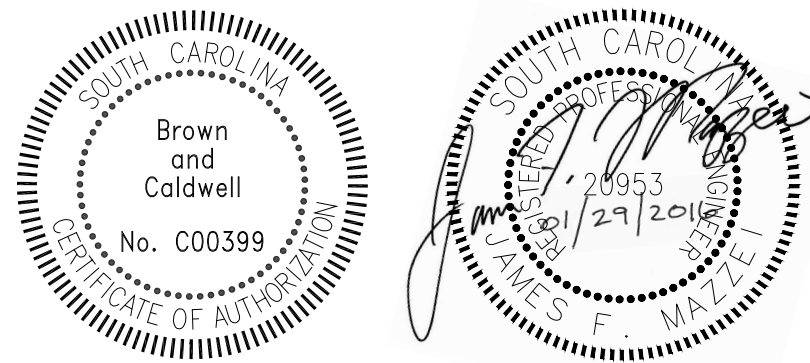


ReWa

RENEWABLE WATER RESOURCES

RICHLAND CREEK TRUNK SEWER IMPROVEMENT

Project No. 144953



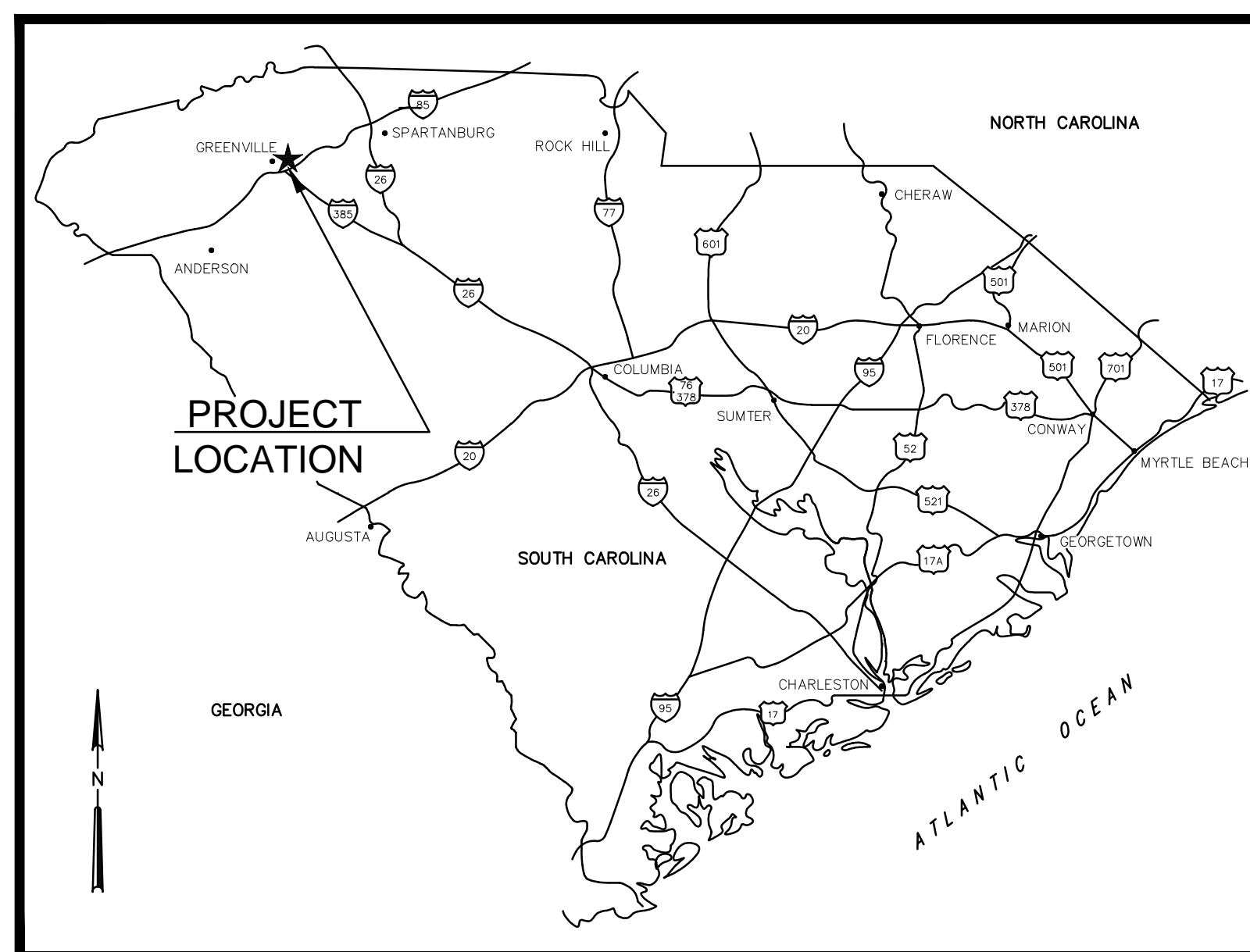
CONFORMED DRAWINGS

JANUARY 2016

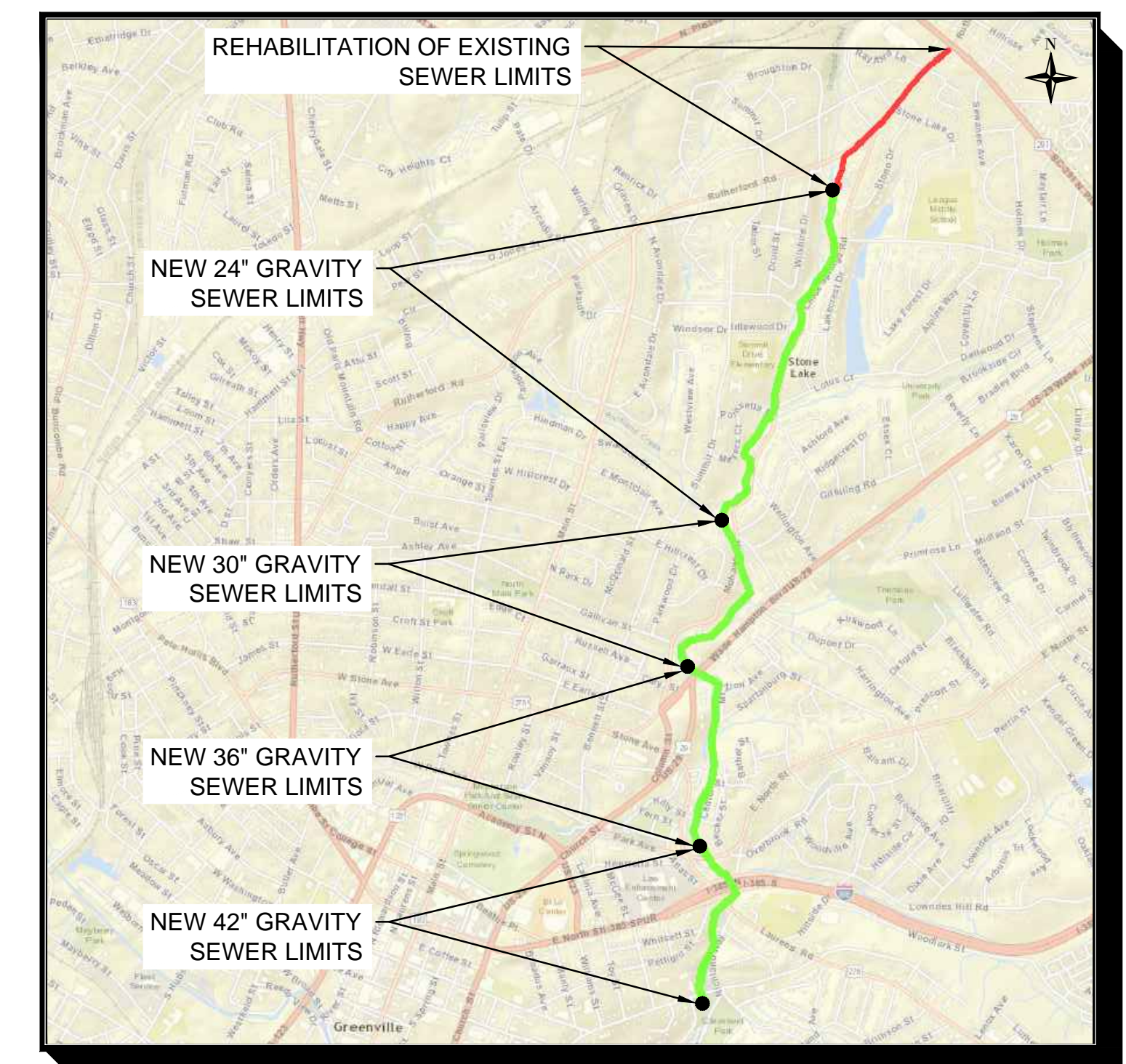
PREPARED BY:



Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701



VICINITY MAP
NTS



LOCATION MAP
NTS

INDEX OF DRAWINGS

SHEET No.	DRAWING	SHEET DESCRIPTION
GENERAL		
1	000-G-000	COVER
2	000-G-001	INDEX OF DRAWINGS, ABBREVIATIONS AND GENERAL NOTES
3	000-G-002	MAINTENANCE OF TRAFFIC PLAN
CIVIL		
4	000-C-001	SANITARY SEWER DETAILS 1
5	000-C-002	SANITARY SEWER DETAILS 2
6	000-C-003	SANITARY SEWER DETAILS 3
7	000-C-004	STREAM CROSSING DETAILS 1
8	000-C-005	STREAM CROSSING DETAILS 2
9	000-C-006	EROSION & SEDIMENT CONTROL LEGEND AND NOTES
10	000-C-007	EROSION & SEDIMENT CONTROL DETAILS 1
11	000-C-008	EROSION & SEDIMENT CONTROL DETAILS 2
12	000-C-009	OVERALL LAYOUT & EXISTING MANHOLE DATA
13	000-C-010	BLOW-UP CONNECTION VIEWS
14	100-C-001	PLAN & PROFILE STATION 0+00 TO 14+60
15	100-C-002	PLAN & PROFILE STATION 21+40 TO 35+00
16	100-C-003	PLAN & PROFILE STATION 35+00 TO 50+00
17	100-C-004	PLAN & PROFILE STATION 50+00 TO 65+00
18	100-C-005	PLAN & PROFILE STATION 65+00 TO 78+50
19	100-C-006	PLAN & PROFILE STATION 78+50 TO 93+00
20	100-C-007	PLAN & PROFILE STATION 93+00 TO 107+00
21	100-C-008	PLAN & PROFILE STATION 107+00 TO 122+50
22	100-C-009	PLAN & PROFILE STATION 122+50 TO 136+00
23	100-C-010	PLAN & PROFILE STATION 136+0 TO 150+50
24	100-C-011	PLAN & PROFILE STATION 150+50 TO 162+00
25	100-C-012	PLAN & PROFILE STATION 162+00 TO END OF CONSTRUCTION
26	100-C-013	PLAN STATION 14+60 TO STATION 21+40, PROFILE OF MH-400A-432 TO MH-400A-636, PLAN OF SEWER AT EAST PARK AVE.
27	200-C-001	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN
28	200-C-002	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN
29	200-C-003	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN
30	200-C-004	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN
31	200-C-005	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN
32	200-C-006	SEDIMENT & EROSION CONTROL PLAN - REHAB & ABANDONMENT PLAN

- GENERAL NOTES:**
- PROVIDE SHORING, SHEETING AND BRACING, AS NEEDED, IN CONFORMANCE WITH THE APPLICABLE RULES AND REGULATIONS PROMULGATED BY THE DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), INCLUDING OSHA MANUAL 2226, "EXCAVATIONS". WHEN REQUIRED BY RULES AND REGULATIONS, THE CONTRACTOR SHALL PROVIDE DESIGNED SHORING SYSTEMS CERTIFICATIONS APPROVED BY A PROFESSIONAL ENGINEER TO THE OWNER AND ENGINEER FOR REFERENCE ONLY.
 - COMPLY WITH THE GUIDELINES OF THE SCDHEC SOUTH CAROLINA STORM WATER MANAGEMENT AND SEDIMENT AND EROSION CONTROL HANDBOOK FOR LAND DISTURBANCE ACTIVITIES DURING THE ENTIRE CONSTRUCTION PERIOD. SEDIMENT AND EROSION CONTROL PRACTICES SHALL INCLUDE, BUT NOT BE LIMITED TO, SILT FENCES, BERMS, HAY BALES, ETC. AS NEEDED OR AS DIRECTED BY THE ENGINEER.
 - RESTORE ALL AREAS DISTURBED BY CONSTRUCTION TO ORIGINAL CONTOURS, UNLESS OTHERWISE NOTED.
 - AREAS DISTURBED BY CONSTRUCTION SHALL BE GRASSED IN ACCORDANCE WITH THE APPROVED SEEDING SCHEDULE NO SHEET 000-C-005, UNLESS OTHERWISE NOTED.
 - DRAINAGE PIPES DESTROYED DURING CONSTRUCTION ARE TO BE REPLACED WITH NEW CLASS III - WALL B REINFORCED CONCRETE PIPE COMPLYING WITH ASTM C76. SIZE AND INVERTS MATCH EXISTING.
 - NOTE THE PROXIMITY OF POWER POLES, GUY WIRES AND TRANSFORMER BOXES IN RELATIONSHIP TO THE PROJECT AND PROTECT DURING CONSTRUCTION.
 - UTILITIES SHOWN ARE APPROXIMATE LOCATIONS DETERMINED FROM BEST AVAILABLE INFORMATION AND SITE SURVEYS. HOWEVER, PRIOR TO BEGINNING ANY EXCAVATION, CALL PALMETTO UTILITY PROTECTION SERVICE (PUPS) AT 1-888-721-7877 OR 811 TO LOCATE ALL EXISTING UTILITIES. TO LOCATE EXISTING WATER AND SEWER FACILITIES, CONTACT ReWa (RENEWABLE WATER RESOURCES) OFFICE.
 - REPAIR OR REPLACE EXISTING FEATURES DISTURBED OR DESTROYED DURING CONSTRUCTION OF THIS PROJECT AT NO ADDITIONAL COST TO THE OWNER. THESE ITEMS INCLUDE, BUT ARE NOT LIMITED TO, FENCES, IRRIGATION SYSTEMS, SHRUBS, SMALL TREES, LANDSCAPE MATERIALS, CONCRETE CURBING AND SIDEWALKS.
 - THE CONTRACTOR SHALL RESTORE ROAD RIGHTS OF WAY TO EXISTING OR BETTER CONDITION. ALL DITCHES AND SWALES SHALL BE RESTORED PER SCDOT STANDARD SPECIFICATIONS CONCERNING SLOPE AND GRADE. THE CONTRACTOR SHALL DETERMINE GRADES ON EXISTING STORM CULVERTS PRIOR TO REMOVAL TO ENSURE PROPER REPLACEMENT AT EXISTING GRADES AND ELEVATIONS.
 - THE CONTRACTOR SHALL RESTORE DRIVES WITH THE SAME OR LIKE MATERIAL AS EXISTING DRIVES. CONCRETE DRIVES AND SIDEWALKS SHALL BE POURED WITH 3000 PSI FIBER FILLED CONCRETE A MINIMUM OF 4" THICK TO A NEWLY CUT STRAIGHT EDGE. ASPHALT DRIVES AND SIDEWALKS SHALL BE REPLACED WITH A TYPE I ASPHALT PER SCDOT REQUIREMENTS TO A MINIMUM THICKNESS OF 2 INCHES.
 - PRESERVE AND PROTECT FROM INJURY ALL TREES NOT REQUIRED TO BE REMOVED. PROVIDE BARRICADES OR OTHER TYPES OF PROTECTION NECESSARY TO PREVENT UNNECESSARY DAMAGE TO TREES 6" IN DIAMETER OR LARGER. ORNAMENTAL SHRUBBERY AND TREE BRANCHES SHALL BE TEMPORARILY TIED BACK, WHERE APPROPRIATE, TO MINIMIZE DAMAGE.
 - MAINTAIN A HORIZONTAL SEPARATION OF 10-FEET AND VERTICAL SEPARATION OF 18-INCHES BETWEEN WATER MAINS.
 - ALL CONNECTIONS TO THE EXISTING SYSTEM SHALL BE COORDINATED WITH THE OWNER.
 - ALL TREES, SHRUBBERY, SPOILS, ROCK, ETC. THAT IS REMOVED/EXCAVATED FOR CONSTRUCTION OF THE PROPOSED FACILITIES, AND NOT INCORPORATED INTO THE WORK (i.e. BACKFILL) SHALL BE HAULED OFF SITE AND DISPOSED OF BY THE CONTRACTOR.
 - COORDINATE WITH CITY OF GREENVILLE TO ENSURE ALL DISTURBANCES ARE COMPLETE PRIOR TO PAVING OF SPARTANBURG STREET.
 - ENSURE THAT ALL CONDITIONS OF CITY OF GREENVILLE PERMIT ARE MET INCLUDING BUT NOT LIMITED TO SCHEDULING, RETURN TO EXISTING CONDITIONS AND TRAFFIC CONTROL CONDITIONS.
 - ALL IMPROVEMENTS PROPOSED WITHIN THE CITY OF GREENVILLE'S PUBLIC RIGHT OF WAY SHALL BE SUBJECT TO THE REQUIREMENTS OF ARTICLES I AND II OF CHAPTER 36 STREETS, SIDEWALKS AND OTHER PUBLIC PLACES OF THE CITY OF GREENVILLE CODE OF ORDINANCES. ANY ADVERSE IMPACTS TO THE CITY'S PUBLIC STREETS OR INFRASTRUCTURE AS A RESULT OF THE PERMITTED CONSTRUCTION ACTIVITY SHALL BE SUBJECT THE ENFORCEMENT REQUIREMENTS OF THE ORDINANCE.
 - WHEN CONNECTING TO EXISTING MANHOLES AT WASHINGTON STREET AND I-385, MANHOLES WILL BE DEWATERED AND INSPECTED TO ENSURE THAT EXISTING CONDITIONS ARE AS SHOWN IN PLANS. WITH THIS CONFIRMATION, CORE HOLES FOR NEW PIPES AS DIRECTED BY ENGINEER.

*******UTILITY WARNING*******

The underground utilities shown have been located from field survey information and existing drawings. The engineer/surveyor makes no guarantee that the underground utilities shown comprise all such utilities in the area, either in service or abandoned. The engineer/surveyor further does not warrant that the underground utilities shown are in the exact location indicated although he does certify that they are located as accurately as possible from the information available. The engineer/surveyor have not physically located the underground utilities.

GENERAL ABBREVIATIONS

A AMPERE	CRN CRANE	GRT GROUT	EQUIPMENT	TFR TRANSFORMER
AC ASPHALTIC CONCRETE	CV CONTROL VALVE	GSP GALVANIZED STEEL PIPE	MIN MINIMUM, MINUTE	TRM TRANSMITTER
A/C AIR CONDITIONING	DB DUCT BANK	GV GATE VALVE	MJ MECHANICAL JOINT	TRN TRANSDUCER
AFF ABOVE FINISHED FLOOR	DI DUCTILE IRON	H/A HAND AUTO	MME MISC. MECHANICAL EQUIPMENT	RTS TRANSFER SWITCH
ANC ANCHOR	EE EACH END	HOA HAND-OFF-AUTO	MOP MOTOR OPERATOR N NEUTRAL	UN UNION
C BEGINNING OF CURVE	EL ELEVATION	HOR HORIZONTAL	P PUMP	UT UTILITY POLE
BF BLIND FLANGE	ELL ELBOW	HR HANDRAIL	PAR PARALLEL	UPS UNINTERRUPTIBLE POWER SUPPLY
BHP BRAKE HORSEPOWER	EMBD EMBEDDED	HV HOSE VALVE	PCHV PINCH VALVE	US UTILITY STATION
BFV BUTTERFLY VALVE	EQ EQUAL	HYDT HYDRANT	PL PROPERTY LINE, PIPELINE, PLATE	V VALVE, VOLTS, VENT
BV BALL VALVE	EQUIP EQUIPMENT EQ	IF INSIDE FACE	PNL PANEL, PANELBOARD	VAC VOLTS ALTERNATING CURRENT
CAB DIRECT BURIAL CABLE	EWEF EACH WAY EACH FACE	IL INDICATING LAMP	PP POWER POLE	VAR VARIES, VARIABLE
C-C CENTER TO CENTER	EXIST EXISTING	INF INFLUENT	PRES PRESSURE	VDC VOLTS DIRECT CURRENT
CCP CONCRETE CYLINDER PIPE	F FAHRENHEIT, FACE, FUSE(D)	INTER INTERMEDIATE	PRV PRESSURE REGULATING VALVE	WSTP WATERSTOP
CDR CONDUCTOR	FC FAIL CLOSED	INT INTERIOR	PS PRESSURE SWITCH OR SENSOR	WT WATERTIGHT
CF CUBIC FEET	FF FAR FACE	INV INVERT	PV PLUG VALVE, PROCESS VARIABLE	X SPARE CONDUIT
CFH CUBIC FEET PER HOUR	F-F FACE TO FACE	IT INSTRUMENT TAP	PVT PAVEMENT	XP EXPLOSION PROOF
CFR CODE OF FEDERAL REGULATIONS	FH FIRE HYDRANT	K KIP (1000 POUNDS)	Q RATE OF FLOW	ZS POSITION SWITCH
CIRC CIRCUMFERENCE	FIN FINISHED	KV KILOVOLT	QCPLG QUICK COUPLING	
CK CHECKER(ED)	FLR FLOOR	KVA KILOVOLT AMPERE	R RADIUS	
CKPL CHECKER PLATE	FLT FILTER	KVAR KILOVAR	SCN SCREEN	
ε CENTERLINE	FM FORCE MAIN	KW KILOWATT	SS STAINLESS STEEL	
CL CLEARANCE	FO FAIL OPEN	LOS LOCKOUT STOP	SS SANITARY SEWER	
CNTL CONTROL	FPC FLEXIBLE PIPE COUPLING	LS LIMIT SWITCH	SSC SOLID STATE CONTROLLER	
CO CLEANOUT	G POWER ACTUATED GATE	MCC MOTOR CONTROL CENTER	SYM SYMMETRICAL	
CJ CONSTRUCTION JOINT	GBV GLOBE VALVE	MEE MISC. ELECTRICAL EQUIPMENT	T TRAP	
CONT CONTINUED	GFI GROUND FAULT INTERRUPTER	MGD MILLION GALLONS PER DAY	TC TOP OF COVER	
CR CONDUIT RACK	GPD GALLONS PER DAY	MIE MISC. INSTRUMENTATION	T/C TOP OF CURB	

- NOTES:**
- ADDITIONAL ABBREVIATIONS ARE DEFINED IN ANSI Y1.1-1972.
 - ABBREVIATIONS FOR PIPING SYSTEMS ARE SPECIFIED IN SECTION 15050.
 - ADDITIONAL ABBREVIATIONS ARE SHOWN ON DRAWINGS WHERE RELEVANT.

CIVIL SYMBOLS

EXISTING	NEW (PROPOSED)	EXISTING	NEW (PROPOSED)
(REFERENCED FROM GREENVILLE COUNTY GIS)			

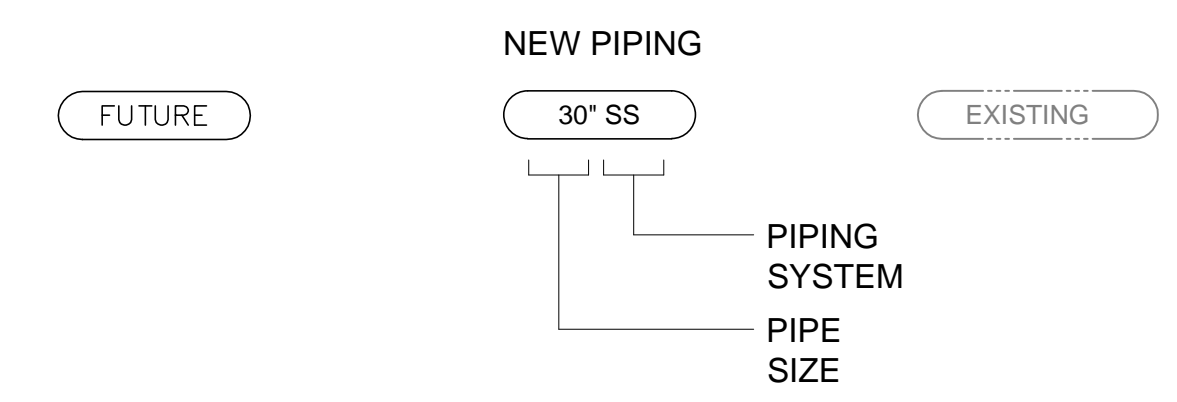
Survey Note:
Survey data was compiled from property information obtained through Greenville County GIS Departments and field data provided by W.R. Williams Jr., Greenville, SC. All drawings reside within the South Carolina State Plane Coordinate System with a datum of NAD83/NAVD88.

GeoTech Note:
Geotechnical information used in the preparation of Drawings and Specifications is based upon explorations and tests of subsurface conditions at the site by Terracon Consultants, Inc. and included in a report dated March 31, 2014, entitled: "Geotechnical Engineering Report; Richland Creek Trunk Sewer - Greenville, SC", along with supplemental boring information provided on September 10, 2014. The report contains "technical data" upon which the Contractor may rely. Bore locations shown on the plans are general in nature. Actual locations, if needed, should be coordinated with Terracon.

SHEET NOTES

- THIS DRAWING IS GENERAL IN NATURE. SOME DESIGNATIONS SHOWN HEREON MAY NOT BE USED ON THE CONTRACT DRAWINGS.
- EXISTING PIPING IS DESIGNATED BY SERVICE WITHOUT IMPLICATION AS TO PIPING MATERIAL. EXISTING PIPING MATERIAL, IF KNOWN, IS INDICATED SEPARATELY, AND MAY NOT BE THE SAME MATERIAL AS SPECIFIED FOR NEW PIPING FOR THE SAME SERVICE.
- SEE PIPING SPECIFICATION SHEETS (PIPE SPECS) IN SPECIFICATION SECTION 02530 FOR PIPING SYSTEM REQUIREMENTS.

PIPING DESIGNATIONS

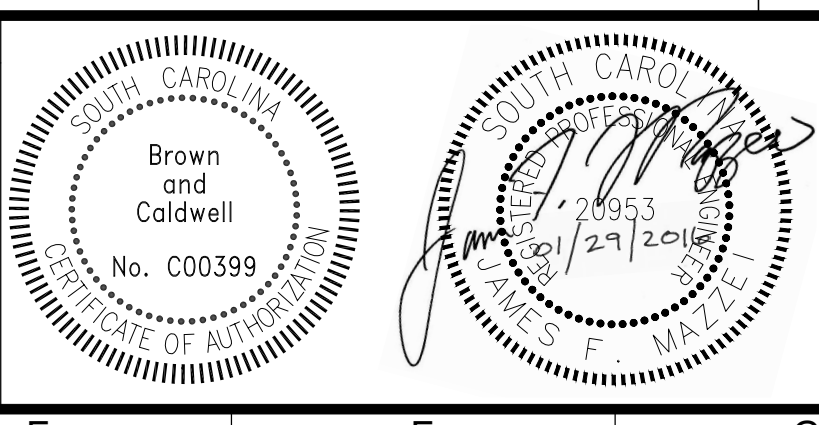


Brown and Caldwell
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250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED: J. EPTING
CHECKED: J. MAZZEI
APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM

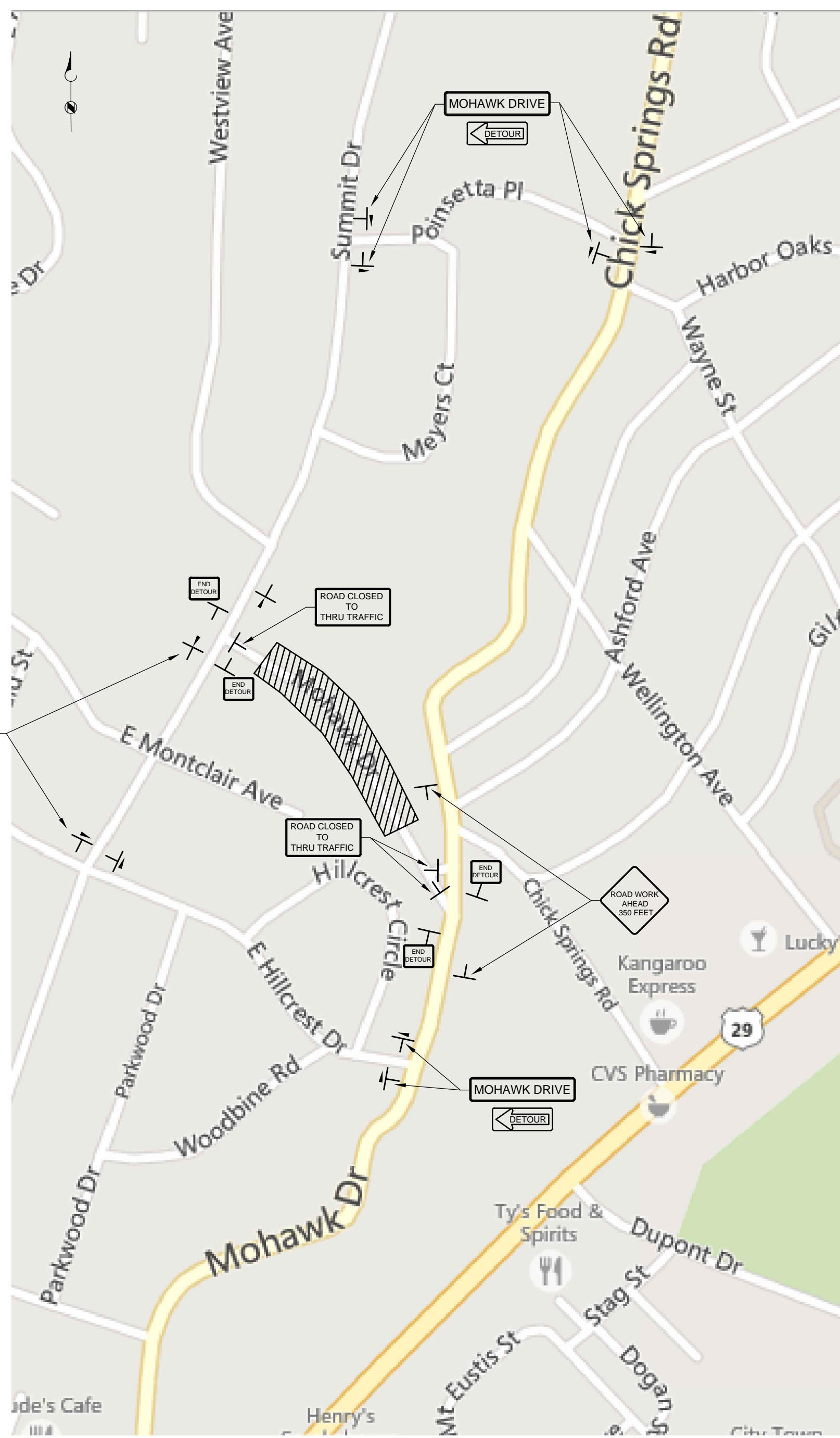


GENERAL
RICHLAND CREEK TRUNK SEWER

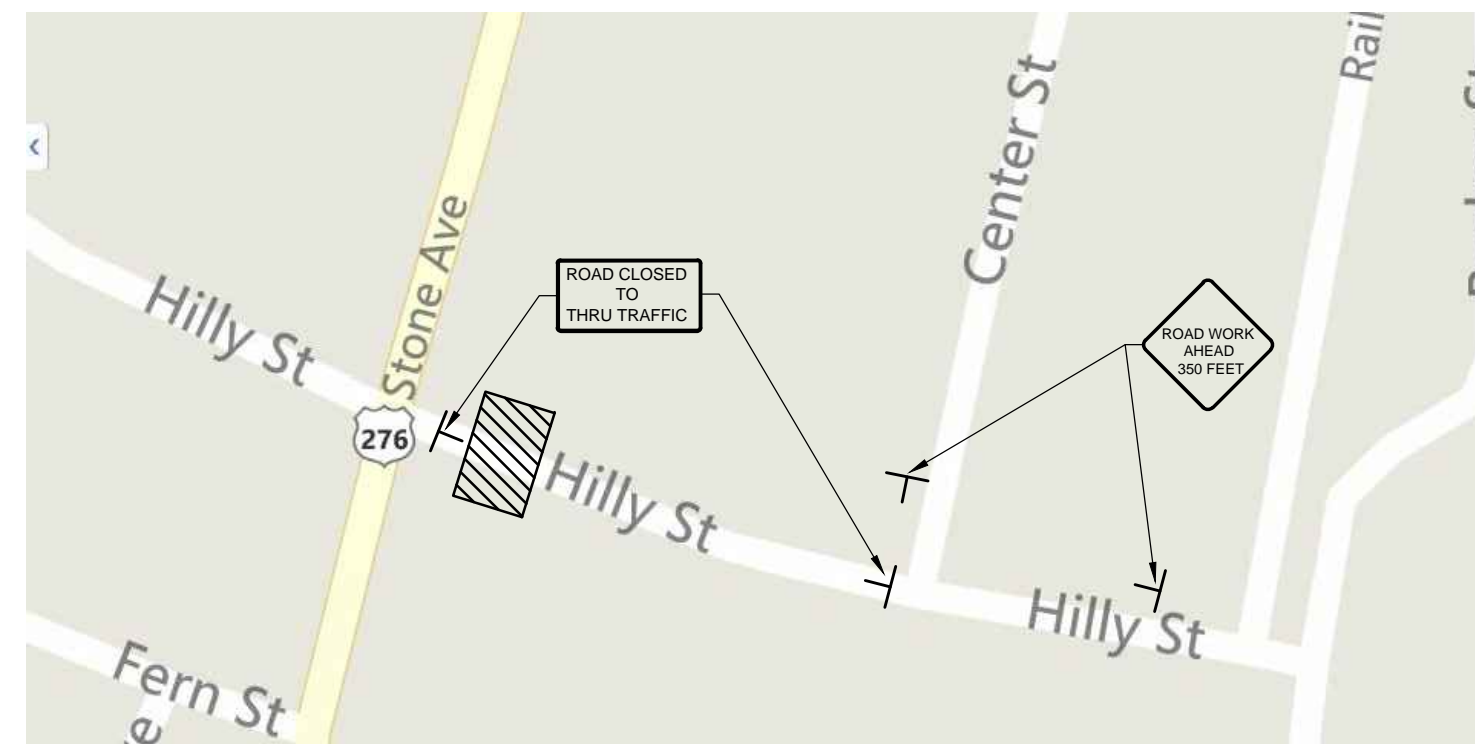
INDEX OF DRAWINGS, ABBREVIATIONS AND GENERAL NOTES

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BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	000-G-001
SHEET NUMBER	2 OF 32

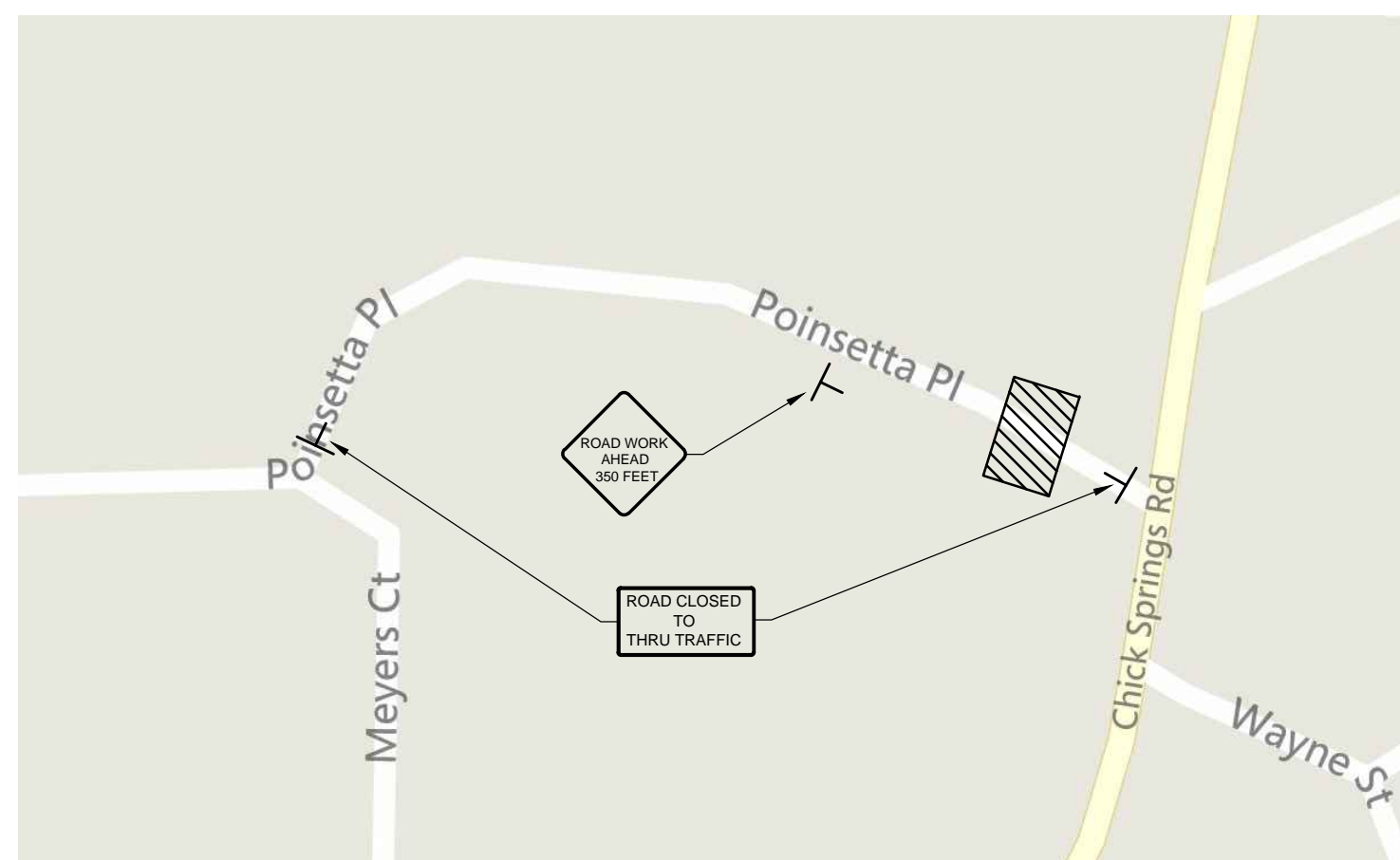
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MOHAWK DRIVE
NOT TO SCALE



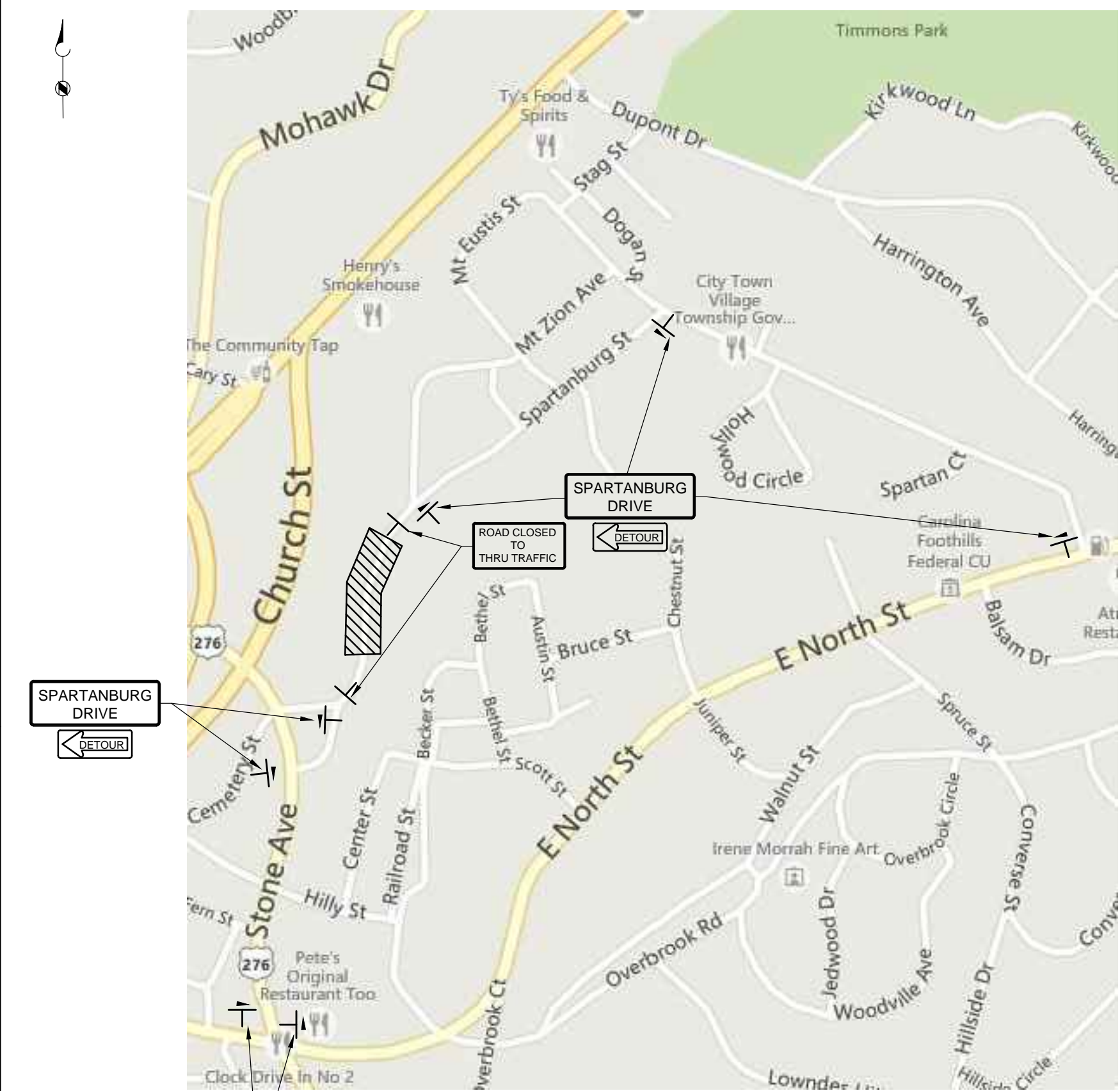
HILLY STREET
NOT TO SCALE



POINSETTA PLACE
NOT TO SCALE



NORTHWOOD AVENUE
NOT TO SCALE



SPARTANBURG STREET
NOT TO SCALE

TRAFFIC MAINTENANCE NOTES:

1. ACCESS SHALL BE MAINTAINED AT ALL TIMES TO SIDESTREETS AND DRIVEWAYS
2. CONTRACTOR SHALL MAINTAIN ADEQUATE POSITIVE DRAINAGE AT ALL LOCATIONS AT ALL TIMES.
3. WHEN THE CONSTRUCTION AREA HAS INTERSECTIONS, WORK WILL BE PERFORMED IN SUCH A MANNER TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE AS POSSIBLE. WHEN ENTRANCE AND SIGNING SHALL BE INSTALLED AS REQUIRED, TO ALLOW TRAFFIC TO REMAIN AS OPERATIONAL AS POSSIBLE. WHEN ENTRANCE RAMP / INTERSECTIONS ARE INOPERABLE, FLAGGERS WILL BE UTILIZED TO CONTROL AND PROHIBIT MOVEMENT INTO THE PROJECT AT THAT POINT UNTIL CONSTRUCTION HAS CLEARED THE RESTRICTION SUFFICIENT TO RETURN TO OPERATIONAL STATUS.
4. SIGN LOCATIONS ARE APPROXIMATE AND MAY BE ADJUSTED TO MEET FIELD CONDITIONS BUT MUST BE WITHIN THE LIMITATIONS SET FORTH IN THE MUTCD.
5. WHEN NOT IN USE, PORTABLE SIGNS SHALL BE REMOVED FROM THE TRAVELWAY SO THAT THE MESSAGE IS NOT VISIBLE TO THE MOTORIST. INTERIM SIGNS THAT ARE PERMANENTLY MOUNTED SHALL BE COVERED WHEN NOT APPLICABLE.
6. THE TRAFFIC MANAGEMENT PLAN SHOWN HERE IS THE MINIMUM REQUIRED FOR EFFECTIVE TRAFFIC MANAGEMENT.

LEGEND

- CHANGEABLE MESSAGE SIGN
(MESSAGE BOARDS WILL NEED TO BE PLACED ADVISING LANE OR ROAD CLOSURES ONE WEEK IN ADVANCE OF CONSTRUCTION ACTIVITY)
- TRAFFIC DIRECTION
- CONSTRUCTION AREA

alumper
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Brown and Caldwell

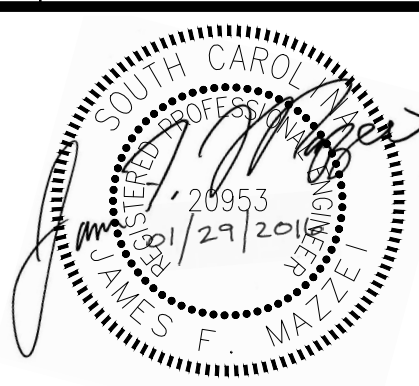
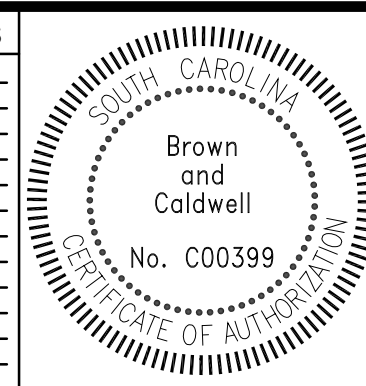
Environmental Engineering and Consulting
 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

SUBMITTED: _____ DATE: _____
 PROJECT MANAGER
 APPROVED: _____ DATE: _____
 BROWN AND CALDWELL

LINE IS 2 INCHES
 AT FULL SIZE
 (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

EXTERNAL REFERENCES



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



GENERAL
RICHLAND CREEK TRUNK SEWER
 MAINTENANCE OF TRAFFIC PLAN

FILENAME
 144953G-0002.DWG
 BC PROJECT NUMBER
 144953
 SCALE
 AS SHOWN
 DRAWING NUMBER
000-G-002
 SHEET NUMBER
 3 OF 32

KEYNOTES:

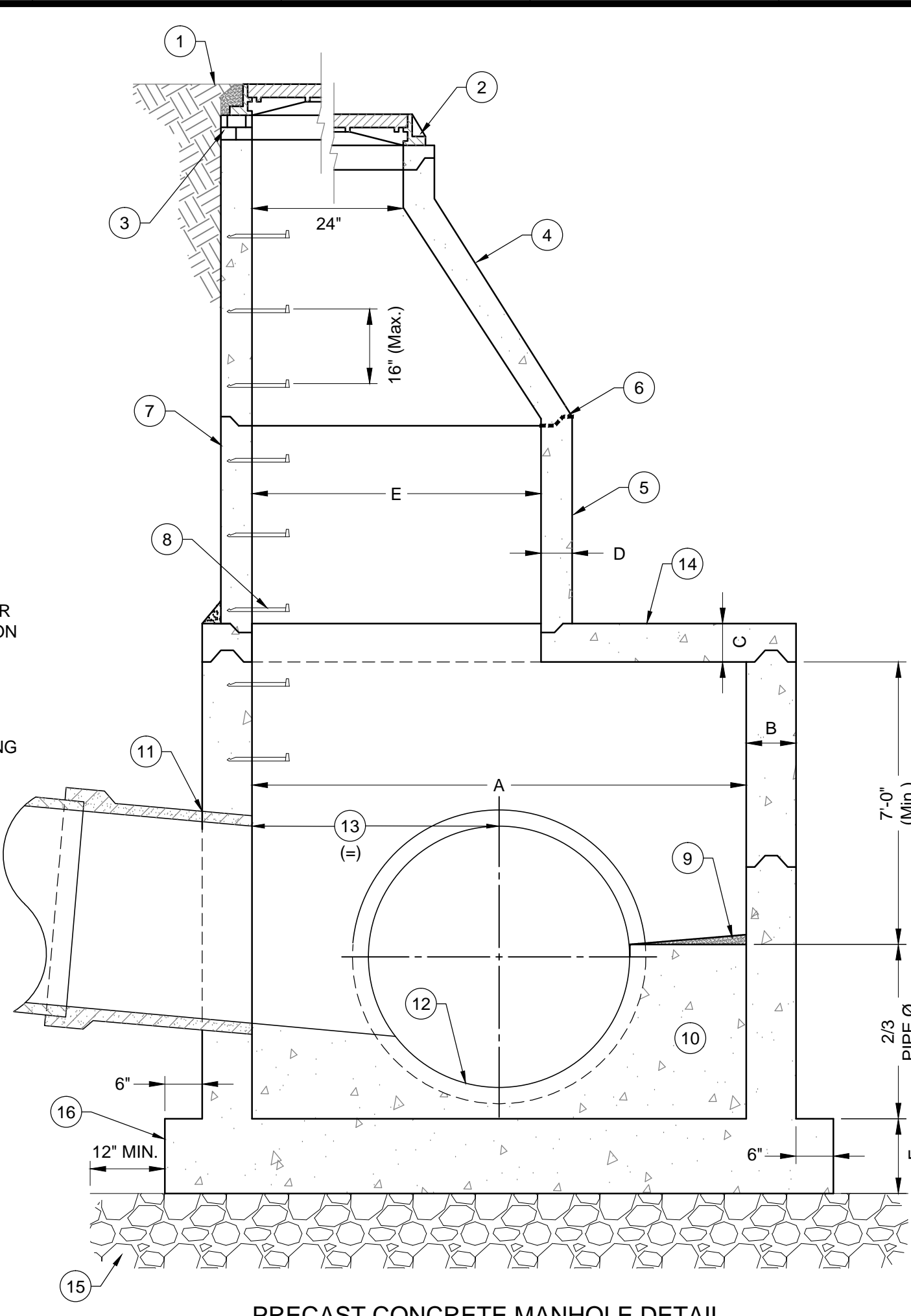
- 1 TOP AT GRADE: SET FRAME IN MORTAR
- 2 TOP ABOVE GRADE: FRAME ANCHORED TO CONE
- 3 BRICK & MORTAR GRADE ADJUSTMENT
- 4 ECCENTRIC CONE SECTION
- 5 PRECAST CONCRETE RISER SECTION(S)
- 6 CONCRETE SECTIONS SEALED WITH O-RING GASKETS OR FLEXIBLE BUTYL RUBBER SEALANT
- 7 REINFORCING CONFORMING TO ASTM C478
- 8 12" STEP (TYP)
- 9 MORTAR SHELF SLOPE 1" IN 12"
- 10 FORM GROUT CHANNEL TO 2/3 PIPE DIAMETER
- 11 FLEXIBLE PIPE CONNECTOR; KOR-N-SEAL OR APPROVED EQUAL (TYP. ALL PIPES)
- 12 CONSTRUCT BOTTOM OF SEWER WITH SAME RADIUS AS OUTLET SEWER
- 13 CROWN ELEVATIONS TO MATCH UNLESS OTHERWISE SHOWN
- 14 PRECAST CONCRETE REDUCING SLAB TO BE DESIGNED BY MANUFACTURER FOR DEPTH AND TRAFFIC CONDITIONS. REDUCING SLAB NOT APPLICABLE ON 60" MANHOLE BASES.
- 15 CRUSHED STONE (8" MINIMUM)
- 16 EXTENDED BASE, PER MANUFACTURERS RECOMMENDATION
- 17 THE FOLLOWING MANHOLES SHALL HAVE A FACTORY APPLIED EPOXY LINING SYSTEM:

400A-598	400A-602	400A-621	400A-623	400A-631
400A-632	400A-633	400A-636	400A-432	400A-666

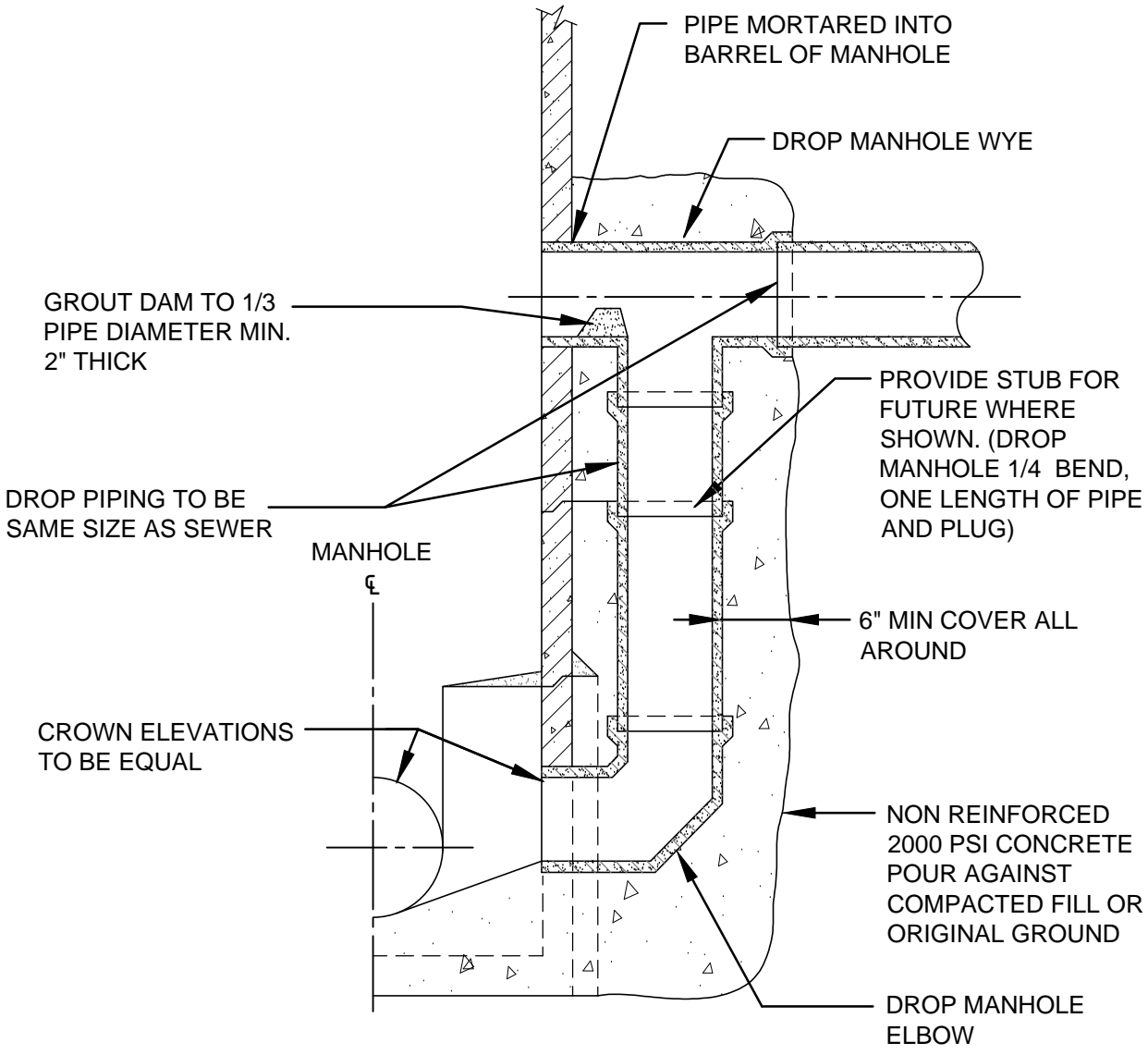
THE LINING SYSTEM SHALL BE SPECIFIED IN SECTION 02603, PARAGRAPH 2.05, OR APPROVED EQUAL RECOMMENDED BY THE PRECAST MANHOLE MANUFACTURER. LINING SYSTEM SHALL BE CAPABLE OF HAVING FEILD REPAIRS, IF NEEDED, FOLLOWING MANHOLE INSTALLATION.

PIPE ID (IN)	ANGLE °	A (IN)	B (IN)	C (IN)	D (IN)	E (IN)	F (IN)
24	0 - 90	60	6	N/A	6	60	8
30	0 - 60	60	6	N/A	6	60	8
30	60 - 90	72	7	7	5	48	8
36	0 - 90	72	7	7	5	48	8
42	0 - 60	84	8	12	5	48	8
42	60 - 90	96	9	12	5	48	8

* MH400A-602 SHALL BE A 96" DIAMETER MANHOLE AS INDICATED ON THE PLANS.



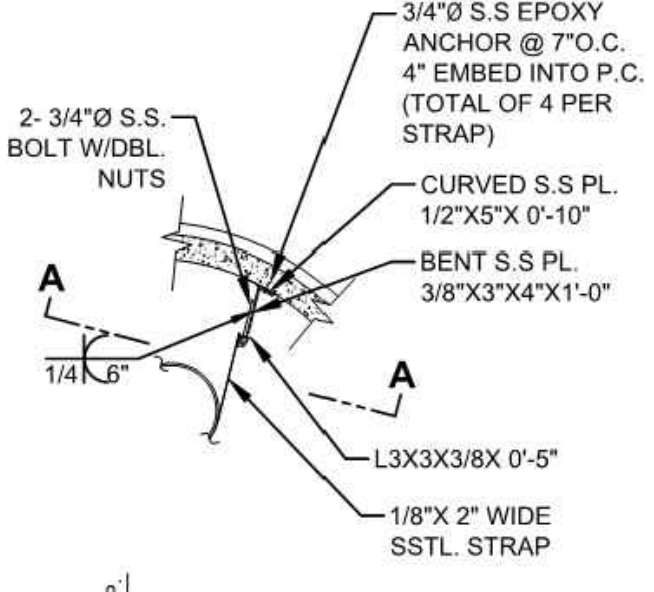
PRECAST CONCRETE MANHOLE DETAIL



DROP FOR MANHOLE

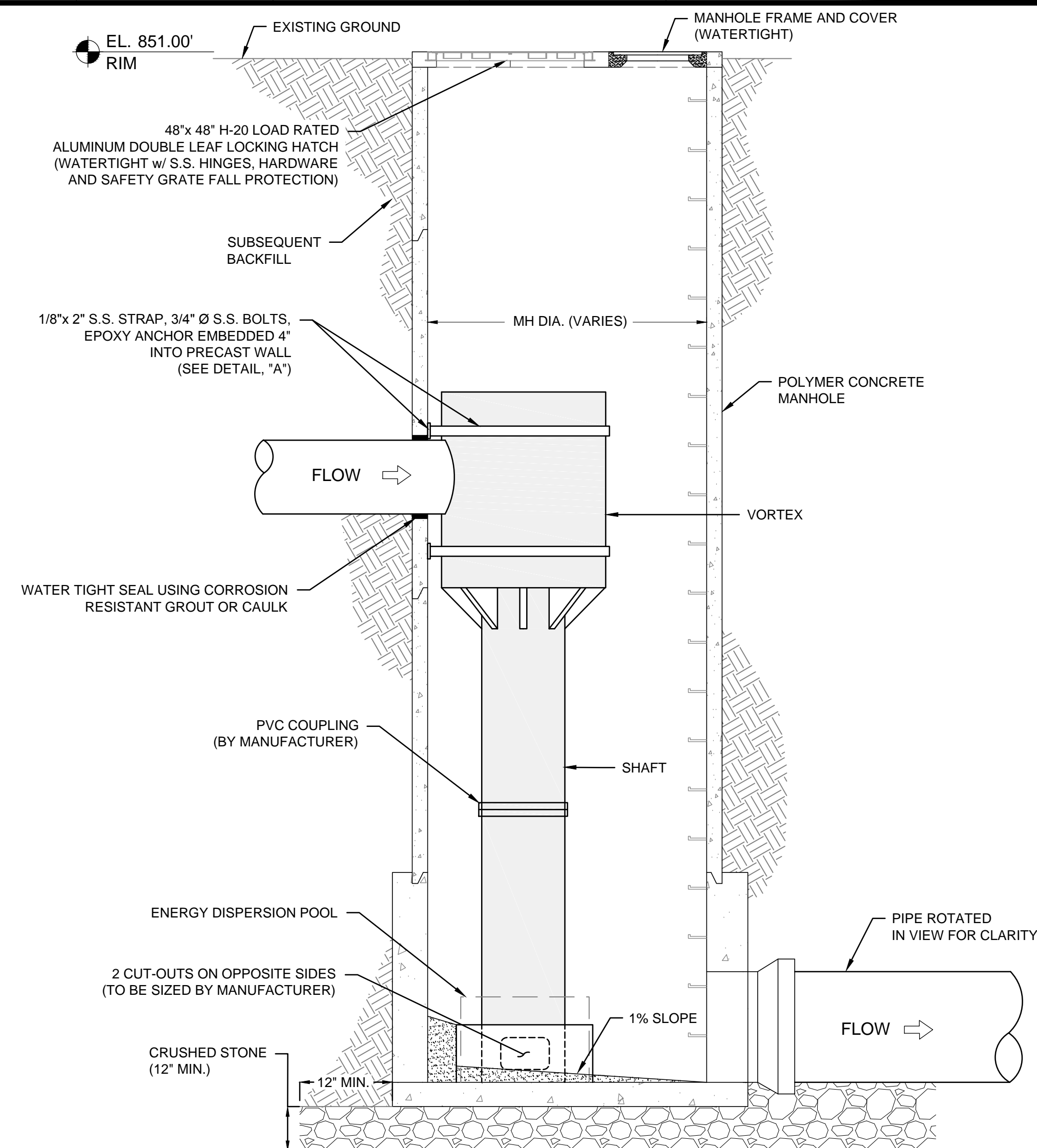
DETAIL 2 VARIES

SCALE: NONE



SECTION A-A

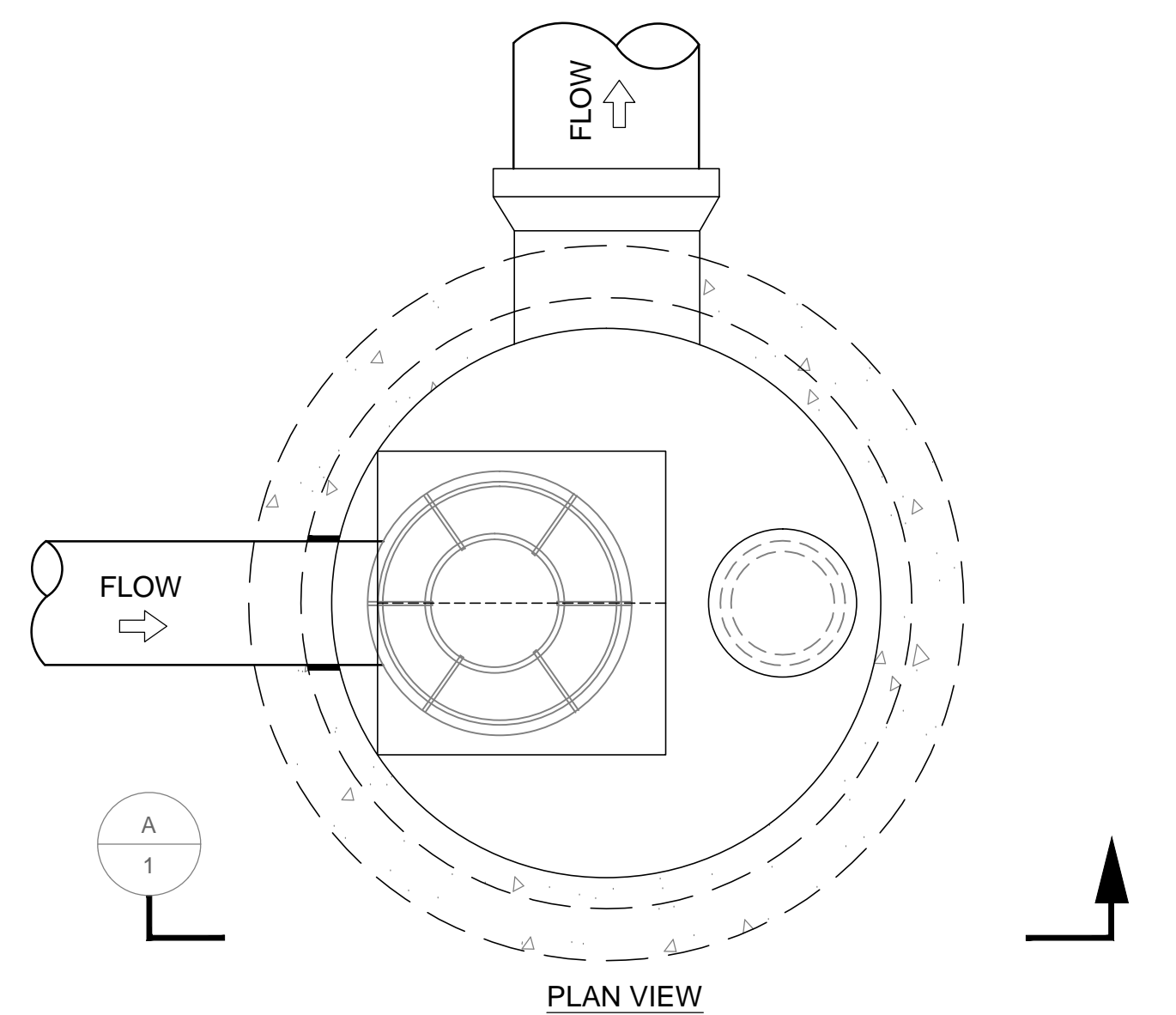
DETAIL "A" N.T.S.



SECTION A-1

NOTES:

1. THE ACID RESISTANT POLYMER MANHOLE DESIGN SHALL MEET OR EXCEED THE LOAD AND STRENGTH REQUIREMENTS OF CURRENT ASTM SPECIFICATION C-478 AND ASTM C-857.
2. ALL GROUT AND EPOXY SHALL BE CORROSION RESISTANT AND APPROVED BY THE ENGINEER UNLESS SPECIFICALLY INDICATED ON DRAWINGS TO BE CEMENTITIOUS.
3. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE A SUFFICIENT NUMBER OF EPOXY ANCHORS TO PROVIDE ADEQUATE SUPPORT FOR THE VORTEX INLET FLANGE, TO ENSURE THE CONNECTION IS RIGID, PER THE EQUIPMENT MANUFACTURER'S RECOMMENDATION. THIS SHALL BE COORDINATED BETWEEN THE MANHOLE VORTEX INSERT MANUFACTURER AND THE POLYMER CONCRETE MANHOLE.
4. SEE PLAN AND PROFILE SHEETS FOR PIPE INVERT AND MANHOLE RIM ELEVATIONS.

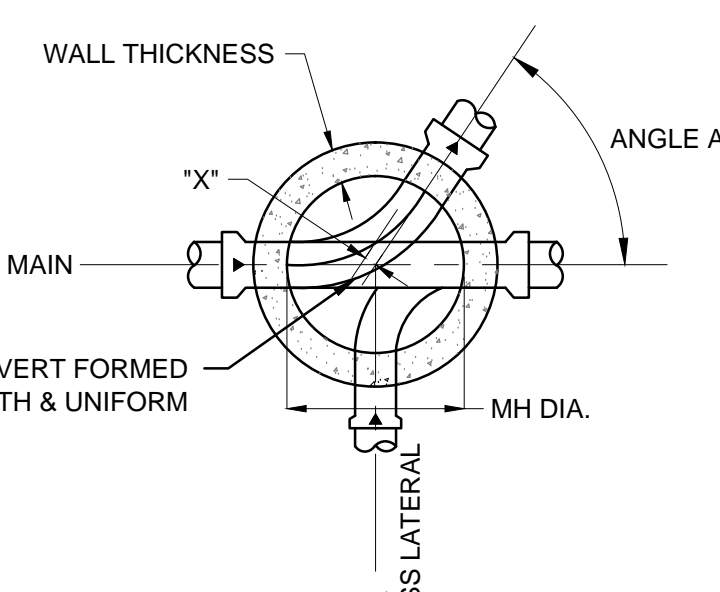


PLAN VIEW

PRECAST VORTEX MANHOLE DETAIL

DETAIL 3 VARIES

SCALE: NONE



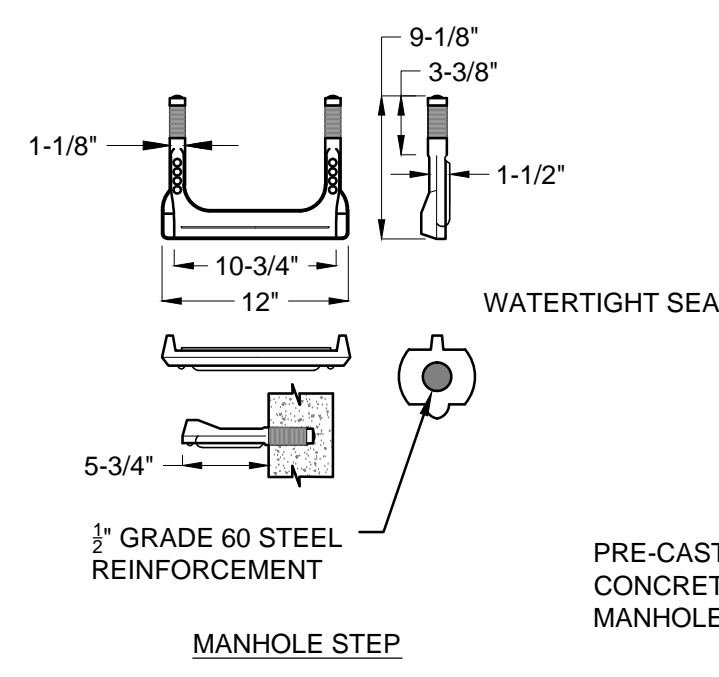
STANDARD MANHOLE SCHEDULE OF GOVERNING DIMENSIONS

PIPE SIZE (IN)	MANHOLE DIAMETER (FT)	ANGLE A (DEG)	"X" (IN)	WALL THICKNESS (IN)
8 - 15	4	0 - 90	0	5
18 - 21	4	0 - 60	6	5
18 - 21	5	60 - 90	6	5

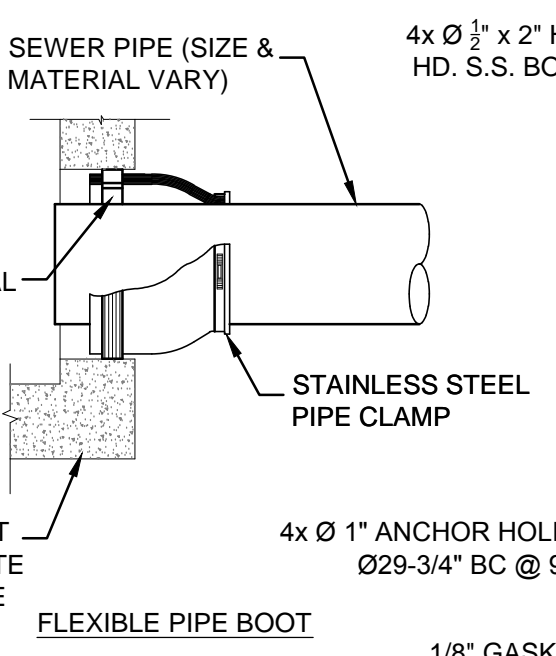
STANDARD MANHOLE DIMENSIONS

DETAIL 4 VARIES

SCALE: NONE



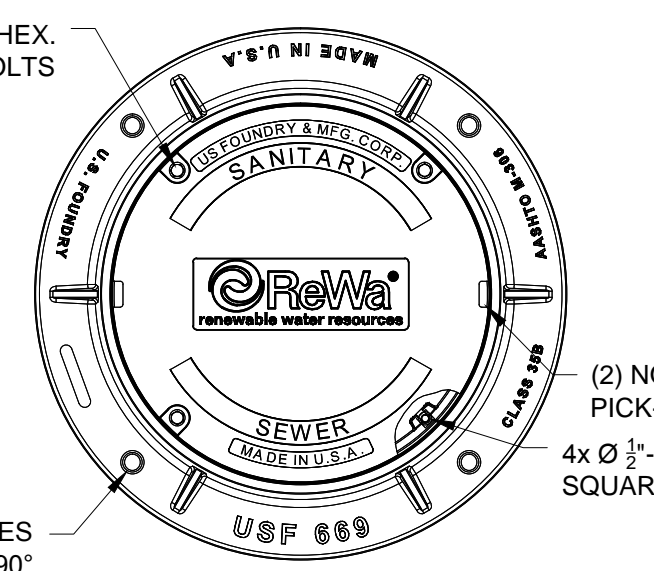
MANHOLE STEP



MISC. MANHOLE DETAILS

DETAIL 5 VARIES

SCALE: NONE



MANHOLE RING & COVER

NOTE: THE MANHOLES TO HAVE WATER TIGHT FRAME AND COVERS ARE INDICATED ON THE PLANS WITH THE ANNOTATION "WT" IN THE PROFILE VIEW.

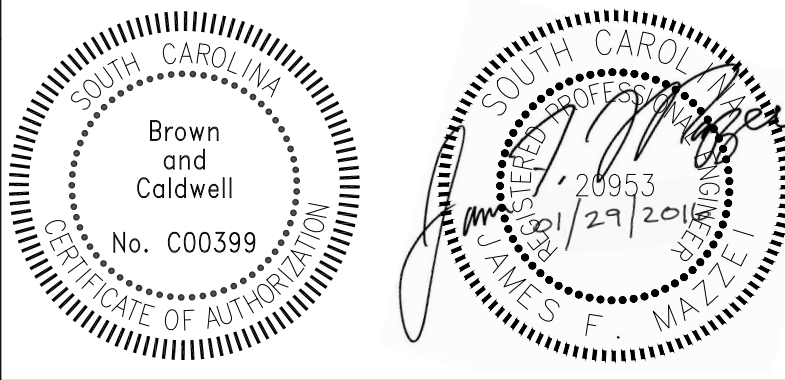
MANHOLE RING & COVER

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DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

EXTERNAL REFERENCES

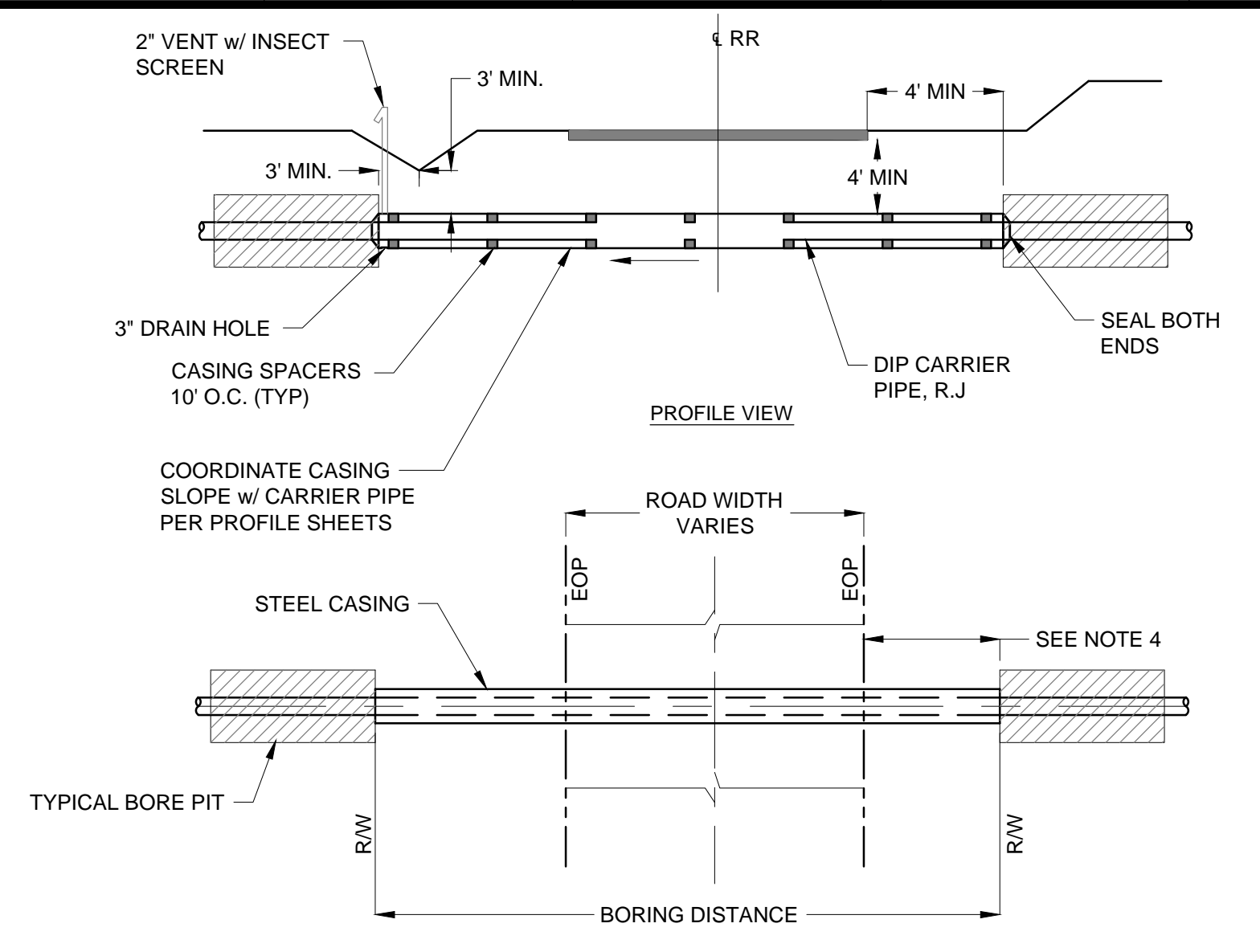


ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



CIVIL
RICHLAND CREEK TRUNK SEWER
 SANITARY SEWER DETAILS 1

FILENAME
 144953C-0001.DWG
 BC PROJECT NUMBER
 144953
 SCALE
 AS SHOWN
 DRAWING NUMBER
000-C-001
 SHEET NUMBER
 4 OF 32

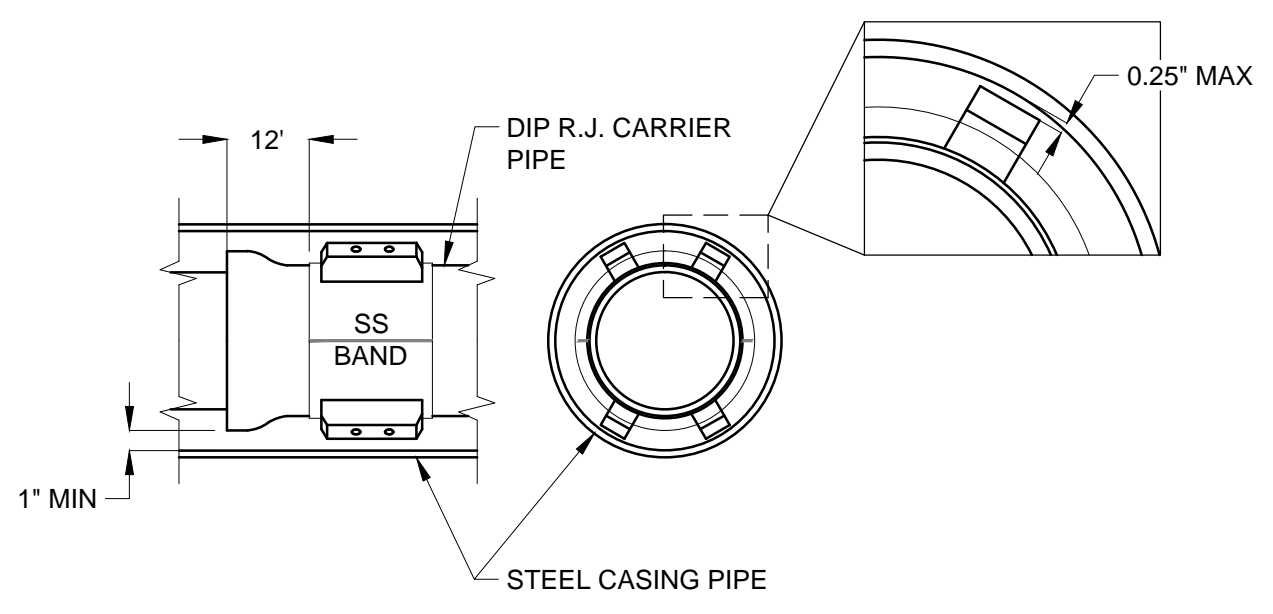


CARRIER PIPE DIAMETER (IN)	CASING PIPE DIAMETER (IN)	CASING PIPE WALL THICKNESS (IN)	
		UNDER HIGHWAYS	UNDER RAILROADS
24	36	0.563	0.688
30	42	0.657	0.657
36	48	0.688	0.688
42	54	0.781	0.781

- NOTES:
- CASING SPACERS SHALL BE MANUFACTURED BY CASCADE WATERWORKS MANUFACTURING COMPANY
 - DIP CARRIER PIPE SHALL BE RESTRAINED USING MFG DESIGNED RESTRAINED JOINTS (I.E. LOK-RING).
 - STEEL CASING PIPE SHALL MEET THE REQUIREMENTS OF ASTM A53/A53M, GRADE B, 35,000 PSI MINIMUM YIELD STRENGTH WITH FULL CIRCUMFERENCE WELDED JOINTS IN ACCORDANCE WITH AWS D1.1 TO WITHSTAND EXCAVATION FORCES.

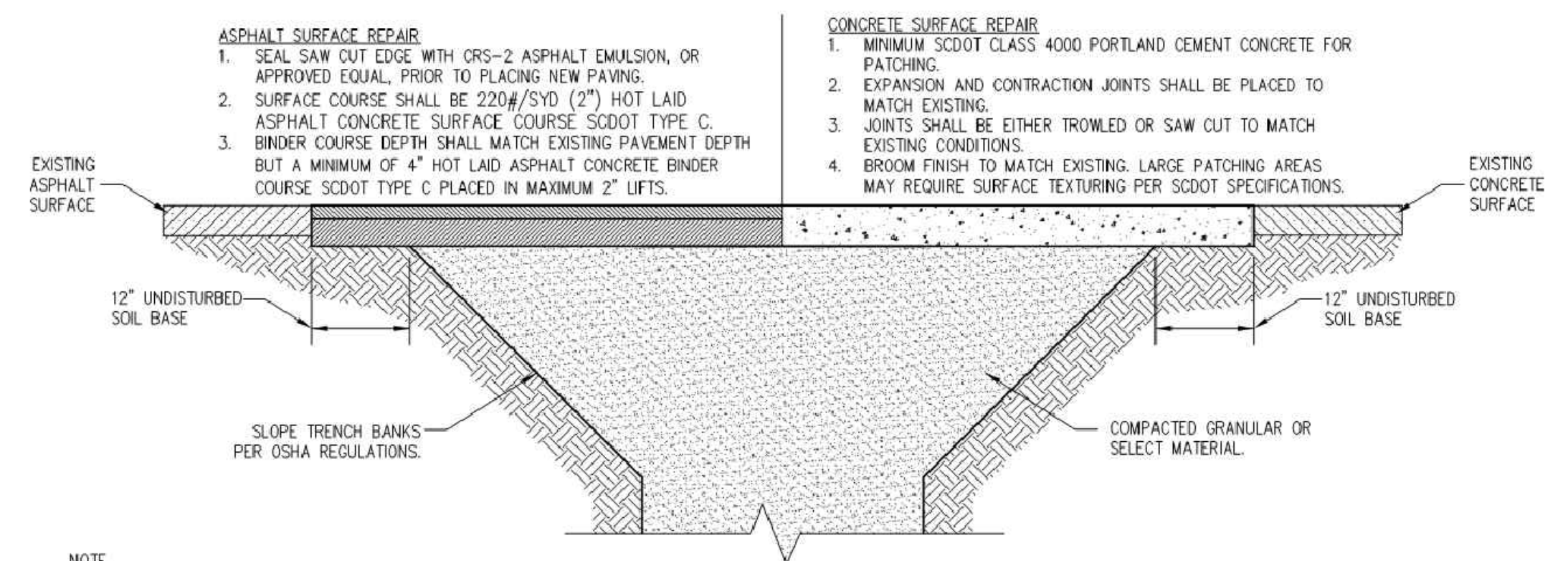
- NOTES:
- ALL PIPING WITHIN CASING AND 5' OUTSIDE CASING TO BE DIP, RESTRAINED JOINT.
 - CASING SPACERS TO BE INSTALLED A MINIMUM OF 12" FROM CARRIER PIPE BELL.
 - END SEALS TO BE APC MODEL AC OR APPROVED EQUAL.
 - THE FRONT OF THE PIPE SHALL BE PROVIDED WITH MECHANICAL ARRANGEMENTS OR DEVICES THAT WILL POSITIVELY PREVENT THE AUGER FROM LEADING THE PIPE SO THAT NO UNSUPPORTED EXCAVATION IS AHEAD OF THE PIPE.

TYPICAL BORE AND JACK



DETAIL 6 VARIES

SCALE: NONE

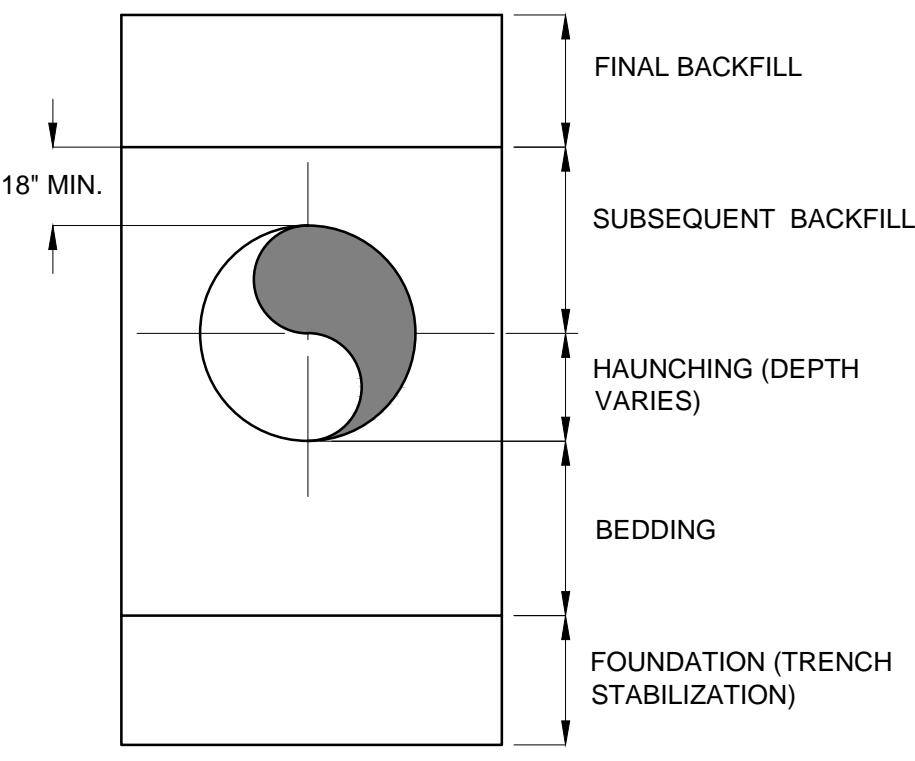


- NOTE:
- CONTRACTOR SHALL NOTIFY CITY OF GREENVILLE CONSTRUCTION INSPECTION BUREAU A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION ACTIVITIES.
 - AS REQUESTED, THE CONTRACTOR SHALL SUPPLY RELIABLE TESTING DATA CONFIRMING THE MINIMUM STANDARDS ARE MET. THE CITY MAY NOT ACCEPT WORK IF THE CONTRACTOR FAILS TO PRODUCE SUFFICIENT TESTING RESULTS.
 - TRENCHES SHALL BE PROOF-ROLLED IN THE PRESENCE OF THE CITY TO VERIFY COMPACTION PRIOR TO PLACING PAVEMENT.
 - ALL TRENCH WORK SHALL BE IN COMPLIANCE WITH THE LATEST EDITION OF OSHA PART 1926 SUBPART P APPENDIX B OF THE CODE OF FEDERAL REGULATIONS.
 - WITHIN THE R/W AND ALL TRAVELED SURFACES, BACKFILL MATERIAL SHALL BE CLEAN, SELECT MATERIAL PLACED IN 6" LIFTS & COMPACTED TO 95% STANDARD PROCTOR DENSITY PER ASTM D698. COMPACTION TESTING SHALL BE PERFORMED PER CITY OF GREENVILLE SPECIFICATIONS.
 - SELECT BACKFILL MATERIAL IS NATIVE SOIL EXCAVATED FROM THE TRENCH FREE OF ROCKS, FOREIGN MATERIAL, AND FROZEN EARTH. UNSUITABLE NATIVE SOIL SHALL NOT BE USED.
 - UNUSABLE SOIL SHALL BE REMOVED & BACKFILLED WITH APPROVED STONE AS DIRECTED BY THE CITY OF GREENVILLE CONSTRUCTION INSPECTION BUREAU.
 - ALL EDGES IN PAVED AREAS SHALL BE FULL DEPTH SAW CUT. ALL CUTS SHALL BE NEAT, CLEAN & STRAIGHT.
 - IF TOP WIDTH OF TRENCH(S) EXCEEDS 50% OF THE TOTAL ROAD WIDTH, FULL DEPTH REPLACEMENT OF THE ENTIRE ROADWAY SHALL BE REQUIRED FOR THE LENGTH OF THE TRENCH(S).
 - IF TOP WIDTH OF TRENCH(S) EXCEEDS 50% OF THE WIDTH OF ANY TRAVEL LANE, FULL DEPTH REPLACEMENT OF THE ENTIRE IMPACTED TRAVEL LANE SHALL BE REQUIRED.
 - IF DISTANCE BETWEEN EDGE OF PATCH & EXISTING EDGE OF PAVEMENT IS LESS THAN ONE FOOT, ROAD PATCH SHALL BE EXTENDED TO EDGE OF EXISTING PAVEMENT.
 - ALL PATCHES SHALL BE SMOOTH AND LEVEL (+/- 1/4") WITH EXISTING SURFACE.
 - CONCRETE SHALL BE A MINIMUM DESIGN OF SCOT (C4000). CONTRACTOR SHALL MAINTAIN STREET UNTIL CONCRETE HAS SUFFICIENT STRENGTH TO SUPPORT FINAL PAVING INSTALLATION. HIGH EARLY STRENGTH CONCRETE MAY BE USED.
 - TRAFFIC CONTROL SHALL BE PROVIDED PER THE LATEST EDITION OF THE MUTCD. SUBMITTAL AND APPROVAL OF A TRAFFIC CONTROL PLAN BY THE CONSTRUCTION INSPECTION BUREAU IS REQUIRED FOR STREETS WITH MORE THAN 400 VEHICLES PER DAY.
 - EXISTING PAVEMENT SECTION INCLUDES ALL PAVEMENT LAYERS FROM FINISH GRADE TO EXISTING SUBGRADE.
 - ALL WORK SHALL COMPLY WITH CITY OF GREENVILLE AND SCOT SPECIFICATIONS.

PAVEMENT REPAIR FOR UTILITY CUTS

DETAIL 7 VARIES

SCALE: NONE

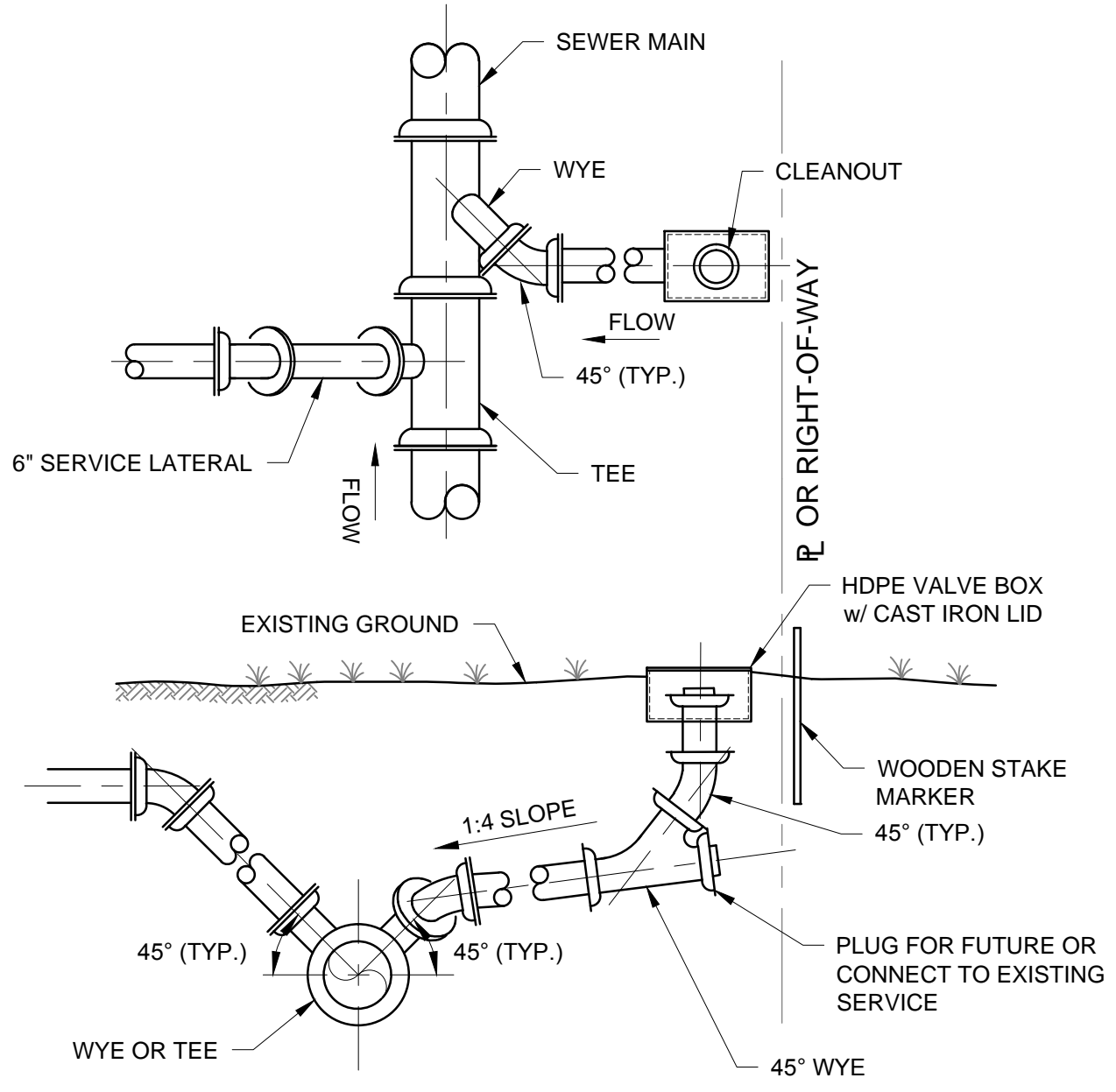


TRENCH TERMINOLOGY

NOTE: SEE SPECIFICATIONS AND PIPE BEDDING AND HAUNCHING DETAILS FOR DIMENSIONS AND MATERIALS

DETAIL 8 VARIES

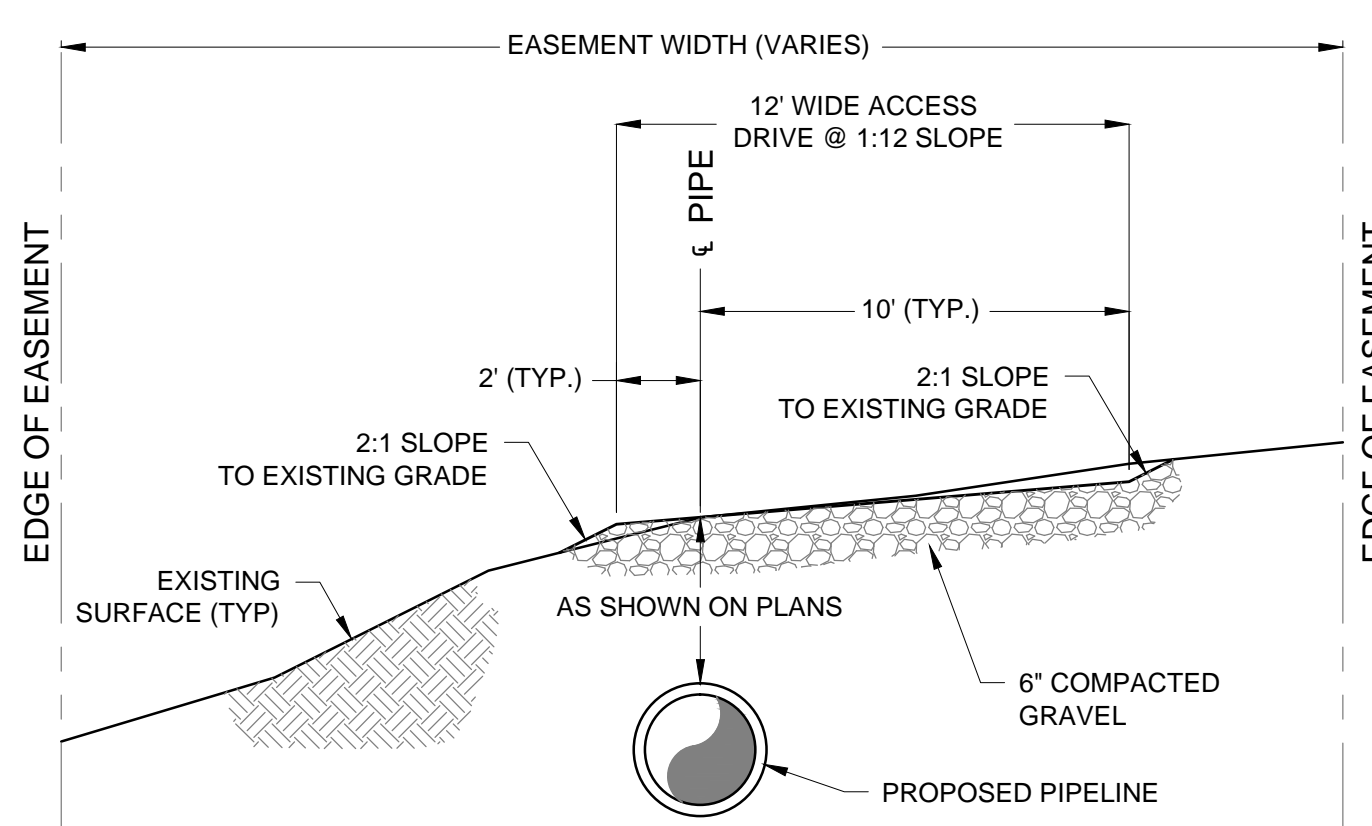
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SEWER SERVICE CONNECTION

DETAIL 9 VARIES

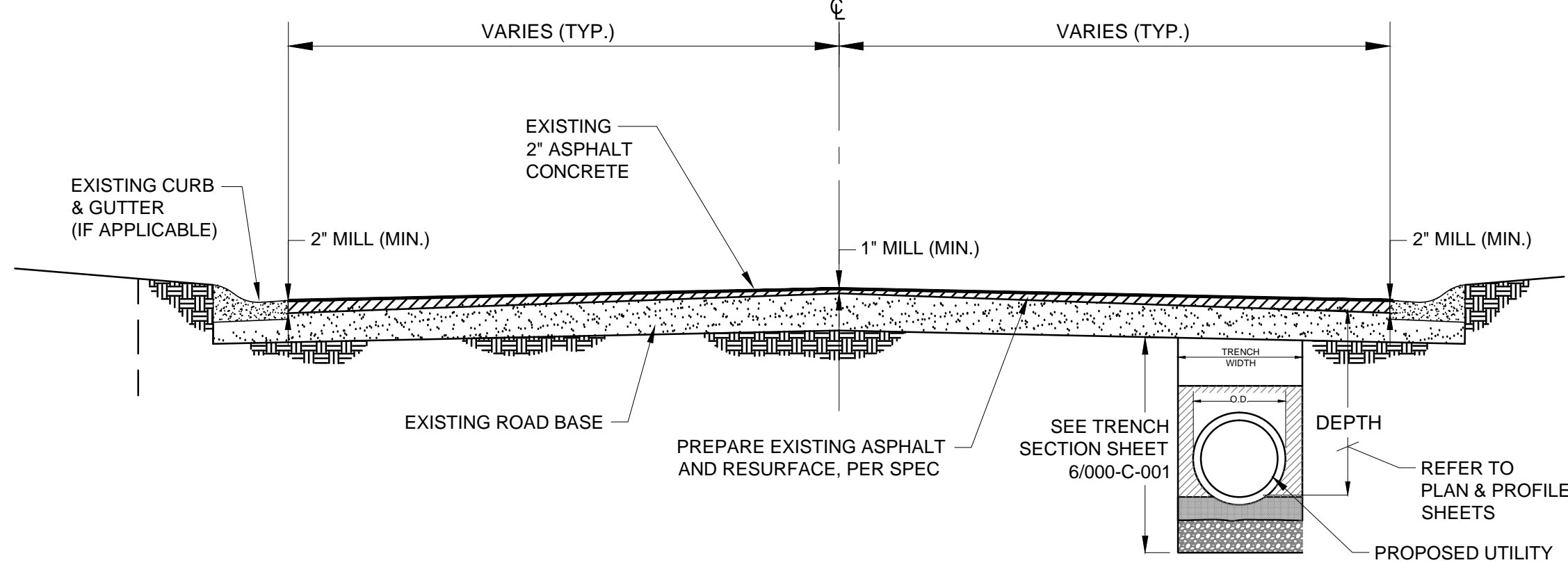
SCALE: NONE



TYPICAL BENCHING SECTION & ACCESS DRIVE

DETAIL 10 VARIES

SCALE: NONE



ROADWAY RESURFACING DETAIL

DETAIL 11 VARIES

SCALE: NONE

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 APPROVED: J. MAZZEI

EXTERNAL REFERENCES

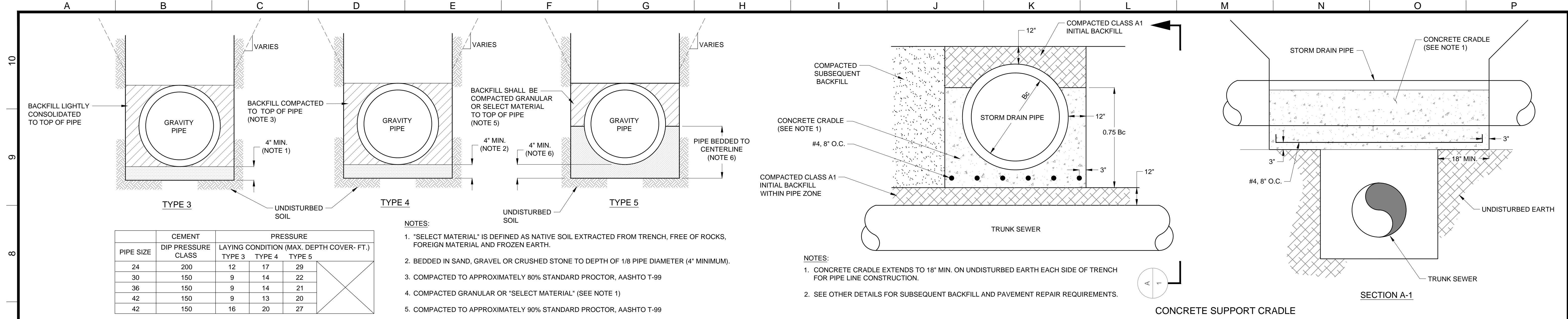


ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



CIVIL
 RICHLAND CREEK TRUNK SEWER
 SANITARY SEWER DETAILS 2

FILENAME: 144953C-0002.DWG
 BC PROJECT NUMBER: 144953
 SCALE: AS SHOWN
 DRAWING NUMBER: 000-C-002
 SHEET NUMBER: 5 OF 32



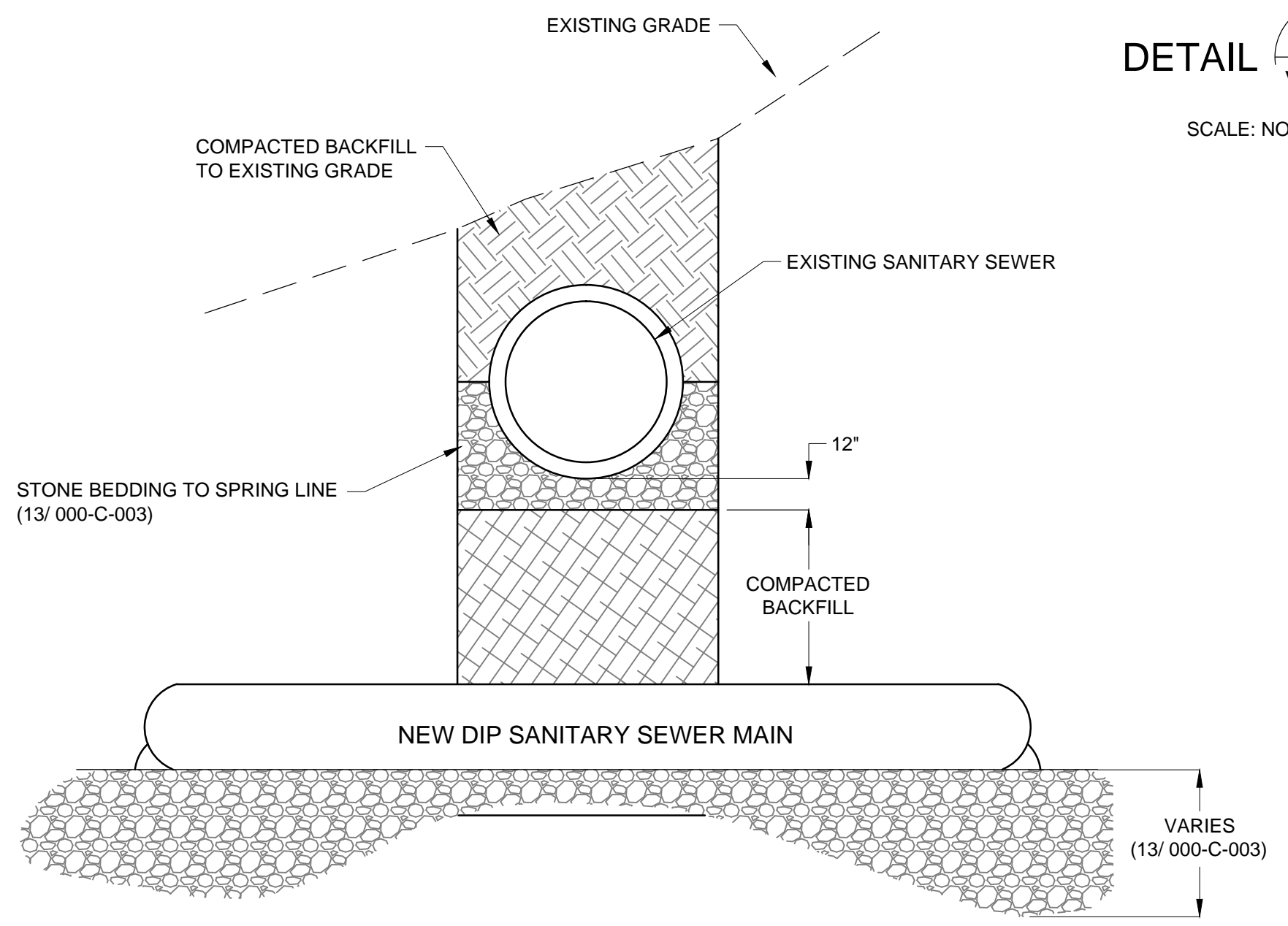
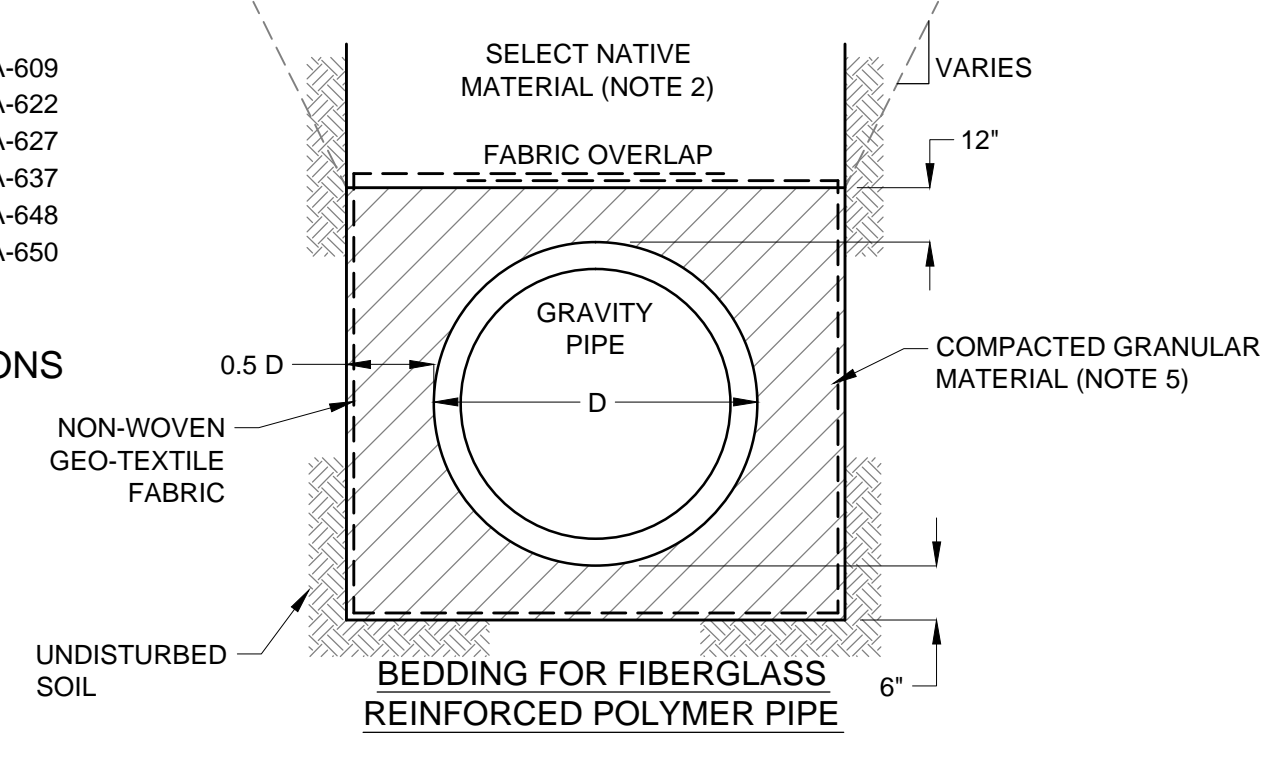
PIPE SIZE	CEMENT DIP PRESSURE CLASS	PRESSURE LAYING CONDITION (MAX. DEPTH COVER- FT.)		
		TYPE 3	TYPE 4	TYPE 5
24	200	12	17	29
30	150	9	14	22
36	150	9	14	21
42	150	9	13	20
42	150	16	20	27

PIPE SIZE	PROTECTO 401 DIP PRESSURE CLASS	GRAVITY LAYING CONDITION (MAX. DEPTH COVER- FT.)		
		TYPE 3	TYPE 4	TYPE 5
24	200	12	20	37
30	200	12	20	37
36	200	12	20	37
42	200	12	20	37
30	150	9	17	33
36	150	9	17	33
42	150	9	16	32

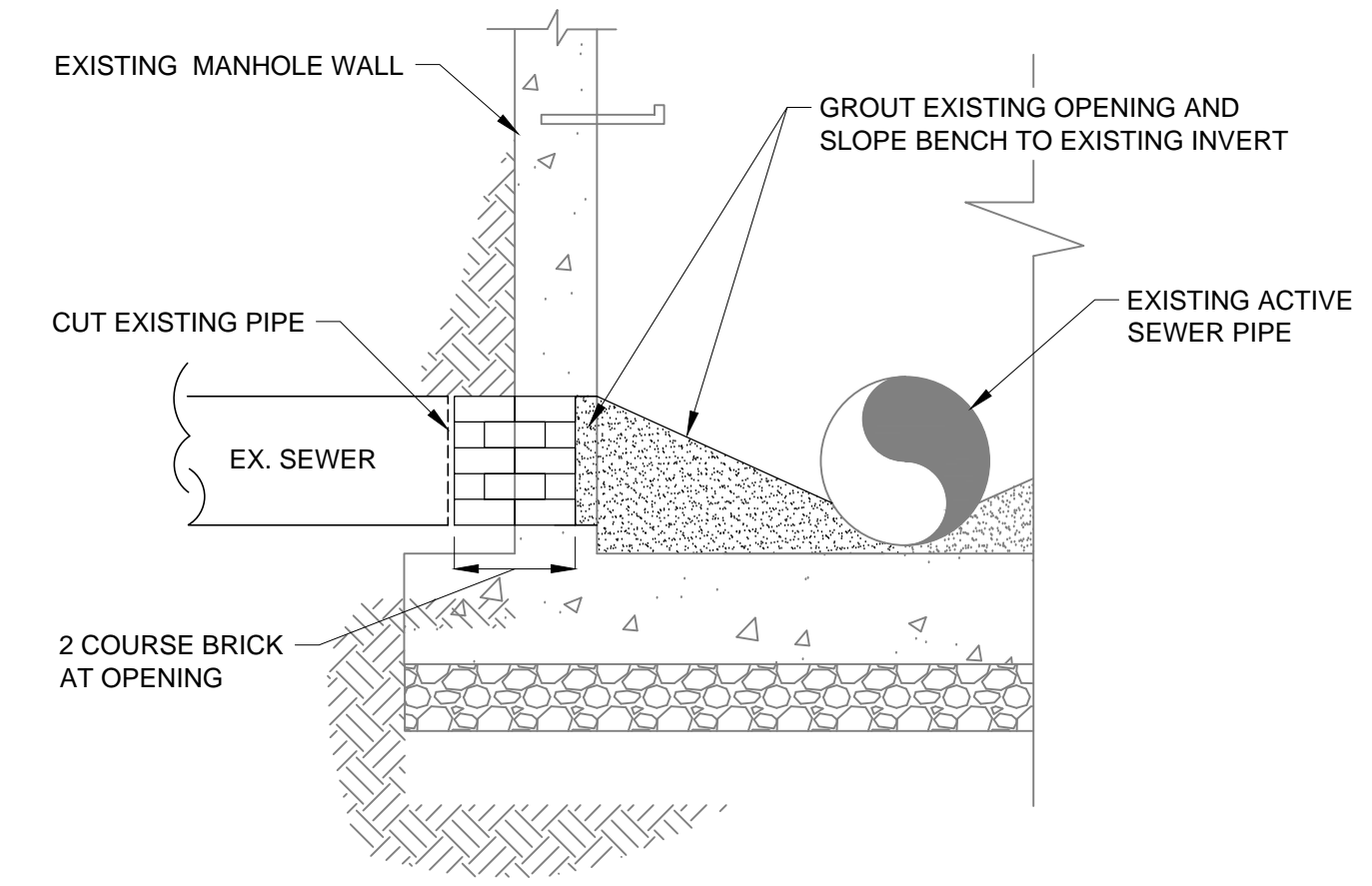
- NOTES:**
- "SELECT MATERIAL" IS DEFINED AS NATIVE SOIL EXTRACTED FROM TRENCH, FREE OF ROCKS, FOREIGN MATERIAL AND FROZEN EARTH.
 - BEDDED IN SAND, GRAVEL OR CRUSHED STONE TO DEPTH OF 1/8 PIPE DIAMETER (4" MINIMUM).
 - COMPACTED TO APPROXIMATELY 80% STANDARD PROCTOR, AASHTO T-99
 - COMPACTED GRANULAR OR "SELECT MATERIAL" (SEE NOTE 1)
 - COMPACTED TO APPROXIMATELY 90% STANDARD PROCTOR, AASHTO T-99
 - GRANULAR MATERIALS ARE DEFINED PER THE AASHTO SOIL CLASSIFICATION SYSTEM (D3282) OR THE UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D2487), WITH THE EXCEPTION THAT GRAVEL BEDDING/BACKFILL ADJACENT TO THE PIPE IS LIMITED TO 2" MAXIMUM PARTICLE SIZE PER ANSI/AWWAC600.
 - FIBERGLASS REINFORCED POLYMER PIPE HAS BEEN ACCEPTED AS AN APPROVED EQUAL WITH THE EXCEPTION OF THE FOLLOWING LINE SEGMENTS, WHERE THE PIPE MATERIAL SHOWN ON THE PLANS SHALL BE PROVIDED.
 - MH400A-596 to MH400A-597 MH400A-608 to MH400A-609
 - MH400A-620 to MH400A-621 MH400A-621 to MH400A-622
 - MH400A-623 to MH400A-624 MH400A-626 to MH400A-627
 - MH400A-633 to MH400A-634 MH400A-636 to MH400A-637
 - MH400A-643 to MH400A-644 MH400A-647 to MH400A-648
 - MH400A-648 to MH400A-649 MH400A-649 to MH400A-650

GRAVITY PIPE BEDDING CONDITIONS

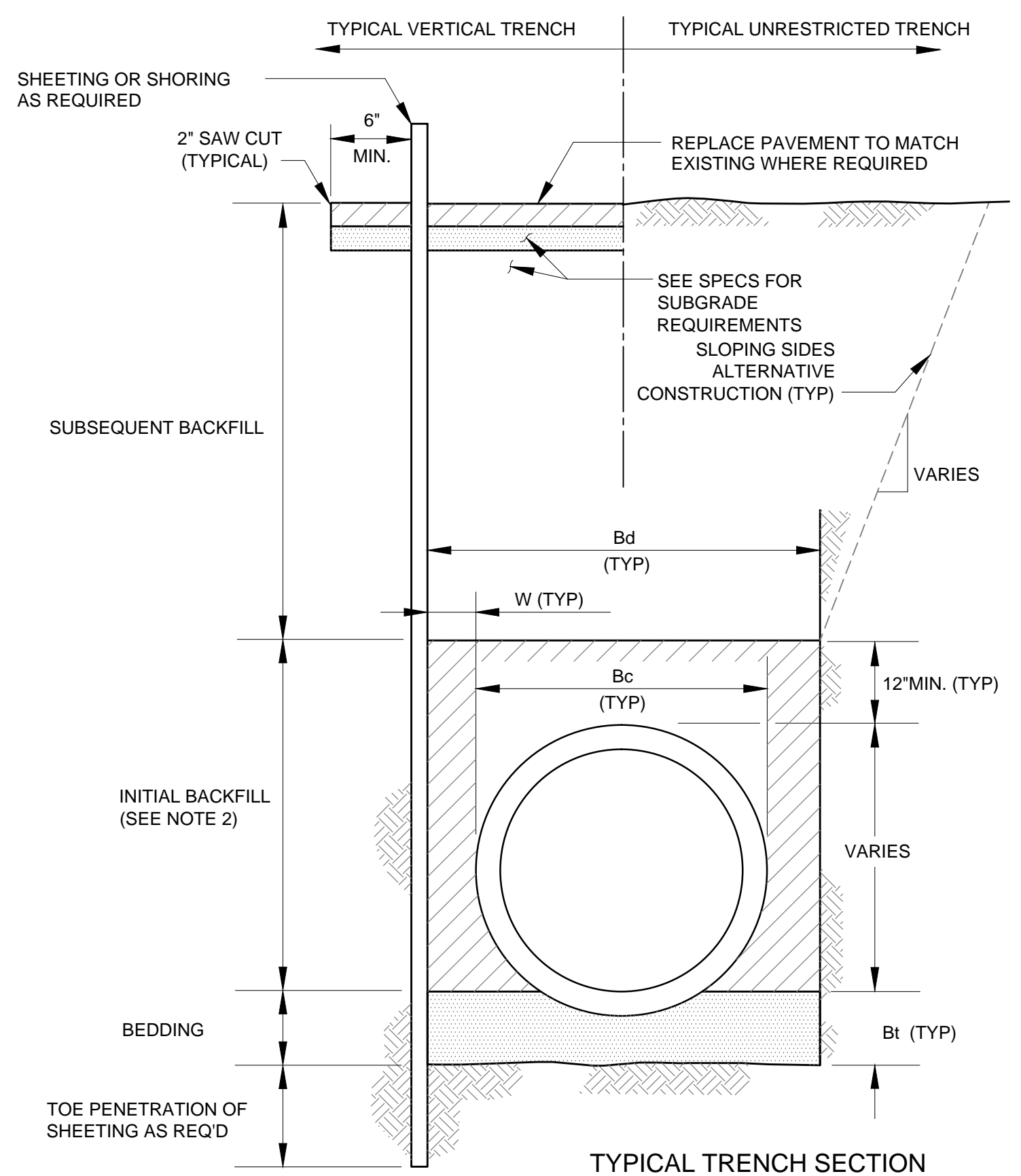
DETAIL 12
VARIES
SCALE: NONE



DETAIL 14
VARIES
SCALE: NONE



DETAIL 15
VARIES
SCALE: NONE



DETAIL 16
VARIES
SCALE: NONE

- NOTES:**
- FOR BEDDING TYPES SEE DETAIL 12/000-C-003
 - INITIAL & SUBSEQUENT BACKFILL: SEE TABLE A, SECTION 02200.

TYPICAL TRENCH LIMITATIONS:
 Bd = WIDTH FROM BOTTOM TO 12" ABOVE PIPE
 W = CLEARANCE TO WALL, EXCLUDING SHEETING, I.E. TO EARTH
 D = PIPE INSIDE DIAMETER, I.E. NOMINAL PIPE SIZE
 Bc = PIPE OUTSIDE DIAMETER
 Bt = DEPTH OF BEDDING FROM INVERT OF PIPE TO BOTTOM OF TRENCH

D, IN.	W MIN, IN.	Bd MAX, IN.	Bt MIN, IN.
0-6	6	B + 24	3
8-24	8	B + 24	6
27-60	12	B + 36	12
OVER 60	18	B + 42	12

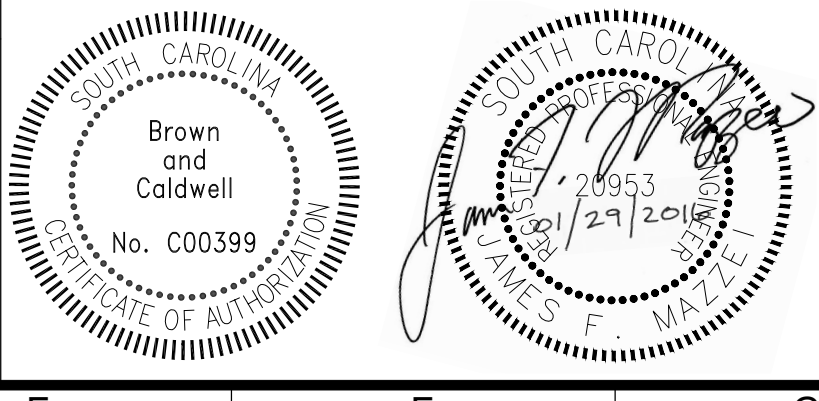
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 APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM

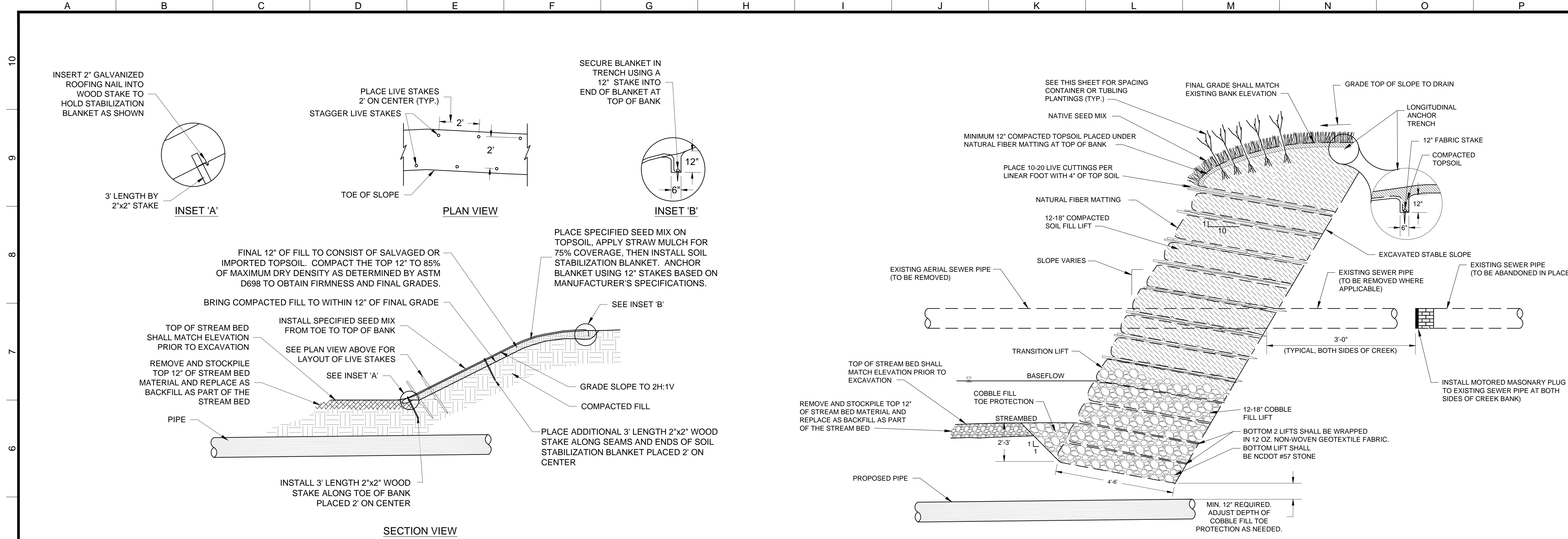


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	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



CIVIL
RICHLAND CREEK TRUNK SEWER
 SANITARY SEWER DETAILS 3

FILENAME	144953C-0003.DWG
BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	000-C-003
SHEET NUMBER	6 OF 32



SECTION VIEW

BANK STABILIZATION

DETAIL 22 VAR
SCALE: NONE

SECTION VIEW

VEGETATED SOIL LIFT & EXISTING AERIAL PIPE REMOVAL

DETAIL 23 VAR
SCALE: NONE

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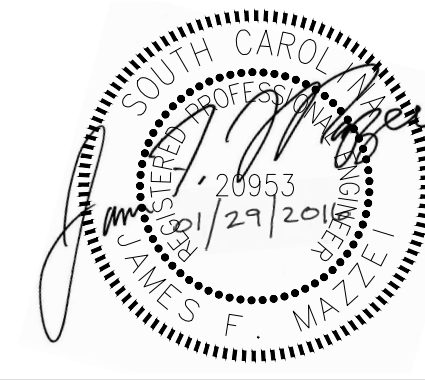
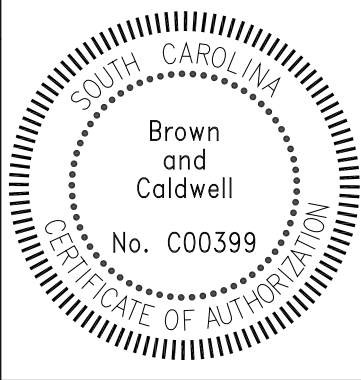


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SUBMITTED: _____ DATE: _____
 PROJECT MANAGER
 APPROVED: _____ DATE: _____
 BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
 DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: _____
 CHECKED: _____
 APPROVED: _____

EXTERNAL REFERENCES



REVISIONS					
ZONE	REV.	DESCRIPTION	BY	DATE	APP.



CIVIL
RICHLAND CREEK TRUNK SEWER
STREAM CROSSING DETAILS 2

FILENAME: 144953C-0005.DWG
 BC PROJECT NUMBER: 144953
 SCALE: AS SHOWN
 DRAWING NUMBER: 000-C-005
 SHEET NUMBER: 8 OF 32

SYMBOLS FOR EROSION AND SEDIMENT CONTROL PRACTICES

SITE PREPARATION

- SURFACE ROUGHENING
TOP SOILING
TREE PRESERVATION AND PROTECTION
TEMPORARY GRAVEL CONSTRUCTION ENTRY/EXIT
TEMPORARY STREAM CROSSING

SURFACE STABILIZATION

- TEMPORARY SEEDING
PERMANENT SEEDING
SODDING
RIP RAP
TEMPORARY DIVERSIONS
PERMANENT DIVERSIONS
EROSION CONTROL BLANKET (ECB) OR TURF REINFORCEMENT MATS (TRM)

NOTES:

- ABOVE SYMBOLS AND NUMBERS DENOTE EROSION AND SEDIMENT CONTROL PRACTICES PER THE SOUTH CAROLINA DHEC STORM WATER MANAGEMENT BMP HANDBOOK, LATEST REVISION. THESE DETAILS ARE INCORPORATED BY REFERENCE.
THE ABOVE LISTING IS GENERAL IN NATURE. SOME PRACTICES MAY NOT BE REQUIRED ON THIS CONTRACT AND SOME PRACTICES NOT SHOWN MAY BE REQUIRED.

CERTIFICATION

I CERTIFY BY MY SIGNATURE BELOW THAT: a) FOR SITES THAT DISTURB 10 OR MORE ACRES, I PARTICIPATED IN A PRE-CONSTRUCTION CONFERENCE ON-SITE OR, WHEN ALLOWED, OFF-SITE WITH THE INDIVIDUAL WHO IS RESPONSIBLE FOR THE OPERATIONAL CONTROL OF THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP); AND b) I ACCEPT THE TERMS AND CONDITIONS OF SWPPP AS REQUIRED BY THE GENERAL NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES PERMIT NUMBER SCR100000) ISSUED TO THE OWNER / OPERATOR OF THE CONSTRUCTION ACTIVITY FOR WHICH I HAVE BEEN CONTRACTED TO PERFORM CONSTRUCTION RELATED PROFESSIONAL SERVICES. FURTHER, BY MY SIGNATURE BELOW, I UNDERSTAND THAT I AM BECOMING A CO-PERMITTEE WITH THE OWNER / OPERATOR AND OTHER CONTRACTORS THAT HAVE BECOME CO-PERMITTEES TO THE GENERAL NPDES PERMIT ISSUED TO THE OWNER / OPERATOR OF THE FACILITY FOR WHICH I HAVE BEEN CONTRACTED TO PERFORM PROFESSIONAL CONSTRUCTION SERVICES. AS A CO-PERMITTEE, I UNDERSTAND THAT I, AND MY COMPANY, AS THE CASE MAY BE, AM LEGALLY ACCOUNTABLE TO THE SC DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (DHEC), UNDER THE AUTHORITIES OF THE CWA AND THE SC POLLUTION CONTROL ACT, TO ENSURE COMPLIANCE WITH THE TERMS AND CONDITIONS OF THE SWPPP. I ALSO UNDERSTAND THAT DHEC ENFORCEMENT ACTIONS MAY BE TAKEN AGAINST ANY SPECIFIC CO-PERMITTEE OR COMBINATION OF CO-PERMITTEES IF THE TERMS AND CONDITIONS OF THE SWPPP ARE NOT MET. THEREFORE, HAVING UNDERSTOOD THE ABOVE INFORMATION, I AM SIGNING THIS CERTIFICATION AND AM RECEIVING CO-PERMITTEE STATUS TO THE AFOREMENTIONED GENERAL NPDES PERMIT.

SIGNATURE & DATE

PRINTED NAME

COMPANY NAME

OUTLET PROTECTION



INLET PROTECTION

- TEMPORARY FABRIC DROP INLET PROTECTION
TEMPORARY BLOCK & GRAVEL INLET PROTECTION
SOD DROP INLET PROTECTION
TYPE A - FABRIC INLET PROTECTION
TYPE D - RIGID INLET FILTERS
TYPE E - SURFACE COURSE CURB INLET FILTER
TYPE F - INLET TUBE
TYPE A - SEDIMENT TUBE INLET PROTECTION



SEDIMENT AND EROSION CONTROL NOTES

- 1. THE CITY OF GREENVILLE CONSTRUCTION INSPECTION BUREAU SHALL BE NOTIFIED BY THE PERMIT HOLDER AT (864) 467-8890 A MINIMUM OF 72 HOURS PRIOR TO BEGINNING CONSTRUCTION. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES.
2. SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSTALLED AND FUNCTIONING PRIOR TO BEGINNING ANY PROJECT EARTH DISTURBING ACTIVITIES.
3. ALL SEDIMENT AND EROSION CONTROLS SHALL BE INSPECTED UNTIL CONSTRUCTION IS COMPLETE. THE SITE IS PERMANENTLY STABILIZED, AND THE NOTICE OF TERMINATION (NOT) IS FILED WITH SCDHEC.
4. 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 PERMANENTLY STABILIZED. ADDITIONAL CONTROL DEVICES MAY BE REQUIRED DURING CONSTRUCTION IN ORDER TO CONTROL EROSION AND/OR OFFSITE SEDIMENTATION. ALL TEMPORARY CONTROL DEVICES SHALL BE REMOVED ONCE CONSTRUCTION IS COMPLETE AND THE SITE IS PERMANENTLY STABILIZED.
5. ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE INSPECTED ONCE EVERY SEVEN (7) CALENDAR DAYS. DAMAGED, INEFFECTIVE, OR INCORRECTLY INSTALLED DEVICES SHALL BE REPAIRED OR REPLACED, AS NECESSARY, WITHIN 48 HOURS OF IDENTIFICATION.
6. ALL INSPECTION RECORDS SHALL BE DOCUMENTED IN WRITTEN FORM AND CATALOGUED IN A RECORD KEEPING BINDER FOR THE PROJECT (SWPPP BOOK). THE CITY MAY REQUIRE ELECTRONIC SUBMISSION OF WEEKLY INSPECTION RECORDS.
7. A RAIN GAUGE SHALL BE INSTALLED AT THE PROJECT AREA, AND CUMULATIVE PRECIPITATION DEPTH SHALL BE RECORDED WITH WEEKLY INSPECTION DOCUMENTATION. ALL RAINFALL EVENTS 0.5" AND GREATER, AS RECORDED ON-SITE OR BY A WEATHER STATION IN REASONABLE PROXIMITY TO THE PROJECT, SHALL ALSO BE DOCUMENTED WITH THE WEEKLY INSPECTION REPORTS.
8. ALL EROSION PREVENTION AND SEDIMENT CONTROL PLANS AND INSPECTION DOCUMENTATION (E.G., SWPPP BOOK, CERTIFICATION STATEMENTS, INSPECTION RECORDS, MAINTENANCE RECORDS, AND RAINFALL DATA) SHALL BE RETAINED AT THE CONSTRUCTION SITE OR, IF APPROVED BY THE CITY, AT A NEARBY LOCATION EASILY ACCESSIBLE DURING NORMAL BUSINESS HOURS, FROM THE DATE OF COMMENCEMENT OF CONSTRUCTION ACTIVITIES TO THE DATE THAT FINAL STABILIZATION IS REACHED. ALL PLANS AND DOCUMENTS SHALL BE UPDATED AS REQUIRED PER SC NPDES GENERAL PERMIT SCR1 00000.
9. IF EXISTING BMPS NEED TO BE MODIFIED OR IF ADDITIONAL BMPS ARE NECESSARY TO COMPLY WITH THE REQUIREMENTS OF THIS PERMIT AND/OR SC'S WATER QUALITY STANDARDS, IMPLEMENTATION MUST BE COMPLETED BEFORE THE NEXT STORM EVENT WHENEVER PRACTICABLE. IF IMPLEMENTATION BEFORE THE NEXT STORM EVENT IS IMPRACTICABLE, THE SITUATION MUST BE DOCUMENTED IN THE SWPPP AND ALTERNATIVE BMPS MUST BE IMPLEMENTED AS SOON AS REASONABLY POSSIBLE.
10. STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN FOURTEEN (14) DAYS AFTER WORK HAS CEASED, EXCEPT AS STATED BELOW:
A. WHERE STABILIZATION BY THE 14TH DAY IS PRECLUDED BY SNOW COVER OR FROZEN GROUND CONDITIONS STABILIZATION MEASURES MUST BE INITIATED AS SOON AS PRACTICABLE.
B. WHERE CONSTRUCTION ACTIVITY ON A PORTION OF THE SITE IS TEMPORARILY CEASED AND EARTH DISTURBING ACTIVITIES WILL BE RESUMED WITHIN 14 DAYS, TEMPORARY STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE.
11. THE SITE SHALL BE CONSIDERED PERMANENTLY STABILIZED WHEN ALL SURFACE DISTURBING ACTIVITIES ARE COMPLETE AND EITHER OF THE TWO FOLLOWING CRITERIA IS MET:
A. A UNIFORM (E.G., EVENLY DISTURBED, WITHOUT LARGE BARE AREAS) PERENNIAL VEGETATIVE COVER WITH A DENSITY OF 70% OF THE NATIVE BACKGROUND VEGETATIVE COVER FOR THE AREA HAS BEEN ESTABLISHED ON ALL UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, OR
B. EQUIVALENT PERMANENT STABILIZATION MEASURES (SUCH AS RIPRAP, GABIONS, OR GEOTEXTILES) HAVE BEEN EMPLOYED.
12. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED AND MAINTAINED ON THE PROJECT SITE. STORM WATER INLET PROTECTION SHALL BE PROVIDED FOR ALL INLETS (UPSTREAM AND DOWNSTREAM) WITHIN 50 FT. OF THE CONSTRUCTION ENTRANCE OR DISTURBANCE (ON BOTH SIDES OF THE PUBLIC ROADWAY).
13. ALL EXISTING AND NEW STORM WATER STRUCTURES, AFFECTED BY THIS PROJECT, SHALL BE INSPECTED AND MAINTAINED CLEAN OF ACCUMULATED DEMOLITION DEBRIS OR SEDIMENTS.
14. DISPOSAL OF ALL RECOVERED SEDIMENTS AND CONSTRUCTION DEBRIS SHALL BE IN ACCORDANCE WITH ALL APPLICABLE CITY, STATE AND FEDERAL REGULATIONS. NO SEDIMENT OR CONSTRUCTION DEBRIS SHALL BE FLUSHED DOWN THE STORM WATER SYSTEM.
15. DURING THE COURSE OF CONSTRUCTION ACTIVITIES, EROSION AND SEDIMENT CONTROLS SHALL BE USED TO PREVENT TRACKING OF MUD AND/OR SEDIMENT ACCUMULATION ON PUBLIC ROADWAYS (INCLUDING STREET GUTTERS), SEDIMENT LADEN RUNOFF FROM ENTERING INTO EXISTING STORM WATER SYSTEM INLETS OR DEPOSITING ON ADJACENT PROPERTIES, AND AIRBORNE DUST MIGRATION OFF-SITE. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT, BY SWEEPING OR VACUUMING, AS MAY BE REQUIRED.
16. TO SECURE THE PROJECT SITE, LOCATE LIMITS OF CONSTRUCTION, PROTECT AREAS THAT ARE TO REMAIN UNDISTURBED, AND PREVENT MIGRATION OF CONSTRUCTION DEBRIS, ORANGE CONSTRUCTION FENCING SHALL BE INSTALLED AROUND AREAS NOT REQUIRING SILT FENCING. ANY ACCUMULATION OF CONSTRUCTION DEBRIS ON PUBLIC ROADWAYS OR ADJACENT PROPERTIES SHALL BE REMOVED WITHIN 24 HOURS. CARE SHALL BE TAKEN WHEN INSTALLING CONSTRUCTION FENCING TO NOT OBSCURE ONCOMING TRAFFIC AT INTERSECTIONS, ADJACENT DRIVEWAYS AND THE PROJECT CONSTRUCTION ENTRANCE.

SEDIMENT AND EROSION CONTROL NOTES CONT'D

- 17. PROVIDE SILT FENCE AND/OR OTHER CONTROL DEVICES, AS MAY BE REQUIRED, TO CONTROL SOIL EROSION DURING UTILITY CONSTRUCTION. ALL DISTURBED AREAS SHALL BE CLEANED, GRADED, AND STABILIZED IMMEDIATELY AFTER THE UTILITY INSTALLATION.
18. SILT FENCE SHALL BE INSTALLED ALONG LINES OF EQUAL ELEVATION. SILT FENCING SHALL BE INSTALLED NO CLOSER THAN 5 FEET DOWNHILL FROM THE TOE OF ANY SLOPE.
19. ALL WATERS OF THE STATE (WOS), INCLUDING WETLANDS, ARE TO BE FLAGGED OR OTHERWISE CLEARLY MARKED IN THE FIELD. ALL WOS SHALL BE CLEARLY DELINEATED ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS.
20. PROJECT SETBACK BUFFERS SHALL BE LOCATED A MINIMUM OF 30 FT. MEASURED FROM THE TOP OF STREAM BANK OR EDGE OF WETLAND, UNLESS OTHERWISE APPROVED BY THE CITY ENGINEER. ALL SETBACKS SHALL BE CLEARLY DELINEATED ON THE EROSION PREVENTION AND SEDIMENT CONTROL PLANS.
21. A SINGLE ROW OF SILT FENCING SHALL BE INSTALLED ALONG ALL SETBACK BUFFERS THAT MEET THE MINIMUM REQUIREMENTS.
22. A DOUBLE ROW OF SILT FENCING SHALL BE INSTALLED IN ALL AREAS WHERE A MINIMUM SETBACK BUFFER CANNOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND THE WATER BODY OR WETLAND. DOUBLE ROW OF SILT FENCING SHALL BE PLACED NO CLOSER THAN 5 FT. DOWNHILL FROM THE TOE OF ANY FILL AREA AND A MINIMUM OF 5 FT. SPACING SHALL BE MAINTAINED BETWEEN SILT FENCE ROWS. A MINIMUM 5 FT. BUFFER SHOULD BE MAINTAINED BETWEEN THE LAST ROW OF SILT FENCE AND ALL WATER BODIES AND WETLANDS.
23. STOCKPILES OF USEABLE OR WASTE MATERIALS SHALL BE SURROUNDED BY A ROW OF SILT FENCE AT ALL TIMES. STOCKPILES THAT ARE UNDISTURBED FOR MORE THAN FOURTEEN (14) DAYS SHALL HAVE APPROPRIATE STABILIZATION MEASURES INSTALLED. STOCKPILES SHALL BE PLACED A MINIMUM OF 50 FEET AWAY FROM STORMWATER FLOWS, STORMWATER INLET STRUCTURES, DRAINAGE COURSES, ADJACENT PROPERTY AND PUBLIC ROADWAYS.
24. LITTER, CONSTRUCTION DEBRIS, OILS, FUELS, BUILDING PRODUCTS WITH SIGNIFICANT POTENTIAL FOR IMPACT (SUCH AS STOCKPILES OF FRESHLY TREATED LUMBER), AND CONSTRUCTION CHEMICALS THAT COULD BE EXPOSED TO STORM WATER MUST BE PREVENTED FROM BECOMING A POLLUTANT SOURCE IN STORMWATER DISCHARGES.
25. TEMPORARY DIVERSION BERMS, DITCHES, OR SLOPE DRAINS SHALL BE PROVIDED FOR ALL SLOPES 3:1 OR STEEPER AND AS OTHERWISE NEEDED DURING CONSTRUCTION TO PROTECT AREAS FROM UPSLOPE RUNOFF AND/OR TO DIVERT SEDIMENT LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS.
26. SLOPES 3:1 OR STEEPER AND/OR EXCEEDING EIGHT (8) VERTICAL FEET SHALL BE STABILIZED WITH STAKED IN PLACE SOD OR SYNTHETIC/VEGETATIVE MATS IN ADDITION TO HYDRO SEEDING AS SOON AS PRACTICAL BUT NO MORE THAN 7 CALENDAR DAYS AFTER LAND DISTURBING ACTIVITIES ON THE SLOPE HAVE PERMANENTLY OR TEMPORARILY CEASED.
27. CAT TRACK OR SURFACE ROUGHENING IS REQUIRED FOR ALL SLOPES 3:1 OR STEEPER PRIOR TO SEEDING AND LYING OF SYNTHETIC OR VEGETATIVE MATS. CAT TRACKING OR SURFACE ROUGHENING SHALL PRODUCE A SURFACE WITH FURROWS RUNNING CROSS SLOPE, PARALLEL WITH SLOPE CONTOURS, AND PERPENDICULAR TO SURFACE RUNOFF.
28. PORTABLE TOILET FACILITIES SHALL NOT BE LOCATED WITHIN 20 FEET OF ANY STORM WATER STRUCTURE AND/OR 50 FEET OF ANY WATER COURSE, WETLAND AREA, STREAM, FLOODPLAIN, OR LAKE.
29. THE FOLLOWING DISCHARGES ARE PROHIBITED:
A. WASTEWATER FROM WASHOUT OF CONCRETE, UNLESS MANAGED BY AN APPROPRIATE CONTROL
B. WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS
C. FUELS, OILS, OR OTHER POLLUTANTS USED IN VEHICLE AND EQUIPMENT OPERATION AND MAINTENANCE
D. SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING DURING CONSTRUCTION.
30. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM EQUIPMENT AND VEHICLE WASHING, WHEEL WASH WATER, AND OTHER WASH WATERS. WASH WATERS MUST BE TREATED IN A SEDIMENT BASIN OR ALTERNATIVE CONTROL THAT PROVIDES EQUIVALENT TREATMENT PRIOR TO DISCHARGE.
31. MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING OF TRENCHES AND EXCAVATED AREAS. THESE DISCHARGES ARE TO BE ROUTED THROUGH APPROPRIATE BMPS (SEDIMENT BASIN, FILTER BAG, ETC.).
32. RESIDENTIAL SUBDIVISIONS REQUIRE EROSION CONTROL FEATURES FOR INFRASTRUCTURE AS WELL AS FOR INDIVIDUAL LOT CONSTRUCTION. INDIVIDUAL PROPERTY OWNERS SHALL FOLLOW THESE PLANS DURING CONSTRUCTION OR PROVIDE AN INDIVIDUAL PLAN IN ACCORDANCE WITH S.C. REG. 72-300 ET SEQ. AND SCR100000.
33. PROPERLY SIGNED AND SEALED AS-BUILT DRAWINGS OF THE STORMWATER PLAN AND A SIGNED AND SEALED DETENTION BASIN AS-BUILT SHALL BE SUBMITTED TO THE CITY WITHIN 30 DAYS OF PERMANENT STABILIZATION AND PRIOR TO ISSUANCE OF PROJECT ACCEPTANCE BY THE CITY.

CONSTRUCTION SEQUENCE AND MAINTENANCE PLAN

- 1. NO GROUND DISTURBING ACTIVITIES MAY BE PERFORMED ON THE SITE WITHOUT AN APPROVED SEDIMENT AND EROSION CONTROL PLAN.
2. ONE WEEK PRIOR TO STARTING CONSTRUCTION, THE CONTRACTOR SHALL CONTACT THE SWPPP PREPARER TO SCHEDULE A PRE-CONSTRUCTION CONFERENCE WITH THE CITY OF GREENVILLE CONSTRUCTION INSPECTION BUREAU. THE PURPOSE OF THIS MEETING WILL BE TO REVIEW THE REQUIREMENTS OF THE SEDIMENT AND EROSION CONTROL PLAN.
3. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED PRIOR TO ANY CLEARING, EXCAVATION, OR FILLING, EXCEPT THOSE OPERATIONS NEEDED TO INSTALL SUCH MEASURES.
4. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AND MAINTAINED ACCORDING TO THE "STORM WATER MANAGEMENT BMP HANDBOOK," PUBLISHED BY THE SOUTH CAROLINA DHEC, PUBLISHED JULY 2005 AND AS OUTLINED IN THE SWPPP.
5. EROSION CONTROL MEASURES SHALL BE MAINTAINED AT ALL TIMES. ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED AT NO ADDITIONAL COST TO THE OWNER IF DEEMED NECESSARY BY THE ENGINEER OR CITY OF GREENVILLE INSPECTOR.
6. GRASSING FOR DISTURBED AREA STABILIZATION WILL BE PERFORMED AS NOTED IN THE "STORM WATER MANAGEMENT BMP HANDBOOK," PUBLISHED BY THE SOUTH CAROLINA DHEC. GRASSING FOR TEMPORARY AND PERMANENT SEEDING SHALL BE AS SPECIFIED ACCORDING TO PAGES 8-10 AND 25-27 RESPECTIVELY OF THE ABOVE REFERENCED MANUAL, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
7. ALL TEMPORARY AND PERMANENT DIVERSIONS SHALL BE SEEDED, FERTILIZED AND LINED WITH FIBER FABRIC IMMEDIATELY UPON COMPLETION OF THE CHANNEL. WITH THE EXCEPTION OF TEMPORARY AND PERMANENT DIVERSIONS, ALL DISTURBED AREAS EXPOSED FOR MORE THAN 30 DAYS SHALL BE SEEDED AND MULCHED.
8. ALL EROSION CONTROL MEASURES SHALL BE INSPECTED AT THE INTERVAL SPECIFIED IN THE SOIL EROSION AND SEDIMENTATION CONTROL NOTES AND AS OUTLINED IN THE SWPPP. ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY TO MAINTAIN PROPER FUNCTION OF ALL MEASURES.
9. SEDIMENT SHALL BE REMOVED FROM SEDIMENT TRAPS AND BLOCK AND GRAVEL INLET PROTECTION DEVICES WHEN STORAGE CAPACITY HAS REACHED 50%. GRAVEL SHALL BE REPLACED WHEN THE DEVICE NO LONGER DRAINS PROPERLY.
10. SEDIMENT WILL BE REMOVED FROM BEHIND THE SILT FENCE ONCE IT HAS ACCUMULATED TO A DEPTH OF 0.5 FT AT THE FENCE. SILT FENCE SHALL BE REPAIRED OR REPLACED AS NECESSARY TO MAINTAIN A BARRIER.
11. TEMPORARY AND FINAL SEEDING SHALL BE APPLIED, RE-APPLIED AS NECESSARY, CONTROL DEVISED, ANY RESULTING EXPOSED AREAS SHALL BE STABILIZED.
12. AFTER EARTH DISTURBING ACTIVITIES HAVE CEASED AND ALL EXPOSED SOIL HAS BEEN STABILIZED WITH A VEGETATIVE COVER, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES MAY BE REMOVED. FOLLOWING REMOVAL OF THE TEMPORARY EROSION CONTROL DEVICES, ANY RESULTING EXPOSED AREAS SHALL BE STABILIZED.
13. SEE SECTION 02270 FOR ADDITIONAL EROSION AND SEDIMENT CONTROL SPECIFICATIONS.

SEEDING SCHEDULE

SEEDING SCHEDULE FOR AREAS IN THE UPPER STATE OF SOUTH CAROLINA

Table with 2 columns: PERMANENT VEGETATION SCHEDULE (PER ACRE) and TEMPORARY VEGETATION SCHEDULE (PER ACRE). Rows include species and quantities for different dates.

IF HYDROSEEDING USE 13 LBS. PER 1000 SQ. FT. OF LOW SALT FORMULATION OF 19-19-19 INSTEAD 10-10-10 TO GIVE LONG TERM FERTILIZATION BENEFITS.

LIQUID LIME IS NOT A SUBSTITUTE FOR AGRICULTURAL LIME. A FEW GALLONS OF LIQUID LIME RAISES SOIL pH ONE POINT, BUT THIS EFFECT IS VERY TEMPORARY. USUALLY 45-50 WEEKS. LIQUID LIME MAY BE USED WITH AGRICULTURAL LIME TO GIVE QUICK RESULTS TOGETHER WITH THE LONG TERM BENEFITS OF AGRICULTURAL LIME.

GRAIN STRAW MULCH IS THE MOST IMPORTANT INGREDIENT IN THESE SEEDING RECOMMENDATIONS AND IS 90% OF THE REASON FOR SUCCESS. PAPER AND OTHER SYNTHETIC MULCHES MAY BE SUBSTITUTED FOR GRAIN STRAW WHEN A HYDROSEEDER IS USED, BUT NOT ON STEEP AREAS. AREAS WITH CONCENTRATED WATER RUNOFF, OR ON DEEP SANDY SOILS, (ALL SLOPES STEEPER THAN 2:1 MUST BE HYDROSEEDED AND MULCHED WITH GRAIN STRAW USING AN APPROVED ANCHORING METHOD SUCH AS GLUE TACKIFIER OR TRACTOR AND STRAIGHT DISK HARROW).

AROUND OFFICE BUILDINGS AND WITHIN SUBDIVISIONS USE 4 TO 6 OZ. CENTIPEDE SEED FOR 1000 SQ. FT.

GROWTH OF RYE MUST BE MOWED IN EARLY SPRING TO ENCOURAGE GROWTH OF THE PERMANENT GRASSES (BERMUDA AND CENTIPEDE GRASS).

WATERS OF THE STATE / WETLANDS NOTES

- 1. NO WORK MAY BEGIN IN AREAS LABELED AS WATERS OF THE STATE OR WETLANDS UNTIL ALL NECESSARY USACOE PERMITS AND SCDHEC 401 CERTIFICATIONS HAVE BEEN OBTAINED.
2. A DOUBLE ROW OF SILT FENCING SHALL BE PROVIDED IN ALL AREAS WHERE A FIFTY FOOT UNDISTURBED BUFFER CANNOT BE MAINTAINED BETWEEN THE DISTURBED AREA AND THE WATERS OF THE STATE.
3. A MINIMUM TEN FOOT BUFFER SHALL BE PROVIDED BETWEEN THE LAST ROW OF SILT FENCE AND THE WATERS OF THE STATE; OR, IF BUFFER CANNOT BE PROVIDED, THEN A STATEMENT FROM THE P.E. SHALL BE MADE ON PLANS INDICATING HOW SILT FENCE WILL BE INSTALLED AND MAINTAINED.

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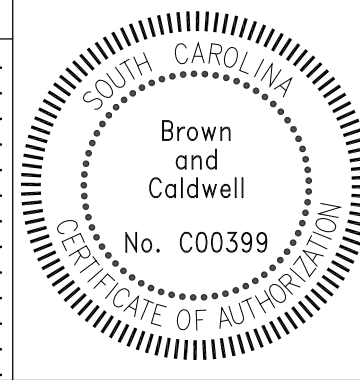


Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

SUBMITTED: PROJECT MANAGER DATE:
APPROVED: BROWN AND CALDWELL DATE:

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)
DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED:
CHECKED:
APPROVED:

EXTERNAL REFERENCES table with columns for reference details.



REVISIONS table with columns: ZONE, REV., DESCRIPTION, BY, DATE, APP.

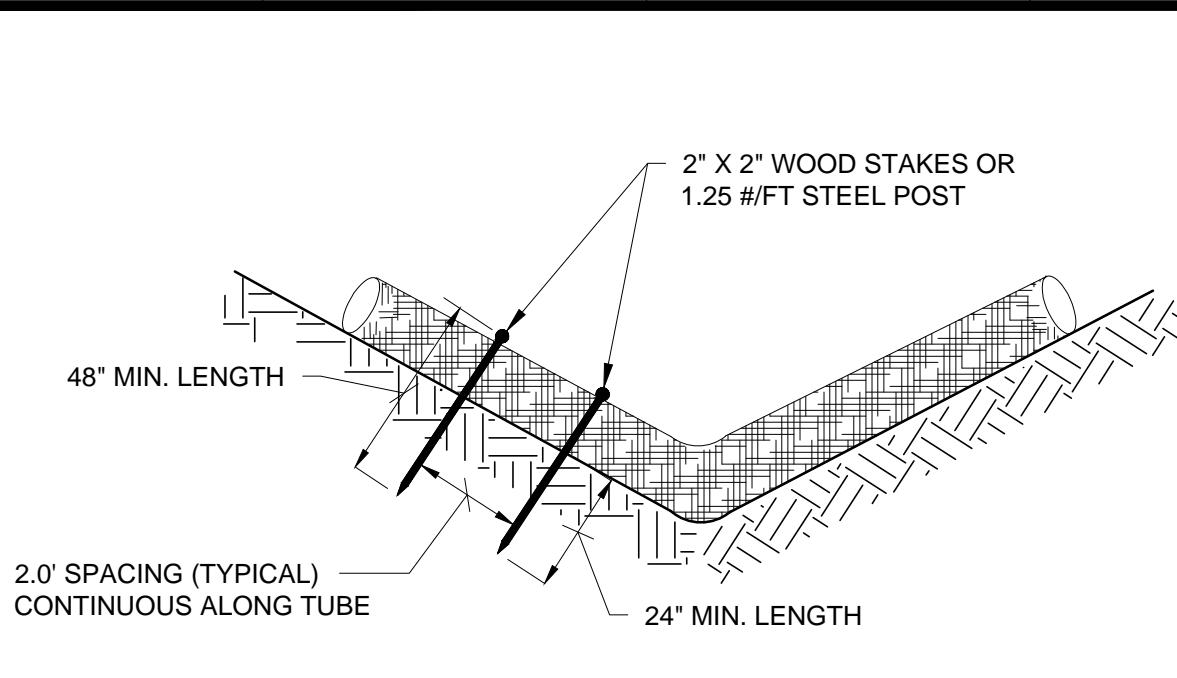


CIVIL
RICHLAND CREEK TRUNK SEWER
EROSION & SEDIMENT CONTROL
LEGEND AND NOTES

Table with project details: FILENAME, BC PROJECT NUMBER, SCALE, AS SHOWN DRAWING NUMBER, SHEET NUMBER 9 OF 32.

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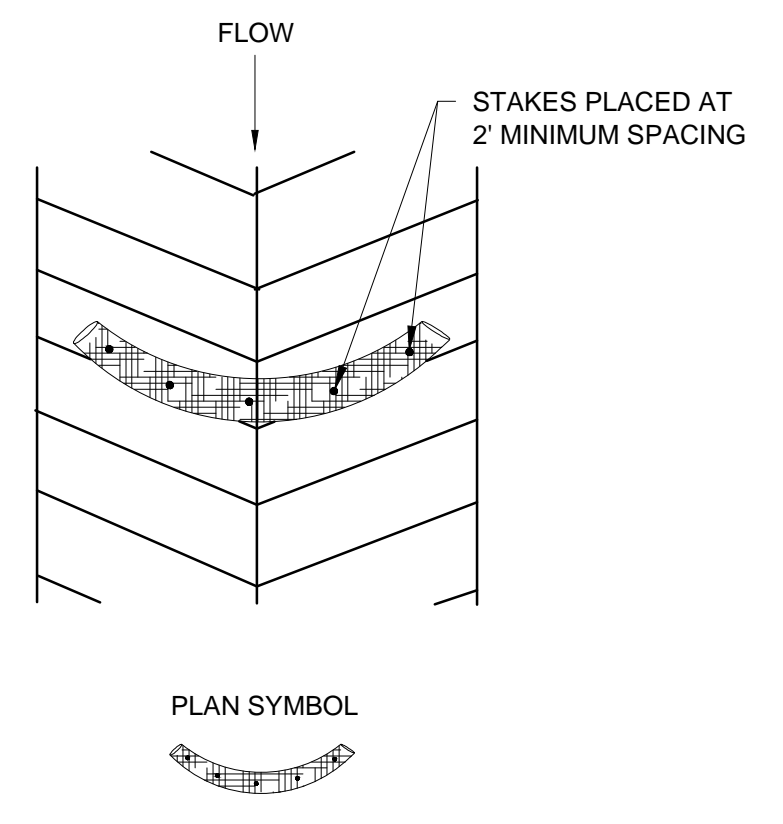


SEDIMENT TUBE SPACING TABLE	
SLOPE	MAXIMUM SEDIMENT TUBE SPACING
LESS THAN 2%	150-FEET
2%	100-FEET
3%	75-FEET
4%	50-FEET
5%	40-FEET
6%	30-FEET
GREATER THAN 6%	25-FEET

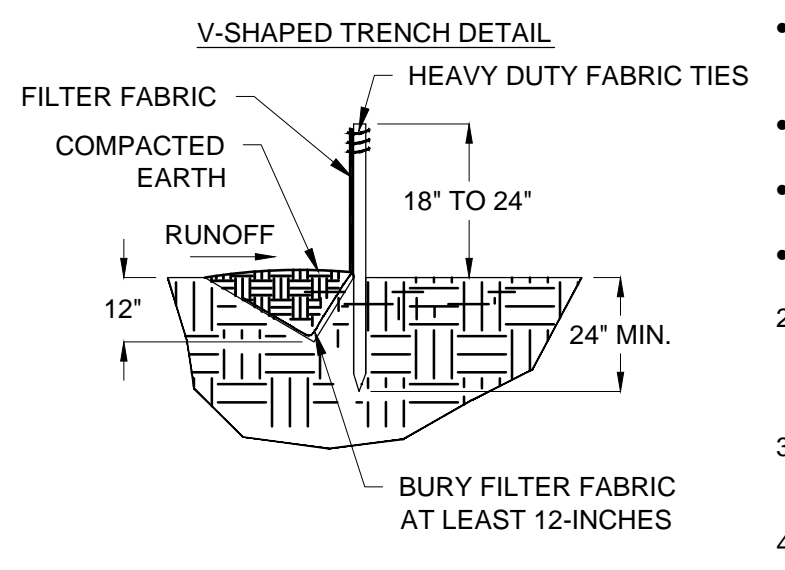
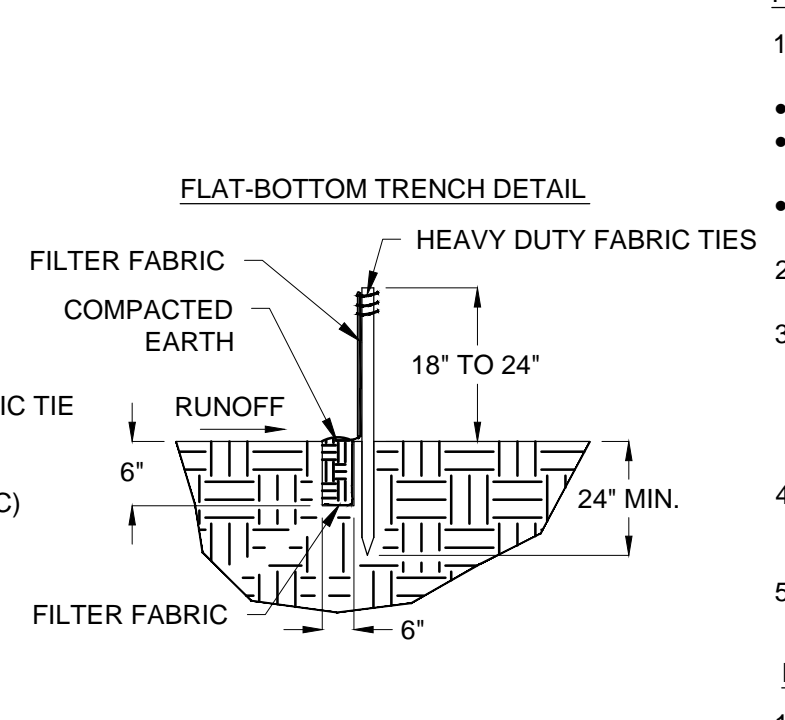
- GENERAL NOTES:**
- SEDIMENT TUBES MAY BE INSTALLED ALONG CONTOURS, IN DRAINAGE CONVEYANCE CHANNELS, AND AROUND INLETS TO HELP PREVENT OFF-SITE DISCHARGE OF SEDIMENT-LADEN STORMWATER RUNOFF.
 - SEDIMENT TUBES ARE ELONGATED TUBES OF COMPACTED GEOTEXTILES, CURLED EXCELSIOR WOOD, NATURAL COCONUT FIBER, OR HARDWOOD MULCH. STRAW, PINE NEEDLE, AND LEAF MULCH-FILLED SEDIMENT TUBES ARE NOT PERMITTED.
 - THE OUTER NETTING OF THE SEDIMENT TUBE SHOULD CONSIST OF SEAMLESS, HIGH-DENSITY POLYETHYLENE PHOTODEGRADABLE MATERIALS TREATED WITH ULTRAVIOLET STABILIZERS OR A SEAMLESS, HIGH-DENSITY POLYETHYLENE NON-DEGRADABLE MATERIAL.
 - SEDIMENT TUBES, WHEN USED AS CHECKS WITHIN CHANNELS, SHOULD RANGE BETWEEN 18-INCHES AND 24-INCHES DEPENDING ON CHANNEL DIMENSIONS. DIAMETERS OUTSIDE THIS RANGE MAY BE ALLOWED WHERE NECESSARY WHEN APPROVED.
 - CURLED EXCELSIOR WOOD, OR NATURAL COCONUT PRODUCTS THAT ARE ROLLED UP TO CREATE A SEDIMENT TUBE ARE NOT ALLOWED.
 - SEDIMENT TUBES SHOULD BE STAKED USING WOODEN STAKES (2-INCH X 2-INCH) OR STEEL POSTS (STANDARD "U" OR "T" SECTIONS WITH A MINIMUM WEIGHT OF 1.25 POUNDS PER FOOT) AT A MINIMUM OF 48-INCHES IN LENGTH PLACED ON 2-FOOT CENTERS.
 - INSTALL ALL SEDIMENT TUBES TO ENSURE THAT NO GAPS EXIST BETWEEN THE SOIL AND THE BOTTOM OF THE TUBE. MANUFACTURER'S RECOMMENDATIONS SHOULD ALWAYS BE CONSULTED BEFORE INSTALLATION.
 - THE ENDS OF ADJACENT SEDIMENT TUBES SHOULD BE OVERLAPPED 6-INCHES TO PREVENT FLOW AND SEDIMENT FROM PASSING THROUGH THE FIELD JOINT.
 - SEDIMENT TUBES SHOULD NOT BE STACKED ON TOP OF ONE ANOTHER, UNLESS RECOMMENDED BY MANUFACTURER.
 - EACH SEDIMENT TUBE SHOULD BE INSTALLED IN A TRENCH WITH A DEPTH EQUAL TO 1/5 THE DIAMETER OF THE SEDIMENT TUBE.
 - SEDIMENT TUBES SHOULD CONTINUE UP THE SIDE SLOPES A MINIMUM OF 1-FOOT ABOVE THE DESIGN FLOW DEPTH OF THE CHANNEL.
 - INSTALL STAKES AT A DIAGONAL FACING INCOMING RUNOFF.

- INSPECTION & MAINTENANCE**
- THE KEY TO FUNCTIONAL SEDIMENT TUBES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
 - REGULAR INSPECTIONS OF SEDIMENT TUBES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
 - ATTENTION TO SEDIMENT ACCUMULATIONS IN FRONT OF THE SEDIMENT TUBE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
 - REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SEDIMENT TUBE.
 - REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
 - LARGE DEBRIS, TRASH, AND LEAVES SHOULD BE REMOVED FROM IN FRONT OF TUBES WHEN FOUND.
 - IF EROSION CAUSES THE EDGES TO FALL TO A HEIGHT EQUAL TO OR BELOW THE HEIGHT OF THE SEDIMENT TUBE, REPAIRS SHOULD BE MADE IMMEDIATELY TO PREVENT RUNOFF FROM BYPASSING TUBE.
 - SEDIMENT TUBES SHOULD BE REMOVED AFTER THE CONTRIBUTING DRAINAGE AREA HAS BEEN COMPLETELY STABILIZED. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH SEDIMENT TUBES HAVE BEEN REMOVED.

SEDIMENT TUBE INSTALLATION
DETAIL **A**
VARIES
SCALE: NONE



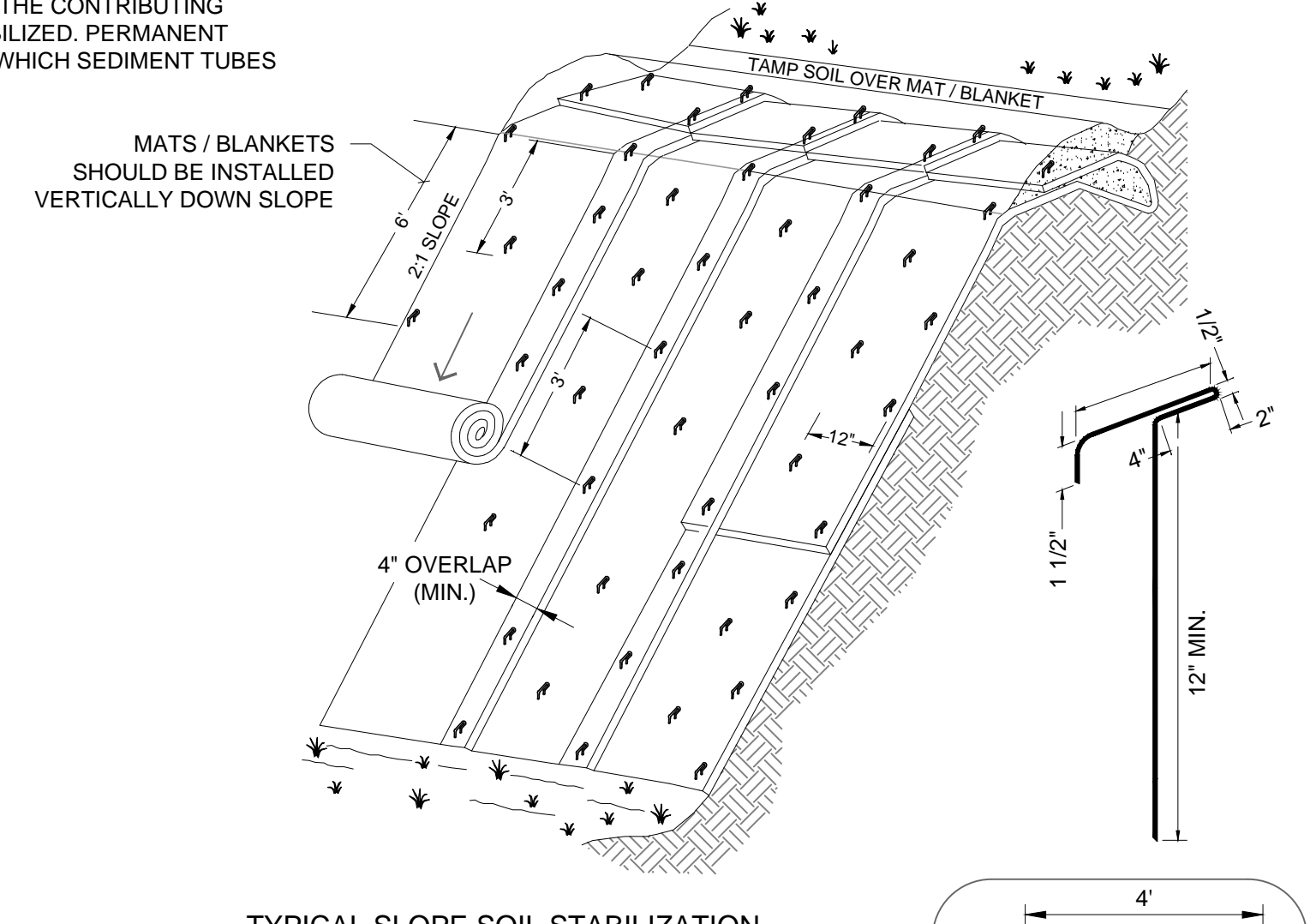
- GENERAL NOTES**
- DO NOT PLACE SILT FENCE ACROSS CHANNELS OR IN OTHER AREAS SUBJECT TO CONCENTRATED FLOWS. SILT FENCE SHOULD NOT BE USED AS A VELOCITY CONTROL BMP. CONCENTRATED FLOWS ARE ANY FLOWS GREATER THAN 0.5 CFS.
 - MAXIMUM SHEET OR OVERLAND FLOW PATH LENGTH TO THE SILT FENCE SHALL BE 100-FEET.
 - MAXIMUM SLOPE STEEPNESS (NORMAL [PERPENDICULAR] TO THE FENCE LINE) SHALL BE 2:1.
 - SILT FENCE JOINTS, WHEN NECESSARY, SHALL BE COMPLETED BY ONE OF THE FOLLOWING OPTIONS:
 - WRAP EACH FABRIC TOGETHER AT A SUPPORT POST WITH BOTH ENDS FASTENED TO THE POST, WITH A 1-FOOT MINIMUM OVERLAP;
 - OVERLAP SILT FENCE BY INSTALLING 3-FEET PASSED THE SUPPORT POST TO WHICH THE NEW SILT FENCE ROLL IS ATTACHED. ATTACH OLD ROLL TO NEW ROLL WITH HEAVY-DUTY PLASTIC TIES; OR,
 - OVERLAP ENTIRE WIDTH OF EACH SILT FENCE ROLL FROM ONE SUPPORT POST TO THE NEXT SUPPORT POST.
 - ATTACH FILTER FABRIC TO THE STEEL POSTS USING HEAVY-DUTY PLASTIC TIES THAT ARE EVENLY SPACED WITHIN THE TOP 8-INCHES OF THE FABRIC.
 - INSTALL THE SILT FENCE PERPENDICULAR TO THE DIRECTION OF THE STORMWATER FLOW AND PLACE THE SILT FENCE THE PROPER DISTANCE FROM THE TOE OF STEEP SLOPES TO PROVIDE SEDIMENT STORAGE AND ACCESS FOR MAINTENANCE AND CLEANOUT.
 - INSTALL SILT FENCE CHECKS (TIE-BACKS) EVERY 50-100 FEET, DEPENDENT ON SLOPE. ALONG SILT FENCE THAT IS INSTALLED WITH SLOPE AND WHERE CONCENTRATED FLOWS ARE EXPECTED OR ARE DOCUMENTED ALONG THE PROPOSED/INSTALLED SILT FENCE.



- POST REQUIREMENTS**
- SILT FENCE POSTS MUST BE 48-INCH LONG STEEL POSTS THAT MEET, AT A MINIMUM, THE FOLLOWING PHYSICAL CHARACTERISTICS:
 - COMPOSED OF A HIGH STRENGTH STEEL WITH A MINIMUM YIELD STRENGTH OF 50,000 PSI.
 - INCLUDE A STANDARD "T" SECTION WITH A NOMINAL FACE WIDTH OF 1.38-INCHES AND A NOMINAL "T" LENGTH OF 1.48-INCHES.
 - WEIGH 1.25 POUNDS PER FOOT (± 8%)
 - POSTS SHALL BE EQUIPPED WITH PROJECTIONS TO AID IN FASTENING OF FILTER FABRIC.
 - STEEL POSTS MAY NEED TO HAVE A METAL SOIL STABILIZATION PLATE WELDED NEAR THE BOTTOM WHEN INSTALLED ALONG STEEP SLOPES OR INSTALLED IN LOOSE SOILS. THE PLATE SHOULD HAVE A MINIMUM CROSS SECTION OF 17-SQUARE INCHES AND BE COMPOSED OF 15 GAUGE STEEL, AT A MINIMUM. THE METAL SOIL STABILIZATION PLATE SHOULD BE COMPLETELY BURIED.
 - INSTALL POSTS TO A MINIMUM OF 24-INCHES. A MINIMUM HEIGHT OF 1- TO 2- INCHES ABOVE THE FABRIC SHALL BE MAINTAINED, AND A MAXIMUM HEIGHT OF 3 FEET SHALL BE MAINTAINED ABOVE THE GROUND.
 - POST SPACING SHALL BE AT A MAXIMUM OF 6-FEET ON CENTER.
- FABRIC REQUIREMENTS**
- SILT FENCE MUST BE COMPOSED OF WOVEN GEOTEXTILE FILTER FABRIC THAT CONSISTS OF THE FOLLOWING REQUIREMENTS:
 - COMPOSED OF FIBERS CONSISTING OF LONG CHAIN SYNTHETIC POLYMERS OF AT LEAST 85% BY WEIGHT OF POLYOLEFINS, POLYESTERS, OR POLYAMIDES THAT ARE FORMED INTO A NETWORK SUCH THAT THE FILAMENTS OR YARNS RETAIN DIMENSIONAL STABILITY RELATIVE TO EACH OTHER;
 - FREE OF ANY TREATMENT OR COATING WHICH MIGHT ADVERSELY ALTER ITS PHYSICAL PROPERTIES AFTER INSTALLATION;
 - FREE OF ANY DEFECTS OR FLAWS THAT SIGNIFICANTLY AFFECT ITS PHYSICAL AND/OR FILTERING PROPERTIES; AND,
 - HAVE A MINIMUM WIDTH OF 36-INCHES.
 - USE ONLY FABRIC APPEARING ON SC DOT'S QUALIFIED PRODUCTS LISTING (QPL), APPROVAL SHEET #34, MEETING THE REQUIREMENTS OF THE MOST CURRENT EDITION OF THE SC DOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION.
 - 12-INCHES OF THE FABRIC SHOULD BE PLACED WITHIN EXCAVATED TRENCH AND TOED IN WHEN THE TRENCH IS BACKFILLED.
 - FILTER FABRIC SHALL BE PURCHASED IN CONTINUOUS ROLLS AND CUT TO THE LENGTH OF THE BARRIER TO AVOID JOINTS.
 - FILTER FABRIC SHALL BE INSTALLED AT A MINIMUM OF 24-INCHES ABOVE THE GROUND.

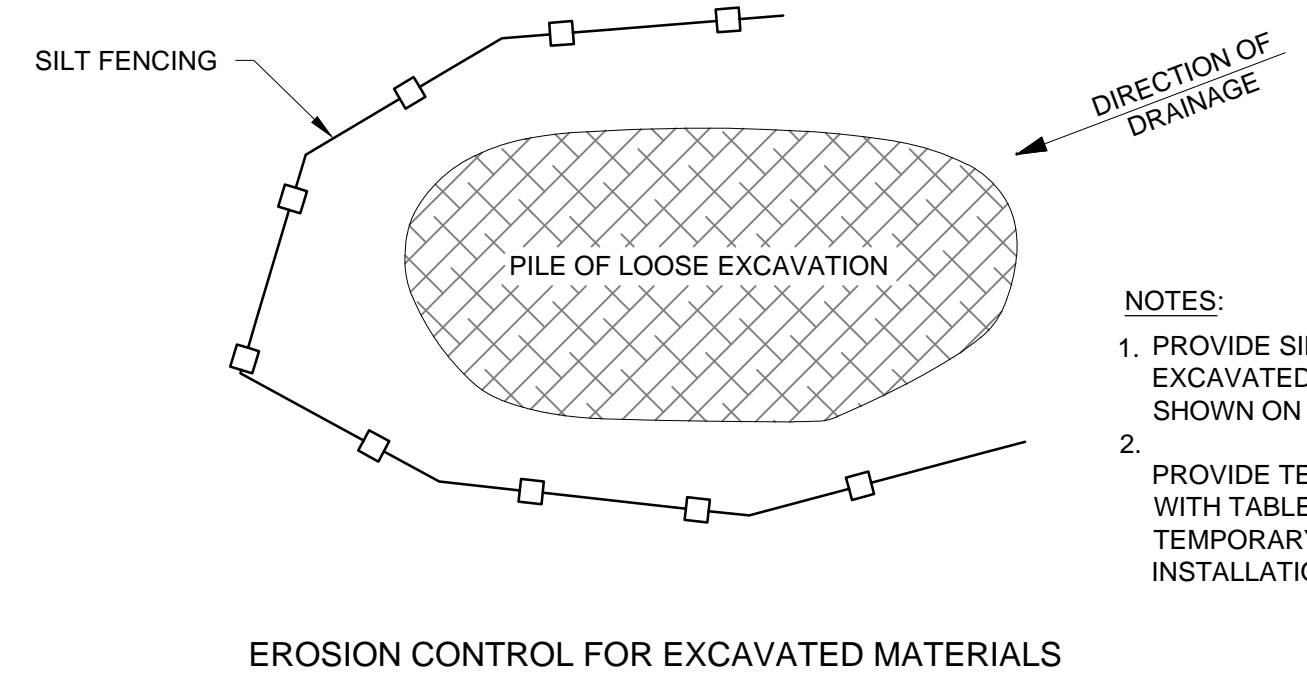
- INSPECTION & MAINTENANCE**
- THE KEY TO FUNCTIONAL SILT FENCE IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
 - REGULAR INSPECTIONS OF SILT FENCE SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
 - ATTENTION TO SEDIMENT ACCUMULATIONS ALONG THE SILT FENCE IS EXTREMELY IMPORTANT. ACCUMULATED SEDIMENT SHOULD BE CONTINUALLY MONITORED AND REMOVED WHEN NECESSARY.
 - REMOVE ACCUMULATED SEDIMENT WHEN IT REACHES 1/3 THE HEIGHT OF THE SILT FENCE.
 - REMOVED SEDIMENT SHALL BE PLACED IN STOCKPILE STORAGE AREAS OR SPREAD THINLY ACROSS DISTURBED AREA. STABILIZE THE REMOVED SEDIMENT AFTER IT IS RELOCATED.
 - CHECK FOR AREAS WHERE STORMWATER RUNOFF HAS ERODED A CHANNEL BENEATH THE SILT FENCE, OR WHERE THE FENCE HAS SAGGED OR COLLAPSED DUE TO RUNOFF OVERTOPPING THE SILT FENCE. INSTALL CHECKS/TIE-BACKS AND/OR REINSTALL SILT FENCE, AS NECESSARY.
 - CHECK FOR TEARS WITHIN THE SILT FENCE, AREAS WHERE SILT FENCE HAS BEGUN TO DECOMPOSE, AND FOR ANY OTHER CIRCUMSTANCE THAT MAY RENDER THE SILT FENCE INEFFECTIVE. REMOVED DAMAGED SILT FENCE AND REINSTALL NEW SILT FENCE IMMEDIATELY.
 - SILT FENCE SHOULD BE REMOVED WITHIN 30 DAYS AFTER FINAL STABILIZATION IS ACHIEVED AND ONCE IT IS REMOVED, THE RESULTING DISTURBED AREA SHALL BE PERMANENTLY STABILIZED.

SILT FENCE
DETAIL **B**
VARIES
SCALE: NONE



TYPICAL SLOPE SOIL STABILIZATION
FABRIC LINED SLOPE
DETAIL **C**
VARIES
SCALE: NONE

- NOTES:**
- SLOPE SURFACE SHALL BE FREE OF ROCKS CLODS, STICKS AND GRASS. MATS / BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 - APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 - LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.



EROSION CONTROL FOR EXCAVATED MATERIALS
DETAIL **D**
VARIES
SCALE: NONE

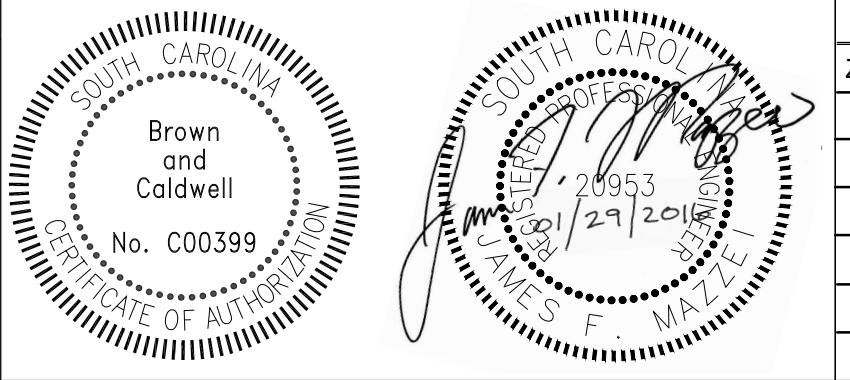


LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED:
CHECKED:
APPROVED:

EXTERNAL REFERENCES

ZONE	REV.	DESCRIPTION	BY	DATE	APP.



REVISIONS

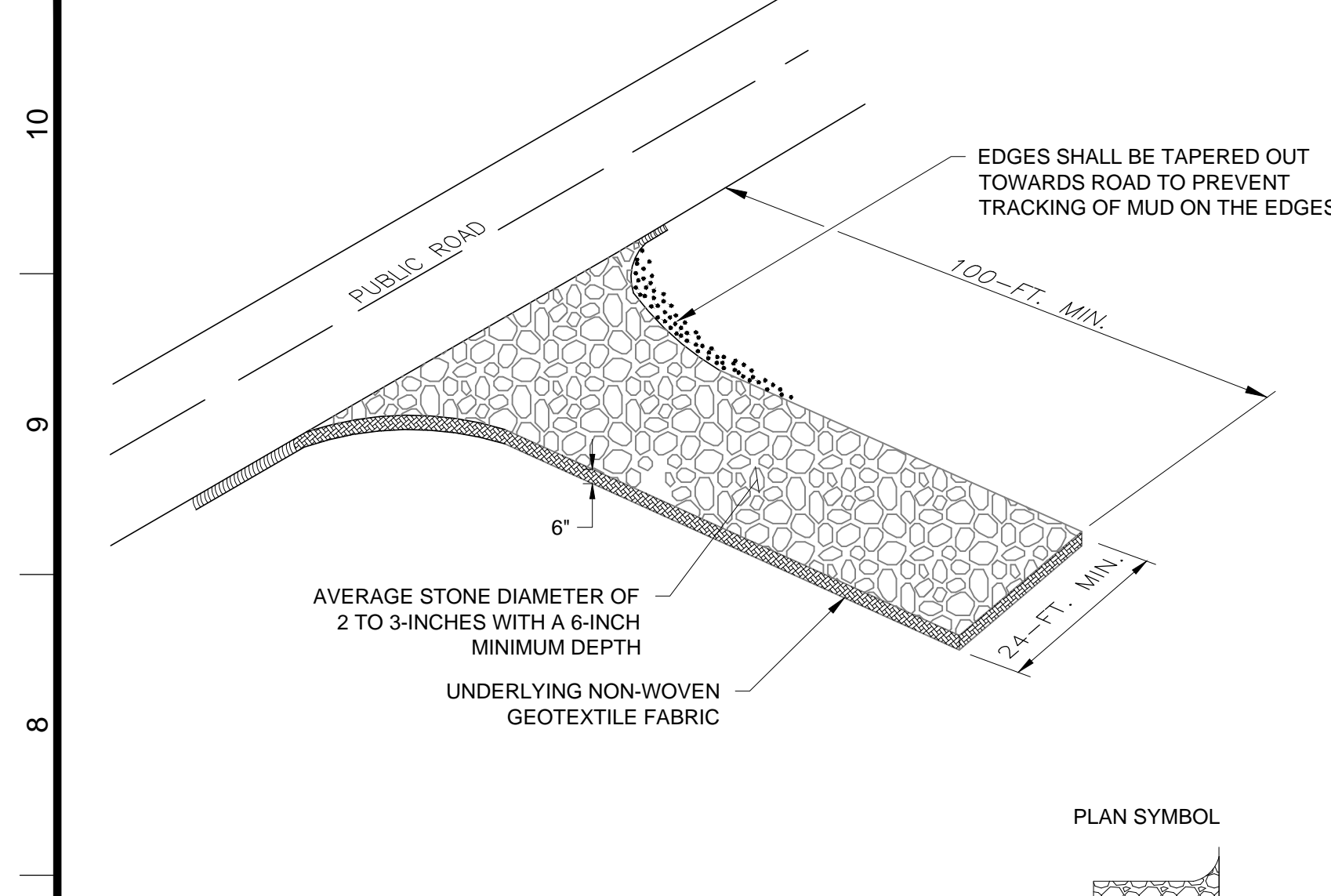
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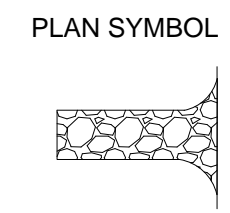
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RICHLAND CREEK TRUNK SEWER
EROSION & SEDIMENT CONTROL
DETAILS 1

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BC PROJECT NUMBER: 144953
SCALE: AS SHOWN
DRAWING NUMBER: 000-C-007
SHEET NUMBER: 10 OF 32

A B C D E F G H I J K L M N O P



SPECIFICATION	SIZE
ROCK PAD THICKNESS	6 INCHES
ROCK PAD WIDTH	24 FEET
ROCK PAD LENGTH	100 FEET
ROCK PAD STONE SIZE	D = 2-3 INCHES



CONSTRUCTION ENTRANCE



SCALE: NONE

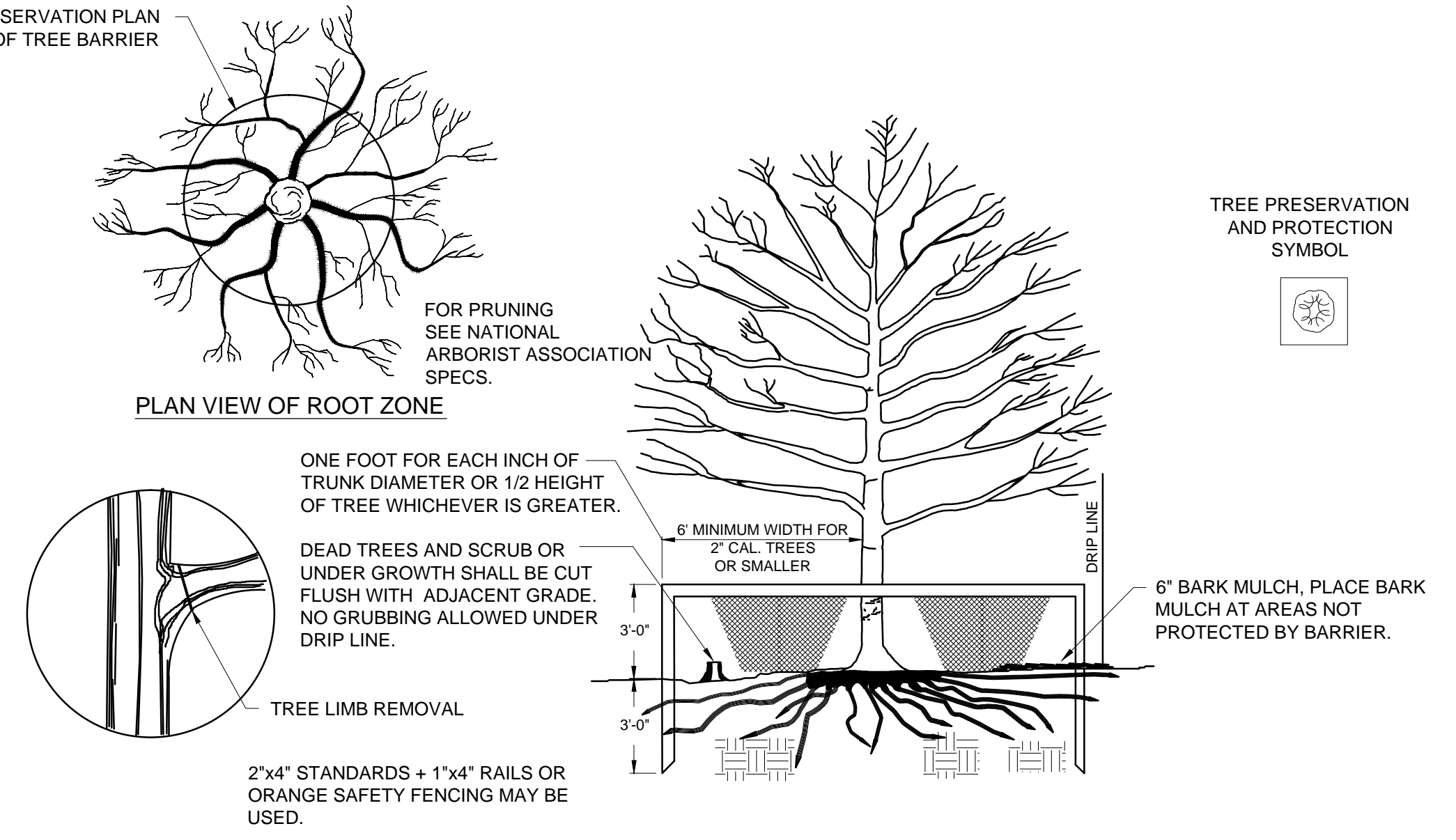
GENERAL NOTES

1. STABILIZED CONSTRUCTION ENTRANCES SHOULD BE USED AT ALL POINTS WHERE TRAFFIC WILL EGRESS/INGRESS A CONSTRUCTION SITE ONTO A PUBLIC ROAD OR ANY IMPERVIOUS SURFACES, SUCH AS PARKING LOTS.
2. INSTALL A NON-WOVEN GEOTEXTILE FABRIC PRIOR TO PLACING ANY STONE.
3. INSTALL A CULVERT PIPE ACROSS THE ENTRANCE WHEN NEEDED TO PROVIDE POSITIVE DRAINAGE.
4. THE ENTRANCE SHALL CONSIST OF 2-INCH TO 3-INCH D50 STONE PLACED AT A MINIMUM DEPTH OF 6-INCHES.
5. MINIMUM DIMENSIONS OF THE ENTRANCE SHALL BE 15-FOOT WIDE BY 20-FOOT LONG, AND MAY BE MODIFIED AS NECESSARY TO ACCOMMODATE SITE CONSTRAINTS.
6. THE EDGES OF THE ENTRANCE SHALL BE TAPERED OUT TOWARDS THE ROAD TO PREVENT TRACKING AT THE EDGE OF THE ENTRANCE.
7. DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE STONE PAD TO A SEDIMENT TRAP OR BASIN OR OTHER SEDIMENT TRAPPING STRUCTURE.
8. LIMESTONE MAY NOT BE USED FOR THE STONE PAD.

INSPECTION & MAINTENANCE

1. THE KEY TO FUNCTIONAL CONSTRUCTION ENTRANCES IS WEEKLY INSPECTIONS, ROUTINE MAINTENANCE, AND REGULAR SEDIMENT REMOVAL.
2. REGULAR INSPECTIONS OF CONSTRUCTION ENTRANCES SHALL BE CONDUCTED ONCE EVERY CALENDAR WEEK AND, AS RECOMMENDED, WITHIN 24-HOURS AFTER EACH RAINFALL EVEN THAT PRODUCES 1/2-INCH OR MORE OF PRECIPITATION.
3. DURING REGULAR INSPECTIONS, CHECK FOR MUD AND SEDIMENT BUILDUP AND PAD INTEGRITY. INSPECTION FREQUENCIES MAY NEED TO BE MORE FREQUENT DURING LONG PERIODS OF WET WEATHER.
4. RESHAPE THE STONE PAD AS NECESSARY FOR DRAINAGE AND RUNOFF CONTROL.
5. WASH OR REPLACE STONES AS NEEDED AND AS DIRECTED BY SITE INSPECTOR. THE STONE IN THE ENTRANCE SHOULD BE WASHED OR REPLACED WHENEVER THE ENTRANCE FAILS TO REDUCE THE AMOUNT OF MUD BEING CARRIED OFF-SITE BY VEHICLES. FREQUENT WASHING WILL EXTEND THE USEFUL LIFE OF STONE PAD.
6. IMMEDIATELY REMOVE MUD AND SEDIMENT TRACKED OR WASHED ONTO ADJACENT IMPERVIOUS SURFACES BY BRUSHING OR SWEEPING. FLUSHING SHOULD ONLY BE USED WHEN THE WATER CAN BE DISCHARGED TO A SEDIMENT TRAP OR BASIN.
7. DURING MAINTENANCE ACTIVITIES, ANY BROKEN PAVEMENT SHOULD BE REPAIRED IMMEDIATELY.
8. CONSTRUCTION ENTRANCES SHOULD BE REMOVED AFTER THE SITE HAS REACHED FINAL STABILIZATION. PERMANENT VEGETATION SHOULD REPLACE AREAS FROM WHICH CONSTRUCTION ENTRANCES HAVE BEEN REMOVED, UNLESS AREA WILL BE CONVERTED TO AN IMPERVIOUS SURFACE TO SERVE POST-CONSTRUCTION.

SEE APPROVED TREE PRESERVATION PLAN FOR REQUIRED RADIUS OF TREE BARRIER



- NOTES:**
1. REMOVE ALL BARRIERS UPON COMPLETION OF PROJECT.
 2. SEDIMENT & EROSION CONTROL PLANS SHALL SHOW THE LOCATIONS OF ALL TREE PROTECTION FENCES.
 3. TREE PROTECTION MEASURE MUST BE IN PLACE BEFORE EXCAVATION BEGINS.
 4. SHOULD ANY EXISTING TREES WITHIN CLEVELAND PARK NEED TO BE REMOVED DUE TO EXCAVATION WORK, THE CONTRACTOR SHALL CALL CITY OF GREENVILLE PARKS AND RECREATION AT (864) 467-4350 FOR APPROVAL BEFORE CUTTING.

TREE PROTECTION



SCALE: NONE

Apr 22, 2016 - 3:24pm
 P:\Clients\ReWa\144953 - Richland Creek Sewer - CAD\2-Sheets\Civil\144953C-0008.dwg
 ajumper



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 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

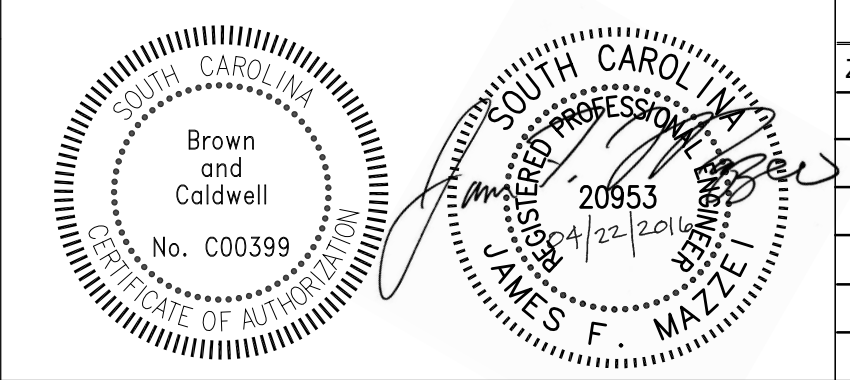
SUBMITTED: _____ DATE: _____
 PROJECT MANAGER

APPROVED: _____ DATE: _____
 BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: _____
 CHECKED: _____
 APPROVED: _____

EXTERNAL REFERENCES



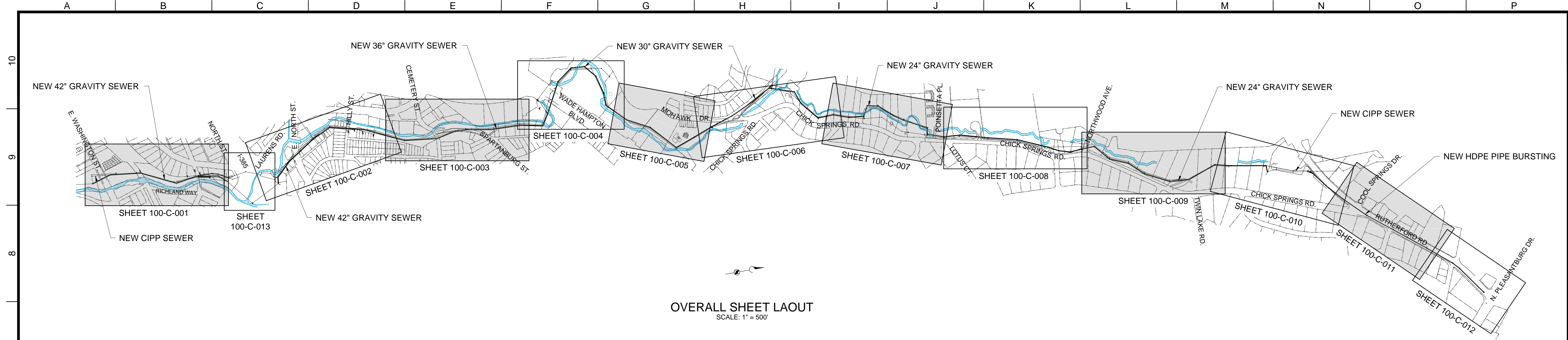
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	ADDITION OF NOTES 3 & 4 TO TREE PROTECTION DETAIL	ASJ	04/2016	JFM



CIVIL
RICHLAND CREEK TRUNK SEWER
EROSION & SEDIMENT CONTROL
DETAILS 2

FILENAME	144953C-0008.DWG
BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	000-C-008
SHEET NUMBER	11
OF	32



OVERALL SHEET LAOUT
SCALE: 1" = 500'

EXISTING MANHOLE DATA TABLES

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. In 3	Inv. In 4	Inv. Out 2
596B	855.09	845.64	842.09				
596A	854.72	845.81	840.31				
400	867.81	846.11	845.99	848.01			
179	867.52	846.16	846.16				
401	854.01	846.36	846.25	848.01			
180	854.73	846.39	846.39	839.08			
181	855.17	846.81	846.76				
402	857.41	846.75	846.78	848.77			
182	856.16						
403	859.13	846.99	846.98				
183	853.86	847.33	847.23				
184	854.71						
404	854.75	847.13	847.23				
405	853.9	848.79	847.47	848.5	848.39	847.43	
184X	855.28	847.26	847.12	847.26			847.12
185	854.42	847.76	847.82	848.58	849.62		
186	853.55	848.98	848.82				
405A	853.27	848.89	848.82	848.79			
187	854.26	849.55	849.5				
261	853.62	847.88	847.89				
262	855.23	848.11	848.18				
263X	857.05	847.85	847.67	848.46			
406	855.7	848.38	848.01				
598	865.27	837.89					

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. Out 2	Inv. In 3	Drop
407C	854.88	848.88	848.86				
407D	856.26	848.56	848.53				
269	862.76	849.61	849.61				
270X	856.23	849.15	848.93	848.63	848.68		
408	856.04	848.84	848.81	850.74			
590	873.37	842.04	839.3				864
271	856.13	849.53	849.47				
272X	860.04	848.89	848.84	849.1	848.42		
409	866.87	848.42	848.46				
410	854.54	850.47	850.11	851.09	851.09	850.98	
273	856.79	850.5	850.5	851.51	850.98	850.98	
274	857.46	850.76	850.67				
411	857.5	851.26	851.28				
275	857.37	851.78	851.85	852.76			
412	858.46	851.82	851.92				
276	859.28	854.2	852.7	852.66			
413	CNL						
277	859.92	853.27	853.37				
278	859.41	853.31	853.27				

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. In 3
279	861.6	854.55	853.78	853.88	
280	863.11	856.25	854.8	854.85	
414	864.28	855.03	855.01		
281	862.22	855.43	855.41		
415	862.48	855.62	855.56		
282	862.47	856.42	855.92	857.22	855.87
283	863.62	856.41	856.43		
284	866.91	859.94	857.11	858.11	857.08
416	864.2	856.64	856.58		
417	866.78	858.1	857.37	858.18	857.37
285	864.82	857.97	857.97		
418	866.14	858.83	858.74		
286	867.39	860.14	859.36		
419	868.35	861.1	861.03		

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. Out 2	Inv. In 3
287	868.89	862.38	862.33			
420	868.38	862.52	862.35			
288X	868.9	863.3	863.3	863.38	863.6	
421	868.6	863.48	863.24			
422	CNL					
289A	885.49	864.77	864.63			
289	886.36	865.78	865.66			
290	884.72	865.79	865.64	866.98		
290A						
423	870.35	865.64	865.62			
424	870.86	866.29	865.91			
425	872.16	867.23	867	867.39	867.31	867.31
291	874.09	867.24	867.16	867.16	867.16	
426	873.2	867.52	867.57			
282X	873.22	867.92	867.59	867.59	868.03	
293	874.34	869.53	868.68			
293A	881.40	870.15	870.04			
294	874.82	868.76	868.8			
295	877.14	869.39	869.34			

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. In 3	Inv. Out 2
296	878.5	872.28	870.28	872.42		
297	878.67	872.78	872.56			
298	879.35	873.56	873.64			
427	879.54	873.64	873.58			
299	885.76	875.66	875.37	875.46		875.46
428	883.87	876.87	875.12	876.56	875.22	875.22
428A	890.22	877.99	877.4	877.4		
429	886.72	880.52	878.84			
300	887.13	878.9	878.33			

Manhole	RIM	Inv. In	Inv. Out 1	Inv. In 2	Inv. Out 2	Inv. In 3
301	899.87	881.37	881.3			
430	900.07	882.03	881.87			
302	899.39	882.82	882.48			
431	898.72	884.27	883.1	884.56		883.17
303	893.94	885.18	884.88	885.25		885.17
432	891.04	885.29	885.18		885.15	
433	892.23	886.46	886.43			
304	889.44	886.76	886.72			
305X	892.52	887.82				
306	895.03	889.86	889.81			
435	897.62	889.96	889.87			
307	895.03	891.31	891.31			
436	898.22	891.2	891.2			
434	893.24	888.48	888.38			
485	893.78	886.13	885.27	885.49		

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. In 3
437	897.24	891.95	891.94		
308X	896.08	891.99			
309	898.95	893.27	893.24		
438	896.84	892.92	892.98		
439	898.27	893.72	893.57		
440	903.22	899.91	894.88	895.09	
441	900.72	895.66	895.63		
442	901.3	899.1	896.39	896.39	
443	903.88	900.23	897.93	898.88	
310	903.46	895.87	895.96		
311	904.81	897.51	897.31	900.31	
312X	908.08	899.71	898.99	899.31	899.47
313	907.67	901.67	900.21	900.35	

Manhole	RIM	Inv. In	Inv. Out 1	Inv. In 2	Inv. Out 2	In Drop
314	907.58	901.38	900.92	901.45		904.35
315	907.5	901.8	901.9			
316	912.27	907.24	907.21			
444	913.77	908.37	908.29	909.32		
445	919.58	913.34	913.23			
317	919.21	913.52	913.53	913.66		
318	924.98	917.74	917.54	917.69		
319	926.08	917.69	917.66	917.63		
318A	923.01	918.23	918.02	918.04		
320	933.68	920.28	920.22			
321	925.02	921.87	921.77			
318B	923.01	920.87	919.96	921		
320A	930.99	920.97	921.24		920.99	

Manhole	RIM	Inv. In	Inv. Out 1	Inv. In 2	Inv. Out 2	Drop
322	935.09	923.23				
323	932.53	924.15	924.02			
446	933.25	924.29	924.22			
324	933.23	926.69	925.44	925.54		
447	934.06	956.43	926.16			929.72
325	948.59	942.24	941.94			
448	949.99	935.86	935.34			940.56
326	955.58	950.57	950.5			
449	956.73	948.63	948.42			
327X	959.47	953.85	953.6	954.22	953.61	
328	966.19	960.59	950.6			
450	965.52	958.25	957.45			

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2	Inv. In 3	Service	Service Drop
330	969.34	964.93	958.99	964.53	959.25		
329	970.35	964.94	963.96	964.4			
331	983.14	964.13	960.23	963.79			
332	988.91	967.25	961.16				
451	988.29	967.73	967.6	967.8			
452	991.92	972.86	972.64				
453	985.5	976.91	976.8	976.84			
335	986.43	977.73	977.38	978.53	981.08		
335A	985.76		980.2				
336	996.88	991.36	991.36				
334	992.51	971.14	971.1			986.86	971.98
333	988.38	967.55	967.65				

Manhole	RIM	Inv. In	Inv. Out	Inv. In 2
337	1006.29	1001.28	1001.03	
338	1018.01	1012.35	1011.97	
339	1030.92	1026.11	1025.41	
340	1040.67	1035.61	1035.48	1035.58
341	1055.18	1048.82	1048.2	

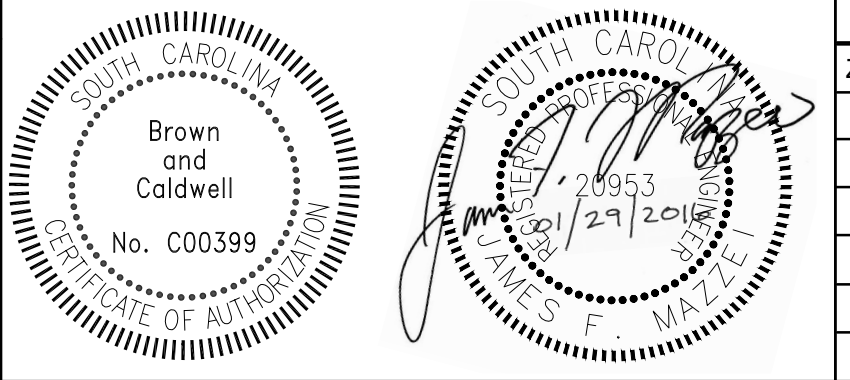
Manhole	RIM	Inv. In	Inv. Out
342	1073	1066.85	1066.53
343	1077.37	1071.02	1070.97
344	1087.43	1080.99	1080.05

Brown and Caldwell
Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED: J. EPTING
CHECKED: J. MAZZEI
APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

EXTERNAL REFERENCES



ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM

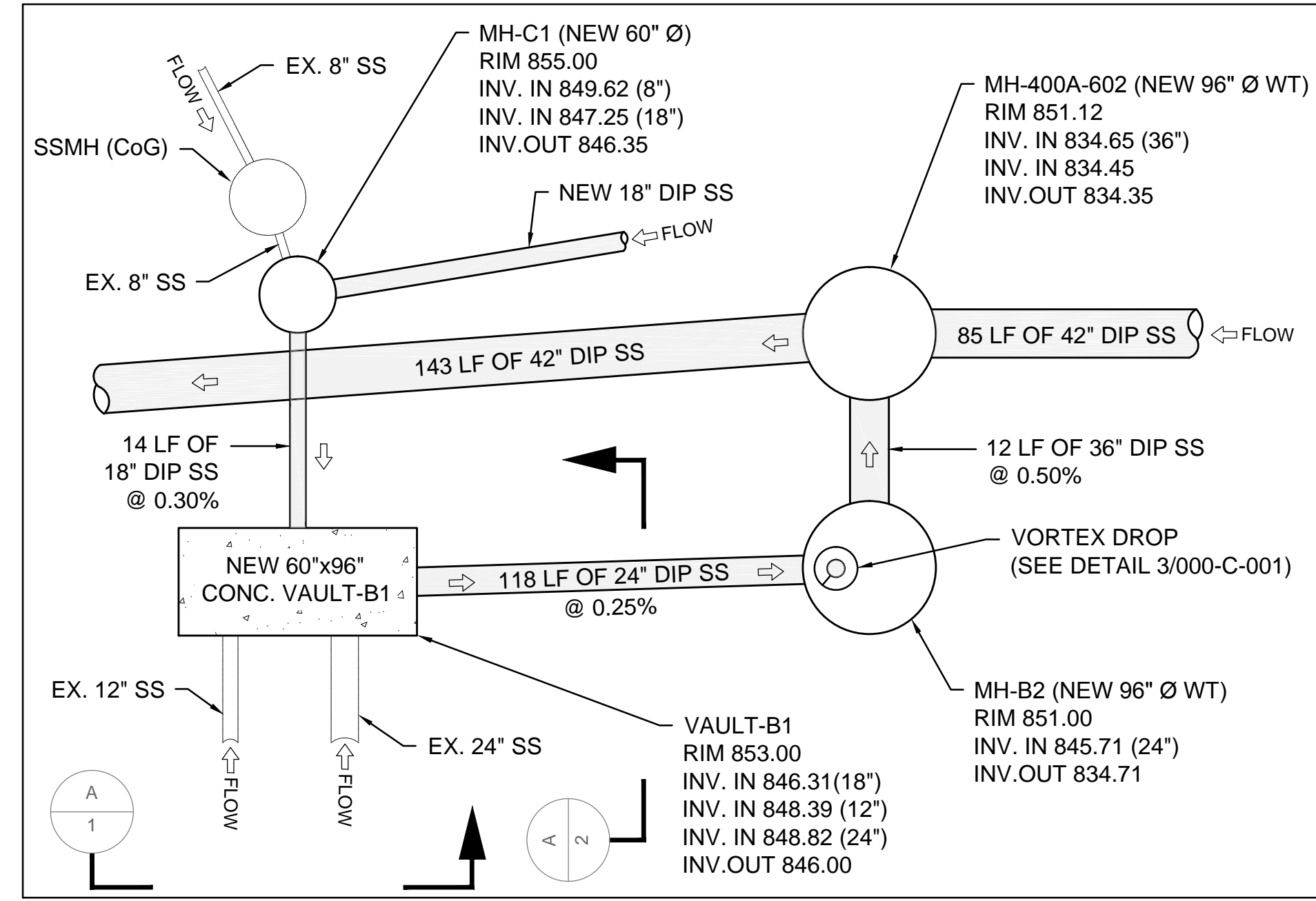


GENERAL
RICHLAND CREEK TRUNK SEWER

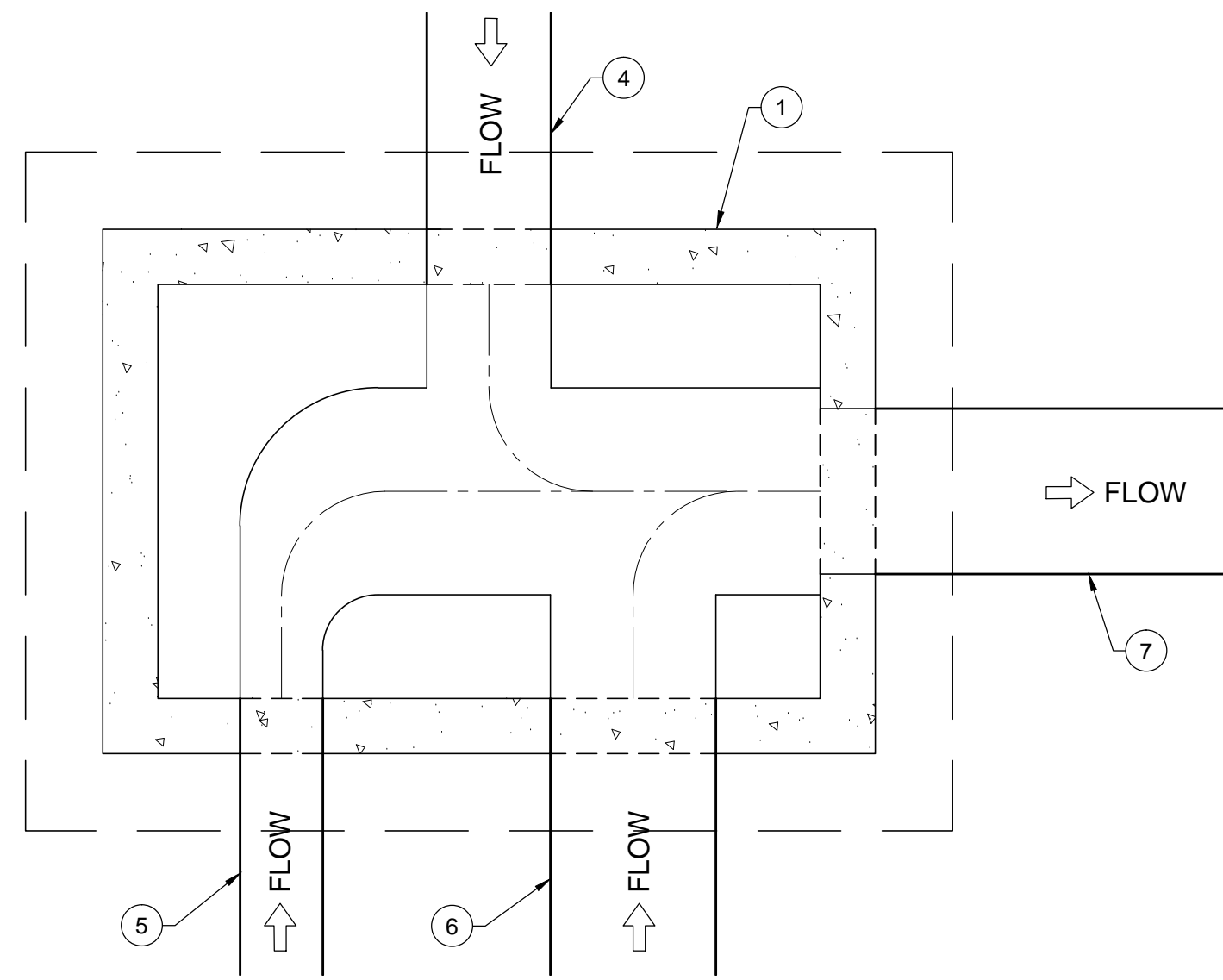
OVERALL LAYOUT & EXISTING MANHOLE DATA

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BC PROJECT NUMBER: 144953
SCALE: AS SHOWN
DRAWING NUMBER: 000-C-009
SHEET NUMBER: 12 OF 32

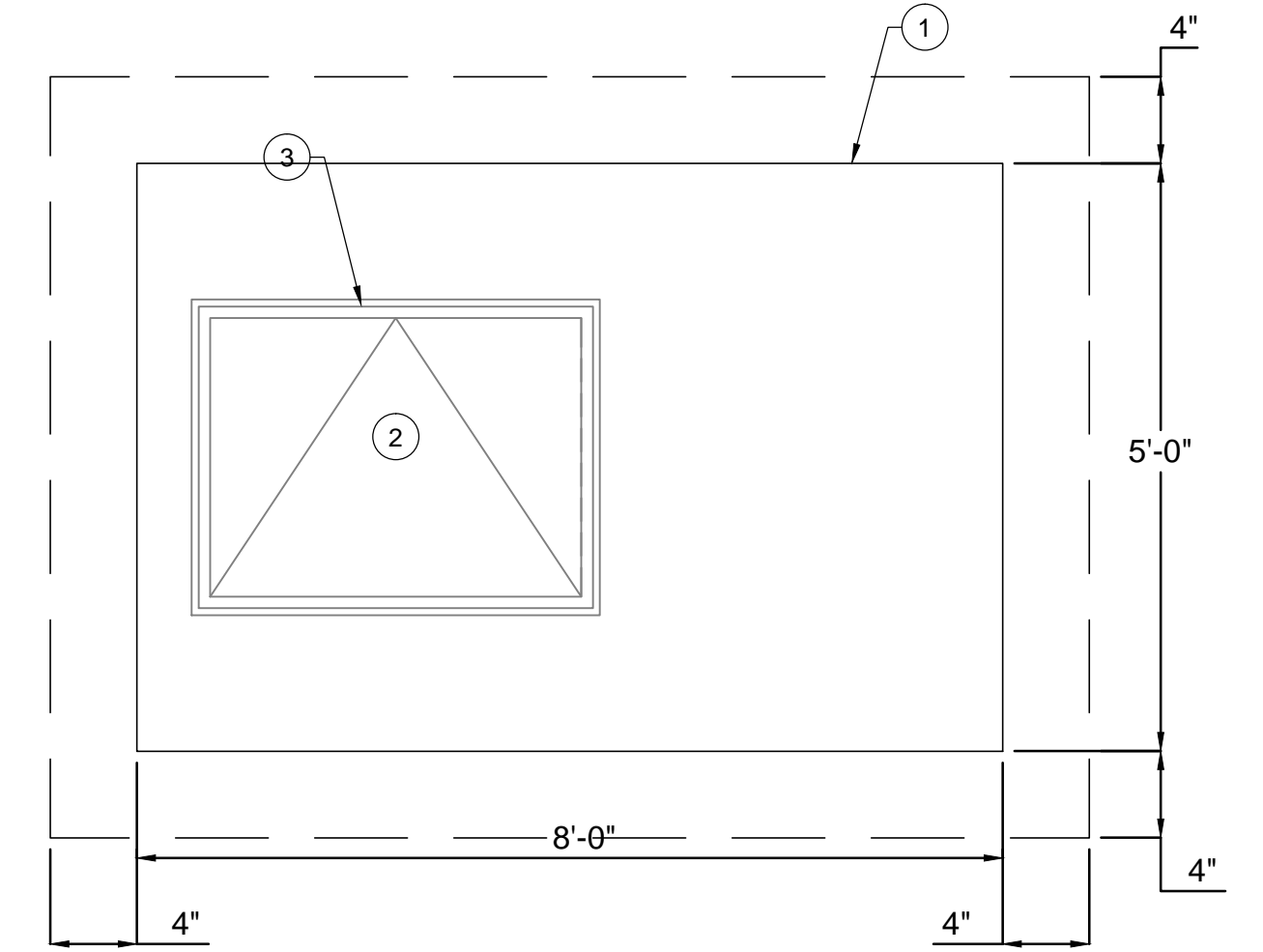
Jan 29, 2016 - 11:06am P:\Clients\ReWa\144953 - Richland Creek Sewer\CAD\2-Sheets\Civil\144953C-0009.dwg aljumper



BLOWUP VIEW 1
PLAN
 SCALE: NONE



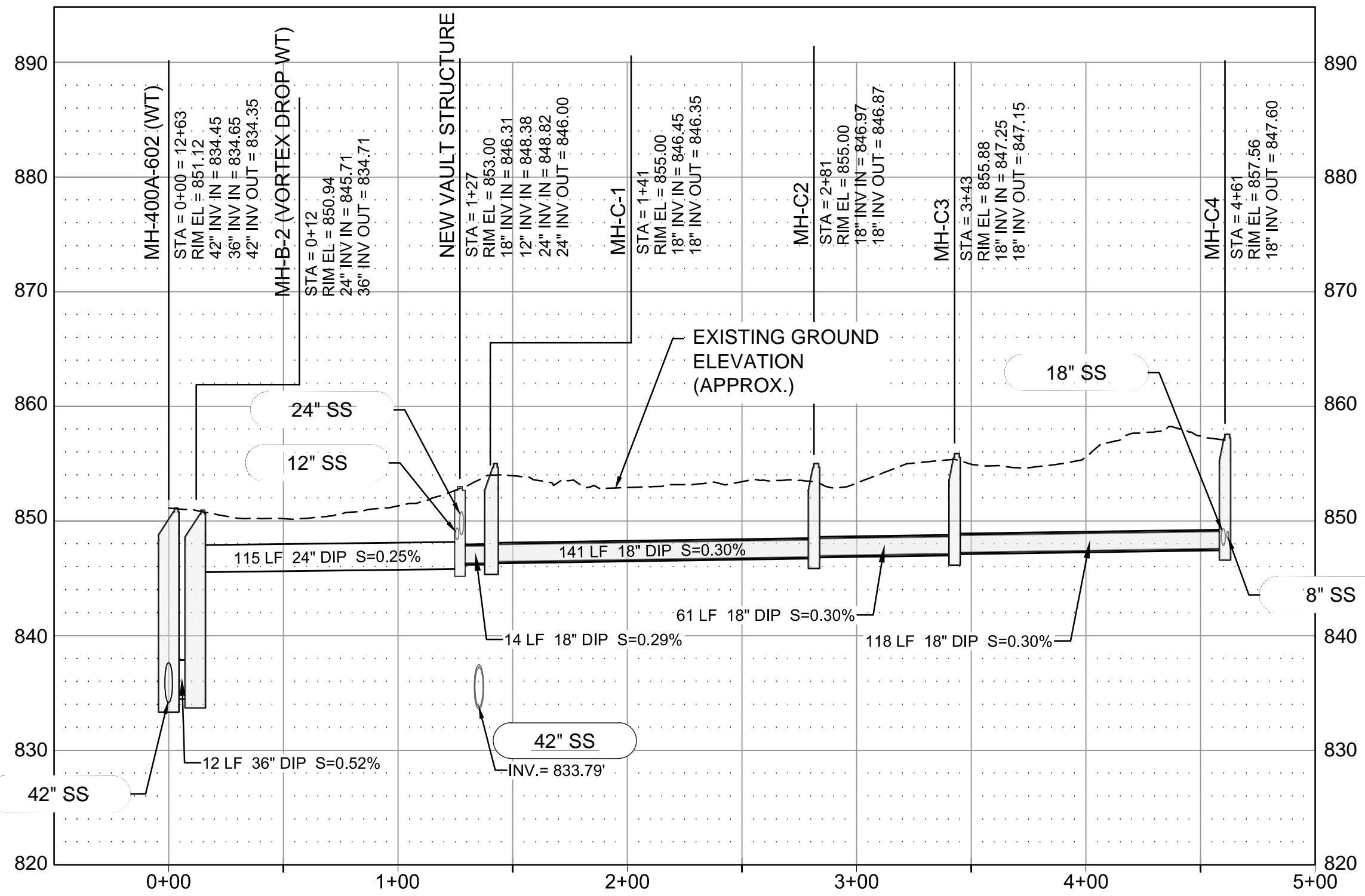
CONCRETE VAULT B1
BOTTOM PLAN
 SCALE: 1/2" = 1'-0"



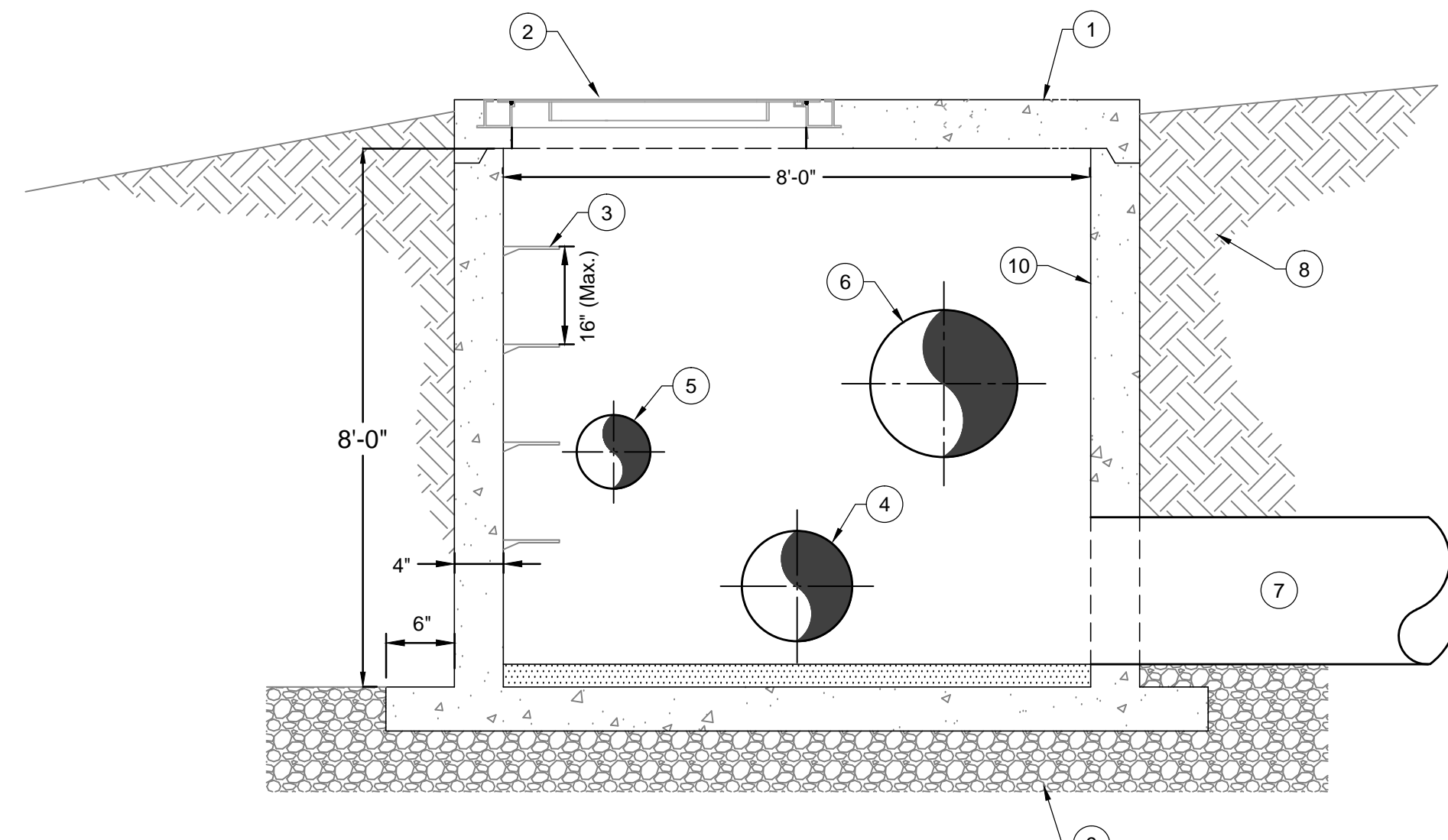
CONCRETE VAULT B1
TOP PLAN
 SCALE: 1/2" = 1'-0"

KEYNOTES:

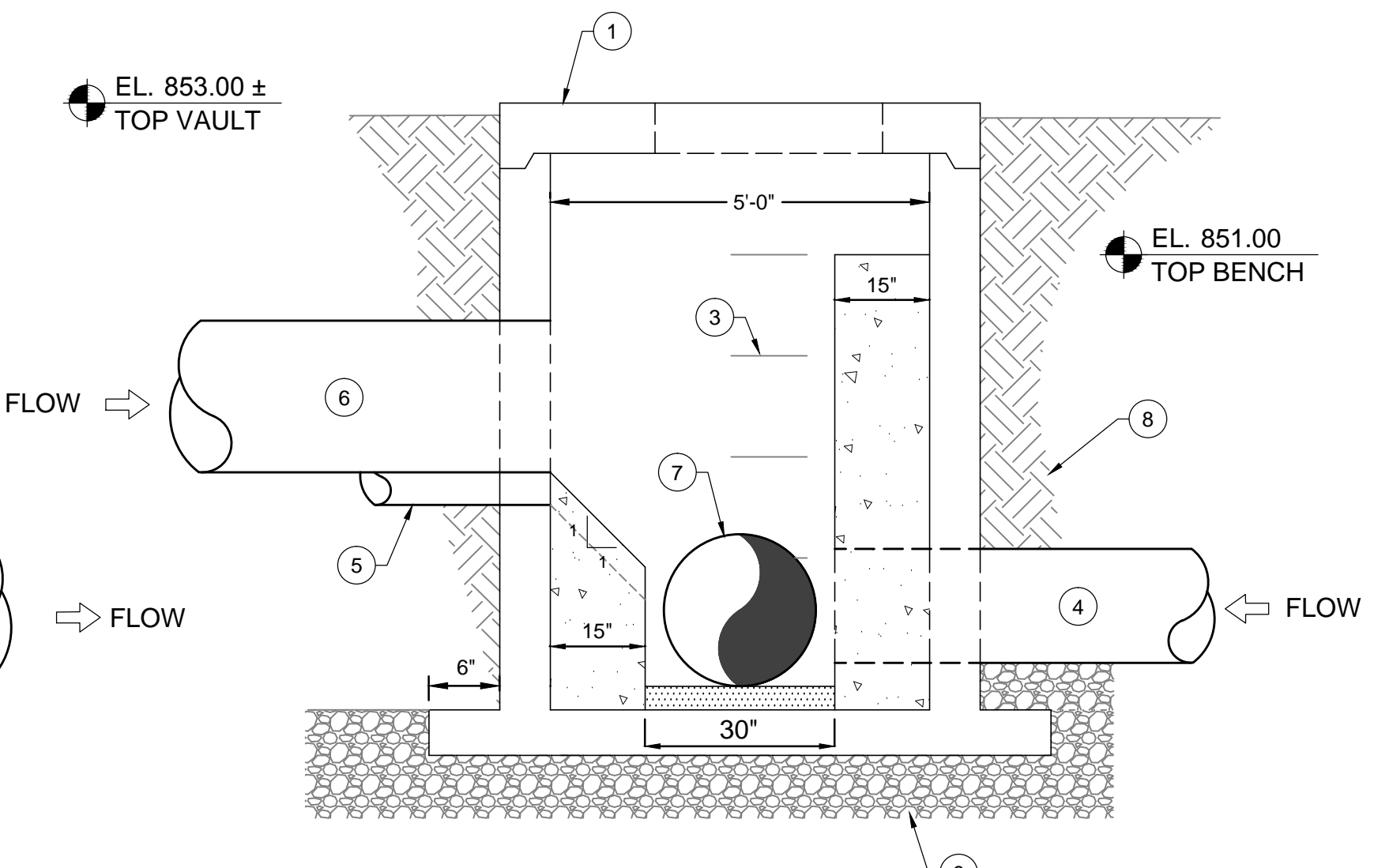
- ① 96"x 60" POLYMER CONCRETE VAULT
- ② 48"x 36" ALUMINUM SINGLE LEAF LOCKING HATCH (WT) w/ S.S. HINGES AND HARDWARE
- ③ 12" STEP (TYP.)
- ④ NEW 18" DIP SANITARY SEWER
- ⑤ NEW 12" DIP SANITARY SEWER
- ⑥ NEW 24" DIP SANITARY SEWER
- ⑦ NEW 24" DIP SANITARY SEWER
- ⑧ COMPACTED BACKFILL MATERIAL
- ⑨ CRUSHED STONE



PROFILE
 HORZ: 1" = 50' - VERT: 1" = 10'



CONCRETE VAULT B1
SECTION A-1
 SCALE: 1/2" = 1'-0"



CONCRETE VAULT B1
SECTION A-2
 SCALE: 1/2" = 1'-0"

aljumper
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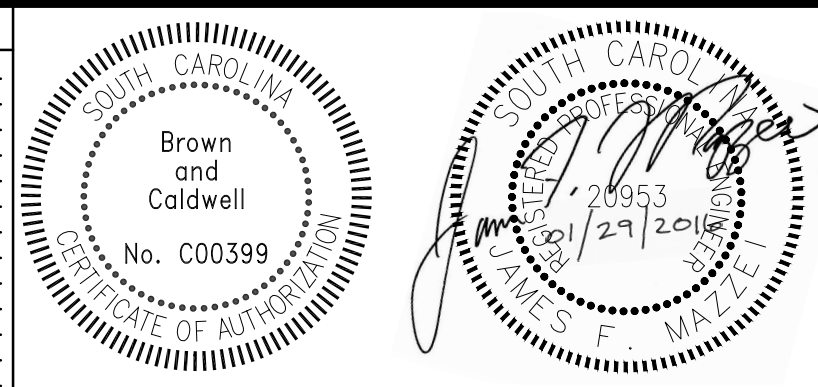
Environmental Engineering and Consulting
 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

SUBMITTED: _____ DATE: _____
 PROJECT MANAGER
 APPROVED: _____ DATE: _____
 BROWN AND CALDWELL

LINE IS 2 INCHES
 AT FULL SIZE
 (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

NO.	DESCRIPTION

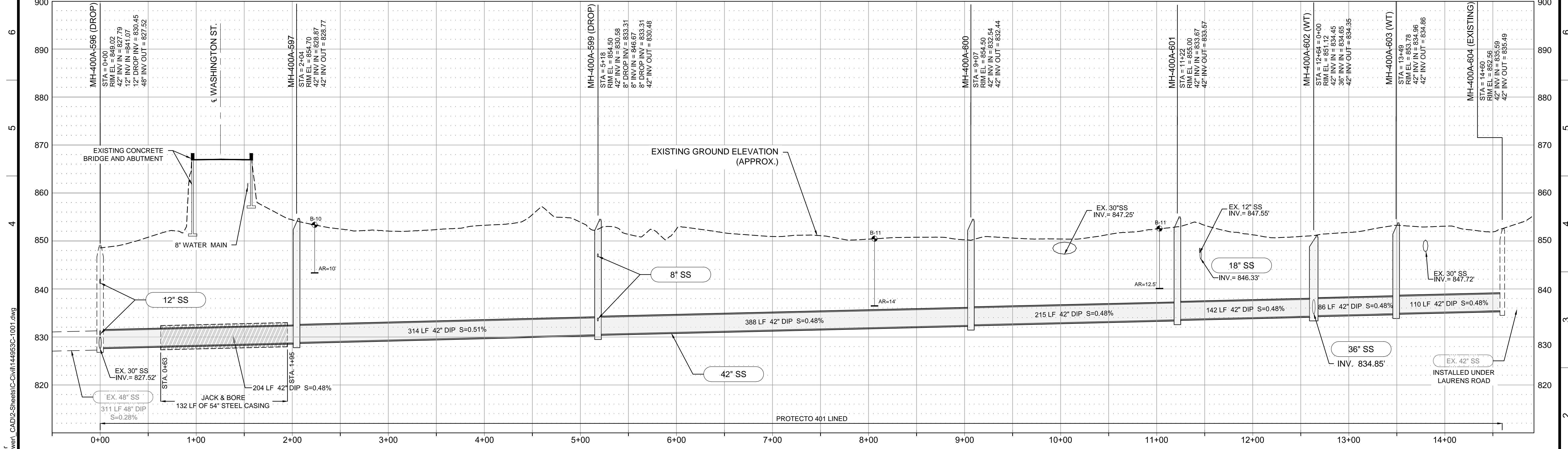
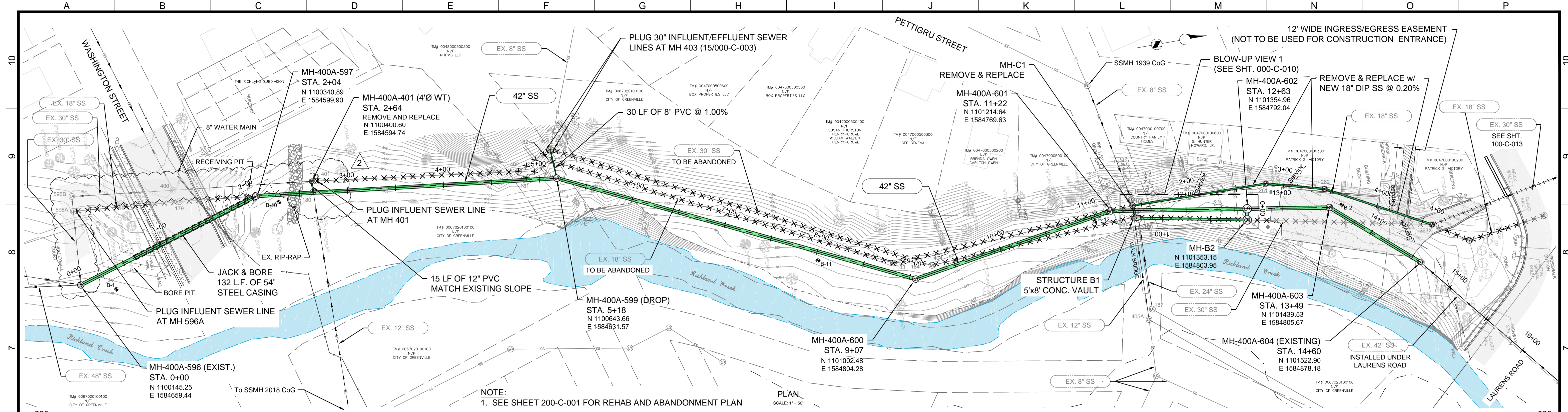


REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	1	CONFORMED DRAWINGS	ASJ	01/2016



GENERAL
RICHLAND CREEK TRUNK SEWER
 BLOW-UP CONNECTION VIEWS

FILENAME	144953C-0010.DWG
BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	000-C-010
SHEET NUMBER	13
OF	32



Brown and Caldwell
Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED: J. EPTING
CHECKED: J. MAZZEI
APPROVED: J. MAZZEI

EXTERNAL REFERENCES

DESIGNED: J. EPTING
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REVISIONS

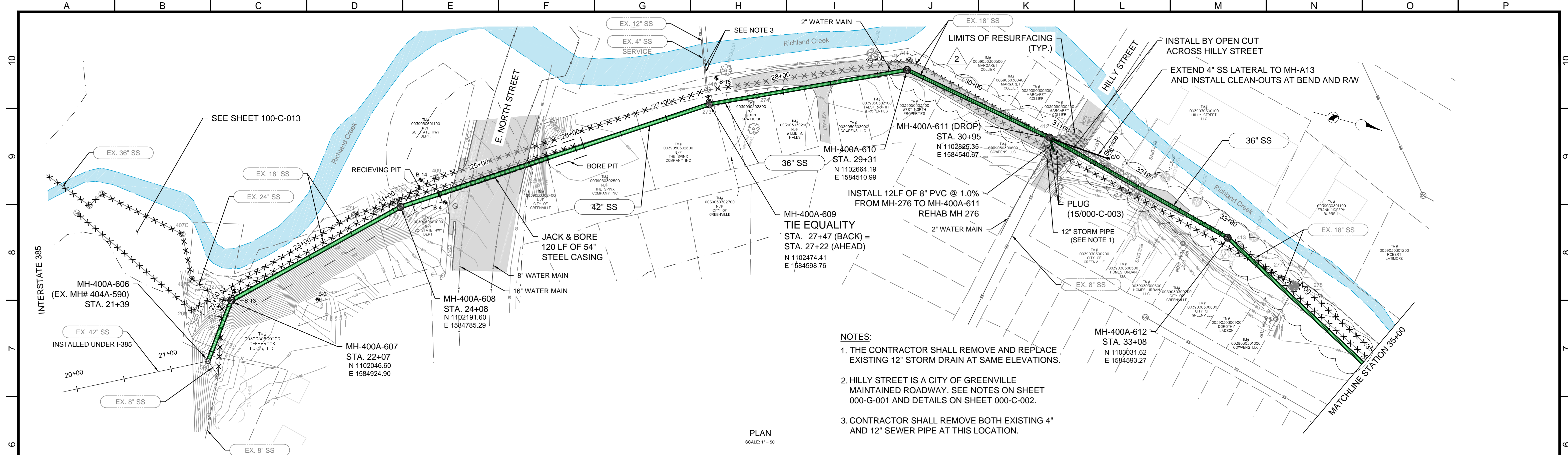
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM
	2	CCD # 3 - R&R MH 400A-401, EXTEND 12" PIPE, REMOVE SLIP LINING AND MH 400A-598	ASJ	08/2016	JFM

CIVIL
RICHLAND CREEK TRUNK SEWER

PLAN & PROFILE
STA. 0+00 TO STA. 14+60

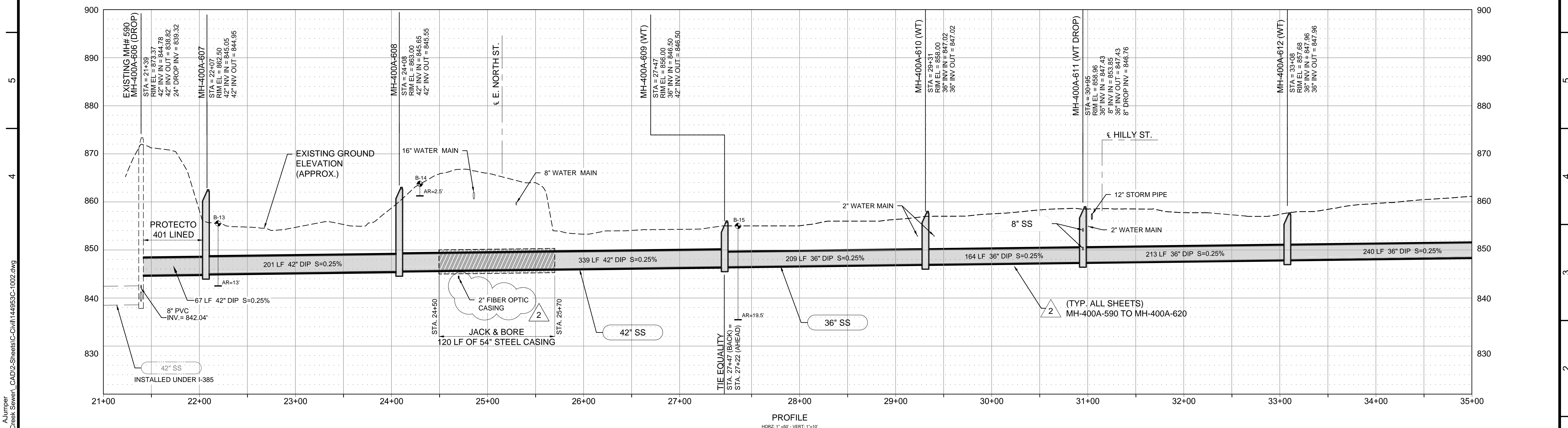
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144953C-1001.DWG
BC PROJECT NUMBER
144953
SCALE
AS SHOWN
DRAWING NUMBER
100-C-001
SHEET NUMBER
14 OF 32

aljumper
 Aug 08, 2016 - 1:16pm
 P:\Clients\ReWa\144953 - Richland Creek Sewer\ CAD\2-Sheets\Civil\144953C-1001.dwg



- NOTES:**
1. THE CONTRACTOR SHALL REMOVE AND REPLACE EXISTING 12" STORM DRAIN AT SAME ELEVATIONS.
 2. HILLY STREET IS A CITY OF GREENVILLE MAINTAINED ROADWAY. SEE NOTES ON SHEET 000-G-001 AND DETAILS ON SHEET 000-C-002.
 3. CONTRACTOR SHALL REMOVE BOTH EXISTING 4" AND 12" SEWER PIPE AT THIS LOCATION.

PLAN
SCALE: 1" = 50'



PROFILE
HORZ: 1" = 50' VERT: 1" = 10'

Brown and Caldwell
Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED: J. EPTING
CHECKED: J. MAZZEI
APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)	EXTERNAL REFERENCES
DESIGNED: J. EPTING	
DRAWN: A. JUMPER	
CHECKED: J. EPTING	
CHECKED: J. MAZZEI	
APPROVED: J. MAZZEI	

South Carolina
Professional Engineer
Brown and Caldwell
No. C00399

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM
	2	CCD #13 - ALIGNMENT REVISION	ASJ	03/2017	JFM

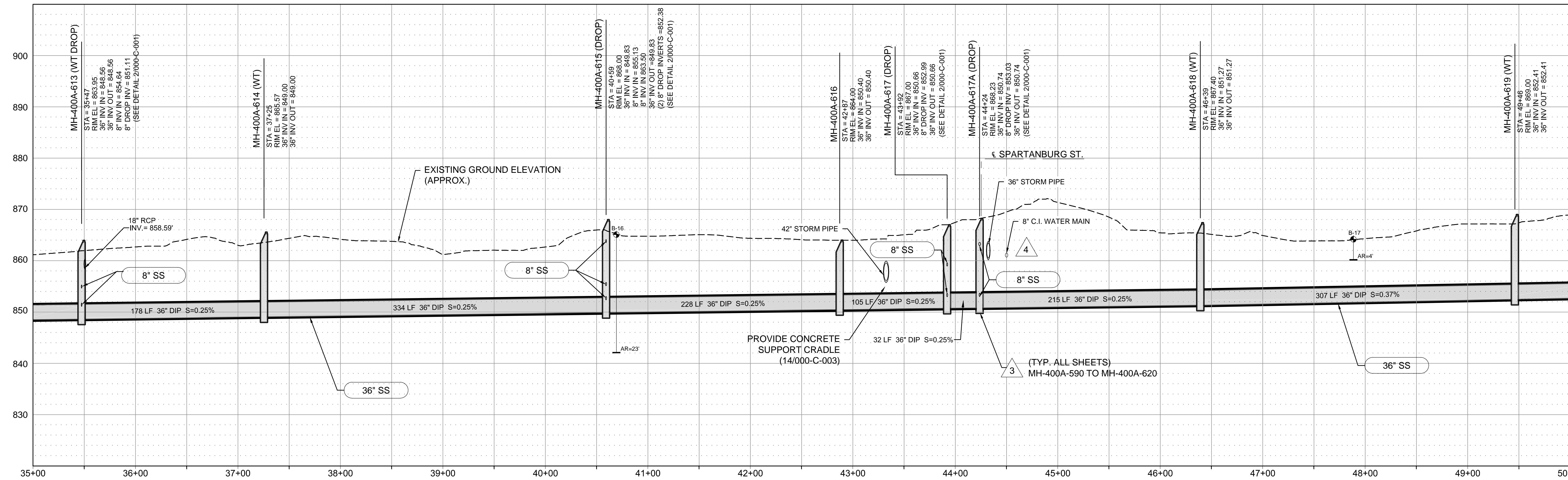
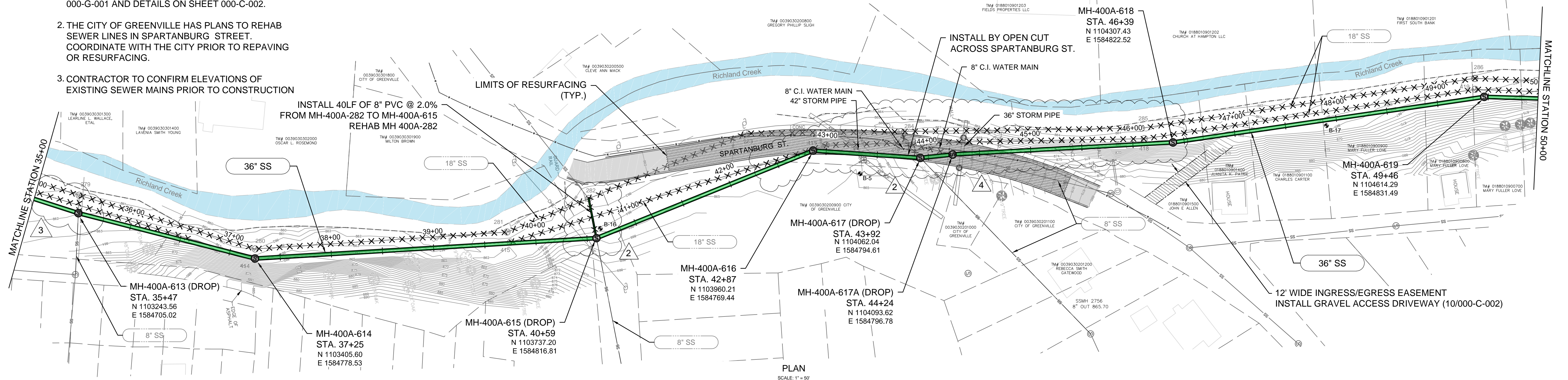
ReWa
renewable water resources

CIVIL
RICHLAND CREEK TRUNK SEWER
PLAN & PROFILE
STA. 21+39 TO STA. 35+00

FILENAME 144953C-1002.DWG
BC PROJECT NUMBER 144953
SCALE AS SHOWN
DRAWING NUMBER 100-C-002
SHEET NUMBER 15 OF 32

Mar 15, 2017 - 2:27pm
 P:\Clients\ReWa\144953 - Richland Creek Sewer\ CAD\2-Sheets\Civil\144953C-1002.dwg
 AJumper

- NOTES:
1. SPARTANBURG STREET IS A CITY OF GREENVILLE MAINTAINED ROADWAY. SEE NOTES ON SHEET 000-G-001 AND DETAILS ON SHEET 000-C-002.
 2. THE CITY OF GREENVILLE HAS PLANS TO REHAB SEWER LINES IN SPARTANBURG STREET. COORDINATE WITH THE CITY PRIOR TO REPAVING OR RESURFACING.
 3. CONTRACTOR TO CONFIRM ELEVATIONS OF EXISTING SEWER MAINS PRIOR TO CONSTRUCTION



A:Jumper
 P:\Clients\ReWa\144953 - Richland Creek Sewer\ CAD\2-Sheets\Civil\144953C-1003.dwg
 May 04, 2017 - 12:05pm

Brown and Caldwell
 Environmental Engineering and Consulting
 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

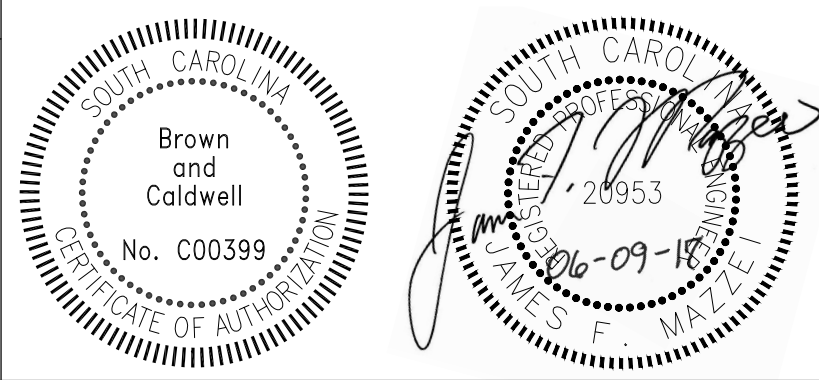
SUBMITTED: _____ DATE: _____
 PROJECT MANAGER

APPROVED: _____ DATE: _____
 BROWN AND CALDWELL

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

EXTERNAL REFERENCES



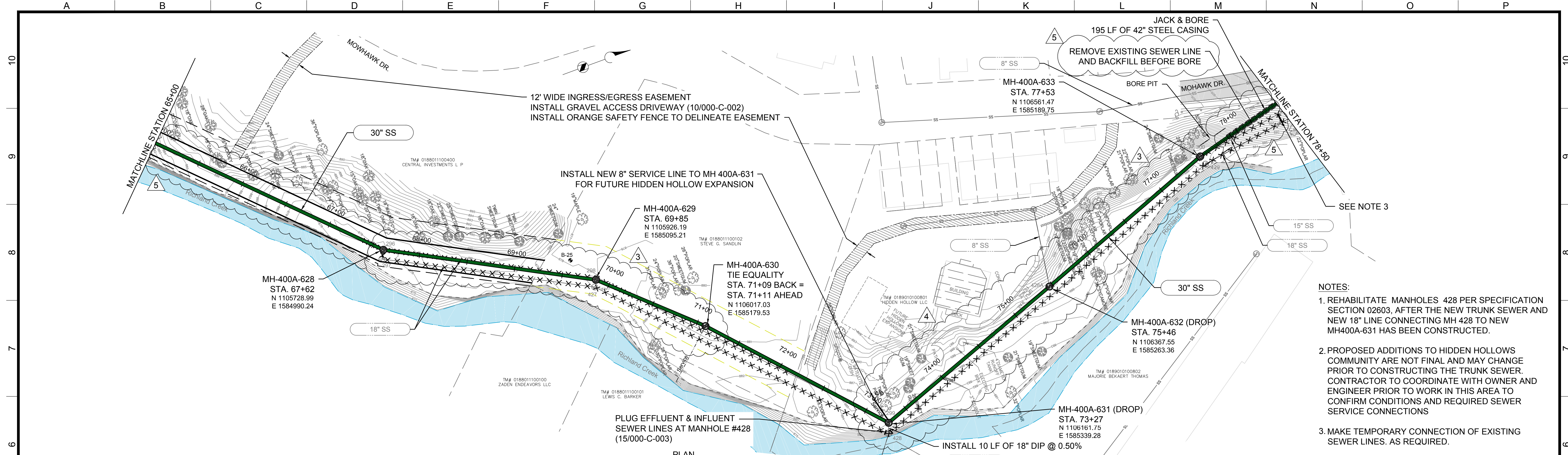
REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM
	2	CCD # 1 - EXTEND 8" SS FROM MH-400A-282 TO MH-400A-618	ASJ	08/2016	JFM
		CCD # 2 - 8" SEWER RECONFIGURATION AT MH 400A-617			
	3	CCD # 13 - ALIGNMENT REVISION	ASJ	03/2017	JFM
	4	ALIGNMENT REVISION FOR 8" WATER LINE	ASJ	05/2017	JFM

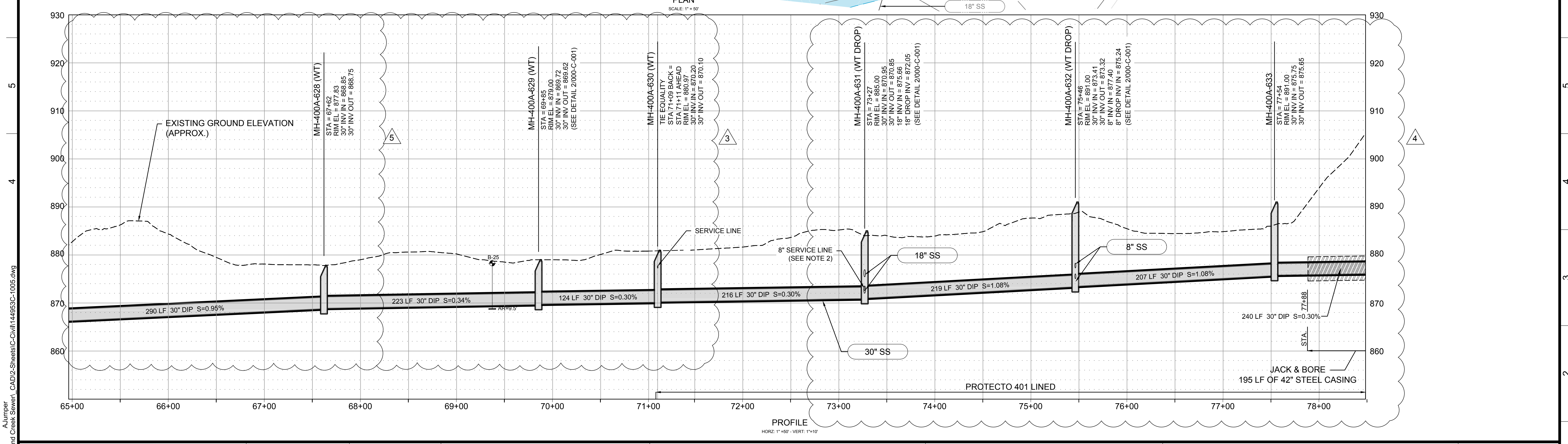


CIVIL
RICHLAND CREEK TRUNK SEWER
 PLAN & PROFILE
 STA. 35+00 TO STA. 50+00

FILENAME	144953C-1003.DWG
BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	100-C-003
SHEET NUMBER	16 OF 32



- NOTES:**
- REHABILITATE MANHOLES 428 PER SPECIFICATION SECTION 02603, AFTER THE NEW TRUNK SEWER AND NEW 18" LINE CONNECTING MH 428 TO NEW MH400A-631 HAS BEEN CONSTRUCTED.
 - PROPOSED ADDITIONS TO HIDDEN HOLLOW COMMUNITY ARE NOT FINAL AND MAY CHANGE PRIOR TO CONSTRUCTING THE TRUNK SEWER. CONTRACTOR TO COORDINATE WITH OWNER AND ENGINEER PRIOR TO WORK IN THIS AREA TO CONFIRM CONDITIONS AND REQUIRED SEWER SERVICE CONNECTIONS
 - MAKE TEMPORARY CONNECTION OF EXISTING SEWER LINES. AS REQUIRED.



Brown and Caldwell
 Environmental Engineering and Consulting
 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

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 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

EXTERNAL REFERENCES

REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM
	2	REVISIONS FOR FUTURE HIDDEN HOLLOW EXPANSION	ASJ	01/2016	JFM
	3	CCD #4 - ELIMINATE MH 429 AND SLIP LINING.	ASJ	08/2016	JFM
		CCD #5 - REALIGN SEWER FROM MH-628 TO MH-630			
	4	MOHAWK DRIVE REALIGNMENT	ASJ	08/2017	JFM
	5	VERTICAL REALIGNMENT MH-628 TO MH-628	ASJ	09/2017	JFM

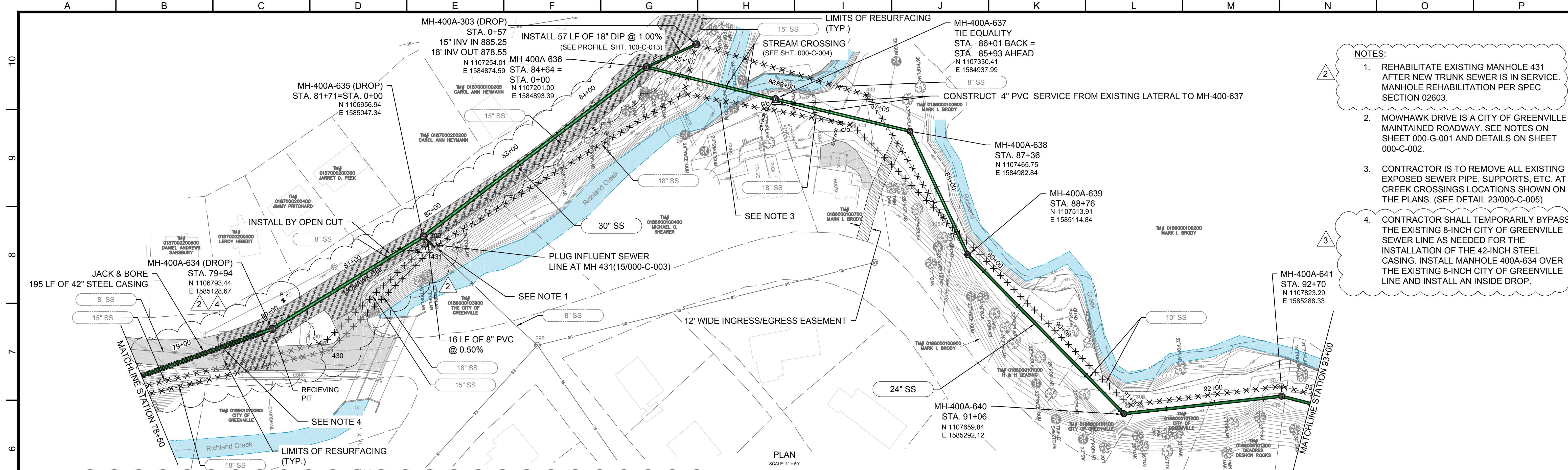
ReWa
 renewable water resources

CIVIL
RICHLAND CREEK TRUNK SEWER

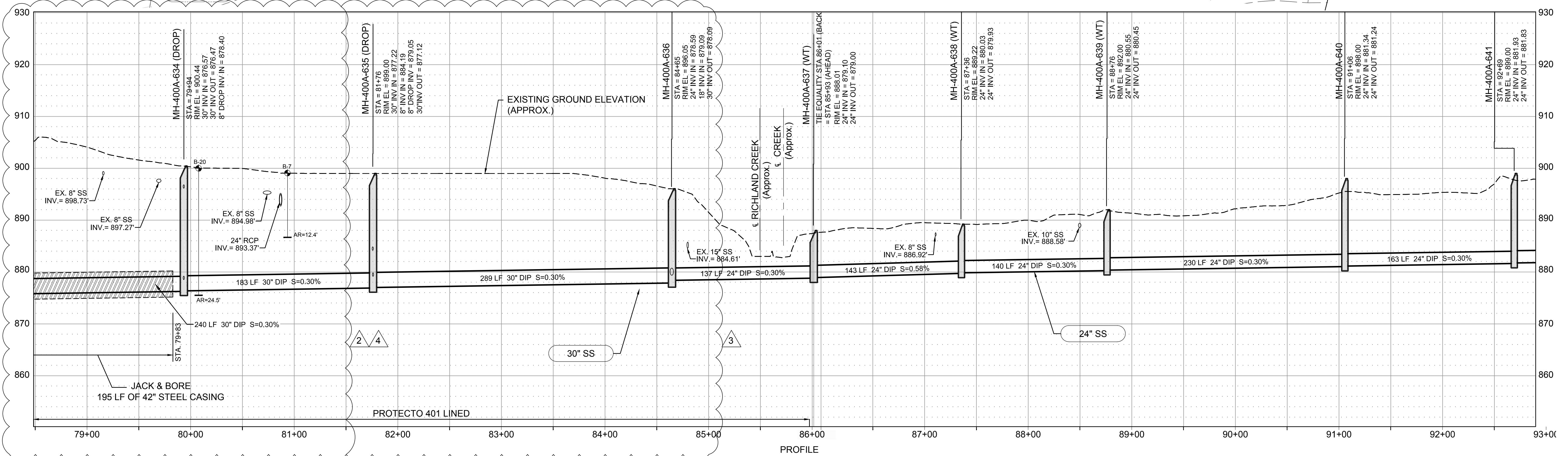
PLAN & PROFILE
 STA. 65+00 TO STA. 78+50

FILENAME: 144953C-1005.DWG
 BC PROJECT NUMBER: 144953
 SCALE: AS SHOWN
 DRAWING NUMBER: 100-C-005
 SHEET NUMBER: 18 OF 32

Sep 14, 2017 - 3:24pm
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 AJumper



- NOTES:
- REHABILITATE EXISTING MANHOLE 431 AFTER NEW TRUNK SEWER IS IN SERVICE. MANHOLE REHABILITATION PER SPEC SECTION 02603.
 - MOWHAWK DRIVE IS A CITY OF GREENVILLE MAINTAINED ROADWAY. SEE NOTES ON SHEET 000-G-001 AND DETAILS ON SHEET 000-C-002.
 - CONTRACTOR IS TO REMOVE ALL EXISTING EXPOSED SEWER PIPE, SUPPORTS, ETC. AT CREEK CROSSINGS LOCATIONS SHOWN ON THE PLANS. (SEE DETAIL 23/000-C-005)
 - CONTRACTOR SHALL TEMPORARILY BYPASS THE EXISTING 8-INCH CITY OF GREENVILLE SEWER LINE AS NEEDED FOR THE INSTALLATION OF THE 42-INCH STEEL CASING. INSTALL MANHOLE 400A-634 OVER THE EXISTING 8-INCH CITY OF GREENVILLE LINE AND INSTALL AN INSIDE DROP.



Brown and Caldwell
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 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
 DRAWN: A. JUMPER
 CHECKED: J. EPTING
 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

PROJECT MANAGER: _____ DATE: _____
 APPROVED: BROWN AND CALDWELL DATE: _____

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

EXTERNAL REFERENCES

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM
	2	CCD #4 - REALIGNMENT OF MH 400A-635, NEW 8" AND 12" SEWER, REMOVAL OF REHAB FROM MH 430 & 302 AND SLIP Lining	ASJ	08/2016	JFM
	3	MOHAWK DRIVE REALIGNMENT	ASJ	08/2017	JFM
	4	HORIZONTAL ADJUSTMENT OF BORE	ASJ	09/2017	JFM

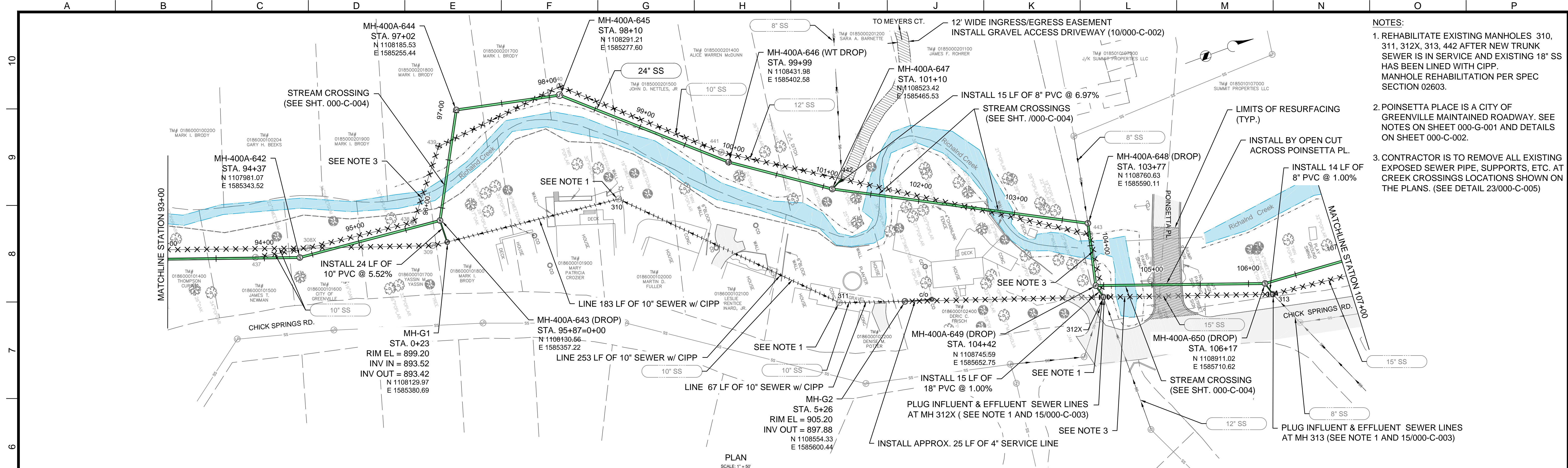
ReWa
 renewable water resources

CIVIL
RICHLAND CREEK TRUNK SEWER

PLAN & PROFILE
 STA. 78+50 TO STA. 93+00

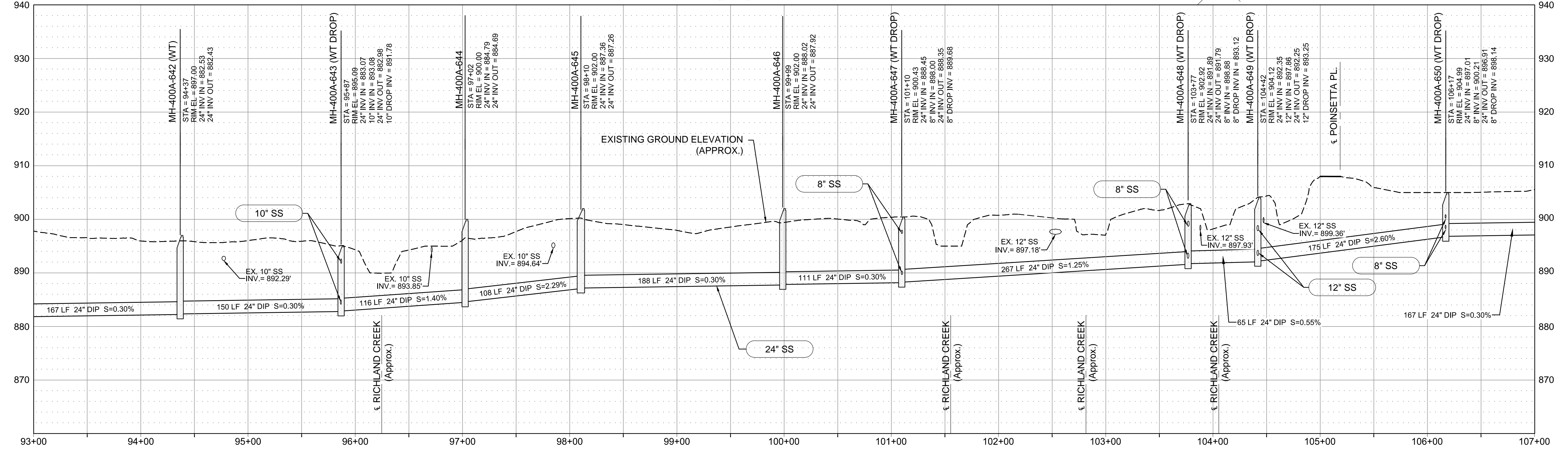
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BC PROJECT NUMBER 144953
SCALE AS SHOWN
DRAWING NUMBER 100-C-006
SHEET NUMBER 19 OF 32

Sep 14, 2017 - 3:25pm
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- NOTES:**
- REHABILITATE EXISTING MANHOLES 310, 311, 312X, 313, 442 AFTER NEW TRUNK SEWER IS IN SERVICE AND EXISTING 18" SS HAS BEEN LINED WITH CIPP. MANHOLE REHABILITATION PER SPEC SECTION 02603.
 - POINSETTA PLACE IS A CITY OF GREENVILLE MAINTAINED ROADWAY. SEE NOTES ON SHEET 000-G-001 AND DETAILS ON SHEET 000-C-002.
 - CONTRACTOR IS TO REMOVE ALL EXISTING EXPOSED SEWER PIPE, SUPPORTS, ETC. AT CREEK CROSSINGS LOCATIONS SHOWN ON THE PLANS. (SEE DETAIL 23/000-C-005)

PLAN
SCALE: 1" = 50'

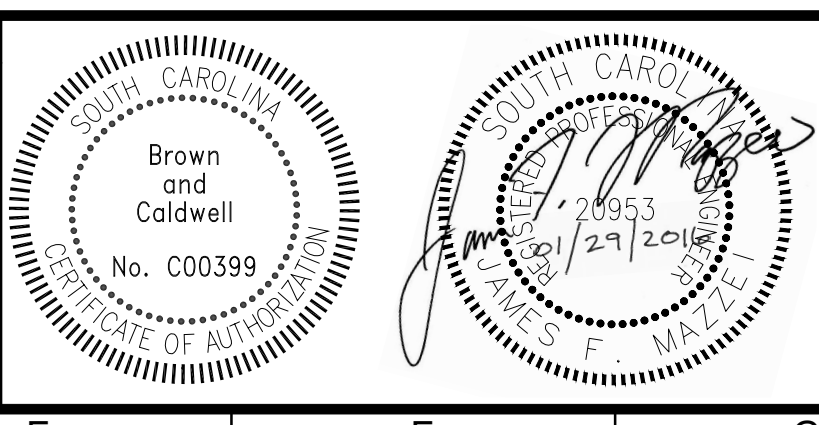


PROFILE
HORZ. 1" = 50' VERT. 1" = 10'

Brown and Caldwell
Environmental Engineering and Consulting
250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

DESIGNED: J. EPTING
DRAWN: A. JUMPER
CHECKED: J. EPTING
CHECKED: J. MAZZEI
APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)	EXTERNAL REFERENCES
DESIGNED: J. EPTING	
DRAWN: A. JUMPER	
CHECKED: J. EPTING	
CHECKED: J. MAZZEI	
APPROVED: J. MAZZEI	



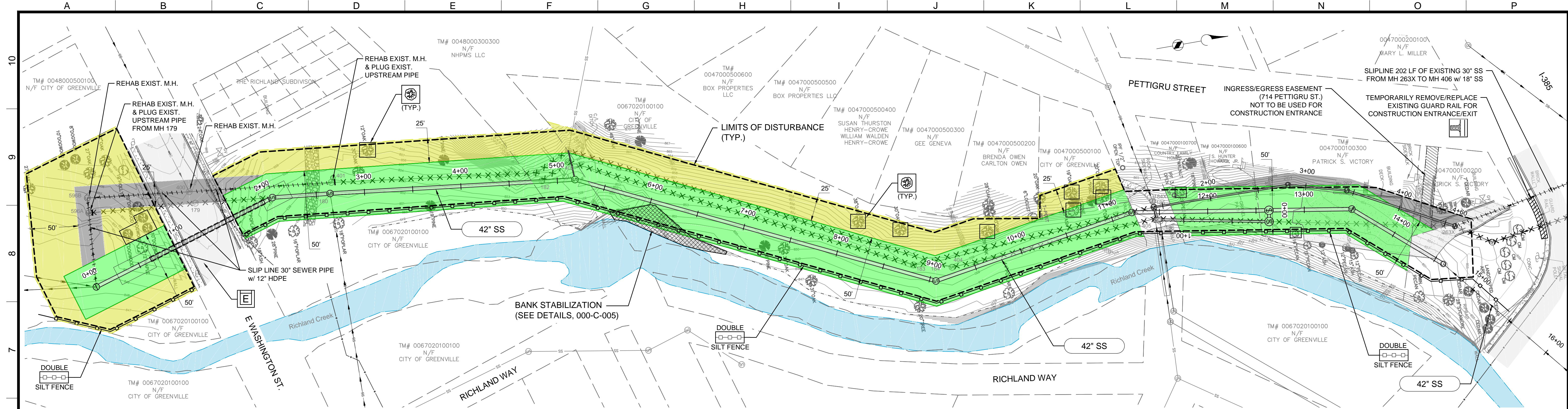
REVISIONS				
ZONE	REV.	DESCRIPTION	BY	DATE
	1	CONFORMED DRAWINGS	ASJ	01/2016



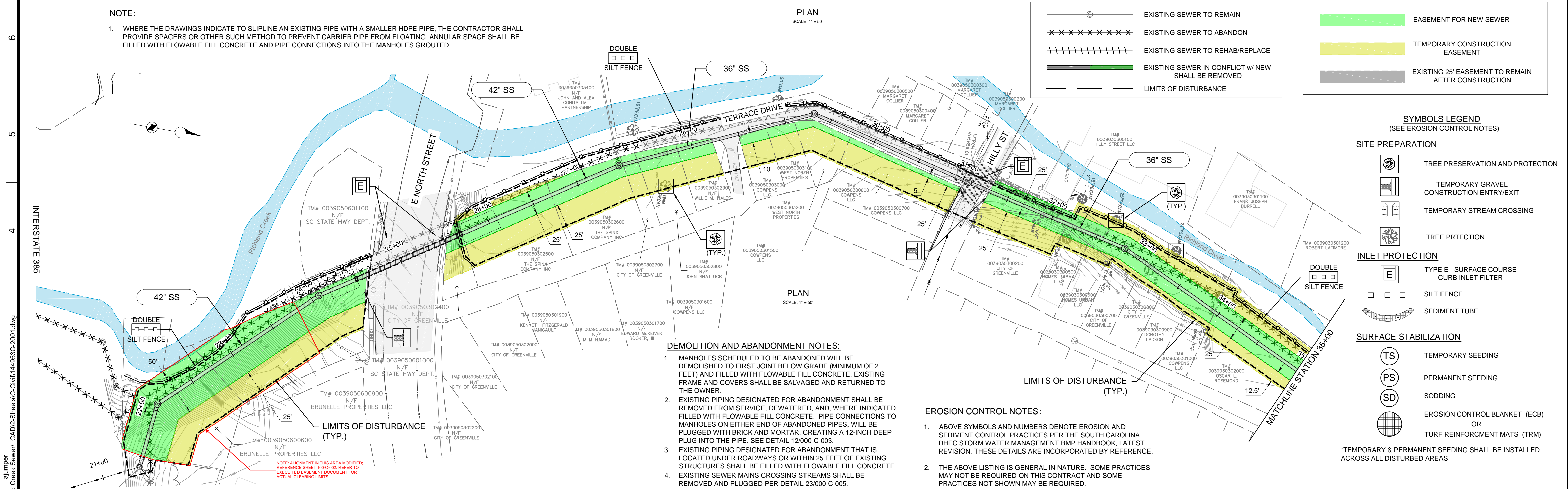
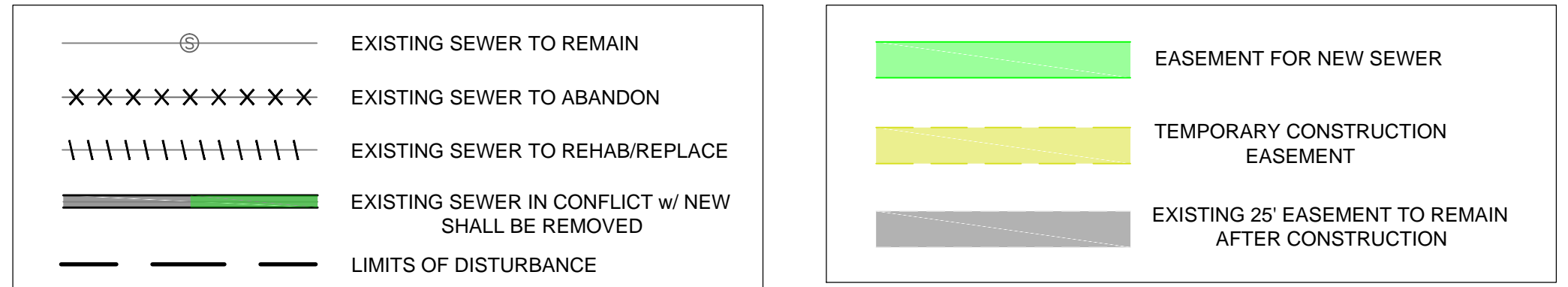
CIVIL
RICHLAND CREEK TRUNK SEWER
PLAN & PROFILE
STA. 93+00 TO STA. 107+00

FILENAME	144953C-1007.DWG
BC PROJECT NUMBER	144953
SCALE	AS SHOWN
DRAWING NUMBER	100-C-007
SHEET NUMBER	20 OF 32

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 Jan 29, 2016 - 11:46am
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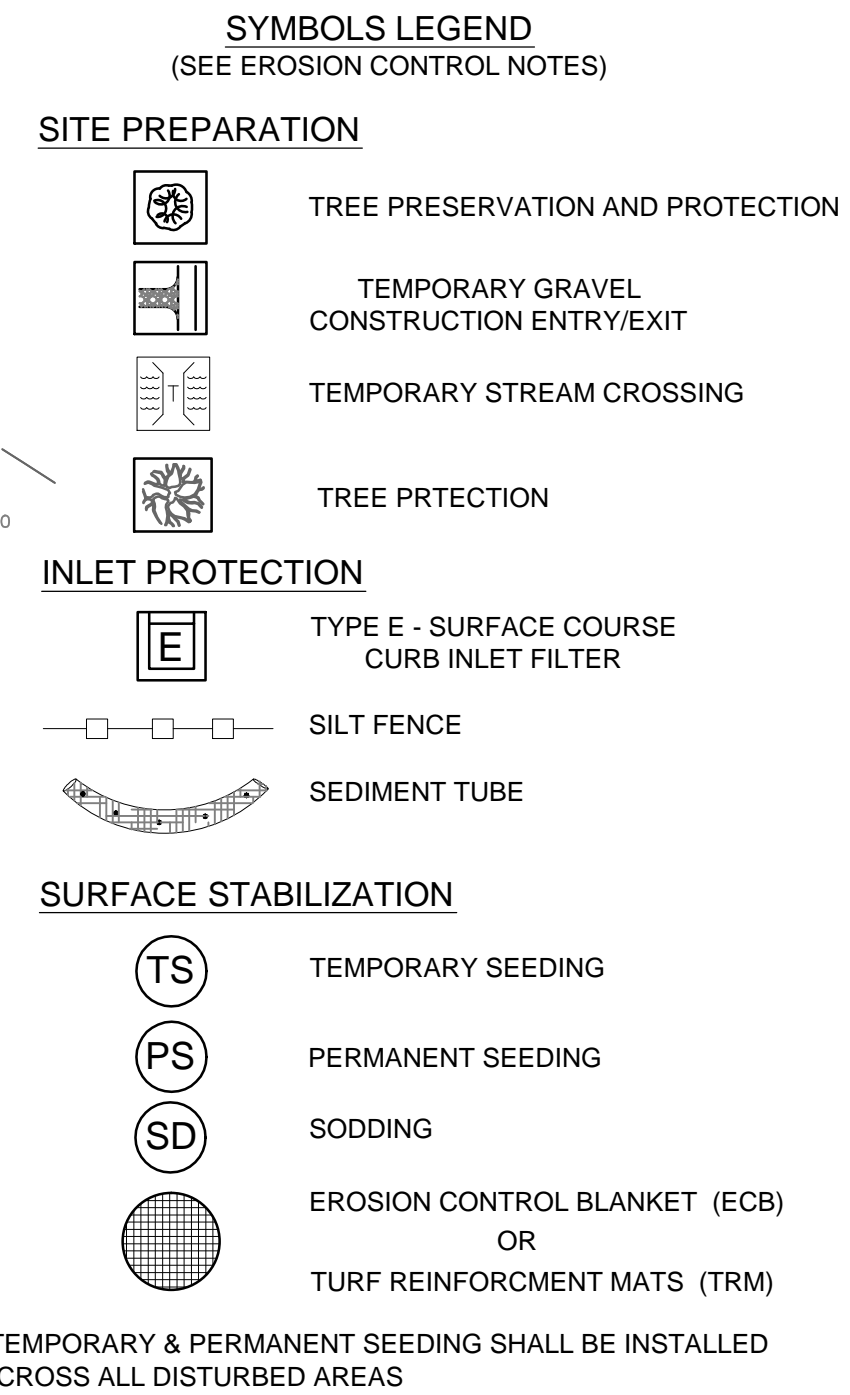


NOTE:
 1. WHERE THE DRAWINGS INDICATE TO SLIPLINE AN EXISTING PIPE WITH A SMALLER HDPE PIPE, THE CONTRACTOR SHALL PROVIDE SPACERS OR OTHER SUCH METHOD TO PREVENT CARRIER PIPE FROM FLOATING. ANNUAL SPACE SHALL BE FILLED WITH FLOWABLE FILL CONCRETE AND PIPE CONNECTIONS INTO THE MANHOLES GROUDED.



DEMOLITION AND ABANDONMENT NOTES:
 1. MANHOLES SCHEDULED TO BE ABANDONED WILL BE DEMOLISHED TO FIRST JOINT BELOW GRADE (MINIMUM OF 2 FEET) AND FILLED WITH FLOWABLE FILL CONCRETE. EXISTING FRAME AND COVERS SHALL BE SALVAGED AND RETURNED TO THE OWNER.
 2. EXISTING PIPING DESIGNATED FOR ABANDONMENT SHALL BE REMOVED FROM SERVICE, DEWATERED, AND, WHERE INDICATED, FILLED WITH FLOWABLE FILL CONCRETE. PIPE CONNECTIONS TO MANHOLES ON EITHER END OF ABANDONED PIPES, WILL BE PLUGGED WITH BRICK AND MORTAR, CREATING A 12-INCH DEEP PLUG INTO THE PIPE. SEE DETAIL 12/000-C-003.
 3. EXISTING PIPING DESIGNATED FOR ABANDONMENT THAT IS LOCATED UNDER ROADWAYS OR WITHIN 25 FEET OF EXISTING STRUCTURES SHALL BE FILLED WITH FLOWABLE FILL CONCRETE.
 4. EXISTING SEWER MAINS CROSSING STREAMS SHALL BE REMOVED AND PLUGGED PER DETAIL 23/000-C-005.

EROSION CONTROL NOTES:
 1. ABOVE SYMBOLS AND NUMBERS DENOTE EROSION AND SEDIMENT CONTROL PRACTICES PER THE SOUTH CAROLINA DHEC STORM WATER MANAGEMENT BMP HANDBOOK, LATEST REVISION. THESE DETAILS ARE INCORPORATED BY REFERENCE.
 2. THE ABOVE LISTING IS GENERAL IN NATURE. SOME PRACTICES MAY NOT BE REQUIRED ON THIS CONTRACT AND SOME PRACTICES NOT SHOWN MAY BE REQUIRED.



Brown and Caldwell
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 250 Berryhill Road, Suite 104, Columbia, SC 29210 803-873-9701

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 CHECKED: J. MAZZEI
 APPROVED: J. MAZZEI

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2" - SCALE ACCORDINGLY)

EXTERNAL REFERENCES

South Carolina
 Brown and Caldwell
 No. C00399
 CERTIFICATE OF AUTHORIZATION

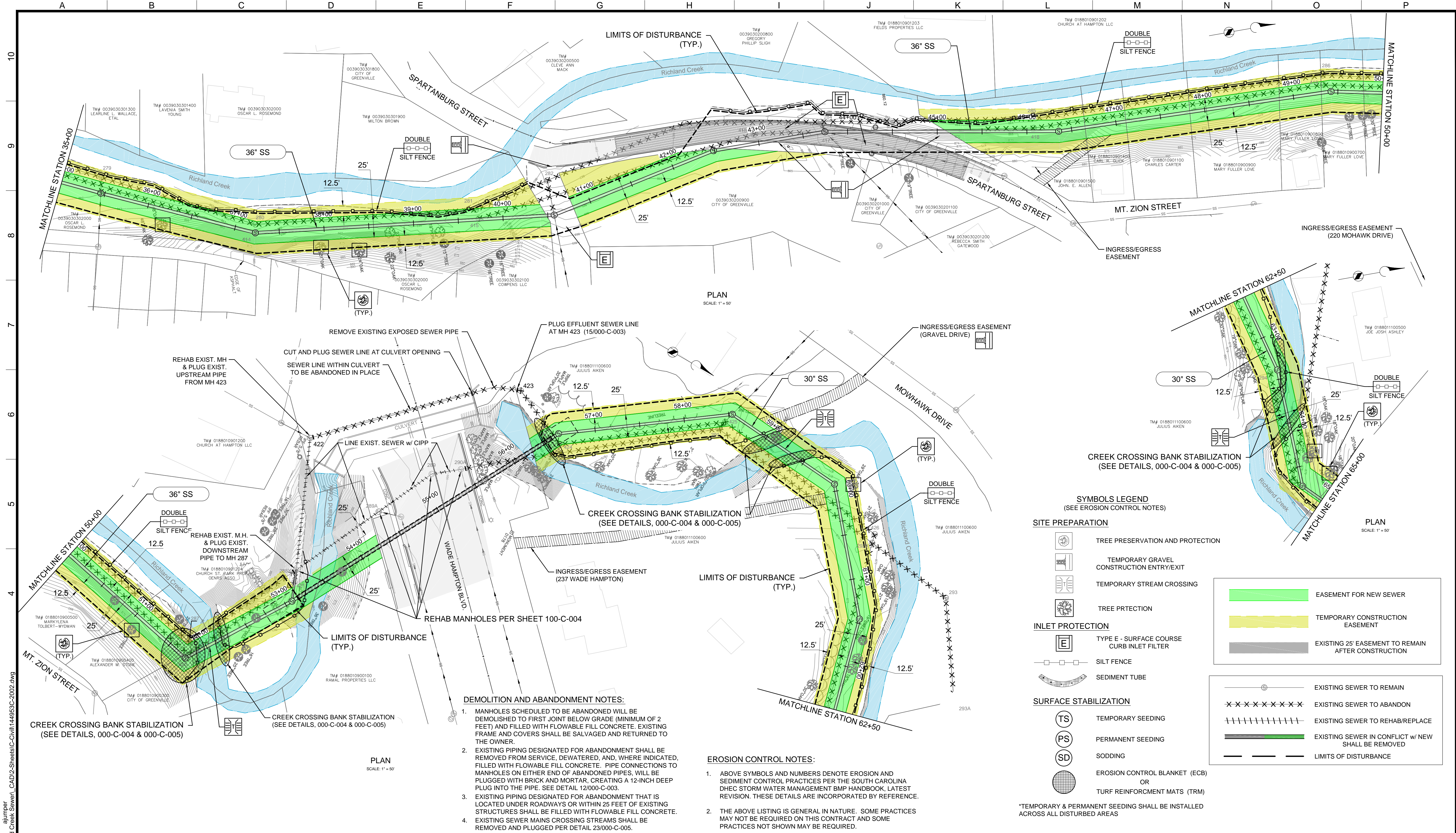
ZONE	REV.	DESCRIPTION	BY	DATE	APP.
	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



AUXILIARY
**RICHLAND CREEK TRUNK SEWER
 EASEMENTS
 SEDIMENT & EROSION CONTROL PLAN
 REHAB & ABANDONMENT PLAN**

FILENAME: 144953C-2001.DWG
 BC PROJECT NUMBER: 144953
 SCALE: AS SHOWN
 DRAWING NUMBER: 200-C-001
 SHEET NUMBER: 27 OF 32

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 Jan 29, 2016 - 12:35pm
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SYMBOLS LEGEND
(SEE EROSION CONTROL NOTES)

SITE PREPARATION

- Tree Preservation and Protection
- Temporary Gravel Construction Entry/Exit
- Temporary Stream Crossing
- Tree Protection

INLET PROTECTION

- Type E - Surface Course Curb Inlet Filter
- Silt Fence
- Sediment Tube

SURFACE STABILIZATION

- Temporary Seeding (TS)
- Permanent Seeding (PS)
- Sodding (SD)
- Erosion Control Blanket (ECB) or Turf Reinforcement Mats (TRM)

*TEMPORARY & PERMANENT SEEDING SHALL BE INSTALLED ACROSS ALL DISTURBED AREAS

EASEMENT AND ABANDONMENT LEGEND

- EASEMENT FOR NEW SEWER
- TEMPORARY CONSTRUCTION EASEMENT
- EXISTING 25' EASEMENT TO REMAIN AFTER CONSTRUCTION
- EXISTING SEWER TO REMAIN
- EXISTING SEWER TO ABANDON
- EXISTING SEWER TO REHAB/REPLACE
- EXISTING SEWER IN CONFLICT W/ NEW SHALL BE REMOVED
- LIMITS OF DISTURBANCE

- DEMOLITION AND ABANDONMENT NOTES:**
- MANHOLES SCHEDULED TO BE ABANDONED WILL BE DEMOLISHED TO FIRST JOINT BELOW GRADE (MINIMUM OF 2 FEET) AND FILLED WITH FLOWABLE FILL CONCRETE. EXISTING FRAME AND COVERS SHALL BE SALVAGED AND RETURNED TO THE OWNER.
 - EXISTING PIPING DESIGNATED FOR ABANDONMENT SHALL BE REMOVED FROM SERVICE, DEWATERED, AND, WHERE INDICATED, FILLED WITH FLOWABLE FILL CONCRETE. PIPE CONNECTIONS TO MANHOLES ON EITHER END OF ABANDONED PIPES, WILL BE PLUGGED WITH BRICK AND MORTAR, CREATING A 12-INCH DEEP PLUG INTO THE PIPE. SEE DETAIL 12/000-C-003.
 - EXISTING PIPING DESIGNATED FOR ABANDONMENT THAT IS LOCATED UNDER ROADWAYS OR WITHIN 25 FEET OF EXISTING STRUCTURES SHALL BE FILLED WITH FLOWABLE FILL CONCRETE.
 - EXISTING SEWER MAINS CROSSING STREAMS SHALL BE REMOVED AND PLUGGED PER DETAIL 23/000-C-005.

- EROSION CONTROL NOTES:**
- ABOVE SYMBOLS AND NUMBERS DENOTE EROSION AND SEDIMENT CONTROL PRACTICES PER THE SOUTH CAROLINA DHEC STORM WATER MANAGEMENT BMP HANDBOOK, LATEST REVISION. THESE DETAILS ARE INCORPORATED BY REFERENCE.
 - THE ABOVE LISTING IS GENERAL IN NATURE. SOME PRACTICES MAY NOT BE REQUIRED ON THIS CONTRACT AND SOME PRACTICES NOT SHOWN MAY BE REQUIRED.

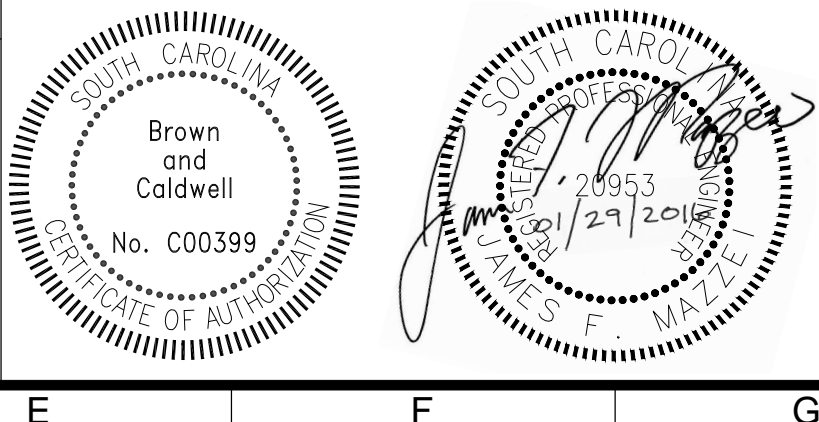
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EXTERNAL REFERENCES

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
1	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



REVISIONS

ZONE	REV.	DESCRIPTION	BY	DATE	APP.
1	1	CONFORMED DRAWINGS	ASJ	01/2016	JFM



CIVIL
**RICHLAND CREEK TRUNK SEWER
EASEMENTS
SEDIMENT AND EROSION CONTROL PLAN
REHAB & ABANDONMENT PLAN**

FILENAME: 144953C-2002.DWG
BC PROJECT NUMBER: 144953
SCALE: AS SHOWN
DRAWING NUMBER: 200-C-002
SHEET NUMBER: 28 OF 32

Jan 29, 2016 - 12:40pm P:\Clients\ReWa\144953 - Richland Creek Sewer - CAD\2-Sheets\Civil\144953C-2002.dwg alumper

