

CONSTRUCTION SEQUENCE

1. CONTRACTOR SHALL ENSURE THAT ALL NECESSARY PERMITS HAVE BEEN RECEIVED AND THAT THOSE REQUIRED TO BE DISPLAYED ON-SITE ARE AVAILABLE.
2. CONTRACTOR SHALL HOLD PRE-CONSTRUCTION MEETING AT LEAST 48 HOURS BEFORE THE ACTUAL START OF CONSTRUCTION.
3. CONTRACTOR SHALL CONTACT CAROLINA ONE CALL AND ALL ENTITIES HAVING BURIED UTILITIES AT LEAST 72 HOURS PRIOR TO DIGGING OR AS DIRECTED AT THE PRE-CONSTRUCTION MEETING.
4. CONTRACTOR SHALL MAINTAIN TRAFFIC AND SAFETY CONTROL MEASURES AT ALL TIMES ON THE PROJECT. (SEE TRAFFIC CONTROL.)
5. CONTRACTOR SHALL INSTALL TEMPORARY CONSTRUCTION ENTRANCES (IF ANY) AT EACH POINT OF ACCESS TO STORAGE AND CONSTRUCTION AREAS.
6. SEDIMENT AND EROSION CONTROL MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH PLANS AND BEFORE STARTING WORK.
7. CONTRACTOR SHALL CLEAR RIGHT-OF-WAY IF NECESSARY.
8. STOCKPILE RIP-RAP ON SITE AND INSTALL ALL OTHER EROSION CONTROL MEASURES WHERE THE WORK IS OCCURRING. THE CONTRACTOR SHALL NOT INSTALL EROSION CONTROL MEASURES IN AREAS WHERE THE WORK WILL NOT OCCUR FOR SOME TIME. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED BY THE CITY/PROJECT ENGINEER OR UPON RECOMMENDATION OF NC DEQ PERSONNEL AS CONDITIONS WARRANT.
9. STABILIZATION FOR THIS PROJECT SHALL COMPLY WITH THE TIME FRAME GUIDELINES AS SPECIFIED BY THE NC-010000 GENERAL CONSTRUCTION PERMIT EFFECTIVE AUGUST 3, 2011 ISSUED BY THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES DIVISION OF WATER QUALITY.
10. CONTRACTOR SHALL COORDINATE ALL BLOW-OFFS AND TESTING WITH THE CITY ENGINEERING DEPARTMENT'S CONSTRUCTION ADMINISTRATOR AT LEAST 24 HOURS IN ADVANCE OF SUCH WORK. NOTIFY THE RESPONSE AREA FIRE DEPARTMENT IF EXISTING SYSTEM VALVES NEED TO BE SHUT OFF IN THE COURSE OF THE WORK.
11. UPON COMPLETION OF THE INSTALLATION AND WITH APPROVAL OF NC DEQ-DLR, ALL EROSION CONTROL DEVICES EXCEPT FOR CREEK/STREAM BANK STABILIZATION SHALL BE REMOVED AND DISPOSED OF IN AN ACCEPTABLE MANNER. EACH SECTION SHALL BE SEEDED AT EARLIEST POSSIBLE DATE AFTER INSTALLATION OF PIPE, STRUCTURE, OR ACCESS.
12. ONCE GROUND COVER IS FIRMLY ESTABLISHED, ALL TEMPORARY EROSION CONTROL MEASURES SHALL BE REMOVED WITH THE APPROVAL OF NC DEQ-DLR.
13. CONTRACTOR SHALL REFERENCE SPECIAL CONDITIONS FOR JOB SEQUENCE AND OTHER DIRECTIONS, IF ANY. CONTRACTOR SHALL COORDINATE CONSTRUCTION ACTIVITY WITH THE CITY ENGINEERING DEPARTMENT.

GENERAL NOTES

1. ALL MATERIALS, EQUIPMENT, LABOR, AND WORKMANSHIP IS TO BE IN ACCORDANCE WITH AND SUBJECT TO THE WATER AND SEWER AUTHORITY OF CABARRUS COUNTY'S STANDARD SPECIFICATIONS; THE CITY OF CONCORD'S ORDINANCES, POLICIES, AND STANDARD SPECIFICATIONS, AND NCDOT STANDARD SPECIFICATIONS, AND THE NORTH CAROLINA ADMINISTRATIVE CODE FOR WASTEWATER COLLECTION AND WATER DISTRIBUTION SYSTEMS. IN THE EVENT OF CONFLICT BETWEEN THE WATER AND SEWER AUTHORITY OF CABARRUS COUNTY'S STANDARD SPECIFICATION; THE CITY OF CONCORD'S ORDINANCES, POLICIES, AND STANDARD SPECIFICATIONS;AND NCDOT STANDARD SPECIFICATIONS, OR THE NORTH CAROLINA ADMINISTRATIVE CODE, THE MORE RESTRICTIVE REQUIREMENTS SHALL APPLY.
2. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL CONFORM TO THE LATEST STANDARDS OF THE N.C. SEDIMENTATION POLLUTION CONTROL ACT AND APPLICABLE LOCAL AND FEDERAL REQUIREMENTS.
3. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION ADMINISTRATOR OF THE CITY OF CONCORD ENGINEERING DEPARTMENT AT LEAST 48 HOURS IN ADVANCE OF BEGINNING WORK.
4. INDIVIDUAL WATER, GAS, SEWER, TELEPHONE, AND CABLE SERVICES MAY OR MAY NOT BE SHOWN ON THE PLANS. CONTRACTOR TO CONTACT APPROPRIATE AGENCY FOR FIELD LOCATIONS.
5. CITY OF CONCORD ELECTRIC, WATER, AND SEWER DEPARTMENT PERSONNEL WILL ASSIST THE CONTRACTOR IN LOCATING ALL CITY OF CONCORD UTILITY SERVICES AND LINES.
6. IF MAILBOX PULL-OFF AREAS ARE DISTURBED, CRUSHED STONE STABILIZER SHALL BE PLACED WITH SUFFICIENT LENGTH TO ACCOMMODATE VEHICULAR TRAFFIC. THESE AREAS SHALL BE MAINTAINED FOR THE ONE-YEAR WARRANTY PERIOD. THE COST OF THESE ITEMS SHALL BE INCLUDED IN THE COST OF LAYING PIPE AND OR REPLACING CULVERTS.
7. THIS PROJECT IS SUBJECT TO 100 YEAR FLOOD PER FIRM MAP 3710562200K, NOVEMBER 16, 2018.
8. FIRE HYDRANT EXTENSIONS, IF NEEDED, SHALL BE INCLUDED IN THE COST OF THE HYDRANT INSTALLATION.
9. GATE OR BUTTERFLY VALVES, BLOW-OFFS, AND FIRE HYDRANTS MAY BE FIELD ADJUSTED 50 FEET IN EITHER DIRECTION WITH THE PERMISSION OF THE ENGINEERING AND WATER RESOURCES DEPARTMENTS.

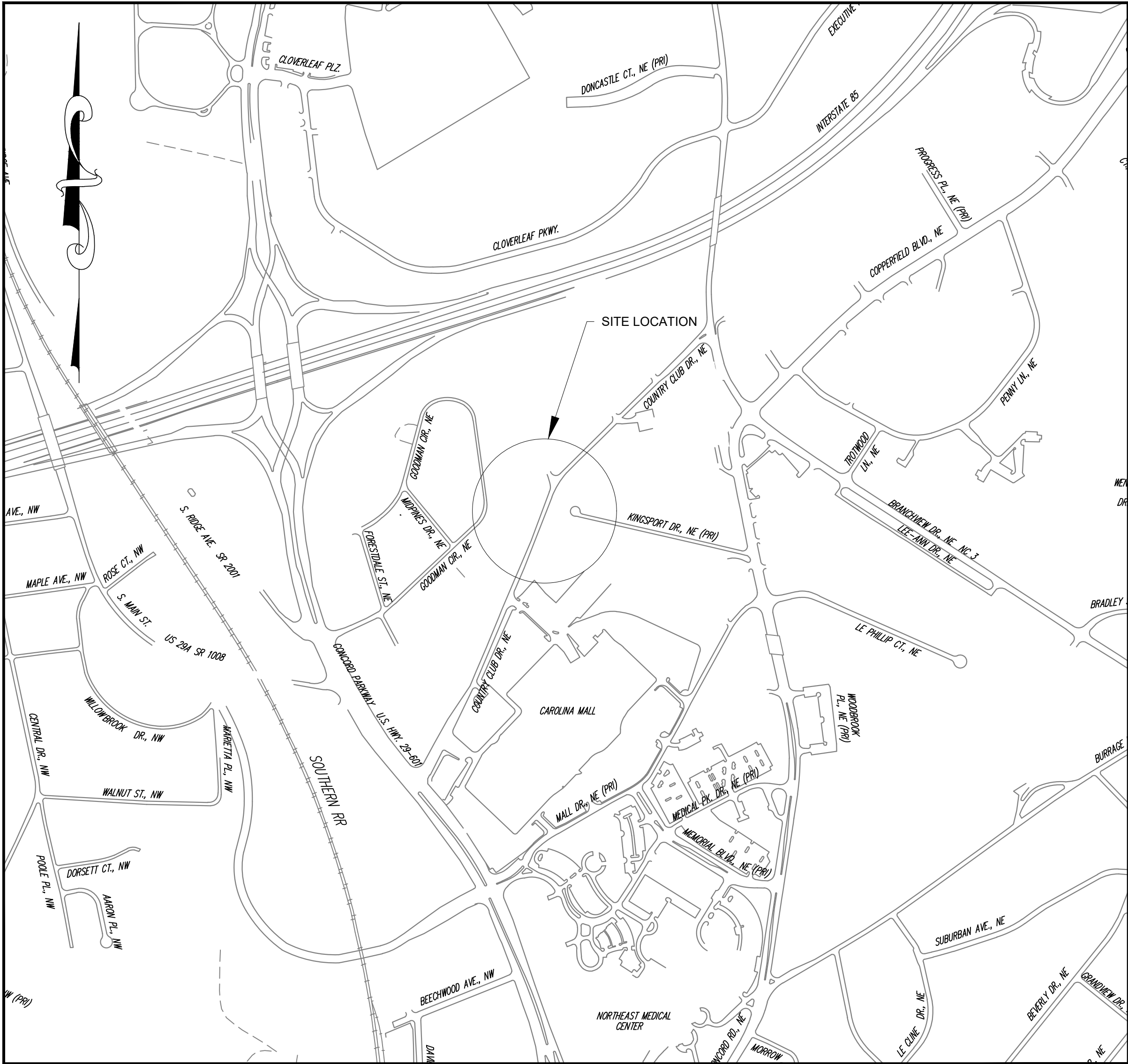
RIGHT-OF-WAY NOTES

1. RIGHT-OF-WAY LINES AND PROPERTY LINES ARE SHOWN ON THE DESIGN DRAWINGS AND ARE FOR REFERENCE ONLY. FOR EXACT LOCATIONS REFER TO THE SURVEY PLATS BY THE CITY OF CONCORD'S CONSULTING REGISTERED LAND SURVEYOR OR BY THE CITY SURVEYOR.
2. REFER TO STANDARDS AND SPECIFICATIONS FOR WATER AND SEWER CONSTRUCTION FOR FURTHER DETAILS CONCERNING THE RIGHT-OF-WAY.

TRAFFIC CONTROL

1. THE CONTRACTOR SHALL BE RESPONSIBLE AT ALL TIMES FOR WORK ZONE TRAFFIC SAFETY AND CONTROL.
2. ALL WORK ZONE TRAFFIC CONTROL DEVICES AND OPERATIONS USED ON STREET AND HIGHWAY CONSTRUCTION, MAINTENANCE, UTILITY OR INCIDENT MANAGEMENT SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS IN THE LATEST EDITION OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS (MUTCD).
3. ALL TRAFFIC/SAFETY CONTROL DEVICES SHALL BE IN GOOD REPAIR AND SHALL BE POSITIONED AT ALL TIMES IN THE APPROPRIATE LOCATIONS FOR THE WORK OPERATION. THE CONTRACTOR SHALL CAREFULLY MONITOR SITE CONDITIONS SUCH AS LIGHT, WEATHER, TRAFFIC VOLUME, ETC. TO ENSURE THAT ALL TRAFFIC/SAFETY CONTROL MEASURES ARE OPERATING EFFECTIVELY.

CITY OF CONCORD
CONCORD, NORTH CAROLINA
COUNTRY CLUB DR.
CULVERT REPLACEMENT
PROJECT # :2021-043





Carolina Garcia Zarateza Villa

10/27/22

Engineer's Seal

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ

DRAWN BY: BCC

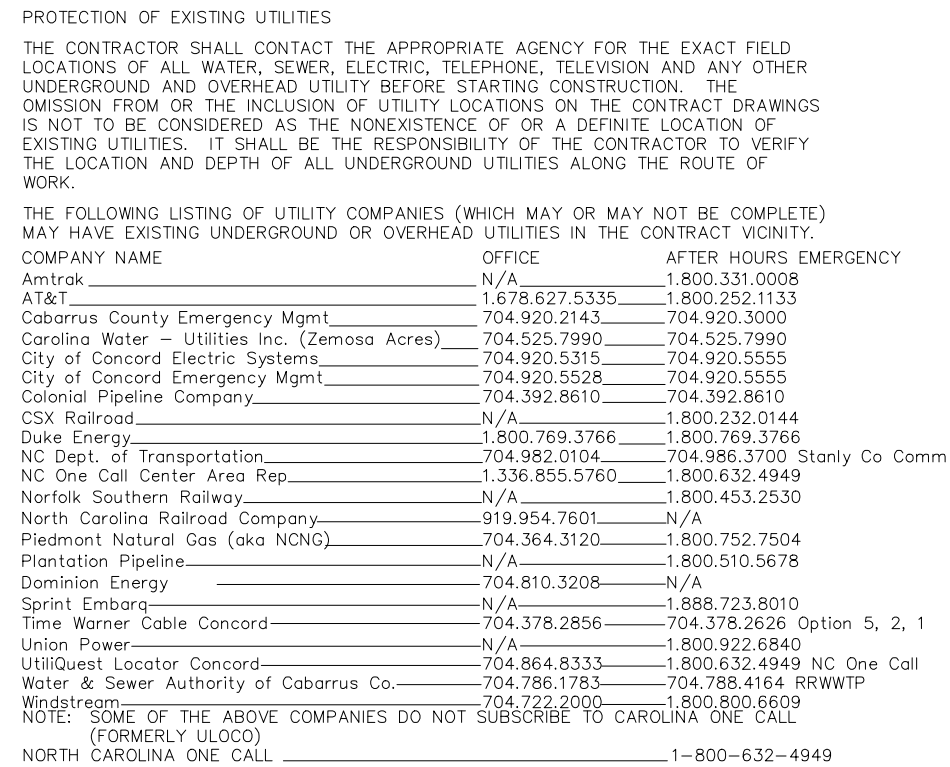
CHECKED BY: EAB

SCALE: AS SHOWN

DATE: 07/01/22

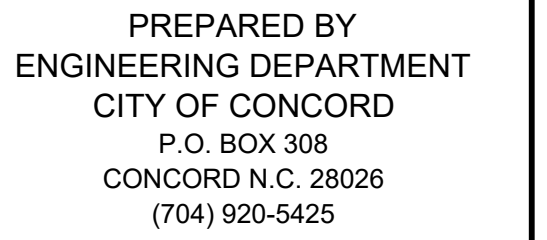
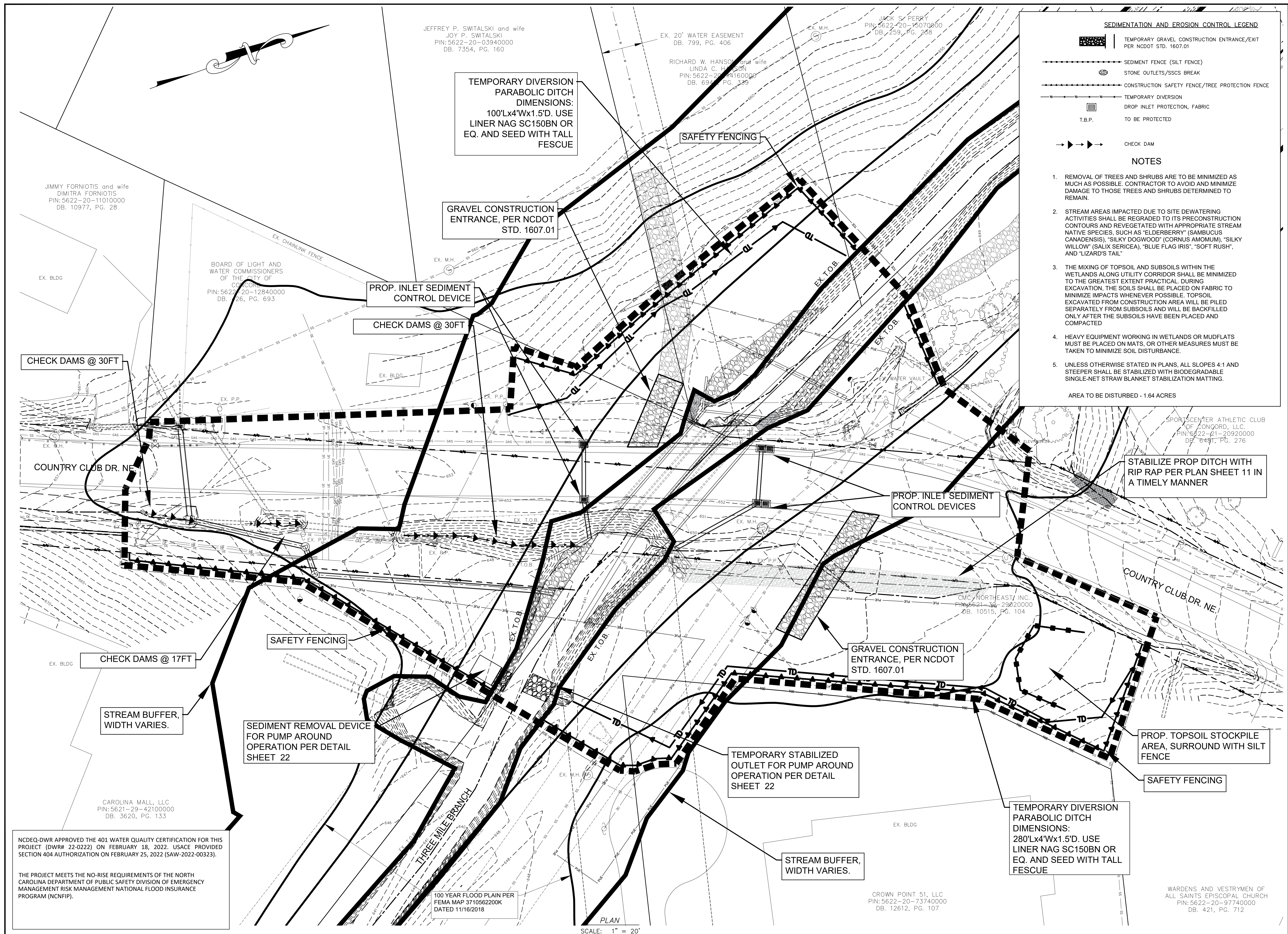
PROJECT NUMBER: 2021-043

SHEET: 2 OF: 27



PLAN

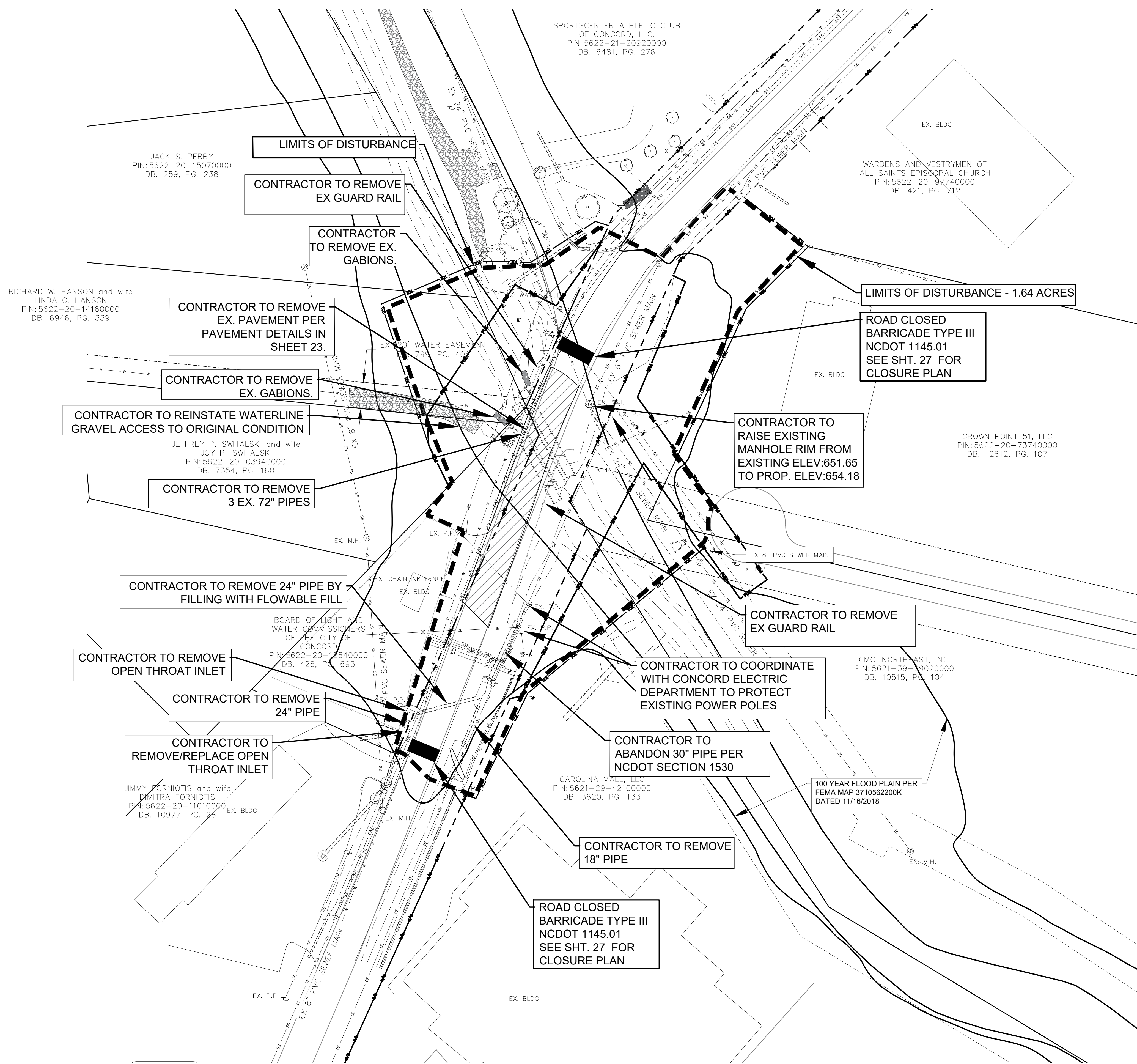
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CULVERT REPLACEMENT
EROSION CONTROL PLAN
PROJECT #: 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, NOT FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ	
DRAWN BY: BCC	
CHECKED BY: EAB	
SCALE: AS SHOWN	
DATE: 07/01/22	
PROJECT NUMBER: 2021-043	
SHEET: 3	OF: 27



THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCY FOR THE EXACT FIELD LOCATION OF ALL WATER, GAS, ELECTRIC, TELEPHONE, TELEVISION AND ANY OTHER UNDERGROUND AND OVERHEAD UTILITY BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY CONSENTS AND NOT TO BE CONSIDERED AS THE NONEXISTENCE OF A DEFINITE LOCATION OF ANY UTILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF THE PROJECT.

THE FOLLOWING LISTING OF UTILITY COMPANIES (WHICH MAY OR MAY NOT BE COMPLETE) MAY HAVE EXISTING UNDERGROUND OR OVERHEAD UTILITIES IN THE CONTRACTIVITY AREA.

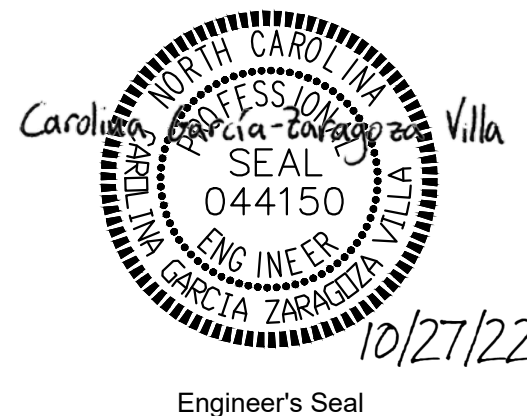
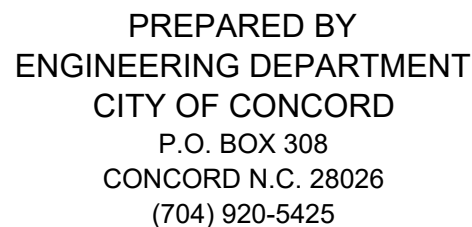
UTILITY NAME	PHONE	AFTER HOURS EMERGENCY
Ametek	N/A	800.231.0008
AT&T	704.627.5335	800.426.0000
City of Concord Emergency Mgmt.	704.920.2143	704.920.3000
City of Concord - Utilities Inc.	704.920.5028	704.920.5028
City of Concord Electric Systems	704.920.5315	704.920.5555
City of Concord Emergency Mgmt.	704.920.5028	704.920.5028
Columbia Pipeline Company	704.392.8610	704.952.8610
Duke Energy	1.800.769.3766	704.959.7616
Florida Transportation	704.982.0074	704.982.0074
NC Core Central Area Rep.	1.336.855.5760	800.632.4949
North Carolina Railway	704.919.7601	704.919.7601
North Carolina Railroad Company	919.954.7601	N/A
Piedmont Natural Gas (aka NING)	704.364.5120	704.365.7504
Piedmont Electric Company	704.364.5120	704.365.7504
Dominion Energy	N/A	888.510.5678
Dominion Energy	N/A	888.510.3208
Dominion Energy	N/A	888.723.8010
Time Warner Cable Concord	704.378.2856	704.378.2826 Option 5, 2, 1
USF&W	704.920.5315	704.920.5315
USIquest Local Cable	704.864.8313	704.863.4949
USIquest Local Cable	704.864.8313	704.863.4949
Verizon	704.920.5315	704.920.5315
Western Piedmont Electric	704.723.8010	800.660.6601

NORTH CAROLINA

THE NAME OF THE ABOVE COMPANIES DO NOT REPRESENT THE CONTRACTOR'S AFFILIATION (FORMERLY UICD).

NORTH CAROLINA ONE 1-800-632-4949

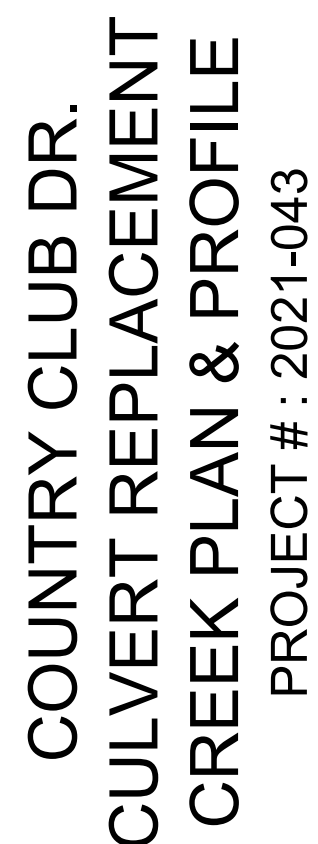
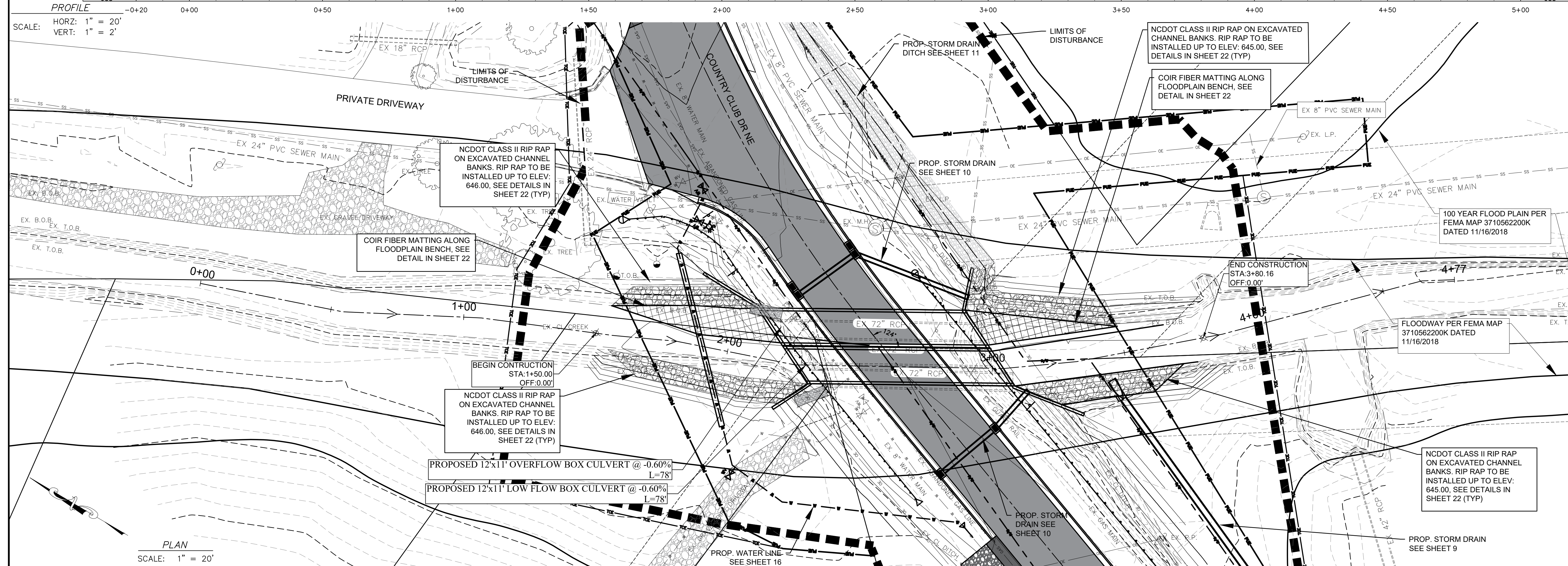
1. REMOVAL OF TREES AND SHRUBS ARE TO BE MINIMIZED AS MUCH AS POSSIBLE. CONTRACTOR TO AVOID AND MINIMIZE DAMAGE TO THOSE TREES AND SHRUBS DETERMINED TO REMAIN.
2. ALL EXISTING SERVICE CONNECTIONS TO REMAIN IN SERVICE AND TO BE PROTECTED DURING CONSTRUCTION. CONTRACTOR SHALL LOCATE AND MAKE PROVISIONS IN ACCORDANCE WITH THE CITY OF CONCORD FOR PROTECTION.
3. THE CONTRACTOR WILL BE REQUIRED TO MAINTAIN INGRESS AND EGRESS TO ALL BUSINESSES AND DWELLINGS, AND EASY ACCESS TO FIRE HYDRANTS.
4. CONTRACTOR SHALL REMOVE, PROTECT AND RESET ALL EX. ROAD SIGNS
5. ALL NATURAL GAS LINES WITHIN DISTURBED AREA ARE ABANDONED PER THE GAS COMPANY.

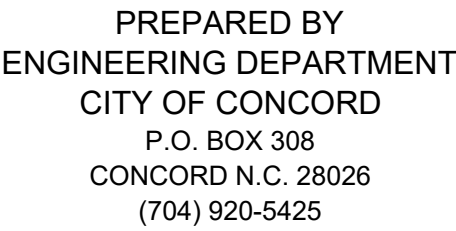
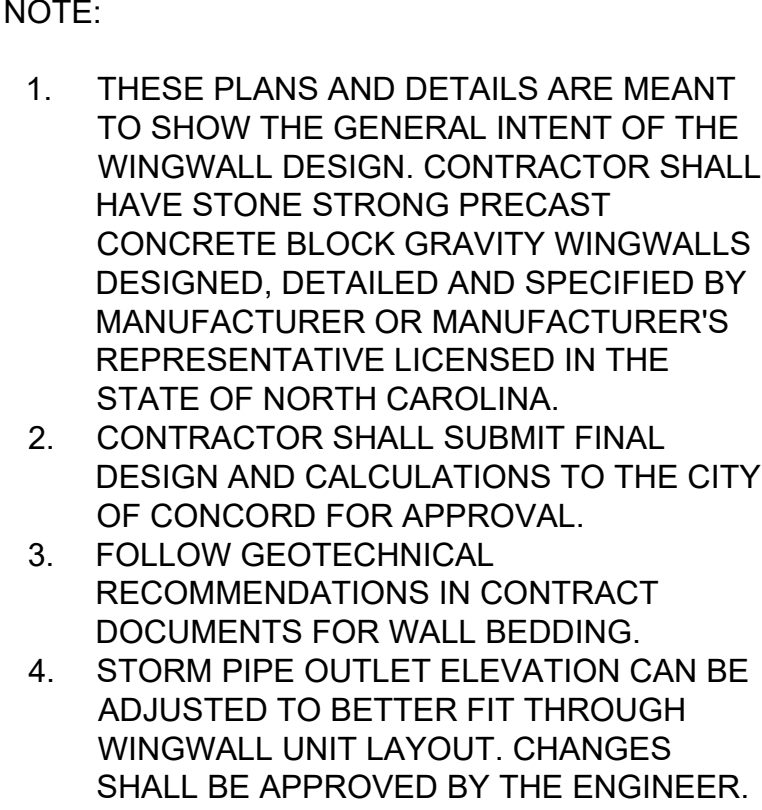


**COUNTRY CLUB DR.
CULVERT REPLACEMENT
DEMOLITION PLAN**
PROJECT # : 2021-043

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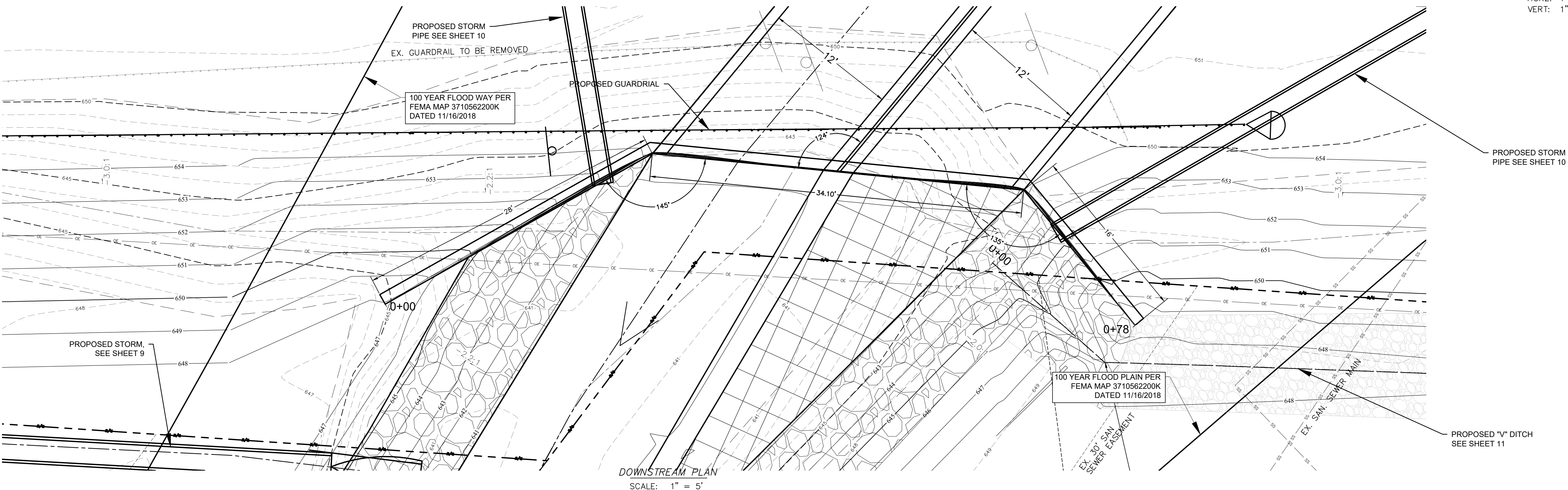
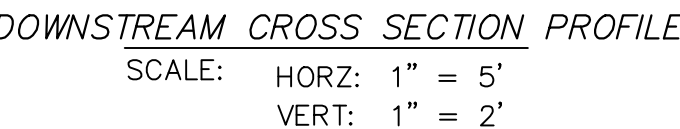
1. ALL PRIVATE UTILITIES TO BE RELOCATED BY OTHERS

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Surveyor's Sea

COUNTRY CLUB DR.
CULVERT REPLACEMENT
DOWN-STREAM PLAN & PROFILE
PROJECT # : 2021-043



REV. #	DATE	DESCRIPTION
0	09/22/22	FINAL, FOR CONSTRUCTION
1	10/01/22	ADDRESSING COMMENTS
2	10/27/22	FINAL, FOR BIDDING PURPOSES

DESIGNED BY: CGZ

DRAWN BY: BCC

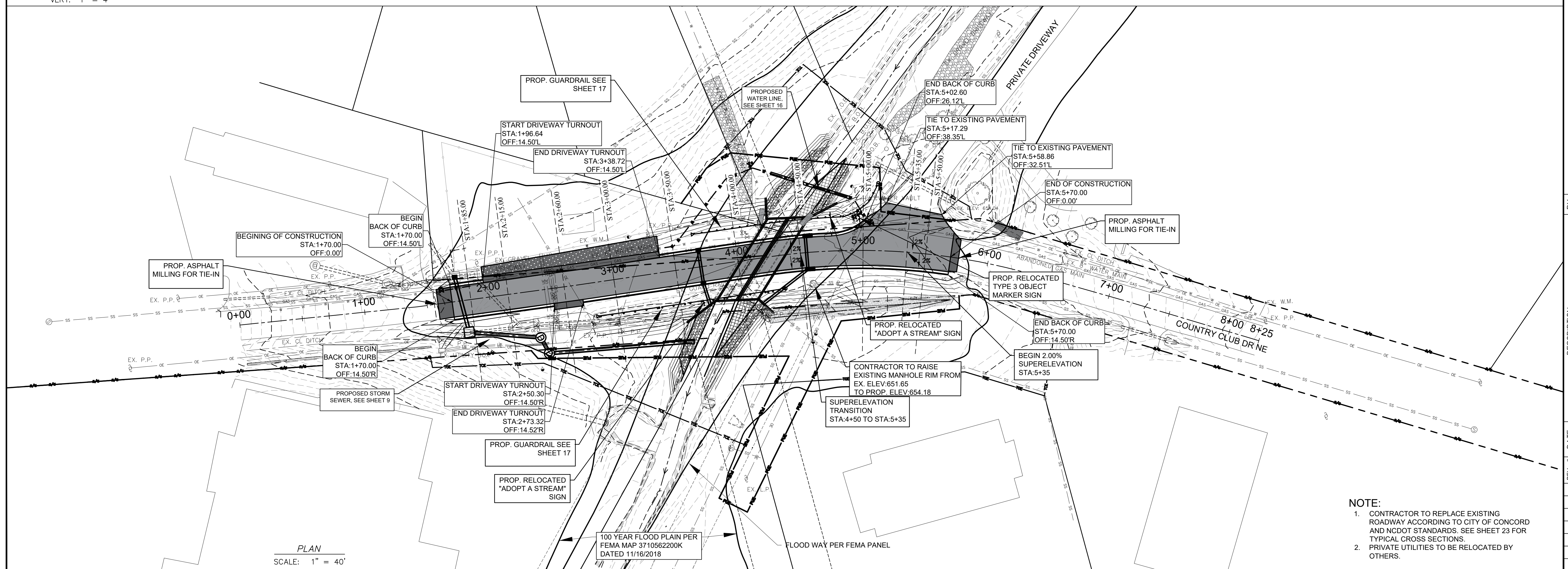
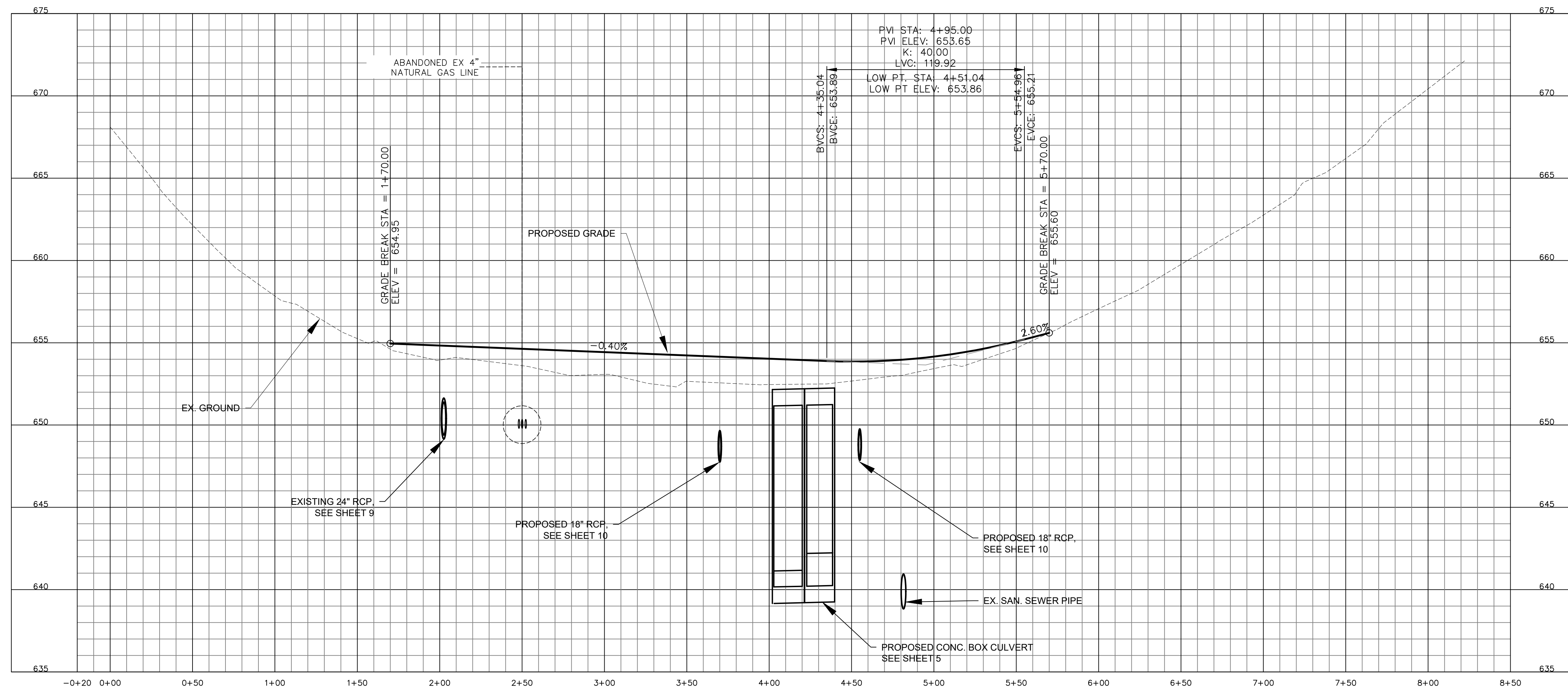
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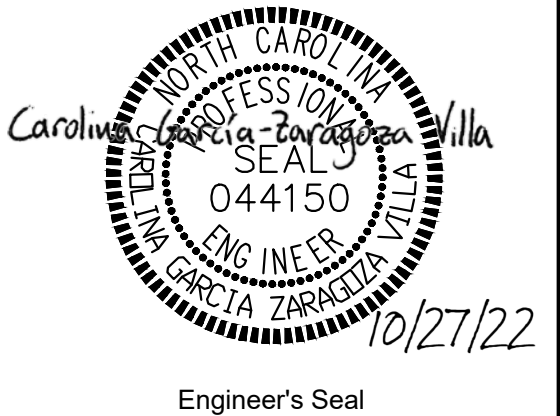
DATE: 07/01/22

PROJECT NUMBER: 2021-043

SHEET: 7 OF: 27



PREPARED BY
ENGINEERING DEPARTMENT
CITY OF CONCORD
P.O. BOX 308
CONCORD N.C. 28026
(704) 920-5425



COUNTRY CLUB DR.
CULVERT REPLACEMENT
ROADWAY PLAN & PROFILE
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ

DRAWN BY: BCC

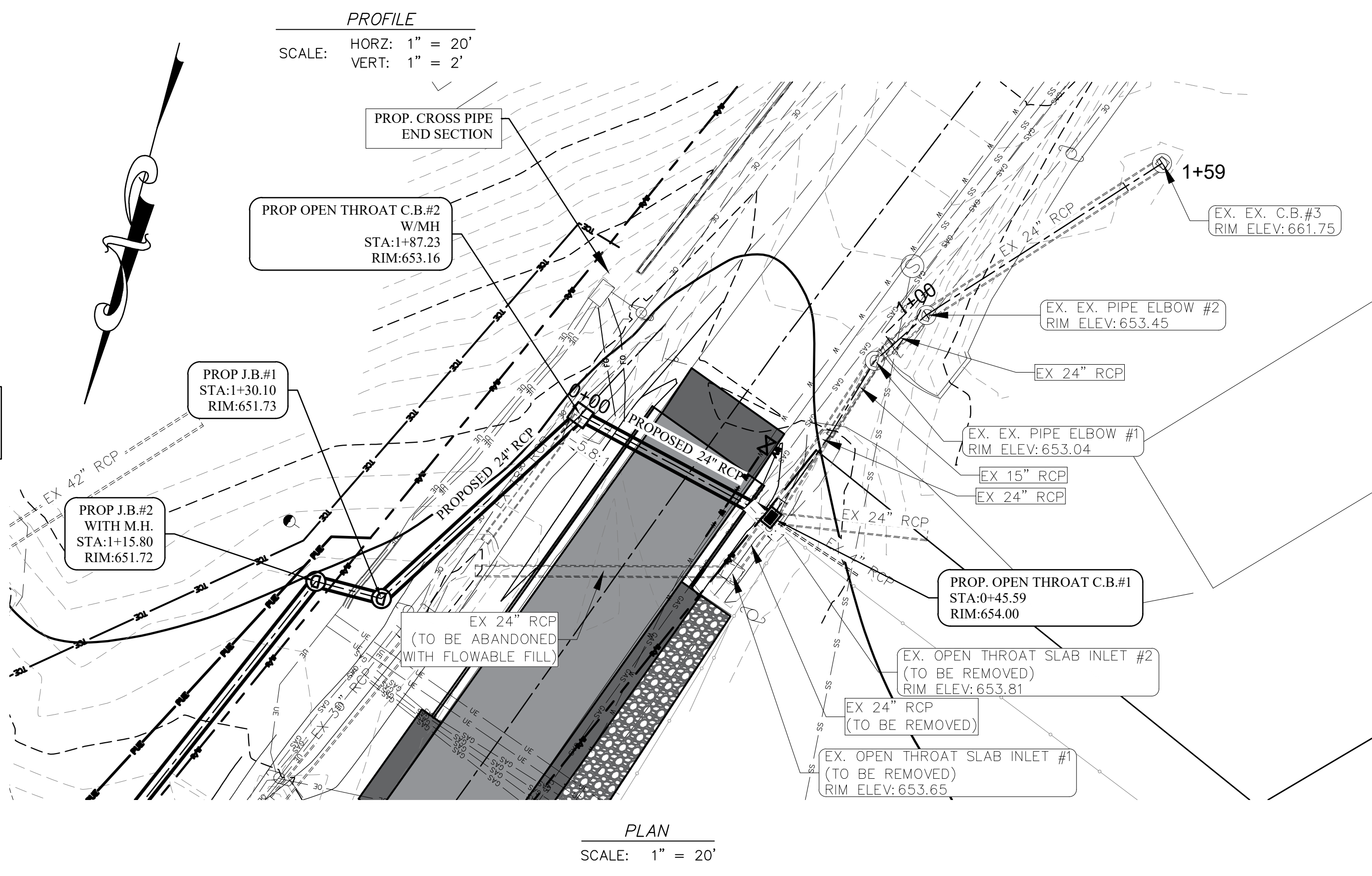
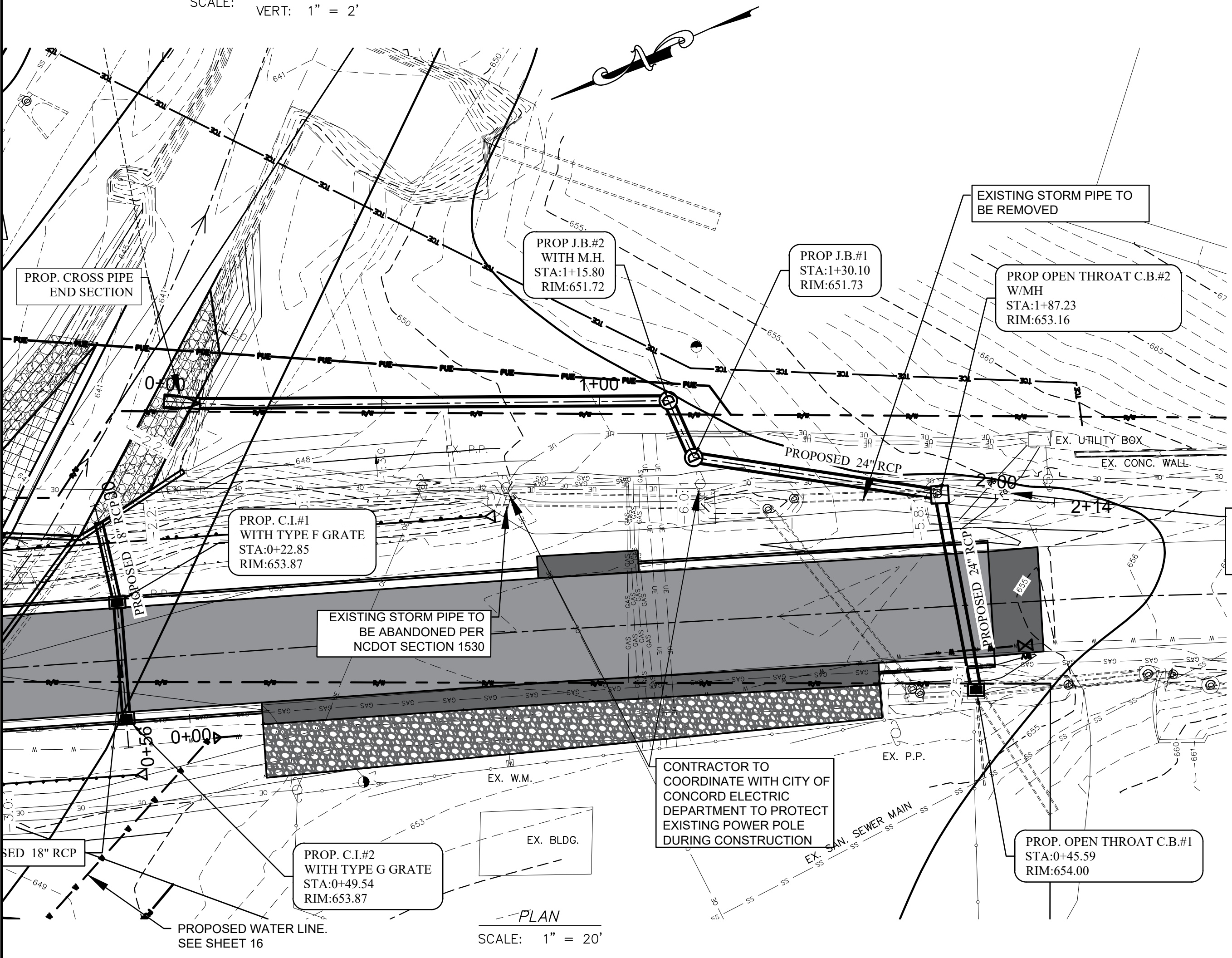
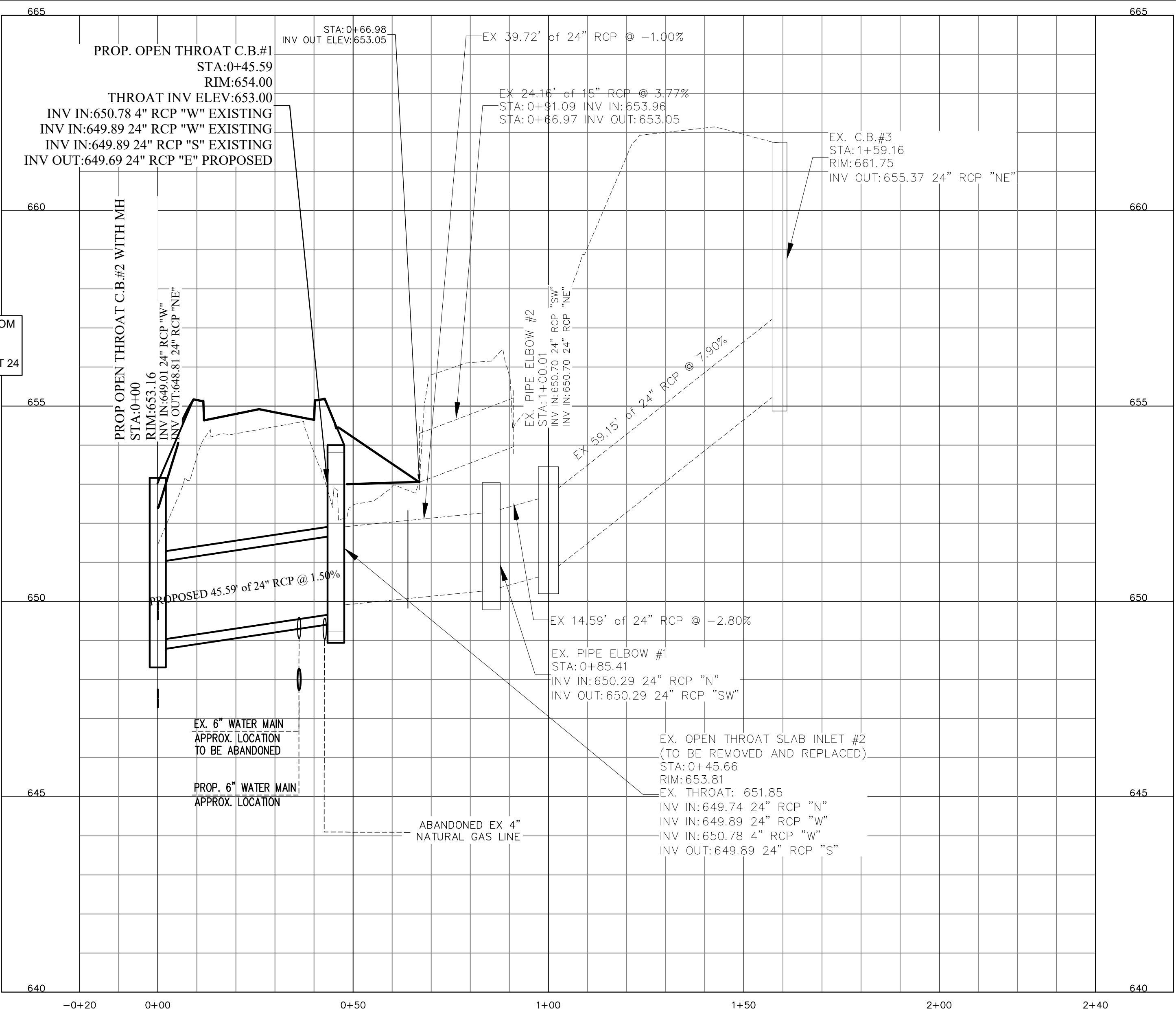
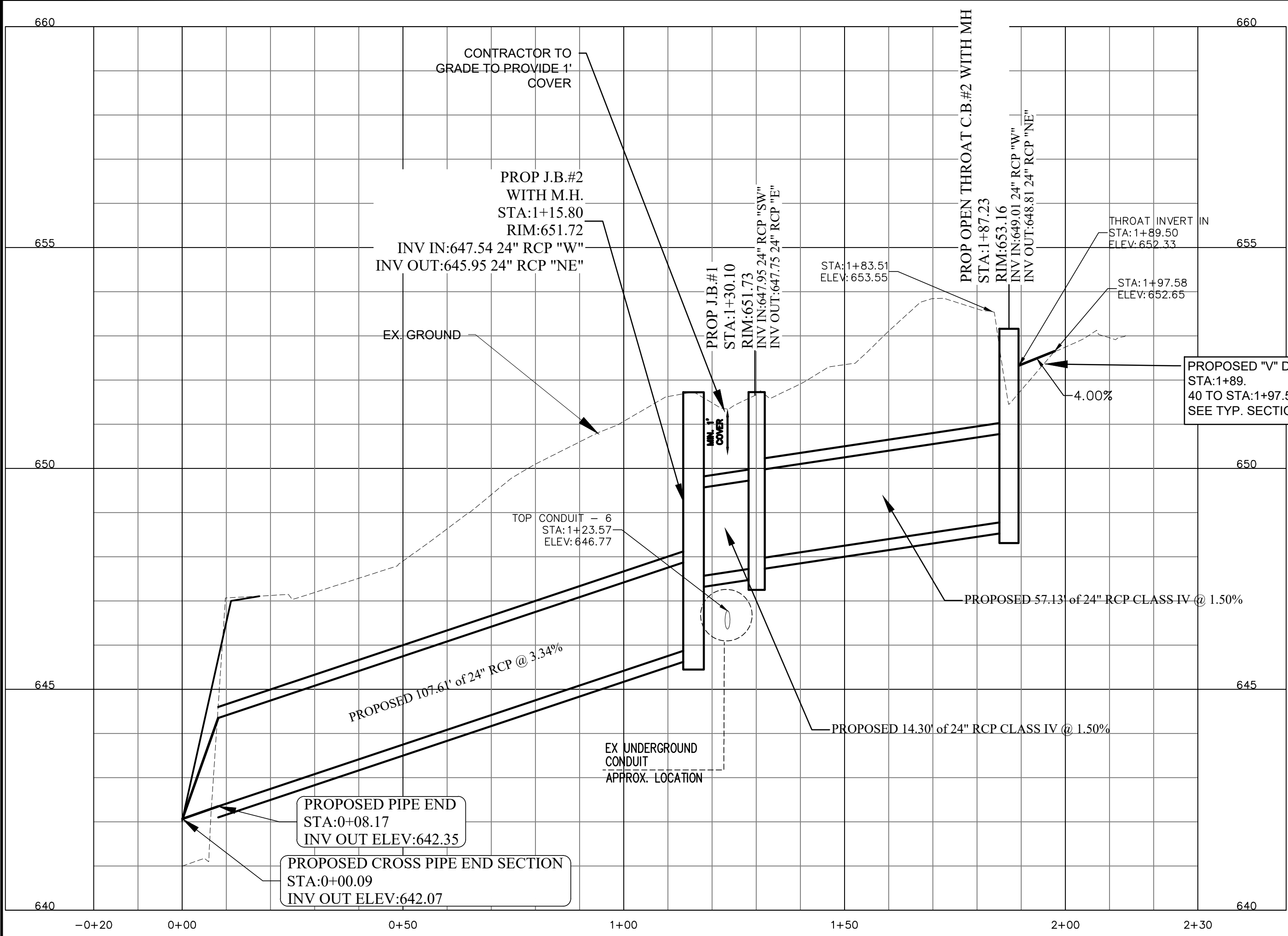
CHECKED BY: CGZ

SCALE: AS SHOWN

DATE: 07/01/22

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SHEET: 8 OF: 27



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P.O. BOX 308
CONCORD N.C. 28026
(704) 920-5425

10/27/22
Engineer's Seal

Surveyor's Seal

COUNTRY CLUB DR.
CULVERT REPLACEMENT
STORM DRAINAGE
PLAN & PROFILE
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ

DRAWN BY: BCC

CHECKED BY: CGZ

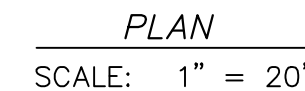
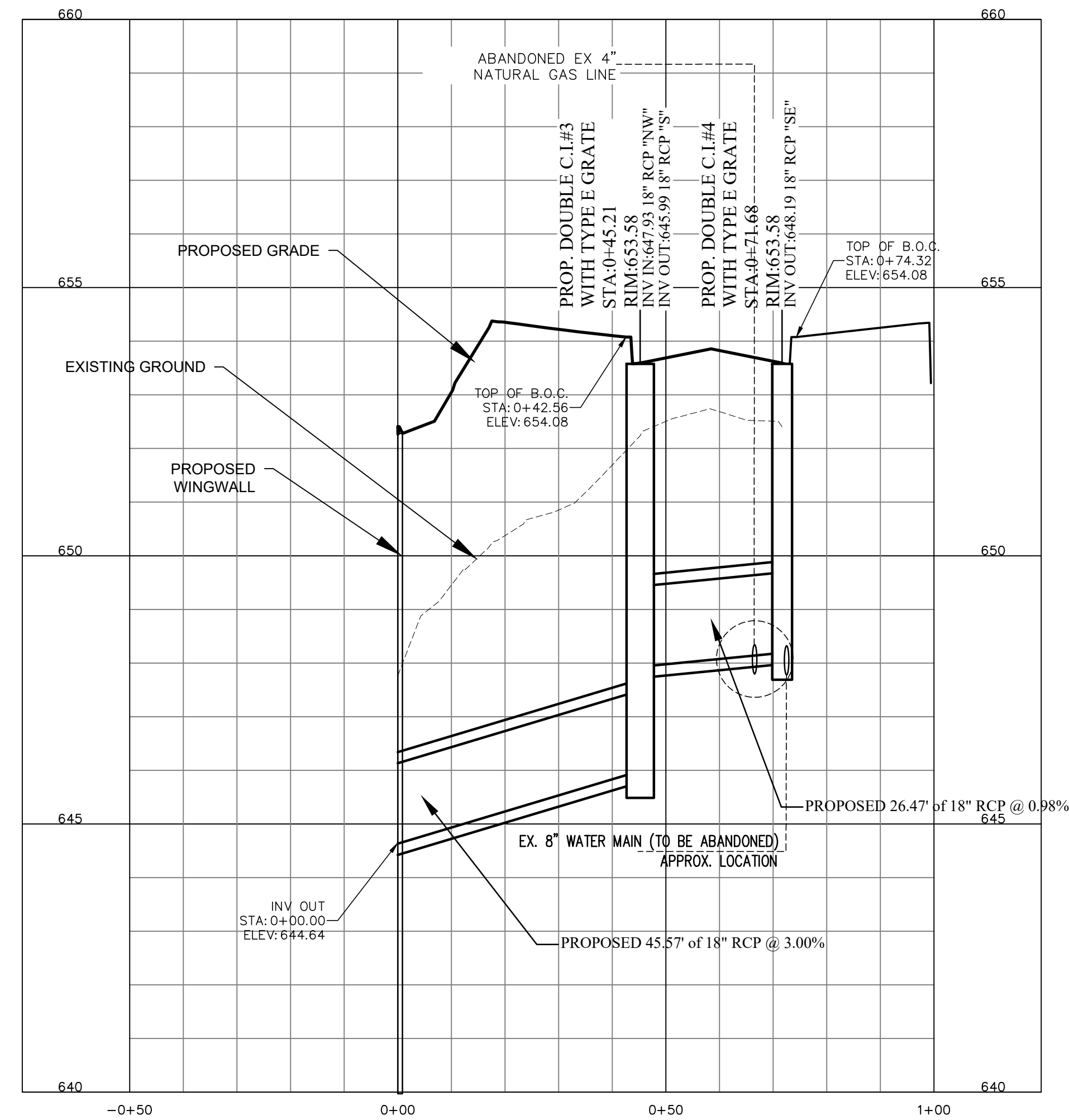
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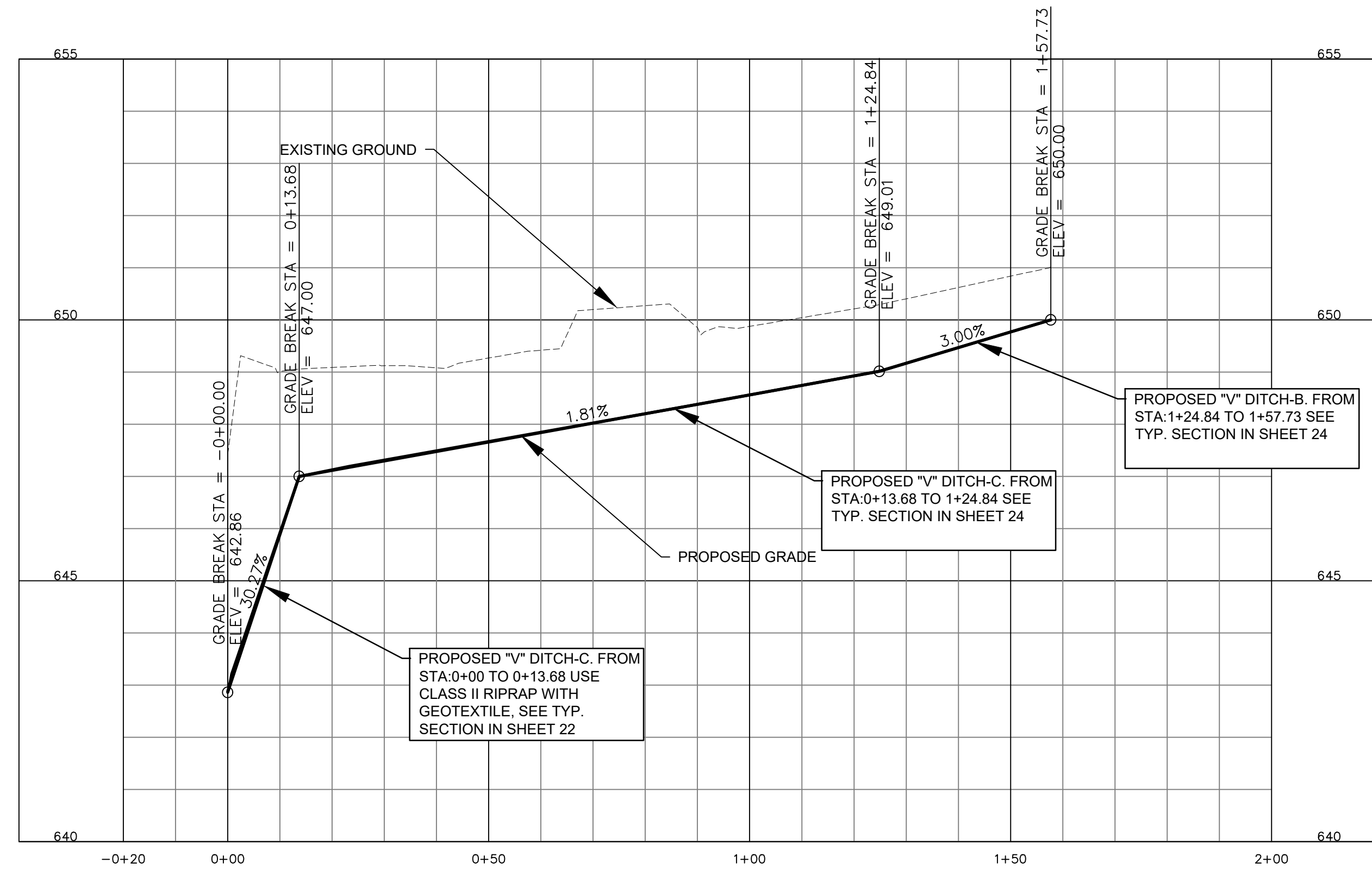
DATE: 07/01/22

PROJECT NUMBER: 2021-043

SHEET: 9

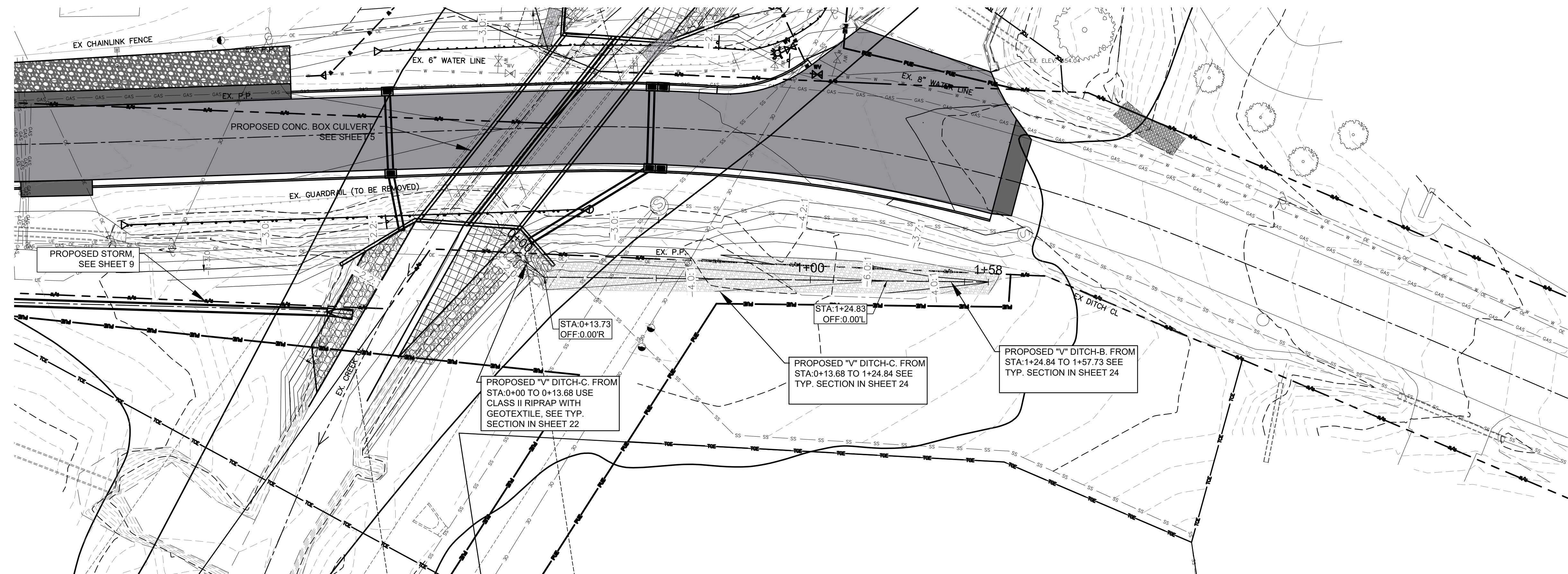
OF: 27





PROFILE

SCALE: HORZ: 1" = 20'
 VERT: 1" = 2'

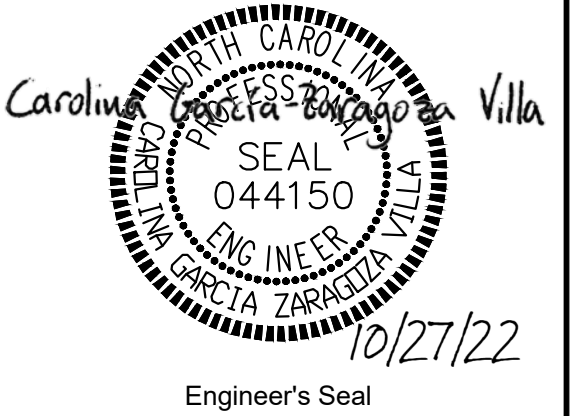


PLAN

SCALE: 1" = 20'



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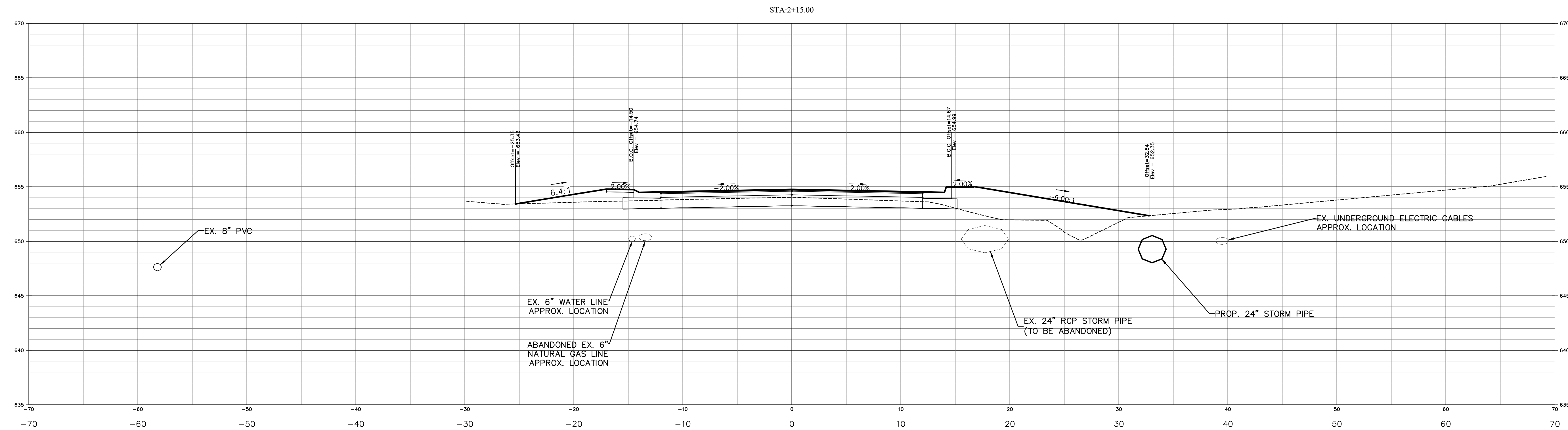
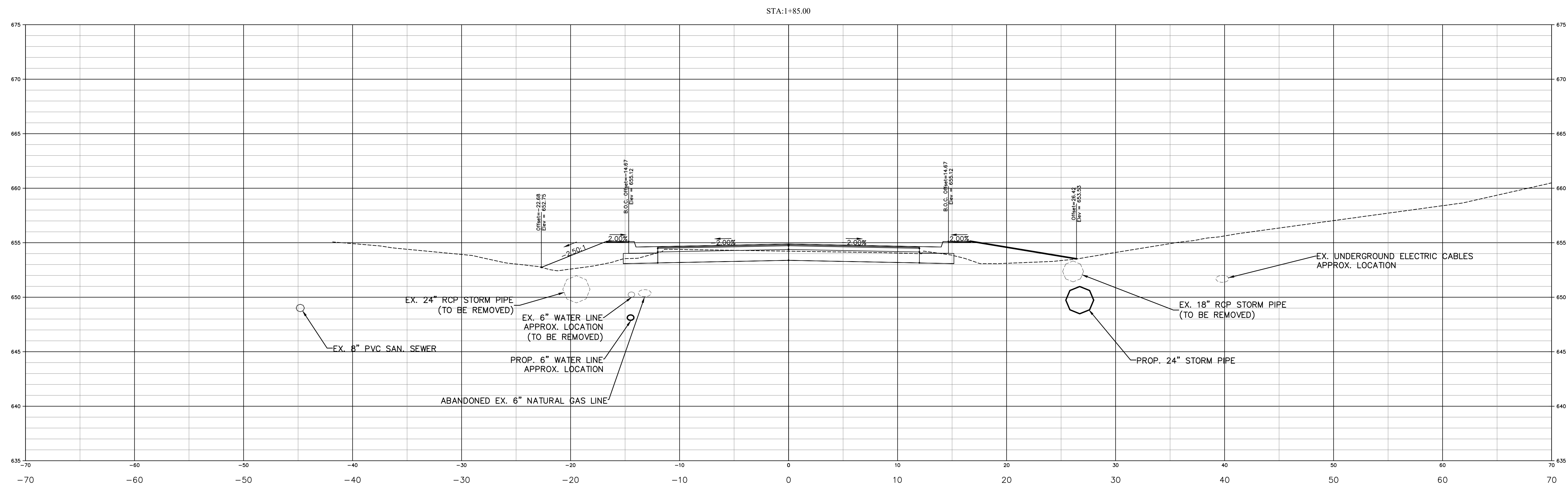


Surveyor's Seal

COUNTRY CLUB DR.
CULVERT REPLACEMENT
STORM DRAINAGE
PLAN & PROFILE
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ	
DRAWN BY: BCC	
CHECKED BY: CGZ	
SCALE: AS SHOWN	
DATE: 07/01/22	
PROJECT NUMBER: 2021-043	
SHEET: 11	OF: 27



ROAD CROSS SECTION PROFILE

SCALE: HORZ: 1" = 5'
 VERT: 1" = 1'



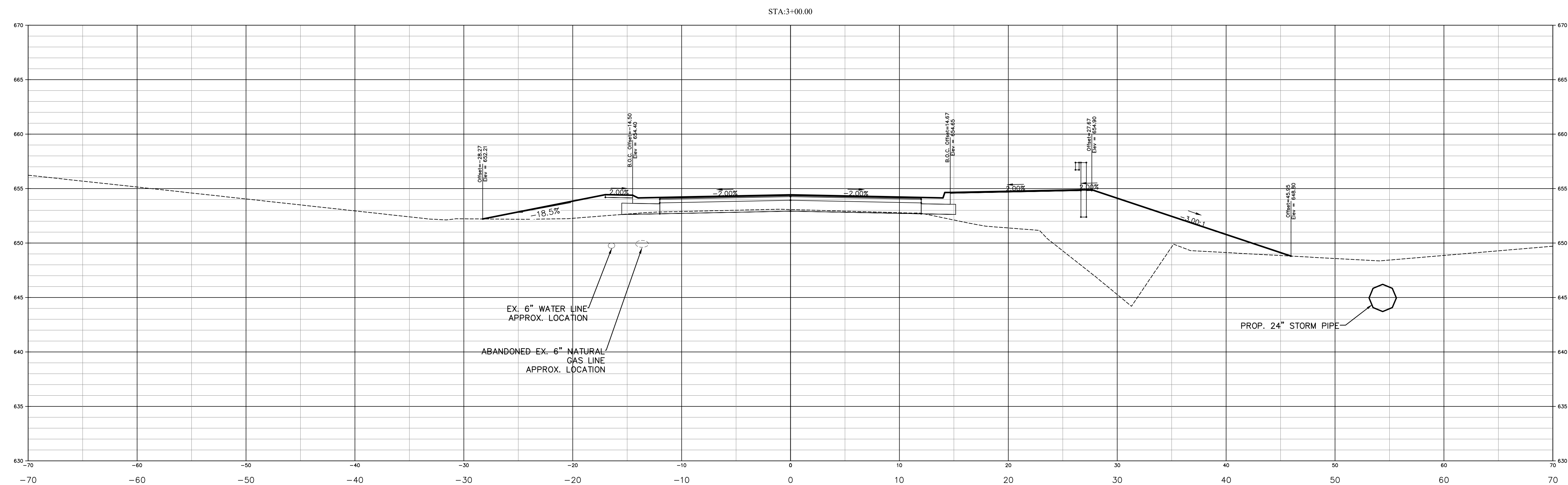
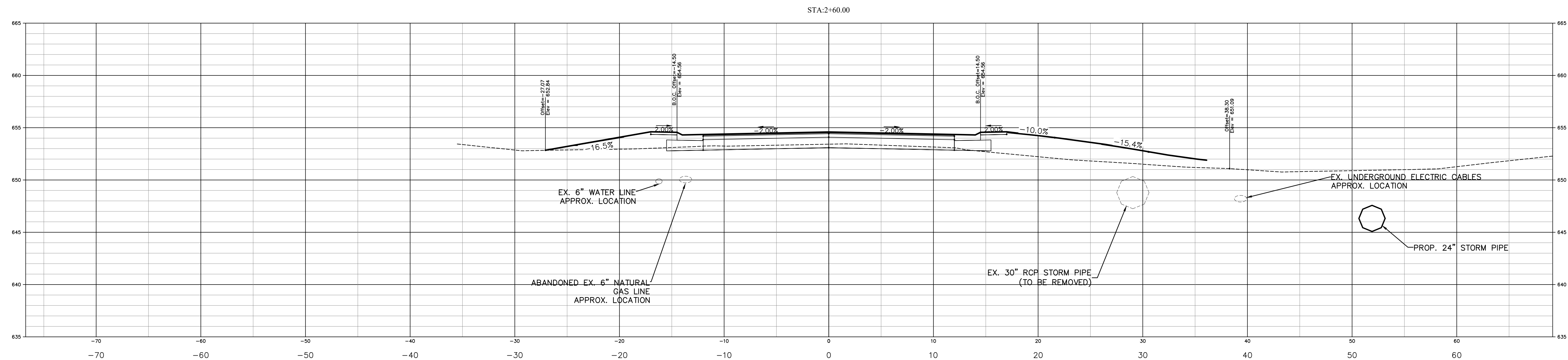
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COUNTRY CLUB DR.
CULVERT REPLACEMENT
ROAD CROSS SECTIONS
PROJECT # : 2021-043

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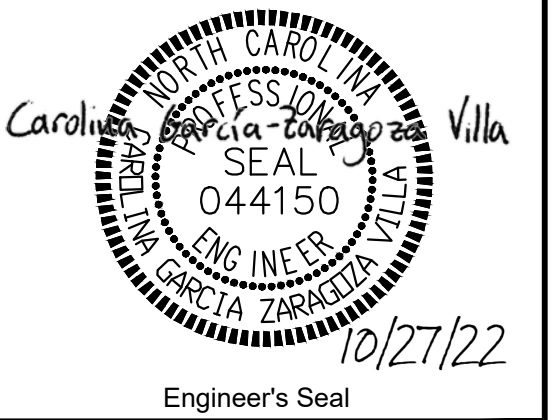


ROAD CROSS SECTION PROFILE

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 VERT: 1" = 1'

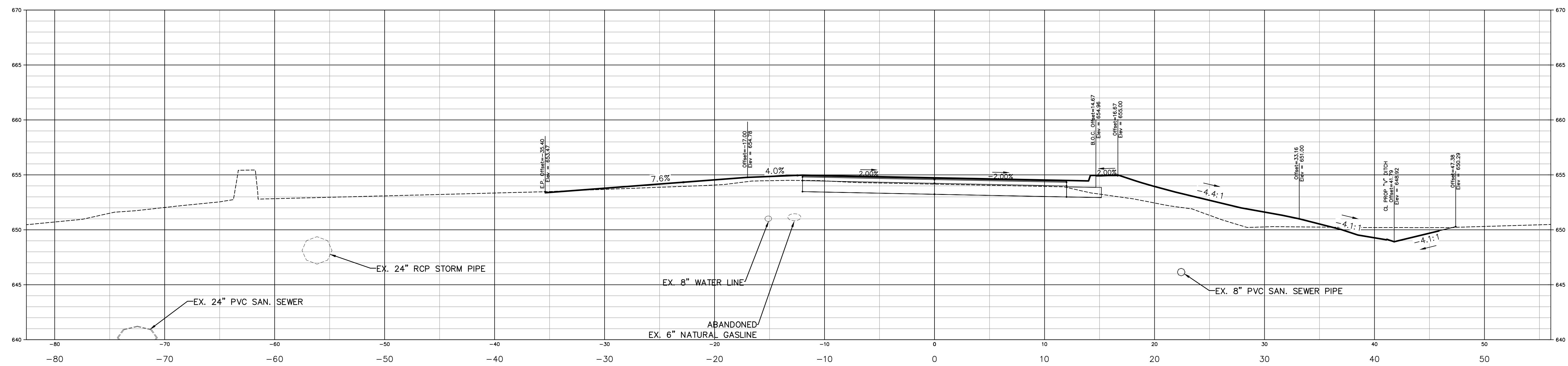
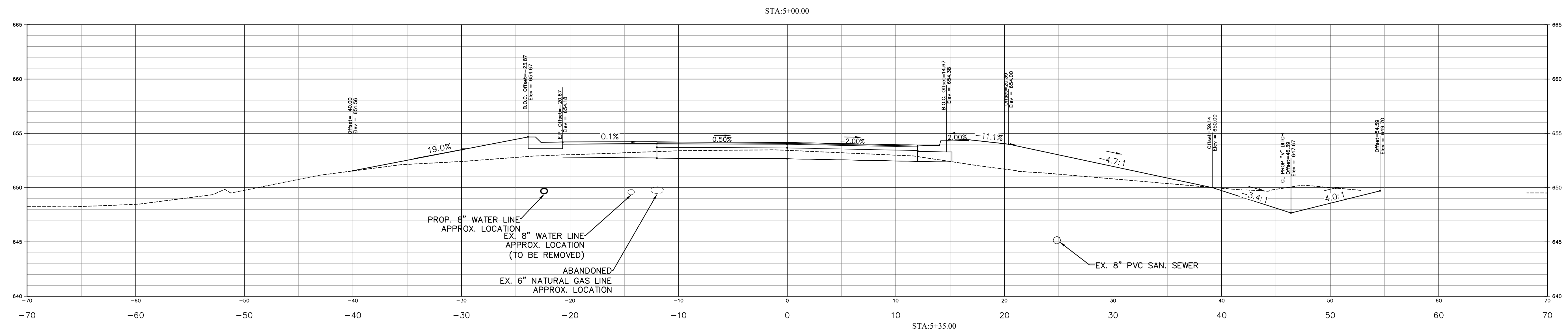
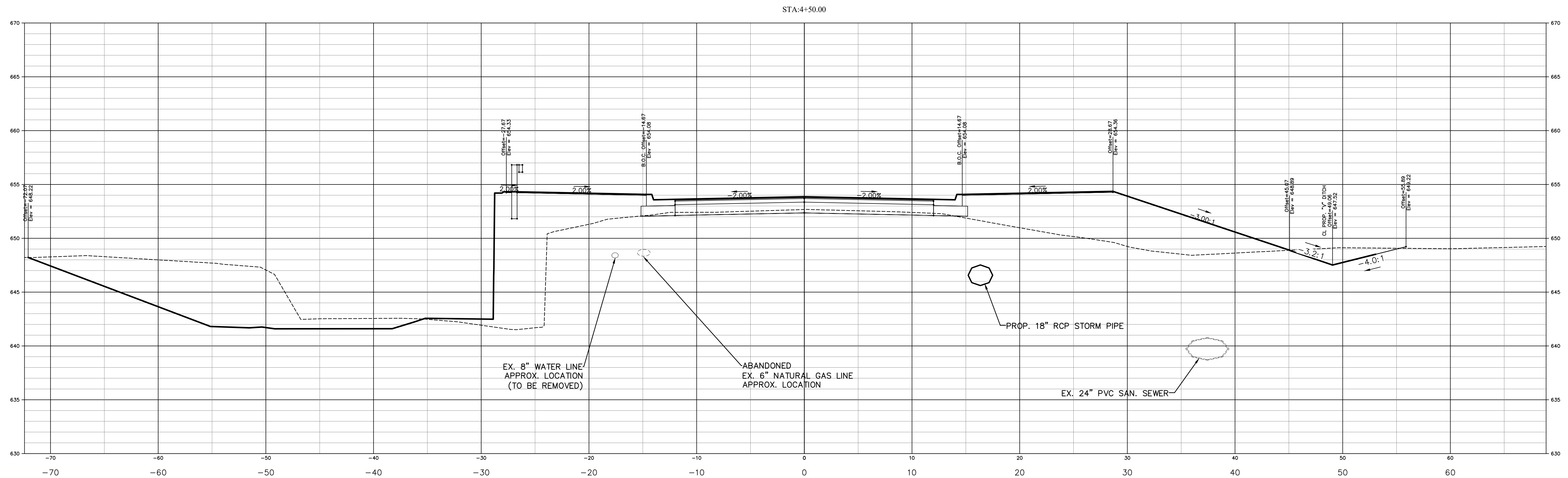


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CITY OF CONCORD
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(704) 920-5425



CULVERT REPLACEMENT
ROAD CROSS SECTIONS
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC
DESIGNED BY: CGZ			
DRAWN BY: BCC			
CHECKED BY: EAB			
SCALE: AS SHOWN			
DATE: 07/01/22			
PROJECT NUMBER: 2021-043			
SHEET: 13		OF: 27	

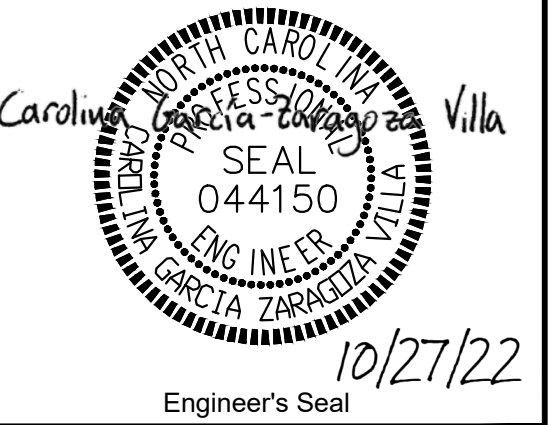


ROAD CROSS SECTION PROFILE

SCALE: HORIZ: 1" = 5'
 VERT: 1" = 1'



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CITY OF CONCORD
P.O. BOX 308
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(704) 920-5425

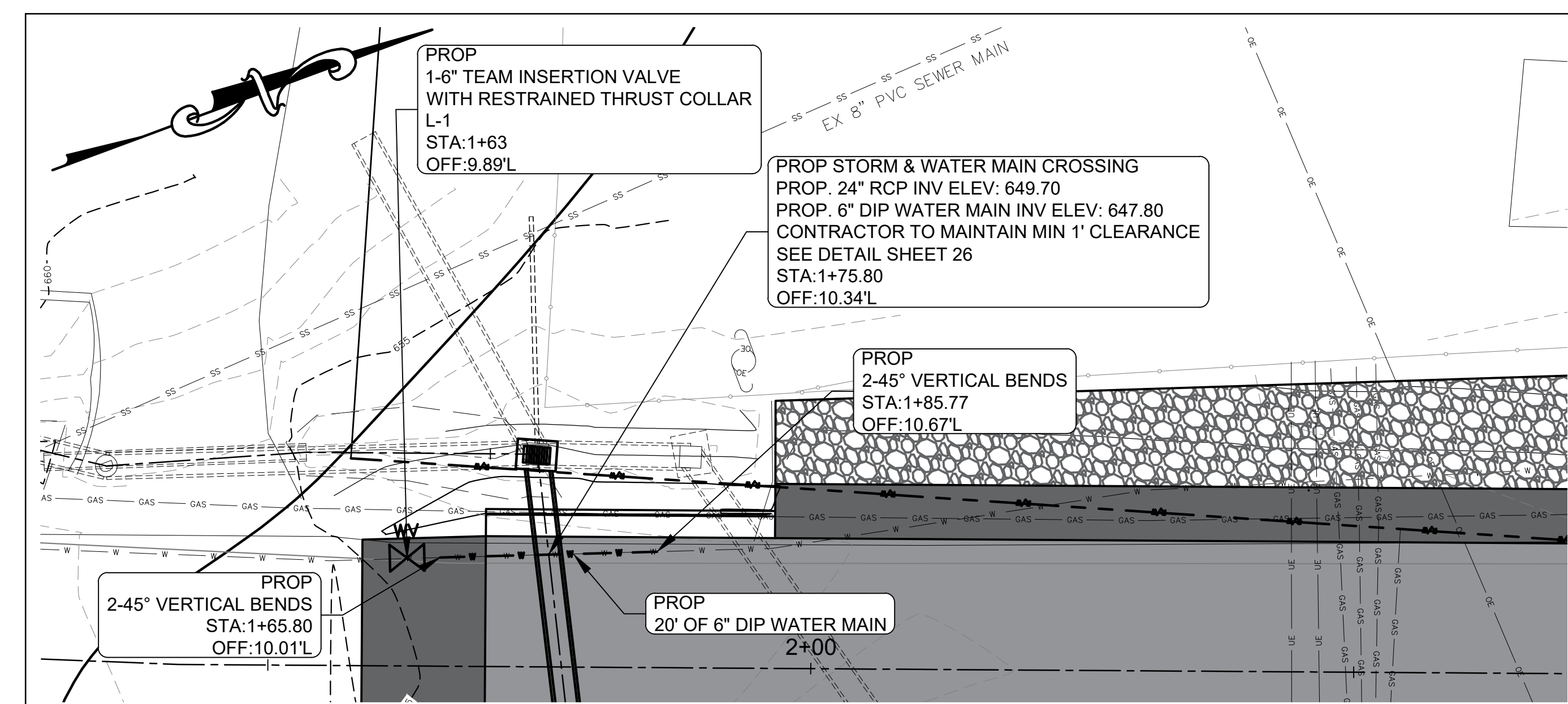


Surveyor's Seal

COUNTRY CLUB DR.
CULVERT REPLACEMENT
ROAD CROSS SECTIONS
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ	
DRAWN BY: BCC	
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SCALE: AS SHOWN	
DATE: 07/01/22	
PROJECT NUMBER: 2021-043	
SHEET: 15	OF: 27



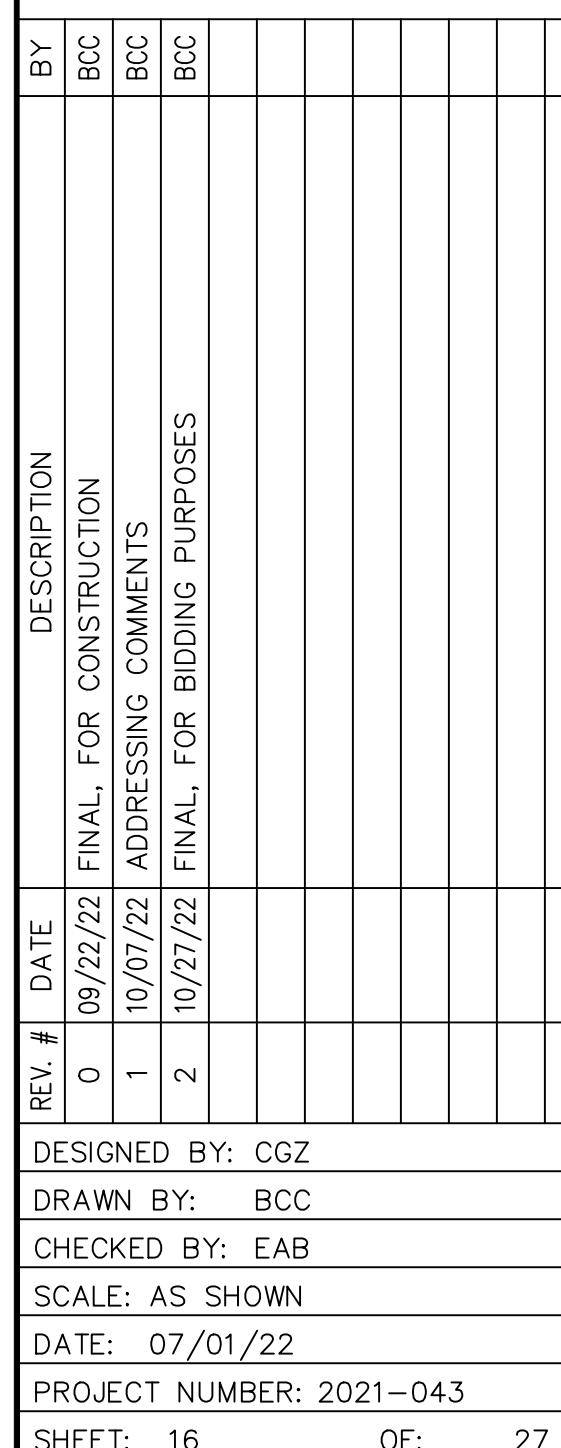
PROTECTION OF EXISTING UTILITIES

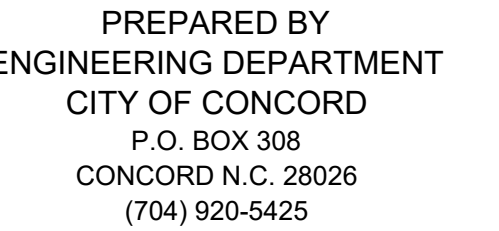
THE CONTRACTOR SHALL CONTACT THE APPROPRIATE AGENCY FOR THE EXACT FIELD LOCATION OF ALL WATER, ELECTRIC, TELEPHONE, TELEVISION, GAS, AND OTHER UNDERGROUND AND OVERHEAD UTILITIES BEFORE STARTING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS. IT IS NOT TO BE CONSIDERED AS THE NONEXISTENCE OF OR A DEFINITE LOCATION OF ANY UTILITIES, IF ANY UTILITIES ARE NOT RESPONDING TO THE LOCATION INFORMATION. THE LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES ALONG THE ROUTE OF WORK ARE:

UTILITY COMPANY NAME	CONTRACT NUMBER	CONTRACT EMERGENCY NUMBER
Amtrak	N/A	1-800-331-0098
AT&T	478,627-5335	1-800-331-0098
Coburn County Emergency Mgmt.	704.920.2143	704.920.3000
City of Columbus Water Utility (Columbus Area)	704.920.5151	704.920.5151
City of Concord Electric System	704.920.5151	704.920.5555
City of Concord Emergency Mgmt.	704.920.5151	704.920.5555
Colonial Pipeline Company	704.392.8610	704.392.8610
Duke Energy	1-800.769.3766	1-800.769.3766
Duke Energy Transportation	1-800.682.0014	1-800.682.0014
NC One Call Center Area Rep.	1-336.855.0760	1-800.433.2349
North Carolina Southern Railway	1-800.433.2349	1-800.433.2349
North Carolina Railroad Company	1-800.433.2349	1-800.433.2349
Piedmont Natural Gas (aka NONG)	704.364.3700	1-800.752.7504
Public Service Electric & Gas	1-800.752.7504	1-800.752.7504
Dominion Energy	1-800.318.3028	N/A
Verizon Wireless	1-888.723.8010	1-888.723.8010
Time Warner Cable Concord	704.378.2656	704.378.2626 Option 5, 2, 1
Verizon Wireless	1-888.723.8010	1-888.723.8010
Utility of Charlotte-Concord	704.884.8333	704.884.8333
Utility of Charlotte-Concord of Coburn Co.	704.884.8333	704.884.8333
Western Piedmont Electric	704.722.8000	704.722.8000
Western Piedmont Electric	704.722.8000	704.722.8000

ANY OF THE ABOVE COMPANIES DO NOT HAVE A PRESENCE IN CAROLINA

NORTH CAROLINA ONE CALL 1-800-632-4949

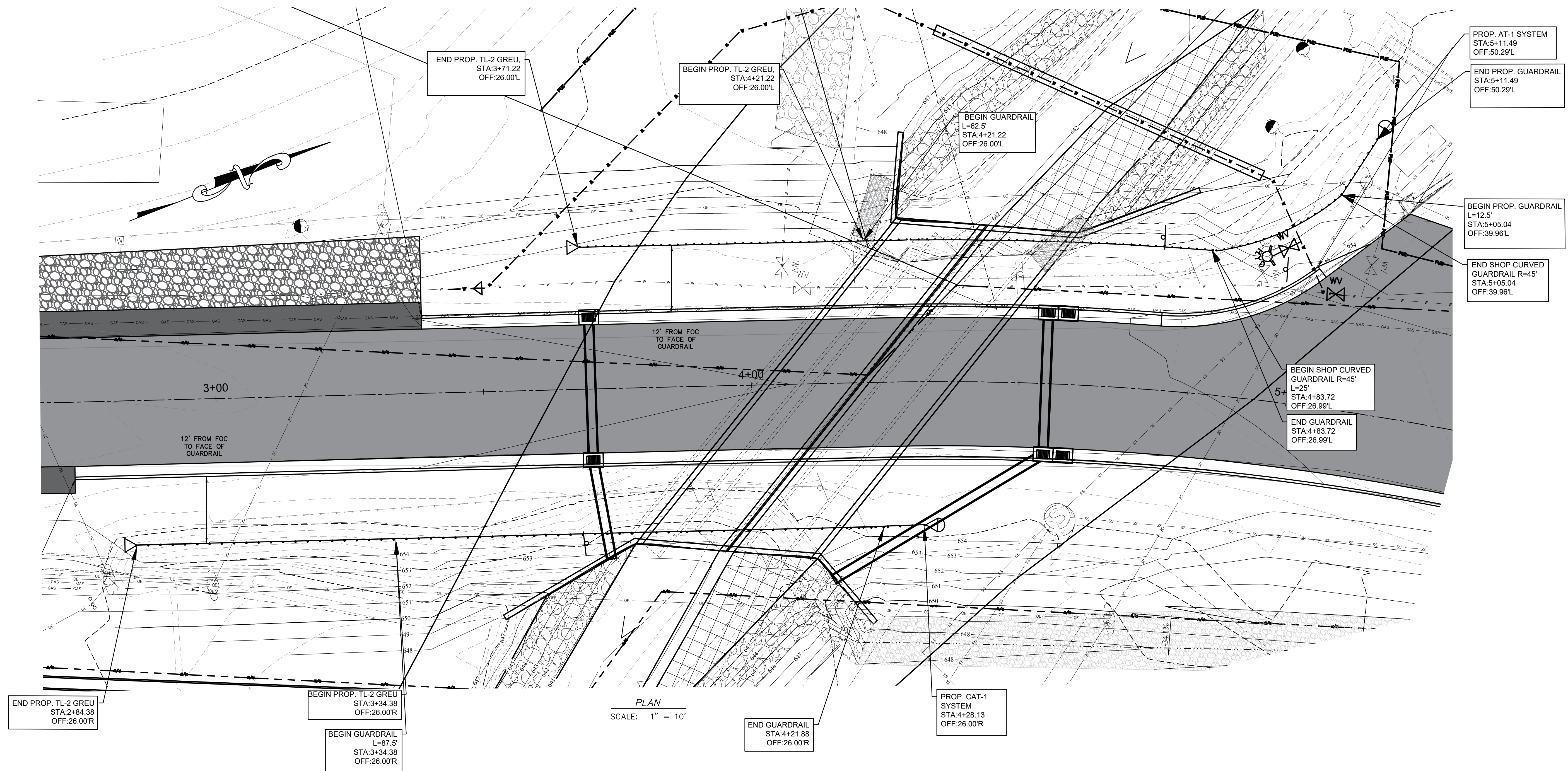




COUNTRY CLUB DR.
CULVERT REPLACEMENT
GUARDRAIL PLAN
PROJECT # : 2021-043

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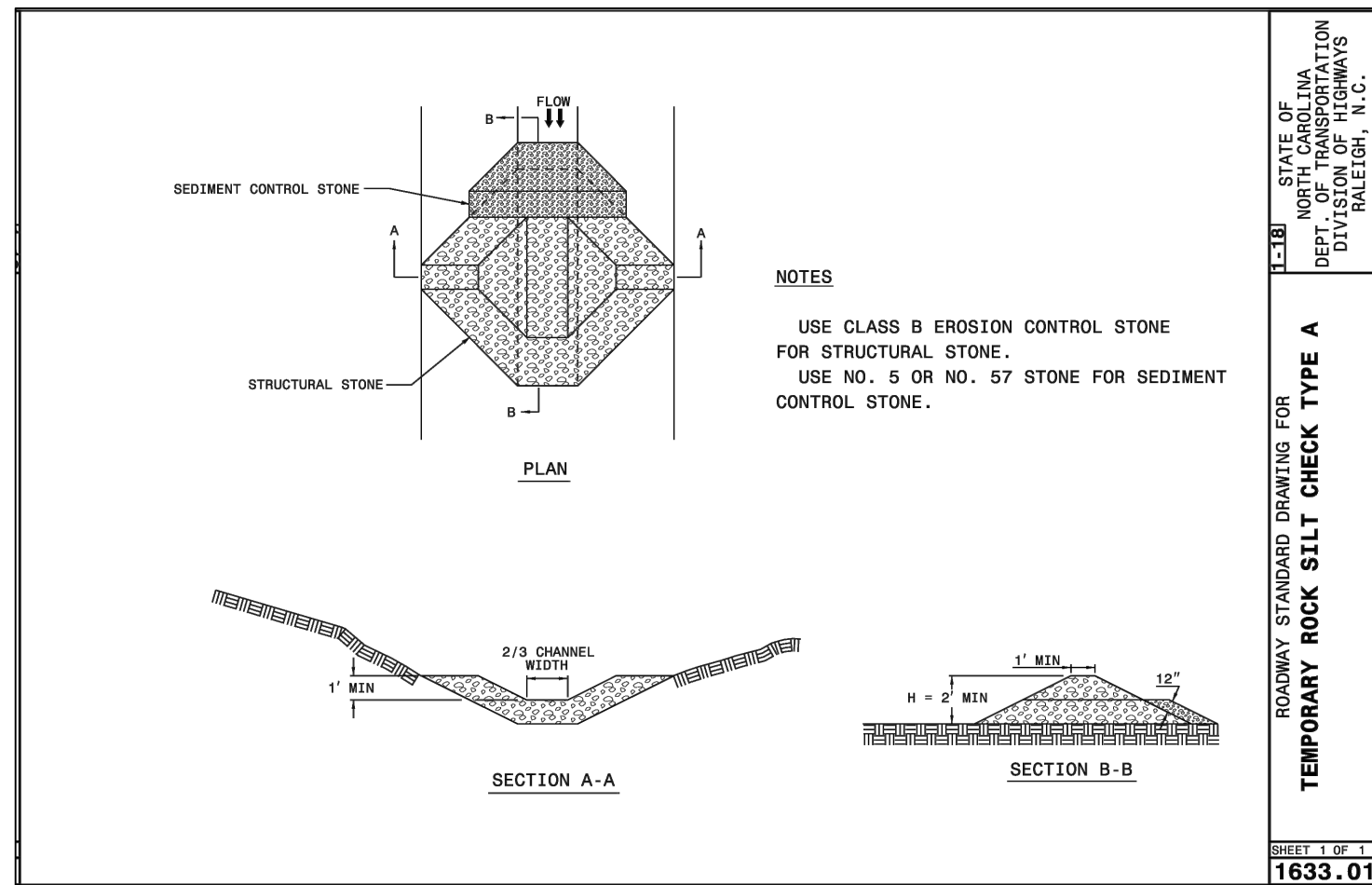
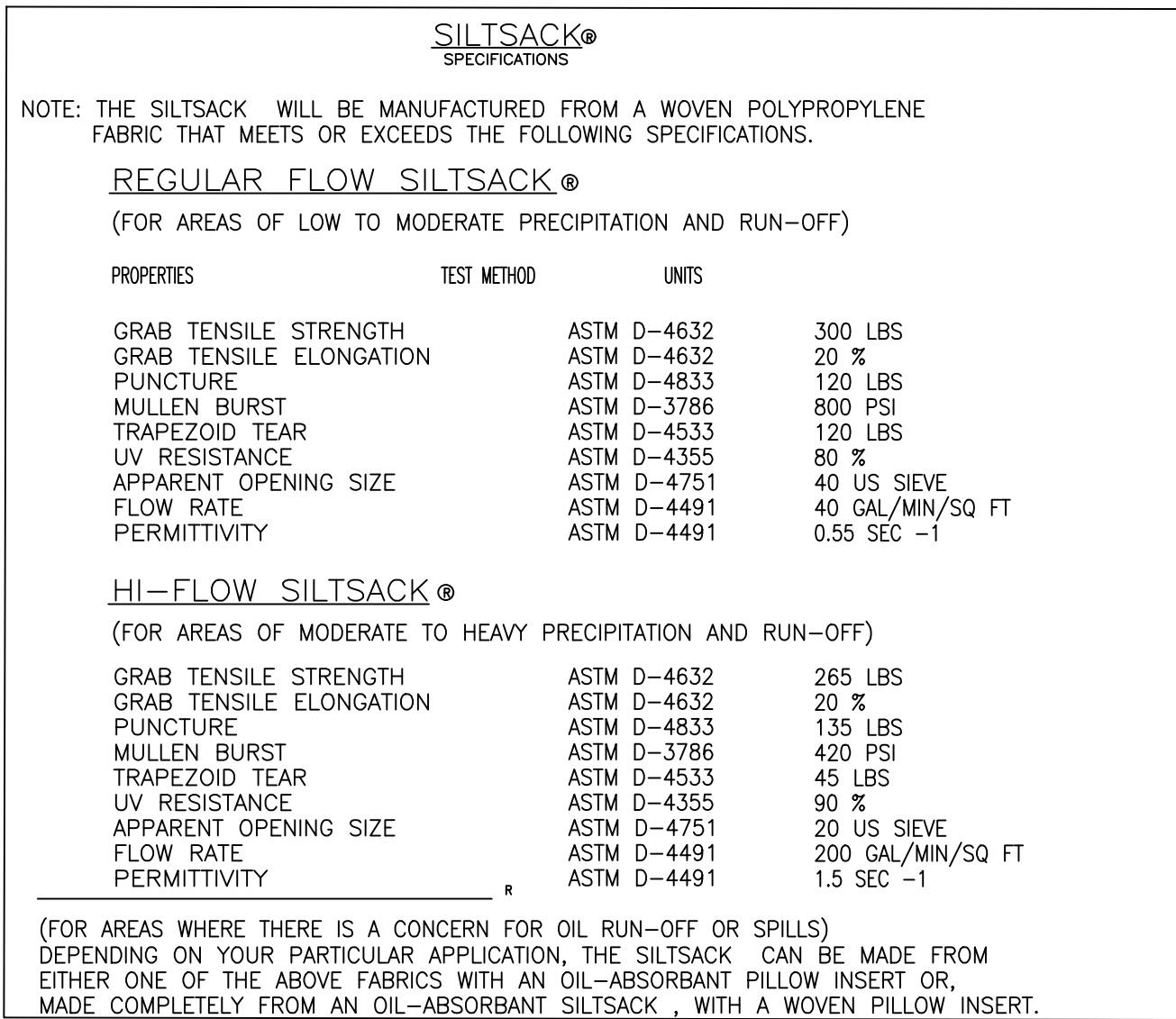
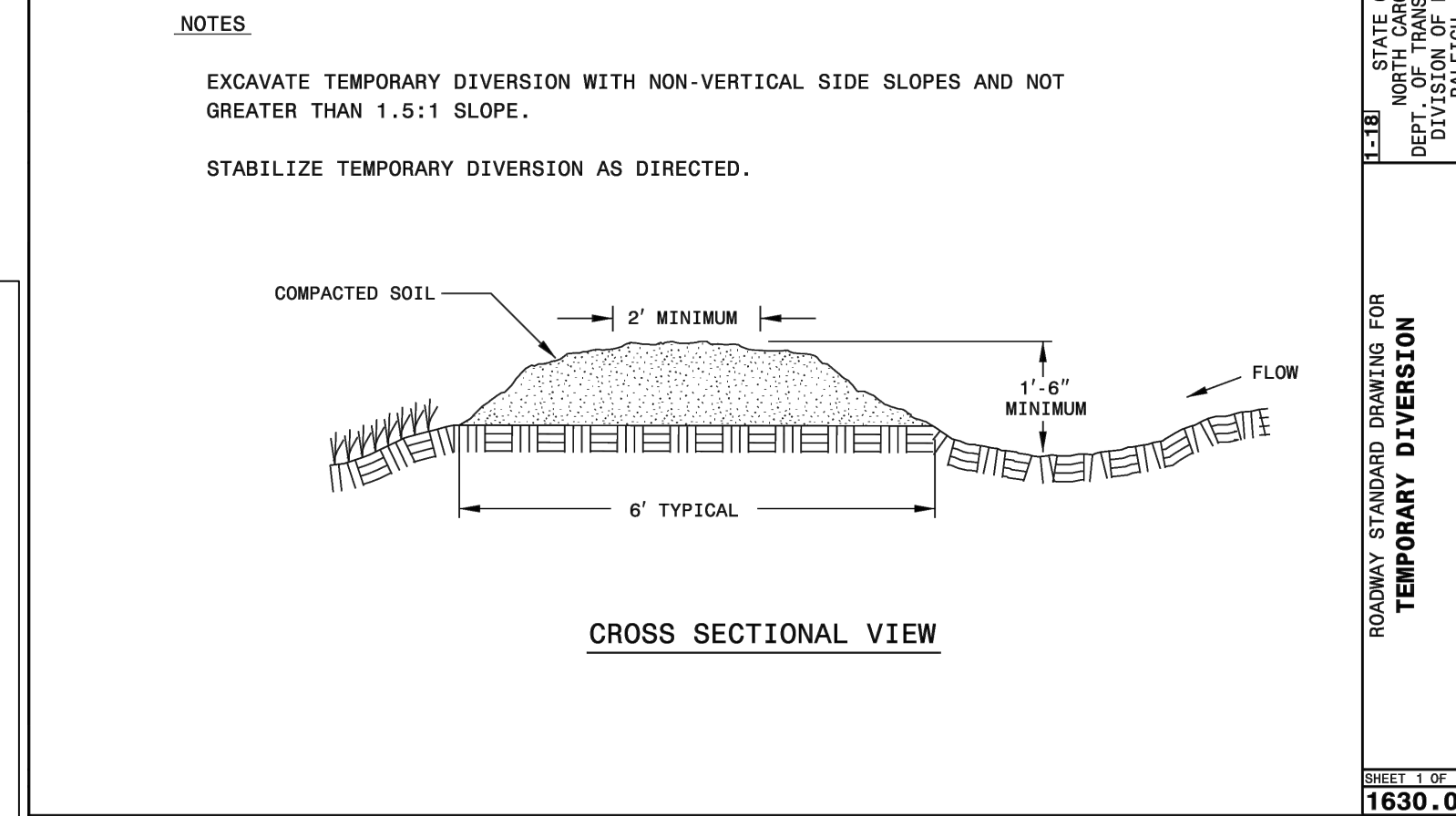
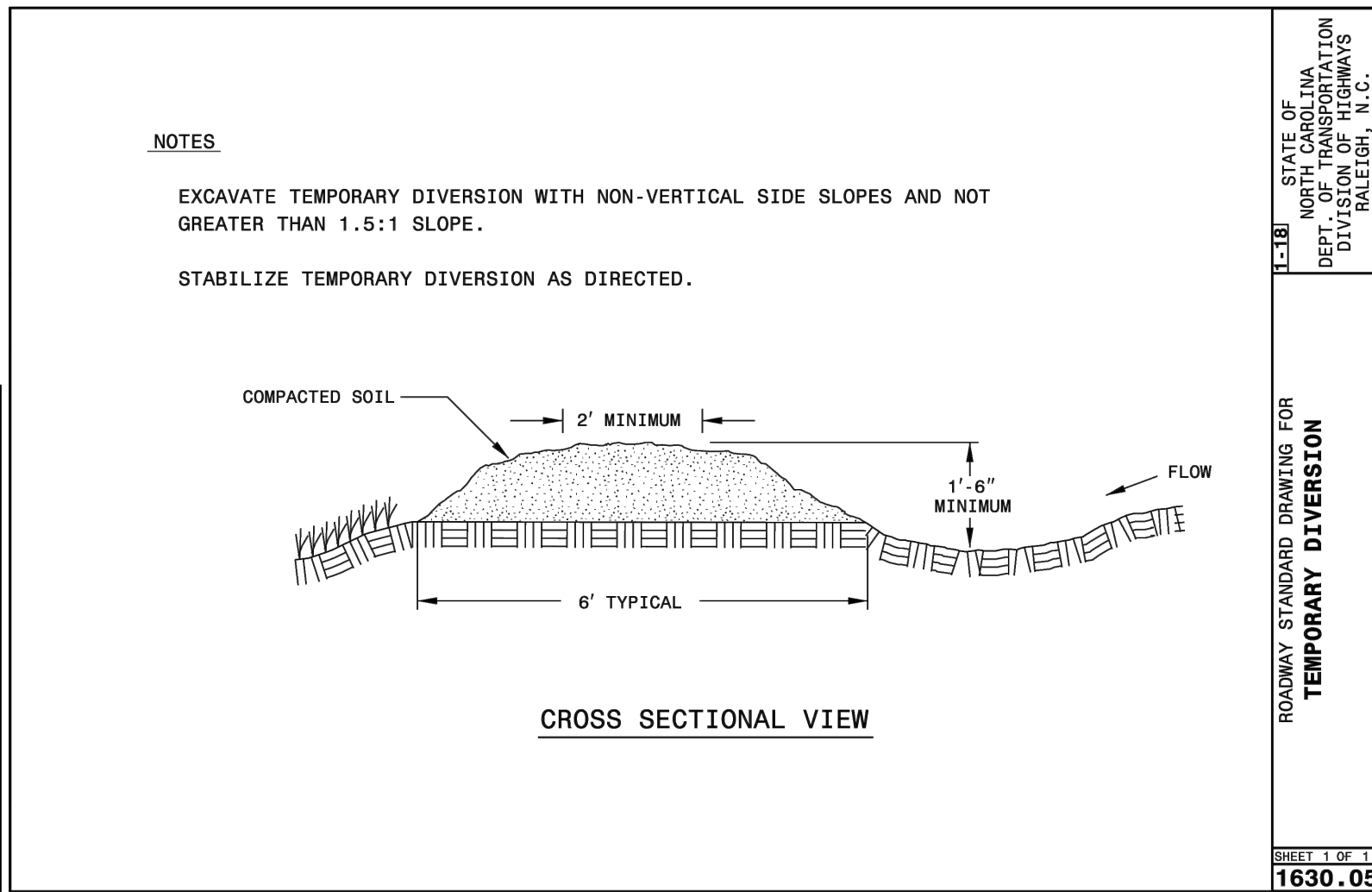
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- NOTES:
1. OFFSETS ARE MEASURED TO FACE OF GUARDRAIL
 2. GUARDRAIL AND GUARDRAIL END DELINEATORS SHALL BE INSTALLED
 3. SEE STANDARD DETAILS IN SHEET 26

1. THE CONTRACTOR SHALL INSTALL AND MAINTAIN THROUGHOUT THE PROJECT PERMIT AREA ALL EROSION CONTROL MEASURES SHOWN WITHIN THESE PLANS IN ACCORDANCE WITH APPLICABLE NCDEQ EROSION AND SEDIMENT CONTROL AND NCDOT REGULATIONS.
2. ALL EROSION CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL REGULATIONS, NCDOT, U.S. DEPARTMENT OF AGRICULTURE, AND U.S. SOIL CONSERVATION SERVICE REGULATIONS.
3. ALL CONSTRUCTION WORK SHALL BE IN COMPLIANCE WITH REGULATIONS OF THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) STORM WATER GENERAL PERMIT.
4. THE CONTRACTOR SHALL DILIGENTLY AND CONTINUOUSLY MAINTAIN ALL EROSION CONTROL DEVICES AND STRUCTURES TO MINIMIZE EROSION. THE CONTRACTOR SHALL MAINTAIN CLOSE CONTACT WITH THE NCDEQ EROSION CONTROL INSPECTOR SO THAT PERIODIC INSPECTIONS CAN BE PERFORMED AT APPROPRIATE STAGES OF CONSTRUCTION.
5. APPROVAL OF THIS PLAN IS NOT AN AUTHORIZATION TO GRADE ADJACENT PROPERTIES. WHEN FIELD CONDITIONS WARRANT OFF-SITE GRADING, PERMISSION MUST BE OBTAINED FROM THE AFFECTED PROPERTY OWNERS. CONTACT PROJECT ENGINEER AND PROJECT EROSION CONTROL INSPECTOR TO ENSURE ADDITIONAL EROSION CONTROL MEASURES ARE INSTALLED PRIOR TO OFF-SITE GRADING.
6. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED CONTINUOUSLY, RELOCATED WHEN AND AS NECESSARY AND SHALL BE CHECKED AFTER EVERY RAINFALL. SEEDED AREAS SHALL BE CHECKED REGULARLY AND SHALL BE WATERED, FERTILIZED, RESEEDED AND MULCHED AS NECESSARY TO OBTAIN A DENSE STAND OF GRASS.
7. STABILIZATION IS THE BEST FORM OF EROSION CONTROL. ALL DISTURBED AREAS WHICH ARE NOT OTHERWISE STABILIZED SHALL BE TOP SOILED AND SEEDED, TEMPORARILY OR PERMANENTLY IN ACCORDANCE WITH THE NORTH CAROLINA SEDIMENT CONTROL REGULATIONS. PERMANENT SEEDING AND GRASS ESTABLISHMENT IS REQUIRED PRIOR TO PROJECT COMPLETION AND ACCEPTANCE.
8. WHERE SEDIMENT IS TRANSPORTED ONTO A PAVED OR PUBLIC ROAD SURFACE, THE ROAD SURFACE SHALL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT SHALL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
9. WHEN A CRUSHED STONE CONSTRUCTION ENTRANCE HAS BEEN COVERED WITH SOIL OR HAS BEEN PUSHED INTO THE SOIL BY CONSTRUCTION TRAFFIC, IT SHALL BE REPLACED WITH A DEPTH OF STONE EQUAL TO THAT OF THE ORIGINAL APPLICATION.
10. ALL DRAINAGE INLETS SHALL BE PROTECTED FROM SILTATION. INEFFECTIVE PROTECTION DEVICES SHALL BE IMMEDIATELY REPLACED AND THE INLET CLEANED. FLUSHING IS NOT AN ACCEPTABLE METHOD OF CLEANING.
11. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE, AS WELL AS SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING AN EROSION AND SEDIMENTATION PERMIT FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES FOR ANY NEW OFF-SITE BORROW AREA. ANY OFF-SITE BORROW AND WASTE REQUIRED FOR THIS PROJECT MUST COME FROM AN APPROVED EROSION CONTROL PLAN SITE. A SITE REGULATED UNDER THE MINING ACT OF 1971, OR A LANDFILL REGULATED BY THE DIVISION OF SOLID WASTE MANAGEMENT. DEBRIS FROM DEMOLITION ACTIVITIES SHOULD BE DISPOSED OF AT AN APPROVED FACILITY.

1. ALL EROSION AND SEDIMENTATION CONTROL DEVICES WILL BE CHECKED BY THE CONTRACTOR FOR STABILITY AND OPERATION WITHIN 24 HOURS AFTER EVERY RUNOFF PRODUCING RAINFALL INCLUDING ANY STORM EVENT GREATER THAN 0.5" OF PRECIPITATION DURING ANY 24 HOUR PERIOD, BUT IN NO CASE LESS THAN ONCE EVERY WEEK, ANY NEEDED REPAIRS WILL BE MADE IMMEDIATELY. MAINTAIN ALL PRACTICES AS DESIGNED. DAMAGED OR INEFFECTIVE DEVICES SHALL BE REPAIRED OR REPLACED AS NECESSARY.
2. MAINTAIN EROSION CONTROL DEVICES AS FOLLOW:
 - TEMPORARY SILT FENCE - REMOVE SEDIMENT DEPOSITS WHEN IT BECOMES 0.5 FT DEEP AT THE FENCE AND AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAIN AND TO REDUCE PRESSURE ON THE FENCE, AVOID UNDERMINING THE FENCE.
 - TEMPORARY CHECK DAM - REMOVE SEDIMENT ACCUMULATION BEHIND THE DAMS AS NEEDED TO PREVENT DAMAGE TO CHANNEL VEGETATION. ADD STORE TO DAMS AS NEEDED TO MAINTAIN DESIGN HEIGHT AND CROSS SECTION.
 - STORM DRAIN INLET PROTECTION - REMOVE SEDIMENT AS NECESSARY TO PROVIDE ADEQUATE STORAGE VOLUME FOR THE NEXT RAINFALL.
 - TEMPORARY DIVERSION DITCH - INSPECT TEMPORARY DIVERSIONS ONCE A WEEK AFTER EVER RAINFALL. IMMEDIATELY REMOVE SEDIMENT FROM THE FLOW AREA AND REPAIR THE DIVERSION RIDGE. CAREFULLY CHECK OUTLETS AND MAKE TIMELY REPAIRS AS NEEDED. WHEN THE AREA PROTECTED IS PROPERLY STABILIZED, REMOVE THE RIDGE AND THE CHANNEL TO BLEND WITH THE NATURAL GROUND.
 - SEDIMENT DAMS - REMOVE SEDIMENT AND RESTORE BASIN TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH OF THE TRAP. CHECK THE STRUCTURE FOR DAMAGE FROM EROSION TO ENSURE IT IS A MINIMUM 1.5 FEET BELOW THE LOW POINT OF THE EMBANKMENT.
 - TEMPORARY SLOPE DAM - INSPECT THE SLOPE DRAIN AND SUPPORTING DIVERSION AFTER EVERY RAINFALL AND PROMPTLY MAKE NECESSARY REPAIRS. WHEN THE PROTECTED AREA HAS BEEN PERMANENTLY STABILIZED, TEMPORARY MEASURES MAY BE REMOVED. MATERIALS DISPOSED OF PROPERLY AND ALL DISTURBED AREAS STABILIZED APPROPRIATELY.
 - SEDIMENT TUBE - CHECK SEDIMENT TUBE AFTER EACH RAINFALL. REMOVE SEDIMENT AND RESTORE ORIGINAL VOLUME WHEN SEDIMENT ACCUMULATES TO ONE-HALF THE DESIGN VOLUME.
3. ALL GRADED AREAS WILL BE SEEDED, FERTILIZED AND MULCHED ACCORDING TO SPECIFICATIONS, SPECIAL PROVISIONS AND THE NORTH CAROLINA EROSION AND SEDIMENT CONTROL PLANNING AND DESIGN MANUAL TO MAINTAIN A VIGOROUS, DENSE, VEGETATIVE COVER WITHIN REQUIRED SOIL STABILIZATION TIMEFRAMES. IF WORK ON THE PROJECT CEASES FOR MORE THAN THE AFOREMENTIONED LENGTH OF TIME, ALL DISTURBED AREAS SHALL HAVE TEMPORARY VEGETATIVE GROUND COVER ESTABLISHED AND EROSION CONTROL DEVICES MAINTAINED.
4. 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 WITH GRASSING IMMEDIATELY AFTER THE UTILITY INSTALLATION.
5. ALL EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED DURING ALL PHASES OF CONSTRUCTION. INSPECTIONS OF ALL CONSTRUCTION ACTIVITIES AND DISTURBED AREAS SHALL BE CONDUCTED AT REGULAR INTERVALS. 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 STABILIZED.
6. THE CONTRACTOR MUST TAKE NECESSARY ACTION TO MINIMIZE THE TRACKING OF MUD ON THE PAVED ROADWAY CONSTRUCTION AREAS. THE CONTRACTOR SHALL DAILY REMOVE MUD/SOIL FROM PAVEMENT AS MAY BE REQUIRED.
7. TEMPORARY DIVERSION BERMS AND/OR DITCHES WILL BE PROVIDED AS NEEDED DURING CONSTRUCTION TO PROTECT WORK AREAS FROM UPSLOPE RUNOFF AND/OR DIVERT SEDIMENT. LADEN WATER TO APPROPRIATE TRAPS OR STABLE OUTLETS. TEMPORARY SEDIMENT BASIN MUST BE MAINTAINED PRIOR TO TRANSITIONING TO PERMANENT DRY OR WET BASINS.



SITE DESCRIPTION	STABILIZATION TIME	TIMEFRAME EXCEPTIONS
PERIMETER DIKES, SWALES, DITCHES AND SLOPES	7 DAYS	NONE
HIGH QUALITY WATER (HQW) ZONES	7 DAYS	NONE
SLOPES STEEPER THAN 3:1	7 DAYS	IF SLOPES ARE 10' OR LESS IN LENGTH AND ARE NOT STEEPER THAN 2:1, 14 DAYS ARE ALLOWED.
SLOPES 3:1 OR FLATTER	14 DAYS	7 DAYS FOR SLOPES GREATER THAN 50' IN LENGTH.
ALL OTHER AREAS WITH SLOPES FLATTER THAN 4:1	14 DAYS	NONE, EXCEPT FOR PERIMETERS AND HQW ZONES.

(West)
The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

August 1 – June 1	May 1 – September 1
20# Kentucky Bluegrass	20# Kentucky Bluegrass
75# Hard Fescue	75# Hard Fescue
25# Rye Grain	10# German or Browntop Millet
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

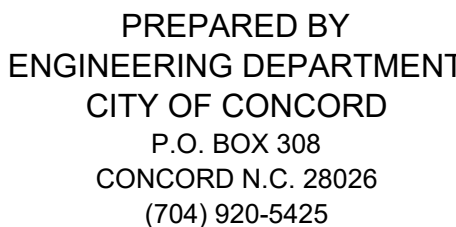
August 1 – June 1	May 1 – September 1
100# Tall Fescue	100# Tall Fescue
15# Kentucky Bluegrass	15# Kentucky Bluegrass
30# Hard Fescue	30# Hard Fescue
25# Rye Grain	10# German or Browntop Millet
500# Fertilizer	500# Fertilizer
4000# Limestone	4000# Limestone

06 Dust	Escalade	Justice	Serengeti
2nd Millennium	Essential	Kalahari	Shelby
3rd Millennium	Evergreen 2	Kitty Hawk 2000	Sheridan
Apache III	Falcon IV	Legitimate	Signia
Avenger	Falcon NG	Lexington	Silver Hawk
Borlexas	Falcon V	LSD	Silverstar
Borlexas II	Faith	Magellan	Shenandoah Elite
Borvor	Fat Cat	Matador	Sig Slinger
Borrera	Festnova	Millennium	SRP Skyline
Barrington	Fidelity	Monet	Solara
Barrubusto	Finelawn Elite	Mustang 4	Southern Choice II
Borvado	Finelawn Xpress	Ninja 2	Speedway
Biltmore	Finesse II	Ol' Glory	Spyder LS
Bingo	Firebird	Olympic Gold	Sunset Gold
Bizem	Firecracker LS	PadreTaccua	Blackwatch
Firenza	Patagonia	Tanzania	Blade Runner II
Five Point	Pedigree	Trio	Bonsai
Focus	Picasso	Tycho II	
Braveheart	Forte	Piedmont	Talladega
Bravo	Garrison	Plantation	Tarheel
Bullseye	Gazelle II	Proseeds 5301	Terrano
Cannavaro	Gold Medallion	Prospect	Titan Ltd
Catalyst	Grande 3	Pure Gold	Titanium LS
Cayenne	Greenbrooks	Quest	Tracer
Cessone RZ	Greenkeeper	Raptor II	Traverse SRP
Chipper	Gremlin	Rebel Exeda	Tulsa Time
Cochise IV	Greystone	Rebel Sentry	Turbo
Constitution	Guardian 21	Rebel IV	Turbo RZ
Corgi	Guardian 41	Regiment II	Tuxedo RZ
Corona	Hemi	Regenerate	Ultimate
Coyote	Honky Tonk	Rendition	Venture
Darlington	Hot Rod	Rhambler 2 SRP	Umbrella
Davinci	Hunter	Rembrandt	
Van Gogh	Desire	Inferno	
Reunion	Watchdog	Domino	Innovator
Riverside	Wolfpack II	DynamicIntegrity	RNPXtremegreen
Dynasty Jaguar 3	Rocket	Endeavor	Jamboree

4-Season	Blue Velvet	Gladstone	Quantum
Leap	Alexa II	Blueberry	Granite
Rambo	America	Boomerang	Hampton
Rhapsody	Apollo	Brilliant	Harmonie
Rhythm	Arcadia	Cabernet	Impact
Rita	Aries	Champagne	Jelferson
Royce	Armada	Champlain	Juliet
Rubicon	Arrow	Chicago II	Jump Start
Rugby II	Arrowhead	Corsair	Keeneland
Shiraz	Aura	Courtyard	Langara
Avid	Delight	Liberator	Skye Award
Diva	Madison	Solar Eclipse	Awesome
Dynamo	Mercury	Sonoma	Bandera
Eagleten	Midnight	Sorbonne	Barclay
Emblem	Midnight II	Starburst	Barrique
Empire	Moon Shadow	Sudden Impact	Baroness
Envicta	Moonlight SLT	Total Eclipse	Barrister
Everest	Mystere	Touche	Barvette HGT
Everglade	Nu Destiny	Tsunami	Bedazzled
Excursion	Nu	Chicago	Unique
Bellissimo	Freedom II	Nu Glade	Valor
Bewitched	Freedom III	Odyssey	Voyager II
Beyond	Front Page	Perfection	Washington
Blackburg II	Futurity	Pinot	Zinfandel
Blackstone II	Gaelic	Princeton 105	Blue Note Ginney II

Aurora II	Eureka II	Oxford	Scaldis II
Aurora Gold	Firefly	Reliant II	Spartan II
Berkshire	Granite	Reliant IV	Stonehenge
Bighorn GT	Chariot	Heron	Nordic
Rescue 911	Rhino		

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.



COUNTRY CLUB DR.
CULVERT REPLACEMENT
EROSION CONTROL DETAILS
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/27/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ

DRAWN BY: BCC

CHECKED BY: EAB

SCALE: AS SHOWN

DATE: 07/01/22

PROJECT NUMBER: 2021-043

SHEET: 18 OF: 27

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

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

GROUND STABILIZATION SPECIFICATION

Temporary Stabilization	Permanent Stabilization
<ul style="list-style-type: none"> • Temporary grass seed covered with straw or other mulches and tackifiers • Hydroseeding • Rolled erosion control products with or without temporary grass seed • Appropriately applied straw or other mulch • Plastic sheeting 	<ul style="list-style-type: none"> • Permanent grass seed covered with straw or other mulches and tackifiers • Geotextile fabrics such as permanent soil reinforcement matting • Hydroseeding • Shrubs or other permanent plantings covered with mulch • Uniform and evenly distributed ground cover sufficient to restrain erosion • Structural methods such as concrete, asphalt or retaining walls • Rolled erosion control products with grass seed

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

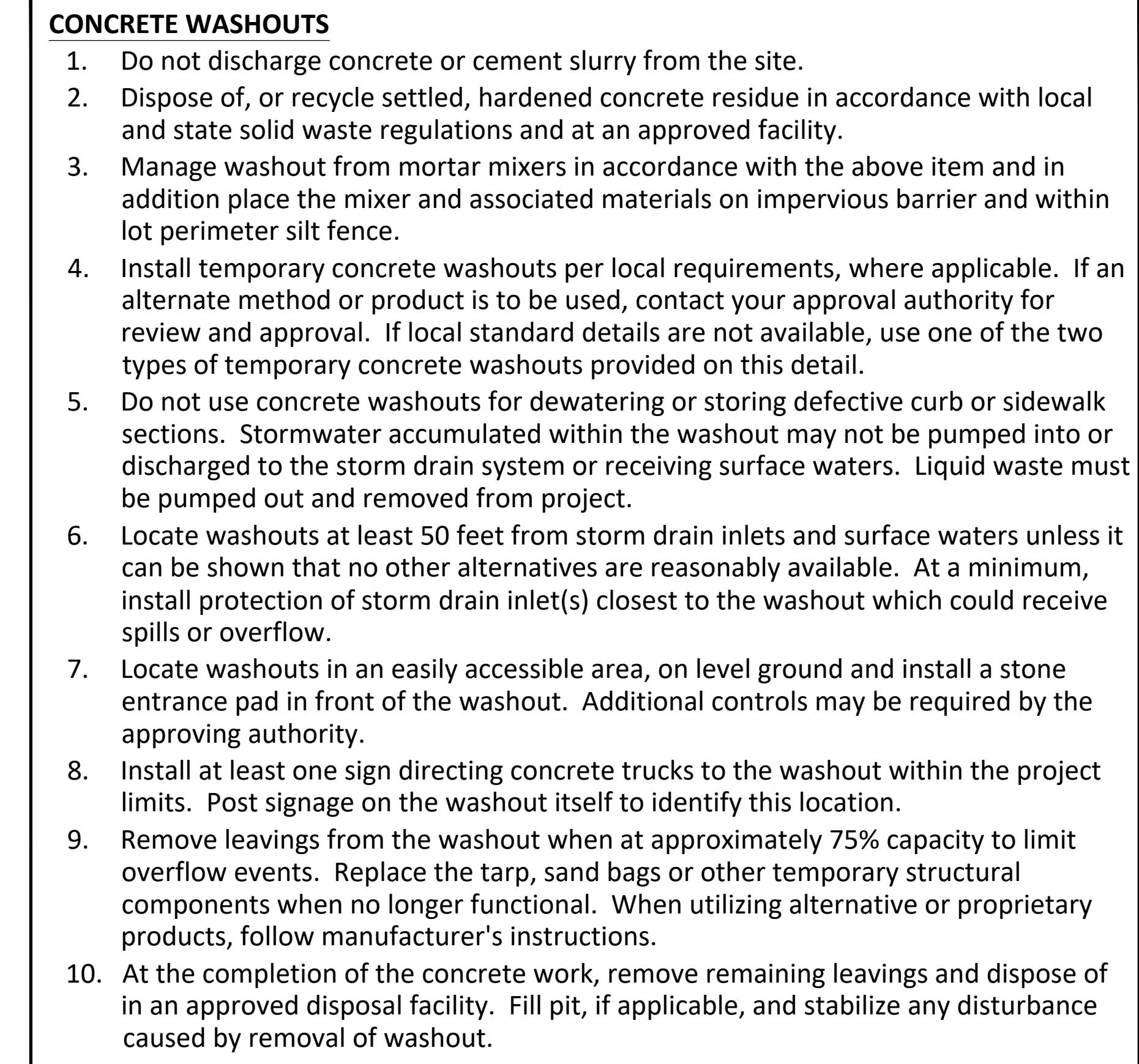
1. Maintain vehicles and equipment to prevent discharge of fluids.
2. Provide drip pans under any stored equipment.
3. Identify leaks and repair as soon as feasible, or remove leaking equipment from the project.
4. Collect all spent fluids, store in separate containers and properly dispose as hazardous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

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

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

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

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



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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

Self-inspections are required during normal business hours in accordance with the table

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

Inspect	Frequency (during normal business hours)	Inspection records must include:
(1) Rain gauge maintained in good working order	Daily	Daily rainfall amounts. If no daily rain gauge observations are made during weekend or holiday periods, and no individual-day rainfall information is available, record the cumulative rain measurement for those unattended days (and this will determine if a site inspection is needed). Days on which no rainfall occurred shall be recorded as "zero." The permittee may use another rain-monitoring device approved by the Division.
(2) E&SC Measures	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> 1. Identification of the measures inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Indication of whether the measures were operating properly, 5. Description of maintenance needs for the measure, 6. Description, evidence, and date of corrective actions taken.
(3) Stormwater discharge outfalls (SDOs)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<ol style="list-style-type: none"> 1. Identification of the discharge outfalls inspected, 2. Date and time of the inspection, 3. Name of the person performing the inspection, 4. Evidence of indicators of stormwater pollution such as oil sheen, floating or suspended solids or discoloration, 5. Indication of visible sediment leaving the site, 6. Description, evidence, and date of corrective actions taken.
(4) Perimeter of site	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If visible sedimentation is found outside site limits, then a record of the following shall be made:</p> <ol style="list-style-type: none"> 1. Actions taken to clean up or stabilize the sediment that has left the site limits, 2. Description, evidence, and date of corrective actions taken, and 3. An explanation as to the actions taken to control future releases.
(5) Streams or wetlands onsite or offsite (where accessible)	At least once per 7 calendar days and within 24 hours of a rain event ≥ 1.0 inch in 24 hours	<p>If the stream or wetland has increased visible sedimentation or a stream has visible increased turbidity from the construction activity, then a record of the following shall be made:</p> <ol style="list-style-type: none"> 1. Description, evidence and date of corrective actions taken, and 2. Records of the required reports to the appropriate Division Regional Office per Part III, Section C, Item (2)(a) of this permit.
(6) Ground stabilization measures	After each phase of grading	<ol style="list-style-type: none"> 1. The phase of grading (installation of perimeter E&SC measures, clearing and grubbing, installation of storm drainage facilities, completion of all land-disturbing activity, construction or redevelopment, permanent ground cover). 2. Documentation that the required ground stabilization measures have been provided within the required timeframe or an assurance that they will be provided as soon as possible.

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

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

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

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

1. F&SC Plan Documentation

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

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

2. Additional Documentation to be Kept on Site

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

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

3. Documentation to be Retained for Three Years

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

PART III
SELF-INSPECTION, RECORDKEEPING AND REPORTING

1 Occurrences that Must

1. Occurrences that Must be Reported

Permittees shall report the following occurrences:

- (a) Visible sediment deposition in a stream or wetland.
- (b) Oil spills if:
 - They are 25 gallons or more,
 - They are less than 25 gallons but cannot be cleaned up within 24 hours,
 - They cause sheen on surface waters (regardless of volume), or
 - They are within 100 feet of surface waters (regardless of volume).
- (c) Releases of hazardous substances in excess of reportable quantities under Section 311 of the Clean Water Act (Ref: 40 CFR 110.3 and 40 CFR 117.3) or Section 102 of CERCLA (Ref: 40 CFR 302.4) or G.S. 143-215.85.
- (d) Anticipated bypasses and unanticipated bypasses.
- (e) Noncompliance with the conditions of this permit that may endanger health or the environment.

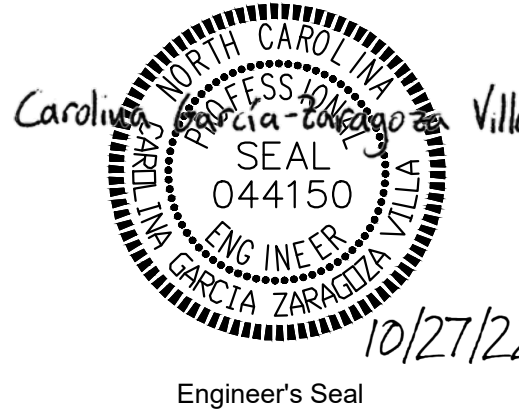
2. Reporting Timeframes and Other Requirements

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

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



PREPARED BY
ENGINEERING DEPARTMENT
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(704) 920-5425



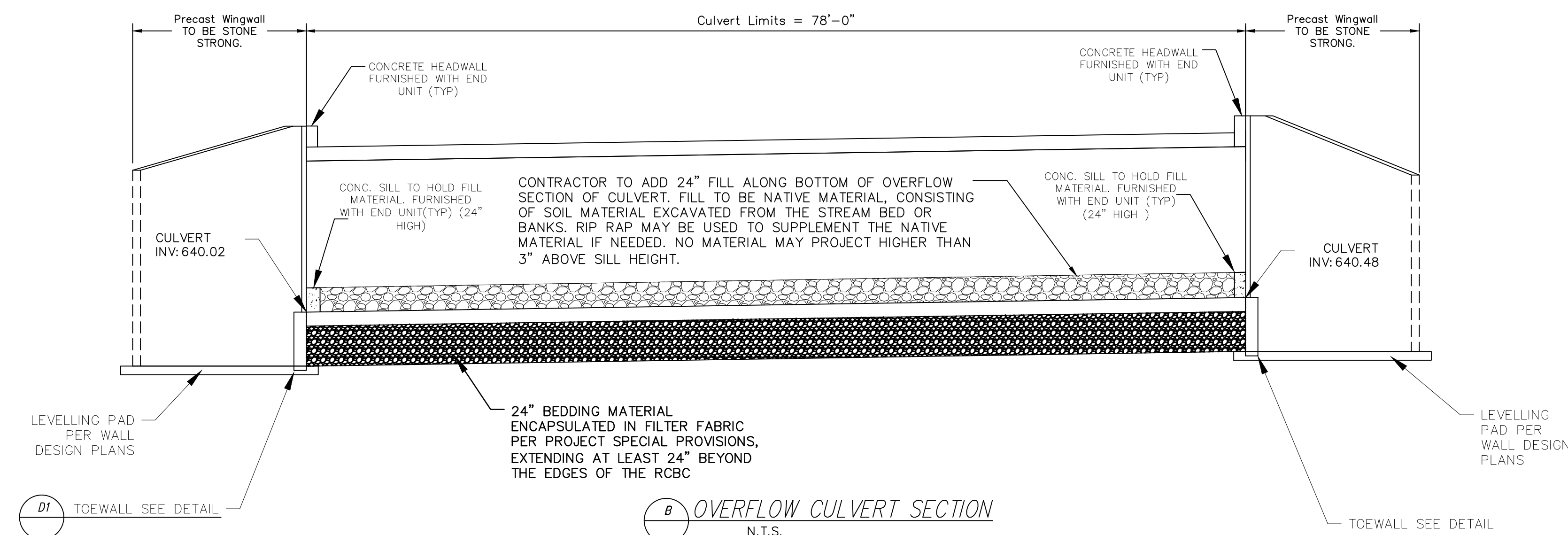
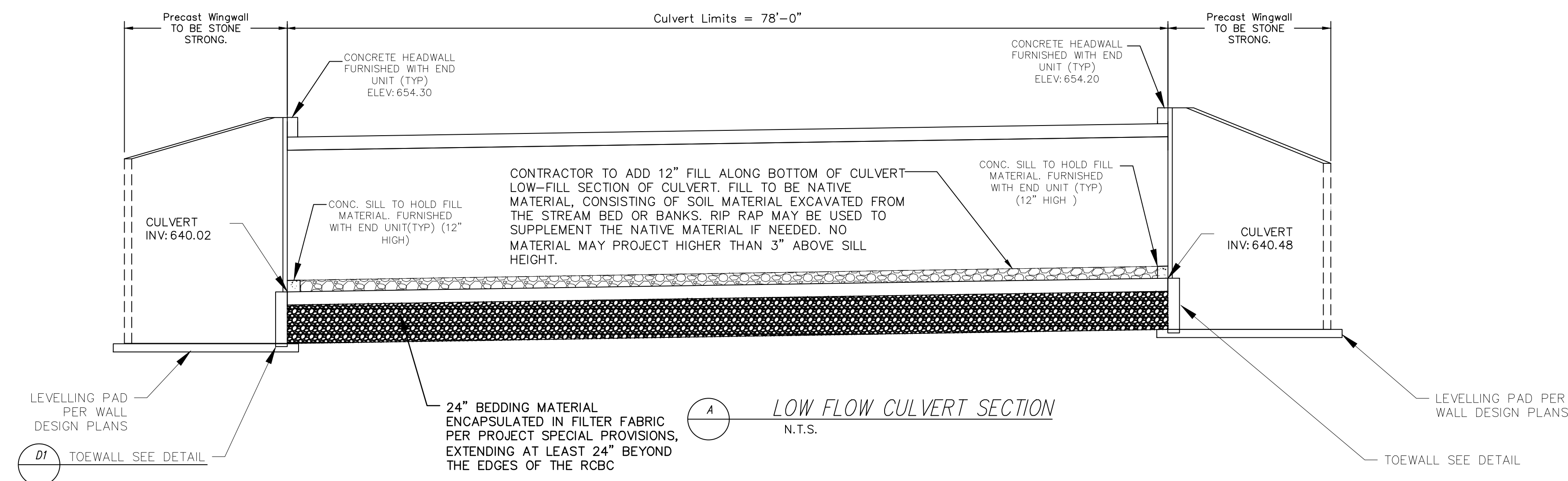
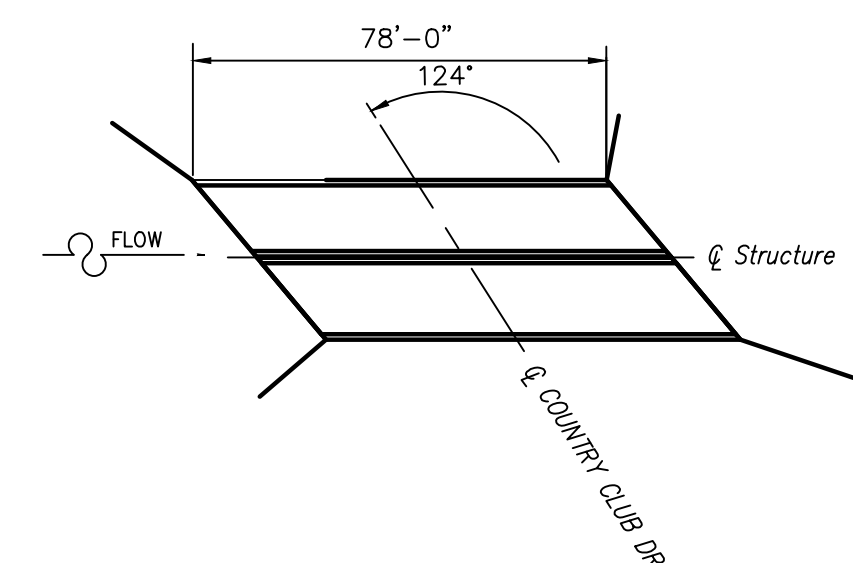
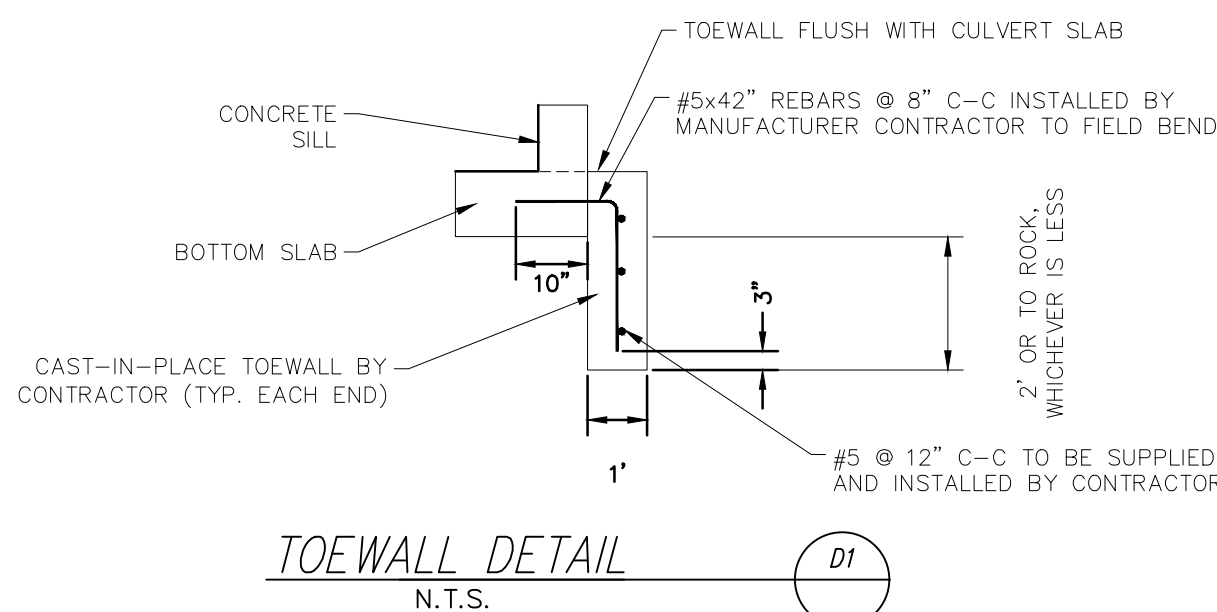
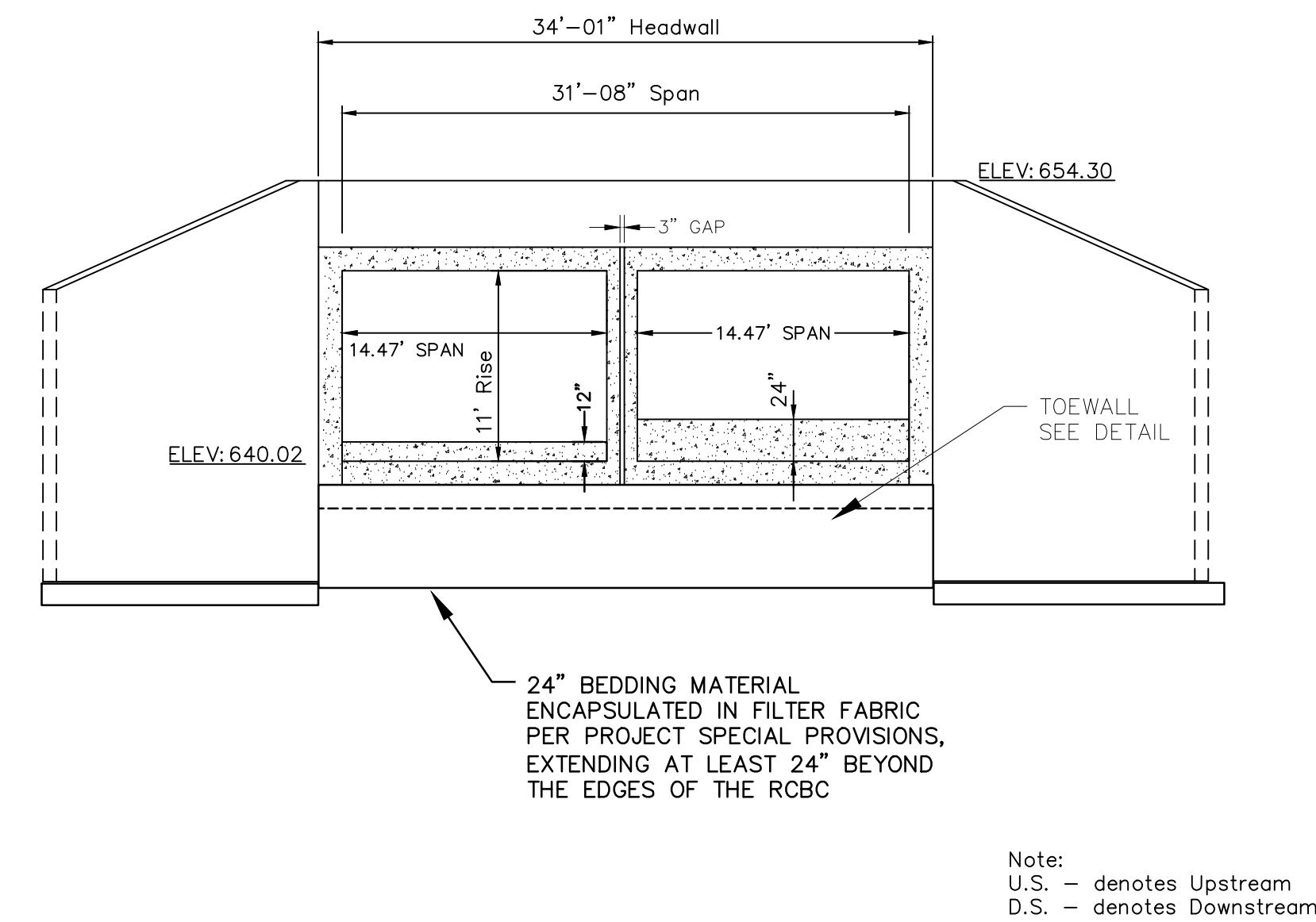
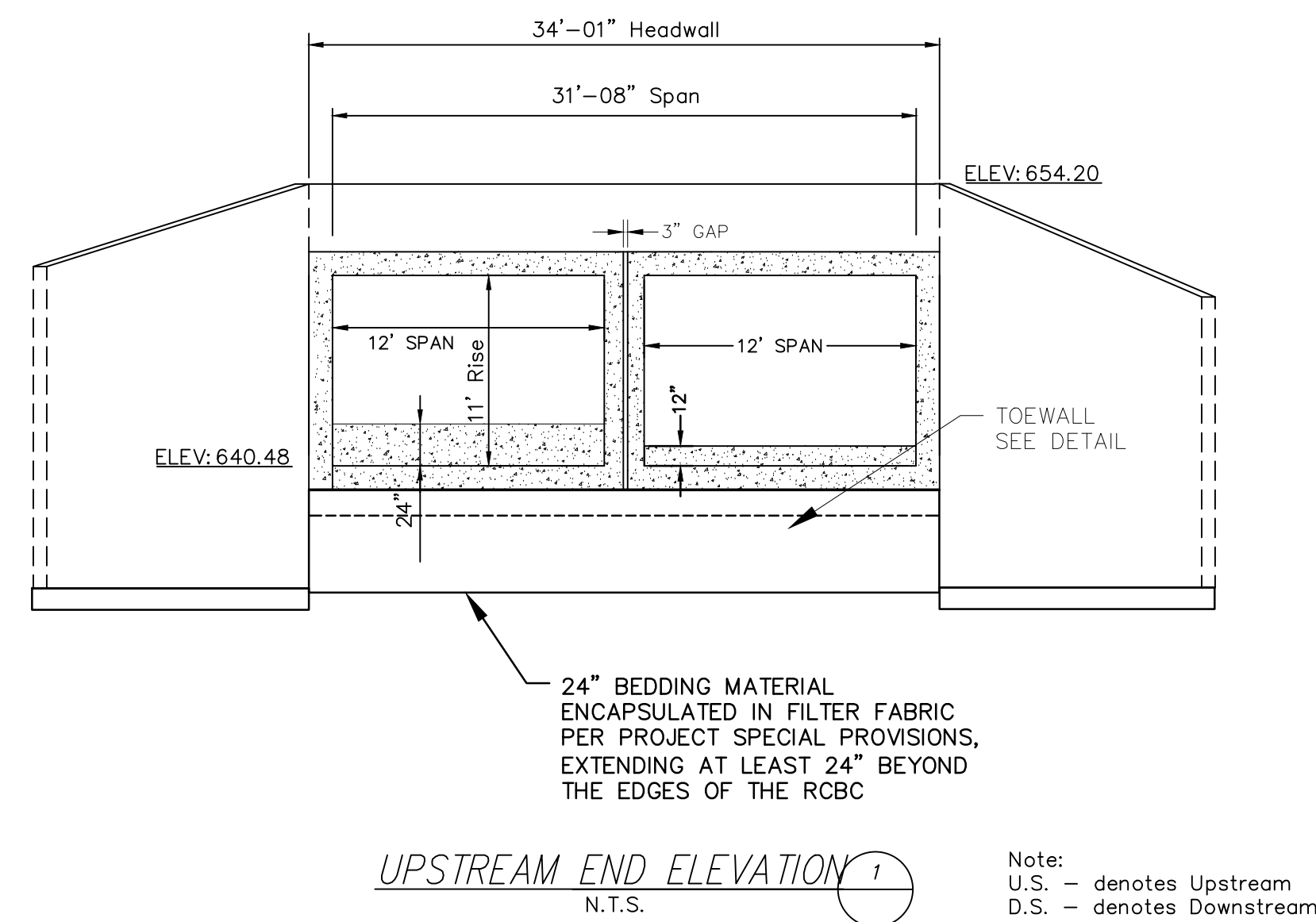
Surveyor's Seal

COUNTRY CLUB DR.
CULVERT REPLACEMENT
EROSION CONTROL DETAILS
PROJECT # : 2021-043

[illegible]

DESIGNED BY: CGZ
DRAWN BY: BCC
CHECKED BY: EAB
SCALE: AS SHOWN
DATE: 07/01/22
PROJECT NUMBER: 2021-043
SHEET: 20 OF: 27

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NOTE:

1. CULVERT SLAB AND WALL DIMENSIONS ARE PRELIMINARY. FINAL DIMENSIONS TO BE DETERMINED BY CULVERT STRUCTURAL DESIGNER.

Carolina Garcia Zaracilla Villa

Professional Engineer's Seal
NORTH CAROLINA
Professional Engineer
SEAL
044150
ENGINEER
CAROLINA GARCIA ZARACILLA VILLA
10/27/22
Engineer's Seal

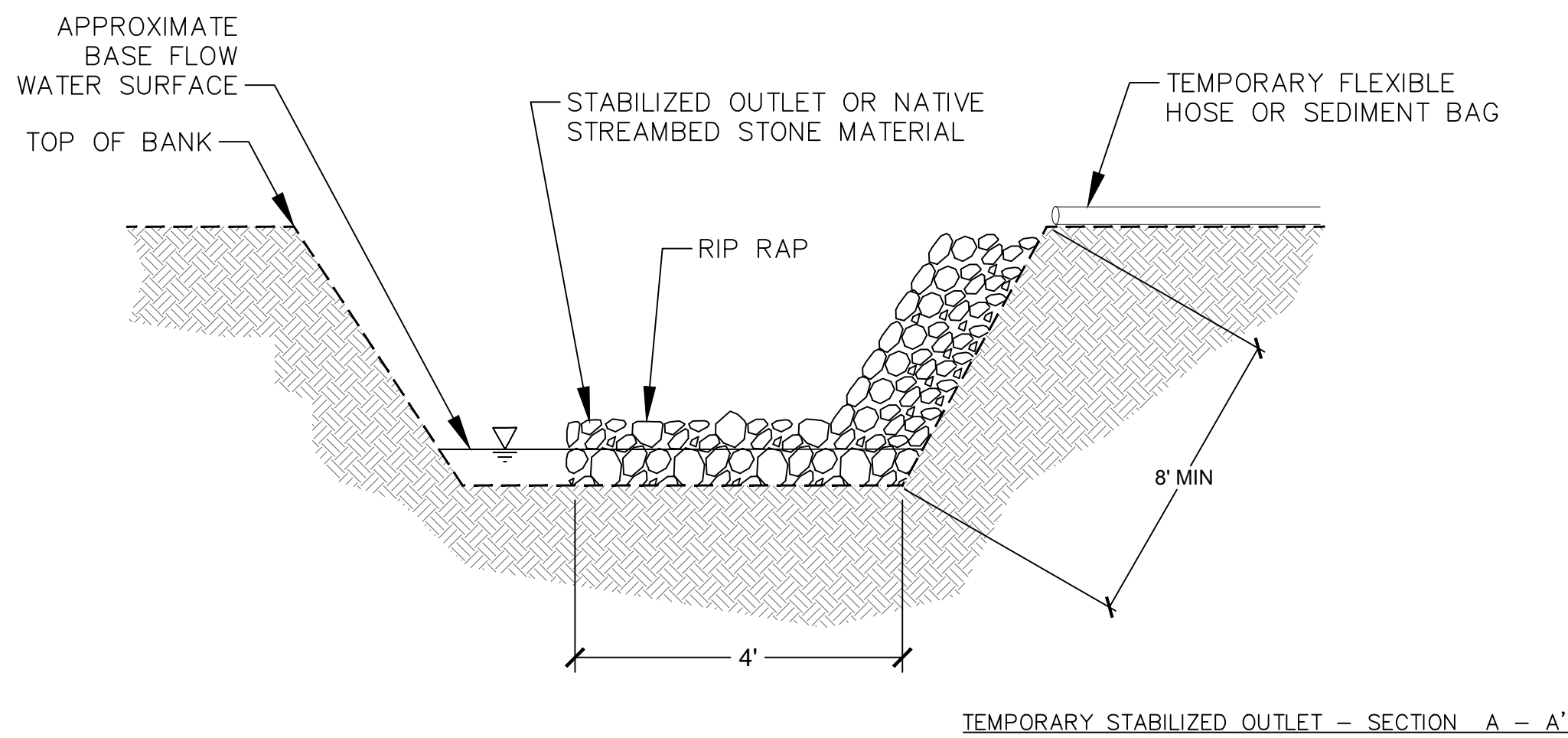
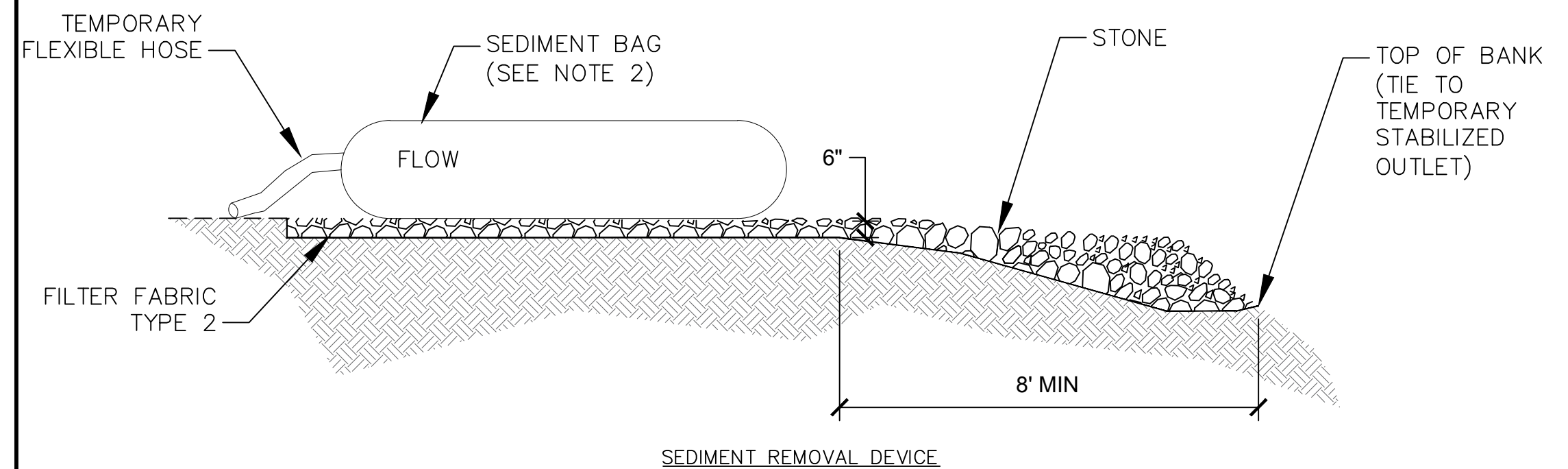
COUNTRY CLUB DR.
CULVERT REPLACEMENT
CULVERT DESIGN DETAILS
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC
DESIGNED BY: CGZ			
DRAWN BY: BCC			
CHECKED BY: EAB			
SCALE: AS SHOWN			
DATE: 07/01/22			
PROJECT NUMBER: 2021-043			
SHEET: 21		OF:	27

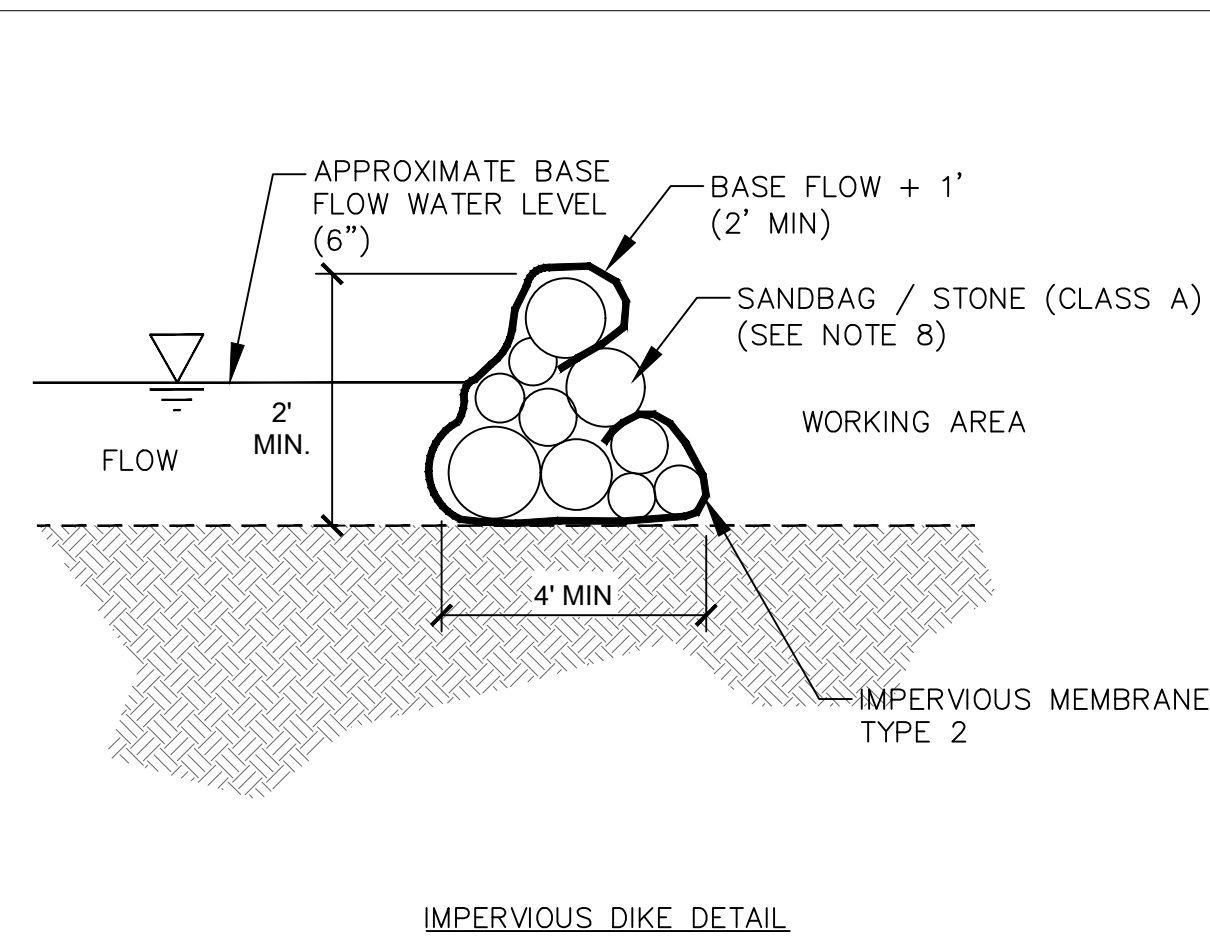
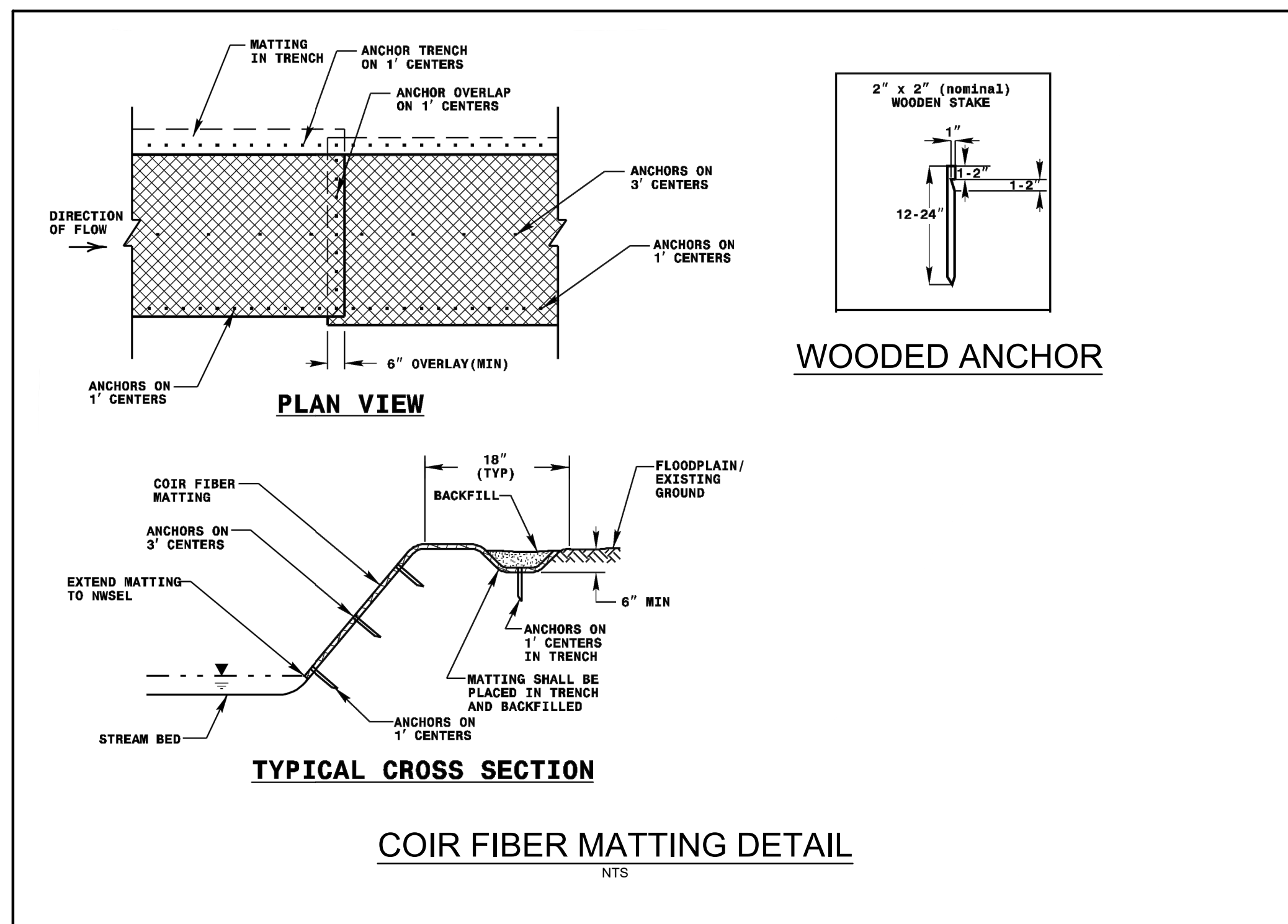
1. SEDIMENT FILTER BAG FABRIC SHALL BE GEOTEXTILE MANUFACTURED FROM WOVEN POLYPROPYLENE OR POLYMER MATERIAL. SEDIMENT FILTER BAG FABRIC MAY BE MADE FROM RECYCLED POLYMER MATERIALS. POLYMER MATERIALS SHALL NOT CONTAIN BIODEGRADABLE FILLER MATERIALS AND SHALL CONFORM TO THE REQUIREMENTS IN ASTM DESIGNATION: E 204
2. SEDIMENT FILLER FABRIC SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:

SPECIFICATION	REQUIREMENTS
GRAB TENSILE STRENGTH (ONE INCH GRIP), POUNDS, MINIMUM IN EACH DIRECTION ASTM DESIGNATION: D 4632 OR APPROPRIATE TEST METHOD FOR SPECIFIC POLYMER	255
ELONGATION, PERCENT, MINIMUM IN EACH DIRECTION ASTM DESIGNATION: D 4632 OR APPROPRIATE TEST METHOD FOR SPECIFIC POLYMER	15
PERMITTIVITY, 1/SEC., MINIMUM ASTM DESIGNATION: D 4491	1.5
FLOW RATE, GALLONS PER MINUTE PER SQUARE FOOT MINIMUM ASTM DESIGNATION: D 4491	200
ULTRAVIOLET STABILITY, PERCENT TENSILE STRENGTH RETAINED AFTER 500 HOURS, MINIMUM ASTM DESIGNATION: D 4355 (XENON-ARC LAMP AND WATER SPRAY WEATHERING METHOD)	80

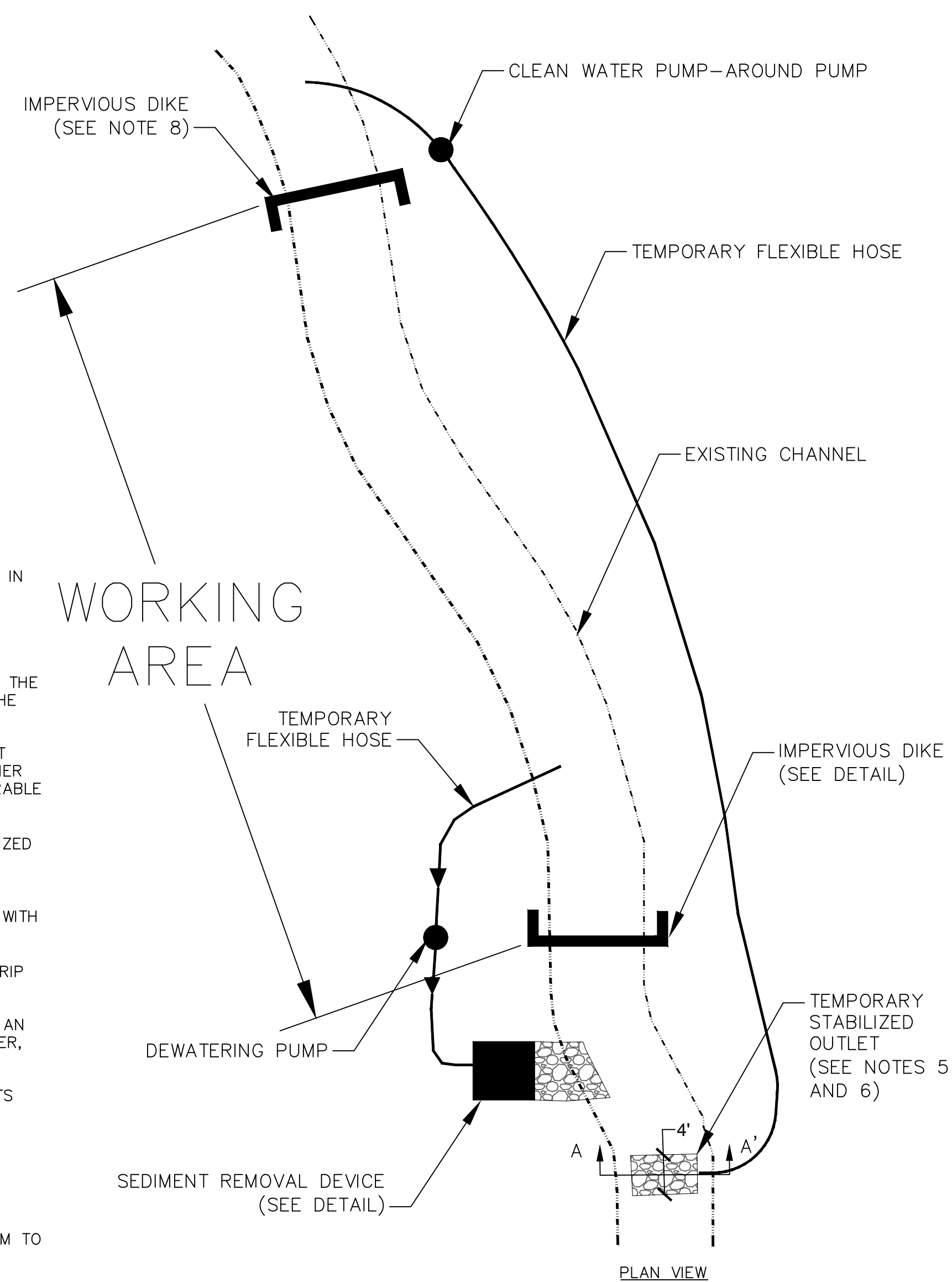
3. THE SEDIMENT FILTER BAG SHALL BE 10"X12"X1.5" (MIN) AND SHALL BE COMPLETE WITH LIFTING HOOPS AND PUMP STRAPS ATTACHED AT THE BOTTOM TO FACILITATE REMOVAL OF SEDIMENT.
4. LIFTING STRAPS, SHOULD BE PLACED UNDER THE DEWATERING SEDIMENT FILTER BAG TO FACILITATE REMOVAL AFTER USE.
5. THE DEWATERING SEDIMENT FILTER BAG ON A LEVEL STABILIZED AREA OVER DENSE VEGETATION/STRAW, OR GRAVEL (IF INCREASED DRAINAGE SURFACE AREA IS NEEDED)
6. INSERT DISCHARGE HOSE FROM PUMP INTO THE DEWATERING SEDIMENT FILTER BAG TO PREVENT WATER FROM FLOWING OUT AND TIGHTLY SECURE WITH ATTACHED STRAP TO PREVENT WATER FROM FLOWING OUT OF THE UNIT WITHOUT BEING DISPOSED.
7. REPLACE THE UNIT WHEN ONE HALF (1/2) FULL OF SEDIMENT OR WHEN SEDIMENT HAS REDUCED THE FLOW RATE OF THE PUMP DISCHARGE TO AN IMPRACTICAL RATE.
8. REMOVE THE UNIT AND SEDIMENT FROM ENVIRONMENTALLY SENSITIVE AREA AND WATERWAYS AT THE APPROVED DISPOSAL SITE. OPEN OR SLIT THE UNIT, REMOVE SEDIMENT AND GRADE, SMOOTHLY INTO EXISTING TOPOGRAPHY. DISPOSE OF THE DEWATERED SEDIMENT FILTER BAG, AT AN APPROPRIATE RECYCLING OR SOLID WASTE FACILITY.



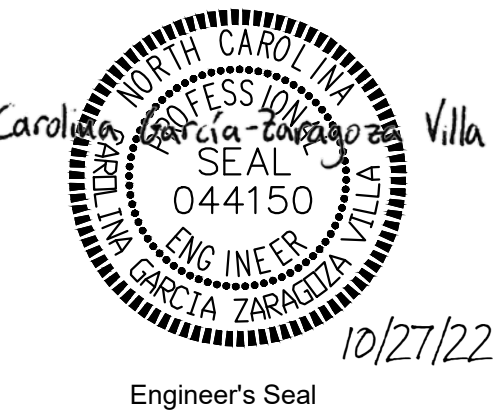
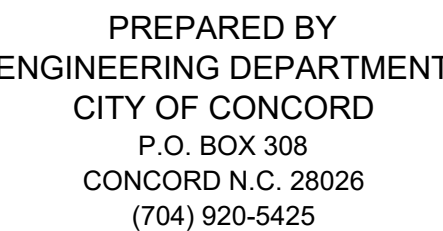
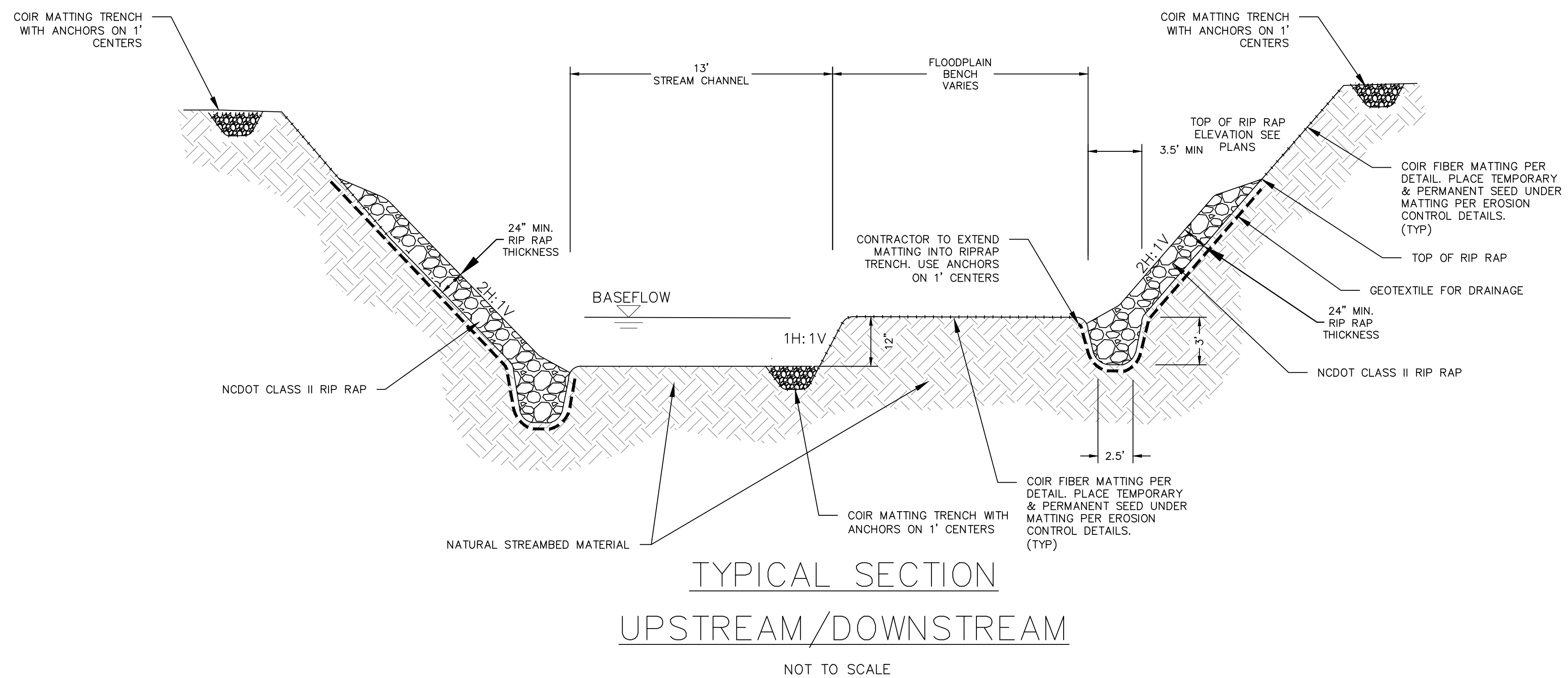
NTS



3. ALL CHANNEL WORK INVOLVING EXCAVATION SHALL BE PERFORMED IN DRY CONDITIONS OR IN CHANNEL SECTIONS ISOLATED BY IMPERVIOUS DIKES AND KEPT DE-WATERED.
2. THE CONTRACTOR SHALL NOT DISTURB MORE AREA THAN CAN BE STABILIZED THE SAME WORKING DAY.
3. PUMP-AROUND PUMP AND HOSE SHALL ADEQUATELY CONVEY BASEFLOW AS SPECIFIED BY THE DESIGNER. DE-WATERING PUMP SHALL ADEQUATELY DE-WATER THE WORKING AREA AT THE DOWNSTREAM IMPERVIOUS DIKE.
4. GRAVITY-BASED GEOTEXTILE BAG FILTERS SHALL BE USED TO COLLECT SILT AND SEDIMENT FROM WORK AREA DEWATERING. THE DESIGNER MAY SPECIFY A SEDIMENT BASIN OR OTHER SEDIMENT CONTROL MEASURE IN LIEU OF A SEDIMENT BAG IF SITE CONDITIONS ARE FAVORABLE (I.E. - TREES WILL NOT BE IMPACTED FOR BASIN EXCAVATION, ETC.).
5. EFFLUENT FROM CLEAN WATER PUMP AROUND MAY BE DISCHARGED DIRECTLY INTO STABILIZED OUTLET (NO SEDIMENT REMOVAL DEVICE REQUIRED).
6. A STABILIZED OUTLET SHALL BE USED TO CONTROL THE EFFLUENT FROM ALL PUMPING OPERATIONS. THE DESIGNER SHALL SPECIFY ALL MATERIALS AND DIMENSIONS ASSOCIATED WITH STABILIZED OUTLETS.
7. FILTER FABRIC AS SPECIFIED BY THE DESIGNER SHALL BE USED UNDERNEATH ALL STONE/RIP RAP PLACED FOR SEDIMENT BAGS, STABILIZED OUTLETS, SPLASH PADS.
8. IMPERVIOUS DIKES SHALL BE CONSTRUCTED TO ISOLATE THE IN-STREAM WORKING AREA. AN IMPERVIOUS FABRIC MEMBRANE AND SAND BAGS OR STONE, AS SPECIFIED BY THE DESIGNER, SHALL BE USED TO CREATE THE DIKES.
9. STREAM AREAS IMPACTED DUE TO SITE DEWATERING ACTIVITIES SHALL BE REGRADED TO ITS PRECONSTRUCTION CONTOURS AND REVEGETATED WITH APPROPRIATE NATIVE SPECIES.
10. THE WORK SEQUENCE IN PUMP-AROUND OPERATIONS PROCEEDS TYPICALLY AS FOLLOWS:
 - A. INSTALL SEDIMENT REMOVAL DEVICE AND TEMPORARY STABILIZED OUTLETS AT THE DOWNSTREAM END OF WORKING AREA.
 - B. INSTALL PUMP-AROUND PUMP AND FLEXIBLE HOSE.
 - C. INSTALL UPSTREAM IMPERVIOUS DIKE AND BEGIN PUMPING (CLEAN WATER) DOWNSTREAM TO STABILIZED OUTLET.
 - D. INSTALL DOWNSTREAM IMPERVIOUS DIKE AND DE-WATERING PUMP.
 - E. PERFORM CHANNEL WORK IN ACCORDANCE WITH THE PLANS IN THE WORKING AREA.
 - F. DE-WATER THE WORKING AREA (AS NEEDED) INTO THE SEDIMENT REMOVAL DEVICE AND TEMPORARY STABILIZED OUTLET.
 - G. UPON COMPLETION OF WORK, REMOVE ANY SEDIMENT ACCUMULATION BEHIND IMPERVIOUS DIKES.
 - H. REMOVE DOWNSTREAM AND THEN UPSTREAM DIKES AND ALL PUMPS AND HOSE.
 - I. SEED AND MULCH ALL DISTURBED AREAS PER THE PLANTING PLAN.



- NTS



COUNTRY CLUB DR.
CULVERT REPLACEMENT
STREAM STANDARD DETAILS
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION	BY
0	09/22/22	FINAL, FOR CONSTRUCTION	BCC
1	10/07/22	ADDRESSING COMMENTS	BCC
2	10/27/22	FINAL, FOR BIDDING PURPOSES	BCC

DESIGNED BY: CGZ

DRAWN BY: BCC

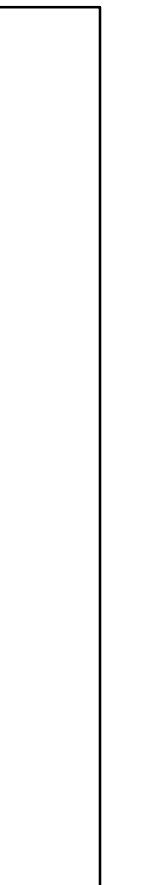
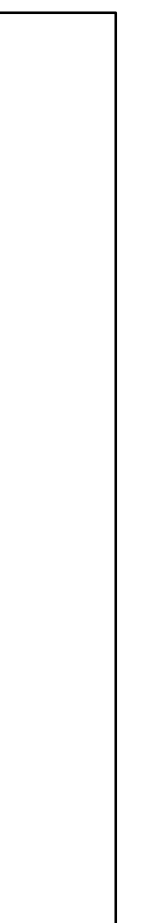
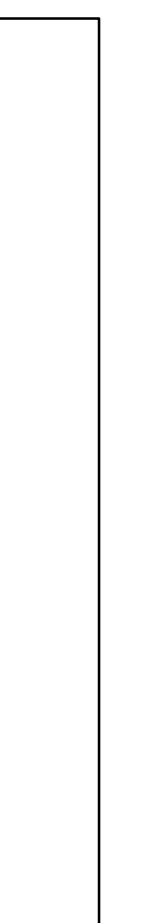
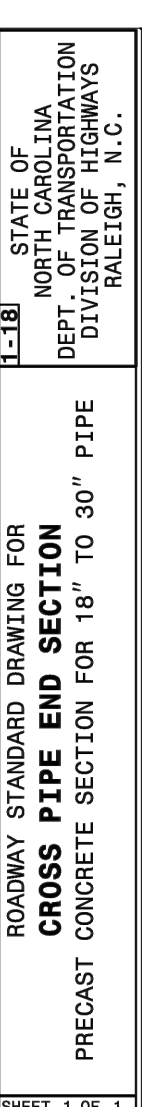
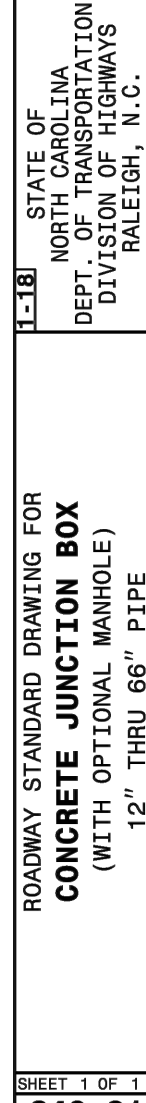
CHECKED BY: EAB

SCALE: AS SHOWN

DATE: 07/01/22

PROJECT NUMBER: 2021-043

SHEET: 22 OF: 27



Carolina Garcia Zaragaza Villa

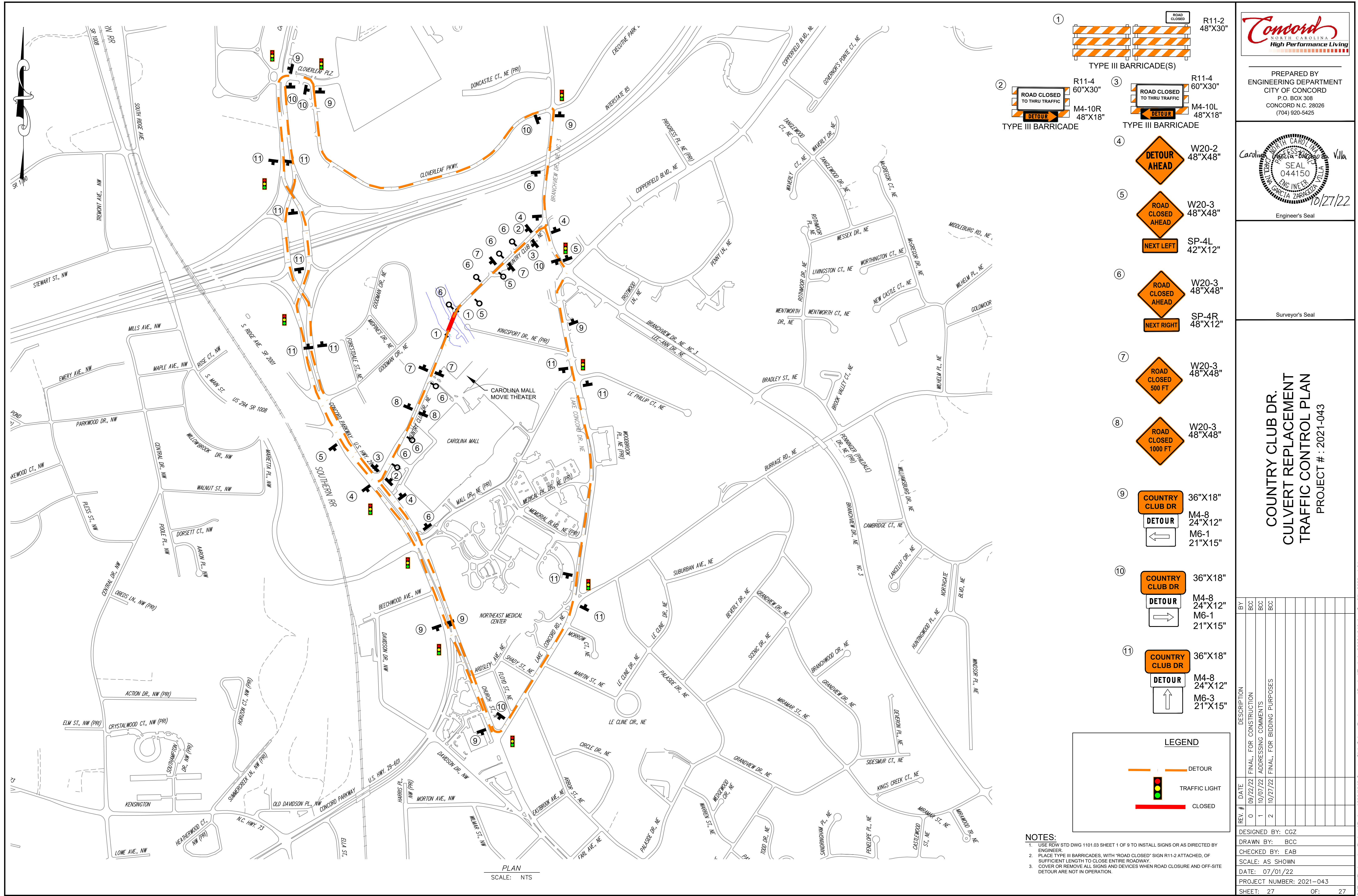
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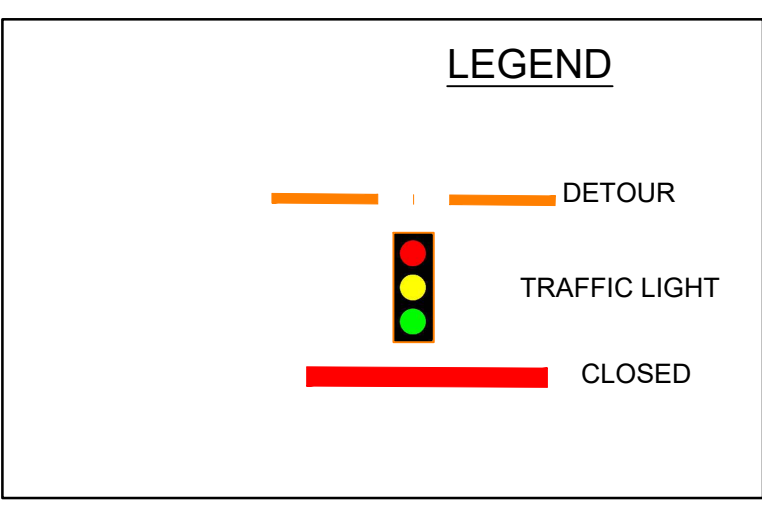
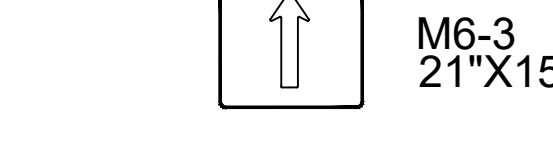
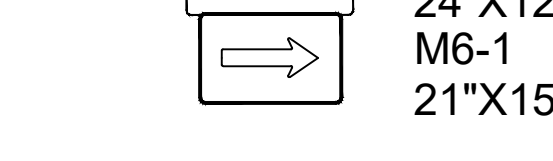
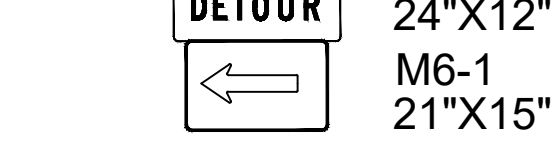
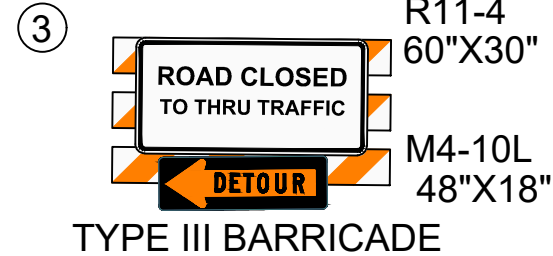
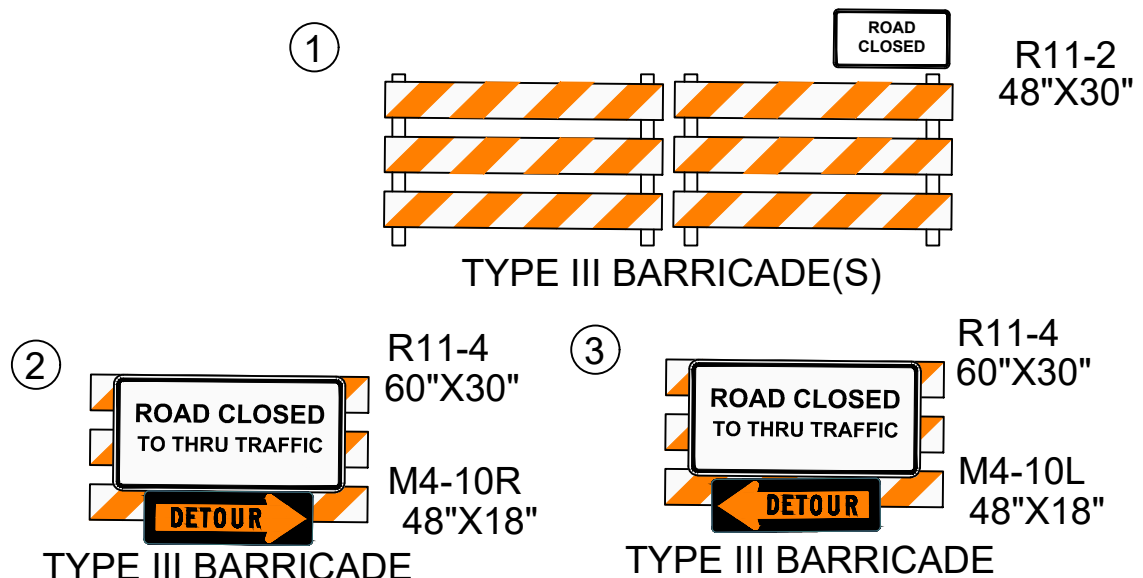
PROJECT #: 20121-043

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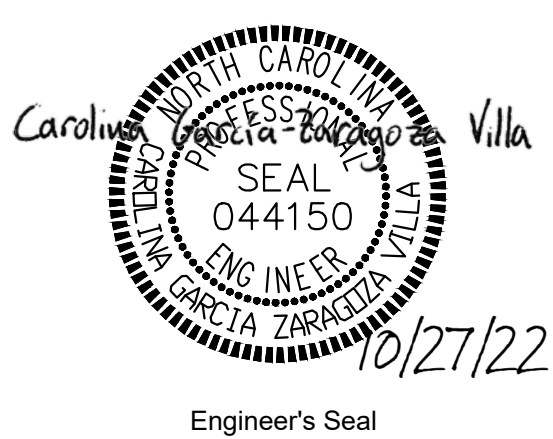
PLAN
SCALE: NTS



NOTES:
1. USE ROW STD DWG 1101.03 SHEET 1 OF 9 TO INSTALL SIGNS OR AS DIRECTED BY ENGINEER.
2. PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.
3. COVER OR REMOVE ALL SIGNS AND DEVICES WHEN ROAD CLOSURE AND OFF-SITE DETOUR ARE NOT IN OPERATION.



PREPARED BY
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(704) 920-5425



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COUNTRY CLUB DR.
CULVERT REPLACEMENT
TRAFFIC CONTROL PLAN
PROJECT # : 2021-043

REV. #	DATE	DESCRIPTION
0	09/22/22	FINAL, FOR CONSTRUCTION
1	10/07/22	ADDRESSING COMMENTS
2	10/21/22	FINAL, FOR BIDDING PURPOSES
DESIGNED BY:	CGZ	
DRAWN BY:	BCC	
CHECKED BY:	EAB	
SCALE:	AS SHOWN	
DATE:	07/01/22	
PROJECT NUMBER:	2021-043	
SHEET:	27	OF: 27