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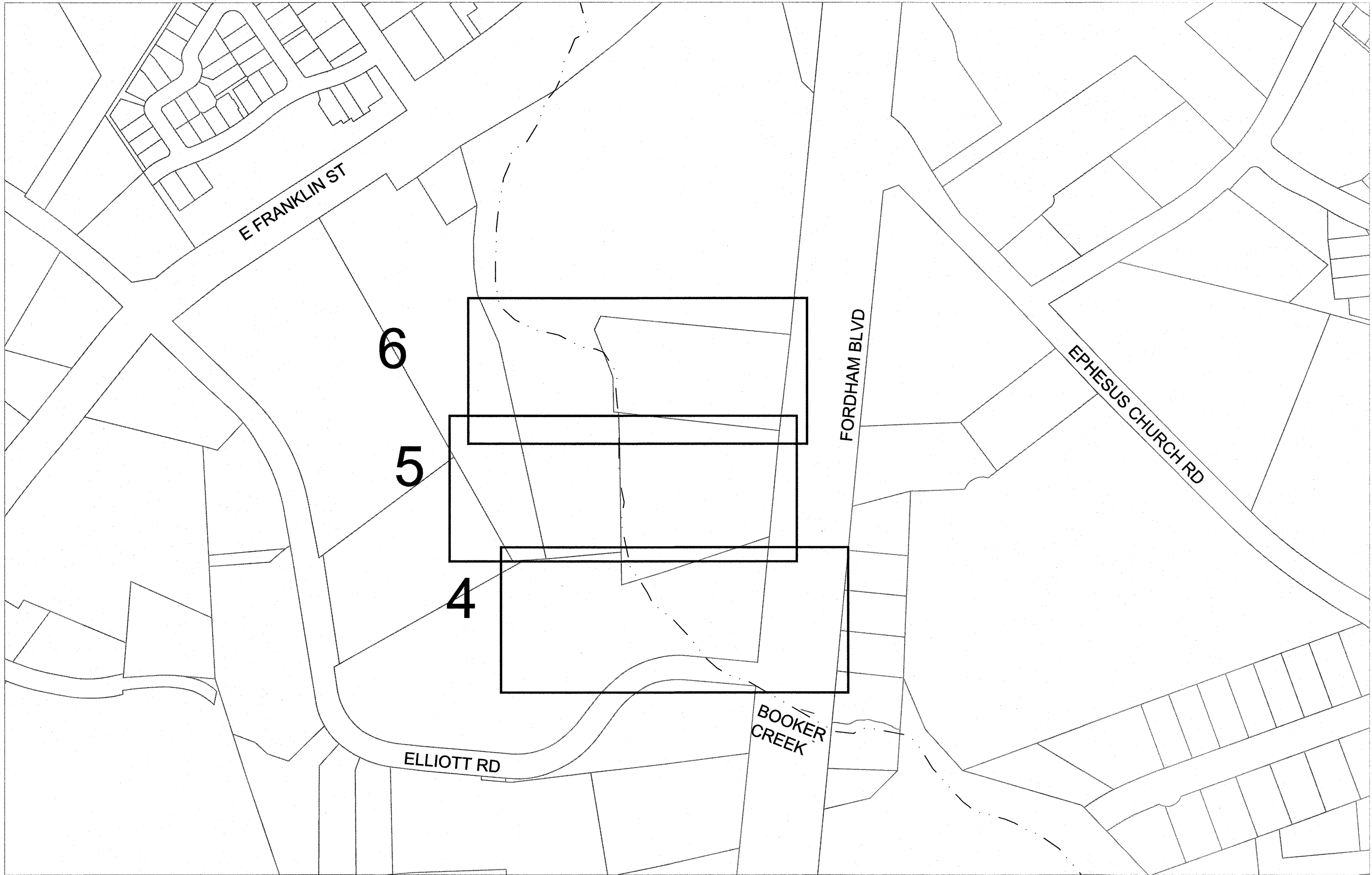
BENCHMARKS

GPS #	NORTHING	EASTING	ELEVATION	DESCRIPTION
1	794535.8754	1992609.7299	262.03	SURVEY NAIL
2	794372.8125	1992657.4366	263.32	PK NAIL
3	794339.4867	1992496.8080	264.51	SURVEY NAIL
4	794645.2432	1992410.2266	265.44	PK NAIL
5	794856.891	1992117.9770	281.09	SURVEY NAIL
6	795091.457	1992151.459	277.83	PK NAIL
7	795158.746	1992189.06	263.20	SURVEY NAIL

HORIZONTAL DATUM = NAD 83 (2011)
VERTICAL DATUM = NAVD 88

ELLIOTT STORAGE DESIGN

TOWN OF CHAPEL HILL
FLOODPLAIN STORAGE CONSTRUCTION PLANS
WK DICKSON PROJECT NO. 20170225.00.RA



VICINITY MAP
N.T.S

TOWN OF CHAPEL HILL
ORANGE COUNTY, NC

NOTICE TO CONTRACTOR

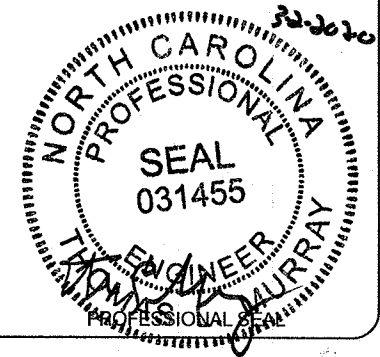
- 1) THE CONTRACTOR SHALL FIELD VERIFY THE ONSITE T.B.M. w/ EXISTING ELEVATIONS. THE CONTRACTOR SHALL IMMEDIATELY CONTACT W.K. DICKSON & CO., INC. @ 919.782.0495 IF ANY DISCREPANCIES ARE FOUND IN ELEVATIONS SHOWN.
- 2) PRIOR TO CONSTRUCTION, DIGGING, OR EXCAVATION THE CONTRACTOR IS RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES (PUBLIC OR PRIVATE) THAT MAY EXIST AND CROSS THROUGH THE AREA(S) OF CONSTRUCTION, WHETHER INDICATED ON THE PLANS OR NOT. CALL "811" A MINIMUM OF 72 HOURS PRIOR TO DIGGING OR EXCAVATING. REPAIRS TO ANY UTILITY DAMAGED RESULTING FROM CONSTRUCTION ACTIVITIES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.



Know what's below.
Call before you dig

REV RECORD:			REV RECORD:		
BY	DATE	DESCRIPTION	BY	DATE	DESCRIPTION

ISSUED RECORD:			GSWCC#
BY	DATE	DESCRIPTION	



SURVEY PERFORMED BY:

STEWART

421 FAYETTEVILLE ST., STE 400
RALEIGH, NC 27601
T 919.380.8750

FIRM LICENSE #: C-1051
www.stewartinc.com

RELEASED FOR CONSTRUCTION

PROJECT NAME: **ELLIOTT STORAGE DESIGN**

DRAWING NUMBER: **1**

PLOT DATE:

PRINCIPAL: SW
PROJ. MGR.: TLM
DESIGNER: RAS

PROJ. DATE: 06/2019
O.C.: TLM
O.C. DATE: 04/2019

720 CORPORATE CENTER DR
RALEIGH, NC 27607
(919) 782-0495
WWW.WKDICKSON.COM
LICENSE NO. F-0374

WK DICKSON
COMMUNITY DEVELOPMENT CONSULTANTS

DRAINAGE STRUCTURES:

GRADES, ELEVATIONS AND LOCATION SHOWN ARE APPROXIMATE. AS DIRECTED BY THE ENGINEER, THEY MAY BE ADJUSTED TO ACCOMMODATE UNPRESSED CONDITIONS. WEEP HOLES ARE TO BE CONSTRUCTED IN ALL DRAINAGE STRUCTURES. WEEP HOLES SHOULD BE ON 4' CENTER WITH A MINIMUM OF 1 WEEP HOLE PER WALL. WEEP HOLES ARE TO BE COVERED ON THE OUTSIDE OF THE STRUCTURE BY A BAG MADE OF FILTER FABRIC FILLED WITH #78 STONE. THERE WILL BE NO SEPARATE PAYMENT FOR THIS WORK. STATION, OFFSETS AND ELEVATIONS REFER TO THE CENTER OF DROP INLETS, MANHOLES AND JUNCTION BOXES, AND THE MIDPOINT OF THE GRATE FOR CATCH BASINS. UPON APPROVAL BY THE ENGINEER, CONTRACTOR MAY SUBSTITUTE BRICK STRUCTURES WITH PRECAST STRUCTURES.

TREES, SHRUBS, AND HEDGES:

THE CONTRACTOR SHALL NOT REMOVE ANY TREES PRIOR TO ONE MONTH BEFORE CONSTRUCTION PER SUB-LOCATION. EXCEPTIONS TO THIS WILL BE TREE REMOVAL NECESSARY FOR OVERHEAD AND UNDERGROUND UTILITY (TELEPHONE AND ELECTRIC) WORK.

THE CONTRACTOR SHALL SAVE ALL TREES AND SHRUBS WHERE TREE PROTECTION IS NOTED ON THE PLANS. THE CONTRACTOR SHALL SAVE ALL OTHER TREES AND SHRUBS WITHIN THE LIMITS OF DISTURBANCE LINES UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

TREE PROTECTION BARRICADE SHALL BE HIGH DENSITY POLYETHYLENE FABRIC, ORANGE, FOUR FEET IN HEIGHT. INSTALL PER MANUFACTURERS SPECIFICATIONS WHERE SHOWN ON THE PLANS. TREE PROTECTION BARRICADE SHALL BE INSTALLED BEFORE ANY DEMOLITION OR CONSTRUCTION BEGINS IN THE AREA AND SHALL NOT BE REMOVED UNTIL CONSTRUCTION IS COMPLETED AND AS DIRECTED BY THE OWNER. MAINTAIN TREE PROTECTION BARRICADES THROUGHOUT CONSTRUCTION.

SIDE SLOPES:

LIMITS OF PROPOSED SLOPES ARE INDICATED IN THE PLANS, DETAILS AND STANDARD DRAWINGS. THE MAXIMUM FILL SLOPE SHALL NOT EXCEED A 3:1 (HORIZONTAL TO VERTICAL) UNLESS DESIGNATED BY THE ENGINEER. CUT SLOPES GREATER THAN 2:1 WILL BE USED ONLY AS DIRECTED BY THE ENGINEER AND AT THE SPECIFIC LOCATIONS SHOWN ON THE PLANS.

EXISTING SANITARY SEWER AND WATER LINE:

FOR WATER AND SEWER LOCATES THE CONTRACTOR SHALL CALL 811.

DONNIE NOLF (919-537-4271) OR NICK PARKER (919-537-4201) FROM OWASA SHALL BE NOTIFIED BY THE CONTRACTOR 48 HOURS PRIOR TO THE BEGINNING OF WATER AND/OR SANITARY SEWER WORK.

WHERE SANITARY SEWER AND WATER LINES ARE ENCOUNTERED, THE CONTRACTOR SHALL USE CARE IN WORKING AROUND OR NEAR EXISTING SEWER OR WATER LINE IS DAMAGED, THE CONTRACTOR SHALL IMMEDIATELY REPLACE THE SEWER OR WATER LINE AT HIS EXPENSE.

ALL WATER VALVES & BOXES, WATER METER BOXES, WATER VAULTS, SANITARY SEWER MANHOLES, AND CLEANOUTS IN THE CONSTRUCTION AREA ARE TO BE ADJUSTED TO THE FINISHED GRADE BY THE CONTRACTOR.

IF THE WATER METERS ARE TO BE RELOCATED HORIZONTALLY, THEY SHALL BE MOVED TO AN AREA BEHIND THE PROPOSED CURB. IF RELOCATED METER IS IN DRIVE OR SIDEWALK, CONTRACTOR WILL PROVIDE AND INSTALL CONCRETE METER BOXES.

WATER AND SEWER LINES ARE TO REMAIN ACTIVE AT ALL TIMES DURING CONSTRUCTION. IF THIS IS NOT POSSIBLE, THEN CONTRACTOR SHALL FOLLOW OWASA POLICIES, PROCEDURES, STANDARDS AND SPECIFICATION MANUAL.

SEWER LATERALS ARE TO BE RECONNECTED PER OWASA SPECIFICATIONS.

CONSTRUCTION EQUIPMENT WEIGHT SHALL NOT EXCEED 16,000 LBS. INSIDE OF EXISTING SANITARY SEWER EASEMENT, STOCKPILE/STAGING AREAS ARE NOT TO BE LOCATED WITHIN THE EXISTING SANITARY SEWER EASEMENT; NO EQUIPMENT OR CONSTRUCTION MATERIALS SHALL BE LEFT WITHIN THE EXISTING SANITARY SEWER EASEMENT AT THE END OF THE DAY.

A MINIMUM OF 3 FEET OF COVER SHALL BE PROVIDED FOR ALL PUBLIC SEWER MAINS.

CLEARING LIMITS:

CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK LIMITS BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE DIRECTED BY ENGINEER. ORDINARY HIGH WATER MARK ELEVATION IS NOTED ON PLANS AS TOP OF BANK ELEVATION.

CONTRACTOR SHALL INSTALL TREE PROTECTION FENCING ALONG LIMITS OF DISTURBANCE THROUGHOUT THE PROJECT AREA.

ALL VEGETATION INSIDE LIMITS OF DISTURBANCE SHALL BE CLEARED AND REMOVED UNLESS OTHERWISE NOTED.

WETLAND IMPACTS:

TEMPORARY DISCHARGE OF EXCAVATED OR FILL MATERIAL INTO WETLANDS AND WATERS OF THE UNITED STATES WILL BE FOR THE ABSOLUTE MINIMUM PERIOD OF TIME NECESSARY TO ACCOMPLISH THE WORK. TEMPORARY DISCHARGES WILL BE FULLY CONTAINED WITH APPROPRIATE EROSION CONTROL OR CONTAINMENT METHODS OR OTHERWISE SUCH FILLS WILL CONSIST OF NON-ERODIBLE MATERIALS.

THE AREA OF WATERS OF THE UNITED STATES TO BE DISTURBED WILL BE LIMITED TO THE MINIMUM NECESSARY TO CONSTRUCT THE PROJECT. THE WORK AREA AUTHORIZED BY THE PERMIT, INCLUDING PERMANENT FILLS, WILL BE MINIMIZED TO THE GREATEST EXTENT PRACTICABLE.

NO WASTE, SPOIL, SOLIDS, OR FILL OF ANY KIND SHALL OCCUR IN WETLANDS, WATERS OR RIPARIAN AREAS BEYOND THE FOOTPRINT OF THE IMPACTS AUTHORIZED IN USACE 404 PERMIT, INCLUDING INCIDENTAL IMPACTS. ALL CONSTRUCTION ACTIVITIES, INCLUDING THE DESIGN, INSTALLATION, OPERATION, AND MAINTENANCE OF SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES, SHALL BE PERFORMED SO THAT NO VIOLATIONS OF STATE WATER QUALITY STANDARDS, STATUTES, OR RULES OCCUR.

SEDIMENT AND EROSION CONTROL MEASURES SHOULD NOT BE PLACED IN WETLANDS OR WATERS OUTSIDE OF THE PERMITTED IMPACT AREAS WITHOUT PRIOR APPROVAL FROM THE DIVISION OF LAND RESOURCES. IF PLACEMENT OF SEDIMENT AND EROSION CONTROL DEVICES IN WETLANDS AND WATERS IS UNAVOIDABLE, THEN THE DESIGN AND PLACEMENT OF TEMPORARY EROSION CONTROL MEASURES SHALL NOT BE CONDUCTED IN A MANNER THAT MAY RESULT IN DIS-EQUILIBRIUM OF WETLANDS OR STREAM BEDS OR BANKS, ADJACENT TO OR UPSTREAM AND DOWN STREAM OF THE ABOVE STRUCTURES. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE REMOVED AND NATURAL GRADE RESTORED WITHIN TWO (2) MONTHS OF THE DATE THAT THE DIVISION OF LAND RESOURCES OR LOCALLY DELEGATED PROGRAM HAS RELEASED THE PROJECT.

TOTAL WETLAND IMPACTS <0.01 ACRES
TOTAL STREAM IMPACTS 0 LINEAR FEET

SURVEY NOTES:

1.
- SURVEY PERFORMED BY:
STEWART ENGINEERING INC. (N.C. FIRM LICENSE # C-1051), 919-380-8750 (OFFICE)
421 FAYETTEVILLE STREET, RALEIGH, NORTH CAROLINA 27601

GENERAL UTILITIES NOTES:

1.
- CONSTRUCTION METHODS AND MATERIALS SHALL BE IN ACCORDANCE WITH OWASA UTILITIES STANDARDS AND SPECIFICATIONS, UNLESS OTHERWISE NOTED.
2.
- ALL CONTRACTORS WORKING ON TOWN OF CHAPEL HILL PROJECTS ARE REQUIRED TO OWN A COPY OF THE DESIGN MANUAL AND SHALL KEEP A COPY ON THE JOB SITE AT ALL TIMES.
3.
- CONTRACTOR IS FULLY RESPONSIBLE FOR CONTACTING ALL APPROPRIATE PARTIES AND ASSURING THAT UTILITIES ARE LOCATED PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CALL NC ONE-CALL AT 811 FOR UTILITY LOCATING SERVICES 48 HOURS PRIOR TO COMMENCEMENT OF ANY WORK. CONTRACTOR SHALL VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES PRIOR TO CONSTRUCTION.
4.
- IF THE PROPOSED WATER AND/OR SANITARY SEWER MAIN IS INSTALLED WITHIN 12" IN ANY DIRECTION (VERTICALLY OR HORIZONTALLY) FROM GAS MAINS, THE CONTRACTOR SHALL CONTACT PSNC ENERGY AND INFORM THEM.
5.
- EXISTING SANITARY SEWER LATERAL & WATER SERVICE LOCATIONS ARE APPROXIMATE AND ARE TO BE FIELD VERIFIED PRIOR TO CONSTRUCTION. CONTRACTOR SHALL RELOCATE ANY SEWER LATERALS & WATER SERVICES AS NEEDED PRIOR TO STORM PIPE CONSTRUCTION.

UTILITY COORDINATION:

CONTRACTOR SHALL CONTACT NC ONE-CALL AT 811 FOR UTILITY LOCATIONS PRIOR TO CONSTRUCTION.

ORGANIZATIONS THAT MAY OWN FACILITIES THROUGHOUT THIS PROJECT ARE:

BELL SOUTH
ORANGE WATER AND SEWER AUTHORITY (OWASA)
DUKE ENERGY
PSNC ENERGY
CENTURYLINK
QUEST
TIME WARNER CABLE
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

THE LOCATIONS OF EXISTING UTILITIES SHOWN ON THE PLANS ARE FOR THE USE OF THE CONTRACTOR IN PROVIDING PROTECTIONS FOR THE UTILITIES DURING CONSTRUCTION OPERATION. THE TOWN, DESIGN CONSULTANT, AND/OR AGENT SHALL NOT BE HELD RESPONSIBLE FOR THE ACCURACY OR LOCATION, SIZE, DEPTH OR COMPLETENESS OF THE INFORMATION. BEFORE BEGINNING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT EACH OF THE UTILITY OWNERS IN THE AREA OF CONSTRUCTION RELATIVE TO THEIR UTILITY LOCATIONS. THE CONTRACTOR SHALL PROTECT ALL UTILITIES FROM DAMAGE CAUSED BY CONSTRUCTION OPERATIONS AND/OR RELATED WORK OF THE CONTRACTOR OR HIS AGENTS. THE CONTRACTOR SHALL HOLD THE TOWN HARMLESS FOR ANY INCONVENIENCE OR DELAY CAUSED BY THE OPERATIONS OF OTHERS PERFORMING THE ABOVE WORK. NECESSARY ADJUSTMENT OR RELOCATION OF EXISTING UTILITIES, EXCEPT FOR CONTRACT ITEMS, WILL BE PERFORMED BY THE UTILITY SERVICE PROVIDER. THE CONTRACTOR SHALL COORDINATE HIS WORK WITH OTHERS IN ORDER TO PROVIDE SATISFACTORY PROGRESS OF THE PROJECT.

PSNC ENERGY REPRESENTATIVE MUST BE PRESENT PRIOR TO AND DURING ANY CONSTRUCTION WITHIN THE AREA OF EXISTING GAS MAINS.

THE CONTRACTOR SHALL COORDINATE THE ADJUSTMENT OR RELOCATION OF GAS MAINS WITH PSNC ENERGY. PSNC MUST BE NOTIFIED TWO WEEKS IN ADVANCE OF CONSTRUCTION. ALL ADJUSTMENTS AND RELOCATIONS WILL BE PERFORMED BY PSNC.

A BELL SOUTH REPRESENTATIVE MUST BE PRESENT PRIOR TO AND DURING ANY CONSTRUCTION WITHIN THE AREA OF EXISTING BELL SOUTH CABLES.

THE CONTRACTOR SHALL SUPPORT AND PROTECT ANY EXISTING UNDERGROUND UTILITIES ENCOUNTERED DURING TRENCH EXCAVATION AND/OR PIPE INSTALLATION. CONTRACTOR TO USE EXTREME CAUTION WHEN WORKING IN AREAS NEAR POWER TRANSMISSION LINES. THE CONTRACTOR SHALL COORDINATE WORKING IN THE AREA OF THE PROGRESS ENERGY TRANSMISSION LINES WITH DUKE ENERGY.

EROSION CONTROL:

SEE SHEETS EC1 – EC9 FOR EROSION CONTROL NOTES, PLANS, AND DETAILS.

TOTAL DISTURBED AREA: 5.99 ACRES

MINIMUM EROSION CONTROL MEASURES SHALL BE CONSTRUCTED AND PERMITTED REQUIREMENTS (WHERE NECESSARY) SHALL BE IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, NATURAL RESOURCES SOIL CONSERVATION SERVICE.

CONTRACTOR SHALL NOT DISTURB ANY AREAS OUTSIDE OF THE DESIGNATED EASEMENT AREAS OR LIMITS OF DISTURBANCE.

STORM DRAINAGE PIPE & GRADING NOTES:

PIPE INVERT ELEVATIONS HAVE PRECEDENCE OVER SLOPES. HOWEVER, SLOPES SHALL NOT BE DECREASED FROM THOSE SHOWN ON PLAN WITHOUT PRIOR APPROVAL FROM THE ENGINEER.

ALL STORM DRAINAGE PIPE TO BE CLASS 3 REINFORCED CONCRETE UNLESS OTHERWISE NOTED. PIPE LENGTHS INDICATED ON PLAN ARE APPROXIMATE ONLY.

NO SOIL DISTURBANCE OR COMPACTION, CONSTRUCTION MATERIALS, TRAFFIC, TRENCHING, OR OTHER LAND DISTURBING ACTIVITY SHALL BE PERMITTED BEYOND LIMITS OF GRADING WITHOUT PRIOR APPROVAL FROM THE OWNER AND TOWN ENGINEERING DEPT.

THE CONTRACTOR SHALL IMMEDIATELY REPORT TO THE TOWN OF CHAPEL HILL ANY DISCREPANCIES FOUND BETWEEN ACTUAL CONDITION AND CONSTRUCTION DOCUMENTS AND SHALL WAIT FOR INSTRUCTION FROM THE TOWN INSPECTOR PRIOR TO PROCEEDING.

MANHOLE RIM ELEVATIONS SHOWN ON THE PLANS ARE APPROXIMATE. NEW MANHOLE RING AND COVERS SHALL BE INSTALLED FLUSH WITH THE SURROUNDING GRADE SO AS TO AVOID DAMAGE TO MOTOR VEHICLES DURING CONSTRUCTION. THEY ARE TO BE ADJUSTED TO MATCH THE SURROUNDING PROPOSED GRADE PRIOR TO PLACING THE NEW SURFACE COURSE.

BOTH AERIAL AND GROUND-CONTROLLED EXISTING CONTOURS ARE SHOWN ON THE PLAN AT 1' INTERVALS. PROPOSED CONTOURS SHOWN ARE AT 1' INTERVALS.

THE CONTRACTOR SHALL BACKFILL OPEN EXCAVATIONS AT THE END OF EACH WORKING DAY. AT DRAINAGE STRUCTURE LOCATIONS, THE EXCAVATION SHALL BE COVERED WITH METAL PLATES WHEN PRACTICAL OR COMPLETELY ENCLOSED WITH SAFETY NETTING.

CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE TO CURRENT OCCUPATIONAL SAFETY HEALTH ADMINISTRATION REGULATIONS.

ALL PROPOSED GRADES ARE FINISH GRADES.

WHERE STRUCTURES THAT ARE BEING REMOVED AND REPLACED WITH NEW STRUCTURES, THE REMOVAL WILL BE INCIDENTAL TO THE INSTALLATION OF THE NEW STRUCTURE.

PIPES THAT ARE EXISTING AND ARE TO CONNECT TO A NEW STRUCTURE WILL BE INCIDENTAL TO THE INSTALLATION OF THE NEW STRUCTURE.

FOR AREAS OUTSIDE OF THE ROADWAY THAT ARE DISTURBED DURING CONSTRUCTION USE SOD TO MATCH EXISTING GRASS TYPE FOR PERMANENT GROUND COVER AFTER CONSTRUCTION.

STOCKPILING NOTE:

ANY ONSITE STOCKPILING IS TO BE COORDINATED AND APPROVED BY A TOWN INSPECTOR. THE STOCKPILE WILL BE PROVIDED WITH GROUND COVER WITHIN 15 WORKING DAYS UPON COMPLETION OF ANY PHASE OF WORK.

ABBREVIATIONS

#.....	NUMBER	MONO.....	MONOLITHIC
ABAND.....	ABANDONED	mph.....	MILES PER HOUR
A/C.....	AIR CONDITIONER	MTL.....	METAL
A.D.....	ALGEBRAIC DIFFERENCE	N.....	NORTH/NORTHING
ASPH.....	ASPHALT	NAD 83.....	NORTH AMERICAN DATUM 1983
APPROX.....	APPROXIMATELY	NTS.....	NOT TO SCALE
BB.....	BOTTOM OF BANK	O/H.....	OVER HEAD
B/C.....	BACK OF CURB	OC.....	ON CENTER
BIT.....	BITUMINOUS	OHWM.....	ORDINARY HIGH WATER MARK
BM.....	BENCH MARK	ORN.....	ORNAMENTAL
BOC.....	BOTTOM OF CHANNEL	OWASA.....	ORANGE WATER AND SEWER AUTHORITY
BRG.....	BEARING	PAVT.....	PAVEMENT
CB.....	CATCH BASIN	PB.....	PLAT BOOK
C&G.....	CURB AND GUTTER	PC.....	PRESSURE CLASS
CE.....	CONSERVATION EASEMENT	PERM.....	PERMANENT
CL.....	CLEARANCE	PG.....	PAGE
C/L.....	CENTER LINE	PI.....	POINT OF INTERSECTION
CMP.....	CORRUGATED METAL PIPE	PK.....	PK NAIL SET
CMPA.....	CORRUGATED METAL PIPE ARCH	PP.....	POWER POLE
C.O.....	CLEAN OUT	PROP.....	PROPOSED
CONC.....	CONCRETE	PT.....	POINT OF TANGENCY
CONST.....	CONSTRUCTION	PVI.....	POINT OF VERTICAL INTERSECTION
CPP.....	CORRUGATED PLASTIC PIPE	R.....	RADIUS
D.TREE.....	DECIDUOUS TREE (HARDWOOD)	RCBC.....	REINFORCED CONCRETE BOX CULVERT
DCB.....	DOUBLE CATCH BASIN	RCP.....	REINFORCED CONCRETE PIPE
DB.....	DEED BOOK	RD.....	ROAD
DBL.....	DOUBLE	RELOC.....	RELOCATE
DI.....	DROP INLET	REQ'D.....	REQUIRED
DIA.....	DIAMETER	RT.....	RIGHT
DW.....	DRIVEWAY	R/W \ ROW.....	RIGHT OF WAY
DIM.....	DIMENSION	S.....	SOUTH
E.....	EAST/EASTING	SAN.....	SANITARY
EA.....	EACH	SD.....	STORM DRAIN
ELEV.....	ELEVATION	SDE.....	STORM DRAINAGE EASEMENT
ELL. RCP.....	ELLIPTICAL REINFORCED CONCRETE PIPE	SF.....	SQUARE FOOT
EOP.....	EDGE OF PAVEMENT	S/R FENCE.....	SPLIT RAIL FENCE
ESMT.....	EASEMENT	SS.....	SANITARY SEWER
ETCB.....	ELONGATED THROAT CATCH BASIN	STA.....	STATION
ERCP.....	ELLIPTICAL REINFORCED CONCRETE PIPE	STD.....	STANDARD
EXIST.....	EXISTING	SUE.....	SEWER UTILITY EASEMENT
F/C.....	FACE OF CURB	SW.....	SIDEWALK
FES.....	FLARED END SECTION	SY.....	SQUARE YARD
FFE.....	FINISHED FLOOR ELEVATION	TAN.....	TANGENT
FI.....	FIBER HYDRANT	TB.....	TOP OF BANK
F/L.....	FLOW LINE	TBM.....	TEMPORARY BENCHMARK
FOC.....	FIBER OPTIC CABLE	TCE.....	TEMP CONSTRUCTION EASEMENT
GPS.....	GLOBAL POSITIONING SYSTEM	TEMP.....	TEMPORARY
GV.....	GAS VALVE	TP.....	TRAVERSE POINT
HORIZ.....	HORIZONTAL	T/W.....	TEST WIRE
INT.....	INTERSECTION	TYP.....	TYPICAL
INV.....	INVERT	U/G.....	UNDER GROUND
IP.....	IRON PIN SET	VC.....	VERTICAL CURVE
JB.....	JUNCTION BOX	VERT.....	VERTICAL
L.....	LENGTH	VCP.....	VITRIFIED CLAY PIPE
LF.....	LINEAR FOOTAGE	W.....	WITH
LOD.....	LIMITS OF DISTURBANCE	W.....	WEST
LT.....	LEFT	WB.....	BOTTOM WIDTH
IB.....	ROUND	WBKF.....	BANKFULL WIDTH
LP.....	LIGHT POLE	WM.....	WATER METER
LN.....	LANE	W VAULT.....	WATER VAULT
MAX.....	MAXIMUM	WV.....	WATER VALVE
MH.....	MANHOLE	YI.....	YARD INLET
MIN.....	MINIMUM	60p.....	SIXTY PENNY NAIL SET
		".....	INCH
		'.....	FOOT

WK

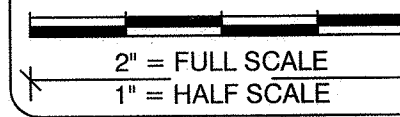
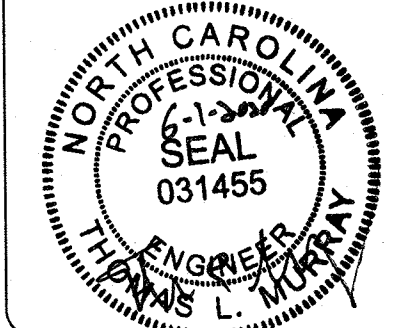
DICKSON

community infrastructure consultants

Transportation + Water Resources
Urban Development + Geomatics

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www.wkdickson.com

NO. LICENSE NO. F-0374



PLOT DATE: 5/28/2020	
1	5-28-20 REMOVE LAST SENTENCE FROM NOTES
MARK	DATE
DESCRIPTION	
REVISIONS:	
RELEASED FOR CONSTRUCTION	

PROJECT NAME:

ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE:

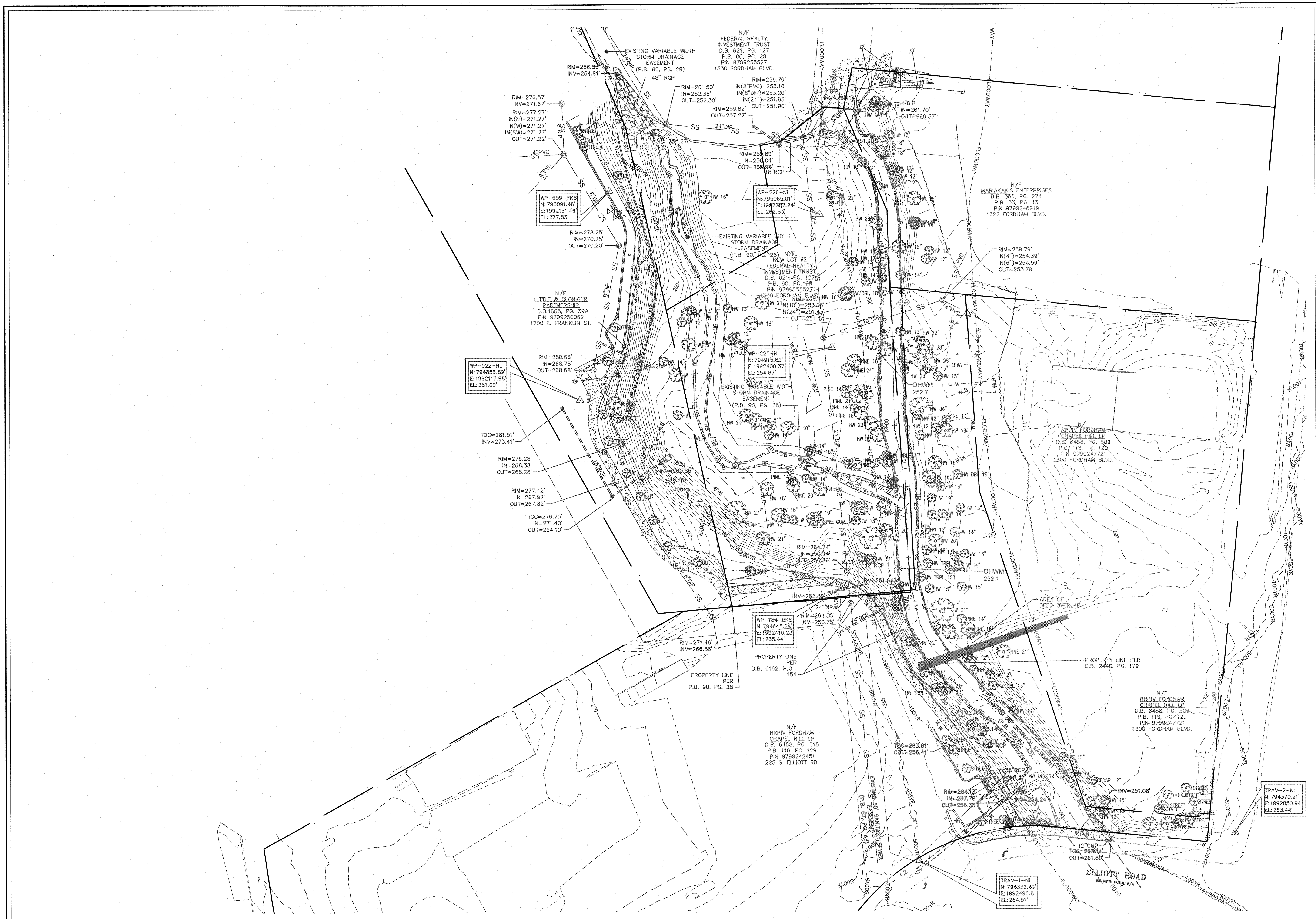
GENERAL NOTES

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019

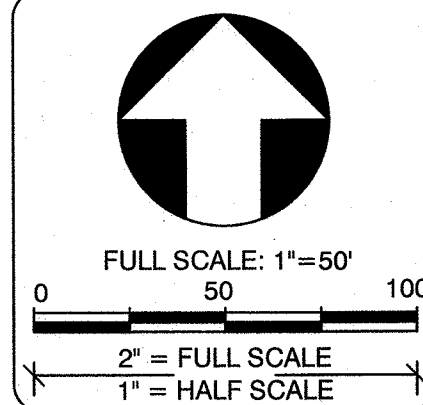
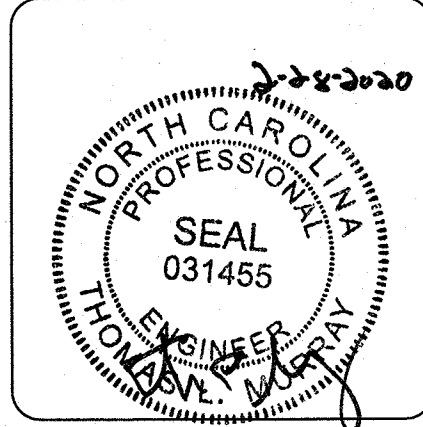
DRAWING NUMBER:

2

PROJ. NO.:
20170225.00.RA



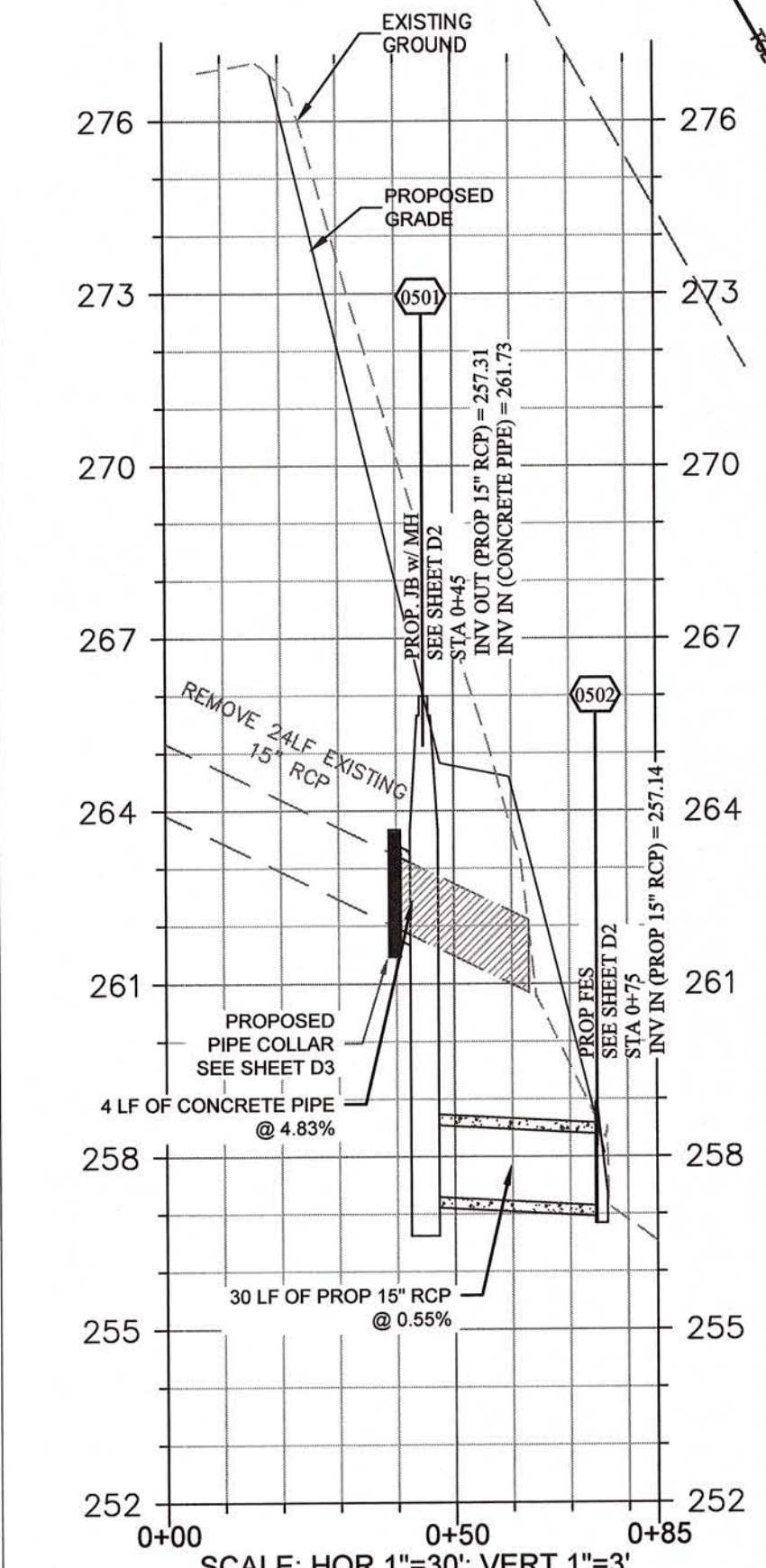
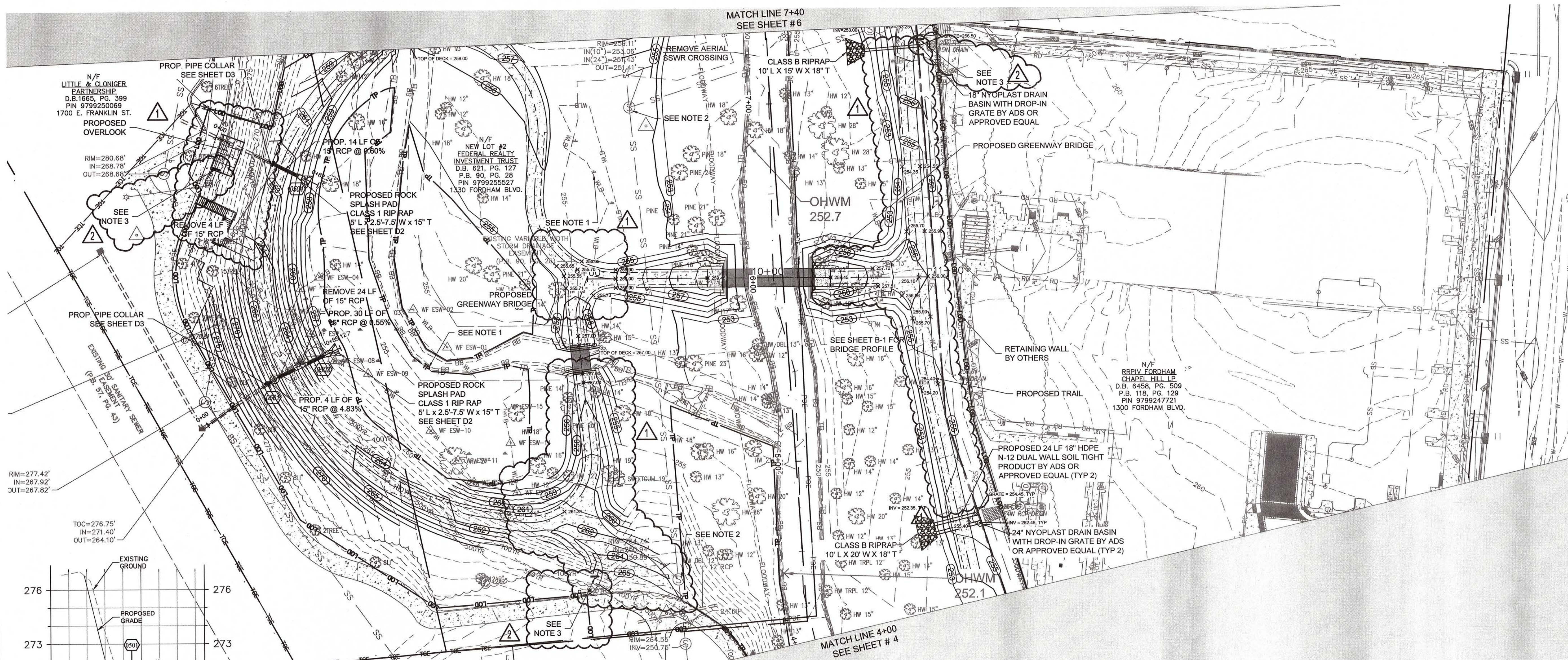
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NC LICENSE NO. F-0374



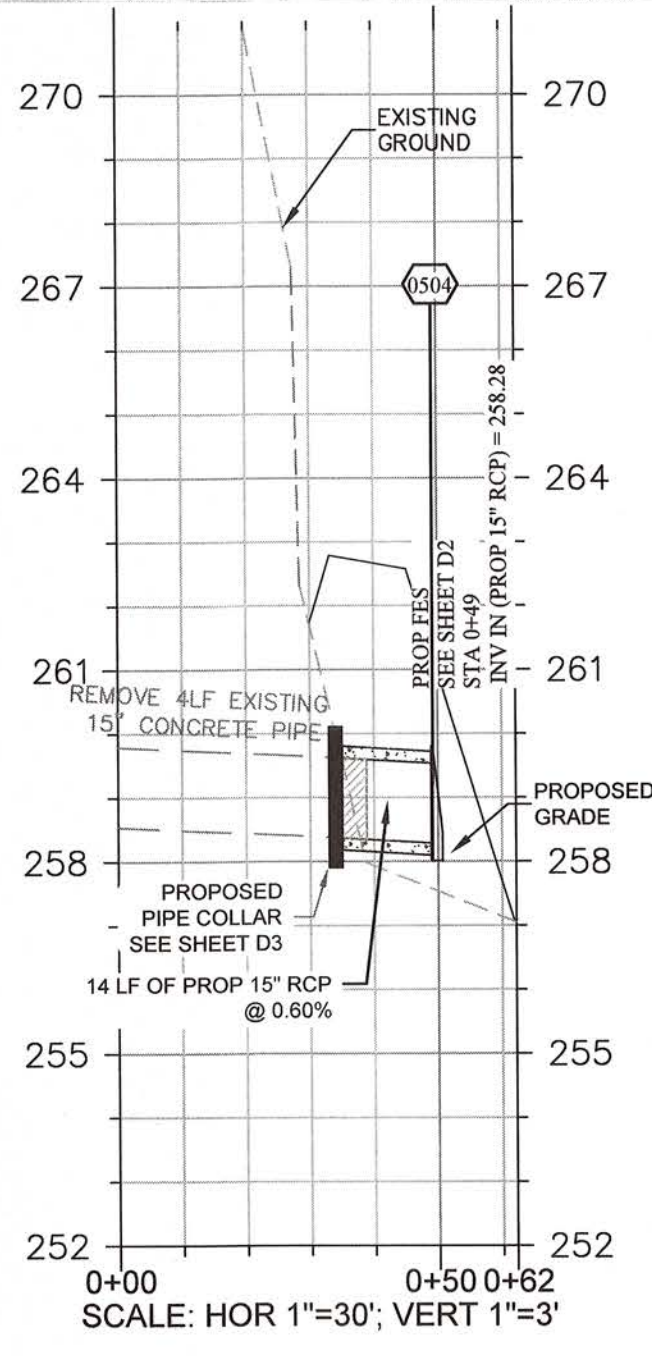
REVISIONS:		RELEASED FOR CONSTRUCTION	PLOT DATE:
MARK	DATE	DESCRIPTION	2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: EXISTING CONDITIONS

PROJ. DATE: JUNE 2019
Q.C. DATE: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER: 3
PROJ. NO.: 20170225.00.RA



0501 TO 0502



0503 TO 0504

- NOTES:
1. CONTRACTOR TO INSTALL TREE PROTECTION AROUND WETLAND BOUNDARY OUTSIDE OF GRADING LIMITS. CONTRACTOR TO MINIMIZE IMPACTS TO THE WETLANDS.
 2. CONTRACTOR TO PROTECT SANITARY MANHOLE.
 3. ADDRESS SIGN LOCATIONS FOR 465 ELLIOTT ROAD SHALL BE INSTALLED BY OTHERS. SIGNS SHALL BE ERECTED ON A POLE OR OTHERWISE AND SHALL INCLUDE REFLECTIVE NUMBERS 18 INCHES IN HEIGHT ON A CONTRASTING BACKGROUND.

LEGEND

PROPOSED CONTOUR MAJOR	50
PROPOSED CONTOUR MINOR	
TEMPORARY CONSTRUCTION EASEMENT	TCE
PERMANENT DRAINAGE EASEMENT	PDE
PERMANENT ACCESS EASEMENT	PAE
LIMIT OF DISTURBANCE	LOD
TREE PROTECTION AREA	TP
BOHLER BMP AREA	SEE SHEET C-300

CONSTRUCTION AT STREAM BANK NOTE:

CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE (OHWM) DIRECTED BY ENGINEER.

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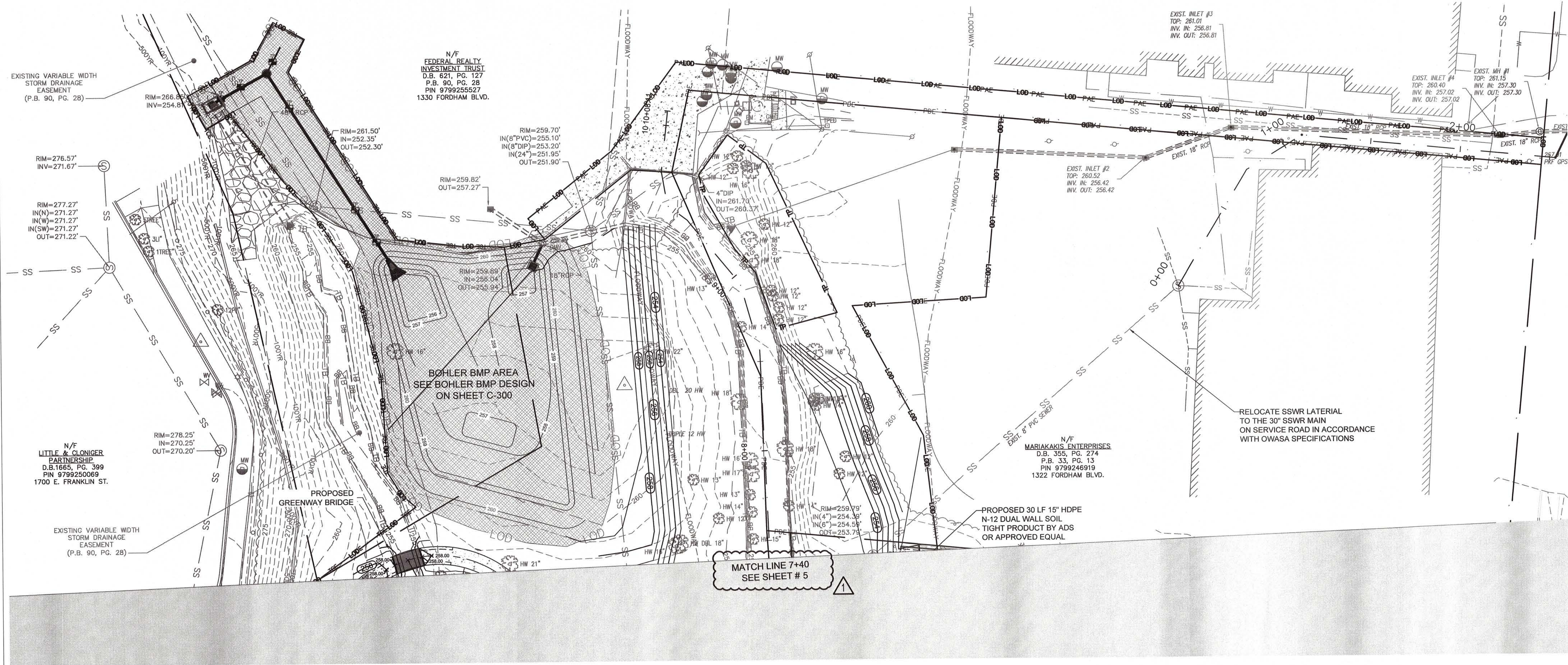
NORTH CAROLINA
PROFESSIONAL
SEAL
031455
ENGINEER
W. K. DICKSON

FULL SCALE: 1"=30'
0 30 60
2" = FULL SCALE
1" = HALF SCALE

REVISIONS:	DATE	DESCRIPTION	RELEASED FOR:	RELEASED FOR CONSTRUCTION	PLOT DATE:
2	6-18-20	ADDED ADDRESS SIGNS FOR 465 ELLIOTT ROAD			9/23/2020
1	5-28-20	REVISED LOD AROUND OUTLOOK			
1	5-28-20	REVISED GRADING, ADDED 2FT WIDE SHOULDER TO TRAIL			

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: PLAN

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
5
PROJ. NO.: 20170225.00.RA



LEGEND

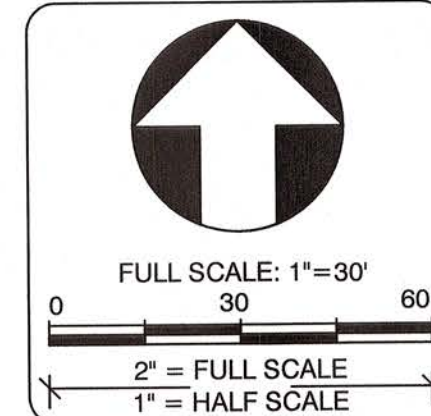
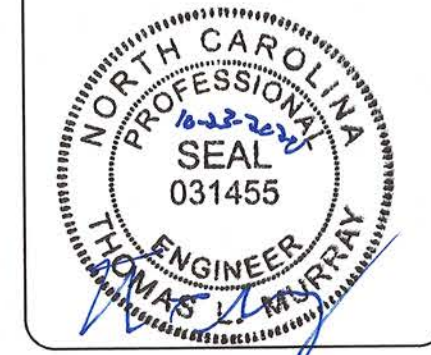
PROPOSED CONTOUR MAJOR	50
PROPOSED CONTOUR MINOR	
TEMPORARY CONSTRUCTION EASEMENT	TCE
PERMANENT DRAINAGE EASEMENT	PDE
PERMANENT ACCESS EASEMENT	PAE
LIMIT OF DISTURBANCE	LOD
TREE PROTECTION AREA	TP
BOHLER BMP AREA SEE SHEET C-300	

CONSTRUCTION AT STREAM BANK NOTE:

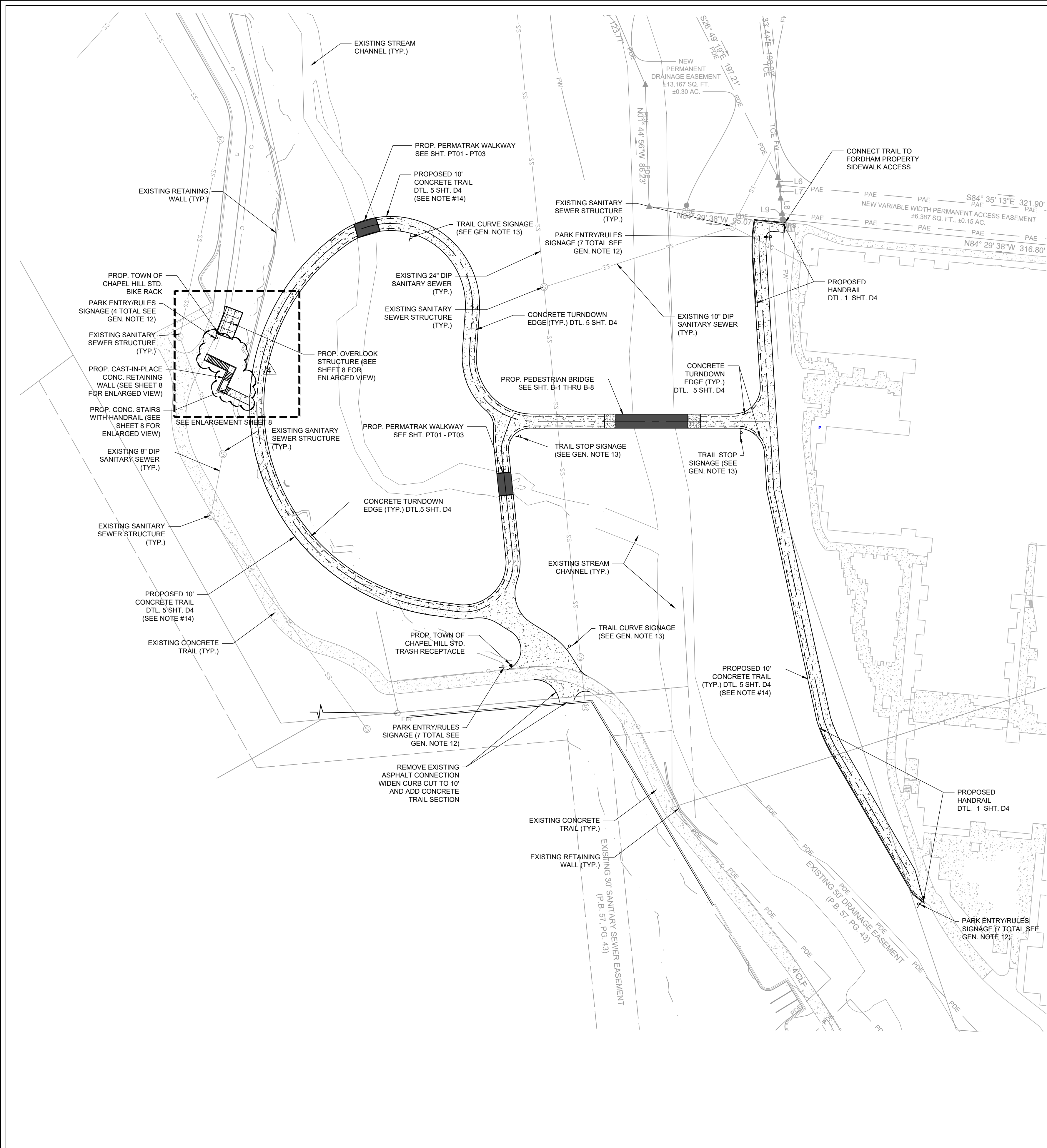
CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE (OHWM) DIRECTED BY ENGINEER.



STREAM CHANNEL



PROJECT NAME:	ELLIOTT STORAGE DESIGN TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:	PLAN
PROJ. DATE:	JUNE 2019
Q.C. DATE:	MAY 2019
DRAWING NUMBER:	6
PROJ. NO.:	20170225.00.RA



SITE LEGEND

- PROPOSED CONCRETE SIDEWALK
- PROPOSED SIGN
- PROPOSED UNIT RETAINING WALL
- PROPOSED BIKE RACK
- PROPOSED TRASH RECEPTACLE

GENERAL NOTES:

- ALL MATERIALS AND METHODS OF CONSTRUCTION SHALL BE IN COMPLIANCE WITH NCDEQ, AND ALL OTHER APPLICABLE LOCAL, STATE AND FEDERAL GUIDELINES. ALL UTILITY CONSTRUCTION SHALL COMPLY WITH APPLICABLE LOCAL JURISDICTIONAL STANDARDS AND SPECIFICATIONS.
- EXISTING SURVEY INFORMATION INCLUDING TOPOGRAPHIC INFORMATION PROVIDED BY STEWART, UNLESS OTHERWISE NOTED, THE CONTRACTOR SHALL BE RESPONSIBLE FOR FIELD VERIFYING EXISTING CONDITIONS PRIOR TO COMMENCEMENT OF ANY WORK. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING, COORDINATING AND PAYMENT FOR ALL NECESSARY LOCATING SERVICES INCLUDING INDEPENDENT LOCATING SERVICES. THE CONTRACTOR SHALL PROVIDE NOTICE OF EXCAVATION TO NOTIFICATION CENTER AND FACILITY OWNERS (PER NC STATUTE) NO LESS THAN 3 BUSINESS DAYS AND NO MORE THAN 12 WORKING DAYS PRIOR TO BEGINNING DEMOLITION, EXCAVATION OR ANY OTHER FORM OF CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS. NO EXCAVATION OR DEMOLITION SHALL BE STARTED WITHOUT ALL UTILITIES BEING LOCATED. SEE CIVIL DRAWINGS FOR CLEARING AND DEMOLITION ITEMS.
- ALL SUB-SURFACE UTILITIES IDENTIFIED ON THE CONSTRUCTION DOCUMENTS ARE SHOWN IN THEIR APPROXIMATE LOCATION BASED ON SURVEY INFORMATION GATHERED FROM FIELD INSPECTION AND/OR ANY OTHER APPLICABLE RECORD DRAWINGS WHICH MAY BE AVAILABLE. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE OWNER'S REPRESENTATIVE OF ANY DISCREPANCIES OR CONFLICTS.
- EXISTING IMPROVEMENTS DAMAGED OR DESTROYED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE RESTORED OR REPLACED TO ORIGINAL CONDITION AND TO THE SATISFACTION OF THE OWNER'S REPRESENTATIVE AT THE CONTRACTOR'S EXPENSE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AND COORDINATING PERMITS, INSPECTIONS, CERTIFICATIONS AND OTHER REQUIREMENTS WHICH MUST BE MET UNDER THIS CONTRACT.
- THE CONTRACTOR SHALL MAINTAIN "AS-BUILT" DRAWINGS TO RECORD THE ACTUAL LOCATION OF ALL PIPING PRIOR TO CONCEALMENT, VALVE AND MANHOLE CHANGES, AND HARDSCAPE OR LANDSCAPE CHANGES. DRAWINGS SHALL BE PROVIDED TO THE OWNER'S REPRESENTATIVE AT REGULAR INTERVALS, OR AS REQUESTED THROUGHOUT THE PROJECT FOR RECORD KEEPING.
- IF DEPARTURES FROM THE PROJECT DRAWINGS OR SPECIFICATIONS ARE DEEMED NECESSARY BY THE CONTRACTOR, DETAILS OF SUCH DEPARTURES AND REASONS THERE OF SHALL BE SUBMITTED TO THE OWNER'S REPRESENTATIVE FOR REVIEW. NO DEPARTURES FROM THE CONTRACT DOCUMENTS SHALL BE MADE WITHOUT THE EXPRESS WRITTEN PERMISSION OF THE OWNER'S REPRESENTATIVE.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE RELOCATION OF ANY EXISTING UTILITY LINES REQUIRED TO COMPLETE ANY PORTION OF CONSTRUCTION. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE COORDINATION AND COSTS OF THE RELOCATION AND ASSOCIATED WORK.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR KEEPING THE PREMISES FREE FROM ACCUMULATIONS OF WASTE MATERIALS AND RUBBISH CAUSED BY THE CONTRACTOR. ALL DEBRIS SHALL BE REMOVED FROM THE PROJECT SITE ON A DAILY BASIS.
- THE ENGINEER AND/OR OWNER DISCLAIM ANY ROLE IN THE CONSTRUCTION MEANS AND/OR METHODS ASSOCIATED WITH THE PROJECT AS SET FORTH IN THESE PLANS.
- PARK ENTRY/FLOOD WARNING/PARK RULE SIGNAGE SHALL BE SOURCED FROM BLACK SHEEP SIGNS (844 WOODGRAPHICS) PER TOWN OF CHAPEL HILL REQUIREMENTS. SIGNAGE LOCATIONS TO BE STAKED IN FIELD AND COORDINATED WITH OWNER PRIOR TO FINAL INSTALLATION.
- TRAIL REGULATORY SIGNAGE TO MATCH TOWN OF CHAPEL HILL GREENWAY STANDARD.
- TRAIL CONNECTION RADII SHALL HAVE A MINIMUM DIMENSION OF 15' FOR MAINTENANCE VEHICLE ACCESS.

SITE NOTES:

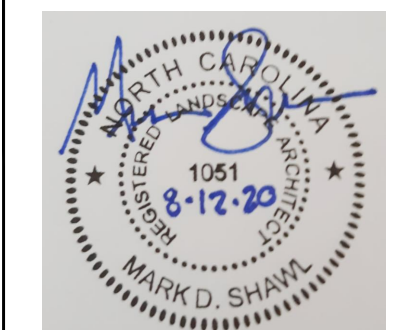
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF THE CONSTRUCTION LAYDOWN AREA, PERIMETER FENCE, AND ASSOCIATED GATES. THE CONTRACTOR SHALL ALSO BE RESPONSIBLE FOR THE REMOVAL OF THE CONSTRUCTION LAYDOWN AREA PERIMETER FENCE AND ASSOCIATED GATES AT THE COMPLETION OF THE PROJECT.
- THE CONTRACTOR SHALL REFERENCE THE DESIGN PLANS FOR DIMENSIONS, JOINT LOCATIONS, AND INLAY SPECIFICATIONS NEAR BUILDINGS AND IN COURTYARDS. CONTRACTOR SHALL PROVIDE JOINTS IN WALKWAYS AND HARDSCAPE PER DETAILS OR AS INDICATED ON LANDSCAPE/HARDSCAPE PLAN SHEETS.
- ALL DIMENSIONS ARE IN DECIMAL FEET TO OUTSIDE FACE OF BUILDINGS, TO CENTERLINES, AND/OR FACE OF CURB UNLESS OTHERWISE NOTED.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND COORDINATES AND REPORT ANY DISCREPANCIES TO THE OWNER'S REPRESENTATIVE PRIOR TO ANY CONSTRUCTION.
- ALL WRITTEN DIMENSIONS SHALL PREVAIL. DO NOT SCALE FROM DRAWINGS.
- ALL UTILITIES WITH SURFACE ACCESS SHALL BE LOCATED WITHIN THE PAVING PATTERN AND SHALL BE COORDINATED WITH LANDSCAPE ARCHITECT PRIOR TO CONSTRUCTION.
- ALL ANGLES ARE 90 DEGREES UNLESS OTHERWISE NOTED.
- ALIGN ALL JOINTS, CORNERS, AND EDGES AS SHOWN
- CONTRACTOR SHALL REFER TO AND COORDINATE WITH STRUCTURAL, CIVIL AND BRIDGE DRAWINGS AT ALL TIMES PRIOR TO AND DURING CONSTRUCTION.
- WHERE NEW SIDEWALK ADJOINS EXISTING WALK, PROVIDE EXPANSION JOINT BY DRILLING INTO THE FACE OF THE EXISTING WALK FOR PLACEMENT OF DOWELS. THE NEW SIDEWALKS INTO NEAREST EXISTING PAVEMENT JOINT; MATCH WIDTH OF EXISTING WALKWAY WHERE APPLICABLE.
- MAXIMUM RUNNING SLOPE FOR WALKING SURFACES CANNOT BE GREATER THAN 1:20 AND CROSS SLOPES CANNOT BE GREATER THAN 1:48. HANDICAP SPACES SURFACE SLOPES SHALL NOT EXCEED 1:48 IN ALL DIRECTIONS.
- THE SITE SHALL BE FULLY STABILIZED (80% COVERAGE) PRIOR TO ISSUANCE OF A BUILDING CERTIFICATE OF OCCUPANCY OR PROJECT APPROVAL.
- HANDICAP RAMPS SHALL BE INSTALLED PER LATEST EDITION OF THE NC BUILDING CODE AND ANSI 117.11 WITH DETECTABLE WARNING DOMES WITH A COLOR CONTRAST OF 70% MINIMUM. SEE DETAILS AND GRADING SPOT ELEVATIONS; IF THE EXISTING CONDITIONS PRECLUDE THE ABILITY TO PROVIDE A MAXIMUM SLOPE 1:12 FOR 6-FEET OR A MAXIMUM CROSS SLOPE OF 1:48 AND A 36" MINIMUM LANDING, THE CONTRACTOR SHALL NOTIFY ENGINEER OR OWNER REPRESENTATIVE PRIOR TO INSTALLATION.

OR

HANDICAP RAMPS SHALL BE INSTALLED PER THE PLANS AND SPECIFICATIONS AND THE NC BUILDING CODE. A MAXIMUM SLOPE OF 1/12 FOR 6-FEET AND A MAXIMUM CROSS SLOPE OF 1:48 SHALL BE PROVIDED. IF EXISTING CONDITIONS PRECLUDE THIS REQUIREMENT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER OR OWNER'S REPRESENTATIVE PRIOR TO INSTALLATION.

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(f) 919.782.9672
www.wkdickson.com
NC LICENSE NO. F-0374

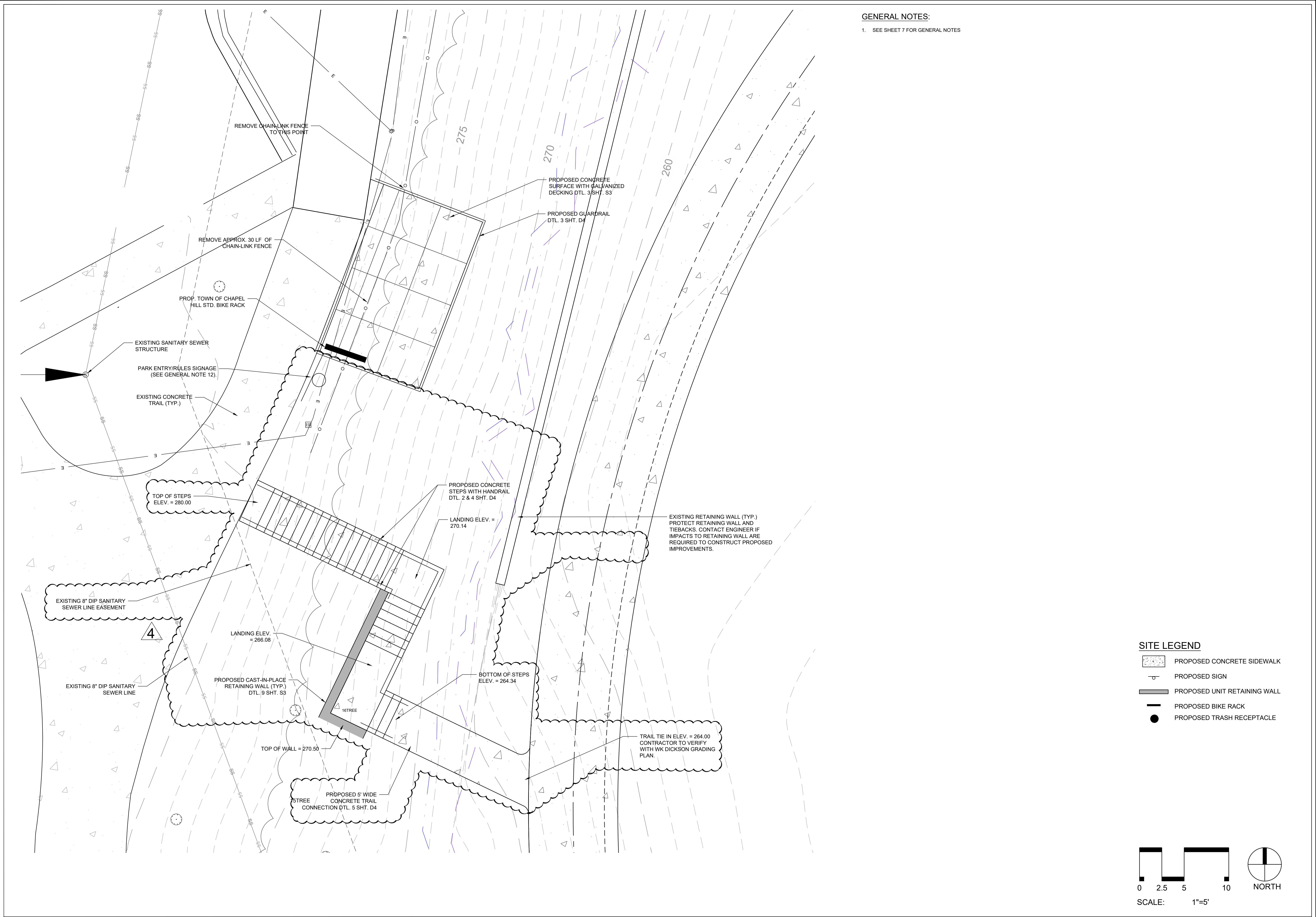
STEWART
421 FAYETTEVILLE ST. STE. 400
RALEIGH, NC 27601
F 919.383.8750
FIRM LICENSE # C-1101
www.stewartinc.com
PROJECT #



ADJOINING PROPERTY INFO				REVISIONS:		RELEASED FOR:	
1	10.9.19	ADJOINING PROPERTY INFO	REVISIONS PER TOWN OF CHAPEL HILL	MARK	DATE	DESCRIPTION	FOR CONSTRUCTION
2	2.11.20	REVISIONS PER TOWN OF CHAPEL HILL	ADDENDUM #1				
3	2.20.20	ADDENDUM #1	FIELD REVISION #1				
4	8.12.20	FIELD REVISION #1					
				PLOT DATE:		02/12/2020	

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: PARK PLAN
DRAWING NUMBER: 7

PROJ. DATE: SUMMER 2019
O.C.: MDS
O.C. DATE: JUNE 3, 2019
PROJ. NO.: 20170225.00.RA



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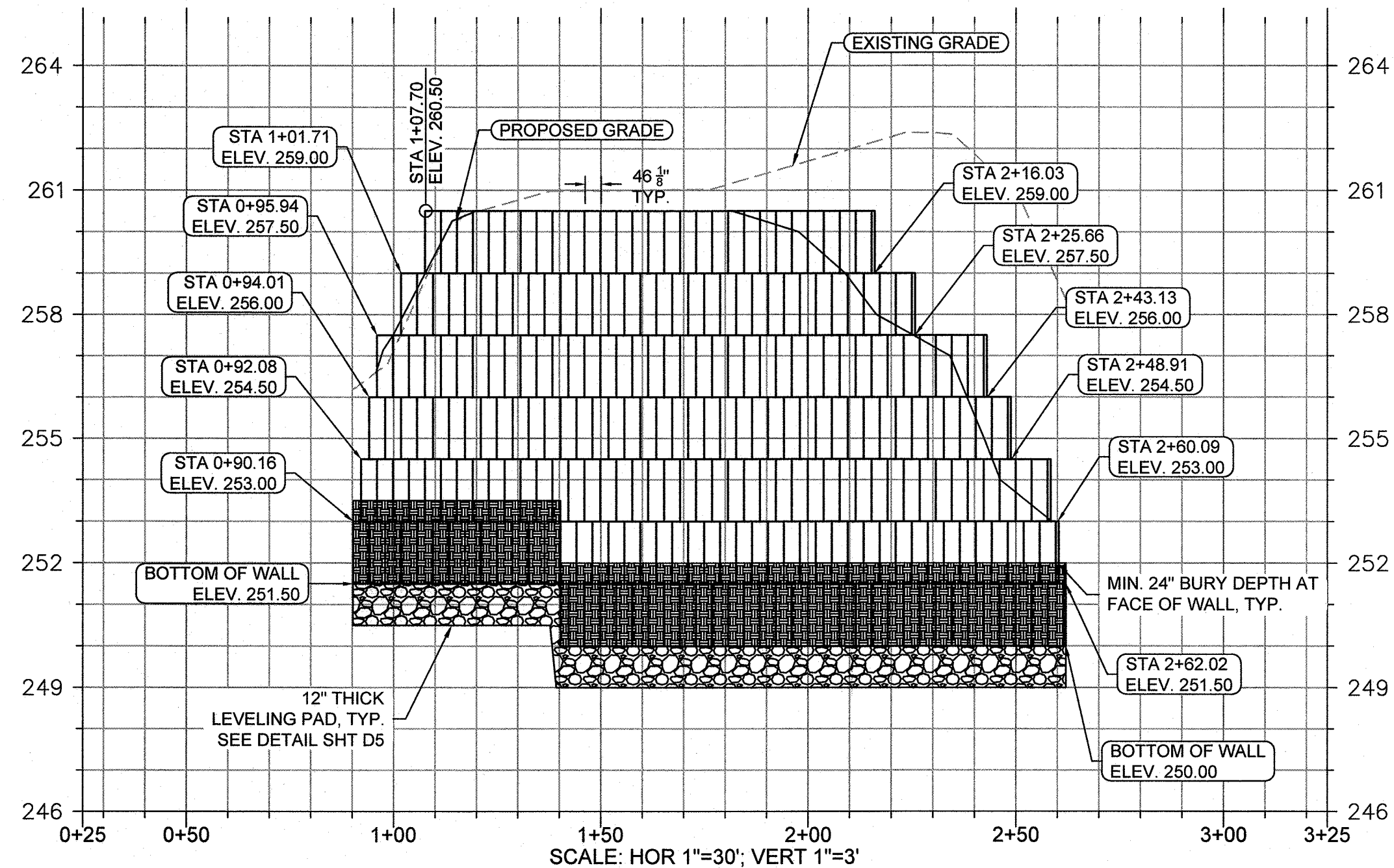
STEWART
421 FAYETTEVILLE ST., STE. 400
DURHAM, NC 27701
FIRM LICENSE # C-1051
WWW.STEWART-NC.COM
PROJECT #



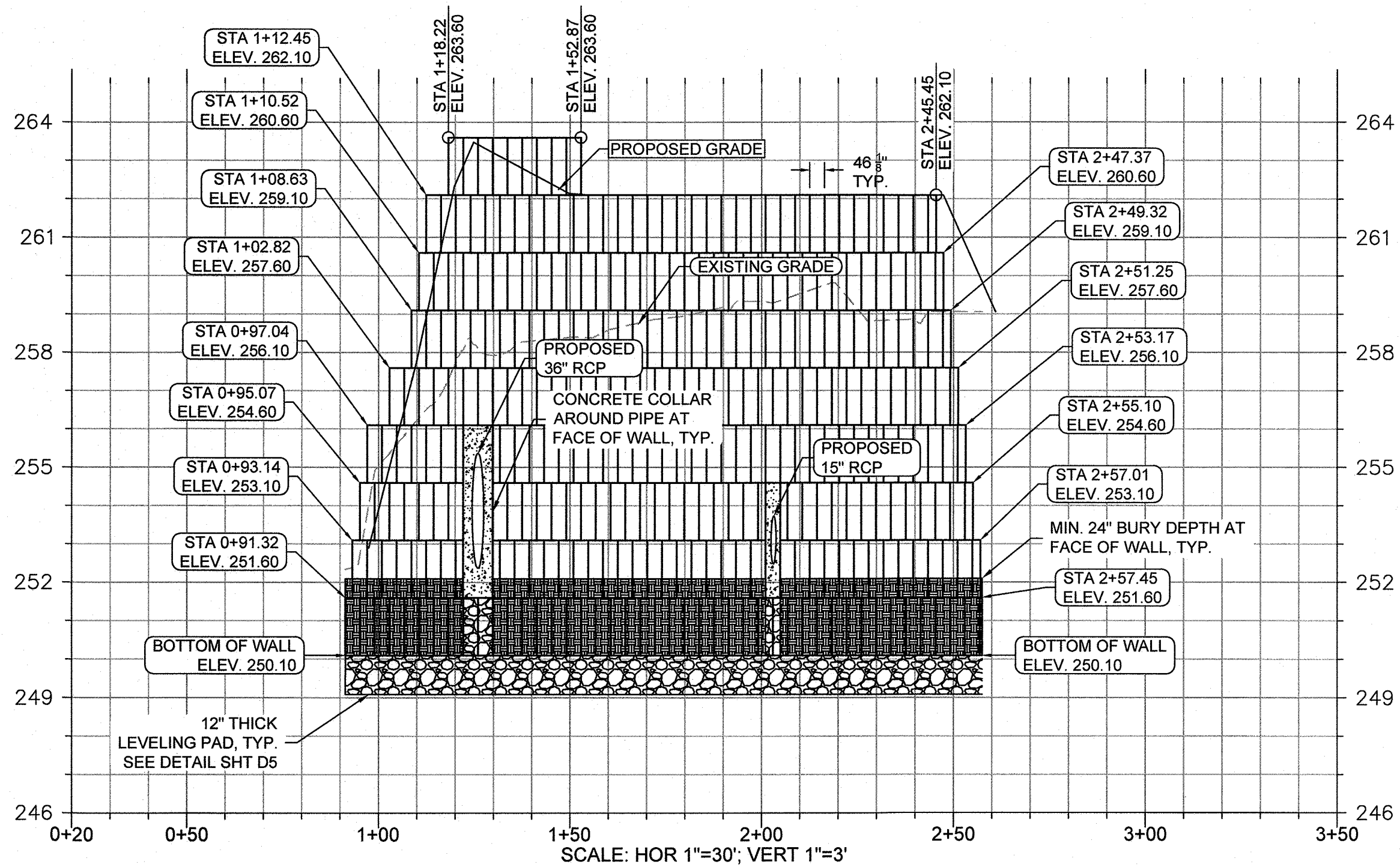
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2	2.11.20	ADDENDUM #1	
3	2.20.20	FIELD REVISION #1	
4	8.12.20		
MARK	DATE	DESCRIPTION	
REVISIONS:			
RELEASED FOR:			
FOR CONSTRUCTION			

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: PARK PLAN

PROJ. DATE: SUMMER 2019
Q.C.: MDS
Q.C. DATE: JUNE 3, 2019
DRAWING NUMBER:
8
PROJ. NO.: 20170225.00.RA



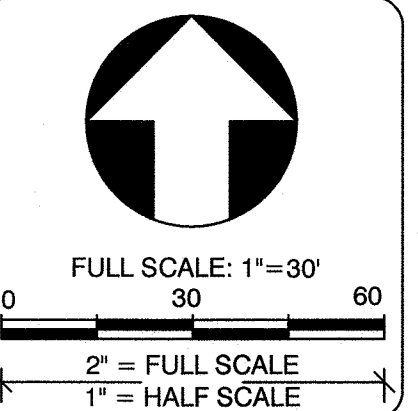
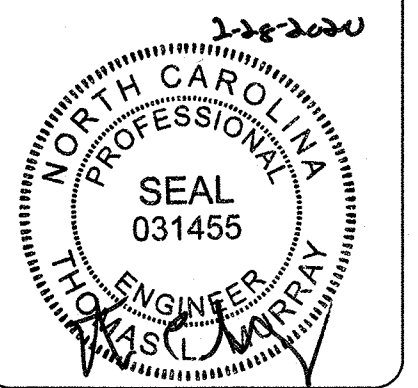
LEFT RETAINING WALL



RIGHT RETAINING WALL

CONSTRUCTION NOTES:

1. REFER TO SHEET 4 FOR RETAINING WALL ALIGNMENTS.
2. ALL BLOCKS SHALL BE 60" BOTTOM AND MIDDLE UNITS, WITH THE EXCEPTION BEING 28" TOP BLOCK UNITS AS RECOMMENDED BY THE MANUFACTURER. THE STANDARD BLOCK LENGTH IS 46 3/8". REFER TO SHEET D6 FOR AVAILABLE BLOCK SIZES.
3. INSTALL REDI-ROCK BLOCK HALF UNITS AROUND PIPE OPENING LOCATIONS TO ACCOMMODATE THE INSTALLATION OF PIPE COLLARS AT THE WALL FACE.
4. PROVIDE OUTLETS FOR WALL DRAINS AT 50' O.C. AND AT BOTH ENDS OF THE RETAINING WALL.
5. INSTALL ROCK SPLASH PAD AT PIPE OUTLETS AND LOCATIONS WHERE WALL DRAINS DAYLIGHT UNDERNEATH THE WALL. REFER TO DETAIL ON SHEET D2.
6. REMOVAL AND REPLACEMENT OF THE HANDRAIL ALONG SIDEWALK IS INCIDENTAL TO SIDEWALK REMOVAL AND REPLACEMENT. NO ADDITIONAL PAYMENT SHALL BE MADE FOR AREAS WHERE HANDRAIL NEEDS TO BE REPLACED.
7. THE MAXIMUM GRADE ABOVE RETAINING WALLS IS 12.5%.
8. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR THE RETAINING WALLS DESIGNED BY A STRUCTURAL ENGINEER LICENSED IN THE STATE OF NORTH CAROLINA.
9. RETAINING WALL AND ELLIOTT BASELINE STATIONS ARE DIFFERENT.



MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE:
					2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

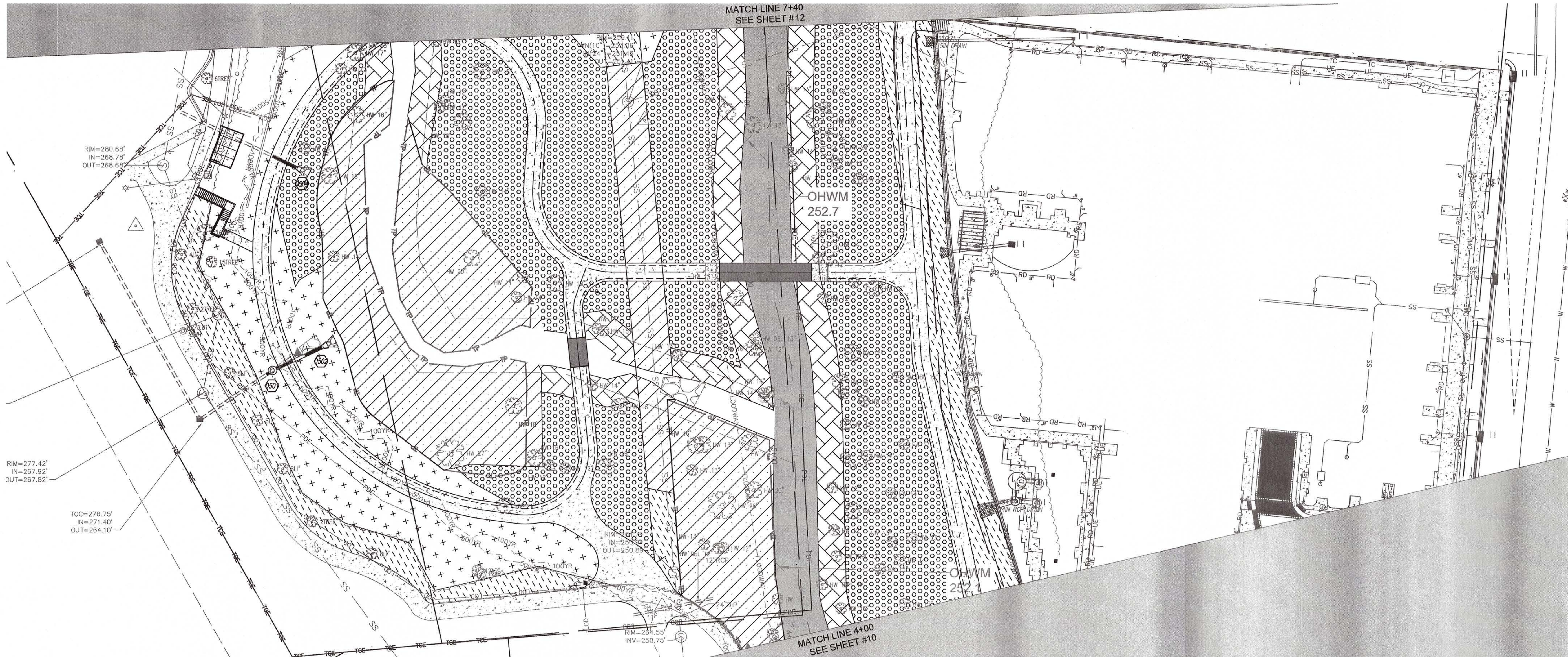
DRAWING TITLE: RETAINING WALL PROFILES

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019

DRAWING NUMBER:

9

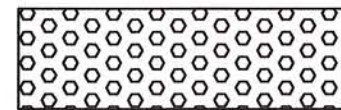
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20170225.00.RA



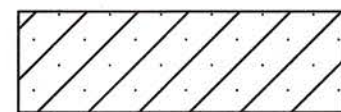
PLANTING LEGEND



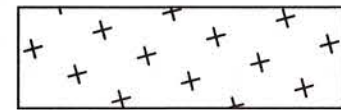
PLANTING ZONE A - DETAIL 2/D1
(MATTING, WETLAND SEEDING & PLANTINGS)



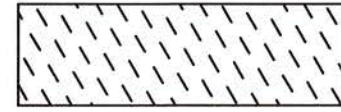
PLANTING ZONE B - DETAIL 2/D1
(WETLAND SEEDING & PLANTINGS)



PLANTING ZONE C - DETAIL 2/D1
(WETLAND SEEDING ONLY ALONG SEWER MAIN)



PLANTING ZONE D - DETAIL 2/D1
(UPLAND SEEDING & PLANTINGS)



PLANTING ZONE E - DETAIL 2/D1
UPLAND SEED MIX ONLY



PLANTING ZONE F
LAWN SEEDING TO MATCH EXISTING

CONSTRUCTION AT STREAM BANK NOTE:

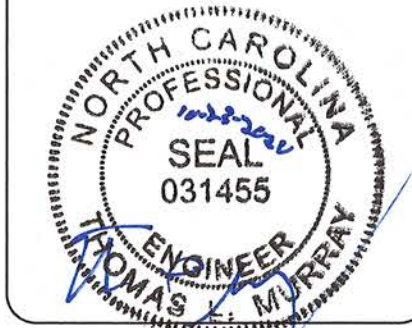
CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK (OHWM) UNLESS OTHERWISE DIRECTED BY ENGINEER.

SEE DETAIL 4 / D1 FOR BANK STABILIZATION PLANTINGS ABOVE HIGH WATER MARK.

STREAM CHANNEL

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NC LICENSE NO. F-0374



FULL SCALE: 1"=30'
0 30 60
2" = FULL SCALE
1" = HALF SCALE

MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE:
					9/23/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

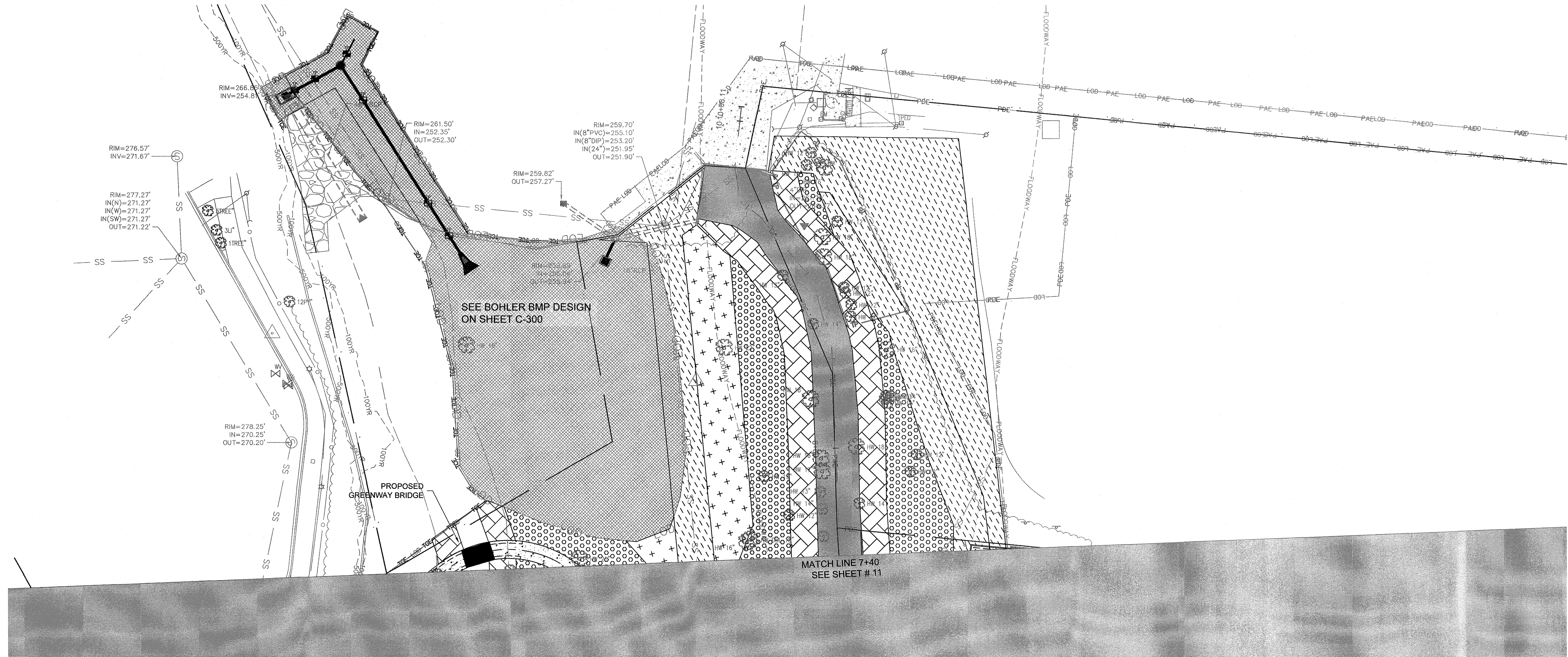
DRAWING TITLE: PLANTING PLAN

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019

DRAWING NUMBER:

11

PROJ. NO.:
20170225.00.RA



PLANTING LEGEND

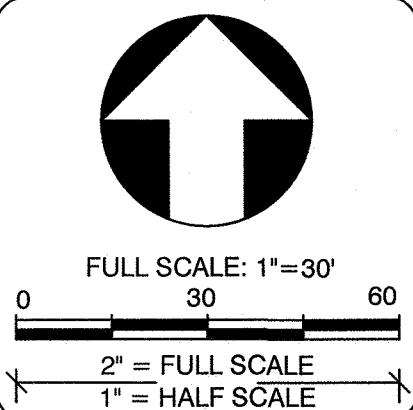
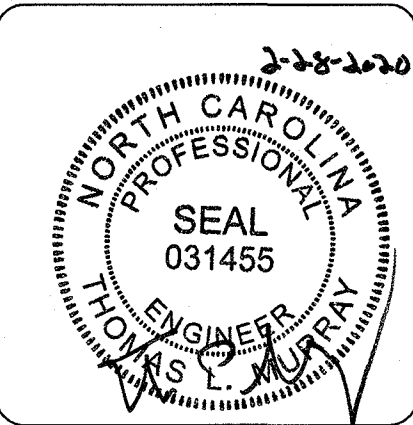
- PLANTING ZONE A - DETAIL 2/D1 (MATTING, WETLAND SEEDING & PLANTINGS)
- PLANTING ZONE B - DETAIL 2/D1 (WETLAND SEEDING & PLANTINGS)
- PLANTING ZONE C - DETAIL 2/D1 (WETLAND SEEDING ONLY ALONG SEWER MAIN)
- PLANTING ZONE D - DETAIL 2/D1 (UPLAND SEEDING & PLANTINGS)
- PLANTING ZONE E - DETAIL 2/D1 UPLAND SEED MIX ONLY
- PLANTING ZONE F LAWN SEEDING TO MATCH EXISTING

CONSTRUCTION AT STREAM BANK NOTE:

CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE DIRECTED BY ENGINEER. ORDINARY HIGH WATER MARK ELEVATION IS NOTED AS PROPOSED TOP OF BANK ELEVATION ON SHEETS 4-6.

SEE DETAIL 4 / D1 FOR BANK STABILIZATION PLANTINGS ABOVE HIGH WATER MARK.

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(919) 782.9572
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REVISIONS:		DESCRIPTION	DATE	MARK
RELEASED FOR CONSTRUCTION				
PLOT DATE:				
2/28/2020				

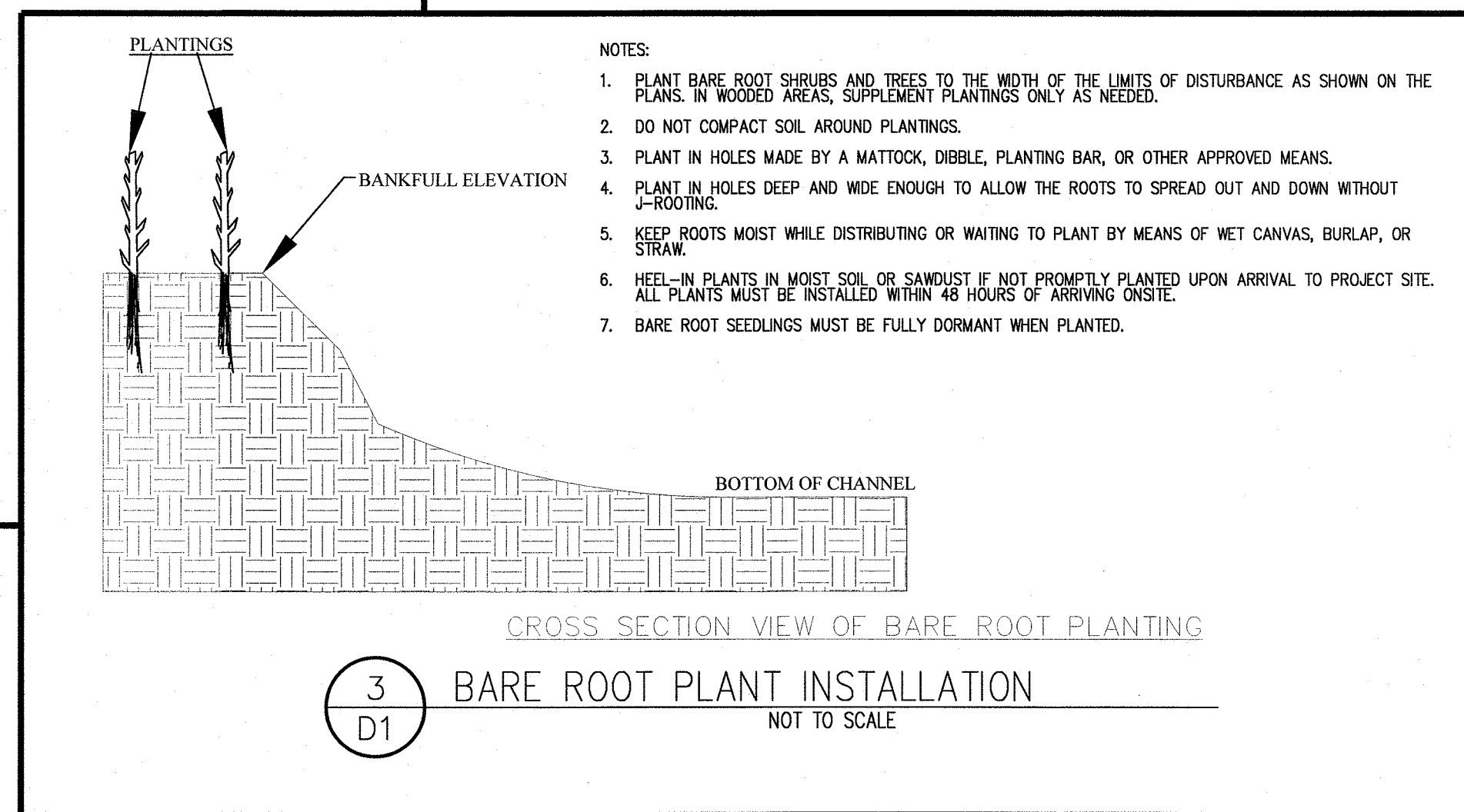
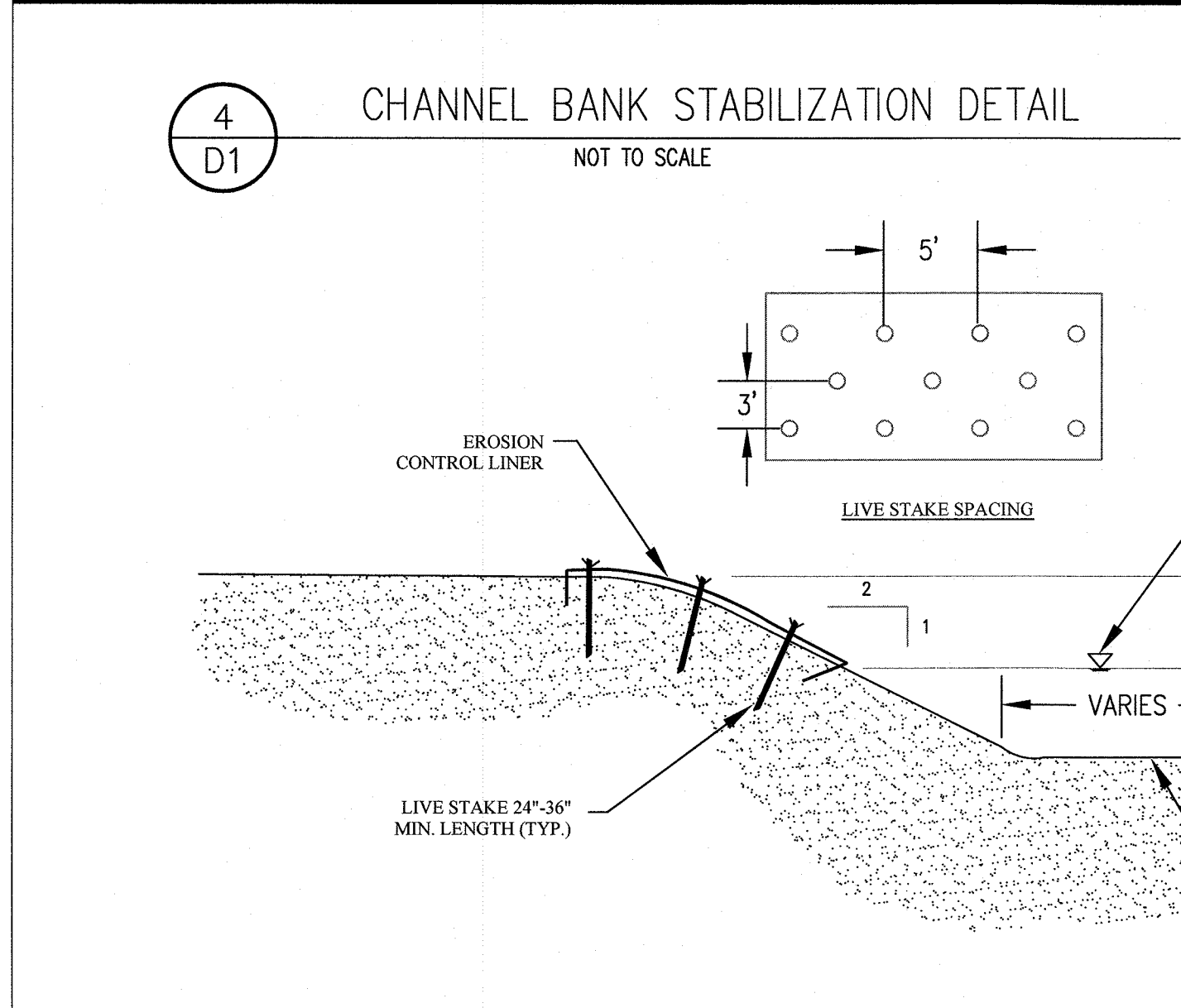
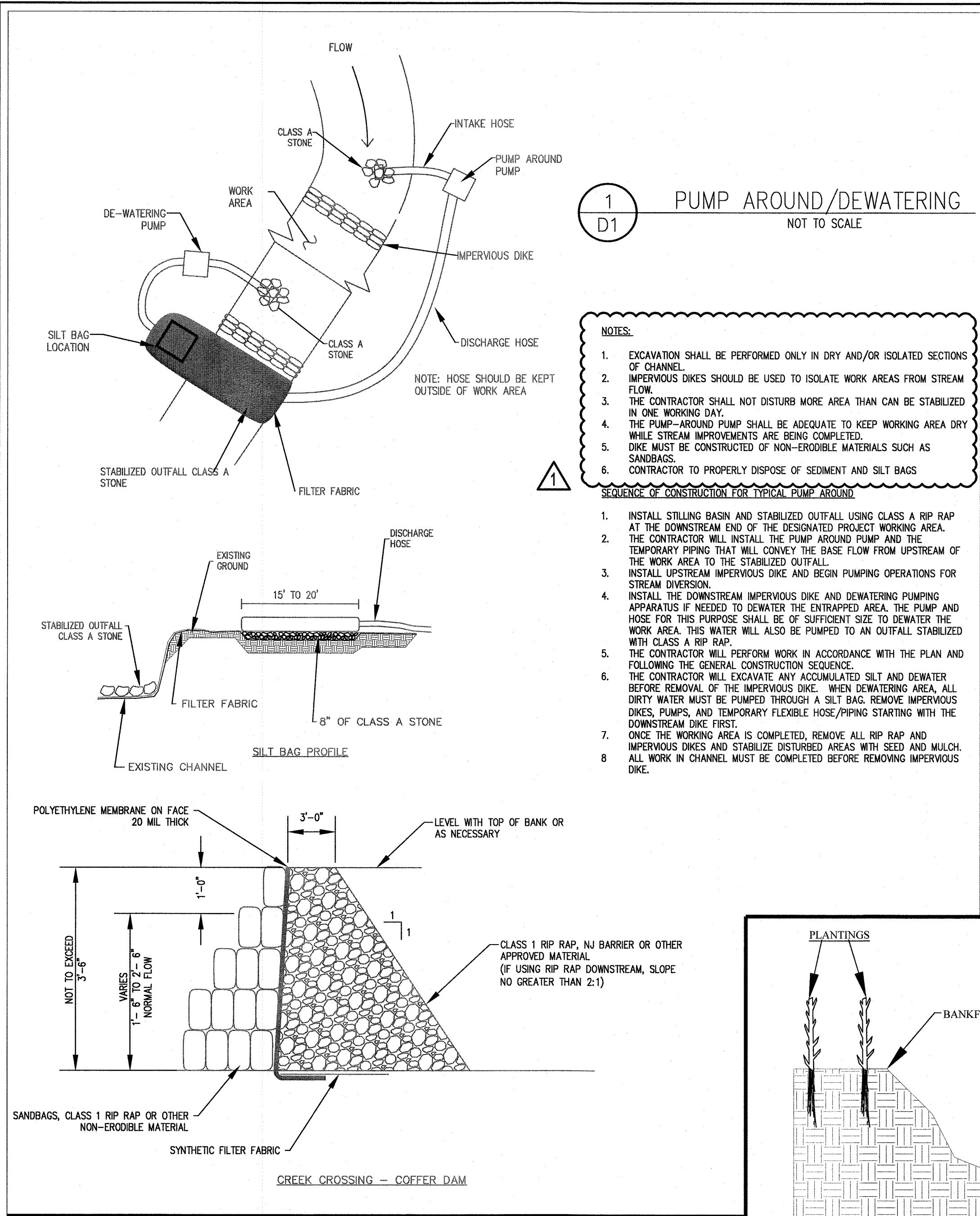
PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE:
PLANTING PLAN

PROJ. DATE: JUNE 2019
Q.C. DATE: TLM
Q.C. DATE: MAY 2019

DRAWING NUMBER:
12

PROJ. NO.:
20170225.00.RA



2 D1

PLANTING PLAN NOTES

NOT TO SCALE

NOTES

- EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
- EROSION CONTROL LINER SHALL NOT BE CUT WITH PLANTING IMPLEMENTS. THE SMALLEST OPENING NECESSARY TO ACCOMMODATE EACH PLANT SHALL BE CUT INTO THE LINER USING A SHARP KNIFE OR SHEARS. AFTER PLANTING IS COMPLETE USE 2-3 PINS TO SECURE LINER WHERE CUT WAS MADE. ALL AREAS TO BE PLANTED SHALL BE PREPARED PRIOR TO PLANTING BY DISC OR SPRING-TOOTH CHISEL PLOW TO MINIMUM DEPTH OF 12 INCHES, TAKING CARE TO AVOID EXISTING TREES CALLED OUT TO BE PROTECTED. MULTIPLE PASSES SHALL BE MADE ACROSS PLANTING AREAS WITH THE IMPLEMENT AND THE FINAL PASS SHALL FOLLOW TOPOGRAPHIC CONTOURS.
- PLANTS SHALL BE INSTALLED IN STAGGERED ROWS. PLANT SPACING SHALL BE APPROXIMATELY EIGHT FEET (8.0') BETWEEN PLANTS IN THE SAME ROW. ROWS SHALL BE STAGGERED SUCH THAT PLANTS ARE APPROXIMATELY FIVE FEET (5.0') APART. AT LEAST 50% OF TREE SPECIES AND 50% OF SHRUB SPECIES SHALL BE FROM ONE GALLON OR LARGER CONTAINERS. AT LEAST 40% OF ALL PLANTS SHALL BE A SHRUB SPECIES.
- ASPHALTIC TACKIFIER SHALL NOT BE USED.
- ONCE PERMANENT VEGETATION AND EROSION CONTROL MEASURES ARE ESTABLISHED, THE CONTRACTOR SHALL SCHEDULE A FINAL INSPECTION IN ORDER TO OBTAIN A CERTIFICATE OF COMPLETION. AFTER APPROVAL, ALL REMAINING TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED.
- THE RIPARIAN BUFFER IS DEFINED AS THE AREA BETWEEN THE TOP OF BANK AND THE WIDTH NEEDED TO EXTEND 1.5' ABOVE BANKFULL. THE REMAINING FLOODPLAIN AREA TO BE PLANTED EXTENDS TO THE LIMITS OF DISTURBANCE. SEE PLANTING PLAN SHEETS 11, 12 & 13 FOR FULL EXTENT OF PLANTINGS.

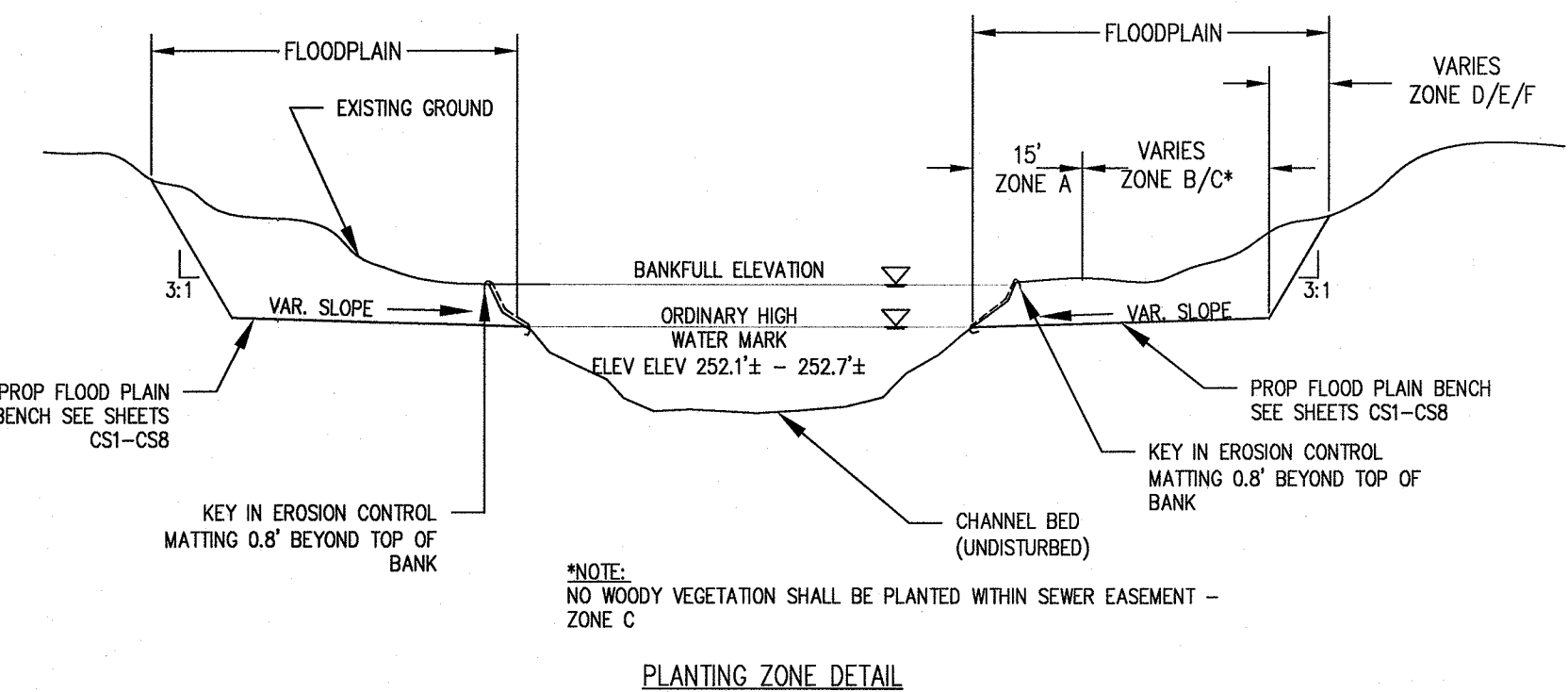
MAINTENANCE NOTES

TEMPORARY SEEDING

- RESEED AND MULCH AREAS WHERE SEEDLING EMERGENCE IS POOR, OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.

PERMANENT SEEDING

- RESEED AREAS WHERE VEGETATIVE COVER IS BELOW 70 PERCENT, OR WHERE EROSION OCCURS, AS SOON AS POSSIBLE. DO NOT MOW. PROTECT FROM TRAFFIC AS MUCH AS POSSIBLE.
- IF GERMINATION OR EROSION CONTINUES TO BE PROBLEMATIC THE FOLLOWING MEASURES WILL BE PERFORMED AS NEEDED: SOIL FERTILITY TESTING, SOIL AMENDMENTS, PLACEMENT OF TOPSOIL, EROSION CONTROL MATTING.



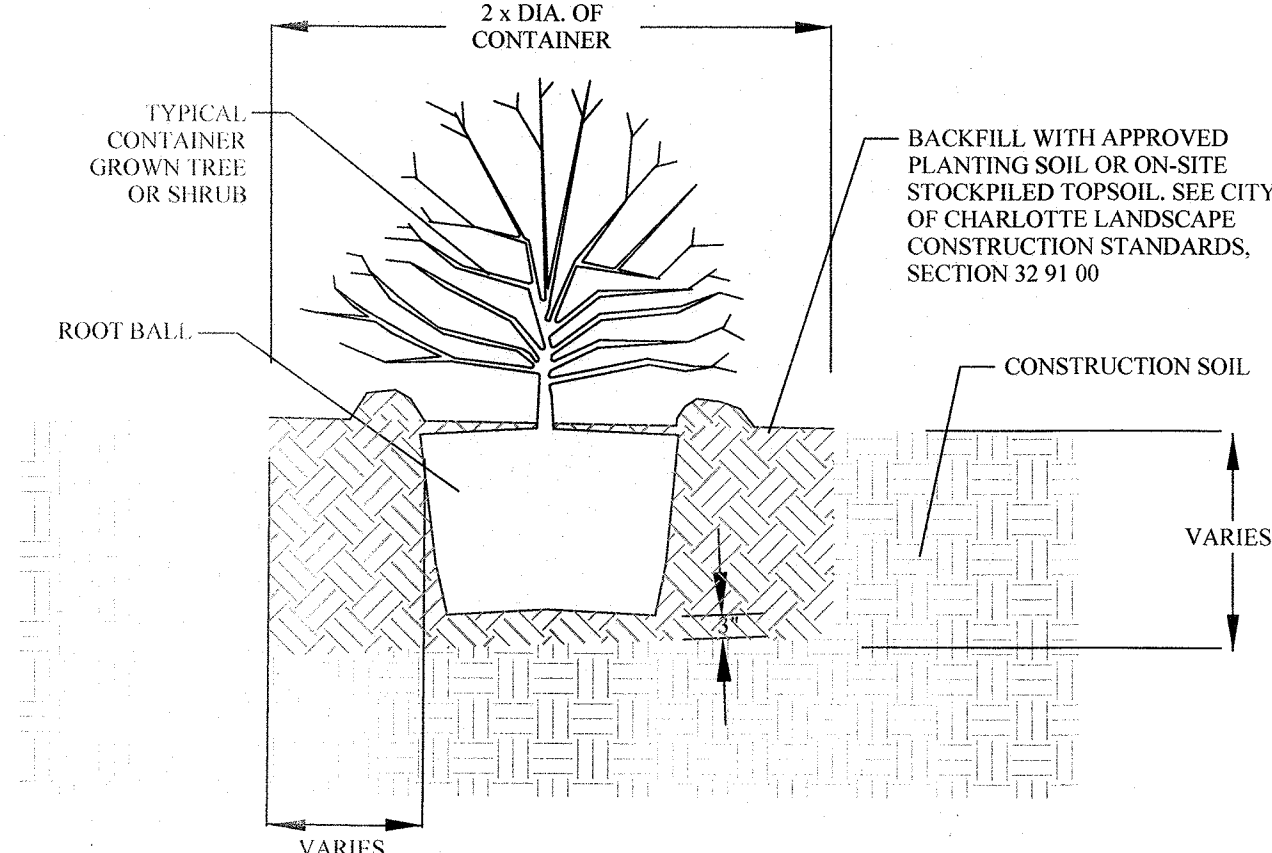
5 D1

CONTAINERIZED PLANT INSTALLATION

NOT TO SCALE

NOTES FOR CONTAINER PLANTING:

- WHEN PREPARING THE HOLE FOR A POTTED PLANT OR SHRUB DIG THE HOLE 8-12 INCHES LARGER THAN THE DIAMETER OF THE POT AND THE SAME DEPTH AS THE POT. SCARIFY SIDES AND BOTTOM OF THE HOLE.
- REMOVE THE PLANT FROM THE POT. LAY THE PLANT ON ITS SIDE IF NECESSARY TO REMOVE THE POT.
- FOR ALL CONTAINERIZED PLANTS, MAKE VERTICAL CUTS IN ROOTBALL. KNIFE JUST DEEP ENOUGH TO CUT THE NET OF ROOTS. ALSO MAKE A CRISS-CROSS CUT ACROSS THE BOTTOM OF THE ROOTBALL.
- PLACE THE PLANT IN THE HOLE.
- FILL HALF OF THE HOLE WITH SOIL (SAME SOIL REMOVED FOR BACKFILL).
- BACKFILL ONE-HALF OF REMAINING HOLE WITH ACCEPTABLE PLANTING MEDIUM AND WATER THOROUGHLY. BACKFILL REST OF HOLE WITH ACCEPTABLE PLANTING MEDIUM. FIRM DOWN, ELIMINATING ALL AIR POCKETS. DO NOT PACK.
- BUILD A FOUR-INCH HIGH BERM AROUND THE EDGE OF THE ROOT BALL USING SOIL REMOVED FROM THE HOLE TO FORM A BASIN FOR HOLDING WATER. THE BOTTOM OF THE BASIN SHALL BE AT SURROUNDING FINISH GRADE.
- CONTAINER PLANTS INSTALLED WITHIN LIMITS OF DISTURBANCE DO NOT REQUIRE A LAYER OF MULCH.



Scientific Name	Common Name	Stems/Arce	Stock Type	Indicator Status
Zone A (Along channel)				
Shrub				
<i>Alnus serrulata</i>	Tag Alder	50	CN	OBL
<i>Aronia arbutifolia</i>	Red Chokeberry	50	CN	FACW
<i>Sambucus canadensis</i>	Elderberry	50	CN	FAC
<i>Viburnum nudum</i>	Viburnum, Possumhaw	50	CN	OBL
Tree				
<i>Betula nigra</i>	River Birch	75	BR	FACW
<i>Ulmus americana</i>	Elm, American	100	BR	FACW
<i>Platanus occidentalis</i>	Sycamore	100	BR	FACW
Zone B (Floodplain)				
Shrub				
<i>Ilex opaca</i>	American Holly	50	CN	FACU
<i>Ilex verticillata</i>	Holly, Winterberry	50	CN	FACW
<i>Sambucus canadensis</i>	Elderberry	50	CN	FAC
<i>Viburnum nudum</i>	Viburnum, Possumhaw	50	CN	OBL
Tree				
<i>Betula nigra</i>	River Birch	100	BR	FACW
<i>Platanus occidentalis</i>	Sycamore	100	BR	FACW
<i>Quercus phellos</i>	Oak, Willow	100	BR	FAC
Shrub				
<i>Calliopsis americana</i>	Beautyberry	50	CN	FACU
<i>Cephalanthus occidentalis</i>	Button bush	50	CN	OBL
<i>Ilex opaca</i>	American Holly	50	CN	FACU
<i>Sambucus canadensis</i>	Elderberry	50	CN	FAC
Tree				
<i>Platanus occidentalis</i>	Sycamore	100	BR	FACW
<i>Quercus michauxii</i>	Oak, Swamp Chestnut	100	BR	FACW
<i>Quercus shumardii</i>	Shumard's oak	100	BR	FAC
Zone D (Upland areas)				
Shrub				
<i>Ilex opaca</i>	American Holly	100	CN	FACU
<i>Viburnum acerifolium</i>	Viburnum, Maple Leaf	100	CN	FACU
<i>Morella cerifera</i>	Wax myrtle	100	CN	FAC
<i>Amelanchier arborea</i>	Serviceberry	100	CN	FAC
Tree				
<i>Juniperus virginiana</i>	Eastern red cedar	100	BR	FACU
<i>Pinus taeda</i>	Loblolly pine	100	BR	FAC
<i>Quercus rubra</i>	Oak, Northern Red	100	BR	FACU

*Planting Stock Type
LS-Live Stake
CN-Container (1-3 gal)
BR-Bare Root

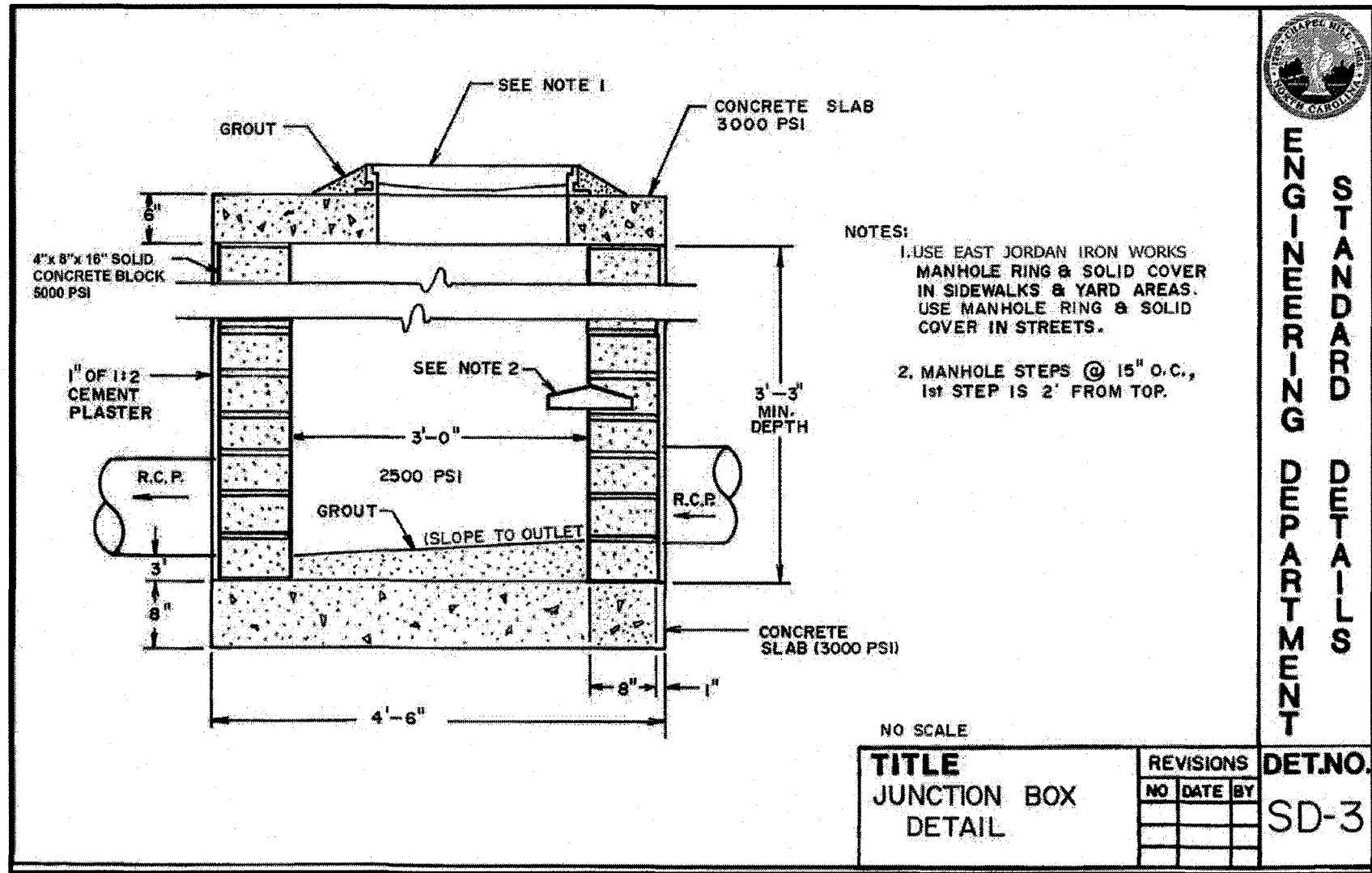
SEEDING LIST

WETLAND SEED MIX (ZONES A & B & C)				
Booker Creek Stormwater Improvement Project (Apply at 20 pounds per acre)				
Herbaceous Vegetation Seed Mix				
Common Name	Scientific Name	Indicator	Percent	Pounds
Big Bluestem	<i>Andropogon gerardii</i>	FAC	15	3
Bushy Broomrape	<i>Andropogon glomeratus</i>	FACW+	15	3
Fringed Sedge	<i>Carex crinita</i>	FACW+	10	2
Larid Sedge	<i>Carex lurida</i>	OBL	10	2
Tussock Sedge	<i>Carex stricta</i>	OBL	10	2
Virginia Wildye	<i>Elymus virginicus</i>	FAC	15	3
Deertongue	<i>Panicum clandestinum</i>	FACW	10	2
Switchgrass	<i>Panicum virgatum</i>	FAC+	10	2
Woolgrass	<i>Scirpus cyperinus</i>	OBL	5	1

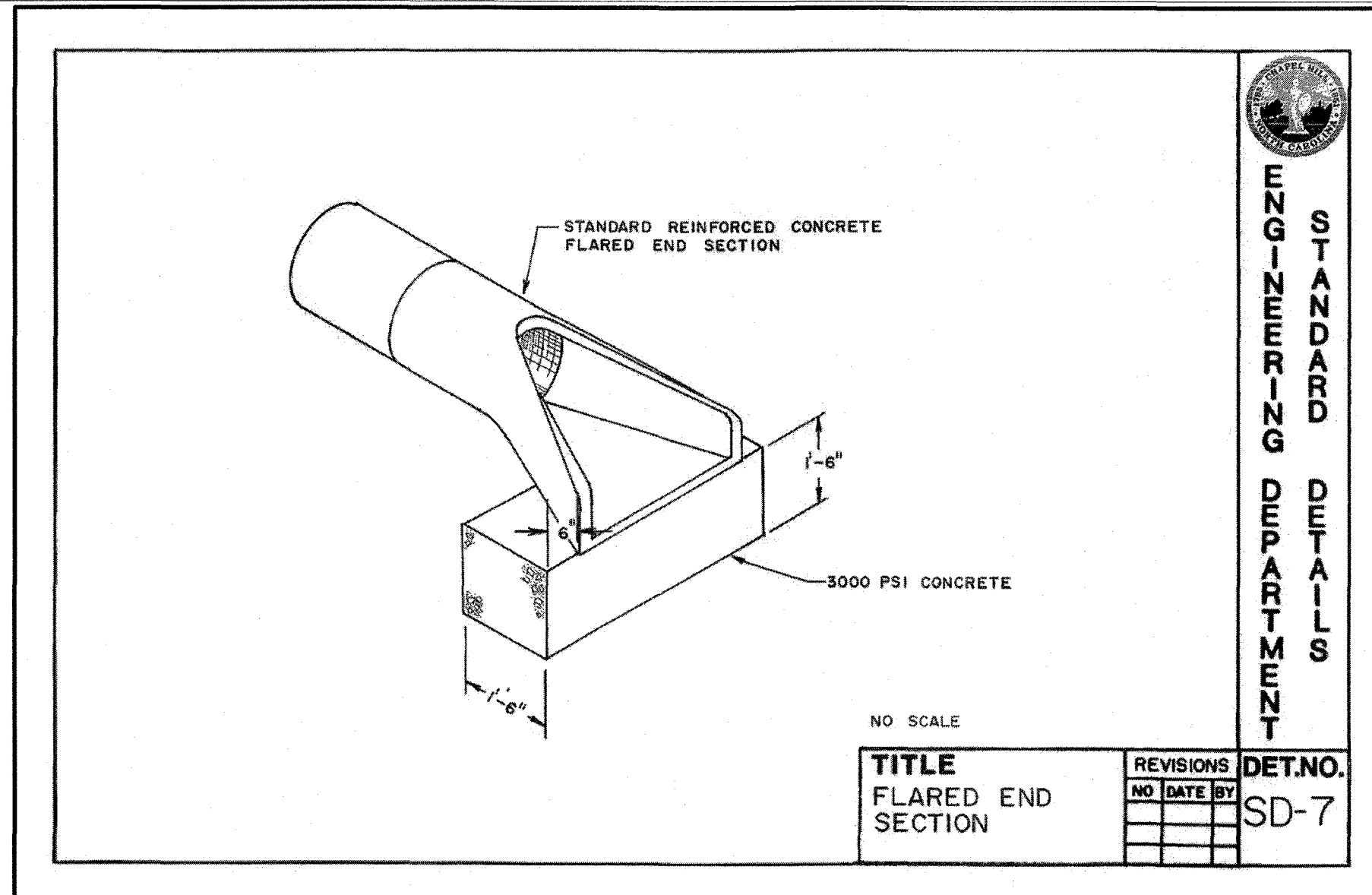
UPLAND SEED MIX (ZONE D & E)				
Booker Creek Stormwater Improvement Project (Apply at 20 pounds per acre)				
Herbaceous Vegetation Seed Mix (for all disturbed natural areas)				
Common Name	Scientific Name	Percent	Pounds	
Purple Lovegrass	<i>Eragrostis spectabilis</i>	25	7.5	
Virginia Wild Rye	<i>Elymus virginicus</i>	20	6	
Deertongue	<i>Dichanthelium clandestinum</i>	25	7.5	
Little Blue Stem	<i>Scitachyrium scoparium</i>	10	3	
Woolgrass	<i>Scirpus cyperinus</i>	5	1.5	
Eastern Gamagrass	<i>Tripsacum dactyloides</i>	15	4.5	

TEMPORARY SEEDING LIST

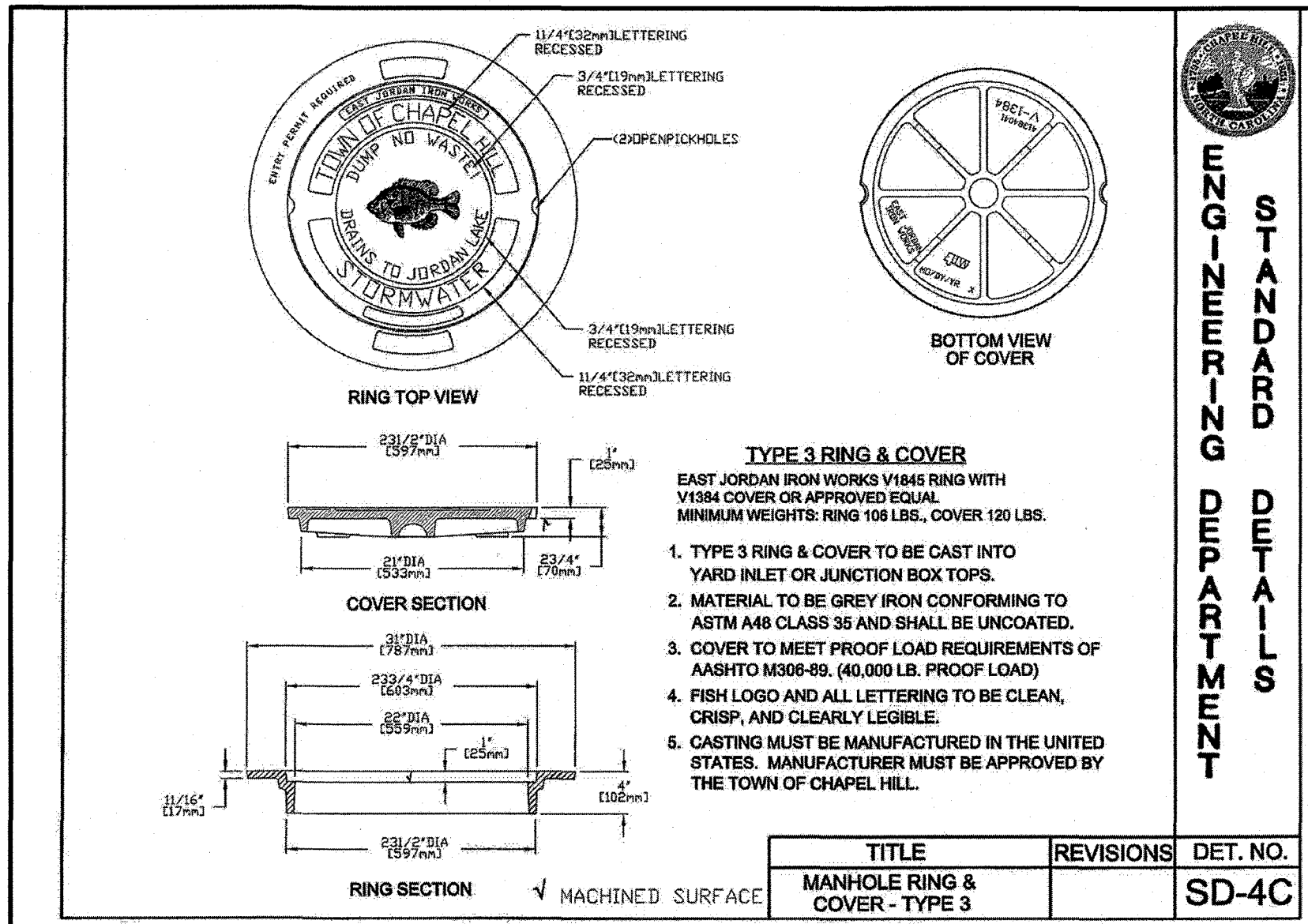
Temporary Seed Mixes - Booker Creek - Chapel Hill, NC		
Planting period	Planting Mix	Additional Requirement
October through April	Plant Winter Mix	February 15 through April
		Replant with Summer Mix in May
May through September	Plant Summer Mix	July 15 through September
		Replant with Winter Mix in October
Seed Winter Mix (Select at least 2)		
	Common Name	Scientific Name
Apply at 15 lb/ac	Barley	<i>Hordeum sp.</i>
	Winter Rye	<i>Secale cereale</i>
	Winter Wheat	<i>Triticum sp.</i>
	Oats	<i>Avena sp.</i>
Seed Summer Mix (Select at least 2)		
	Common Name	Scientific Name
Apply at 15 lb/ac	Browntop Millet	<i>Panicum ramosum</i>
	Pearl Millet	<i>Pennisetum glaucum</i>
	Sudangrass	<i>Sorghum bicolor</i>
	German Foxtail Millet (Foxtail bristlegrass)	<i>Setaria italica</i>
	Buckwheat	<i>Fagopyrum esculentum</i>
	Japanese Millet	<i>Echinochloa frumentacea</i>



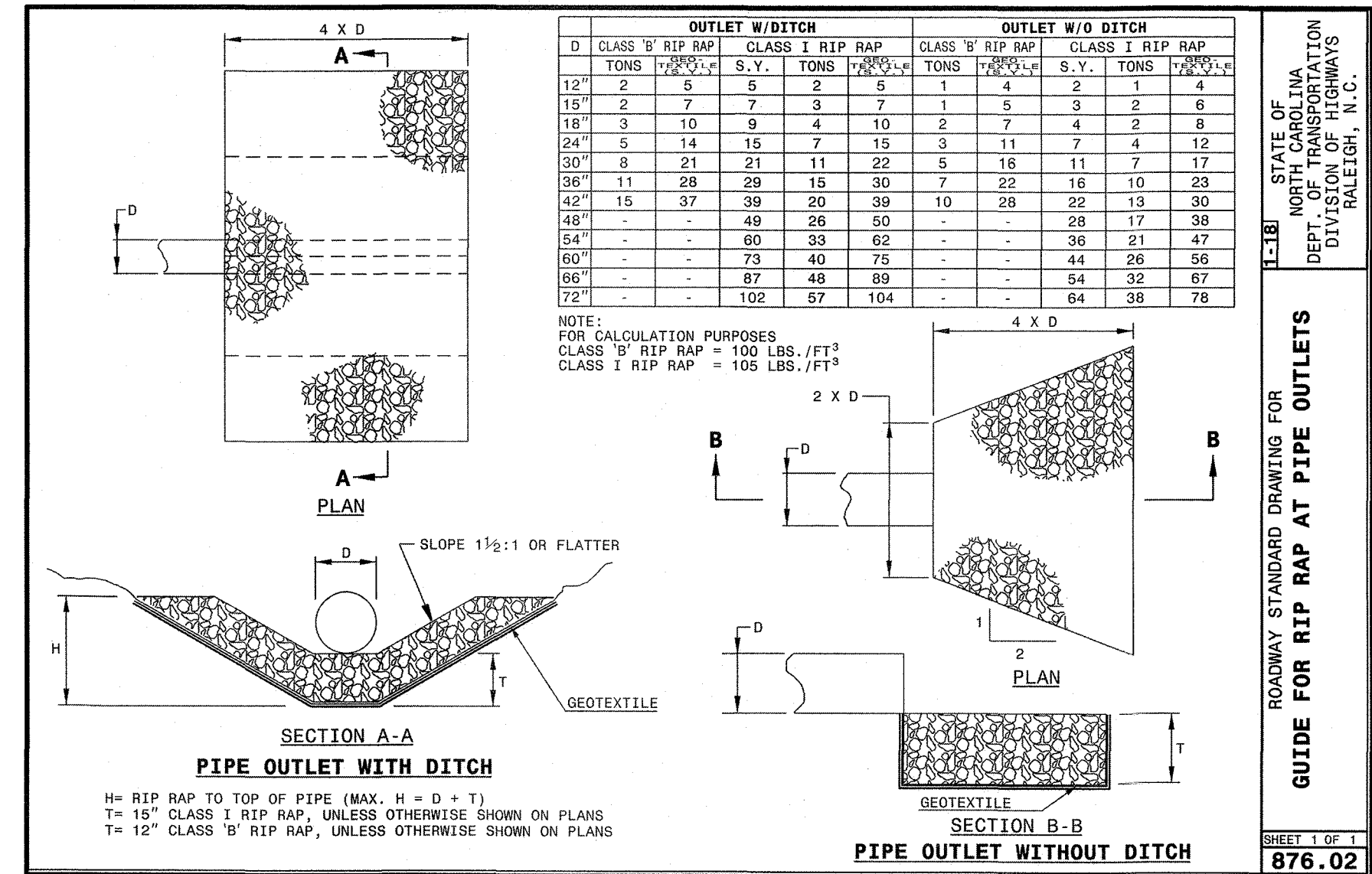
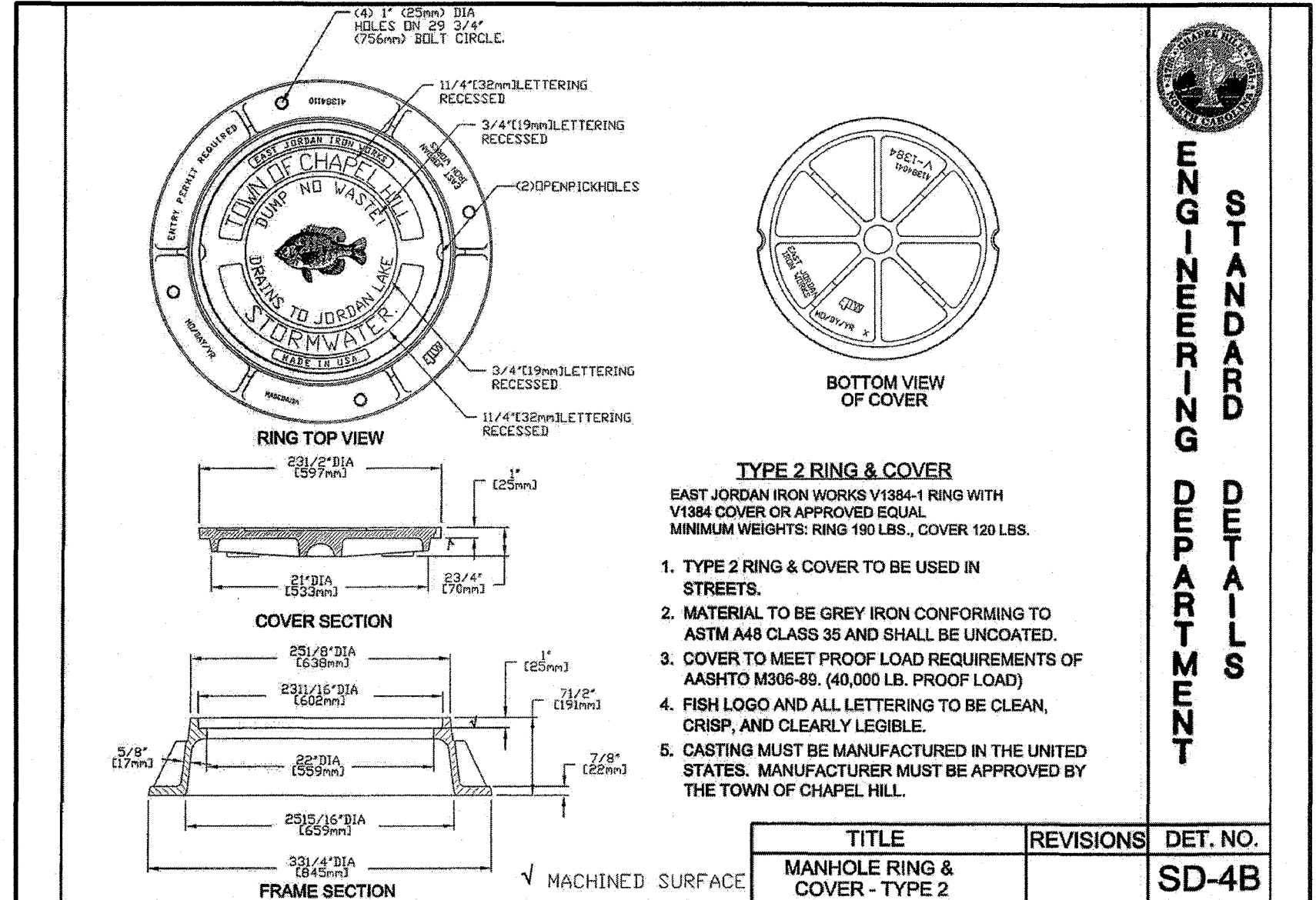
3
D2
JUNCTION BOX
NOT TO SCALE



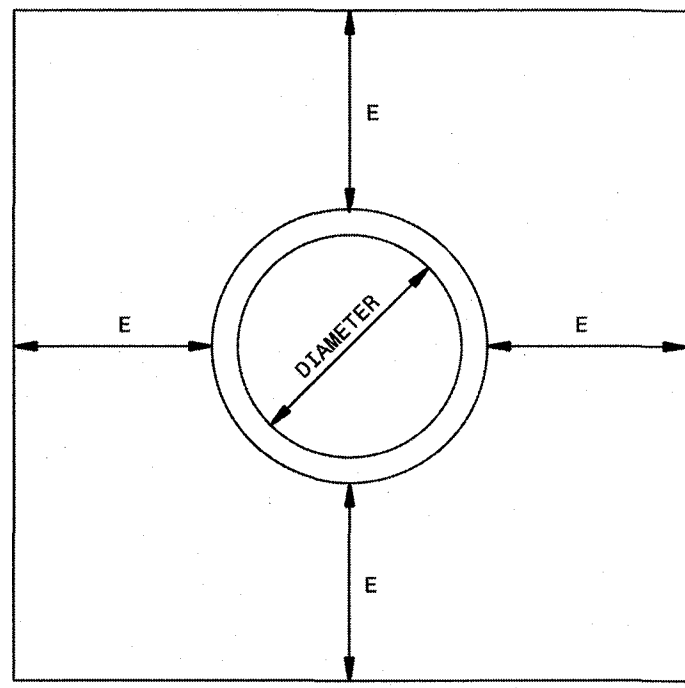
4
D2
FLARED END SECTION
NOT TO SCALE



5
D2
MANHOLE RING AND COVER
NOT TO SCALE



7
D2
ROCK SPLASH PAD
NOT TO SCALE



ELEVATION

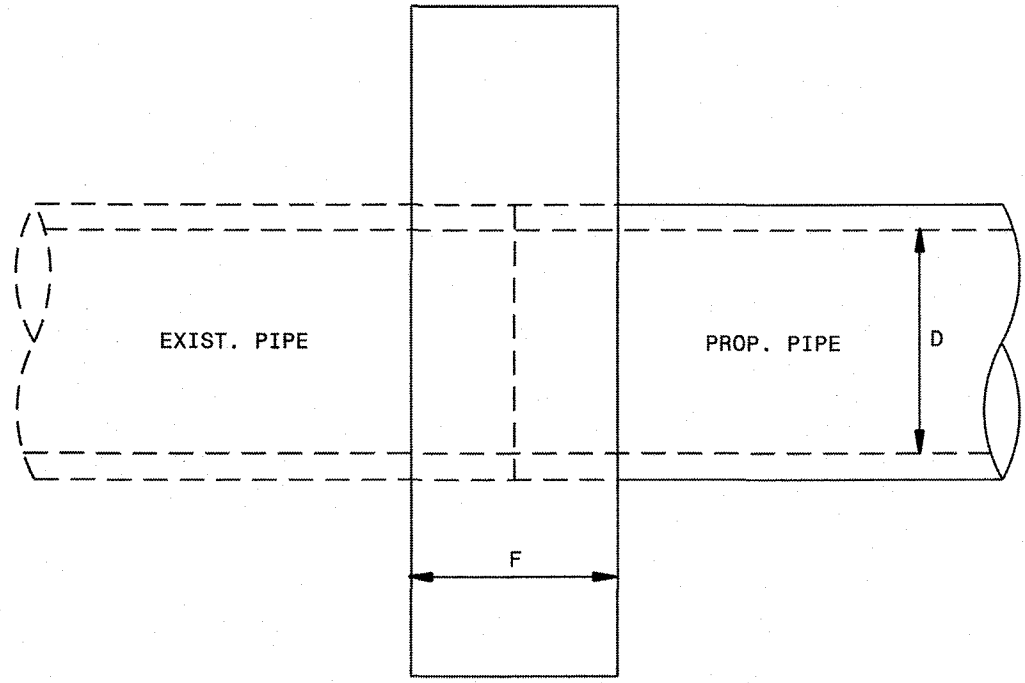
GENERAL NOTES:

USE PIPE COLLAR FOR EXTENDING EXISTING CONCRETE PIPE CULVERTS AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER. THIS INCLUDES EXTENDING EXISTING PIPES WITH PIPES OF DIFFERENT MATERIALS.

CONSTRUCT THE PIPE COLLAR WITH CLASS "B" OR BETTER CONCRETE.

OBSERVE ALL REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.

* USE 12 INCH DIAMETER VALUES FOR PIPE DIAMETERS LESS THAN 12 INCH.



SIDE ELEVATION

D	E	F	CU. YD.
12"	12"	12"	0.3528
15"	12"	12"	0.3990
18"	12"	12"	0.4465
24"	12"	12"	0.5526
30"	12"	12"	0.6560
36"	12"	12"	0.7640
42"	12"	12"	0.8856
48"	12"	12"	1.0126
54"	18"	18"	2.5793
60"	18"	18"	2.8506
66"	18"	18"	3.1307
72"	18"	18"	3.4176

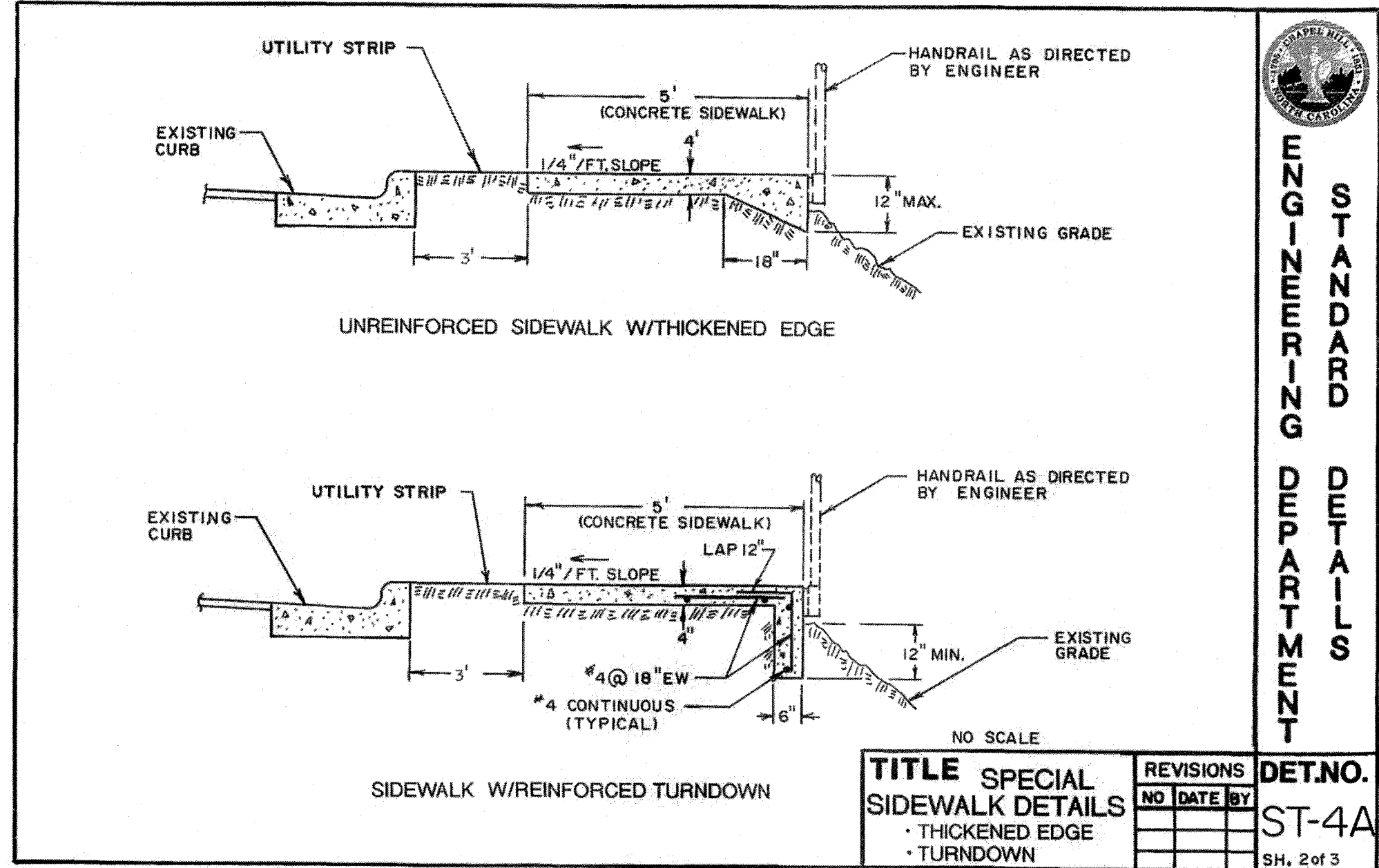
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

ROADWAY STANDARD DRAWING FOR
PIPE COLLAR

SHEET 1 OF 1
840.72

1
D3

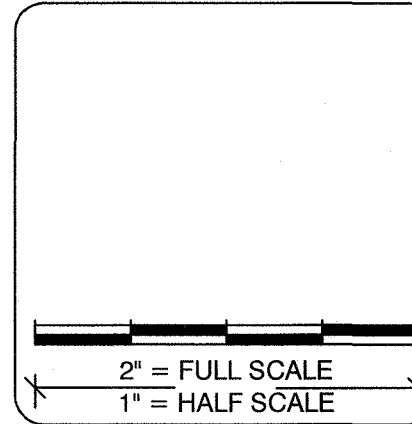
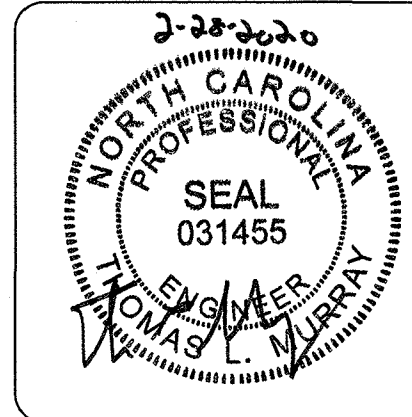
PIPE COLLAR
NOT TO SCALE



2
D3

SPECIAL SIDEWALK
NOT TO SCALE

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics
720 Corporate Drive
Raleigh, NC 27607
(919) 782.0495
(919) 782.9672
www.wkdickson.com
NC LICENSE NO. F-0374

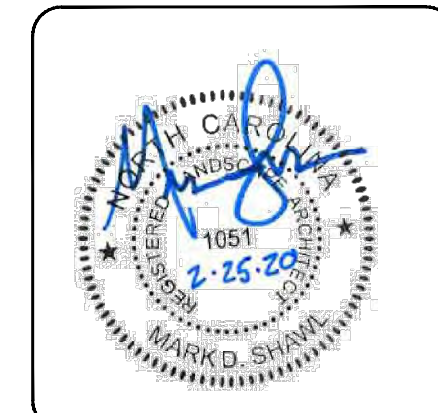
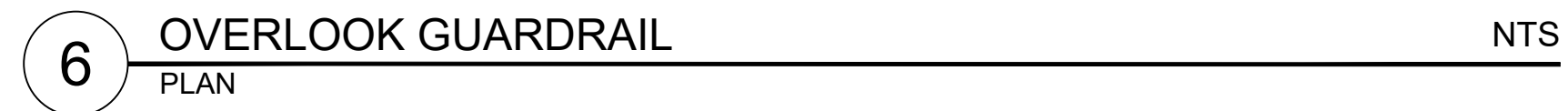
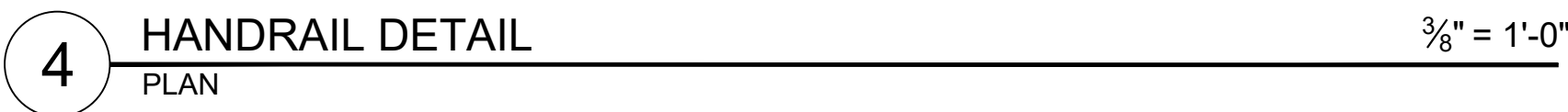
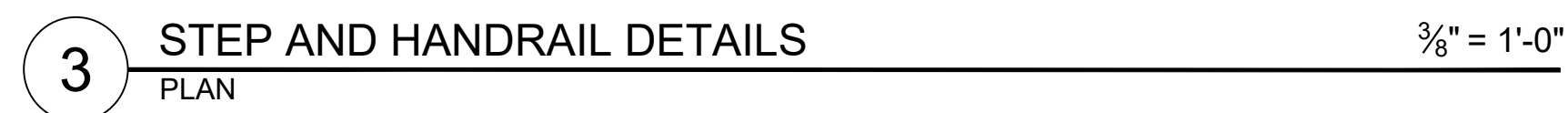
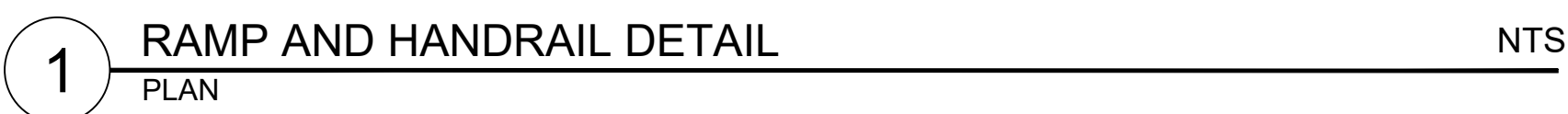


MARK	DATE	DESCRIPTION

REVISIONS:
RELEASED FOR: CONSTRUCTION
PLOT DATE: 2/28/2020

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:
DETAILS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
D3
PROJ. NO.: 20170225.00.RA



1	10.9.19	ADJOINING PROPERTY INFO
2	2.11.20	REVISIONS PER TOWN OF CHAPEL HILL
3	2.20.20	ADDENDUM #1
MARK	DATE	DESCRIPTION
REVISIONS:		
RELEASED FOR:		
FOR CONSTRUCTION		
PLOT DATE:		02/12/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

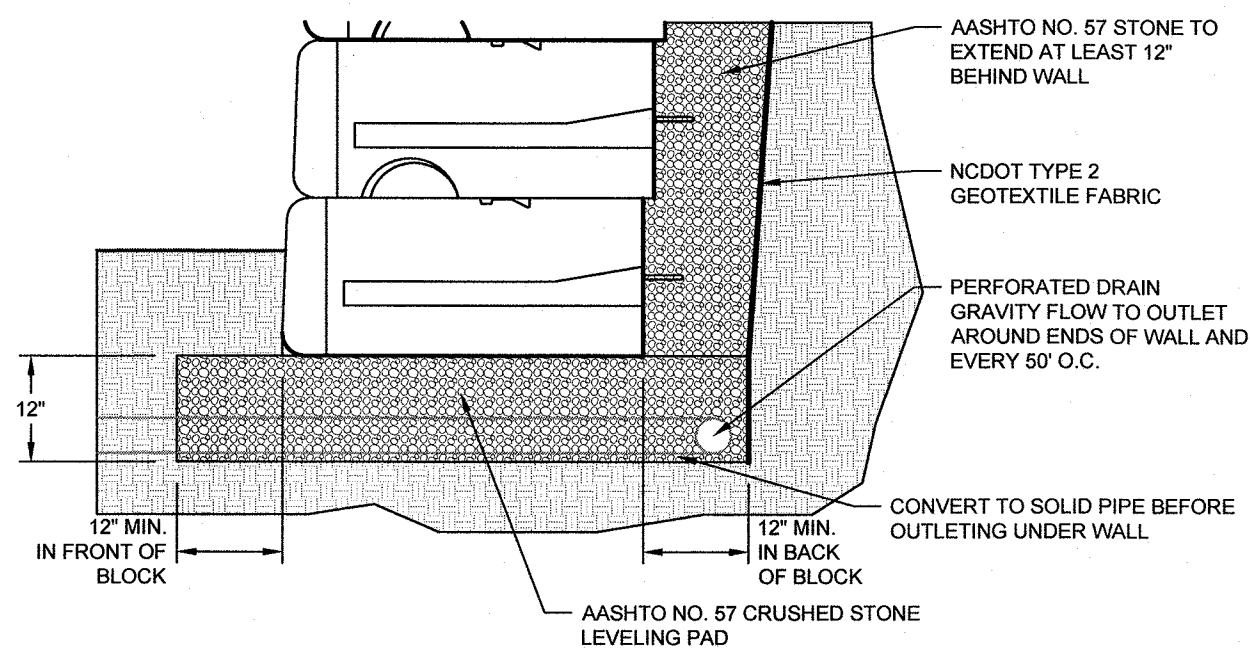
DRAWING TITLE: PARK PLAN

PROJ. DATE:	SUMMER 2019
Q.C.:	MDS
Q.C. DATE:	JUNE 3, 2019

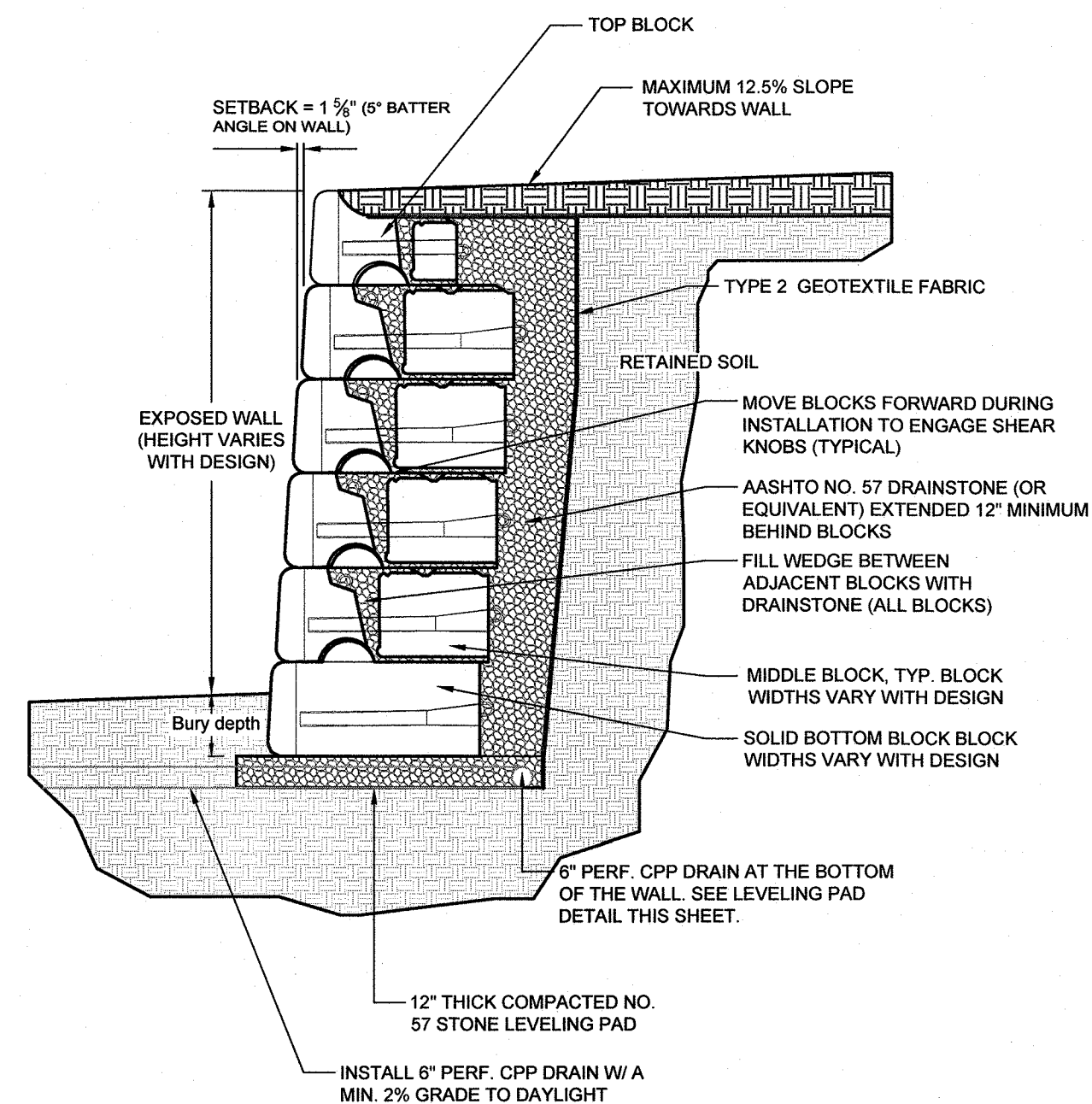
DRAWING NUMBER:

D4

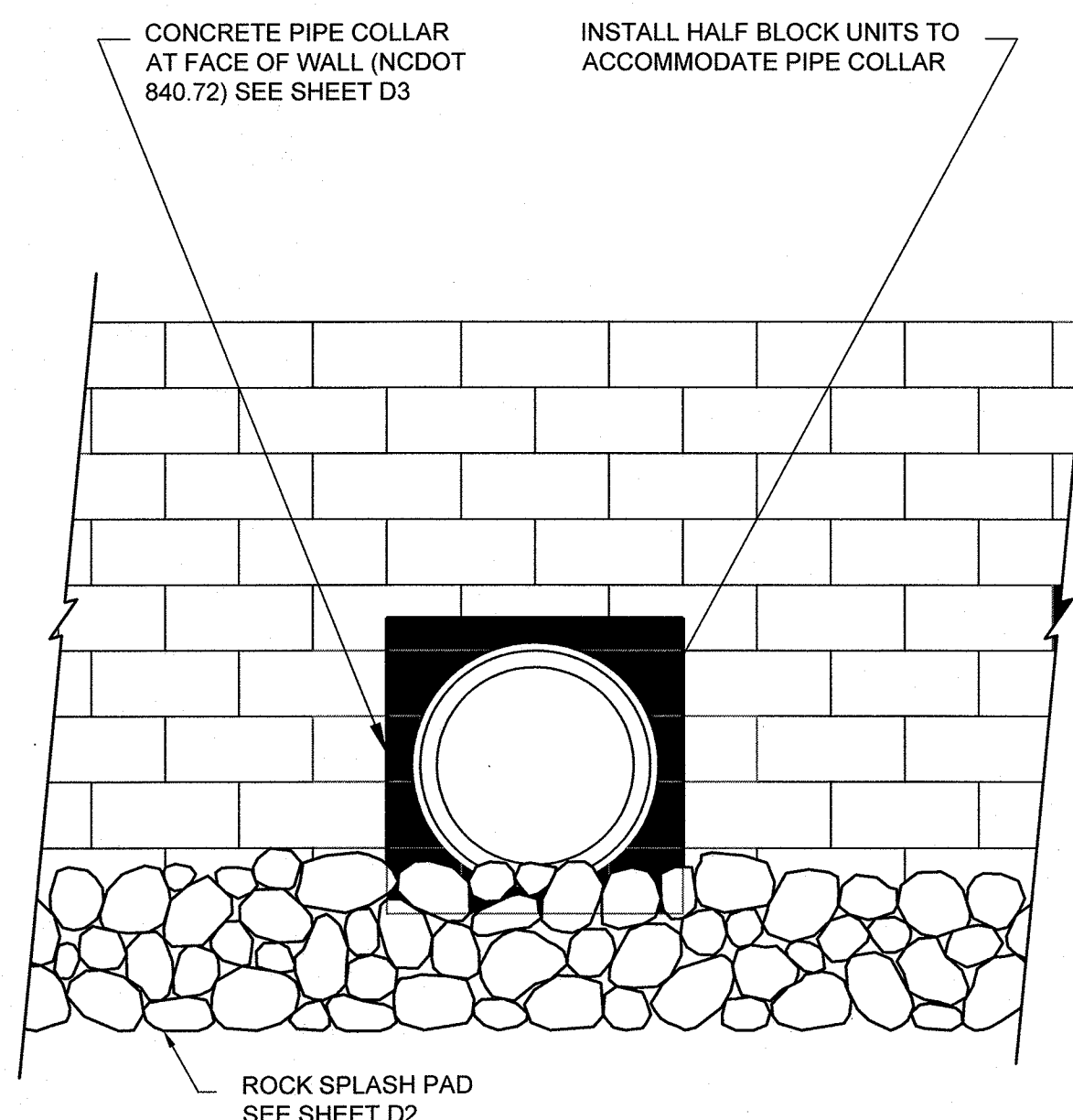
PROJ. NO.:
20170225.00.RA



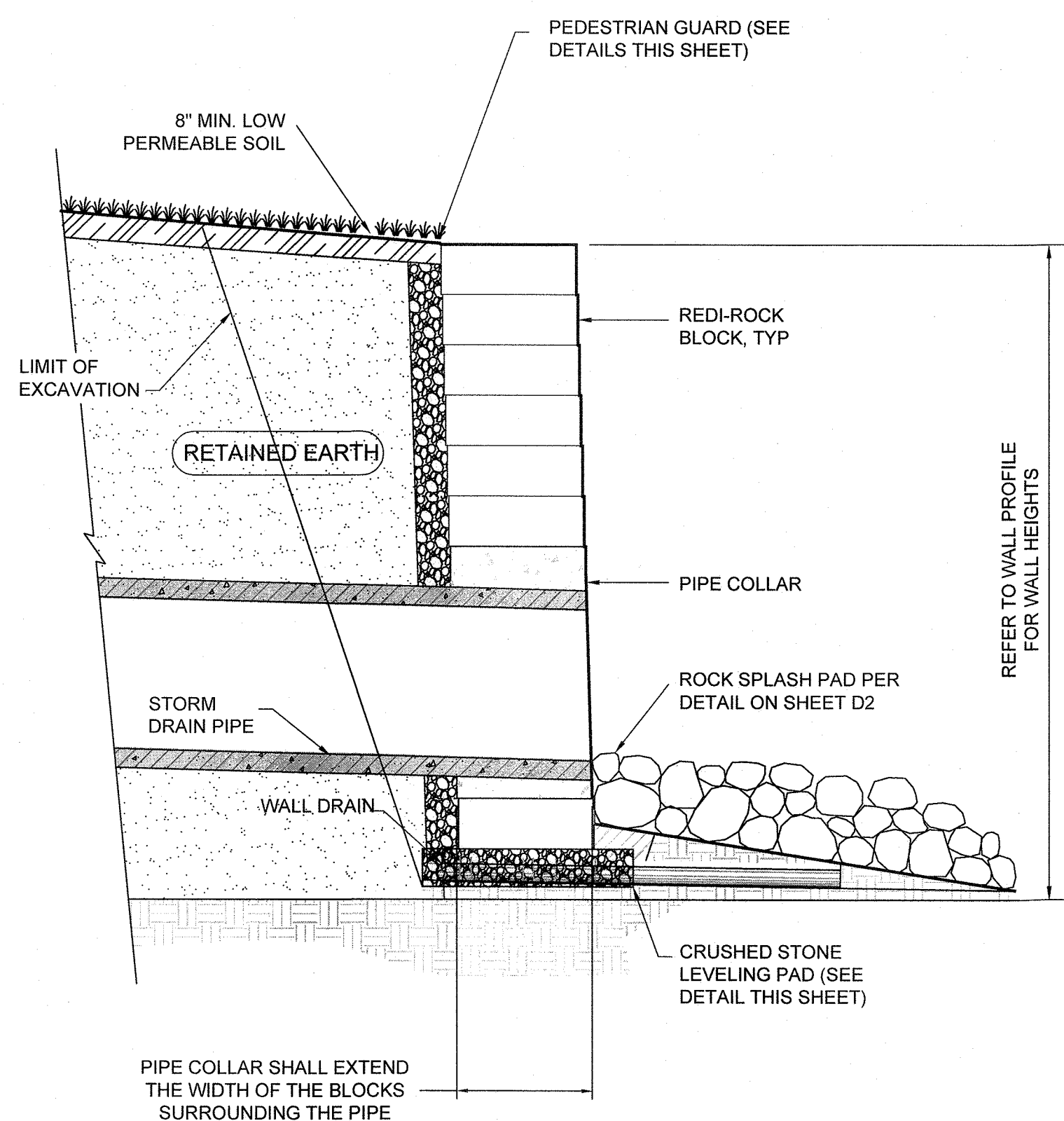
OPEN-GRADED CRUSHED STONE LEVELING PAD
NO SCALE



TYPICAL GRAVITY WALL DETAIL
NO SCALE

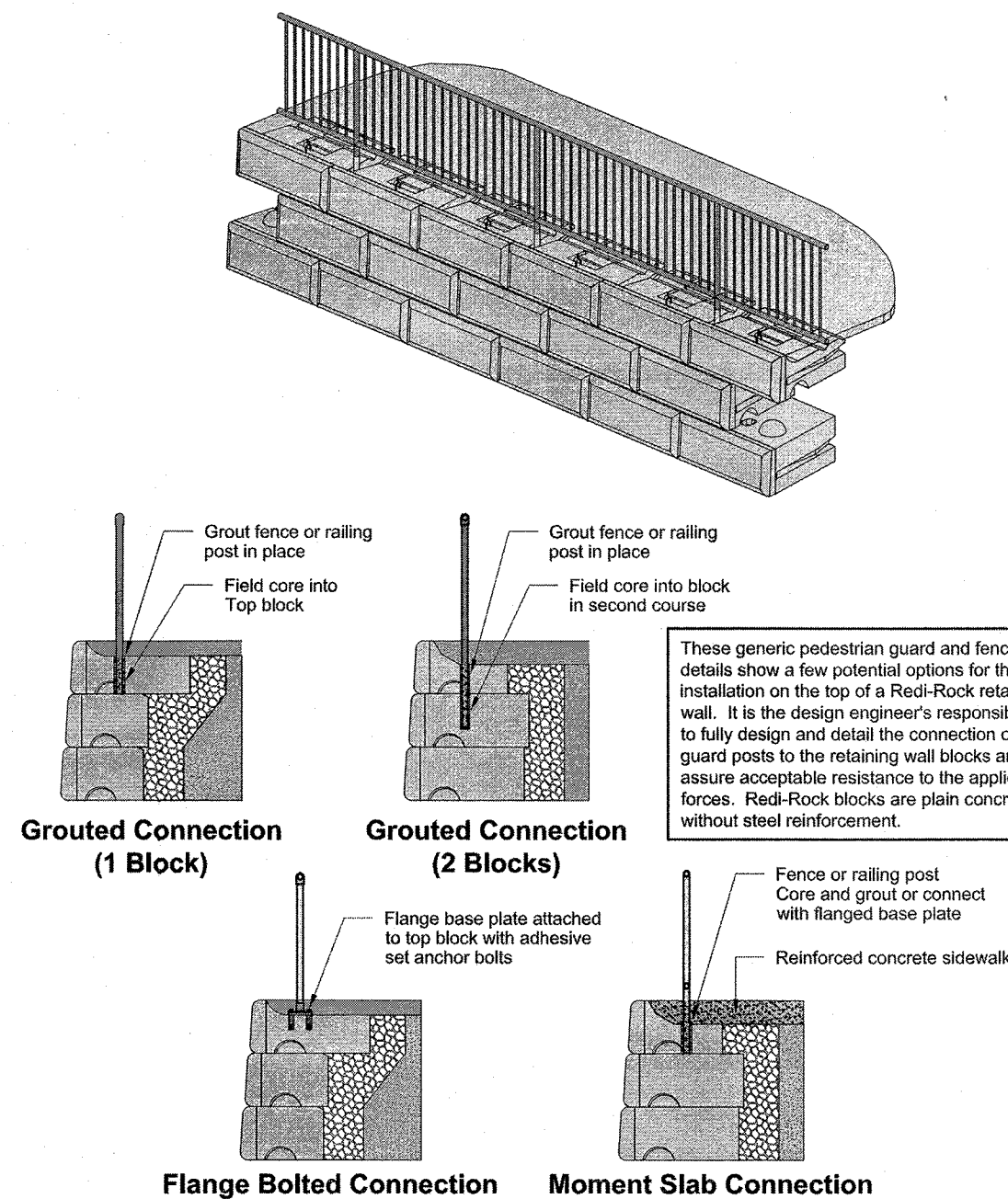


TYPICAL PIPE OUTLET DETAIL



TYPICAL PIPE OUTLET SECTION
THROUGH REDI-ROCK BLOCK UNITS

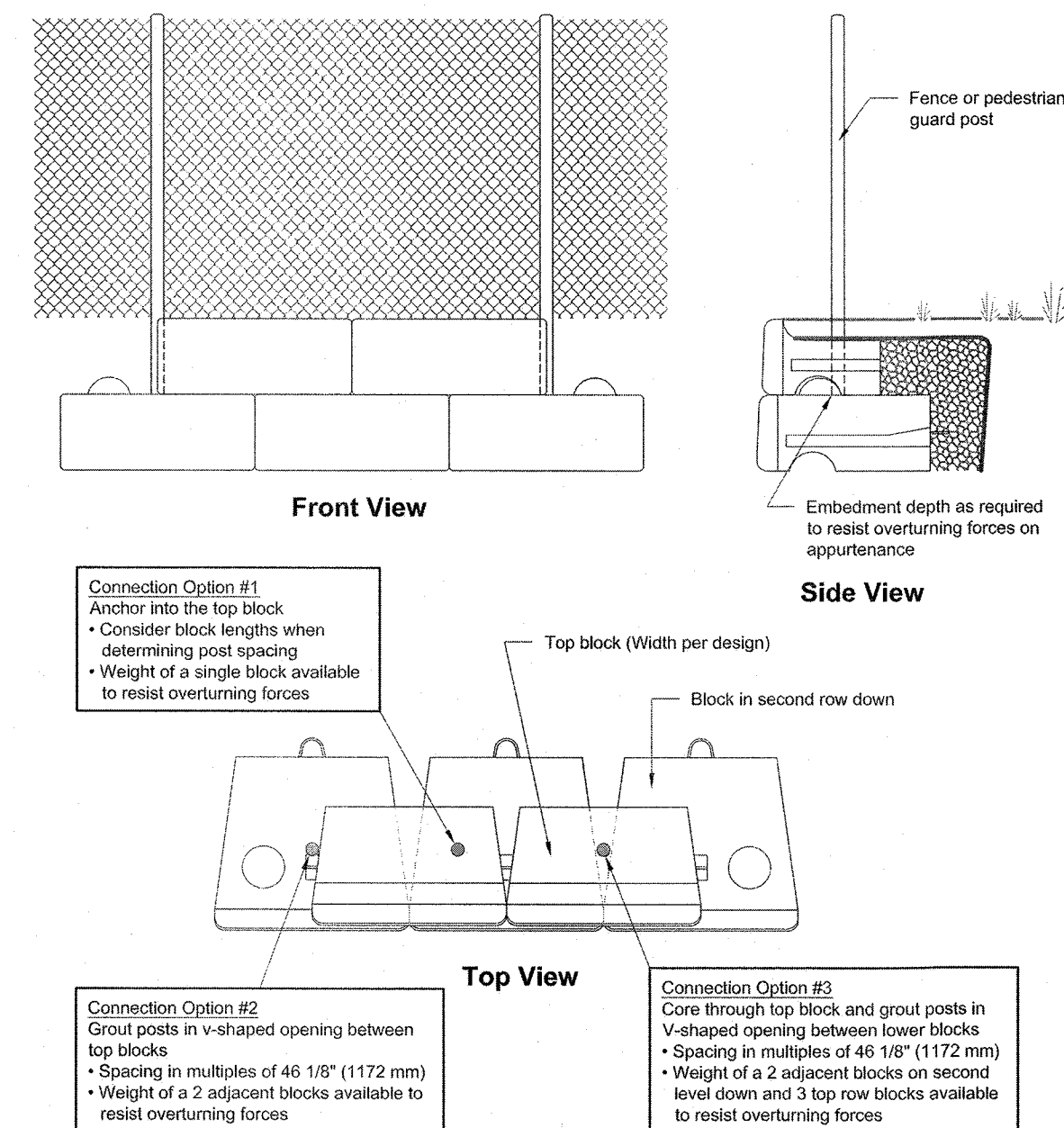
Fence or Pedestrian Guard Connection Options



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

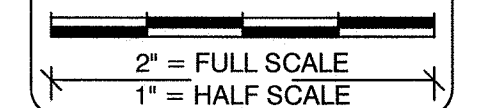
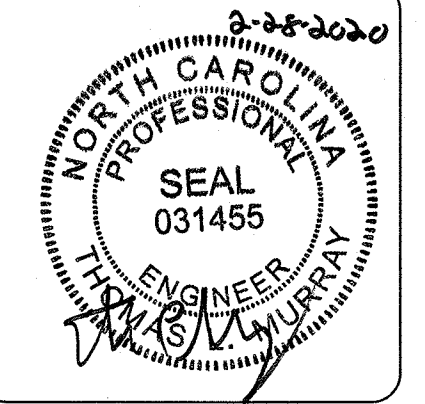
DRAWN BY:	JRJ	TITLE:	Fence or Pedestrian Guard Connection Options	REDI-ROCK®
APPROVED BY:	JRJ			
DATE:	06-22-2015			
SHEET:	1 of 1	FILE:	5 Fence or Pedestrian Guard Connection Options 062215.dwg	05481 US 31 SOUTH, CHARLEVOIX, MI 49720 800.327.8402 ext. 200 • engineering@redi-rock.com www.redi-rock.com

Fence or Pedestrian Guard Connection Locations



This drawing is for reference only. Determination of the suitability and/or manner of use of any details contained in this document is the sole responsibility of the design engineer of record. Final project designs, including all construction details, shall be prepared by a licensed professional engineer using the actual conditions of the proposed site.

DRAWN BY:	JRJ	TITLE:	Fence or Pedestrian Guard Connection Locations	REDI-ROCK®
APPROVED BY:	JRJ			
DATE:	06-22-2015			
SHEET:	1 of 1	FILE:	16 Fence or Pedestrian Guard Connection Locations 062215.dwg	05481 US 31 SOUTH, CHARLEVOIX, MI 49720 800.327.8402 ext. 200 • engineering@redi-rock.com www.redi-rock.com



PLOT DATE:
2/28/2020

RELEASED FOR: CONSTRUCTION

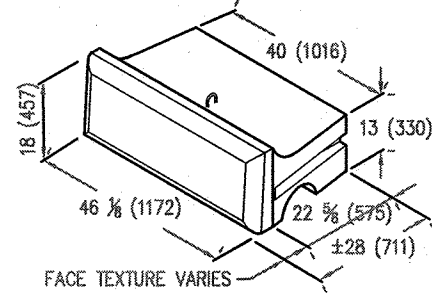
PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:
WALL DETAILS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
D5
PROJ. NO.:
20170225.00.RA

28" SERIES

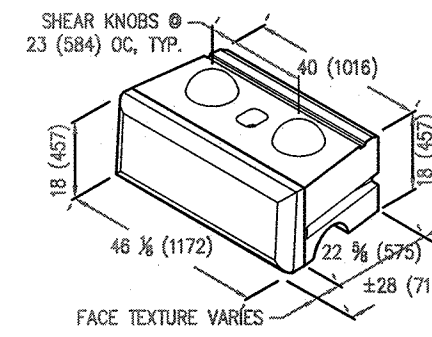
R-28T 28" (710mm) TOP

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1229 lb (557 kg)	1158 lb (525 kg)
Block Volume:	8.57 ft³ (0.243 m³)	8.07 ft³ (0.229 m³)
Center of Gravity:	14.9" (378mm)	14.2" (362mm)



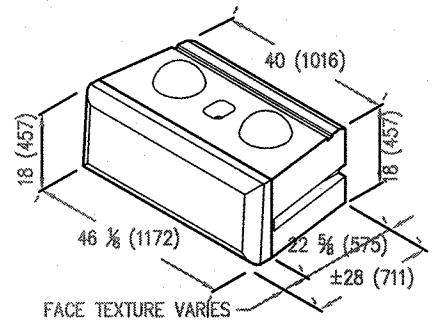
R-28M 28" (710mm) MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1613 lb (732 kg)	1542 lb (699 kg)
Block Volume:	11.28 ft³ (0.319 m³)	10.78 ft³ (0.305 m³)
Center of Gravity:	13.9" (354 mm)	13.4" (340 mm)



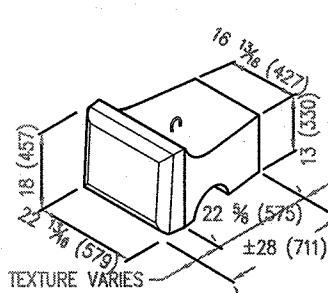
R-28B 28" (710mm) BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1744 lb (791 kg)	1672 lb (758 kg)
Block Volume:	12.19 ft³ (0.345 m³)	11.70 ft³ (0.331 m³)
Center of Gravity:	14.0" (355 mm)	13.5" (343 mm)



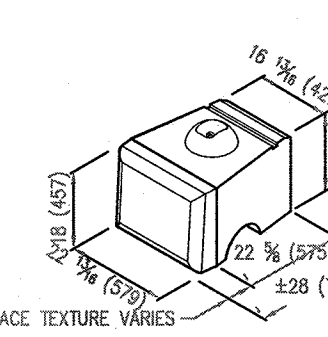
R-28HT 28" (710mm) HALF TOP

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	573 lb (260 kg)	538 lb (244 kg)
Block Volume:	4.01 ft³ (0.113 m³)	3.76 ft³ (0.106 m³)
Center of Gravity:	15.3" (389 mm)	14.7" (373 mm)



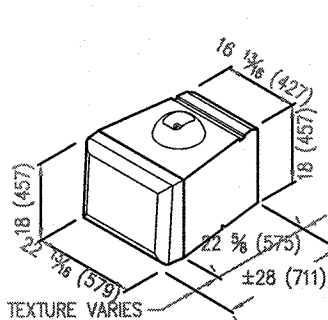
R-28HM 28" (710mm) HALF MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	748 lb (339 kg)	713 lb (323 kg)
Block Volume:	5.23 ft³ (0.148 m³)	4.98 ft³ (0.141 m³)
Center of Gravity:	14.3" (364 mm)	13.8" (350 mm)



R-28HB 28" (710mm) HALF BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	809 lb (367 kg)	774 lb (351 kg)
Block Volume:	5.66 ft³ (0.160 m³)	5.41 ft³ (0.153 m³)
Center of Gravity:	14.3" (364 mm)	13.8" (352 mm)



- Units for dimensions are inches (mm), typical unless noted otherwise.
- Block production varies with each licensed Redi-Rock manufacturer. Confirm availability before Specifying or Ordering.
- Center of Gravity is measured from the back of block.
- Actual block volumes and weights may vary.

- Weights are based upon a concrete density of 143 lb/ft³ (2291kg/m³).
- Half blocks contain a fork slot on only one side of the block.
- Interface Shear knobs are typically 10" (254mm) diameter by 4" (102mm) tall. Smaller knob diameters are available.

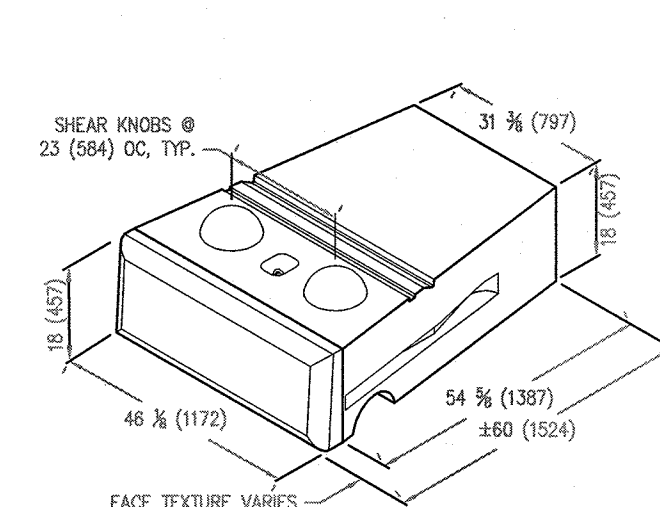
Redi-Rock Block Library 031518.dwg

Redi-Rock Block Library 031518.dwg

60" SERIES

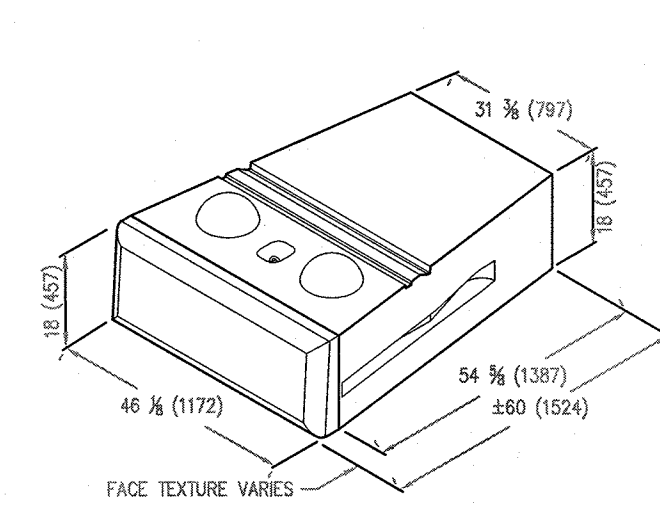
R-60M 60" (1520mm) MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	3287 lb (1491 kg)	3216 lb (1458 kg)
Block Volume:	23.00 ft³ (0.651 m³)	22.49 ft³ (0.637 m³)
Center of Gravity:	31.0" (786 mm)	30.4" (772 mm)



R-60B 60" (1520mm) BOTTOM

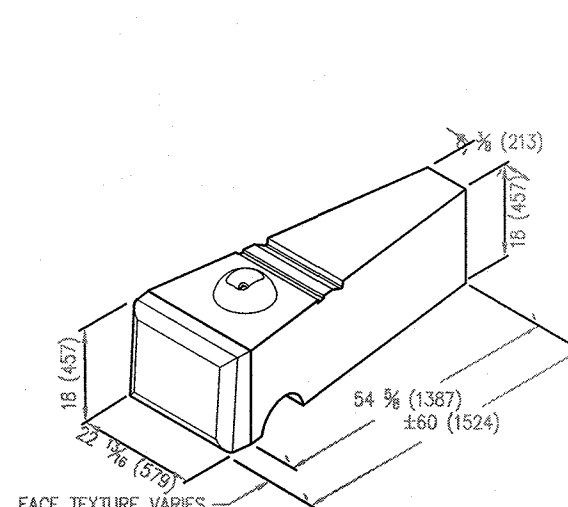
Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	3418 lb (1550 kg)	3346 lb (1518 kg)
Block Volume:	23.90 ft³ (0.677 m³)	23.40 ft³ (0.663 m³)
Center of Gravity:	31.6" (802 mm)	31.0" (788 mm)



- Units for dimensions are inches (mm), typical unless noted otherwise.
- Block production varies with each licensed Redi-Rock manufacturer. Confirm availability before Specifying or Ordering.
- Center of Gravity is measured from the back of block.
- Actual block volumes and weights may vary.

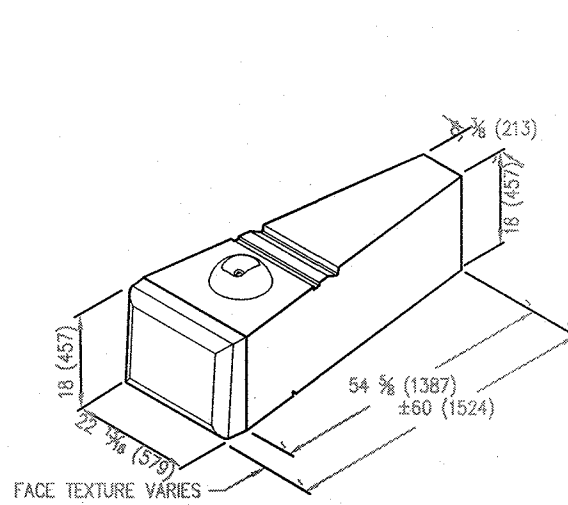
R-60HM 60" (1520mm) HALF MIDDLE

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1335 lb (606 kg)	1300 lb (590 kg)
Block Volume:	9.34 ft³ (0.264 m³)	9.09 ft³ (0.258 m³)
Center of Gravity:	33.7" (856 mm)	33.1" (840 mm)



R-60HB 60" (1520mm) HALF BOTTOM

Face Texture:	Cobble / Limestone	Ledgestone
Block Weight:	1397 lb (633 kg)	1364 lb (618 kg)
Block Volume:	9.77 ft³ (0.277 m³)	9.52 ft³ (0.270 m³)
Center of Gravity:	34.3" (871 mm)	33.7" (856 mm)



- Weights are based upon a concrete density of 143 lb/ft³ (2291kg/m³).
- 60" (1520 mm) are typically used at the bottom of taller walls.
- Half blocks contain a fork slot on only one side of the block.
- Interface Shear knobs are typically 10" (254mm) diameter by 4" (102mm) tall. Smaller knob diameters are available.

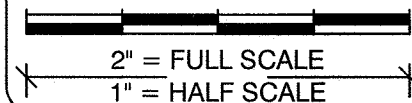
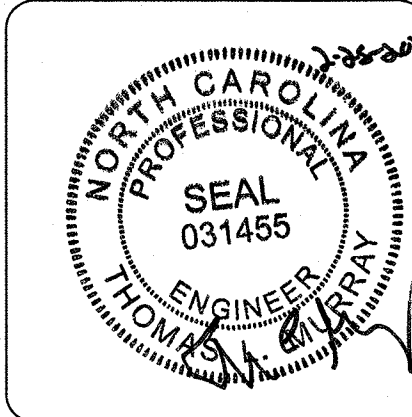
Redi-Rock Block Library 031518.dwg

REDI-ROCK BLOCK UNIT DETAILS

NO SCALE

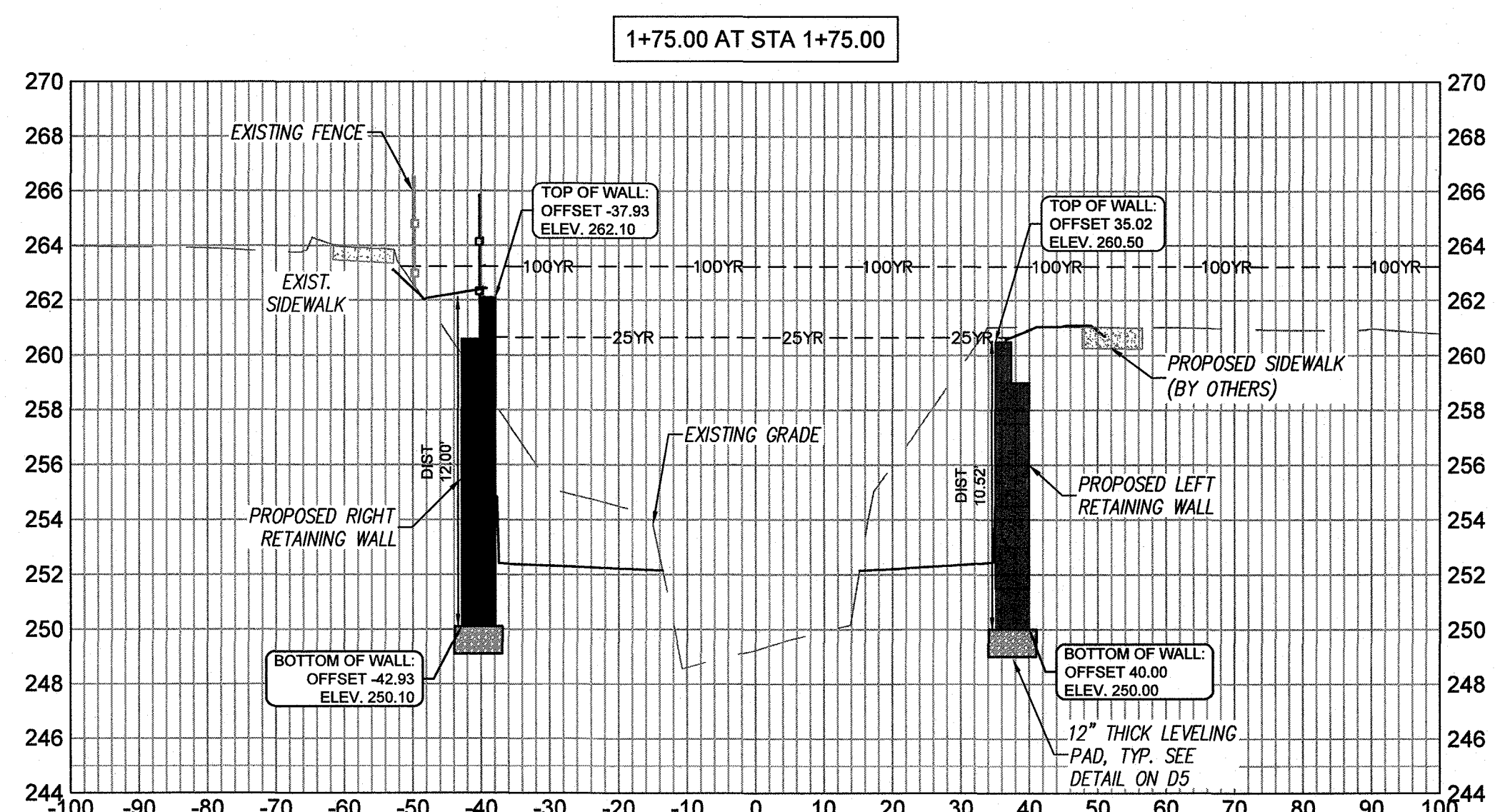
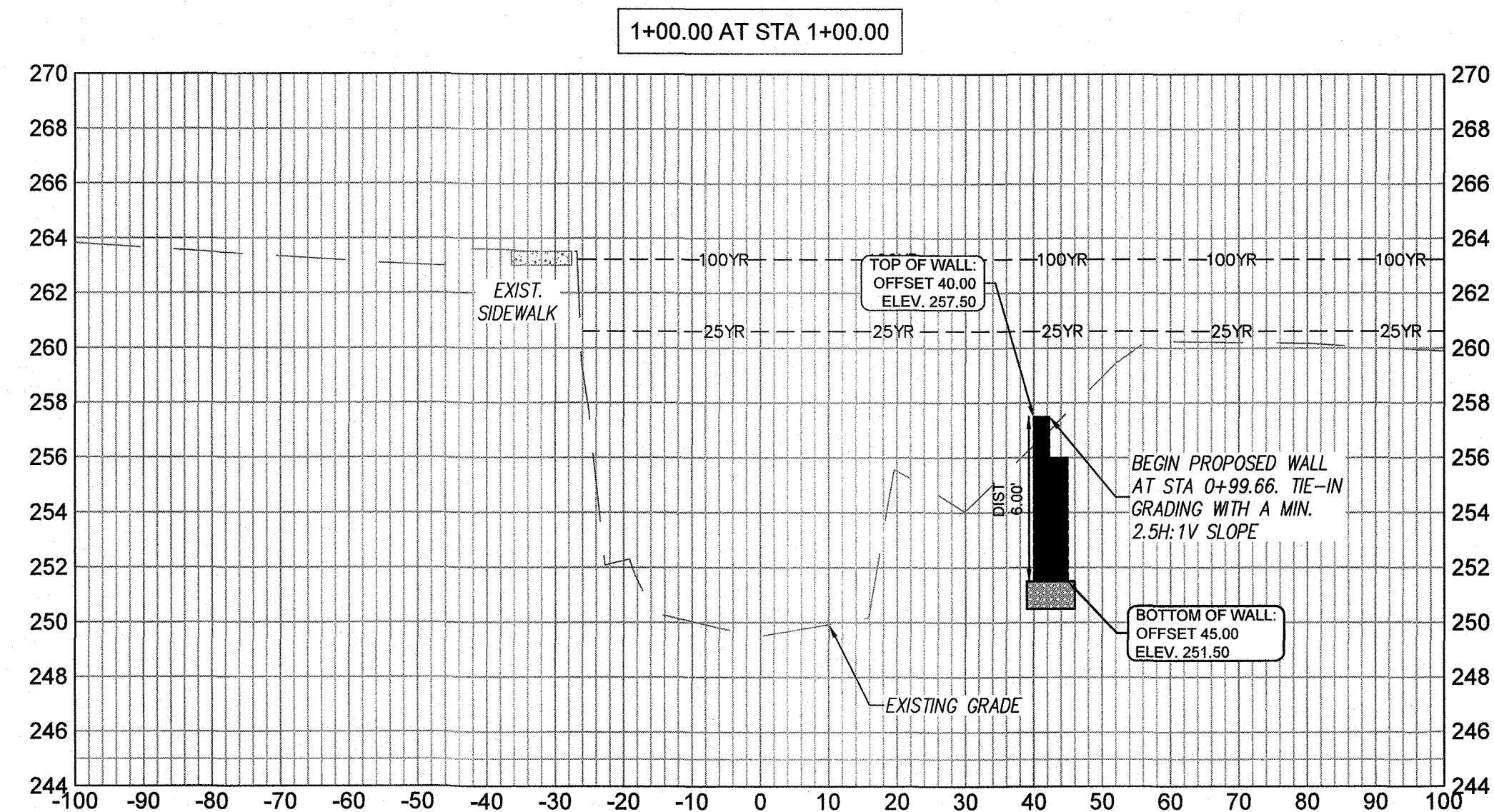
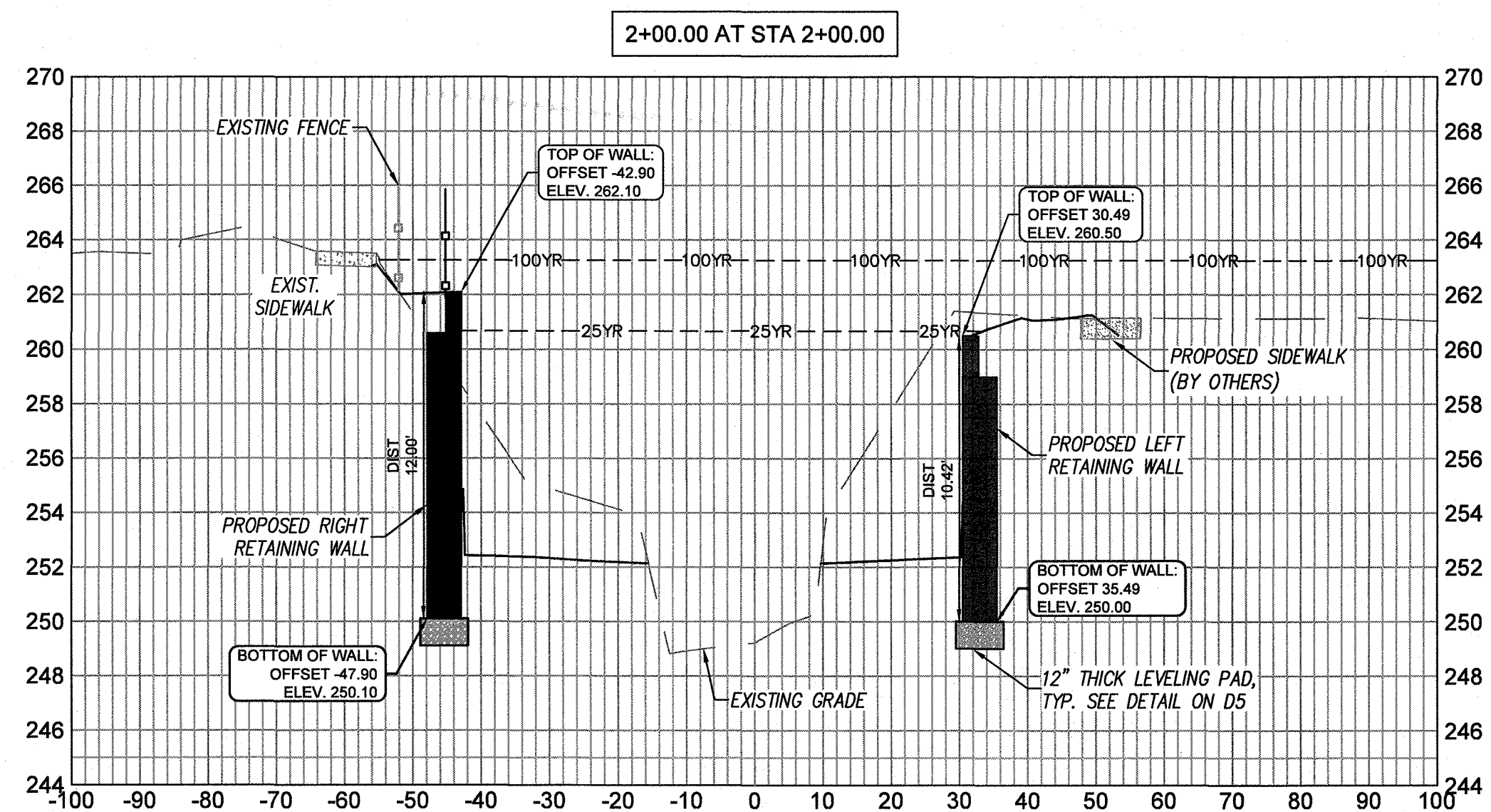
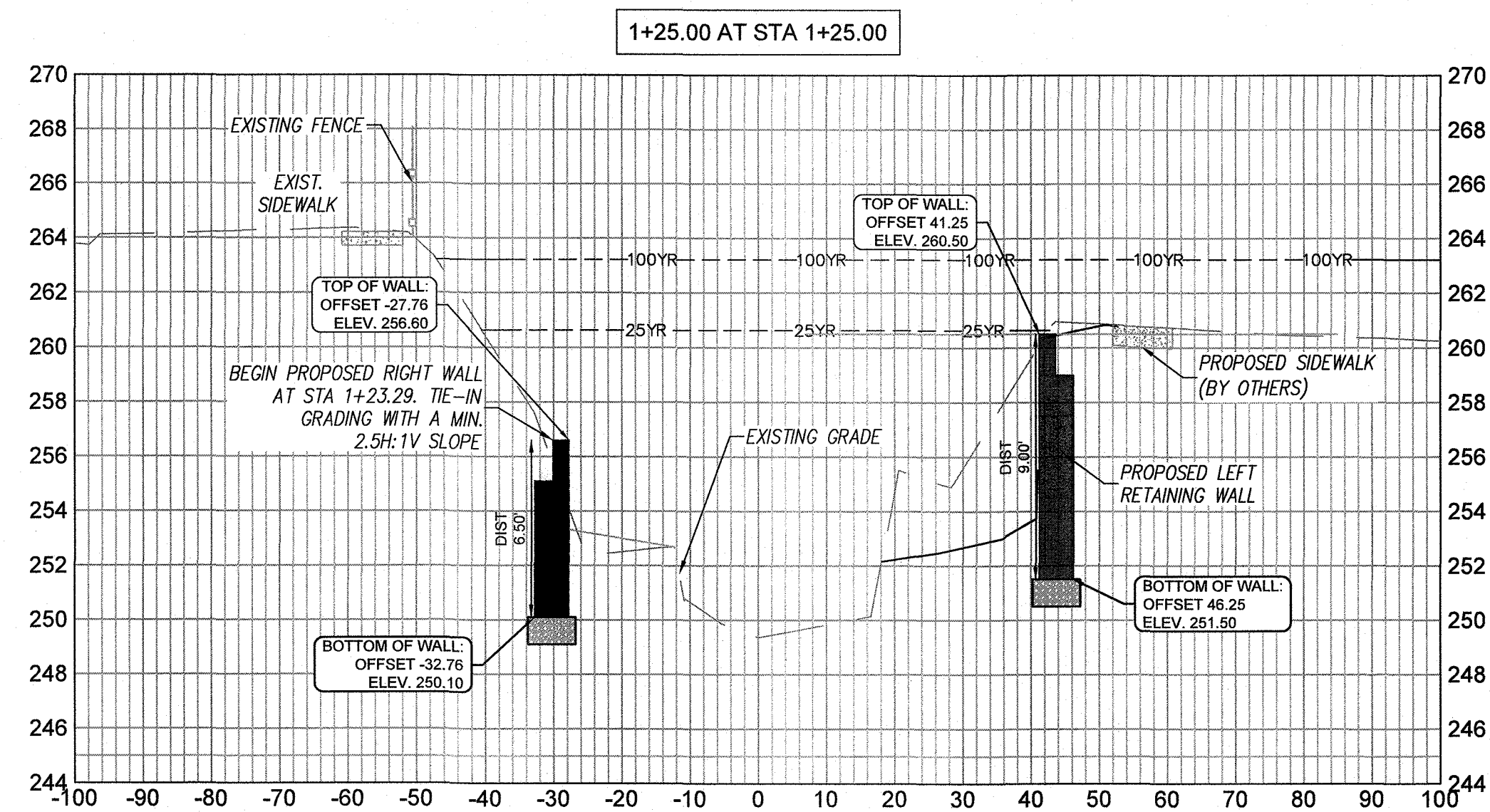
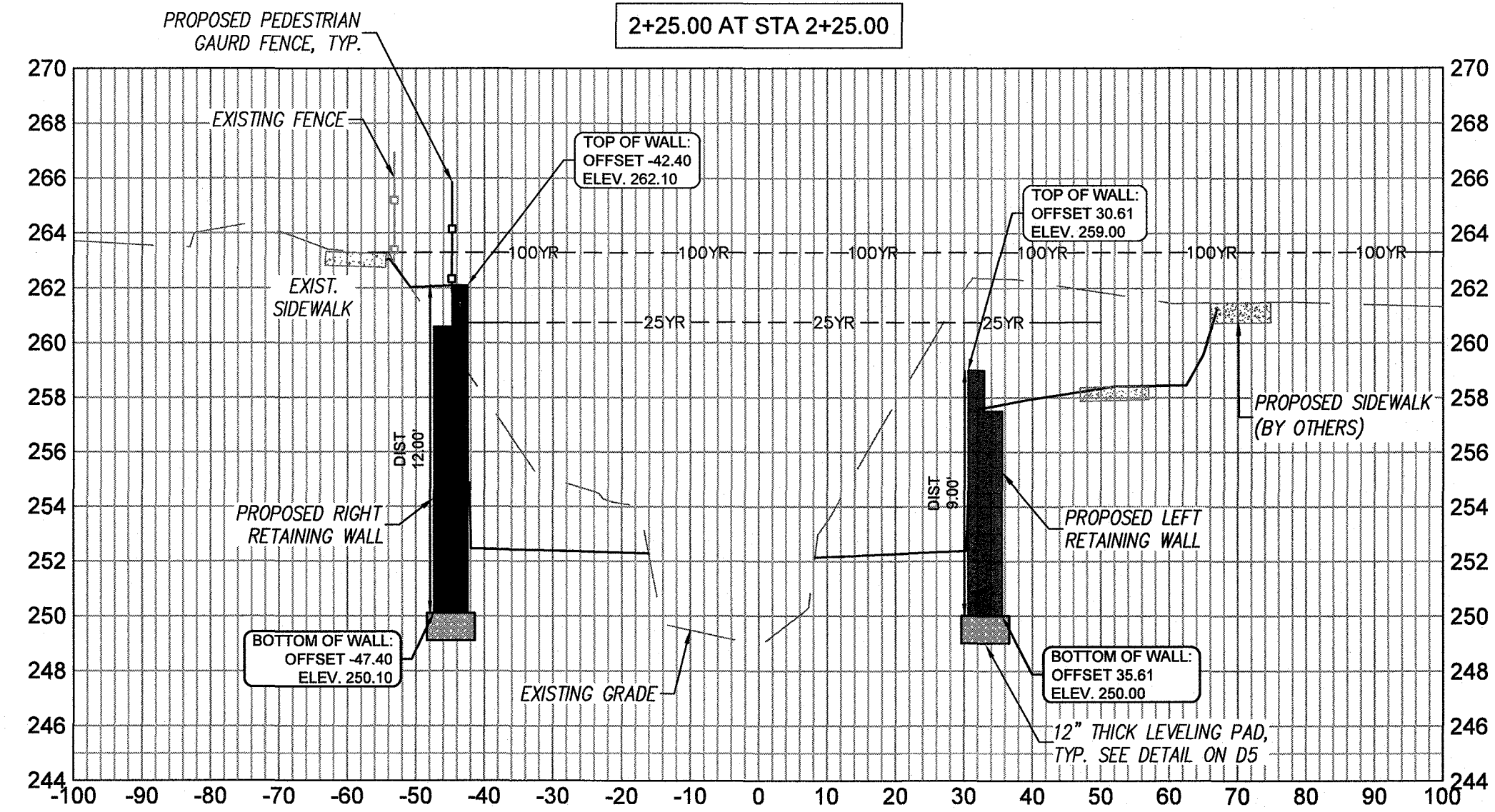
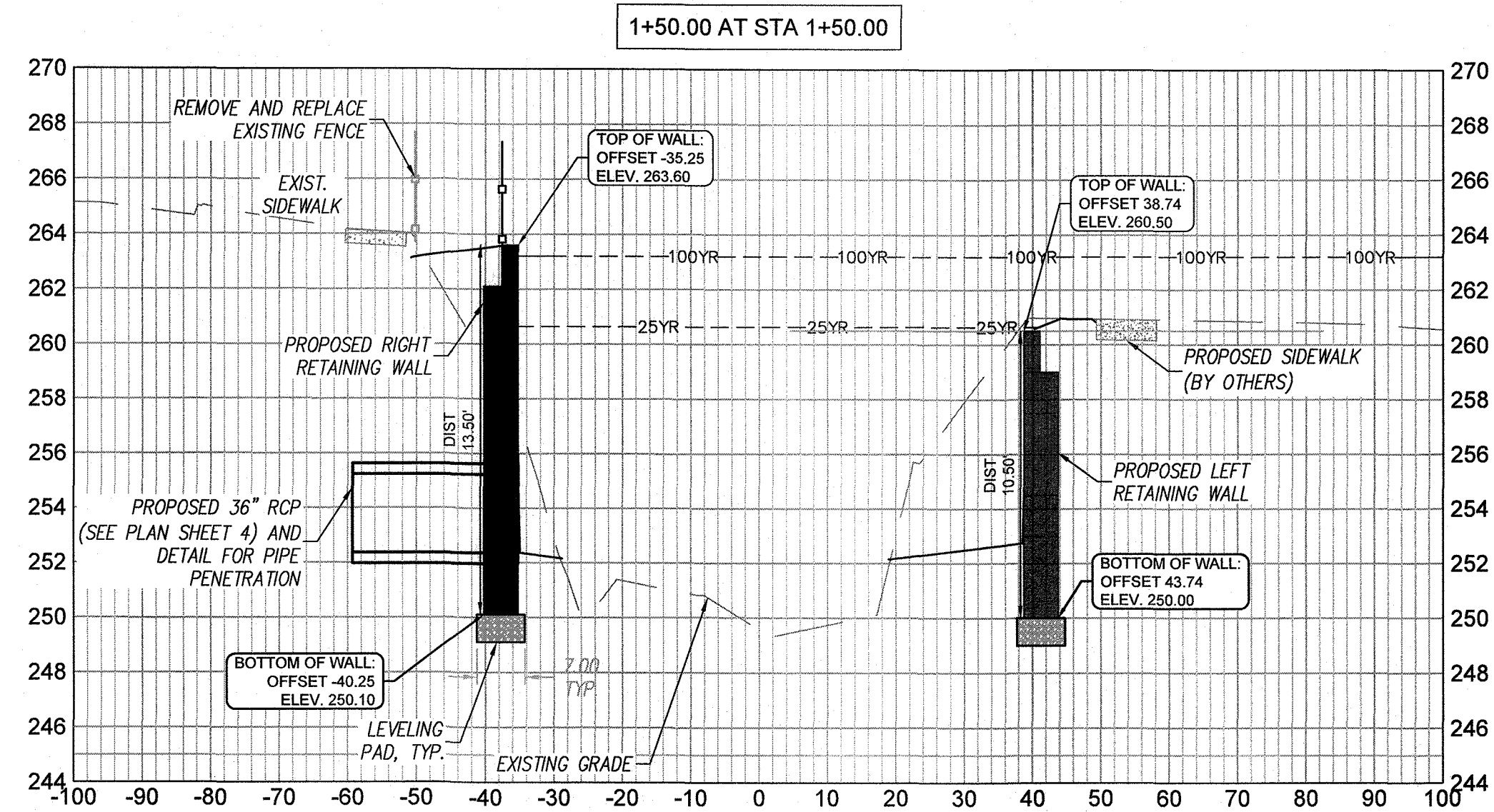
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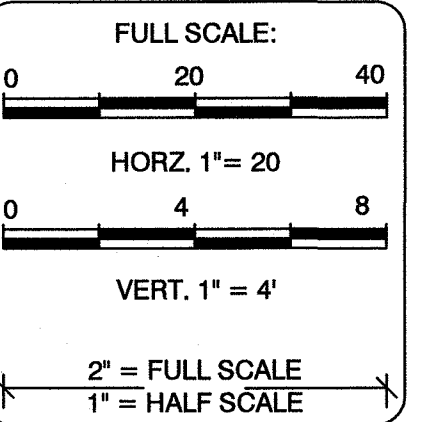
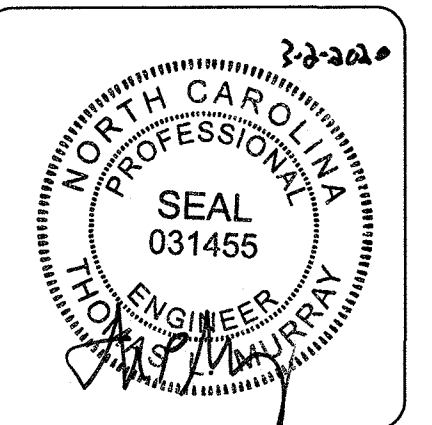


PROJECT NAME:	ELLIOTT STORAGE DESIGN TOWN OF CHAPEL HILL, NORTH CAROLINA	REVISIONS:	MARK	DATE	DESCRIPTION	RELEASED FOR: CONSTRUCTION	PLOT DATE: 2/28/2020
DRAWING TITLE:	WALL DETAILS						

PROJ. DATE:	JUNE 2019
Q.C.:	ILM
Q.C. DATE:	MAY 2019
DRAWING NUMBER:	D6
PROJ. NO.:	20170225.00.RA



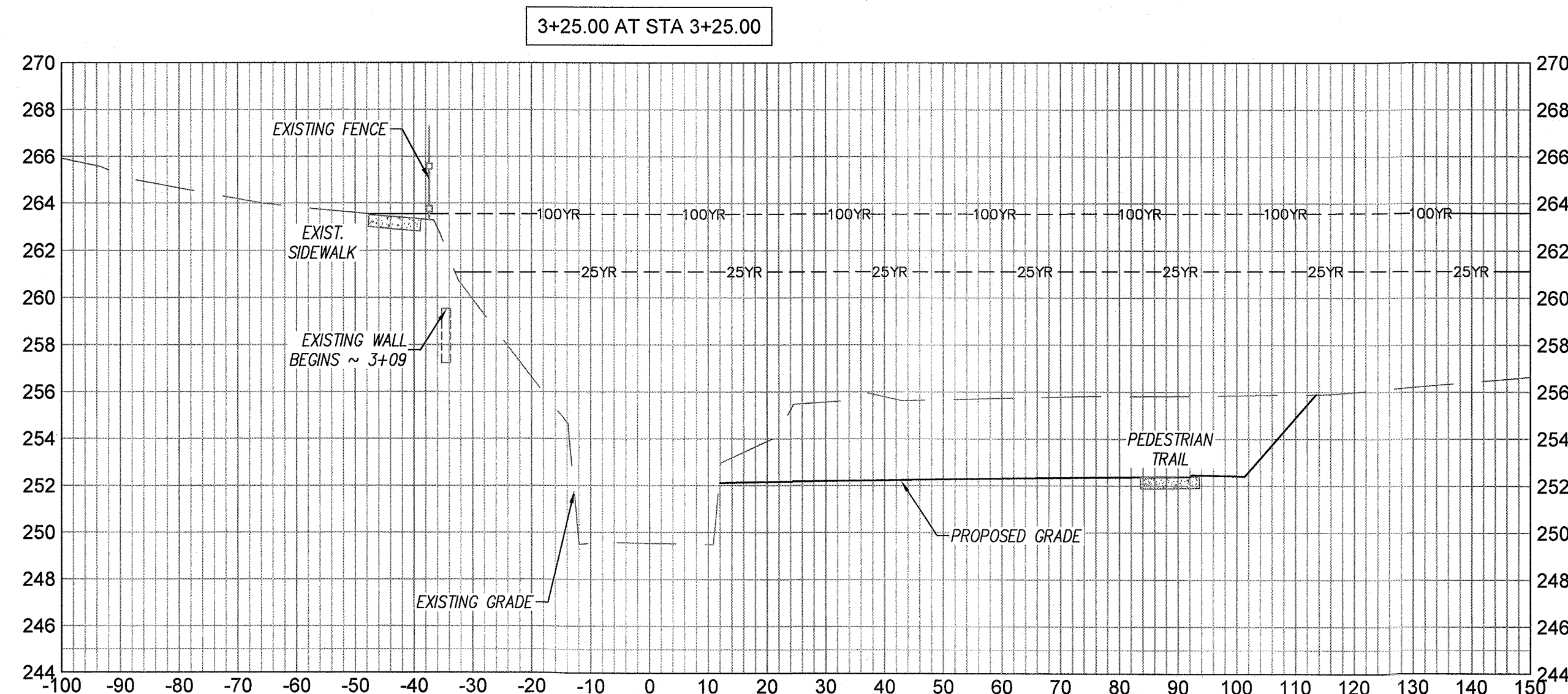
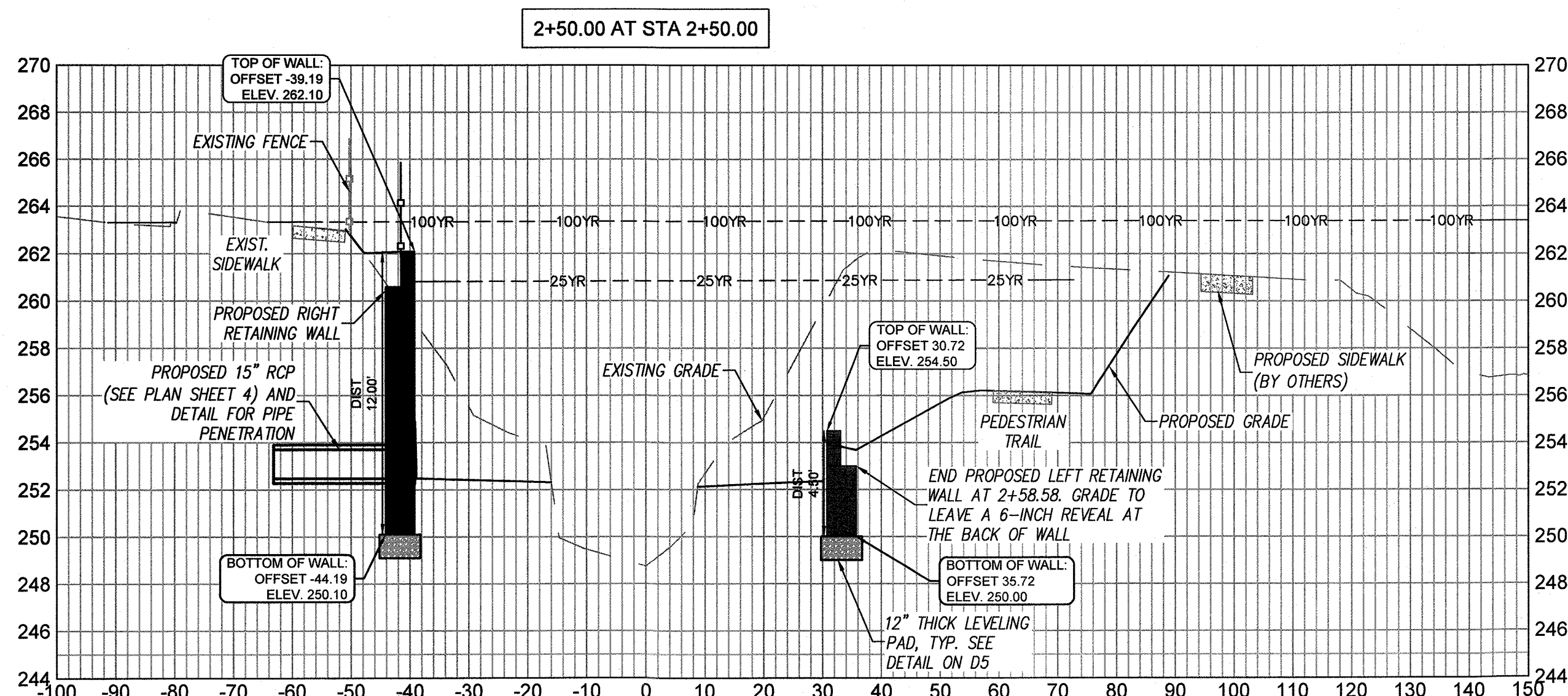
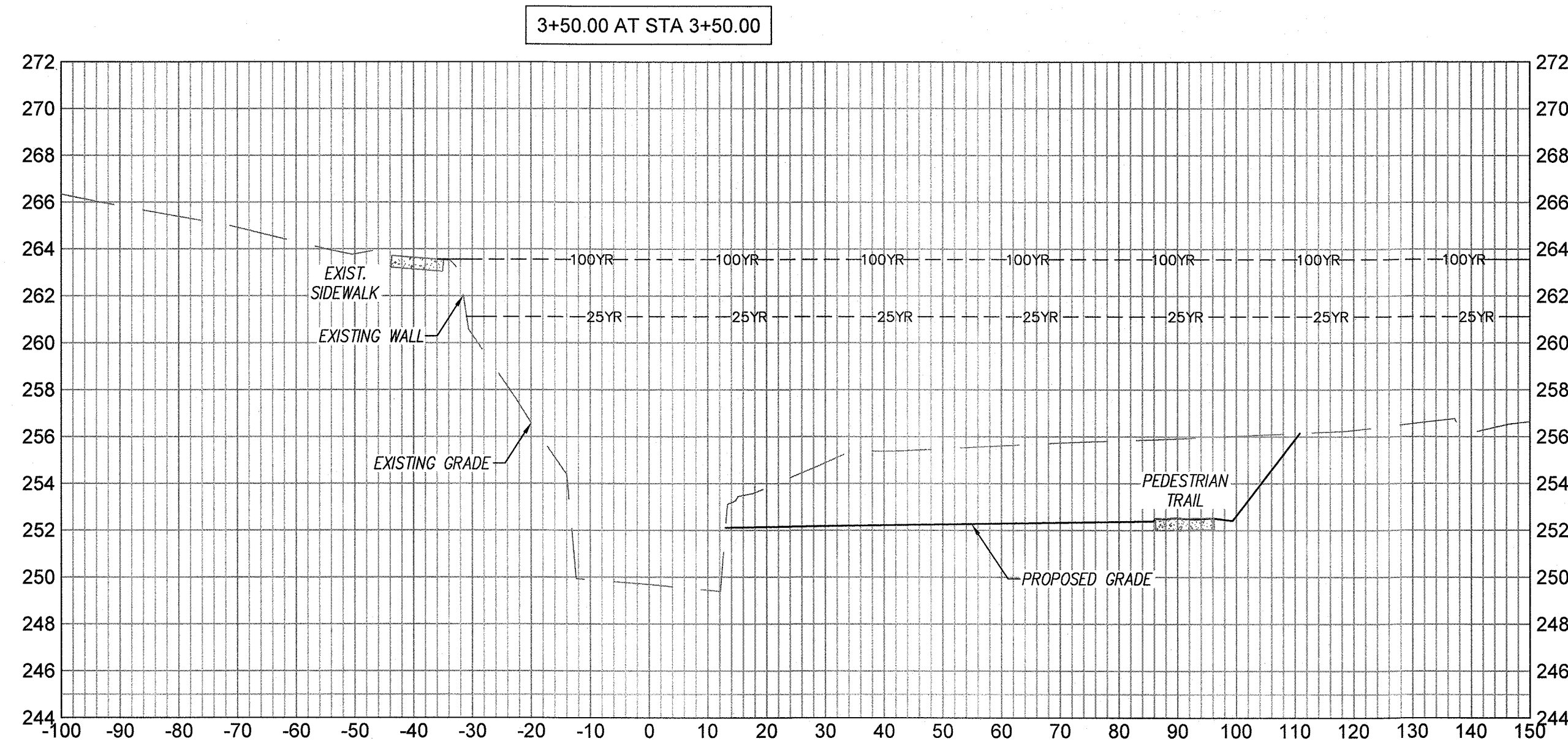
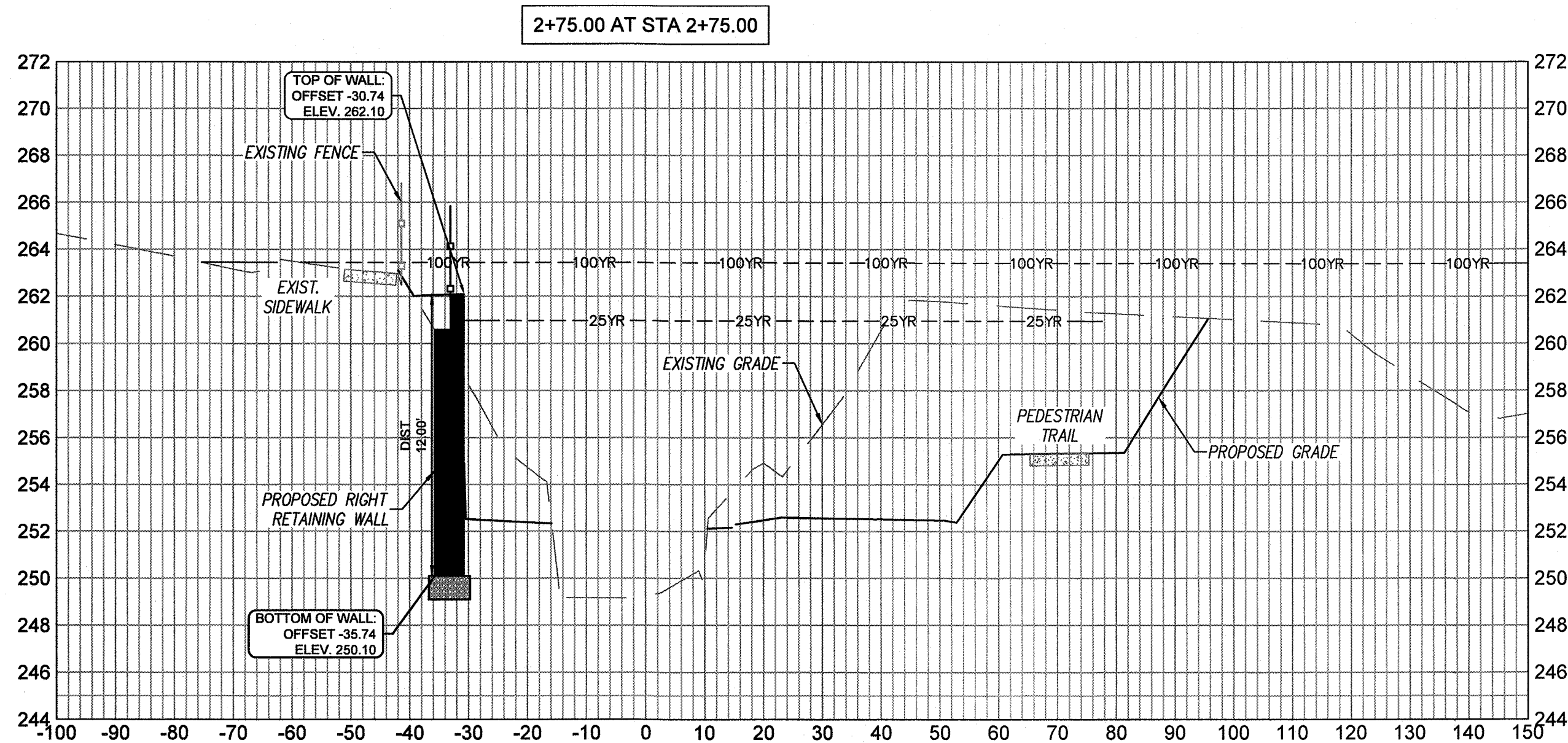
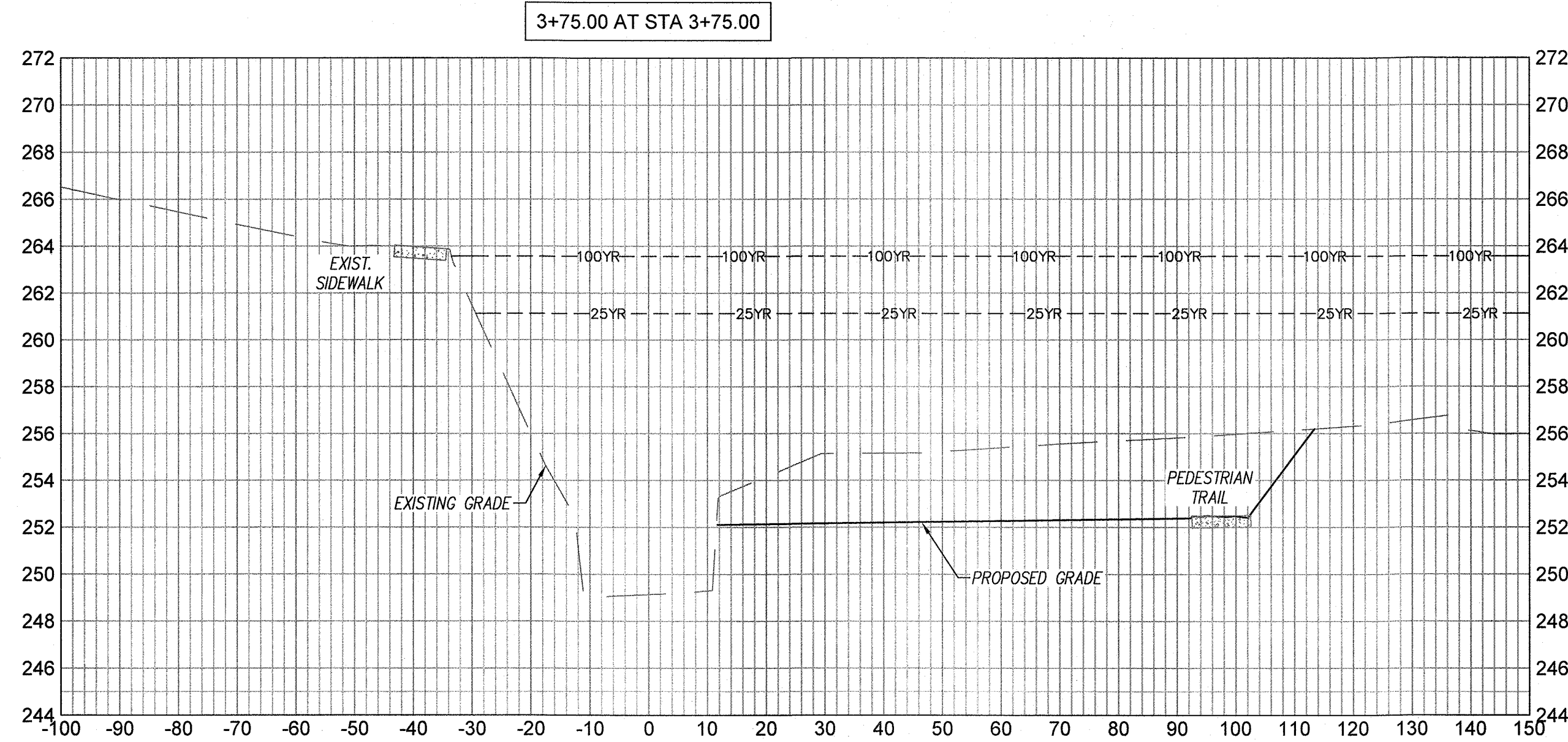
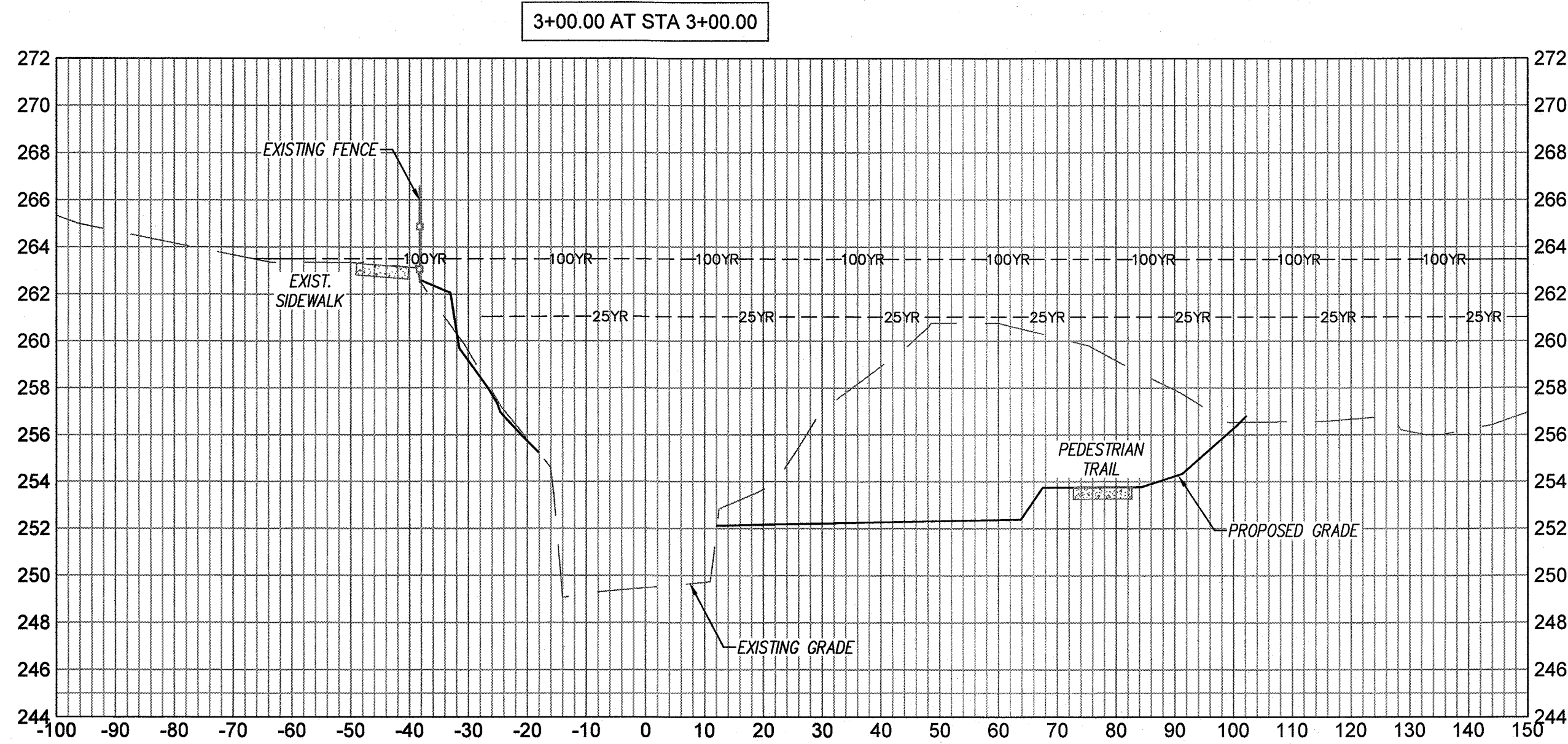
- CONSTRUCTION NOTES:
1. REFER TO SHEETS 4 & 9 FOR NOTES PERTAINING TO THE RETAINING WALLS.
 2. STATIONS ARE BASED ON ELLIOT BASELINE AND ARE VIEWED LOOKING UPSTREAM.



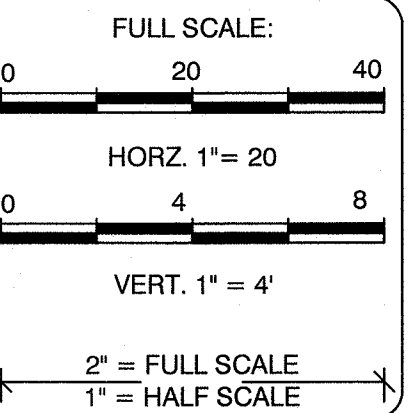
MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE:
					2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS-SECTIONS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS1
PROJ. NO.: 20170225.00.RA



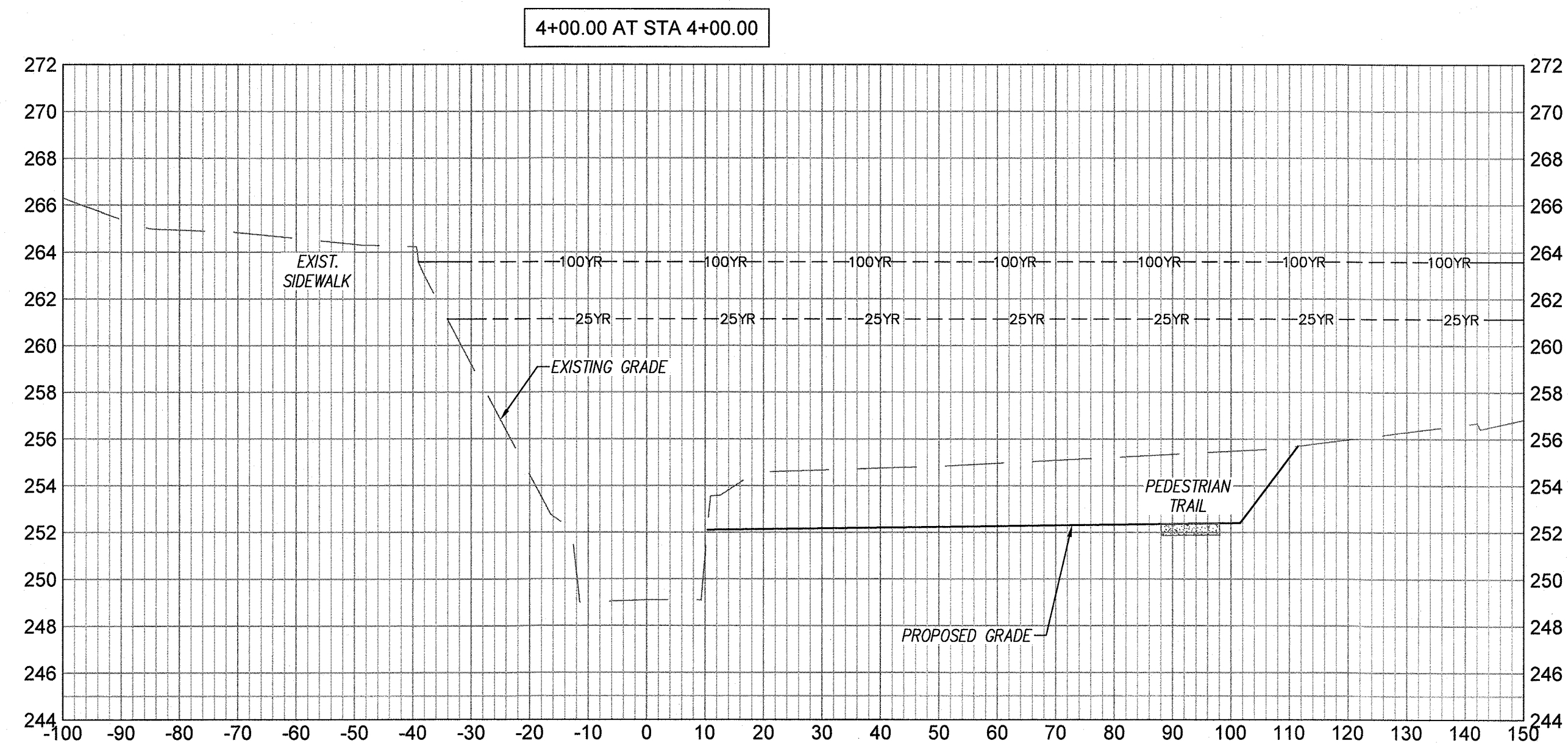
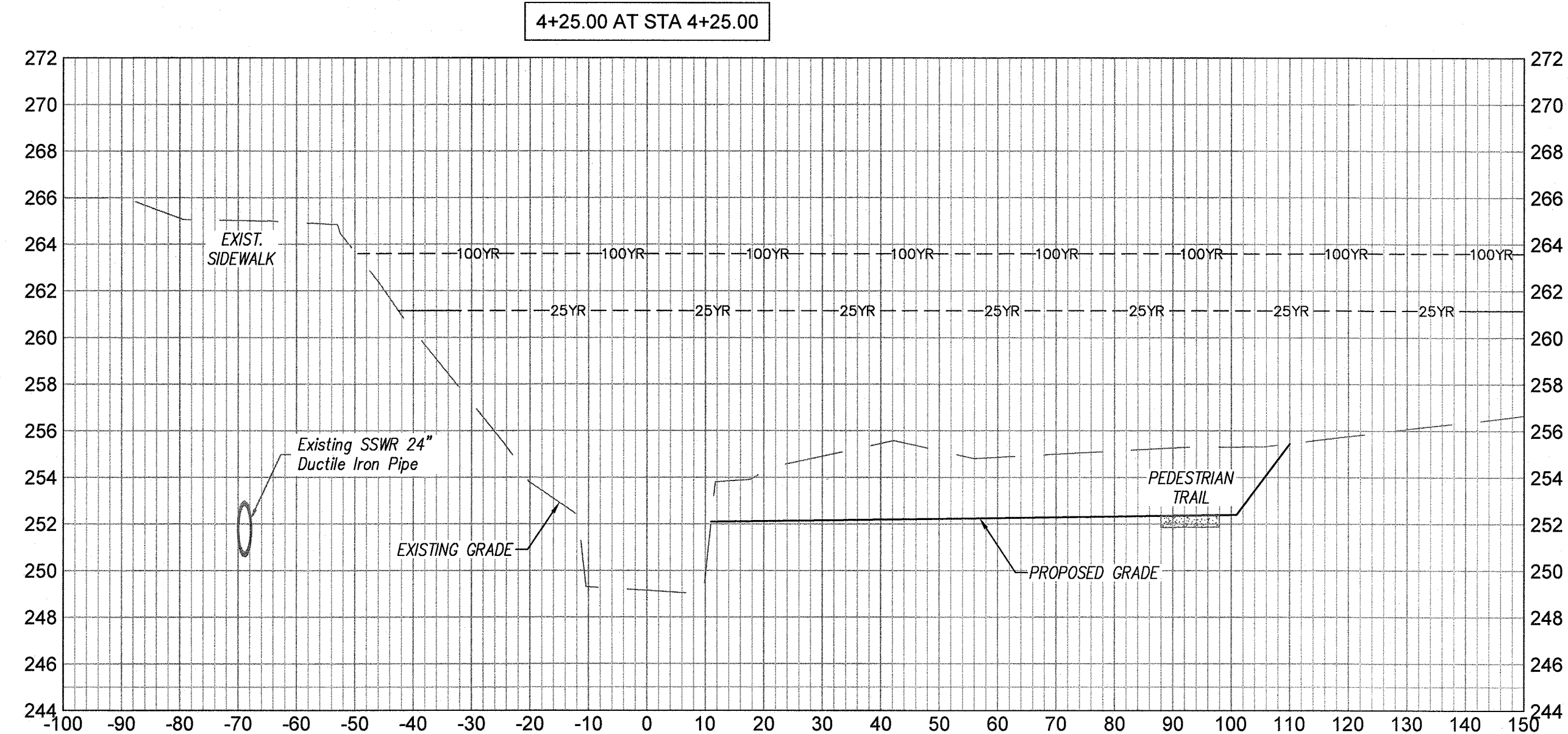
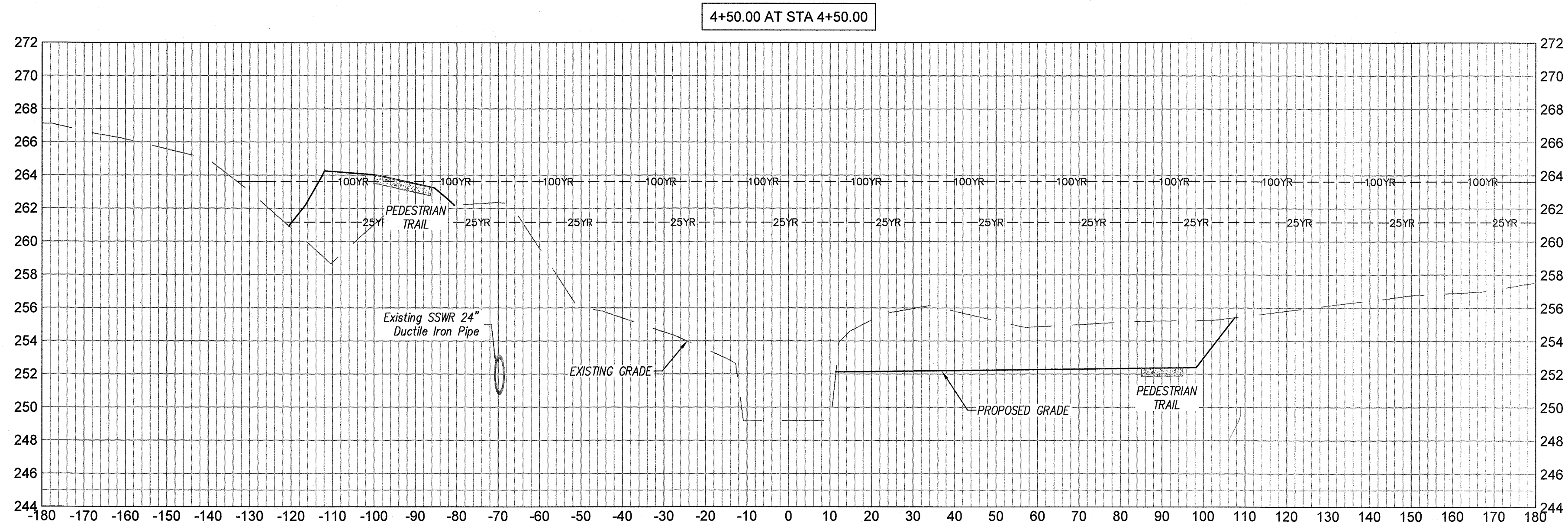
- CONSTRUCTION NOTES:
1. REFER TO SHEETS 4 & 9 FOR NOTES PERTAINING TO THE RETAINING WALLS.



MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE:
					2/28/2020

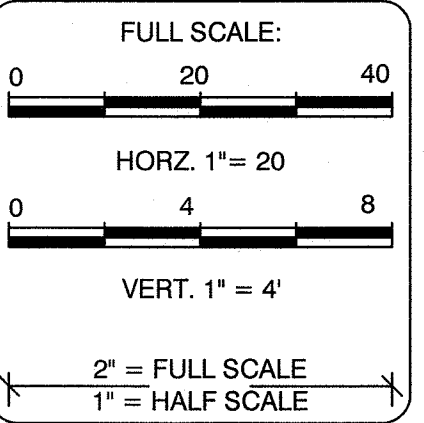
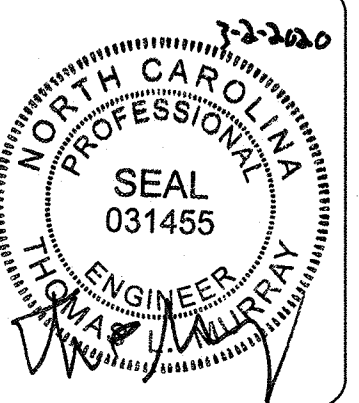
PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS-SECTIONS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS2
PROJ. NO.:
20170225.00.RA



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(919) 782-9672
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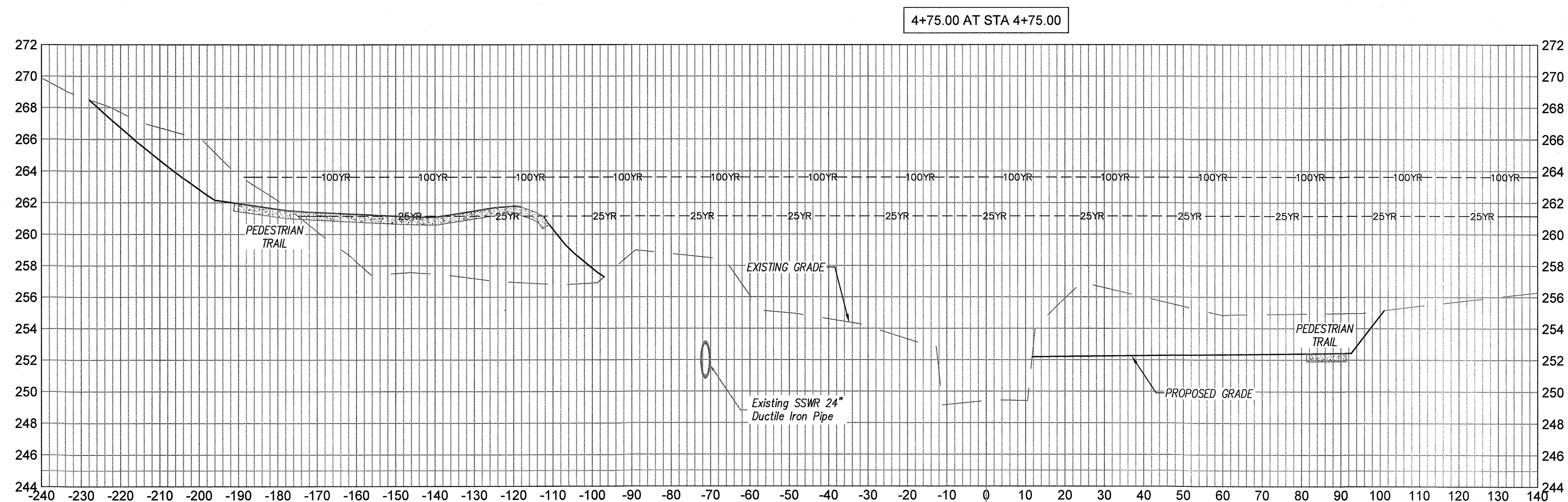
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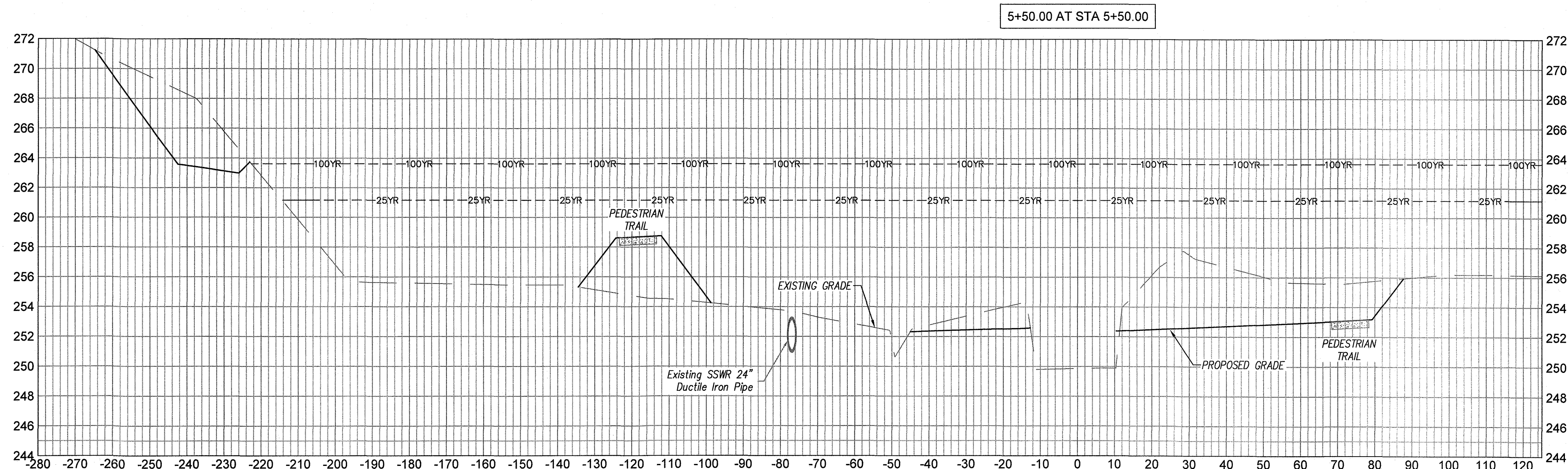
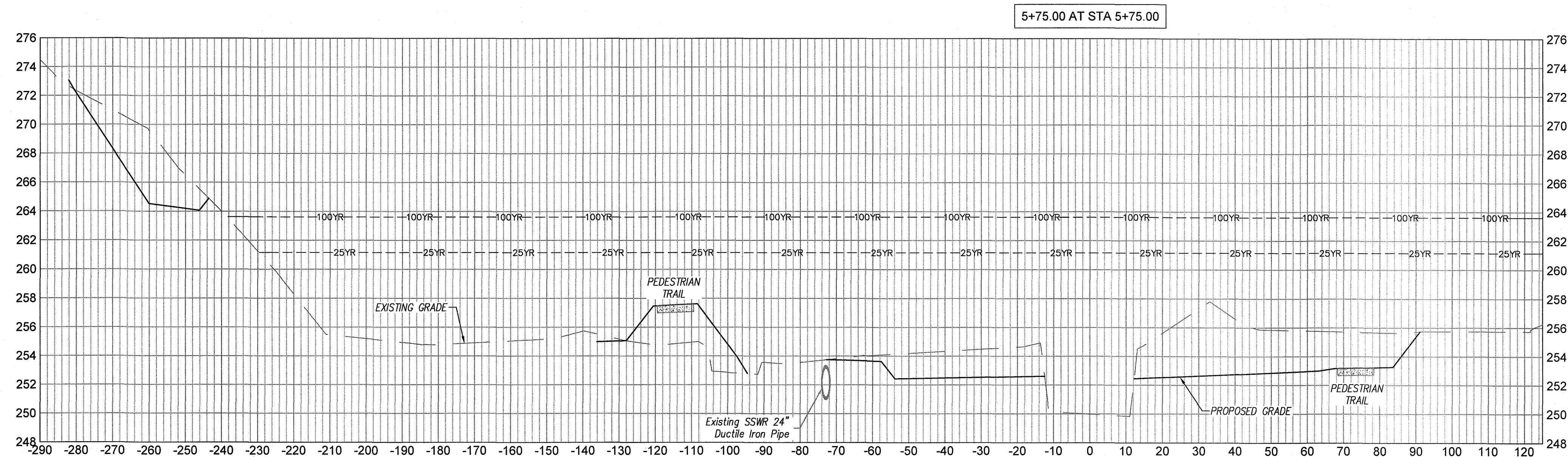
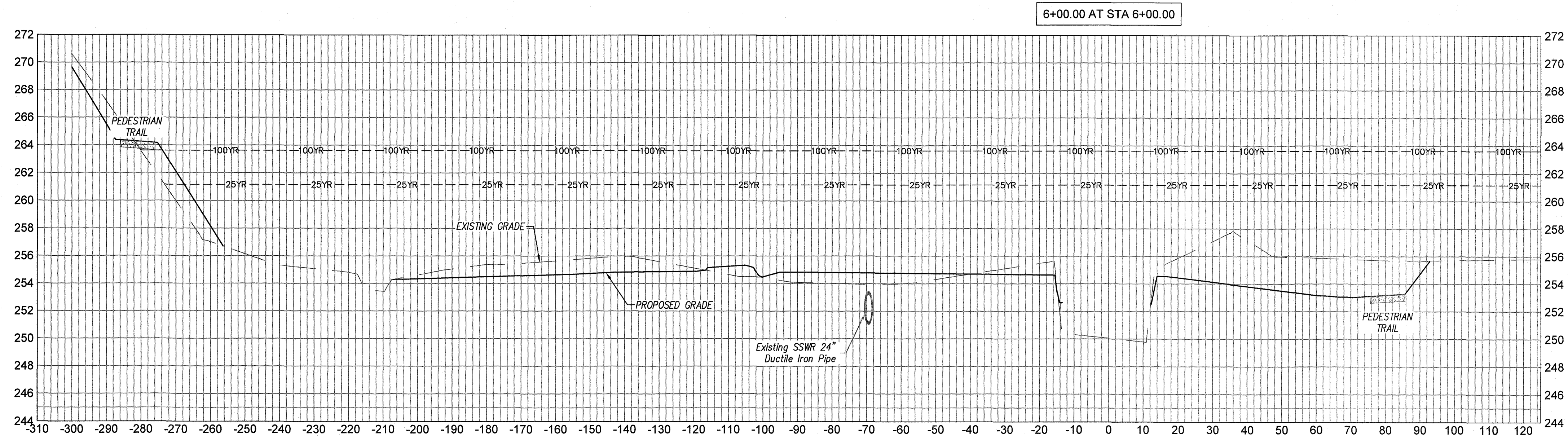
REVISIONS:
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PLOT DATE:
2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS-SECTIONS

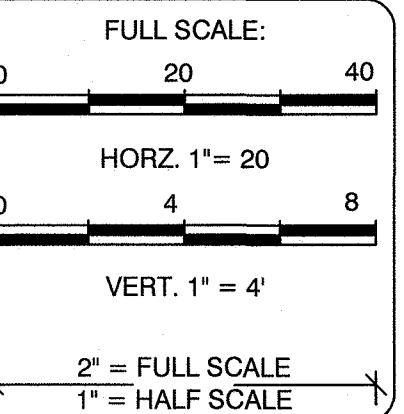
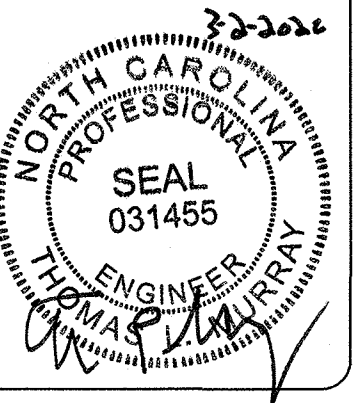
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Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS3
PROJ. NO.:
20170225.00.RA





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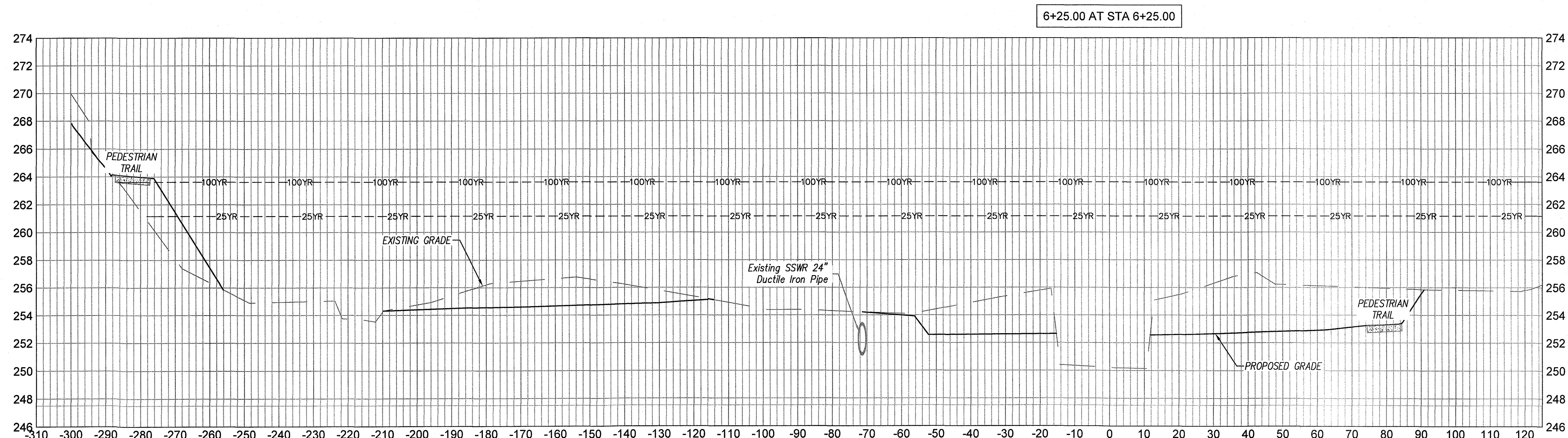
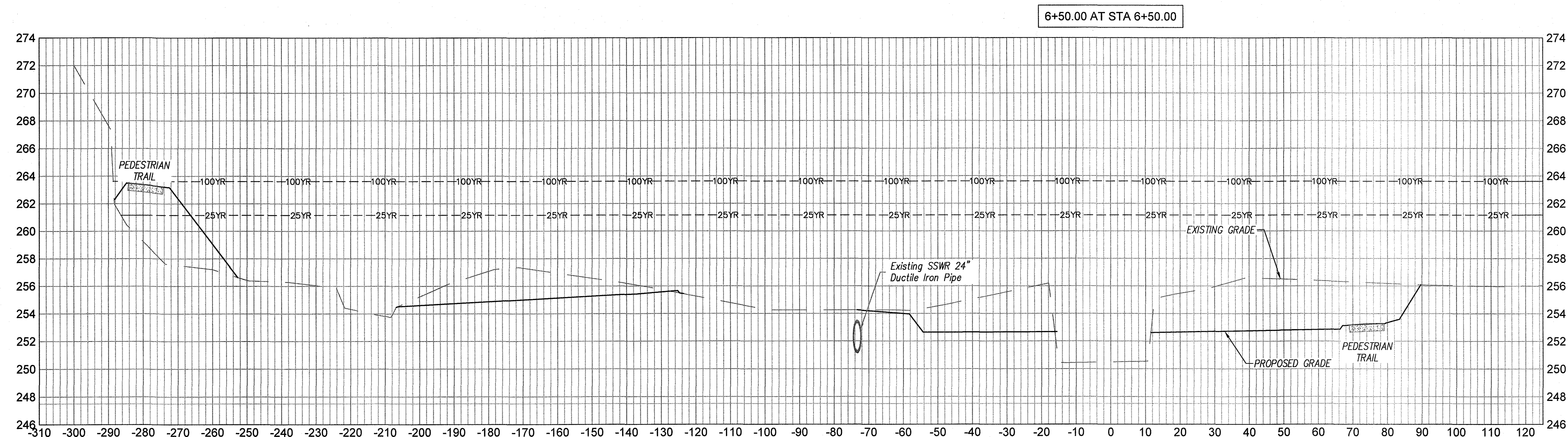
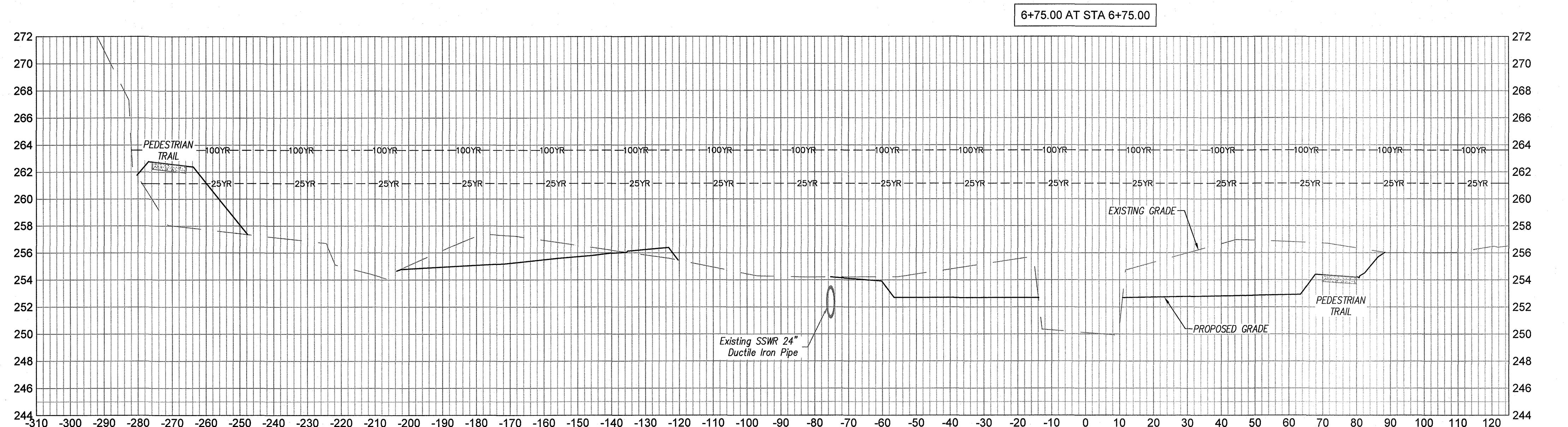
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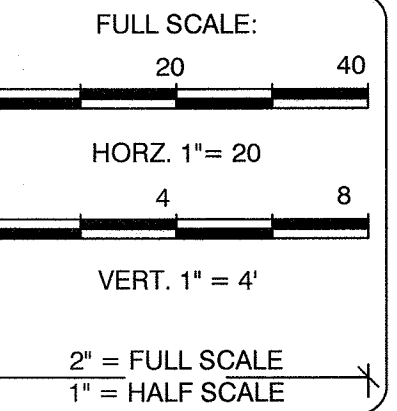
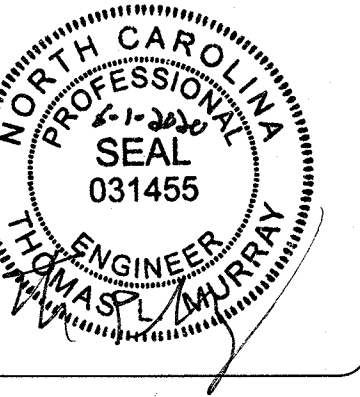
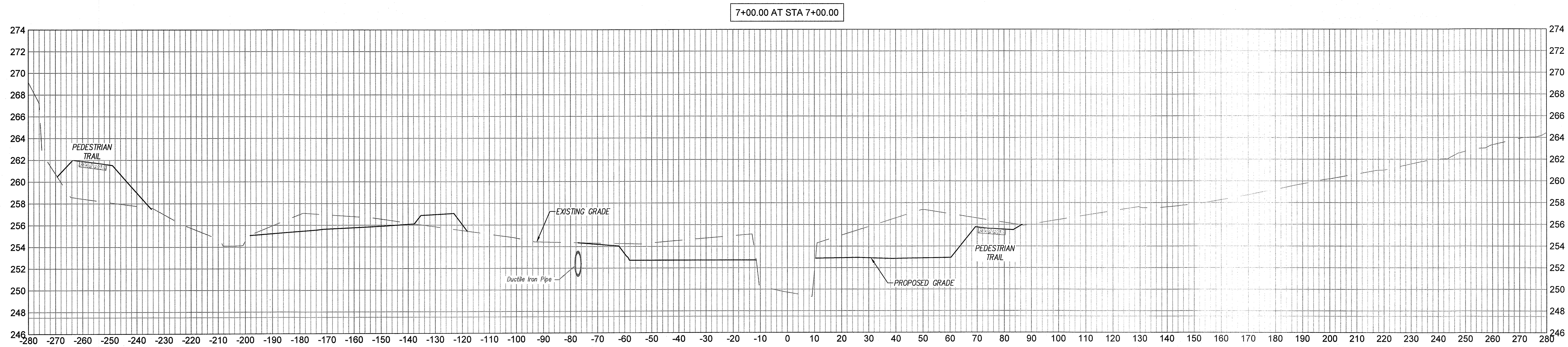
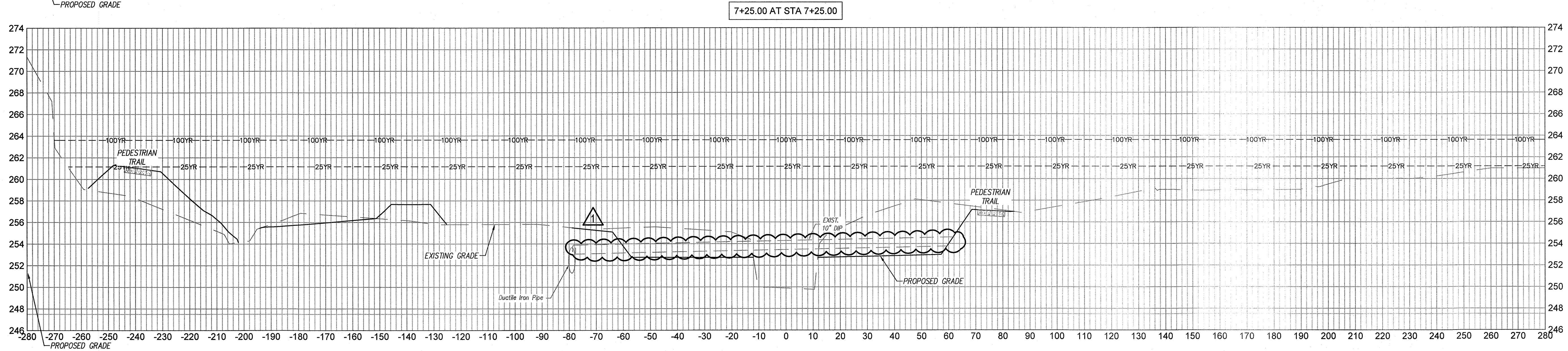
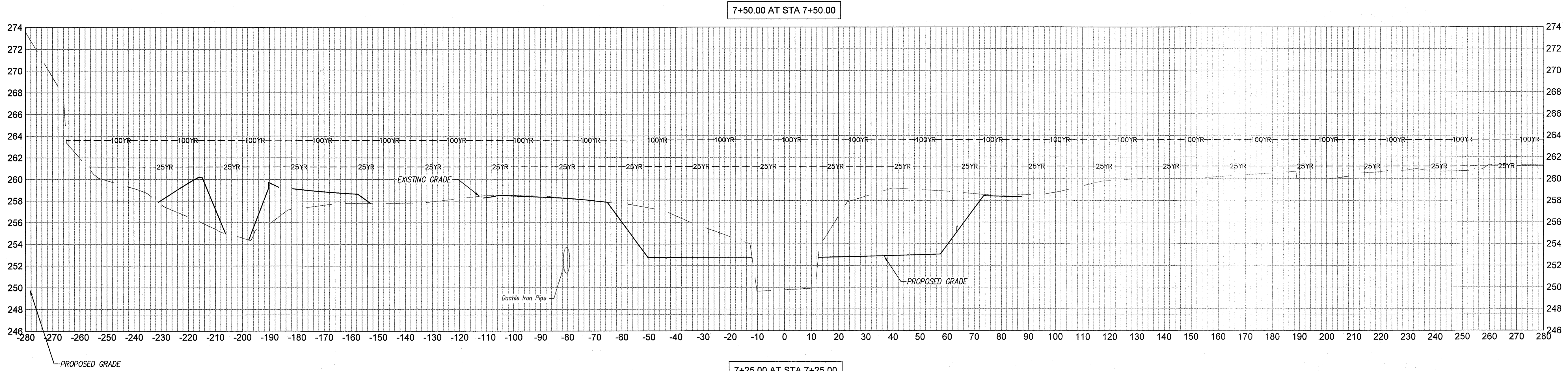


MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE:
					2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS-SECTIONS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS5
PROJ. NO.:
20170225.00.RA

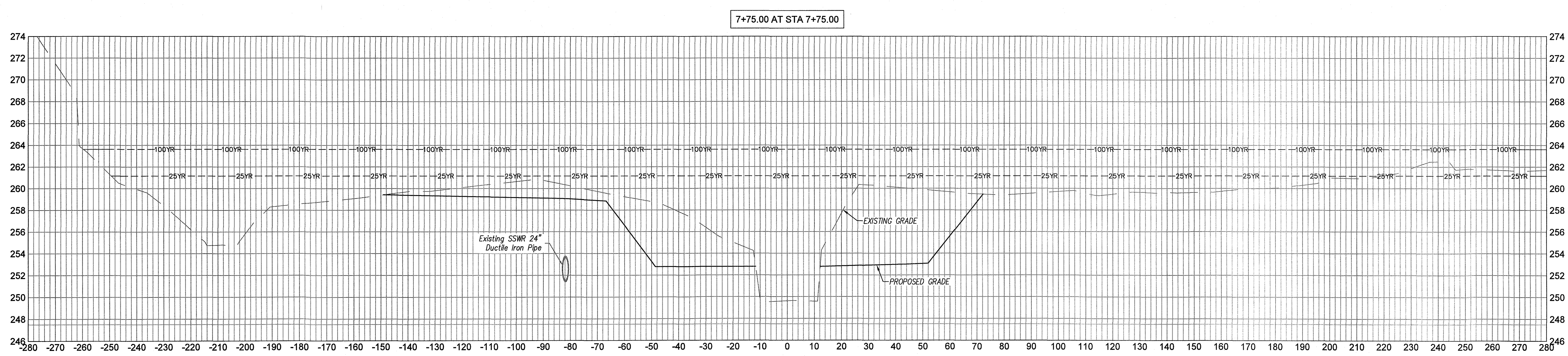


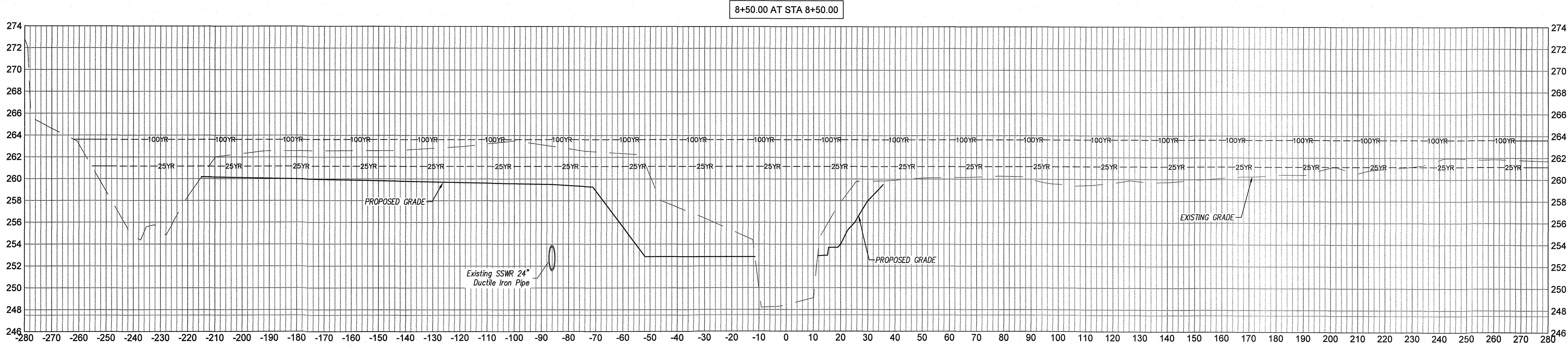
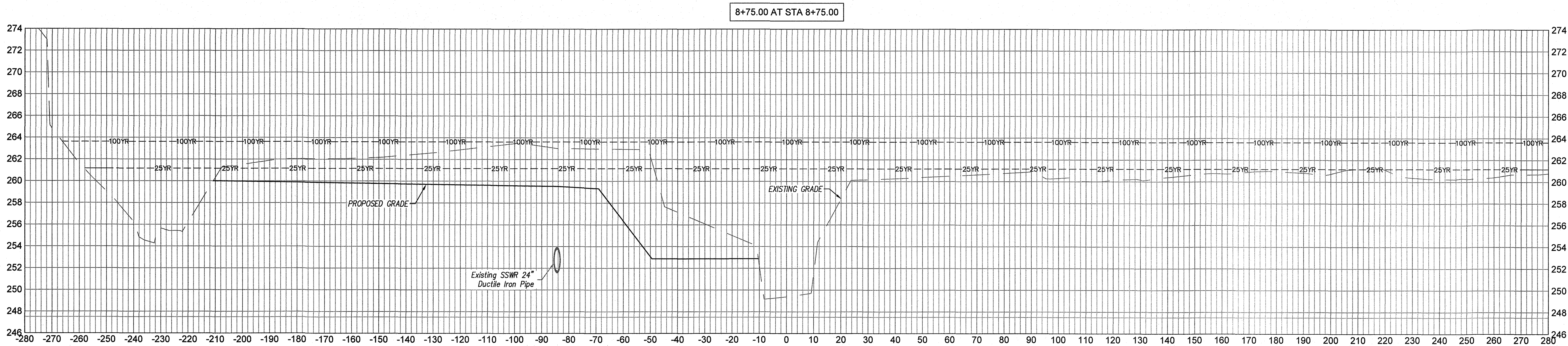
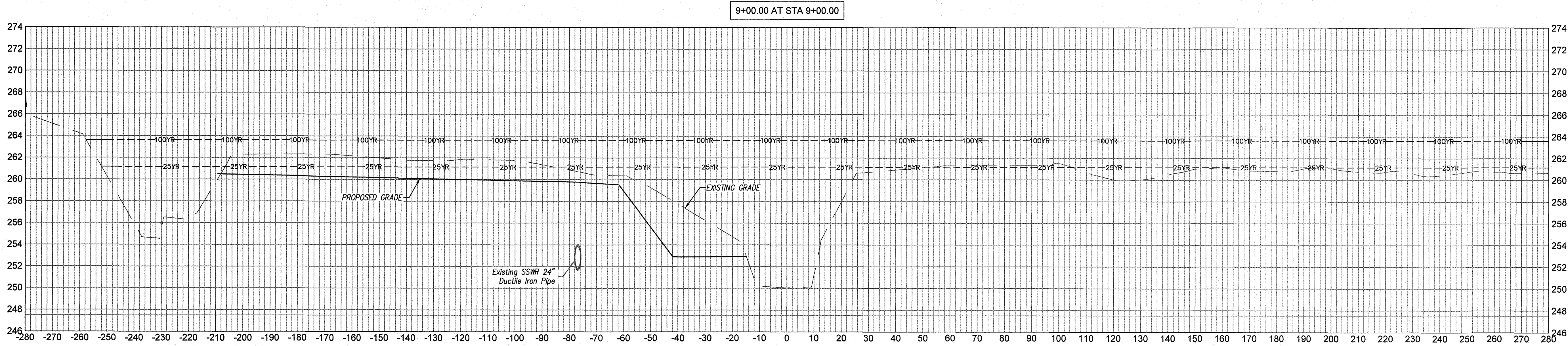


MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
1	5-28-20	ADDED 10" DIP TO CROSS SECTION 7+25		FOR CONSTRUCTION	5/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS-SECTIONS

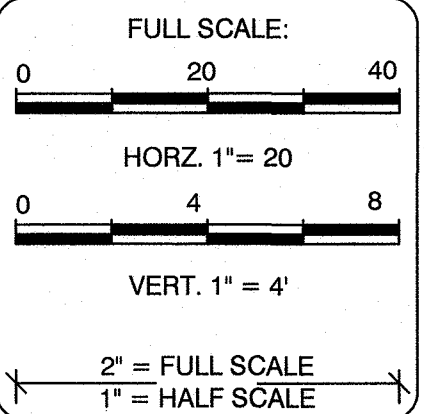
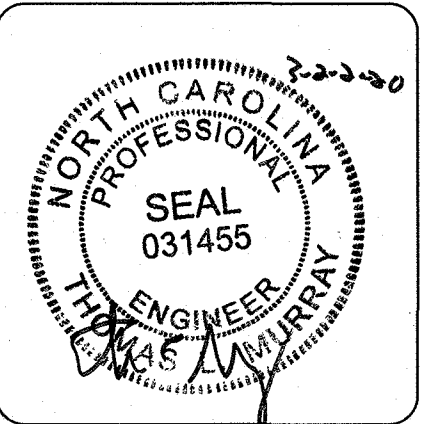
PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER: XS7
PROJ. NO.: 20170225.00.RA





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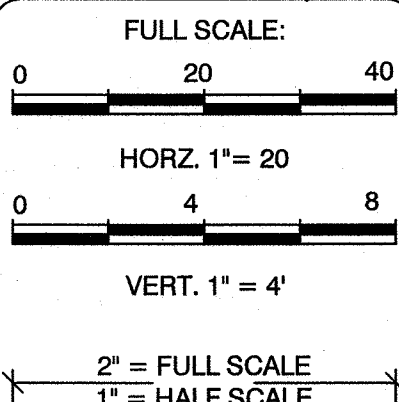
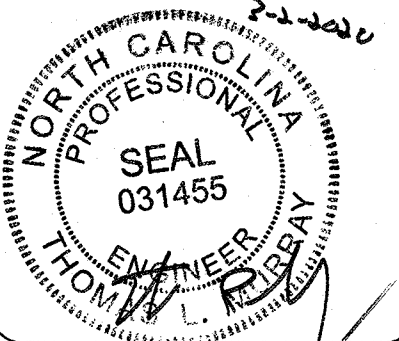
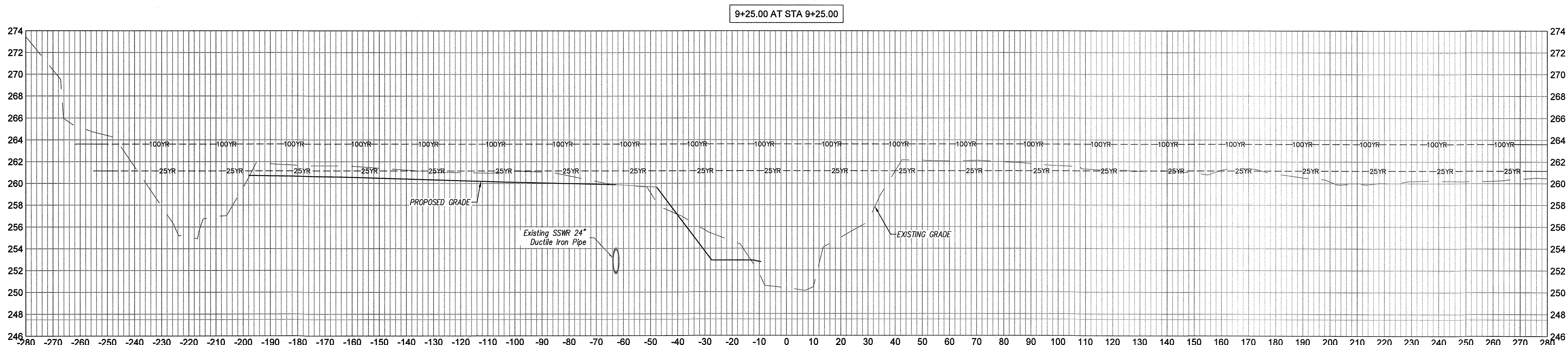
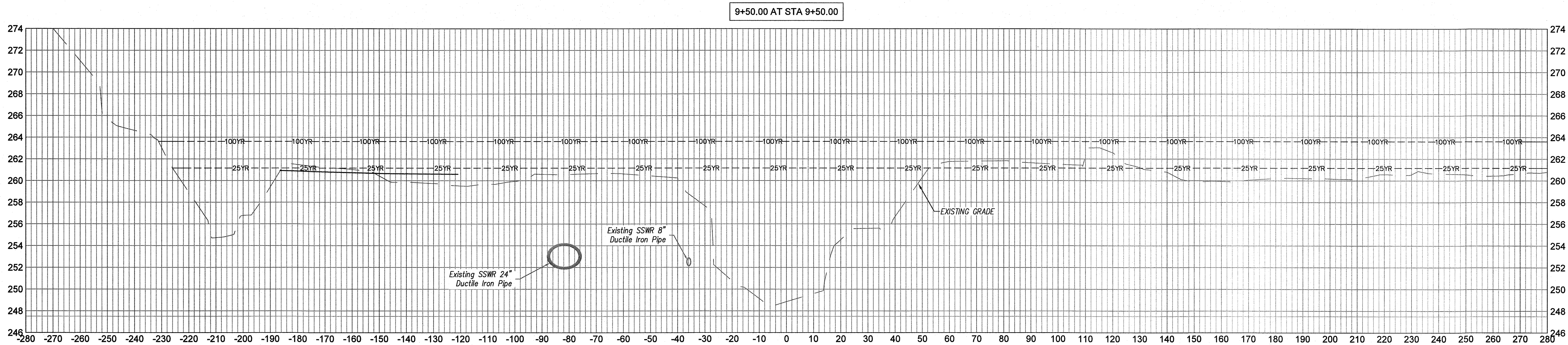
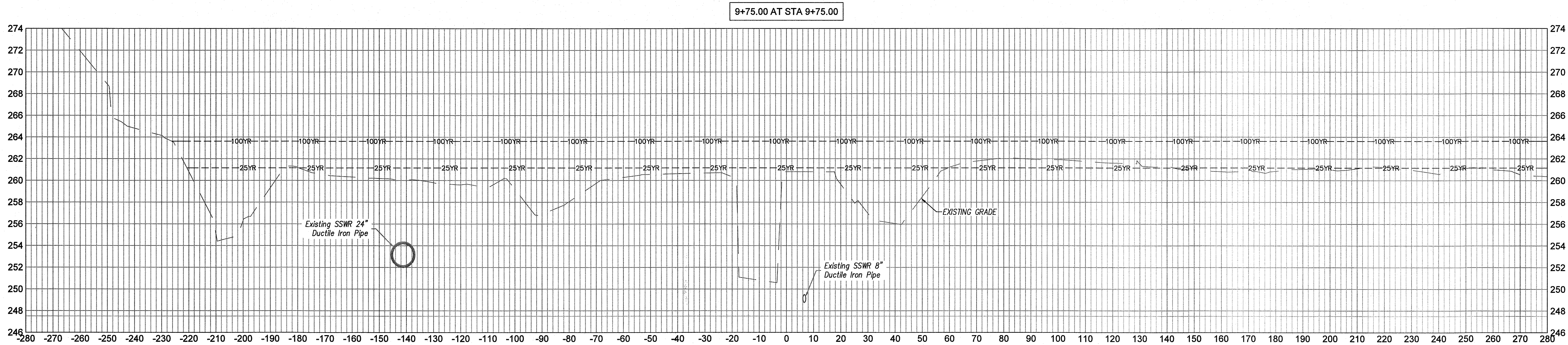
MARK	DATE	DESCRIPTION

REVISIONS:
RELEASED FOR CONSTRUCTION

PLOT DATE:
3/2/2020

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:
CROSS SECTIONS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS9
PROJ. NO.:
20170225.00.RA



MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
				FOR CONSTRUCTION	9/2/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: CROSS SECTIONS

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019
DRAWING NUMBER:
XS10
PROJ. NO.:
20170225.00.RA

EROSION CONTROL NOTES:

1.

REFER TO GENERAL NOTES ON SHEET 2.
2.

DISTURBED AREAS:
STORM DRAINAGE IMPROVEMENTS

ELLIOT STORAGE 5.99 AC (261055.5 SF)
3.

NO ON-SITE BURIAL OF VEGETATION OR CONSTRUCTION DEBRIS WILL BE PERMITTED.
4.

ANY DISTURBANCE BEYOND THE CONSTRUCTION LIMITS SHOWN ON THE PLANS IS A VIOLATION OF THE NORTH CAROLINA SEDIMENTATION POLLUTION CONTROL ACT AND THE CONTRACT SPECIFICATIONS.
5.

PLEASE REFERENCE THE TOWN OF CHAPEL HILL STANDARDS SHOWN ON SHEETS EC5 – EC6 FOR EROSION CONTROL DETAILS.
6.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ALL EROSION CONTROL MEASURES RELATED TO THE CONSTRUCTION SITE.
7.

AT A MINIMUM, EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE STATE AND LOCAL REGULATIONS. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY LOCAL GOVERNING AGENCIES.
8.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE IMMEDIATE REMOVAL OF ANY SOIL TRACKED INTO THE PUBLIC RIGHT-OF-WAY.
9.

THE LOCATIONS OF SOME EROSION CONTROL MEASURES MAY HAVE TO BE ALTERED FROM THOSE SHOWN ON THE PLANS IF DRAINAGE PATTERNS CHANGE DURING CONSTRUCTION, SUBJECT TO THE REVIEW AND APPROVAL OF THE PROJECT ENGINEER.
10.

NO STOCKPIILING SHALL OCCUR OVERNIGHT. REMOVE AND PROPERLY DISPOSE OF ALL DEBRIS FROM STOCKPILE AT THE END OF EACH WORKING DAY.
11.

THE CONTRACTOR SHALL INSTALL AND MAINTAIN PUMP AROUND AND IMPERVIOUS DIKE AS NEEDED.
12.

SEE SHEET D1 FOR SEEDING AND STABILIZATION DETAILS.
13.

NO WASTE, SPOIL, SOLIDS, OR FILL OF ANY KIND SHALL OCCUR IN WETLANDS, WATERS, OR RIPARIAN AREAS BEYOND THE FOOTPRINT OF THE IMPACTS DEPICTED IN THE PRE-CONSTRUCTION NOTIFICATION. ALL CONSTRUCTION ACTIVITIES, INCLUDING THE DESIGN, INSTALLATION, OPERATION, AND MAINTENANCE OF SEDIMENT AND EROSION CONTROL BEST MANAGEMENT PRACTICES, SHALL BE PERFORMED SO THAT NO VIOLATIONS OF STATE WATER QUALITY STANDARDS, STATUTES, OR RULES OCCUR. [15A NCAC 02H .0501 AND .0502]
14.

THE OUTSIDE BUFFER, WETLAND OR WATER BOUNDARY AND ALONG THE CONSTRUCTION CORRIDOR WITHIN THESE BOUNDARIES APPROVED UNDER THIS AUTHORIZATION SHALL BE CLEARLY MARKED WITH ORANGE WARNING FENCING (OR SIMILAR HIGH VISIBILITY MATERIAL) FOR THE AREAS, THAT HAVE BEEN APPROVED TO INFRINGE WITHIN THE BUFFER, WETLAND OR WATER PRIOR TO ANY LAND DISTURBING ACTIVITIES TO ENSURE COMPLIANCE WITH 15 NCAC 02H .0500. [15A NCAC 02H .0506 (B)(2) AND (C)(2) AND 15A NCAC 02H .0507(C)]

CONSTRUCTION SEQUENCE:

1.

REFER TO ABOVE NOTES AND GENERAL NOTES ON SHEET 2.
2.

THE TOWN OF CHAPEL HILL SHALL CONDUCT THE PRE-CONSTRUCTION MEETING INCLUDING THE ENGINEER, THE CONTRACTOR'S SUPERINTENDENT, THE PROJECT INSPECTOR AND OTHER AFFECTED PARTIES.
3.

CALL LQS AT 919-791-4200 TO SCHEDULE PRE-CON AND FOR NOTIFICATION OF PROJECT START UP.
4.

A RAIN GAUGE WILL BE INSTALLED ON SITE & COPIES OF PLAN APPROVED BY THIS OFFICE, PLAN APPROVAL LETTER WITH ANY MODIFICATIONS OR PERFORMANCE RESERVATIONS, ANY 401/404 DOCUMENTATION, & A MINIMUM OF THE PAST 30 DAYS OF SELF-INSPECTION REPORTS WILL BE KEPT ON SITE UNTIL PROJECT IS CLOSED OUT BY THIS OFFICE.
5.

ALL E&SC MEASURES MUST BE MAINTAINED UNTIL ALL UPGRADE DRAINAGE AREAS HAVE BEEN STABILIZED WITH THE ESTABLISHMENT OF PERMANENT VEGETATION.
6.

TO FACILITATE IN CLEANUP OF PAVED SURFACES, A LAYER OF SAND, SCREENINGS OR FINES WILL BE PLACED BEFORE DEPOSITION OF ANY EXCAVATED MATERIAL OR USE BY EQUIPMENT/VEHICLES ASSOCIATED WITH THE PROJECT.
7.

ANY DEWATERING ON THE PROJECT IS TO BE DONE THROUGH A SILT BAG.
8.

AT THE BEGINNING OF THE WORK, INSTALL AND STABILIZE THE GRAVEL CONSTRUCTION ENTRANCES/EXIT PATHS AT THE LOCATION OF THE WORK SITE. THE CONSTRUCTION ENTRANCES/EXIT PATHS SHALL BE INSTALLED AS SHOWN ON THE PLANS AND DETAILS OR AS DIRECTED BY THE PROJECT INSPECTOR.
9.

AFTER ESTABLISHMENT OF THE CONSTRUCTION ENTRANCE/EXIT, ALL PERIMETER EROSION CONTROL MEASURES SHALL BE INSTALLED PRIOR TO CLEARING AND GRUBBING INCLUDING SILT FENCE, TREE PROTECTION FENCING, DIVERSION DITCHES, AND TEMPORARY STREAM CROSSING. INSTALL ROCK INLET SEDIMENT TRAPS ON ALL INLETS WITHIN LIMITS OF DISTURBANCE.
10.

PRIOR TO CLEARING AND GRUBBING/CONSTRUCTION, THE CONTRACTOR SHALL REQUEST AN ON-SITE INSPECTION FROM THE PROJECT INSPECTOR. UPON RECEIPT OF CERTIFICATE OF COMPLIANCE, GRUBBING/CONSTRUCTION MAY BEGIN.
11.

INSTALL STORM DRAINAGE STRUCTURES SHOWN ON SHEETS 4 AND 5 INCLUDING ROCK SPLASH PADS.
12.

PERFORM GRADING OPERATIONS IN A MANNER AND SEQUENCE SO AS TO REDUCE UNNECESSARY DISTURBANCE OF SURFACE COVER. UPON COMPLETION OF MASS GRADING, REESTABLISH TEMPORARY DIVERSION DITCHES AS NECESSARY INCLUDING REQUIRED LINERS. PROVIDE TEMPORARY STABILIZATION OF DISTURBED AREAS PER SEEDING PLAN.
13.

CONTRACTOR SHALL INSTALL RETAINING WALLS ALLOWING BASE AND STORM FLOWS TO BE CONVEYED TO THE EXTENT POSSIBLE.
14.

CONTRACTOR SHALL INSTALL IMPERVIOUS DIKES AND PUMP AROUND TO COMPLETE CONTRACT WORK ASSOCIATED WITH THE PEDESTRIAN CROSSINGS.
15.

CONTRACTOR SHALL COMPLETE REMAINING WORK ITEMS INCLUDING OVERLOOK STRUCTURE AND CONCRETE TRAIL, FINAL GRADING, PLANTINGS, AND STABILIZATION.
16.

EROSION AND SEDIMENT CONTROL (E&SC) PERMIT AND A CERTIFICATE OF COVERAGE (COC) MUST BE OBTAINED BEFORE ANY LAND DISTURBING ACTIVITIES OCCUR. THE COC CAN BE OBTAINED BY FILLING OUT THE ELECTRONIC NOTICE OF INTENT (E-NOI) FORM AT DEQ.NC.GOV/NCG01. PLEASE NOTE, THE E-NOI FORM MAY ONLY BE FILLED OUT ONCE THE PLANS HAVE BEEN APPROVED. A COPY OF THE E&SC PERMIT, THE COC, AND A HARD COPY OF THE PLAN MUST BE KEPT ON SITE, PREFERABLY IN A PERMITS BOX, AND ACCESSIBLE DURING INSPECTION.
17.

WHEN THE PROJECT IS COMPLETE, THE PERMITTEE SHALL CONTACT DEMLR TO CLOSE OUT THE E&SC PLAN. AFTER DEMLR INFORMS THE PERMITTEE OF THE PROJECT CLOSE OUT, VIA INSPECTION REPORT, THE PERMITTEE SHALL VISIT DEQ.NC.GOV/NCG01 TO SUBMIT AN ELECTRONIC NOTICE OF TERMINATION (E-NOT). A \$100 ANNUAL GENERAL PERMIT FEE WILL BE CHARGED UNTIL THE E-NOT HAS BEEN FILLED OUT.
18.

PLEASE NOTE THAT ANY CONSTRUCTION ACTIVITIES THAT HAVE AN ES&C PLAN APPROVED ON OR AFTER APRIL 1, 2019 ARE REQUIRED TO FILL OUT AND SUBMIT AN ELECTRONIC NOTICE OF INTENT (E-NOI) FORM. ALL CONSTRUCTION ACTIVITIES ARE REQUIRED TO FOLLOW THE NEW NCG01 PERMIT REGARDLESS OF WHEN THEY ARE APPROVED.
19.

ALL GROUND COVER TO BE APPLIED PER CONDITIONS OF THE NPDES PERMIT OR IN CRITICAL AREAS, AT THE END OF DAY.
20.

ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION UNTIL THE COMPLETION OF ALL CONSTRUCTION ACTIVITIES AND ALL DISTURBED AREAS HAVE BEEN STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. CONTRACTOR SHALL REMOVE ALL TEMPORARY CONTROL DEVICES ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS STABILIZED.

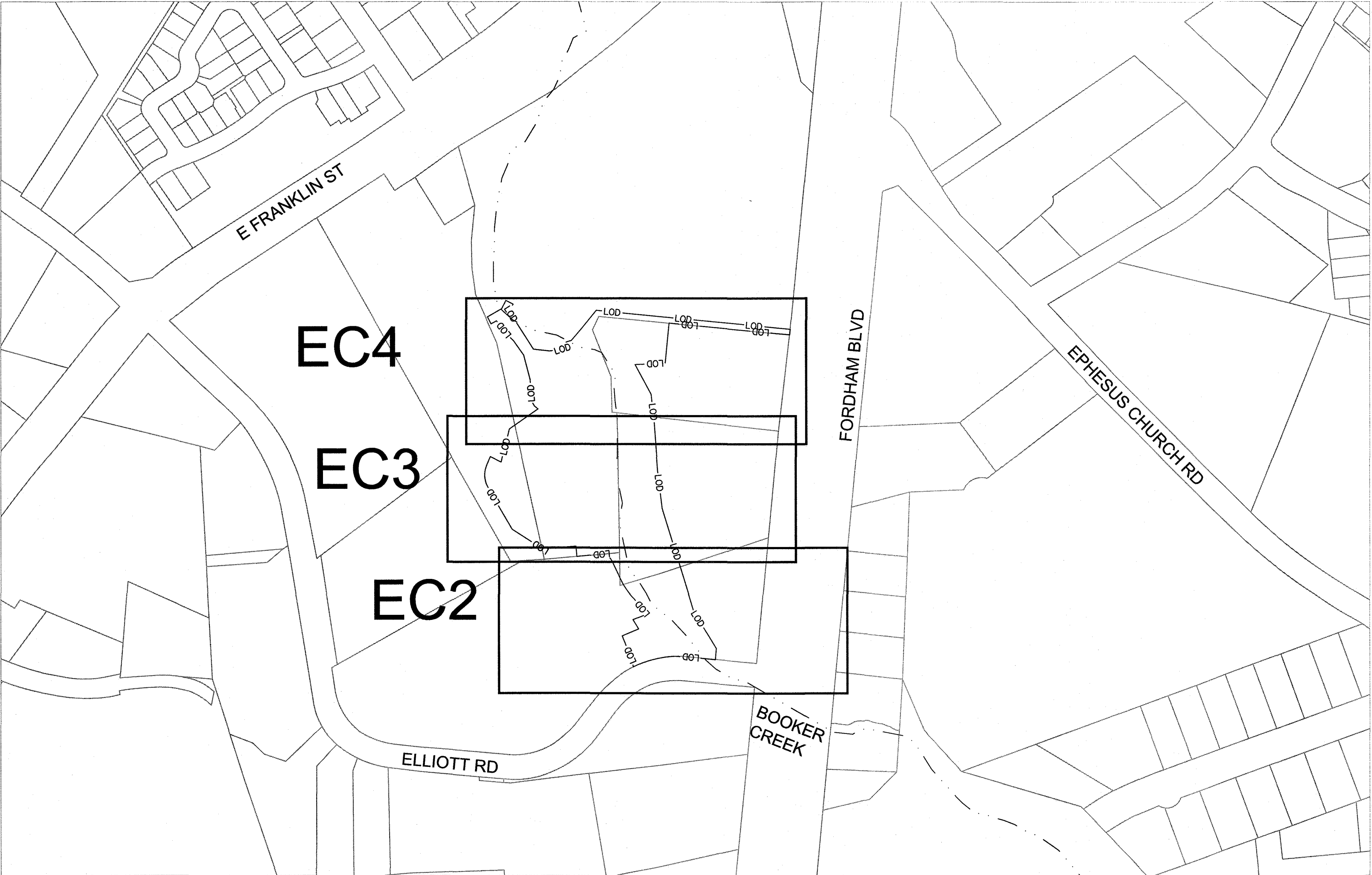
MAINTENANCE PLAN:

1.

ALL TEMPORARY EROSION CONTROL AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED AS NOTED ON THE EROSION CONTROL DETAILS. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN ALL PRACTICES AS DESIGNED.
2.

TRAPPED SEDIMENT SHALL BE PROPERLY REMOVED FROM THE EROSION CONTROL MEASURES AND PROPERLY DISPOSED OF.
3.

REFER TO THE NC EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL FOR EROSION CONTROL DEVICE MAINTENANCE.



TEMPORARY SEEDING AND MULCHING FOR STREAM BANK STABILIZATION

	SUMMER SEASON	WINTER SEASON
SEEDING MIXTURE	40 LBS/ACRE OF: 50% BROWNTOP MILLET (BRACHIARIA RAMOSA) 50% PEARL MILLET (PENNISETUM GLAUCUM)	50 LBS/ACRE OF: 50% BARLEY (HORDEUM VULGARE) 50% WINTER RYE (SECALE CEREALE)
SEEDING DATES	APRIL 1 – OCTOBER 1	OCTOBER 1 – APRIL 1
SEEDING AMENDMENTS	TEMPORARY SEEDING WILL BE REQUIRED ON ALL STREAM BANK STABILIZATION AREAS DISTURBED FOLLOWING ALL LAND DISTURBING ACTIVITIES. ALL SOIL IN PLANTING AREAS SHALL BE TESTED AND THE RATE OF FERTILIZATION AND LIMING SHALL BE IN ACCORDANCE WITH THE TEST RESULTS. THE PLANTING OF ANY SPECIES OF FESCUE GRASS ALONG OR ADJACENT TO STREAMS AND CHANNELS IS PROHIBITED UNLESS OTHERWISE APPROVED BY THE ENGINEER. ALL AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF CONSTRUCTION ACTIVITIES OR AS DIRECTED BY THE ENGINEER.	TEMPORARY SEEDING WILL BE REQUIRED ON ALL STREAM BANK STABILIZATION AREAS DISTURBED FOLLOWING ALL LAND DISTURBING ACTIVITIES. ALL SOIL IN PLANTING AREAS SHALL BE TESTED AND THE RATE OF FERTILIZATION AND LIMING SHALL BE IN ACCORDANCE WITH THE TEST RESULTS. THE PLANTING OF ANY SPECIES OF FESCUE GRASS ALONG OR ADJACENT TO STREAMS AND CHANNELS IS PROHIBITED UNLESS OTHERWISE APPROVED BY THE ENGINEER. ALL AREAS SHALL BE MULCHED FOR EROSION CONTROL UPON COMPLETION OF CONSTRUCTION ACTIVITIES OR AS DIRECTED BY THE ENGINEER.

TEMPORARY SEEDING SCHEDULE FOR OVERBANK AREAS

DATE	TYPE	PLANTING RATE
JAN 1 – MAY 1	BLENDED TALL FESCUE* (AT LEAST 5 TYPES)	240 LBS/ACRE
	KOBE LESPEDEZA	50 LBS/ACRE
MAY 1 – AUG 15	GERMAN MILLET	40 LBS/ACRE
AUG 15 – DEC 31	RYE (GRAIN)	120 LBS/ACRE

*NOT TO BE USED ON CHANNEL BANKS

APPLY 2,000 LBS/ACRE GROUND AGRICULTURAL LIMESTONE; 1,000 LBS/ACRE 10-10-10 FERTILIZER; AND 500 LBS/ACRE OF 20 PERCENT SUPERPHOSPHATE OR EQUIVALENT IN ADDITION TO THE INDICATED FERTILIZER.

APPLY 4,000 LBS/ACRE GRAIN STRAW MULCH TO SERVE AS COVER FOR SEEDING. ANCHOR STRAW BY TACKING WITH LIQUID ASPHALT AT A RATE OF 400 GAL/ACRE OR EMULSIFIED ASPHALT AT A RATE OF 300 GAL/ACRE; ROWING; OR NETTING.

USE JUTE, EXCELSIOR MATTING, ENGINEER-APPROVED TURF REINFORCING MATTING TO COVER THE BOTTOM OF CHANNELS AND DITCHES AS INDICATED ON THE PLANS OR AS DIRECTED BY THE ENGINEER. SUCH PRODUCTS SHALL BE SECURED BY STAPLES OR STAKES AS INDICATED IN THE DRAWINGS OR AS DIRECTED BY THE ENGINEER.

VEGETATIVE PLAN:

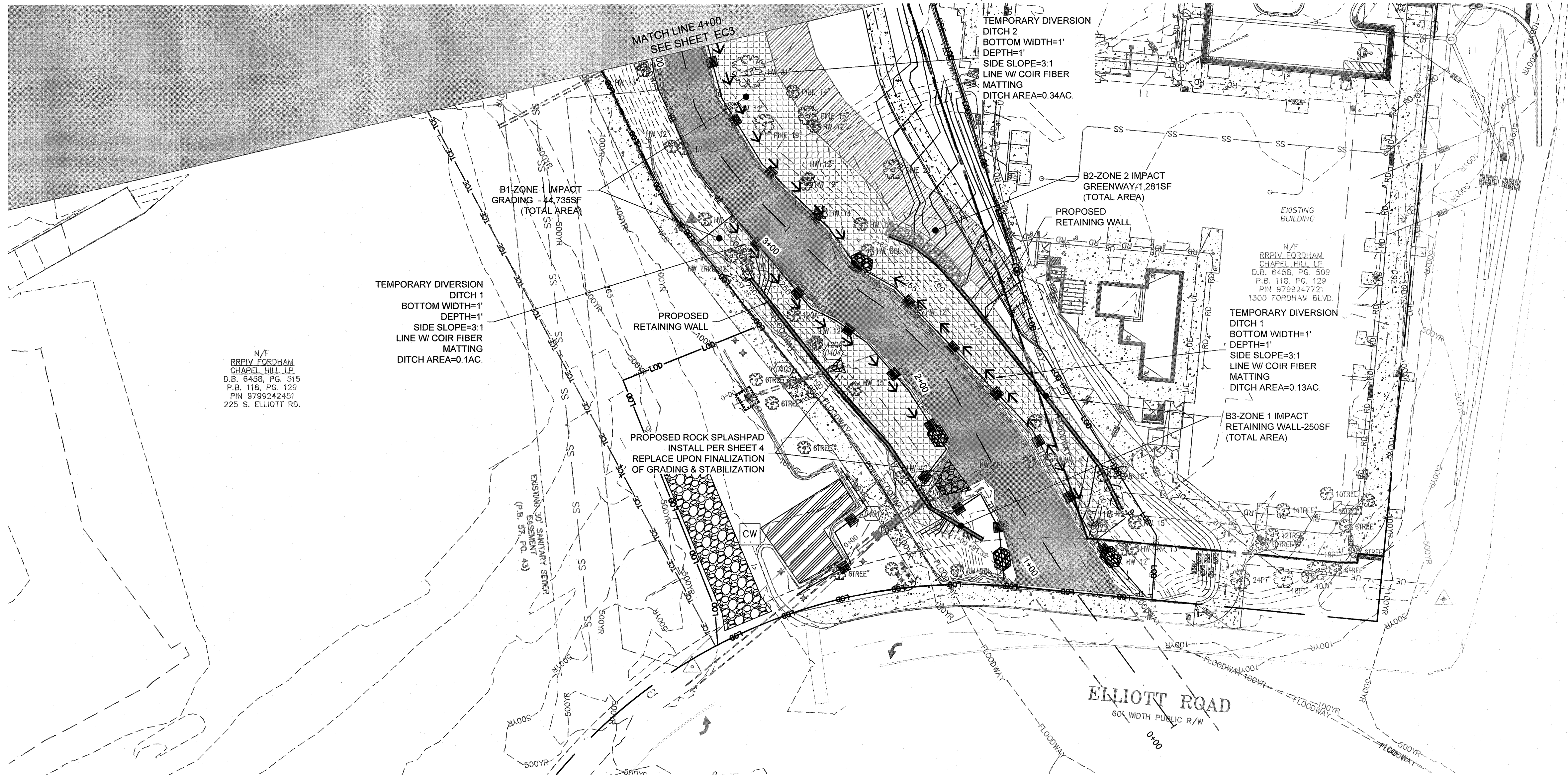
1.

EROSION CONTROL MEASURES SHALL BE PROPERLY MAINTAINED UNTIL PERMANENT VEGETATION IS ESTABLISHED. THE CONTRACTOR SHALL INSPECT EROSION CONTROL MEASURES AT THE END OF EACH WORKING DAY TO ENSURE MEASURES ARE FUNCTIONING PROPERLY.
2.

DISTURBED AREAS NOT AT FINAL GRADE AND LEFT IDLE SHALL BE TEMPORARILY VEGETATED PER THE GROUND COVER SCHEDULE SHOWN ON THIS SHEET. UPON COMPLETION OF FINAL GRADING, PERMANENT VEGETATION SHALL BE ESTABLISHED PER THE GROUND COVER SCHEDULE SHOWN ON THIS SHEET. GRADED SLOPES SHALL BE ESTABLISHED PER THE GROUND COVER SCHEDULE SHOWN ON THIS SHEET.
3.

ALL OTHER DISTURBED AREAS WILL BE STABILIZED BY PERMANENTLY VEGETATING WITH SEED AND MULCH AS RECOMMENDED BY THE PERMANENT SEEDING SPECIFICATIONS DUE TO THE RESTRAINTS ON THE LENGTH OF IMPROVEMENTS AND/OR DURATION OF EXPOSED DISTURBED AREAS.
4.

ONCE PERMANENT VEGETATION IS ESTABLISHED, THE CONTRACTOR SHALL SCHEDULE A FINAL INSPECTION IN ORDER TO OBTAIN A CERTIFICATE OF COMPLETION. AFTER APPROVAL, ALL REMAINING TEMPORARY EROSION CONTROL MEASURES SHOULD BE REMOVED.



N/F
RRPIV FORDHAM
CHAPEL HILL LP
D.B. 6458, PG. 515
P.B. 118, PG. 129
PIN 9799242451
225 S. ELLIOTT RD.

TEMPORARY DIVERSION
DITCH 1
BOTTOM WIDTH=1'
DEPTH=1'
SIDE SLOPE=3:1
LINE W/ COIR FIBER
MATTING
DITCH AREA=0.1 AC.

B1-ZONE 1 IMPACT
GRADING - 44,735SF
(TOTAL AREA)

PROPOSED
RETAINING WALL
PROPOSED ROCK SPLASHPAD
INSTALL PER SHEET 4
REPLACE UPON FINALIZATION
OF GRADING & STABILIZATION

TEMPORARY DIVERSION
DITCH 2
BOTTOM WIDTH=1'
DEPTH=1'
SIDE SLOPE=3:1
LINE W/ COIR FIBER
MATTING
DITCH AREA=0.34 AC.

B2-ZONE 2 IMPACT
GREENWAY-1,281SF
(TOTAL AREA)

TEMPORARY DIVERSION
DITCH 1
BOTTOM WIDTH=1'
DEPTH=1'
SIDE SLOPE=3:1
LINE W/ COIR FIBER
MATTING
DITCH AREA=0.13 AC.

B3-ZONE 1 IMPACT
RETAINING WALL-250SF
(TOTAL AREA)

ELLIOTT ROAD
60' WIDTH PUBLIC R/W

LEGEND

LIMITS OF DISTURBANCE	LOD
SILT FENCE (SEE SHEET EC5)	
SILT FENCE STONE OUTLETS (SEE SHEET EC5)	
TREE PROTECTION FENCING (SEE SHEET EC7)	TP
TEMPORARY DIVERSION DITCH (SEE SHEET EC5)	
TEMPORARY GRAVEL CONSTR. ENTRANCE/EXIT (SEE SHEET EC6)	
ROCK INLET SEDIMENT TRAP (SEE SHEET EC6)	
COIR MATTING (SEE SHEET EC6)	
STOCKPILE, STAGING & WASTE AREA	
TEMPORARY STREAM CROSSING (SEE SHEET EC6)	
RIP RAP DISSIPATOR PAD	
CONCRETE WASHOUT (SEE SHEET EC6)	CW
IMPACTED BUFFER (ZONE 1)	
IMPACTED BUFFER (ZONE 2)	
IMPACTED WETLANDS	
PUMP AROUND (SEE SHEET EC7)	
COFFER DAM (SEE SHEET EC7)	
SILT BAG (SEE SHEET EC7)	

CONSTRUCTION AT STREAM BANK NOTE:

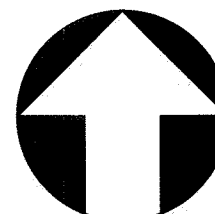
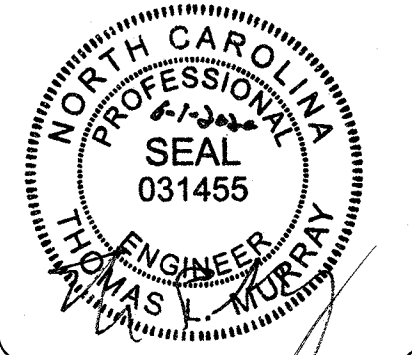
CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE DIRECTED BY ENGINEER. ORDINARY HIGH WATER MARK ELEVATION IS NOTED AS PROPOSED TOP OF BANK ELEVATION ON THIS SHEET.

STREAM CHANNEL

MAINTENANCE NOTES:

- SILT FENCE: INSPECT SILT FENCE ONCE PER WEEK AND AFTER EACH RAINFALL. REPLACE OR REPAIR SILT FENCE IF DAMAGED. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. AVOID UNDERMINING THE FENCE DURING CLEANOUT.
- TEMPORARY DIVERSION DITCH: INSPECT DITCH ONCE PER WEEK AND AFTER EACH RAINFALL. REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS AND REPAIR AS NECESSARY.
- GRAVEL CONSTRUCTION ENTRANCE: MAINTAIN THE GRAVEL PAD IN A CONDITIONS TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. TOPDRESS THE 2-INCH STONE LAYER AS NECESSARY. REMOVE ALL CONSTRUCTION SEDIMENT OR DEBRIS TRACKED ONTO PUBLIC ROADWAYS IMMEDIATELY.
- ROCK INLET SEDIMENT TRAP: INSPECT INLETS ONCE PER WEEK AND AFTER EACH RAINFALL. CLEAR THE MESH WIRE OF DEBRIS AND OTHER OBJECTS THAT OBSTRUCT FLOW. REMOVE SEDIMENT AND REPLACE STONE AS NEEDED.
- TEMPORARY STREAM CROSSING: INSPECT CROSSING AFTER RUNOFF-PRODUCING RAIN S TO CHECK FOR BLOCKAGE IN CHANNEL, EROSION OF ABUTMENTS, CHANNEL SCOUR, RIPRAP DISPLACEMENT, OR PIPING.
- RIPRAP DISSIPATOR PAD: INSPECT RIPRAP OUTLET STRUCTURES ONCE PER WEEK AND AFTER SIGNIFICANT RAINFALL EVENTS TO SEE IF ANY EROSION AROUND OR BELOW THE RIPRAP HAS TAKEN PLACE OR IF STONES HAVE BEEN DISLODGED. MAKE REPAIRS AS NEEDED TO PREVENT FURTHER DAMAGE.

B1 (GRADING) - ZONE 1	44,735 SF
B1 (GRADING) - ZONE 2	25,075 SF
B2 (GREENWAY) - ZONE 1	1,932 SF
B2 (GREENWAY) - ZONE 2	1,281 SF
B3 (RETAINING WALL) - ZONE 1	250 SF
B4 (SCM) - ZONE1	1,344 SF
B4 (SCM) - ZONE 2	4,107 SF
TOTAL BUFFER ZONE 1 IMPACT	48,261 SF
TOTAL BUFFER ZONE 2 IMPACT	31,483 SF



FULL SCALE: 1"=30'
0 30 60
2" = FULL SCALE
1" = HALF SCALE

1	5-28-20	UPDATE LEGEND TEXT	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE: 5/28/2020
	MARK	DATE	DESCRIPTION		

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

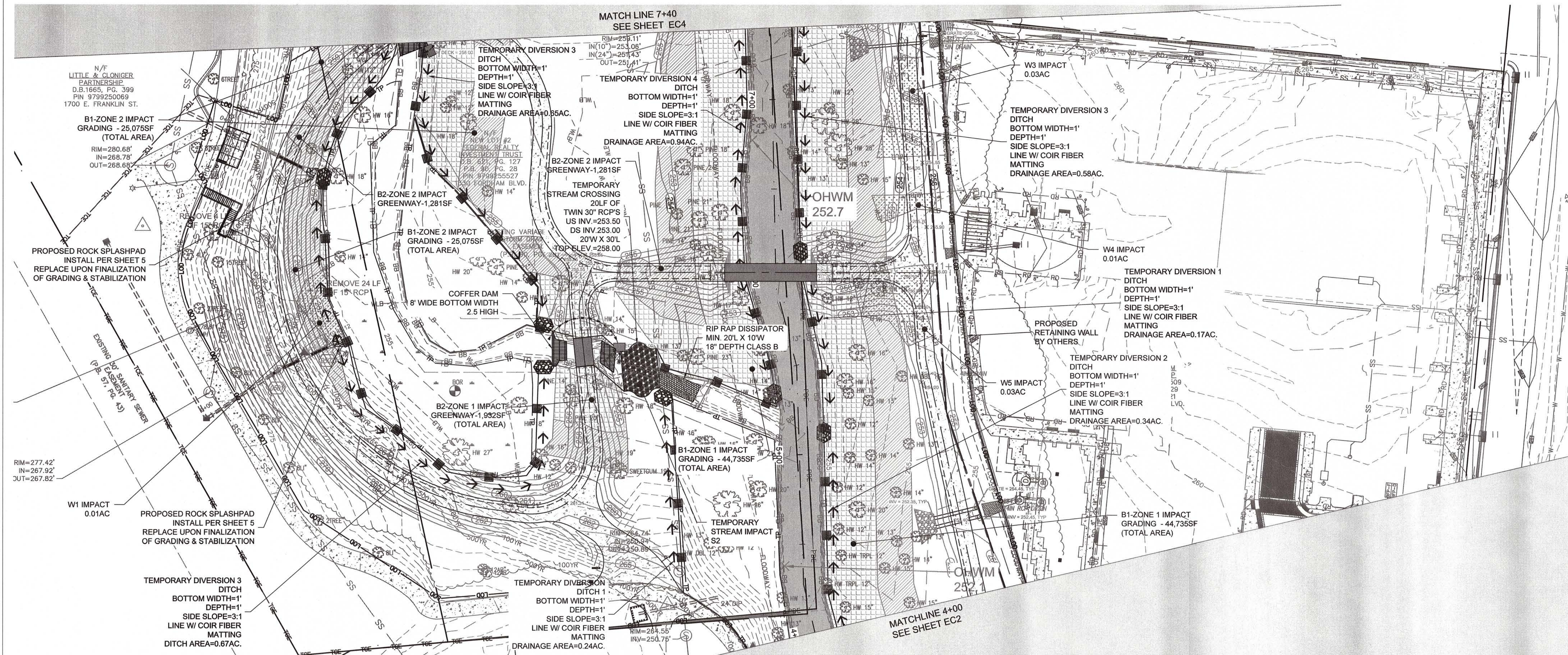
DRAWING TITLE: EROSION CONTROL

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019

DRAWING NUMBER:

EC2

PROJ. NO.:
20170225.00.RA



LEGEND

LIMITS OF DISTURBANCE — LOD —

SILT FENCE (SEE SHEET EC5) —

SILT FENCE STONE OUTLETS (SEE SHEET EC5) —

TREE PROTECTION FENCING (SEE SHEET EC7) — TP —

TEMPORARY DIVERSION DITCH (SEE SHEET EC5) —

TEMPORARY GRAVEL CONSTR. ENTRANCE/EXIT (SEE SHEET EC6) —

ROCK INLET SEDIMENT TRAP (SEE SHEET EC6) —

COIR MATTING (SEE SHEET EC6) —

STOCKPILE, STAGING & WASTE AREA —

TEMPORARY STREAM CROSSING (SEE SHEET EC6) —

RIP RAP DISSIPATOR PAD —

CONCRETE WASHOUT (SEE SHEET EC6) — CW —

IMPACTED BUFFER (ZONE 1) —

IMPACTED BUFFER (ZONE 2) —

IMPACTED WETLANDS —

PUMP AROUND (SEE SHEET EC7) —

COFFER DAM (SEE SHEET EC7) —

SILT BAG (SEE SHEET EC7) —

CONSTRUCTION AT STREAM BANK NOTE:

CONTRACTOR SHALL NOT PERFORM ANY WORK WITHIN STREAM BANK BELOW ORDINARY HIGH WATER MARK UNLESS OTHERWISE DIRECTED BY ENGINEER. ORDINARY HIGH WATER MARK ELEVATION IS NOTED AS PROPOSED TOP OF BANK ELEVATION ON THIS SHEET.

- MAINTENANCE NOTES:**
- SILT FENCE: INSPECT SILT FENCE ONCE PER WEEK AND AFTER EACH RAINFALL. REPLACE OR REPAIR SILT FENCE IF DAMAGED. REMOVE SEDIMENT DEPOSITS AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN. AVOID UNDERMINING THE FENCE DURING CLEANOUT.
 - TEMPORARY DIVERSION DITCH: INSPECT DITCH ONCE PER WEEK AND AFTER EACH RAINFALL. REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CHECK OUTLETS AND REPAIR AS NECESSARY.
 - GRAVEL CONSTRUCTION ENTRANCE: MAINTAIN THE GRAVEL PAD IN A CONDITIONS TO PREVENT MUD OR SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. TOPPRESS THE 2-INCH STONE LAYER AS NECESSARY. REMOVE ALL CONSTRUCTION SEDIMENT OR DEBRIS TRACKED ONTO PUBLIC ROADWAYS IMMEDIATELY.
 - ROCK INLET SEDIMENT TRAP: INSPECT INLETS ONCE PER WEEK AND AFTER EACH RAINFALL. CLEAR THE MESH WIRE OF DEBRIS AND OTHER OBJECTS THAT OBSTRUCT FLOW. REMOVE SEDIMENT AND REPLACE STONE AS NEEDED.
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B4 (SCM) - ZONE 2	4,107 SF
TOTAL BUFFER ZONE 1 IMPACT	48,261 SF
TOTAL BUFFER ZONE 2 IMPACT	31,483 SF

W1 IMPACT	0.01 Ac.
W2 IMPACT	NONE
W3 IMPACT	0.03 Ac.
W4 IMPACT	0.01 Ac.
W5 IMPACT	0.03 Ac.
TOTAL WETLAND IMPACT	0.08 Ac.

WK DICKSON
community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics

720 Corporate Drive
Raleigh, NC 27607
(919) 782-0495
(919) 782-0672
www.wkdickson.com

NC LICENSE NO. F-0374

NORTH CAROLINA
PROFESSIONAL
SEAL
031455
ENGINEER
W.K. DICKSON

UP

FULL SCALE: 1"=30'

0 30 60

2" = FULL SCALE
1" = HALF SCALE

1	5-28-20	UPDATE LEGEND TEXT	REVISIONS:	RELEASED FOR CONSTRUCTION	PLOT DATE: 9/23/2020
MARK	DATE	DESCRIPTION			

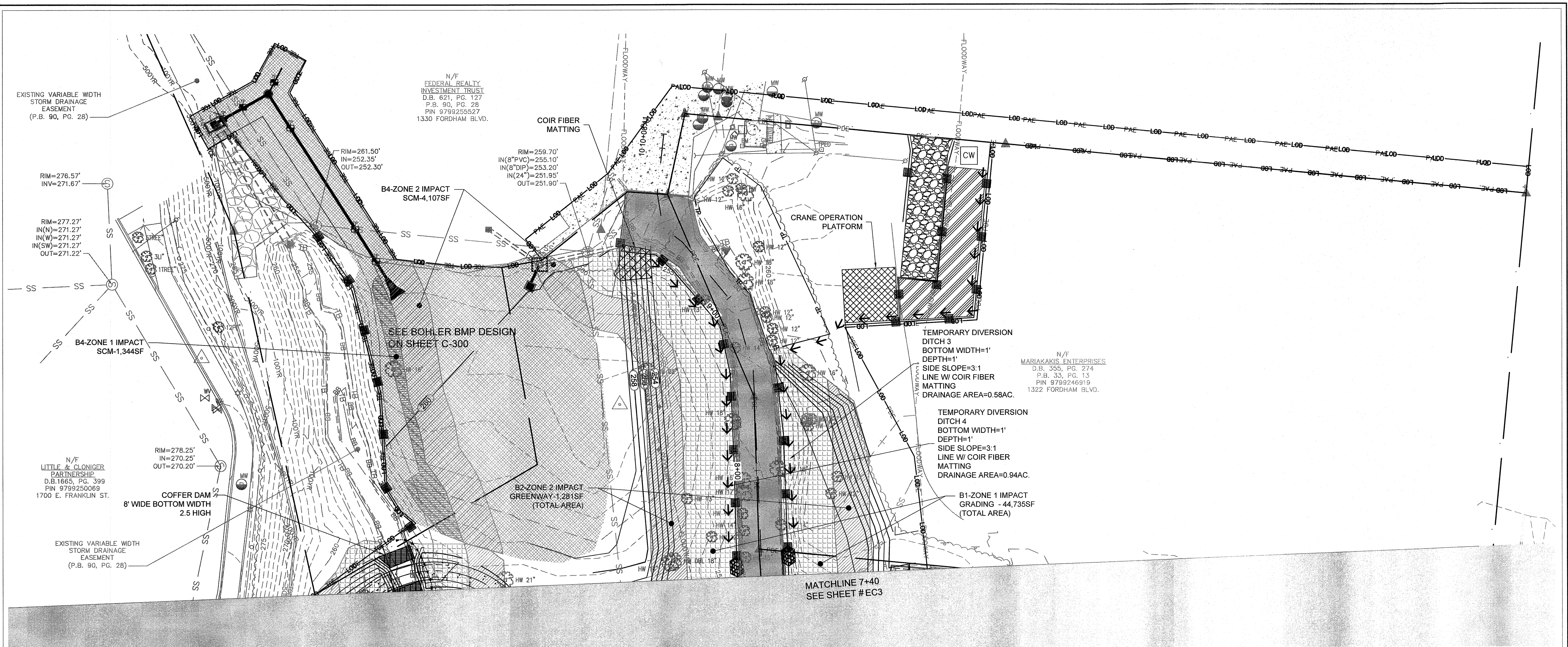
PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE: EROSION CONTROL

PROJ. DATE: JUNE 2019
Q.C.: TLM
Q.C. DATE: MAY 2019

DRAWING NUMBER: EC3

PROJ. NO.: 20170225.00.RA



LEGEND

LIMITS OF DISTURBANCE — LOD —

SILT FENCE (SEE SHEET EC5) —

SILT FENCE STONE OUTLETS (SEE SHEET EC5) —

TREE PROTECTION FENCING (SEE SHEET EC7) — TP —

TEMPORARY DIVERSION DITCH (SEE SHEET EC5) —

TEMPORARY GRAVEL CONSTR. ENTRANCE/EXIT (SEE SHEET EC6) —

ROCK INLET SEDIMENT TRAP (SEE SHEET EC6) —

COIR MATTING (SEE SHEET EC6) —

STOCKPILE, STAGING & WASTE AREA —

TEMPORARY STREAM CROSSING (SEE SHEET EC6) —

RIP RAP DISSIPATOR PAD —

CONCRETE WASHOUT (SEE SHEET EC8) — CW —

IMPACTED BUFFER (ZONE 1) —

IMPACTED BUFFER (ZONE 2) —

IMPACTED WETLANDS —

PUMP AROUND (SEE SHEET EC7) —

COFFER DAM (SEE SHEET EC7) —

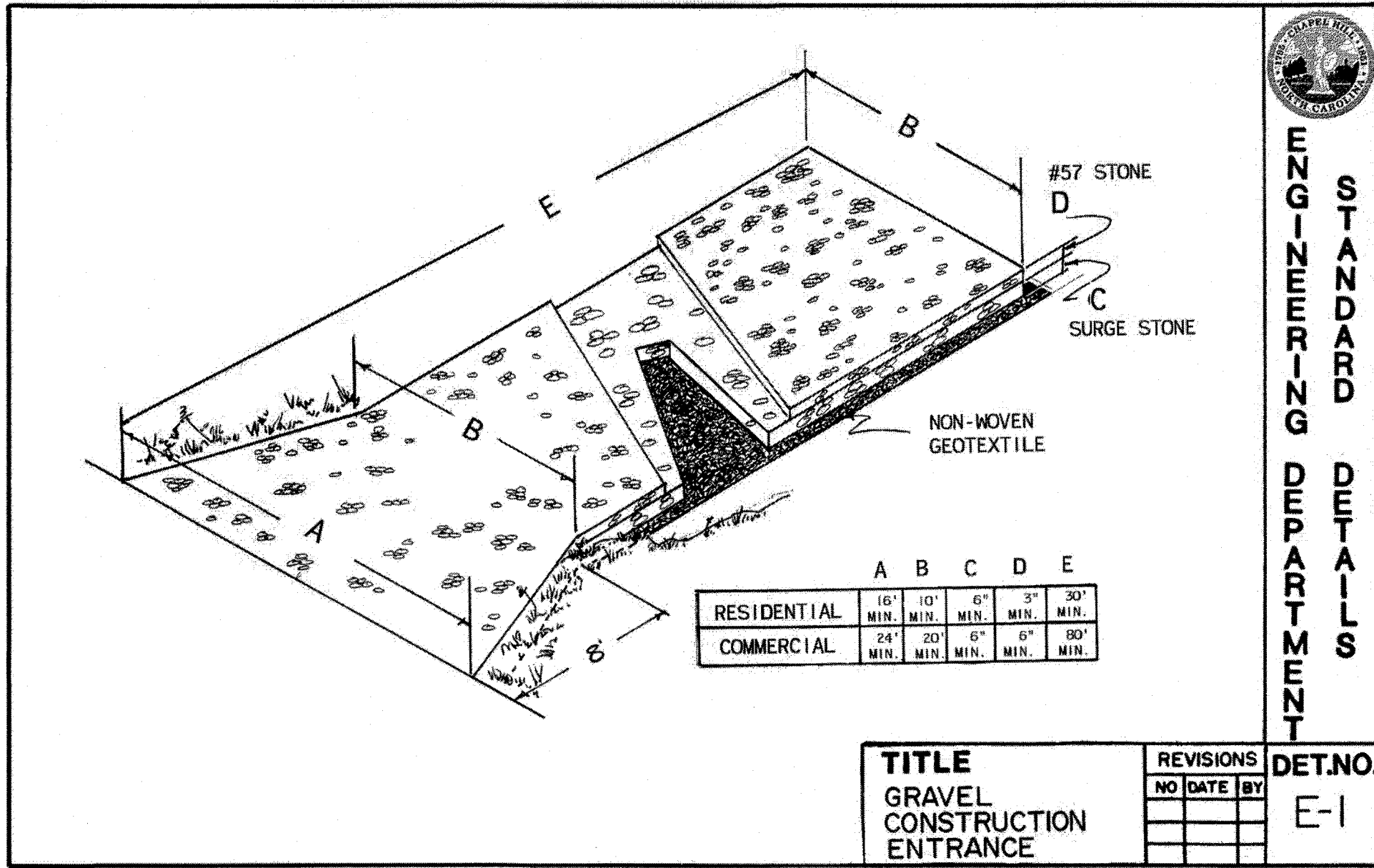
SILT BAG (SEE SHEET EC7) —

CONSTRUCTION AT STREAM BANK NOTE:

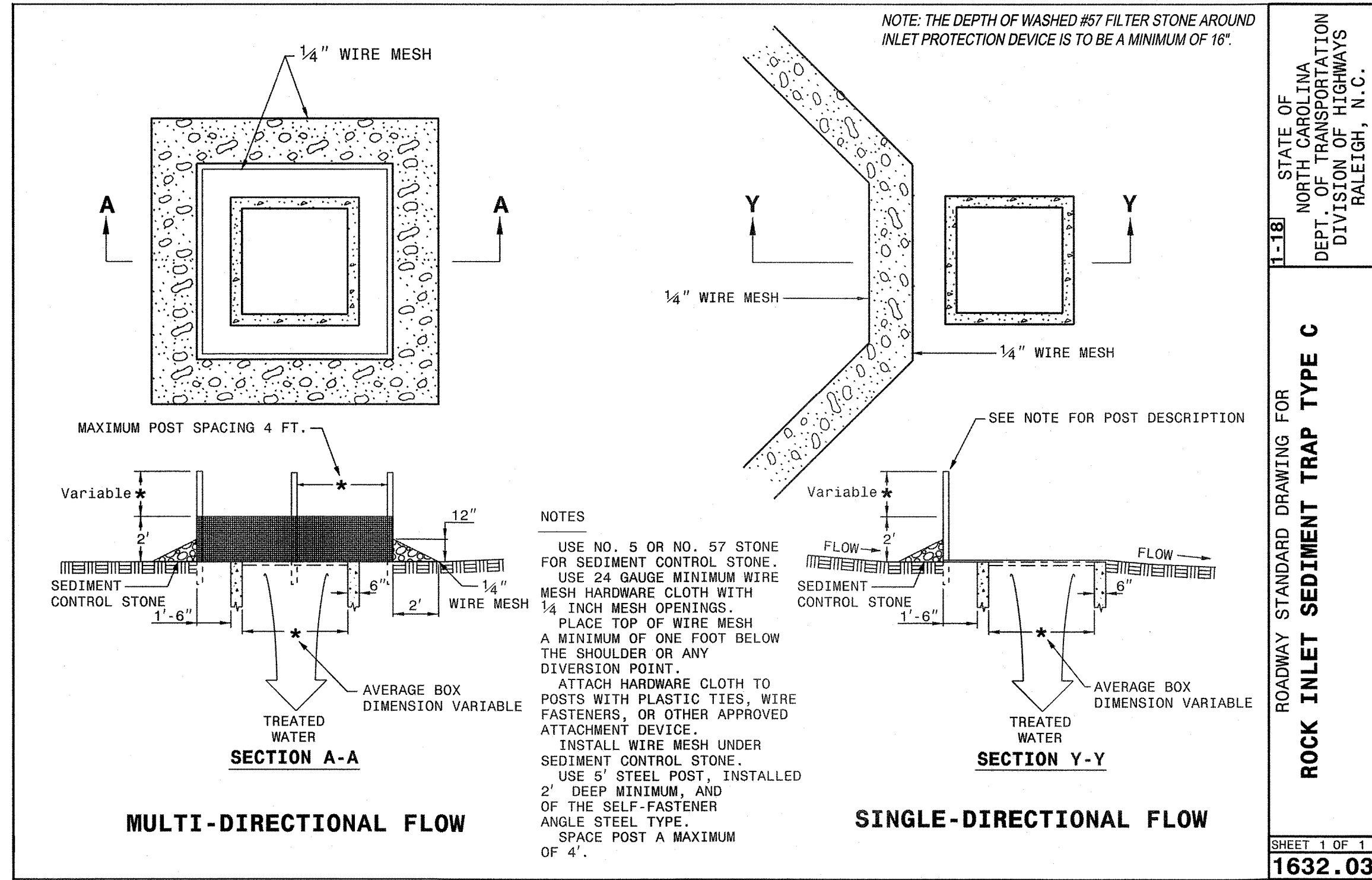
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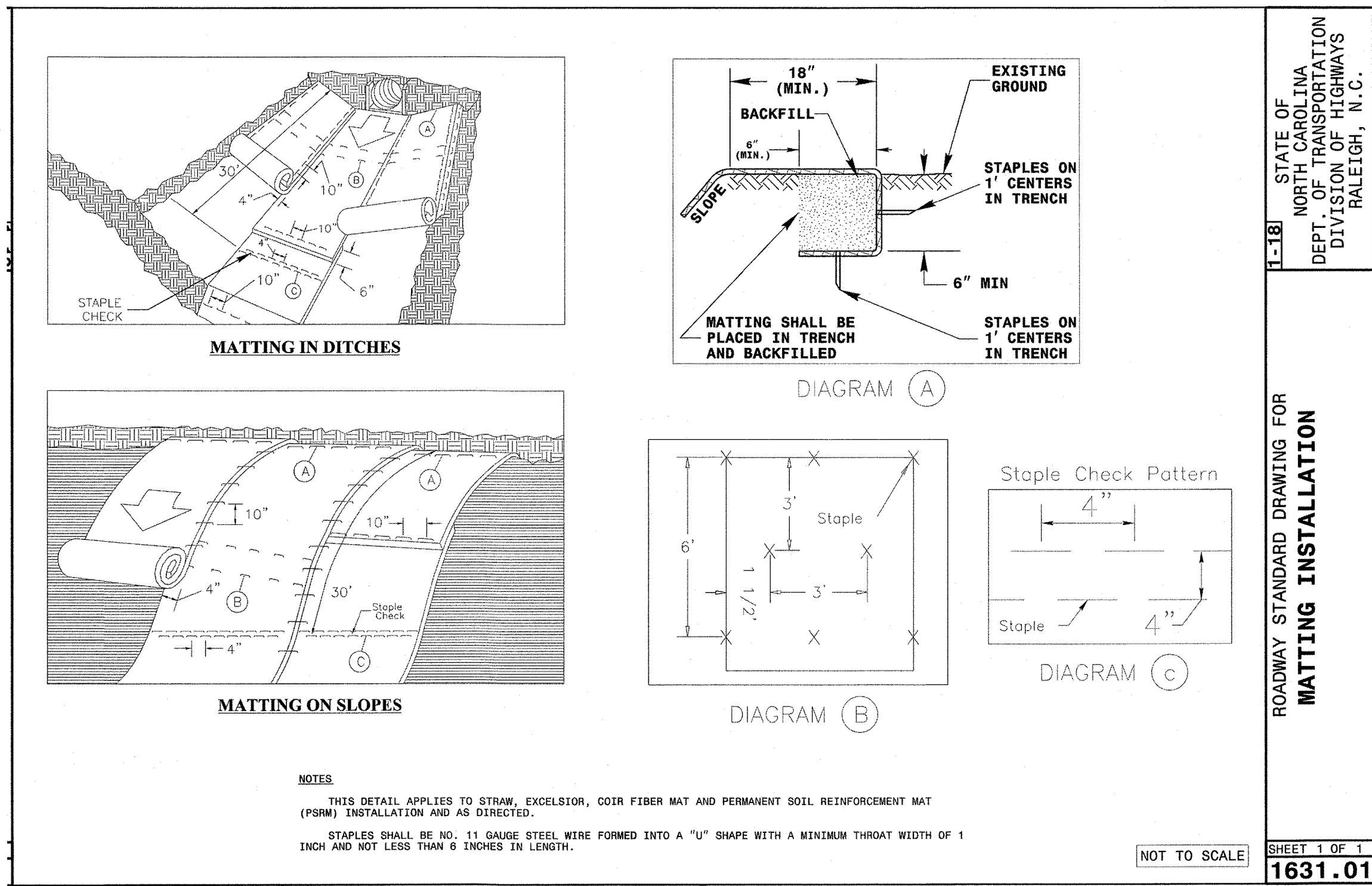
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TOTAL BUFFER ZONE 1 IMPACT	48,261 SF
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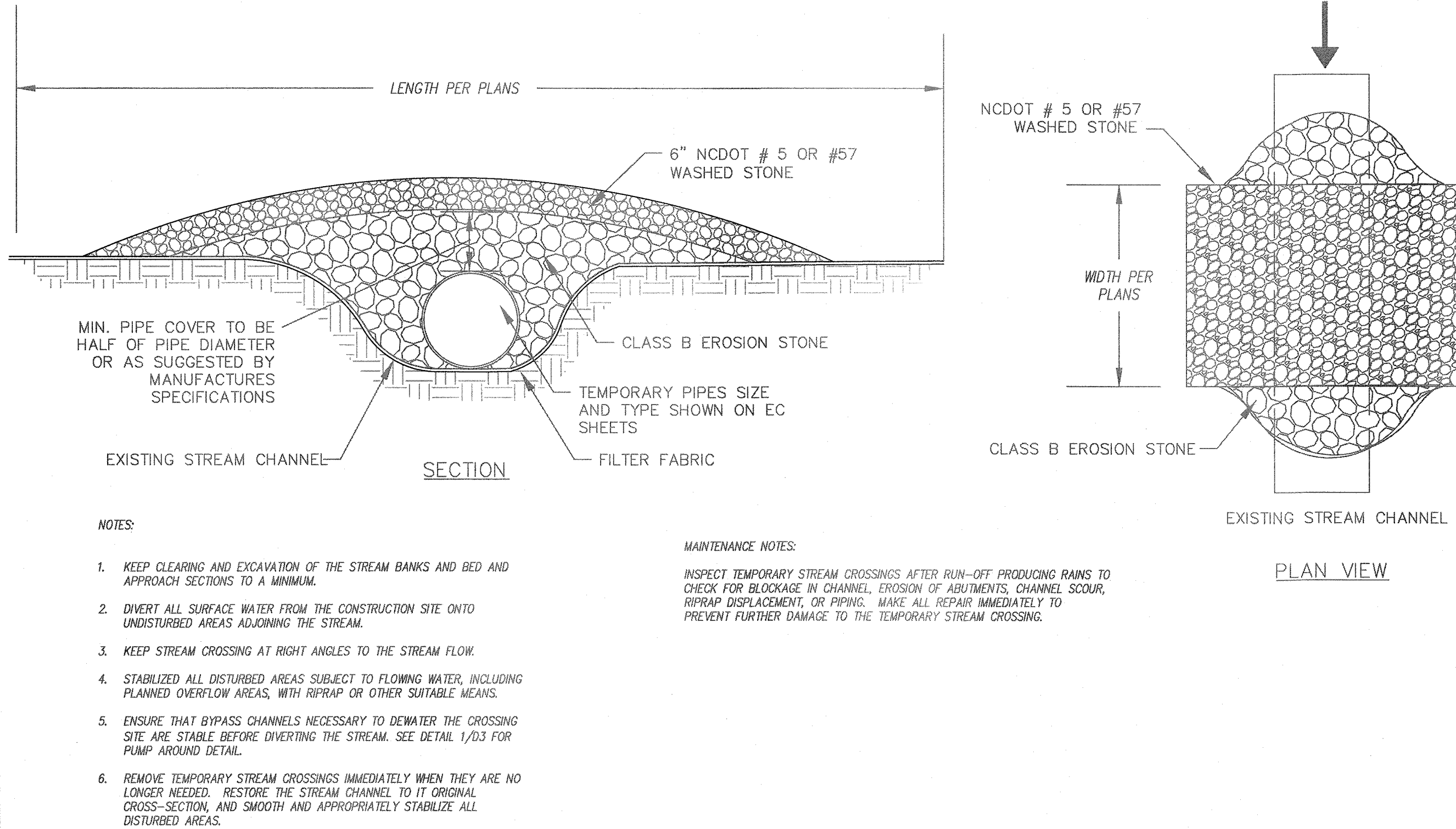
1 TEMPORARY GRAVEL CONSTRUCTION ENTRANCE
EC6 NOT TO SCALE



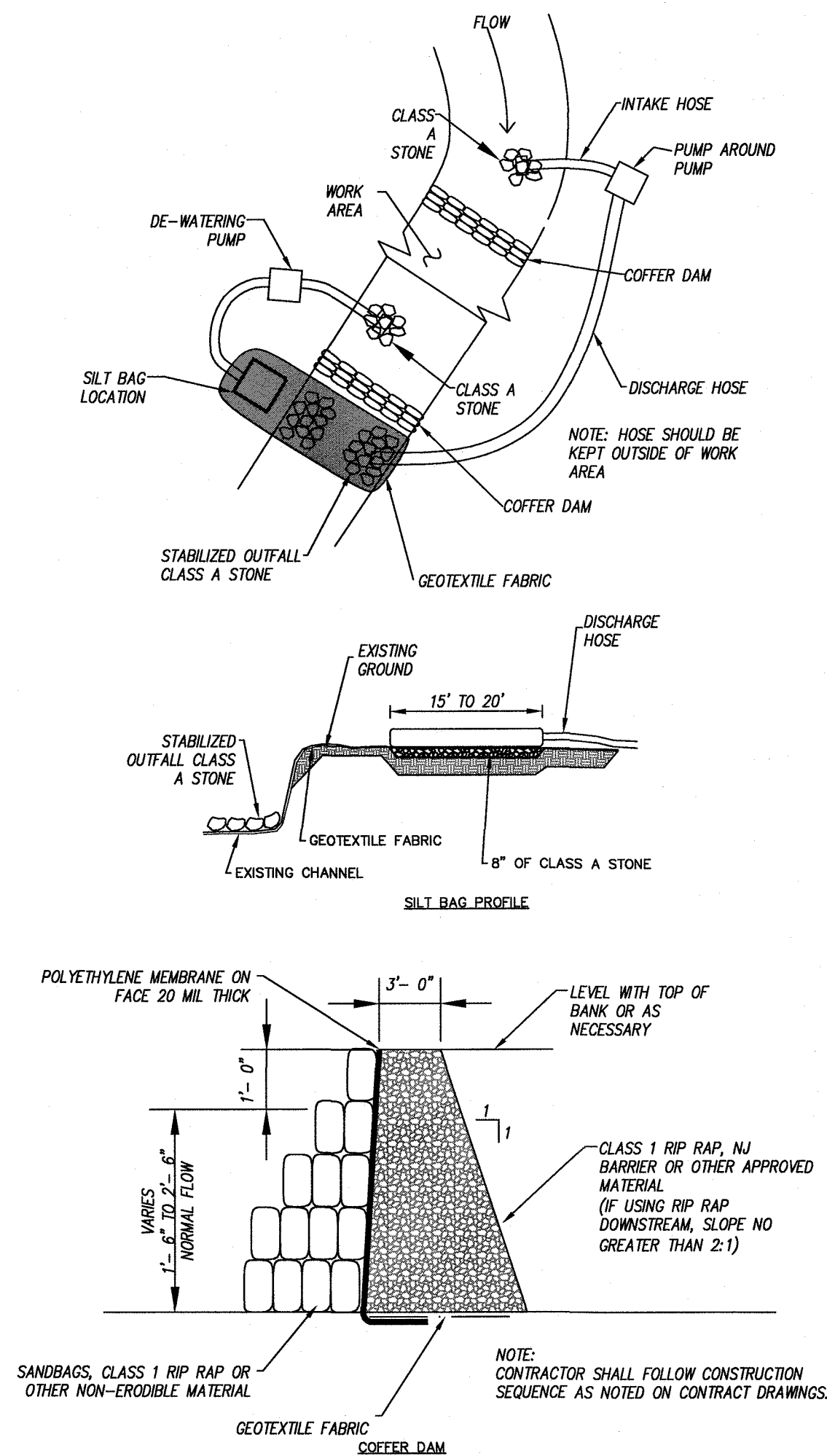
2 ROCK INLET SEDIMENT TRAP
EC6 NOT TO SCALE



3 COIR MATTING
EC6 NOT TO SCALE

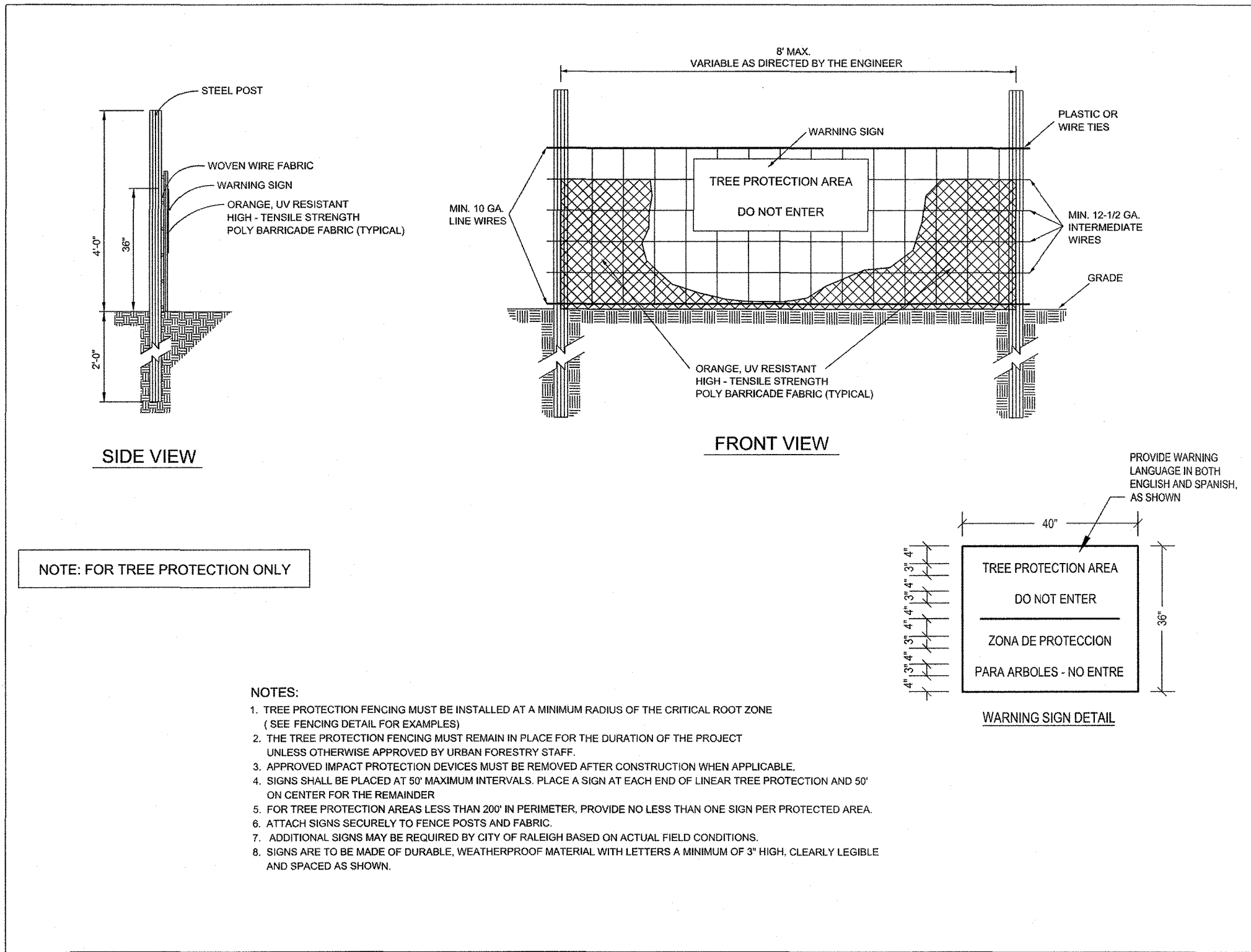


4 TEMPORARY STREAM CROSSING
EC6 NOT TO SCALE

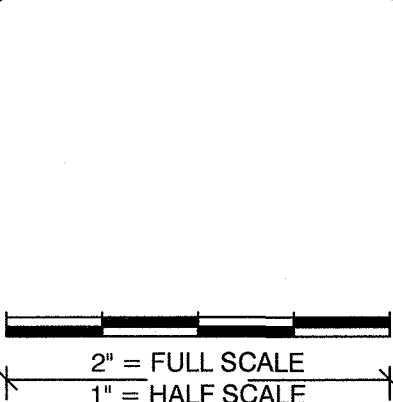
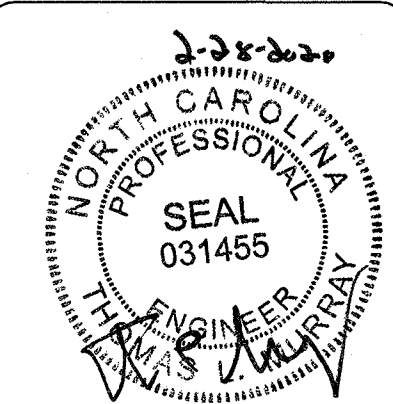
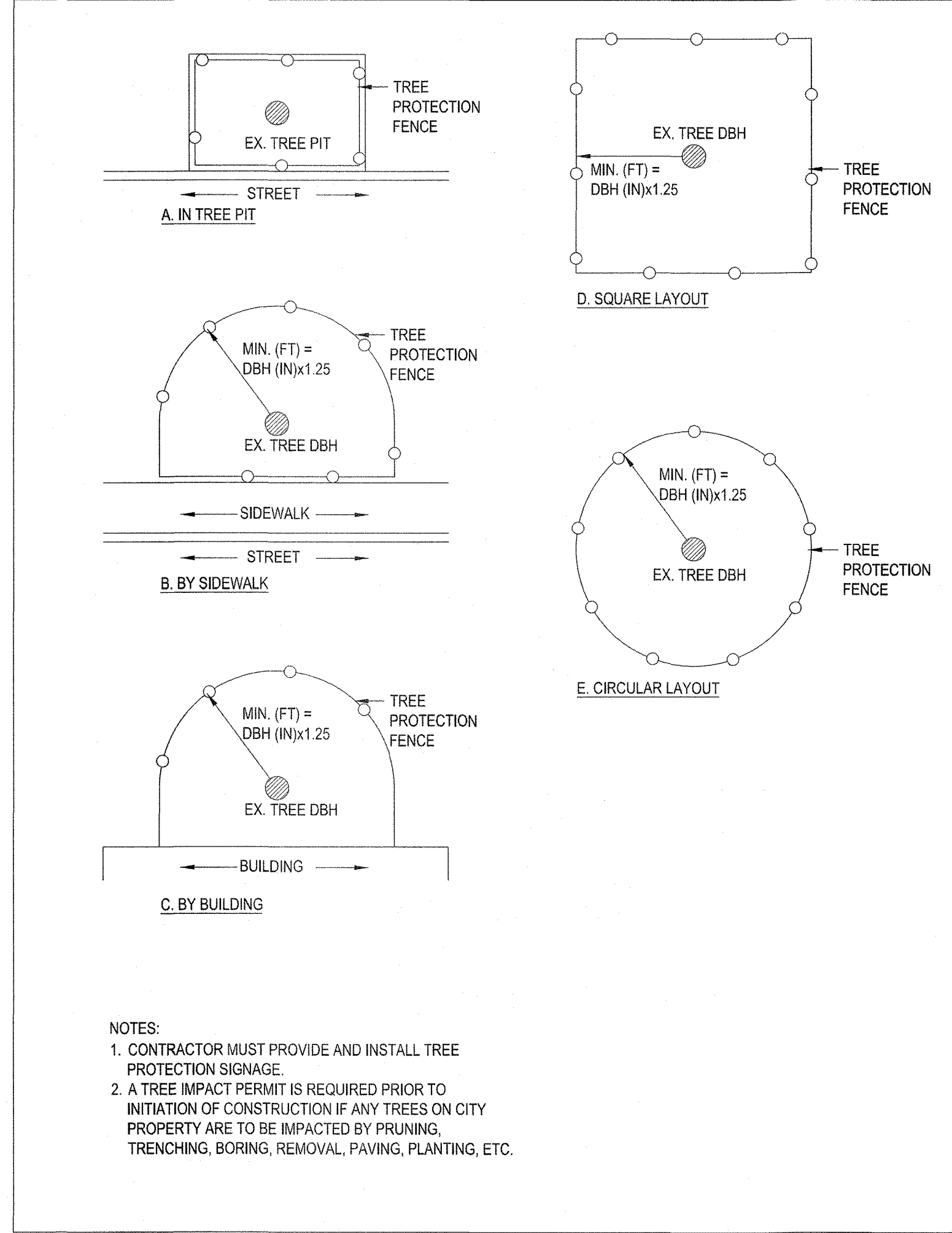


- NOTES:**
- EXCAVATION SHALL BE PERFORMED ONLY IN DRY AND/OR ISOLATED SECTIONS OF CHANNEL.
 - COFFER DAMS SHOULD BE USED TO ISOLATE WORK AREAS FROM STREAM FLOW.
 - THE CONTRACTOR SHALL NOT DISTURB MORE AREA THAN CAN BE STABILIZED IN ONE WORKING DAY. A MAXIMUM OF 1000 FEET MAY BE DISTURBED AT ANY ONE TIME.
 - THE PUMP-AROUND PUMP SHOULD ADEQUATELY CONVEY MINIMUM 450 GALLONS / MINUTE PERFORMANCE $q=450$ GPM ONLY.
 - COFFER DAM MUST BE CONSTRUCTED OF NON-ERODIBLE MATERIALS SUCH AS SANDBAGS.
- SEQUENCE OF CONSTRUCTION FOR TYPICAL PUMP AROUND**
- INSTALL STILLING BASIN AND STABILIZED OUTFALL USING CLASS A RIP RAP AT THE DOWNSTREAM END OF THE DESIGNATED PROJECT WORKING AREA.
 - THE CONTRACTOR WILL INSTALL THE PUMP AROUND PUMP AND THE TEMPORARY PIPING THAT WILL CONVEY THE BASE FLOW FROM UPSTREAM OF THE WORK AREA TO THE STABILIZED OUTFALL.
 - INSTALL UPSTREAM COFFER DAM AND BEGIN PUMPING OPERATIONS FOR STREAM DIVERSION.
 - INSTALL THE DOWNSTREAM COFFER DAM AND DEWATERING PUMPING APPARATUS IF NEEDED TO DEWATER THE ENTRAPPED AREA. THE PUMP AND HOSE FOR THIS PURPOSE SHALL BE OF SUFFICIENT SIZE TO DEWATER THE WORK AREA. THIS WATER WILL ALSO BE PUMPED TO AN OUTFALL STABILIZED WITH CLASS A RIP RAP.
 - THE CONTRACTOR WILL PERFORM CHANNEL WORK IN ACCORDANCE WITH THE PLAN AND FOLLOWING THE GENERAL CONSTRUCTION SEQUENCE.
 - THE CONTRACTOR WILL EXCAVATE ANY ACCUMULATED SILT AND DEWATER BEFORE REMOVAL OF THE COFFER DAM. WHEN DEWATERING AREA, ALL DIRTY WATER MUST BE PUMPED THROUGH A SILT BAG. REMOVE COFFER DAMS, PUMPS, AND TEMPORARY FLEXIBLE HOSE/PIPING STARTING WITH THE DOWNSTREAM COFFER DAM FIRST.
 - ONCE THE WORKING AREA IS COMPLETED, REMOVE ALL RIP RAP AND COFFER DAMS AND STABILIZE DISTURBED AREAS WITH SEED AND MULCH.
 - ALL WORK IN CHANNEL MUST BE COMPLETED BEFORE REMOVING COFFER DAMS.

1 PUMP AROUND/DEWATERING DETAIL
EC7 NOT TO SCALE



2 TREE PROTECTION FENCING
EC7 NOT TO SCALE



MARK	DATE	DESCRIPTION

REVISIONS:
RELEASED FOR: CONSTRUCTION
PLOT DATE: 2/28/2020

PROJECT NAME:	ELLIOTT STORAGE DESIGN TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:	EROSION CONTROL DETAILS

PROJ. DATE:	JUNE 2019
Q.C.:	TLM
Q.C. DATE:	MAY 2019
DRAWING NUMBER:	EC7
PROJ. NO.:	20170225.00.RA

GROUND STABILIZATION AND MATERIALS HANDLING PRACTICES FOR COMPLIANCE WITH THE NCG01 CONSTRUCTION GENERAL PERMIT

Implementing the details and specifications on this plan sheet will result in the construction activity being considered compliant with the Ground Stabilization and Materials Handling sections of the NCG01 Construction General Permit (Sections E and F, respectively). The permittee shall comply with the Erosion and Sediment Control plan approved by the delegated authority having jurisdiction. All details and specifications shown on this sheet may not apply depending on site conditions and the delegated authority having jurisdiction.

SECTION E: GROUND STABILIZATION

Required Ground Stabilization Timeframes		
Site Area Description	Stabilize within this many calendar days after ceasing land disturbance	Timeframe variations
(a) Perimeter dikes, swales, ditches, and perimeter slopes	7	None
(b) High Quality Water (HQW) Zones	7	None
(c) Slopes steeper than 3:1	7	If slopes are 10' or less in length and are not steeper than 2:1, 14 days are allowed
(d) Slopes 3:1 to 4:1	14	-7 days for slopes greater than 50' in length and with slopes steeper than 4:1 -7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed
(e) Areas with slopes flatter than 4:1	14	-7 days for perimeter dikes, swales, ditches, perimeter slopes and HQW Zones -10 days for Falls Lake Watershed unless there is zero slope

Note: After the permanent cessation of construction activities, any areas with temporary ground stabilization shall be converted to permanent ground stabilization as soon as practicable but in no case longer than 90 calendar days after the last land disturbing activity. Temporary ground stabilization shall be maintained in a manner to render the surface stable against accelerated erosion until permanent ground stabilization is achieved.

GROUND STABILIZATION SPECIFICATION

Stabilize the ground sufficiently so that rain will not dislodge the soil. Use one of the techniques in the table below:

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none">Temporary grass seed covered with straw or other mulches and tackifiersHydroseedingRolled erosion control products with or without temporary grass seedAppropriately applied straw or other mulchPlastic sheeting	<ul style="list-style-type: none">Permanent grass seed covered with straw or other mulches and tackifiersGeotextile fabrics such as permanent soil reinforcement mattingHydroseedingShrubs or other permanent plantings covered with mulchUniform and evenly distributed ground cover sufficient to restrain erosionStructural methods such as concrete, asphalt or retaining wallsRolled erosion control products with grass seed

POLYACRYLAMIDES (PAMS) AND FLOCCULANTS

- Select flocculants that are appropriate for the soils being exposed during construction, selecting from the *NC DWR List of Approved PAMS/Flocculants*.
- Apply flocculants at or before the inlets to Erosion and Sediment Control Measures.
- Apply flocculants at the concentrations specified in the *NC DWR List of Approved PAMS/Flocculants* and in accordance with the manufacturer's instructions.
- Provide ponding area for containment of treated Stormwater before discharging offsite.
- Store flocculants in leak-proof containers that are kept under storm-resistant cover or surrounded by secondary containment structures.

EQUIPMENT AND VEHICLE MAINTENANCE

- Maintain vehicles and equipment to prevent discharge of fluids.
- Provide drip pans under any stored equipment.
- Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
- Collect all spent fluids, store in separate containers and properly dispose as hazardous waste (recycle when possible).
- Remove leaking vehicles and construction equipment from service until the problem has been corrected.
- Bring used fuels, lubricants, coolants, hydraulic fluids and other petroleum products to a recycling or disposal center that handles these materials.

LITTER, BUILDING MATERIAL AND LAND CLEARING WASTE

- Never bury or burn waste. Place litter and debris in approved waste containers.
- Provide a sufficient number and size of waste containers (e.g dumpster, trash receptacle) on site to contain construction and domestic wastes.
- Locate waste containers at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Locate waste containers on areas that do not receive substantial amounts of runoff from upland areas and does not drain directly to a storm drain, stream or wetland.
- Cover waste containers at the end of each workday and before storm events or provide secondary containment. Repair or replace damaged waste containers.
- Anchor all lightweight items in waste containers during times of high winds.
- Empty waste containers as needed to prevent overflow. Clean up immediately if containers overflow.
- Dispose waste off-site at an approved disposal facility.
- On business days, clean up and dispose of waste in designated waste containers.

PAINT AND OTHER LIQUID WASTE

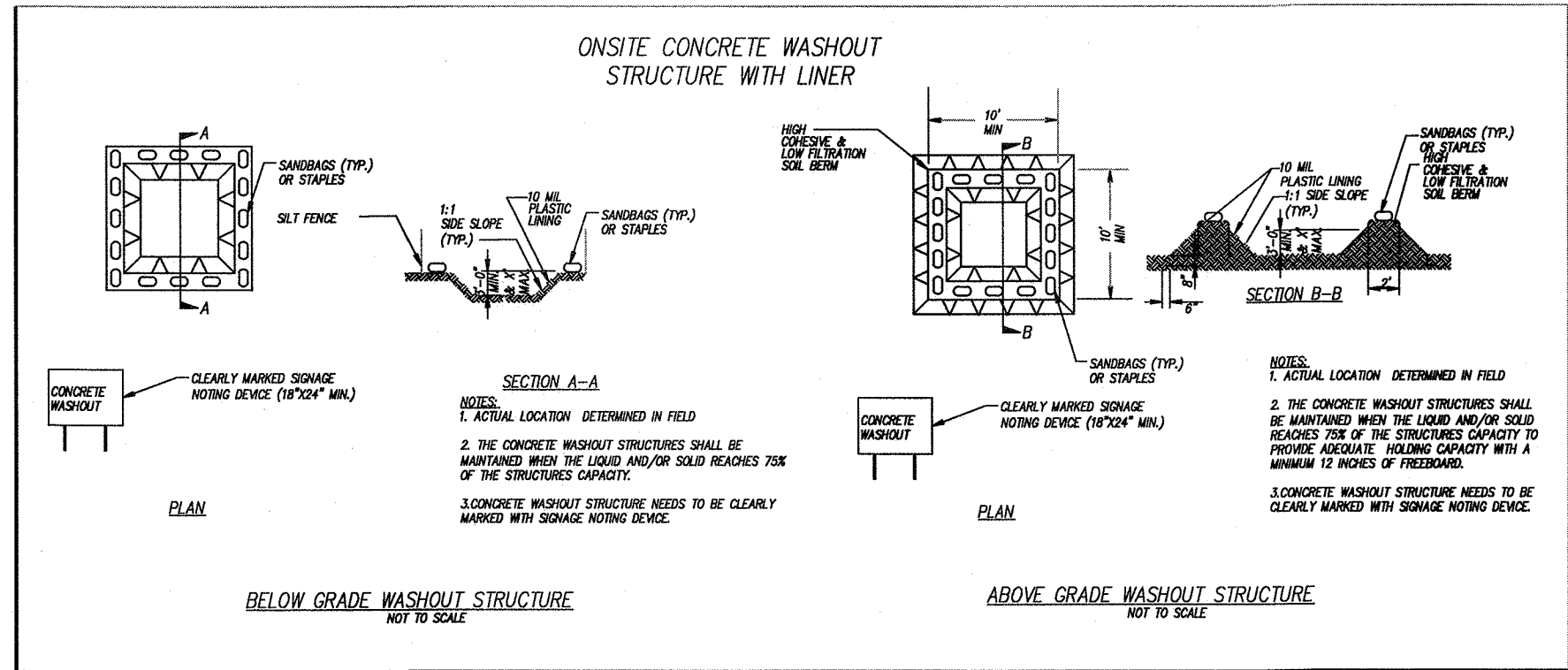
- Do not dump paint and other liquid waste into storm drains, streams or wetlands.
- Locate paint washouts at least 50 feet away from storm drain inlets and surface waters unless no other alternatives are reasonably available.
- Contain liquid wastes in a controlled area.
- Containment must be labeled, sized and placed appropriately for the needs of site.
- Prevent the discharge of soaps, solvents, detergents and other liquid wastes from construction sites.

PORTABLE TOILETS

- Install portable toilets on level ground, at least 50 feet away from storm drains, streams or wetlands unless there is no alternative reasonably available. If 50 foot offset is not attainable, provide relocation of portable toilet behind silt fence or place on a gravel pad and surround with sand bags.
- Provide staking or anchoring of portable toilets during periods of high winds or in high foot traffic areas.
- Monitor portable toilets for leaking and properly dispose of any leaked material. Utilize a licensed sanitary waste hauler to remove leaking portable toilets and replace with properly operating unit.

EARTHEN STOCKPILE MANAGEMENT

- Show stockpile locations on plans. Locate earthen-material stockpile areas at least 50 feet away from storm drain inlets, sediment basins, perimeter sediment controls and surface waters unless it can be shown no other alternatives are reasonably available.
- Protect stockpile with silt fence installed along toe of slope with a minimum offset of five feet from the toe of stockpile.
- Provide stable stone access point when feasible.
- Stabilize stockpile within the timeframes provided on this sheet and in accordance with the approved plan and any additional requirements. Soil stabilization is defined as vegetative, physical or chemical coverage techniques that will restrain accelerated erosion on disturbed soils for temporary or permanent control needs.



CONCRETE WASHOUTS

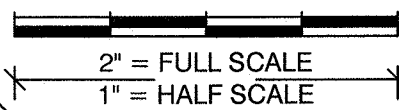
- Do not discharge concrete or cement slurry from the site.
- Dispose of, or recycle settled, hardened concrete residue in accordance with local and state solid waste regulations and at an approved facility.
- Manage washout from mortar mixers in accordance with the above item and in addition place the mixer and associated materials on impervious barrier and within lot perimeter silt fence.
- Install temporary concrete washouts per local requirements, where applicable. If an alternate method or product is to be used, contact your approval authority for review and approval. If local standard details are not available, use one of the two types of temporary concrete washouts provided on this detail.
- Do not use concrete washouts for dewatering or storing defective curb or sidewalk sections. Stormwater accumulated within the washout may not be pumped into or discharged to the storm drain system or receiving surface waters. Liquid waste must be pumped out and removed from project.
- Locate washouts at least 50 feet from storm drain inlets and surface waters unless it can be shown that no other alternatives are reasonably available. At a minimum, install protection of storm drain inlet(s) closest to the washout which could receive spills or overflow.
- Locate washouts in an easily accessible area, on level ground and install a stone entrance pad in front of the washout. Additional controls may be required by the approving authority.
- Install at least one sign directing concrete trucks to the washout within the project limits. Post signage on the washout itself to identify this location.
- Remove leavings from the washout when at approximately 75% capacity to limit overflow events. Replace the tarp, sand bags or other temporary structural components when no longer functional. When utilizing alternative or proprietary products, follow manufacturer's instructions.
- At the completion of the concrete work, remove remaining leavings and dispose of in an approved disposal facility. Fill pit, if applicable, and stabilize any disturbance caused by removal of washout.

HERBICIDES, PESTICIDES AND RODENTICIDES

- Store and apply herbicides, pesticides and rodenticides in accordance with label restrictions.
- Store herbicides, pesticides and rodenticides in their original containers with the label, which lists directions for use, ingredients and first aid steps in case of accidental poisoning.
- Do not store herbicides, pesticides and rodenticides in areas where flooding is possible or where they may spill or leak into wells, stormwater drains, ground water or surface water. If a spill occurs, clean area immediately.
- Do not stockpile these materials onsite.

HAZARDOUS AND TOXIC WASTE

- Create designated hazardous waste collection areas on-site.
- Place hazardous waste containers under cover or in secondary containment.
- Do not store hazardous chemicals, drums or bagged materials directly on the ground.



MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
				RELEASED FOR CONSTRUCTION	2/28/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: NCG01 SHEET #1

PROJ. DATE: JUNE 1919
Q.C.: TLM
Q.C. DATE: MAY 1919

DRAWING NUMBER:

EC8

PROJ. NO.:
20170225.00.RA

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION A: SELF-INSPECTION

Self-inspections are required during normal business hours in accordance with the table below. When adverse weather or site conditions would cause the safety of the inspection personnel to be in jeopardy, the inspection may be delayed until the next business day on which it is safe to perform the inspection. In addition, when a storm event of equal to or greater than 1.0 inch occurs outside of normal business hours, the self-inspection shall be performed upon the commencement of the next business day. Any time when inspections were delayed shall be noted in the Inspection Record.

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those un-attended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If visible sedimentation is found outside site limits, then a record of the following shall be made: 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made: 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

NOTE: The rain inspection resets the required 7 calendar day inspection requirement.

PART II, SECTION G, ITEM (4)
DRAW DOWN OF SEDIMENT BASINS FOR MAINTENANCE OR CLOSE OUT

Sediment basins and traps that receive runoff from drainage areas of one acre or more shall use outlet structures that withdraw water from the surface when these devices need to be drawn down for maintenance or close out unless this is infeasible. The circumstances in which it is not feasible to withdraw water from the surface shall be rare (for example, times with extended cold weather). Non-surface withdrawals from sediment basins shall be allowed only when all of the following criteria have been met:

- The E&SC plan authority has been provided with documentation of the non-surface withdrawal and the specific time periods or conditions in which it will occur. The non-surface withdrawal shall not commence until the E&SC plan authority has approved these items,
- The non-surface withdrawal has been reported as an anticipated bypass in accordance with Part III, Section C, Item (2)(c) and (d) of this permit,
- Dewatering discharges are treated with controls to minimize discharges of pollutants from stormwater that is removed from the sediment basin. Examples of appropriate controls include properly sited, designed and maintained dewatering tanks, weir tanks, and filtration systems,
- Vegetated, upland areas of the sites or a properly designed stone pad is used to the extent feasible at the outlet of the dewatering treatment devices described in Item (c) above,
- Velocity dissipation devices such as check dams, sediment traps, and riprap are provided at the discharge points of all dewatering devices, and
- Sediment removed from the dewatering treatment devices described in Item (c) above is disposed of in a manner that does not cause deposition of sediment into waters of the United States.

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION B: RECORDKEEPING

1. E&SC Plan Documentation

The approved E&SC plan as well as any approved deviation shall be kept on the site. The approved E&SC plan must be kept up-to-date throughout the coverage under this permit. The following items pertaining to the E&SC plan shall be kept on site and available for inspection at all times during normal business hours.

Item to Document	Documentation Requirements
(a) Each E&SC measure has been installed and does not significantly deviate from the locations, dimensions and relative elevations shown on the approved E&SC plan.	Initial and date each E&SC measure on a copy of the approved E&SC plan or complete, date and sign an inspection report that lists each E&SC measure shown on the approved E&SC plan. This documentation is required upon the initial installation of the E&SC measures or if the E&SC measures are modified after initial installation.
(b) A phase of grading has been completed.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate completion of the construction phase.
(c) Ground cover is located and installed in accordance with the approved E&SC plan.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate compliance with approved ground cover specifications.
(d) The maintenance and repair requirements for all E&SC measures have been performed.	Complete, date and sign an inspection report.
(e) Corrective actions have been taken to E&SC measures.	Initial and date a copy of the approved E&SC plan or complete, date and sign an inspection report to indicate the completion of the corrective action.

2. Additional Documentation to be Kept on Site

In addition to the E&SC plan documents above, the following items shall be kept on the site and available for inspectors at all times during normal business hours, unless the Division provides a site-specific exemption based on unique site conditions that make this requirement not practical:

- This General Permit as well as the Certificate of Coverage, after it is received.
- Records of inspections made during the previous twelve months. The permittee shall record the required observations on the Inspection Record Form provided by the Division or a similar inspection form that includes all the required elements. Use of electronically-available records in lieu of the required paper copies will be allowed if shown to provide equal access and utility as the hard-copy records.

3. Documentation to be Retained for Three Years

All data used to complete the e-NOI and all inspection records shall be maintained for a period of three years after project completion and made available upon request. [40 CFR 122.41]

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

SECTION C: REPORTING

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- Visible sediment deposition in a stream or wetland.
- Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).

(c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.

(d) Anticipated bypasses and unanticipated bypasses.

(e) Noncompliance with the conditions of this permit that may endanger health or the environment.

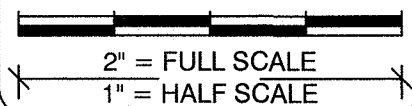
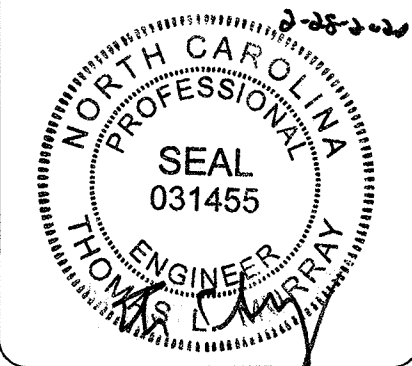
2. Reporting Timeframes and Other Requirements

After a permittee becomes aware of an occurrence that must be reported, he shall contact the appropriate Division regional office within the timeframes and in accordance with the other requirements listed below. Occurrences outside normal business hours may also be reported to the Department's Environmental Emergency Center personnel at (800) 858-0368.

Occurrence	Reporting Timeframes (After Discovery) and Other Requirements
(a) Visible sediment deposition in a stream or wetland	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that contains a description of the sediment and actions taken to address the cause of the deposition. Division staff may waive the requirement for a written report on a case-by-case basis.If the stream is named on the NC 303(d) list as impaired for sediment-related causes, the permittee may be required to perform additional monitoring, inspections or apply more stringent practices if staff determine that additional requirements are needed to assure compliance with the federal or state impaired-waters conditions.
(b) Oil spills and release of hazardous substances per Item 1(b)-(c) above	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification. The notification shall include information about the date, time, nature, volume and location of the spill or release.
(c) Anticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none">A report at least ten days before the date of the bypass, if possible. The report shall include an evaluation of the anticipated quality and effect of the bypass.
(d) Unanticipated bypasses [40 CFR 122.41(m)(3)]	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that includes an evaluation of the quality and effect of the bypass.
(e) Noncompliance with the conditions of this permit that may endanger health or the environment[40 CFR 122.41(l)(7)]	<ul style="list-style-type: none">Within 24 hours, an oral or electronic notification.Within 7 calendar days, a report that contains a description of the noncompliance, and its causes; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time noncompliance is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. [40 CFR 122.41(l)(6).Division staff may waive the requirement for a written report on a case-by-case basis.



NC LICENSE NO. F-0374



MARK	DATE	DESCRIPTION	RELEASED FOR: 2/28/2020
REVISIONS:			
RELEASED FOR CONSTRUCTION			

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE:
NCG01 SHEET #2

PROJ. DATE: JUNE 2019
O.C.: JLM
O.C. DATE: MAY 2019

DRAWING NUMBER:

EC9

PROJ. NO.:
20170225.00.RA

NCG01 SELF-INSPECTION, RECORDKEEPING AND REPORTING

EFFECTIVE: 04/01/19

1. THE STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND, EXCEPT WHERE SPECIFICALLY SHOWN, DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, AND SEQUENCE. ALL APPLICABLE SAFETY REGULATIONS TO BE FOLLOWED STRICTLY.
2. THE STRUCTURE HAS BEEN DESIGNED TO RESIST DESIGN LOADS ONLY AS A COMPLETED STRUCTURE. APPLICATIONS OF CONSTRUCTION LOADS TO THE PARTIALLY COMPLETED STRUCTURE SHALL BE CONSIDERED BY THE CONTRACTOR AND SO INCLUDED IN THE DESIGN OF SHORING, BRACING, FORMWORK, AND ANY OTHER SUPPORTING ELEMENTS PROVIDED FOR CONSTRUCTION OF THE STRUCTURE. DURING ERECTION AND UNTIL ALL PERMANENT CONNECTIONS ARE MADE, THE CONTRACTOR MUST PROVIDE TEMPORARY BRACING FOR THE STRUCTURE IN ALL DIRECTIONS.
3. THE GENERAL CONTRACTOR SHALL CHECK AND VERIFY ALL DIMENSIONS AND GRADE CONDITIONS (BOTH NEW AND EXISTING), REPORTING ANY DISCREPANCIES TO THE ENGINEER PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH ANY PHASE OF THE WORK.
4. THE CONTRACTOR SHALL COMPARE STRUCTURAL SECTIONS WITH ENGINEERURAL SECTIONS AND REPORT ANY DISCREPANCY TO THE ENGINEER PRIOR TO VERIFICATION OR INSTALLATION OF STRUCTURAL MEMBERS.
5. DO NOT SCALE DIMENSIONS FROM DRAWINGS. THE CONTRACTOR SHALL REQUEST, FROM THE ENGINEER, NECESSARY DIMENSIONS NOT SHOWN ON THE DRAWINGS.
6. IF ANY BIDDER IS IN DOUBT AS TO THE INTENT OF THE PLANS, THEY SHALL REQUEST AN INTERPRETATION FROM THE ENGINEER IN WRITING AT LEAST TEN (10) DAYS PRIOR TO THE SCHEDULED BID DATE.
7. PRINCIPAL OPENINGS IN THE STRUCTURE ARE SHOWN ON THESE DRAWINGS. THE GENERAL CONTRACTOR SHALL EXAMINE THE ENGINEERURAL MECHANICAL, ELECTRICAL, AND PLUMBING DRAWINGS FOR REQUIRED OPENINGS AS THEY SHALL BE PROVIDED FOR WHETHER SHOWN ON THESE DRAWINGS OR NOT. GENERAL CONTRACTOR SHALL VERIFY SIZE AND LOCATION OF ALL OPENINGS WITH ALL SUB-CONTRACTORS PRIOR TO CONSTRUCTION.
8. SEE ENGINEERURAL DRAWINGS FOR FLOOR ELEVATIONS, FLOOR SLOPES, AND THE LOCATION OF DEPRESSED FLOOR AREAS.
9. WHERE A DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY REFERENCED ON THE DRAWINGS.

1. APPLICABLE CODES:		
A. 2018 NORTH CAROLINA STATE BUILDING CODE (2015 INTERNATIONAL BUILDING CODE WITH REVISIONS)		
B. MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES (ASCE/SEI 7-10)		
C. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (ACI 318-14)		
D. STEEL CONSTRUCTION MANUAL, 13TH EDITION (AISC 325-10)		
E. SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-10)		
F. AMERICAN WELDING SOCIETY STRUCTURAL WELDING CODE (D1.1-10)		
2. LIVE LOADS	UNIFORM (PSF)	CONCENTRATED(LB)
TERRACE, PEDESTRIAN	100	N/A
STAIRS	100	300
RISK CATEGORY	II	
3. SNOW LOAD:		
GROUND SNOW LOAD	$P_g = P_f + 5 \text{ PSF}$	
IMPORTANCE FACTOR	$I_s = 1.0$	
SNOW EXPOSURE FACTOR	$C_e = 1.0$	
THERMAL FACTOR	$C_t = 1.2$	
FLAT SNOW ROOF LOAD	$P_f = 15 \text{ PSF}$	
4. WIND LOAD:		
BASIC DESIGN WIND VELOCITY	$V = 115 \text{ MPH}$	
EXPOSURE CATEGORY	B	
INTERNAL PRESSURE COEFFICIENTS	0.00	
BASE SHEAR	$V_x = 5k$	$V_y = 5k$
5. SEISMIC LOAD (2008 USGS SEISMIC DESIGN MAPS):		
DESIGN METHOD - EQUIVALENT LATERAL FORCE PROCEDURE		
S_s	20.7 %g	
S_1	8.0 %g	
S_{ds}	22.1 %g	
S_{d1}	12.8 %g	
IMPORTANCE FACTOR	$I_e = 1.0$	
SITE CLASS	D (ASSUMED)	
SEISMIC RESPONSE COEFFICIENT	$C_{sx} = 0.074$	$C_{sy} = 0.074$
SEISMIC DESIGN CATEGORY	B	
SEISMIC FORCE-RESISTING SYSTEM - STEEL SYSTEMS NOT SPECIFICALLY DETAILED FOR SEISMIC RESISTANCE, EXCLUDING CANTILEVER COLUMN SYSTEMS		
RESPONSE MODIFICATION COEFFICIENT	$R_x = 3.0$	$R_y = 3.0$
DEFLECTION AMPLIFICATION FACTOR	$C_{dx} = 3.0$	$C_{dy} = 3.0$
BASE SHEAR	$V_x = 1k$	$V_y = 1k$
FUTURE LOADS:		
UNLESS SPECIFICALLY NOTED, THERE ARE NO PROVISIONS MADE FOR FUTURE FLOORS, ROOFS, OR OTHER LOADS.		

1. FOUNDATION DESIGN IS BASED ON A PRESUMPTIVE ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF, ACCORDING TO IBC TABLE 1806.2. THIS PRESUMPTIVE BEARING PRESSURE MUST BE FIELD VERIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO FOUNDATION CONSTRUCTION PLACEMENT.
2. FOOTINGS SHALL BE CARRIED TO LOWER ELEVATIONS THAN THOSE SHOWN ON THE DRAWINGS IF REQUIRED BY THE GEOTECHNICAL ENGINEER OR TESTING LAB TO REACH SOIL CAPABLE OF PROVIDING THE DESIGN ALLOWABLE SOIL BEARING PRESSURE.
3. THE SUBGRADE AND UNDERFLOOR FILL SHALL BE PREPARED TO A POINT THAT EXTENDS 3'-0" MINIMUM BEYOND THE LIMITS OF THE FOUNDATION.
4. MINIMUM SUBGRADE PREPARATION REQUIREMENTS ARE AS FOLLOWS: COMPACT ALL FILL UNDER BUILDING TO 98% MAXIMUM DENSITY AS DETERMINED BY ASTM D698, PLACE IN LAYERS OF 8" MAXIMUM LOOSE THICKNESS. VERIFY FIELD DENSITY, ASTM D1556, WITH AT LEAST ONE TEST PER 2,000 SQUARE FEET PER LAYER. SEE SPECIFICATIONS FOR OTHER TESTING REQUIREMENTS.
5. UTILITY LINES SHALL NOT BE PLACED THROUGH OR BELOW FOUNDATIONS WITHOUT APPROVAL OF THE STRUCTURAL ENGINEER. CONTRACTOR SHALL SUBMIT DETAILED DRAWINGS OF ALL SUCH CONDITIONS PRIOR TO CONSTRUCTION.

1. CONCRETE COMPRESSIVE STRENGTH IN 28 DAYS:
FOOTINGS, PEDESTALS 3,000 PSI, NORMAL WEIGHT
ELEVATED SLABS ON METAL DECK 4,500 PSI, NORMAL WEIGHT
CONCRETE STAIR ON GRADE, RETAINING WALLS 4,500 PSI, NORMAL WEIGHT
REINFORCING:
TYPICAL - ASTM A615, GRADE 60
REINFORCING TO BE WELDED - ASTM A706
DEFORMED BAR ANCHORS - ASTM A 496
WELDED WIRE FABRIC - ASTM A1064 (FLAT SHEETS ONLY)
2. REFER TO THE DRAWINGS FOR REINFORCING LAP REQUIREMENTS. WHERE LAP SPLICES ARE NOT SHOWN, LAP PER ACI 318 OR CRSI STANDARDS.
3. LAP WELDED WIRE FABRIC SHEETS 8" MINIMUM.
4. CLEAR COVER FROM FACE OF CONCRETE:
CAST IN PLACE CONCRETE (MEASURE TO OUTERMOST REINFORCING) - 3"
CONCRETE CAST AGAINST AND EXPOSED TO EARTH 2" FOR #6 BARS AND LARGER
CONCRETE EXPOSED TO EARTH/WEATHER 1 1/2" ELSE

CONCRETE NOT EXPOSED TO EARTH/WEATHER 3/4" FOR SLABS AND WALLS
1 1/2" FOR BEAMS AND COLUMNS (TO TIES)
5. FOOTING REINFORCING SHALL BE HELD IN PLACE BY BAR SUPPORTS WITH SAND PLATES, OR PRECAST CONCRETE BAR SUPPORTS AS DESCRIBED IN CHAPTER 3 OF THE CRSI MANUAL OF STANDARD PRACTICE. BAR SUPPORTS SHALL BE SPACED AT A MAXIMUM OF 4'-0" OC BOTH WAYS. ROCKS, CMU, OR CLAY BRICK WILL NOT BE USED AS SUPPORTS.
6. THE CONTRACTOR SHALL ASSUME CONCRETE OVERAGES IN ELEVATED DECK POURS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERAGES MAY BE CALCULATED BY THE CONTRACTOR FOR BEAM DEFLECTIONS EQUALING L/300 INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER SDI.
7. REBAR SHALL NOT BE HEATED WITH A TORCH IN THE FIELD.
8. THE CONTRACTOR SHALL NOTIFY THE ENGINEER/ENGINEER FIRM ENOUGH IN ADVANCE (48 HOURS) OF EACH CONCRETE POUR TO ALLOW AMPLE TIME TO CHECK THE LAYOUT OF THE STEEL BEFORE THE BEGINNING OF THE ACTUAL POUR, BUT NOT PRIOR TO 90% OF THE STEEL HAVING BEEN PLACED.

1. CONTRACTOR SHALL PROVIDE NECESSARY CONSTRUCTION JOINTS IN MONOLITHIC CONCRETE POURS SO THAT THE QUALITY OF PLACEMENT AND FINISH MEETS THE REQUIREMENTS OF PLANS AND SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT A PLAN SHOWING THE LOCATION OF ALL CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
2. THERE SHALL BE NO HORIZONTAL CONSTRUCTION JOINTS IN CONCRETE POURS. ALL VERTICAL CONSTRUCTION JOINTS IN SLABS AND BEAMS SHALL BE MADE WITH BULKHEADS. ADDITIONAL REINFORCING AT CONSTRUCTION JOINTS SHALL BE AS SPECIFIED BY THE STRUCTURAL ENGINEER. SEE TYPICAL CONSTRUCTION JOINT DETAILS.

1. STRUCTURAL STEEL:

WIDE FLANGE SHAPES (W SECTIONS) - ASTM A992, GRADE 50 (FY=50 KSI)

PLATES - ASTM A572, GRADE 50 (FY=50 KSI) OR ASTM A36 (FY=36 KSI)

2. ANCHOR BOLTS AND THREADED RODS SHALL CONFORM TO ASTM F1554, GRADE 36.

3. DESIGN, FABRICATION AND ERECTION SHALL BE AS PER SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS (AISC 360-05).

4. BEAM SIMPLE SHEAR AND BRACED FRAME CONNECTIONS NOT DETAILED ON STRUCTURAL DRAWINGS SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER RETAINED BY THE STEEL SUPPLIER AND REGISTERED IN THE STATE OF NORTH CAROLINA. THE CONNECTIONS FOR NON-COMPOSITE BEAMS SHALL BE DESIGNED FOR REACTIONS SHOWN ON DRAWINGS OR FOR REACTIONS DETERMINED BY USING THE ALLOWABLE UNIFORM LOAD AS TABULATED IN PART 3 OF THE AISC STEEL CONSTRUCTION MANUAL FOR THE SECTION, SPAN AND STRENGTH OF STEEL SPECIFIED. CONNECTIONS SHALL BE MADE WITH ASTM A325 3/4"Ø BOLTS (MINIMUM), TIGHTENED TO A SNUG-TIGHT CONDITION PER AISC REQUIREMENTS.

5. REACTIONS MAY BE OMITTED ON PLANS FOR CLARITY. REACTIONS CAN BE PROVIDED ONCE A CONTRACT IS AWARDED. NOTIFY ENGINEER OF REQUEST.

6. THE CONNECTION ENGINEER SHALL SUBMIT A SIGNED AND SEALED LETTER STATING THEY HAVE REVIEWED THE STEEL SHOP DRAWINGS AND THE CONNECTIONS ARE CONSISTENT WITH THEIR CALCULATIONS AND INTENT.

7. WHERE STEEL MEMBERS ARE WELDED AND NO SIZE IS SPECIFIED, PROVIDE FULL LENGTH FILLET WELDS BOTH SIDES OF MEMBER. WELD SIZES SHALL BE AS FOLLOWS UNLESS NOTED OTHERWISE:

<u>MEMBER THICKNESS</u>	<u>WELD SIZE</u>
3/16"	3/16"
1/4"	3/16"
5/16"	3/16"
3/8"	1/4"
7/16"	1/4"
1/2"	5/16"
9/16"	3/8"
5/8"	7/16"

8. SPLICING OF STRUCTURAL STEEL MEMBERS IS PROHIBITED WITHOUT PRIOR APPROVAL OF THE ENGINEER AS TO LOCATION AND TYPE OF SPLICE TO BE MADE. ANY MEMBER HAVING A SPLICE NOT SHOWN AND DETAILED ON SHOP DRAWINGS WILL BE REJECTED.

9. ALL WELDING SHALL CONFORM TO THE AMERICAN WELDING SOCIETY CODE. USE E70 SERIES ELECTRODES FOR ALL STRUCTURAL STEEL WELDS.

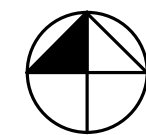
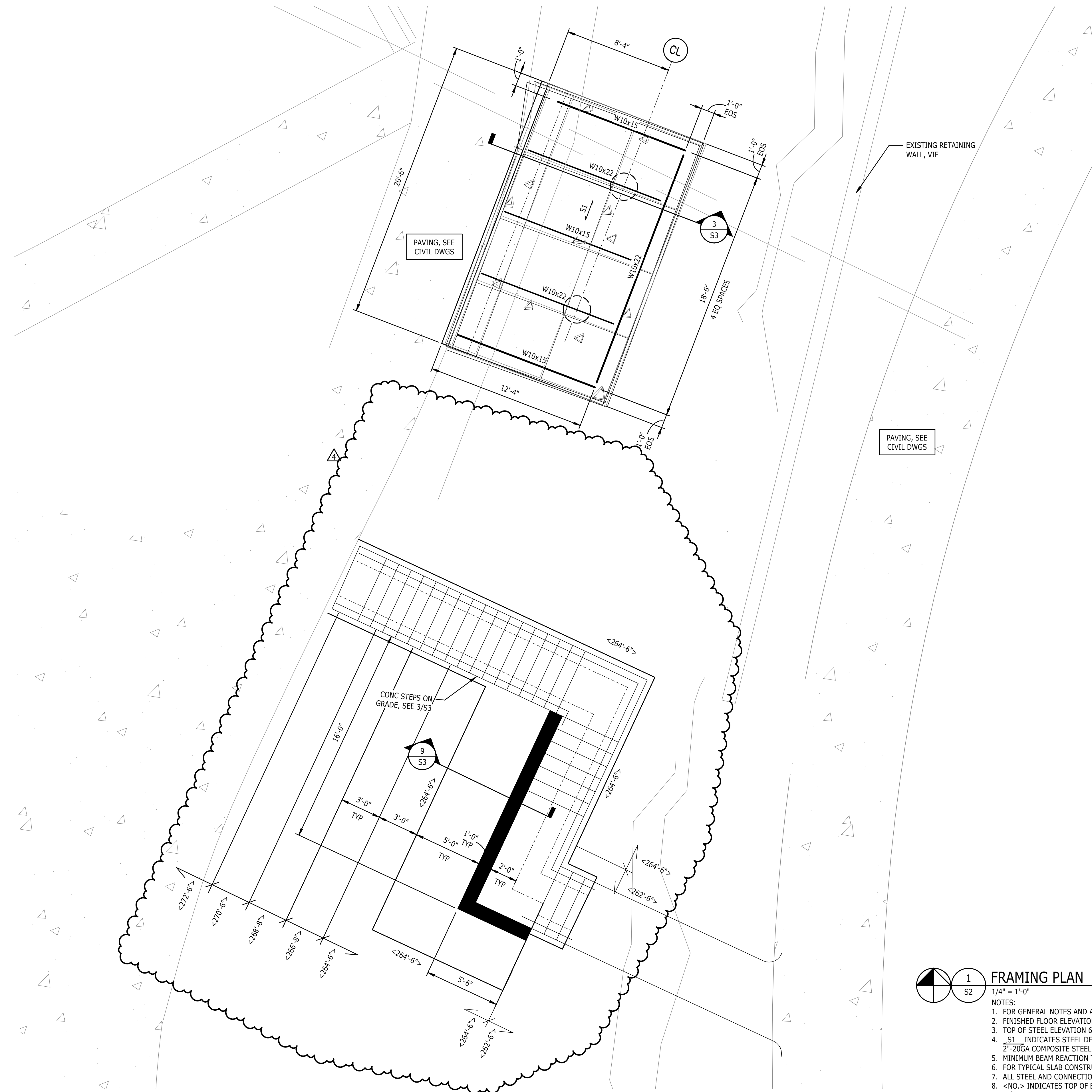
10. SEE THE ELECTRICAL AND STRUCTURAL DRAWINGS FOR ALL ITEMS REQUIRED TO BE HOT-DIP GALVANIZED AFTER FABRICATION.

1. ANCHOR BOLTS, REINFORCING STEEL, THREADED RODS, STAIR HANDRAILS, AND OTHER EMBEDDED STEEL ITEMS SHALL BE SET INTO HARDENED CONCRETE WITH ADHESIVE OR MECHANICAL POST-INSTALLED ANCHOR ONLY WHERE DETAILED ON THE DRAWINGS OR WHERE APPROVED BY THE ENGINEER.
2. PRE-APPROVED MANUFACTURERS ARE HILTI, SIMPSON STRONG-TIE, AND DEWALT. WHERE DETAILS INDICATE SPECIFIC ADHESIVE OR MECHANICAL POST-INSTALLED ANCHORS, IT IS ACCEPTABLE AT THE CONTRACTOR'S OPTION TO SUBMIT AN ALTERNATE SIMILAR PRODUCT PROVIDED BY A DIFFERENT MANUFACTURER AS LONG AS THE MANUFACTURER'S DATA PROVIDES EQUIVALENT LOAD CAPACITY TO THE ANCHOR SPECIFIED.
3. MANUFACTURER'S DATA FOR ALL ADHESIVE AND MECHANICAL POST-INSTALLED ANCHORS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTALLATION. SUBMITTALS FOR ADHESIVE ANCHOR PRODUCTS SHALL INCLUDE ICC-ES EVALUATION REPORTS. STRICTLY FOLLOW THE MANUFACTURER'S SPECIFICATIONS AND INSTALLATION INSTRUCTIONS. HEED ALL LABEL WARNINGS. INSTALL IN ACCORDANCE WITH APPLICABLE SAFETY LAWS.
4. ALL HOLES SHALL BE DRILLED WITH A DIAMETER NO LARGER THAN 1/8" GREATER THAN THE DIAMETER OF THE STEEL MEMBER BEING INSTALLED.
5. ALL HOLES SHALL BE CLEANED WITH COMPRESSED AIR AND SHALL BE DRY PRIOR TO INSTALLATION OF ADHESIVE. HOLES SHALL BE FREE OF ALL DELETERIOUS MATERIAL SUCH AS LANTANCE, DUST, DIRT, AND OIL.
6. CONTRACTOR PERFORMING ADHESIVE WORK SHALL BE AN APPROVED CONTRACTOR BY THE MANUFACTURER FURNISHING THE ADHESIVE MATERIALS, AND SHALL HAVE NO LESS THAN FIVE YEARS EXPERIENCE IN THE VARIOUS TYPES OF ADHESIVE RELATED WORK REQUIRED IN THIS PROJECT. A CERTIFICATION FROM THE MANUFACTURER ATTESTING TO THE TRAINING SHALL BE SUBMITTED TO THE ENGINEER/ENGINEER ALONG WITH THE PROPOSAL TO DO THE WORK.

1. THE USE OF REPRODUCTIONS OF THESE CONTRACT DRAWINGS BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR, OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFIES HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREIN AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HERE ON.

A	AT
Ø	AND
Ø	DIAMETER
AB	ANCHOR BOLTS
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADH	ADHESIVE
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE
ARCH	ARCHITECT'S / ARCHITECTURAL
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/ or BOT	BOTTOM
BRG	BEARING
BTWN	BETWEEN
CANT	CANTILEVER
CJ	CONTROL JOINT
CL	CENTERLINE
CLR	CLEAR
COL	COLUMN
CONC	CONCRETE
CONN	CONNECTION
CONSTR JT	CONSTRUCTION JOINT
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CTRD	CENTERED
DBA	DEFORMED BAR ANCHOR
DET	DETAIL
DIM	DIMENSION
DIST	DISTANCE
DWG(S)	DRAWING(S)
DWL(S)	DOWEL(S)
EA	EACH
EE	EACH END
EJ	EXPANSION JOINT
ELEV	ELEVATION
EMBED	EMBEDDED / EMBEDMENT
ENGR	ENGINEER
EOD	EDGE OF DECK
EOS	EDGE OF SLAB
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
FDN	FOUNDATION
FFE	FINISHED FLOOR ELEVATION
FOW	FACE OF WALL
FS	FAR SIDE
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
HD	HEADED
HORIZ	HORIZONTAL
HSS	HOLLOW STRUCTURAL SECTION
INT	INTERIOR
JT	JOINT
K	KIP(S)
KSI	KIPS PER SQUARE INCH
LB	LONG BAR
LBS	POUNDS
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LOC	LOCATION
LSH	LONG SIDE HORIZONTAL
LSV	LONG SIDE VERTICAL
LWC	LIGHT WEIGHT CONCRETE
MAX	MAXIMUM
MFR	MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MOW	MIDDLE OF WALL
No or #	NUMBER
NTS	NOT TO SCALE
NWC	NORMAL WEIGHT CONCRETE
OC	ON CENTER
OPNG	OPENING
OPP	OPPOSITE HAND
PAF	POWDER ACTUATED FASTENER
PL	PLATE
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
SB	SHORT BAR
SCHD	SCHEDULE
SIM	SIMILAR
SOG	SLAB ON GRADE
SPEC(S)	SPECIFICATION(S)
SQ	SQUARE
STD	STANDARD
STIFF	STIFFENER
STIRR	STIRRUP(S)
STL	STEEL
STR	STRUCTURAL
T/	TOP
TCX	TOP CHORD EXTENSION
TOC	TOP CHORD CONCRETE
TOF	TOP OF FOOTING
TOS	TOP OF STEEL
TOW	TOP OF WALL
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
WWF	WELDED WIRE FABRIC
WP	WORK POINT

PROJ. DATE:	5/20/2019
Q.C.:	C.LEWIS
Q.C. DATE:	5/21/2019
DRAWING NUMBER:	
S1	
PROJ. NO.:	
C17118.00	



1
S2

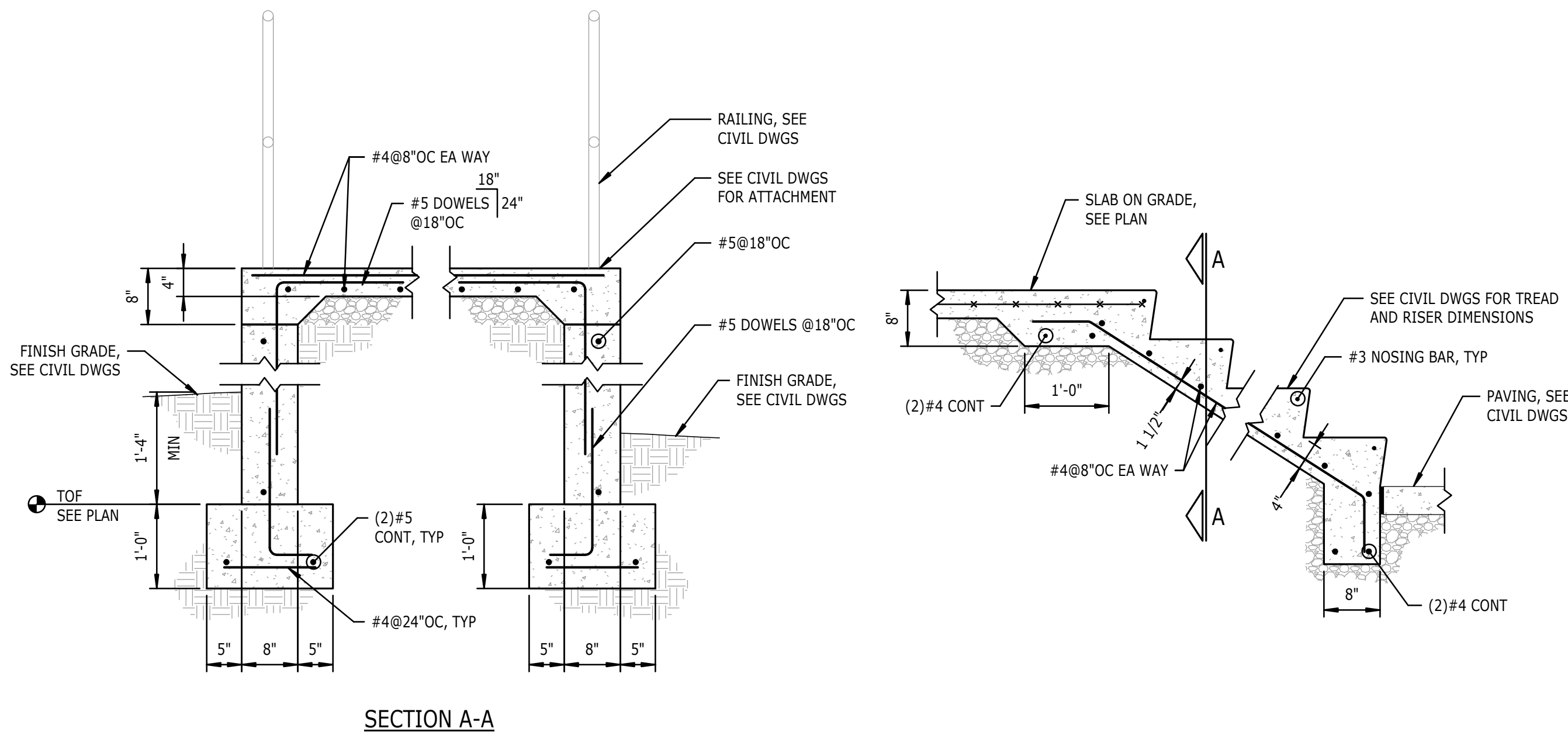
FRAMING PLAN

1/4" = 1'-0"

NOTES:

- FOR GENERAL NOTES AND ABBREVIATIONS, SEE S1.
- FINISHED FLOOR ELEVATION, SEE CIVIL DRAWINGS.
- TOP OF STEEL ELEVATION 6 1/2" BELOW FINISHED FLOOR ELEVATION, UNO. (NO) INDICATES TOP OF STEEL ELEVATION.
- S1 INDICATES STEEL DECK SPAN DIRECTION. CONSTRUCTION SHALL BE 4 1/2" NORMAL WEIGHT CONCRETE ON 2"-20GA COMPOSITE STEEL DECK. TOTAL THICKNESS = 6 1/2". SEE TYPICAL SLAB CONSTRUCTION DETAILS ON S3.
- MINIMUM BEAM REACTION TO BE 10K, UNO.
- FOR TYPICAL SLAB CONSTRUCTION DETAILS, SEE S3.
- ALL STEEL AND CONNECTION SHALL BE GALVANIZED.
- <NO.> INDICATES TOP OF ELEVATION, SEE PLAN.
- INDICATES STE IN WALL FOOTING, SEE 1/S4.

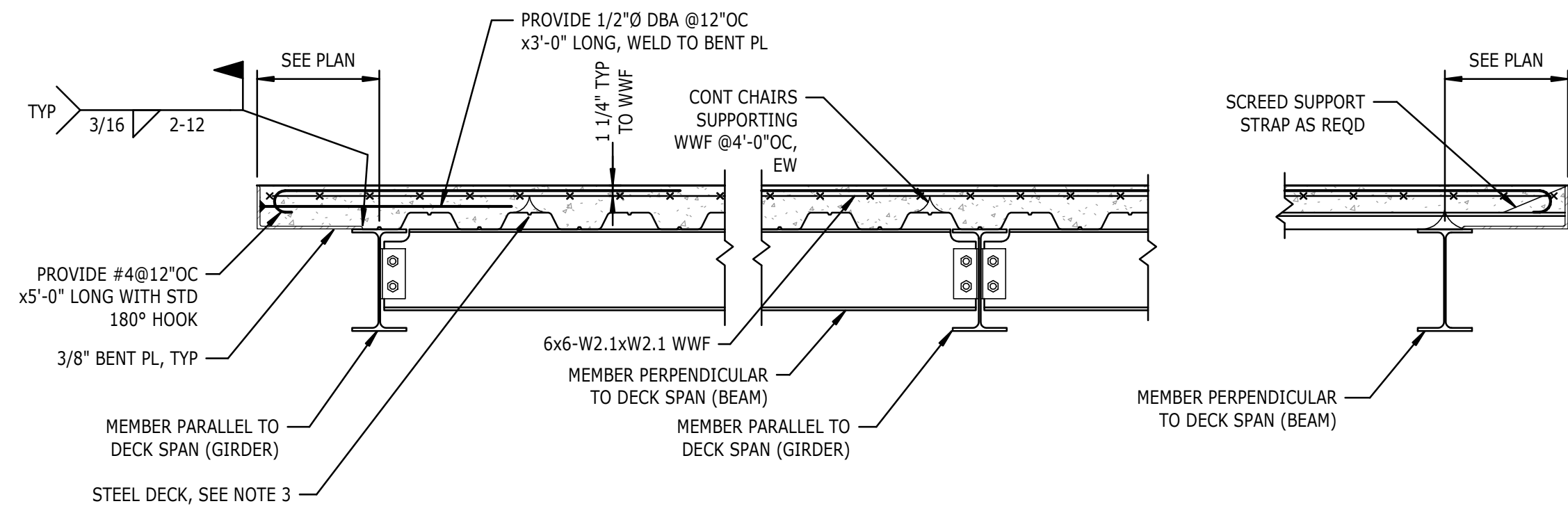
REVISIONS:	MARK	DATE	DESCRIPTION	RELEASED FOR:	FOR CONSTRUCTION	PLOT DATE:
4	08.13.20	FIELD REVISION #4				5/21/2019
0	06.03.19	FOR PERMIT				
1	02.20.20	ADDENDUM #1				



SECTION A-A

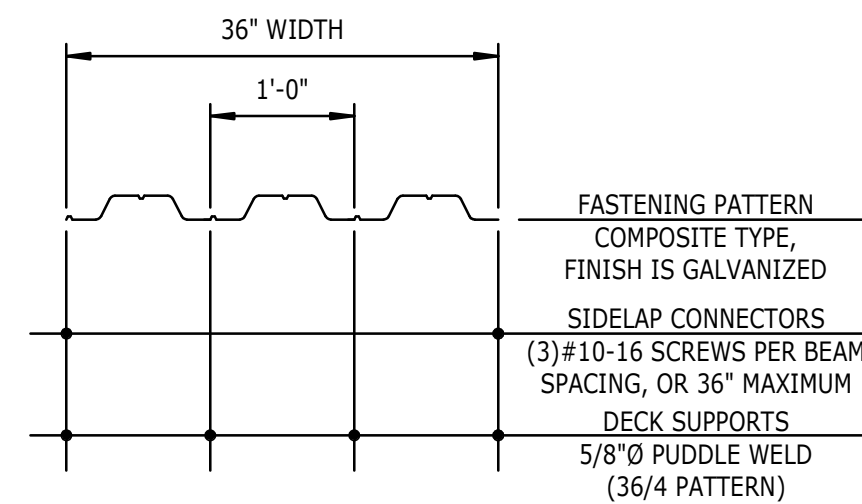
7 DETAIL

S3 STEPS ON GRADE WITH CONCRETE WALLS
NTS



COMPOSITE FLOOR CONSTRUCTION DETAIL

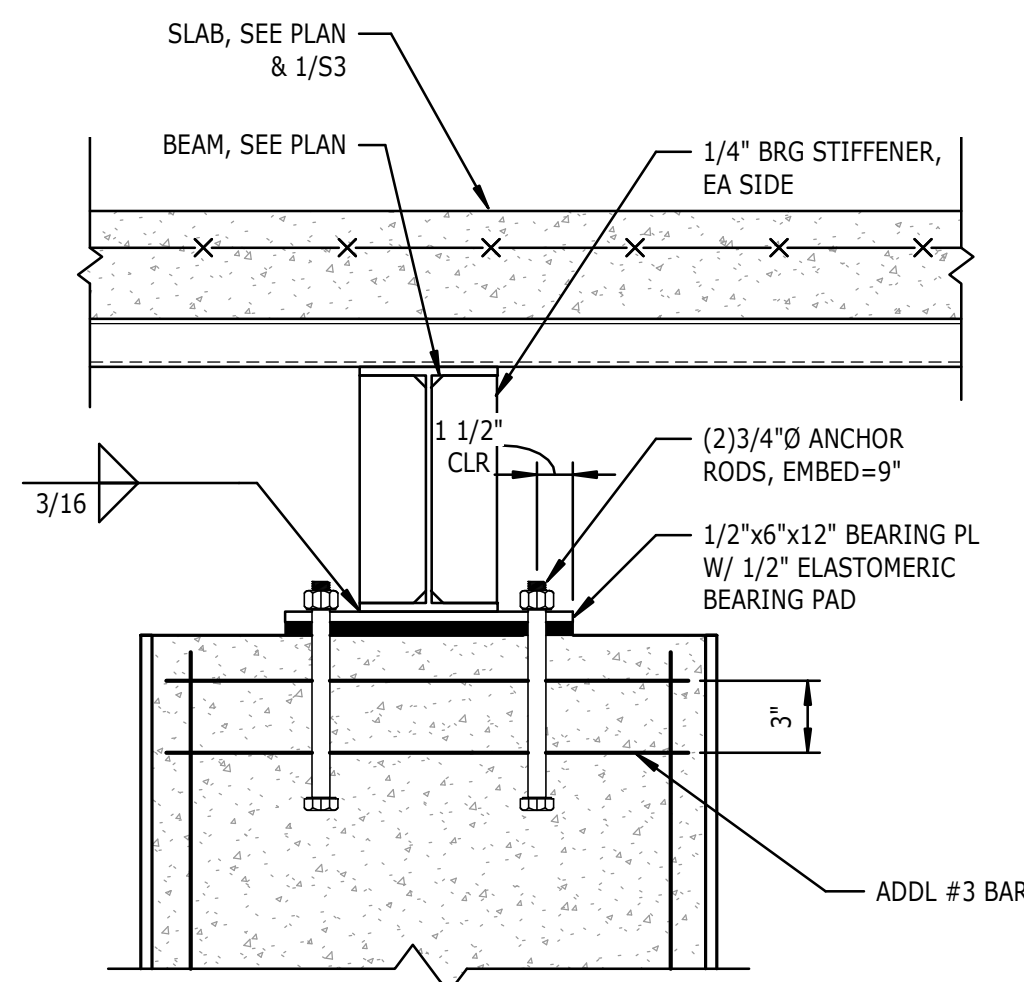
- NOTES:
1. THIS DETAIL APPLIES TO DECK SUPPORTED COMPOSITE SLABS, AS INDICATED ON PLANS.
 2. WELD DECK TO SUPPORTS PER FLOOR DECKING ATTACHMENT DETAIL.
 3. MINIMUM STEEL DECK PROPERTIES: 2"-20 GAGE COMPOSITE DECK WITH $I_p=0.409$ in⁴/ft, $I_n=0.406$ in⁴/ft, $S_p=0.341$ in³/ft, $S_n=0.346$ in³/ft, AND $F_y=50$ ksi.
 4. COMPOSITE SLABS HAVE BEEN DESIGNED AS "UNSHORED CONSTRUCTION".
 5. THE CONTRACTOR SHALL ASSUME CONCRETE OVERAGES IN ELEVATED DECK POURS DUE TO MEMBER AND DECK DEFLECTIONS. UNLESS SHOWN ON PLANS, BEAMS ARE NOT CAMBERED. CONCRETE OVERAGES MAY BE CALCULATED BY THE CONTRACTOR FOR BEAM DEFLECTIONS EQUALING $L/300$ INCLUDING ADDITIONAL DEFLECTIONS DUE TO PONDING AND DECK DEFLECTIONS PER SDI.



FLOOR DECK ATTACHMENT DETAIL

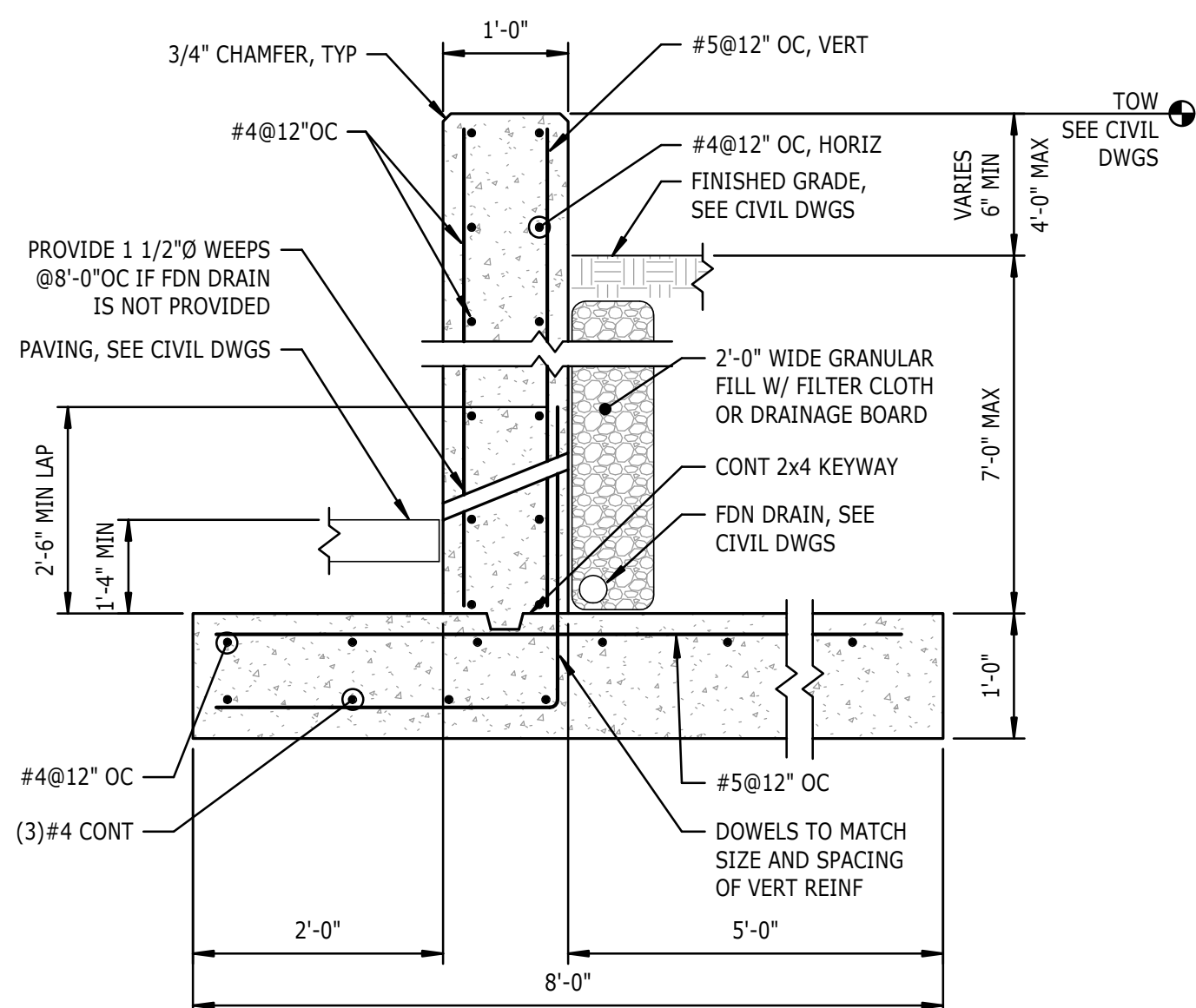
1 DETAIL

S3 TYPICAL COMPOSITE SLAB DETAILS
NTS



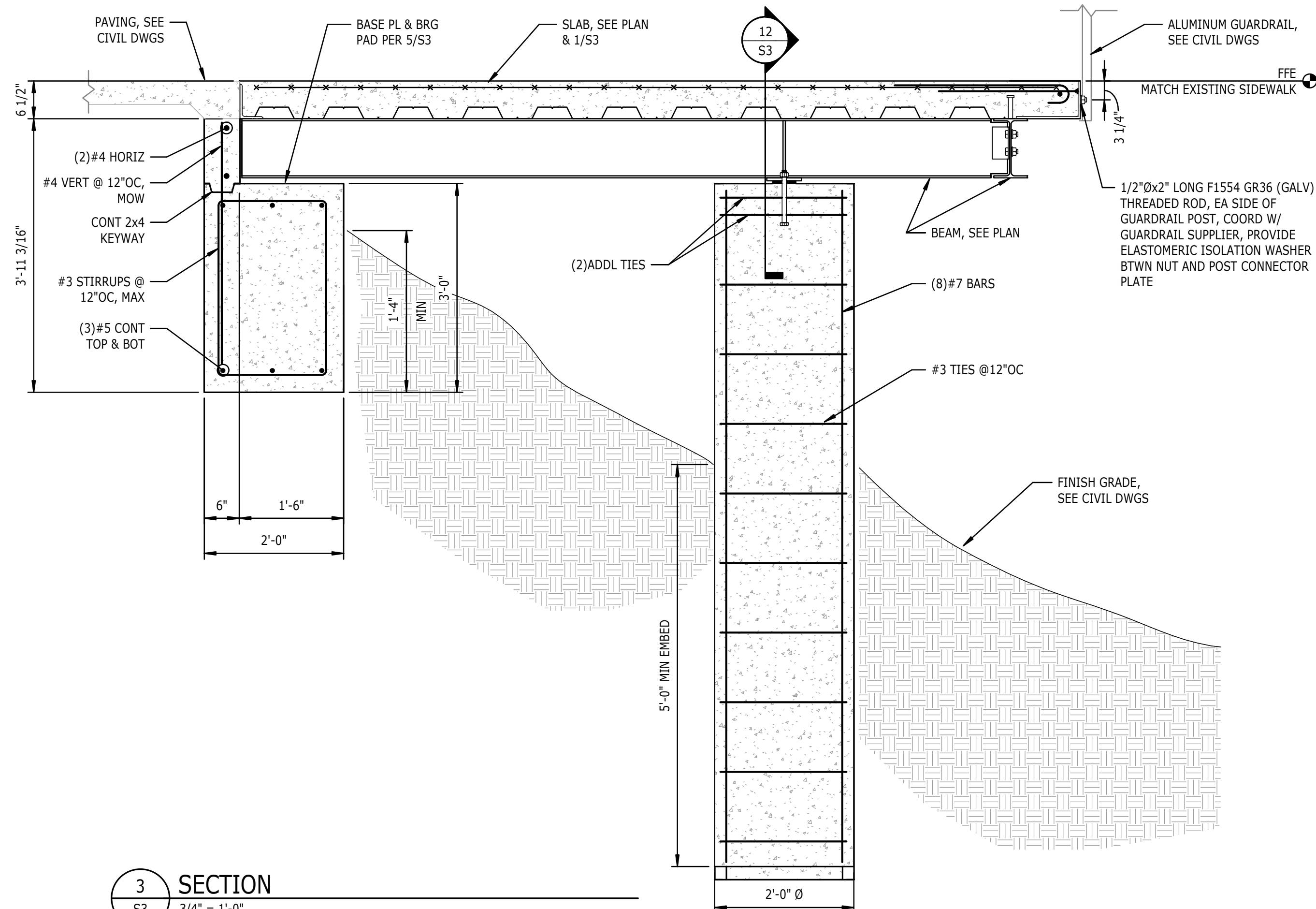
12 DETAIL

S3 1 1/2" = 1'-0"



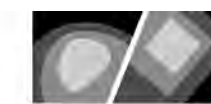
9 DETAIL

S3 CONCRETE RETAINING WALL
3/4" = 1'-0"



3 SECTION

S3 3/4" = 1'-0"



STEWART

223 S. WEST STREET
SUITE 1100
RALEIGH, NC 27603
T 919.380.8750
FIRM LICENSE #C-1051
PROJECT C17118

SEAL:



02/25/2020

MARK	DATE	DESCRIPTION	REVISIONS	RELEASED FOR:	FOR CONSTRUCTION
0	06.03.19	FOR PERMIT			
1	02.20.20	ADDENDUM #1			

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:
TYPICAL SECTIONS & DETAILS

PROJ. DATE: 5/20/2019
Q.C.: CPL
Q.C. DATE: 5/21/2019
DRAWING NUMBER:

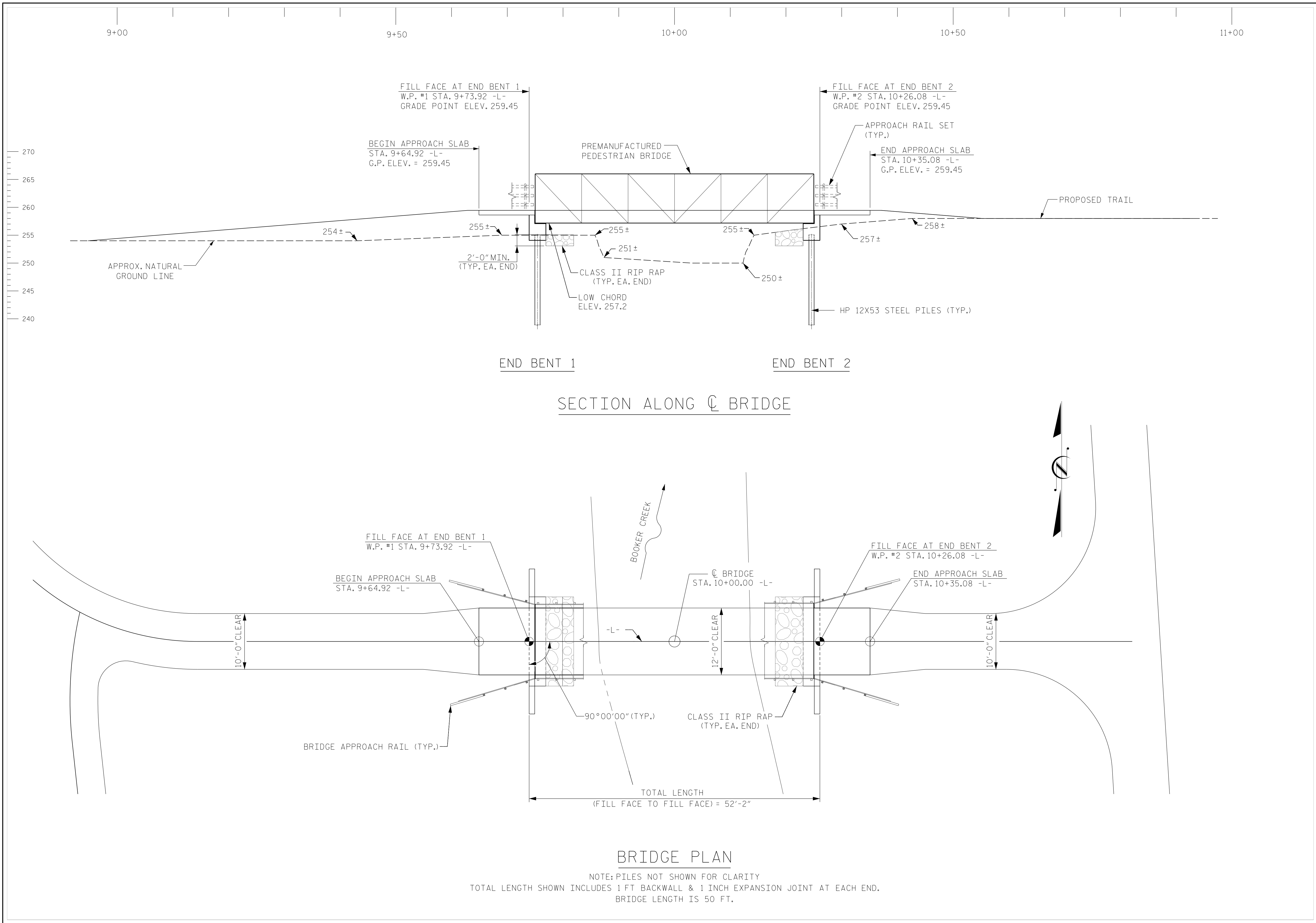
S3

PROJ. NO.:
C17118.00



0	06.03.19	FOR PERMIT		
1	02.20.20	ADDENDUM #1		
MARK	DATE	DESCRIPTION		
REVISIONS:				
RELEASED FOR:				
FOR CONSTRUCTION				
PLOT DATE: 5/21/2019				

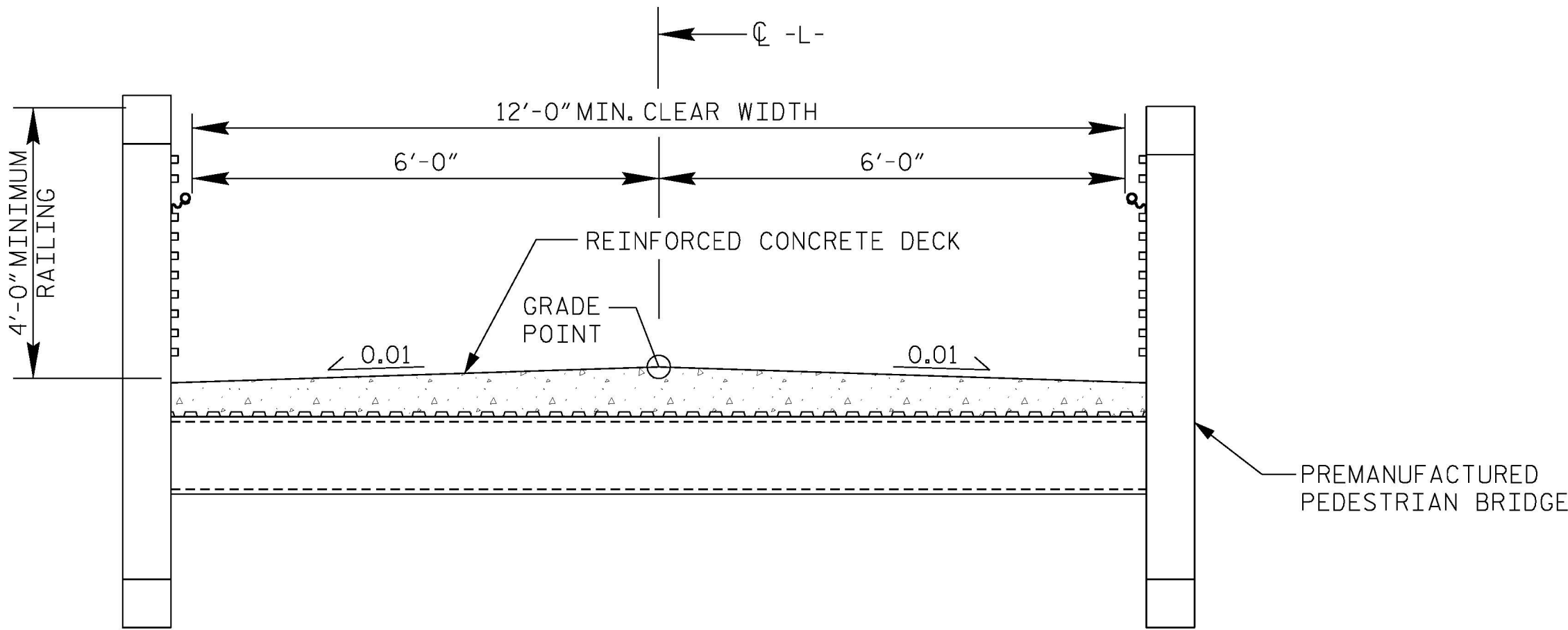
PROJ. DATE:	5/20/2019
Q.C.:	Approver
Q.C. DATE:	5/21/2019
DRAWING NUMBER:	
S4	
PROJ. NO.:	
C17118.00	



MARK	DATE	DESCRIPTION	RELEASED FOR:	FOR CONSTRUCTION	PLOT DATE:
					02/25/2020

PROJECT NAME:	ELLIOTT STORAGE DESIGN TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:	GENERAL DRAWING

PROJ. DATE:	SUMMER 2019
Q.C.:	
Q.C. DATE:	
DRAWING NUMBER:	B-1
PROJ. NO.:	C17118.00



TYPICAL SECTION

FOUNDATION NOTES

- FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF 25 TONS PER PILE.
- DRILLED-IN PILES ARE REQUIRED FOR END BENTS NO.1 AND NO.2. EXCAVATE HOLES AT PILE LOCATIONS TO ELEVATION 235 FT. FOR PILE EXCAVATION, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS.
- CONCRETE OR GROUT IS REQUIRED TO FILL HOLES FOR PILE EXCAVATION AT END BENTS NO.1 AND NO.2.
- PILE EXCAVATIONS AT END BENTS NO.1 AND NO.2 WILL EXTEND INTO MATERIAL THAT DETERIORATES WHEN EXPOSED TO THE ELEMENTS. CHECK FIELD CONDITIONS FOR THE REQUIRED TIP RESISTANCE AND PLACE CONCRETE IMMEDIATELY AFTER THE EXCAVATION IS COMPLETED.

NOTES

- ASSUMED LIVE LOAD = 90psf AS PER AASHTO LRFD GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES, 2nd EDITION.
- THIS BRIDGE IS LOCATED IN SEISMIC ZONE 1.
- THIS BRIDGE HAS BEEN DESIGNED IN ACCORDANCE WITH THE AASHTO LRFD GUIDE SPECIFICATIONS FOR THE DESIGN OF PEDESTRIAN BRIDGES 2ND EDITION. (AASHTO H5 LOADING)
- FOR SUBMITTAL OF WORKING DRAWINGS, SEE SPECIAL PROVISIONS.
- FOR FALSEWORK AND FORMWORK, SEE SPECIAL PROVISIONS.
- FOR CRANE SAFETY, SEE SPECIAL PROVISIONS.
- FOR GROUT FOR STRUCTURES, SEE SPECIAL PROVISIONS.
- FOR PREFABRICATED PEDESTRIAN BRIDGE, SEE SPECIAL PROVISIONS.
- FABRICATOR OF PREFABRICATED PEDESTRIAN BRIDGE SHALL INDICATE THE LOCATION OF DRAINAGE HOLES FOR THE BRIDGE TUBULAR MEMBERS IN THE SHOP DRAWINGS.
- CONCRETE DECKS SHALL BE CLASS AA CONCRETE AND COMPLY WITH NCDOT SPECIFICATIONS.
- BRIDGE LOADINGS ARE ESTIMATED. AFTER SHOP DRAWINGS FOR THE PREFABRICATED PEDESTRIAN BRIDGE ARE SUBMITTED, CONSTRUCTION ADMINISTRATOR SHALL FORWARD SHOP DRAWINGS TO STEWART FOR VERIFICATION THAT BRIDGE CAN SUPPORT CALCULATED BRIDGE LOADS.
- THE PROJECT CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, JANUARY 2018. ALL MATERIALS MUST MEET THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS OR SHALL BE NCDOT-APPROVED.
- FOR APPROACH RAILS, SEE SPECIAL PROVISIONS.
- FOR REINFORCED CONCRETE DECK SLAB, SEE SPECIAL PROVISIONS.
- FOR CONSTRUCTION OF SUBSTRUCTURE, SEE SPECIAL PROVISIONS.
- FOR CONCRETE APPROACH SLAB, SEE SPECIAL PROVISIONS.
- PREFABRICATED BRIDGE IS 50'-0" LONG.

TYPICAL SECTION AND GENERAL NOTES



community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics

720 Corporate Drive
Raleigh, NC 27607
(v) 919.782.0495
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www.stewartinc.com
PROJECT # C17118.00



DAVID RUGGLES
2/25/2020

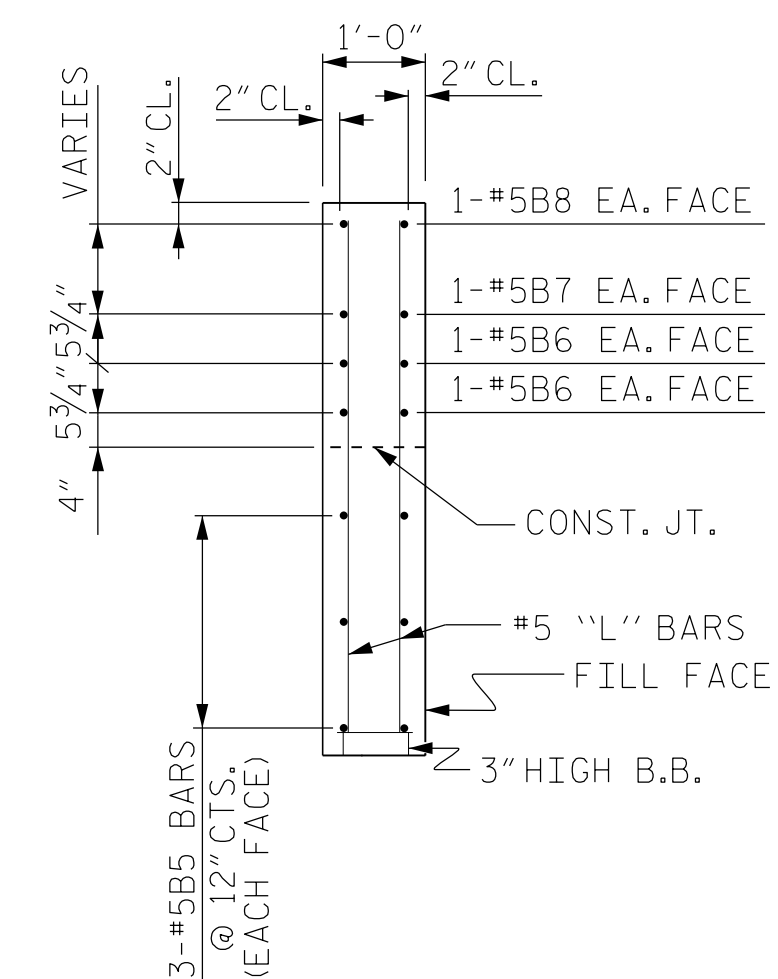
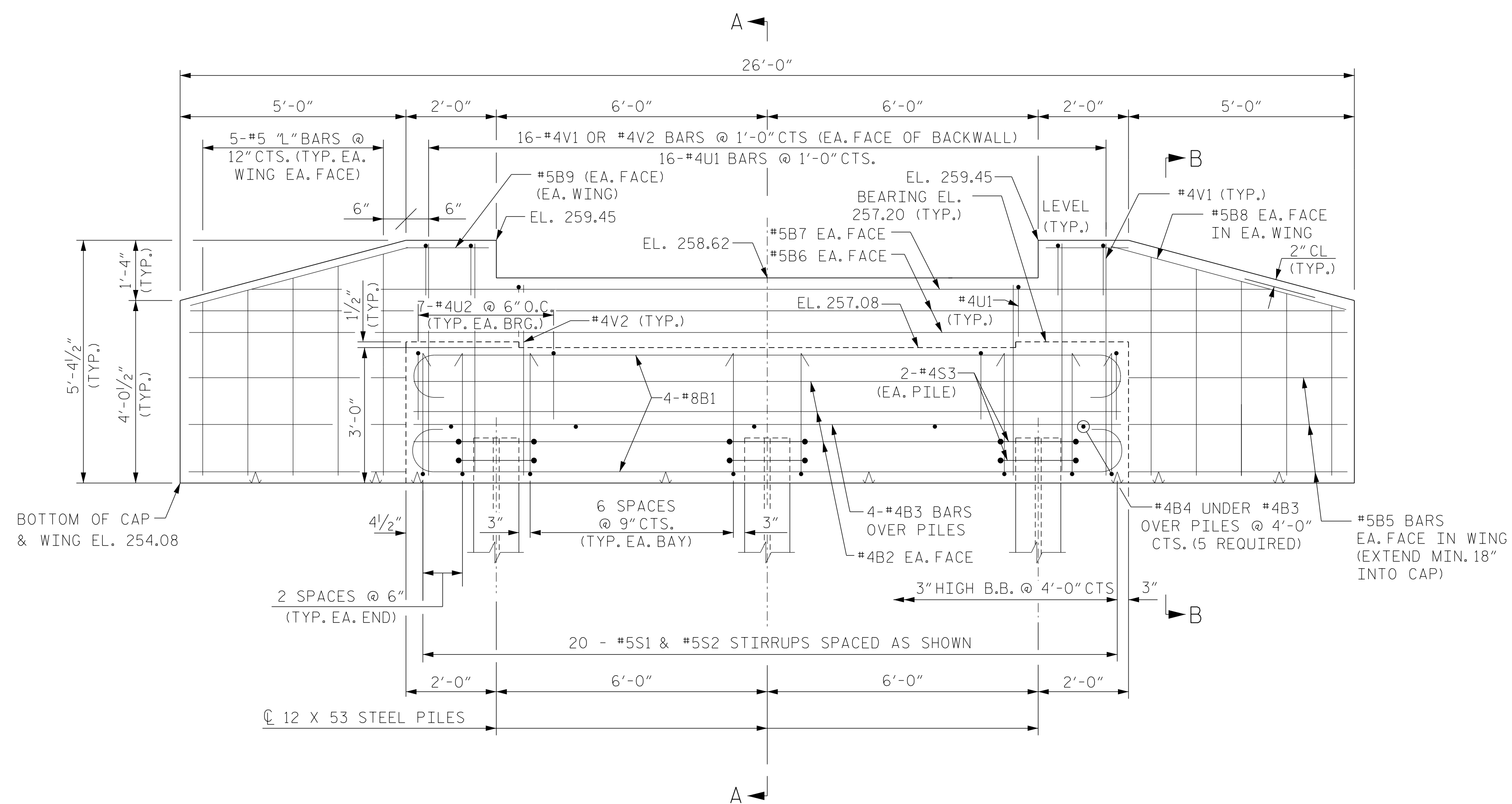
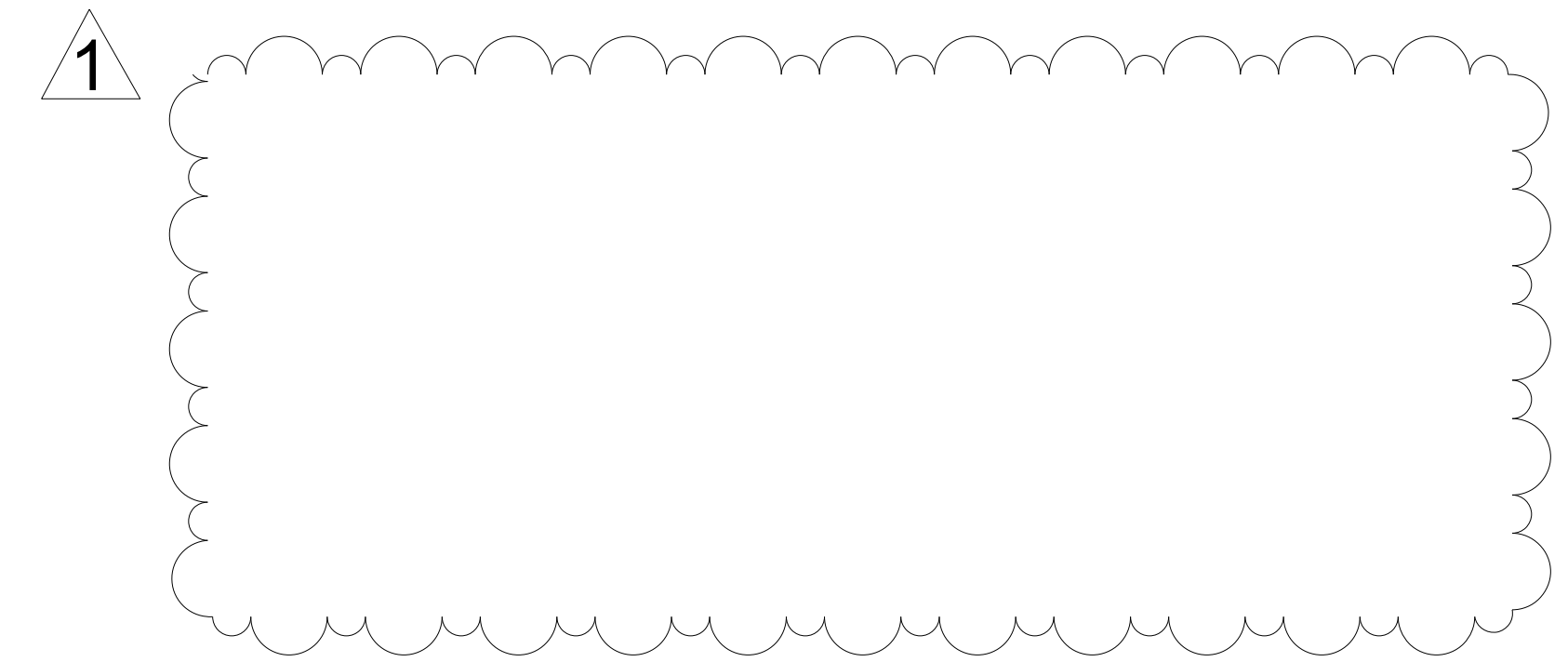
MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
				FOR CONSTRUCTION	02/25/2020

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE:
TYPICAL SECTION

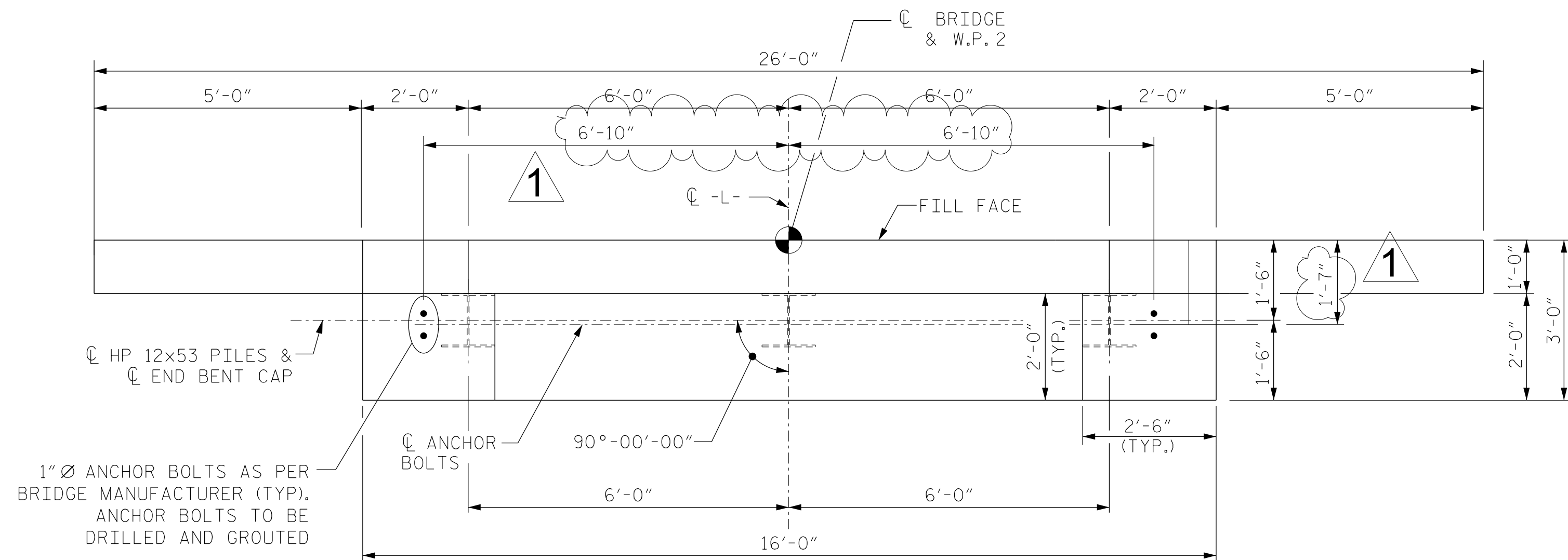
PROJ. DATE: SUMMER 2019
Q.C.:
Q.C. DATE:

DRAWING NUMBER:
B-2
PROJ. NO.: C17118.00

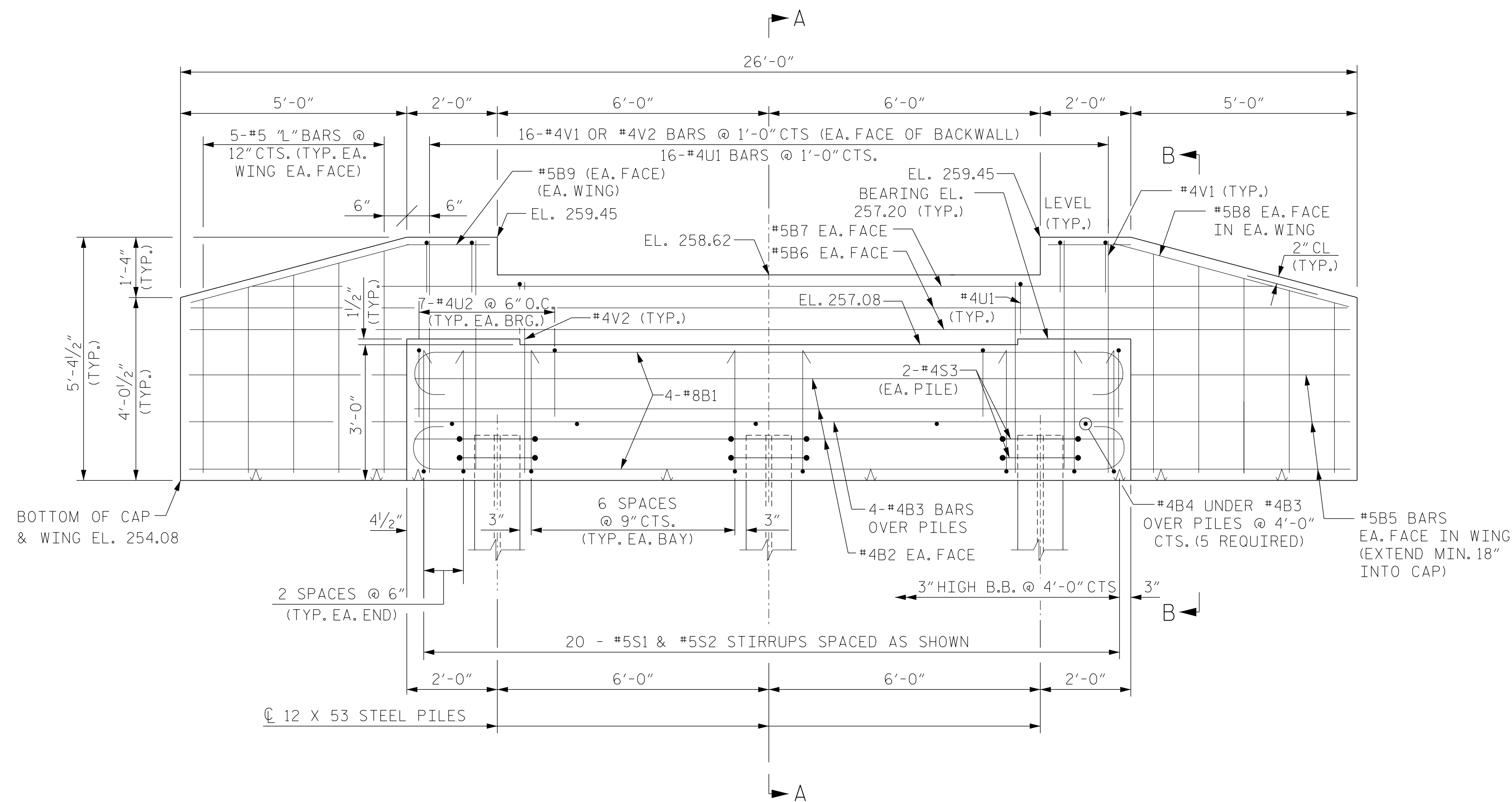


TYPICAL FOR BOTH WINGS

1 MODIFIED TO REFLECT SHOP DWGS

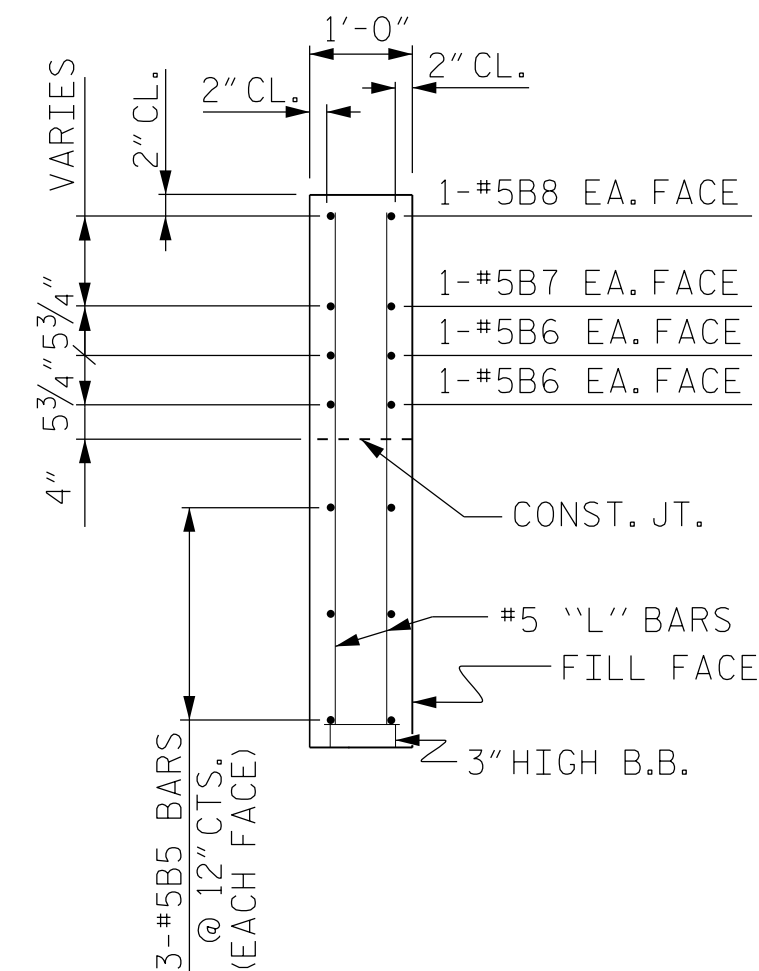


PLAN OF END BENT 2



ELEVATION OF END BENT 2

FOR CROSS SECTION A-A, SEE SHEET B-5



SECTION B-B

TYPICAL FOR BOTH WINGS

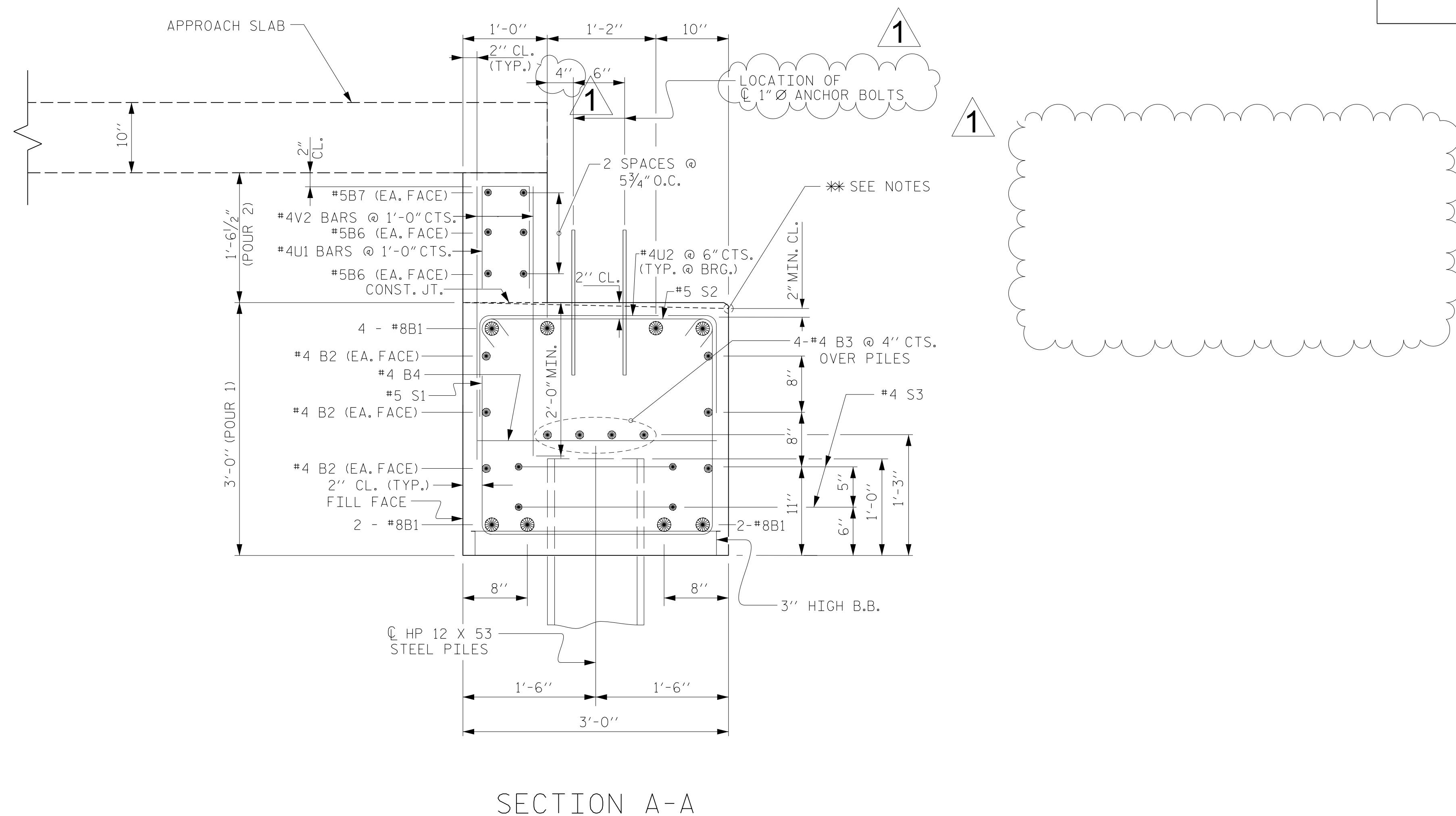
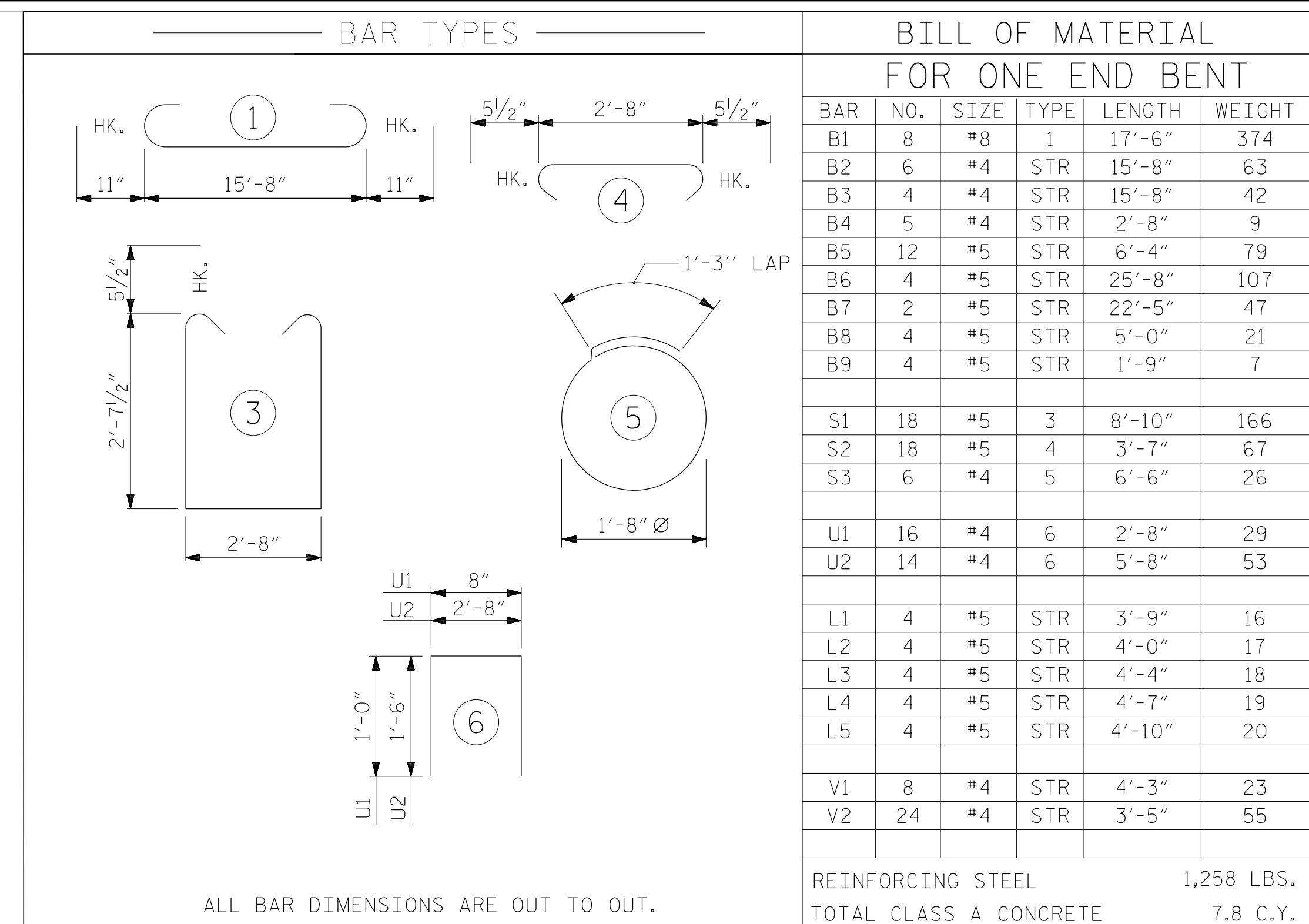
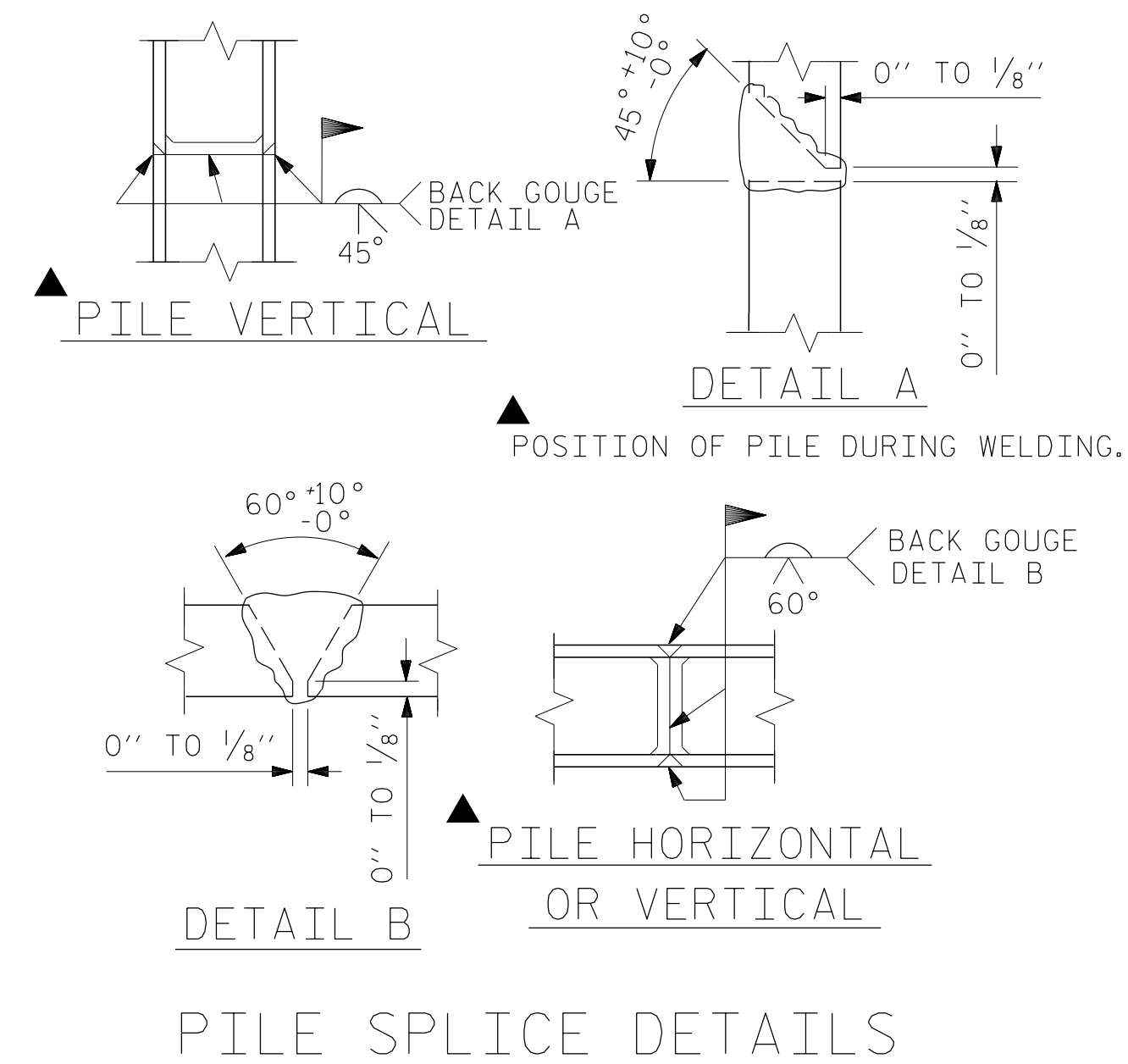
END BENT 2

1 MODIFIED TO REFLECT SHOP DWGS

MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
1	4/2/20	MODIFIED TO REFLECT SHOP DWGS		FOR CONSTRUCTION	02/25/2020

PROJECT NAME: ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE: END BENT #2

PROJ. DATE: SUMMER 2019
Q.C. DATE:
DRAWING NUMBER:
B-4
PROJ. NO.: C17118.00



NOTES:

STIRRUPS IN CAP MAY BE SHIFTED AS NECESSARY TO CLEAR ANCHOR BOLTS.

* THE TOP SURFACE OF THE CAP EXCEPT THE BRIDGE SEAT BUILDUPS SHALL BE
 SLOPED TRANSVERSELY FROM THE BACKWALL TO EDGE OF CAP AT THE RATE OF 2%.
 * ELEVATIONS BETWEEN BRIDGE SEAT BUILDUPS ARE SHOWN AT THIS POINT.

ANCHOR BOLTS SHALL BE SET BY DRILLING HOLES AND GROUTING AFTER THE CAP HAS BEEN POURED AND CURED. EMBEDMENT DEPTH OF ANCHORS SHALL BE AT LEAST 15 INCHES. WHEN PLACING MAIN CAP STEEL, ENSURE THAT FUTURE DRILLING FOR ANCHOR BOLTS WILL BE AT LEAST ONE INCH CLEAR FROM EDGE OF REINFORCING BAR.

NO ADDITIONAL PAYMENT IS MADE FOR REINFORCING STEEL OR CONCRETE. THE ENTIRE COST OF THIS WORK TO BE INCLUDED AMONG THE VARIOUS PAY ITEMS.

FOR PILES, SEE SECTION 450 OF THE STANDARD SPECIFICATIONS (2018).

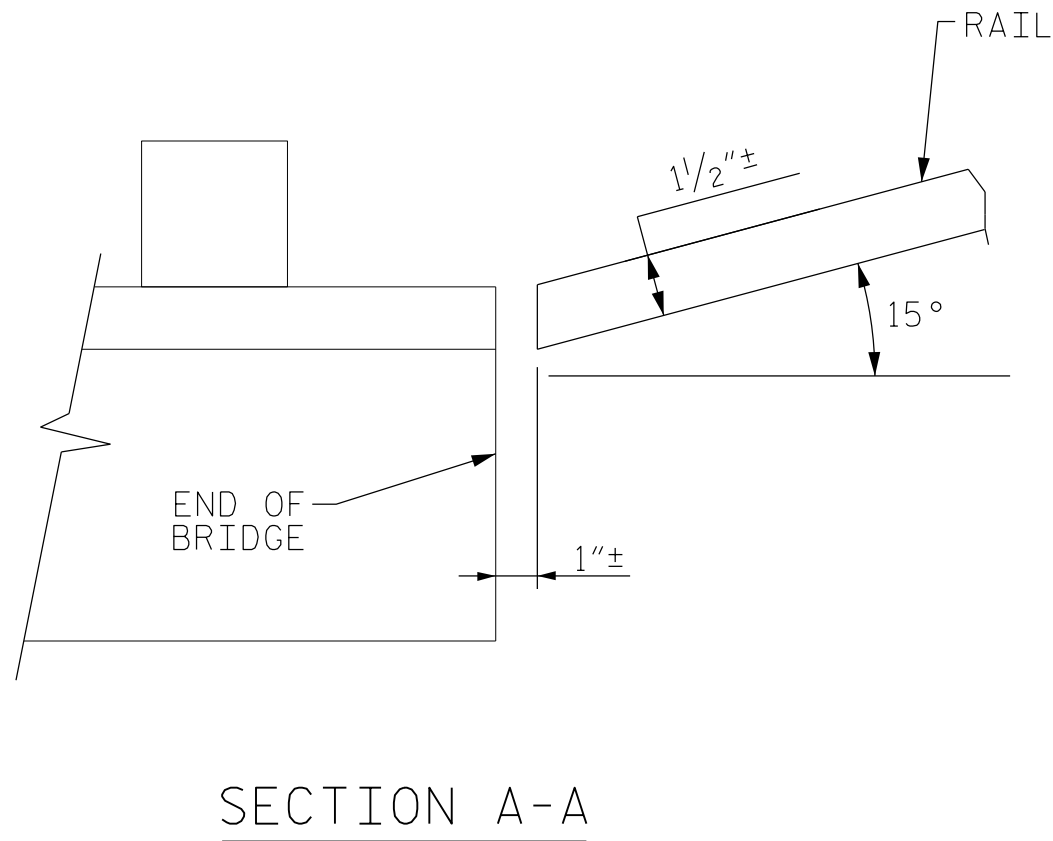
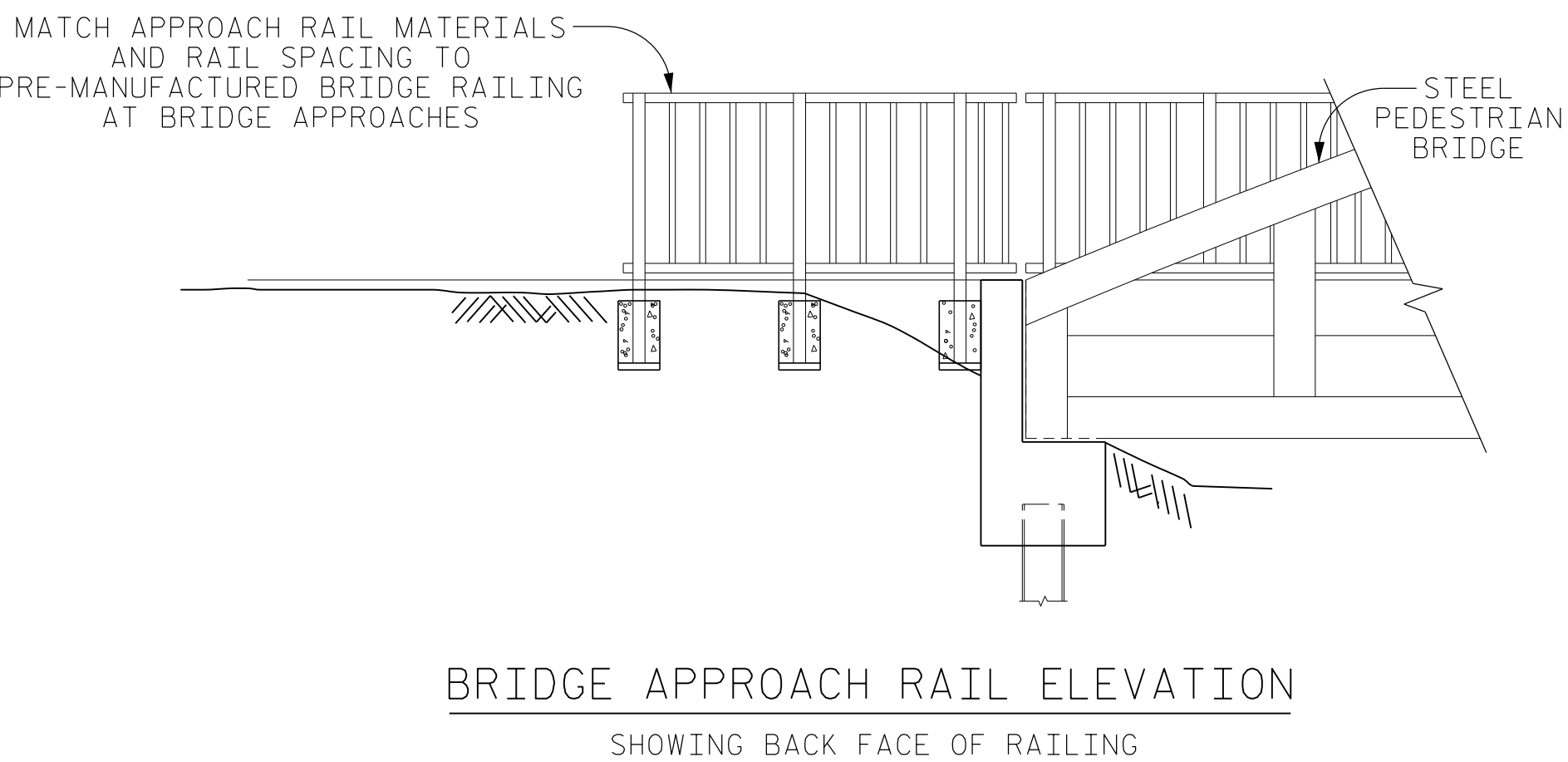
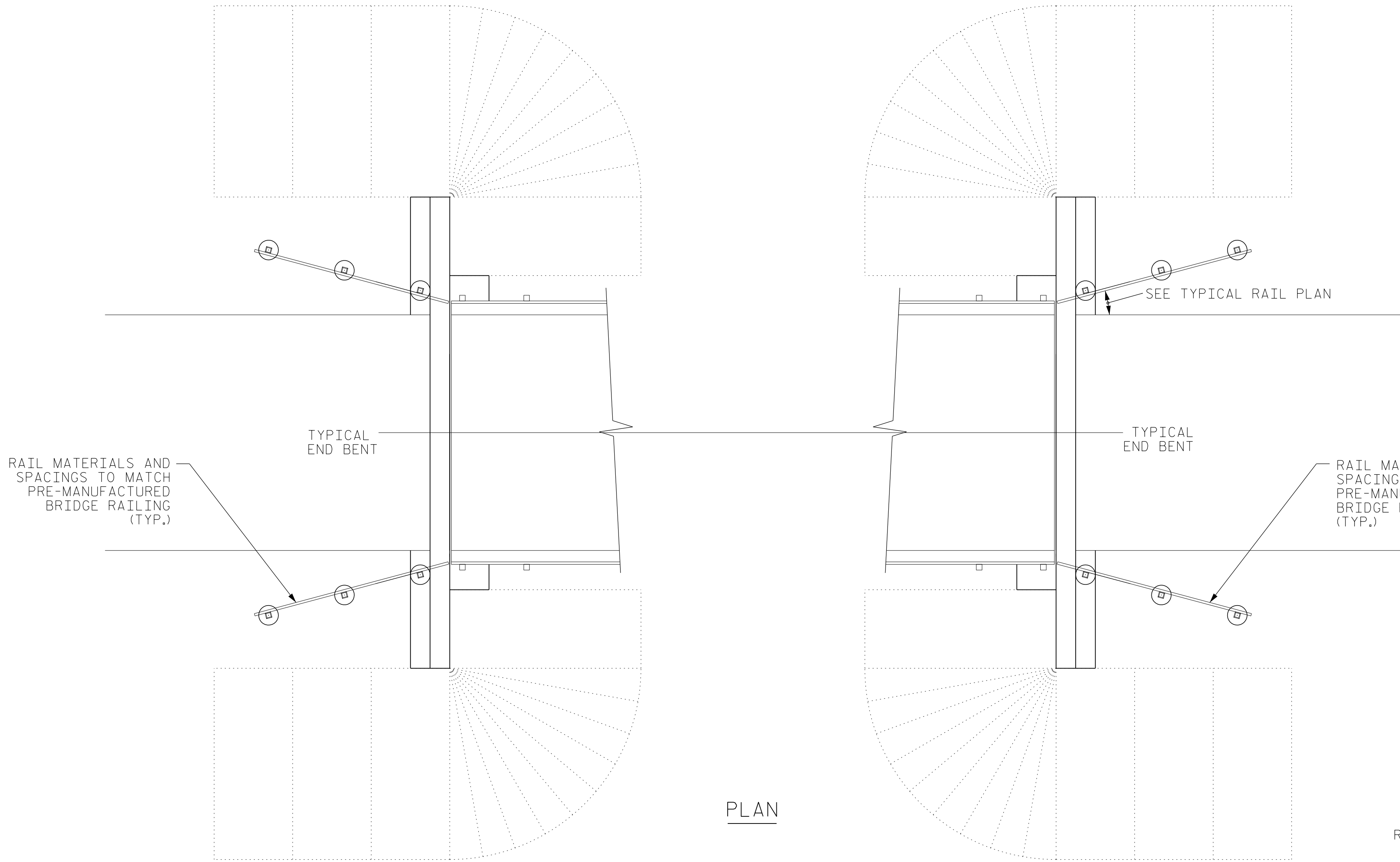
PILES AT END BENT NO.1 AND END BENT NO.2 ARE DESIGNED FOR A FACTORED RESISTANCE OF X TONS PER PILE.

IT HAS BEEN ESTIMATED THAT A HAMMER WITH AN EQUIVALENT RATED ENERGY IN THE RANGE OF X TO Y FT-LBS PER BLOW WILL BE REQUIRED TO DRIVE PILES AT END BENT NO.1 AND END BENT NO.2. THIS ESTIMATED ENERGY RANGE DOES NOT RELEASE THE CONTRACTOR FROM PROVIDING DRIVING EQUIPMENT IN ACCORDANCE WITH SUBARTICLE 450-3(D)(2) OF THE STANDARD SPECIFICATIONS.

DRIVE PILES AT END BENT NO.1 AND END BENT NO.2 TO A REQUIRED DRIVING RESISTANCE OF X TONS PER PILE.

THE SUBSTRUCTURE HAS BEEN DESIGNED IN ACCORDANCE WITH THE LATEST AASHTO
GUIDE SPECIFICATIONS FOR DESIGN OF PEDESTRIAN BRIDGES.

1 MODIFIED TO REFLECT SHOP DWGS



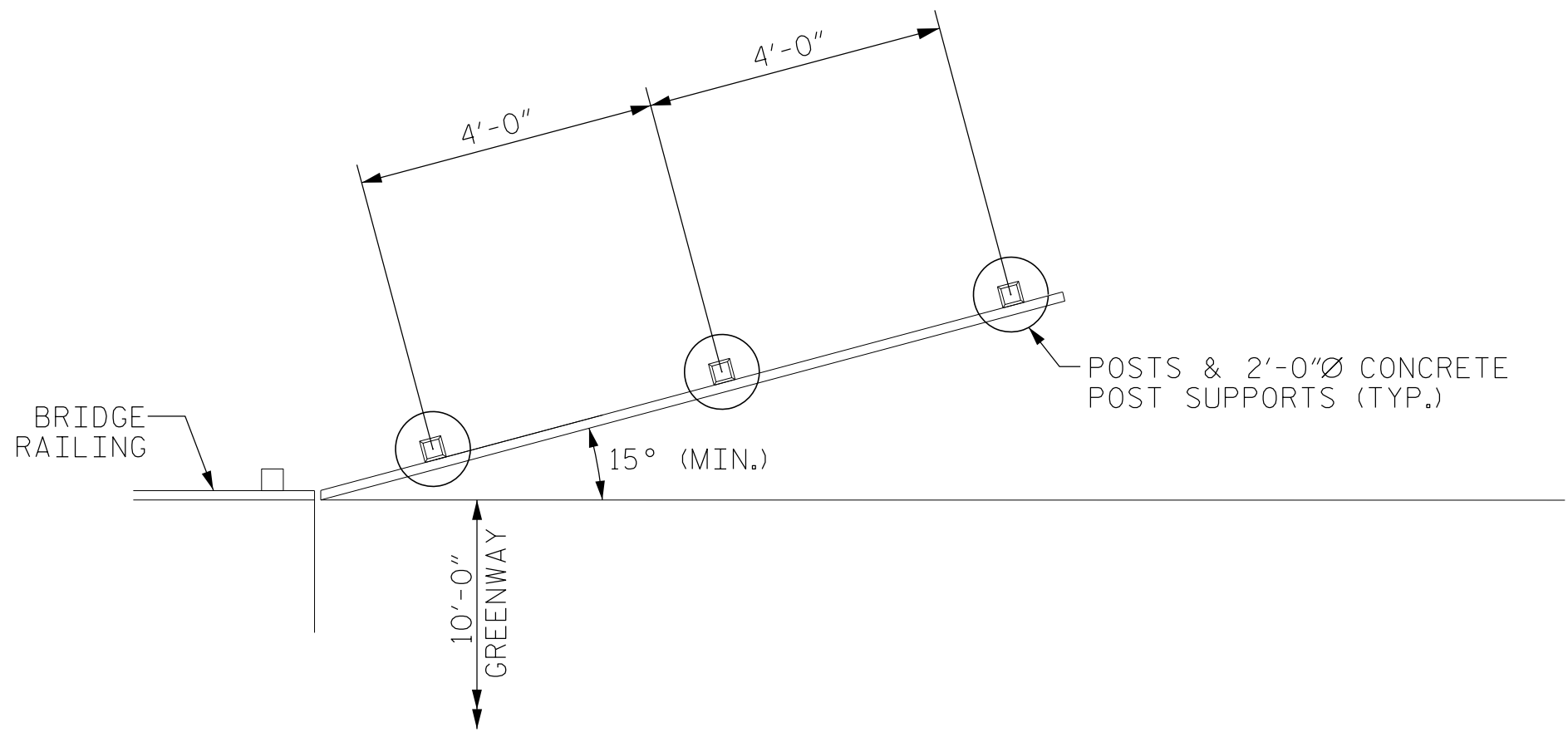
NOTES

ALL SCREWS, BOLTS, NUTS AND WASHERS ARE TO BE HOT DIPPED GALVANIZED.

THE LOCATION OF POST FOOTINGS AND END BLOCKS ARE TO BE FIELD VERIFIED. DEVIATIONS FROM PLAN DIMENSIONS ARE TO BE APPROVED BY THE ENGINEER.

END OF APPROACH RAIL SHALL BE AT LEAST 2'-0" FROM EDGE OF GREENWAY WITH A MINIMUM ANGLE OF 15 DEGREES.

THE APPROACH RAIL SET BID ITEM INCLUDES ALL (4) FOUR RAILS AND INCLUDES CONCRETE POST SUPPORTS. FOR APPROACH RAIL SET, SEE SPECIAL PROVISIONS.



BRIDGE APPROACH RAIL SETS SHALL BE MADE OF THE SAME MATERIALS AND FOLLOW THE SAME CRITERIA AS THE PRE-MANUFACTURED BRIDGE RAILS. REFER TO SPECIAL PROVISION FOR PREFABRICATED BRIDGE.

MARK	DATE	DESCRIPTION	REVISIONS:	RELEASED FOR:	PLOT DATE:
				FOR CONSTRUCTION	02/25/2020

PROJECT NAME:	ELLIOTT STORAGE DESIGN TOWN OF CHAPEL HILL, NORTH CAROLINA
DRAWING TITLE:	BRIDGE APPROACH RAILS

PROJ. DATE:	SUMMER 2019
Q.C. DATE:	
DRAWING NUMBER:	B-6
PROJ. NO.:	C17118.00



12'-0"

6"

#4 BARS @ 12" CTS.

CONCRETE APPROACH SLAB

#4 BARS @ 12" CTS.

3" MIN. CLR.

10"

6"

6" COMPACTED ABC

COMPACTED SUBGRADE

SECTION A-A

TYPICAL DETAILS FOR BRIDGE APPROACH SLABS



APPROACH SLAB ELEVATIONS				
BRIDGE	END BENT 1 LOCATION	ELEVATION	END BENT 2 LOCATION	ELEVATION
S1	-L- STA. 9+64.92	259.45	-L- STA. 10+25.08	259.45
	-L- STA. 9+74.92	259.45	-L- STA. 10+35.08	259.45

DESIGN DATA:

SPECIFICATIONS	- - - - -	A.A.S.H.T.O. (CURRENT)
LIVE LOAD	- - - - -	SEE PLANS
IMPACT ALLOWANCE	- - - - -	SEE A.A.S.H.T.O.
STRESS IN EXTREME FIBER OF STRUCTURAL STEEL - AASHTO M270 GRADE 36	- -	20,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50W	- -	27,000 LBS. PER SQ. IN.
- AASHTO M270 GRADE 50	- -	27,000 LBS. PER SQ. IN.
REINFORCING STEEL IN TENSION - GRADE 60	- - -	24,000 LBS. PER SQ. IN.
CONCRETE IN COMPRESSION	- - - - -	1,200 LBS. PER SQ. IN.
CONCRETE IN SHEAR	- - - - -	SEE A.A.S.H.T.O.
STRUCTURAL TIMBER - TREATED OR UNTREATED EXTREME FIBER STRESS	- - -	1,800 LBS. PER SQ. IN.
COMPRESSION PERPENDICULAR TO GRAIN OF TIMBER	- - - - -	375 LBS. PER SQ. IN.
EQUIVALENT FLUID PRESSURE OF EARTH	- - - - -	30 LBS. PER CU.FT. (MINIMUM)

MATERIAL AND WORKMANSHIP:

EXCEPT AS MAY OTHERWISE BE SPECIFIED ON PLANS OR IN THE SPECIAL PROVISIONS, ALL MATERIAL AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE 2018 "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" OF THE N. C. DEPARTMENT OF TRANSPORTATION.

STEEL SHEET PILING FOR PERMANENT OR TEMPORARY APPLICATIONS SHALL BE HOT ROLLED.

CONCRETE:

UNLESS OTHERWISE REQUIRED ON PLANS, CLASS A CONCRETE SHALL BE USED FOR ALL PORTIONS OF ALL STRUCTURES WITH THE EXCEPTION THAT: CLASS AA CONCRETE SHALL BE USED IN BRIDGE SUPERSTRUCTURES, ABUTMENT BACKWALLS, AND APPROACH SLABS; AND CLASS B CONCRETE SHALL BE USED FOR SLOPE PROTECTION AND RIP RAP.

CONCRETE CHAMFERS:

UNLESS OTHERWISE NOTED ON THE PLANS, ALL EXPOSED CORNERS ON STRUCTURES SHALL BE CHAMFERED 3/4" WITH THE FOLLOWING EXCEPTIONS: TOP CORNERS OF CURBS MAY BE ROUNDED TO 1 1/2" RADIUS WHICH IS BUILT INTO CURB FORMS; CORNERS OF TRANSVERSE FLOOR EXPANSION JOINTS SHALL BE ROUNDED WITH A 1/4" FINISHING TOOL UNLESS OTHERWISE REQUIRED ON PLANS; AND CORNERS OF EXPANSION JOINTS IN THE ROADWAY FACES AND TOPS OF CURBS AND SIDEWALKS SHALL BE ROUNDED TO A 1/4" RADIUS WITH A FINISHING STONE OR TOOL UNLESS OTHERWISE REQUIRED ON PLANS.

DOWELS:

DOWELS WHEN INDICATED ON PLANS AS FOR CULVERT EXTENSIONS, SHALL BE EMBEDDED AT LEAST 12" INTO THE OLD CONCRETE AND GROUTED INTO PLACE WITH 1:2 CEMENT MORTAR.

ALLOWANCE FOR DEAD LOAD DEFLECTION, SETTLEMENT, ETC. IN CASTING SUPERSTRUCTURES:

BRIDGES SHALL BE BUILT ON THE GRADE OR VERTICAL CURVE SHOWN ON PLANS. SLABS, CURBS AND PARAPETS SHALL CONFORM TO THE GRADE OR CURVE.

ALL DIMENSIONS WHICH ARE GIVEN IN SECTION AND ARE AFFECTED BY DEAD LOAD DEFLECTIONS ARE DIMENSIONS AT CENTER LINE OF BEARING UNLESS OTHERWISE NOTED ON PLANS. IN SETTING FORMS FOR STEEL BEAM BRIDGES AND PRESTRESSED CONCRETE GIRDER BRIDGES, ADJUSTMENTS SHALL BE MADE DUE TO THE DEAD LOAD DEFLECTIONS FOR THE ELEVATIONS SHOWN. WHERE BLOCKS ARE SHOWN OVER BEAMS FOR BUILDING UP TO THE SLAB, THE VERTICAL DIMENSIONS OF THE BLOCKS SHALL BE ADJUSTED BETWEEN BEARINGS TO COMPENSATE FOR DEAD LOAD DEFLECTIONS, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER. WHERE BOTTOM OF SLAB IS IN LINE WITH BOTTOM OF TOP FLANGES, DEPTH OF SLAB BETWEEN BEARINGS SHALL BE ADJUSTED TO COMPENSATE FOR DEAD LOAD DEFLECTION, VERTICAL CURVE ORDINATE, AND ACTUAL BEAM CAMBER.

IN SETTING FALSEWORK AND FORMS FOR REINFORCED CONCRETE SPANS, AN ALLOWANCE SHALL BE MADE FOR DEAD LOAD DEFLECTIONS, SETTLEMENT OF FALSEWORK, AND PERMANENT CAMBER WHICH SHALL BE PROVIDED FOR IN ADDITION TO THE ELEVATIONS SHOWN. AFTER REMOVAL OF THE FALSEWORK, THE FINISHED STRUCTURES SHALL CONFORM TO THE PROFILE AND ELEVATIONS SHOWN ON THE PLANS AND CONSTRUCTION ELEVATIONS FURNISHED BY THE ENGINEER.

DETAILED DRAWINGS FOR FALSEWORK OR FORMS FOR BRIDGE SUPERSTRUCTURE AND ANY STRUCTURE OR PARTS OF A STRUCTURE AS NOTED ON THE PLANS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL BEFORE CONSTRUCTION OF THE FALSEWORK OR FORMS IS STARTED.

REINFORCING STEEL:

ALL REINFORCING STEEL SHALL BE DEFORMED. DIMENSIONS RELATIVE TO PLACEMENT OF REINFORCING ARE TO CENTERS OF BARS UNLESS OTHERWISE INDICATED IN THE PLANS. DIMENSIONS ON BAR DETAILS ARE TO CENTERS OF BARS OR ARE OUT TO OUT AS INDICATED ON PLANS.

WIRE BAR SUPPORTS SHALL BE PROVIDED FOR REINFORCING STEEL WHERE INDICATED ON THE PLANS. WHEN BAR SUPPORT PIECES ARE PLACED IN CONTINUOUS LINES, THEY SHALL BE SO PLACED THAT THE ENDS OF THE SUPPORTING WIRES SHALL BE LAPPED TO LOCK LEGS ON ADJOINING PIECES.

STRUCTURAL STEEL:

AT THE CONTRACTOR'S OPTION, HE MAY SUBSTITUTE 7/8" Ø SHEAR STUDS FOR THE 3/4" Ø STUDS SPECIFIED ON THE PLANS. THIS SUBSTITUTION SHALL BE MADE AT THE RATE OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS, AND STUD SPACING CHANGES SHALL BE MADE AS NECESSARY TO PROVIDE THE SAME EQUIVALENT NUMBER OF 7/8" Ø STUDS ALONG THE BEAM AS SHOWN FOR 3/4" Ø STUDS BASED ON THE RATIO OF 3 - 7/8" Ø STUDS FOR 4 - 3/4" Ø STUDS. STUDS OF THE LENGTH SPECIFIED ON THE PLANS MUST BE PROVIDED. THE MAXIMUM SPACING SHALL BE 2'-0".

EXCEPT AT THE INTERIOR SUPPORTS OF CONTINUOUS BEAMS WHERE THE COVER PLATE IS IN CONTACT WITH BEARING PLATE, THE CONTRACTOR MAY, AT HIS OPTION, SUBSTITUTE FOR THE COVER PLATES DESIGNATED ON THE PLANS COVER PLATES OF THE EQUIVALENT AREA PROVIDED THESE PLATES ARE AT LEAST 5/16" IN THICKNESS AND DO NOT EXCEED A WIDTH EQUAL TO THE FLANGE WIDTH LESS 2" OR A THICKNESS EQUAL TO 2 TIMES THE FLANGE THICKNESS. THE SIZE OF FILLET WELDS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT ANSI/AASHTO/AWS "BRIDGE WELDING CODE". ELECTROSLAG WELDING WILL NOT BE PERMITTED.

WITH THE SOLE EXCEPTION OF EDGES AT SURFACES WHICH BEAR ON OTHER SURFACES, ALL SHARP EDGES AND ENDS OF SHAPES AND PLATES SHALL BE SLIGHTLY ROUNDED BY SUITABLE MEANS TO A RADIUS OF APPROXIMATELY 1/16 INCH OR EQUIVALENT FLAT SURFACE AT A SUITABLE ANGLE PRIOR TO PAINTING, GALVANIZING, OR METALLIZING.

HANDRAILS AND POSTS:

METAL STANDARDS AND FACES OF THE CONCRETE END POSTS FOR THE METAL RAIL SHALL BE SET NORMAL TO THE GRADE OF THE CURB, UNLESS OTHERWISE SHOWN ON PLANS. THE METAL RAIL AND TOPS OF CONCRETE POSTS USED WITH THE ALUMINUM RAIL SHALL BE BUILT PARALLEL TO THE GRADE OF THE CURB.

METAL HANDRAILS SHALL BE IN ACCORDANCE WITH THE PLANS. RAILS SHALL BE AS MANUFACTURED FOR BRIDGE RAILING. CASTINGS SHALL BE OF A UNIFORM APPEARANCE. FINS AND OTHER DEFORMATIONS RESULTING FROM CASTING OR OTHERWISE SHALL BE REMOVED IN A MANNER SO THAT A UNIFORM COLORING OF THE COMPLETED CASTING SHALL BE OBTAINED. CASTINGS WITH DISCOLORATIONS OR OF NON-UNIFORM COLORING WILL NOT BE ACCEPTED. CERTIFIED MILL REPORTS ARE REQUIRED FOR METAL RAILS AND POSTS.

SPECIAL NOTES:

GENERALLY, IN CASE OF DISCREPANCY, THIS STANDARD SHEET OF NOTES SHALL GOVERN OVER THE SPECIFICATIONS, BUT THE REMAINDER OF THE PLANS SHALL GOVERN OVER NOTES HEREON, AND SPECIAL PROVISIONS SHALL GOVERN OVER ALL. SEE SPECIFICATIONS ARTICLE 105-4.



community infrastructure consultants
Transportation + Water Resources
Urban Development + Geomatics

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www.wkdickson.com

NC. LICENSE NO. F-0374



STEWART

223 S. WEST ST., STE 1100
RALEIGH, NC 27603
919.382.8750

FIRM LICENSE # C-1051
www.stewartinc.com
PROJECT # C17118.00

	MARK	DATE	DESCRIPTION	PLOT DATE: 02/25/2020	
					REVISIONS:
					RELEASED FOR: FOR CONSTRUCTION

PROJECT NAME:
ELLIOTT STORAGE DESIGN
TOWN OF CHAPEL HILL, NORTH CAROLINA

DRAWING TITLE:
STANDARD NOTES

PROJ. DATE: SUMMER 2019
Q.C.:
Q.C. DATE:

DRAWING NUMBER:

B-8

PROJ. NO.:
C17118.00

ELLIOTT STORAGE DESIGN

GENERAL NOTES

1. This structure has been designed in accordance with the project architects plan layout and guidelines. Suitability for access and intended usage shall be the responsibility of the architect.
2. Vehicular access larger than the design live load shall be limited by permanent physical means.
3. Prior to construction the contractor shall verify all elevations through the project architect
4. Only PermaTrak North America may provide the precast structure shown on these plans.

DESIGN DATA

1. Boardwalk shall be designed in accordance with the AASHTO LRFD bridge design specifications and the LRFD guide specification for the design of pedestrian bridges.

Design Live Load:
Pedestrian Loading - 90 Uniform
Vehicular Loading - H5 (10,000 LBS) VEHICLE

2. Piles shall be designed for lateral earth pressure, live load surcharge and structure loads.

Factored Pile Capacity:
Compressive Capacity = 13.2 Kips (Ultimate)
Lateral Capacity = 1.4 Kips (Ultimate)

Piling shall be round timber piles conforming to ASTM D25. Piling pressure treated with CCA to 0.8 PCF retention.

3. All geotechnical recommendations contained in the report of subsurface investigation shall be followed. Report titled "Geotechnical Report of Structures" was dated June 21, 2019 and produced by Stewart Inc..

4. Piles shall be driven to the minimum tip depths required by the referenced geotechnical report.

MATERIAL

1. All bolts, nuts, washers, and hardware shall be hot dipped galvanized after fabrication in accordance with ASTM A153.
2. Cast-in-place concrete shall have a 28-day concrete compressive strength of 4000 psi.
3. All foundation reinforcing shall be Grade 60 conforming to ASTM A615.

QUALITY ASSURANCE SPECIFICATIONS

1. Acceptability Criteria for Treads and Curbs (if applicable): The finished visible (in the final installed position) surface shall have no obvious imperfections other than minimal color or texture variations from the approved samples or evidence of repairs when viewed in good typical daylight illumination with the unaided naked eye at a 20 ft. viewing distance. Appearance of the surface shall not be evaluated when light is illuminating the surface from an extreme angle as it tends to accentuate the minor surface irregularities. The following is a list of finish defects that shall be properly repaired, if obvious when viewed at a 20 ft. distance. Patching (by a trained skilled concrete repair person) is an acceptable repair method.
 - a. Ragged or irregular surfaces.
 - b. Excessive air voids (commonly called bug holes) larger than ¼ in. evident on the top surface of the tread or curbs (if applicable).
 - c. Adjacent flat and return surfaces with greater texture and/or color differences than the approved samples or mockups.
 - d. Casting and/or aggregate segregation lines evident from different concrete placement lifts and consolidation.
 - e. Visible mold joints or irregular surfaces.
 - f. Rust stains on exposed surfaces.
 - g. Units with excessive variation in texture and/or color from the approved samples, within the unit or compared with adjacent units.
 - h. Blocking stains evident on exposed surfaces.
 - i. Areas of backup concrete bleeding through the facing concrete.
 - j. Foreign material embedded in the surface.
 - k. Visible repairs at a 20 ft. viewing distance.
 - l. Reinforcement shadow lines.
 - m. Cracks visible at a 20 ft. viewings distance.

PROJECT COMPONENTS

SUPPLIED BY PERMATRAK
PRECAST CONCRETE TREADS
PRECAST CONCRETE ABUTMENTS
PRECAST CONCRETE BEAMS
PRECAST CONCRETE CAPS
PRECAST CONCRETE CURBS
RUBBER LEVELING PADS
URETHANE BARREL PINS (TREAD ALIGNMENT PINS)
3/4" x 10" LONG COILED RODS WITH NUTS AND OVERSIZED WASHERS (ALL GALVANIZED) (CURB TO TREAD CONNECTION)
3/4" DIAMETER THREADED BARS WITH NUTS AND WASHERS (BEAM TO PIER CONNECTION)

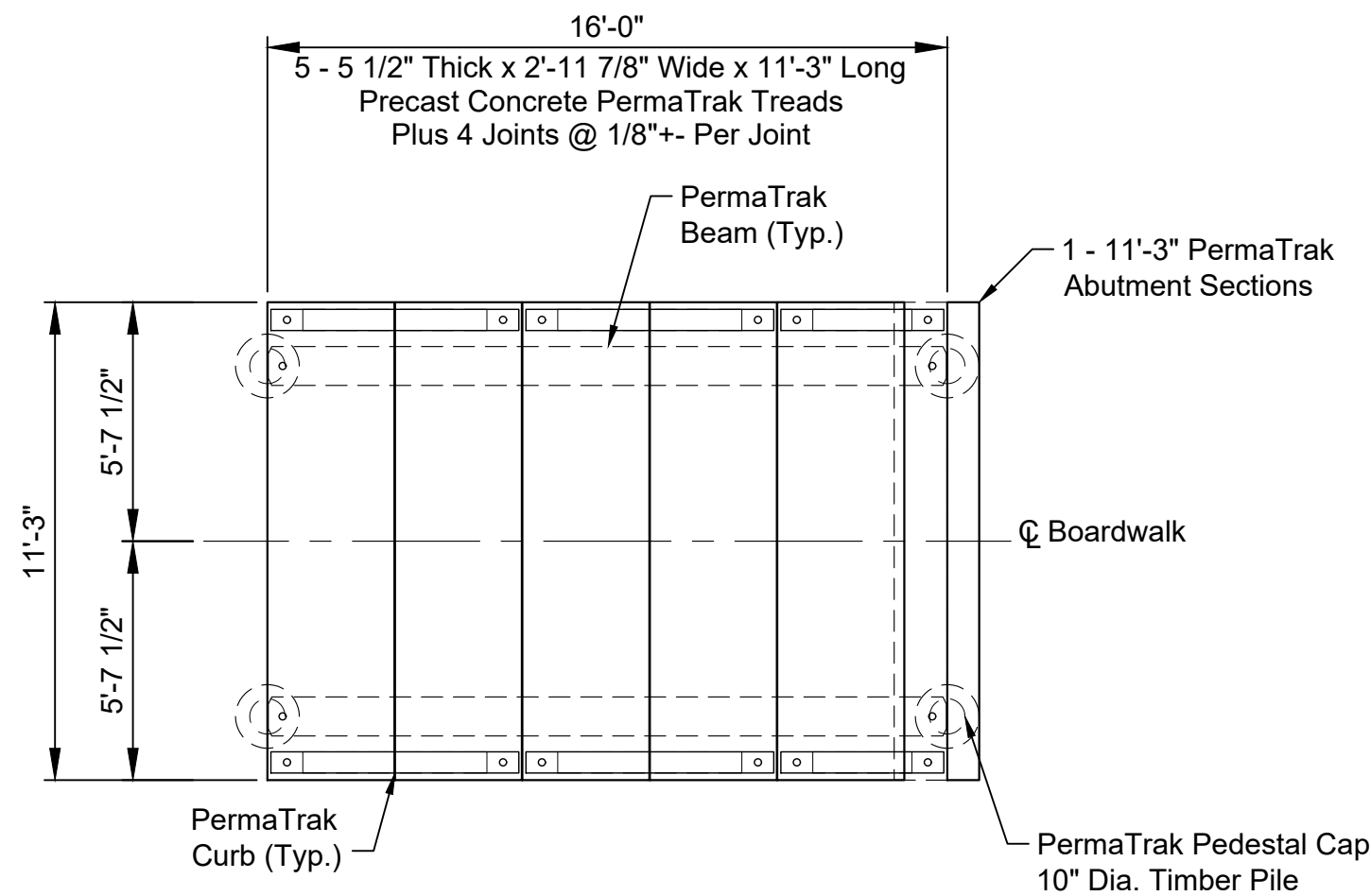
SUPPLIED BY CONTRACTOR
3/4" DIAMETER DOWELS WITH NUTS AND WASHERS (CAP TO PIER CONNECTION)
SIKAFLEX-11 FC EXPANSIVE FILLER MATERIAL (CURB TO TREAD CONNECTION)
SHIMS AND NON-SHRINK GROUT (LEVELING FOR PRECAST COMPONENTS)
TIMBER PILE FOUNDATIONS
3/4" DIAMETER x 12" LONG H.D. GALVANIZED HEXHEAD LAGSCREW (CAP TO PILE CONNECTION)
HILTI HY-200 EPOXY ADHESIVE (ADHESIVE ANCHORING SYSTEM)



Jason V. Philbin
2/25/20

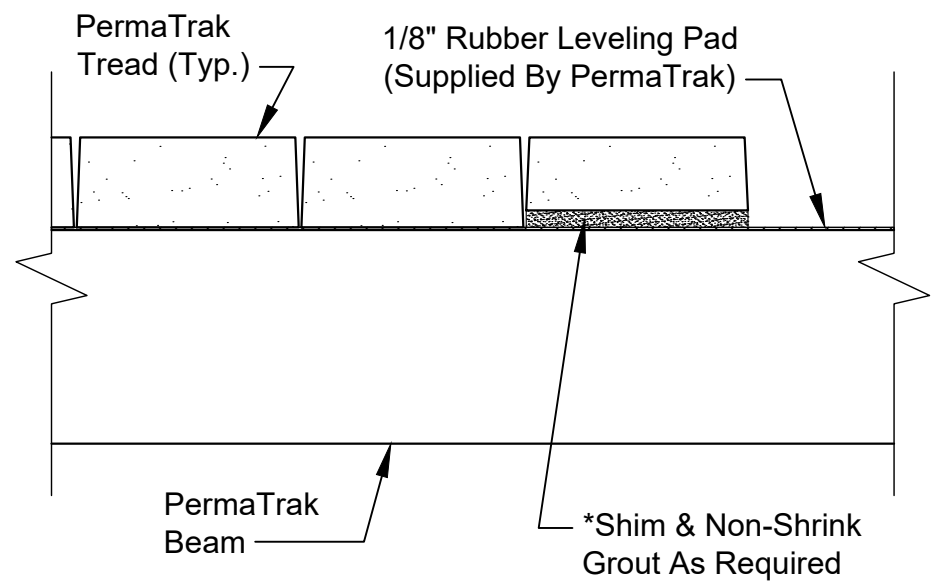
Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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	5				STEWART ENGINEERING			DATE: 02/25/2020
	4							DESIGNED BY: JVP
	3							DRAWN BY: KAS
	2							CHECKED BY: JVP
	1							SHEET NO.
	NO.	DATE	DESCRIPTION	BY:	FOR CONSTRUCTION			PT01



BOARDWALK #1 & #2 PLAN

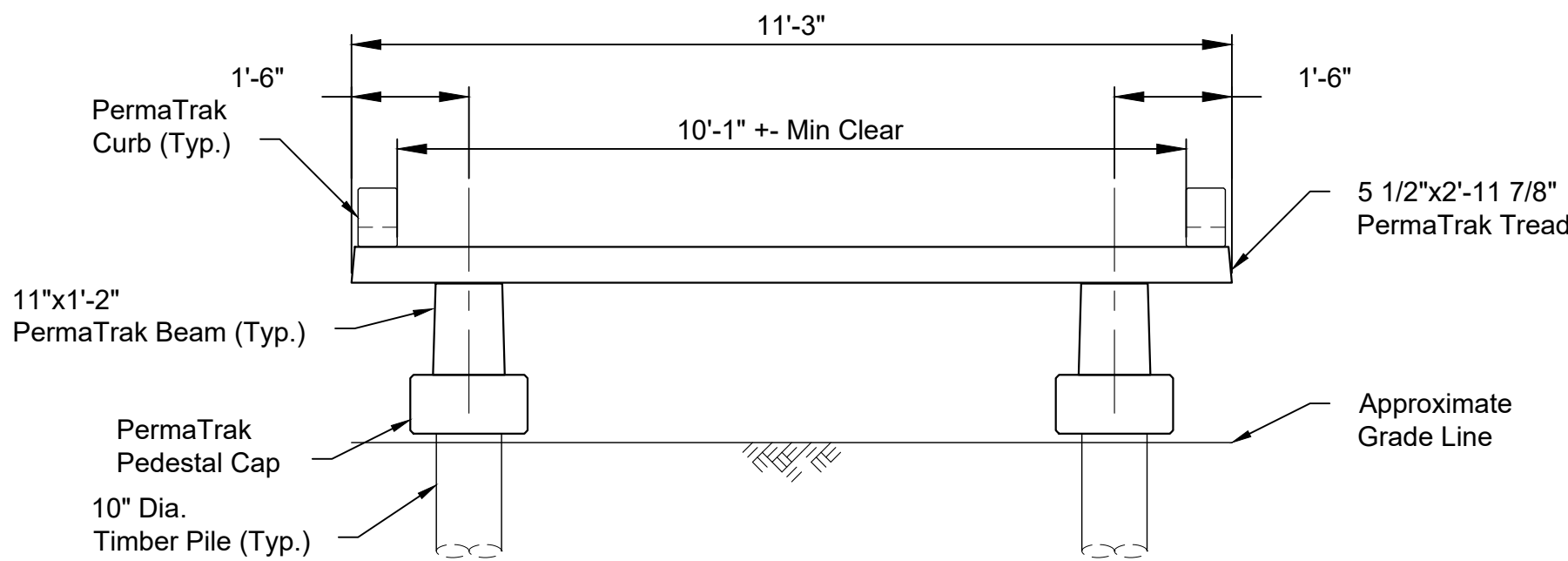
Scale = 1/4" = 1'-0"



***Note:**
Due to tolerances and variance in precast production and installation accuracy, shimming and grouting may be required. Where required the entire bearing area and void shall be shim and grouted with non-shrink grout.

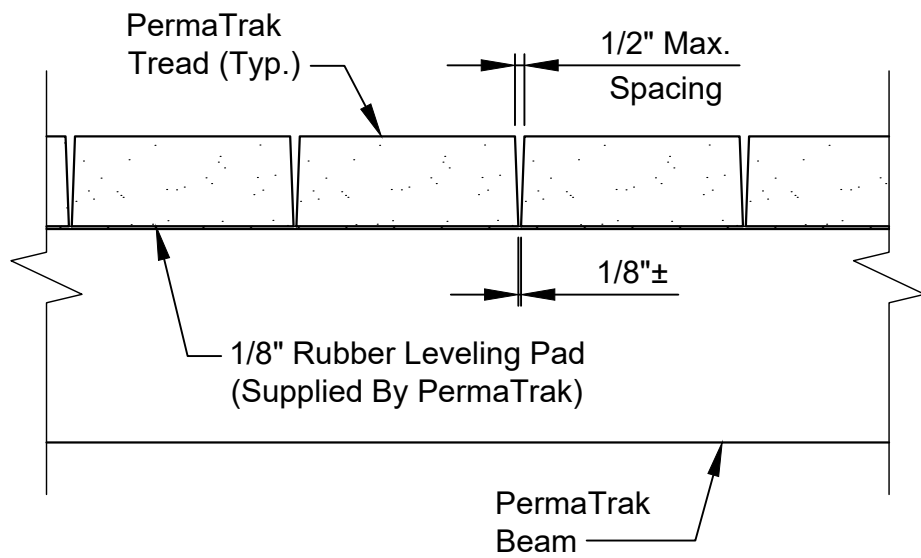
TYPICAL SHIM/GROUT DETAIL

Scale: Not To Scale (UNDER TREAD)



TYPICAL SECTION

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



TYPICAL TREAD SPACING DETAIL

Scale: Not To Scale



Jason V. Philbin
2/25/20

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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NO.	DATE	DESCRIPTION	BY:

PREPARED FOR:

STEWART ENGINEERING

FOR CONSTRUCTION



www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS

FLORIDA
TEXAS
LOUISIANA
NORTH CAROLINA
OHIO

PROJECT TITLE:

ELLIOTT STORAGE DESIGN
CHAPEL HILL, NC

JOB NUMBER: 2018-1014

DATE: 02/25/2020

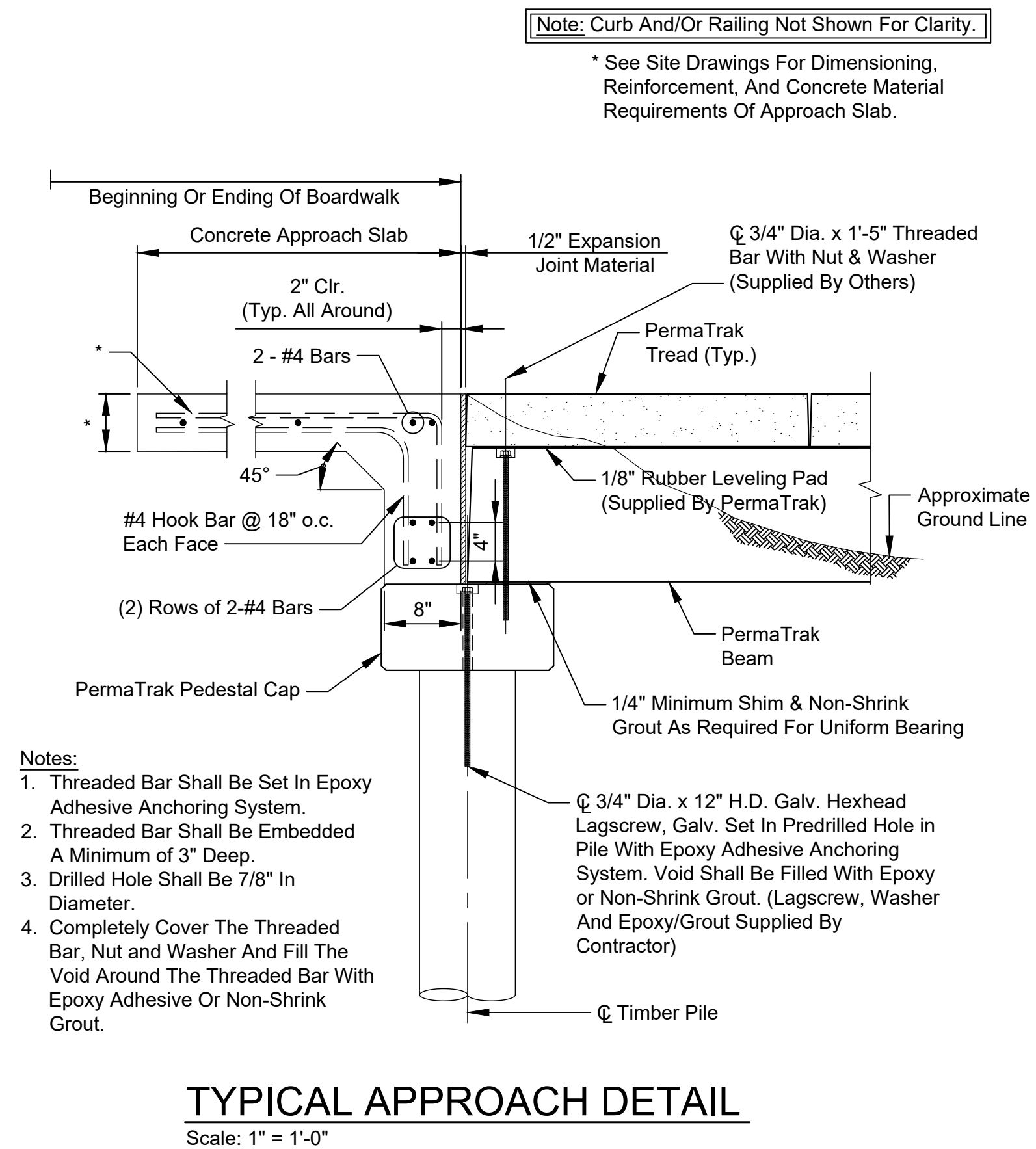
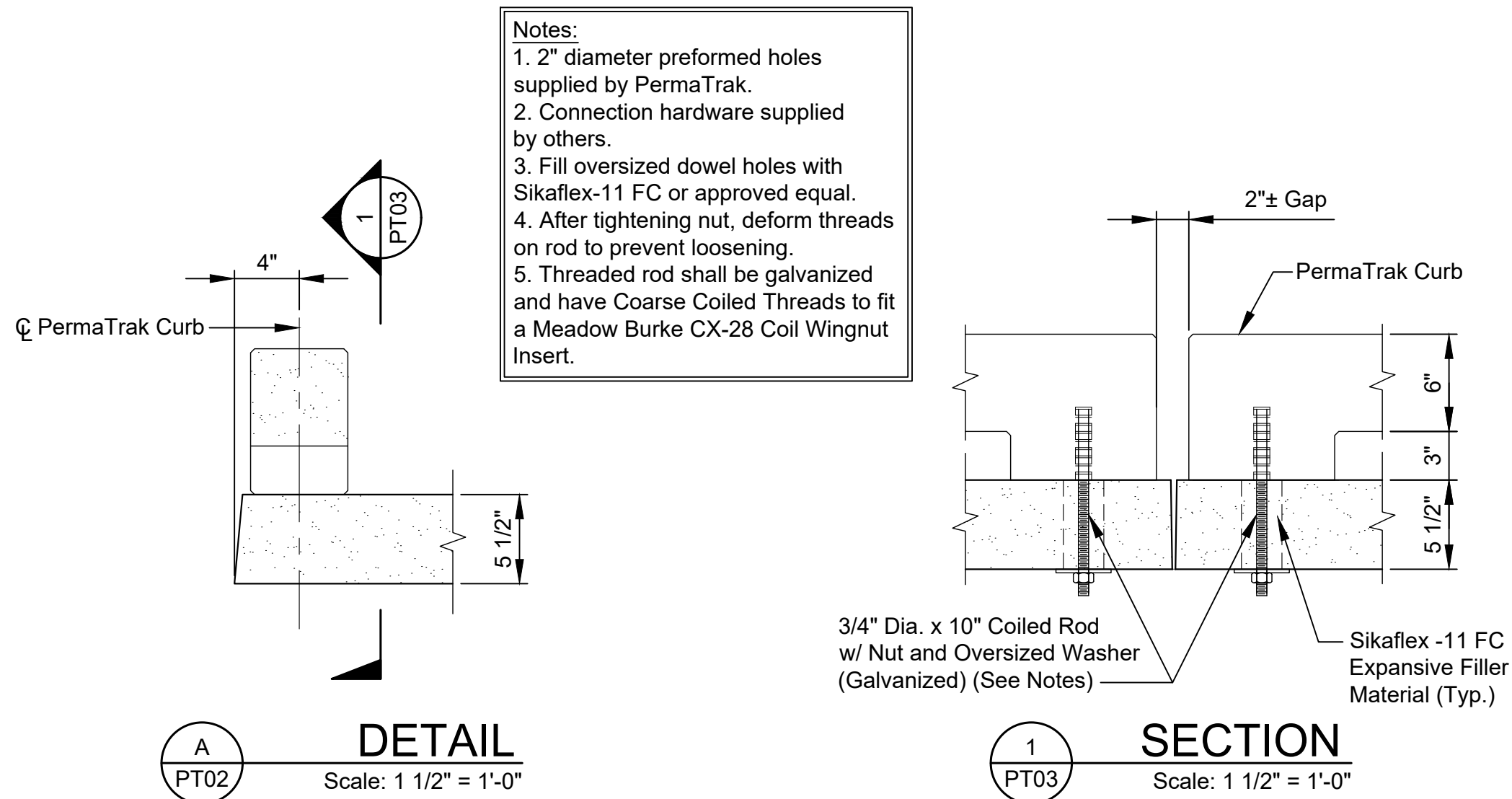
DESIGNED BY: JVP

DRAWN BY: KAS

CHECKED BY: JVP

SHEET NO.

PT02



SEAL
023705
ENGINEER
JASON V. PHILBIN
2/25/20

Patented Product: U.S. Patent #5,906,084 #8,302,362 #8,522,505 #8,839,588 #9,096,975

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PREPARED FOR:

STEWART ENGINEERING

FOR CONSTRUCTION

PermaTrak®
The Concrete Boardwalk Company

www.permatrak.com TEL: 877-332-7862

OFFICE LOCATIONS

FLORIDA
TEXAS
LOUISIANA
NORTH CAROLINA
OHIO

PROJECT TITLE:

ELLIOTT STORAGE DESIGN
CHAPEL HILL, NC

JOB NUMBER: 2018-1014

DATE: 02/25/2020

DESIGNED BY: JVP

DRAWN BY: KAS

CHECKED BY: JVP

SHEET NO.
PT03

STORMWATER PLANS

FOR

FEDERAL REALTY INVESTMENT TRUST

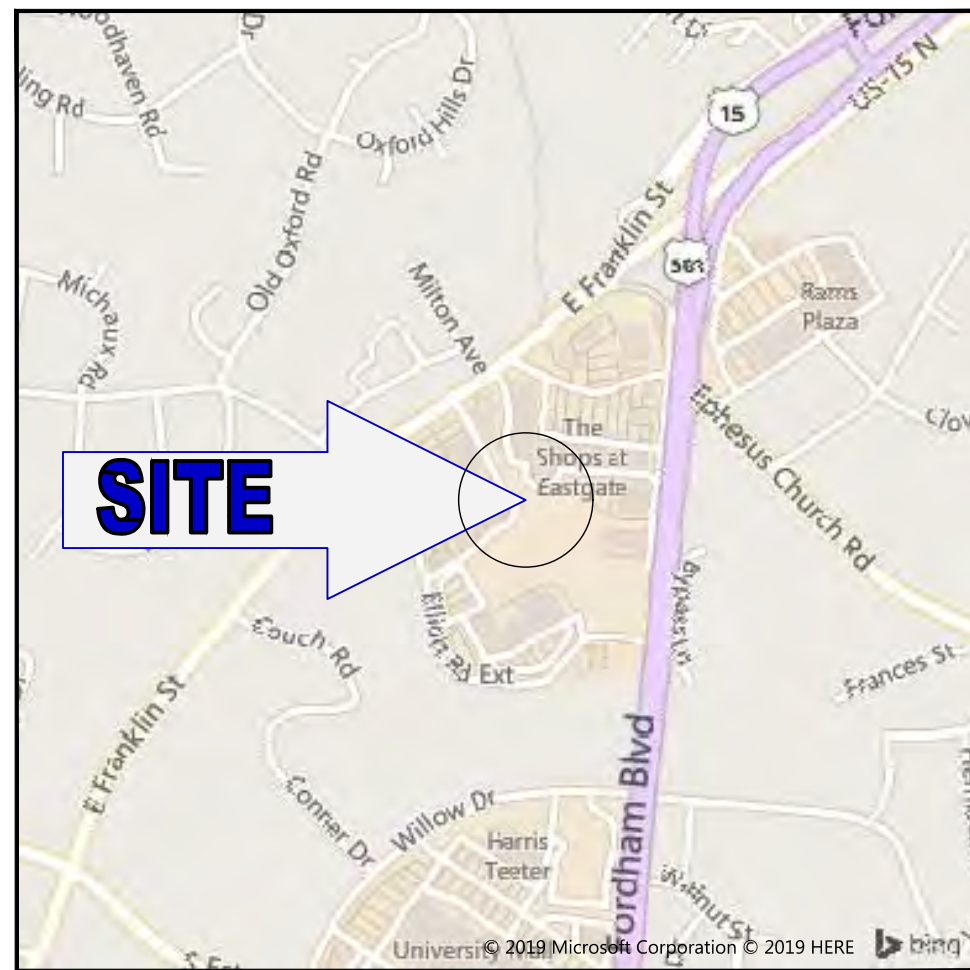
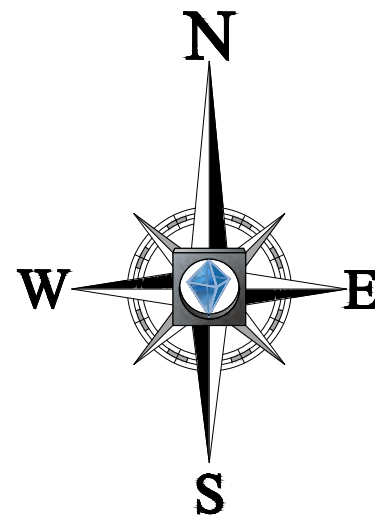
EASTGATE SHOPPING CENTER

CONTACT INFORMATION

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FIRE DEPARTMENT TOWN OF CHAPEL HILL FIRE DEPARTMENT STATION #1 DAN JONES, CHIEF 403 MARTIN LUTHER KING JR. BLVD. CHAPEL HILL, NC 27514 (919) 968-2781 fire@townofchapelhill.org	BUILDING DEPARTMENT TOWN OF CHAPEL HILL INSPECTIONS DIVISION CHELSEA LAWS, INSPECTIONS MANAGER TOWN HALL, 1ST FLOOR 405 MARTIN LUTHER KING JR. BLVD. CHAPEL HILL, NC 27514 (919) 968-2718
SANITARY SEWER ORANGE WATER AND SEWER AUTHORITY NICK PARKER 400 JONES FERRY RD. CARRBORO, NC 27510 (919) 968-4421	STORM DRAINAGE TOWN OF CHAPEL HILL PUBLIC WORKS CHRIS JENSEN, STORMWATER ENGINEER 405 MARTIN LUTHER KING JR. BLVD. CHAPEL HILL, NC 27514 (919) 968-7233
ZONING TOWN OF CHAPEL HILL DEVELOPMENT SERVICES ERIC FELD TOWN HALL, 3RD FLOOR 405 MARTIN LUTHER KING JR. BLVD. CHAPEL HILL, NC 27514 (919) 968-5077	WATER ORANGE WATER AND SEWER AUTHORITY NICK PARKER 400 JONES FERRY RD. CARRBORO, NC 27510 (919) 968-4421
DEPT. OF TRANSPORTATION NCDOT DIVISION 7 P.O. BOX 768 127 EAST CRESCENT SQUARE DR. GRAHAM, N.C. 27253 CHUCK EDWARDS (336) 576-6853	EROSION CONTROL ORANGE COUNTY EROSION CONTROL DIVISION WESLEY POOLE, EROSION CONTROL OFFICER II 131 W. MARGARET LANE, SUITE 200 HILLSBOROUGH, NC 27278 (919) 245-2587
GAS P.S.N.C. ENERGY BRIAN SMITH (919) 598-7454	SOLID WASTE ORANGE COUNTY JEFF SCOUTEN (919) 968-2758

LOCATION OF SITE

1800 E. FRANKLIN ST.
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC



LOCATION MAP

SCALE: N.T.S.

Sheet List Table	
Sheet Number	Sheet Title
C-100	COVER SHEET
C-101	GENERAL NOTES
C-200	EXISTING CONDITIONS PLAN
C-300	GRADING AND DRAINAGE PLAN
C-301	SCM PLAN
C-400	EROSION CONTROL PLAN

OWNER/DEVELOPER

FEDERAL REALTY INVESTMENT TRUST
1626 E. JEFFERSON STREET
ROCKVILLE, MD 20852
DAVID ZAPPONI
(301) 586-5177

SURVEYOR

ALLIED ASSOCIATES, P.A.
4720 KESTER MILL RD.
WINSTON-SALEM, NC 27103
DATED: 07/01/2015
(336) 765-2377

PREPARED BY



BOHLER
ENGINEERING NC, PLLC

NCBELS P-1132

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RALEIGH, NC 27612

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NC@BohlerEng.com

CONTACT: WYATT BONE, P.E. - WBONE@BOHLERENG.COM



BOHLER
ENGINEERING NC, PLLC
SITE CIVIL AND CONSULTING ENGINEERING
LAND SURVEYING
PROGRAM MANAGEMENT
LANDSCAPE ARCHITECTURE
SUSTAINABLE DESIGN
TRANSPORTATION SERVICES

REVISIONS

REV	DATE	COMMENT	BY



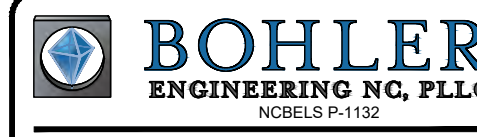
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BEFORE YOU DIG
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NOT APPROVED FOR
CONSTRUCTION

PROJECT No.:	NCR172083
DRAWN BY:	ERB
CHECKED BY:	WLB
DATE:	4/8/19
SCALE:	N/A
CAD I.D.:	SDO

PROJECT: **PROP.
STORMWATER
PLANS
FOR
FEDERAL
REALTY**

LOCATION OF SITE
1800 E FANKLIN STREET
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC



4130 PARKLAKE AVENUE, SUITE 130
RALEIGH, NC 27612
Phone: (919) 578-9000
NC@BohlerEng.com



SHEET TITLE:

COVER SHEET

SHEET NUMBER:

C-100

GENERAL NOTE:
IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO REVIEW ALL OF THE DRAWINGS AND SPECIFICATIONS ASSOCIATED WITH THIS PROJECT.
WORK SHALL BE DONE PRIOR TO THE INITIATION OF CONSTRUCTION. SHOULD THE CONTRACTOR FIND A CONFLICT WITH THE DOCUMENTS RELATIVE TO
THE SPECIFICATIONS OR APPLICABLE CODES, IT IS THE CONTRACTOR'S RESPONSIBILITY TO NOTIFY THE PROJECT ENGINEER OF RECORD IN
WRITING PRIOR TO THE START OF CONSTRUCTION. FAILURE BY THE CONTRACTOR TO NOTIFY THE PROJECT ENGINEER SHALL CONSTITUTE
ACCEPTANCE OF FULL RESPONSIBILITY BY THE CONTRACTOR TO COMPLETE THE SCOPE OF THE WORK AS DEFINED BY THE DRAWINGS AND IN
FULL CONFORMANCE WITH LOCAL, REGIONAL AND STATE CODES.



DEMOLITION LEGEND		
EXISTING NOTE	TYPICAL NOTE TEXT	DEMOLITION NOTE
	PROPERTY LINE	
	ADJACENT LOT LINE	
	CONCRETE CURB & GUTTER	
	SAWCUT LINE	
	SOILS BOUNDARY	
	LIMITS OF DISTURBANCE	
	CHAINLINK FENCE	
	UNDERGROUND WATER LINE	
	UNDERGROUND GAS LINE	
	OVERHEAD WIRE	
	ELECTRIC LINE	
	UNDERGROUND TELEPHONE	
	STORM SEWER	
	SANITARY SEWER MAIN	
	HYDRANT	
	UTILITY POLE/LIGHT	
	SANITARY MANHOLE	
	STORM MANHOLE	
	STORM INLET	
	WATER VALVE	
	TREE	
	BOLLARD	
	SIGN	
	COMMUNICATION LINE MARKER	
	TELEPHONE PEDESTAL	

GENERAL DEMOLITION NOTES:

- THIS PLAN REFERENCES DOCUMENTS AND INFORMATION BY:
TOPOGRAPHIC SURVEY
STEWART ENGINEERING
421 FATTEVILLE STREET
RALEIGH, NC 27601
- CONTRACTOR SHALL PERFORM ALL WORK IN ACCORDANCE WITH THE REQUIREMENTS OF THE OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970, (29 U.S.C. 651 et seq.), AS AMENDED AND ANY MODIFICATIONS, AMENDMENTS OR REVISIONS TO SAME.
- BOHLER ENGINEERING HAS NO CONTRACTUAL, LEGAL, OR OTHER RESPONSIBILITY FOR JOB SITE SAFETY OR JOB SITE SUPERVISION, OR ANYTHING RELATED TO SAME.
- THE DEMOLITION PLAN IS INTENDED TO PROVIDE GENERAL INFORMATION ONLY. REGARDING ITEMS TO BE DEMOLISHED AND/OR REMOVED, THE CONTRACTOR MUST ALSO REVIEW THE OTHER SITE PLAN DRAWINGS AND INCLUDE IN DEMOLITION ACTIVITIES ALL INCIDENTAL WORK NECESSARY FOR THE CONSTRUCTION OF THE NEW SITE IMPROVEMENTS.
- CONTRACTOR MUST RAISE ANY QUESTIONS CONCERNING THE ACCURACY OR INTENT OF THESE PLANS OR SPECIFICATIONS, CONCERNS REGARDING THE APPLICABLE SAFETY STANDARDS, OR THE SAFETY OF THE CONTRACTOR OR THIRD PARTIES IN PERFORMING THE WORK ON THIS PROJECT, WITH BOHLER ENGINEERING, IN WRITING, AND RESPONDED TO BY BOHLER, IN WRITING, PRIOR TO THE INITIATION OF ANY SITE ACTIVITY AND ANY DEMOLITION ACTIVITY. ALL DEMOLITION ACTIVITIES MUST BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF THESE PLANS AND SPECIFICATIONS AND ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS, RULES, REQUIREMENTS, STATUTES, ORDINANCES AND CODES.
- PRIOR TO STARTING ANY DEMOLITION, CONTRACTOR IS RESPONSIBLE FOR:

A. OBTAINING ALL REQUIRED PERMITS AND MAINTAINING THE SAME ON SITE FOR REVIEW BY THE ENGINEER AND OTHER PUBLIC AGENCIES HAVING JURISDICTION THROUGHOUT THE DURATION OF THE PROJECT, SITE WORK AND DEMOLITION WORK.
- THE LOCATION OF EXISTING UNDERGROUND UTILITIES AS INDICATED ON THE PLAN IS APPROXIMATE. FIELD LOCATE ALL UNDERGROUND EXISTING UTILITIES LOCATED IN THE AREA OF WORK PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. CALL "NC ONE CALL" PRIOR TO CONSTRUCTION FOR ASSISTANCE IN LOCATING EXISTING UNDERGROUND UTILITIES. SUBSURFACE FEATURES ARE SHOWN IN AN APPROXIMATE LOCATION. CONTRACTOR IS RESPONSIBLE FOR SUBSURFACE UTILITY EXPLORATION TO DETERMINE UNDERGROUND UTILITY LOCATIONS AND DEPTH.
- ALL SIDEWALKS AND CURB AND GUTTER SECTIONS SHALL BE REMOVED BY SAWCUTTING THE NEAREST CONTROL JOINT AWAY FROM THE LOCATION DESIGNATED FOR REMOVAL ON THE PLANS. EXISTING PAVEMENT SHALL BE SAWCUT IN ALL LOCATIONS WHERE ABUTTING NEW PAVEMENT OR CONCRETE.
- COORDINATE ALL UTILITY REMOVAL, RELOCATION, & ABANDONMENT WITH THE APPROPRIATE UTILITY SERVICE PROVIDER. CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ALL UTILITY SERVICES TO ADJACENT PROPERTIES DURING ALL PHASES OF CONSTRUCTION.



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SITE CIVIL AND CONSULTING ENGINEERING
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PROJECT No.: NCR172003
DRAWN BY: ERB
CHECKED BY: WLB
DATE: 4/8/19
SCALE: 1" = 20'
CAD I.D.: SSD

PROJECT: **PROP. STORMWATER PLANS FOR FEDERAL REALTY**

LOCATION OF SITE
1800 E FANKLIN STREET
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC

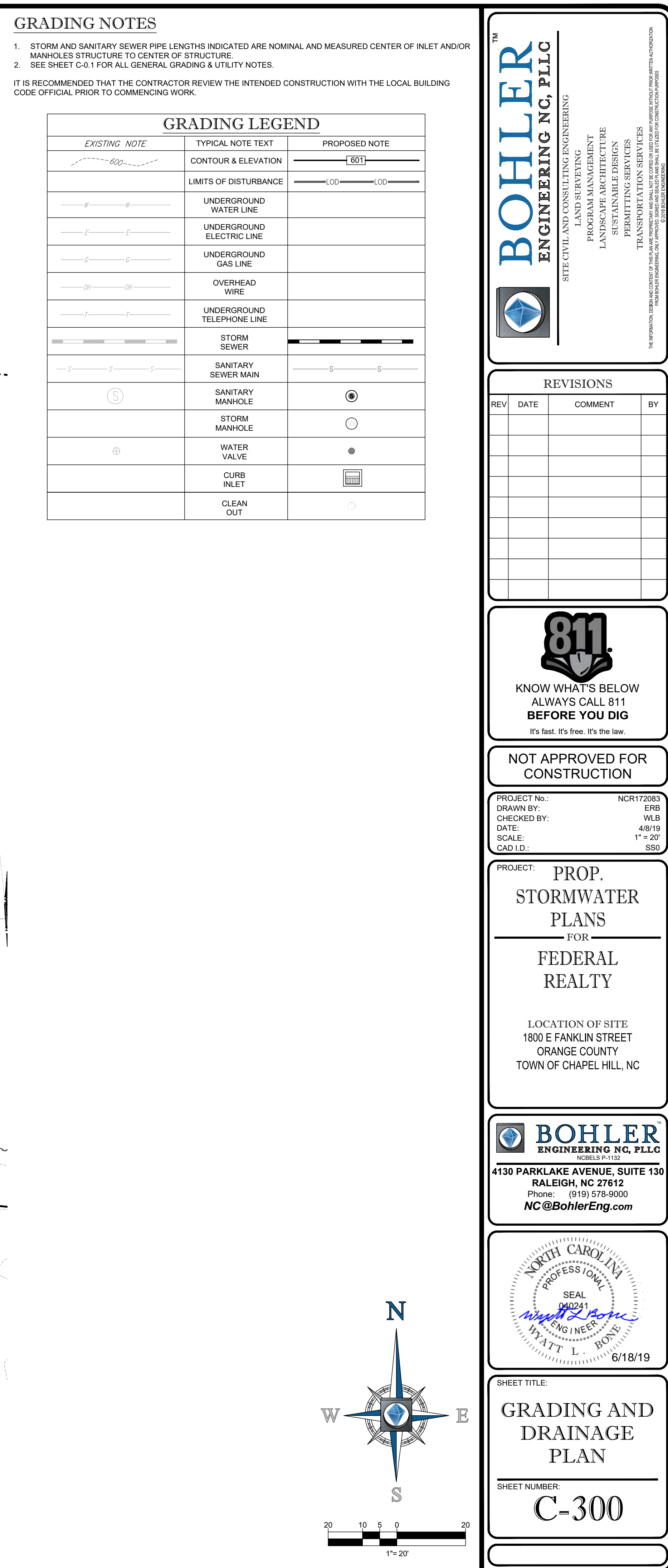
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NC@BohlerEng.com

NORTH CAROLINA
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00241
W. L. BOHLER
ENGINEER
6/18/19

SHEET TITLE:
EXISTING CONDITIONS PLAN

SHEET NUMBER:
C-200

[illegible]

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PROJECT No.:	NCR172083
DRAWN BY:	ERB
CHECKED BY:	WLB
DATE:	4/8/19
SCALE:	1" = 20'
CAD I.D.:	SS0

PROJECT: **PROP.
STORMWATER
PLANS**

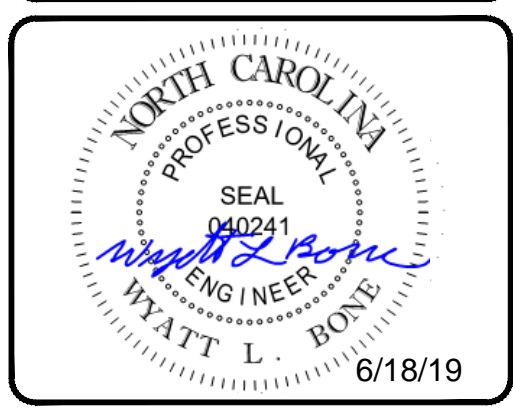
FOR

**FEDERAL
REALTY**

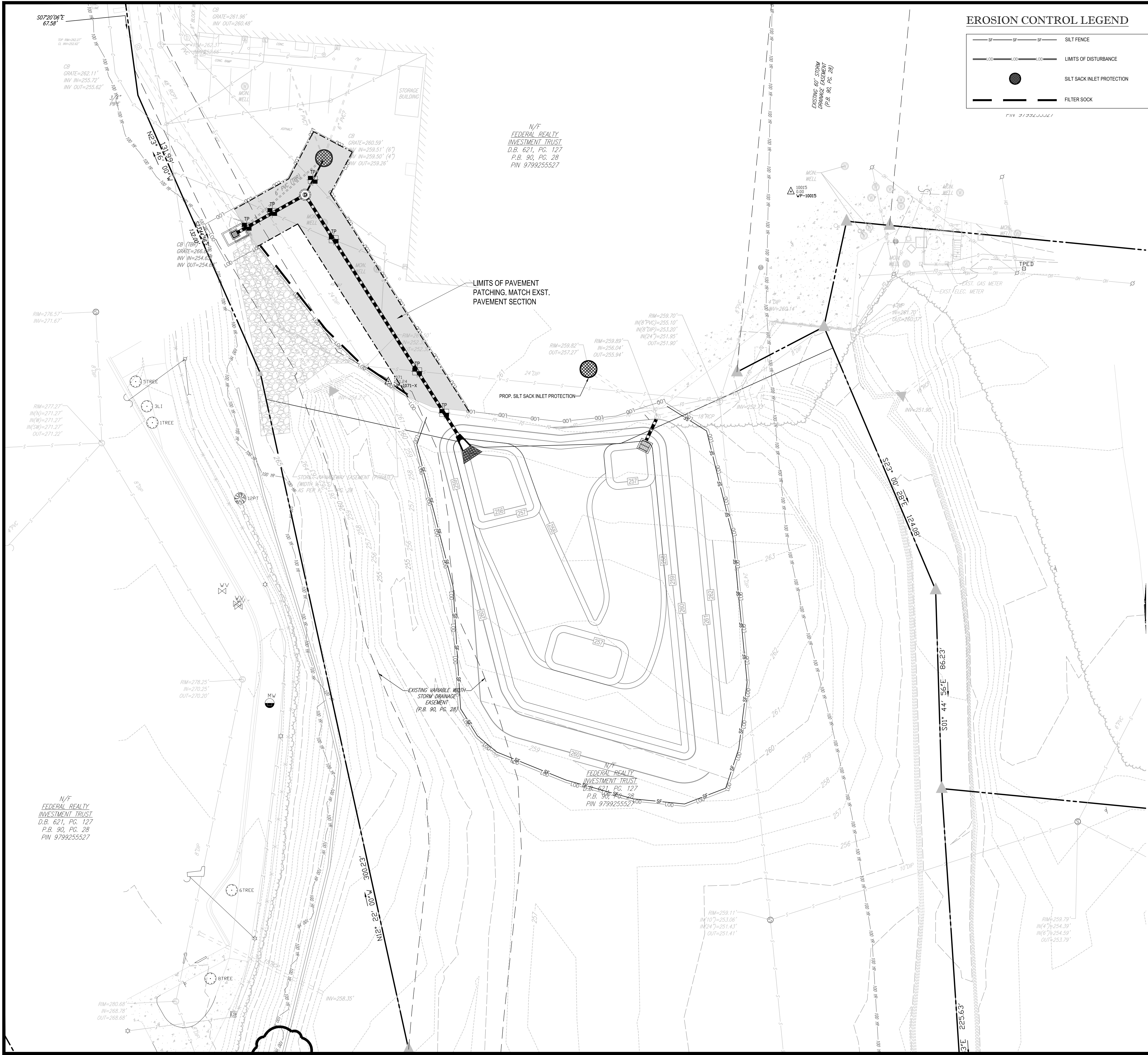
LOCATION OF SITE
1800 E FANKLIN STREET
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC

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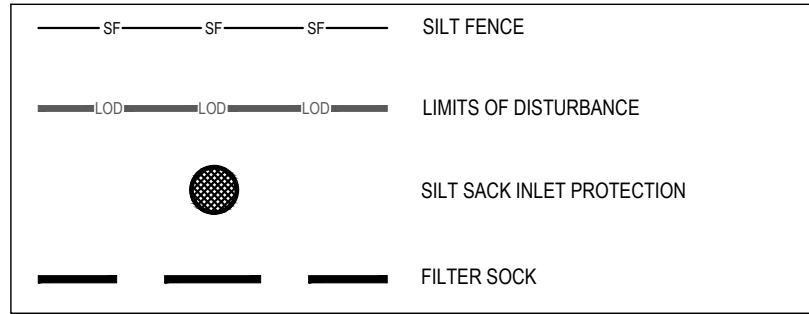
4130 PARKLAKE AVENUE, SUITE 130
RALEIGH, NC 27612
Phone: (919) 578-9000
NC@BohlerEng.com



<p>SHEET TITLE:</p> <p>GRADING AND DRAINAGE PLAN</p> <hr/> <p>SHEET NUMBER:</p> <p>C-300</p>
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EROSION CONTROL LEGEND



NCDEQ EROSION AND SEDIMENT CONTROL NOTES

- ON-SITE BURIAL PITS ARE NOT ALLOWED AT ANY LOCATION WITHIN TOWN OF CHAPEL HILL.
- ANY GRADING BEYOND THE LIMITS OF CONSTRUCTION SHOWN ON THIS PLAN IS SUBJECT TO A FINE.
- GRADING 1 ACRE OR MORE WITHOUT AN APPROVED EROSION CONTROL PLAN IS A VIOLATION AND SUBJECT TO A FINE.
- GROUND STABILIZATION MUST OCCUR WITHIN 7 DAYS ON PERIMETER AREAS AND SLOPES GREATER THAN 3:1, AND GROUND STABILIZATION MUST OCCUR WITHIN 14 DAYS ON OTHER AREAS.
- BASIN OUTLET STRUCTURES WITH DRAINAGE AREAS EQUAL OR GREATER THAN ONE ACRES MUST WITHDRAW WATER FROM THE SURFACE.
- ADDITIONAL MEASURES TO CONTROL EROSION AND SEDIMENT MAY BE REQUIRED BY THE NCDEQ EROSION CONTROL INSPECTOR.
- ALL ELEVATIONS ARE IN REFERENCE TO THE SURVEYORS BENCHMARK WHICH MUST BE VERIFIED BY THE GENERAL CONTRACTOR PRIOR TO GROUND BREAKING.
- ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE N.C. EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL, U.S. DEPT. OF AGRICULTURE, AND ANY APPLICABLE LOCAL LAWS AND CODES.
- PERMANENT CUT AND FILL SLOPES PLACED ON A SUITABLE FOUNDATION SHOULD BE CONSTRUCTED AT 2:1 (HORIZONTAL TO VERTICAL) OR FLATTER. PERMANENT SLOPES OF 3:1 SHOULD BE CONSTRUCTED WHERE MOWING IS DESIRABLE AND AS INDICATED. IF FILL MATERIAL IS BROUGHT ONTO THE PROPERTY OR IF WASTE MATERIAL IS HAULED FROM THE PROPERTY THEN THE CONTRACTOR SHALL DISCLOSE THE LOCATION OF ANY ON-SITE AND/OR OFF-SITE BARROW LOCATION AND/OR WASTE BURIAL LOCATION TO THE EROSION CONTROL INSPECTOR.
- LIMITS OF CLEARING SHOWN ARE BASED ON CUT AND FILL SLOPES OR OTHER GRADING REQUIREMENTS.
- CONTRACTOR SHALL INSTALL ALL EROSION CONTROL MEASURES AS INDICATED PRIOR TO GRADING OPERATIONS. NO DEVICE MAY BE REMOVED WITHOUT APPROVAL OF EROSION CONTROL COORDINATOR.
- CONTRACTOR SHALL BLEND NEW EARTHWORK SMOOTHLY WITH EXISTING CONTOURS.
- ALL DISTANCES ARE HORIZONTAL GROUND.
- ANCHOR SILT FENCE WITH COMPACTED BACKFILL ON TREE PROTECTION ZONES. DO NOT BURY.
- ALL EROSION CONTROL DEVICES SHOULD BE CHECKED PERIODICALLY AND AFTER EVERY MAJOR STORM EVENT. IF ANY FAILURES ARE FOUND, THEY SHOULD BE REPAIRED AS SOON AS POSSIBLE.
- ANY ASSOCIATED DEMOLITION PERMITS AND METHODS OF DEMOLITION ARE TO BE OBTAINED AND ARRANGED BY THE CONTRACTOR PRIOR TO CONSTRUCTION.
- STONE OUTLETS SHOULD BE INSTALLED AT LOW POINTS OF THE SILT FENCING, BASED ON FIELD CONDITIONS.
- EFFECTIVE OCTOBER 1, 2010, PERSONS RESPONSIBLE FOR LAND DISTURBING ACTIVITIES MUST INSPECT A PROJECT AFTER EACH PHASE OF THE PROJECT TO MAKE SURE THAT THE APPROVED EROSION AND SEDIMENTATION CONTROL PLAN IS BEING FOLLOWED. SELF-INSPECTION REPORTS ARE REQUIRED. A SAMPLE SELF-INSPECTION REPORT, AS WELL AS DETAILS OF THE SELF-INSPECTION PROGRAM, CAN BE FOUND ON THE LAND QUALITY WEBSITE (HTTP://PORTAL.NCDEQ.ORG/WEB/EROSION). IF YOU HAVE QUESTIONS OF THE SELF-INSPECTION PROGRAM, PLEASE CONTACT (877) 623-6748.
- A LAND DISTURBANCE PRE-CONSTRUCTION MEETING IS REQUIRED PRIOR TO ANY DISTURBANCE ON THE SITE.
- ALL CONSTRUCTION SHALL COMPLY WITH NCDEQ STANDARDS AND SPECIFICATIONS.
- LOCATIONS OF ALL EXISTING UNDERGROUND UTILITIES ARE SHOWN FROM THE BEST AVAILABLE RECORDS AND FROM A SURVEY OF ABOVE GROUND FEATURES. ALL EXISTING UTILITY LOCATIONS MUST BE INDEPENDENTLY CONFIRMED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
- SITE GRADING AND EXCAVATION MUST BE PERFORMED IN ACCORDANCE WITH THESE PLANS, SPECIFICATIONS, AND RECOMMENDATIONS SET FORTH IN THE GEOTECHNICAL REPORT REFERENCED IN THIS PLAN SET. EXCAVATION AND EARTH MOVING OPERATIONS MUST BE PERFORMED UNDER THE SUPERVISION OF THE OWNER'S GEOTECHNICAL ENGINEER.
- FOOTING EXCAVATIONS SHALL BE CONTINUOUSLY DEWATERED DURING CONSTRUCTION TO PREVENT SETTLEMENT AND SEDIMENT DEPOSIT.
- ALL TEMPORARY DIVERSIONS MUST BE INSTALLED WITH POSITIVE DRAINAGE AND SHALL OPPOSE EXISTING GRADE WHEN NECESSARY TO PROVIDE A MINIMUM OF 0.3% LONGITUDINAL SLOPE.
- ALL ADJACENT ROADWAYS TO THE SITE ARE TO BE SWEEPED (NOT WASHED) AT THE END OF EACH WORK DAY TO REMOVE SEDIMENT FROM THE ROAD SURFACE.
- ALL EROSION CONTROL MEASURES MUST BE INSPECTED AND PROPERLY MAINTAINED AT THE END OF EACH WEEK AND AFTER EVERY RAINFALL EVENT.
- INSTALL ADDITIONAL EROSION CONTROL MEASURES AS REQUIRED TO PREVENT SEDIMENT FROM LEAVING THE SITE.
- CONTRACTOR SHALL PERFORM PRACTICES AND PROCEDURES WHICH MINIMIZE AND PREVENT AIRBORNE DUST OR OTHER PARTICLES FROM OCCURRING. PARTICLES WHICH CAN BE PICKED UP AND CARRIED BY WIND SHOULD BE PROTECTED WITH A TEMPORARY COVER OR KEPT UNDER CONTROL WITH WATER TO PREVENT PARTICLES FROM BECOMING AIRBORNE AND FROM EXISTING THE SITE. PERIMETER, WATER TRUCKS OR OTHER DUST CONTROL AGENTS SHALL BE USED AS NEEDED DURING CONSTRUCTION TO MINIMIZE DUST GENERATE ON THE SITE. DUST CONTROL MUST BE PROVIDED BY THE CONTRACTOR TO A DEGREE THAT IS IN COMPLIANCE WITH FEDERAL, LOCAL, AND STATE DUST CONTROL REGULATIONS. THE USE OF MOTOR OILS AND OTHER PETROLEUM BASED OR TOXIC LIQUIDS FOR DUST SUPPRESSION OPERATIONS IS PROHIBITED.
- EROSION CONTROL FEATURES SHOULD BE CHECKED DAILY AND ADJUSTED AND/OR REPAIRED TO FULLY CONTAIN AND CONTROL SEDIMENTATION ON THIS SITE BY CONTRACTOR. PERIMETER CONTROLS ARE TO REMAIN FUNCTIONING FOR THE DURATION OF THE PROJECT. THE MONITORING AND INSPECTING OF EROSION CONTROL MEASURES SHOULD FOLLOW THE GUIDELINES OF THE NPDES PERMIT (GENERAL PERMIT NCG 010000).

EROSION CONTROL CONSTRUCTION SEQUENCE:

- POST REQUIRED DOCUMENTS NEAR THE PLANNED CONSTRUCTION ENTRANCE AND WITHIN EASY ACCESS TO THE GENERAL PUBLIC.
- STAKE/FLAG THE LOD (WHERE STAKING IS NOT POSSIBLE/PRACTICAL, THE LOD MUST BE CONSPICUOUSLY AND PROMINENTLY MARKED TO DENOTE THE BOUNDARY). LOD MUST REMAIN CONSPICUOUSLY MARKED THROUGHOUT THE ENTIRE CONSTRUCTION PROJECT.
- INSTALL SILT FENCE. CLEAR ONLY THE MINIMUM AREA ABSOLUTELY NECESSARY TO INSTALL THESE PERIMETER CONTROL BMPs.
- INSTALL INLET PROTECTION WHERE INDICATED ON THE PLANS.
- CONSTRUCT THE BIO RETENTION STORMWATER CONTROL MEASURE.
- INSTALL STORMWATER DRAINAGE PIPES, INLETS, MANHOLES, AND STORMWATER CONTROL STRUCTURES.
- STABILIZED ALL OF THE DISTURBED AREAS.
- REMOVE ALL TEMPORARY CONTROL MEASURES.

THE ESTIMATED DATES OF IMPLEMENTATION OF POLLUTION CONTROL MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR.

- ANY BORROW OR WASTE MUST UTILIZE A SITE WITH AN APPROVED EROSION CONTROL PERMIT.
- IF A SINGLE SOURCE BARROW PIT IS UTILIZED IT SHALL ONLY SELL FILL TO THIS PROJECT.

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1	5-28-19	RISER ELEVATION, WETLAND ELEVATION	RG

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PROJECT No.:	NCR172083
DRAWN BY:	ERB
CHECKED BY:	WLB
DATE:	4/8/19
SCALE:	1" = 20'
CAD I.D.:	SSD

PROJECT: **PROP. STORMWATER PLANS**
FOR **FEDERAL REALTY**

LOCATION OF SITE
1800 E FANKLIN STREET
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC

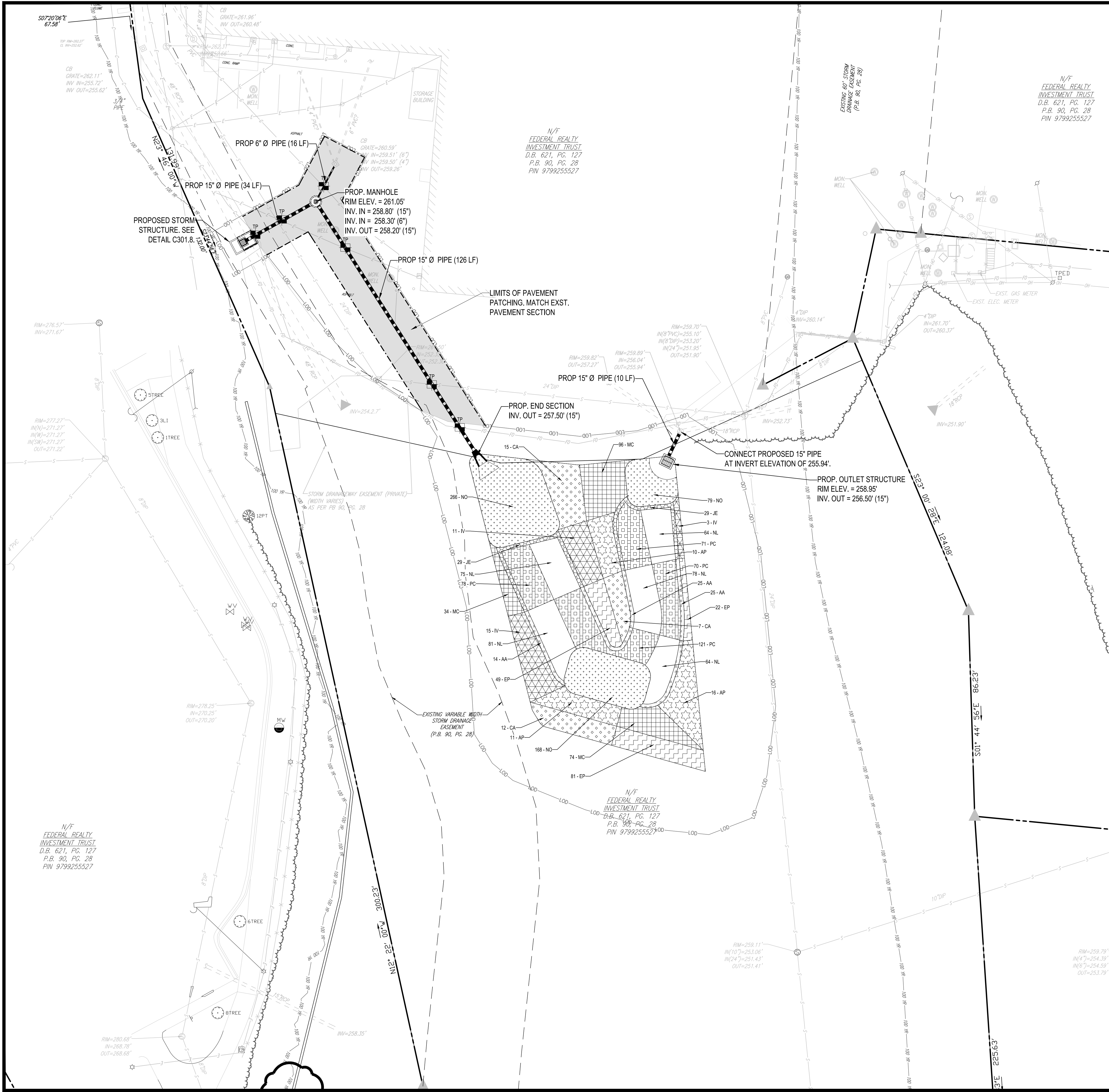
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NORTH CAROLINA
PROFESSIONAL
SEAL
WYATT L. ROSE
6/18/19

SHEET TITLE:
EROSION CONTROL PLAN

SHEET NUMBER:
C-400

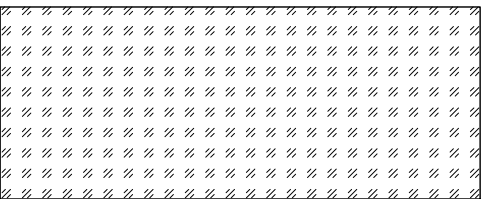


LANDSCAPE LEGEND

SHALLOW WATER:



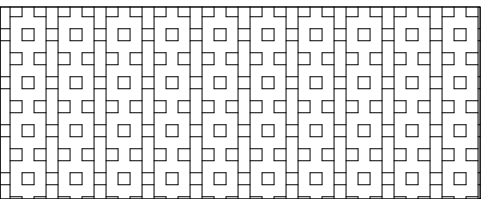
JE: JUNCUS EFFUSUS - COMMON RUSH / 58 UNITS



AA: ACORUS AMERICANUS - SWEETFLAG / 64 UNITS

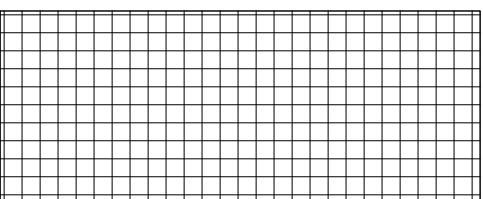


NL: NUPHAR LUTEA SSP. ADVENA - YELLOW POND-LILY / 362 UNITS

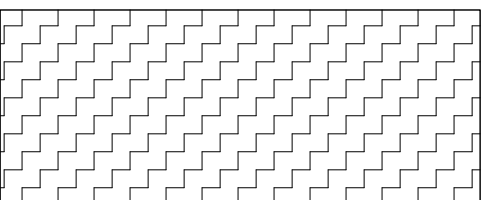


PC: PONTEDERIA CORDATA - PICKERELWEED / 340 UNITS

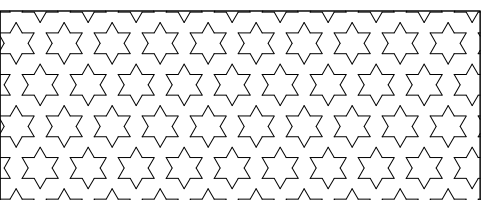
TEMPORARY INUNDATION:



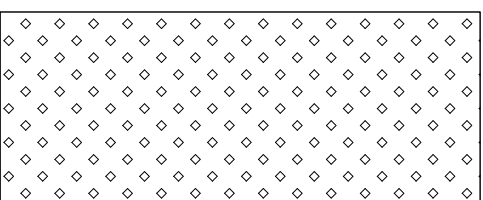
MC: MUHLENBERGIA CAPILLARIS - PURPLE MUHLY / 204 UNITS



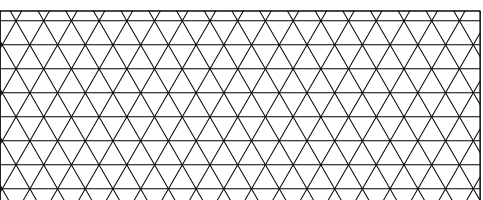
EP: ECHINACEA PURPUREA - PURPLE CONE FLOWER / 152 UNITS



AP: AESCULUS PAVIA - RED BUCKEYE / 37 UNITS

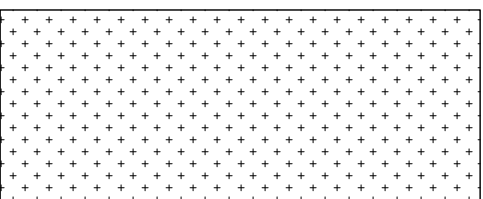


CA: CORNUS AMOMUM - SILKY DOGWOOD / 34 UNITS



IV: ITEA VIRGINICA - VIRGINIA SWEETSPIRE / 29 UNITS

DEEP WATER:



NO: NYMPHAEA ODORATA - VIRGINIA WHITE WATER LILY / 513 UNITS



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REVISIONS

REV	DATE	COMMENT	BY



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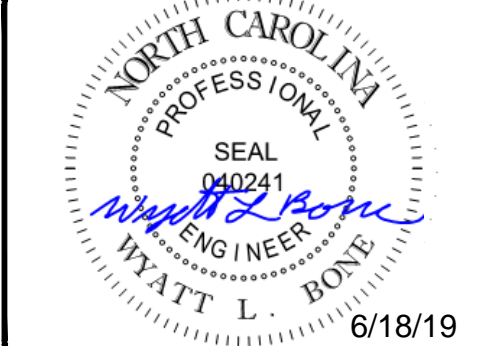
NOT APPROVED FOR
CONSTRUCTION

PROJECT No.: NCR172063
DRAWN BY: ERB
CHECKED BY: WLB
DATE: 4/8/19
SCALE: 1" = 20'
CAD I.D.: SSD

PROJECT: **PROP.
STORMWATER
PLANS
FOR
FEDERAL
REALTY**

LOCATION OF SITE
1800 E FANKLIN STREET
ORANGE COUNTY
TOWN OF CHAPEL HILL, NC

**BOHLER
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4130 PARKLAKE AVENUE, SUITE 130
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SHEET TITLE:

**LANDSCAPE
PLAN**

SHEET NUMBER:

C-500