

# 24" AUGUSTA ROAD WATER MAIN

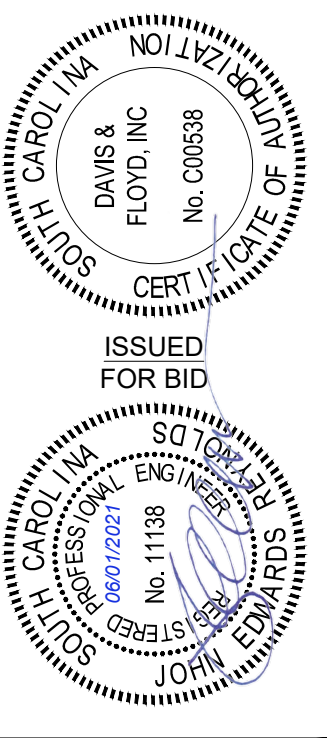
PROJECT ID # CIP CONTRACT 187

GREENVILLE WATER

407 W. BROAD ST. GREENVILLE, SC 29601



GreenvilleWater



**DAVIS & FLOYD**  
SINCE 1954  
WWW.DAVISANDFLOYD.COM  
164 MILESTONE WAY, SUITE 200  
GREENVILLE, SC 29615  
(864) 527-5800

OWNER  
**GREENVILLE WATER**  
407 W. BROAD ST. GREENVILLE, SC 29601  
PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

COVER SHEET

NO.	DATE	REVISION
1	04/15/2021	REVISION PER AGENCY REVIEW COMMENTS

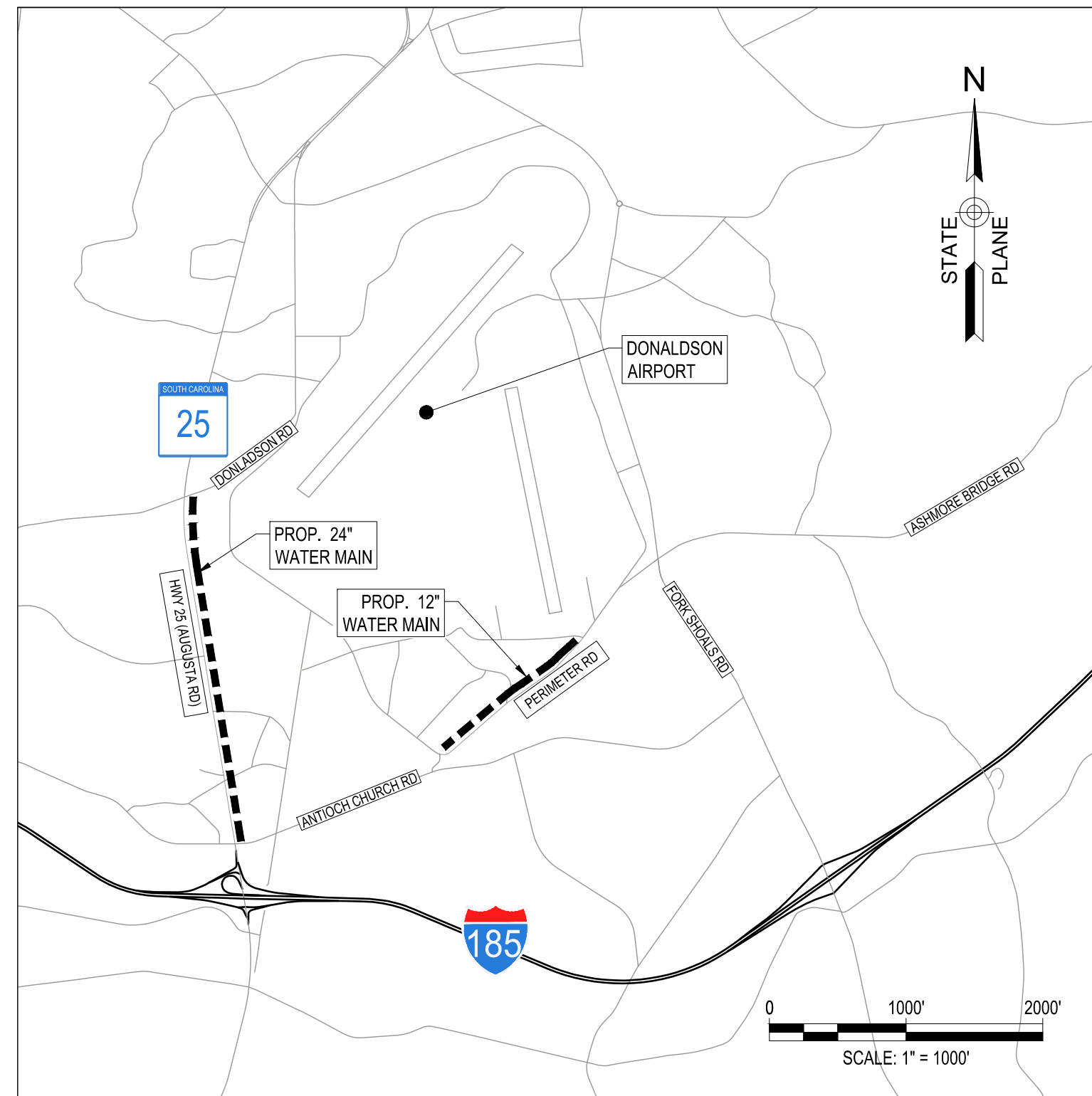
DATE: 01/30/21  
DATE: APRIL 2021  
DRAWN: MJP  
CHECKED: JER  
DATE: 6/1/2021  
DATE: 6/1/2021

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Know what's below.  
Call before you dig.

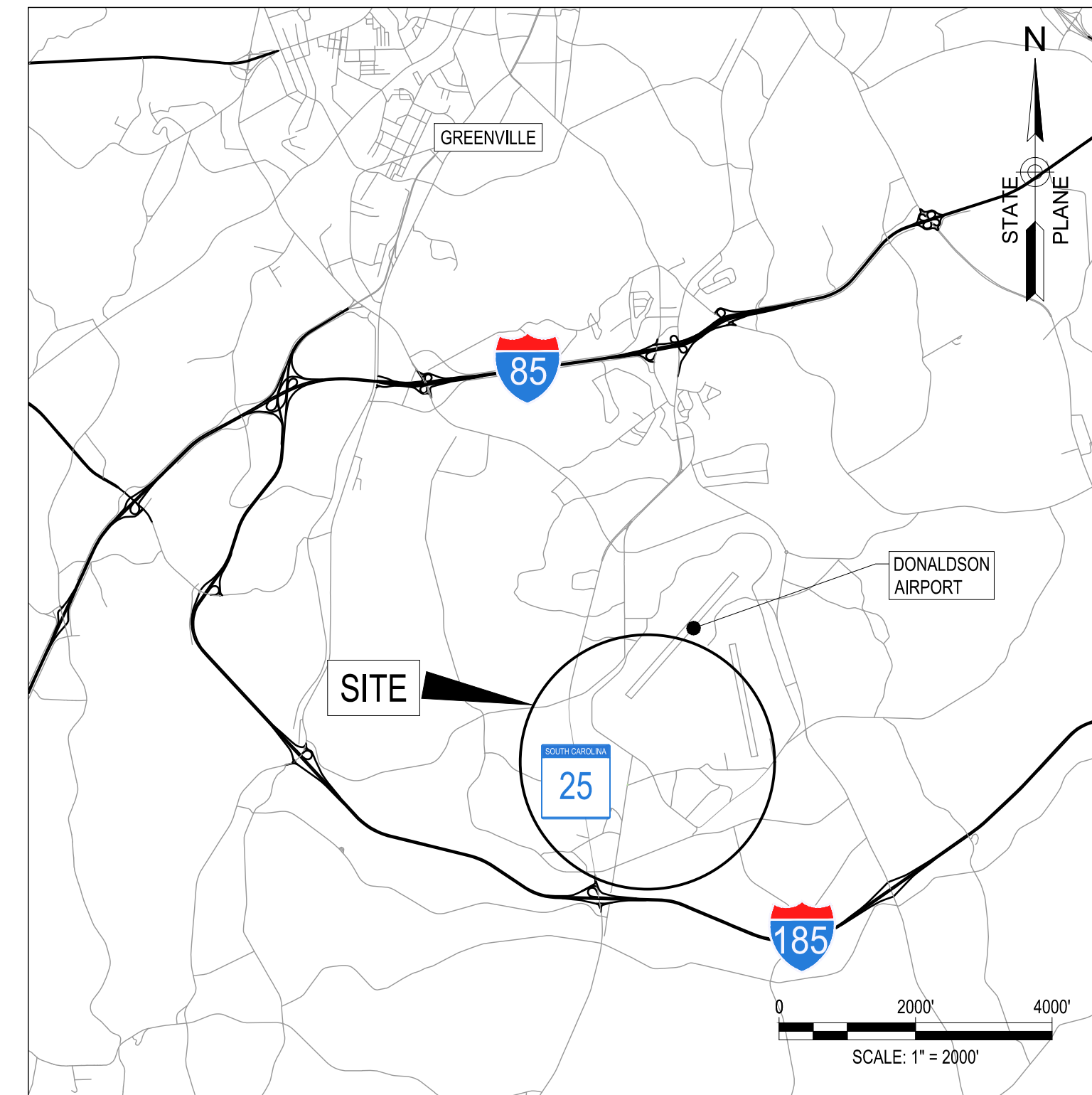
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PAGE 1 OF 26

## LEGEND

EDGE OF ASPHALT PAVEMENT - EXISTING	
EDGE OF CONCRETE PAVEMENT - EXISTING	
ROAD CENTERLINE	
GIS PROPERTY LINE	
ROAD RIGHT-OF-WAY (R/W)	
SURVEYED/ADJACENT PROPERTY LINE	
TOP OF BANK LINE	
BOTTOM OF BANK LINE	
COMMUNICATION/TELEPHONE CABLE, UG - EXISTING	
DOMESTIC WATER LINE - EXISTING	
DOMESTIC WATER LINE - PROPOSED	
ELEC LINES, OVERHEAD - EXISTING	
GAS LINE - EXISTING	
GRAVITY SEWER LINE - EXISTING	
GRAVITY SEWER LINE - PROPOSED	
SEWER FORCE MAIN - EXISTING	
SEWER FORCE MAIN - PROPOSED	
STORM DRAIN LINE - EXISTING	
BORES - PROPOSED	
FENCE - EXISTING	
GUARDRAIL - EXISTING	
TREE AND VEGETATION LINES	
WETLAND LINES	
ORDINARY HIGH WATER (OHW)	
WETLAND / MARSH	
LIMITS OF DISTURBANCE	
CONTOUR LINE - EXISTING	
SPOT ELEVATION - EXISTING	
SPOT ELEVATION - PROPOSED	
TEMPORARY BENCH MARK	
5/8" REBAR FOUND	
CONCRETE MONUMENT FOUND	
MAILBOX - EXISTING	
UTILITY POLE - EXISTING	
GUY ANCHOR	
SIGN - EXISTING	
COMMUNICATION ACCESS/TYPED - EXISTING	
MONITORING WELL - EXISTING	
WATER VALVE - EXISTING	
FIRE HYDRANT - EXISTING	
MANHOLE - EXISTING	
MANHOLE - PROPOSED	
SANITARY SEWER SERVICE - EXISTING	
CATCH BASIN / INLET - EXISTING	
SHRUB	
TREE	
ROLL CURB - EXISTING	



LOCATION MAP



VICINITY MAP

### EXISTING UTILITY NOTE

EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE ONLY AND HAVE NOT BEEN INDIVIDUALLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MAY OCCUR DUE TO THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

### STORM WATER CERTIFICATION NOTE

I HAVE PLACED MY SIGNATURE AND SEAL ON THE DESIGN DOCUMENTS SUBMITTED SIGNIFYING THAT I ACCEPT RESPONSIBILITY FOR THE DESIGN OF THE SYSTEM. FURTHER, I CERTIFY TO THE BEST OF MY KNOWLEDGE AND BELIEF THAT THE DESIGN IS CONSISTENT WITH THE REQUIREMENTS OF TITLE 48, CHAPTER 14 OF THE CODE OF LAW OF SC, 1976 AS AMENDED, PURSUANT TO REGULATION 72-300 ET SEQ. (IF APPLICABLE), AND IN ACCORDANCE WITH THE TERMS AND CONDITIONS OF SCR 100000.

JOHN E. REYNOLDS, PE - SC 11138  
DATE: 6/1/2021

### GENERAL EROSION CONTROL LEGEND:

SILT FENCE	
LIMIT OF DISTURBANCE	
EXISTING CONTOURS	
TYPE A SEDIMENT TUBE INLET PROTECTION	
TYPE A FABRIC INLET PROTECTION	
TEMPORARY SEEDING	
PERMANENT SEEDING	
ROCK OUTLET	
EROSION CONTROL BLANKET	
CONSTRUCTION ENTRANCE	
PIPE SLOPE DRAIN	

NOTE: SURVEY INFORMATION FOR THIS PROJECT OBTAINED FROM THE FOLLOWING SOURCES:

DAVIS & FLOYD INC.  
164 MILESTONE WAY, SUITE 200  
GREENVILLE, SC 29615  
SURVEYED 2020:  
HORIZ. DATUM - NAD 83, SC STATE PLANE, INTERNATIONAL, FEET  
VERT. DATUM - NAVD 1988

\\gm\fs1\data\job\0001\3841-01\Production\Civil\Drawings\Exhibits\013841\_01\_GENERAL.dwg, 6/2/2021, 10:35:49 AM, ryan.c.lowe, etl  
THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF DAVIS & FLOYD, INC. AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF THE ENGINEER, ARCHITECT AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.



GENERAL CONSTRUCTION NOTES

- 1. ELEVATION DATUM: NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88).
2. HORIZONTAL DATUM: SOUTH CAROLINA STATE PLANE COORDINATE SYSTEM OF 1983 BASED ON INTERNATIONAL FEET (SC83F).
3. THE CONTRACT DOCUMENTS FOR THIS PROJECT INCLUDE THE PLANS AND ASSOCIATED TECHNICAL SPECIFICATIONS. THE CONTRACTOR SHALL USE BOTH THE PLANS AND THE SPECIFICATIONS IN ORDER TO COMPLETE THE PROJECT IN ACCORDANCE WITH THE OWNER'S REQUIREMENTS.

- 8. THE CONTRACTOR SHALL LOCATE AND MARK ALL EXISTING PROPERTY AND STREET MONUMENTS PRIOR TO CONSTRUCTION. ANY MONUMENTS DISTURBED DURING CONSTRUCTION OF THE PROJECT SHALL BE REPLACED BY A REGISTERED LAND SURVEYOR AT THE CONTRACTOR'S EXPENSE.
9. CONTRACTOR SHALL FIELD VERIFY LOCATION AND DEPTH OF ALL EXISTING UTILITIES. CONTRACTOR SHALL BE RESPONSIBLE FOR EXPOSING POTENTIAL UTILITY CONFLICTS FAR ENOUGH AHEAD OF CONSTRUCTION TO MAKE NECESSARY GRADE MODIFICATIONS WITHOUT DELAYING THE WORK.

- 15. ENGINEER SHALL INSPECT PROJECT WEEKLY TO PROVIDE WRITTEN WEEKLY UPDATES TO GW INSPECTOR AND TO CERTIFY THE CORRECTNESS OF THE WATER PORTION OF CONTRACTOR'S RECORD DRAWINGS.
16. THE WATER UTILITY CONTRACTOR SHALL PROVIDE GREENVILLE WATER AND THE ENGINEER WITH COMPLETED AS-BUILT SURVEY WITH COORDINATES FOR ALL INSTALLED VALVES AND BORE CASINGS, DRAWINGS AND VALVE CARDS FOR THE COMPLETION OF THE WATER SYSTEM PER CURRENT GREENVILLE WATER REQUIREMENTS.

- 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.
21. A PRE-CONSTRUCTION CONFERENCE MUST BE HELD FOR EACH CONSTRUCTION SITE WITH AN APPROVED ON-SITE SWPPP PRIOR TO THE IMPLEMENTATION OF CONSTRUCTION ACTIVITIES.

SCDOT ENCROACHMENT PERMIT

- 1. IMMEDIATELY UPON THE RECEIPT OF THE SCDOT ENCROACHMENT PERMIT, THE CONTRACTOR SHALL PROVIDE HIS COMPANY INFORMATION AND CONTACT DETAILS, AS WELL AS THE SITE SUPERVISOR'S NAME AND CONTACT DETAILS, TO THE SCDOT OFFICE LISTED ON THE PERMIT.

SEQUENCE OF CONSTRUCTION (EROSION CONTROL)

- PRE-CONSTRUCTION SEQUENCE:
1. RECEIVE NPDES COVERAGE FROM SCDHEC AND MS4 APPROVAL FROM GREENVILLE COUNTY LDD.
2. PRE-CONSTRUCTION MEETING SHALL BE HELD ON-SITE. INVITED SHALL BE THE OWNER, ENGINEER, GREENVILLE WATER, GREENVILLE COUNTY LDD, CONTRACTOR, AND ANY SUB-CONTRACTORS.

CONSTRUCTION SEQUENCE:

- 1. MAINTAIN CONSTRUCTION ENTRANCES AND PERIMETER CONTROLS AS NECESSARY TO ASSURE THEY ARE IN FUNCTIONAL CONDITION.
2. INSTALL EROSION CONTROL DEVICES TO INLET STRUCTURES AS NECESSARY AS SHOWN ON THE DETAILS.
3. CLEAR AND GRUB THE SITE IN PREPARATION FOR EXCAVATION AS REQUIRED. DO NOT CLEAR THE FULL LENGTH OF PIPE LINE ROUTE(S) AT ONE TIME. ONLY CLEAR SUFFICIENT AREAS TO BE WORKED IN FOR A TWO-DAY PRODUCTION RUN.

POST-CONSTRUCTION SEQUENCE:

- 1. MAINTAIN PERIMETER SILT FENCE EROSION CONTROLS AND INLET PROTECTIONS.
2. ESTABLISH FINAL STABILIZATION FOR ALL DISTURBED AREAS. PERMANENTLY SEED ALL UNPAVED DISTURBED AREAS.
3. MAINTAIN SEDIMENT AND EROSION CONTROL MEASURES UNTIL THE SITE IS PERMANENTLY STABILIZED AND THE CONTROLS ARE REMOVED.

PROJECT CLOSEOUT NOTE

- 1. UPON COMPLETION OF CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE GREENVILLE WATER WITH A PROJECT CLOSEOUT APPLICATION FORM AND AS-BUILT RECORD DRAWINGS TOGETHER WITH THE REQUIRED GIS DATA.

SCDOT/GREENVILLE COUNTY NOTES

- 1. ANY WORK TO BE DONE IN THE SCDOT AND/OR GREENVILLE COUNTY RIGHT-OF-WAY WILL REQUIRE AN APPROVED ENCROACHMENT PERMIT.
2. WORK IN THE RIGHT-OF-WAY SHALL BE DONE IN ACCORDANCE WITH THE SCDOT STANDARD DRAWINGS AND SPECIFICATIONS.

WORK ZONE SIGNAGE

- 1. INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN FORTY (40) FEET OF THE TRAVEL LANE EDGE AND NO MORE THAN THREE (3) DAYS PRIOR TO BEGINNING OF CONSTRUCTION.
2. ENSURE ALL NECESSARY WORK ZONE SIGNS ARE IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERNS.

CONTACT DETAILS FOR UTILITY PROVIDERS: DUKE GAS ENERGY - NICK TATE (864) 505-6478 METROCONNECTS - TIM WRIGHT (864) 423-7813

\\gwm4s1Data\lobadd\13841-01\Production\CivilDrawings\Exhibits\13841-01\_GENERAL.dwg, 6/2/2021, 10:36:16 AM, jmani.c.love, et al. THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF DAVIS & FLOYD, INC. AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF THE ENGINEER. ARCHITECT AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

EXISTING UTILITIES AND FACILITIES

- 1. THE LOCATION AND DESCRIPTIONS OF EXISTING UTILITIES SHOWN ON THE DRAWINGS ARE COMPILED FROM AVAILABLE RECORDS AND/OR FIELD SURVEYS. THE ENGINEER, OWNER, OR UTILITY COMPANIES DO NOT GUARANTEE THE ACCURACY OR THE COMPLETENESS OF SUCH RECORDS.
2. CONTRACTOR SHALL CALL PALMETTO UTILITY PROTECTION SERVICE (PUPS) AND ANY LOCAL UTILITY COMPANY NOT REPRESENTED BY PUPS A MINIMUM OF 72 HOURS PRIOR TO STARTING ANY PROPOSED WORK (811). KNOWN AREA UTILITY PROVIDERS INCLUDE GREENVILLE WATER, METROCONNECTS SEWER DISTRICT, DUKE GAS ENERGY, AT&T, AND CHARTER COMMUNICATIONS.

GRADING, PAVING, AND DRAINAGE

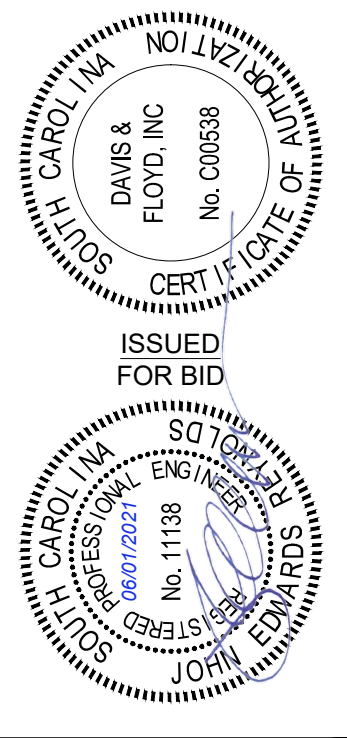
- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MANAGING CONSTRUCTION ACTIVITIES AROUND THE CLOCK TO ENSURE THAT PUBLIC STREETS AND RIGHT-OF-WAYS ARE KEPT CLEAN OF MUD, DUST, OR DEBRIS. DUST ABATEMENT SHALL BE MAINTAINED BY ADEQUATE WATERING OF THE SITE, STREET SWEEPING, AND PROPER BMPs PLACED BY THE CONTRACTOR.
2. GRADING WORK, MATERIALS AND EQUIPMENT, UNLESS SPECIFICALLY STATED OTHERWISE HEREIN, SHALL BE IN ACCORDANCE WITH REQUIREMENTS OF THE SCDOT STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

STORMWATER SYSTEMS

- 1. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER DRAINAGE OF EXISTING STORM SEWER LINES AND CHANNELS DURING CONSTRUCTION WORK.
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL TAPS. TAPS REQUIRING A SLEEVE SHALL BE NO CLOSER TO A JOINT THAN 4 FEET.
3. THRUST BLOCKING SHALL BE USED ONLY ON WET TAPS. CONTRACTOR SHALL NOTIFY GW INSPECTOR 72 HOURS (THREE FULL WORKING DAYS) PRIOR TO MAKING ANY WET TAP.

GREENVILLE WATER NOTES (GW)

- 1. WATER INSTALLATION SHALL BE IN ACCORDANCE WITH "TEN STATES STANDARDS", SCDHEC REGULATIONS, AND GREENVILLE WATER'S "CONSTRUCTION SPECIFICATIONS FOR WATER MAINS".
2. CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ALL TAPS. TAPS REQUIRING A SLEEVE SHALL BE NO CLOSER TO A JOINT THAN 4 FEET.

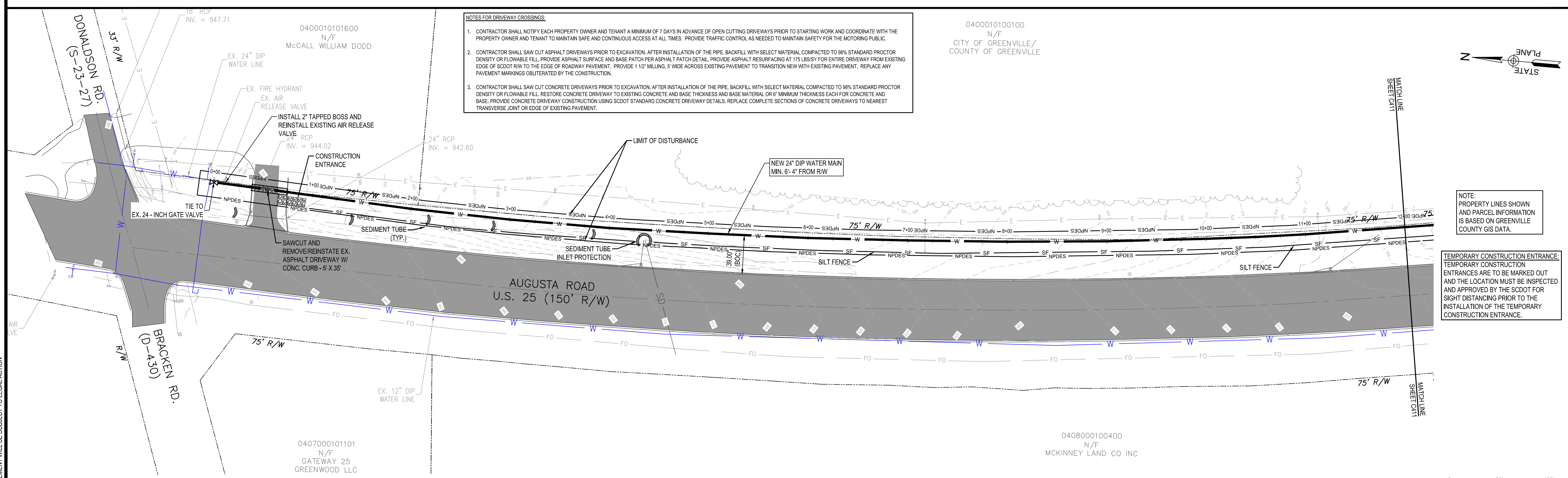


DAVIS & FLOYD SINCE 1954 www.davisandfloyd.com 164 MILESTONE WAY, SUITE 200 GREENVILLE, SC 29615 (864) 527-2800

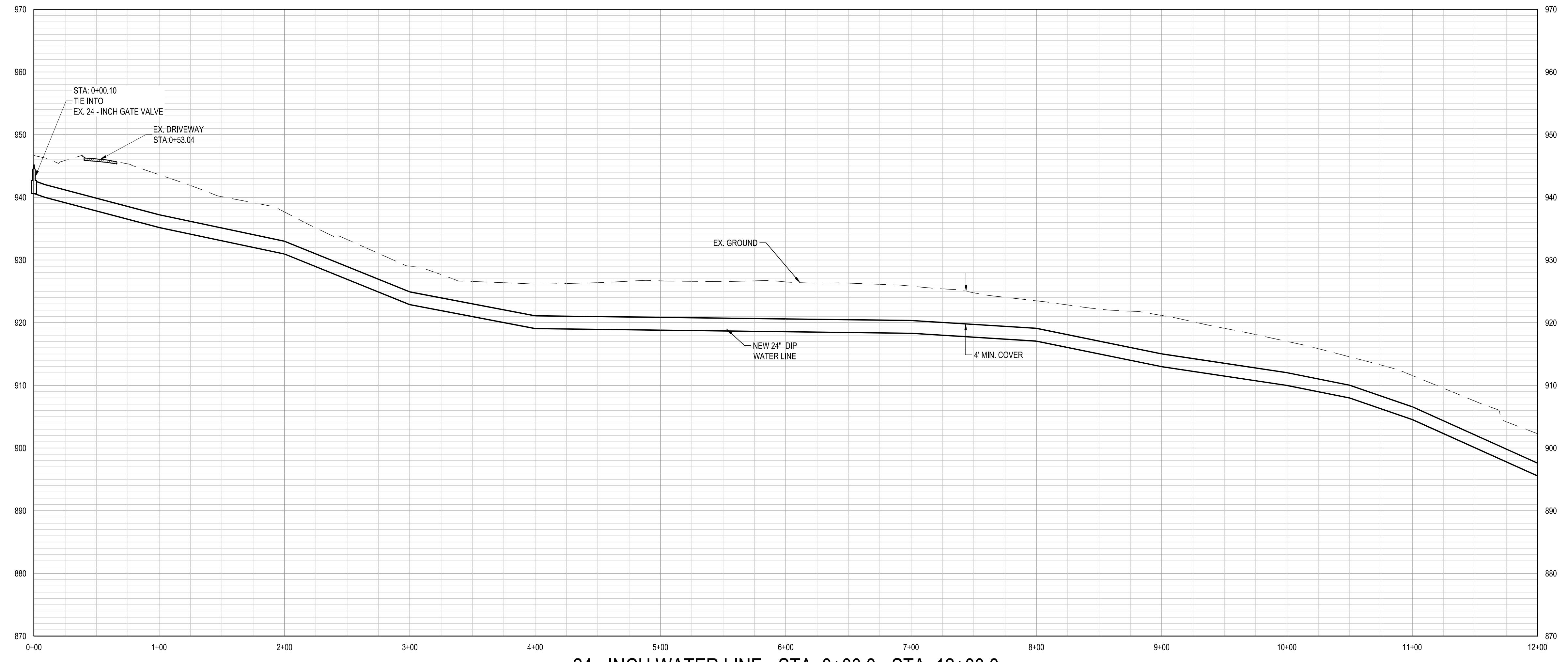
OWNER: GREENVILLE WATER 407 W. BROAD ST. GREENVILLE, SC 29601 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN

GENERAL NOTES Table with columns: NO., DATE, CHECKED, RELEASED, REVISIONS, COMMENTS. Includes project number C001 and page information.

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PLAN: STA. 0+00.0 - STA. 12+00.0



CIP CONTRACT 187



0400010100100  
N/F  
CITY OF GREENVILLE/  
COUNTY OF GREENVILLE

0400010101600  
N/F  
McCALL WILLIAM DODD

0407000101101  
N/F  
GATEWAY 25  
GREENWOOD LLC

0408000100400  
N/F  
MCKINNEY LAND CO INC

OWNER  
GREENVILLE WATER  
407 W. BROAD ST. GREENVILLE, SC 29601  
PROJECT TITLE  
24" AUGUSTA ROAD WATER MAIN

ISSUED FOR BID

DAVIS & FLOYD  
SINCE 1854  
www.davisfloyd.com  
164 MILESTONE WAY, SUITE 200  
GREENVILLE, SC 29615  
(864) 527-5800

DATE: 01/31/21  
DATE: APRIL 2021  
DATE: APRIL 2021

DESIGNED: MJP  
DRAWN: MJP  
CHECKED: JER  
APPROVED: JER

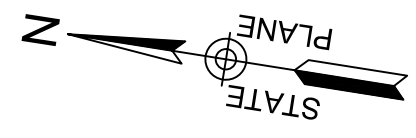
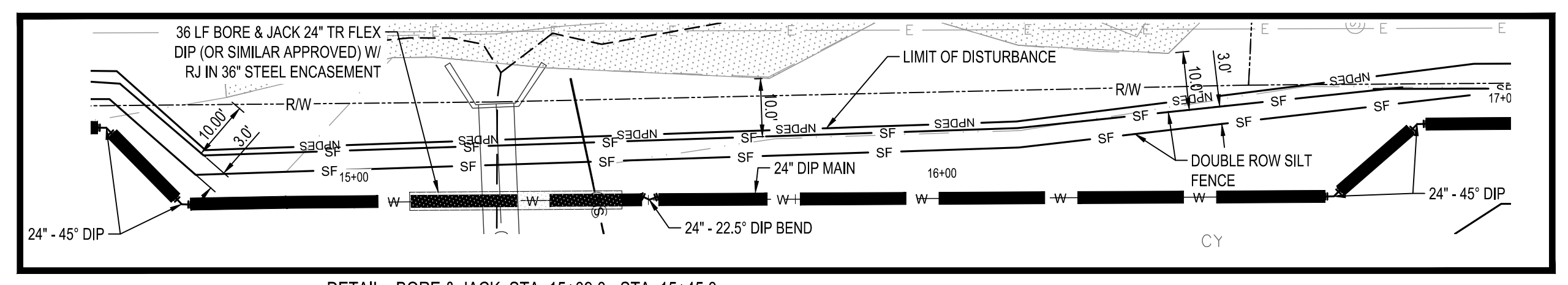
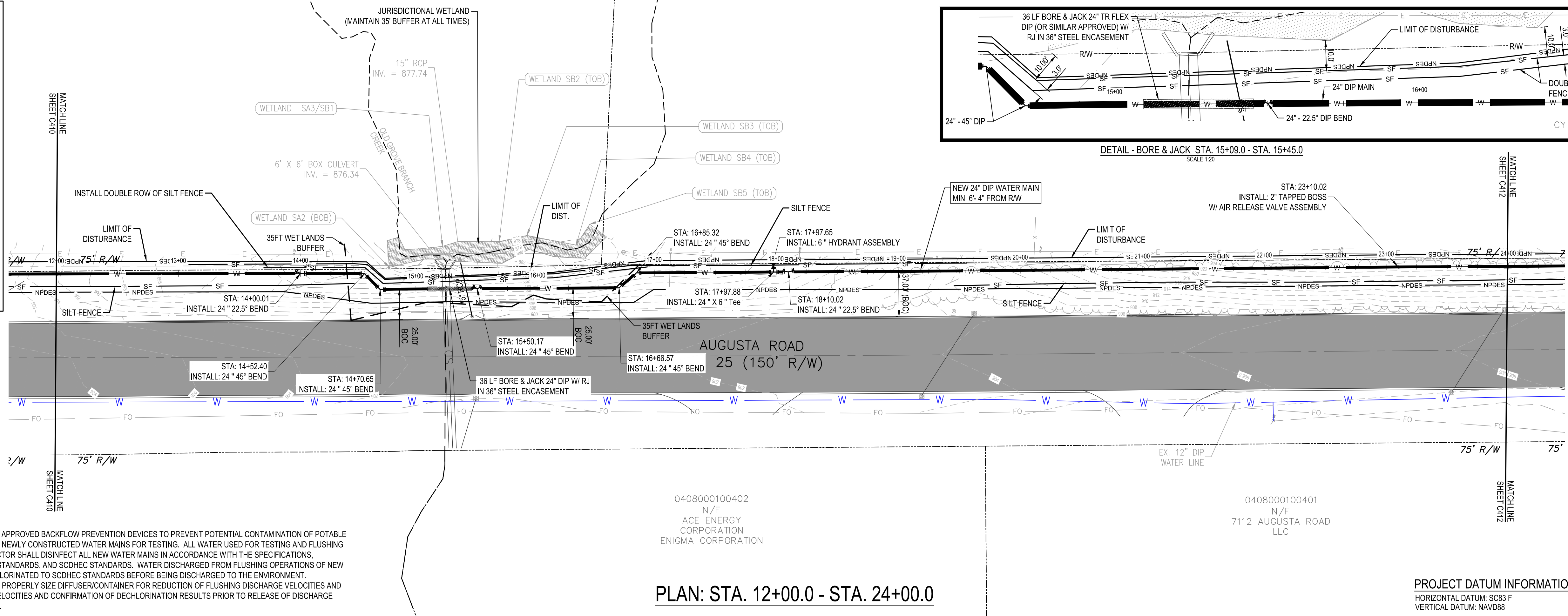
PROJECT TITLE  
24 INCH WATER MAIN PLAN & PROFILE -  
STA. 00+00.0 - STA. 12+00.0

SCALE: 1" = 50'

CIP CONTRACT 187

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- NOTES FOR DRIVEWAY CROSSINGS:**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
  - CONTRACTOR SHALL SAW CUT ASPHALT DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. PROVIDE ASPHALT SURFACE AND BASE PATCH PER ASPHALT PATCH DETAIL. PROVIDE ASPHALT RESURFACING AT 175 LBS/SY FOR ENTIRE DRIVEWAY FROM EXISTING EDGE OF SCOOT R/W TO THE EDGE OF ROADWAY PAVEMENT. PROVIDE 1 1/2" MILLING, 5" WIDE ACROSS EXISTING PAVEMENT TO TRANSITION NEW WITH EXISTING PAVEMENT. REPLACE ANY PAVEMENT MARKINGS OBLITERATED BY THE CONSTRUCTION.
  - CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCOOT STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



NOTE: PROPERTY LINES SHOWN AND PARCEL INFORMATION IS BASED ON GREENVILLE COUNTY GIS DATA.

FLOOD PLAIN AND WETLAND NOTE:  
 1. NO FILL MAY BE PLACED WITHIN THE FLOOD PLAIN AND ALL DISTURBED GRADES MUST BE RE-ESTABLISHED TO THE PRE-CONSTRUCTION GRADES.  
 2. WETLAND BOUNDARY TO BE FLAGGED WITH ORANGE CONSTRUCTION FENCE AND WARNING SIGNS.

NOTE:  
 CONTRACTOR TO PROVIDE COORDINATES AND ELEVATION FOR BORE CASING AFTER COMPLETION OF BORE & JACK INSTALLATION PRIOR TO BACKFILLING

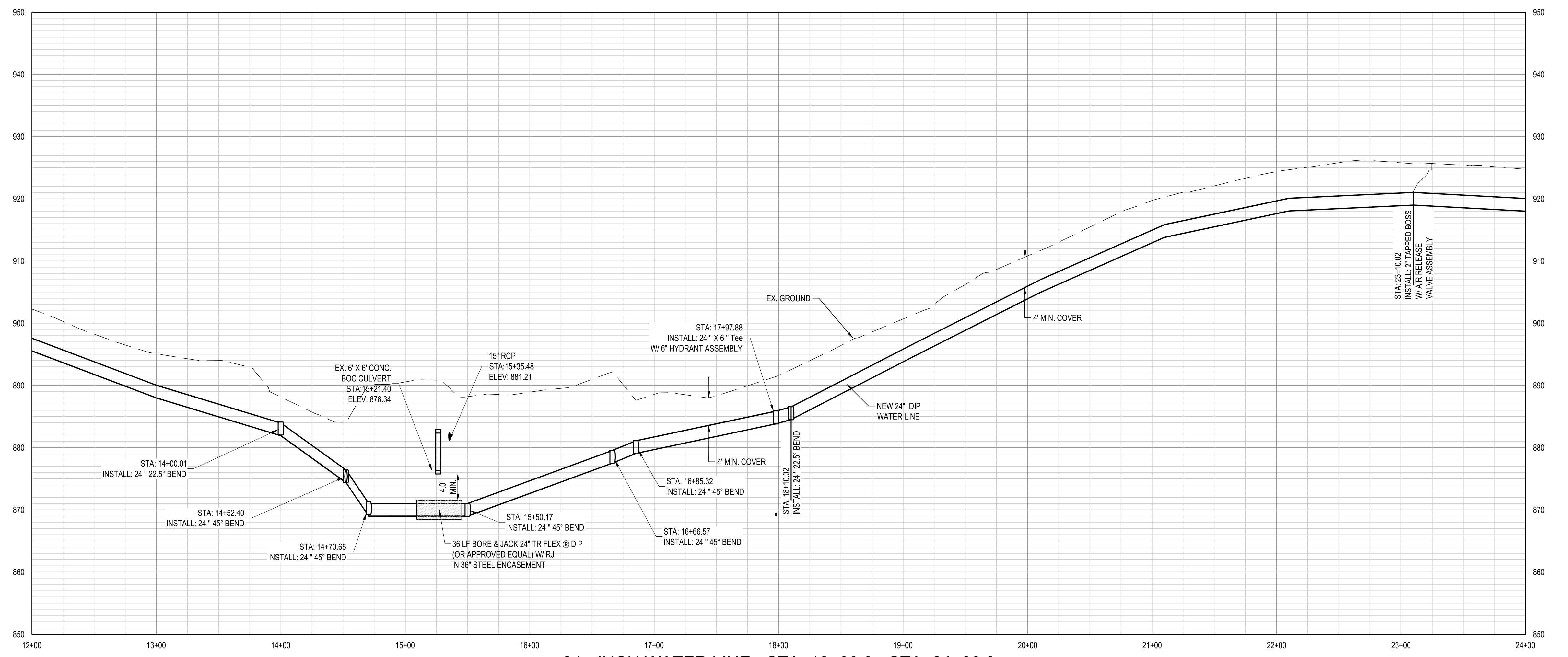
- NOTE:
- CONTRACTOR SHALL FURNISH APPROVED BACKFLOW PREVENTION DEVICES TO PREVENT POTENTIAL CONTAMINATION OF POTABLE WATER SUPPLY WHEN FILLING NEWLY CONSTRUCTED WATER MAINS FOR TESTING. ALL WATER USED FOR TESTING AND FLUSHING SHALL BE POTABLE. CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS IN ACCORDANCE WITH THE SPECIFICATIONS, GREENVILLE WATER SYSTEM STANDARDS, AND SCDEH STANDARDS. WATER DISCHARGED FROM FLUSHING OPERATIONS OF NEW WATER MAINS SHALL BE DECHLORINATED TO SCDEH STANDARDS BEFORE BEING DISCHARGED TO THE ENVIRONMENT.
  - CONTRACTOR SHALL PROVIDE PROPERLY SIZE DIFFUSER/CONTAINER FOR REDUCTION OF FLUSHING DISCHARGE VELOCITIES AND VOLUMES TO NON-EROSIVE VELOCITIES AND CONFIRMATION OF DECHLORINATION RESULTS PRIOR TO RELEASE OF DISCHARGE WATER TO THE ENVIRONMENT.

0408000100402  
 N/F  
 ACE ENERGY CORPORATION  
 ENIGMA CORPORATION

0408000100401  
 N/F  
 7112 AUGUSTA ROAD  
 LLC

**PLAN: STA. 12+00.0 - STA. 24+00.0**

PROJECT DATUM INFORMATION:  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88



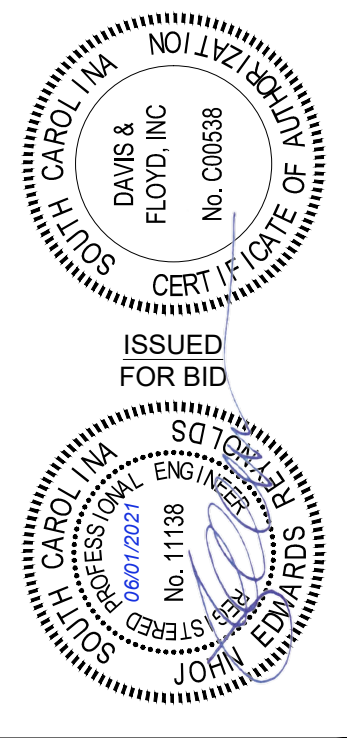
**24 - INCH WATER LINE - STA. 12+00.0 - STA. 24+00.0**

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



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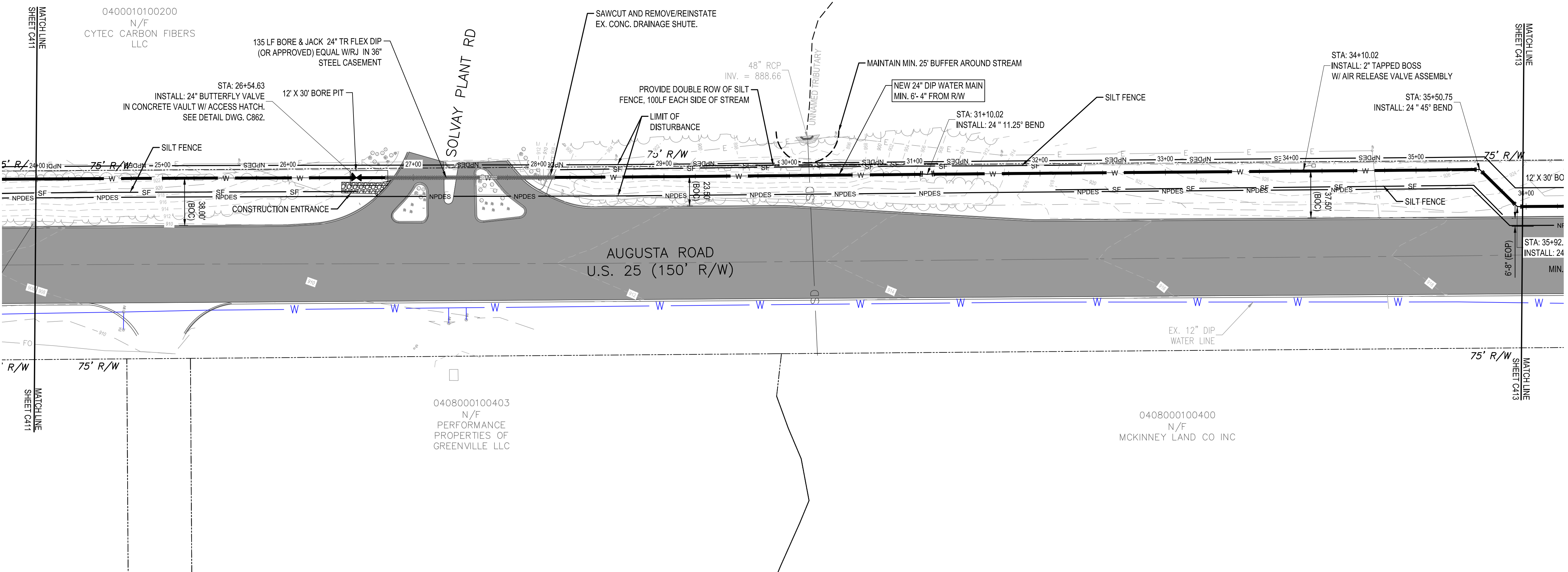
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OWNER  
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24 INCH WATER MAIN PLAN & PROFILE -  
 STA. 12+00.0 - STA. 24+00.0

NO.	DATE	REVISION	BY	CHECKED
1	01/30/21	REVISION PER AGENCY REVIEW COMMENTS	JER	DAV/15/21
2	04/01/21	REVISED M/P	M/P	
3	04/01/21	REVISED M/P	M/P	
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8	04/01/21	REVISED M/P	M/P	
9	04/01/21	REVISED M/P	M/P	
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- NOTES FOR DRIVEWAY CROSSINGS:**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
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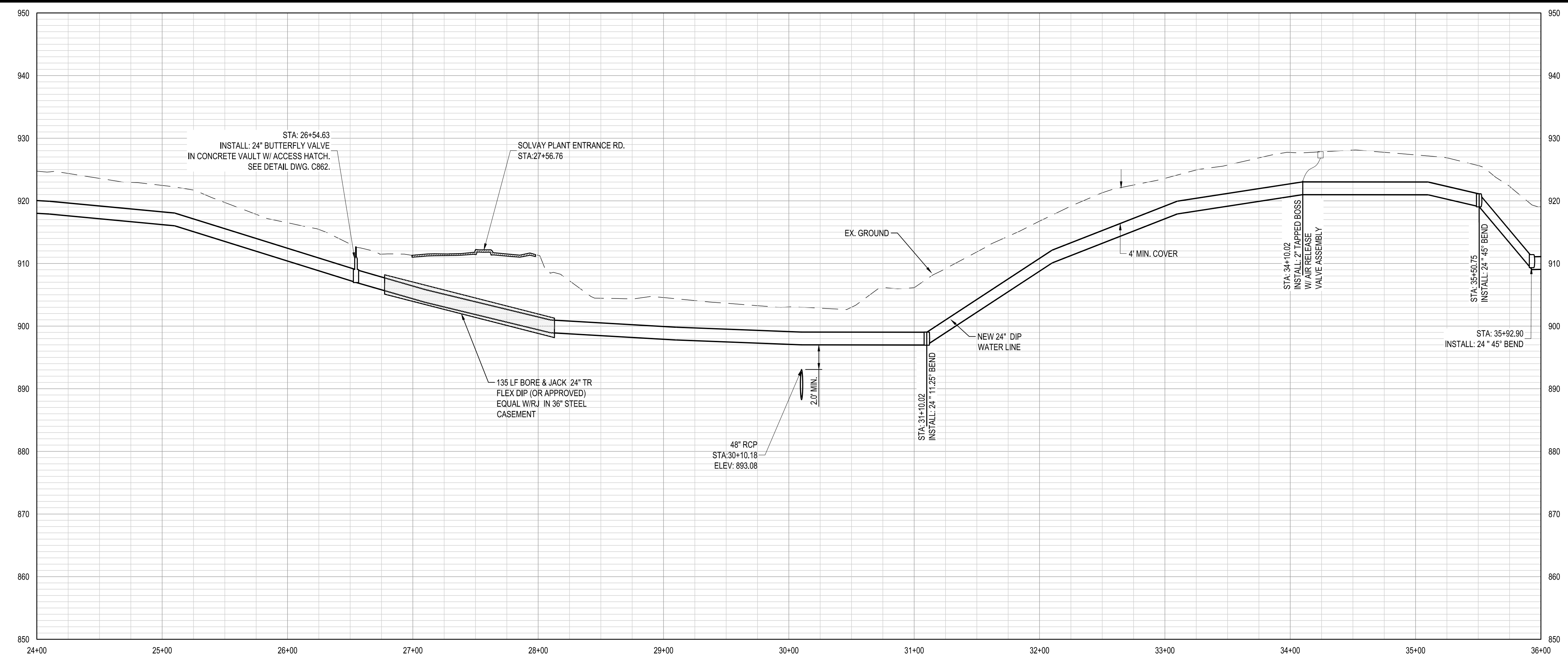
TEMPORARY CONSTRUCTION ENTRANCE: TEMPORARY CONSTRUCTION ENTRANCES ARE TO BE MARKED OUT AND THE LOCATION MUST BE INSPECTED AND APPROVED BY THE SCOOT FOR SIGHT DISTANCING PRIOR TO THE INSTALLATION OF THE TEMPORARY CONSTRUCTION ENTRANCE.

NOTE: PROPERTY LINES SHOWN AND PARCEL INFORMATION IS BASED ON GREENVILLE COUNTY GIS DATA.

FLOOD PLAIN AND WETLAND NOTE:  
 1. NO FILL MAY BE PLACED WITHIN THE FLOOD PLAIN AND ALL DISTURBED GRADES MUST BE RE-ESTABLISHED TO THE PRE-CONSTRUCTION GRADES.  
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PLAN: STA. 24+00.0 - STA. 36+00.0

PROJECT DATUM INFORMATION:  
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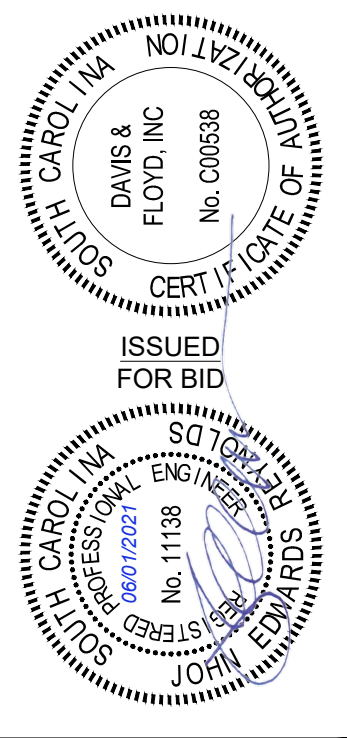


24 - INCH WATER LINE - STA. 24+00.0 - STA. 36+00.0

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL



CIP CONTRACT 187



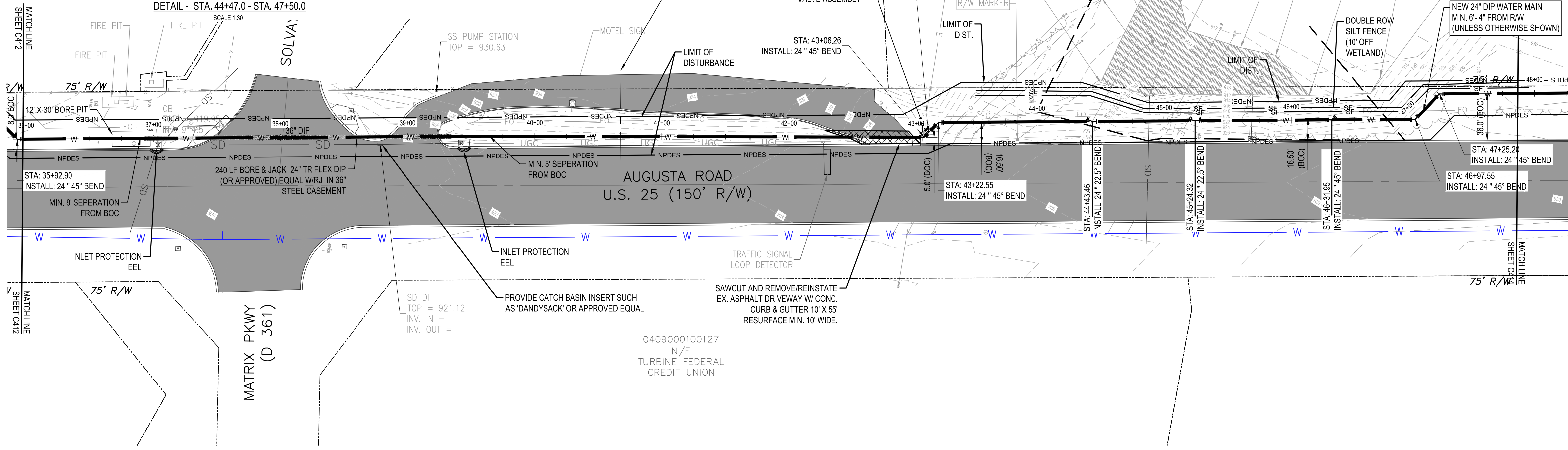
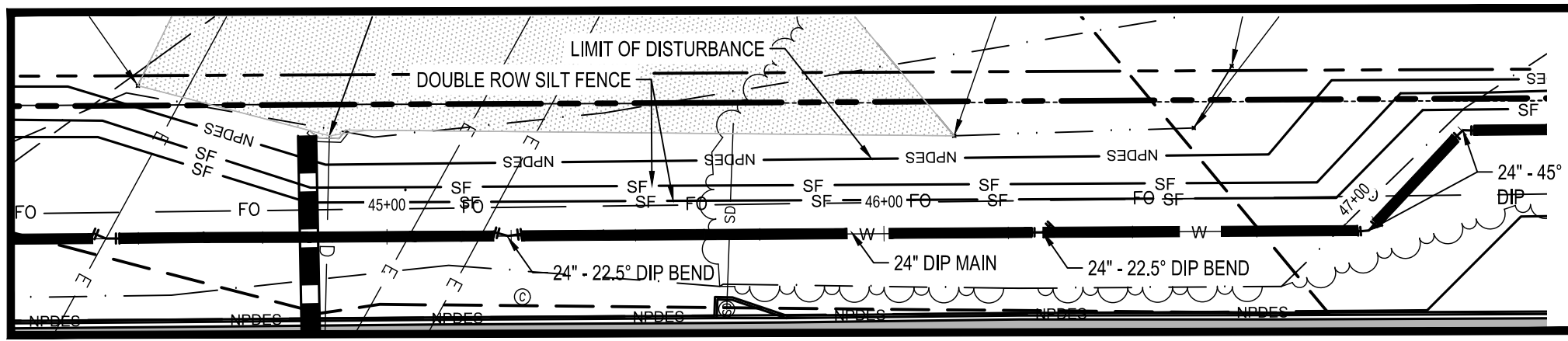
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 GREENVILLE, SC 29615  
 (864) 527-2800

OWNER: GREENVILLE WATER  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN

24 INCH WATER MAIN PLAN & PROFILE -  
 STA. 24+00.0 - STA. 36+00.0

NO.	DATE	DESCRIPTION	BY	CHECKED	DATE
1	APRIL 2021	ISSUED FOR BID	MJP	JER	04/01/2021
2	APRIL 2021	REVISED	MJP	JER	04/01/2021
3	APRIL 2021	REVISED	MJP	JER	04/01/2021
4	APRIL 2021	REVISED	MJP	JER	04/01/2021
5	APRIL 2021	REVISED	MJP	JER	04/01/2021

\gms\61\Drawings\13841-01\Production\Civil\Drawings\Exhibits\013841-01\_AUGUSTA RD P-P\_SHT-311-augusta alternative.dwg, 6/22/2021, 10:38:37 AM, ryan c. love, et al  
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PLAN: STA. 36+00.0 - STA. 48+00.0

PROJECT DATUM INFORMATION:  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88

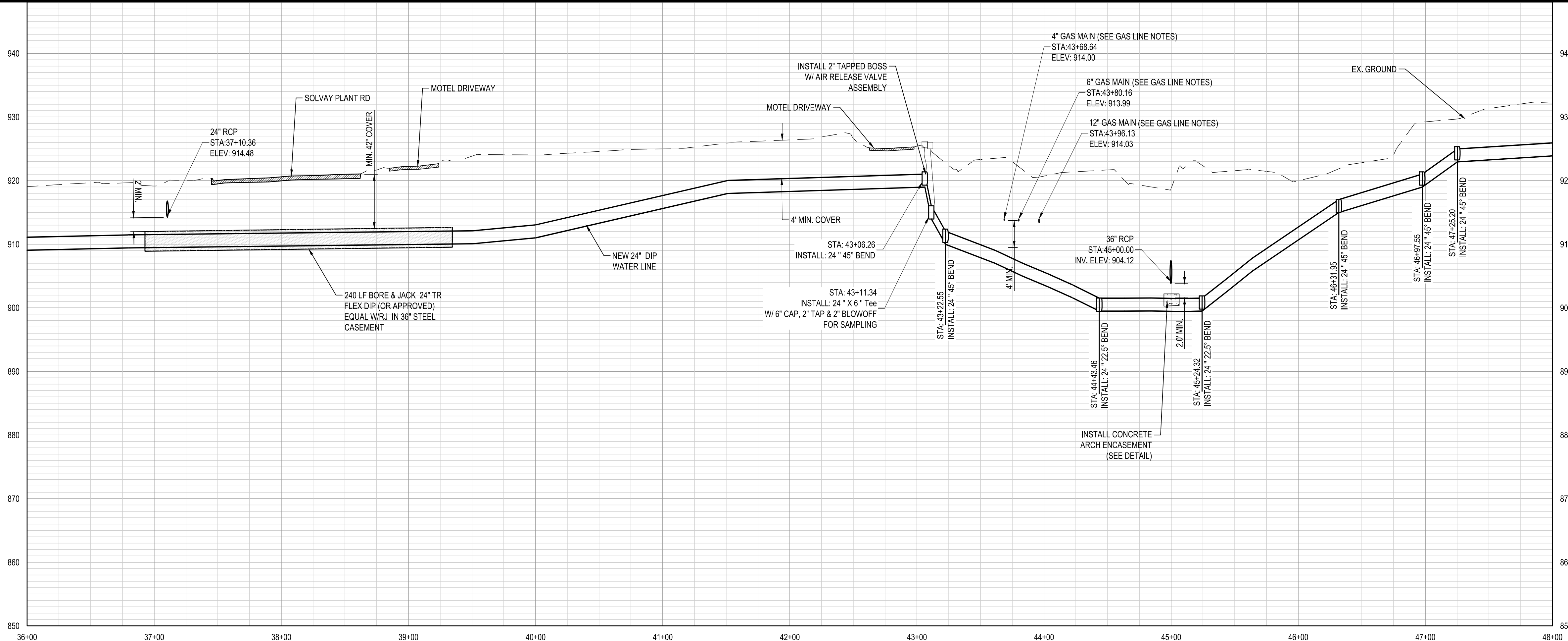
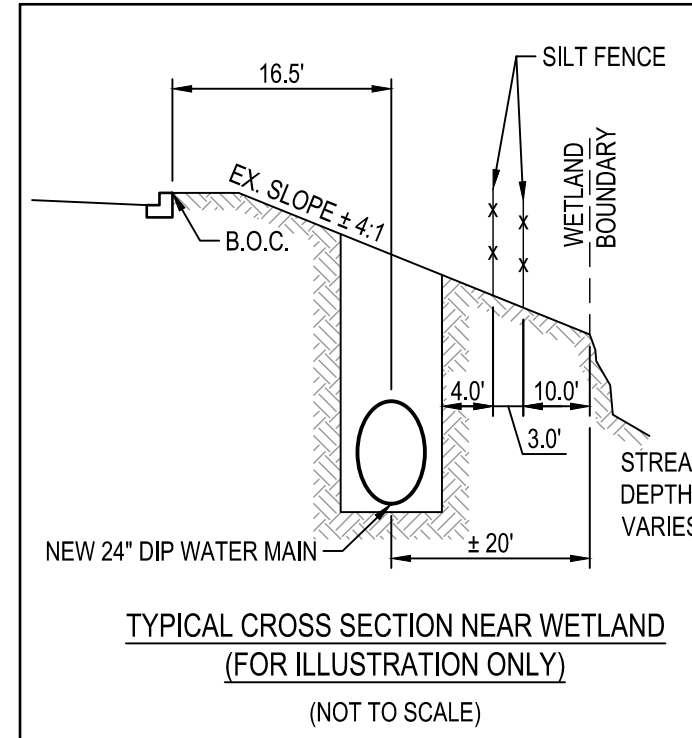
TEMPORARY CONSTRUCTION ENTRANCE:  
 TEMPORARY CONSTRUCTION ENTRANCES ARE TO BE MARKED OUT AND THE LOCATION MUST BE INSPECTED AND APPROVED BY THE SCDOT FOR SIGHT DISTANCING PRIOR TO THE INSTALLATION OF THE TEMPORARY CONSTRUCTION ENTRANCE.

NOTE:  
 PROPERTY LINES SHOWN AND PARCEL INFORMATION IS BASED ON GREENVILLE COUNTY GIS DATA.

FLOOD PLAIN AND WETLAND NOTE:  
 1. NO FILL MAY BE PLACED WITHIN THE FLOOD PLAIN AND ALL DISTURBED GRADES MUST BE RE-ESTABLISHED TO THE PRE-CONSTRUCTION GRADES.  
 2. WETLAND BOUNDARY TO BE FLAGGED WITH ORANGE CONSTRUCTION FENCE AND WARNING SIGNS.

GAS LINE NOTES:  
 1. CONTRACTOR TO "POT HOLE" GAS LINES TO DETERMINE EXACT LOCATION AND DEPTH PRIOR TO ANY EXCAVATION. MULTIPLE EXPLORATION HOLES ARE REQUIRED.  
 2. CONTRACTOR TO INFORM NICK TATE AT DUKE GAS ENERGY (PREVIOUSLY PNG) AT 864-505-6478 BEFORE DOING ANY EXPLORATION OR EXCAVATION AROUND GAS LINES.  
 3. DUKE ENERGY TO BE PRESENT AT ALL TIMES WHEN WORKING AROUND GAS MAINS.

NOTES FOR DRIVEWAY CROSSINGS:  
 1. CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.  
 2. CONTRACTOR SHALL SAW CUT ASPHALT DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. PROVIDE ASPHALT SURFACE AND BASE PATCH PER ASPHALT PATCH DETAIL. PROVIDE ASPHALT RESURFACING AT 15 LBS/SY FOR ENTIRE DRIVEWAY FROM EXISTING EDGE OF SCDOT RW TO THE EDGE OF ROADWAY PAVEMENT. PROVIDE 1 1/2" MILLING, 5' WIDE ACROSS EXISTING PAVEMENT TO TRANSITION NEW WITH EXISTING PAVEMENT. REPLACE ANY PAVEMENT MARKINGS OBLITERATED BY THE CONSTRUCTION.  
 3. CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCODOT STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



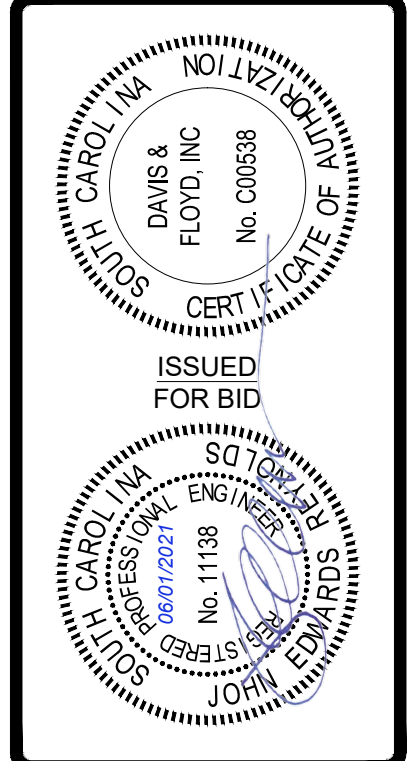
24 - INCH WATER LINE - STA. 36+00.0 - STA. 48+00.0

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



\pww\611\Drawings\013841-01\Production\Civil\Drawings\Exhibits\013841-01\_AUGUSTA RD P-P\_SHT-1\augusta alternative.dwg, 6/2/2021, 10:39:09 AM, ryan.c.love, et  
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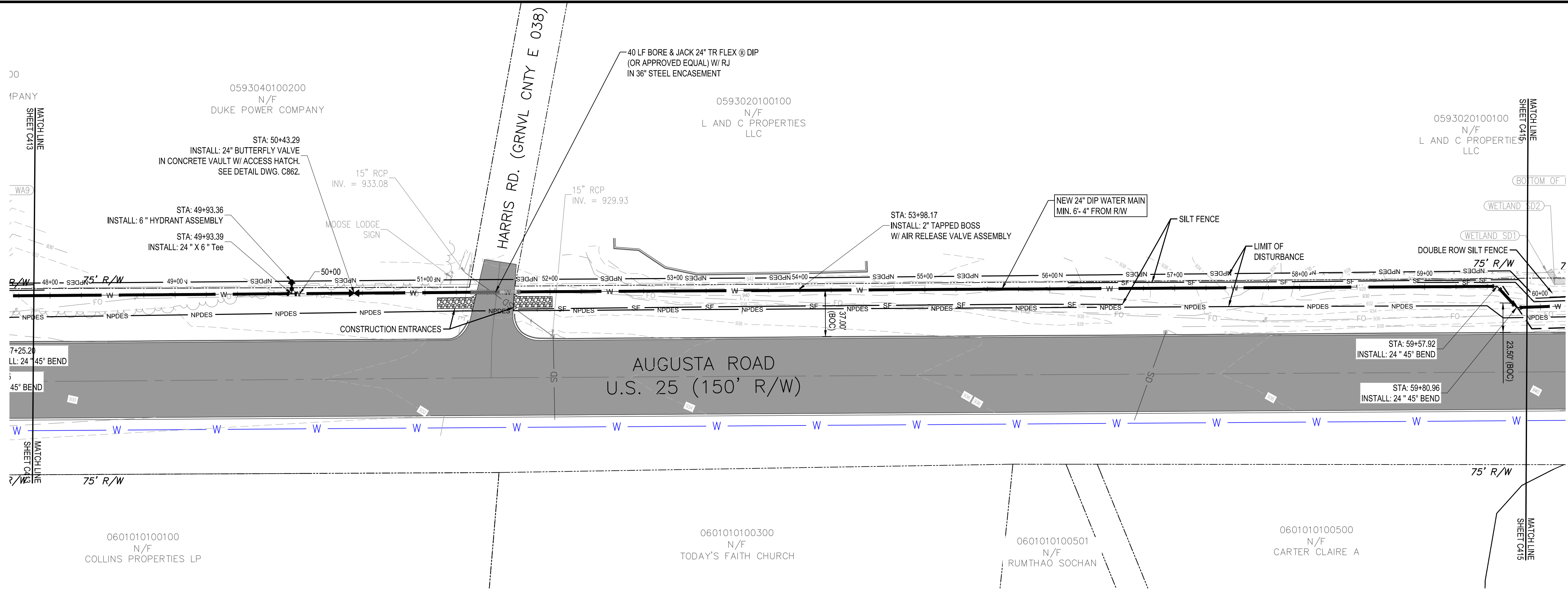
OWNER:  
**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE:  
**24" AUGUSTA ROAD WATER MAIN**

24 INCH WATER MAIN PLAN & PROFILE -  
 STA. 36+00.0 - STA. 48+00.0

NO.	DATE	DESCRIPTION	BY	CHECKED
1	APRIL 2021	REVISION: PIPE ROUTE, SPA, FINISH, HUBS AND ANCHORS, HALF PIPE JACK	JER	BRW/2021
DATE	DATE	DATE	DATE	DATE
01/3841.01	APRIL 2021	APRIL 2021	APRIL 2021	APRIL 2021
DESIGNED	DRAWN	CHECKED	APPROVED	DATE
JER	MJP	JER	JER	

C413

- NOTES FOR DRIVEWAY CROSSINGS**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
  - CONTRACTOR SHALL SAW CUT ASPHALT DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. PROVIDE ASPHALT SURFACE AND BASE PATCH PER ASPHALT PATCH DETAIL. PROVIDE ASPHALT RESURFACING AT 175 LBS/SY FOR ENTIRE DRIVEWAY FROM EXISTING EDGE OF SCOOT RW TO THE EDGE OF ROADWAY PAVEMENT. PROVIDE 1 1/2" MILLING, 3" WIDE ACROSS EXISTING PAVEMENT TO TRANSITION NEW WITH EXISTING PAVEMENT. REPLACE ANY PAVEMENT MARKINGS OBLITERATED BY THE CONSTRUCTION.
  - CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCOOT STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



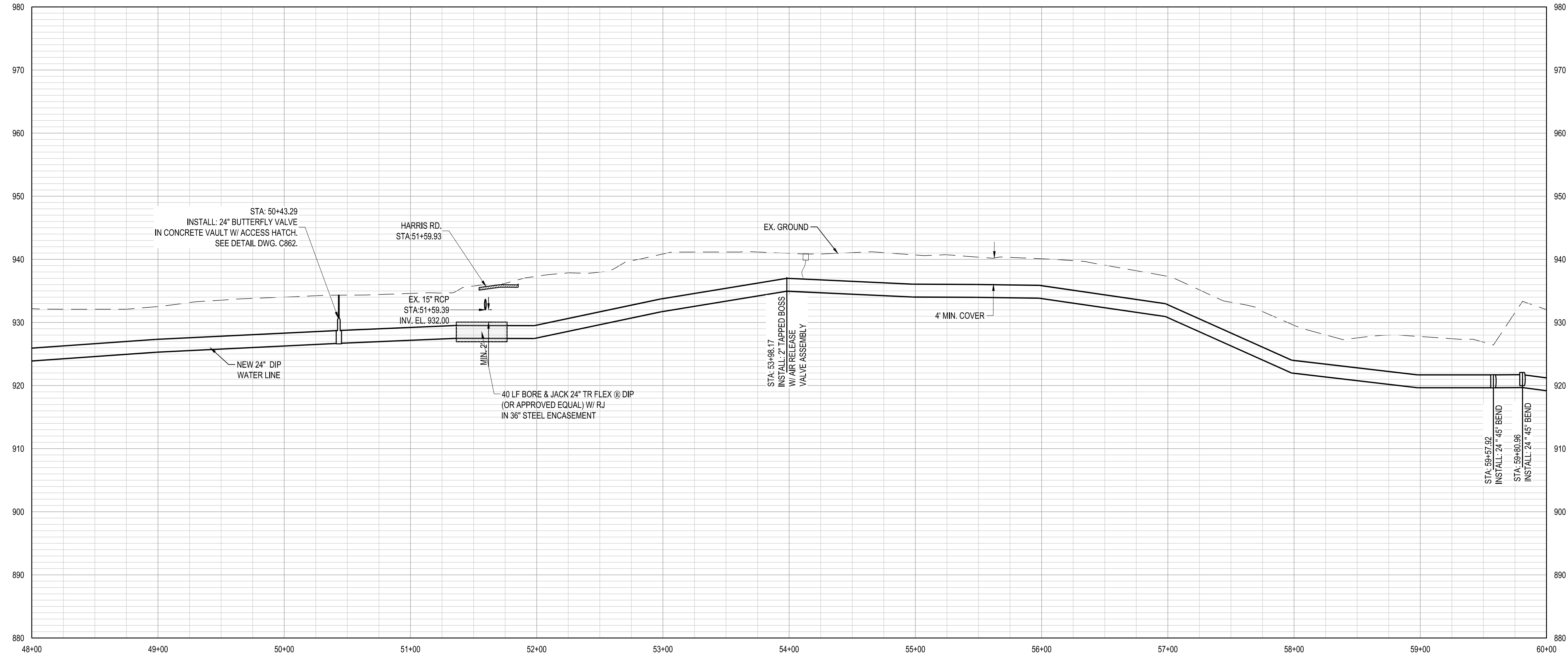
**PLAN: STA. 48+00.0 - STA. 60+00.0**

**PROJECT DATUM INFORMATION:**  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88

**TEMPORARY CONSTRUCTION ENTRANCE:**  
 TEMPORARY CONSTRUCTION ENTRANCES ARE TO BE MARKED OUT AND THE LOCATION MUST BE INSPECTED AND APPROVED BY THE SCDOT FOR SIGHT DISTANCING PRIOR TO THE INSTALLATION OF THE TEMPORARY CONSTRUCTION ENTRANCE.

**NOTE:** PROPERTY LINES SHOWN AND PARCEL INFORMATION IS BASED ON GREENVILLE COUNTY GIS DATA.

**FLOOD PLAN AND WETLAND NOTE:**  
 1. NO FILL MAY BE PLACED WITHIN THE FLOOD PLAN AND ALL DISTURBED GRADES MUST BE RE-ESTABLISHED TO THE PRE-CONSTRUCTION GRADES.  
 2. WETLAND BOUNDARY TO BE FLAGGED WITH ORANGE CONSTRUCTION FENCE AND WARNING SIGNS.



**24 - INCH WATER LINE - STA. 48+00.0 - STA. 60+00.0**

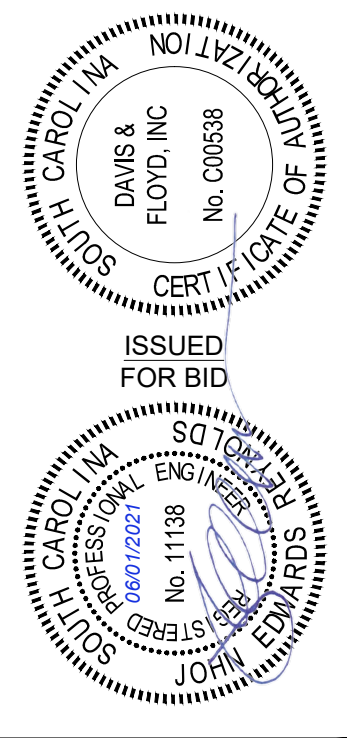
SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



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Call before you dig.

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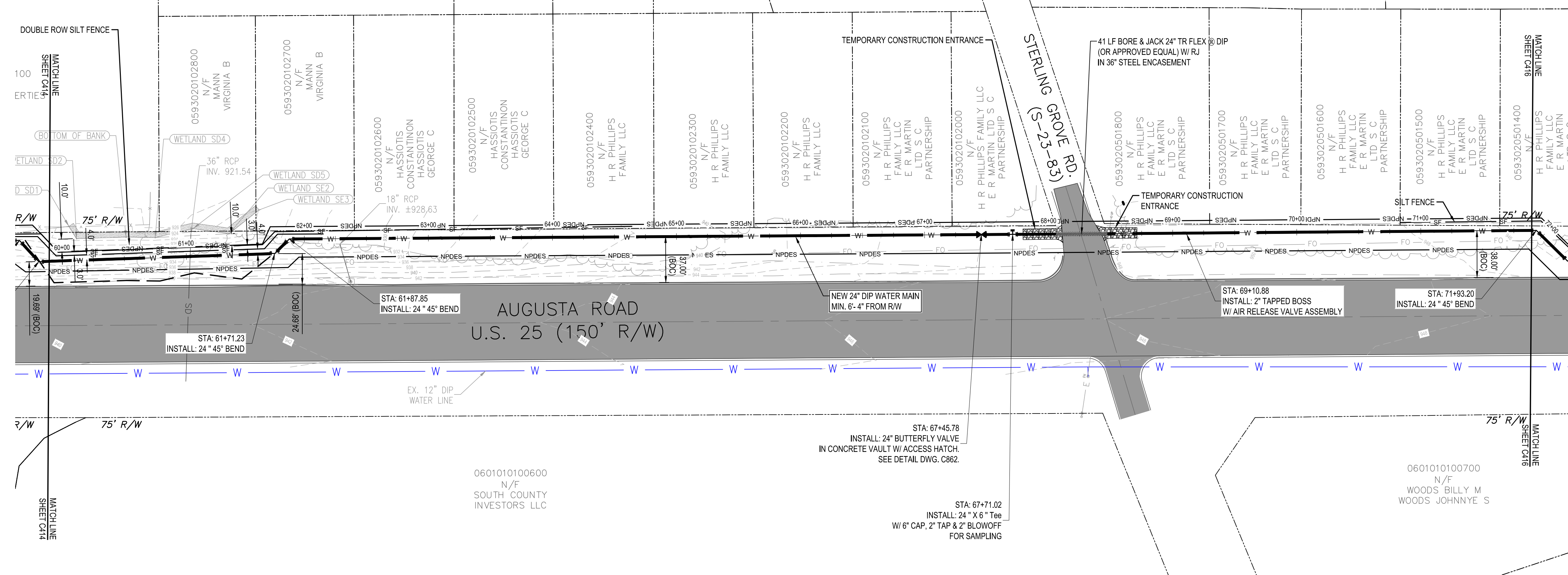
OWNER: GREENVILLE WATER  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN

24 INCH WATER MAIN PLAN & PROFILE -  
 STA. 48+00.0 - STA. 60+00.0

NO.	DATE	DESCRIPTION	BY	APP'D
1	01/31/21	ISSUED FOR BID	JER	JER
2	APRIL 2021	REVISED	JER	JER
3	APRIL 2021	REVISED	JER	JER
4	APRIL 2021	REVISED	JER	JER
5	APRIL 2021	REVISED	JER	JER
6	APRIL 2021	REVISED	JER	JER
7	APRIL 2021	REVISED	JER	JER
8	APRIL 2021	REVISED	JER	JER

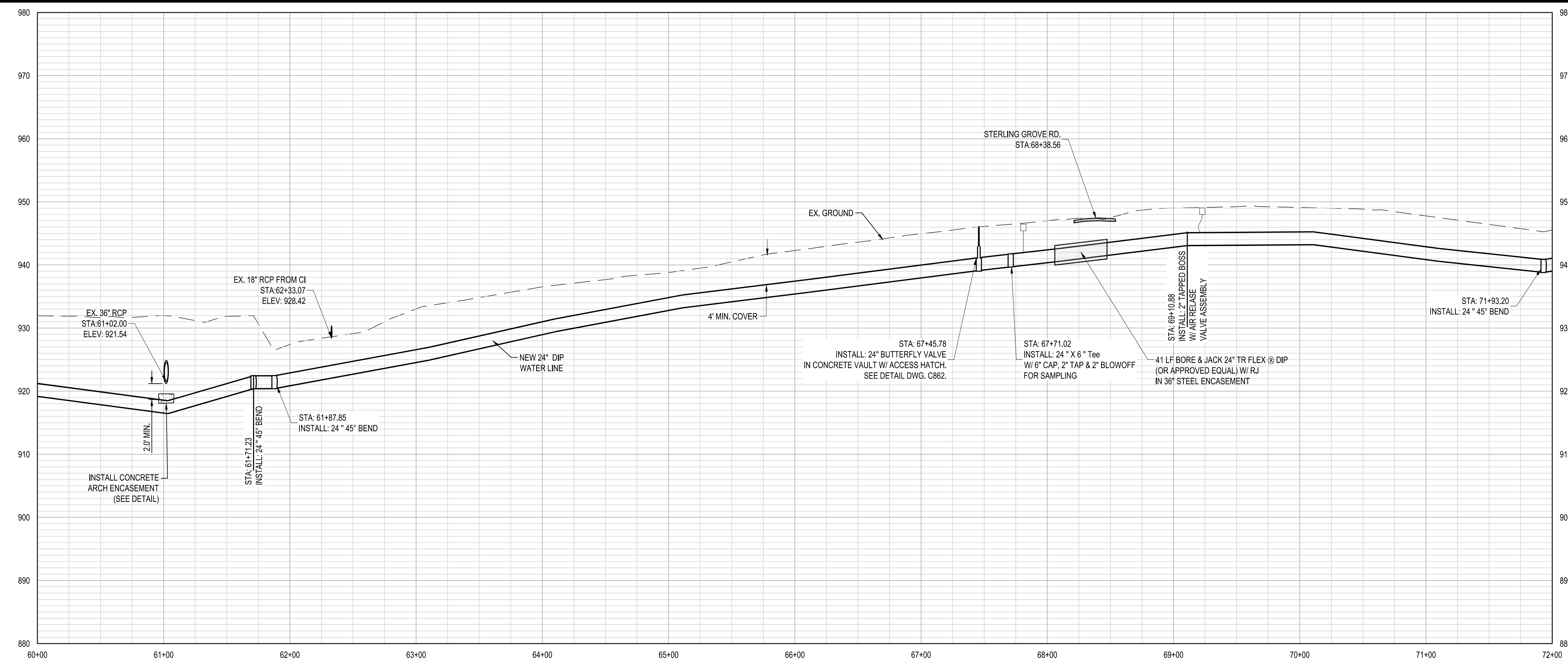
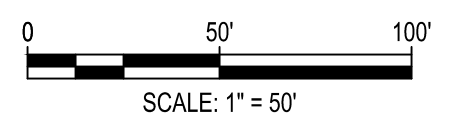


- NOTES FOR DRIVEWAY CROSSINGS**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
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  - CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCDOT STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



**PLAN: STA. 60+00.0 - STA. 72+00.0**

**PROJECT DATUM INFORMATION:**  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88



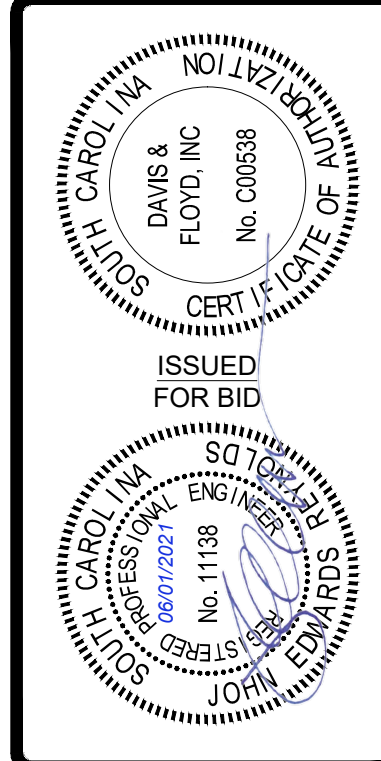
**24 - INCH WATER LINE - STA. 60+00.0 - STA. 72+00.0**

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



\pww\451\Drawings\13841-01\Production\CivilDrawings\Exhibits\013841-01\_AUGUSTA RD P-P\_SHT-1\augusta alternative.dwg, 6/22/2021, 10:39:50 AM, ryan.c.lowe, et al  
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**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

**24 INCH WATER MAIN PLAN & PROFILE - STA. 60+00.0 - STA. 72+00.0**

NO.	DATE	DESCRIPTION
1	01/31/21	ISSUED FOR BID
2	APRIL 2021	REVISED
3	MAY	REVISED
4	MAY	REVISED
5	JER	REVISED
6	JER	REVISED

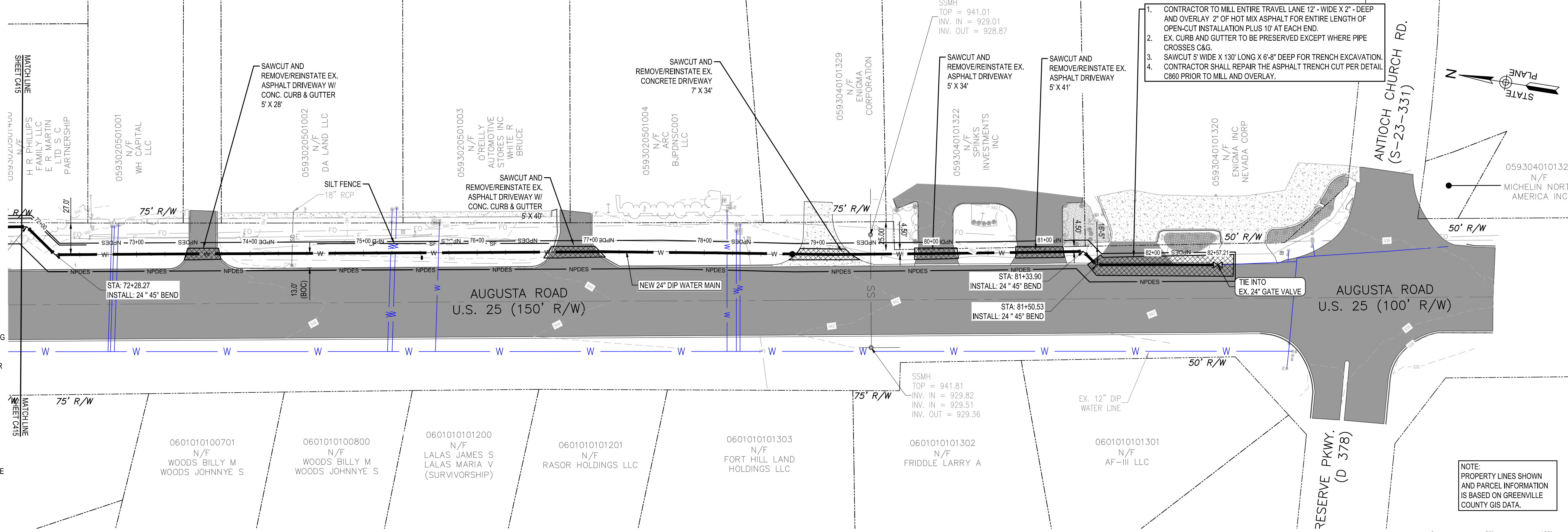
PROJECT NO: 013841-01  
 DATE: APRIL 2021  
 DRAWN BY: MJP  
 CHECKED BY: JER  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN  
 SHEET NO: C415  
 PAGE 9 OF 26

**NOTES FOR DRIVEWAY CROSSINGS**

1. CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
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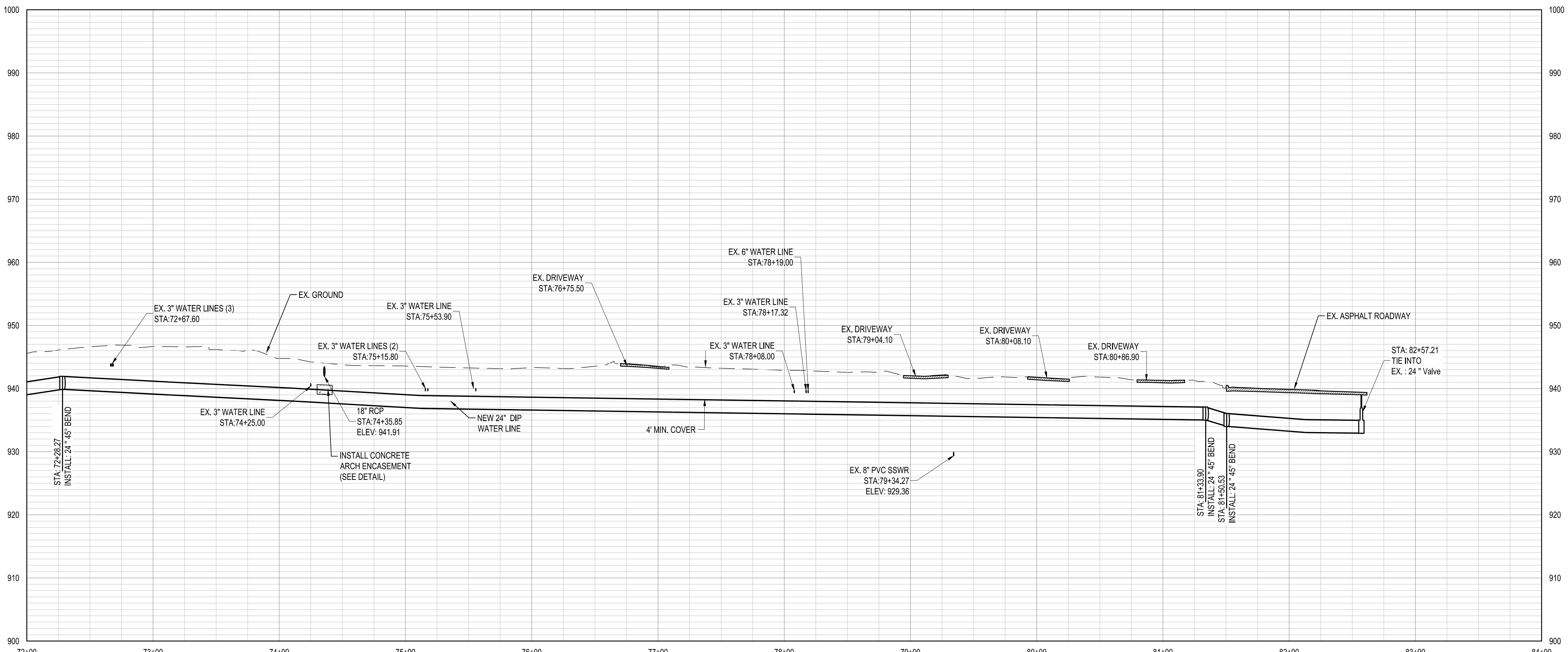
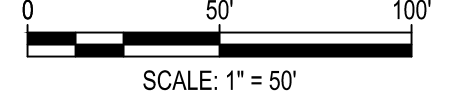
**NOTE:**

1. CONTRACTOR SHALL FURNISH APPROVED BACKFLOW PREVENTION DEVICES TO PREVENT POTENTIAL CONTAMINATION OF POTABLE WATER SUPPLY WHEN FILLING NEWLY CONSTRUCTED WATER MAINS FOR TESTING. ALL WATER USED FOR TESTING AND FLUSHING SHALL BE POTABLE. CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS IN ACCORDANCE WITH THE SPECIFICATIONS, GREENVILLE WATER SYSTEM STANDARDS, AND SCDHEC STANDARDS. WATER DISCHARGED FROM FLUSHING OPERATIONS OF NEW WATER MAINS SHALL BE DECHLORINATED TO SCDHEC STANDARDS BEFORE BEING DISCHARGED TO THE ENVIRONMENT.
2. CONTRACTOR SHALL PROVIDE PROPERLY SIZE DIFFUSER/CONTAINER FOR REDUCTION OF FLUSHING DISCHARGE VELOCITIES AND VOLUMES TO NON-EROSIVE VELOCITIES AND CONFIRMATION OF DECHLORINATION RESULTS PRIOR TO RELEASE OF DISCHARGE WATER TO THE ENVIRONMENT.



**PLAN: STA. 72+00.0 - STA. 82+57.21**

**PROJECT DATUM INFORMATION:**  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88



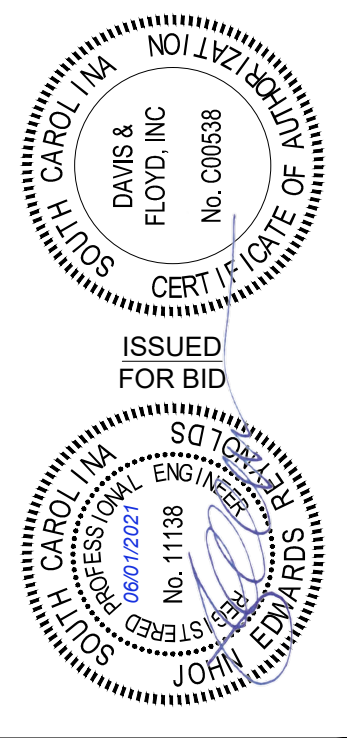
**24 - INCH WATER LINE - STA. 72+00.0 - STA. 82+57.21**

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



\pms\61\Drawings\Civil\Drawings\Exhibits\1384\1.01\_AUGUSTA RD P-P\_SHT-augusta alternative.dwg, 6/22/21, 10:40:06 AM, ryan.c.lowe, et al  
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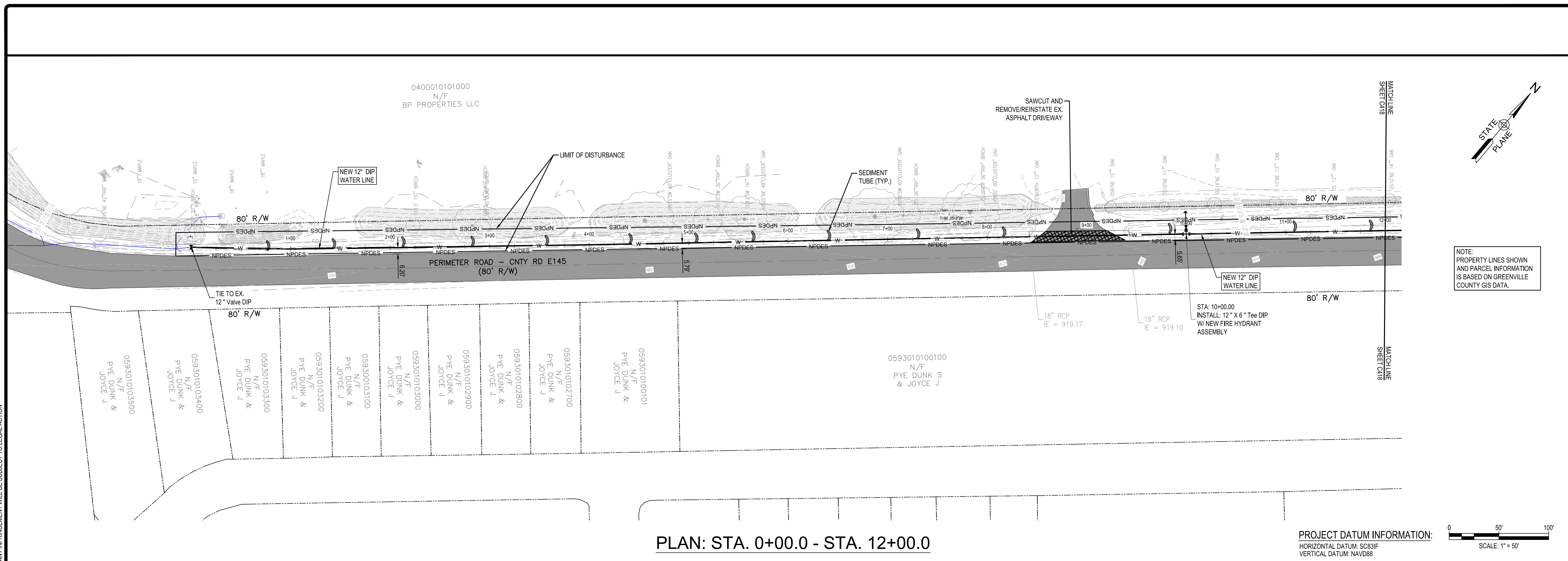
**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

**24 INCH WATER MAIN PLAN & PROFILE -**  
 STA. 72+00.0 - STA. 82+57.21

NO.	DATE	DESCRIPTION	BY	CHECKED	DATE
1	01/31/21	ISSUED FOR BID	JER	JER	
2	04/01/21	REVISED	MJP	JER	
3	04/01/21	REVISED	MJP	JER	
4	04/01/21	REVISED	JER	JER	

PROJECT NO. 013841.01  
 DATE: APRIL 2021  
 DRAWN BY: MJP  
 CHECKED BY: JER  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN  
 SHEET NO. 10 OF 26  
**C416**

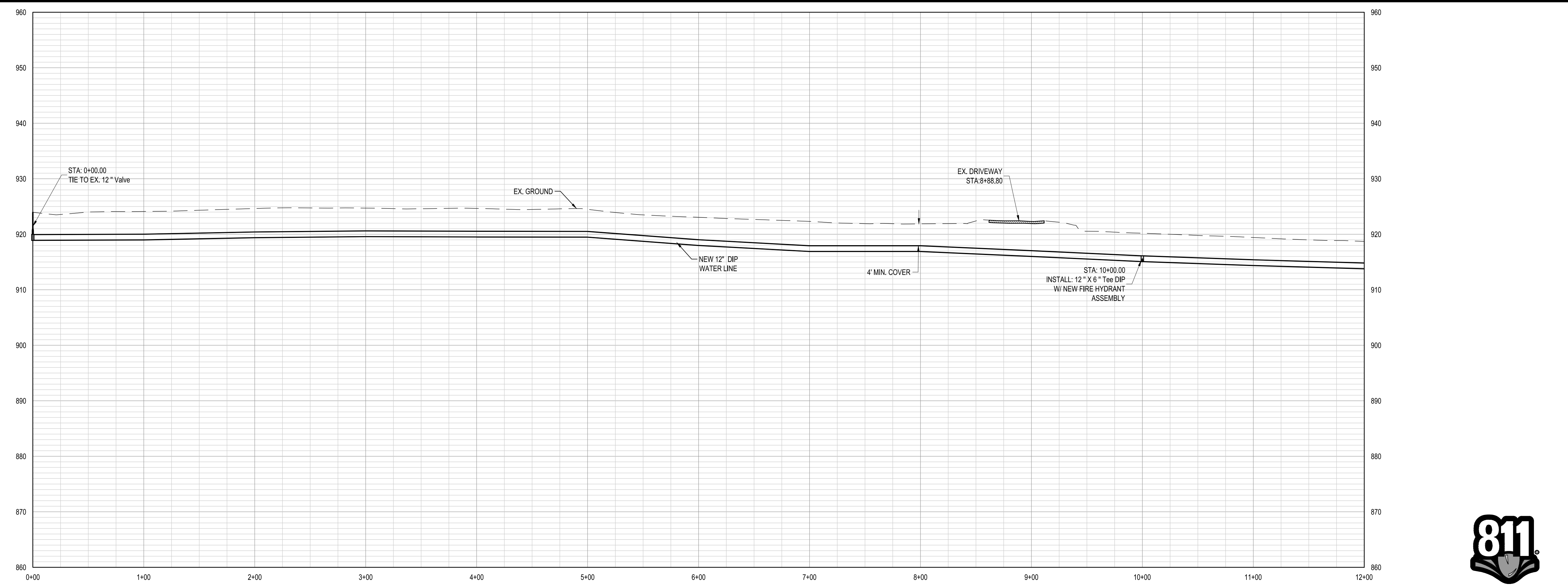
\\gm\61\Drawings\13841-01\Production\Civil\Drawings\13841-01\_PRRMETER RD P-P.dwg, 6/22/2021 10:40:57 AM, ryan c. love, et al.  
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PLAN: STA. 0+00.0 - STA. 12+00.0

PROJECT DATUM INFORMATION:  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88

- NOTES FOR DRIVEWAY CROSSINGS:**
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12 - INCH WATER LINE - STA. 0+00.0 - STA. 12+00.0  
 SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



ISSUED FOR BID

**DAVIS & FLOYD**  
 SINCE 1954  
 WWW.DAVISANDFLOYD.COM  
 164 MILESTONE WAY, SUITE 200  
 GREENVILLE, SC 29615  
 (864) 527-5800

OWNER  
**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601

PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

**12 INCH WATER MAIN PLAN & PROFILE -**  
 STA. 00+00.0 - STA. 12+00.0

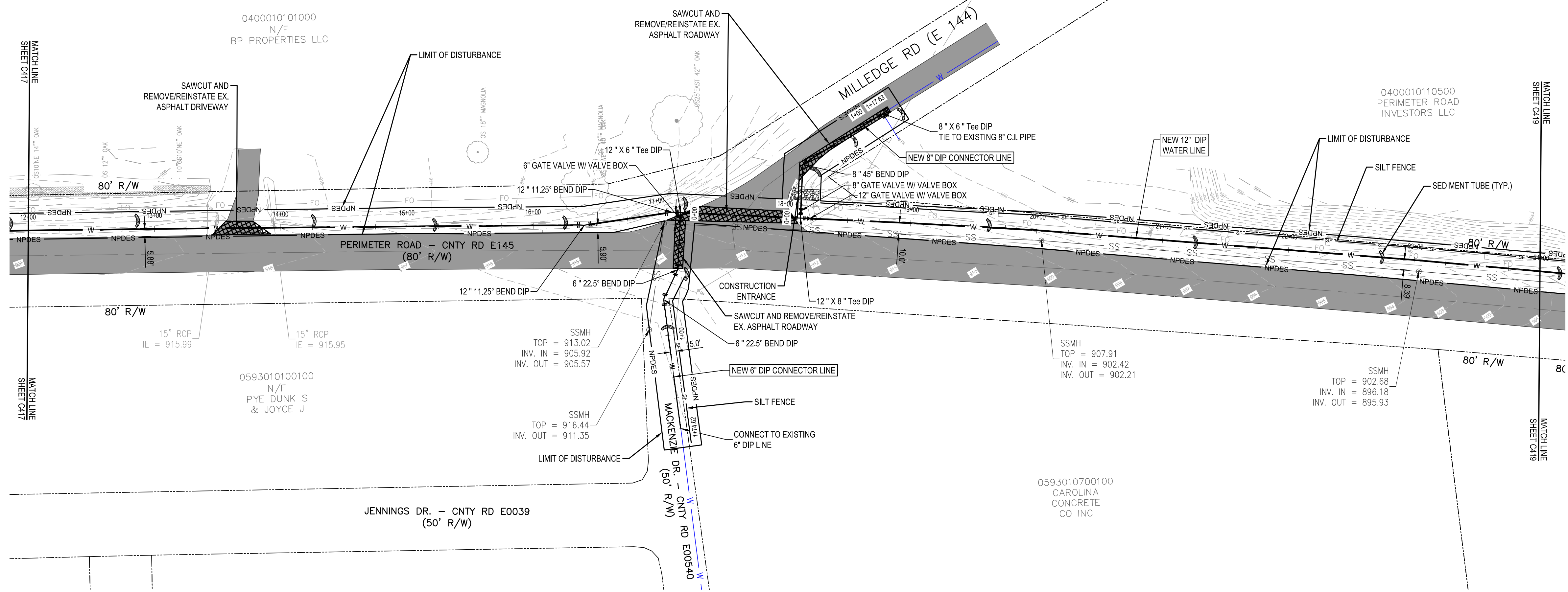
NO.	DATE	DESCRIPTION
1	01/13/21	ISSUED FOR BID
2	04/15/21	REVISED PER AGENCY REVIEW COMMENTS

DATE: 01/13/21  
 DATE: APRIL 2021  
 DRAWN BY: MJP  
 CHECKED BY: JER

**C417**

11 of 26

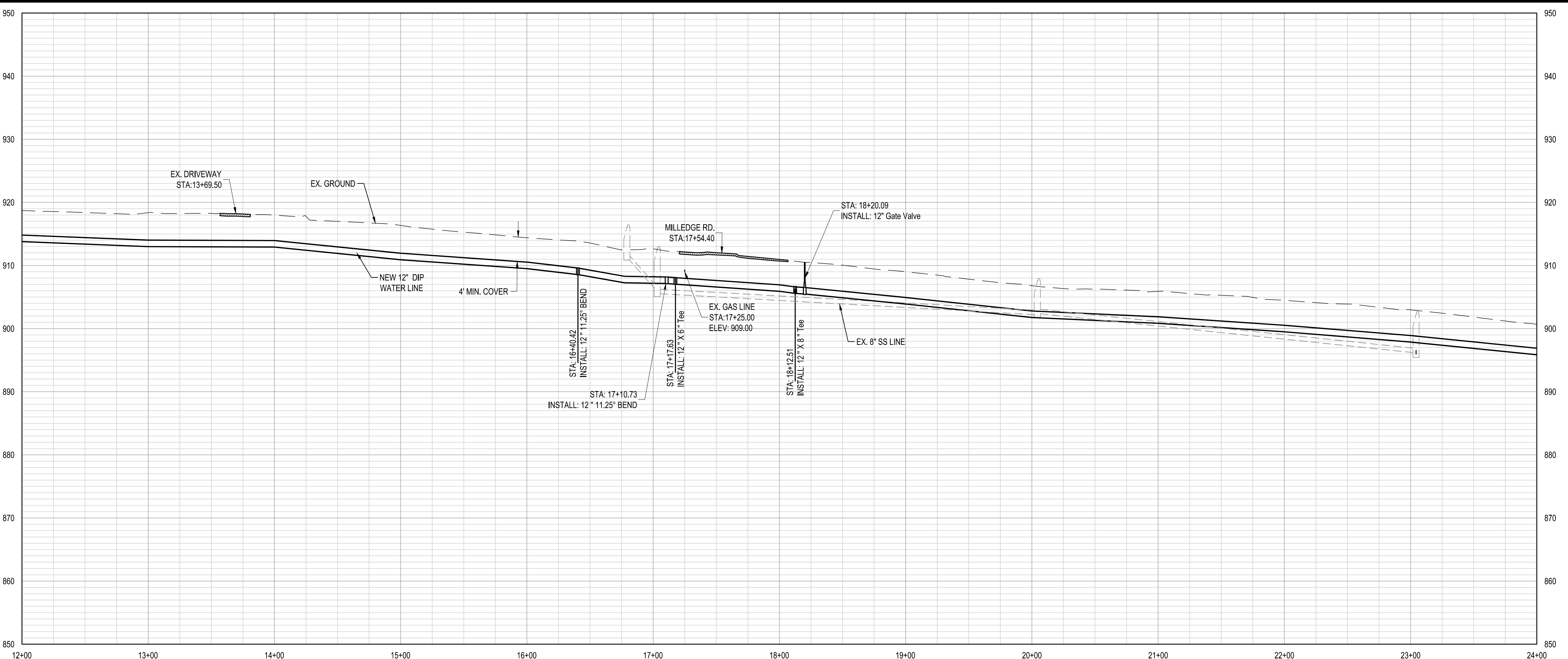
- NOTES FOR DRIVEWAY CROSSINGS:**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
  - CONTRACTOR SHALL SAW CUT ASPHALT DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. PROVIDE ASPHALT SURFACE AND BASE PATCH PER ASPHALT PATCH DETAIL. PROVIDE ASPHALT RESURFACING AT 175 LBS/SY FOR ENTIRE DRIVEWAY FROM EXISTING EDGE OF SCOOT RW TO THE EDGE OF ROADWAY PAVEMENT. PROVIDE 1 1/2" MILLING, 5' WIDE ACROSS EXISTING PAVEMENT TO TRANSITION NEW WITH EXISTING PAVEMENT. REPLACE ANY PAVEMENT MARKINGS OBLITERATED BY THE CONSTRUCTION.
  - CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCOOT STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



**PLAN: STA. 12+00.0 - STA. 24+00.0**

**PROJECT DATUM INFORMATION:**  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88

**BORE & JACK NOTE:**  
 CONTRACTOR TO CONTACT TIM WRIGHT WITH METROCONNECTS AT 864-423-7813 PRIOR TO BEGINNING THE BORE AND JACK. NO WORK SHALL BE EXECUTED AROUND SEWER LINES WITHOUT METROCONNECTS REPRESENTATION ON-SITE.



**12 - INCH WATER LINE - STA. 12+00.0 - STA. 24+00.0**

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



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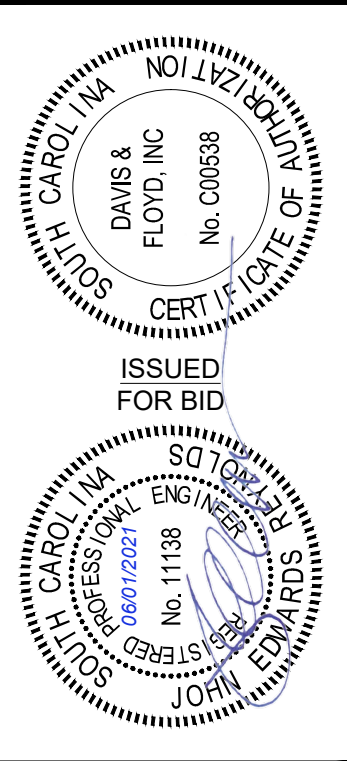
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PYE DUNK S & JOYCE J

SSMH  
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SSMH  
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INV. OUT = 895.93



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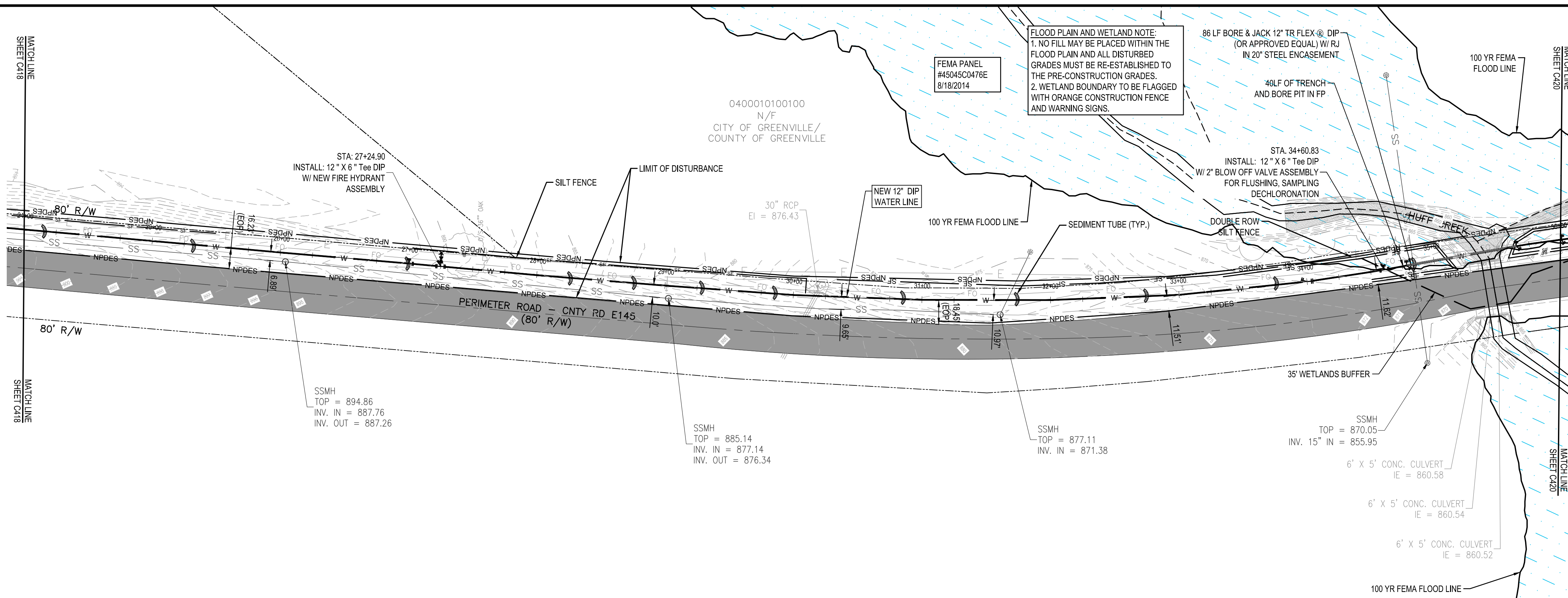
OWNER  
**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

12 INCH WATER MAIN PLAN & PROFILE -  
 STA. 12+00.0 - STA. 24+00.0

NO.	DATE	DESCRIPTION	BY	CHECKED
1	01/31/2021	ISSUED FOR BIDDING	JER	JER
2	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER
3	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER
4	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER
5	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER

DATE: 01/31/2021  
 TIME: 10:41:20 AM  
 PROJECT: 12 INCH WATER MAIN PLAN & PROFILE - STA. 12+00.0 - STA. 24+00.0  
 DRAWN BY: MJP  
 CHECKED BY: JER  
 PROJECT NO: C418  
 PAGE: 12 OF 26

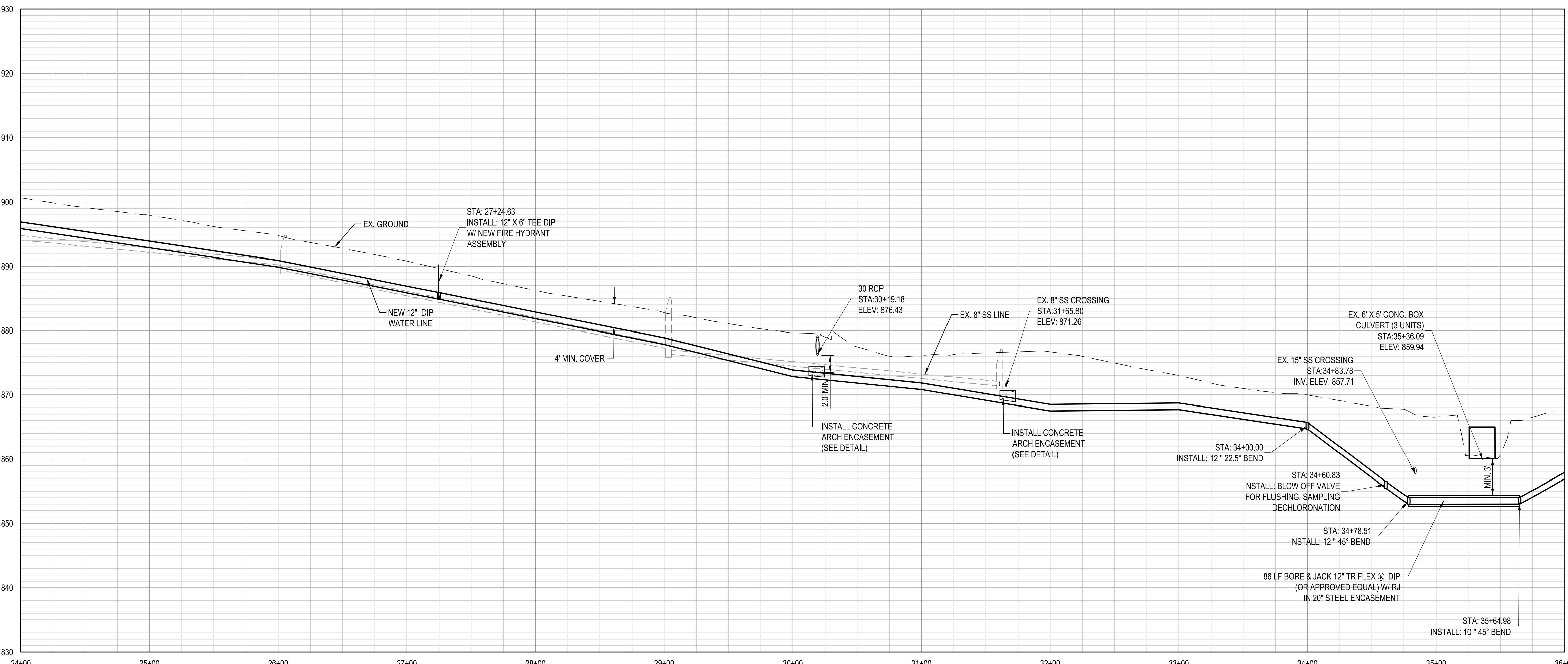
- NOTES FOR DRIVEWAY CROSSINGS**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
  - CONTRACTOR SHALL SAW CUT ASPHALT DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. PROVIDE ASPHALT SURFACE AND BASE PATCH PER ASPHALT PATCH DETAIL. PROVIDE ASPHALT RESURFACING AT 175 LBS/SY FOR ENTIRE DRIVEWAY FROM EXISTING EDGE OF SCOTD RW TO THE EDGE OF ROADWAY PAVEMENT. PROVIDE 1 1/2" MILLING, 3" WIDE ACROSS EXISTING PAVEMENT TO TRANSITION NEW WITH EXISTING PAVEMENT. REPLACE ANY PAVEMENT MARKINGS OBLITERATED BY THE CONSTRUCTION.
  - CONTRACTOR SHALL SAW CUT CONCRETE DRIVEWAYS PRIOR TO EXCAVATION. AFTER INSTALLATION OF THE PIPE, BACKFILL WITH SELECT MATERIAL COMPACTED TO 98% STANDARD PROCTOR DENSITY OR FLOWABLE FILL. RESTORE CONCRETE DRIVEWAY TO EXISTING CONCRETE AND BASE THICKNESS AND BASE MATERIAL OR 6" MINIMUM THICKNESS EACH FOR CONCRETE AND BASE. PROVIDE CONCRETE DRIVEWAY CONSTRUCTION USING SCOTD STANDARD CONCRETE DRIVEWAY DETAILS. REPLACE COMPLETE SECTIONS OF CONCRETE DRIVEWAYS TO NEAREST TRANSVERSE JOINT OR EDGE OF EXISTING PAVEMENT.



PLAN: STA. 24+00.0 - STA. 36+00.0

**PROJECT DATUM INFORMATION:**  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88

SCALE: 1" = 50'



12 - INCH WATER LINE - STA. 24+00.0 - STA. 36+00.0

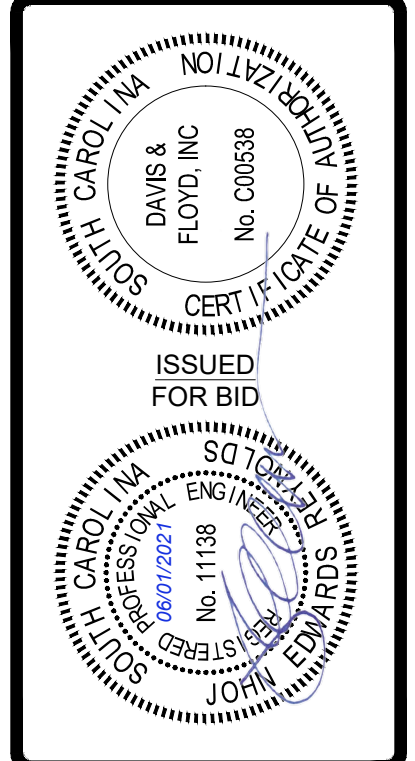
SCALE: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



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OWNER: GREENVILLE WATER  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN

12 INCH WATER MAIN PLAN & PROFILE -  
 STA. 24+00.0 - STA. 36+00.0

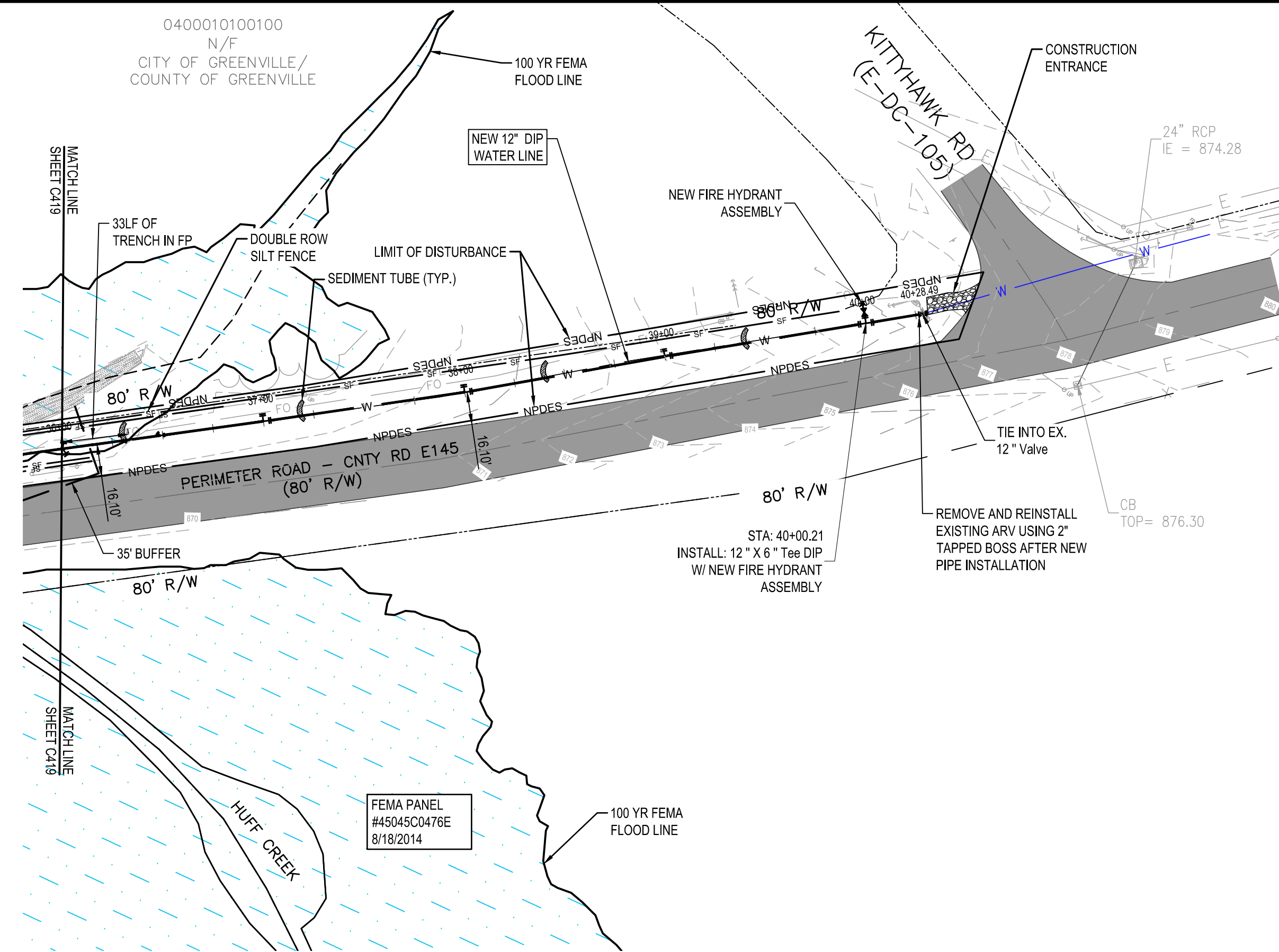
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14	04/01/2021	ISSUED FOR BIDDING
15	04/01/2021	ISSUED FOR BIDDING
16	04/01/2021	ISSUED FOR BIDDING
17	04/01/2021	ISSUED FOR BIDDING
18	04/01/2021	ISSUED FOR BIDDING
19	04/01/2021	ISSUED FOR BIDDING
20	04/01/2021	ISSUED FOR BIDDING

NO. 013841-01  
 DATE APRIL 2021  
 DRAWN BY MJP  
 CHECKED BY JER  
 PROJECT TITLE C419  
 PAGE 13 OF 26

\\gms161\data\jobs\013841-01\Production\CivilDrawings\Exhibits\013841-01\_PRR\METER RD P-P.dwg, 6/2/2021 10:41:57 AM, ryan.c.lowe, et al. THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF DAVIS & FLOYD, INC. AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF THE ENGINEER, ARCHITECT AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION

**FLOOD PLAIN AND WETLAND NOTE:**  
 1. NO FILL MAY BE PLACED WITHIN THE FLOOD PLAIN AND ALL DISTURBED GRADES MUST BE RE-ESTABLISHED TO THE PRE-CONSTRUCTION GRADES.  
 2. WETLAND BOUNDARY TO BE FLAGGED WITH ORANGE CONSTRUCTION FENCE AND WARNING SIGNS.

- NOTES FOR DRIVEWAY CROSSINGS:**
- CONTRACTOR SHALL NOTIFY EACH PROPERTY OWNER AND TENANT A MINIMUM OF 7 DAYS IN ADVANCE OF OPEN CUTTING DRIVEWAYS PRIOR TO STARTING WORK AND COORDINATE WITH THE PROPERTY OWNER AND TENANT TO MAINTAIN SAFE AND CONTINUOUS ACCESS AT ALL TIMES. PROVIDE TRAFFIC CONTROL AS NEEDED TO MAINTAIN SAFETY FOR THE MOTORING PUBLIC.
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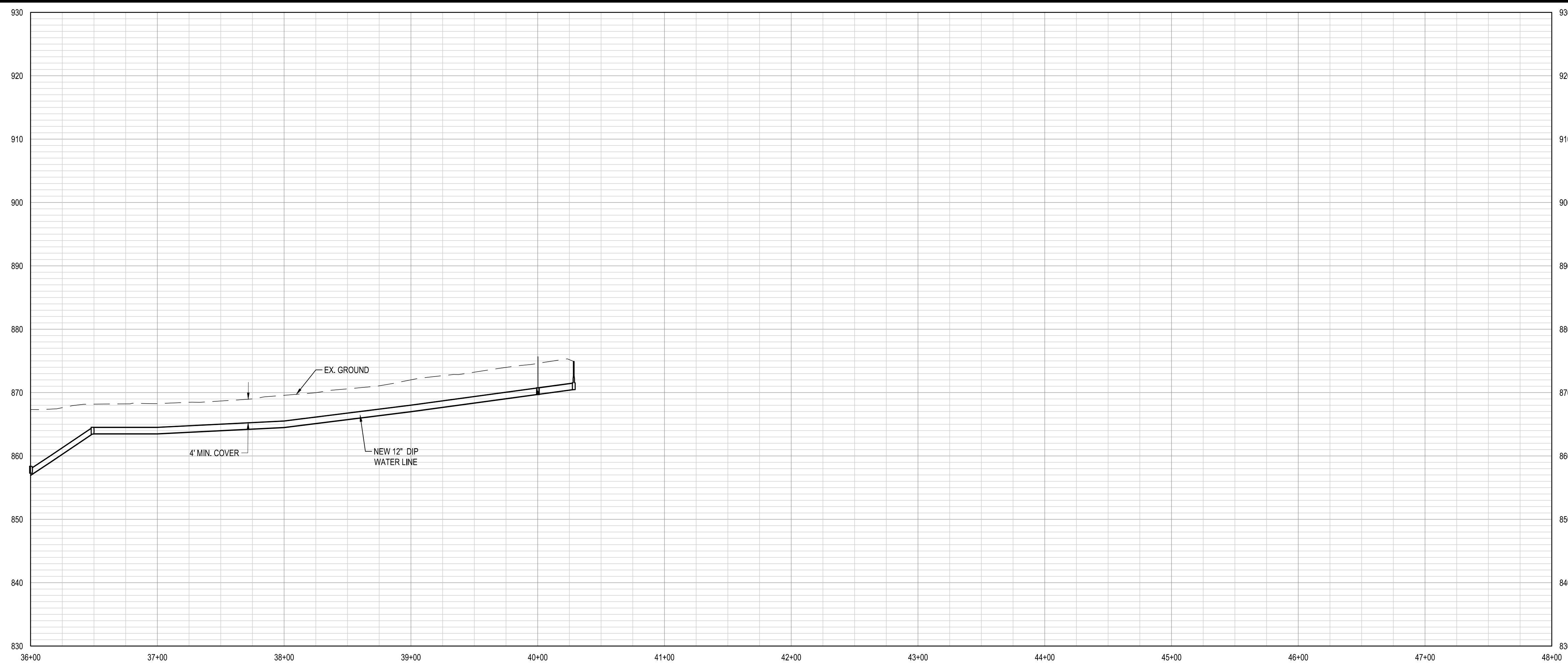
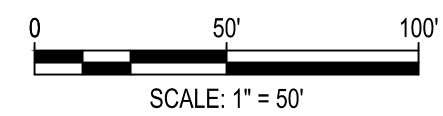


NOTE: PROPERTY LINES SHOWN AND PARCEL INFORMATION IS BASED ON GREENVILLE COUNTY GIS DATA.

NOTE: CONTRACTOR SHALL FURNISH APPROVED BACKFLOW PREVENTION DEVICES TO PREVENT POTENTIAL CONTAMINATION OF POTABLE WATER SUPPLY WHEN FILLING NEWLY CONSTRUCTED WATER MAINS FOR TESTING. ALL WATER USED FOR TESTING AND FLUSHING SHALL BE POTABLE. CONTRACTOR SHALL DISINFECT ALL NEW WATER MAINS IN ACCORDANCE WITH THE SPECIFICATIONS, GREENVILLE WATER SYSTEM STANDARDS AND SCDHEC STANDARDS. WATER DISCHARGED FROM FLUSHING OPERATIONS OF NEW WATER MAINS SHALL BE DECHLORINATED TO SCDHEC STANDARDS BEFORE BEING DISCHARGED TO THE ENVIRONMENT.

PLAN: STA. 36+00.0 - STA. 40+28.49

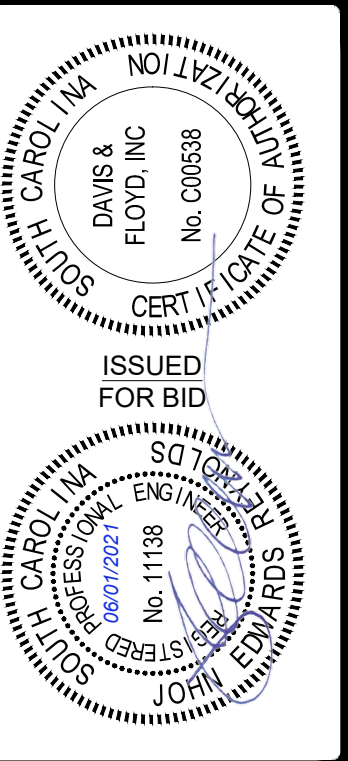
PROJECT DATUM INFORMATION:  
 HORIZONTAL DATUM: SC83IF  
 VERTICAL DATUM: NAVD88



12 - INCH WATER LINE - STA. 36+00.0 - STA. 40+28.49'

SCALES: 1" = 50' HORIZONTAL, 1" = 10' VERTICAL

CIP CONTRACT 187



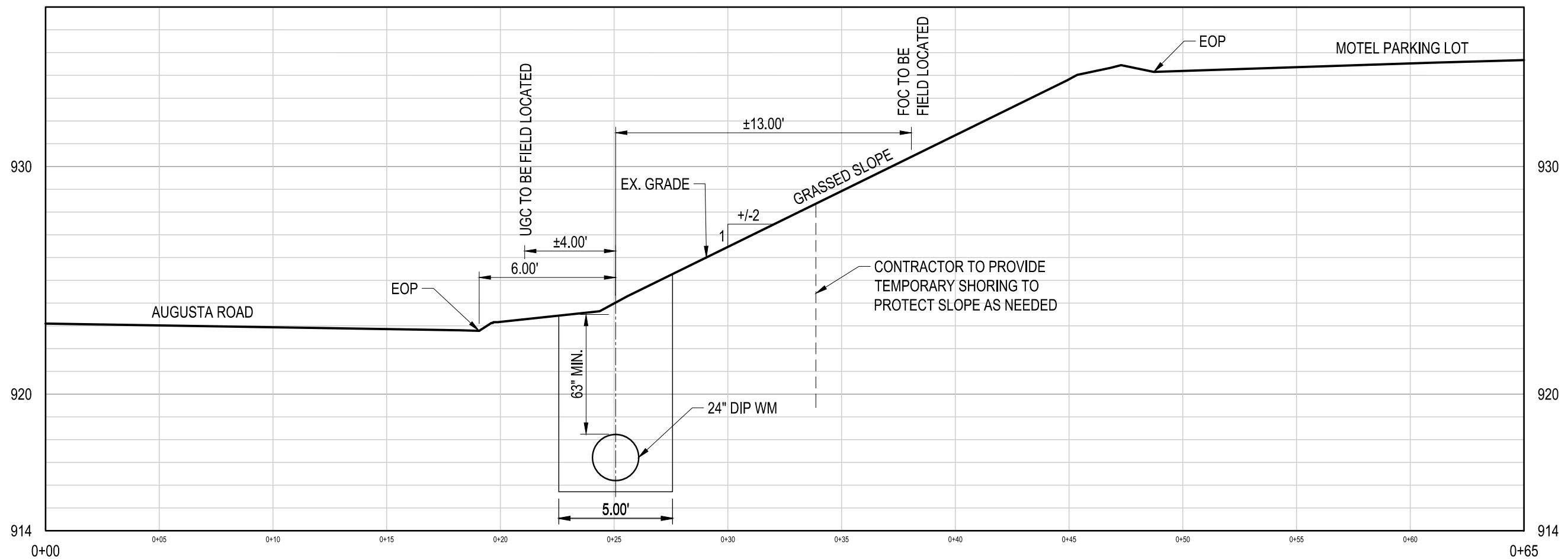
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 GREENVILLE, SC 29615  
 (864) 527-5800

OWNER: GREENVILLE WATER  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE: 24" AUGUSTA ROAD WATER MAIN

12 INCH WATER MAIN PLAN & PROFILE - STA. 36+00.0 - STA. 40+28.49

NO.	DATE	DESCRIPTION	BY	CHECKED
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3	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER
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25	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER
26	04/01/2021	REVISED PER AGENCY REVIEW COMMENTS	MJP	JER

# 24" AUGUSTA ROAD WATER MAIN ALTERNATE ALIGNMENT CROSS SECTION AT MOTEL ALONG AUGUSTA ROAD



**MOTEL CROSS SECTION @ STA.40+70.0 (1)**

SCALES: 1" = 5' HORIZONTAL, 1" = 5' VERTICAL

CIP CONTRACT 187

**SKETCH**

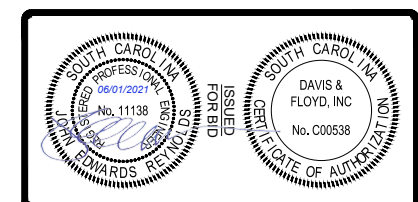
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JOB NO.	NO.	RELEASED	CHECKED	DATE	DRAWING TITLE
013841.01					
DATE					
DESIGNED					
DRAWN					
CHECKED					
APPROVED					

TRENCH CROSS SECTION

OWNER  
**GREENVILLE WATER**  
407 W. BROAD ST. GREENVILLE, SC 29601  
PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**







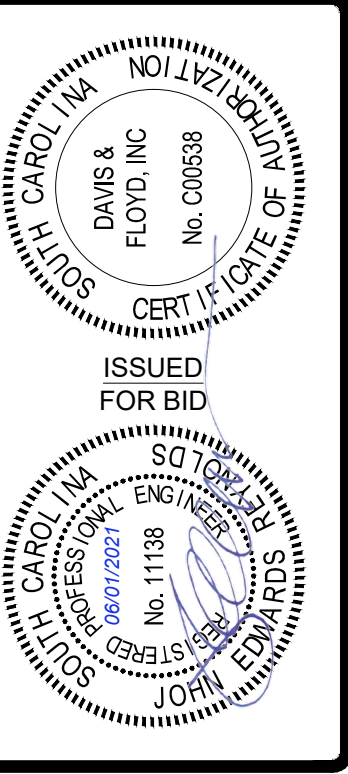


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LAND DISTURBANCE SCHEDULE PHASE 1												
ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
RECEIVE LAND DISTURBANCE/NPDES APPROVAL FROM GREENVILLE COUNTY AND CONDUCT PRE-CONSTRUCTION MEETING.												
NOTIFY GREENVILLE COUNTY STAFF 48 HOURS PRIOR TO BEGINNING OF LAND DISTURBANCE ACTIVITIES.												
CLEAR & GRUB TO INSTALL PERIMETER BMP'S.												
FLAG WETLAND BUFFER(S) PRIOR TO CONSTRUCTION.												
INSTALL PERIMETER BMP'S (SILT FENCE, CONSTRUCTION ENTRANCE, ETC.)												
IMPLEMENT PHASED EROSION CONTROL PER APPROVED SWPPP. INSTALL MAIN SEDIMENT AND EROSION CONTROL FEATURERS.												
INSTALLATION OF MAIN SEDIMENT/STORMWATER CONTROL FEATURES.												
SITE CONSTRUCTION, EQUIPMENT AND VEHICLE POLLUTANT CONTROL FEATURES INSTALLED (PRIOR TO CONSTRUCTION: CONCRETE WASH, OILS, ETC.)												
ENGINEER CERTIFICATION OF MAIN BMP INSTALLATION PER GREENVILLE COUNTY SEQUENCE VERIFICATION FORM.												
COMPLETE SITE PREPERATION FOR GRADING, UTILITY RELOCATION.												
IMPLEMENT AND MAINTAIN TEMPORARY STABILIZATION CONTROLS ON ALL AREAS THAT WILL GO UNWORKED FOR MORE THAN 14 DAYS. (7 DAYS FOR STEEP SLOPES)												
INSPECTIONS EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT ALL BMP'S BE ASSESSED BY THE CONTRACTOR WITHIN 24HRS OF THE END OF A STORM EVENT OF 1.0 INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER INSTALLATION OF BMP'S.												
MAINTAIN ALL SEDIMENTAND EROSION CONTROL FEATURES THROUGHOUT THE LIFE OF THE PROJECT.												
TRANSITION TO LAND DISTURBANCE SCHEDULE PHASE 2.												

LAND DISTURBANCE SCHEDULE PHASE 2												
ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
CONSTRUCTION OF NEW WATER LINE												
INSTALL TEMPORARY SEDIMENT TRAPS AS SHOWN.												
IMPLEMENT PHASED EROSION CONTROL PER APPROVED SWPPP.												
IMPLEMENT AND MAINTAIN TEMPORARY STABILIZATION CONTROLS ON ALL AREAS THAT WILL GO UNWORKED FOR MORE THAN 14 DAYS. (7 DAYS FOR STEEP SLOPES)												
ENGINEER CERTIFICATION OF MAIN BMP INSTALLATION PER GREENVILLE COUNTY SEQUENCE VERIFICATION FORM.												
INSPECTIONS EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT ALL BMP'S BE ASSESSED BY THE CONTRACTOR WITHIN 24HRS OF THE END OF A STORM EVENT OF 1.0 INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER INSTALLATION OF BMP'S.												
MAINTAIN ALL SEDIMENTAND EROSION CONTROL FEATURES THROUGHOUT THE LIFE OF THE PROJECT.												
INSTALL AND ESTABLISH PERMANENT STABILIZATION AS FINAL CONSTRUCTION PROGRESSES.												
TRANSITION TO LAND DISTURBANCE SCHEDULE PHASE 3.												

LAND DISTURBANCE SCHEDULE PHASE 3												
ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
GRADING AND CONSTRUCTION UTILITIES.												
IMPLEMENT PHASED EROSION CONTROL PER APPROVED SWPPP.												
IMPLEMENT AND MAINTAIN TEMPORARY STABILIZATION CONTROLS ON ALL AREAS THAT WILL GO UNWORKED FOR MORE THAN 14 DAYS. (7 DAYS FOR STEEP SLOPES)												
INSPECTIONS EVERY CALENDAR WEEK, WITH NO TIME PERIOD BETWEEN INSPECTIONS EXCEEDING 9 DAYS AND MUST BE CONDUCTED UNTIL FINAL STABILIZATION IS REACHED ON ALL AREAS OF THE CONSTRUCTION SITE. IT IS RECOMMENDED THAT ALL BMP'S BE ASSESSED BY THE CONTRACTOR WITHIN 24HRS OF THE END OF A STORM EVENT OF 1.0 INCH OR GREATER, AS WELL AS DURING THE FIRST RAIN EVENT AFTER THE INITIATION OF CONSTRUCTION ACTIVITIES, AFTER INSTALLATION OF BMP'S.												
MAINTAIN ALL SEDIMENTAND EROSION CONTROL FEATURES THROUGHOUT THE LIFE OF THE PROJECT.												
ENGINEER CERTIFICATION OF MAIN BMP INSTALLATION PER GREENVILLE COUNTY SEQUENCE VERIFICATION FORM.												
INSTALL AND ESTABLISH PERMANENT STABILIZATION AS FINAL CONSTRUCTION PROGRESSES.												
REMOVE ALL SEDIMENT RETAINED BY EROSION CONTROL DEVICES AND FLUSH STORMWATER SYSTEM CONVERT TEMPORARY BMP'S TO PERMANENT BMP'S - CLEAR OUT ACCUMULATED SEDIMENT FROM BMP'S.												
REMOVE TEMPORARY SEDIMENT AND EROSION CONTROL MEASURES AFTER ENTIRE SITE HAS BEEN FULLY STABILIZED.												
SUBMIT NOTICE OF TERMINATION (NOT)												



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OWNER  
**GREENVILLE WATER**  
 407 W. BROAD ST. GREENVILLE, SC 29601  
 PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

DRAWING TITLE  
**EROSION CONTROL DETAILS**

NO.	DATE	DESCRIPTION	BY	DATE
1	01/30/21	ISSUED FOR BID	JER	01/30/21
2	04/01/21	REVISION	JER	04/01/21
3	04/01/21	REVISION	JER	04/01/21
4	04/01/21	REVISION	JER	04/01/21
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11	04/01/21	REVISION	JER	04/01/21
12	04/01/21	REVISION	JER	04/01/21
13	04/01/21	REVISION	JER	04/01/21
14	04/01/21	REVISION	JER	04/01/21
15	04/01/21	REVISION	JER	04/01/21
16	04/01/21	REVISION	JER	04/01/21
17	04/01/21	REVISION	JER	04/01/21
18	04/01/21	REVISION	JER	04/01/21
19	04/01/21	REVISION	JER	04/01/21
20	04/01/21	REVISION	JER	04/01/21

# GREENVILLE COUNTY

## SEEDING/STABILIZATION NOTES

### Regulatory Requirements

#### Temporary Stabilization

Temporary Stabilization is defined as a condition where exposed soils or disturbed areas are provided a temporary vegetative and/or non-vegetative protective cover to prevent erosion and sediment loss. Temporary stabilization may include temporary seeding, geotextiles, mulches, and other techniques to reduce or eliminate erosion until either final stabilization can be achieved or until further construction activities take place to re-disturb this area.

#### Initiating Temporary Stabilization

Initiate temporary stabilization by mulch or temporary stabilization by seeding within 7 calendar days where land disturbing activities have temporarily ceased on the Project and will not resume for a period exceeding 14 calendar days. Where land disturbing activities on a portion of the Project are temporarily ceased, and the land disturbing activities are resumed within 14 days, temporary stabilization measures are not required to be initiated on that portion of the Project.

Temporary stabilization by seeding is required if the Project will not be worked for a period longer than 60 days.

Initiate temporary stabilization measures as soon as practicable for areas where initiating temporary stabilization measures within 7 days is infeasible (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization).

#### Slope Interruption Devices

The maximum allowable continuous slope length for straw or hay mulch, HECPs, compost and ECB applications is 50 feet. Slope interruption devices (such as sediment tubes) or TRMs are required for continuous slope length longer than 50 feet.

#### Inspection

Ensure that all seed, Sod, fast acting lime, biological growth stimulants, agricultural granular lime, granular fertilizer, straw and hay mulch, HECPs, compost mulch, and ECBs are applied as Specified. The Design Engineer or Landscape Architect, or member of the Design Engineer or Landscape Architect staff must document on-site that these materials are applied correctly by completing and signing proper forms.

#### Maintenance

Perform all maintenance necessary to keep Stabilization areas in a satisfactory condition until the work is finally accepted. This includes mowing, repairing areas of erosion and washes, and applying additional seed, fertilizer, and mulch to areas where a satisfactory stand of grass has not been achieved.

#### Mowing

Mow road shoulders and medians when vegetation reaches a height of approximately 18 to 24 inches. Do not perform excessive mowing of Slopes resulting in ruts, furrows or grooves. Do not perform excessive mowing of Slopes that inhibits the establishment of the slope vegetation. Do not perform mowing when soil and weather conditions are such that rutting or other damage to the Project may occur.

Ensure mowing results in a uniform vegetation height of 4 to 6 inches, unless otherwise directed. When utilizing a nurse crop for permanent seeding, mow Millet (no lower than 3 inches) once it reaches a height of 18 inches to reduce competitiveness with the permanent vegetation. Mow Wheat and Rye Grain (no lower than 3 inches) once they reach a height of 6-8 inches to reduce competitiveness with permanent vegetation.

### Temporary Stabilization

#### Acceptance of Temporary Stabilization

Before acceptance of temporary stabilization by the regulatory agency and the Design Engineer or Landscape Architect, temporary stabilization is required that is sufficient to control erosion for a given area and length of time before the next phase of construction or the establishment of permanent seeding is to commence. A satisfactory stand of temporary stabilization meeting the requirements of this Specification is required regardless of the time of the year the work is performed.

#### Temporary Cover by Mulch

Use temporary cover by mulch where it is not feasible or practicable to bring an area to final slope and grade. Finish the surface so that permanent seeding can be performed without subsequent disturbance by additional grading.

#### Temporary Cover by Seeding

Following the preparation of the seedbed, sow seed per the seeding Tables and apply an appropriate Mulch prior to a rainfall event that compacts the seedbed. The CONTRACTOR may add granular lime and fertilizer as necessary to enhance growth.

### Final Stabilization

Final Stabilization is defined that all land-disturbing activities at the construction site have been completed and that on all areas not covered by permanent structures, either

- 1) A uniform (e.g., evenly distributed, without large bare areas) permanent vegetative cover with a density of 70 percent has been established, or
- 2) Equivalent permanent stabilization measures (such as the use of landscaping mulch, riprap, pavement, and gravel) have been implemented to provide effective cover for exposed portions of the construction site not stabilized with permanent vegetation.

Final stabilization by vegetation must be achieved with permanent perennial vegetation prior to issuing the Notice of Termination (NOT).

#### Permanent Seeding

Initiate permanent seeding within 7 calendar days where land disturbing activities have permanently ceased on the Project. Where land disturbing activities are resumed within 14 days, stabilization measures are not required to be initiated on that portion of the Project. Initiate permanent seeding measures as soon as practicable for areas where initiating permanent seeding measures within 7 days is infeasible (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization).

When performing permanent seeding for permanent detention ponds, ensure that the detention pond is cleaned of any deposited sediment and graded to the required permanent detention basin configuration. Ensure the seedbed for the permanent seeding is established in accordance with this Specification.

#### Acceptance of Permanent Seeding

Before acceptance, a uniform perennial vegetative cover with a density of 70% of each square yard of the seeded area is required. A well developed root system must be established to sufficiently survive dry periods and winter weather and be capable of reestablishment in the spring.

#### Permanent Seeding Installation

Following the preparation of the seedbed, perform permanent seeding per the seeding Tables and apply an appropriate Mulch within 5 working days and/or prior to a rainfall event that compacts the prepared seedbed. If a rain event occurs that compacts or erodes the seedbed prior to performing permanent seeding, the seedbed must be re-prepared prior to conducting permanent seeding. Add fertilizer and lime as required by a soil test.

### Sod

Initiate Sod applications within 7 calendar days where land disturbing activities have permanently ceased on the Project. Initiate Sod applications measures as soon as practicable for areas where initiating Sod applications within 7 days is infeasible (e.g., where snow cover, frozen ground, or drought conditions preclude stabilization). Use Sod on slopes less than 2H:1V.

#### Acceptance of Sod

Acceptance is contingent on establishing a satisfactory stand of perennial grass. Sod application areas are acceptable when all requirements including maintenance are met and a healthy, evenly colored, viable stand of grass is established. A satisfactory stand of grass must have a root system that is sufficient to survive dry periods and winter weather and is capable of re-establishing in the spring.

### Sod

Do not use sodding on slopes steeper than 2H:1V, and if sodding is mowed, do not place on slopes greater than 3H:1V. Install Warm Season Sod between March 1st and September 1st. Install Cool Season Sod anytime during the year as long as the soil is not frozen. Do not place Sod on:

- Soil that is frozen and/or when the 10-day forecasted low temperature remains below 35 degrees Fahrenheit;
- Soil that is excessively wet;
- Soil that is excessively dry (periods of heat or drought) unless watering is specified;
- Soil that is composed of compacted clay; and
- Soil that has been treated with pesticides.

#### Sod Bed Preparation

- Ensure the Sod bed is uniform and conforms to the finished grade of the Project.
- Loosen the Sod Bed to a minimum depth of 3 inches before placing Sod.
- Furnish and place topsoil or compost in the Sod Bed in areas where the existing Sod Bed has little or no topsoil,
- Lay Sod when Sod Bed is moist. Moisten dry Sod Beds before sod is laid.

#### Sod Material

Provide Sod with living, well-established growth, with a dense root mat of predominant grass Specified. Provide vigorous, well rooted, healthy turf, free from disease, insect pests, weeds, other grasses, stones, and any other harmful or detrimental materials.

#### Sod Installations

Ensure Sod is not installed until the end of the project or when final stabilization is achieved on adjacent areas of the project that drain or discharge to the Sod application.

### Amendments

#### Lime

Use agricultural grade, standard ground limestone for all permanent seeding applications and Sodding applications.

#### Agricultural Granular Lime

Use agricultural grade, standard ground limestone for all permanent seeding applications and Sodding applications.

#### Applying Granular Lime

A soil analysis is recommended prior to application. Apply at a rate within  $\pm 10\%$  of weight recommendation of soil analysis. Do not apply more than 2,500 lbs/acre of in a single application.

#### Fast Acting Lime

Use fast acting liquid and/or dry forms of lime for all temporary seeding and permanent seeding applications.

#### Granular Fertilizer

Use for all permanent seeding applications and all Sodding applications. Proper mixture is dependent on the existing soil conditions and it is recommended that a soil analysis be performed if the soil conditions are uncertain in the area of fertilizer application.

#### Fast Acting Lime

Use fast acting liquid and/or dry forms of lime for all temporary seeding and permanent seeding applications.

#### Granular Fertilizer

Use for all permanent seeding applications and all Sodding applications. Proper mixture is dependent on the existing soil conditions and it is recommended that a soil analysis be performed if the soil conditions are uncertain in the area of fertilizer application.

#### Fast Acting Lime

Use fast acting liquid and/or dry forms of lime for all temporary seeding and permanent seeding applications.

#### Granular Fertilizer

Use for all permanent seeding applications and all Sodding applications. Proper mixture is dependent on the existing soil conditions and it is recommended that a soil analysis be performed if the soil conditions are uncertain in the area of fertilizer application.

### Fertilizer

Use fertilizer that incorporates a minimum of 50% water insoluble (slow release) nitrogen. Animal by-product or municipal waste fertilizers are not acceptable under this Specification.

Unless a soil analysis is performed to determine otherwise, a good rule of thumb granular fertilizer to apply in the Upstate of South Carolina is 10-10-10. In no case should a 20-20-20 fertilizer be used due to the potential burning of the seedbed.

### Compost Soil Amendment

For seedbeds that have little or no topsoil, are highly acidic, or are lacking sufficient nutrients to sustain a health stand of grass, place, and mix certified weed free compost into the seedbed to ensure a good stand of grass.

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

Use for all permanent seeding, Sodding, and temporary seeding applications. Animal by-products or municipal waste products are not acceptable. Liquid fertilizers are not acceptable, and can cause burning of the seedbed if applied as such.

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

Use for all permanent seeding, Sodding, and temporary seeding applications. Animal by-products or municipal waste products are not acceptable. Liquid fertilizers are not acceptable, and can cause burning of the seedbed if applied as such.

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

Use for all permanent seeding, Sodding, and temporary seeding applications. Animal by-products or municipal waste products are not acceptable. Liquid fertilizers are not acceptable, and can cause burning of the seedbed if applied as such.

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

Use for all permanent seeding, Sodding, and temporary seeding applications. Animal by-products or municipal waste products are not acceptable. Liquid fertilizers are not acceptable, and can cause burning of the seedbed if applied as such.

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

### Seeding Dates and Rates of Application

Perform seeding during the periods and at the rates specified in the seeding tables. Do not use temporary cover by seeding or permanent seeding for projects when:

- The ground is frozen and/or when the 10-day forecasted low temperature remains below 35 degrees Fahrenheit;
- The ground is excessively wet; or
- The ground is excessively dry (periods of drought) unless watering is specified.

During periods of adverse conditions, use temporary cover by mulch.

### Seedbed Preparation

Ensure that the areas receiving permanent seeding are uniform and conform to the finished grade of the Project.

Perform minor shaping and evening of uneven and rough areas outside of the graded area in order to provide for more effective erosion control and for ease of subsequent mowing operations.

Loosen the seedbed (including cut slopes) to a minimum depth of three (3) inches before initiating permanent seeding and temporary seeding.

An acceptable method of preparing the seedbed on slopes is vertically tracking the seedbed up and seeded up and down the slope with proper equipment.

Remove stones larger than two and one-half (2½) inches in any dimension, large dirt clods, roots, or other debris brought to the surface.

Use compost if good seeded material is not located on site or results of the soil test show the seedbed is excessively nutrient deficient to the extent of requiring costly fertilizer additions and or have excessively low pH values (lower than 5.0).

Consider the use of mechanical seed drills to perform permanent seeding on areas where temporary seeding or temporary cover by mulch was previously utilized.

### Mulch

Required for all permanent seeding, temporary seeding, and temporary cover applications. Do not use Mulch in areas where concentrated flow is expected. Use HECF Mulch for temporary seeding and temporary cover applications when the application area will require additional grading prior to permanent seeding. Do not use Erosion Control Blankets (ECB) or Turf Reinforcement Matting (TRM) in this situation.

#### Wood Chip Mulch

Wood chip mulch is not acceptable for seeding applications. If wood chip mulch is used for temporary cover by mulch, it must be removed prior to performing permanent seeding.

#### Straw or Hay Mulch with Tackifier

Use material that is certified weed. Do not use on slopes steeper than 4H:1V. Anchor using one of the following tacking agents:

- Organic or Chemical Tackifier
- Hydraulic Straw Tackifiers
- Emulsified Asphalt

#### Applying Straw or Hay Mulch

Uniformly apply material at the rate of 2,000 pounds per acre.

#### Compost Mulch

Only use from producer that participates in the USCC STA program. Do not use materials that have been treated with chemical preservatives as a compost mulch. Do not use mixed municipal solid waste compost.

#### Hydraulic Erosion Control Products (HECPs)

Use as an allowable mulch for temporary cover by mulch, temporary cover by seeding or permanent cover by seeding applications. Do not use as a channel liner or for areas receiving concentrated flow.

#### Temporary Erosion Control Blankets (ECB) and Turf Reinforcement Matting (TRM)

Consider for permanent seeding application areas with steep slopes or areas where there is a significant erosion problem or potential for erosion. Use in areas where concentrated flow is expected. Do not use for temporary seeding applications when the application areas will require additional grading or modifications prior to permanent seeding.

#### Protection of Structures

Cover any parts of bridges, culverts, guardrails, signs, sidewalks, curb and gutters, catch basins, pipe ends, and other structures as necessary to prevent discoloration before spraying HECPs, organic or chemical tackifiers.

### Non Slope Areas

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	50	1.15														
White Clover	Trifolium repens	5	0.11														
Browtop Millet	Panicum ramosum	10	0.23														

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Tall Fescue (KY-31)	Festuca arundinacea	50	1.15														
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	15	0.34														
White Clover	Trifolium repens	5	0.11														
Crimson Clover <sup>3</sup>	Trifolium incarnatum	20	0.46														
Rye Grain <sup>4</sup>	Secale cereale	15	0.34														

<sup>1</sup> Common Bermudagrass: Do not use Giant Bermudagrass (NC-37).  
<sup>2</sup> Only use pre-inoculated legumes or use an appropriate inoculant with the seed at planting.  
<sup>3</sup> Allow Rye Grain (no lower than 3 inches) once it reaches a height of 6-8 inches to reduce competitiveness with permanent vegetation.  
<sup>4</sup> If the Common Name of the seed listed in the Tables is not available, use seed with the listed Botanical Name.

### Road Medians & Shoulders

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	25	0.57														
Browtop Millet	Panicum ramosum	10	0.23														

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Tall Fescue (KY-31)	Festuca arundinacea	50	1.15														
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	15	0.34														
Crimson Clover <sup>3</sup>	Trifolium incarnatum	20	0.46														
Rye Grain <sup>4</sup>	Secale cereale	15	0.34														

<sup>1</sup> Common Bermudagrass: Do not use Giant Bermudagrass (NC-37).  
<sup>2</sup> Only use pre-inoculated legumes or use an appropriate inoculant with the seed at planting.  
<sup>3</sup> Allow Rye Grain (no lower than 3 inches) once it reaches a height of 6-8 inches to reduce competitiveness with permanent vegetation.  
<sup>4</sup> If the Common Name of the seed listed in the Tables is not available, use seed with the listed Botanical Name.

### Slopes & Buffers

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Tall Fescue (KY-31)	Festuca arundinacea	50	1.15														
Bahagrass	Paspalum notatum	30	0.69														
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	15	0.34														
White Clover	Trifolium repens	5	0.11														
Wooling Lovegrass	Eragrostis curvula	5	0.11														
Hairy Vetch <sup>3</sup>	Vicia villosa	10	0.23														
Browtop Millet	Panicum ramosum	10	0.23														

### Fall / Winter Slopes (during establishment, mow when Rye reaches 6 to 8 inches in height. After establishment, only mow at end of winter season)

Common Name <sup>1</sup>	Botanical Name	Planting Rate (lbs/acre)	Planting Rate (lbs/1000sq)	Planting Dates													
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec		
Tall Fescue (KY-31)	Festuca arundinacea	50	1.15														
Common Bermudagrass <sup>2</sup> (turfed = full present)	Cynodon dactylon	15	0.34														
White Clover <sup>3</sup>	Trifolium repens	5	0.11														















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THESE DRAWINGS AND THE DESIGN THEREON ARE THE PROPERTY OF DAVIS & FLOYD, INC. AND MAY NOT BE USED IN WHOLE OR IN PART WITHOUT WRITTEN CONSENT OF THE ENGINEER. ARCHITECT AND ANY INFRINGEMENT WILL BE SUBJECT TO LEGAL ACTION.

**REFERENCES**

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**GENERAL NOTES**

1. ALL SIGN LOCATIONS ARE TO BE MEASURED FROM THE WORK AREA. WORK LIMITS FOR THE PROJECT WILL BE DETERMINED BY THE ENGINEER AND AS INDICATED IN THE CONTRACT.
2. METAL ADVANCE WARNING SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS NO LESS THAN 14 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE OR SHOULDER WITH LETTERS NO LESS THAN 6 FEET FROM THE NEAR EDGE OF THE SIGN TO THE NEAR EDGE OF AN ADJACENT TRAVEL LANE OR SHOULDER WITH LETTERS NO LESS THAN 2 FEET FROM THE NEAR EDGE OF THE SIGN TO THE FACE OF THE CURB.
3. SPANNS INDICATED ARE FOR NORMAL CORRECTIVE ADJUSTMENTS MAY BE REQUIRED DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENTS OR OTHER SIGN DISTANCE RESTRICTIONS.
4. ALL SIGNS MOUNTED ON PORTABLE SIGN SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 5 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN. ALL SIGNS MOUNTED ON GROUND MOUNTED SUPPORTS SHALL HAVE A MINIMUM MOUNTING HEIGHT OF 7 FEET FROM THE GROUND TO THE BOTTOM OF THE SIGN UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT. MOUNT ALL SIGNS STRAIGHT AND LEVEL AND WITH THE FACE OF THE SIGN PERPENDICULAR TO THE SURFACE OF THE ROADWAY.
5. REFLECTORIZE ORANGE ADVANCE WARNING SIGNS AND ANY ORANGE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A FLUORESCENT ORANGE COLORED PRISMATIC RETROREFLECTIVE SHEETING. REFLECTORIZE WHITE REGULATORY SIGNS AND ANY WHITE AREAS OF A MULTI-COLORED ADVANCE WARNING SIGN WITH A WHITE COLORED PRISMATIC RETROREFLECTIVE SHEETING.
6. ALL TRAFFIC CONTROL DEVICES SHALL COMPLY WITH ALL NORTH REPORT 300 REQUIREMENTS AND SHALL REQUIRE APPROVAL BY THE DEPARTMENT. ONLY THOSE TRAFFIC CONTROL DEVICES INCLUDED ON THE "APPROVED PRODUCTS LIST FOR TRAFFIC CONTROL DEVICES IN WORK ZONES" ARE CONSIDERED ACCEPTABLE FOR USE. THIS LIST MAY BE ACCESSIBLE ON THE DEPARTMENT'S WEB SITE AT: [www.scdot.org](http://www.scdot.org).
7. THE CONTRACTOR SHALL PROVIDE AND UTILIZE ANY SPECIAL SIGN MOUNTING ASSEMBLIES AND HARDWARE THAT MAY BE NECESSARY FOR INSTALLING AND MOUNTING SIGNS IN AREAS OF CONCRETE MEDIAN BARRIERS, BRIDGE PARAPETS WALLS OR DOUBLE-FACED GUARDRAILS.
8. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR DAYTIME SHOULDER CLOSURES ARE 36" CONES. THE PRIMARY TRAFFIC CONTROL DEVICES UTILIZED FOR NIGHTTIME SHOULDER CLOSURES ARE PORTABLE PLASTIC DRUMS. DURING DAYTIME SHOULDER CLOSURES, 24" CONE SPACING MAY BE SUBSTITUTED FOR 36" CONES. DURING NIGHTTIME SHOULDER CLOSURES, 42" CONE SPACING MAY BE SUBSTITUTED FOR 36" CONES. THE TRAFFIC CONTROL DEVICES 42" CONE SPACING SHALL BE PROVIDED FOR USE IN THE TRAFFIC CONTROL DEVICES WITH POSSIBLE PLASTIC DRUMS.
9. THE 36" CONES UTILIZED DURING DAYLIGHT HOURS ARE NOT REQUIRED TO BE REFLECTORIZED. REFLECTORIZED 42" CONES UTILIZED DURING DAYTIME SHOULDER CLOSURES WITH TYPE II FLUORESCENT PRISMATIC RETROREFLECTIVE SHEETING UNLESS OTHERWISE DIRECTED BY THE DEPARTMENT.
10. THE DEPARTMENT PROHIBITS CONDUCTING WORK ON PRIMARY AND SECONDARY ROUTES WITHIN 7' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE AND/OR SHOULDER CLOSURE. ALL WORK THAT MAY REQUIRE THE PRESENCE OF EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES WITHIN 7' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE SHALL BE CONDUCTED UNDER A SHIELDING CLOSURE.
11. WHENEVER ANY PORTION OF THE SHOULDER AREA WITHIN 50' BUT NOT CLOSER THAN 7' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE MUST BE OCCUPIED BY EQUIPMENT, PERSONNEL, MATERIALS OR WORK VEHICLES TO CONDUCT THE WORK, INSTALL, MAINTAIN AND MAINTAIN THE SIGNING AND TRAFFIC CONTROL DEVICES AS ILLUSTRATED.
12. CONDUCT THE WORK IN SUCH A MANNER THAT WILL NOT REQUIRE ENCROACHMENT OF TRAFFIC CONTROL DEVICES, EQUIPMENT, PERSONNEL, MATERIALS OR ANY WORK RELATED VEHICLES WITHIN 7' OF THE NEAR EDGE OF THE ADJACENT TRAVEL LANE.
13. PLACE THE TRUCK MOUNTED ATTENUATOR AT A LOCATION 500' IN ADVANCE OF THE WORK AREA FOR A CASE I SCENARIO IN THE RIGHT SHOULDER AREA. ADJUST THE SPACING AS NECESSARY TO FIT THE WIDTH OF THE SHOULDER WHILE MAINTAINING THE REQUIRED 200' TAPER LENGTH.
14. IF WORK IS BEING CONDUCTED SIMULTANEOUSLY AT TWO DIFFERENT LOCATIONS AT THE SAME TIME UNDER CASE I SHOULDER CLOSURES, SEPARATE THE TWO LOCATIONS BY NO LESS THAN 1 MILE FROM THE END OF THE FIRST CASE I CLOSURE. TWO LOCATIONS WILL BE SEPARATED BY THE BEGINNING OF THE TAPER OF THE SECOND CASE I CLOSURE. A MINIMUM SEPARATION DISTANCE OF ONE-HALF MILE IS RECOMMENDED BETWEEN SHOULDER CLOSURES WITHIN ONE OR BOTH SHOULDER CLOSURES IN A CASE I CLOSURE.
15. THE DEPARTMENT RESERVES THE RIGHT TO RESTRICT WORK OPERATIONS AND/OR WITHHOLD THE MOBILE CLOSURE IF THE TRAFFIC CONTROL IS NOT PROPERLY INSTALLED AND MAINTAINED AS DIRECTED BY THE STANDARD SPECIFICATIONS, THE SPECIAL PROVISIONS, THE STANDARD DRAWINGS, THE PLANS AND/OR THE CONTRACT.
16. THIS TRAFFIC CONTROL SETUP APPLIES TO THE INSTALLATION OF SHOULDER CLOSURES IN THE RIGHT SHOULDER AREAS OF PRIMARY AND SECONDARY ROADWAYS.

**PORTABLE TRUCK MOUNTED ATTENUATOR**

1. UTILIZE A TRUCK MOUNTED ATTENUATOR ATTACHED TO THE REAR OF A TRUCK WITH A MINIMUM GROSS VEHICLE WEIGHT (GVW) OF 15,000 POUNDS. MATERIAL WEIGHTS IF THE ADDITION OF SUPPLEMENTAL WEIGHT TO THE VEHICLE AS BALANCE IS NECESSARY, CONTAIN THE MATERIAL WITHIN A STRUCTURE CONSTRUCTED OF STEEL. CONSTRUCT THE STEEL STRUCTURE TO HAVE A MINIMUM OF FOUR SIDES AND A BOTTOM. A TOP IS OPTIONAL. FASTEN THE STRUCTURE TO THE FRAME OF THE TRUCK. UTILIZE A SUFFICIENT NUMBER OF FASTENERS FOR ATTACHMENT OF THE STEEL STRUCTURE TO THE FRAME OF THE TRUCK TO ENSURE THE STRUCTURE WILL NOT SEPARATE FROM THE FRAME OF THE TRUCK DURING AN IMPACT WITH THE ATTACHED TRUCK MOUNTED ATTENUATOR. UTILIZE EITHER DRY LOOSE SAND OR STEEL REINFORCED CONCRETE FOR BALLAST MATERIAL WITHIN THE STEEL STRUCTURE TO ACHIEVE THE NECESSARY WEIGHT. THE BALLAST MATERIAL SHALL REMAIN CONTAINED WITHIN THE CORNER OF THE STEEL STRUCTURE AND SHALL NOT PROTRUDE FROM THE STEEL STRUCTURE IN ANY MANNER.
2. LOCATE THE TRUCK MOUNTED ATTENUATOR 100 FEET IN ADVANCE OF THE WORK AREA UNLESS OTHERWISE SPECIFIED.
3. PROVIDE, INSTALL AND MAINTAIN THE TRUCK MOUNTED ATTENUATOR AS SPECIFIED BY THE STANDARD SPECIFICATIONS AND AS DIRECTED BY THE ENGINEER.

**ADVANCE WARNING ARROW PANEL**

ALL ADVANCE WARNING ARROW PANELS SHALL BE 48" x 36" WITH A MINIMUM LEGIBILITY DISTANCE OF 1 MILE. PLACEMENT OF AN ADVANCE WARNING ARROW PANEL MAY REQUIRE ADJUSTMENTS DUE TO HORIZONTAL AND/OR VERTICAL ALIGNMENT OR OTHER SIGN DISTANCE RESTRICTIONS. THE PANEL FACE SHALL BE NONREFLECTIVE BLACK. ALL ADVANCE WARNING ARROW PANELS SHALL COMPLY WITH THE STANDARD SPECIFICATIONS FOR HIGHWAY CONSTRUCTION, LATEST EDITION.

WHEN AN ADVANCE WARNING ARROW PANEL IS REQUIRED TO OPERATE IN THE CAUTION MODE, THE ADVANCE WARNING ARROW PANEL SHALL DISPLAY THE "YOUR CONES; CAUTION MODE" WITH ONE LAMP IN EACH CORNER. DISPLAY OF ANY OTHER TYPE OF CAUTION MODE OTHER THAN THE "YOUR CONES; CAUTION MODE" SUCH AS THE "FLASHING BARS" OR THE "ALTERNATING DIAMOND" CAUTION MODES ARE UNACCEPTABLE AND PROHIBITED.

**LEGEND**

○ 36" TRAFFIC CONES

**WORK ZONE TRAFFIC CONTROL ENGINEER**

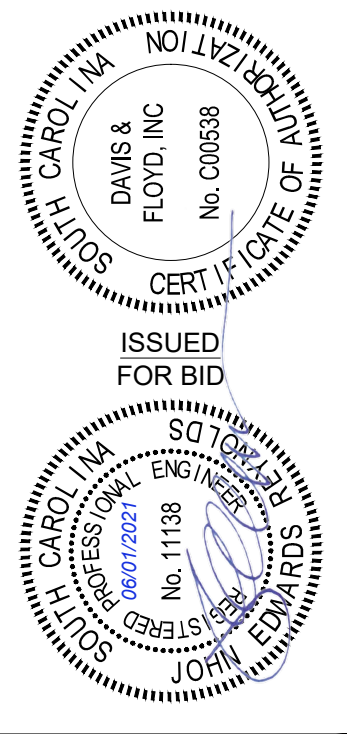
**SOUTH CAROLINA PROFESSIONAL ENGINEER**  
No. 24246  
WILLIE E. MCCONNELL  
SIGNATURE  
8/2/21  
DATE

**SCDOT**  
SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION  
DESIGN STANDARDS OFFICE  
955 PARK STREET  
ROOM 400  
COLUMBIA, SC 29201

**STANDARD DRAWING**

**RIGHT SHOULDER CLOSURE (CASE I / CASE II) PRIMARY ROUTES**

610-205-00  
EFFECTIVE DATE: 7/2011, 2013. THIS DRAWING IS NOT TO SCALE.



**DAVIS & FLOYD**  
SINCE 1954  
WWW.DAVISANDFLOYD.COM  
164 MILESTONE WAY, SUITE 200  
GREENVILLE, SC 29615  
(864) 527-2800

**GREENVILLE WATER**  
407 W. BROAD ST. GREENVILLE, SC 29601  
PROJECT TITLE  
**24" AUGUSTA ROAD WATER MAIN**

**TRAFFIC CONTROL DETAILS**

NO.	DATE	ISSUED FOR

DATE: 01/31/21  
DATE: APRIL 2021  
DRAWN: MJP  
CHECKED: JER  
APPROVED: JER

**C983**