATTER, AND CLAY CLOUDS. CLEAN, FERTILE TOPSOIL PRESENT AT THE SITE, IF ANY, MAY BE USED TO SUPPLEMENT TOTAL AMOUNT REQUIRED.
10. PLANTING PITS SHALL BE DUG PER COUNTY DETAILS. SET PLANTS PLUMB AND STRAIGHT, WITH ROOT FLARES SLIGHTLY ABOVE GRADE. DO NOT COVER THE ROOT FLARE WITH SOIL OR MULCH. BACKFILL PLANTING PITS WITH AMENDED TOPSOIL, AND THOROUGHLY WATER AND TAMP AS BACK-FILLING PROGRESSES. WATER AGAIN TO ACHIEVE SOIL SATURATION IMMEDIATELY FOLLOWING PLANTING.
11. PLANTS SHALL NOT BE BOUND WITH WIRE OR ROPE AT ANY TIME, SO AS NOT TO DAMAGE THE BARK OR BREAK BRANCHES. PLANTS SHALL BE HANDLED FROM THE BOTTOM OF THE ROOT BALL ONLY.
12. EACH TREE AND SHRUB SHALL BE PRUNED IN ACCORDANCE WITH ANSI A300: STANDARDS FOR TREE CARE PRACTICES, TO PRESERVE THE HEALTH AND APPEARANCE OF THE PLANT. PRUNING SHALL BE DONE WITH CLEAN, SHARP TOOLS.
13. TREES SHALL BE SUPPORTED AFTER PLANTING ONLY AS DIRECTED BY THE URBAN FORESTER. IF INSTALLED, THE LANDSCAPE CONTRACTOR SHALL REMOVE STAKING, GUYING AND TREE WRAP AT THE END OF THE ONE-YEAR MAINTENANCE AND WARRANTY PERIOD.
14. ALL PLANTING BEDS SHALL BE MULCHED WITH A 3 IN. LAYER OF WEED-FREE DOUBLE SHREDDED HARDWOOD BARK MULCH, OR OTHER EQUIVALENT AS APPROVED BY THE LANDSCAPE ARCHITECT OR REPRESENTATIVE. KEEP MULCH AWAY FROM TRUNKS OF TREES AND OTHER PLANT MATERIALS.
15. NEW PLANTINGS AND TURF SHALL BE ADEQUATELY IRRIGATED OR WATERED THROUGHOUT ESTABLISHMENT.
16. UPON COMPLETION OF ALL PLANTING AND BEFORE FINAL ACCEPTANCE, THE CONTRACTOR SHALL REMOVE ALL MATERIAL, EQUIPMENT AND DEBRIS. ALL PAVED AREAS SHALL BE BROOM-SWEPT AND LEFT IN A NEAT CONDITION.
17. URBAN FORESTER NOTIFICATION: THE DEVELOPER AGREES TO NOTIFY THE URBAN FORESTER AT LEAST 72 HOURS IN ADVANCE OF THE INSTALLATION OF DRAINAGE, SPECIAL SOIL EXPANSION EQUIPMENT, TREE PIT CREATION, AND SCHEDULED PLANTING OF ANY TREES IN THE PUBLIC RIGHT OF WAY, AND TO BE AVAILABLE AT THE TIME OF PLANTING TO MEET WITH DPR STAFF TO INSPECT THE PLANT MATERIAL, TREE PIT AND PLANTING TECHNIQUES. SOIL USED IN THE TREE PIT MUST MEET THE SPECIFICATIONS FOR STREET TREE PLANTING IN THE "STANDARDS FOR PLANTING AND PRESERVATION OF TREES ON SITE PLAN PROJECTS" AVAILABLE FROM THE URBAN FORESTER.



ARLINGTON
VIRGINIA

SEAL

PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title	
LANDSCAPE PLAN NOTES & DETAILS	
Drawn:	Approv:
Scale:	Date: 05/05/21

Sheet No.
L-201
23 of 41

STRUCTURAL NOTES

CONSTRUCTION SHALL COMPLY WITH, AND DESIGN HAS BEEN PERFORMED IN ACCORDANCE WITH, THE PROJECT SPECIFICATIONS AND THE NOTES BELOW. IF THERE ARE ANY PERCEIVED CONFLICTS BETWEEN THE SPECIFICATIONS AND THE NOTES OR THE DRAWINGS, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR CLARIFICATION TO THE PROJECT MANAGER. SEE THE CONTRACT SPECIFICATIONS AND STRUCTURAL NOTES FOR QUALITY ASSURANCE REQUIREMENTS.

A. CODES, STANDARDS, AND REFERENCES

- BUILDING CODE: VIRGINIA UNIFORM STATEWIDE BUILDING CODE-2015, INTERNATIONAL BUILDING CODE (IBC)-2015, ASCE 7-10.
- CONCRETE CODES: SPECIFICATIONS FOR STRUCTURAL CONCRETE (ACI 301-10) AND BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14). REINFORCING DETAILS SHALL CONFORM TO THE ACI DETAILING MANUAL AND CRSI STANDARDS.
- STEEL CODES: SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (ANSI/AISC 360-10). STRUCTURAL WELDING CODE - STEEL (AWS D1.1-2010).
- MASONRY CODE: BUILDING CODE REQUIREMENTS AND SPECIFICATIONS FOR MASONRY STRUCTURES (ACI 530/530.1-13).

B. OCCUPANCY

- RISK CATEGORY: II.

C. ROOF LIVE LOAD

- FLAT ROOF: 20 PSF.
- SLOPED ROOF: 20 PSF.

D. SNOW LOADS

- GROUND SNOW LOAD (P_g): 25 PSF.
- FLAT ROOF SNOW LOAD (P_f): 20 PSF.
- SLOPED ROOF SNOW LOAD (P_s): 20 PSF.
- SNOW IMPORTANCE FACTOR (I_s): 1.00.
- SNOW EXPOSURE FACTOR (C_e): 1.0
- SNOW LOAD THERMAL FACTOR (C_t): 1.10.

E. WIND LOADS

- BASIC WIND SPEED:
 - ULTIMATE DESIGN WIND SPEED, V_{ult} , (3-SECOND GUST): 115 MPH.
 - NOMINAL DESIGN WIND SPEED, V_{asd} : 89 MPH.
- WIND EXPOSURE CATEGORY: C.
- WIND INTERNAL PRESSURE COEFFICIENTS (GCF_i): +/- 0.18.
- COMPONENTS AND CLADDING WIND PRESSURES ARE 30.6 PSF (PRESSURE) AND 40.9 PSF (SUCTION). NOTE: THESE PRESSURES ARE BASED ON AN EFFECTIVE WIND AREA OF 10 SQUARE FEET. COMPONENTS AND CLADDING DESIGN PRESSURES MAY BE REDUCED IN ACCORDANCE WITH THE BUILDING CODE.

F. SEISMIC CRITERIA

- SITE CLASS IS: D.
- SEISMIC IMPORTANCE FACTOR (I_e): 1.0.
- MAPPED SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS (S_s): 0.12g.
- MAPPED SPECTRAL RESPONSE ACCELERATION AT 1-SECOND PERIOD (S_1): 0.05g.

G. GEOTECHNICAL CRITERIA

- THE GEOTECHNICAL CRITERIA LISTED BELOW IS IN ACCORDANCE WITH THE GEOTECHNICAL REPORT PREPARED BY SCHNABEL ENGINEERING AND DATED APRIL 24, 2017.
- DESIGN SOIL BEARING PRESSURE: 2000 PSF.
- MINIMUM FOOTING DEPTH FOR FROST PROTECTION: 2'-0".

H. MATERIALS AND PHYSICAL PROPERTIES

- "()" INDICATES ASTM STANDARD FOR WHICH MATERIAL SHALL CONFORM.
- CONCRETE PROPERTIES SHALL CONFORM TO THE CRITERIA SPECIFIED IN TABLE 1 BELOW.
- CONCRETE AND MASONRY REINFORCEMENT (A615, GRADE 60)..... $F_y=60,000$ psi
- MASONRY..... $f_m=2,500$ psi
- CONCRETE BLOCK FOR REINFORCED CONSTRUCTION SHALL BE TWO CELL UNITS CONFORMING TO (C90, TYPE I), MEDIUM-WEIGHT CONCRETE.
- MORTAR SHALL BE MASONRY CEMENT
- MORTAR (C270), TYPE M..... $f_c=3250$ psi
- MASONRY GROUT (C476)..... $f_c=3000$ psi
- STRUCTURAL STEEL
 - W-SHAPES AND WT-SHAPES (A992)..... $F_y=50,000$ psi
 - CHANNELS, ANGLES, AND PLATES (A36)..... $F_y=36,000$ psi
- WELDING ELECTRODES: PER TABLE 3.1 OF AWS D1.1 FOR THE SMAW PROCESS OR ANY OTHER PREQUALIFIED WELDING PROCEDURES SPECIFICATIONS (WPS).

STRUCTURE TYPE	f_c (MINIMUM ULTIMATE COMPRESSIVE STRENGTH AT 28 DAYS (PSI))	MAXIMUM WATER/CEMENTITIOUS MATERIALS RATIO	ENTRAINED AIR CONTENT (%)	UNIT WEIGHT	FREEZING AND THAWING (F)	SULFATE (S)	IN CONTACT WITH WATER (W)	CORROSION PROTECTION OF REINFORCEMENT (C)	NOTES
FOUNDATIONS	3500	0.55	4.5%	NW	F1	S0	W0	C1	
SLABS-ON-GRADE	3500	0.55	UP TO 2%	NW	F0	S0	W0	C0	

NOTES:
 1. THE PROPORTIONING OF THE CONCRETE MIXTURES SHALL SATISFY THE EXPOSURE CATEGORIES AND CLASSES SPECIFIED IN THIS TABLE AS RELATED TO THE MIX PROPORTIONING REQUIREMENTS OF ACI 318.
 2. NW DESIGNATES NORMAL WEIGHT CONCRETE, LW DESIGNATES LIGHTWEIGHT CONCRETE WITH A DRY UNIT WEIGHT OF 115-118 POUNDS PER CUBIC FOOT.

J. FOOTINGS

- THE BOTTOM ELEVATION OF NEW FOOTINGS ADJACENT TO EXISTING FOOTINGS MUST MATCH THE BOTTOM ELEVATION OF THE EXISTING FOOTINGS UNLESS OTHERWISE DETAILED ON THE DRAWINGS.
- ELEVATIONS OF THE TOP OF EXISTING FOOTINGS THAT ARE SHOWN ON THE DRAWINGS ARE BASED ON THE ORIGINAL BUILDING DRAWINGS AND MUST BE VERIFIED IN THE FIELD BY THE CONTRACTOR. CONTRACTOR MUST FIELD VERIFY EXISTING CONDITIONS AND ADJUST THE NEW FOOTING ELEVATIONS AS REQUIRED TO MATCH THE ELEVATION OF THE EXISTING BOTTOM OF FOOTING.
- BOTTOMS OF ALL FOOTINGS SHALL EXTEND 1'-0" MINIMUM INTO UNDISTURBED SOIL AND AT LEAST 2'-0" BELOW FINISHED GRADE.
- WHERE BEARING ON UNDISTURBED VIRGIN SOIL IS NOT POSSIBLE AT FOOTING ELEVATIONS INDICATED, FOOTINGS SHALL BE SUPPORTED ON CONTROLLED FILL.
- IF THE DESIGN SOIL BEARING PRESSURE NOTED IN THE STRUCTURAL NOTES SECTION "GEOTECHNICAL CRITERIA" CANNOT BE ACHIEVED AT THE FOOTING ELEVATIONS INDICATED ON THE FOUNDATION PLAN, THE STRUCTURAL ENGINEER SHALL BE NOTIFIED IN WRITING FOR GUIDANCE.
- FOOTING SUBGRADE SHALL BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO PLACEMENT OF THE FOOTINGS.

K. CAST-IN-PLACE CONCRETE CONSTRUCTION

- CONCRETE WORK SHALL CONFORM TO ALL REQUIREMENTS OF ACI 318, ACI 301, AND THE ACI DETAILING MANUAL, EXCEPT AS MODIFIED BY THE CONTRACT DOCUMENTS.
- CONCRETE TEST CYLINDERS SHALL BE TAKEN IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318, AND THE CONTRACT SPECIFICATIONS.
- SEE CONTRACT SPECIFICATIONS, SECTION 033000 "CAST-IN-PLACE CONCRETE" FOR ADMIXTURE REQUIREMENTS. ADMIXTURE DOSAGE, ADDITION TIMES, COMPATIBILITY WITH OTHER ADMIXTURES, AND COMPATIBILITY WITH OTHER MIX CONSTITUENTS SHALL BE THE RESPONSIBILITY OF THE MANUFACTURER.

L. CONCRETE REINFORCEMENT

- DETAILS OF STEEL REINFORCEMENT SHALL CONFORM TO ACI 318 AND CRSI STANDARDS.
- CONCRETE PROTECTION FOR STEEL REINFORCEMENT OF CAST-IN-PLACE CONCRETE SHALL BE AS SPECIFIED IN TABLE 2 ON THIS SHEET, UNLESS NOTED OTHERWISE.
- UNLESS NOTED OTHERWISE, FOOTING DOWELS FOR BUILDING WALLS AND COLUMNS SHALL PROJECT ABOVE THE FOOTING AS REQUIRED TO LAP SPLICE WITH THE VERTICAL WALL/COLUMN REINFORCEMENT.
- UNLESS NOTED OTHERWISE, ALL SPLICES FOR REINFORCING SHALL BE CLASS B LAP SPLICES. WELDED SPLICES SHALL NOT BE USED.
- PROVIDE AN ALLOWANCE FOR THE PLACEMENT OF 200 LBS. OF EXTRA STEEL REINFORCING BARS, TO BE LOCATED IN THE FIELD BY THE PROJECT MANAGER.

TYPE OF STRUCTURE	NOT EXPOSED TO EARTH OR WEATHER IN SERVICE	EXPOSED TO EARTH OR WEATHER IN SERVICE		EARTH FORMED
		#5 OR SMALLER	#6 OR LARGER	
SLABS	3/4"	1 1/2"	2"	3"
FOOTINGS	---	3"	3"	3"

M. SLABS-ON-GRADE

- UNLESS NOTED OTHERWISE, SLABS-ON-GRADE SHALL BE 6 INCH THICK POURED CONCRETE AND REINFORCED WITH 6x6 W1.4xw1.4 WELDED WIRE REINFORCEMENT LOCATED IN THE UPPER THIRD OF THE SLAB THICKNESS.
- UNLESS NOTED OTHERWISE, PROVIDE A VAPOR BARRIER WITH A MINIMUM THICKNESS OF 10 MILS. AS LOCATED ON THE DETAILS.
- FILL UNDER SLABS-ON-GRADE SHALL BE MADE WITH MATERIAL APPROVED BY THE PROJECT MANAGER AND SHALL BE COMPACTED IN A MANNER THAT WILL NOT DAMAGE FOUNDATION WALLS. IT SHALL BE WELL TAMPED IN 8" LAYERS IN ROUGH THICKNESS, TO 95% MAXIMUM DRY DENSITY PER ASTM D-698 (STANDARD PROCTOR).
- CONSTRUCTION (PLACING, LAP, ETC.) OF WELDED WIRE REINFORCEMENT SHALL CONFORM TO WRI STANDARDS.
- PROVIDE A CONTINUOUS MANUFACTURED, SAW CUT, OR TOOLED CRACK CONTROL JOINT IN THE TOP OF THE SLAB WHERE INDICATED ON PLAN BUT AT SPACING NOT TO EXCEED 12 FEET. LAY OUT CONTROL JOINTS TO FORM AS NEARLY SQUARE PANELS AS PRACTICAL. IN RECTANGULAR PANELS, THE LONG SIDE SHALL NOT BE LONGER THAN 1.5 TIMES THE DIMENSION OF THE SHORT SIDE.
- PROVIDE AN ISOLATION JOINT AT THE PERIMETER OF THE SLAB UNLESS NOTED OTHERWISE.
- FINISH WITH LIQUID FLOOR TREATMENT PER SPECIFICATION SECTION 033000.

N. MASONRY

- UNLESS NOTED OTHERWISE, PROVIDE HORIZONTAL JOINT REINFORCING IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS AT 16" ON CENTER MAX VERTICALLY IN ALL MASONRY WALLS.
- LOCATE CONTROL JOINTS IN MASONRY CONSTRUCTION IN ACCORDANCE WITH THE STRUCTURAL DRAWINGS.
- TESTING AND INSPECTION SHALL BE PERFORMED BY AN INDEPENDENT INSPECTION AGENCY, HIRED BY THE OWNER.
- AT A MINIMUM, FIELD INSPECTION AND TESTING SHALL BE PERFORMED ON ALL REINFORCED MASONRY CONSTRUCTION. FIELD INSPECTION SHALL OCCUR AT THE FOLLOWING INTERVALS:
 - CONSTRUCTION START-UP;
 - ONE-QUARTER COMPLETION OF CONSTRUCTION;
 - TWO-THIRDS COMPLETION OF CONSTRUCTION; AND
 - 95% COMPLETION OF CONSTRUCTION.
- AT A MINIMUM, FIELD INSPECTION OF GROUTED MASONRY SHALL INCLUDE, BUT NOT BE LIMITED TO, REVIEW OF HOLLOW CELLS PRIOR TO GROUTING, MONITORING OF GROUT PLACEMENT, AND REVIEW PRIOR TO IMPOSING LOADS.
- TEST MATERIALS AS REQUIRED BY THE PROJECT SPECIFICATIONS IN ACCORDANCE WITH THE UNIT STRENGTH METHOD FOR DETERMINATION OF MASONRY COMPRESSIVE STRENGTH PER ACI 530.1, SECTION 1.6. IN ADDITION, TEST MORTAR AND GROUT FOR COMPLIANCE TO ASTM C270 AND ASTM C476, RESPECTIVELY, PER THE REQUIREMENTS OF THE PROJECT SPECIFICATIONS. FIELD INSPECTION AND TESTING SHALL BE PERFORMED BY AN APPROVED INDEPENDENT INSPECTION AGENCY. INSPECTION AND TEST RESULTS SHALL BE FURNISHED TO THE PROJECT MANAGER FOR REVIEW.

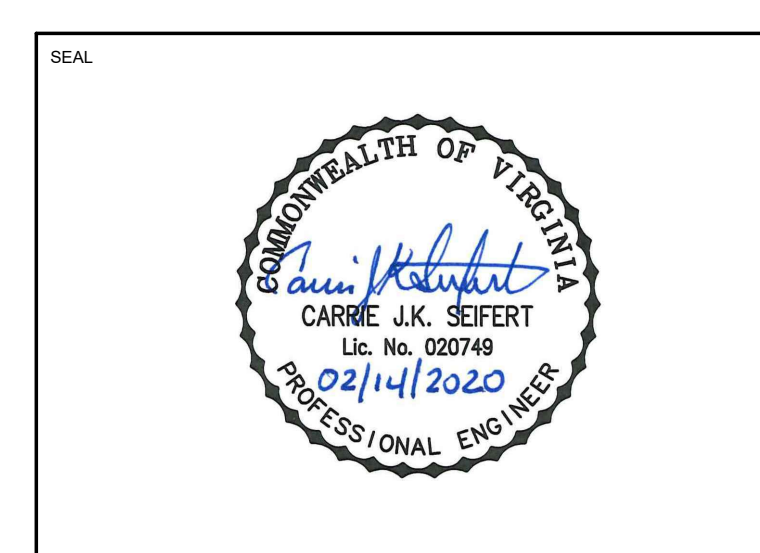
P. MASONRY REINFORCEMENT

- KEEP CELLS TO RECEIVE REINFORCEMENT CLEAN OF MORTAR DROPPINGS.
- FILL ALL CELLS CONTAINING DOWELS AND VERTICAL BARS WITH GROUT.
- PROVIDE LATERAL BRACING AS REQUIRED TO ASSURE THAT WALL REMAINS PLUMB BEFORE, DURING, AND AFTER CELLS ARE FILLED.
- UNLESS NOTED OTHERWISE, FOOTING DOWELS FOR WALLS SHALL MATCH THE SIZE AND QUANTITY OF VERTICAL REINFORCEMENT.
- TIE VERTICAL BARS TO DOWELS AT BOTTOM AND SECURE WITH WIRE TIES AND SPACERS AT TOP TO ASSURE THAT BARS REMAIN IN POSITION DURING GROUTING.
- UNLESS NOTED OTHERWISE, ALL VERTICAL BARS MUST BE LAP SPLICED PER ACI 530.
- CLOSE CLEANOUTS ONLY AFTER GROUT FLOWS FULLY TO BOTTOM OF WALL. VIBRATE GROUT DURING PLACEMENT TO ELIMINATE ALL AIR POCKETS.
- AT A MINIMUM, FIELD INSPECTION OF REINFORCED MASONRY CONSTRUCTION SHALL CONFORM TO ACI 530 LEVEL B QUALITY ASSURANCE. IN ADDITION, INSPECTION AND TESTING SHALL BE IN ACCORDANCE WITH THE STRUCTURAL NOTES FOR QUALITY ASSURANCE AND SPECIAL INSPECTIONS ON SHEET S-003 AND S-004.

Q. LINTELS

- UNLESS OTHERWISE SHOWN ON DRAWINGS, PROVIDE PRECAST OR STEEL LINTELS FOR OPENINGS IN MASONRY WALLS AS SPECIFIED IN TABLE 3 ON THIS SHEET. PROVIDE (1) LINTEL FOR EACH 4" OF WALL THICKNESS, WITH A MINIMUM BEARING LENGTH OF 8".
- STEEL ANGLE LINTELS SHALL BE INSTALLED WITH THE VERTICAL LEGS INSIDE THE WALL AND THE HORIZONTAL LEGS POINTING TO THE OUTSIDE FACES OF THE WALLS. VERTICAL LEGS OF STEEL ANGLES MAY NOT BE EXPOSED AT THE FACES OF THE WALLS.
- GROUT (2) CELLS SOLID AT EACH END OF LINTEL FROM LINTEL BEARING DOWN T TOP OF SLAB.

OPENING WIDTH	ANGLE SIZE	PRECAST CONCRETE SIZE & REINFORCING
TO 3'-0"	L3 1/2 x 3 x 5/16	4"x8" PCC W/ #3 T&B
3'-1" TO 4'-0"	L3 1/2 x 3 1/2 x 5/16	4"x8" PCC W/ #3 T&B
4'-1" TO 5'-0"	L4 x 3 1/2 x 5/16	4"x8" PCC W/ #4 T&B
5'-1" TO 6'-0"	L5 x 3 1/2 x 5/16	4"x8" PCC W/ #4 T&B



SLOPE STABILIZATION AND BUILDING MODIFICATION
 2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title
STRUCTURAL NOTES
 Drawn: SRT Approv: CJS
 Scale: NONE Date: 05/05/2021

Sheet No.
S-001
 24 of 41

R. ANCHORS

1. PROPOSED ANCHORS SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO FIELD OPERATIONS.
2. ALL ANCHORS SHALL BE INSTALLED IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE MANUFACTURER.
3. EXPANSION ANCHORS (CONCRETE AND SOLID/GROUTED MASONRY)
 - a. SHALL BE HILTI KWIK BOLT 3 MASONRY ANCHORS MANUFACTURED BY HILTI FASTENING SYSTEM OR DEWALT POWER-STUD+ SD1 FOR MASONRY & CONCRETE OR AN APPROVED EQUIVALENT WITH ACCOMPANYING ICC EVALUATION REPORT;
 - b. SHALL MEET THE FOLLOWING REQUIREMENT:
 - i. CARBON STEEL HOT-DIP GALVANIZED ANCHOR BODY, NUT, AND WASHER CONFORMING TO ASTM A153 (WEDGES SHALL BE MANUFACTURED FROM EITHER AISI 304 OR AISI 316 STAINLESS STEEL);
 - c. SHALL MEET THE FEDERAL SPECIFICATION A-A 1923A, TYPE 4.
4. ADHESIVE ANCHORS (CONCRETE AND SOLID/GROUTED MASONRY)
 - a. SHALL BE HILTI HIT HY-10 PLUS OR DEWALT AC100+ GOLD FOR CONCRETE AND MASONRY OR AN APPROVED EQUIVALENT WITH ACCOMPANYING ICC EVALUATION REPORT;
 - b. SHALL USE INJECTABLE ADHESIVE;
 - c. SHALL USE THREADED RODS MEETING ONE OF THE FOLLOWING STANDARDS:
 - i. ASTM A 193 B7;
 - ii. AISI 304;
 - iii. AISI 316; OR
 - iv. ASTM A615, GRADE 60 REINFORCING BAR.
5. IF MINIMUM REQUIREMENTS (EMBEDMENT, SPACING, AND EDGE DISTANCE) FOR ANCHORS CANNOT BE ACHIEVED DUE TO FIELD CONDITIONS, NOTIFY THE PROJECT MANAGER FOR GUIDANCE PRIOR TO DRILLING HOLES FOR ANCHORS.
6. HOLES FOR ANCHORS TO BE INSTALLED IN MASONRY SHALL BE DRILLED WITH A ROTARY DRILL ONLY, NOT A ROTARY-HAMMER DRILL.
7. CURING TIME FOR ADHESIVE AND EPOXY ADHESIVE ANCHOR SYSTEM SHALL BE AS RECOMMENDED BY THE ANCHOR MANUFACTURER.
8. ADHESIVE ANCHORS MUST BE INSTALLED IN CONCRETE AGED A MINIMUM OF 21 DAYS (ACI 318-11 D.2.2).

S. STRUCTURAL STEEL

1. WELDS SHALL BE INSTALLED BY WELDERS QUALIFIED IN ACCORDANCE WITH AWS PROCEDURES FOR WELDER QUALIFICATION.
2. UNLESS NOTED OTHERWISE, ALL STRUCTURAL STEEL MEMBERS SHALL BE PAINTED WITH ONE COAT OF FABRICATORS STANDARD PRIMER PAINT, TWO MILS DRY FILM THICKNESS.
3. WELDING INSPECTION SHALL BE MADE IN ACCORDANCE WITH THE INSPECTION CHAPTER OF AWS D1.1 (2010).

T. GENERAL CONTRACTOR

1. STRUCTURAL DRAWINGS SHALL BE USED ONLY IN CONJUNCTION WITH THE GEOTECHNICAL, CIVIL, AND MEP DRAWINGS, WHICH SHALL BE PROVIDED TO ALL SUBCONTRACTORS RESPONSIBLE FOR STRUCTURAL CONSTRUCTION.
2. SHOP DRAWINGS FOR ALL STRUCTURAL ITEMS ARE PART OF THE STRUCTURAL DESIGN AND SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO FABRICATION AND CONSTRUCTION. FAILURE BY THE OWNER OR CONTRACTOR TO SUBMIT SUCH DRAWINGS FOR APPROVAL WILL RELIEVE THE STRUCTURAL ENGINEER OF ALL RESPONSIBILITY FOR CONSTRUCTION DIRECTLY OR INDIRECTLY IMPACTED BY THE FAILURE TO SUBMIT SHOP DRAWINGS.
3. ALL STRUCTURAL ELEMENTS SHALL BE TEMPORARILY SHORED AND BRACED AS REQUIRED TO RESIST THE LOADS TO WHICH THEY MAY BE SUBJECT DURING CONSTRUCTION.
4. ALL TEMPORARY SHORING AND BRACING SHALL BE DESIGNED BY A REGISTERED PROFESSIONAL ENGINEER RETAINED BY THE CONTRACTOR AND SHALL REMAIN IN-PLACE UNTIL THE STRUCTURE IS CAPABLE OF SUPPORTING THE LOADS TO WHICH IT MAY BE SUBJECT. DETERMINATION OF WHEN TEMPORARY SHORING AND BRACING CAN BE REMOVED IS THE RESPONSIBILITY OF THE SHORING ENGINEER.
5. THE DESIGN OF ALL TEMPORARY SHORING AND BRACING WILL BE THE RESPONSIBILITY OF THE CONTRACTOR. SIGNED AND SEALED SHOP DRAWINGS FOR TEMPORARY SHORING AND BRACING SHALL BE SUBMITTED PRIOR TO CONSTRUCTION.
6. IMPOSED CONSTRUCTION LOADS, IN EXCESS OF THE STATED DESIGN LOADS MUST BE APPROVED BY THE PROJECT MANAGER PRIOR TO THE IMPOSITION OF SUCH LOADS.
7. THE DESIGN AND CONSTRUCTION OF SHORING REQUIRED TO MAINTAIN THE STABILITY OF EXCAVATIONS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR. ALL EXCAVATIONS SHALL COMPLY WITH OSHA REGULATIONS.
8. ABATE PER STATE AND LOCAL HAZARDOUS MATERIAL REPORT.

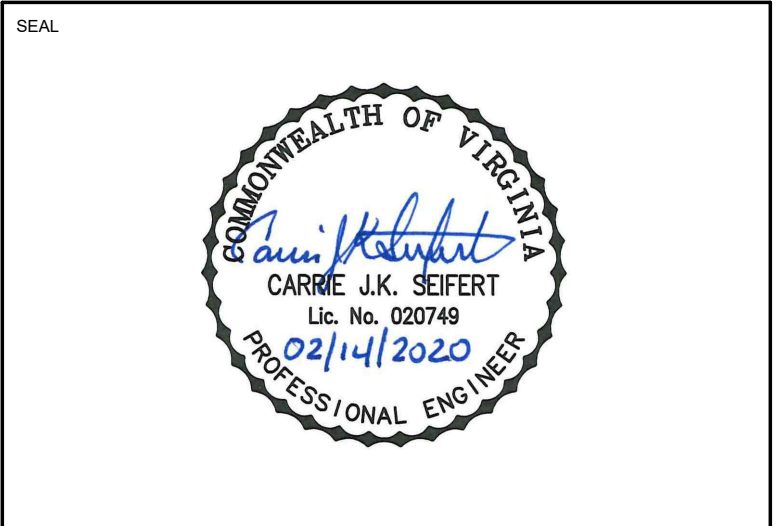
U. EXISTING STRUCTURE

1. INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS REGARDING THE EXISTING STRUCTURE IS BASED ON DRAWINGS PREPARED BY BEACH ASSOCIATES ARCHITECTS & PLANNING ENGINEERS AND DATED 23 FEBRUARY 1979. WOODS PEACOCK ASSUMES NO RESPONSIBILITY FOR THEIR ACCURACY.
2. DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE STRUCTURAL DRAWINGS ARE APPROXIMATE AND SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING CONSTRUCTION.
3. IF DEVIATIONS ARE FOUND BETWEEN THE EXISTING INFORMATION SHOWN ON THE STRUCTURAL DRAWINGS AND ACTUAL CONDITIONS WHICH WILL NOT PERMIT NEW STRUCTURAL WORK TO BE PERFORMED AS SPECIFIED, THE PROJECT MANAGER SHALL BE NOTIFIED IN WRITING FOR GUIDANCE PRIOR TO THE START OF THE WORK IN QUESTION.
4. CONTRACTOR SHALL SUBMIT METHODS AND SEQUENCING FOR THE REMOVAL OF THE EXISTING STRUCTURE, AS WELL AS TYPES OF TOOLS AND EQUIPMENT TO BE USED, TO THE PROJECT MANAGER FOR REVIEW AND APPROVAL PRIOR TO COMMENCING ANY DEMOLITION OR ALTERATIONS. EXTREME CARE SHALL BE TAKEN TO PROTECT THE INTEGRITY OF ADJACENT EXISTING STRUCTURE AT ALL TIMES. THE CONTRACTOR SHALL BEAR THE COST OF REPAIRS OR REPLACEMENT FOR DAMAGE TO ANY PART OF EXISTING STRUCTURES OR ADJOINING PROPERTY.
6. WHERE SHORING IS REQUIRED AT ADJACENT EXISTING STRUCTURES, THE METHOD AND SEQUENCE SHALL BE SUBMITTED TO THE PROJECT MANAGER FOR APPROVAL PRIOR TO STARTING FIELD OPERATIONS.
7. WHERE DEMOLITION DRAWINGS INDICATE NEW OPENINGS IN EXISTING MASONRY PARTITIONS, PROVIDE LINTELS AS INDICATED IN THE STRUCTURAL NOTES SECTION "LINTELS".

LIST OF ABBREVIATIONS

&	AND	IN	INCH
@	AT	ISO	INTERNATIONAL STANDARDIZATION ORGANIZATION
∅	CENTERLINE		
∅	DIAMETER	K	KIP(S)
(E), EXIST #, NO.	EXISTING NUMBER	KSF	KIPS PER SQUARE FOOT
%	PERCENT	KSI	KIPS PER SQUARE INCH
ACI	AMERICAN CONCRETE INSTITUTE	LB, #	POUNDS
ADDL	ADDITIONAL	LLH	LONG LEG HORIZONTAL
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION	LLV	LONG LEG VERTICAL
AISI	AMERICAN IRON AND STEEL INSTITUTE	MAX	MAXIMUM
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE	MECH	MECHANICAL
APPROX	APPROXIMATE	MEP	MECHANICAL, ELECTRICAL, & PLUMBING
ASCE	AMERICAN SOCIETY OF CIVIL ENGINEERS	MIN	MINIMUM
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS	MISC	MISCELLANEOUS
AWS	AMERICAN WELDING SOCIETY	M.O.	MASONRY OPENING
B.O.	BOTTOM OF	MPH	MILES PER HOUR
C.J.	CONTROL JOINT	NIC	NOT IN CONTRACT
CLR	CLEAR	NTS	NOT TO SCALE
CMU	CONCRETE MASONRY UNIT	O.C.	ON CENTER
COL	COLUMN	OPP	OPPOSITE
CONC	CONCRETE	PEMB	PRE-ENGINEERED METAL BUILDING
CONT	CONTINUOUS	PL	PLATE
COORD	COORDINATE	PSF	POUNDS PER SQUARE FOOT
CRSI	CONCRETE REINFORCING STEEL INSTITUTE	PSI	POUNDS PER SQUARE INCH
DEMO	DEMOLISH, DEMOLITION	RCSC	RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS
DWG(S)	DRAWING(S)	REQD	REQUIRED
E.F.	EACH FACE	R.O.	ROUGH OPENING
EL, ELEV	ELEVATION	S.F.	SQUARE FEET
EMBED	EMBEDMENT	SIM	SIMILAR
EQ	EQUAL	SJI	STEEL JOIST INSTITUTE
EQUIP	EQUIPMENT	SOG	SLAB ON GRADE
E.W.	EACH WAY	SPECS	SPECIFICATIONS
F.S.	FOOTING STEP	T&B	TOP AND BOTTOM
FT	FOOT OR FEET	TEMP	TEMPORARY
GA	GAGE, GAUGE	THRU	THROUGH
HORIZ	HORIZONTAL	T.O.	TOP OF
IBC	INTERNATIONAL BUILDING CODE	T&S	TEMPERATURE AND SHRINKAGE
ICC	INTERNATIONAL CODE COUNCIL	TYP	TYPICAL
		U.N.O.	UNLESS NOTED OTHERWISE
		W/	WITH
		W/O	WITHOUT
		WRI	WIRE REINFORCING INSTITUTE
		WWF	WELDED WIRE REINFORCEMENT

LEGEND					
	CONCRETE		STEEL		CMU
	GROUT		GRAVEL		SOLID CMU
	EARTH		BRICK		EXISTING



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SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
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Rev.	Date	Description	Approved
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Sheet Title STRUCTURAL NOTES	
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Scale: NONE	Date: 05/05/2021

Sheet No. S-002
25 of 41

**SPECIAL INSPECTIONS STATEMENT
AND STRUCTURAL NOTES FOR
QUALITY ASSURANCE PLAN**

A. SPECIAL INSPECTIONS GENERAL

THE OWNER OR THE OWNER'S AUTHORIZED AGENT SHALL RETAIN THIRD-PARTY AGENCIES TO CONDUCT THE SPECIAL INSPECTIONS AND TESTING REQUIRED BY CHAPTER 17 OF THE 2015 INTERNATIONAL BUILDING CODE (IBC). THE QUALIFIED SPECIAL INSPECTOR(S) SHALL IMPLEMENT THE SPECIAL INSPECTIONS PROGRAM AND PERFORM INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK LISTED UNDER SECTION 1705 OF IBC. THESE INSPECTIONS ARE IN ADDITION TO THE INSPECTIONS IDENTIFIED IN SECTION 110 OF THE IBC. FOR REFERENCE, A SUMMARY OF SPECIAL INSPECTIONS HAS BEEN PROVIDED BELOW AND ARE CONSIDERED THE MINIMUM SPECIAL INSPECTIONS REQUIREMENTS DICTATED BY CODE FOR THE TRADES SHOWN.

THE INSPECTING AGENCY SHALL PROVIDE REPORTS OF THE SPECIAL INSPECTIONS DIRECTLY TO THE BUILDING OFFICIAL AND THE REGISTERED DESIGN PROFESSIONAL IN CHARGE.

REFER TO THE SPECIFICATIONS FOR ADDITIONAL SPECIAL INSPECTIONS REQUIREMENTS FOR THE PROJECT. THE SPECIAL INSPECTION REQUIREMENTS ARE STATED IN THE STATEMENT OF SPECIAL INSPECTIONS, SCHEDULE OF INSPECTION AND TESTING AGENCIES, QUALITY ASSURANCE PLANS, AND QUALIFICATIONS OF INSPECTORS AND TESTING AGENCIES, AND THE SCHEDULE OF SPECIAL INSPECTIONS LISTED BELOW. IF THERE ARE ANY PERCEIVED CONFLICTS BETWEEN THE SPECIFICATIONS AND THE NOTES OR THE DRAWINGS, THE CONTRACTOR SHALL SUBMIT A WRITTEN REQUEST FOR CLARIFICATION TO THE PROJECT MANAGER.

B. QUALIFICATIONS OF SPECIAL INSPECTORS

THE MINIMUM QUALIFICATIONS OF PERSONNEL PERFORMING SPECIAL INSPECTIONS ARE STATED IN THE STATEMENT OF SPECIAL INSPECTIONS INCLUDED IN THE SPECIFICATIONS FOR THE PROJECT. THE SPECIAL INSPECTOR SHALL BE A QUALIFIED PERSON WHO SHALL DEMONSTRATE COMPETENCE AND RELEVANT EXPERIENCE, TO THE SATISFACTION OF THE PROJECT MANAGER, FOR THE INSPECTION OF THE PARTICULAR TYPE OF CONSTRUCTION OR OPERATION REQUIRING SPECIAL INSPECTION. THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE AND ENGINEERS OF RECORD INVOLVED IN THE DESIGN OF THE PROJECT ARE PERMITTED TO ACT AS THE APPROVED AGENCY AND THEIR PERSONNEL ARE PERMITTED TO ACT AS THE SPECIAL INSPECTOR FOR THE WORK DESIGNATED TO THEM, PROVIDED THOSE PERSONNEL MEET THE QUALIFICATION REQUIREMENTS STATED ABOVE TO THE SATISFACTION OF THE PROJECT MANAGER. THE SPECIAL INSPECTOR SHALL PROVIDE WRITTEN DOCUMENTATION TO THE PROJECT MANAGER DEMONSTRATING HIS OR HER COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING. EXPERIENCE OR TRAINING SHALL BE CONSIDERED RELEVANT WHEN THE DOCUMENTED EXPERIENCE OR TRAINING IS RELATED IN COMPLEXITY TO THE SAME TYPE OF SPECIAL INSPECTION ACTIVITIES FOR PROJECTS OF SIMILAR COMPLEXITY AND MATERIAL QUALITIES. THESE QUALIFICATIONS ARE IN ADDITION TO QUALIFICATIONS SPECIFIED IN OTHER SECTIONS OF THE IBC AND THE SPECIFICATIONS.

C. REPORT REQUIREMENTS

SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS. THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE PROJECT MANAGER, AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE PROJECT MANAGER AND TO THE REGISTERED DESIGN PROFESSIONAL IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF THE WORK.

A FINAL REPORT DOCUMENTING REQUIRED SPECIAL INSPECTIONS AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS SHALL BE SUBMITTED AT A TIME AGREED UPON, PRIOR TO THE START OF WORK BY THE APPLICANT AND THE BUILDING OFFICIAL AT THE PRE-CONSTRUCTION MEETING.

D. FABRICATOR APPROVAL

WHERE FABRICATION OF STRUCTURAL LOAD-BEARING MEMBERS AND ASSEMBLIES IS BEING PERFORMED ON THE PREMISES OF A FABRICATOR'S SHOP, THE SPECIAL INSPECTOR SHALL VERIFY THAT THE FABRICATOR MAINTAINS DETAILED FABRICATION AND QUALITY CONTROL PROCEDURES THAT PROVIDE A BASIS FOR INSPECTION CONTROL OF THE WORKMANSHIP AND THE FABRICATOR'S ABILITY TO CONFORM TO APPROVED CONSTRUCTION DOCUMENTS AND REFERENCED STANDARDS. THE SPECIAL INSPECTOR SHALL REVIEW THE PROCEDURES FOR COMPLETENESS AND ADEQUACY RELATIVE TO THE CODE REQUIREMENTS FOR THE FABRICATOR'S SCOPE OF WORK.

SPECIAL INSPECTIONS REQUIRED BY SECTION 1705 OF IBC 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 PROJECT MANAGER STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS.

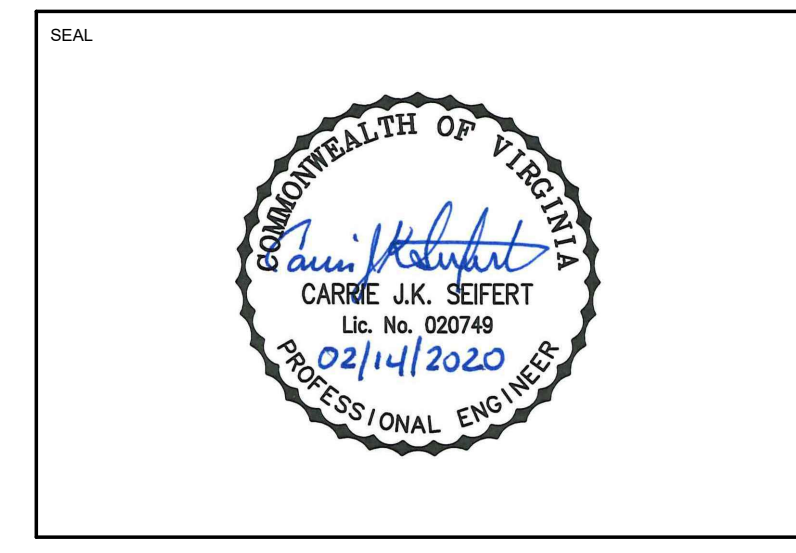
J. SUMMARY OF SPECIAL INSPECTIONS

- TABLES SHOWN ON SHEET S-003 AND S-004 ARE TAKEN DIRECTLY FROM THE IBC OR OTHER STANDARDS AS REFERENCED BY THE IBC. VERIFICATION AND INSPECTION ITEMS NOT REQUIRED ARE LISTED AS NOT APPLICABLE. ADDITIONAL INSPECTION REQUIREMENTS ARE LISTED IN TABLES LABELED SUPPLEMENTAL INSPECTION REQUIREMENTS.
- FOR SPECIAL INSPECTION AND TESTS OF CONCRETE CONSTRUCTION SEE TABLE 1705.3 ON SHEET S-003 OR IN THE IBC.
 - SPECIAL INSPECTIONS OF WELDING AND QUALIFICATIONS OF SPECIAL INSPECTORS FOR REINFORCING BARS SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS OF AWS D1.4 FOR SPECIAL INSPECTION AND OF AWS D1.4 FOR SPECIAL INSPECTOR QUALIFICATION.
 - IN THE ABSENCE OF SUFFICIENT DATA OR DOCUMENTATION PROVIDING EVIDENCE OF CONFORMANCE TO QUALITY STANDARDS FOR MATERIALS IN CHAPTERS 19 AND 20 OF ACI 318, THE PROJECT MANAGER SHALL REQUIRE TESTING OF MATERIALS IN ACCORDANCE WITH THE APPROPRIATE STANDARDS AND CRITERIA FOR THE MATERIALS IN CHAPTERS 19 AND 20 IN ACI 318.
- REQUIRED VERIFICATION AND INSPECTION OF MASONRY CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE TMS 402/ACI 530/ASCE 5 AND TMS 602/ACI 530.1/ASCE 6 QUALITY ASSURANCE PROGRAM REQUIREMENTS.
- FOR MINIMUM REQUIRED QUALITY ASSURANCE PROGRAM FOR MASONRY CONSTRUCTION, SEE TABLE 1.19.2 - LEVEL B QUALITY ASSURANCE ON SHEET S-004 OR IN THE TMS 402/ACI 530/ASCE 5.
- FOR SPECIAL INSPECTIONS AND TESTS OF EXISTING SITE SOIL CONDITIONS, FILL PLACEMENT AND LOAD-BEARING REQUIREMENTS, SEE TABLE 1705.6 ON SHEET S-004 OR IN THE IBC. THE APPROVED GEOTECHNICAL REPORT AND THE CONSTRUCTION DOCUMENTS PREPARED BY THE REGISTERED DESIGN PROFESSIONAL SHALL BE USED TO DETERMINE COMPLIANCE. DURING FILL PLACEMENT, THE SPECIAL INSPECTOR SHALL VERIFY THE PROPOER MATERIALS AND PROCEDURES ARE USED IN ACCORDANCE WITH THE PROVISIONS OF THE APPROVED GEOTECHNICAL REPORT.

IBC 2015 - TABLE 1705.3 REQUIRED VERIFICATION AND INSPECTION OF CONCRETE CONSTRUCTION				
TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION	REFERENCED STANDARD ^a	IBC REFERENCE
1. INSPECTION OF REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS, AND PLACEMENT.	---	X	ACI 318 CH. 20, 25.2, 25.3, 26.5.1-26.5.3	1908.4
2. REINFORCING BAR WELDING:				
a. VERIFY WELDABILITY OF REINFORCING BARS OTHER THAN ASTM A 706.	---	X	AWS D1.4 ACI 318: 26.5.4	---
b. INSPECT SINGLE-PASS FILLET WELDS, MAXIMUM 5/16" AND	---	X		
c. INSPECT ALL OTHER WELDS.	X	---		
3. INSPECT ANCHORS CAST IN CONCRETE.	---	X	ACI 318: 17.8.2	---
4. INSPECT ANCHORS POST-INSTALLED IN HARDENED CONCRETE MEMBERS ^b .				
a. ADHESIVE ANCHORS INSTALLED IN HORIZONTALLY OR UPWARDLY INCLINED ORIENTATIONS TO RESIST SUSTAINED TENSION LOADS.	X	---	ACI 318: 17.8.2.4	---
b. MECHANICAL ANCHORS AND ADHESIVE ANCHORS NOT DEFINED IN 4.a.	---	X	ACI 318: 17.8.2	---
5. VERIFYING USE OF REQUIRED MIX DESIGN.	---	X	ACI 318: CH. 19, 26.4.3, 26.4.4	1904.1, 1904.2, 1908.2, 1908.3
6. PRIOR TO CONCRETE PLACEMENT, FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP AND AIR CONTENT TESTS, AND DETERMINE THE TEMPERATURE OF THE CONCRETE.	X	---	ASTM C 172 ASTM C 31 ACI 318: 26.4.5, 26.12	1908.10
7. INSPECT CONCRETE AND SHOTCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES.	X	---	ACI 318: 26.4.5	1908.6, 1908.7, 1908.8
8. VERIFY MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES.	---	X	ACI 318: 26.4.7-26.4.9	1908.9
9. INSPECT PRESTRESSED CONCRETE FOR:				
a. APPLICATION OF PRESTRESSING FORCES; AND	X	---	ACI 318: 26.9.2.1	---
b. GROUTING OF BONDED PRESTRESSING TENDONS.	X	---	ACI 318: 26.9.2.3	
10. INSPECT ERECTION OF PRECAST CONCRETE MEMBERS.	---	X	ACI 318: CH. 26.8	---
11. VERIFY IN-SITU CONCRETE STRENGTH, PRIOR TO STRESSING OF TENDONS IN POST-TENSIONED CONCRETE AND PRIOR TO REMOVAL OF SHORES AND FORMS FROM BEAMS AND STRUCTURAL SLABS.	---	X	ACI 318: 26.10.2	---
12. INSPECT FORMWORK FOR SHAPE, LOCATION AND DIMENSIONS OF THE CONCRETE MEMBER BEING FORMED.	---	X	ACI 318: 26.10.1(b)	---

^a WHERE APPLICABLE, SEE ALSO SECTION 1705.12 (IBC 2012), SPECIAL INSPECTIONS FOR SEISMIC RESISTANCE.
^b SPECIFIC REQUIREMENTS FOR SPECIAL INSPECTION SHALL BE INCLUDED IN THE RESEARCH REPORT FOR THE ANCHOR ISSUED BY AN APPROVED SOURCE IN ACCORDANCE WITH 17.8.2 IN ACI 318, OR OTHER QUALIFICATION PROCEDURES. WHERE SPECIFIC REQUIREMENTS ARE NOT PROVIDED, SPECIAL INSPECTION REQUIREMENTS SHALL BE SPECIFIED BY THE REGISTERED DESIGN PROFESSIONAL AND SHALL BE APPROVED BY THE BUILDING OFFICIAL PRIOR TO COMMENCEMENT OF THE WORK.

NOTE: ROWS MARKED AS ARE NOT APPLICABLE TO PROJECT.



PROJECT INFORMATION

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Sheet No.
S-003
26 of 41



SLOPE STABILIZATION AND BUILDING MODIFICATION

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Sheet Title
SPECIAL INSPECTION NOTES

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Sheet No.
S-004
27 of 41

**IBC 2015 - TABLE 1705.6
REQUIRED SPECIAL INSPECTIONS AND TESTS OF SOILS**

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
	1. VERIFY MATERIALS BELOW SHALLOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY.	---
2. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	---	X
3. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS.	---	X
4. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF COMPACTED FILL.	X	---
5. PRIOR TO PLACEMENT OF COMPACTED FILL, INSPECT SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY.	---	X

SUPPLEMENTAL INSPECTION REQUIRED OF SOILS AND FOUNDATIONS

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
	S1. SHALLOW FOUNDATIONS	
a. INSPECT REMOVAL OF UNSUITABLE MATERIAL AND PREPARATION OF SUBGRADE PRIOR TO PLACEMENT OF CONTROLLED FILL.	---	X
S2. CONTROLLED STRUCTURAL FILL		
a. PERFORM SIEVE TESTS (ASTM D422 & D1140) AND MODIFIED PROCTOR TESTS (ASTM D1557) OF EACH SOURCE OF FILL MATERIAL.	---	X
b. TEST DENSITY OF EACH LIFT OF FILL BY NUCLEAR METHODS (ASTM D2922).	---	X
c. VERIFY EXTENT AND SLOPE OF FILL PLACEMENT.	---	X

**TMS 402-13/ACI 530-13/ASCE 5-13
TABLE 3.1.2
LEVEL B QUALITY ASSURANCE (CONTINUED)**

MINIMUM SPECIAL INSPECTION				
INSPECTION TASK	FREQUENCY ^(a)		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
4. VERIFY DURING CONSTRUCTION:				
a. SIZE AND LOCATION OF STRUCTURAL ELEMENTS	---	X	---	ART. 3.3 F
b. TYPE, SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE OF MASONRY TO STRUCTURAL MEMBERS, FRAMES OR OTHER CONSTRUCTION	---	X	SEC. 1.2.1(e), 6.1.4.3, 6.2.1	---
c. WELDING OF REINFORCEMENT	X	---	SEC. 8.1.6.7.2, 9.3.3.4(c), 11.3.3.4(b)	---
d. PREPARATION, CONSTRUCTION AND PROTECTION OF MASONRY DURING COLD WEATHER (TEMPERATURE BELOW 40°F (4.4°C)) OR HOT WEATHER (TEMPERATURE ABOVE 90°F (32.2°C))	---	X	---	ART. 1.8 C, 1.8 D
e. APPLICATION OF MEASUREMENT OF PRESTRESSING FORCE	X	---	---	ART. 3.6 B
f. PLACEMENT OF GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS IS IN COMPLIANCE	X	---	---	ART. 3.5, 3.6 C
g. PLACEMENT OF AAC MASONRY UNITS AND CONSTRUCTION OF THIN-BED MORTAR JOINTS	X ^(b)	X ^(c)	---	ART. 3.3 B, 8
5. OBSERVE PREPARATION OF GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS	---	X	---	ART. 1.4 B.2.a.3, 1.4 B.2.b.3, 1.4 B.2.c.3, 1.4 B.3, 1.4 B.4

(a) FREQUENCY REFERS TO THE FREQUENCY OF INSPECTION, WHICH MAY BE CONTINUOUS DURING THE TASK LISTED OR PERIODICALLY DURING THE LISTED TASK, AS DEFINED IN THE TABLE.
(b) REQUIRED FOR THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY.
(c) REQUIRE AFTER THE FIRST 5000 SQUARE FEET (465 SQUARE METERS) OF AAC MASONRY.

SUPPLEMENTAL INSPECTION REQUIRED OF MASONRY CONSTRUCTION

TYPE	CONTINUOUS SPECIAL INSPECTION	PERIODIC SPECIAL INSPECTION
S1. EVALUATION OF MASONRY STRENGTH		
a. TEST COMPRESSIVE STRENGTH OF MORTAR AND GROUT CUBE SAMPLES (ASTM C780).	---	X
b. TEST COMPRESSIVE STRENGTH OF MASONRY PRISMS (ASTM C1314).	---	X

**TMS 402-13/ACI 530-13/ASCE 5-13
TABLE 3.1.2
LEVEL B QUALITY ASSURANCE**

MINIMUM TESTS				
VERIFICATION OF SLUMP FLOW AND VISUAL STABILITY INDEX (VSI) AS DELIVERED TO THE PROJECT SITE IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.5.B.1.b.3 FOR SELF-CONSOLIDATING GROUT				
VERIFICATION OF f_m AND f_{AAC} IN ACCORDANCE WITH SPECIFICATION ARTICLE 1.4 B PRIOR TO CONSTRUCTION, EXCEPT WHERE SPECIFICALLY EXEMPTED BY THIS CODE				
MINIMUM SPECIAL INSPECTION				
INSPECTION TASK	FREQUENCY ^(a)		REFERENCE FOR CRITERIA	
	CONTINUOUS	PERIODIC	TMS 402/ACI 530/ASCE 5	TMS 602/ACI 530.1/ASCE 6
1. VERIFY COMPLIANCE WITH THE APPROVED SUBMITTALS	---	X	---	ART. 1.5
2. AS MASONRY CONSTRUCTION BEGINS, VERIFY THAT THE FOLLOWING ARE IN COMPLIANCE:				
a. PROPORTIONS OF SITE-PREPARED MORTAR.	---	X	---	ART. 2.1, 2.6 A
b. CONSTRUCTION OF MORTAR JOINTS.	---	X	---	ART. 3.3 B
c. GRADE AND SIZE OF PRESTRESSING TENDONS AND ANCHORAGES	---	X	---	ART. 2.4 B, 2.4 H
d. LOCATION OF REINFORCEMENT, CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES.	---	X	---	ART. 3.4, 3.6 A
e. PRESTRESSING TECHNIQUE	---	X	---	ART. 3.6 B
f. PROPERTIES OF THIN-BED MORTAR FOR AAC MASONRY	X ^(b)	X ^(c)	---	ART. 2.1 C
3. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE:				
a. GROUT SPACE	---	X	---	ART. 3.2 D, 3.2 F
b. GRADE, TYPE, AND SIZE OF REINFORCEMENT AND ANCHOR BOLTS, AND PRESTRESSING TENDONS AND ANCHORAGES	---	X	SEC. 6.1	ART. 2.4, 3.4
c. PLACEMENT OF REINFORCEMENT AND CONNECTORS, AND PRESTRESSING TENDONS AND ANCHORAGES	---	X	SEC. 6.1, 6.2.1, 6.2.6, 6.2.7	ART. 3.2 E, 3.4, 3.6 A
d. PROPORTIONS OF SITE-PREPARED GROUT AND PRESTRESSING GROUT FOR BONDED TENDONS	---	X	---	ART. 2.6 B, 2.4 G.1.b
e. CONSTRUCTION OF MORTAR JOINTS	---	X	---	ART. 3.3 B

NOTE: ROWS MARKED AS ARE NOT APPLICABLE TO PROJECT.



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

FOUNDATION AND SLAB DEMOLITION PLAN

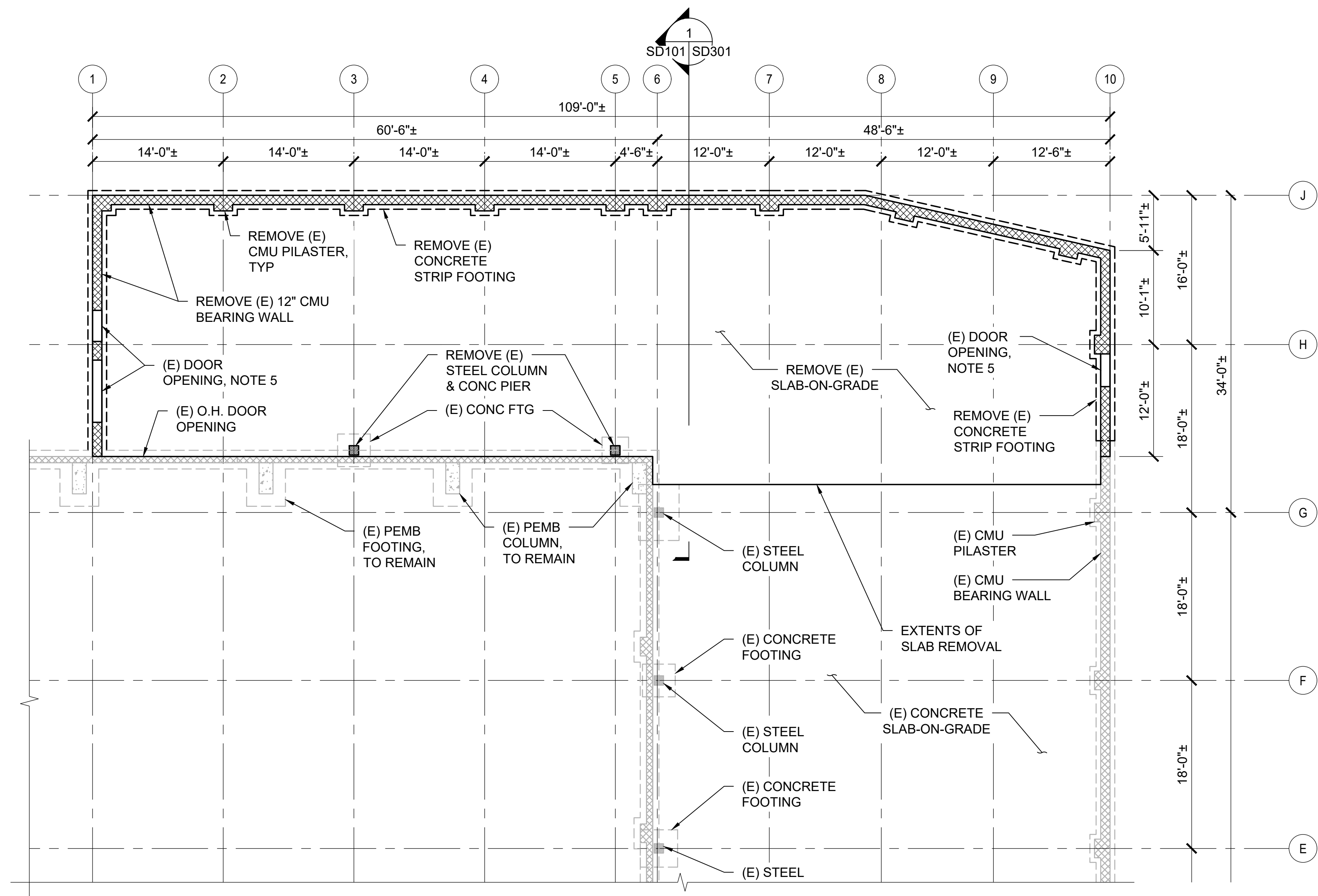
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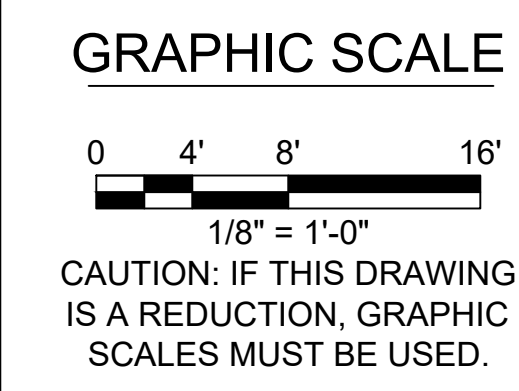
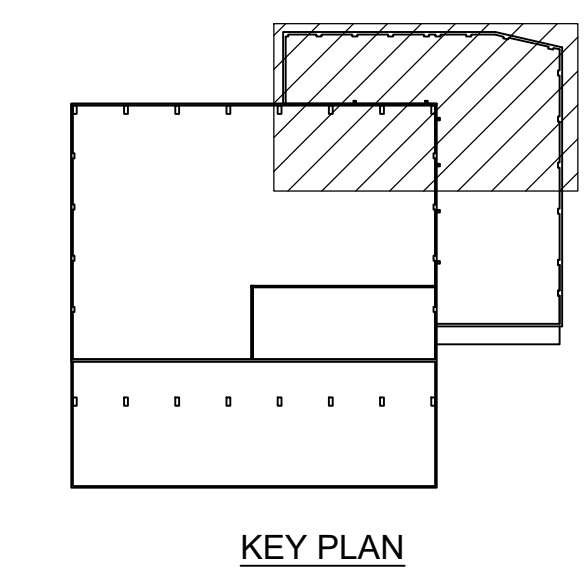
SD101

28 of 41

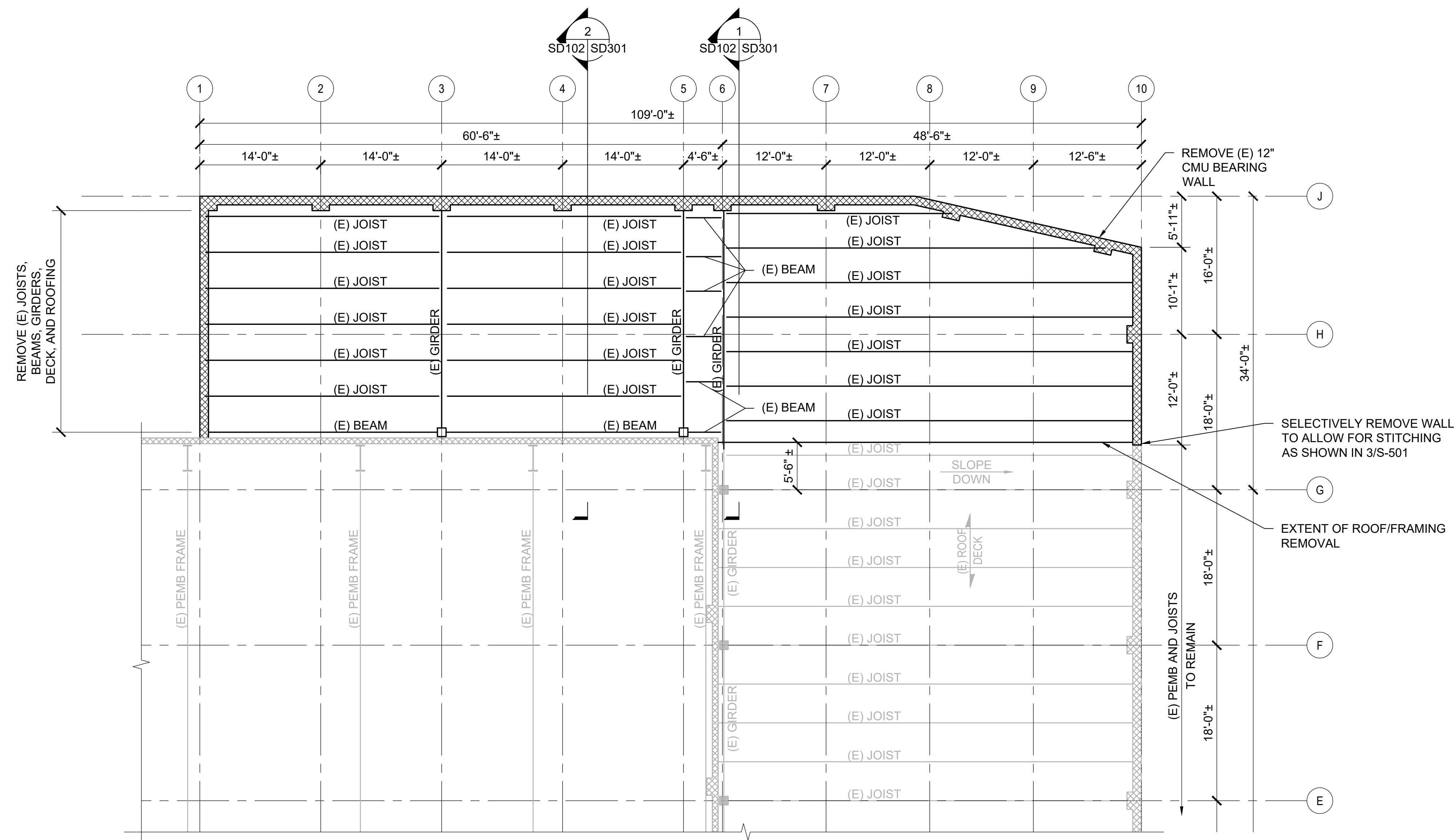
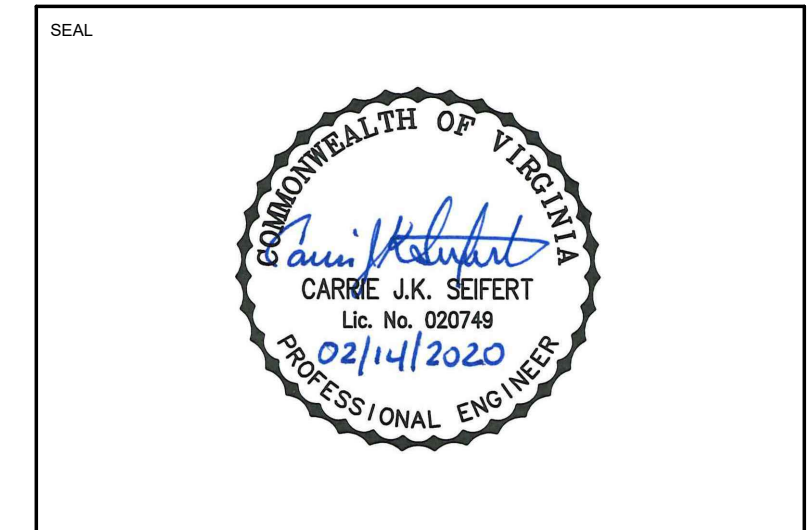
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- DEMOLISH EXISTING ELEMENTS SHOWN AS: _____ OR _____
 - EXISTING ELEMENTS TO REMAIN SHOWN AS: _____
 - SEE STRUCTURAL NOTES SECTION U.3, 4, 5, AND 7.
 - CONTRACTOR TO FIELD VERIFY ELEMENTS BEING REMOVED.
 - RELOCATE EXIT SIGN TO NEW DOOR OPENINGS.



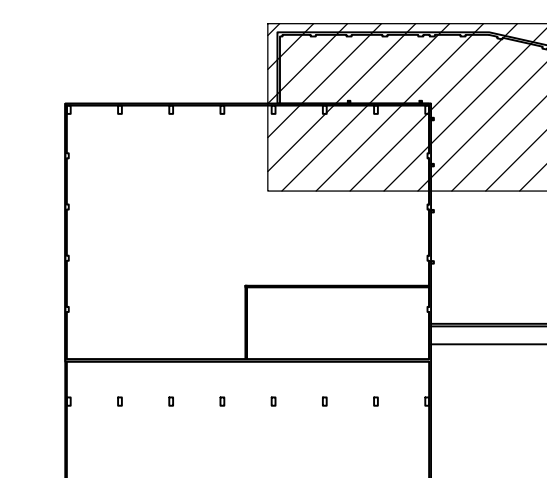
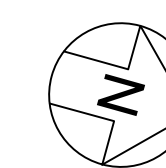
1 PARTIAL FOUNDATION AND SLAB DEMOLITION PLAN
SD101 | SD101 SCALE: 1/8" = 1'-0"



- NOTES:**
1. DEMOLISH EXISTING ELEMENTS SHOWN AS:
 2. EXISTING ELEMENTS TO REMAIN SHOWN AS:
 3. SEE STRUCTURAL NOTES SECTION U.3, 4, 5, AND 7.
 4. CONTRACTOR TO FIELD VERIFY ELEMENTS BEING REMOVED.
 5. ABATE PER STRUCTURAL NOTES AND HAZARDOUS MATERIAL REPORT PROVIDED BY ARLINGTON COUNTY GOVERNMENT.

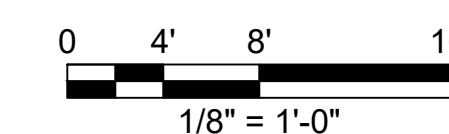


1 PARTIAL ROOF FRAMING DEMOLITION PLAN
 SD102 SD102 SCALE: 1/8" = 1'-0"



KEY PLAN

GRAPHIC SCALE



1/8" = 1'-0"
 CAUTION: IF THIS DRAWING IS A REDUCTION, GRAPHIC SCALES MUST BE USED.

PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
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1	4/29/2021	FOR BID	

Sheet Title
ROOF FRAMING DEMOLITION PLAN

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Sheet No.
SD102
 29 of 41

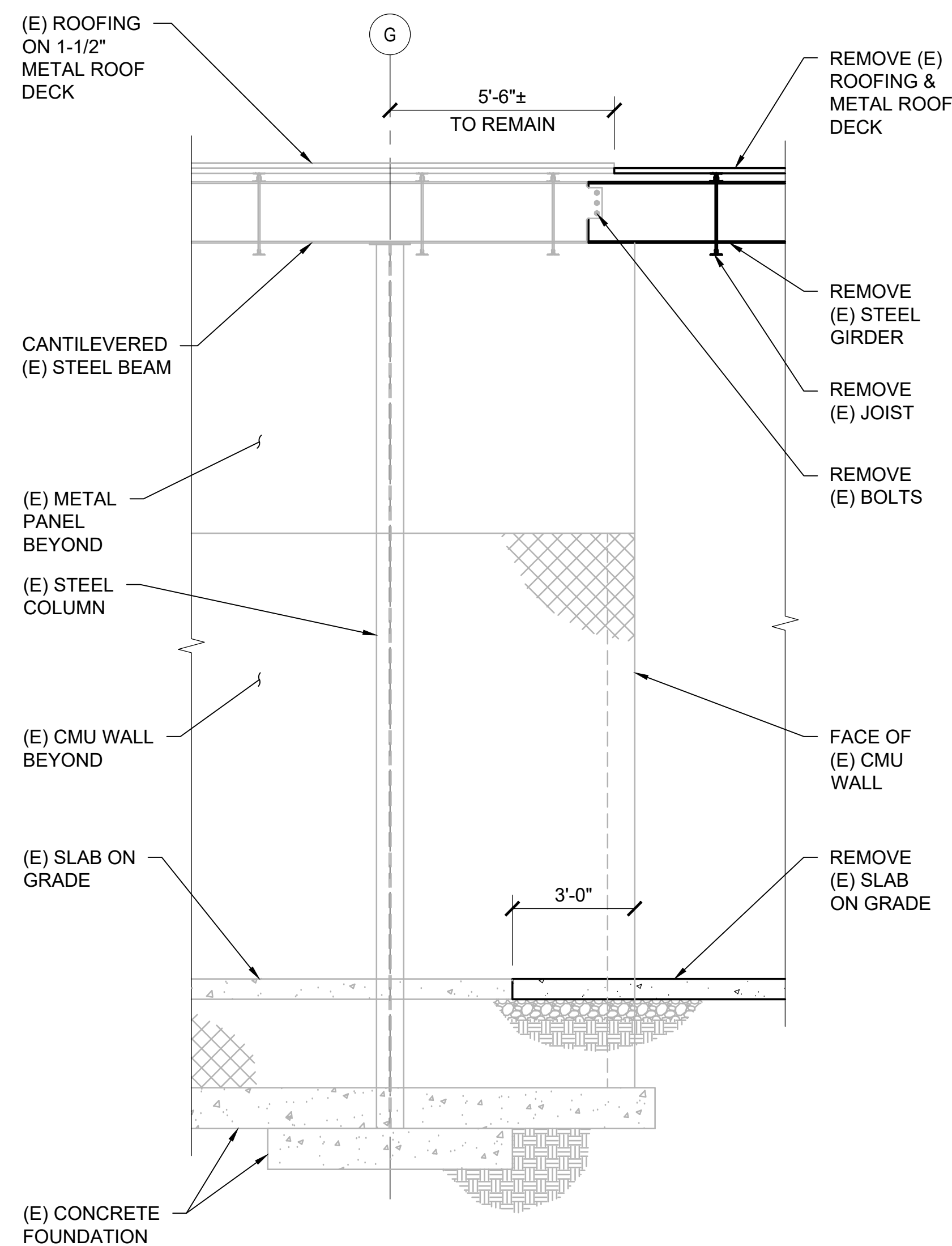


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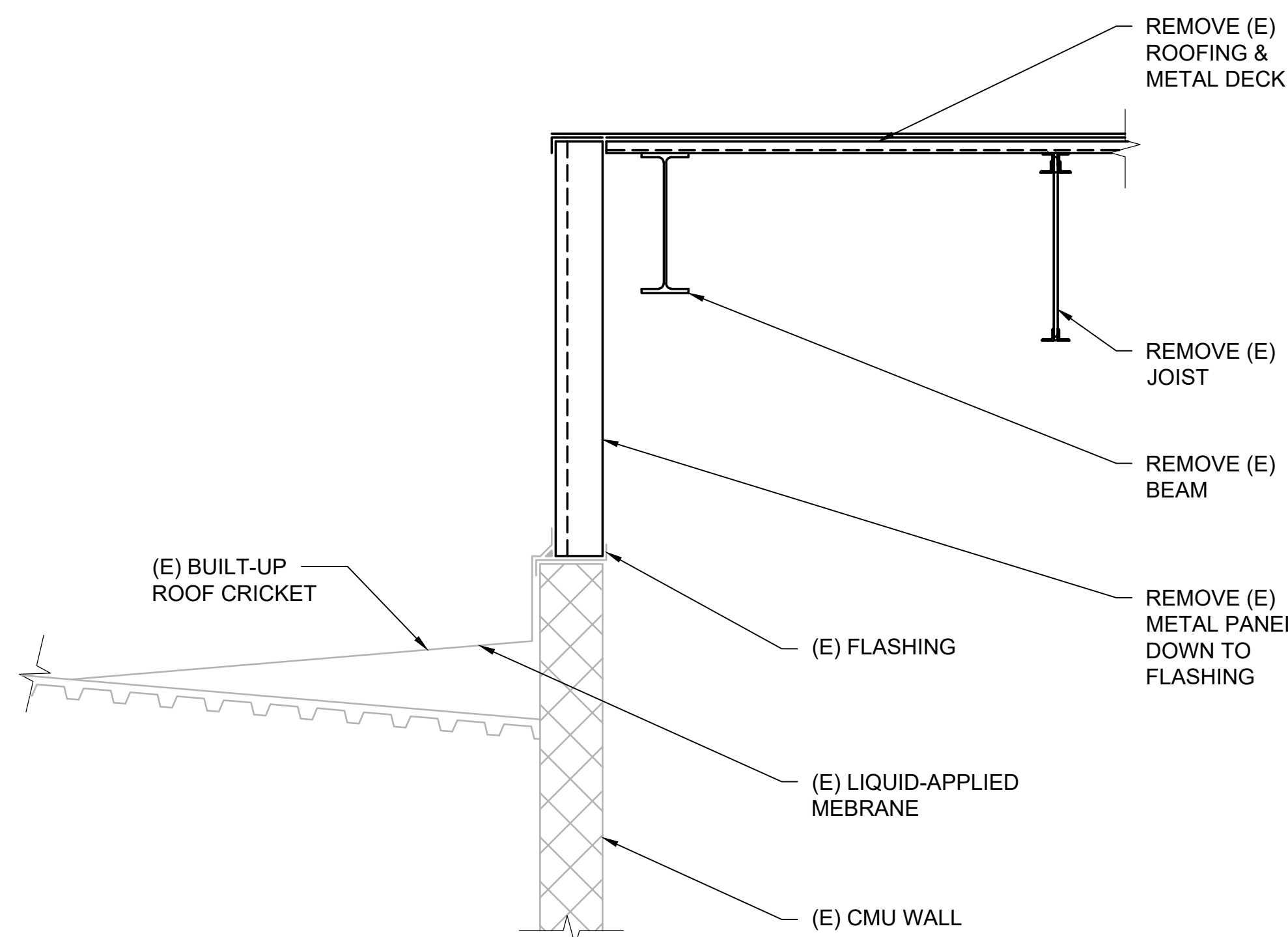
SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
 ARLINGTON, VA

- NOTES:
1. DEMOLISH EXISTING ELEMENTS SHOWN AS:
 2. EXISTING ELEMENTS TO REMAIN SHOWN AS:
 3. SEE STRUCTURAL NOTES SECTION U.3, 4, 5, AND 7.



1 BUILDING DEMO SECTION
 SD101 SD301 SCALE: 3/8" = 1'-0"
 SD102



2 BUILDING DEMO SECTION
 SD102 SD301 SCALE: 3/4" = 1'-0"

GRAPHIC SCALE

0 1' 2' 3'
 3/4" = 1'-0"

0 2' 4' 6'
 3/8" = 1'-0"

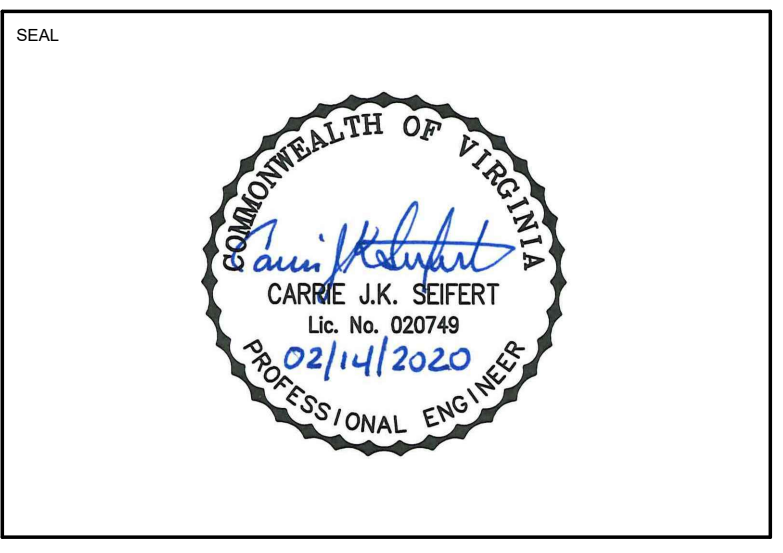
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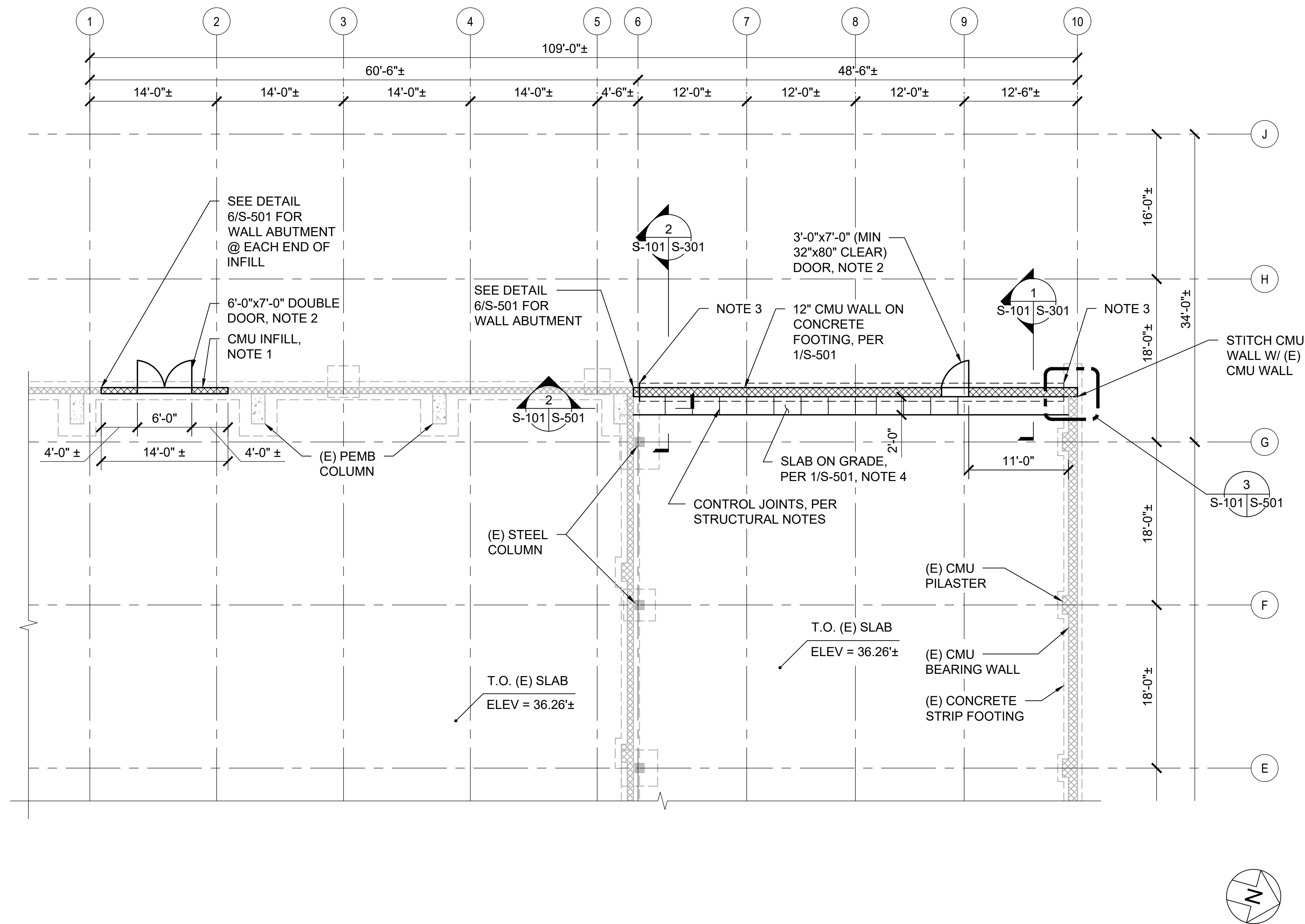
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BUILDING DEMOLITION SECTIONS

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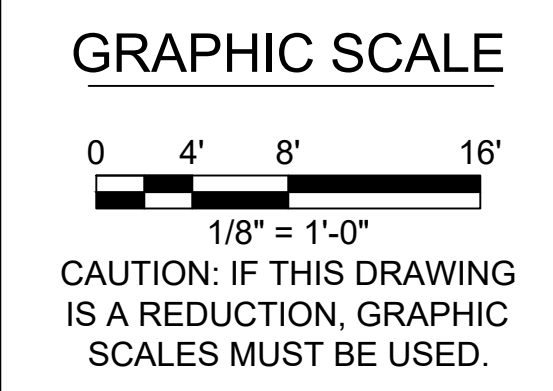
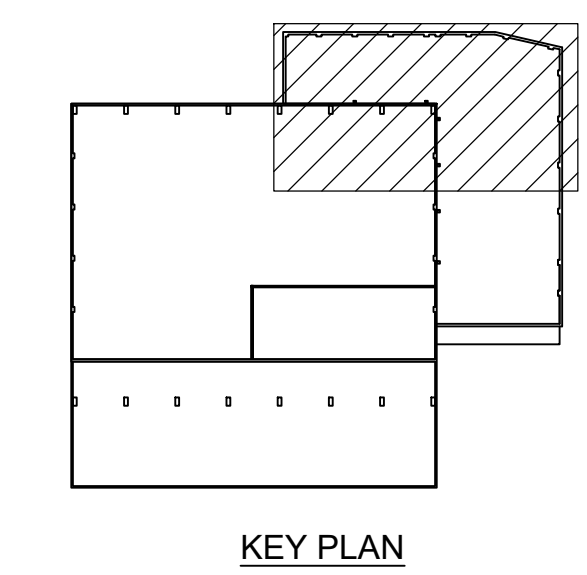
Sheet No.
SD301
 30 of 41



- NOTES:
- 14'-0" x 10'-0" ROUGH OPENING IN (E) CMU WALL. SEE 5/S-501 FOR INFILL DETAIL.
 - LINTEL PER SCHEDULE. LEVEL 3, EXTRA HEAVY DUTY, STEEL DOOR, PER ANSI/SDI A250.8. DIMENSIONS TO MATCH DOORS BEING REMOVED. SEE DETAILS 7 & 8 ON S-501 FOR SECURITY AND ELECTRIFIED SET UP.
 - ABUT NEW FOOTING AND EXISTING FOOTING. BOTTOM OF FOOTING ELEVATIONS SHALL MATCH.
 - CONTROL JOINTS PER STRUCTURAL NOTES.



1 PARTIAL FOUNDATION AND SLAB PLAN
 S-101 | S-101 SCALE: 1/8" = 1'-0"



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
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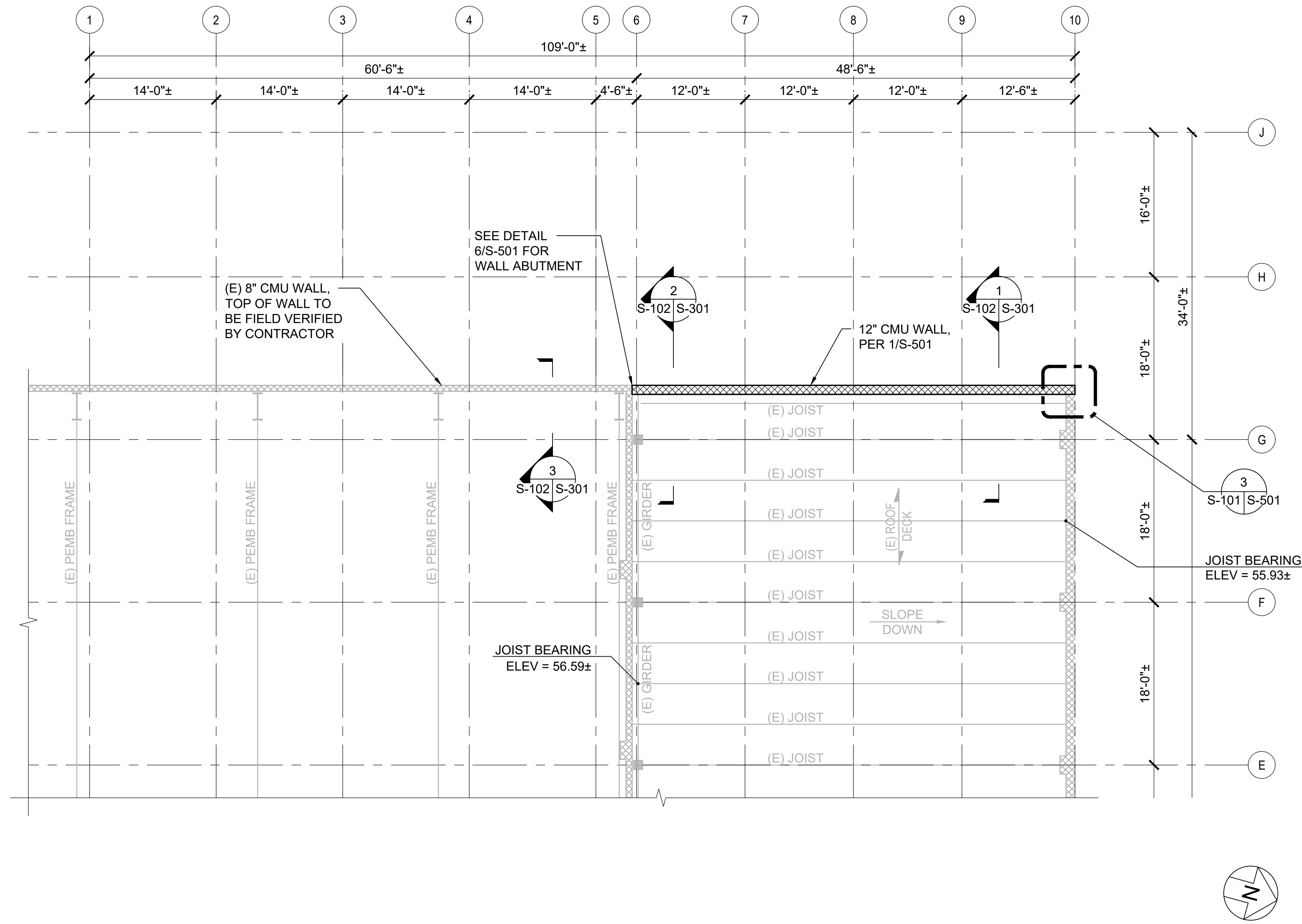
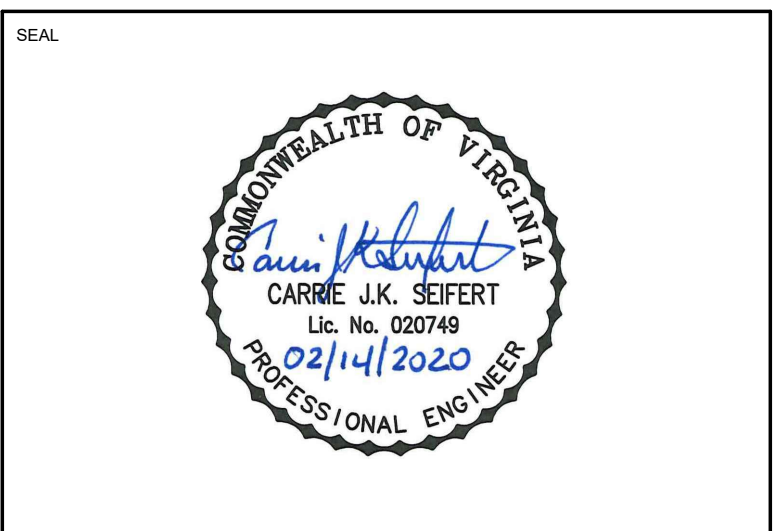
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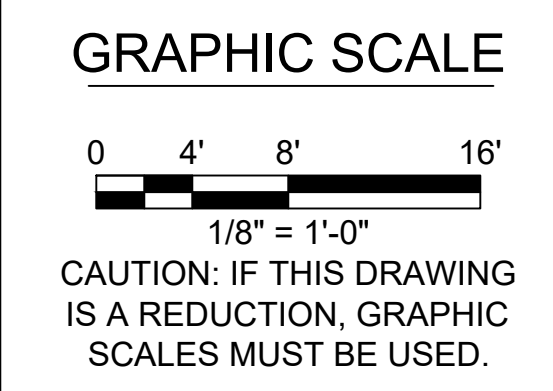
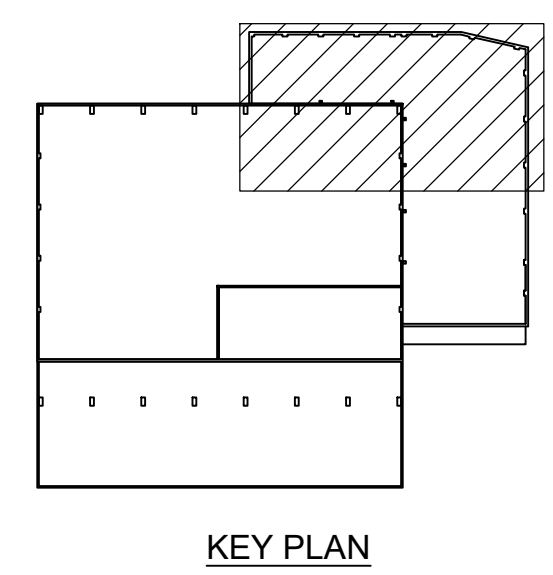
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S-101

31 of 41



1 PARTIAL ROOF FRAMING PLAN
 S-102 | S-102 SCALE: 1/8" = 1'-0"

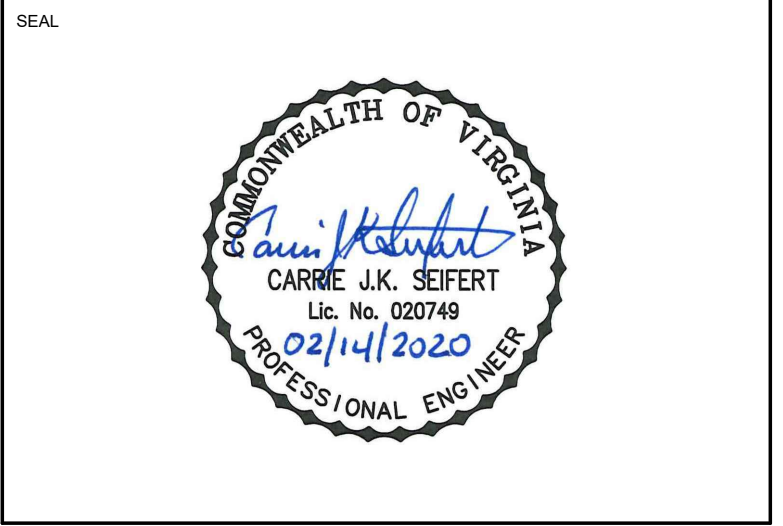


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 2900 S. EADS ST
 ARLINGTON, VA

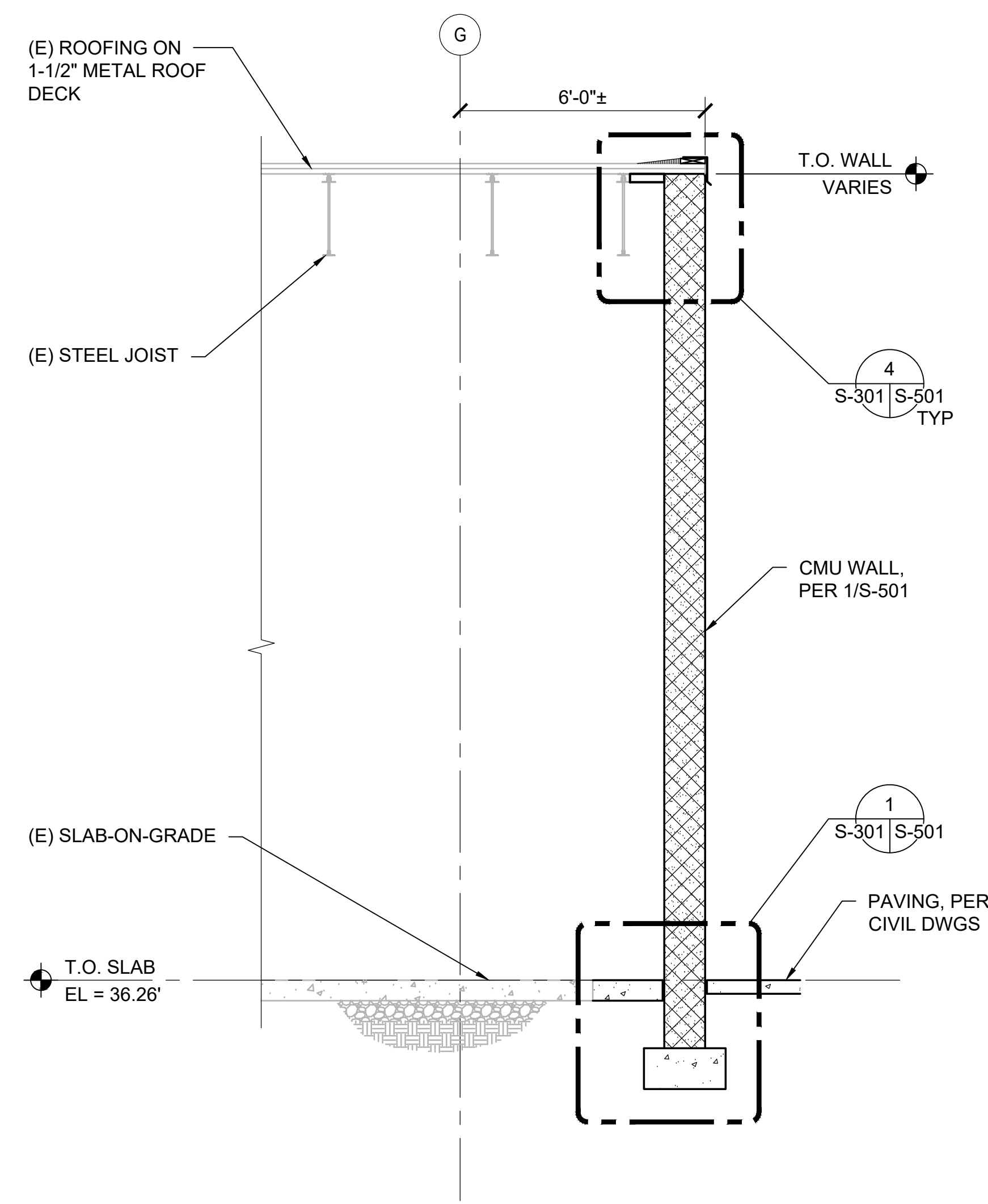
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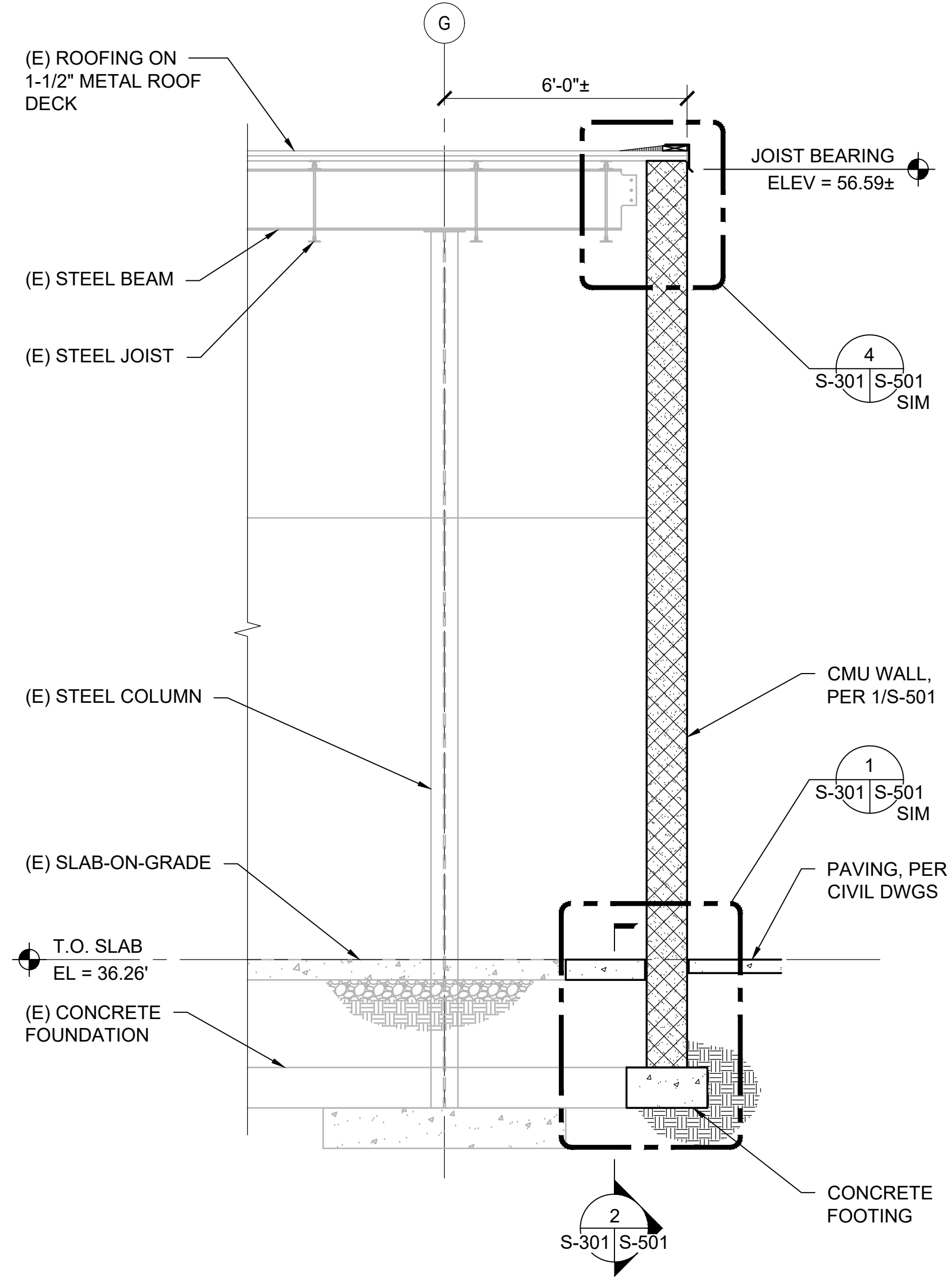
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S-102
 32 of 41



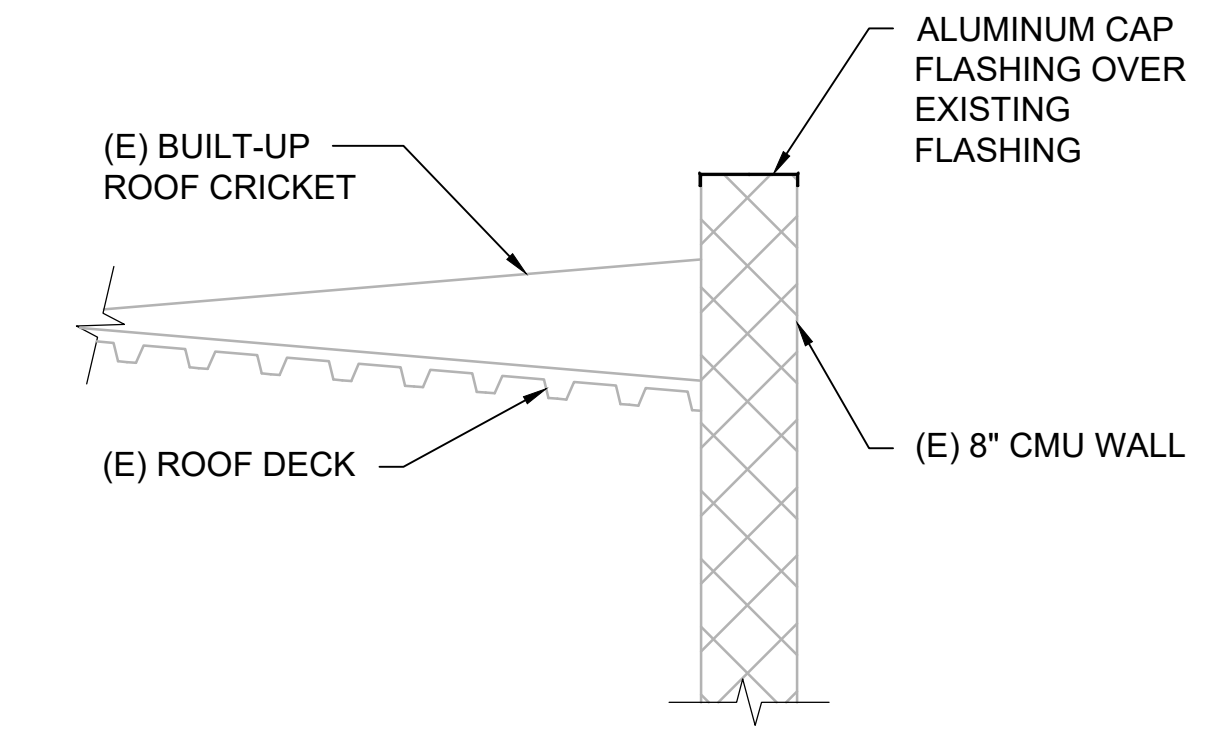
SLOPE STABILIZATION AND BUILDING MODIFICATION
 2900 S. EADS ST
 ARLINGTON, VA



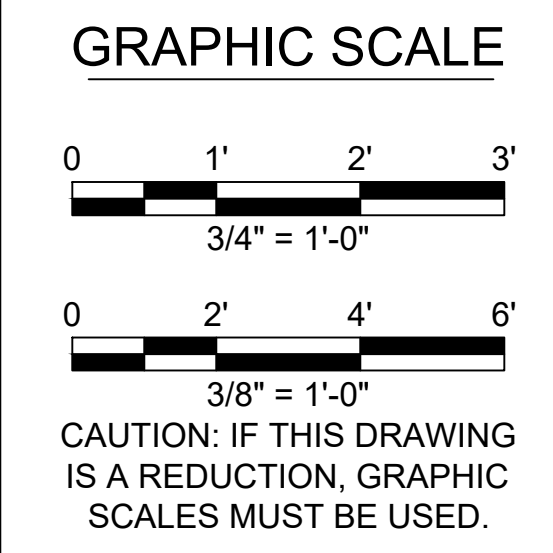
1 BUILDING SECTION
 S-101 | S-301 | S-102 SCALE: 3/8" = 1'-0"



2 BUILDING SECTION
 S-101 | S-301 | S-102 SCALE: 3/8" = 1'-0"



3 BUILDING SECTION
 S-102 | S-301 SCALE: 3/4" = 1'-0"



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1	4/29/2021	FOR BID	

Sheet Title
BUILDING SECTIONS

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 Scale: AS NOTED Date: 05/05/2021

Sheet No.
S-301
 33 of 41



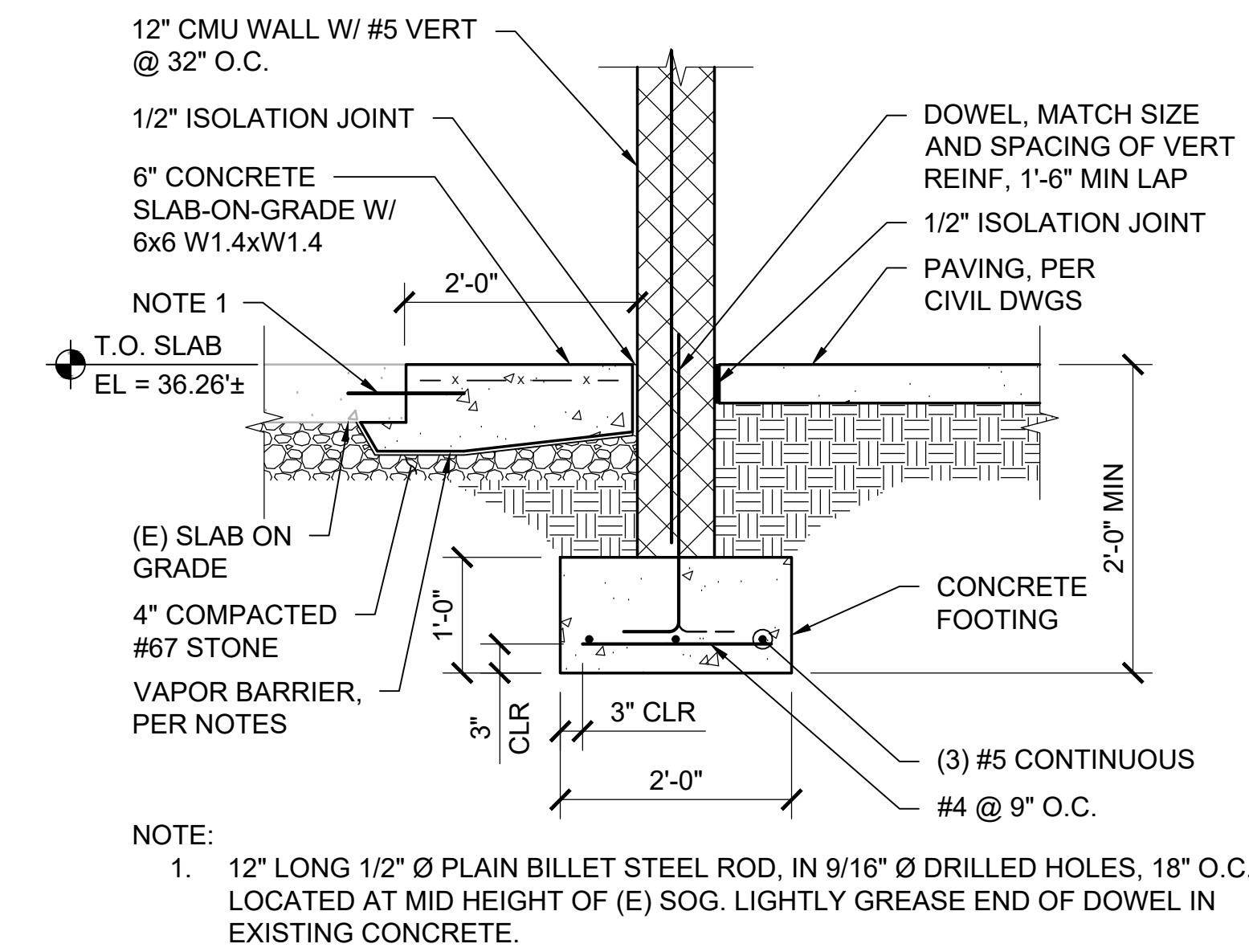
**SLOPE STABILIZATION
AND
BUILDING MODIFICATION**

2900 S. EADS ST
ARLINGTON, VA

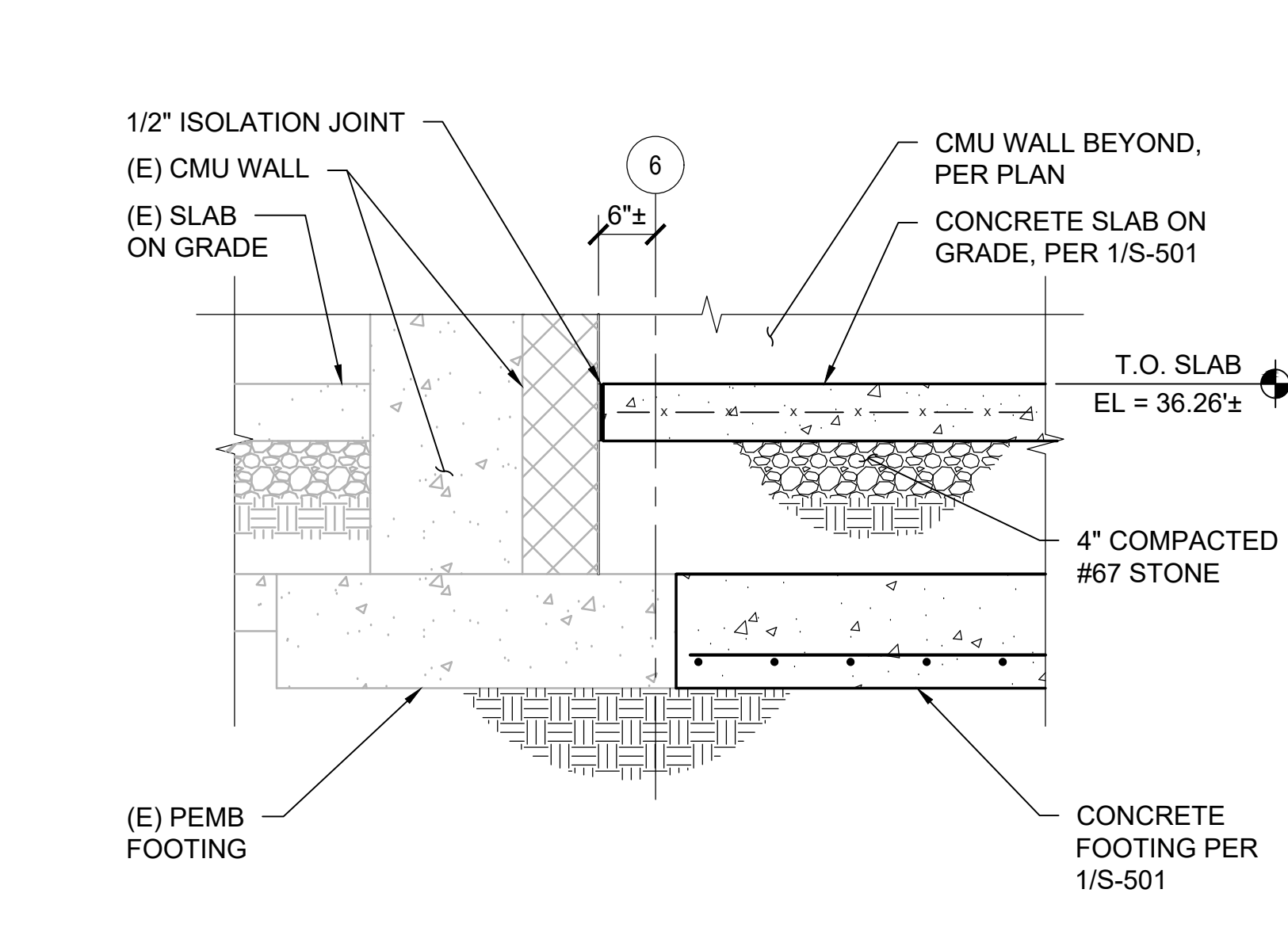
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Sheet Title	
STRUCTURAL DETAILS	
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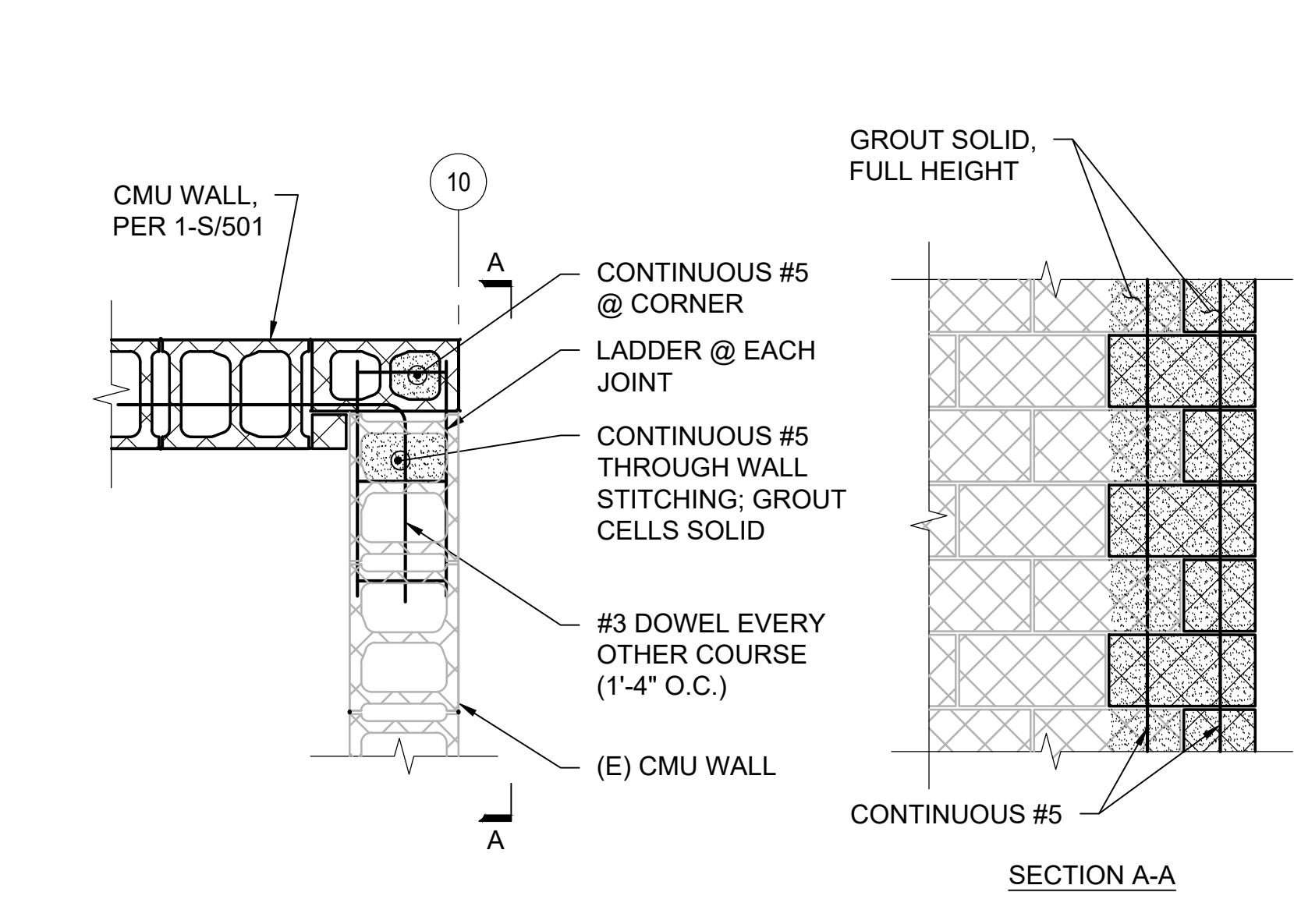
Sheet No.
S-501
34 of 41



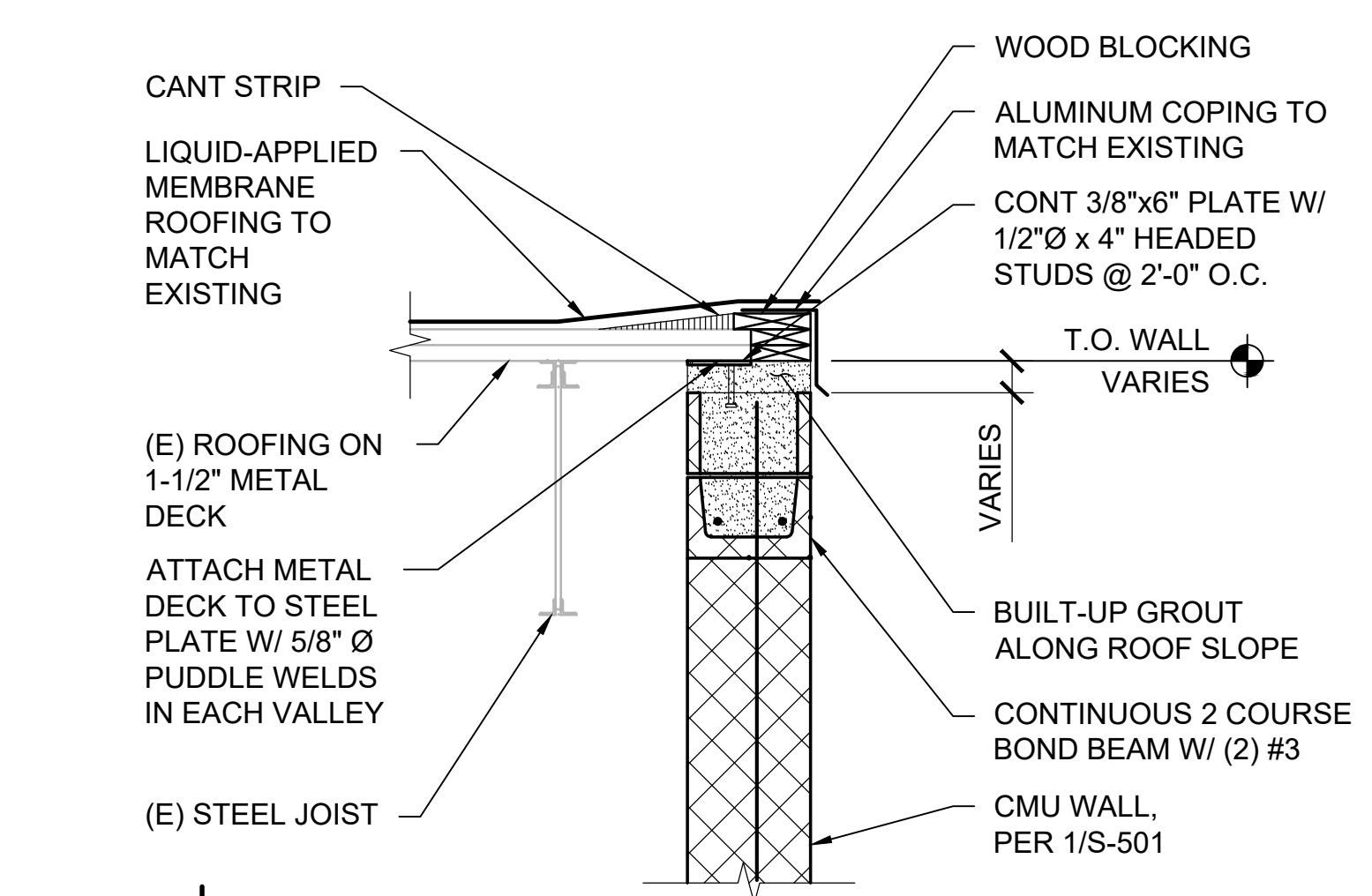
1 CMU WALL FOOTING DETAIL
S-301 | S-501 SCALE: 3/4" = 1'-0"



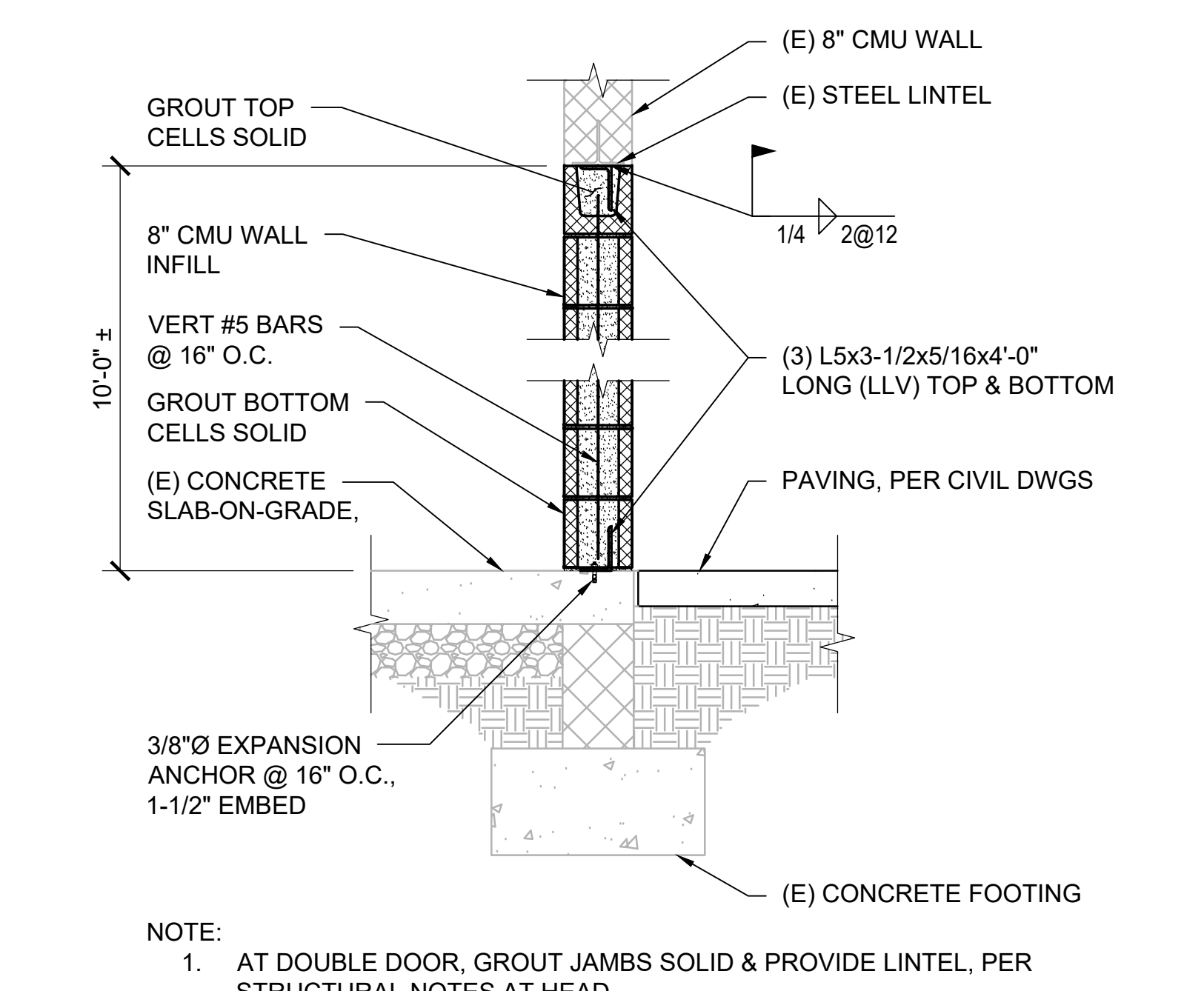
2 CMU WALL FOOTING DETAIL
S-101 | S-501 SCALE: 3/4" = 1'-0"



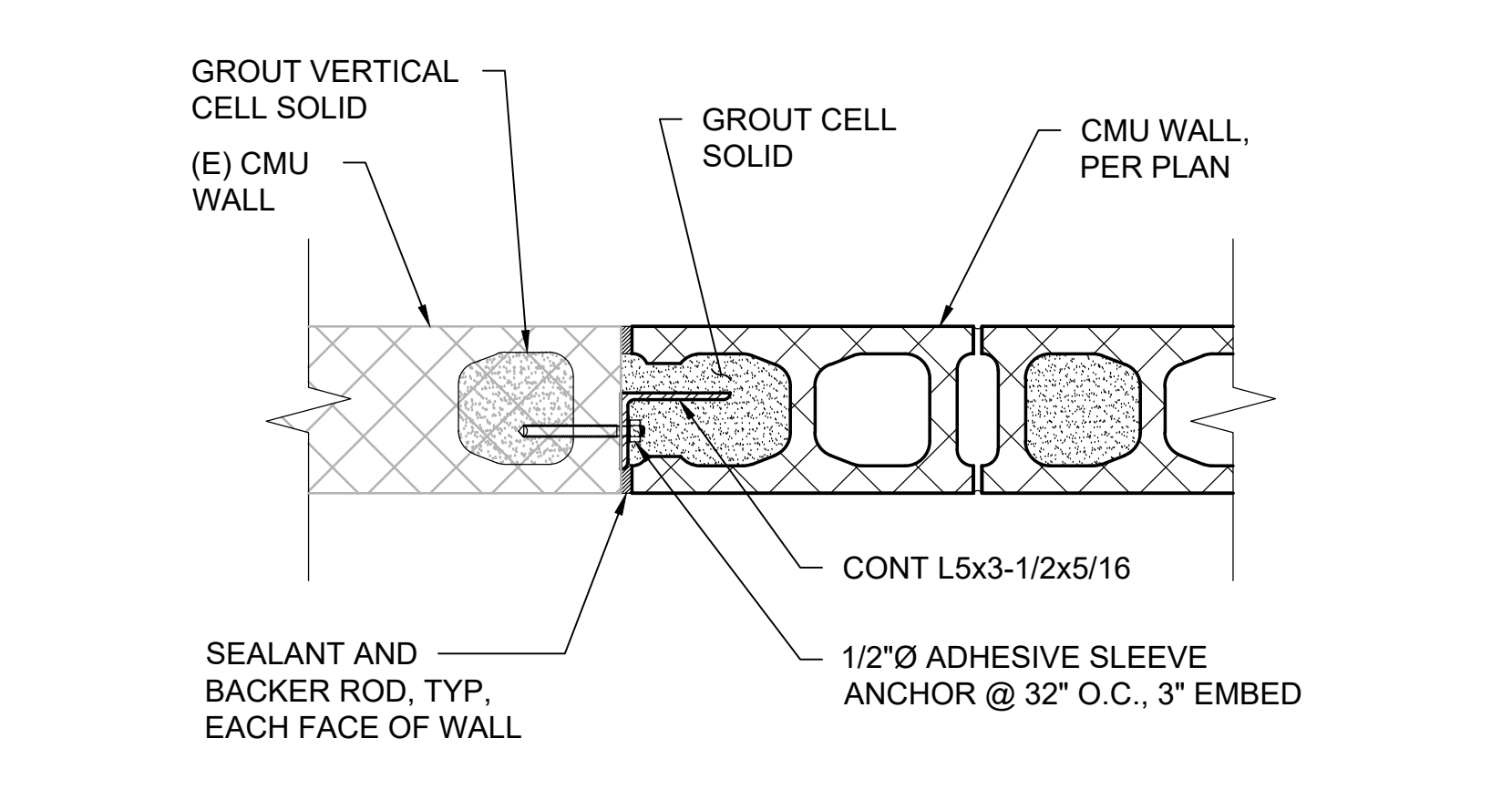
3 CMU WALL CORNER DETAIL
S-101 | S-501 SCALE: 3/4" = 1'-0"



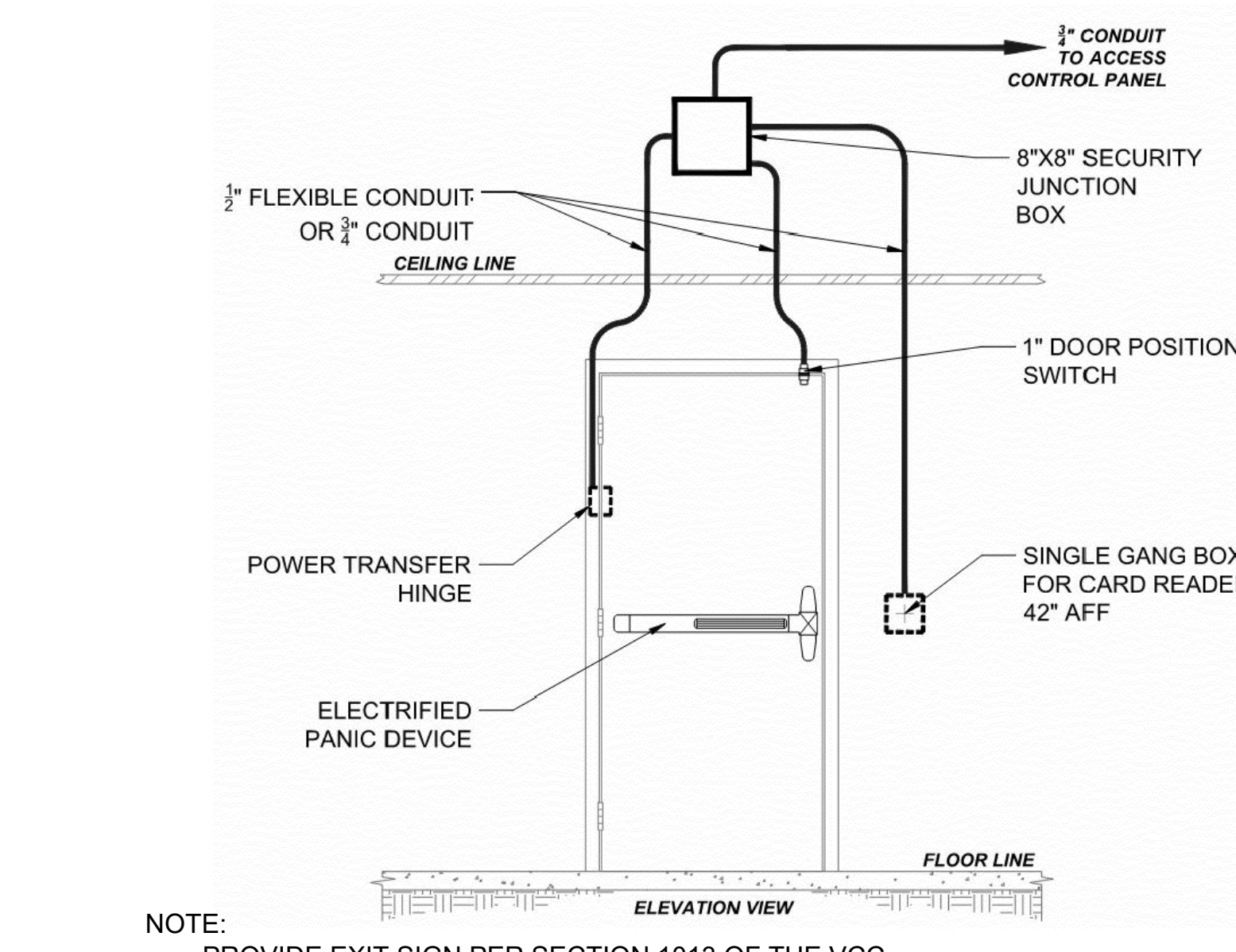
4 CMU TOP OF WALL DETAIL
S-301 | S-501 SCALE: 3/4" = 1'-0"



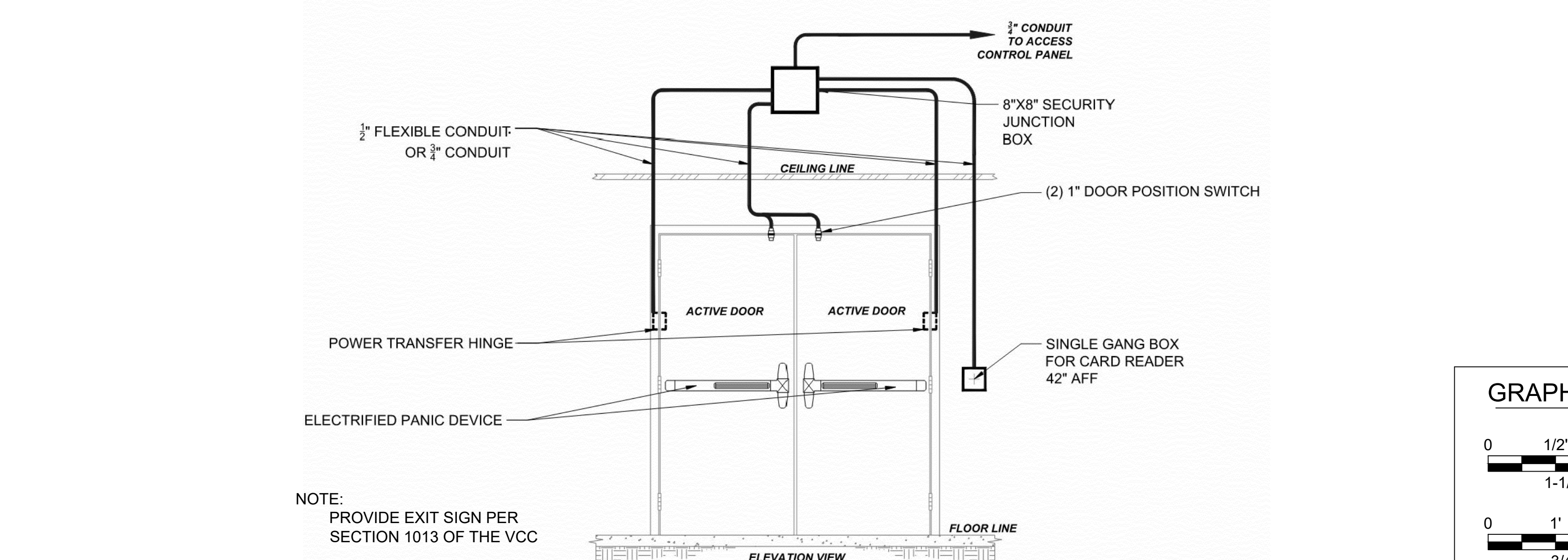
5 CMU WALL INFILL DETAIL
S-101 | S-501 SCALE: 3/4" = 1'-0"



6 CMU WALL END DETAIL
S-101 | S-501 SCALE: 1-1/2" = 1'-0"



7 SINGLE DOOR - ELECTRICAL AND SECURITY SET UP
S-501 | S-501 NOT TO SCALE



8 DOUBLE DOOR - ELECTRICAL AND SECURITY SET UP
S-501 | S-501 NOT TO SCALE

GRAPHIC SCALE

0 1/2' 1' 1 1/2'

1-1/2" = 1'-0"

0 1' 2' 3'

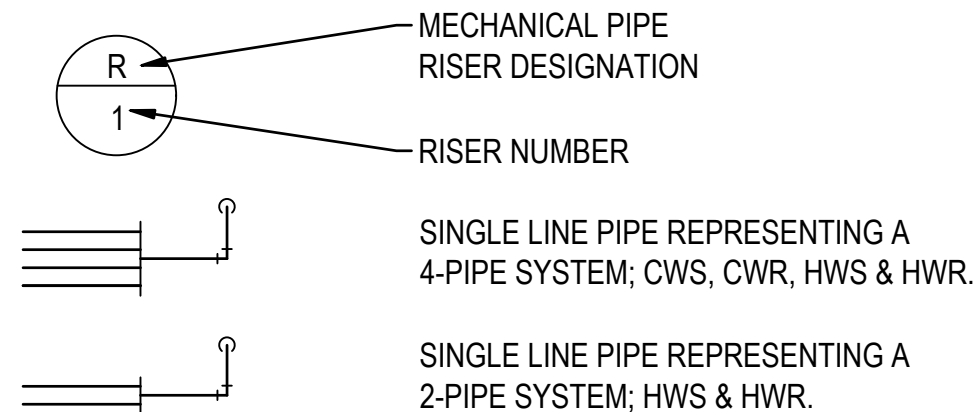
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ABBREVIATIONS CONT.

MAX.	MAXIMUM
M.B.D.	MANUAL BALANCING DAMPER
MER	MECHANICAL EQUIPMENT ROOM
MIN.	MINIMUM
M.O.D.	MOTOR OPERATED DAMPER
NC	NOISE CRITERIA
N.C.	NORMALLY CLOSED
N.I.C.	NOT IN CONTRACT
N.O.	NORMALLY OPEN
O.A.	OUTSIDE AIR
O.C.	ON CENTER
O.S.D.	OPEN SITE DRAIN
P.D.	PRESSURE DROP
PH	PHASE
PRV	PRESSURE RELIEF VALVE
PSI	POUNDS PER SQUARE INCH
PSIG	POUNDS PER SQUARE INCH GAUGE
PVC	POLYVINYL CHLORIDE
R.A.	RETURN AIR
R.G.	RETURN GRILLE
RHG	REFRIGERANT HOT GAS
RL	REFRIGERANT LIQUID
RLA	RUNNING LOAD AMPS
RPM	REVOLUTIONS PER MINUTE
S.A.	SUPPLY AIR
SD	SMOKE DETECTOR
S.P.	STATIC PRESSURE
S.S.	STAINLESS STEEL
T.G.	TOP GRILLE
T.O.C.	TOP OF CONCRETE
T.O.G.	TOP OF GRADE
T.O.S.	TOP OF STEEL
T.R.	TOP REGISTER
TYP.	TYPICAL
UH	UNIT HEATER
V	VOLTS
VAV	VARIABLE AIR VOLUME
VOL.	VOLUME
W.B.	WET BULB
W.C.	WATER COLUMN
W.G.	WATER GAUGE

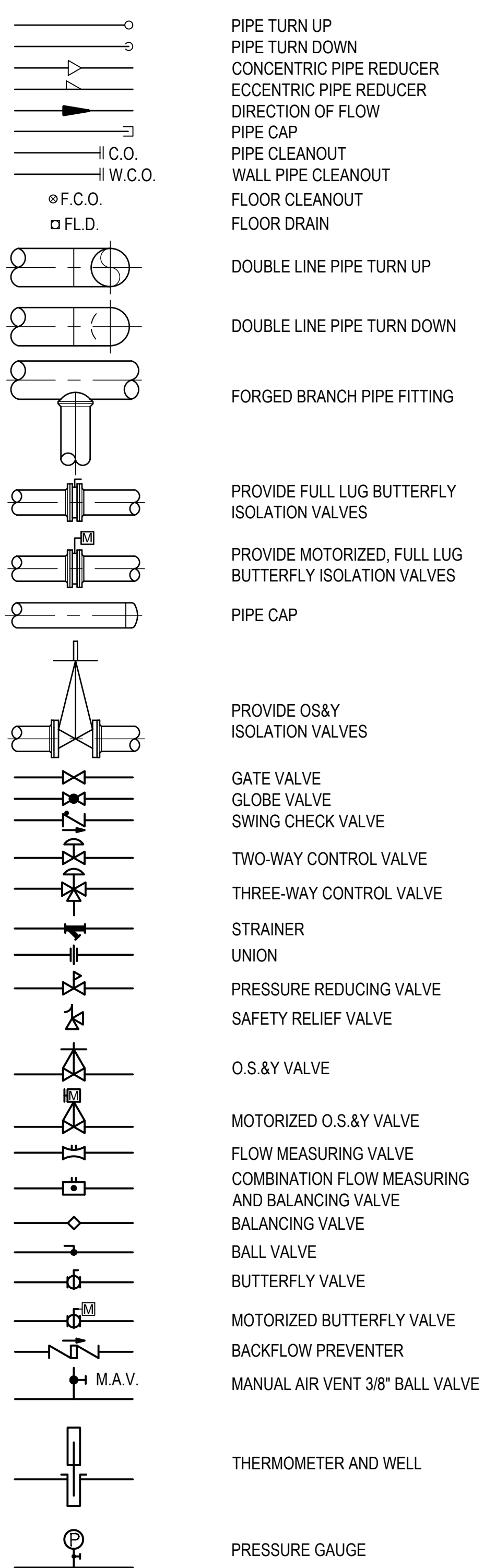
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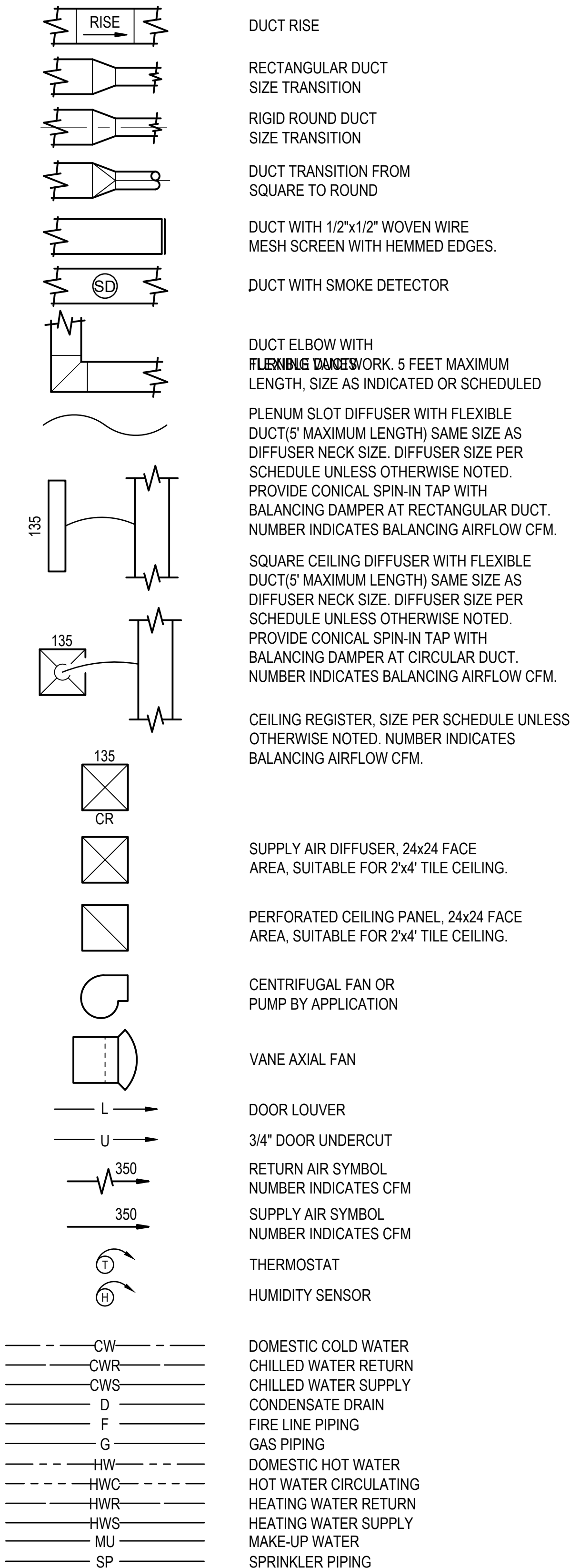
ABBREVIATIONS

A.D.	ACCESS DOOR
A.F.F.	ABOVE FINISHED FLOOR
AHU	AIR HANDLING UNIT
ARCH.	ARCHITECTURAL
A.P.	ACCESS PANEL
APPROX.	APPROXIMATELY
BHP	BRAKE HORSEPOWER
BTU	BRITISH THERMAL UNITS
BTUH	BRITISH THERMAL UNITS PER HOUR
C	COMMON
C.C.	COOLING COIL
C.D.	CEILING DIFFUSER
CFM	CUBIC FEET PER MINUTE
C.G.	CEILING GRILLE
CGR	CHILLED GLYCOL RETURN
CGS	CHILLED GLYCOL SUPPLY
C.O.	CLEANOUT
C.R.	CEILING REGISTER
CW	DOMESTIC COLD WATER
D.B.	DRY BULB
db	DECIBEL
DDC	DIRECT DIGITAL CONTROL DESIGNATION
DESIG.	DESIGNATION
DIA	DIAMETER
DN.	DOWN
(E)	EXISTING
E.A.T.	ENTERING AIR TEMPERATURE
E.D.B.	ENTERING DRY BULB
EFF.	EFFICIENCY
E.G.	EXHAUST GRILLE
ELEV.	ELEVATION/ELEVATOR
ENT.	ENTERING
E.S.P.	EXTERNAL STATIC PRESSURE
E.W.B.	ENTERING WET BULB
E.W.T.	ENTERING WATER TEMPERATURE
EXIST.	EXISTING
°F	DEGREES FAHRENHEIT
FCU	FAN COIL UNIT
F.D.	FIRE DAMPER
FLA	FULL LOAD AMPS
FL.D.	FLOOR DRAIN
FLR.	FLOOR
FPM	FEET PER MINUTE
FT.	FEET
F.V.	FACE VELOCITY
GAL.	GALLON
GPM	GALLONS PER MINUTE
H.C.	HEATING COIL
HP	HORSEPOWER
HW	DOMESTIC HOT WATER
HWR	HEATING WATER RETURN
HWS	HEATING WATER SUPPLY
Hz	HERTZ
IN.	INCHES
JC	JANITORS CLOSET
L.A.T.	LEAVING AIR TEMPERATURE
LBS.	POUNDS
LBS./HR	POUNDS PER HOUR
L.D.B.	LEAVING DRY BULB
L.W.T.	LEAVING WATER TEMPERATURE

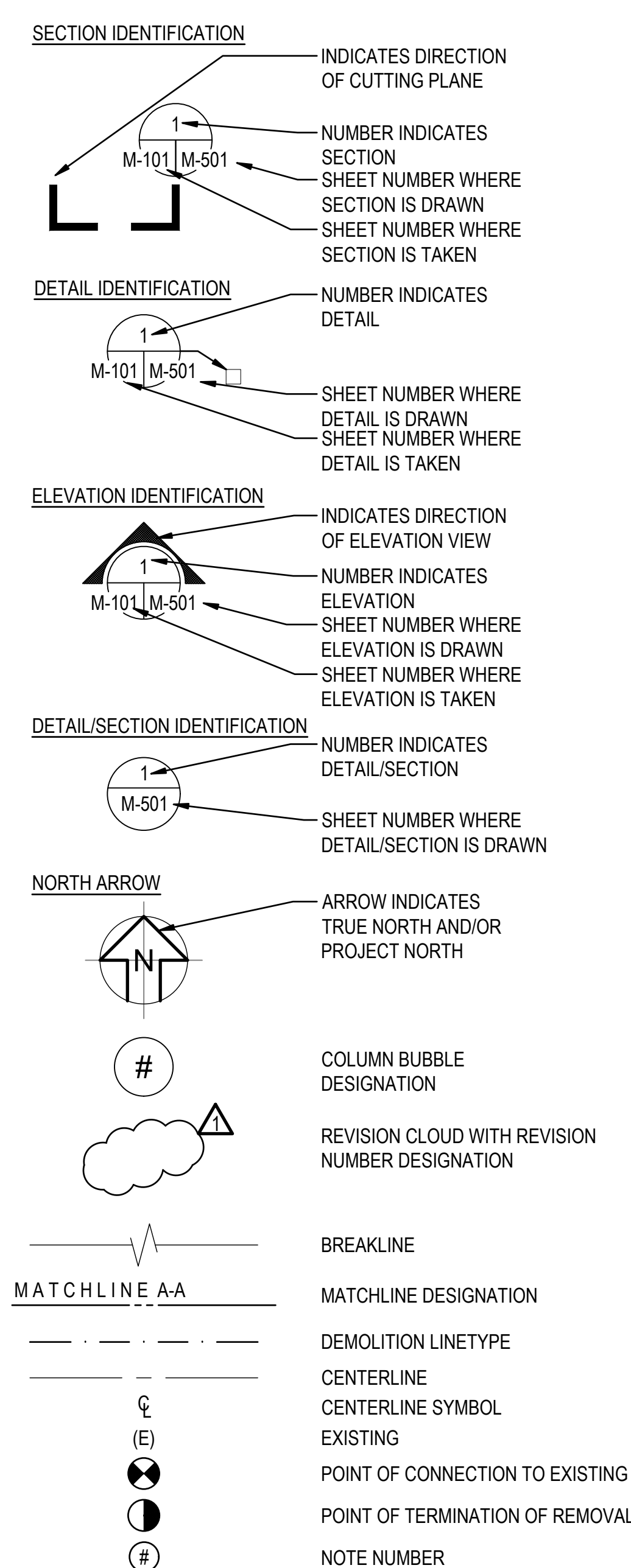
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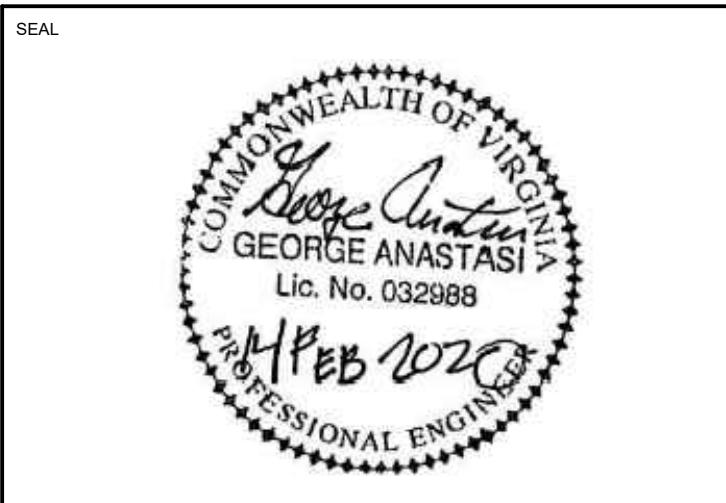
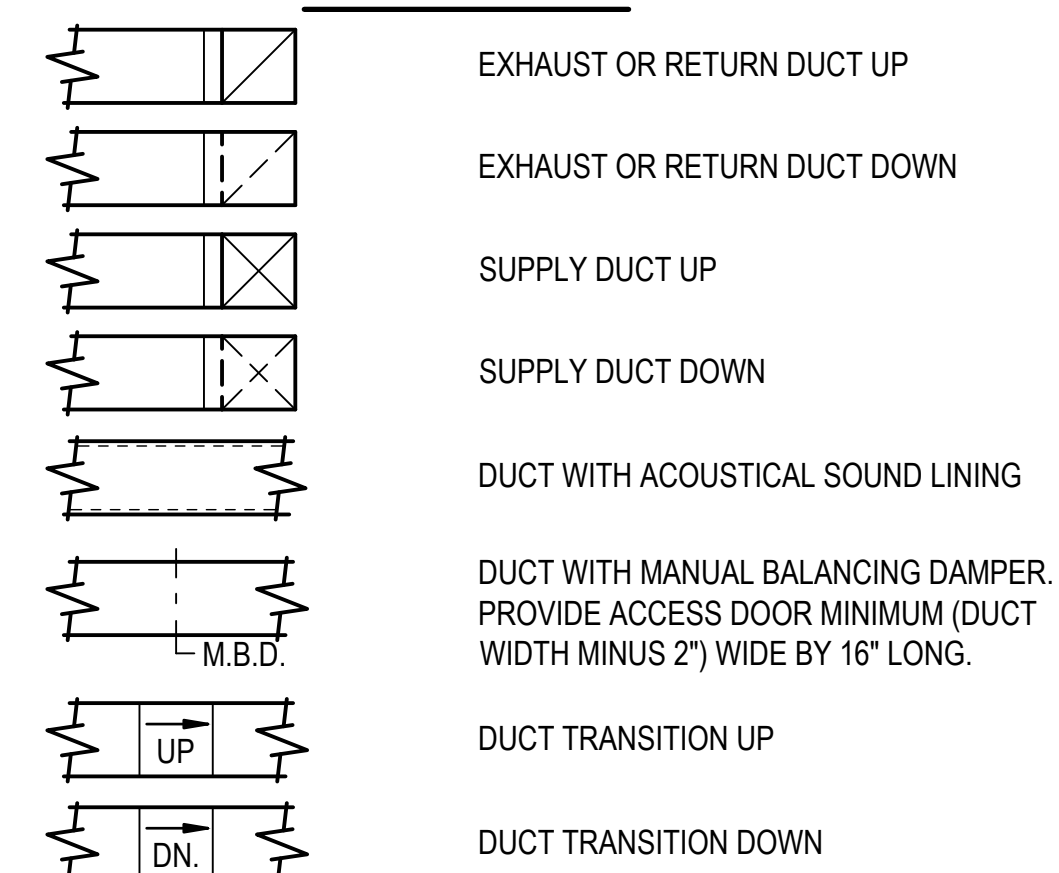
SYMBOLS CONT.



GENERAL SYMBOLS



SYMBOLS



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

2900 S. EADS ST
ARLINGTON, VA

Rev.	Date	Description	Approved
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Sheet Title

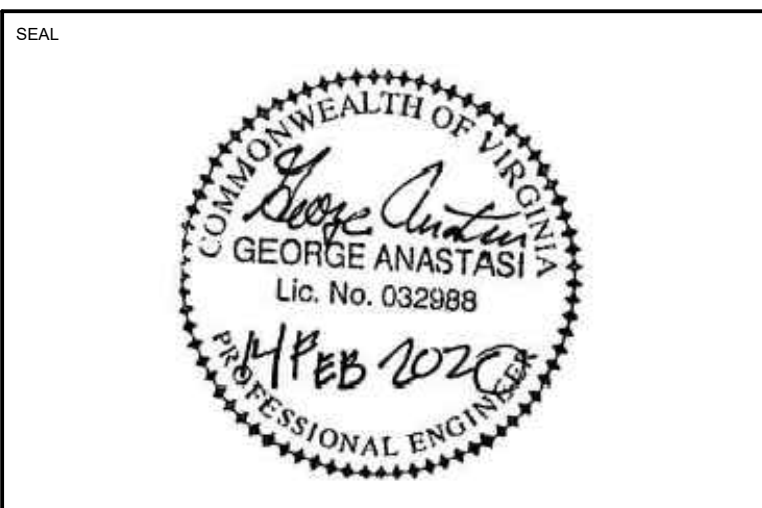
SYMBOLS AND ABBREVIATIONS

Drawn: AM Approv: CA
Scale: NO SCALE Date: 05/05/2021

Sheet No.

M-001

35 of 41



PROJECT INFORMATION

**SLOPE STABILIZATION
 AND
 BUILDING MODIFICATION**

2900 S. EADS ST
 ARLINGTON, VA

Rev.	Date	Description	Approved
1	4/29/2021	FOR BID	

Sheet Title

**GROUND FLOOR PLAN
 - DEMOLITION**

Drawn: AM Approv: CA
 Scale: 1/8"=1'-0" Date: 05/05/2021

Sheet No.

MD101

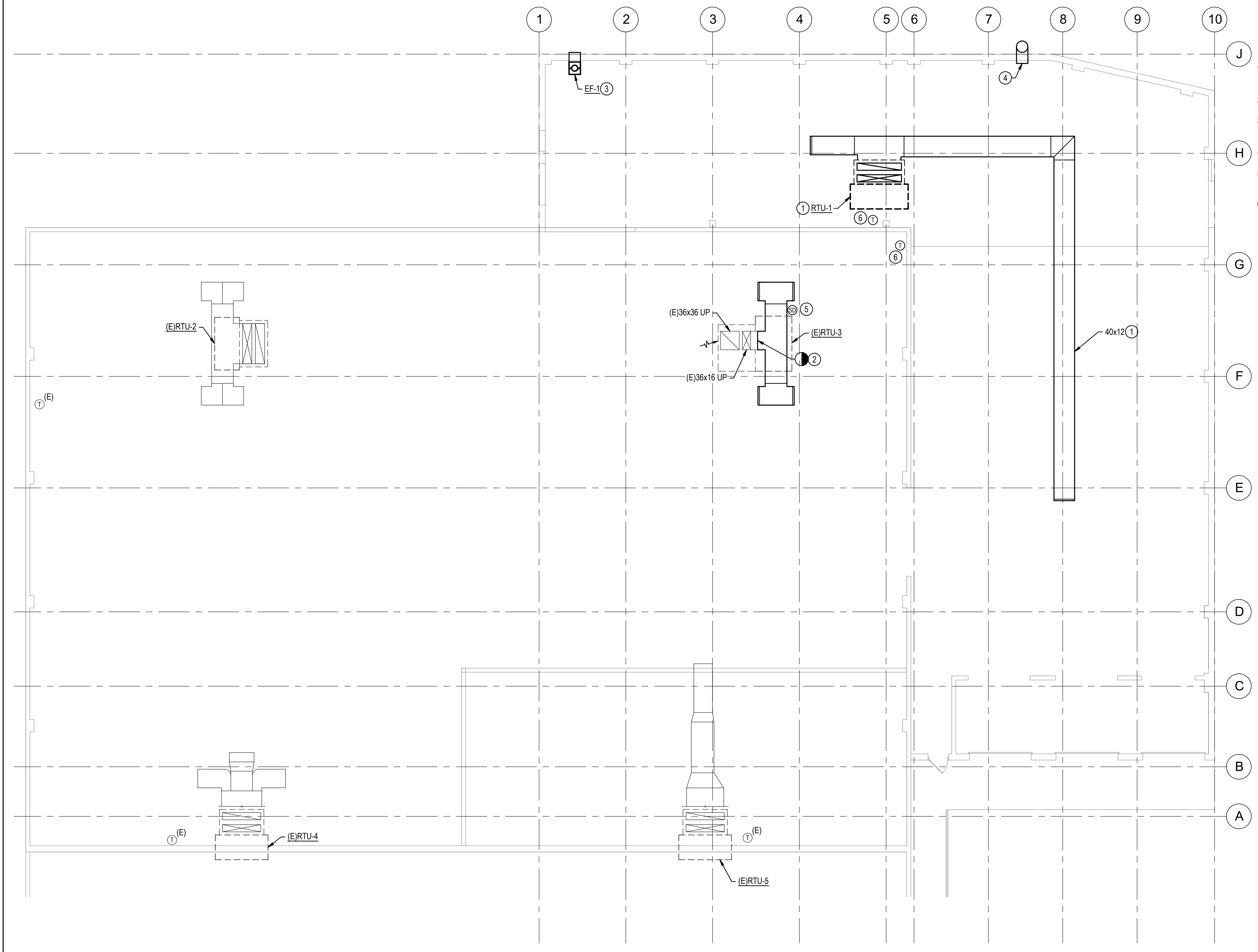
36 of 41

GENERAL NOTES

- G1. ALL WORK SHALL BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY MARKED EXISTING, EXIST., OR (E).
- G2. VERIFY LOCATION AND DIMENSIONS OF EXISTING EQUIPMENT AND COORDINATE ALL WORK PRIOR TO THE START OF CONSTRUCTION.

NOTES

- 1. REMOVE RTU, DUCTWORK, CONTROLS, AND APPURTENANCES COMPLETE.
- 2. REMOVE DUCTWORK TO POINTS INDICATED.
- 3. REMOVE FAN, CONTROLS, AND WIRING COMPLETE.
- 4. REMOVE ABANDONED VENT COMPLETE.
- 5. CAREFULLY DISCONNECT AND REMOVE DUCT SMOKE DETECTOR AND STORE FOR RE-USE.
- 6. REMOVE THERMOSTAT, WIRING, AND CONDUIT COMPLETE BACK TO THE RTU.



1 GROUND FLOOR PLAN - DEMOLITION

1/8"=1'-0" 0 8' 16'

N



PROJECT INFORMATION

**SLOPE STABILIZATION
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2900 S. EADS ST
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Sheet Title

**ROOF PLAN -
DEMOLITION**

Drawn: AM Approv: CA
Scale: 1/8"=1'-0" Date: 05/05/2021

Sheet No.

MD102

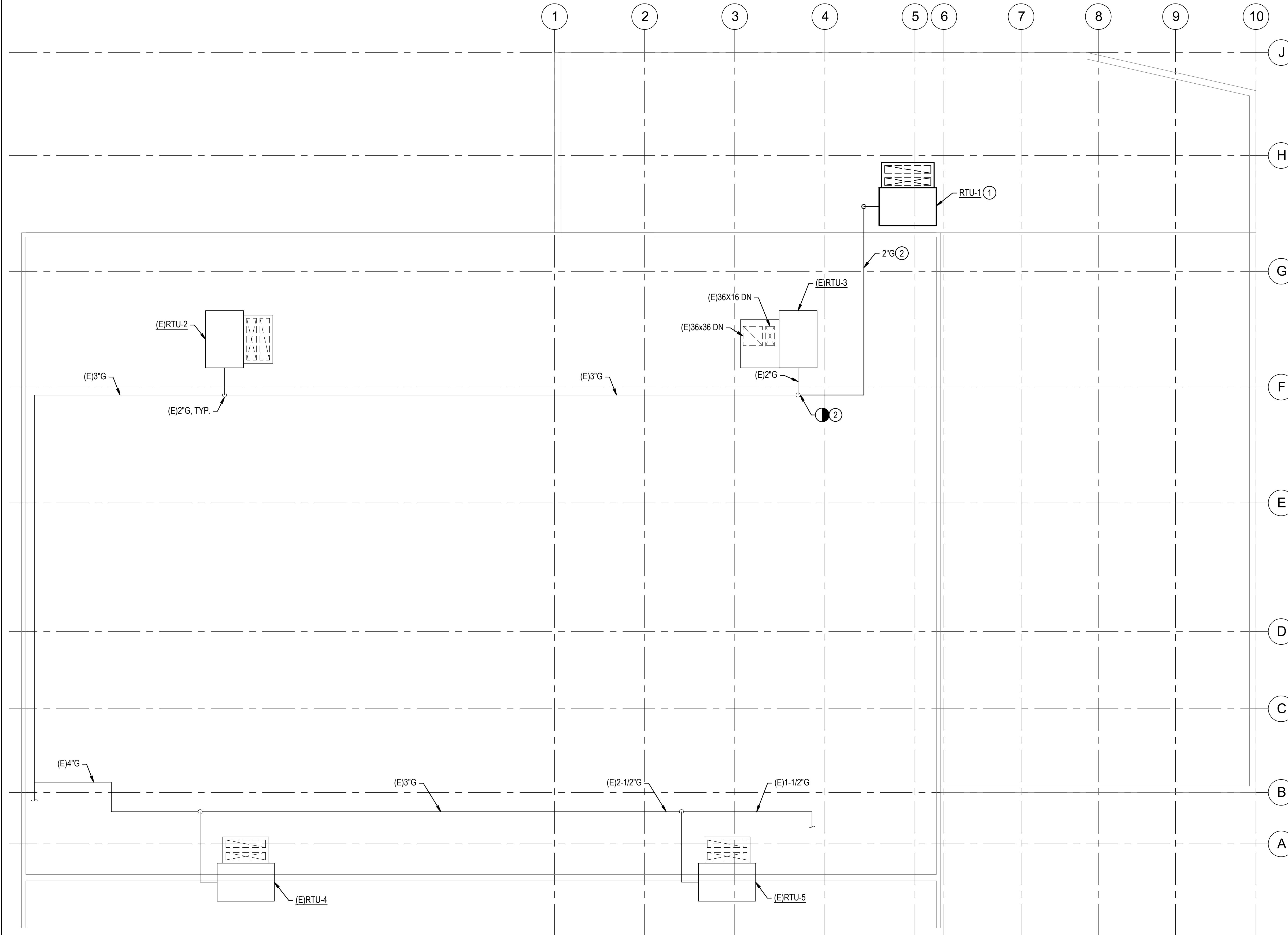
37 of 41

GENERAL NOTES

- G1. ALL WORK SHALL BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY MARKED EXISTING, EXIST., OR (E).
- G2. VERIFY LOCATION AND DIMENSIONS OF EXISTING EQUIPMENT AND COORDINATE ALL WORK PRIOR TO THE START OF CONSTRUCTION.

NOTES

1. REMOVE RTU, DUCTWORK, STEEL FRAME SUPPORTS, CONTROLS, AND APPURTENANCES COMPLETE.
2. DEMOLISH PIPE, SUPPORTS, AND APPURTENANCES COMPLETE TO POINTS INDICATED.



1 ROOF PLAN - DEMOLITION

1/8"=1'-0"

0 8' 16'

N



PROJECT INFORMATION

**SLOPE STABILIZATION
 AND
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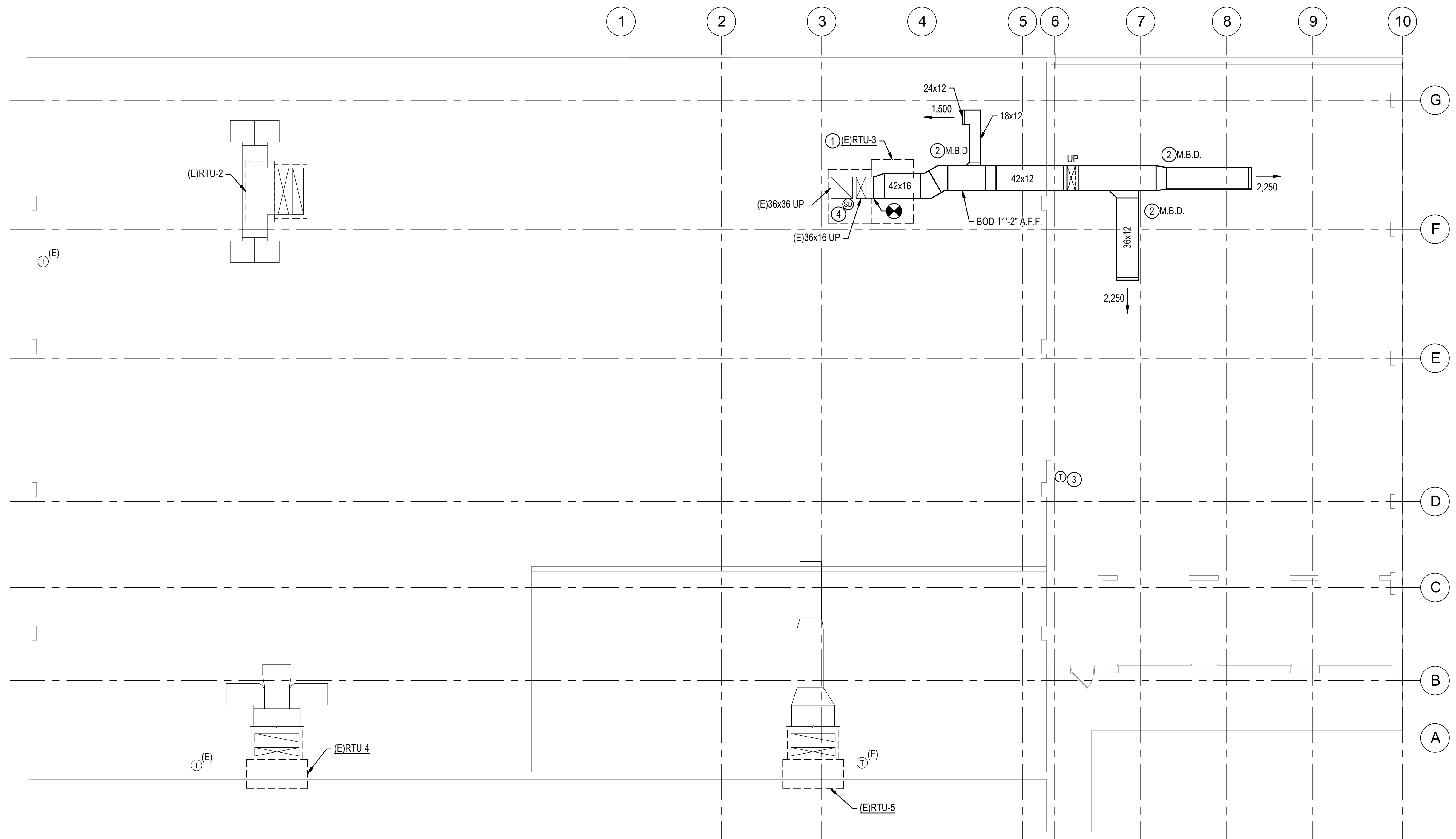
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GENERAL NOTES

- G1. ALL WORK SHALL BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY MARKED EXISTING, EXIST., OR (E).
- G2. VERIFY LOCATION AND DIMENSIONS OF EXISTING EQUIPMENT AND COORDINATE ALL WORK PRIOR TO THE START OF CONSTRUCTION.

NOTES

- 1. BALANCE EXISTING RTU-3 TO INDICATED AIRFLOWS. SET EXISTING RTU OA DAMPER TO 300 CFM.
- 2. PROVIDE MANUAL BALANCING DAMPER.
- 3. PROVIDE PROGRAMMABLE THERMOSTAT. PROVIDE LOW VOLTAGE WIRING IN 1/2" EMT AND ROUTE TO (E)RTU-3.
- 4. RE-INSTALL EXISTING DUCT SMOKE DETECTOR IN RETURN AIR DUCT AND RECONNECT TO OPERATE AS BEFORE.



1 GROUND FLOOR PLAN
 1/8"=1'-0"
 0 8' 16'

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GROUND FLOOR PLAN

Drawn: AM Approv: CA
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Sheet No.

M-101

38 of 41

SYMBOLS

- LIGHT FIXTURE WIRING. EACH LIGHT FIXTURE SHALL HAVE A MAXIMUM OF ONE FLEXIBLE CONNECTION WITH AN ASSOCIATED JUNCTION BOX WITHIN 6'. ALL CONDUIT BETWEEN JUNCTION BOXES SHALL BE EMT, UNLESS OTHERWISE NOTED.
- LIGHTING FIXTURE, TYPE AS INDICATED.
- FLEXIBLE METAL CONDUIT OR TYPE MC CABLE. FOR LIGHT FIXTURES SINGLE SWITCHED, PROVIDE 2 #12 + 1 #12 GROUND CONDUCTORS. FOR LIGHT FIXTURES WITH DUAL SWITCHED, PROVIDE 3 #12 + 1 #12 GROUND, THWN CONDUCTORS.
- 8-5/8" LONG x 4-1/2" WIDE x 2-1/8" DEEP GALVANIZED PRESSED STEEL JUNCTION BOX.
- EMT CONDUIT.
- BRANCH CIRCUIT CONDUIT AND CONDUCTORS RUN EXPOSED. SIZE IN ACCORDANCE WITH N.E.C. RACEWAY SHALL BE MINIMUM 3/4" CONDUIT, AND WIRE SHALL BE MINIMUM SIZE #12 AWG COPPER, UNLESS OTHER SIZES ARE SPECIFICALLY NOTED.
- HOME RUN TO PANEL. NUMBER OF ARROWS INDICATE THE NUMBER OF CIRCUITS.
- NUMBER OF SLASH MARKS INDICATE THE NUMBER OF CONDUCTORS IN RACEWAY. NO SLASH MARKS INDICATE 2 CIRCUIT CONDUCTORS PLUS A GROUND CONDUCTOR.
- GREEN GROUND CONDUCTOR RUN IN RACEWAY.
- EM2 PANEL NAME TO WHICH CIRCUITS RUN.
- 1,3,5 CIRCUIT BREAKERS IN PANEL SERVING THESE CIRCUITS.
- #10 WIRE SIZE IN AWG. SIZE NOT SHOWN INDICATES #12 AWG.
- BRANCH CIRCUIT CONDUIT AND CONDUCTORS RUN CONCEALED IN WALLS AND CEILING. ALL OTHER CHARACTERISTICS SAME AS SHOWN ABOVE.
- BRANCH CIRCUIT CONDUIT AND CONDUCTORS RUN CONCEALED IN CONCRETE. ALL OTHER CHARACTERISTICS SAME AS SHOWN ABOVE.
- EX EXISTING CONDUIT AND CONDUCTORS TO REMAIN.
- EC EMPTY 1" CONDUIT WITH NYLON PULL STRING.
- W SURFACE METAL RACEWAY, WIREMOLD SERIES 700 UNLESS SPECIFICALLY NOTED OTHERWISE.

SYMBOLS

- S LIGHT SWITCH, FLUSH TUMBLER, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR UNLESS OTHER MOUNTING HEIGHT IS NOTED.
- S1 SAME AS LIGHT SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- SK KEY SWITCH, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- SK1 SAME AS KEY SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- Sp LIGHT SWITCH WITH RED PILOT LIGHT, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- Sp1 SAME AS LIGHT SWITCH WITH RED PILOT LIGHT ABOVE, EXCEPT SURFACE MOUNTED.
- S3 3-WAY LIGHT SWITCH, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- S31 SAME AS 3-WAY SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- S4 4-WAY LIGHT SWITCH, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- S41 SAME AS 4-WAY SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- S0 0-10V LOW VOLTAGE DIMMING SWITCH, 20 AMPERE, 120/277V, A.C. ONLY, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- S01 SAME AS 0-10V LOW VOLTAGE DIMMING SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- SL LOW VOLTAGE LIGHT SWITCH CONNECTED TO DIMMER PANEL.
- SL1 SAME AS LOW VOLTAGE LIGHT SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- SC COMBINATION 2-BUTTON "ON/OFF" LIGHT SWITCH AND OCCUPANCY SENSOR, IN CAST DEVICE BOX SURFACE MOUNTED ON WALL AT 48" ABOVE THE FINISHED FLOOR, SINGLE POLE, 20 AMPERE, 120/277V, A.C. ONLY. PROVIDE WITH WHITE PLASTIC DECORA STYLE COVER PLATE.
- SC1 SAME AS COMBINATION 2-BUTTON "ON/OFF" LIGHT SWITCH ABOVE, EXCEPT SURFACE MOUNTED.
- SM FRACTIONAL HORSEPOWER MANUAL MOTOR STARTER WITH THERMAL OVERLOAD RELAY, SINGLE POLE, 115 VOLT, SURFACE MOUNTED IN DEVICE BOX ON UNIT UNLESS OTHERWISE NOTED.
- SM1 MOTOR RATED TOGGLE SWITCH, 2-POLE, 208V, 20A SURFACE MOUNTED IN DEVICE BOX ON UNIT MOUNTED UNLESS OTHERWISE NOTED.
- MS MULTIPLE SWITCHES LOCATED IN A SINGLE MULT-GANG DEVICE BOX, RECESS MOUNTED AT 48" ABOVE FINISHED FLOOR.
- LF LIGHTING FIXTURE TYPE.
- LF2 2x4' LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 2x2' LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 1x4' LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 BRACKET MOUNTED LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 4'-0" LONG STRIP LIGHT FIXTURE, TYPE AS NOTED.
- LF2 RECESSED DOWNLIGHT FIXTURE, TYPE AS NOTED.
- LF2 RECESSED DIRECTIONAL DOWNLIGHT FIXTURE, TYPE AS NOTED.
- LF2 WALL MOUNTED LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 PENDANT MOUNTED LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 WALL MOUNTED EMERGENCY BATTERY PACK LIGHTING FIXTURE, TYPE AS NOTED.
- LF2 UNIVERSAL MOUNTED EXIT LIGHT, SINGLE OR DOUBLE FACED WITH DIRECTIONAL CHEVRON ARROWS AS SHOWN. LIGHTING FIXTURE TYPE AS NOTED:
 - SINGLE FACED EXIT SIGN.
 - DOUBLE FACED EXIT SIGN.
 - BRACKET MOUNTED EXIT SIGN.
- LF2 LIGHTING FIXTURES, TYPE AS INDICATED, WITH BATTERY PACK. PROVIDE FACTORY INSTALLED, SELF TESTING / SELF DIAGNOSTIC BATTERY PACK. BATTERY SHALL BE HIGH TEMPERATURE, MAINTENANCE FREE, NICKEL CADMIUM WITH MINIMUM TEN YEAR LIFE EXPECTANCY, AND SHALL BE CAPABLE OF OPERATING (2) FLUORESCENT LAMPS EACH AT 1350 LUMENS IN THE EMERGENCY MODE FOR A MINIMUM OF 90 MINUTES. PROVIDE A SOLID STATE CHARGING INDICATOR LIGHT TO MONITOR THE CHARGER AND BATTERY. PROVIDE A STATUS INDICATING LIGHT VISIBLE FROM THE FLOOR WITH AN ACCESSIBLE TEST SWITCH. CONNECT AS ALWAYS ON UNLESS SWITCHING IS INDICATED. FLUORESCENT LIGHTING FIXTURE, TYPE AS INDICATED, ON EMERGENCY "ALWAYS ON" LIGHTING CIRCUIT.

SYMBOLS

- PR DUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, RECESS MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR DUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, SURFACE MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR SINGLE RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, RECESS MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR SINGLE RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, SURFACE MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR QUADRUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, RECESS MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR QUADRUPLEX RECEPTACLE, 20 AMPERE, 125 VOLT GROUNDING TYPE, NEMA 5-20R CONFIGURATION, SURFACE MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR SPECIAL DEDICATED OUTLET, NEMA CONFIGURATION AS NOTED ON FLOOR PLAN, RECESS MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR SPECIAL DEDICATED OUTLET, NEMA CONFIGURATION AS NOTED ON FLOOR PLAN, SURFACE MOUNTED IN 4" SQUARE x 2-1/8" DEEP PRESSED STEEL JUNCTION BOX AT 18" ABOVE FINISHED FLOOR.
- PR FAN COIL UNIT WITH SINGLE POINT ELECTRICAL CONNECTION.
- PR JUNCTION BOX, 4" SQUARE x 2-1/8" DEEP GALVANIZED PRESSED STEEL, RECESS MOUNTED AT 18" ABOVE FINISHED FLOOR, WITH BLANK COVER PLATE.
- PR JUNCTION BOX, 4" SQUARE x 2-1/8" DEEP GALVANIZED PRESSED STEEL, MOUNTED ABOVE SUSPENDED TILE CEILING.
- PR JUNCTION BOX FOR SYSTEMS FURNITURE POWER CONNECTION. PROVIDE 4" SQUARE x 2-1/8" DEEP GALVANIZED PRESSED STEEL BOX, RECESS MOUNTED AT 18" ABOVE FINISHED FLOOR. COORDINATE WITH SYSTEMS FURNITURE PRIOR TO INSTALLATION FOR EXACT LOCATION AND COVER PLATE CONFIGURATION.
- PR 2-SECTION TELECOMMUNICATION/POWER POLE FROM FLOOR TO 6" ABOVE SUSPENDED TILE CEILING AND SUPPORT FROM STRUCTURE ABOVE. PROVIDE A 2-SECTION JUNCTION BOX AT TOP OF POLE FOR TELECOMMUNICATIONS AND POWER CONNECTIONS.
- PR RECESSED POKE-THRU DEVICE IN CONCRETE FLOOR. PRIOR TO ANY FLOOR PENETRATIONS, COORDINATE EXACT LOCATION WITH LOCATION WITH BUILDING STRUCTURE. OBTAIN WRITTEN APPROVAL FROM THE ROICC AND MARK EXACT LOCATION ON FLOOR PRIOR TO PENETRATION. PROVIDE PILOT HOLES TO VERIFY FLOOR STRUCTURE AS REQUIRED TO PENETRATE CONCRETE SLAB. PROVIDE STEEL CITY MODEL RPT-2P4RJ-BRS POKE-THRU DEVICE, OR APPROVED EQUAL, WITH 2 SEPARATE RACEWAYS DOWN TO A TWO-SECTION JUNCTION BOX IN THE CEILING SPACE BELOW. SEAL FLOOR PENETRATION FIRE PROOF.
- PR CIRCUIT BREAKER TYPE PANELBOARD.
- PR DISTRIBUTION TYPE PANELBOARD.
- PR SWITCH AND FUSE TYPE PANELBOARD.
- PR ELECTRICAL POINT OF CONNECTION.
- PR TRANSFORMER, SEE POWER RISER DIAGRAM FOR CHARACTERISTICS.
- PR CEILING MOUNTED OCCUPANCY SENSOR, COMBINATION ULTRASONIC/PASSIVE INFRARED (PIR) DEVICE WITH ADJUSTABLE TIME DELAY 5 TO 30 MINUTES.
- PR PHOTOCCELL IN NEMA 3R ENCLOSURE.

SYMBOLS

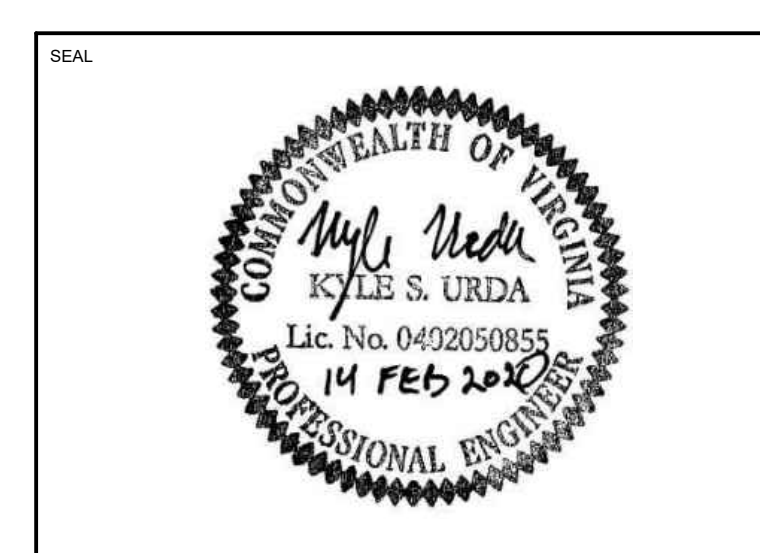
- PR HEAVY DUTY ENCLOSED SAFETY SWITCH IN NEMA 1 ENCLOSURE UNLESS OTHER ENCLOSURE IS INDICATED.
- PR 100A 3P/FSS FUSED@70A - SWITCH SIZE.
3P - NUMBER OF POLES.
NFSS - NON-FUSED SAFETY SWITCH.
FUSED@70A - FUSE SIZE AND CLASS. PROVIDE DUAL ELEMENT, TIME DELAY, HIGH INTERRUPTING CAPACITY, CURRENT LIMITING, CLASS RK-1 FUSES.
- PR COMBINATION SAFETY SWITCH AND MAGNETIC MOTOR STARTER. PROVIDE COVER MOUNTED HAND-OFF-AUTOMATIC (H-O-A) SELECTOR SWITCH WITH RED "RUN" AND GREEN "STOP" INDICATING LIGHTS. PROVIDE INTEGRAL CONTROL POWER TRANSFORMER FOR MAXIMUM 120 VOLT CONTROL. PROVIDE, IN ADDITION TO ALL INDICATED OR REQUIRED AUXILIARY CONTACTS, 2 NORMALLY OPEN AND 2 NORMALLY CLOSED CONTACTS. SEE ABOVE FOR ALL OTHER CHARACTERISTICS.
- PR ENCLOSED CIRCUIT BREAKER, CHARACTERISTICS AS NOTED:
20AT/3P/100AF 100AF - FRAME SIZE IN AMPERES.
3P - NUMBER OF POLES.
20AT - TRIP SIZE IN AMPERES.
- PR MOTOR, RATED AT 60 HERTZ, OTHER CHARACTERISTICS AS NOTED:
PUMP-1 - MECHANICAL NAME OF EQUIPMENT.
40HP - MOTOR RATING IN HORSEPOWER.
200V - RATED MOTOR VOLTAGE.
3Ø - NUMBER OF PHASES.
- PR (USE THE FOLLOWING SYMBOLS WHEN THERE IS A MOTOR AND EQUIPMENT SCHEDULE)
- PR HEAVY DUTY ENCLOSED SAFETY SWITCH, SEE MOTOR AND EQUIPMENT SCHEDULE FOR SIZES AND CHARACTERISTICS.
- PR COMBINATION HEAVY DUTY SAFETY SWITCH AND MAGNETIC MOTOR STARTER, SEE MOTOR AND EQUIPMENT SCHEDULE FOR SIZES AND CHARACTERISTICS.
- PR MOTOR, SEE MOTOR AND EQUIPMENT SCHEDULE FOR SIZES AND CHARACTERISTICS.
- PR JUNCTION BOX FOR A FUTURE COMBINATION TELEPHONE AND DATA OUTLET, 4" SQUARE x 2-1/8" DEEP GALVANIZED PRESSED STEEL, RECESSED MOUNTED AT 18" ABOVE FINISHED FLOOR, WITH BLANK COVER PLATE. PROVIDE EMPTY 1" CONDUIT WITH NYLON PULL STRING CONCEALED IN WALL UP TO ABOVE SUSPENDED TILE CEILING FOR FUTURE USE.
- PR SAME AS JUNCTION BOX FOR A FUTURE COMBINATION TELEPHONE AND DATA OUTLET ABOVE, EXCEPT SURFACE MOUNTED AND EMPTY 1" CONDUIT WITH NYLON PULL STRING SURFACE MOUNTED ON WALL UP TO ABOVE SUSPENDED TILE CEILING FOR FUTURE USE.
- PR TELECOMMUNICATIONS CABLE TRAY, 6" WIDE x 4" DEEP OPEN WIRE-BASKET TYPE. LOCATE BOTTOM AT 6" ABOVE THE SUSPENDED TILE CEILING AND SUPPORT FROM THE STRUCTURE ABOVE. ALL CABLE TRAY TURNS SHALL HAVE MINIMUM 6" INSIDE BENDING RADIUS, 6" INSIDE BENDING RADIUS.
- PR NOMINAL 4-3/4" HIGH x 1-3/4" DEEP SQUARE, TWO-SECTION, SURFACE METAL RACEWAY WITH SNAP-ON COVER. PROVIDE NEMA 5-20R CONFIGURATION DUPLEX RECEPTACLES SPACED ON 5'-0" CENTERS. PROVIDE BLANK COVER PLATE FOR FUTURE COMBINATION TELEPHONE AND DATA OUTLET ON 5'-0" CENTERS. SURFACE MOUNT RACEWAY AT 18" ABOVE FINISHED FLOOR. WIRE RECEPTACLES ON ALTERNATING CIRCUITS.

SHEET SYMBOLS

- 1 1 - NUMBER INDICATES DETAIL.
- E001 - SHEET NUMBER WHERE DETAIL IS REFERENCED.
- E101 - SHEET NUMBER WHERE DETAIL IS DRAWN.
- ELEVATION DETAIL. ALL OTHER CHARACTERISTICS SAME AS ABOVE.
- NOTE REFERENCE NUMBER.
- GENERAL NOTE REFERENCE NUMBER.
- FEEDER DESIGNATION.
- EQUIPMENT IDENTIFICATION NUMBER.
- ROOM NUMBER DESIGNATION.
- COLUMN LINE NUMBER.
- DRAWING REVISION NUMBER.
- CENTER LINE.
- UP CONDUIT UP.
- DN CONDUIT DOWN.
- DELTA CONFIGURATION.
- WYE GROUNDING CONFIGURATION.
- PHASE.
- SMOKE DETECTOR;
- FIRE ALARM HORN STROBE;
- MANUAL PULL STATION

ABBREVIATIONS

- A AMPERES.
- AF FRAME SIZE IN AMPERES.
- AFB ABOVE FINISHED FLOOR.
- AHU AIR HANDLING UNIT.
- AT TRIP SIZE IN AMPERES.
- ATS AUTOMATIC TRANSFER SWITCH.
- AWG. AMERICAN WIRE GAUGE.
- BATT BATTERY BACK-UP.
- BLDG. BUILDING.
- C/B CIRCUIT BREAKER.
- CBM CERTIFIED BALLAST MANUFACTURERS.
- DDC DIRECT DIGITAL CONTROL.
- EC EMPTY CONDUIT.
- EM EMERGENCY PANEL.
- EMT ELECTRICAL METALLIC TUBING.
- EW EMERGENCY WHITE.
- EWC ELECTRIC WATER COOLER.
- FA FIRE ALARM.
- FAAP FIRE ALARM ANNUNCIATOR PANEL.
- FACP FIRE ALARM CONTROL PANEL.
- FCU FAN COIL UNIT.
- FLA FULL LOAD AMPERES.
- FVNR FULL VOLTAGE NON-REVERSING.
- GFCI GOVERNMENT FURNISHED, CONTRACTOR INSTALLED.
- GFI GROUND FAULT INTERRUPTER.
- GRD. GROUND CONDUCTOR.
- H-O-A HAND-OFF-AUTOMATIC SELECTOR SWITCH.
- KAIC THOUSAND AMPERE INTERRUPTING CAPACITY.
- KW KILO-WATTS.
- MCC MOTOR CONTROL CENTER.
- M.L.O. MAIN LUGS ONLY.
- N.C. NORMALLY CLOSED.
- N.E.C. NATIONAL ELECTRICAL CODE.
- NEMA NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION.
- NFSS NON-FUSED SAFETY SWITCH.
- N.O. NORMALLY OPEN.
- P NUMBER OF POLES.
- PH. NUMBER OF PHASES.
- PVC POLY-VINYL CHLORIDE.
- RGS RIGID GALVANIZED STEEL.
- SCIF SENSITIVE COMPARTMENTED INFORMATION FACILITIES.
- U.L. UNDERWRITER'S LABORATORIES.
- V VOLTAGE.
- VFD VARIABLE FREQUENCY DRIVE.
- WP WEATHERPROOF, OR NEMA 3R ENCLOSURE.



PROJECT INFORMATION

SLOPE STABILIZATION AND BUILDING MODIFICATION

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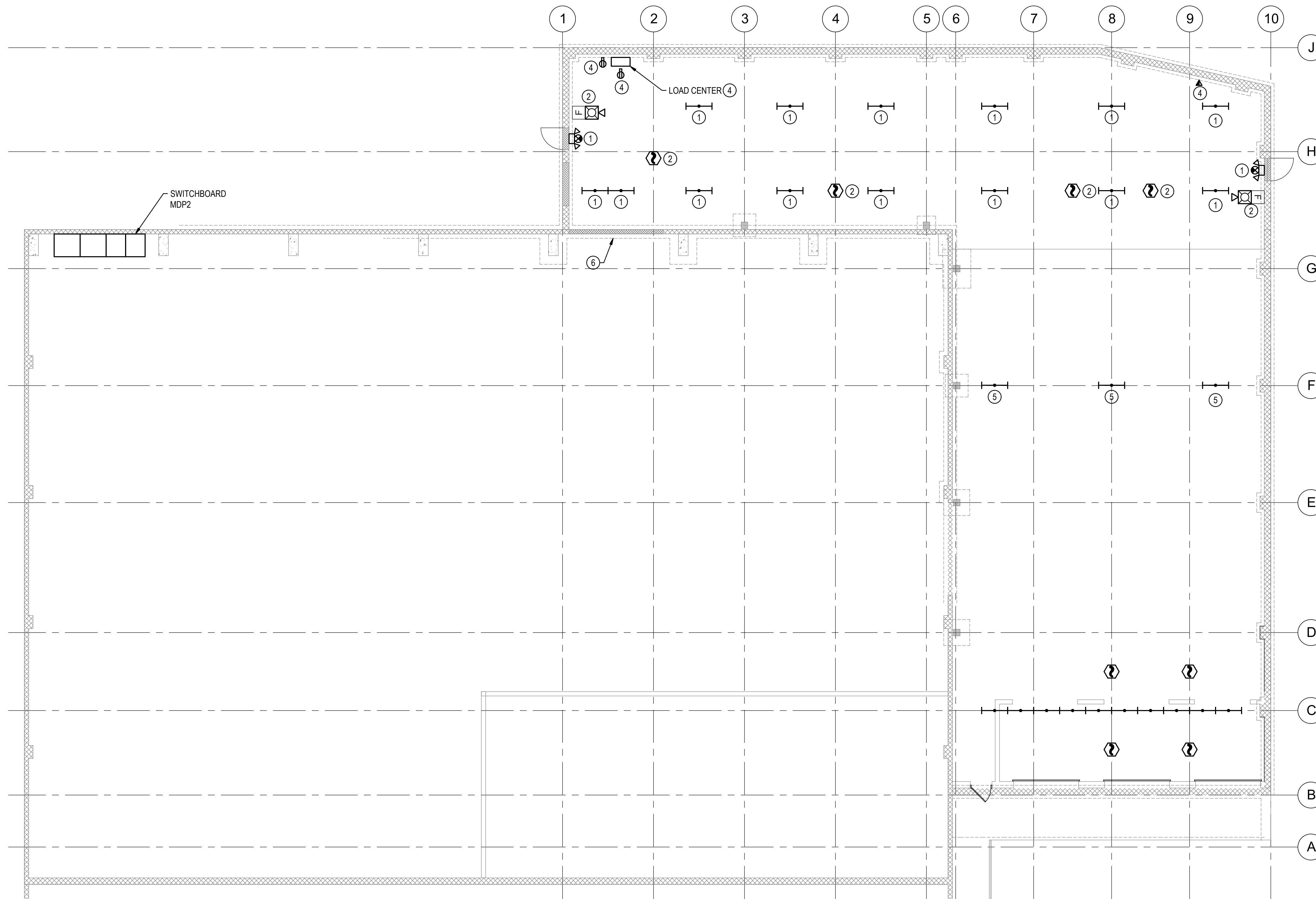
Sheet No.
ED101
40 of 41

NOTES

- DISCONNECT AND REMOVE LIGHT FIXTURE WITH ALL CONDUIT AND CONDUCTOR BACK TO PORTION OF THE BUILDING TO REMAIN.
- DISCONNECT AND REMOVE FIRE ALARM DEVICE WITH ALL CONDUIT AND CONDUCTOR BACK TO PORTION OF THE BUILDING TO REMAIN. PROVIDE JUNCTION BOXES AND TERMINAL STRIPS AS NEEDED TO MAINTAIN OPERATION OF REMAINING CIRCUITS. REMOVE DEVICE POINTS FROM FIRE ALARM CONTROL PANEL PROGRAMMING. TURN OVER SMOKE DETECTORS TO COUNTY.
- PROVIDE UPDATED GRAPHIC PLAQUE UPON COMPLETION OF DEMOLITION AND FIRE ALARM WORK.
- DISCONNECT AND REMOVE DEVICE. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO SOURCE.
- DISCONNECT AND RETAIN LIGHT FIXTURE. PROVIDE CONDUIT AND CONDUCTOR TO MATCH EXISTING, AND EXTEND TO FIXTURE LOCATION INDICATED. INSTALL FIXTURE RETAINED TO COORDINATE WITH DUCTWORK AND CONNECT TO OPERATE AS BEFORE.
- DISCONNECT AND REMOVE LIGHT FIXTURE CIRCUITING BACK TO APPROXIMATE LOCATION. VERIFY IN FIELD FOR EXACT CONDUIT AND CONDUCTOR ROUTING.

GENERAL NOTES

- G1. ALL WORK SHALL BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS SPECIFICALLY MARKED EXISTING, EXIST., OR (E).
- G2. VERIFY LOCATION AND DIMENSIONS OF EXISTING EQUIPMENT AND COORDINATE ALL WORK PRIOR TO THE START OF CONSTRUCTION.



1 GROUND FLOOR PLAN - DEMOLITION



NOTES

- 1. DISCONNECT ROOFTOP UNIT. REMOVE ALL CONDUIT AND CONDUCTORS BACK TO MAIN SWITCHBOARD. REFER TO GROUND FLOOR PLAN FOR LOCATION.

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1	4/29/2021	FOR BID	

Sheet Title

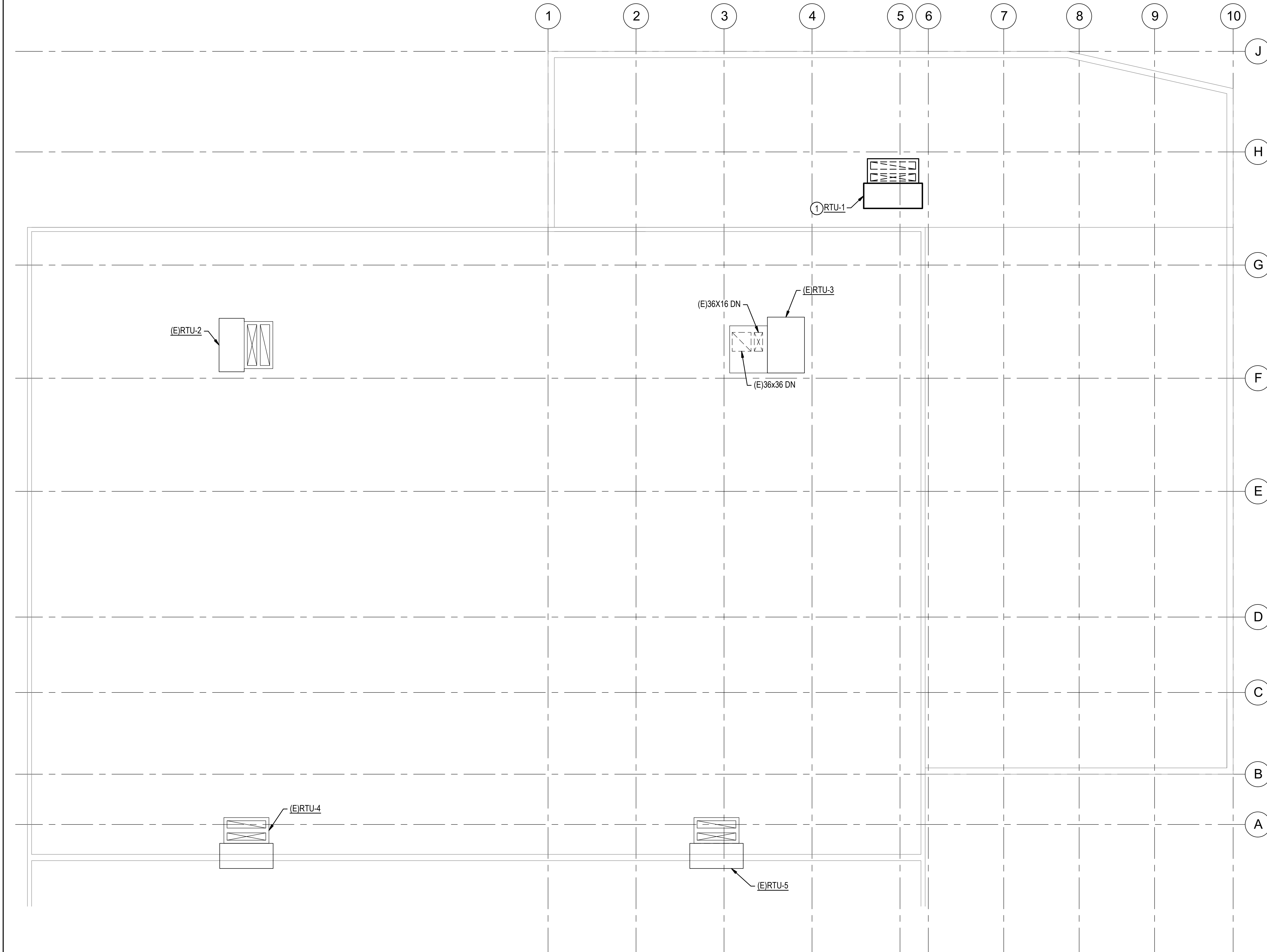
ROOF PLAN - DEMOLITION

Drawn: AB Approv: KU
Scale: 1/8"=1'-0" Date: 05/05/2021

Sheet No.

ED102

41 of 41



1 ROOF PLAN - DEMOLITION

1/8"=1'-0"

0 8 16'

FILE NAME: ED-102.DWG
OUR REF: 1926
PLOT DATE: 5/4/2021 1:14:24 PM