

#### **CITY OF LEEDS, ALABAMA**

#### PLANNING AND ZONING COMMISSION AGENDA

1412 9th St - Annex

August 11, 2022 @ 5:00 PM

**CALL TO ORDER:** 

**ROLL CALL:** 

**DETERMINATION OF QUORUM:** 

#### APPROVAL OF MINUTES FROM PREVIOUS MEETING(S):

1. Approve minutes for June 9, 2022, meeting

**OLD BUSINESS:** 

#### **NEW BUSINESS:**

- SA22-000012 A request by Christal Grammer, Applicant, Annie B. Fulford, Owner, to resurvey Lots 7 & 8 Blk 11 Perdue & Lawrence Survey, TPID 2500201024004000, Jefferson County, AL, Zoned, R-3, Multi-Family District.
- 3. SA22-000014 A request by JT Murphy, Applicant, United State Steel Corp, for a subdivision located at 451 Rex Lake Rd, TPID 2400243000001000, Jefferson County.

**PUBLIC ADDRESS:** 

**OTHER BUSINESS:** 

**CHAIRPERSON'S COMMUNICATION:** 

**ADJOURNMENT:** 

In compliance with the Americans with Disabilities Act, those requiring accommodation for Council meetings should notify the City Clerk's Office at least 24 hours prior to the meeting at 205-699-2585.

#### File Attachments for Item:

1. Approve minutes for June 9, 2022, meeting



#### **CITY OF LEEDS, ALABAMA**

#### PLANNING AND ZONING COMMISSION MINUTES

1412 9th St - Annex

June 09, 2022 @ 5:00 PM

#### **CALL TO ORDER:**

5:01 PM

#### **ROLL CALL:**

**PRESENT** 

Commissioner Ken Mudd Commissioner Mike Cauble Commissioner Eddie Cook Commissioner Roland Isbell Commissioner Brad Watson Commissioner Kelly Washburn

#### ABSENT

Commissioner Dave Mackey

#### **DETERMINATION OF QUORUM:**

Quorum is present

#### APPROVAL OF MINUTES FROM PREVIOUS MEETING(S):

- Approval of minutes for March 10, 2022, meeting.
   Approved as presented.
- Approval of minutes for April 14, 2022, meeting.
   Approved as presented.

#### **OLD BUSINESS:**

None.

#### **PUBLIC ADDRESS:**

None.

#### **OTHER BUSINESS:**

None.

#### **NEW BUSINESS:**

3. Administrative - Amendment to R-5, Garden Home District / Delete R-6 Patio Home District Discussion regarding the proposed amendment between the board members.

4. PZ2022-06-01 - Pre-submittal Meeting

Applicant was not present.

Ray Pelham of 7025 Briarwood Ln spoke against any zoning changes.

Motion made to close public hearing by Commissioner Mudd, Seconded by Commissioner Watson.

Voting Yea: Commissioner Mudd, Commissioner Cauble, Commissioner Cook, Commissioner Isbell, Commissioner Watson, Commissioner Washburn

Public hearing closed.

CHAIRPERSON'S COMMUNICATION:	
None.	
ADJOURNMENT:	
5:27 PM	
Mr. Eddie Cook, Chairman	Mrs. Kelly Washburn, Secretary

#### **File Attachments for Item:**

2. SA22-000012 - A request by Christal Grammer, Applicant, Annie B. Fulford, Owner, to resurvey Lots 7 & 8 Blk 11 Perdue & Lawrence Survey, TPID 2500201024004000, Jefferson County, AL, Zoned, R-3, Multi-Family District.

# OTICE OF PUBLIC HEARING

City of Leeds, Alabama Planning and Zoning Commission

# Application for Subdivision PERDUE & LAWRENCE RESURVEY

#### **APPLICATION**

An application for subdivision plat approval has been filed with the City of Leeds Planning and Zoning Commission for "PERDUE & LAWRENCE RESURVEY". This proposed subdivision consists of 1.

#### PLANNING AND ZONING COMMISSION

The Planning and Zoning Commission is vested with the responsibility and authority of determining conformity with the City of Leeds Subdivision Regulations

CASE #: SA22-000012
APPLICANT NAME: Christal Grammer

PROPERTY OWNER: FULFORD ANNIE B & 2500201024004000

CASE ADDRESS: 1250 VIVIAN ST; LEEDS, AL 35094

**NOTICE IS HEREBY GIVEN** that the Planning and Zoning Commission will hold a public hearing on the proposed preliminary plat. The hearing is scheduled on.

Date: 08/11/2022 Time: 5:00 p.m.

Place: Leeds Annex Meeting Room

1412 9th St Leeds, AL 35094

**Public Information:** Any interested persons or their representative may appear at the meeting and comment on the application. Written comments may also be mailed to the Commission.

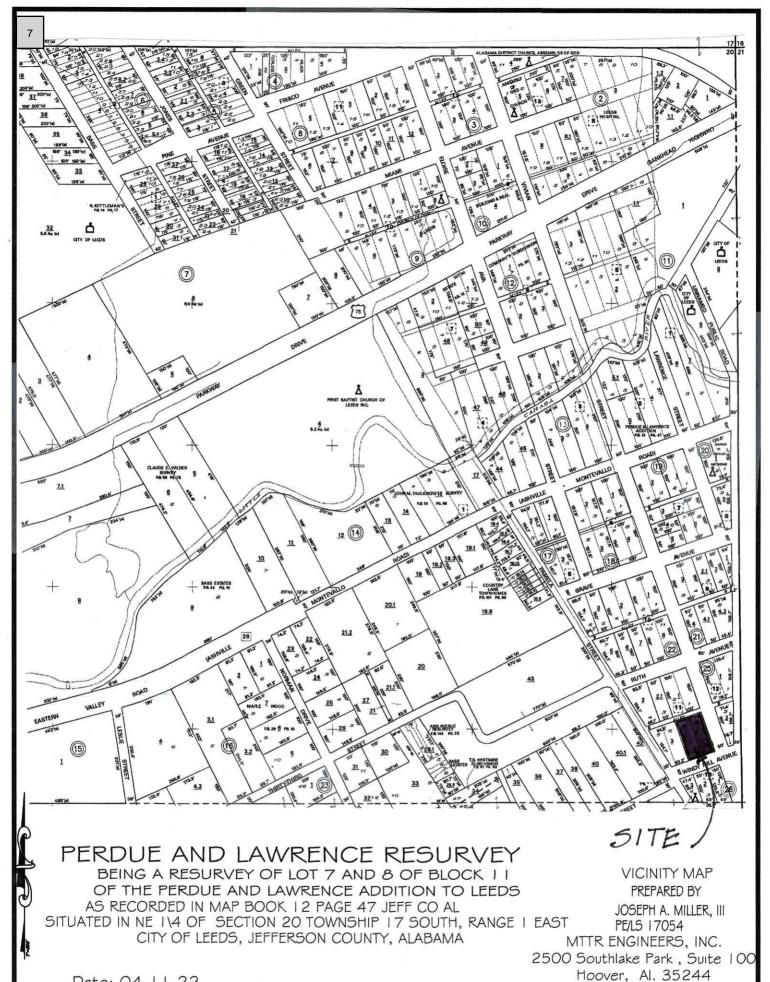
For more information about the application and related issues or to schedule an appointment:

Contact Person: Brad Watson Phone: 205-699-0907

E-mail: development@leedsalabama.gov

#### **Mailing Address:**

City of Leeds Planning and Zoning commission 1404 9th Street Leeds, AL 35094



TELEPHONE (205) 320-0114

Date: 04.11.22

#### **File Attachments for Item:**

3. SA22-000014 - A request by JT Murphy, Applicant, United State Steel Corp, for a subdivision located at 451 Rex Lake Rd, TPID 2400243000001000, Jefferson County.

# OTICE OF PUBLIC HEARING

City of Leeds, Alabama Planning and Zoning Commission

#### Application for Subdivision

## The Parcel 15 Project for U.S. Steel Corporation

#### **APPLICATION**

An application for subdivision plat approval has been filed with the City of Leeds Planning and Zoning Commission for "The Parcel 15 Project for U.S. Steel Corporation". This proposed subdivision consists of 0.

#### PLANNING AND ZONING COMMISSION

The Planning and Zoning Commission is vested with the responsibility and authority of determining conformity with the City of Leeds Subdivision Regulations

CASE #: SA22-000014
APPLICANT NAME: JT Murphy

PROPERTY OWNER: UNITED STATES STEEL CORP

TAX PARCEL ID#S: 2400243000001000

CASE ADDRESS: 451 REX LAKE RD; LEEDS, AL 35094

**NOTICE IS HEREBY GIVEN** that the Planning and Zoning Commission will hold a public hearing on the proposed preliminary plat. The hearing is scheduled on.

Date: 08/11/2022 Time: 5:00 p.m.

Place: Leeds Annex Meeting Room

1412 9th St Leeds, AL 35094

**Public Information:** Any interested persons or their representatives may appear at the meeting and comment on the application. Written comments may also be mailed to the Commission.

For more information about the application and related issues or to schedule an appointment:

Contact Person: Brad Watson Phone: 205-699-0907

E-mail: development@leedsalabama.gov

#### **Mailing Address:**

City of Leeds Planning and Zoning commission 1404 9th Street Leeds, AL 35094

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# CONSTRUCTION DOCUMENTS

FOR

# THE PARCEL 15 PROJECT (HIGHWALL AND PUBLIC ACCESS ROAD)

IN LEEDS, ALABAMA

# OWNER/DEVELOPER:

U.S. STEEL CORPORATION 610 Preserve Parkway, Suite 200 Hoover, Al 35226



United States Steel

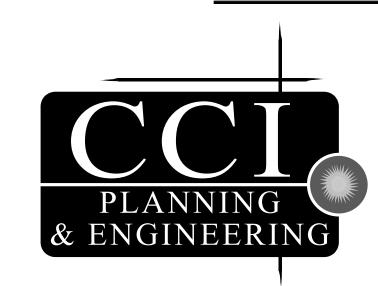
# Birmingham Race Course Casino Exit 31 The Outlet TO BIRMINGHAM Shops of Grand River PARKWAYDR Exit 140 PROJECT SITE CITY OF LEEDS Barber Motorsports Park VICINITY MAP

N.T.S.

# INDEX OF SHEETS

**DESCRIPTION** SHEET NUMBER C-0.00 ... COVER SHEET PRELIMINARY PLAT (SHEET 1 OF 2) PRELIMINARY PLAT (SHEET 2 OF 2) C-1.00 .. PROJECT NOTES C-2.00 .. OVERALL LAYOUT PLAN C-3.00 .. HIGHWALL GRADING PLAN C-3.01. HIGHWALL INITIAL EROSION AND SEDIMENT CONTROL PLAN C-3.02HIGHWALL INTERMEDIATE/FINAL EROSION AND SEDIMENT CONTROL PLAN C-4.00 .. GEOMETRIC LAYOUT (STA 0+00 TO 26+00) C-4.01 GEOMETRIC LAYOUT (TO 26+00 END) C-5.00 .. TYPICAL SECTIONS C-6.00 .. PLAN AND PROFILE (STA 0+00 TO STA 11+50) C-6.01 PLAN AND PROFILE (STA 11+50 TO STA 23+50) C-6.02 PLAN AND PROFILE (STA 23+50 TO END) C-7.00 .. PAVING, SIGNAGE, AND STRIPING PLAN (STA 0+00 TO 23+00) C-7.01. PAVING, SIGNAGE, AND STRIPING PLAN (TO 23+00 END) C-8.00 .. UTILITY PLAN C-8.01 SANITARY SEWER PLAN AND PROFILE (S-1) C-8.02. SANITARY SEWER SECTIONS AND DETAILS C-9.00 .. STORM PROFILES C-10.00. EROSION AND SEDIMENT CONTROL PLAN (STA 0+00 TO 13+50) - INTIAL C-10.01 EROSION AND SEDIMENT CONTROL PLAN (STA 13+50 TO END) - INITAL C-10.02. EROSION AND SEDIMENT CONTROL PLAN (STA 0+00 TO 13+50) - FINAL C-10.03. EROSION AND SEDIMENT CONTROL PLAN (STA 13+50 TO END) - FINAL C-10.04. EROSION CONTROL SECTIONS AND DETAILS C-10.05. EROSION CONTROL SECTIONS AND DETAILS **CROSS SECTIONS** C-11.00 - C-11.18 ...... SECTIONS AND DETAILS C-12.00. C-12.01 SECTIONS AND DETAILS ATTACHMENT PARCEL 15 FORCE MAIN (BY ENGINEERS OF THE SOUTH)

# PREPARED BY:



3528 Vann Road Suite 105 Birmingham, AL 35235 Phone: (205) 655-1991 www.ccipe.com

# LIST OF CONTACTS

OWNER
U.S. STEEL CORPORATION
Phone: (205) 588-2814
Contact: Jammie Cowden
610 Preserve Parkway, Suite 200
Hoover, Al 35226

OWNER'S REPRESENTATIVE
CORNERSTONE MANAGEMENT GROUP
Phone: (205) 261-8171
Contact: Jeff Boyd
3963 Butler Springs Way
Hoover, AL 35226

CIVIL ENGINEERING
CIVIL CONSULTANTS, INC.
Phone: (205) 655-1991
Contact: J.T. Murphy, P.E.
Email: jmurphy@ccipe.com
3528 Vann Road, Suite 105
Birmingham, Alabama 35235

SEWER

JEFFERSON COUNTY ENVIRONMENTAL
SERVICES DEPARTMENT
Phone: (205) 325-5496
Contact: Ben Pate or Emily Kemp
716 Richard Arrington Jr. Blvd N, Suite A 300
Birmingham, Alabama 35203

SURVEYOR
ARRINGTON ENGINEERING
Phone: (205) 985-9315
Contact: Dave Arrington
2032 Valleydale Road
Birmingham, AL 35244

ENVIRONMENTAL ENGINEERING

SPECTRUM ENVIRONMENTAL SERVICES
Phone: (205) 664-2000
Contact: Steve Castleman
85 Spectrum Cove
Alabaster, Alabama 35007

WATER

LEEDS WATER WORKS BOARD
Phone: (205) 966-0940
Contact: Bill Morris
8651 Thorton Avenue
Leeds, Alabama 35094

ISSUE FOR PERMIT

07/20/2022

# **GENERAL NOTES**

- 1. ALL NECESSARY PERMITS AND APPROVALS FROM AGENCIES GOVERNING THIS WORK SHALL BE SECURED PRIOR TO BEGINNING CONSTRUCTION.
- 2. ALL CONSTRUCTION SHOWN SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SPECIFICATIONS FOR THIS PROJECT AND SHALL CONFORM TO ALL CODES. ORDINANCES. RESTRICTIONS. AND STANDARDS OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE SITE. CONTRACTOR WILL ONLY PERFORM CONSTRUCTION ACTIVITIES BASED ON PLANS AND SPECIFICATIONS WHICH HAVE BEEN PROPERLY ISSUED FOR CONSTRUCTION PURPOSES.
- 3. ALL UTILITIES WITHIN THE ROADWAY SHALL BE BACKFILLED WITH STONE.
- 4. CONTRACTOR SHALL COORDINATE THE INSTALLATION, ADJUSTMENT OR RELOCATION OF ALL UTILITIES WITH THE APPROPRIATE UTILITY COMPANIES AND HIS WORK. ALL UNDERGROUND UTILITIES (WATER, SANITARY SEWER, STORM SEWER, ELECTRICAL CONDUIT, IRRIGATION SLEEVES, ETC. SHALL BE IN PLACE PRIOR TO THE PLACEMENT OF BASE COURSE MATERIAL.
- 5. CONTRACTOR IS RESPONSIBLE FOR PROTECTION OF ALL PROPERTY CORNERS AND BENCHMARKS. ALL PROPERTY PINS OR BENCHMARKS ELIMINATED OR DAMAGED DURING CONSTRUCTION SHALL BE REPLACED BY CONTRACTOR
- 6. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO LAND DISTURBING ACTIVITIES. EROSION CONTROL DEVICES SHALL BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION UNTIL PERMANENT
- 7. JOB SITE SAFETY IS THE RESPONSIBILITY OF THE CONTRACTOR.
- 8. THE LIMITS OF DISTURBANCE SHALL INCLUDE ALL AREAS DISTURBED BY GRADING OPERATIONS. THE CONTRACTOR IS RESPONSIBLE FOR PROTECTING ALL AREAS OUTSIDE THE LIMITS OF DISTURBANCE. ANY DAMAGE CAUSED BY CONSTRUCTION SHALL BE REPAIRED TO ITS ORIGINAL CONDITION.
- 9. IN THE EVENT THAT A CONFLICT ARISES BETWEEN THE SITE CONSTRUCTION DRAWINGS AND STRUCTURES, THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE ENGINEER AND SHALL NOT PROCEED WITH CONSTRUCTION OF ANY AREA WHERE A CONFLICT HAS BEEN DISCOVERED UNTIL SUCH TIME AS THE CONFLICT HAS BEEN CLEARLY RESOLVED.
- 10. THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING ALL NECESSARY PROTECTIVE DEVICES, TRAFFIC CONTROL, AND FOR THE IMPLEMENTATION OF ALL SAFETY MEASURES INCLUDING, BUT NOT LIMITED TO: THE PROTECTION OF LIFE, PROPERTY, AND SITE IMPROVEMENTS; THE PROTECTION OF EXISTING UTILITY LINES AND STRUCTURES; AND THE PROVISION AND COORDINATION OF ALL TEMPORARY TRAFFIC CONTROL EFFORTS AND MEASURES.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR THE SMOOTH TRANSITION BETWEEN ALL NEW CONSTRUCTION AND ALL EXISTING CONDITIONS. ALL TRANSITION GRADES, CONSTRUCTION MATERIALS, AND FINISHES SPECIFICALLY AT DRIVEWAY ENTRANCE LOCATIONS. ARE SUBJECT TO APPROVAL BY THE OWNER AND ENGINEER.
- 12. WATER AND SEWER TO BE ON OPPOSITE SIDES OF STREET. ALL OTHER UTILITIES TO BE LOCATED AWAY FROM THESE TRENCHES.
- 13. BOUNDARY SURVEY WAS PREPARED BY ARRINGTON ENGINEERING AND SURVEYING, LLC.
- 14. ALL WORK SHOWN SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SITE WORK SPECIFICATIONS FOR THIS PROJECT AND SHALL CONFORM TO ALL CODES, ORDINANCES, RESTRICTIONS, AND STANDARDS OF ALL GOVERNING AGENCIES HAVING JURISDICTION OVER THE SITE. CONTRACTOR WILL ONLY PERFORM CONSTRUCTION ACTIVITIES BASED ON PLANS AND SPECIFICATIONS WHICH HAVE BEEN PROPERLY ISSUED FOR CONSTRUCTION PURPOSES.
- 15. ALL CONSTRUCTION TO MEET OSHA SAFETY GUIDELINES. SAID SAFETY PROCEDURES SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR
- 16. EROSION CONTROL DEVICES SHALL BE INSTALLED PRIOR TO LAND DISTURBING ACTIVITIES. EROSION CONTROL DEVICES SHALL BE INSPECTED DAILY AND BE PROPERLY MAINTAINED THROUGHOUT CONSTRUCTION UNTIL PERMANENT GROUND COVER IS ESTABLISHED.
- 17. DO NOT SCALE CRITICAL DIMENSIONS FROM THIS DRAWING, CONTACT ENGINEER FOR SPECIFIC CLARIFICATIONS NEEDED.
- 18. CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING PROPER TRAFFIC CONTROL, FOR PUBLIC SAFETY IN ACCORDANCE WITH ALABAMA DOT, CITY OF LEEDS AND MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

# SITE NOTES

- 1. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PLANS AND SITE WORK SPECIFICATIONS AND SHALL COMPLY WITH APPLICABLE FEDERAL, STATE AND LOCAL CODES.
- 2. TOPOGRAPHIC AND BOUNDARY SURVEY, PROPERTY LINES, LEGAL DESCRIPTION, EXISTING UTILITIES, OUTSTANDING PHYSICAL FEATURES AND EXISTING STRUCTURE LOCATIONS WERE PROVIDED BY SURVEY BY OTHERS.
- 3. CIVIL CONSULTANTS, INC. WILL NOT BE HELD RESPONSIBLE FOR ACCURACY OF THE SURVEY
- 4. ALL DIMENSIONS AND RADII ARE TO THE EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- 5. ALL STRIPED OR CURBED RADII SHALL BE FIVE (5') FEET TO THE EDGE OF PAVEMENT, UNLESS OTHERWISE NOTED.
- 6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIR OF ANY DAMAGE TO ANY EXISTING IMPROVEMENTS. ONSITE OR OFFSITE. SUCH AS PAVEMENT, UTILITIES, STORM DRAINAGE, ETC, THE REPAIR MUST BE APPROVED BY THE ENGINEER AND BE EQUAL TO OR BETTER THAN EXISTING CONDITIONS.
- 7. ANY UNANTICIPATED CONDITIONS ENCOUNTERED DURING THE CONSTRUCTION PROCESS SHALL BE IDENTIFIED TO THE OWNER/ENGINEER IMMEDIATELY.
- 8. ALL CONCRETE SHALL BE 3,500 PSI @ 28 DAY COMPRESSIVE STRENGTH UNLESS STATED OTHERWISE
- 9. THE CONTRACTOR SHALL PROVIDE THE OWNER WITH A LIST OF SUB-CONTRACTORS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
- 10. ALL DIMENSIONS ON THIS DRAWING ARE WITHIN +/- 0.01'. UNLESS OTHERWISE NOTED.
- 11. IF FOR ANY REASON A WRITTEN DIMENSION DOES NOT COINCIDE WITH A SCALED DIMENSION CONTACT THE ENGINEER

# **WATER NOTES**

- 1. ALL WATER MAIN AND SERVICE LATERAL INSTALLATION SHALL BE PER LEEDS WATER WORKS BOARD STANDARDS AND SPECIFICATIONS.
- 2. ALL WATER MAINS AND LATERALS SHALL BE CONSTRUCTED WITH A MINIMUM OF 36 INCHES OF COVER.
- 3. COORDINATE WITH CITY LEEDS WATER WORKS BOARD FIELD REPRESENTATIVE TO INSURE ANY ADJUSTMENTS REQUIRED TO THE MAIN INSTALLATION PLANS ARE MADE
- 4. WATER SERVICE SHOULD BE THE FIRST UTILITY INSTALLED ONCE ROADWAY SUBGRADE IS ESTABLISHED AND AFTER STORM DRAINAGE SYSTEM AND SANITARY SEWER SYSTEM IS COMPLETE. CONTRACTOR SHALL NOTIFY WATER AUTHORITY A MINIMUM OF 2 TO 3 WEEKS PRIOR TO BEING READY FOR INSTALLATION OF THE WATER MAINS.
- 5. ALL WATER MAINS, FITTINGS, VALVES, AND SERVICE MATERIALS SHALL BE INSTALLED PER LEEDS WATER WORKS BOARD STANDARDS AND SPECIFICATIONS.
- 6. SUBMITTALS OF ALL MATERIALS SHALL BE SENT TO THE LEEDS WATER WORKS BOARD GENERAL MANAGER FOR APPROVAL PRIOR TO INSTALLATION.

# STORM DRAINAGE NOTES

- 1. STORM PIPE SHALL BE OF THE TYPE NOTED BELOW.
- A. STORM PIPE LARGER THAN 15" AND LOCATED UNDER PAVEMENT SHALL BE REINFORCED CONCRETE PIPE (RCP), CONFORMING TO ASTM C-76, B OR C WALL, CLASS III, (UNLESS NOTED OTHERWISE ON PLAN). JOINTS SHALL BE TONGUE AND GROOVE OR BELL AND SPIGOT, WHICH MUST BE SEALED WITH RUBBER GASKETS CONFORMING TO ASTMC 443 OR FLEXIBLE GASKETS CONFORMING TO AASHTO M 198.
- B. STORM PIPE LOCATED IN DITCH AREAS SHALL BE CORRUGATED PLASTIC PIPE (CPP) UNLESS OTHERWISE NOTED. CPP SHALL BE HP N-12. HP N-12 PIPE SHALL BE WATER TIGHT POLYPROPEYLENE PIPE AS MANUFACTURED BY ADVANCED DRAINAGE SYSTEMS, INC. MEETING THE REQUIREMENTS OF ASTM F2736, SECTION 4, ASTM F2881, SECTION 5, AND AASHTO MP-21-11, SECTION 6.1 FOR THE RESPECTIVE DIAMETER PIPE BEING USED, OR APPROVED ALTERNATE. BED AND BACKFILL PIPE WITH ALDOT #57 OR #67 PER MANUFACTURER'S REQUIREMENTS.
- 3. ALL PIPE ENTERING STORM SEWER STRUCTURES SHALL BE GROUTED TO ASSURE THE CONNECTION AT THE STRUCTURE IS WATER TIGHT.
- 4. ALL STORM SEWER MANHOLES SHALL BE PRECAST AND MEET THE SPECIFICATIONS OF ASTM C76.
- 5. ALL STORM SEWER MANHOLES IN PAVED AREAS SHALL BE FLUSH WITH THE PAVEMENT AND SHALL HAVE TRAFFIC BEARING LIDS.
- 6. ALL STORM SEWER MANHOLE LIDS SHALL BE LABELED "STORM SEWER"
- 7. ALL STORM DRAINAGE PIPE AND STRUCTURES SHALL BE CLEANED OF SILT, TRASH AND DEBRIS PRIOR TO DEMOBILIZATION FROM THE SITE

10. ALL HEADWALLS SHALL BE PER ALDOT STANDARD HIGHWAY DRAWINGS. OR PRECAST BY FOLEY PRODUCTS OR APPROVED EQUALIVENT.

- 8. ALL SINGLE OR DOUBLE WING CURB INLETS SHALL BE PER ALDOT STANDARD HIGHWAY DWGS., SPECIAL DWG. NO. I-621- S. CONTRACTOR TO ADJUST INLET STRUCTURE BOTTOMS AS REQUIRED FOR PIPE SIZES AND CONFIGURATION. CONTRACTOR MAY SUBSTITUE ALTERNATE CURB INLET, IF APPROVED BY ENGINEER AND GOVERNING MUNICIPAL AUTHORITY.
- 9. CONTRACTOR IS TO BEGIN STORM DRAINAGE CONSTRUCTION FROM THE MOST DOWN STREAM POINT OF THE SYSTEM.
- 11. ALL HEADWALLS NOTED "IMPACT DISSIPATER TYPE" SHALL BE PER ALDOT STANDARD SPECIFICATIONS OR PRECAST BY FOLEY PRODUCTS OR APPROVED EQUILIVANT
- 12. STORM SEWER CROSSINGS UNDER STREETS TO BE SOLID STONE BACKFILL WITH WEEP HOLES TO INLETS.
- 13. ALL STORM PIPE INSTALLED AT 20% OR GREATER GRADES SHALL HAVE CONCRETE COLLARS INSTALLED EVERY 25 FEET ON CENTERS MINIMUM.
- 14. ALL STORM PIPE INSTALLED WITH LESS THAN 3 FT. OF COVER, SHALL BE BACK FILLED WITH STONE.
- 15. ALL STORM MANHOLES IN GRASSED AREAS SHALL BE FLUSH TO FINISH GRADE.
- 16. ALL DRAINAGE STRUCTURES MAY BE PRE-CAST, OR EQUAL, IF APPROVED BY ENGINEER
- 17. PIPE LENGTH AND SLOPES ARE APPROXIMATE. PIPE LENGTH ARE HORIZONTAL PROJECTIONS AND ARE MEASURED FROM THE MIDDLE OF THE STRUCTURE. DISTANCES ARE ROUNDED TO THE NEAREST WHOLE

# **GRADING NOTES:**

## 1. REFERENCE GENERAL NOTES.

- 2. CLEARING AND GRUBBING LIMITS SHALL INCLUDE ALL AREAS DISTURBED BY GRADING OPERATIONS. ANY CLEARING REQUIRED FOR THIS CONSTRUCTION SHALL BE INCIDENTAL TO THE OVERALL SITE WORK.
- 3. ANY GRADED OR DISTURBED AREAS SHALL HAVE A MINIMUM OF 4" OF TOPSOIL IF REQUIRED BY FIELD CONDITIONS, GEOTECHNICAL/ENGINEER OR REGULATORY AGENCY. ALL GRADED AND DISTURBED AREAS SHALL BE GRASSED BY SEED, MULCH, FERTILIZER, AND WATER APPLIED UNTIL A HEALTHY STAND OF GRASS IS OBTAINED.
- 4. GRADES SHOWN ARE FINISHED PAVEMENT & TOP OF GRASS GRADE ELEVATIONS. FOR SUBGRADE ELEVATIONS, REFERENCE SECTIONS & DETAILS.
- 5. THE CONTRACTOR SHALL CALL APPROPRIATE UTILITY CONTACTS 48 HOURS PRIOR TO EXCAVATION IN AREAS WHERE UTILITIES MAY EXIST
- 6. ANY EXCESS MATERIAL AT THE END OF THE PROPOSED GRADING OPERATIONS, SHALL BE PLACED ON SITE IN AN ACCEPTABLE LOCATION TO OWNER/ENGINEER
- 7. NO SLOPES SHALL BE STEEPER THAN 3-HORIZONTAL TO 1-VERTICAL, UNLESS OTHERWISE NOTED ON THE PLAN OR APPROVED BY ENGINEER.
- 8. THE LOCATION AND ELEVATION OF EXISTING UTILITIES, AS SHOWN ON THESE PLANS, SHOULD NOT BE RELIED ON AS BEING EXACT OR COMPLETE. THE CONTRACTOR SHALL VERIFY HORIZONTAL AND VERTICAL LOCATION OF ALL EXISTING STORM SEWER STRUCTURES. PIPES AND UTILITIES PRIOR TO CONSTRUCTION. ANY DEVIATIONS FROM PLAN INFORMATION SHOULD BE DISCUSSED WITH ENGINEER AND OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL CALL APPROPRIATE UTILITY CONTACTS 48 HOURS PRIOR TO EXCAVATION IN AREAS WHERE UTILITIES MAY EXIST.
- 9. STRIP TOPSOIL FROM THE SITE WHERE EXCAVATION OR GRADING IS INDICATED AND STOCKPILE SEPARATELY FROM OTHER EXCAVATED MATERIAL. WHERE SUFFICIENT SUITABLE EXISTING ON-SITE NATURAL FRIABLE, WELL DRAINED TOPSOIL FREE OF SUBSOIL, STUMPS, ROCKS LARGER THAN 1" DIAMETER, WEEDS, TOXIC SUBSTANCES AND OTHER MATERIAL DETRIMENTAL TO PLANT GROWTHIS NOT AVAILABLE ON SITE CONTRACTOR SHALL PROVIDE BORROW MATERIAL SUITABLE FOR USE AS TOPSOIL. THE AREAS SHALL BE PLANTED AND MULCHED, FERTILIZED AND WATERED AS REQUIRED BY THE LANDSCAPE DESIGN. ROCKS GREATER THAN 1" DIAMETER MUST BE REMOVED. ALL SLOPES AND DISTURBED AREAS NOT COVERED BY BUILDINGS OR PAVEMENT SHALL BE GRADED SMOOTH AND RECEIVE FOUR (4") INCHES OF TOPSOIL. ANY AREAS DISTURBED FOR ANY REASON PRIOR TO FINAL ACCEPTANCE OF THE PROJECT SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- 10. ALL AREAS THAT WILL REQUIRE FILL OR THAT WILL SUPPORT PAVEMENTS SHOULD BE CAREFULLY PROOFROLLED WITH A FULLY LOADED (40,000 LBS. MIN) TANDEM AXLE DUMP TRUCK UNDER THE OBSERVATION OF THE OWNER'S GEOTECHNICAL ENGINEER AT THE FOLLOWING TIMES:
  - 1. AFTER AN AREA HAS BEEN STRIPPED, AND UNDERCUT IF REQUIRED, PRIOR TO THE PLACEMENT OF ANY FILL
  - 2. AFTER GRADING AN AREA TO THE FINISHED SUBGRADE ELEVATION IN A PAVEMENT AREA. 3. AFTER AREAS HAVE BEEN EXPOSED TO ANY PRECIPITATION, AND/OR HAVE BEEN EXPOSED FOR MORE THAN 48 HOURS.
- IF ANY SOFT, YIELDING, RUTTING, PUMPING OR OTHERWISE UNSUITABLE SOILS ARE IDENTIFIED DURING THE PROOFROLLING PROCESS, THEY MUST BE UNDERCUT OR STABILIZED PRIOR TO FILL PLACEMENT PAVEMENT CONSTRUCTION, OR FLOOR SLAB CONSTRUCTION AS DIRECTED BY THE OWNER'S REPRESENTATIVE. ALL UNSUITABLE MATERIAL IDENTIFIED SHALL BE REMOVED AND REPLACED IN ACCORDANCE WITH THE STRUCTURAL FILL SECTION BELOW. ALL UNDERCUT AREAS SHALL BE MEASURED BY THE GEOTECHNICAL ENGINEER AND THE CONTRACTOR AND AN UNDERCUT QUANTITY AGREED UPON IN THE FIELD PRIOR TO BACKFILLING.
- 11. FOLLOWING PROOFROLLING, AREAS WHICH ARE AT GRADE OR ARE TO RECEIVE ADDITIONAL FILL SHALL BE SCARIFIED TO 8" DEPTH MOISTURE CONDITIONED AND RECOMPACTED AS SPECIFIED.
- 12. GRADING CONTRACTOR SHALL GRADE OR "SLICK DOWN" JOB AFTER WATER AND SEWER ARE INSTALLED. THIS FINE GRADING SHALL BE INCIDENTAL TO THE JOB AND SHALL NOT BE CONSIDERED AN EXTRA PAY ITEM.
- 13. IN PAVED AREAS, IF HIGHLYPLASTIC CLAYS ARE ENCOUNTERED, THEY SHOULD BE UNDERCUT TO ONE FOOT BELOW THE PLANNED SUBGRADE ELEVATION. THE UNDERCUT MATERIAL SHALL BE REPLACED WITH STRUCTURAL FILL MEETING THE REQUIREMENTS OF THE STRUCTURAL FILL SECTION BELOW.
- 14. ALL UNDERCUTTING SHALL BE CONDUCTED UNDER THE OBSERVATION OF THE OWNER'S GEOTECHNICAL ENGINEER.
- 15. THE OWNER WILL PROVIDE GEOTECHNICAL TESTING. THE CONTRACTOR SHALL FULLY COOPERATE WITH THE MATERIALS TESTING ENGINEERS RELATIVE TO SOIL COMPACTION, CUTTING AND FILLING OPERATIONS, ETC..
- 16. BLASTING (IF REQUIRED)- CONTRACTOR SHALL COMPLY WITH ALL LAWS, RULES AND REGULATIONS OF ALL GOVERNING AUTHORITIES REGARDING THE USE AND STORAGE OF EXPLOSIVES. THE CONTRACTOR SHALL INDEMNIFY AND HOLD HARMLESS OWNER, ARCHITECT, ENGINEER, OWNER'S REPRESENTATIVE AND THEIR AGENTS AND EMPLOYEES FROM ANY CLAIM ARISING OUT OF THE USE OF SUCH EXPLOSIVES. CARE SHOULD BE TAKEN TO PREVENT DAMAGE TO SURROUNDING PROPERTIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PERFORMING A PRE-BLAST SURVEY OF THE SURROUNDING PROPERTIES AND MONITORING DURING BLASTING ACTIVITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING MEANS AND METHODS FOR ACHIEVING DESIRED RESULTS OF BLASTING ACTIVITIES.
- 17. FILL SLOPES SHOULD BE COMPACTED TO A MINIMUM OF 98% OF THE MAXIMUM DRY DENSITY VALUE (ASTM D-698) ALL THE WAY TO THE EDGE OF THE SLOPE AND SHOULD BE ADEQUATELY BENCHED INTO THE EXISTING HILLSIDE. THIS BENCHING SHOULD BE ACCOMPLISHED BY EXCAVATING HORIZONTALLY TEN (10) FEET ALONG THE HILLSIDE FOR EVERY FIVE (5) FEET IN VERTICAL HEIGHT FORMING A SERIES OF STEPPED BENCHES. FILL SLOPES SHOULD BE OVER STEEPENED FOR COMPACTION & THEN CUT BACK TO FINAL SLOPE.
- 18. ROCK FILL SHALL NOT BE USED IN THE UPPER 24" BELOW FINISHED GRADE.
- 19. CONTRACTOR SHALL SUBMIT ON-SITE BORROW PLAN TO ENGINEER AND OWNER FOR APPROVAL PRIOR TO COMMENCING ANY EARTHWORK ACTIVITIES
- 20. ON-SITE BORROW AREAS SHALL BE GRADED TO DRAIN AT 2% MIN. AND 3H:1V MAX. SLOPES. CONTRACTOR SHALL ESTABLISH TEMPORARY AND PERMANENT EROSION CONTROL MEASURES WHICH SHALL BE A SUBSIDIARY OBLIGATION OF ON-SITE BORROW.
- 21. DUE TO THE PRESENCE OF ROCK OUTCROPS/BOULDERS ON THE SITE, DIFFICULT EXCAVATION COULD BE ENCOUNTERED DURING SITE GRADING OR DURING UTILITY INSTALLATION. IF HARD ROCK IS ENCOUNTERED, IT SHOULD BE UNDERCUT TO A DEPTH OF 1 FOOT BELOW SUBGRADE ELEVATION AND BACKFILLED WTH SUITABLE STRUCTURAL FILL MEETING THE REQUIREMENTS OF THE STRUCTURAL FILL SECTION BELOW.

#### 22. STRUCTURAL FILL:

#### REQUIREMENTS:

SOIL TYPE	USCS CLASSIFICATION	PROPERTY REQUIREMENTS	PLACEMENT LOCATION
SAND AND GRAVEL	GW, GP, GM, SW, SP, SM, OR COMBINATIONS	MAXIMUM 2" PARTICLE SIZE	NOT SUITABLE FOR STRUCTURAL FILL
CLAY	CL, SC, GC	LL<50, PI<25, DRY UNIT WEIGHT>100 pcf	ALL LOCATIONS AND DEPTHS
CLAY	СН	LL<50, PI<25, DRY UNIT WEIGHT>100 pcf	ONLY FO RE-USE OF ONSITE EXCAVATION AT DEPTH GREATER THAN 3 FEET BELOW SUBGRADE IN BUILDING AREAS AND 1 FOOT BELOW TOP OF SUBGRADE IN PAVEMENT AREAS. NO IMPORT CH SOIL IS PERMITTED.
SILT	ML, MH	N/A	NOT SUITABLE FOR STRUCTURAL FILL
ON-SITE SOILS	CL, CH	AS LISTED ABOVE	AS LISTED ABOVE

## PLACEMENT REQUIREMENTS:

FLACEMENT REQUIREMENTS.	
SPECIFICATION	REQUIREMENT
LIFT THICKNESS	MAXIMUM 8-INCH LOOSE LIFTS WHEN COMPACTED WITH LARGE HEAVY COMPACTION EQUIPMENT. MAXIMUM 6-INCH LOOSE LIFTS WHEN COMPACTED WITH LIGHTWEIGHT COMPACTION EQUIPMENT (THINNER LIFTS MAY BE REQUIRED IN CONFINED LOCATIONS.)
DENSITY	MINIMUM OF 98 PERCENT OF MAXIMUM DRY DENSITY AS DEFINED BY ASTM D698 AT ALL LOCATIONS AND DEPTHS.
MOISTURE	+/- 2 PERCENT OF OPTIMUM MOISTURE AS DEFINED BY ASTM D698 FOR COHESIVE SOILS. FOR COHESIONLESS SOILS WITH GREATER THAN 12 PERCENT PASSING THE US STANDARD NO. 200 SIEVE +/- 3 PERCENT OF OPTIMUM MOISTURE AS DEFINED ABOVE. MOISTURE REQUIREMENT IS WAIVED FOR COHESIONLESS SOILS WITH LESS THAN 12 PERCENT PASSING THE NO.200 SIEVE.
DENSITY TESTINTG FREQUENCY	ONE TEST PER 5,000 SF IN PAVEMENT AREAS WITH MINIMUM OF 3 TESTS PER LIFT. ONE TEST PER 200 FEET OF TRENCH BACKFILL WITH MINIMUM OF 2 TEST PER LIFT.

## 23. FILL SLOPES SHALL BE OVERFILLED AND THEN CUT BACK TO REQUIRED GEOMETRY

- 24. THE CONTRACTOR IS RESPONSIBLE FOR THE FINISHED GRADING INCLUDING PLACEMENT OF SOILS AS NECESSARY TO ACHIEVE THE FINISHED GRADES INDICATED ON THE GRADING PLANS. ALL SURFACES SHALL BE SMOOTH WITH PROPER TRANSITIONS BETWEEN GRADIENTS. ALL FINISHED TOPSOIL ELEVATIONS SHALL BE A MINIMUM OF 1" BELOW THE FINISHED ELEVATION OF ADJACENT WALKS AND BACK OF CURB UNLESS OTHERWISE NOTED.
- 25. CONTRACTOR SHALL TEST FILL MATERIAL IN ACCORDANCE WITH ASTM C136 FOR CONFORMANCE TO ASTM D2487 GRADATION LIMITS. CONTRACTOR SHALL PROVIDE DENSITY TESTING FOR SUBGRADES PRIOR TO FILL PLACEMENT AT THE RATE OF ONE TEST PER 2,500 SF OR FRACTION THEREOF. DENSITY TESTING SHALL BE IN ACCORDANCE WITH ASTM D1556 OR ASTM D6938. CONTRACTOR SHALL PROVIDE DENSITY TESTS TO OWNER'S REPRESENTATIVE WITHIN 48 HOURS OF TEST. IN THE EVENT OF A FAILED TEST, CONTRACTOR SHALL BE RESPONSIBLE FOR ALL REMEDIAL EFFORTS AND COST TO OBTAIN SPECIFIED COMPACTION RATES IN THE AREA OF THE FAILED TEST INCLUDING SUBSEQUENT TESTING TO VERIFY ADEQUATE COMPACTION.
- 26. IMMEDIATELY PRIOR TO CONSTRUCTION PAVEMENTS, THE SUBGRADE SHALL BE RESTORED TO A PROPERLY COMPACTED AND MOISTURE CONDITION (98% OF STANDARD PROCTOR WITHIN SPECIFIED LIMITS OF OPTIMUM MOISTURE CONTENT). THE CONTRACTOR SHALL MAINTAIN PROPER SURFACE DRAINAGE DURING GRADING AT THE SITE. IF THE SOILS BECOME WET AFTER BEING EXPOSED IT WILL BECOME NECESSARY TO UNDERCUT OR RECONDITION THE SOILS AT THE CONTRACTOR'S EXPENSE.
- 27. IF GROUNDWATER IS ENCOUNTERED AT ANY POINT DURING CONSTRUCTION, CONTRACTOR SHALL STOP WORK AND CONTACT OWNER AND ENGINEER IMMEDIATELY

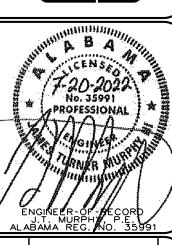


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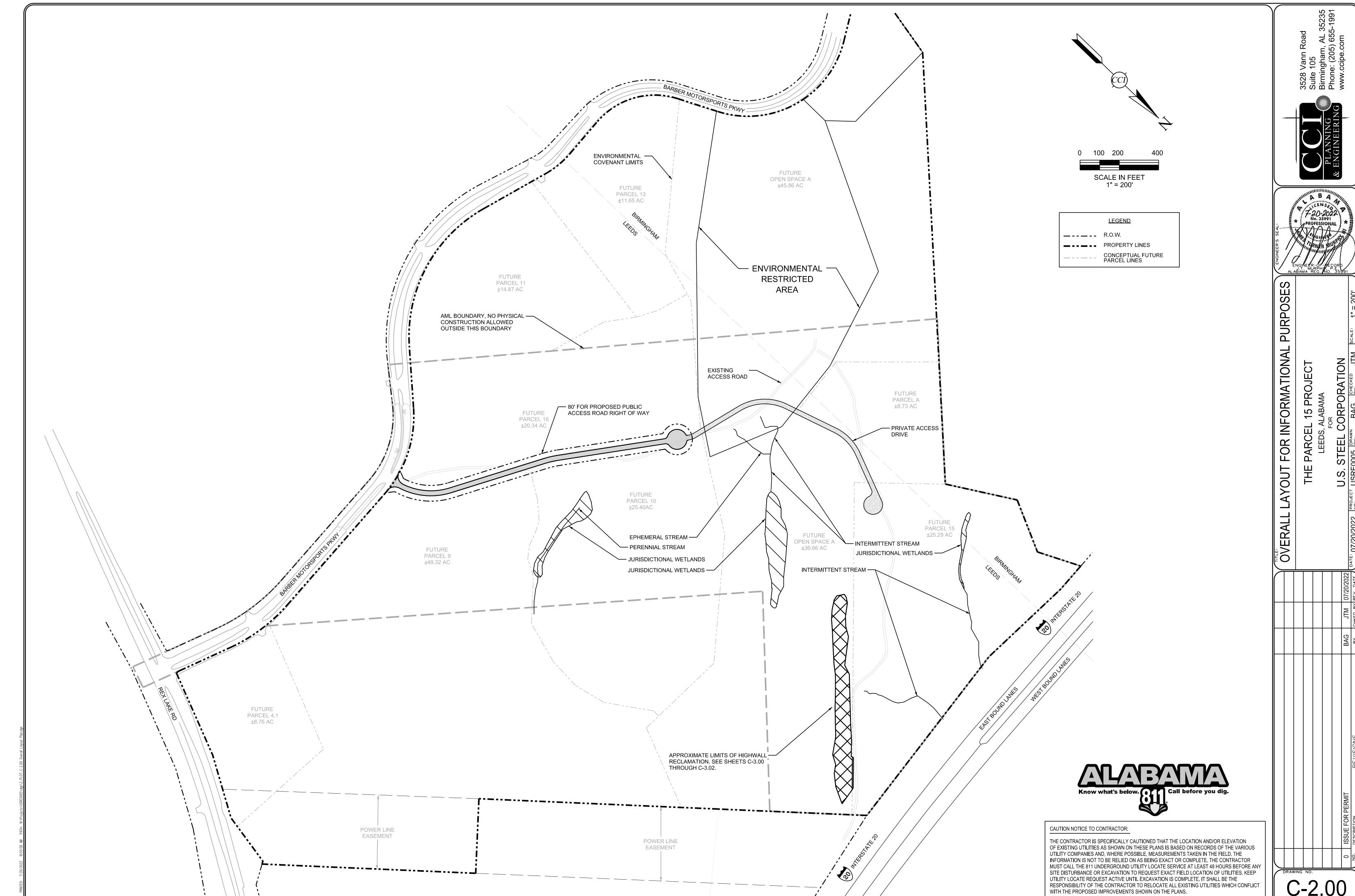


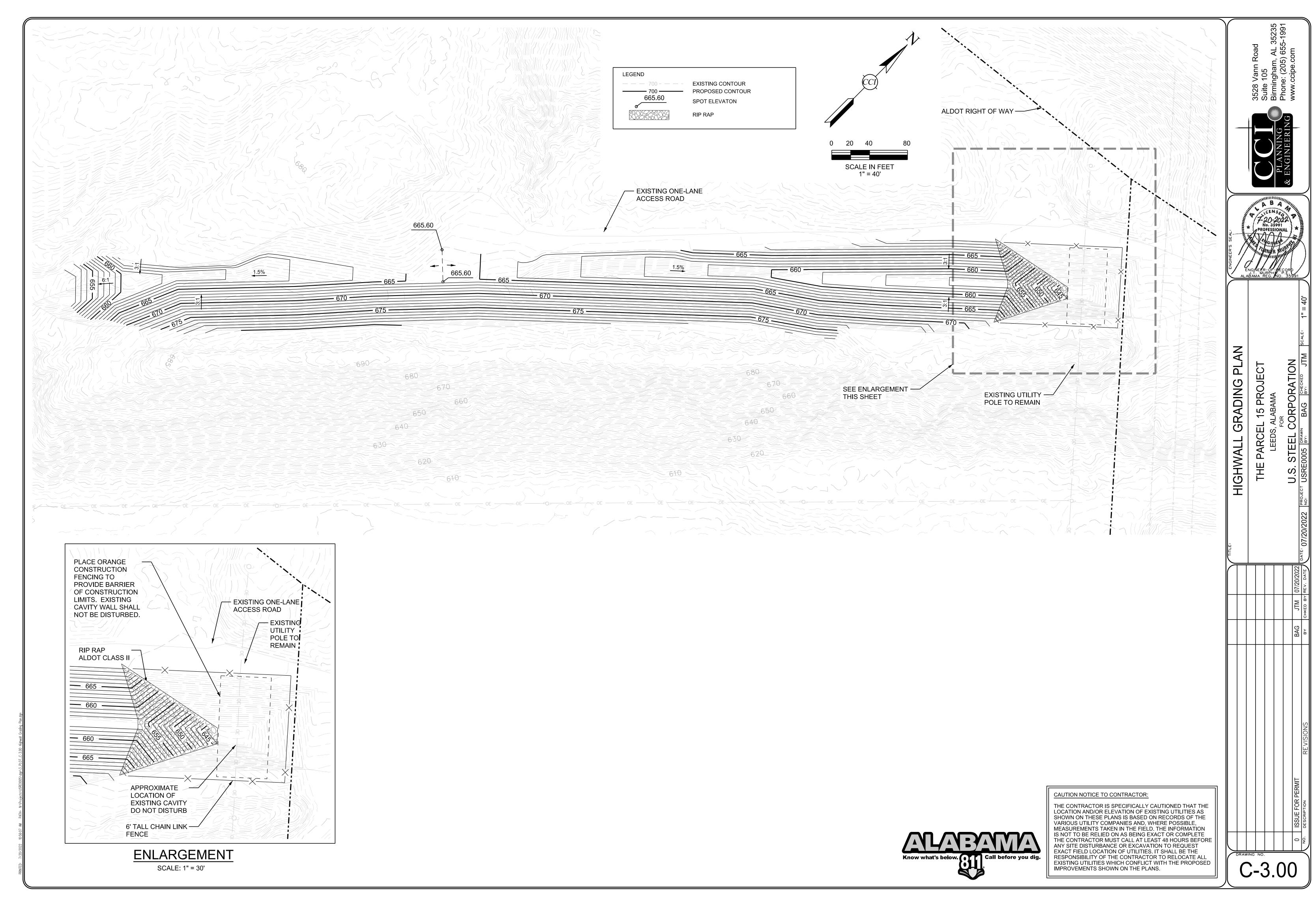




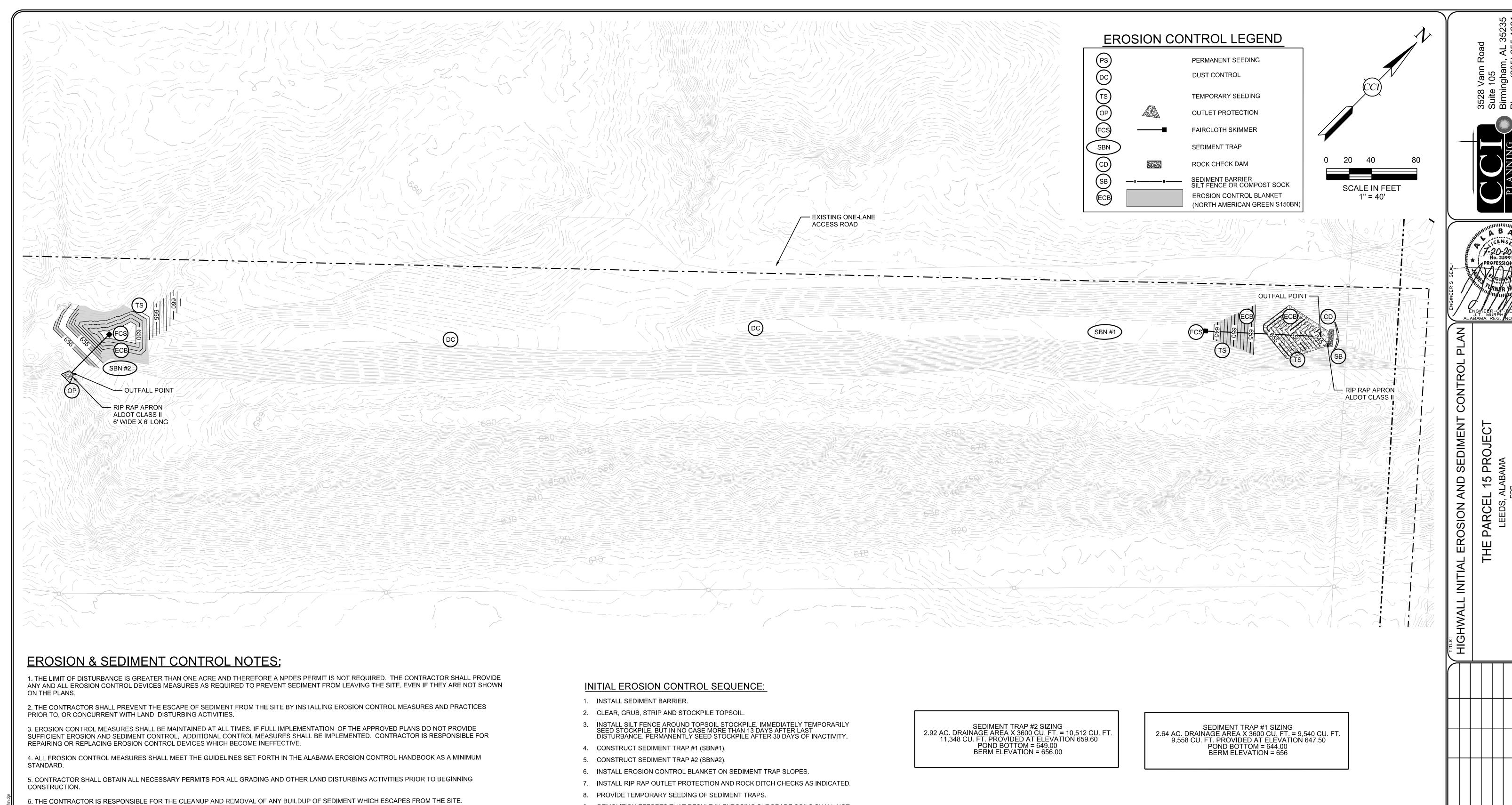
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- 7. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING SILT FROM THE SITE (IF NOT REUSABLE ON SITE) AND FOR CORRECTING HORIZONTAL AND
- VERTICAL ALIGNMENT OF SLOPES & DITCHES, IF NECESSARY, AT THE COMPLETION OF CONSTRUCTION.

  8. CONTRACTOR IS RESPONSIBLE FOR CLEANING SILT AND DEBRIS OUT OF ALL STORM DRAINAGE STRUCTURES UPON THE COMPLETION OF
- CONSTRUCTION.
- DISTURBED AREAS HAVE BEEN STABILIZED.

  10. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE ACTIVITY SHALL BE DEMARCATED FOR THE DURATION OF THE CONSTRUCTION ACTIVITY. NO LAND DISTURBANCE SHALL OCCUR OUTSIDE THE APPROVED LIMITS

9. THE CONTRACTOR IS RESPONSIBLE FOR REMOVING ALL TEMPORARY EROSION CONTROL MEASURES AFTER CONSTRUCTION IS COMPLETE AND ALL

- INDICATED ON THE APPROVED PLANS.

  11. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED.
- 12. ALL EROSION AND SEDIMENTATION CONTROL DEVICES SHALL CONFORM TO THE LATEST EROSION AND SEDIMENTATION CONTROL REGULATIONS FOR THE STATE.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH ANY FINES LEVIED AGAINST THE SITE FOR VIOLATIONS OF EROSION CONTROL REGULATIONS.
- 14. THE CONTRACTOR IS RESPONSIBLE FOR THE PROPER HANDLING AND STORAGE OF HAZARDOUS MATERIALS SUCH AS: PAINTS, FUELS FERTILIZERS, POISONS, ETC., DURING CONSTRUCTION. APPROPRIATE SPILL PREVENTION SHOULD BE IMPLEMENTED TO REDUCE THE POSSIBILITY OF CONTAMINATING STORM WATER RUNOFF.
- 17. CONTRACTOR TO PROVIDE TEMPORARY GROUND COVER FOR ALL AREAS WITH EXPOSED SOIL WHICH WILL NOT BE DISTURBED BY GRADING OPERATIONS FOR A PERIOD OF 14 DAYS OR MORE.

18. CONTRACTOR SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL DEVICES AFTER EACH RAINFALL AND PERFORM NECESSARY REPAIRS AND MAINTENANCE. IN AREAS WHERE INITIAL EROSION CONTROL IS INEFFECTIVE, ADDITIONAL CONTROL MEASURES SHALL BE IMPLEMENTED.

9. DEMOLITION EFFORTS THAT RESULT IN EXPOSING SUBGRADE SOILS SHALL NOT COMMENCE UNTIL AFTER ALL INITIAL EROSION CONTROL MEASURES ARE FULLY IMPLEMENTED.

Know what's below. Call before you dig.

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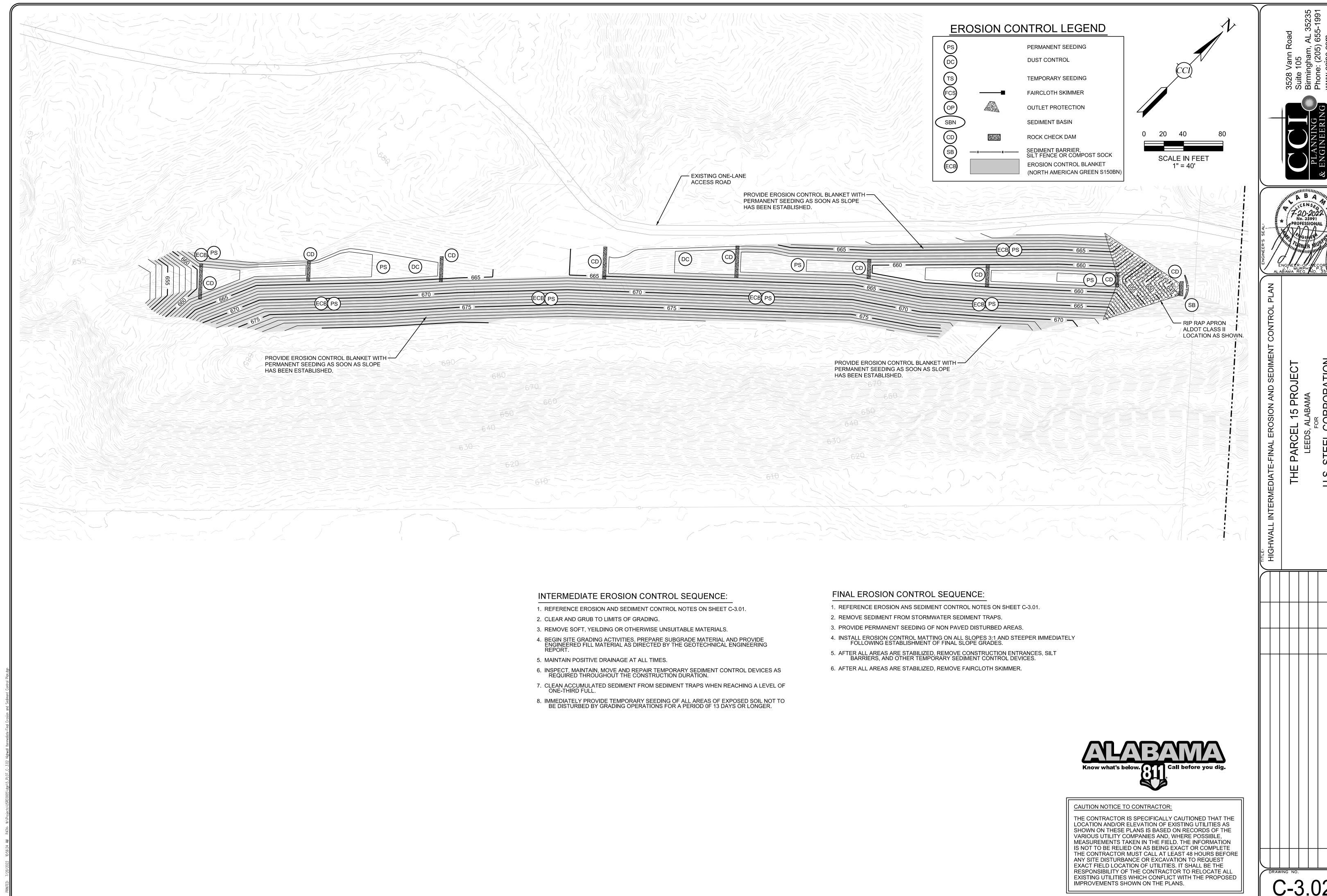
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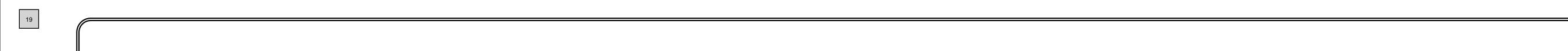
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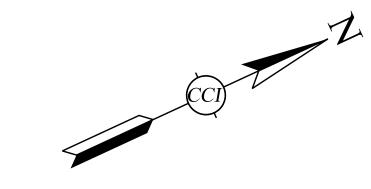
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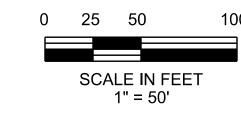
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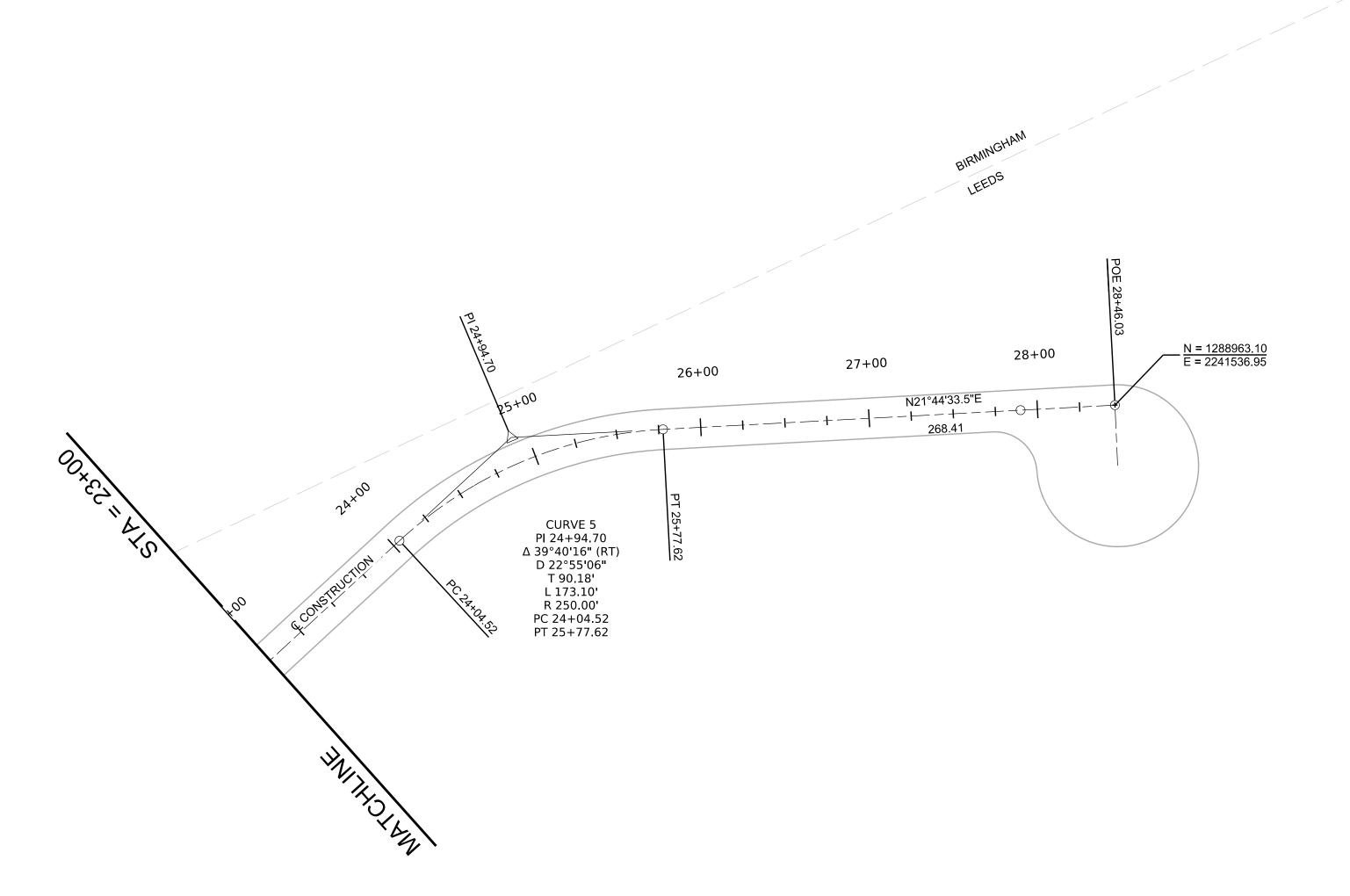








LEGEND
 PROPOSED RIGHT OF WAY
 EXISTIMG BOUNDARY LINES
 SECTION LINE



STA. 23+00 TO END



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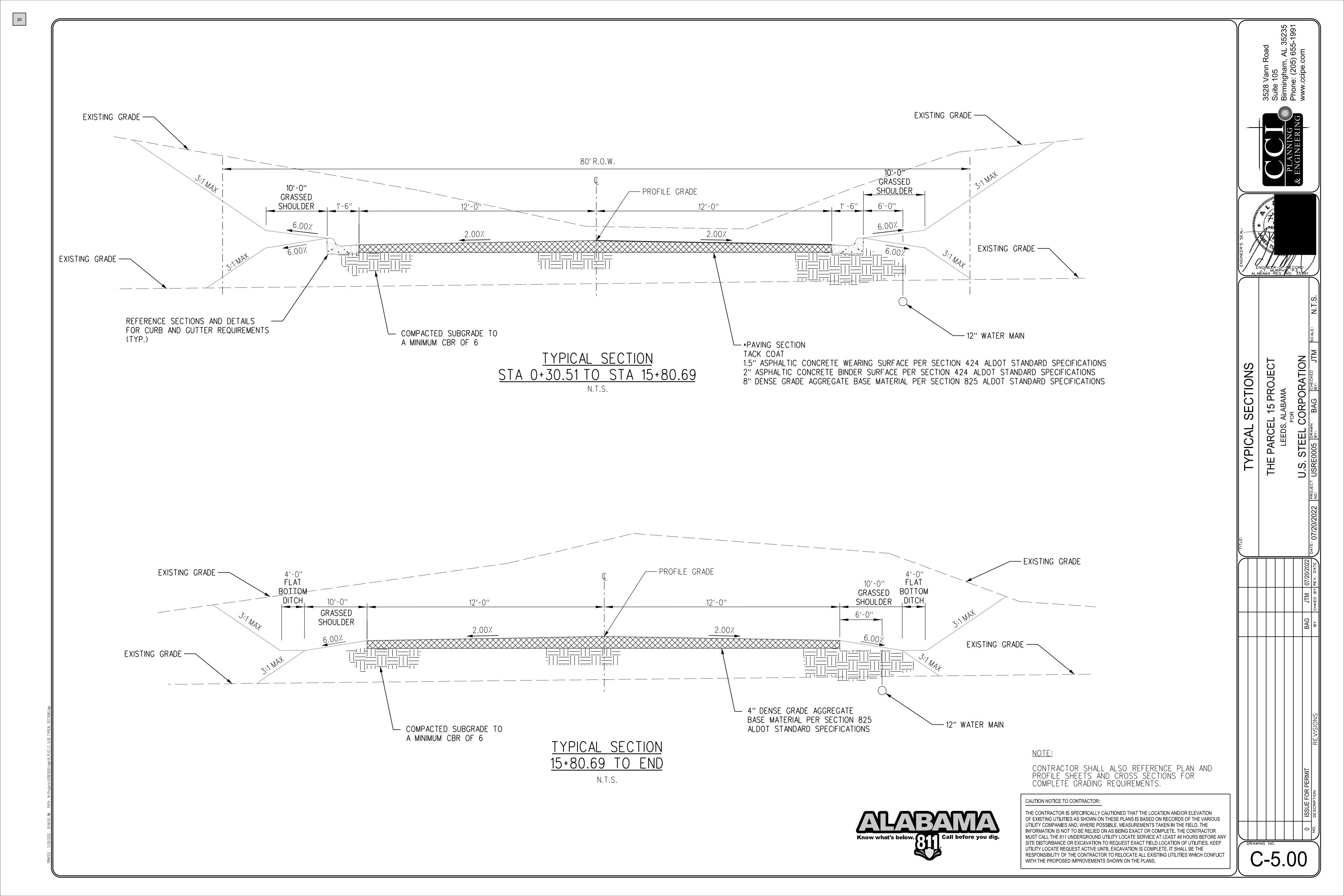
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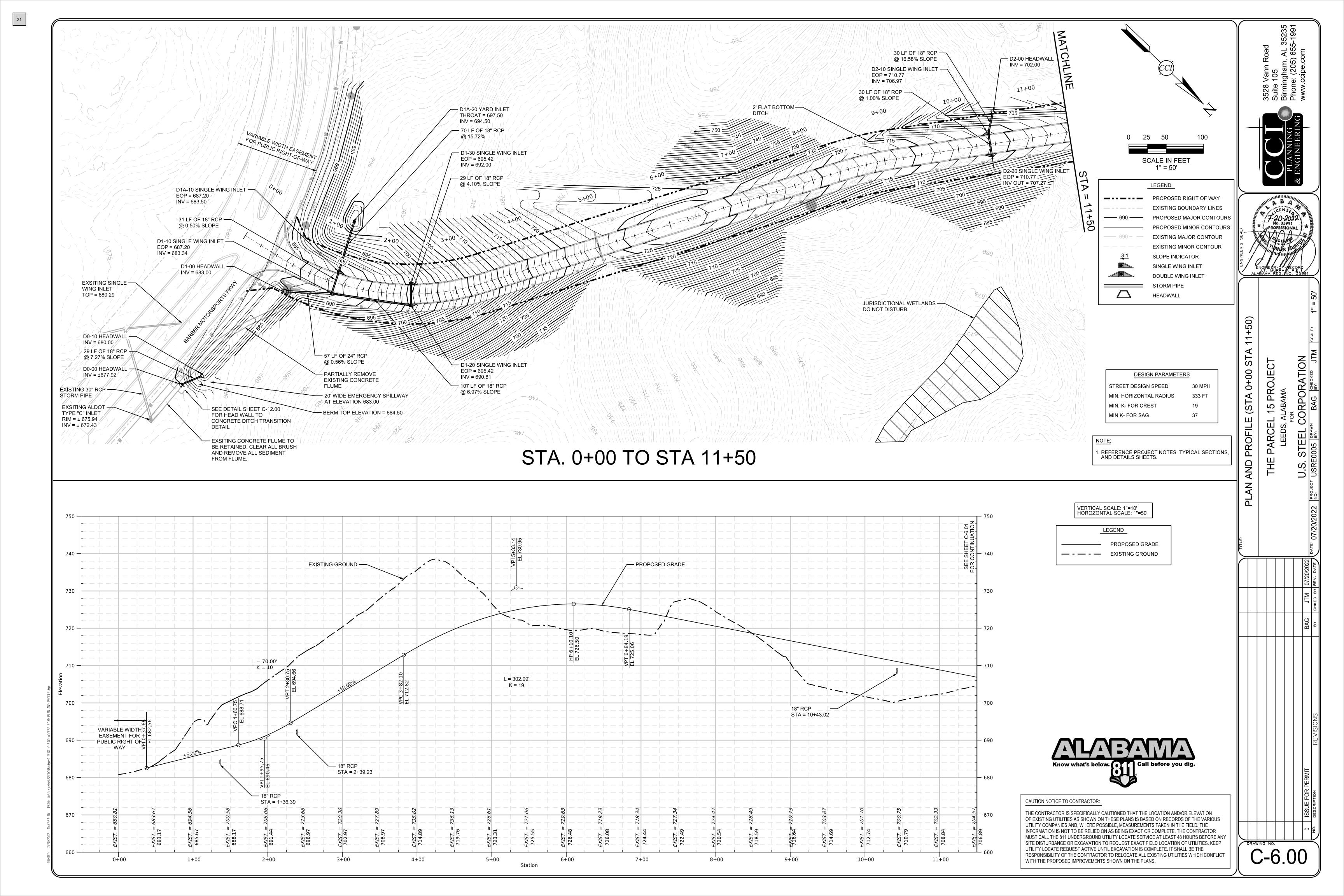
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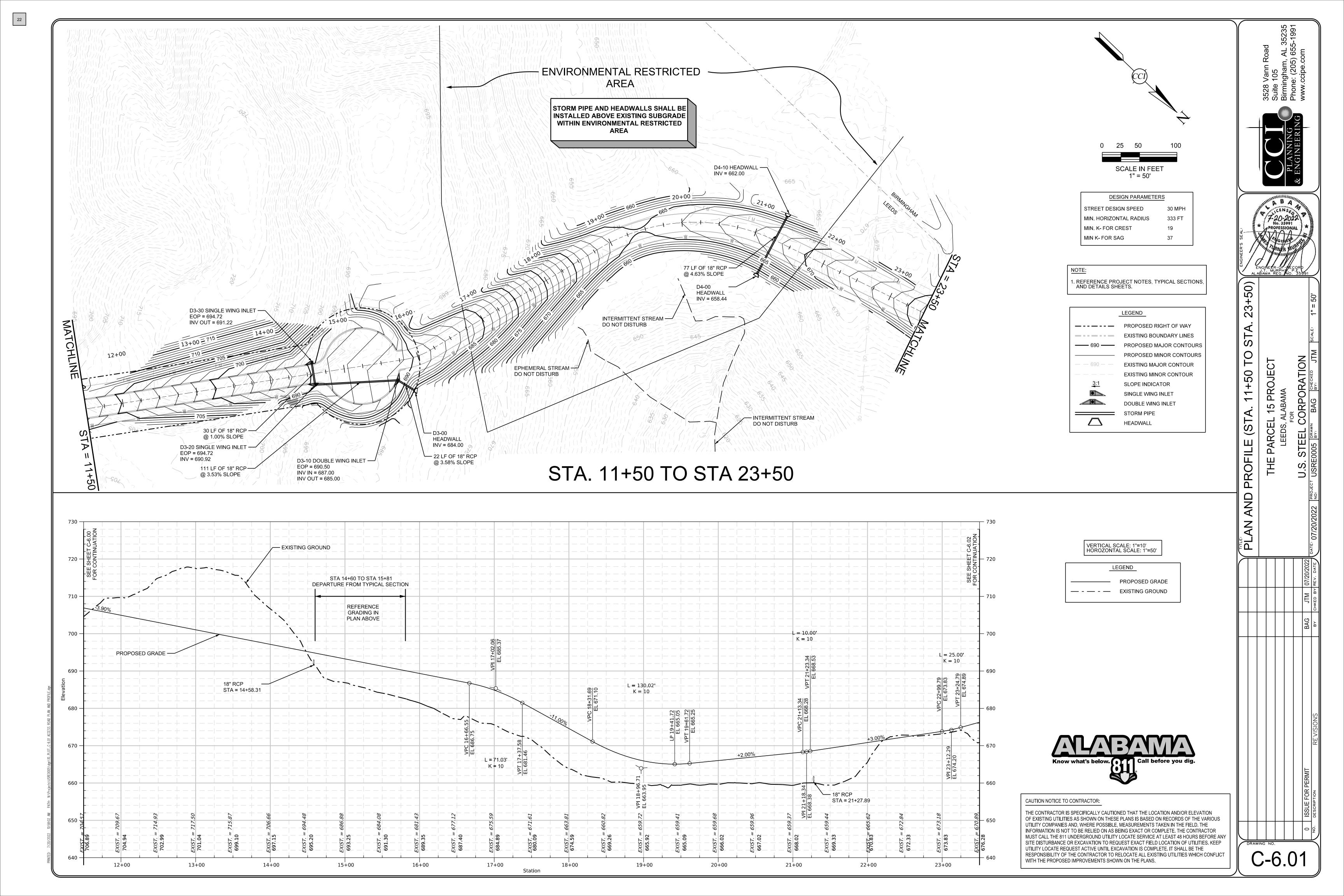
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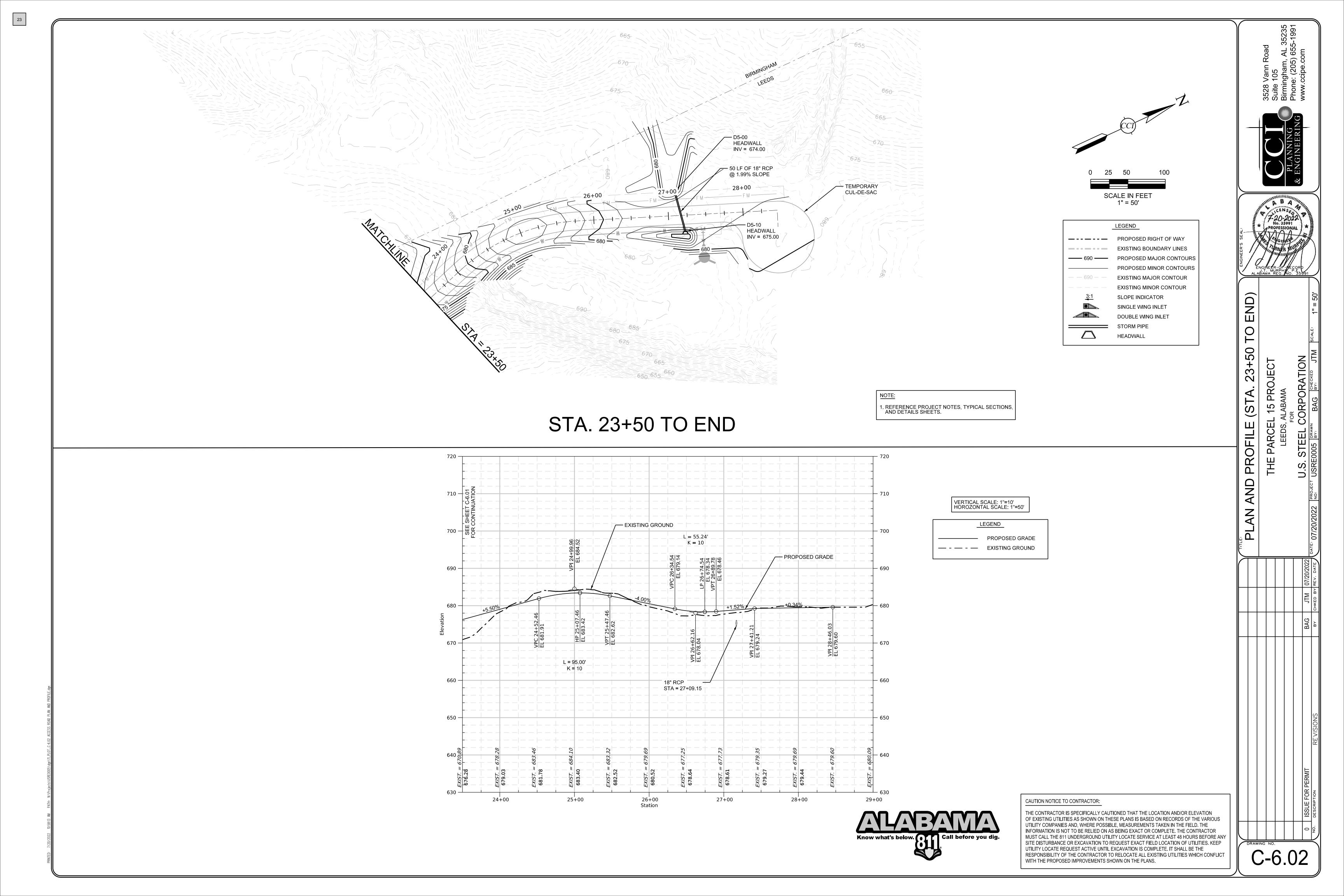
GEOMETRIC LAYOUT (STA. 23+00 TO END)

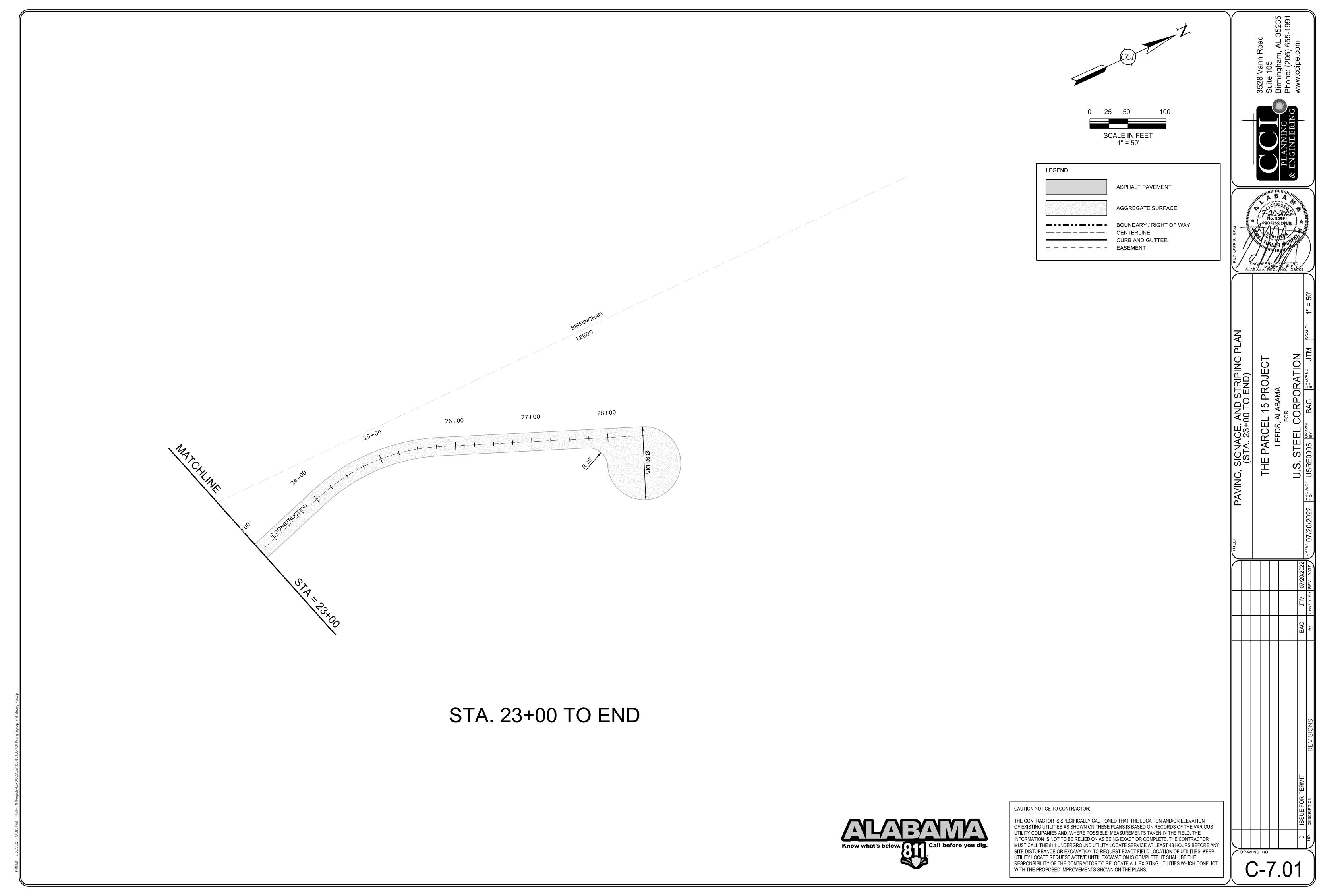
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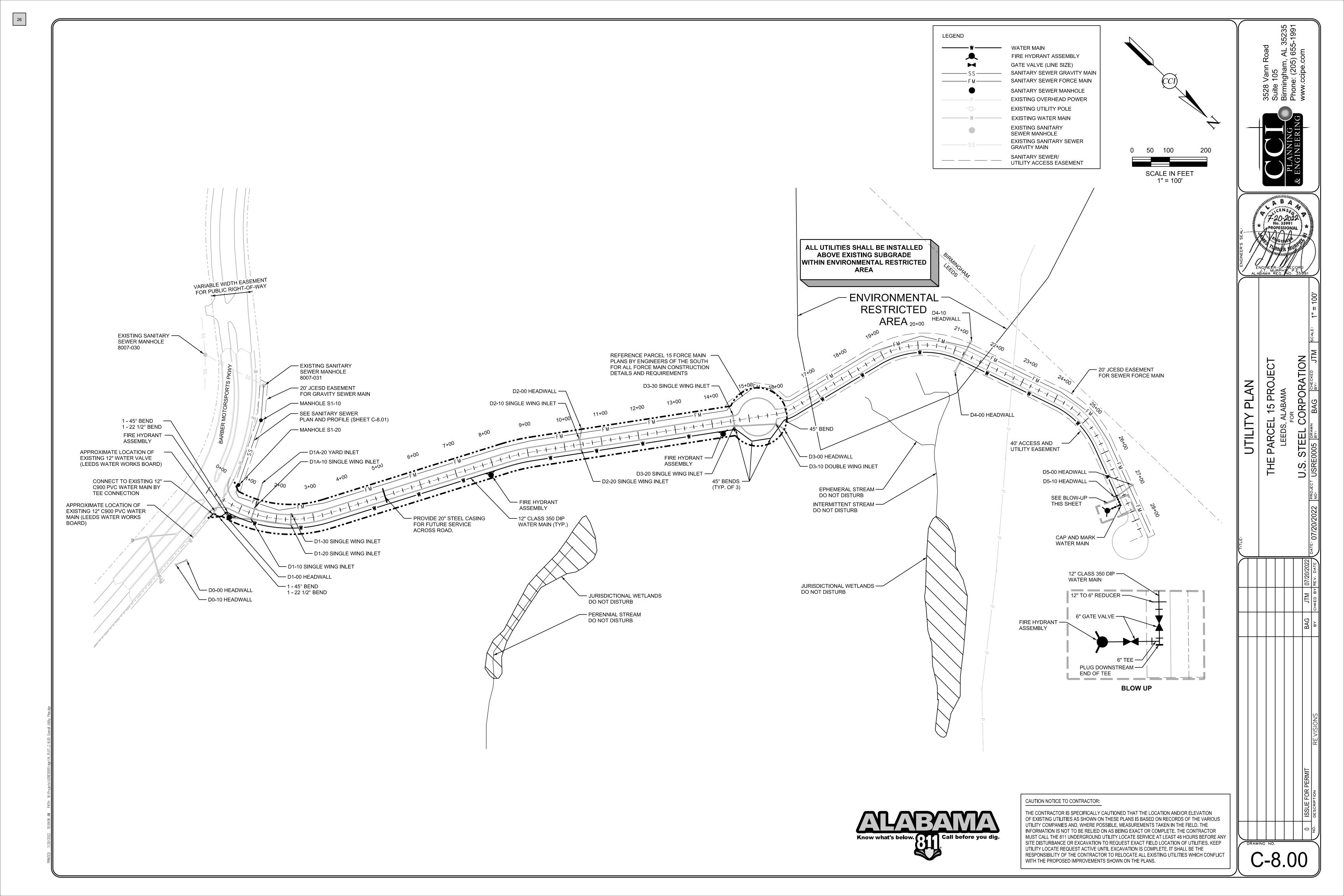












JEFFERSON COUNTY STANDARD NOTES

FOR 8 INCH AND LARGER SANITARY SEWERS

1. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATION OF JEFFERSON COUNTY, THE LOCAL MUNICIPALITY AND/OR THE STATE HIGHWAY DEPARTMENT, AND APPLICABLE O.S.H.A. REGULATIONS, AS APPLICABLE.

2. THE CONTRACTOR SHALL NOTIFY THE JEFFERSON COUNTY ENVIRONMENTAL SERVICES DEPARTMENT 325-5127 AT LEAST 24 HOURS PRIOR TO BEGINNING CONSTRUCTION. THERE SHALL BE NO CHANGES IN DRAWINGS WITHOUT WRITTEN APPROVAL BY THE JEFFERSON COUNTY ENVIRONMENTAL SERVICES DEPARTMENT.

3. DUCTILE IRON PIPE SHALL BE CLASS 350 OR BETTER.

4. PVC PIPE SHALL BE AWWA C900, CAST IRON (CI) STANDARD DIMENSIONS. DIMENSION RATIO (DR) 18. PRESSURE CLASS (PC) 150 PSI

5. IN EARTH TRENCH, FOUR INCHES OF CRUSHED STONE SHALL BE PLACED UNDER SEWER LINES OF 12 INCHES IN DIAMETER OF SMALLER AND SIX INCHES OF CRUSHED STONE SHALL BE PLACED UNDER SEWER LINES LARGER THAN 12 INCHES IN DIAMETER. IN ROCK TRENCHES, SIX INCHES OF CRUSHED STONE SHALL BE PLACED UNDER ALL SEWERS. THE DITCH SHALL BE BACKFILLED WITH CRUSHED STONE TO A DEPTH OF 12 INCHES ABOVE THE TOP OF THE PIPE. WHEN CROSSING EXISTING ROADS AND STREETS, THE TOTAL BACKFILL SHALL BE CRUSHED STONE AND PROPERLY CHOKED.

6. AT THE DIRECTION OF THE ESD INSPECTOR, A CONNECTION OF SANITARY SEWER PIPES (8 INCH THROUGH 16 INCH) OF DISSIMILAR SIZES OR FOR REPAIR OF SANITARY SEWER PIPES OF SIMILAR MATERIALS MAY BE MADE BY MEANS OF AN APPROVED MECHANICAL SEAL TYPE ADJUSTABLE COUPLING. COUPLINGS WITH ANY REQUIRED ADAPTING BUSHINGS SHALL BE MANUFACTURED OF AN APPROVED PREFORMED ELASTOMERIC MATERIAL SPECIFICALLY FOR DIMENSIONS OF THE PIPE MATERIALS TO BE CONNECTED. COUPLINGS OF THE MECHANICAL SEAL TYPE SHALL HAVE NUT AND BOLT TIGHTENING CLAMPS OR DEVICES MADE OF 316 STAINLESS STEEL, WITH AN ADJUSTABLE STAINLESS STEEL SHEAR RING, AND STAINLESS STEEL HARDWARE. A CONCRETE COLLAR AS SHOWN AN APPENDIX STANDARD DRAWING SD2060 IS REQUIRED. THE ADJUSTABLE COUPLING SHALL BE INSTALLED AS RECOMMENDED AND SPECIFIED BY THE MANUFACTURER. EACH COUPLING SHALL BEAR THE MANUFACTURER'S NAME AND REQUIRED MARKINGS.

7. MANHOLES SHALL MEET ASTM SPECIFICATION C-478. JOINTS BETWEEN THE MANHOLE SECTIONS SHALL BE OFFSET TONGUE AND GROVE "PUSH ON" TYPE, SUPPLIED WITH TYLOX SUPER SEAL PRE-LUBRICATED GASKET AS MANUFACTURED BY HAMILTON KENT MEETING THE REQUIREMENTS OF ASTM C443. EACH JOINT SHALL ALSO BE SUPPLIED WITH CONSEAL CS-231 WATERSTOP SEALANT AS MANUFACTURED BY CONCRETE SEALANTS, IN WIDTHS AS RECOMMENDED BY THE MANUFACTURER. MANHOLES SHALL HAVE A MINIMUM DIAMETER OF 48 INCHES AND A MINIMUM THICKNESS OF 5 INCHES. ALL MANHOLE CONES SHALL BE OF THE CONCENTRIC TYPE. MANHOLES MAY BE FINISHED TO STREET GRADE WITH BRICK AND MORTAR. THIS ADJUSTMENT HEIGHT SHALL NOT EXCEED 16 INCHES.

8. STUBOUTS FOR SANITARY SEWER SERVICE LINES SHALL END ON OR NEAR THE PROPERTY LINE UNLESS OTHERWISE NOTED. ON "DOWNHILL" SIDE LOTS INSTALL LATERALS ON A MINIMUM 1% GRADE, ON "UPHILL" SIDE LOTS, INSTALL SERVICE LINES TO GRADE THAT WILL TERMINATE A MAXIMUM DEPTH OF 10 FEET. THE FIRST JOINT OUT OF A MANHOLE, FOR BUILDING OR HOUSE SERVICE, SHALL BE DUCTILE IRON PIPE CLASS 350 OR BETTER (MINIMUM 8 FEET). ANY BUILDING SERVICE LINE SET OUTSIDE OF EASEMENT OR R.O.W. MUST BE INSTALLED BY A MASTER PLUMBER AND HAVE A SEWER CONNECTION PERMIT FOR EACH LOT.

9. IF THE CONTRACTOR IS INSTALLING SERVICE LINES AT THE SAME TIME AS MAIN LINE, THE SERVICE LINE SHALL BE INSTALLED IN ACCORDANCE WITH JEFFERSON COUNTY STANDARDS FOR CONSTRUCTION OF SERVICE LINES AND CONNECTIONS, AND INSPECTED/ TESTED BY COUNTY INSPECTOR BEFORE IT IS BACKFILLED.

10. ALL SERVICE LINE STUBOUTS INSTALLED IN ROAD ROW OR UNDER ASPHALT SHALL BE PER STANDARD SPECIFICATIONS FOR SANITARY SEWER SERVICE LINES AND CONNECTIONS SECTION 4.

11. CONSTRUCTION SIGNS FOR WORK WITHIN AND ADJACENT TO PUBLIC ROADS, HIGHWAYS, AND ALLEYS SHALL BE IN ACCORDANCE WITH ALDOT STANDARDS.

12. CONTRACTOR WILL BE RESPONSIBLE FOR THE CONTINUOUS AND PROPER OPERATION OF ALL EXISTING UTILITIES LOCATED ON OR ADJACENT TO THE PROJECT SITE AND WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT.

13. ALL EMBANKMENT FILL AREAS SHALL BE FILLED AND COMPACTED PRIOR TO EXCAVATION OF SEWER LINE TRENCHES.

14. CONTRACTOR WILL BE RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS FOR ACQUISITION OF ALL PERMITS DURING CONSTRUCTION TO INSURE THAT DAMAGE DOES NOT OCCUR TO ADJACENT PROPERTIES, PUBLIC ROADS AND/OR DITCHES (CREEKS, STREAMS).

15. UPON COMPLETION OF ALL OR ANY PART OF A SANITARY SEWER LINE, THE CONTRACTOR WILL BE REQUIRED TO TEST SAID SEWER FOR ACCEPTABILITY, GRAVITY SEWERS WILL BE PRESSURE TESTED WITH AIR. FORCE MAIN SEWERS WILL BE PRESSURE TESTED WITH WATER. MANHOLES WILL BE VACUUM TESTED. ALL TEST WILL BE CONDUCTED IN THE PRESENCE OF THE COUNTY SEWER CONSTRUCTION INSPECTOR IN ACCORDANCE WITH SECTION 5.00 STANDARDS FOR COMMERCIAL AND RESIDENTIAL CONSTRUCTION OF SANITARY SEWER SYSTEMS. GRAVITY SANITARY SEWERS WILL BE TELEVISION INSPECTED FOLLOWING AIR TESTING WITH THE FINAL VIDEO TAPE AND LOG FURNISHED TO THE COUNTY FOR RECORD INFORMATION.

SURVEYOR INFORMATION:

ARRINGTON ENGINEERING & LAND SURVEYING, INC. CONTACT: DAVE ARRINGTON 2032 VALLEYDALE ROAD, SUITE C HOOVER, AL 35244 PHONE: (205) 985-9315

CIVIL ENGINEER INFORMATION:

CIVIL CONSULTANTS, INC. CONTACT: J.T. MURPHY, P.E. ALABAMA REG.# 35991 3528 VANN ROAD, SUITE 105 BIRMINGHAM, AL 35235 PHONE: (205) 655-1991

SITUATED IN THE SW 1/4 OF SECTION 24, T17S, R1W OWNER / DEVELOPER INFORMATION:

U.S. STEEL CORPORATION CONTACT: JAMMIE LOWDEN 610 PRESERVE PARKWAY HOOVER, AL 35226 PHONE: (205) 588-2814

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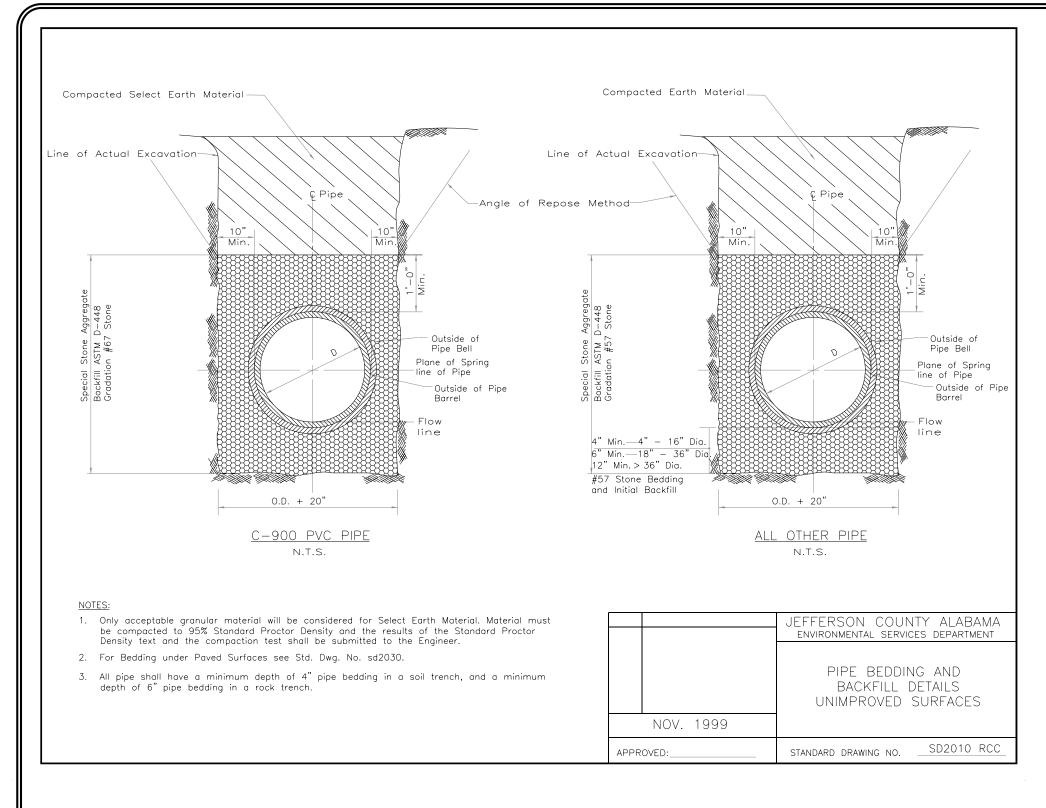
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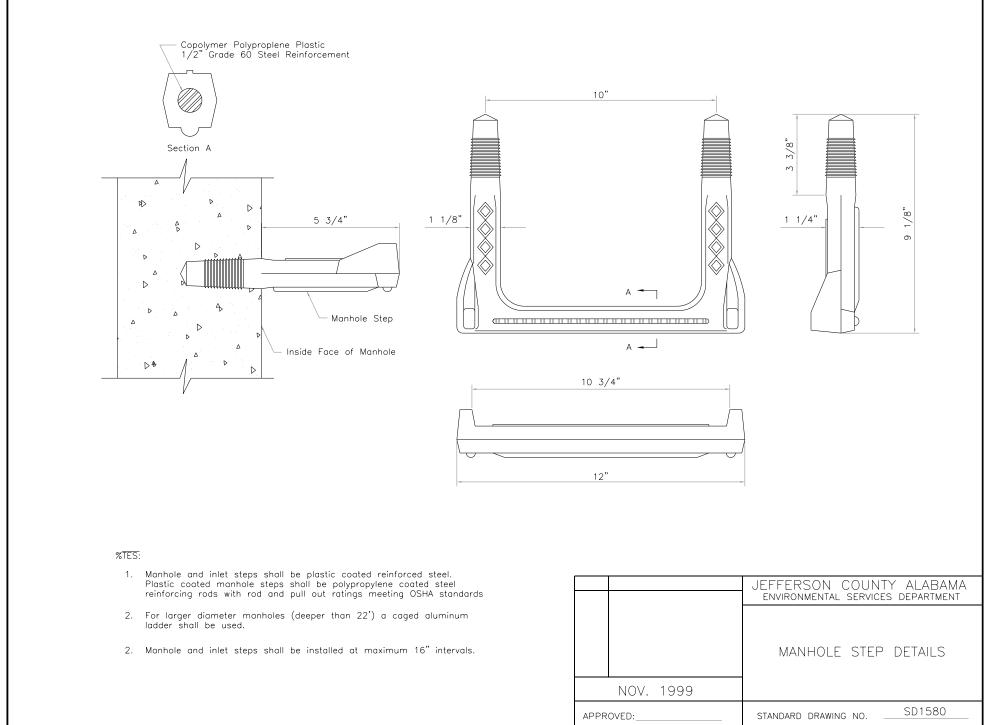
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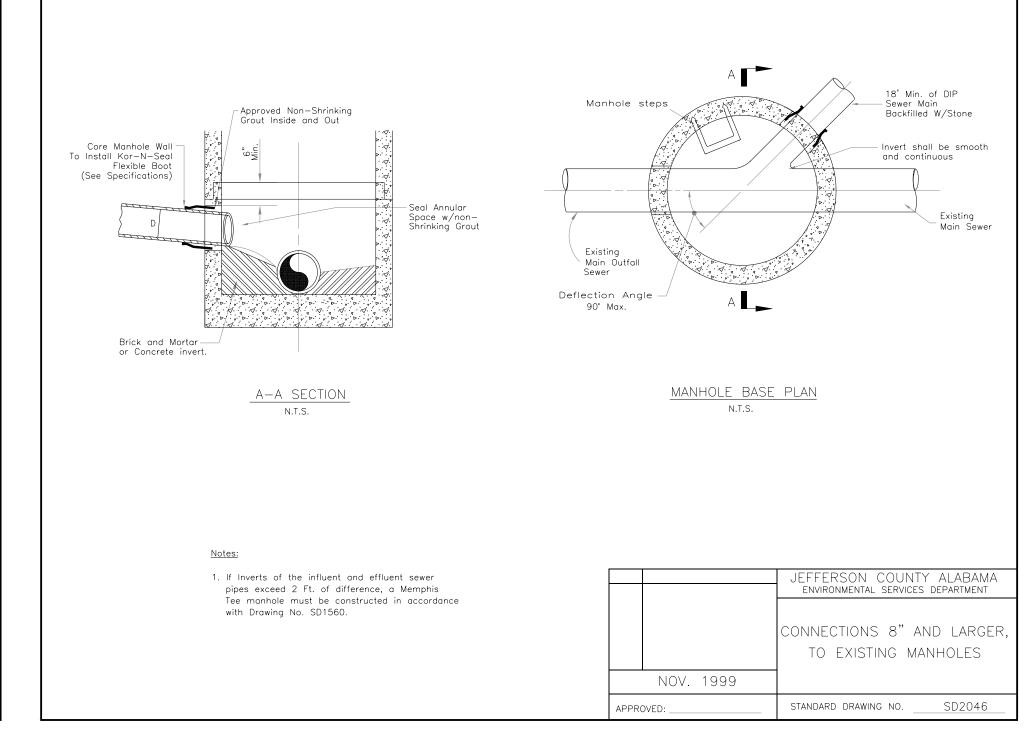
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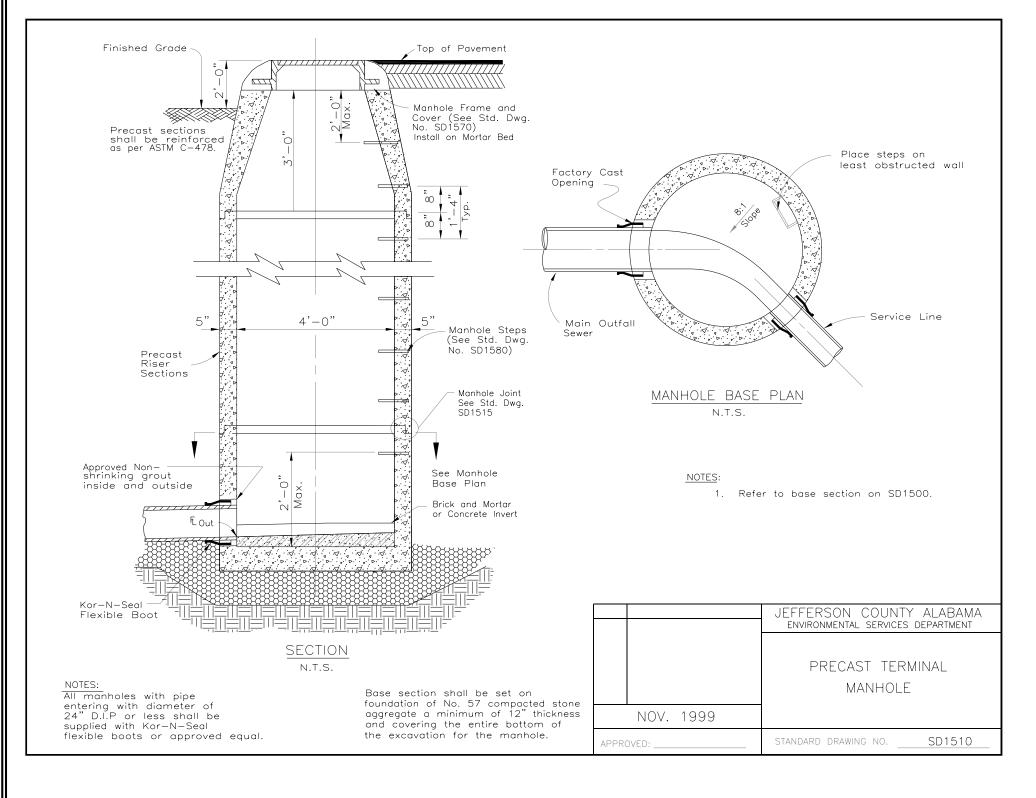
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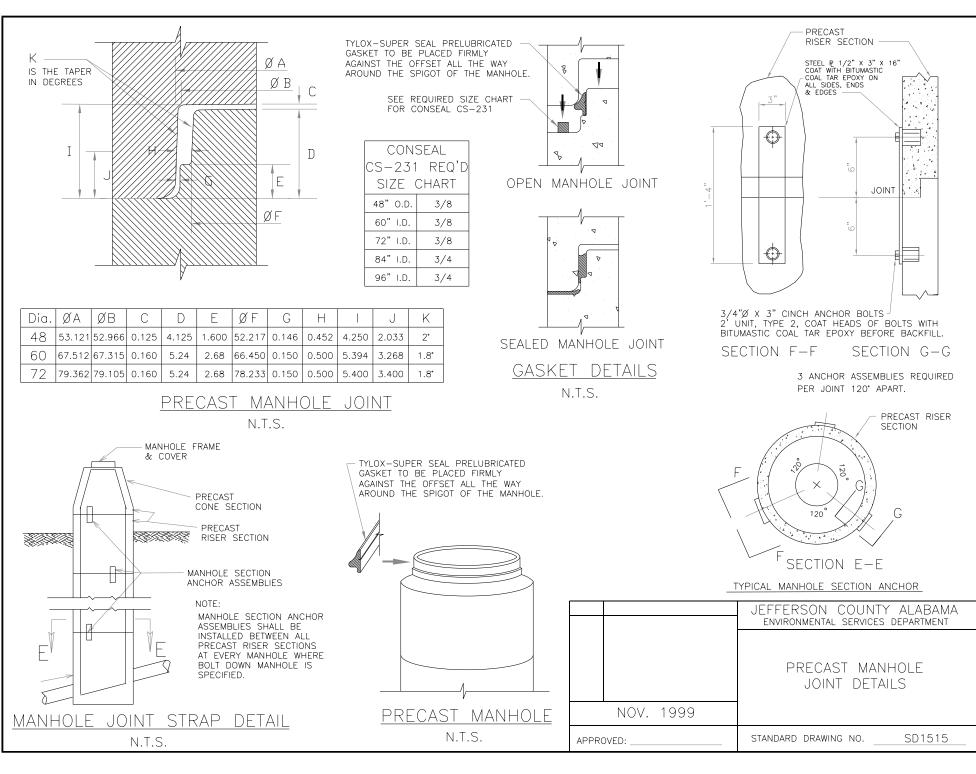


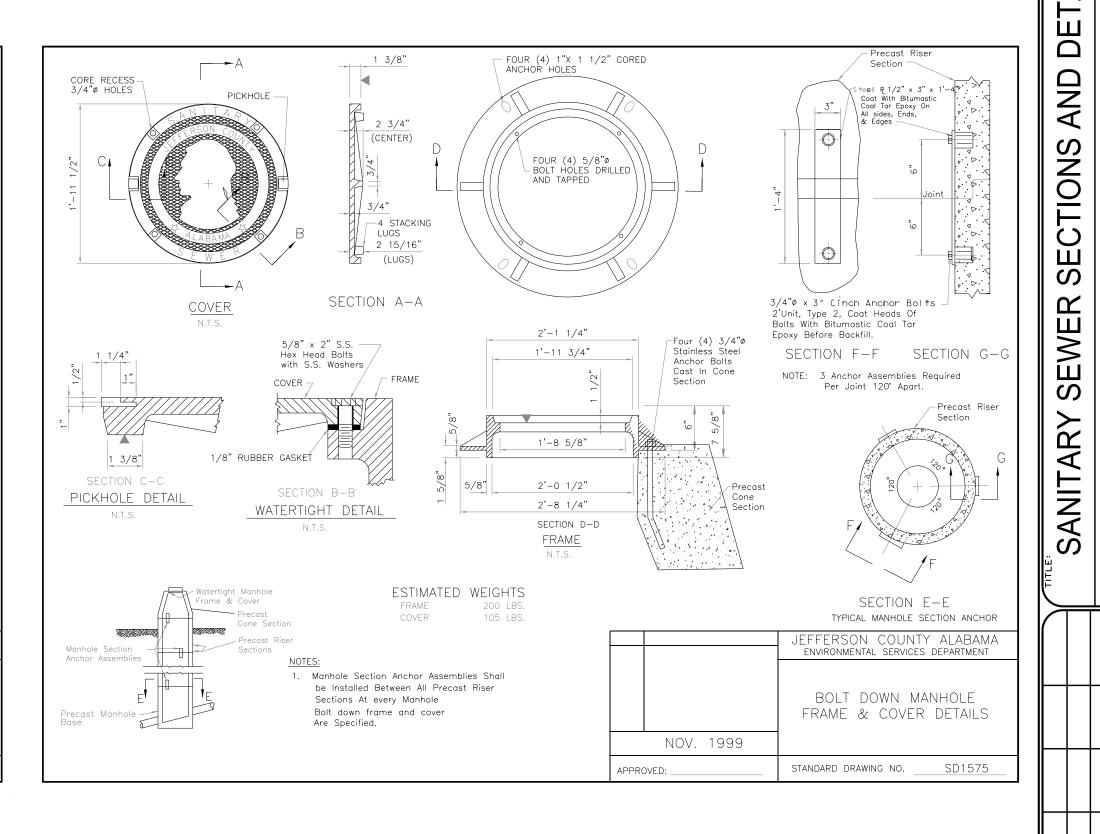














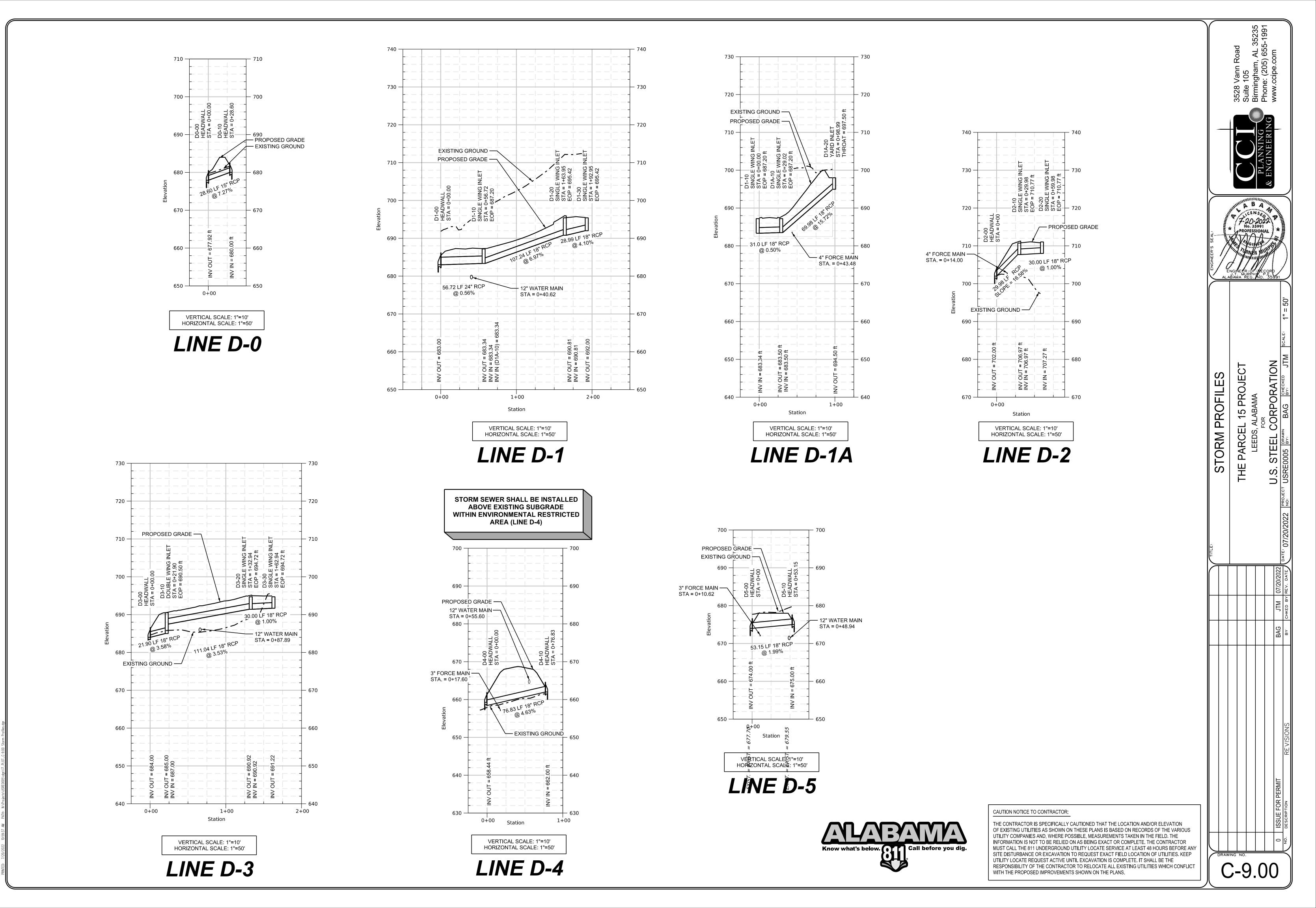
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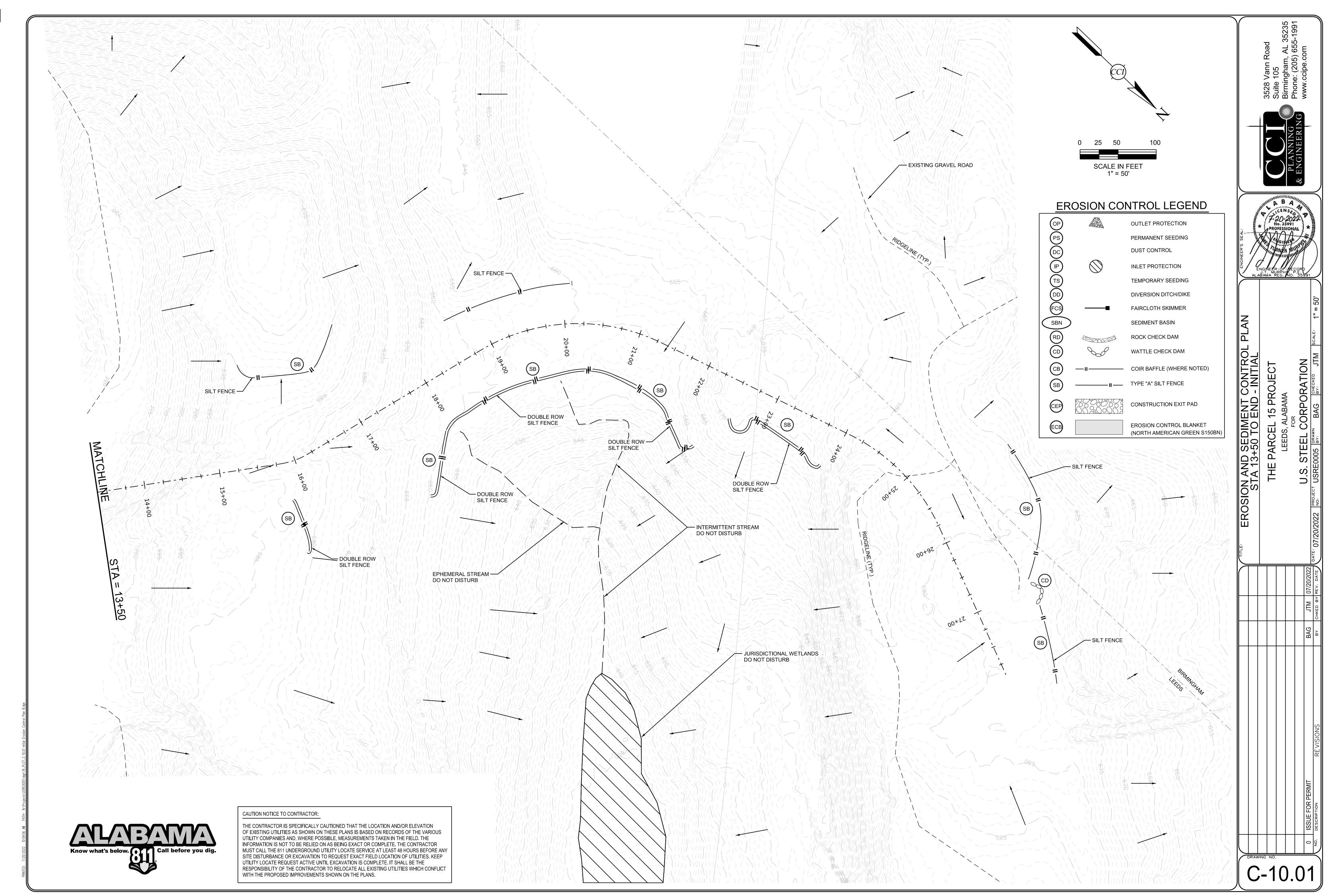


100 1" = 50'

SCALE IN FEET

EDIMENT CONTRO TO 13+50 - INITIAL . გ

RESPONSIBILITY OF THE CONTRACTOR TO RELOCATE ALL EXISTING UTILITIES WHICH CONFLICT



PROVIDE COMPOST SOCKS AT 10' VERTICAL

INTERVALS WHEN RAINFALL IS ANTICIPATED

**EROSION CONTROL BLANKET. (TYP.)** 

DURING CONSTRUCTION OF SLOPES. IMMEDIATELY

UPON COMPLETION OF SLOPE CONSTRUCTION, PROVIDE PERMANENT SEEDING AND INSTALL

PLACE ASPHALT DIVERSION BERMS

TO INLETS. (TYP.)

- 20' WIDE EMERGENCY OVERFLOW SPILLWAY @ ELEV. 684.00 9

CLASS 2

LA = 16 FT W1 = 4.5 FT

W2 = 17.5 FT

FOLLOWING PLACEMENT OF BINDER

LAYER TO DIVERT SURFACE DRAINAGE

 $\circ$ STA Щ PRO, MENT CONTROL PLAN INTERMEDIATE/FINAL 5 B ARCEL

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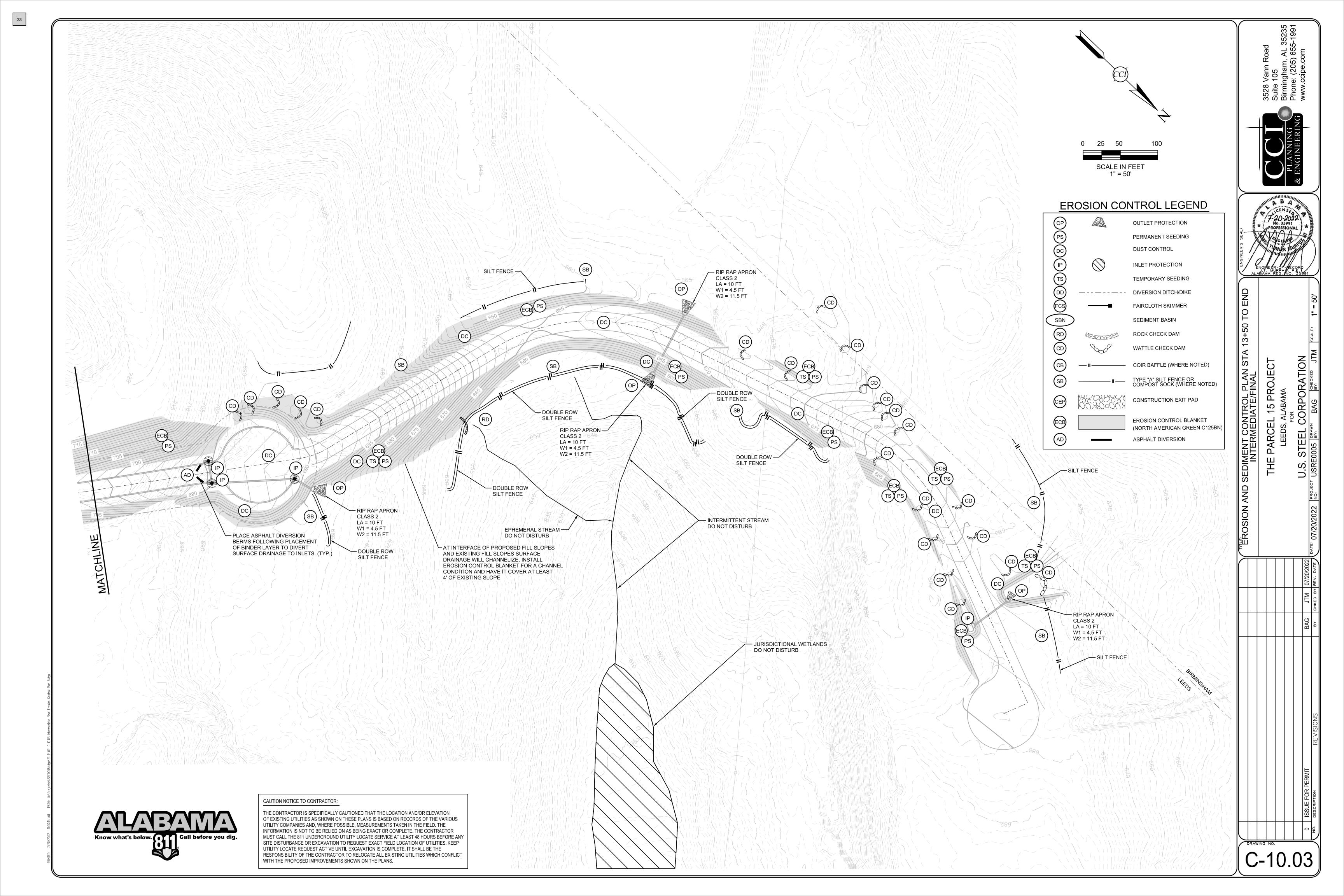
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SCALE IN FEET

1" = 50'

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TS COMMONLY USED PLANTS FOR TEMPORARY COVER		
SPECIES	SEEDING RATE/AC PLS	SEEDING DATES (NORTH)
RYE	3 BU	SEPT 1 - NOV 15
RYEGRASS	30 LBS	AUG 1 - SEPT 15
SORGHUM-SUDAN HYBRIDS	40 LBS	MAY 1 - AUG 1
SUDANGRASS	40 LBS	MAY 1 - AUG 1
COMMON BERMUDAGRASS	10 LBS	APR 1 - JULY 1
CRIMSON CLOVER	10 LBS	SEPT 1 - NOV 1

COMMONI VIJSED DI ANTS EOD DEDMANENT COVED WITH SEEDING

COMMONLY USED PLANTS FOR PERMANENT COVER WITH SEEDING		
SPECIES	SEEDING RATE/AC PLS	SEEDING DATES (NORTH)
BERMUDAGRASS COMMON	10 LBS	APR 1 - JULY 1
BERMUDAGRASS HYBRID (LAWN TYPES)	SOLID SOD	ANYTIME
BERMUDAGRASS HYBRID (LAWN TYPES)	SPRIGS 1/SQ FT	MAR 1 - AUG 1
FESCUE, TALL	40 - 50 LBS	SEPT 1 - NOV 1
SERICEA	40 - 60 LBS	MAR 15 - JULY 15
SERICEA & COMMON BERMUDAGRASS	40 - 60 LBS 10 LBS	MAR 15 - JULY 15
SWITCHGRASS, ALAMO	4 LBS	APR 1 - JUN 15

ESTABLISHING TEMPORARY VEGETATIVE COVER WITH FAST GROWING SEEDINGS ON ALL DISTURBED OR DENUDED AREAS THAT ARE NOT GOING TO BE GRADED WITHIN 13 DAYS.

- -TO REDUCE EROSION, SEDIMENT, AND RUNOFF DAMAGES TO DOWNSTREAM RESOURCES. -TO IMPROVE WILDLIFE HABITAT.
- -TO IMPROVE AESTHETICS. -TO IMPROVE SAFETY AND PUBLIC ROAD RIGHTS-OF-WAY.
- -TO IMPROVE TILL AND ADD ORGANIC MATTER FOR PERMANENT PLANTINGS.

TEMPORARY VEGITATION IS REQUIRED ON ALL DISTURBED OR DENUDED AREAS THAT ARE NOT GOING TO BE GRADED WITHIN 13 DAYS.

THIS PRACTICE IS APPLICABLE ON AREAS SUBJECT TO EROSION FOR UP TO TWELVE MONTHS UNTIL ESTABLISHMENT OF FINISHED GRADE OR PERMANENT VEGETATIVE COVER. TEMPORARY VEGETATIVE MEASURES SHOULD BE COORDINATED WITH PERMANENT MEASURES TO ASSURE ECONOMICAL AND EFFECTIVE STABILIZATION.

#### **SPECIFICATIONS:**

A. GRADING AND SHAPING

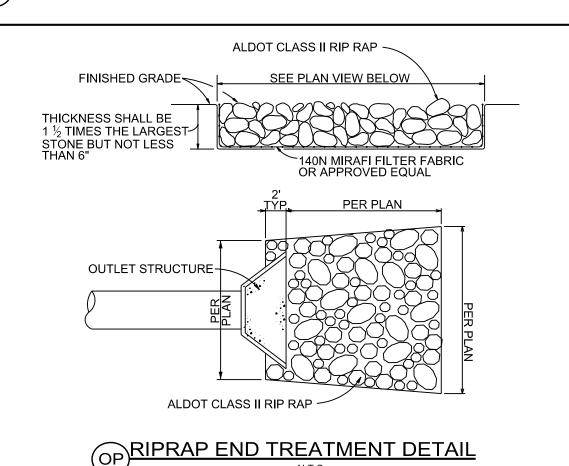
- 1. EXCESSIVE WATER RUN-OFF MUST BE CONTROLLED BY PLANNED AND INSTALLED EROSION CONTROL PRACTICES SUCH AS CLOSED DRAINS, DITCHES, DIKES, DIVERSIONS, SEDIMENT
- 2. NO SHAPING OR GRADING IS REQUIRED IF SLOPES CAN BE STABILIZED BY HAND-SEEDED VEGETATION OR IF HYDRAULIC SEEDING EQUIPMENT IS TO BE USED.

#### B. SEEDBED PREPARATION

- 1. WHEN A HYDRAULIC SEEDER IS USED, SEEDBED PREPARATION IS NOT REQUIRED UNLESS SOIL SURFACE IS COMPACTED.
- 2. WHEN USING CONVENTIONAL OR HAND-SEEDING, SEEDBED PREPARATION IS NOT REQUIRED IF THE SOIL MATERIAL IS LOOSE AND HAS NOT BEEN SEALED BY RAINFALL OR COMPACTION.
- 3. WHEN SOIL HAS BEEN SEALED BY RAINFALL, COMPACTION OR CONSISTS OF SMOOTH UNDISTURBED CUT SLOPES, THE SOIL SHALL BE PITTED, TRENCHED, OR OTHERWISE SCARIFIED A MINIMUM OF 6-INCHES DEEP TO PROVIDE A PLACE FOR SEED TO LODGE AND GERMINATE. BREAK UP LARGE CLODS AND LOOSEN COMPACTED, HARD OR CRUSTED SOIL WITH APPROPRIATE TILLAGE EQUIPMENT. AVOID PREPARING THE SEEDBED UNDER EXCESSIVELY WET CONDITIONS.

# (TS) DISTURBED AREA STABILIZATION W/TEMPORARY SEEDING

# (PS) DISTURBED AREA STABILIZATION W/ PERMANENT SEEDING



Drop inlet

/with grate

√ **←**Frame

excess

at corners

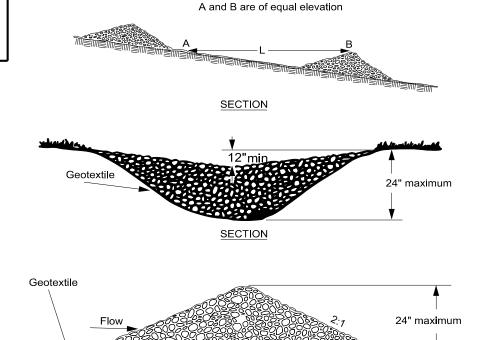
SILT FENCE INLET PROTECTION

(FOR USE IN LANDSCAPE AREA OR PAVED AREAS PRIOR TO BASE COURSE INSTALLATION)

Wire-backing \

Fabric **➤** 

**▼**Buried fabric

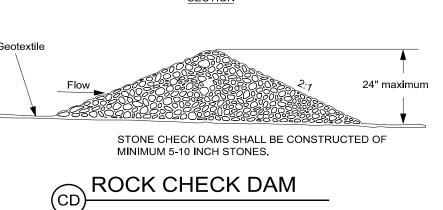


2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE RECPS IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH. ANCHOR THE RECPS WITH A ROW OF STAPLES/STAKES/PINS SPACED AT ST APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING AND FOLD THE ROLL OVER DOWNSLOPE. SECURE RECPS OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES/PINS SPACED AT ST APART ACROSS THE WIDTH OF THE RECPS.

3. ROLL THE RECPS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. WHEN LAYING RECPS HORIZONTAL, A MAXIMUM OF TWO ROLL WIDTHS OR 16 FEET, WHICHEVER IS LESS, MAY BE APPLIED UP THE SLOPE. IF TWO ROLL WIDTHS OR 16 FT IS INSUFFICIENT TO COVER THE SLOPE, MATERIAL SHALL BE PLACED VERTICALLY. RECPS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL RECPS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES/PINS IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. ROLLMAX RECPS AND ECBS SHOULD UTILIZE STAPLE PATTERN C, TRMS AND VMAX MATERIALS SHOULD UTILIZE STAPLE PATTERN D.

ECB EROSION CONTROL BLANKET

INSTRUCTIONS



# DEFINITION: CONTROLLING SURFACE AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS AND DEMOLITION SITES. MAY USE MULCHES, SYNTHETIC RESINS SUCH AS CURASOL OR TERRATACK, IRRIGATION OR FENCE BARRIER. TOPSOILING, CRUSHED STONE SURFACE

STAPLE PATTERN GUIDE

<del>(XXXXX</del>|<del>XXXXXXXX</del>

Roll Roll Overlap

appropriate for field conditions

С

30"

30"

18"

1.7 / SY

ECB

\*Note: Staple Pattern A and B used prior

to 8/2019 have been discontinued.

(Degradable)

Min. 20# pullout Min. 20# pullo

Pin / Staple / Twist Pin, as

Dimension

Nominal

Frequency

Application

Required

Fastener

6. AT THE TERMINAL END, SECURE EACH MAT ACROSS THE WIDTH WITH A ROW OF STAPLES/STAKES/PINS SPACED AT ST. IF EXPOSED TO FLOW, FOOT TRAFFIC, WIND UPLIFT OR OTHER DISRUPTION, TRENCH THE TERMINAL END IN AS SHOWN IN DETAIL.

Upper Roll-

Staple Pattern

22"

22"

18"

3.0 / SY

TRM

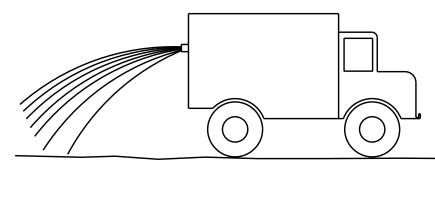
(Permanent

Direction

- PIN / STAPLE /

TWIST PIN, AS

**APPROPRIATE** FOR FIELD CONDITIONS



# DUST CONTROL

# REQUIRED 6"-8" TALL MOUNTABLE BERM-**EXISTING GROUND -**RIGHT-OF-WAY SOIL STABILIZATION-FABRIC -MIN. RADIUS **PROFILE** S.C.E. **EXISTING GROUND** PROVIDE APPROPRIATE TRANSITION BETWEEN—STABILIZED CONSTRUCTION ENTRANCE AND PUBLIC RIGHT-OF-WAY **CONSTRUCTION SPECIFICATIONS**

1. STONE SIZE: #4 WASHED STONE.
2. LENGTH: AS EFFECTIVE, BUT NOT LESS THAN 60 FT. (WITH THE EXCEPTION OF 3. THICKNESS: NOT LESS THAN 6 INCHES.
4. WIDTH: 18 FT. MIN., BUT NOT LESS THAN FULL WIDTH OF ALL POINTS OF INGRESS AND EGRESS. 5. STABILIZATION FABRIC: WILL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING OF STONE.
6. SURFACE WATER: ALL SURFACE WATER FLOWING OF DIVERTED TOWARD CONSTRUCTION ENTRANCES SHALL BE PIPED ACROSS THE ENTRANCE.
IF PIPING IS IMPRACTICAL, A MOUNTABLE BERM WITH 5:1 SLOPES IS PERMITTED.

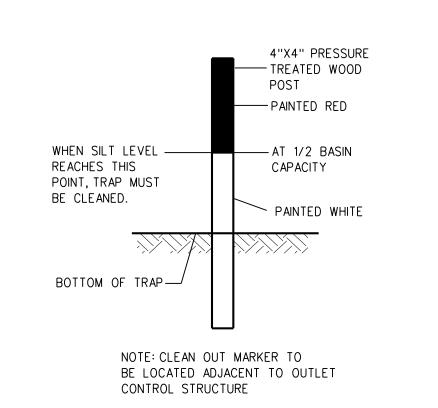
IS PERMITTED.

7. WASHING: WHEN NECESSARY, WHEELS SHALL BE CLEANED TO REMOVE SEDIMENT PRIOR TO ENTRANCE ONTO PUBLIC RIGHT-OF-WAY. WHEN WASHING IS REQUIRED, IT SHALL BE DONE ON AN AREA STABILIZED TRAP OR SEDIMENT BASIN. ALL SEDIMENT SHALL BE PREVENTED FROM ENTERING ANY STORM DRAIN, DITCH, OR WATERCOURSE THROUGH USE OF SILT FENCES, ROCK BARRIERS OR OTHER APPROVED METHODS.

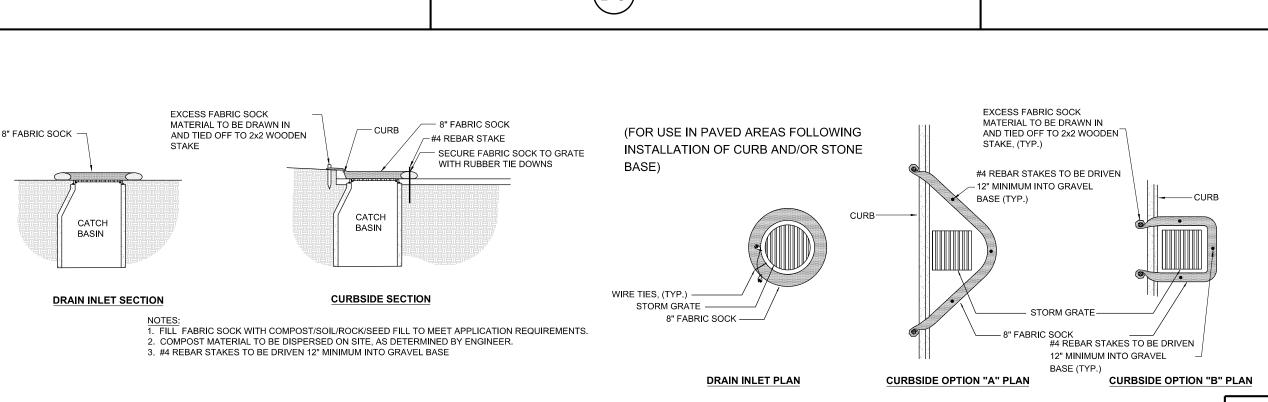
8. MAINTENANCE: THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOWING OF SEDIMENT ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT. ALL SEDIMENT SPILLED, DROPPED, WASHED, OR TRACKED ONTO PUBLIC RIGHTS-OF-WAY MUST BE REMOVED IMMEDIATELY.

9. PERIODIC INSPECTION AND NEEDED MAINTENANCE SHALL BE PROVIDED AFTER EACH RAIN.

# (CEP) CONSTRUCTION EXIT PAD



TEMPORARY SEDIMENT **BASIN CLEAN OUT MARKER** N.T.S.

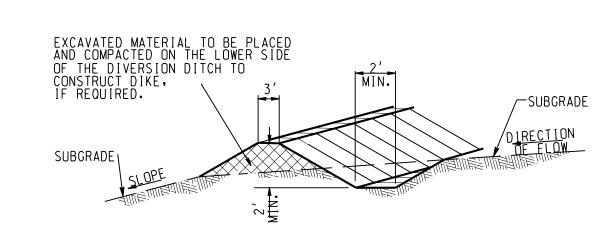


# WOOD CHIP & COMPOST INLET PROTECTION



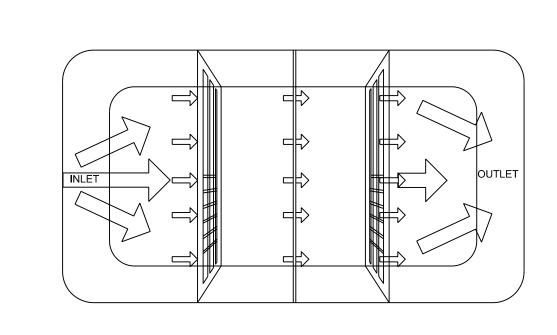
# CAUTION NOTICE TO CONTRACTOR:

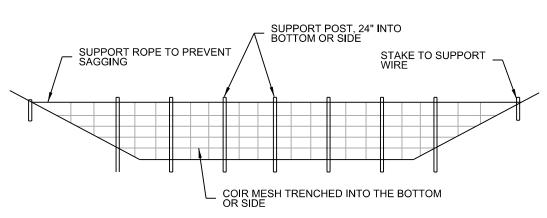
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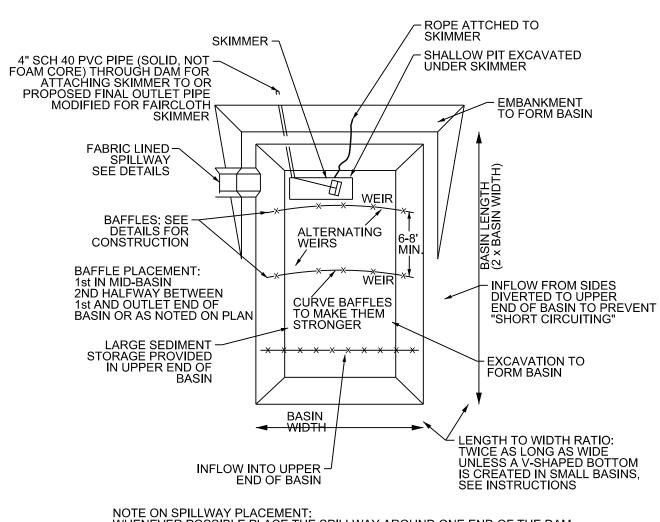
DIVERSION DIKE AND DITCH SHOULD BE INSPECTED AFTER EACH RAINFALL AND REPAIRS MADE IMMEDIATELY TO INSURE PROPER DIVERSION.

# DD DIVERSION DITCH/DIKE DETAIL





# (CB) TEMPORARY COIR BAFFLE DETAIL



NOTE ON SPILLWAY PLACEMENT:
WHENEVER POSSIBLE PLACE THE SPILLWAY AROUND ONE END OF THE DAM
INSTEAD OF IN THE FILL FOR THE DAM TO MINIMIZE THE CHANCE OF FAILURE.
CARE MUST BE TAKEN WHEN THE SPILLWAY IS IN FILL TO FOLLOW THE
INSTALLATION INSTRUCTIONS AND KEEP OUTFLOW ON THE FABRIC LINING
AND OFF THE ERODIBLE FILL.

SOME SEDIMENT BASIN REQUIREMENTS MAY CONFLICT WITH PERMANENT DETENTION BASIN STANDARDS; IF THIS IS THE CASE THE FEATURES NEEDED TO CREATE AN EFFECTIVE SEDIMENT BASIN MUST BE PROVIDED DURING CONSTRUCTION. AT THE END OF CONSTRUCTION (WHEN THE DRAINAGE AREA IS SUCCESSFULLY STABILIZED) THE BASIN IS CONVERTED TO THE PERMANENT CONFIGURATION

(SBN) PLAN VIEW OF SEDIMENT BASIN COMPONENTS

AND

SECTIONS

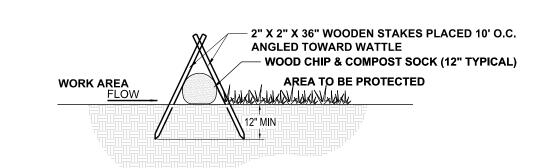
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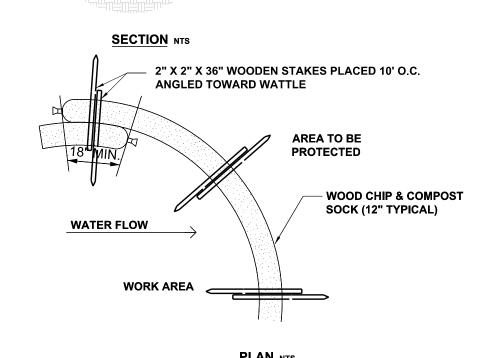
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NOTES:

1. FILL FABRIC SOCK WITH COMPOST/SOIL/ROCK/SEED FILL TO MEET APPLICATION REQUIREMENTS.

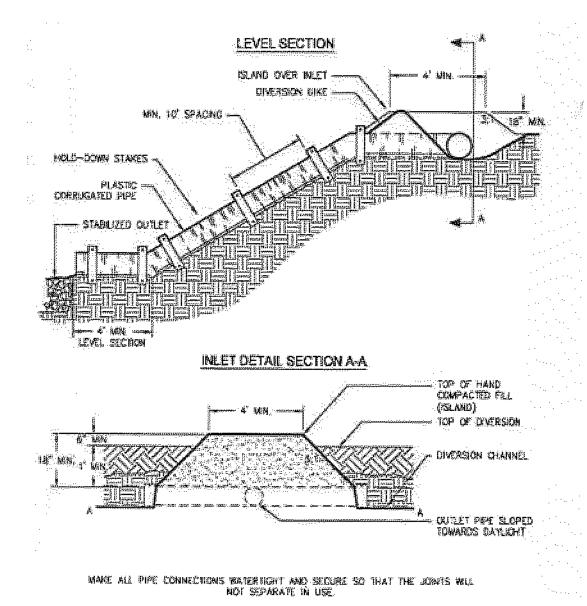
# **WOOD CHIP & COMPOST SOCK (WATTLE) SEDIMENT CONTROL**

SEDIMENT BARRIER (WATTLE)

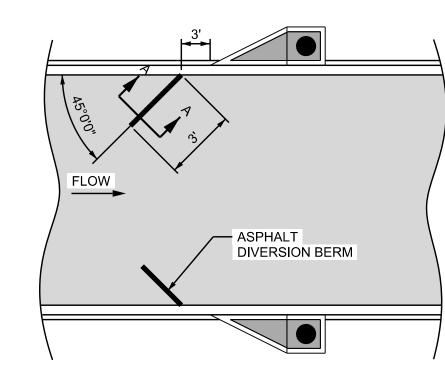
Downdrain

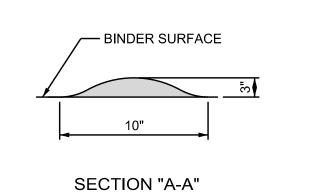
Maximum Drainage Area per Pipe (acres)	Pipe Diameter (inches)	
0.3	10	
0.5	12	
1.0	18	

- Ensure that fill over the drain at the top of the slope meets the minimum dimensions.
- · Ensure connections are watertight.
- Extend pipe beyond the toe of the slope.
- For steep slopes, drains should be placed diagonally across the slope.
- Curve the outlet uphill.
- · Stabilize outlet with rock riprap. A Tee outlet, flared end section, or other suitable device may be used for additional protection.
- Direct all flows into a sediment trap if drains convey sediment-laden runoff.
- · Stabilize all disturbed areas immediately.

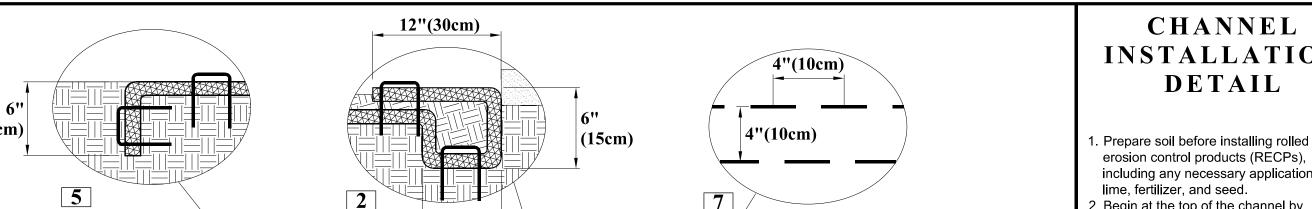


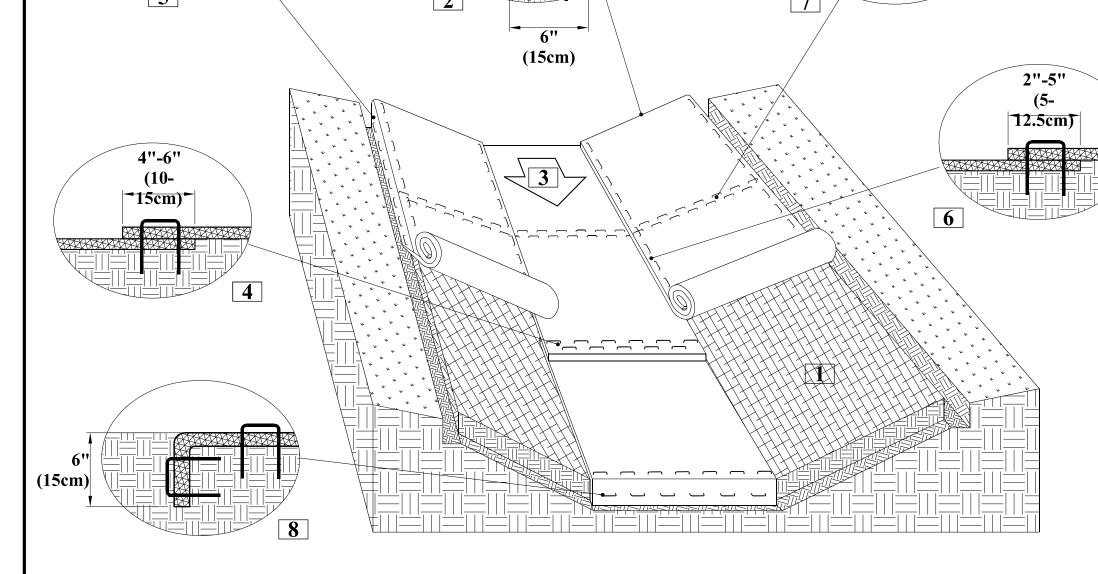






ASPHALT DIVERSION BERM





**CRITICAL POINTS** A. Overlaps and Seams B Projected Water Line C. Channel Bottom/Side Slope Vertices

PH: 800-722-2040

www.nagreen.com

\*Horizontal staple spacing should be altered if necessary to allow staples to secure the critical points along the channel

\*\*In loose soil conditions, the use of staple or stake lengths greater than 6"(15cm) may be necessary to properly secure the RECP's.

The information presented herein is general design information only. For specific applications, consult an independent professional for further design guidance.

Drawn on: 5-4-17

# **CHANNEL** INSTALLATION **DETAIL**

erosion control products (RECPs), including any necessary application of lime, fertilizer, and seed. 2. Begin at the top of the channel by anchoring the RECPs in a 6"(15cm) deep X 6"(15cm) wide trench with approximately 12"(30cm) of RECPs extended beyond the up-slope portion of the trench. Use ShoreMax mat at the channel/culvert outlet as supplemental scour protection as needed. Anchor the RECPs with a row of staples/stakes approximately 12"(30cm) apart in the bottom of the trench. Backfill and compact the trench after stapling. Apply seed to the compacted soil and fold the remaining 12"(30cm) portion of RECPs back over the seed and compacted soil. Secure RECPs over compacted soil with a row of staples/stakes spaced approximately 12" apart across the width of the RECPs. B. Roll center RECPs in direction of water flow in bottom of channel. RECPs will unroll with appropriate side against the soil surface. All RECPs must be

securely fastened to soil surface by placing staples/stakes in appropriate locations as shown in the staple pattern 4. Place consecutive RECPs end-over-end

(Shingle style) with a 4"-6" overlap. Use a double row of staples staggered 4" apart and 4" on center to secure RECPs.

5. Full length edge of RECPs at top of side slopes must be anchored with a row of staples/stakes approximately 12"(30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after stapling.

6. Adjacent RECPs must be overlapped approximately 2"-5" (5-12.5cm) (Depending on RECPs type) and stapled. 7. In high flow channel applications a

staple check slot is recommended at 30 to 40 foot (9 -12m) intervals. Use a double row of staples staggered 4"(10cm) apart and 4"(10cm) on center over entire width of the channel.

8. The terminal end of the RECPs must be anchored with a row of staples/stakes approximately 12" (30cm) apart in a 6"(15cm) deep X 6"(15cm) wide trench. Backfill and compact the trench after



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NTROL SECTIONS AND DETAILS EROSION CON

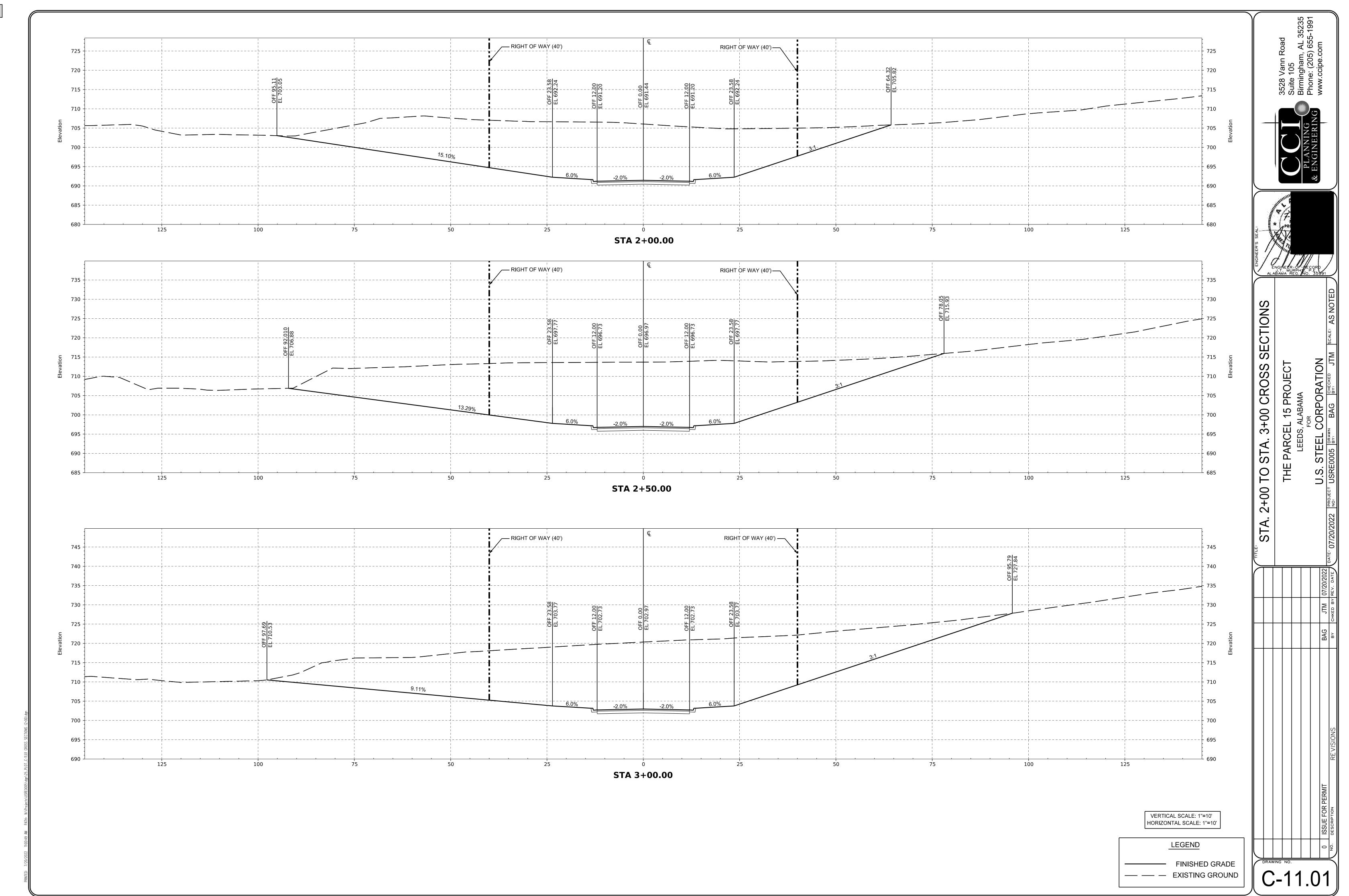
**Drawing Not To Scale** 

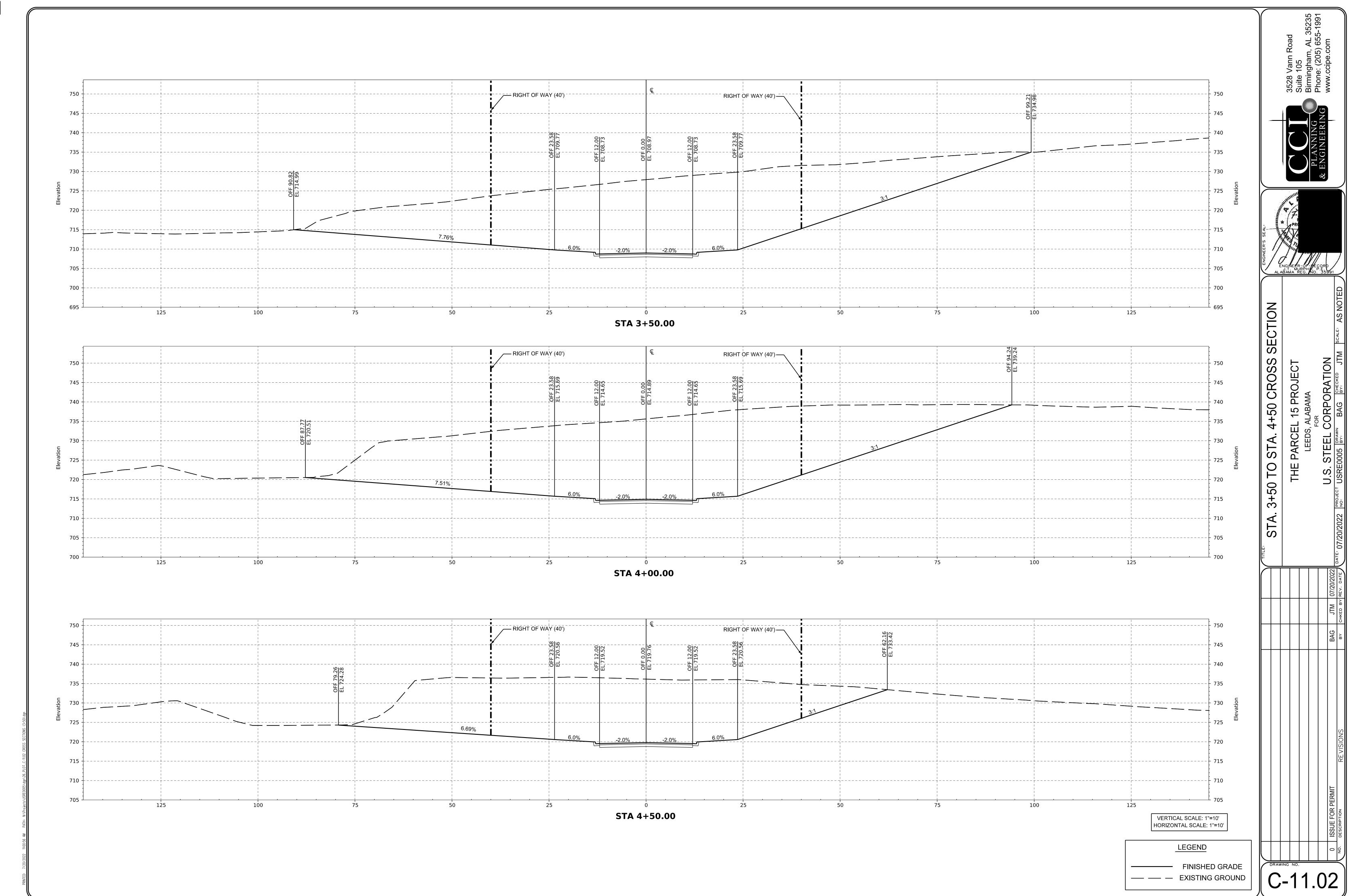
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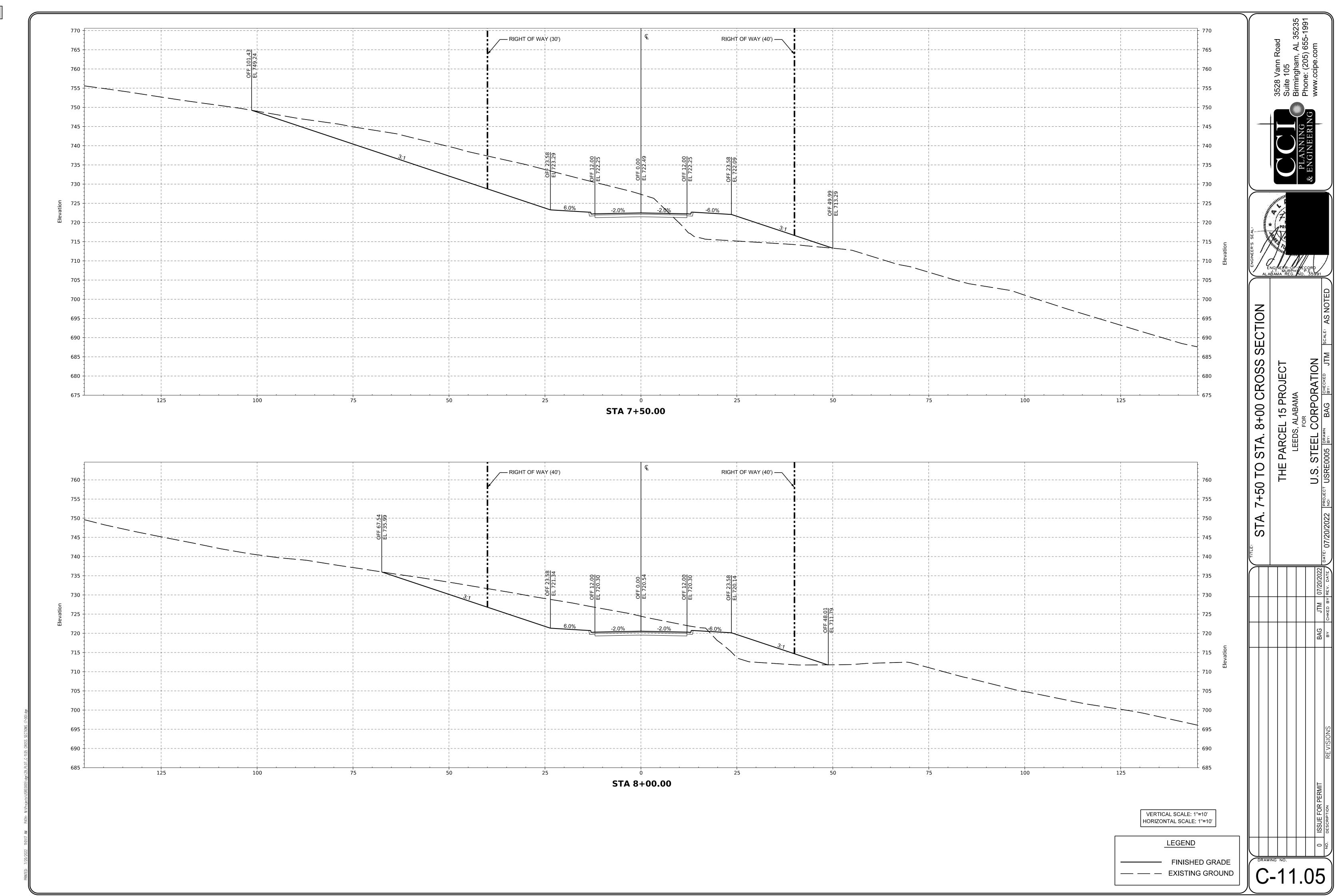
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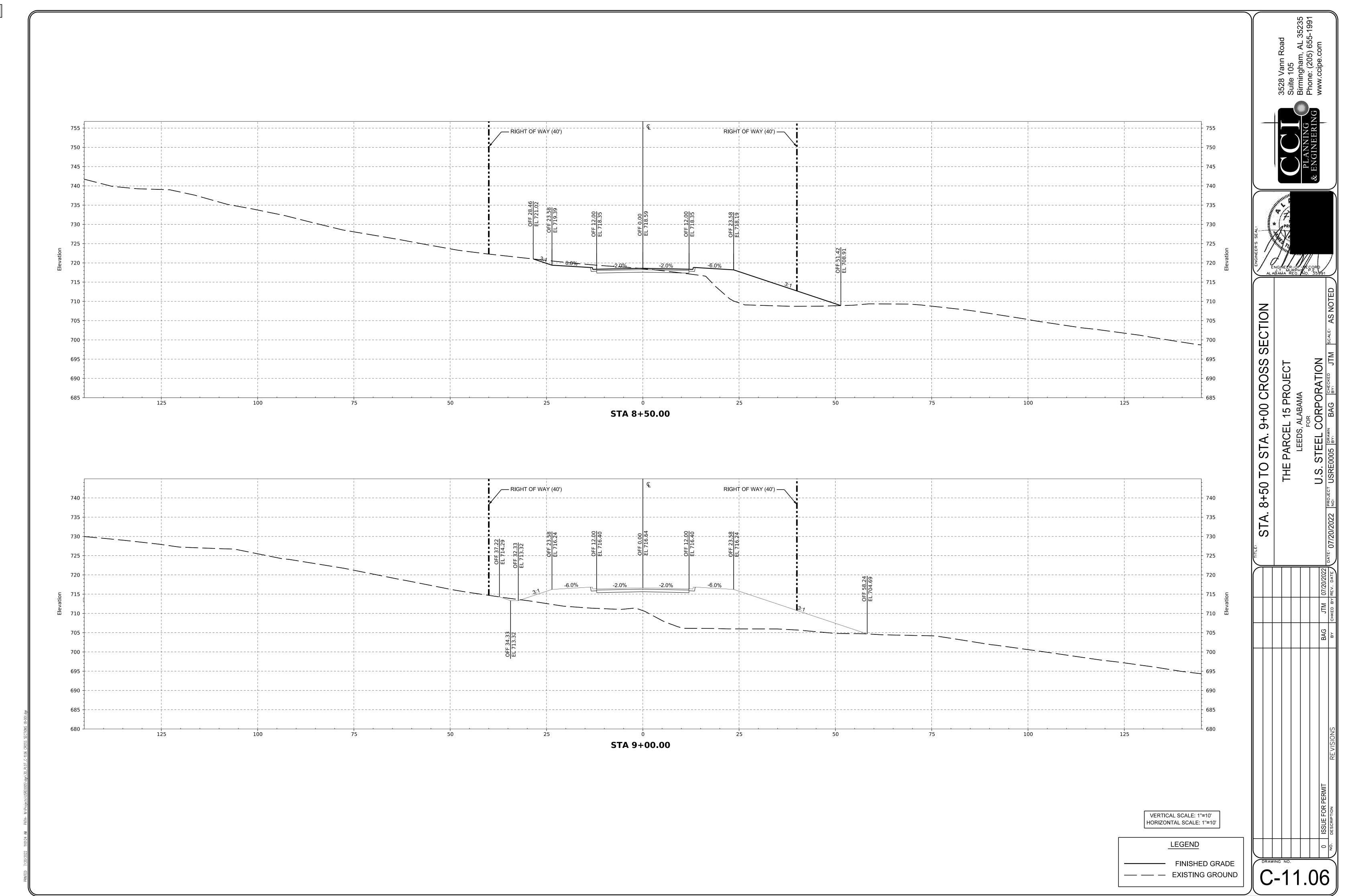
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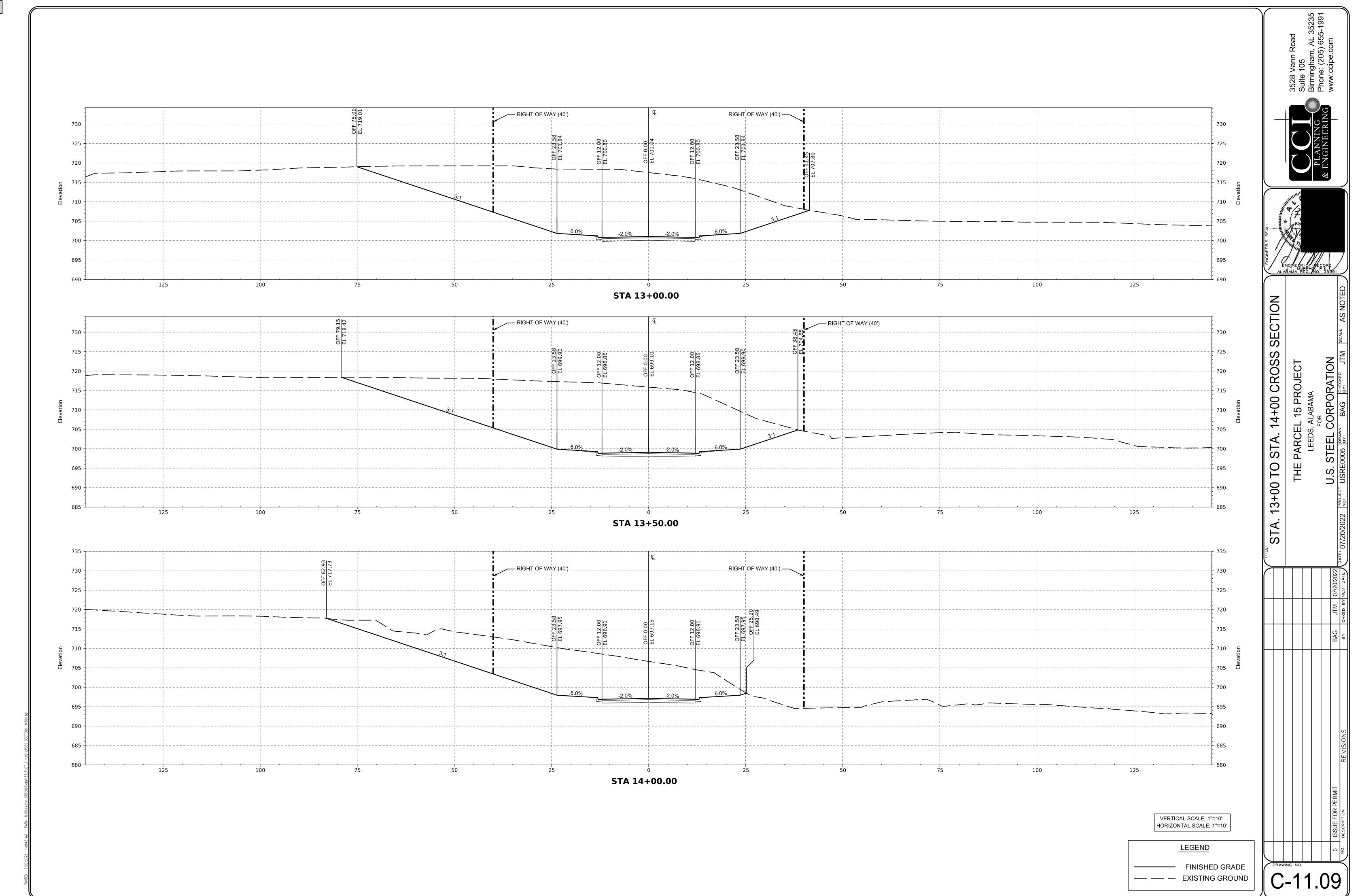
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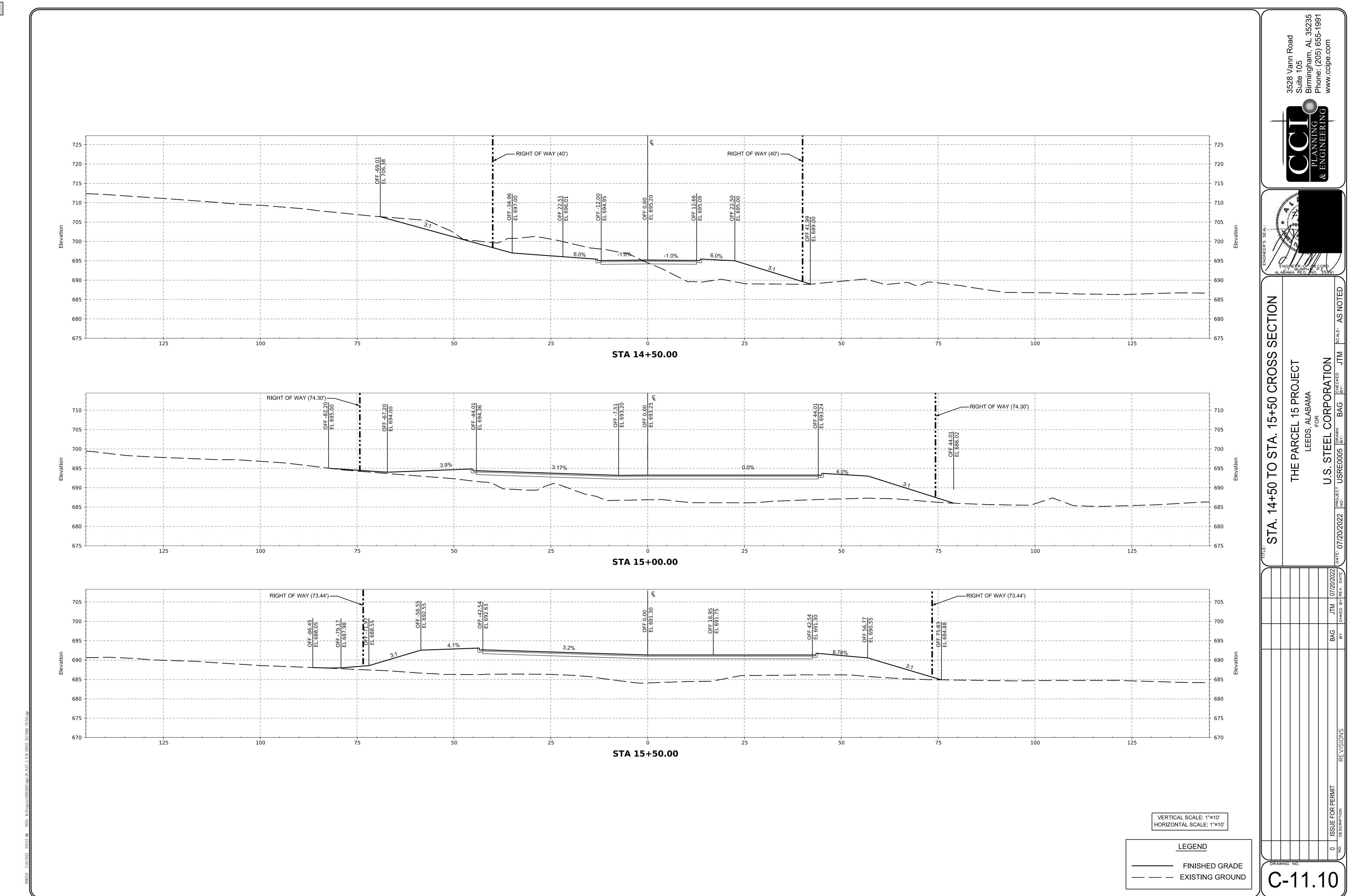


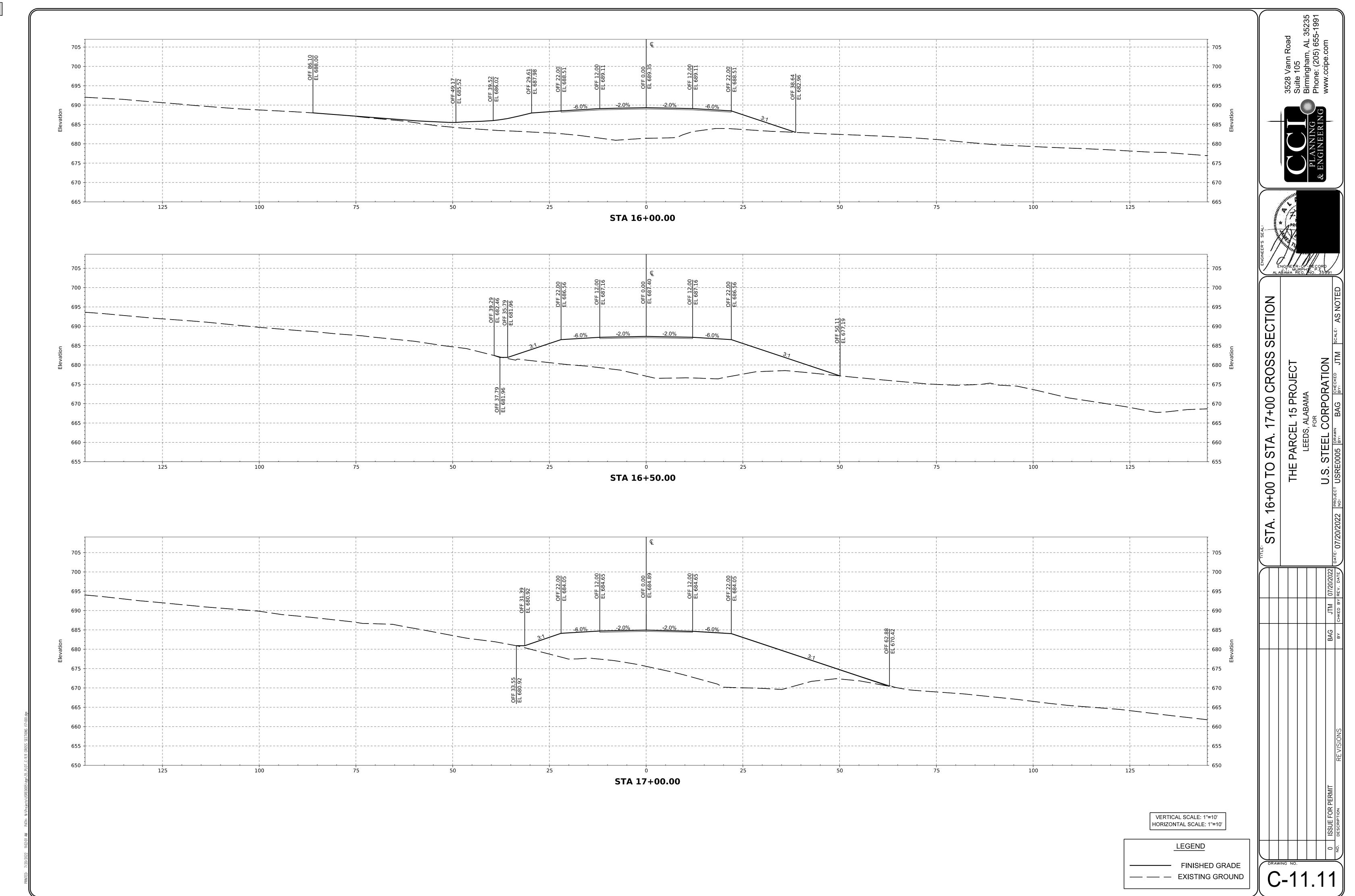


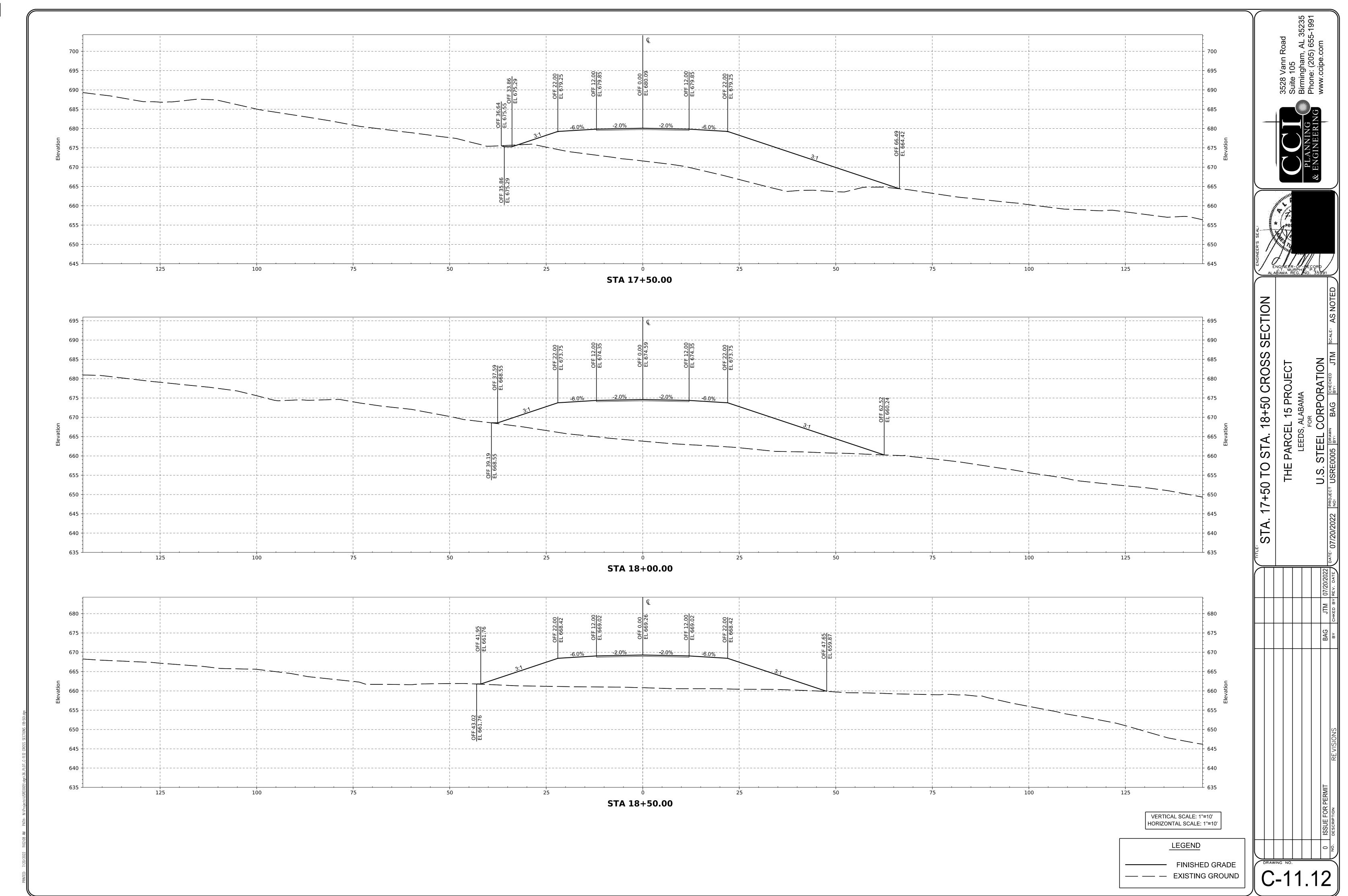


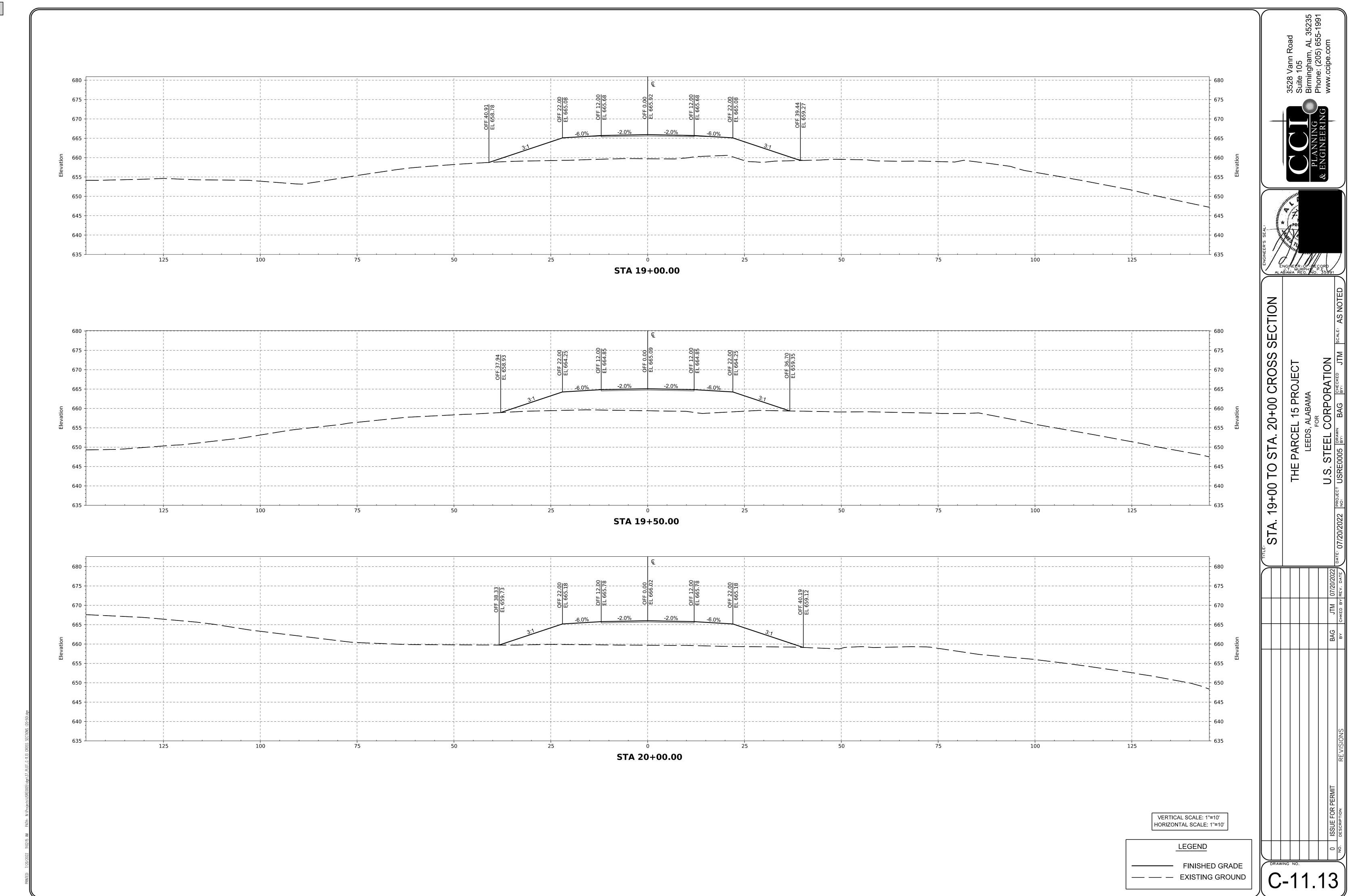


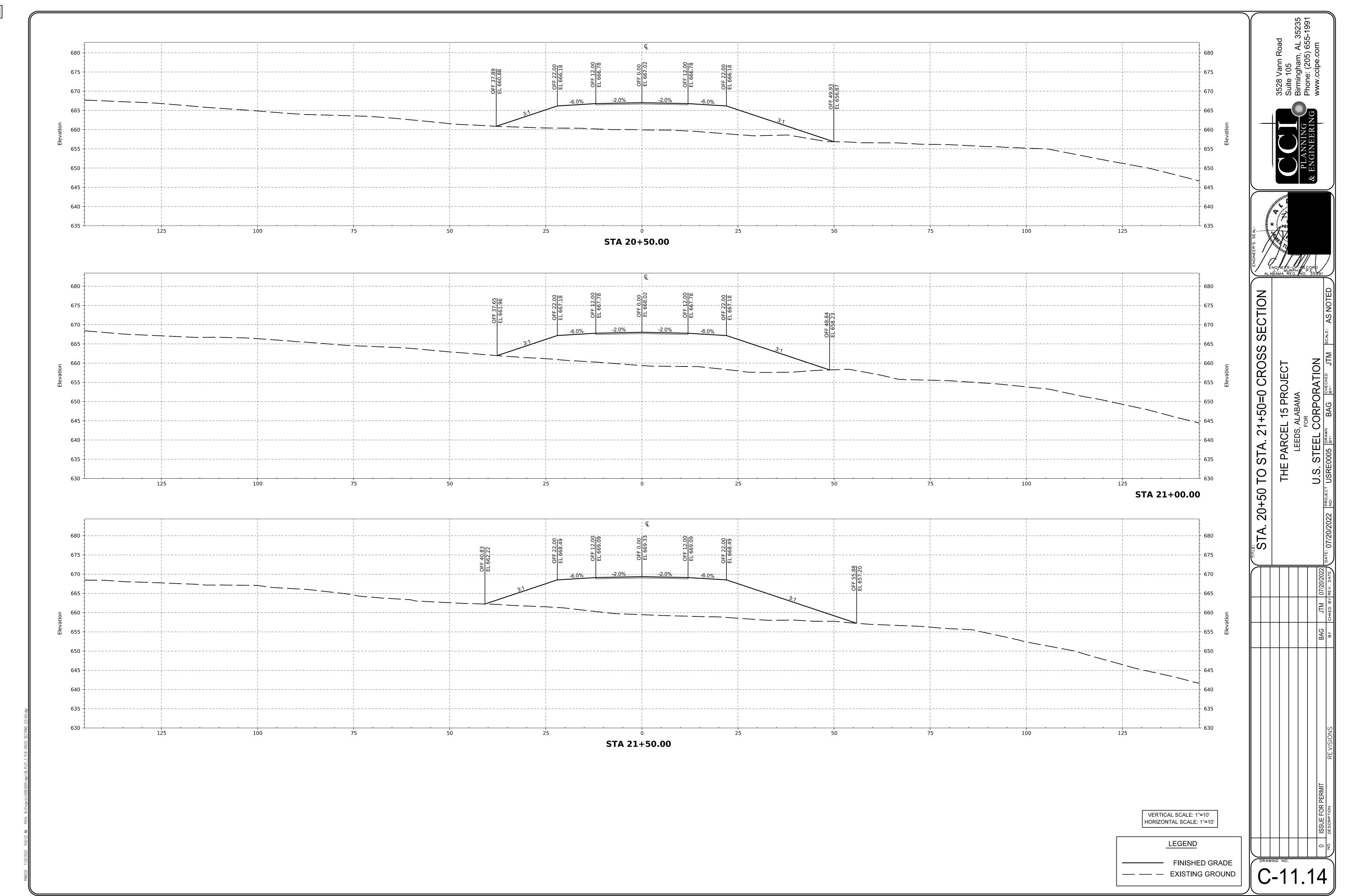


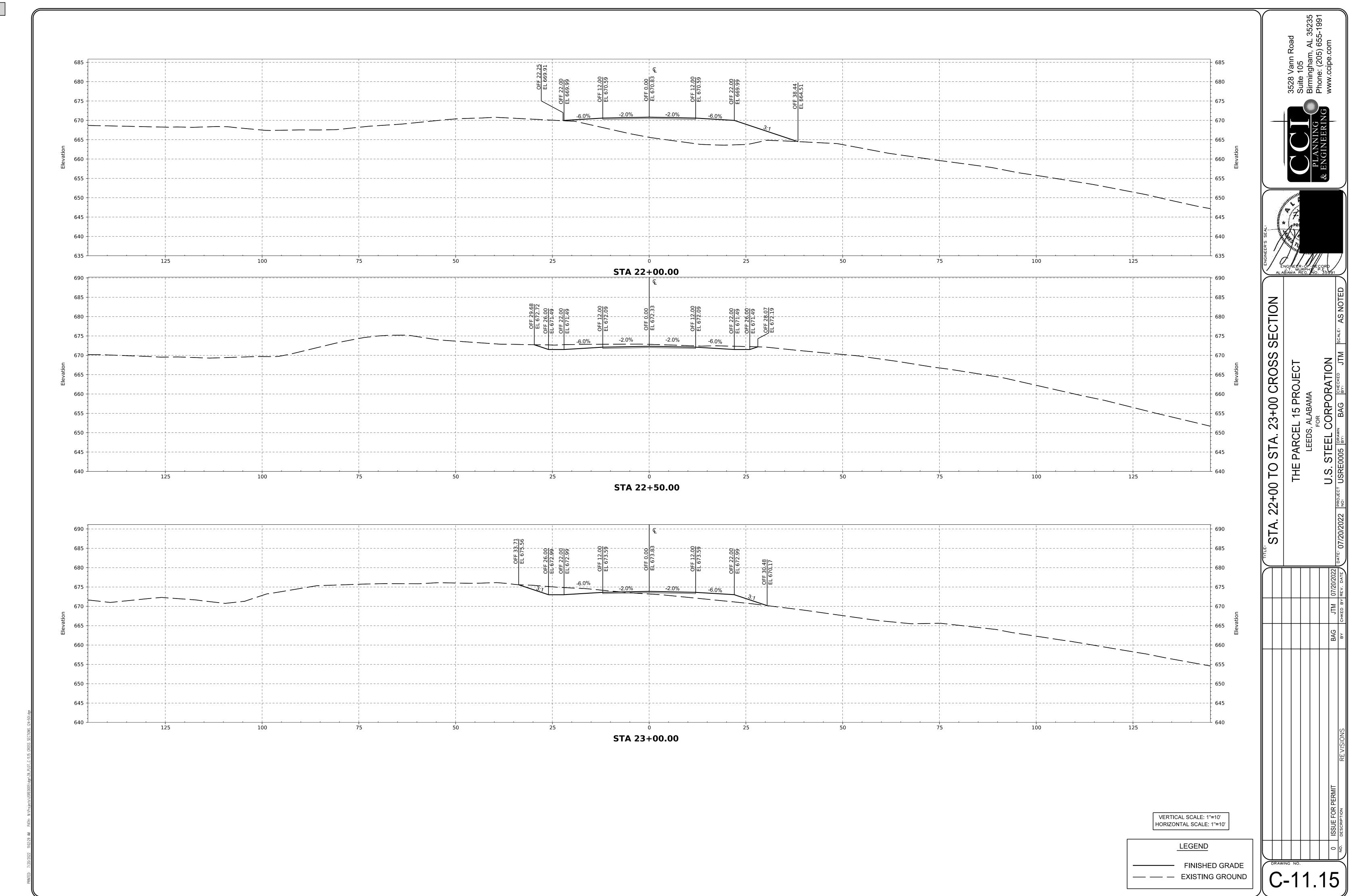


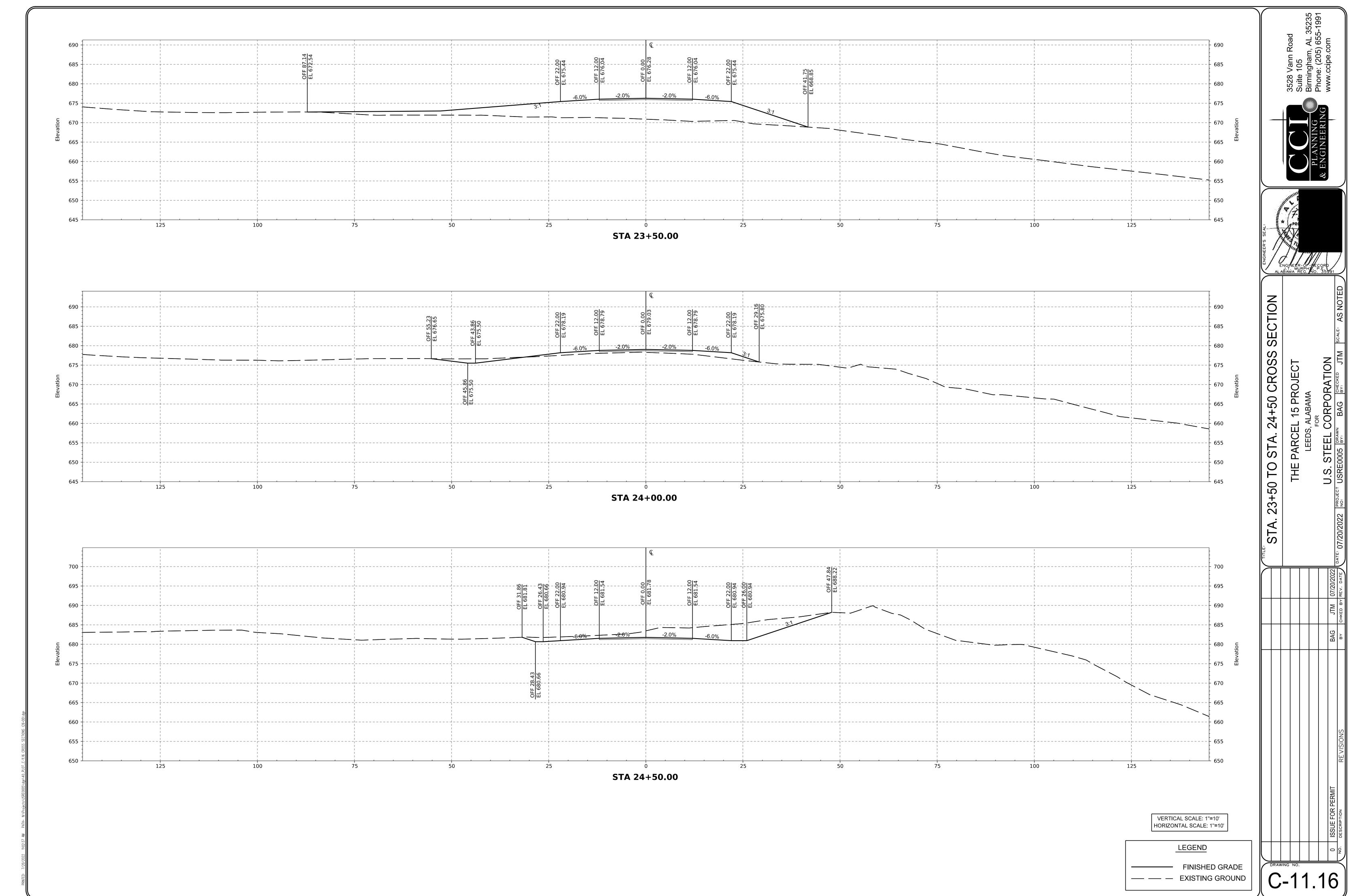


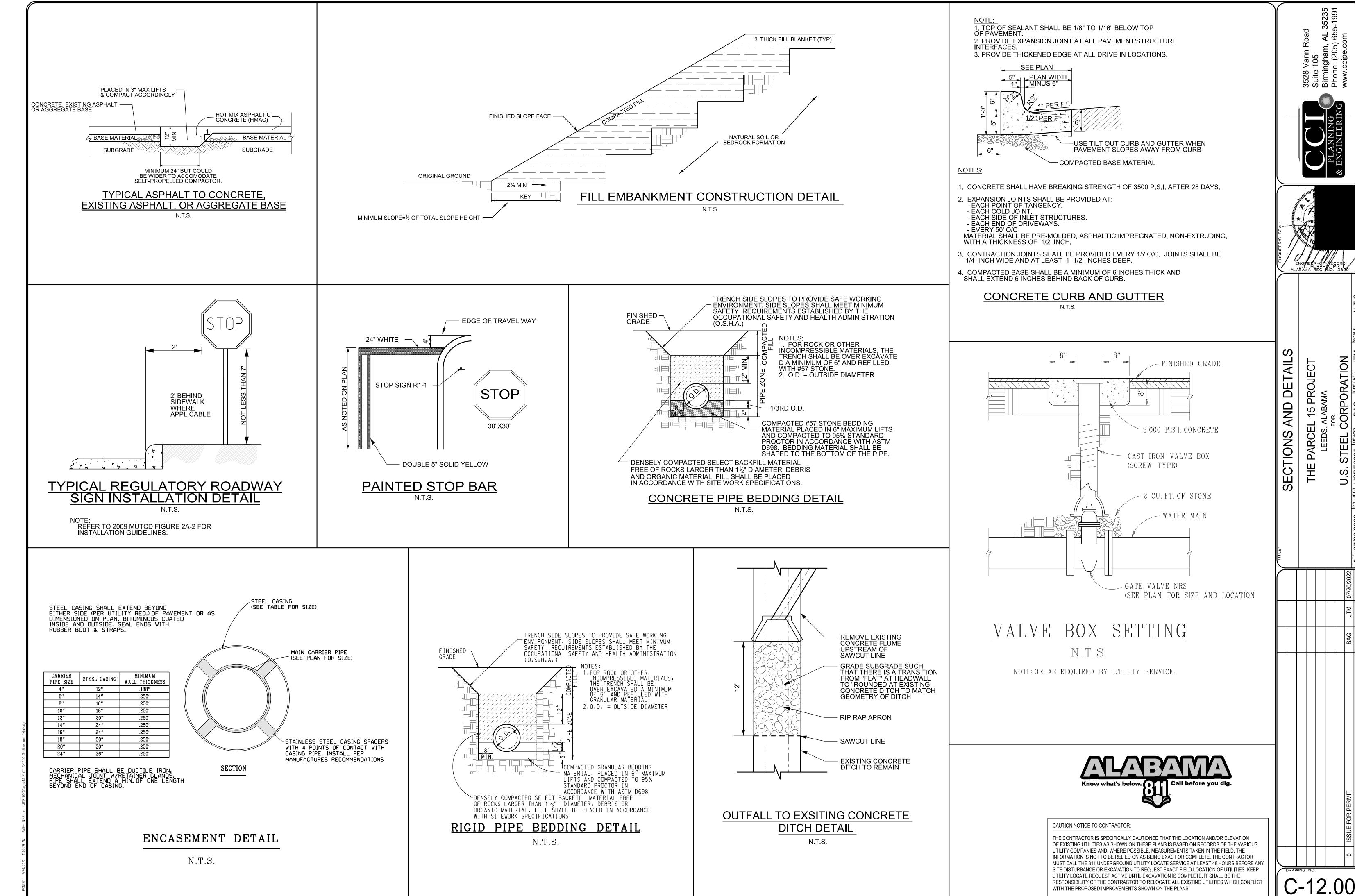








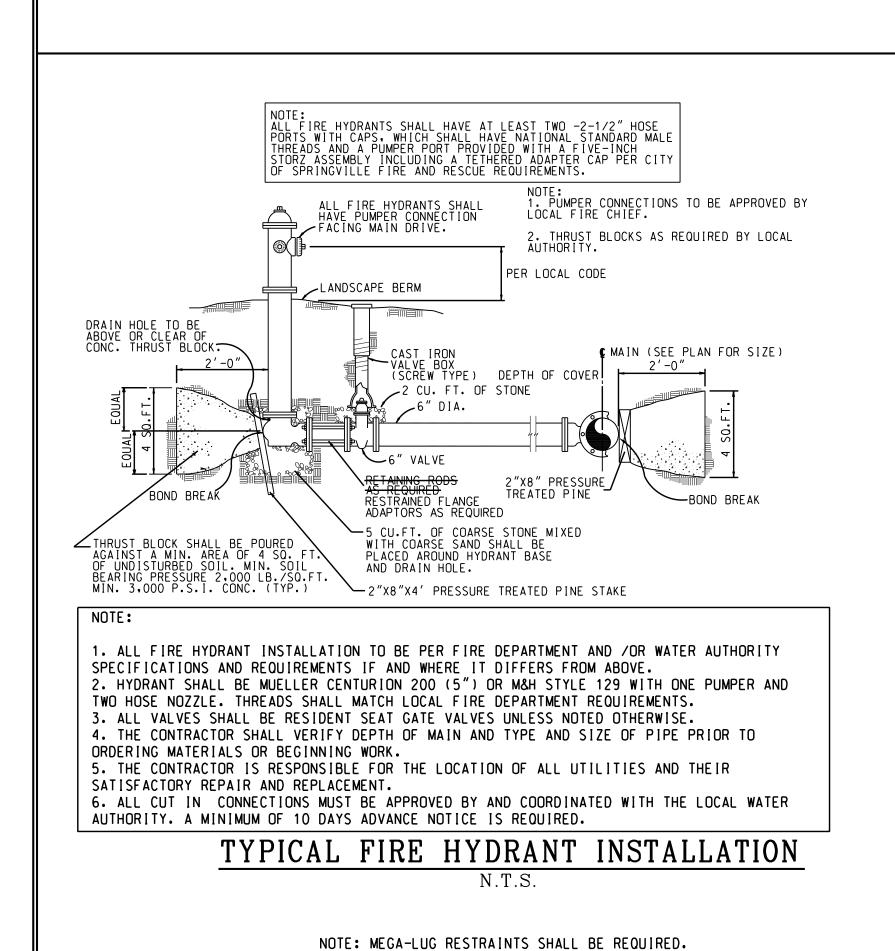




COORDINATE FITTING CONFIGURATION WITH THE LOCAL WATER AUTHORITY.

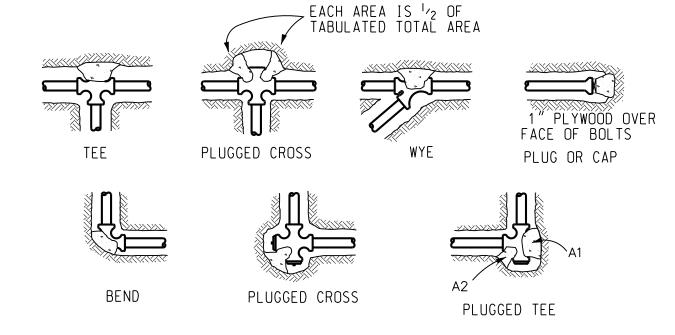
## TYPICAL WATER MAIN VALVE LAYOUT

N.T.S.



LOCKING HYDRANT ADAPTERS MAY BE USED INSTEAD

OF MEGA-LUG RESTRAINTS.



#### NOTES:

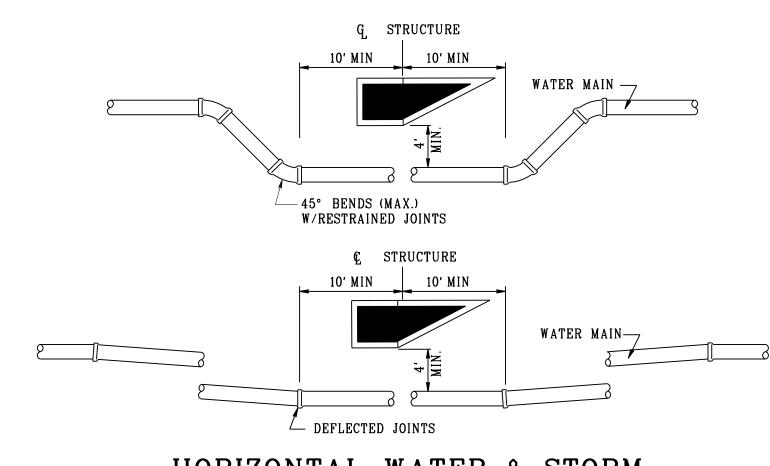
- 1. CONCRETE THRUST BLOCKING TO BE POURED AGAINST UNDISTURBED EARTH.
- 2. KEEP CONCRETE CLEAR OF JOINT AND ACCESSORIES. WRAP ALL FITTINGS WITH PLASTIC BEFORE ANY CONCRETE IS POURED.
- 3. REQUIRED BEARING AREAS AT FITTING SHALL BE AS INDICATED BELOW, ADJUSTED IF NECESSARY, TO CONFORM TO THE ACTUAL TEST PRESSURE(S) AND ALLOWABLE SOIL BEARING STRESS(ES).
- 4. BEARING AREAS AND SPECIAL BLOCKING DETAILS SHOWN ON PLANS TAKE PRECEDENCE OVER BEARING AREAS AND BLOCKING DETAILS SHOWN ON THIS STANDARD DETAIL.

FITTING SIZE	TEE, WYE, PLUG, OR CAP	90° BEND PLUGGED CROSS	PLU	EE GGED RUN   A1	45° BEND	22 <sup>1</sup> /2° BEND	11
4	2.0	3.0	3.5	3.0	1.5	1.0	0.5
6	4.0	5.5	6.8	5.5	3.0	1.5	1.0
8	6.5	9.5	11.0	9.5	5.0	3.0	1.5
10	10.0	14.0	15.5	14.0	7.5	4.0	2.0
12	14.0	19.5	20	19.5	10.5	5.5	3.0

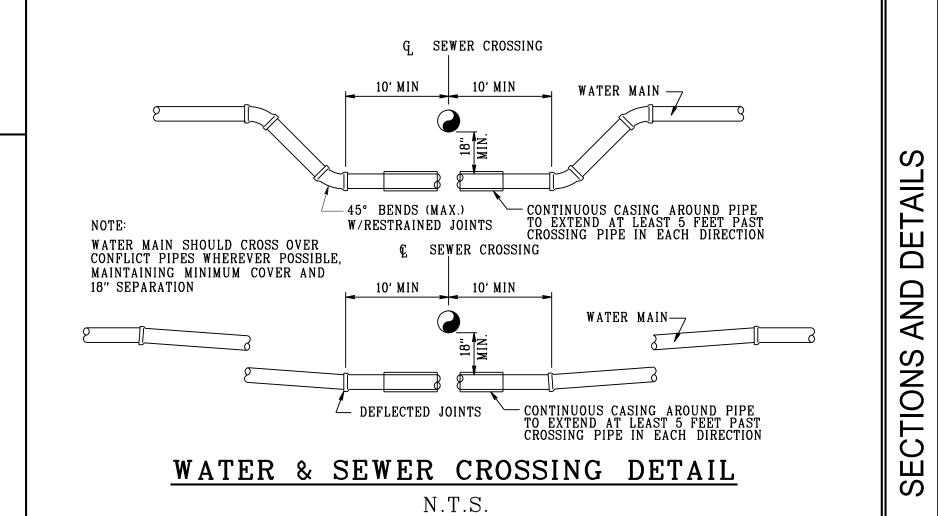
ABOVE BEARING AREAS BASED ON TEST PRESSURE OF 200 P.S.I. AND AN ALLOWABLE SOIL BEARING STRESS OF 2,000 POUNDS PER SQUARE FOOT. TO COMPUTE BEARING AREAS FOR DIFFERENT TEST PRESSURES AND SOIL BEARING STRESSES, USE THE FOLLOWING EQUATION: BEARING AREA = (TEST PRESSURE/200) X (2000/SOIL BEARING STRESS) X (TABLE VALUE).

## THRUST BLOCKING DETAILS

N.T.S.



#### HORIZONTAL WATER & STORM STRUCTURE SEPARATION DETAIL N.T.S.



CORPORATION

TOWNSTONE

TOWNSTAND

PARCEL 15 PROJECT LEEDS, ALABAMA

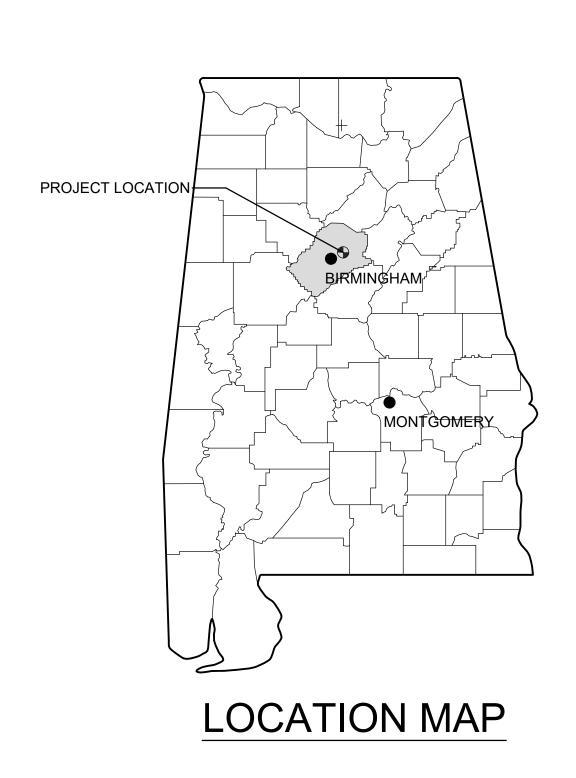


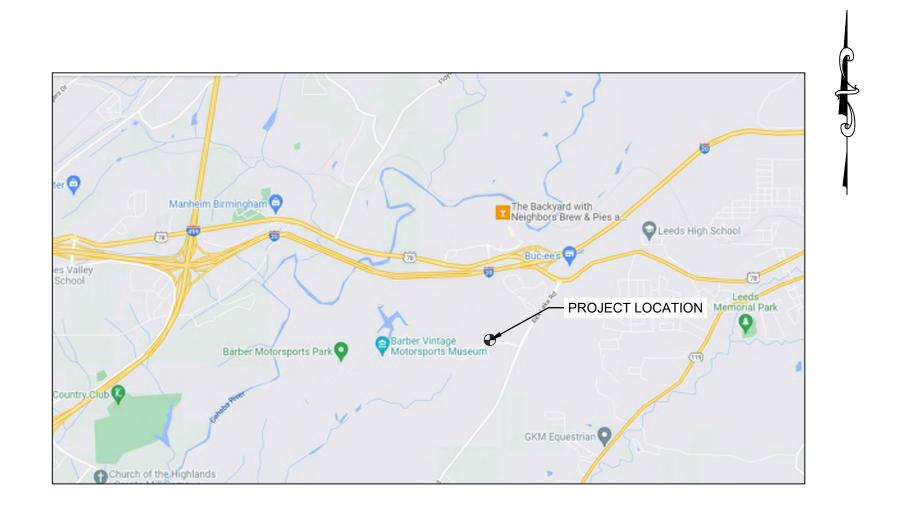
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# CIVIL CONSULTANTS, INC. PARCEL 15 FORCE MAIN

LEEDS, ALABAMA





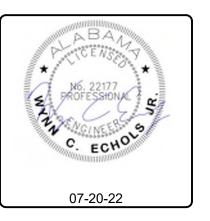
VICINITY MAP

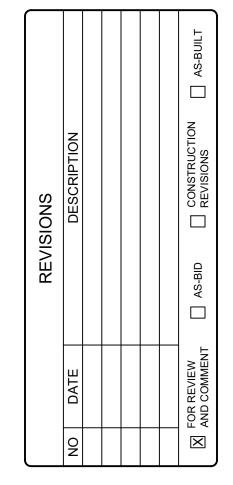
NOT TO SCALE

JULY, 2022









CIVIL CONSULTANTS, INC
LEEDS, AL
PARCEL 15 FORCE MAIN

COVER SHEET

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO:	CC-	22068
DATE:	JULY	′ 2022
DESIGNED	BY:	WCE
DRAWN B	Y:	TCW
DWG:	00	)-C-01
SHEET NUMBER	0	1

# **ABBREVIATIONS**

AT ABOVE FLOOR FINISH ALUMINUM APPROX APPROXIMATE APPROX ARV ASPH ASSY BLDG BLK BM BOT, BTM CCP CI AIR RELEASE VALVE ASPHALT **ASSEMBLY** BUILDING BLOCK BENCHMARK BOTTOM CONCRETE CULVERT PIPE CAST IRON CJ CONSTRUCTION JOINT CENTER LINE CL CMU CONN CONT CP DIA EF EFF ELEC EL EW EXP FFE FIN GR FL GR GR GR GV GV CLASS CONCRETE MASONRY UNIT CONCRETE CONNECTION CONTINUOUS CONTROL POINT DIAMETER DUCTILE IRON **EACH FACE** EFFLUENT ELECTRICAL **ELEVATION EQUAL EACH WAY EXISTING EXPANSION** FINISH FLOOR ELEVATION FIRE HYDRANT FINISH GRADE FLOW LINE FLANGED FOOT FOOTING **GAS LINE** GRADE GRAVEL GATE VALVE H,HGT,HT HORIZ HWY ID HEIGHT HORIZONTAL HIGHWAY INSIDE DIAMETER IN
INF
INV
JT
LEN
LG
LOC
LT INCHES INFLUENT INVERT JOINT LENGTH LONG LOCATION LEFT MANUF MAX MGD MH MIN MANUFACTURER MAXIMUM MILLION GALLONS PER DAY MANHOLE MINIMUM MISC MISCELLANEOUS MJ MECHANICAL JOINT NORTH NIC NOT IN CONTRACT NO,# NTS NUMBER NOT TO SCALE OC OD PC PE ON CENTER OUTSIDE DIAMETER POINT OF CURVE (START CURVE) PLAIN END PΙ POINT OF INTERSECTION PL PLATE PLS PO PP PSI PT **PLACES** PUSH ON POWER POLE POUNDS PER SQUARE INCH POINT OF TANGENT (END CURVE) PVC POLYVINYL CHLORIDE R,RAD RADIUS RCP REINFORCED CONC PIPE RED REDUCER REINF REINFORCING REQD REQUIRED RFGs RESTRAINING FOLLOWER GLANDS RJ RESTRAINED JOINT ROW, R/W RIGHT-OF-WAY RS RESILIENT SEAT RT RIGHT SOUTH SCH SCHEDULE SECT SECTION SF SQUARE FEET SHT SHEET SPECS **SPECIFICATIONS** SQ SQUARE SS STAINLESS STEEL STA STATION STD STANDARD T&B TOP AND BOTTOM TBM TEMPORARY BENCHMARK TEMP THK TOC TYP TEMPORARY THICKNESS TOP OF CURB TYPICAL VALVE, VOLTS VERT VERTICAL W WEST, WIDTH, WATER W/ WITH W/O WITHOUT

WL

WS

WWF

WWTP

WATER LINE

WATERSTOP

BY

WELDED WIRE FABRIC

WASTEWATER TREATMENT PLANT

# LEGEND

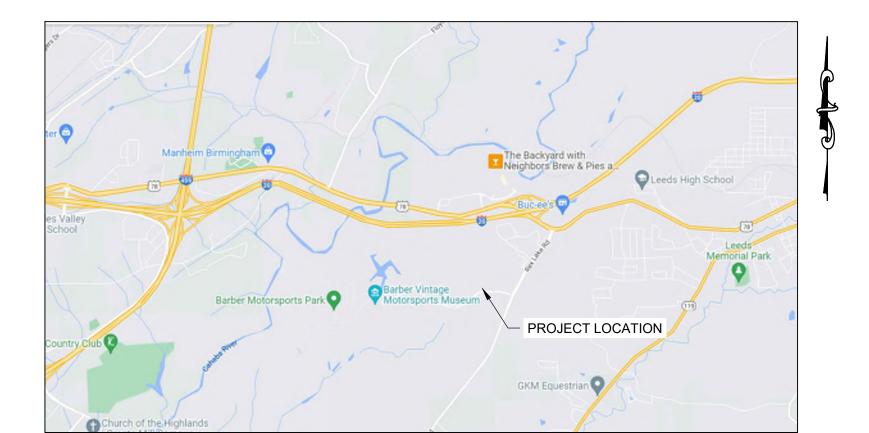
	PROPOSED FACILITIES, LINES, ETC
	EXISTING FACILITIES, LINES, ETC
—— HS ——	HUNTSVILLE SEWER
s	SANITARY SEWER
FM	SEWER FORCE MAIN
w	WATER MAIN
—— GAS——	GAS MAIN
OE	OVERHEAD ELECTRIC
	STORM SEWER
	GRAVEL ROAD OR DRIVE
<u> </u>	RAILROAD
x x	FENCE
	WATER EDGE
	TREE LINE
83	TREE OR SHRUB
H	FIRE HYDRANT
(H)	YARD HYDRANT
w∨ ⊠	WATER VALVE
sv 	SEWER VALVE
	WATER METER
	SECTION MARK
	SECTION NUMBER SHEET NUMBER
-	DETAIL NUMBER SHEET NUMBER
	NORTH ARROW
A	AIR RELIEF VALVE
(HS)	HUNTSVILLE SEWER MANHOLE
S	SEWER MANHOLE
	CATCH BASIN
<del>-</del> -	SIGN
X RIR	RAILROAD CROSSING
8	MAILBOX
	TELEPHONE PEDESTAL
GAS	GAS VALVE
	STORM SEWER INLET
<b>�</b>	BENCH MARK
B	BORE
þ	UTILITY POLE
	STATION MARK
<del>)</del>	GUIDE WIRE ANCHOR
	CONCRETE WING WALL
	PROPERTY PIN
⊡	MONUMENT
©	GAS REGULATOR
<del>]</del>	CAP EXISTING LINE
$\Diamond$	LIGHT POLE
<b>XX</b>	DEMOLISH OR REMOVE
	EXISTING ROADS & SIDEWALKS
_	FUTURE ROADS & SIDEWALKS
<b>(</b>	TRACER ACCESS BOX
$\bigcirc$	TRACER ACCESS BOX PROFILE LABELS

11+50

STATION

# SHEET INDEX

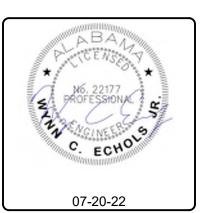
SHT#	DWG#	DRAWING TITLE		
00 - 0	GENERAL			
01	00-C-01	COVER SHEET		
02	00-C-02	LEGEND, SHEET INDEX & SITE LOCATION MAP		
03	00-C-03	PROJECT NOTES		
04	00-C-04	OVERALL PROJECT MAP		
10 - FORCE MAIN PLAN & PROFILE				
05	10-C-20	FORCE MAIN PLAN & PROFILE - STA 0+00 TO 12+50		
06	10-C-21	FORCE MAIN PLAN & PROFILE - STA 12+50 - 25+00		
07	10-C-22	FORCE MAIN PLAN & PROFILE - STA 25+00 - END		
95 - [	DETAILS			
08	95-C-01	TYPICAL DETAILS THRUST RESTRAINT		
09	95-C-02	MISCELLANEOUS DETAILS SHEET #1		
10	95-C-03	MISCELLANEOUS DETAILS SHEET #2		
11	95-C-04	MISCELLANEOUS DETAILS SHEET #3		

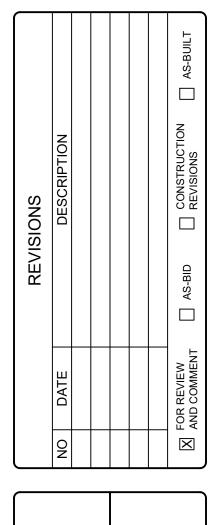


SITE LOCATION MAP

NOT TO SCALE







/IL CONSULTANTS, INC LEEDS, AL PARCEL 15 FORCE MAIN

LEGEND, SHEET INDEX & SITE LOCATION MAP

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO:	CC-22068
DATE:	JULY 2022
DESIGNED	BY: WCE
DRAWN BY	Y: TCW
DWG:	00-C-02
SHEET NUMBER	02

#### SANITARY SEWER STANDARD NOTES

- . ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF JEFFERSON COUNTY ENVIRONMENTAL SERVICES DEPARTMENT, CITY OF LEEDS DEVELOPMENT SERVICES REQUIREMENTS AND/OR THE STATE HIGHWAY DEPARTMENT, AND O.S.H.A. REGULATIONS, AS APPLICABLE.
- 2. THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST ASSOCIATED WITH ANY FINES OR DAMAGES CAUSED BY THE DISCHARGE OF SEDIMENTS OR ANY OTHER VIOLATION UNDER THIS PERMIT
- $^{3.}\,$  HIGH DENSITY POLYETHYLENE (HDPE) PIPE SHALL MEET THE REQUIREMENTS OF AWWA C900 FOR POLYETHYLENE PRESSURE PIPE AND FITTINGS AND FOR PE-3408 (SDR 11). HDPE PIPE SHALL MEET ASTM D-3350 CELL CLASSIFICATION OF PE 345434C. PERMANENT IDENTIFICATION OF THE PIPE SHALL BE PROVIDED BY CO-EXTRUDING GREEN LONGITUDINAL STRIPES INTO THE PIPES OUTSIDE SURFACE FOR LOW PRESSURE SEWER SYSTEM MAINS. ALL POLYETHYLENE PIPING SHALL HAVE DUCTILE IRON PIPE NOMINAL OUTSIDE DIAMETERS.
- INDIVIDUAL SECTIONS OF HDPE PIPING SHALL BE JOINED TOGETHER BY THERMAL BUTT-FUSION TO MAKE A CONTINUOUS SECTION OF PIPE AS RECOMMENDED BY THE PIPE MANUFACTURER. BENDS IN HDPE PIPE SHALL NOT BE WITHIN TEN (10) PIPE DIAMETERS FROM ANY FITTING OR VALVE. THE MINIMUM RADIUS OF CURVATURE SHALL BE THIRTY (30) PIPE DIAMETERS AND BENDING SHALL NOT CAUSE KINKING. HDPE. PIPING SHALL NOT BE JOINED BY SOLVENT CEMENTS, ADHESIVE, OR THREADED TYPE CONNECTIONS. THE COLOR MARKING STRIPES SHALL BE ALIGNED DURING THE FUSING PROCESS.
- ALL MJ FITTING CONNECTIONS TO POLYETHYLENE PIPE SHALL BE RESTRAINED WITH MEGA-LUG RESTRAINERS. THE HDPE PIPE SHALL BE REINFORCED ON THE FITTING ENDS USING STAINLESS STEEL WEDGE INTERNAL STIFFENERS.THE MECHANICAL CONNECTION TO MJ FITTINGS AND SLEEVES SHALL USE MECHANICAL RESTRAINTS THAT MEET SPECIFICATION REQUIREMENTS.
- 4. ALL CONNECTIONS AND TRANSITIONS OF SANITARY SEWERS SHALL BE MADE WITH MECHANICAL JOINT COUPLINGS AND TRANSITION GASKETS (IF REQUIRED)
- 5. MANHOLES SHALL MEET ASTM SPECIFICATION C-478. JOINTS BETWEEN THE MANHOLE SECTIONS SHALL BE OFFSET TONGUE AND GROOVE "PUSH ON" TYPE, SUPPLIED WITH TYLOX SUPER SEAL PRE-LUBRICATED GASKET AS MANUFACTURED BY HAMILTON KENT MEETING THE REQUIREMENTS OF ASTM C443. EACH JOINT SHALL ALSO BE SUPPLIED WITH CONSEAL CS-231 WATERSTOP SEALANT AS MANUFACTURED BY CONCRETE SEALANTS. IN WIDTHS AS RECOMMENDED BY THE MANUFACTURER. MANHOLES SHALL HAVE A MINIMUM DIAMETER OF 48 INCHES AND A MINIMUM THICKNESS OF 5 INCHES. ALL MANHOLE CONES SHALL BE OF THE CONCENTRIC TYPE. MANHOLES MAY BE FINISHED TO STREET GRADE WITH BRICK AND MORTAR. THIS ADJUSTMENT HEIGHT SHALL NOT EXCEED 16 INCHES.
- 6. CONTRACTOR WILL BE RESPONSIBLE FOR THE CONTINUOUS AND PROPER OPERATION OF ALL EXISTING UTILITIES LOCATED ON OR ADJACENT TO THE PROJECT SITE AND WITHIN THE CONSTRUCTION LIMITS OF THIS PROJECT.
- 7. ALL EMBANKMENT FILL AREAS SHALL BE FILLED AND COMPACTED PRIOR TO EXCAVATION OF SEWER.
- 8. CONTRACTOR WILL BE RESPONSIBLE FOR THE CONSTRUCTION AND MAINTENANCE OF EROSION AND SEDIMENTATION CONTROLS AND FOR ACQUISITION OF ALL PERMITS DURING CONSTRUCTION TO INSURE THAT DAMAGE DOES NOT OCCUR TO ADJACENT PROPERTIES. PUBLIC ROADS AND/OR DITCHES (CREEKS, STREAMS).
- 9. UPON COMPLETION OF ALL OR ANY PART OF A SANITARY SEWER LINE, THE CONTRACTOR WILL BE REQUIRED TO TEST SAID SEWER FOR ACCEPTABILITY. GRAVITY SEWERS WILL BE PRESSURE TESTED WITH AIR. FORCE MAIN SEWERS WILL BE PRESSURE TESTED WITH WATER. MANHOLES WILL BE VACUUM TESTED. ALL TESTS WILL BE CONDUCTED IN THE PRESENCE OF THE ENGINEER IN ACCORDANCE WITH THE SPECIFICATIONS. GRAVITY SANITARY SEWERS MAY BE TELEVISION INSPECTED FOLLOWING AIR TESTING WITH THE FINAL VIDEO TAPE AND LOG FURNISHED TO THE ENGINEER FOR RECORD INFORMATION.
- 10. ROCK SHALL BE UNDERCUT A MINIMUM OF 4" AND PIPE BEDDED IN STONE. NO SEPARATE PAY ITEM EXISTS FOR ROCK EXCAVATION. ALL EXCAVATION SHALL BE CONSIDERED TO BE UN-CLASSIFIED EXCAVATION AND SUBSIDIARY TO OTHER BID ITEMS.
- 11. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY BACKUPS OR OVERFLOWS RESULTING FROM HIS WORK AND ALL SUBSEQUENT DAMAGES, FINES, PENALTIES, OR OTHER COSTS INCURRED.
- 12. D.I. FORCE MAIN PIPE AND FITTINGS MUST BE EPOXY LINED

#### **CONCRETE IN MINOR STRUCTURES**

- CLASS "B" CONCRETE SHALL BE REINFORCED OR NON-REINFORCED CONCRETE HAVING A 28-DAY MINIMUM COMPRESSIVE STRENGTH OF 3,500 POUNDS PER SQUARE INCH. CLASS B CONCRETE SHALL BE USED FOR TRENCH BOTTOM STABILIZATION, PIPE PROTECTION ENCASEMENT, PIPE COLLARS, ANCHORS, MASSIVE SECTIONS, AND SIMILAR WORK.
- CONCRETE SHALL BE MANUFACTURED AND DELIVERED TO THE PROJECT SITE BY A READY-MIX MANUFACTURER EXPERIENCED IN READY-MIX CONCRETE.
- . READY-MIX CONCRETE SHALL COMPLY WITH REQUIREMENTS OF ASTM C-94, AND AS SPECIFIED.
- . MIX CONCRETE ONLY IN QUANTITIES FOR IMMEDIATE USE.
- 5. CONCRETE MIX DESIGN FOR PARTICULAR APPLICATIONS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- REINFORCING MATERIAL FOR CAST IN PLACE CONCRETE:
- A. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-615, A-616, OR A- 617.
- REINFORCING BARS SHALL BE GRADE 60 DEFORMED BARS, OR AS SPECIFIED ON THE PLANS. B. WELDED WIRE FABRIC OR COLD-DRAWN WIRE FOR CONCRETE REINFORCEMENT SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-185 OR ASTM A-82, RESPECTIVELY.
- C. THE CONTRACTOR SHALL MAINTAIN REINFORCING IN PROPER POSITION DURING CONCRETE PLACEMENT.
- CONCRETE PLACEMENT:
- A. PRIOR TO PLACING ORDER FOR CONCRETE, THE CONTRACTOR SHALL INSPECT AND COMPLETE FORM WORK INSTALLATION, REINFORCING STEEL, AND ITEMS TO BE EMBEDDED OR CAST IN. THE CONTRACTOR SHALL NOTIFY OTHER CRAFTS TO PERMIT INSTALLATION OF THEIR WORK; AND COOPERATE WITH OTHER TRADES IN SETTING SUCH WORK. IN ADDITION TO OTHER EQUIPMENT REQUIRED FOR PLACEMENT, THE CONTRACTOR SHALL PROVIDE STANDBY VIBRATORS (MINIMUM OF TWO (2) UNITS) DURING ALL CONCRETE PLACEMENT.
- B. THE CONTRACTOR SHALL COMPLY WITH ACI 304, "RECOMMENDED PRACTICE FOR MEASURING. MIXING, TRANSPORTING, AND PLACING CONCRETE", AND AS HEREIN SPECIFIED.
- C. FRESHLY PLACED CONCRETE SHALL BE PROTECTED FROM WASHY RAIN, FLOWING WATER, OR OTHER INJURIOUS CONDITIONS, AND SHALL NOT BE ALLOWED TO BECOME DRY FROM THE TIME IT IS PLACED UNTIL THE EXPIRATION OF THE 7-DAY CURING PERIOD. D. THE CONTRACTOR SHALL CONSOLIDATE PLACED CONCRETE BY HAND HELD MECHANICAL
- VIBRATING EQUIPMENT SUPPLEMENTED BY HAND-SPADING, RODDING, OR TAMPING. THE CONTRACTOR SHALL USE EQUIPMENT AND PROCEDURES FOR CONSOLIDATION OF CONCRETE IN ACCORDANCE WITH ACI 309.
- E. THE CONTRACTOR SHALL CONSOLIDATE CONCRETE DURING PLACING OPERATIONS SO THAT CONCRETE IS THOROUGHLY WORKED AROUND REINFORCEMENT AND OTHER EMBEDDED ITEMS
- F. THE CONTRACTOR SHALL PROTECT CONCRETE WORK FROM PHYSICAL DAMAGE OR REDUCED STRENGTH THAT COULD BE CAUSED BY FROST, FREEZING ACTIONS, OR LOW TEMPERATURES IN ACCORDANCE WITH PROVISIONS OF ACI 306.
- G. THE CONTRACTOR SHALL MAINTAIN THE CONCRETE AT A TEMPERATURE OF NOT LESS THAN 50° F AND NOT MORE THAN 90° F FOR A PERIOD NOT LESS THAN 72 HOURS.
- CONCRETE MATERIALS: A. PORTLAND CEMENT SHALL CONFORM TO THE FOLLOWING: ALL WATER BEARING STRUCTURES SHALL CONFORM TO TYPE II-V ASTM C-150, NON- WATER BEARING STRUCTURES SHALL CONFORM
- TO THE REQUIREMENTS OF ASTM C-150, TYPE I. B. THE CONTRACTOR SHALL USE ONE BRAND OF CEMENT THROUGHOUT THE PROJECT UNLESS
- OTHERWISE ACCEPTABLE TO THE ENGINEER. C. FLY ASH SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-618, TYPE F.
- D. FINE AGGREGATES SHALL CONFORM TO THE REQUIREMENTS OF ASTM C-33. THE CONTENT OF MATERIAL PASSING A NUMBER 200 SIEVE SHALL NOT EXCEED 4 PERCENT. THE CONTRACTOR
- SHALL USE ONLY CLEAN, SHARP, NATURAL SAND. E. COARSE AGGREGATES SHALL BE CRUSHED LIMESTONE CONFORMING TO THE REQUIREMENTS OF ASTM C- 33. CRUSHED LIMESTONE FOR COARSE AGGREGATE SHALL CONSIST OF UNCOATED PARTICLES OF SOUND, DURABLE ROCK OF UNIFORM QUALITY CONTAINING NO MORE THAN 15 PERCENT FLAT OR ELONGATED PARTICLES (LONG DIMENSION MORE THAN FIVE TIMES THE SHORT DIMENSION). CONTENT OF MATERIAL PASSING A NUMBER 200 SIEVE SHALL NOT EXCEED 0.5 PERCENT. NO SURFACE, YELLOW OR SOFT STONE SHALL BE PERMITTED. THE SPECIFIC GRAVITY OF THE STONE SHALL NOT BE LESS THAN 2.56. F. WATER SHALL BE CLEAN AND POTABLE.
- G. THE CONTRACTOR SHALL PROVIDE CONCRETE ADMIXTURES WHICH CONTAIN NOT MORE THAN 0.1 PERCENT CHLORIDE IONS.

#### PIPE TESTING REQUIREMENTS

- PIPE TESTING REQUIREMENTS
- HYDROSTATIC LEAKAGE TEST: (WARNING: THE TESTING METHODS DESCRIBED IN THIS SECTION ARE SPECIFIC FOR WATER-PRESSURE TESTING. THESE PROCEDURES SHOULD NOT BE APPLIED FOR AIR-PRESSURE TESTING BECAUSE OF THE SERIOUS SAFETY HAZARDS INVOLVED.)
  - . TESTING BEFORE BACKFILL:
  - A. ALL BACKUP BLOCKS AND ANCHORS SHALL HAVE BEEN IN PLACE AT LEAST 48 HOURS PRIOR TO TESTING.
  - B. THE TEST PRESSURE SHALL BE MAINTAINED FOR 2 HOURS OR LONGER AS IS NECESSARY FOR TIME TO INSPECT THE PIPE LINE FOR VISIBLE LEAKS AND AS IS REQUIRED TO OBTAIN A REASONABLE TIME FOR LEAKAGE MEASUREMENT.
  - 2. TEST RESTRICTIONS:
  - A. THE CONTRACTOR SHALL FURNISH ALL MATERIALS, LABOR, AND EQUIPMENT TO PERFORM ALL TESTING. WATER FOR TESTING PURPOSES MAY BE PROVIDED BY THE OWNER IF SO ARRANGED FOR BY THE CONTRACTOR. THE CONTRACTOR SHALL REIMBURSE THE OWNER FOR ALL WATER USED FOR CONSTRUCTION AT CURRENT WATER RATES.
  - PRESSURIZATION:
  - A. AFTER THE FORCE MAIN PIPE HAS BEEN LAID AND PARTIALLY BACKFILLED, ALL PIPE, OR ANY VALVED SECTION, SHALL UNLESS OTHERWISE SPECIFIED, BE SUBJECTED TO HYDROSTATIC PRESSURE OF ONE HUNDRED (100) PSI.THE PRESSURE TEST SHALL BE FOR AT LEAST TWO (2) HOURS OR UNTIL THE LINE HAS BEEN COMPLETELY INSPECTED FOR VISIBLE LEAKS, WHICHEVER IS LONGER.
- A. BEFORE TESTING, ALL AIR SHALL BE EXPELLED FROM THE LINE. ALL NECESSARY TAPS TO EXPEL THE AIR SHALL BE MADE AND THEN ALL TAPS PLUGGED WATERTIGHT. IN NO CASE SHALL WATER BE OBTAINED FROM EXISTING WATER MAINS THROUGH DIRECT CONNECTIONS TO THE FORCE MAINS.
- A. ALL EXPOSED PIPE, FITTINGS, VALVES, AND JOINTS SHALL BE EXAMINED CAREFULLY DURING THE TEST. ANY DAMAGE OR DEFECTIVE PIPE, FITTINGS, VALVES, HYDRANTS, OR JOINTS THAT ARE DISCOVERED FOLLOWING THE PRESSURE TEST SHALL BE REPAIRED OR REPLACED WITH SOUND MATERIAL, AND THE TEST SHALL BE REPEATED UNTIL SATISFACTORY RESULTS ARE OBTAINED.
- A. LEAKAGE SHALL BE DEFINED AS THE QUANTITY OF WATER THAT MUST BE SUPPLIED INTO THE NEWLY LAID PIPE OR ANY VALVED SECTION THEREOF TO MAINTAIN PRESSURE WITHIN 5 PSI (34.5 KPA) OF THE SPECIFIED TEST PRESSURE AFTER THE PIPE HAS BEEN FILLED WITH WATER AND THE AIR HAS BEEN EXPELLED. LEAKAGE SHALL NOT BE MEASURED BY A DROP IN PRESSURE IN A TEST SECTION OVER A

PERIOD OF TIME.

A. APPROVED AND SUITABLE MEANS SHALL BE PROVIDED FOR DETERMINING THE QUANTITY OF WATER LOST BY LEAKAGE. NO PIPE INSTALLATION WILL BE ACCEPTED UNTIL OR UNLESS THE LEAKAGE (EVALUATED ON A PRESSURE BASIS OF ONE HUNDRED (100) PSI) IS LESS THAN TWENTY-FIVE (25) U.S. GALLONS PER TWENTY-FOUR (24) HOURS PER MILE OF PIPE PER INCH NOMINAL DIAMETER OF

PIPE. ANY OBSERVED LEAKS SHALL BE REPAIRED.

#### **EROSION CONTROL NOTES**

- . THE CONTRACTOR WILL BE RESPONSIBLE FOR MAINTENANCE OF ALL TEMPORARY EROSION CONTROL DEVICES DURING CONSTRUCTIONS AS TO INSURE PERMIT COMPLIANCE, INCLUDING PROTECTING ADJACENT PROPERTY, STREAMS, CHANNELS, AND PUBLIC ROADS. THE CONTRACTOR SHALL ASSUME LIABILITY FOR ALL FAILURES OF THE SYSTEM AND BE RESPONSIBLE FOR CLEANUP AND/OR REPAIRS TO THE SYSTEM.
- THE CONTRACTOR WILL BE RESPONSIBLE FOR THE COST ASSOCIATED WITH ANY FINES OR DAMAGES CAUSED BY THE DISCHARGE OF SEDIMENTS OR ANY OTHER VIOLATION UNDER THIS PERMIT
- 3. THE MEASURES SHOWN ON THE PLANS ARE INTENDED FOR CONTROL DURING SITE CLEARING AND GRADING. ADDITIONAL MEASURES, INCLUDING SILT FENCES, HAY BALES, AND CHECK DAMS, WILL BE REQUIRED AS SITE CONDITIONS CHANGE DURING CONSTRUCTION
- I. COORDINATE THE INSTALLATION OF THE SEDIMENTATION AND EROSION CONTROL MEASURE WITH THE CLEARING AND GRUBBING OPERATION. THESE ACTIVITIES MUST OCCUR IN THE PROPER SEQUENCE IN RELATION TO ONE ANOTHER TO COMPLY WITH THE PERMIT.
- 5. THE CONTRACTOR WILL INSTALL AND MAINTAIN THE EROSION AND SEDIMENTATION CONTROL MEASURE (BOTH TEMPORARY AND PERMANENT) AS A CONTINUING PROGRAM UNTIL THE SITE WORK IS COMPLETE AND THE SITE IS STABILIZED. ALL CONTROL MEASURES SHALL BE CHECKED, AND REPAIRED AS NECESSARY, MONTHLY IN DRY PERIODS AND WITHIN TWENTY -FOUR24) HOURS AFTER ANY RAINFALL AT THE SITE OF 75 INCH WITHIN A TWENTY- FOUR (24) HOUR PERIOD. DURING PROLONGED RAINFALLS, DAILY CHECKING AND, IF NECESSARY, REPAIRING SHALL BE DONE
- 6. ALL EROSION CONTROL MEASURES COMPROMISED BY SEDIMENT BUILD- UP INCLUDING RIP RAP, SILT FENCES, HAY DAMS, CHECKS, OR OTHER DEVICES, WILL BE REPAIRED OR REPLACED AS NECESSARY
- ANY PIPE, CREEK, OR OTHER STORM DRAINAGE FEATURE SHOWING EVIDENCE OF SEDIMENT ACCUMULATION SHALL BE CLEANED OUT. THE SEDIMENT REMOVED SHALL BE DISPOSED OF IN A LOCATION APPROVED BY THE OWNER OR HIS REPRESENTATIVE
- B. DO NOT DEPOSIT WASTE, LOOSE SOIL OR OTHER MATERIALS IN LIVE STREAMS, SW ALES OR DRAINAGE WAYS, EXCEPT AS APPROPRIATE FOR EROSION CONTROL (E.G. LOG AND BRUSH CHECKS).
- 9. AFTER THE EROSION ACTIVITY HAS STABILIZED, THE CONTRACTOR IS RESPONSIBLE FOR REMOVING THE TEMPORARY EROSION CONTROL DEVICES AT THE DIRECTION OF THE OWNER AND CLEANING UP AND DRESSING THE AREA TO THE SATISFACTION OF THE OWNER.
- 0. ADEQUATE PROTECTIVE MEASURES SHALL BE PROVIDED FOR THE CONTAINMENT HAZARDOUS SUBSTANCES AND ANY OTHER MATERIAL WHICH MAY POLLUTE STORM WATER, INCLUDING PETROLEUM PRODUCTS, LUBRICANTS, AND PAINT. ADEQUATE PROTECTIVE MEASURES SHALL BE PROVIDED FOR THE CONTAINMENT HAZARDOUS SUBSTANCES AND OTHER MATERIALS, WHICH MAY POLLUTE INCLUDING PETROLEUM PRODUCTS, LUBRICANTS, AND PAINTS, SHALL BE STORED IN ACCORDANCE TO WITH SPCC REGULATIONS. THESE SUBSTANCES SHALL BE STORED AWAY FROM ALL STORMS DRAINS, DITCHES, AND GUTTERS IN WATER TIGHT CONTAINERS. DISPOSAL OF THESE MATERIALS SHALL BE IN ACCORDANCE WITH ADEM REGULATIONS. CONTRACTOR SHALL PROVIDE ADEQUATE TRASH CONTAINERS ON SITE FOR DISPOSAL OF CONSTRUCTION MATERIALS CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING TRASH FROM THE SITE TO ENTER THE STORM DRAINAGE SYSTEM.
- . SILT FENCE BARRIER SHALL BE FABRIC 36 INCHED IN WIDTH (MIN.) AND BE ENVIROFENCE 100X AS MANUFACTURED BY MIRAFI, INC. OR APPROVED EQUAL. THE FABRIC SHALL BE SUPPORTED BY WIRE FENCE, HAVING A MINIMUM OF 6 LINE WIRES AND A MAXIMUM OF 12" STAY SPACING. WIRE FENCE SHALL BE SUPPORTED BY STEEL POSTS OR WOOD POST ( 4" DIA. OR SQ.) WITH #9 WIRE STAPLES (11/2" L MIN.)THE BOTTOM EDGE OF THE FENCE WILL BE PLACED IN A EXCAVATED TRENCH 6" DEEP AND COVERED AS SHOWN IN THE SILT FENCE DETAIL.
- 2. ALL STORM SEWER INLETS IN DISTURBED AREAS OR IN OTHER AREAS SUBJECT TO POTENTIAL INFLOW OF SEDIMENT SHALL BE PROTECTED AT A MINIMUM WITH HAY BALES AND SILT FENCE.
- 13. ALL DISTURBED AREAS THAT WILL REMAIN INACTIVE FOR MORE THAN 14 DAYS MUST BE SEEDED AND
- 14. ANY DISTURBANCE OF SOIL AND VEGETATION OUTSIDE THE LIMITS OF THE CLEARING LINE WILL NOT BE PERMITTED UNDER ANY CONDITION.
- 15. PREVENT RUN-ON AND RUN-OFF FROM SOIL AND SEDIMENT PILES BY SURROUNDING PILE WITH HAY BALES AND/OR SILT FENCE.
- 16. PREVENT AND CONTROL SOIL EROSION AND GULLYING WITHIN THE PROPERTY COVERED BY CONTRACT AND THE ADJACENT PROPERTIES AS A RESULT OF CONSTRUCTION

#### PROJECT SPECIFIC NOTES

- CONTRACTOR SHALL NOTIFY GOVERNING AUTHORITIES A MINIMUM OF 2 WEEKS PRIOR TO BEGINNING ANY WORK WITHIN THE
- 2. ALL FEMA, USACE, COUNTY, CITY AND/OR STATE PERMITS SHALL BE IN HAND AND ON SITE DURING THE CONSTRUCTION OF THE PROJECT.
- 3. ALL PERMITS, OTHER THAN THOSE LISTED IN THE SPECIFICATIONS, FOR THE DEVELOPMENT OF THESE PLANS ARE THE CONTRACTOR'S RESPONSIBILITY AND SHOULD BE OBTAINED PRIOR TO DISTURBING ANY AREAS OR BEGINNING ANY
- $\mathsf{4.}$  CONTRACTOR SHALL COORDINATE HIS WORK WITH ALL OTHER CONCURRENT WORK BEING PERFORMED IN THE  $\,$  AREA.
- 5. A SIGNED AND SEALED COPY OF THE PLANS SHALL BE MAINTAINED ON SITE AND MADE READILY AVAILABLE FOR THE DURATION OF THE CONSTRUCTION.
- 3. THE CONTRACTOR SHALL OBTAIN FROM THE ENGINEER ONE (1) SET OF BLUELINE PRINTS OF THE CONTRACT PLANS. THESE PLANS SHALL BE KEPT AND MAINTAINED IN GOOD CONDITION AT THE PROJECT SITE AND A QUALIFIED REPRESENTATIVE OF THE CONTRACTOR SHALL ENTER UPON THESE PRINTS, FROM DAY-TO-DAY, THE ACTUAL "AS-BUILT" RECORD OF THE CONSTRUCTION PROGRESS. ENTRIES AND NOTATIONS SHALL BE MADE IN A NEAT AND LEGIBLE MANNER AND THESE PRINTS SHALL BE DELIVERED TO THE ENGINEER UPON COMPLETION OF THE CONSTRUCTION. APPROVAL FOR FINAL PAYMENT WILL BE CONTINGENT UPON COMPLIANCE WITH THIS PROVISION.
- 7. AFTER CONSTRUCTION BEGINS, THE CONTRACTOR SHALL BE RESPONSIBLE FOR INFORMING AND/OR NOTIFYING THE
- ENGINEER AT LEAST 2 WEEKS IN ADVANCE OF THE FOLLOWING: A. DAILY WORK SCHEDULE INCLUDING ANY CHANGES IN SCHEDULE.

WITH FIELD MODIFICATIONS INCORPORATED INTO CONSTRUCTION PLANS.

- B. IF WORK IS TO BE PERFORMED ON WEEKENDS AND/OR HOLIDAYS.
- C. DATES TRENCHES WILL BE OPEN AND SEWERS WILL BE INSTALLED.
- D. DATES STRUCTURES WILL BE INSTALLED. E. DATE ALL APPLICABLE TESTS ARE TO BE PERFORMED.
- F. DATE "AS-BUILT" VERIFICATION IS TO BE PERFORMED.
- G. ANY OTHER INFORMATION DEEMED NECESSARY TO ASSURE TO SANITARY SEWER FACILITIES ARE PROPERLY CONSTRUCTED.
- 3. ALL TESTING REQUIRED SHALL BE PERFORMED UNDER THE OBSERVATION OF THE ENGINEER, AND IT IS THE CONTRACTOR'S RESPONSIBILITY TO SCHEDULE THE TESTING WITH THE APPROPRIATE PARTY. TEST RESULTS OBTAINED IN THE ABSENCE OF THE ENGINEER SHALL NOT BE ACCEPTED. PROVIDE A MINIMUM OF 2 WEEKS NOTICE BEFORE COMMENCEMENT OF WORK AND TESTING.
- ). ANY PORTION OF THE SANITARY SEWER FACILITY NOT INSPECTED AS PRESCRIBED BY THIS SECTION MAY REQUIRE EXCAVATION TO THE EXTENT REQUIRED BY THE ENGINEER.
- 10. ANY PORTION OF THE SANITARY SEWER FACILITY NOT PASSING THE TESTS SHALL BE REPAIRED OR REPLACED TO THE EXTENT REQUIRED BY THE ENGINEER AND RETESTED.

12. CONTRACTOR SHALL PROVIDE AS-BUILT PACKAGE INCLUDING HARD COPIES AND ELECTRONIC FILES OF PROJECT PLANS

11. CONTRACTOR SHALL PROVIDE THREE (3) COPIES O&M MANUALS FOR EQUIPMENT INCLUDED IN THIS PROJECT.

3. THE MINIMUM COVER FROM THE TOP OF THE PIPE OF ALL SANITARY SEWER MAINS SHALL BE FOUR (4) FEET TO FINISHED SUBGRADE UNDER ROADWAYS AND THREE (3) FEET TO FINISHED GRADES ELSEWHERE. COVER OF MAINS TO LESS THAN MINIMUM DEPTHS SHALL REQUIRE WRITTEN APPROVA BY RIVIERA UTILITIES.

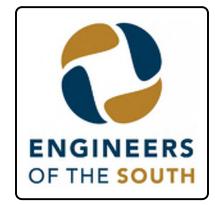
PROJECT SPECIFIC NOTES CONTINUED

- 4. WELDED STEEL ENCASEMENT PIPE WELDED STEEL ENCASEMENT PIPE SHALL BE OF THE SIZE AND WALL THICKNESS SHOWN ON THE PLANS AND SHALL CONFORM TO ASTM A252, GRADE 2. THE PIPE SHALL BE COATED ON THE OUTSIDE ONLY WITH A COAL TAR PRIMER COAT FOLLOWED BY A SINGLE APPLICATION OF HOT COAL TAR ENAMEL 3/32 INCHES THICK ±1/32 INCHES.
- 5. ENCASEMENT PIPE SPACERS WHEN PIPE IS INSTALLED IN ENCASEMENT PIPE, COMMERCIALLY-FABRICATED ENCASEMENT SPACERS (RACI CASING SPACERS OR APPROVED EQUIVALENT) SHALL BE USED TO PREVENT DAMAGE TO THE CARRIER PIPE BELL JOINTS DURING INSTALLATION AND TO PROVIDE PROPER LONG-TERM PIPE SUPPORT. THE INSTALLATION AND SPACING FROM CENTER TO CENTER OF ENCASEMENT SPACERS SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS FOR THE SPECIFIC INSTALLATION. USE OF WOODEN SKIDS WILL NOT BE PERMITTED. ENCASEMENT SPACERS MUST BE FASTENED SECURELY TO PREVENT SLIDING ALONG THE CARRIER PIPE AND SHALL PROVIDE SUFFICIENT HEIGHT TO PERMIT CLEARANCE BETWEEN BELL JOINTS AND TH ENCASEMENT WALLS. ENCASEMENT SPACERS SHALL BE CONSTRUCTED ENTIRELY OF NONMETALLIC MATERIALS.
- 3. ENCASEMENT PIPE END SEALS THE ENDS OF ENCASEMENT PIPE SHALL BE SEALED WITH APPROVED RUBBER END SEALS HAVING STAINLESS STEEL CLAMPING BANDS. MASONRY PLUGS SHALL NOT BE USED UNLESS APPROVED BY THE ENGINEER. FORCE MAINS SHALL BE CONSTRUCTED TO THE ALIGNMENT AND DEPTH REQUIRED. THE FORCE MAINS SHALL HAVE AT LEAST THIRTY (30) INCHES COVER UNLESS ADDITIONAL COVER IS REQUIRED BY THE PLANS. THE TRENCH SHALL BE BRACED AND DRAINED SO THAT WORKMAN MAY WORK SAFELY THEREIN. THE WIDTH OF THE TRENCH SHALL BE AT LEAST ONE (1) FOOT GREATER THAN THE NOMINAL DIAMETER OF THE PIPE AND THE MAXIMUM CLEAR WIDTH OF THE TRENCH SHALL BE NOT MORE THAN TWO (2) FEET GREATER THAN THE PIPE DIAMETER.

### GENERAL NOTES

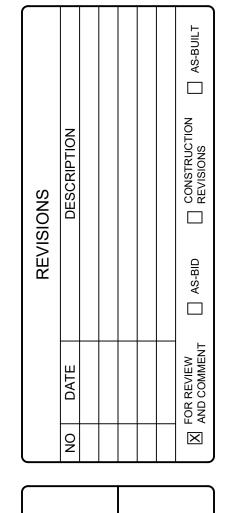
- SAFETY SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR SAFETY, MEANS, OR METHODS OF THE CONTRACTOR.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING ALL APPROPRIATE AGENCIES BEFORE WORK COMMENCES TO VERIFY THE TYPE, LOCATION, PROTECTION REQUIREMENTS, DEPTH OF ALL EXISTING UTILITIES, DRAINAGE FACILITIES, AND OTHER OBSTRUCTIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH REPAIRING AND/OR REPLACING ANY SUCH ITEMS DAMAGED DURING CONSTRUCTION.
- 3. UTILITIES ON PLANS AND PROFILES ARE SHOWN IN APPROXIMATE LOCATIONS AND MAY BE AT ASSUMED ELEVATIONS. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING LOCATIONS OF EXISTING UTILITIES, OBSTRUCTIONS, AND DRAINAGE STRUCTURES. UNLESS APPROVED IN ADVANCE BY THE ENGINEER AND OWNER, ALL EXISTING LINES SHALL REMAIN ACTIVE THROUGHOUT CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF EXISTING UTILITIES DURING CONSTRUCTION AND SATISFACTORY REPAIR OR REPLACEMENT OF, DAMAGED FACILITIES.
- . CONTRACTOR SHALL LOCATE AND UNCOVER ALL POTENTIALLY CONFLICTING UTILITIES BEFORE CONSTRUCTION GRADES OR DEPTHS OF CUT ARE FINALIZED AND PIPE IS LAID.
- APPROXIMATE LOCATIONS OF OVERHEAD POWER LINES MAY OR MAY NOT BE SHOWN ON PLANS. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR VERIFYING ALL LOCATIONS IN THE FIELD AND PLAN WORK IN THESE AREAS ACCORDINGLY.
- . CONTRACTOR SHALL BE RESPONSIBLE FOR SITE DRAINAGE, STORMWATER PERMITS, AND COMPLIANCE WITH ALL GOVERNMENTAL STORMWATER REGULATIONS.
- ALL ASPHALT AND CONCRETE PAVING REMOVED AND REPLACED SHALL BE NEAT SAW CUT.
- 8. ALL EXCAVATION BACKFILL SHALL BE COMPACTED TO MIN. 95% STANDARD PROCTOR DENSITY AND AS REQUIRED TO PREVENT SETTLEMENT.
- ). ALL CONNECTIONS TO EXISTING LINES TO BE COORDINATED WITH THE OWNER TO MINIMIZE INTERRUPTION OF SEWER SERVICE.
- 10. CONTRACTOR MUST COMPLY WITH LOCAL ELECTRICAL CODES.
- 11. CONTRACTOR MUST COMPLY WITH GENERAL OCCUPATIONAL SAFETY AND HEALTH REGULATIONS.

#### 7. THE CONTRACTOR IS RESPONSIBLE FOR PROPER COLLECTION, STORAGE, AND DISPOSAL OF SOLID AND SANITARY WASTES. DISPOSAL OF THESE WASTES SHALL BE OFF-SITE IN AN APPROPRIATELY PERMITTED FACILITY. JOB SAFETY IS NOT THE RESPONSIBILITY OF THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR JOB SITE SAFETY





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PROJECT NOTES

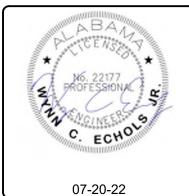
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AT FULL SCALE

JOB NO: CC-22068 DATE: JULY 2022 DESIGNED BY: WCE DRAWN BY: DWG: 00-C-03

SHEET NUMBER





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OVERALL PROJECT

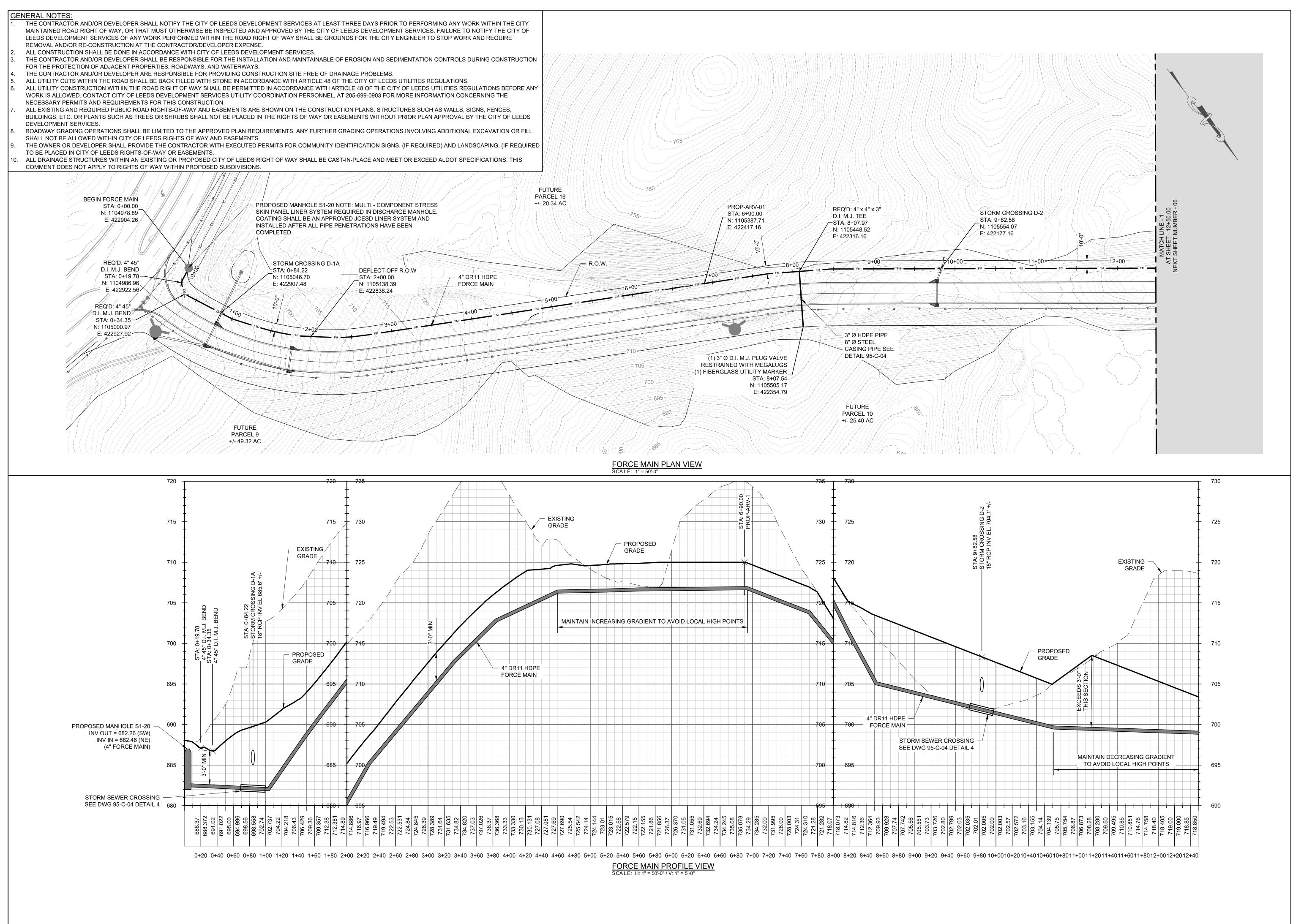
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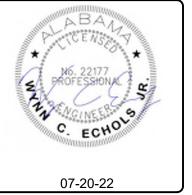
JOB NO: CC-22068 DATE: JULY 2022 DESIGNED BY: WCE

DRAWN BY: TCW

NUMBER







NO DATE DESCRIPTION

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FORCE MAIN PLAN & PROFILE - STA 0+00 - 12+50

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: CC-22068

DATE: JULY 2022

DESIGNED BY: WCE

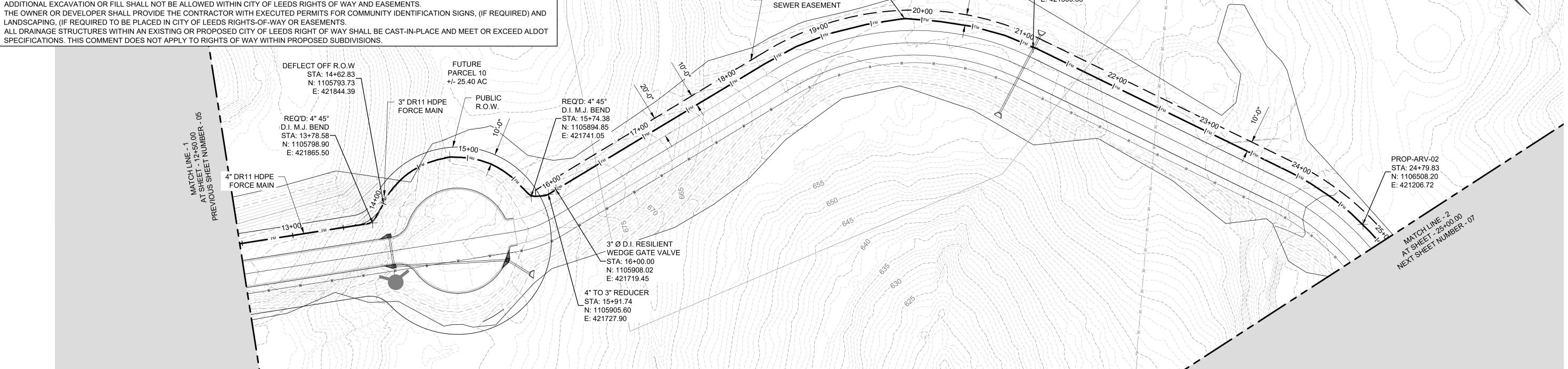
DRAWN BY: TCW

DWG: 10-C-20

SHEET NUMBER 05

**GENERAL NOTES:** 

- THE CONTRACTOR AND/OR DEVELOPER SHALL NOTIFY THE CITY OF LEEDS DEVELOPMENT SERVICES AT LEAST THREE DAYS PRIOR TO PERFORMING ANY WORK WITHIN THE CITY MAINTAINED ROAD RIGHT OF WAY, OR THAT MUST OTHERWISE BE INSPECTED AND APPROVED BY THE CITY OF LEEDS DEVELOPMENT SERVICES. FAILURE TO NOTIFY THE CITY OF LEEDS DEVELOPMENT SERVICES OF ANY WORK PERFORMED WITHIN THE ROAD RIGHT OF WAY SHALL BE GROUNDS FOR THE CITY ENGINEER TO STOP WORK AND REQUIRE REMOVAL AND/OR RE-CONSTRUCTION AT THE
- CONTRACTOR/DEVELOPER EXPENSE. ALL CONSTRUCTION SHALL BE DONE IN ACCORDANCE WITH CITY OF LEEDS DEVELOPMENT SERVICES.
- THE CONTRACTOR AND/OR DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTAINABLE OF EROSION AND SEDIMENTATION CONTROLS DURING CONSTRUCTION FOR THE PROTECTION OF ADJACENT PROPERTIES, ROADWAYS, AND WATERWAYS.
- THE CONTRACTOR AND/OR DEVELOPER ARE RESPONSIBLE FOR PROVIDING CONSTRUCTION SITE FREE OF DRAINAGE PROBLEMS.
- ALL UTILITY CUTS WITHIN THE ROAD SHALL BE BACK FILLED WITH STONE IN ACCORDANCE WITH ARTICLE 48 OF THE CITY OF LEEDS UTILITIES REGULATIONS.
- ALL UTILITY CONSTRUCTION WITHIN THE ROAD RIGHT OF WAY SHALL BE PERMITTED IN ACCORDANCE WITH ARTICLE 48 OF THE CITY OF LEEDS UTILITIES REGULATIONS BEFORE ANY WORK IS ALLOWED. CONTACT CITY OF LEEDS DEVELOPMENT SERVICES UTILITY COORDINATION PERSONNEL, AT 205-699-0903
- FOR MORE INFORMATION CONCERNING THE NECESSARY PERMITS AND REQUIREMENTS FOR THIS CONSTRUCTION. ALL EXISTING AND REQUIRED PUBLIC ROAD RIGHTS-OF-WAY AND EASEMENTS ARE SHOWN ON THE CONSTRUCTION PLANS. STRUCTURES SUCH AS
- WALLS, SIGNS, FENCES, BUILDINGS, ETC. OR PLANTS SUCH AS TREES OR SHRUBS SHALL NOT BE PLACED IN THE RIGHTS OF WAY OR EASEMENTS WITHOUT PRIOR PLAN APPROVAL BY THE CITY OF LEEDS DEVELOPMENT SERVICES.
- ROADWAY GRADING OPERATIONS SHALL BE LIMITED TO THE APPROVED PLAN REQUIREMENTS. ANY FURTHER GRADING OPERATIONS INVOLVING ADDITIONAL EXCAVATION OR FILL SHALL NOT BE ALLOWED WITHIN CITY OF LEEDS RIGHTS OF WAY AND EASEMENTS.
- LANDSCAPING, (IF REQUIRED TO BE PLACED IN CITY OF LEEDS RIGHTS-OF-WAY OR EASEMENTS.
- ALL DRAINAGE STRUCTURES WITHIN AN EXISTING OR PROPOSED CITY OF LEEDS RIGHT OF WAY SHALL BE CAST-IN-PLACE AND MEET OR EXCEED ALDOT



FORCE MAIN PLAN VIEW

DEFLECTION OFF R.O.W.

PROPOSED 20'

PARCEL A

ENVIRONMENTAL COVENANT

27.18 CALCULATED

STA: 20+45.79

N: 1106043.23

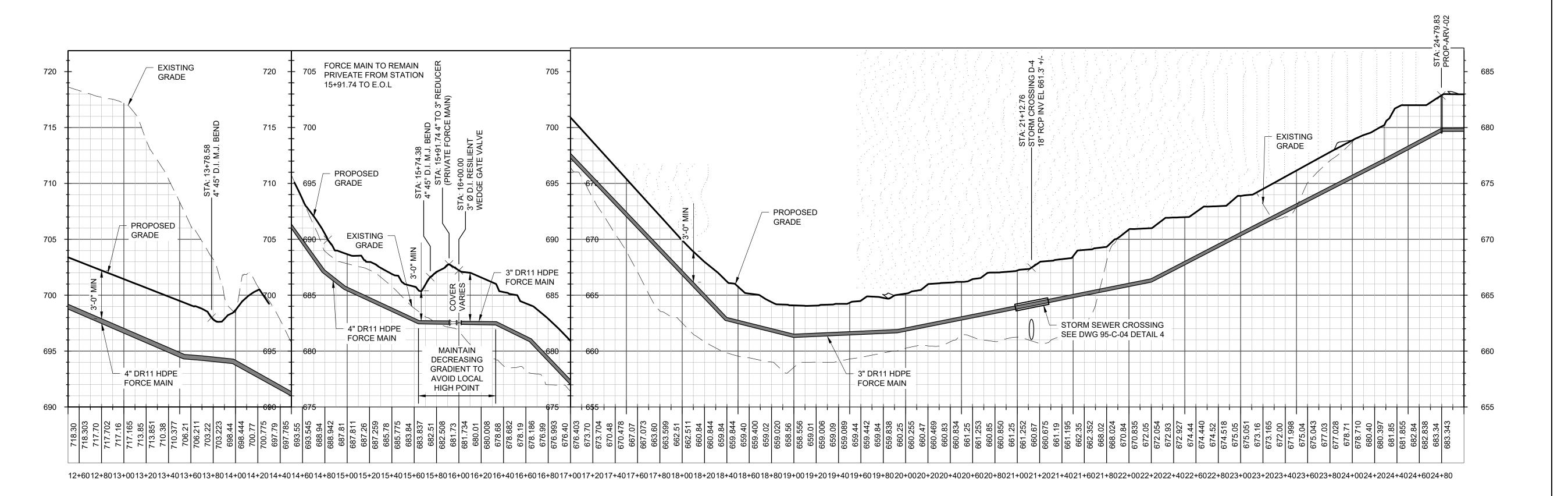
E: 421364.95

STORM CROSSING D-4

STA: 21+12.76

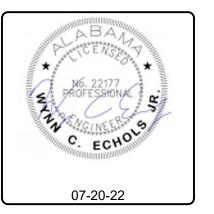
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FORCE MAIN PROFILE VIEW
SCALE: H: 1" = 50'-0" / V: 1" = 5'-0"

OF THE SOUTH



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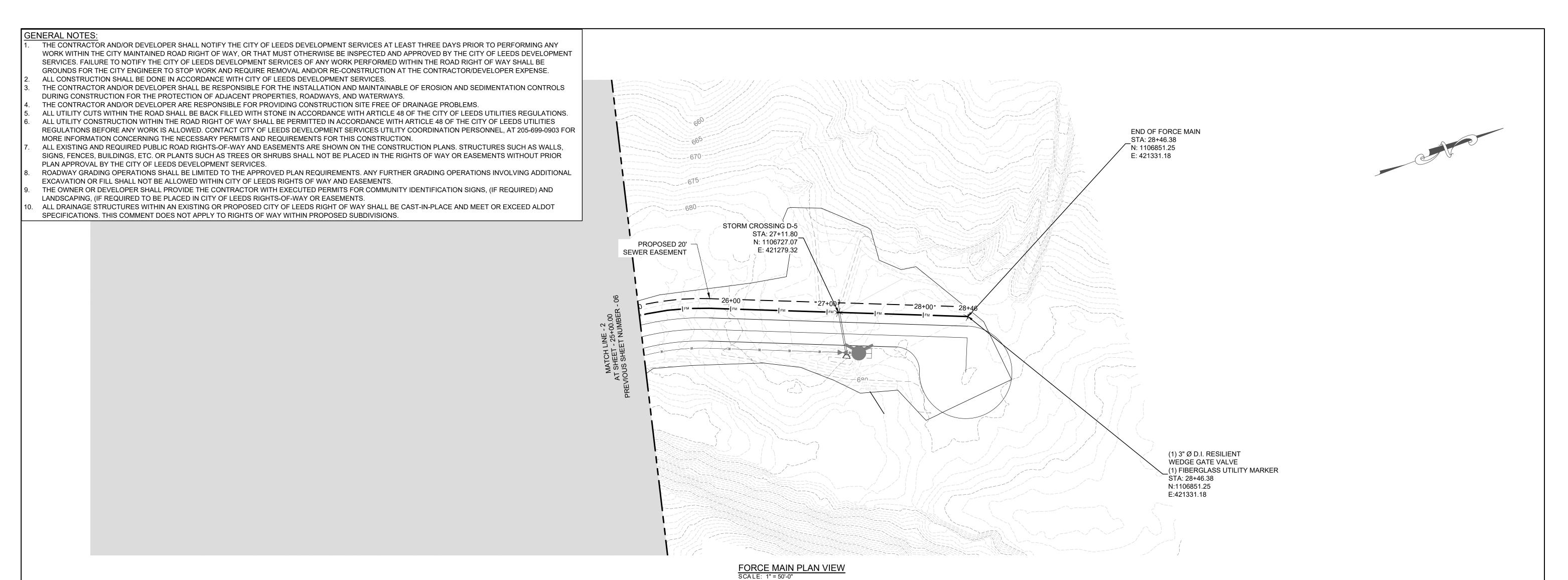
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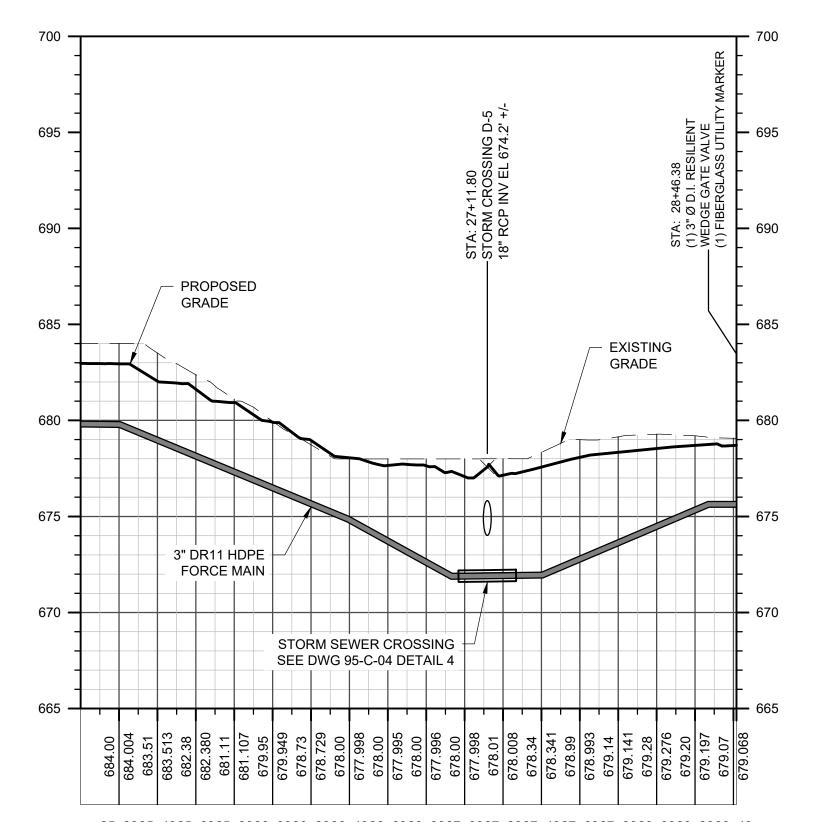
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FORCE MAIN PLAN & PROFILE - STA 12+50 - 25+00

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JOB NO: CC-22068 DATE: JULY 2022 **DESIGNED BY: WCE** DRAWN BY: DWG: 10-C-2 SHEET 06 NUMBER

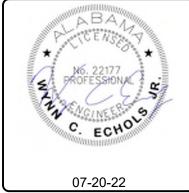




25+2025+4025+6025+8026+0026+2026+4026+6026+8027+0027+2027+4027+6027+8028+0028+2028+40

FORCE MAIN PROFILE VIEW
SCALE: H: 1" = 50'-0" / V: 1" = 5'-0"





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REVISIONS	DESCRIPTION			☐ CONSTRUCTION REVISIONS
REVIS				☐ AS-BID
	DATE			X  FOR REVIEW  AND COMMENT
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FORCE MAIN PLAN & PROFILE - STA 25+00 - END

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: CC-22068

DATE: JULY 2022

DESIGNED BY: WCE

DRAWN BY: TCW

DWG: 10-C-22

SHEET NUMBER 07

- 1. SLOPE, BENCHING, SHORING, ETC. AS DETERMINED AND DESIGNED BY THE CONTRACTOR. CONTRACTOR IS SOLELY RESPONSIBLE FOR COMPLYING WITH ALL APPLICABLE OSHA REGULATIONS FOR "OPEN TRENCH EXCAVATIONS".
- 2. BEDDING REQ'D FOR ALL GRAVITY LINES, ALL PVC LINES AND ALL CONCRETE LINES. BEDDING REQUIRED IN ALL AREAS OF ROCK EXCAVATION OR UNSUITABLE SOILS. BELL HOLES REQ'D FOR PIPES > 4" DIA. FOR DUCTILE IRON PRESSURE MAINS, SELECT EARTH MAY BE USED FOR BEDDING IN AREAS OF ROCK EXCAVATION.
- 3. ALL MATERIALS SHALL BE COMPACTED TO MINIMUM 95% STANDARD PROCTOR DENSITY AT 2%± OPTIMUM MOISTURE CONTENT. MATERIALS UNDER PAVING, CONCRETE, STRUCTURES, ETC. SHALL BE COMPACTED TO TO MIN 98%-100% STANDARD PROCTOR. MECHANICAL COMPACTION SHALL BE BY VIBRATORY SHEEPSFOOT OR OTHER EQUIP. SPECIFICALLY DESIGNED FOR THE COMPACTION OF EARTH. COMPACTION EQUIP. SHALL BE ON-SITE PRIOR TO BEGINNING OF WORK. MECHANICAL COMPACTION SHALL BE COMPLETED IN LOOSE LIFTS AS SHOWN ON THE DETAIL.
- 4. TEMPORARY COMPACTED PUG-MIX BACKFILL REQ'D UNTIL PAVEMENT PLACEMENT IS COMPLETE. THE CONTRACTOR SHALL CONTINUOUSLY MAINTAIN THIS PUGMIX TO KEEP IT FLUSH WITH THE ADJACENT PAVING, ETC. UNTIL THE FINAL PAVING IS PLACED. CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING TEMPORARY ASPHALT OR CONCRETE PATCHES WHEN NEEDED FOR PUBLIC SAFETY AND/OR CONVENIENCE.
- 5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SELECTING AND UTILIZE APPROPRIATE MEANS AND METHODS OF CONSTRUCTION TO ENSURE THAT THE ENTIRE AREAS UNDER THE HAUNCHES OF THE PIPE ARE FILLED WITH THE REQUIRED MATERIALS AND COMPACTED APPROPRIATELY.
- 6. ADDITIONAL AND/OR SPECIAL REQUIREMENTS MAY BE REQ'D BY THE PLANS, SPECIFICATIONS AND/OR CONTRACT DOCUMENTS.

BEDDING AND BACKFILL

FOR TRENCHES

SCALE: NOT TO SCALE

OCCUPIED BY CONCRETE

7. TO THE EXTENT POSSIBLE, AS DETERMINED BY THE CONTRACTOR, TRENCH WALL SHORING METHODS SHALL BE USED IN PAVED AREAS TO MINIMIZE PAVING REPAIR REQUIREMENTS.

MATERIAL DESIGNATION/DESCRIPTOINS TABLE

#### DESIGNATION/ **MATERIALS**

DESCRIPTION:

- CRUSHED STONE, ASTM-448 NO. 57 GRADATION
- CRUSHED STONE, ASTM-448 NO. 67 GRADATION. SAND SHALL BE USED AS SUBSTITUTE IN RESIDENTIAL LAWNS, YARDS, AND LANDSCAPED AREAS.
- SELECT EXCAVATED MAT'L REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 1" DIA.
- EXCAVATED MAT'L REASONABLY DRY (WITHIN LIMITS REQ'D FOR COMPACTION) NO STONES > 12" DIA.
- SELECT TOPSOIL MAT'L TO SUPPORT VEGETATION, NO STONES OR ROCK ALLOWED

CONCRETE BRACING FOR 90° BENDS

4" 4 1/2 " 6" 1'-8" 6" 1'-10" 2'-6" 6" 4 1/2 " 1'-0" 1'-7" 9" 1'-9" 2'-6" 8" 4 1/2 " 1'-3" 1'-6" 1'-0" 1'-9" 2'-6"

1'-1"

1'-0"

4"

1. GENERAL DIMENSIONS SHALL BE CONSIDERED AS

ALL THRUST RESTRAINT IS ADEQUATE.

AGAINST FIRM UNDISTURBED SOILS.

REMOVAL.

MINIMUMS, CONTRACTOR SHALL BE RESPONSIBLE FOR

PROVIDING ADDITIONAL AS REQUIRED FOR ACTUAL FIELD

CONDITIONS ENCOUNTERED. CONTRACTOR TO ENSURE

NUTS, CONNECTIONS, ETC. IN PLASTIC SUCH THAT THEY

CAN BE REMOVED WITHOUT THE NEED FOR CONCRETE

2. ALL CONCRETE FOR THRUST RESTRAINT SHALL BEAR

3. CONTRACTOR SHALL WRAP ALL ACCESSORIES BOLTS,

4. UNLESS IND. OTHERWISE IN PLANS, ALL FITTINGS SHALL

BE RJ OR MJ WITH RETRAINING FOLLOWER GLANDS.

RESTRAINING FOLLOWER GLANDS SHALL BE MEGA-LUG,

ROMAC, OR EQUAL. RETAINER GLANDS NOT ALLOWED.

54" 9" 5'-6" 4" 4'-0" 3'-7"

3'-6" 2'-10" 3'-9" 3'-1"

4'-6"

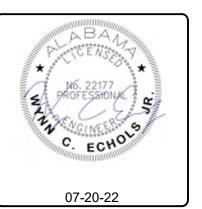
4 1/2"

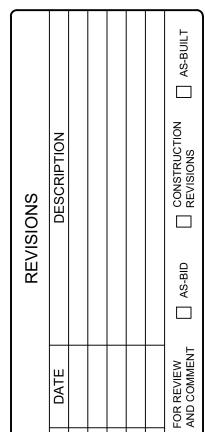
2'-6"

5'-0" 5'-4"

CRUSHED STONE, MOIST "PUG-MIX" PER ALDOT SECTION 825

**ENGINEERS** OF THE SOUTH





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TYPICAL DETAILS THRUST RESTRAINT

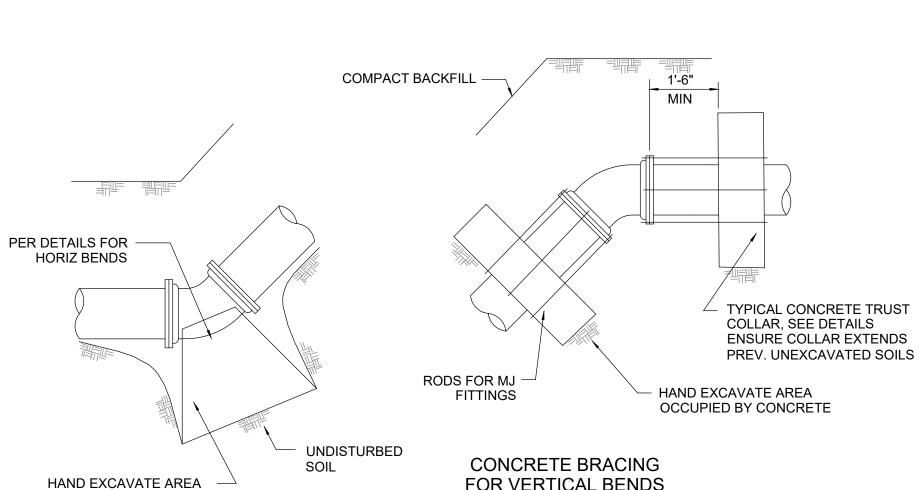
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JOB NO: CC-22068 DATE: JULY 2022

DESIGNED BY: WCE DRAWN BY:

DWG: 95-C-0 SHEET NUMBER

DO NOT PLACE ANY CONCRETE UNDER

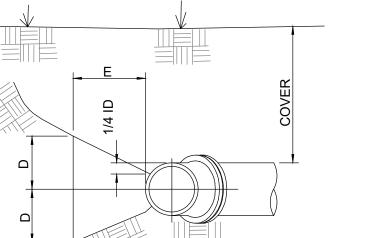


FOR VERTICAL BENDS

THRUST RESTRAINT SCALE: NOT TO SCALE

TYPICAL CONCRETE BRACING FOR TEES

ן ס	0	0	9	2-6
8"	7"	1'-1"	1'-0"	2'-6"
10"	9"	1'-6"	1'-3"	3'-0"
12"	10"	1'-10"	1'-6"	3'-0"
14"	11 1/2"	1'-9"	1'-9"	3'-0"
16"	1'-0 1/2"	2'-0"	2'-0"	3'-0"
18"	1'-2"	2'-4"	2'-3"	3'-0"
20"	1'-3 1/2"	2'-6"	2'-6"	3'-6"
24"	1'-7 1/2"	3'-0"	3'-0"	3'-6"
30"	1'-10"	3'-4"	3'-9"	4'-0"
36"	2'-1"	3'-6"	4'-6"	4'-6"
48"	2'-7"	4'-0"	5'-0"	4'-6"
54"	3'-3"	4'-3"	5'-4"	5'-0"
	8" 10" 12" 14" 16" 18" 20" 24" 30" 36" 48"	8" 7" 10" 9" 12" 10" 14" 11 1/2" 16" 1'-0 1/2" 18" 1'-2" 20" 1'-3 1/2" 24" 1'-7 1/2" 30" 1'-10" 36" 2'-1" 48" 2'-7"	8" 7" 1'-1" 10" 9" 1'-6" 12" 10" 1'-10" 14" 11 1/2" 1'-9" 16" 1'-0 1/2" 2'-0" 18" 1'-2" 2'-4" 20" 1'-3 1/2" 2'-6" 24" 1'-7 1/2" 3'-0" 30" 1'-10" 3'-4" 36" 2'-1" 3'-6" 48" 2'-7" 4'-0"	8"       7"       1'-1"       1'-0"         10"       9"       1'-6"       1'-3"         12"       10"       1'-10"       1'-6"         14"       11 1/2"       1'-9"       1'-9"         16"       1'-0 1/2"       2'-0"       2'-0"         18"       1'-2"       2'-4"       2'-3"         20"       1'-3 1/2"       2'-6"       2'-6"         24"       1'-7 1/2"       3'-0"       3'-0"         30"       1'-10"       3'-4"       3'-9"         36"       2'-1"       3'-6"       4'-6"         48"       2'-7"       4'-0"       5'-0"



SECTION B

SECTION D

SECTION A

DO NOT PLACE ANY CONCRETE UNDER

DO NOT PLACE ANY

CONCRETE UNDER

PIPE

\* NOTE: WHERE EXISTING LINES ARE DEEPER & REMOVED FOR THE INSTALLATION OF

NEW LINES. THE BEDDING MATERIAL SHALL EXTEND TO THE FULL DEPTH AND WIDTH

OF EXCAVATION. THESE COSTS SHALL BE INCLUDED IN THE "PER LF PRICED FOR

4 1/2" 4 1/2" 6 1/2" 10" 1'-0" 4 1/2" 4 1/2" 1'-1 1/2" 1'-4 1/2" 1'-4 1/2" 1'-9 1/2" 1'-11" 2'-6" 2'-10" 3'-3" 3'-9" 3'-6"

3'-4"

TYPICAL CONCRETE BRACING FOR 45° BENDS

2'-6"

4'-0" 4'-0"

	B	
	O O O O O O O O O O O O O O O O O O O	COVER
A A A	DO NOT PLACE CONCRETE UNDER	
- I		

CONCRETE MUST BE

**POURED AGAINST** 

UNDISTURBED SOIL

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PLAN

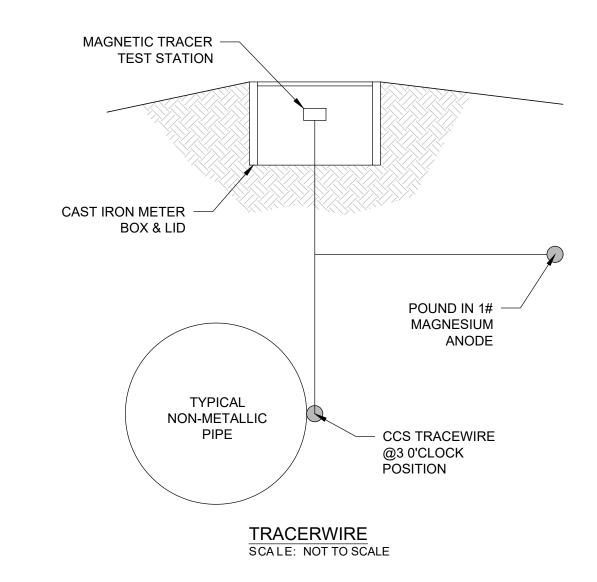
PLAN

TYPICAL CONCRETE BRACING FOR 11 1/4° & 22 1/2° BENDS								
	22 1/2°	BENDS			11 1	/4° BENDS		
PIPE DIA.	Α	В	С	MIN COVER	Α	В	С	MIN COVER
4"	2"	1'-1"	4"	2'-6"	2"	1'-0"	3"	2'-6"
6"	4"	1'-0"	6"	2'-6"	2"	1'-0"	4"	2'-6"
8"	6"	1'-0"	8"	3'-0"	4"	1'-0"	5"	3'-0"
10"	8"	1'-1"	10"	3'-0"	5"	1'-0"	6"	3'-0"
12"	11"	1'-7"	1'-0"	5'-0"	6"	1'-0"	7"	3'-0"
14"	12"	2'-1"	1'-2"	5'-0"	8"	1'-0"	8"	3'-0"
16"	1'-1"	2'-5"	1'-8"	5'-0"	10"	1'-0"	9"	3'-0"
18"	1'-0"	2'-1"	1'-10"	5'-0"	1'-0"	1'-0"	10"	3'-6"
20"	1'-2"	2'-1"	2'-1"	5'-0"	1'-1"	1'-0"	1'-0"	3'-6"
24"	1'-5"	2'-10"	2'-6"	5'-0"	1'-3"	1'-0"	1'-3"	4'-0"
30"	1'-9"	2'-10"	2'-8"	5'-0"	1"-7"	1'-3"	1'-5"	4'-6"
36"	2'-0"	3'-2"	3'-1"	5'-0"	1'-10"	1'-3"	1'-9"	4'-6"
48"	2'-6"	3'-10"	3'-6"	5'-0"	2'-4"	1'-6"	2'-2"	5'-0"
54"	2'-10"	4'-0"	3'-10"	5'-0"	2'-8"	1'-6"	2'-5"	5'-0"

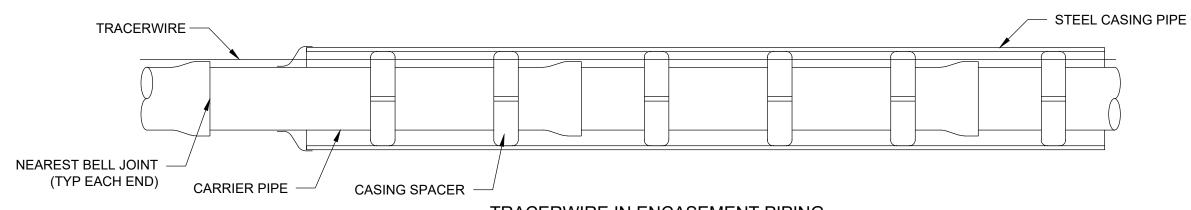
FOR FITTINGS ON PRESSURE MAINS

SECTION C

- 2. ALL LOCATE SYSTEM APPURTENANCES, INCLUDING BUT NOT LIMITED TO, WIRE, CONNECTORS, MAGNETIC TRACER TEST STATIONS (ALL TYPES), ANODES, WARNING TAPE, AND ALL ASSOCIATED LABOR & INSTALLATION SHALL BE INCIDENTAL TO THE PIPE LINE BEING LAID. NO ADDITIONAL COMPENSATION WILL BE PAID.
- MAGNETIC TRACER TEST STATIONS RATINGS & LOCATIONS: LIGHT DUTY: FOR INSTALLATIONS IN YARDS AND NON-PAVED AREA WHERE NO VEHICULAR ACCESS IS ANTICIPATED. CI METER BOX & LID REQ'D.MAGNETIC TRACER TEST STATION REQ'D AT EACH END OF NEW WATER LINE.MAGNETIC TRACER TEST STATIONS NOT REQ'D FOR GAS LINE. SEE TYPICAL GAS DETIALS FOR REQUIREMENTS AT VALVES AND CREEK
- CCS EXTREME HIGH STRENGTH TRACERWIRE TAPED TO PIPE BETWEEN CASING SPACERS CONTINUOUS W/OUT SPLICE IN BORE OR CASING.
- 5. LOCATOR WIRE SHALL BE #12 AWG SOLID CCS WITH 30 MIL MDPE JACKET PER SPECIFICATIONS. ALL SPLICES MADE USING WATER TIGHT CONNECTORS.

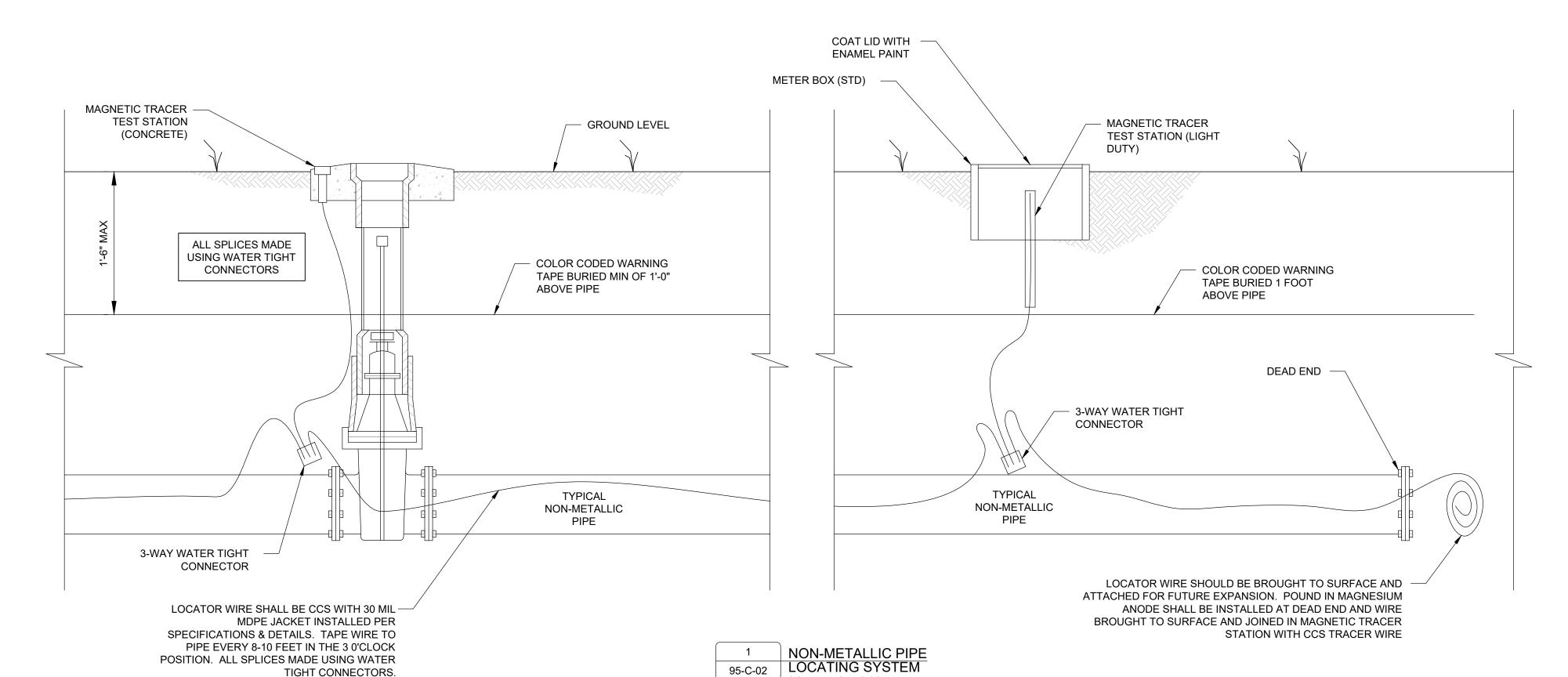


CONCRETE **VALVE COLLAR** 



TRACERWIRE IN ENCASEMENT PIPING





SCALE: NOT TO SCALE

#### HDPE FORCE MAIN SPECIFICATION

#### A. GENERAL

1. PIPE SHALL BE MANUFACTURED FROM A PE 3408 RESIN LISTED WITH THE PLASTIC PIPE INSTITUTE (PPI) AS TR-4. THE RESIN MATERIAL SHALL MEET THE SPECIFICATIONS OF ASTM D3350-02 WITH A MINIMUM CELL CLASSIFICATION OF PE345464C. PIPE O.D. SIZES 49#32 TO 249#32 SHALL BE AVAILABLE IN BOTH STEEL PIPE SIZES (IPS) AND DUCTILE IRON PIPE SIZES (DIPS). PIPE O.D. SIZES 269#32 TO 549#32 SHALL BE AVAILABLE IN STEEL PIPE SIZES (IPS). PIPE SHALL HAVE A MANUFACTURING STANDARD OF ASTM D3035 AND BE MANUFACTURED BY AN ISO 9001 CERTIFIED MANUFACTURER. THE PIPE SHALL CONTAIN NO RECYCLED COMPOUNDS EXCEPT THAT GENERATED IN THE MANUFACTURER'S OWN PLANT FROM RESIN OF THE SAME SPECIFICATION FROM THE SAME RAW MATERIAL. THE PIPE SHALL BE HOMOGENEOUS THROUGHOUT AND FREE OF VISIBLE CRACKS, HOLES, FOREIGN INCLUSIONS, VOIDS, OR OTHER INJURIOUS DEFECTS. PIPE SHALL HAVE GREEN STRIPE INDICATING SANITARY SEWER SERVICE

#### B. FITTINGS

1. BUTT FUSION FITTINGS: BUTT FUSION FITTINGS SHALL BE IN ACCORDANCE WITH ASTM D3261 AND SHALL BE MANUFACTURED BY INJECTION MOLDING, A COMBINATION OF EXTRUSION AND MACHINING, OR FABRICATED FROM HDPE PIPE CONFORMING TO THIS SPECIFICATION. ALL FITTINGS SHALL BE PRESSURE RATED TO PROVIDE A WORKING PRESSURE RATING NO LESS THAN THAT OF THE PIPE. FABRICATED FITTINGS SHALL BE MANUFACTURED USING A MCELROY DATALOGGER TO RECORD FUSION PRESSURE AND TEMPERATURE. A GRAPHIC REPRESENTATION OF THE TEMPERATURE AND PRESSURE DATA FOR ALL FUSION JOINTS MADE PRODUCING FITTINGS SHALL BE MAINTAINED AS PART OF THE QUALITY CONTROL. THE FITTING SHALL BE HOMOGENEOUS THROUGHOUT AND FREE OF VISIBLE CRACKS, HOLES, FOREIGN INCLUSIONS, VOIDS, OR OTHER INJURIOUS DEFECTS.

2. ELECTROFUSION FITTINGS: ELECTROFUSION FITTINGS SHALL BE PE3408 HDPE, CELL CLASSIFICATION OF 345464C AS DETERMINED BY ASTM D3350-02 AND BE THE SAME BASE RESIN AS THE PIPE. ELECTROFUSION FITTINGS SHALL HAVE A MANUFACTURING STANDARD OF ASTM F1055.

3. FLANGED AND MECHANICAL JOINT ADAPTERS: FLANGED AND MECHANICAL JOINT ADAPTERS SHALL BE PE 3408 HDPE, CELL CLASSIFICATION OF 345464C AS DETERMINED BY ASTM D3350-02 AND BE THE SAME BASE RESIN AS THE PIPE. FLANGED AND MECHANICAL JOINT ADAPTERS SHALL HAVE A MANUFACTURING STANDARD OF ASTM D3216. ALL ADAPTERS SHALL BE PRESSURE RATED TO PROVIDE A WORKING PRESSURE RATING NO LESS THAN THAT OF THE PIPE.

#### 4. MECHANICAL RESTRAINT:

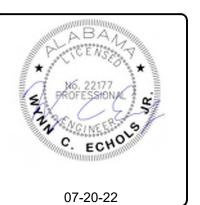
- a. MECHANICAL RESTRAINT FOR HDPE MAY BE PROVIDED BY MECHANICAL MEANS SEPARATE FROM THE MECHANICAL JOINT GASKET SEALING GLAND. THE RESTRAINER SHALL PROVIDE WIDE, SUPPORTIVE CONTACT AROUND THE FULL CIRCUMFERENCE OF THE PIPE AND BE EQUAL TO THE LISTED WIDTHS. MEANS OF RESTRAINT SHALL BE MACHINED SERRATIONS ON THE INSIDE SURFACE OF THE RESTRAINER EQUAL TO OR GREATER THAN THE LISTED SERRATIONS PER INCH AND WIDTH. LOADING OF THE RESTRAINER SHALL BE BY A DUCTILE IRON FOLLOWER THAT PROVIDES EVEN CIRCUMFERENTIAL LOADING OVER THE ENTIRE RESTRAINER. DESIGN SHALL BE SUCH THAT RESTRAINT SHALL BE INCREASED WITH INCREASES IN LINE PRESSURE.
- b. SERRATED RESTRAINER SHALL BE DUCTILE IRON ASTM A536-80 WITH A DUCTILE IRON FOLLOWER; BOLTS AND NUTS SHALL BE CORROSIVE RESISTANT, HIGH STRENGTH ALLOY STEEL.
- c. THE RESTRAINER SHALL HAVE A PRESSURE RATING OF, OR EQUAL TO THAT OF THE PIPE ON WHICH IT IS USED OR 150 PSI WHICHEVER IS LESSER. RESTRAINERS SHALL BE JCM INDUSTRIES, SUR-GRIP OR PRE-APPROVED EQUAL.

NOMINAL	RESTRAINT	SERRATIONS
SIZE	WIDTH	PER INCH
3", 4" , 6"	1-1/2"	8
8" 10 &12"	1-3/4"	8

d. PIPE STIFFENERS SHALL BE USED IN CONJUNCTION WITH RESTRAINERS. THE PIPE STIFFENERS SHALL BE DESIGNED TO SUPPORT THE INTERIOR WALL OF THE HDPE. THE STIFFENERS SHALL SUPPORT THE PIPE5#32S END AND CONTROL THE 7#32NECKING DOWN9#32 REACTION TO THE PRESSURE APPLIED DURING NORMAL INSTALLATION. THE PIPE STIFFENERS SHALL BE FORMED OF 304 OR 316 STAINLESS STEEL TO THE HDPE MANUFACTURERS PUBLISHED AVERAGE INSIDE DIAMETER OF THE SPECIFIC SIZE AND DR OF THE HDPE. STIFFENERS SHALL BE BY JCM NDUSTRIES OR PRE-APPROVED EQUAL.

NOTE: ALL OTHER MATERIAL AND INSTALLATION REUIREMENTS AND TESTING PROCEDURES SHALL BE IN ACCORDANCE WITH JCESD REQUIREMENTS.





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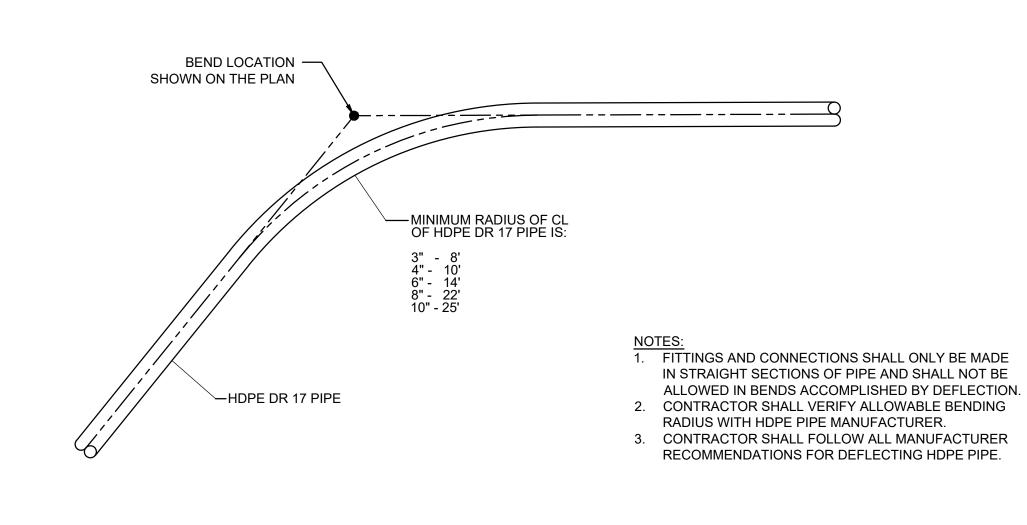
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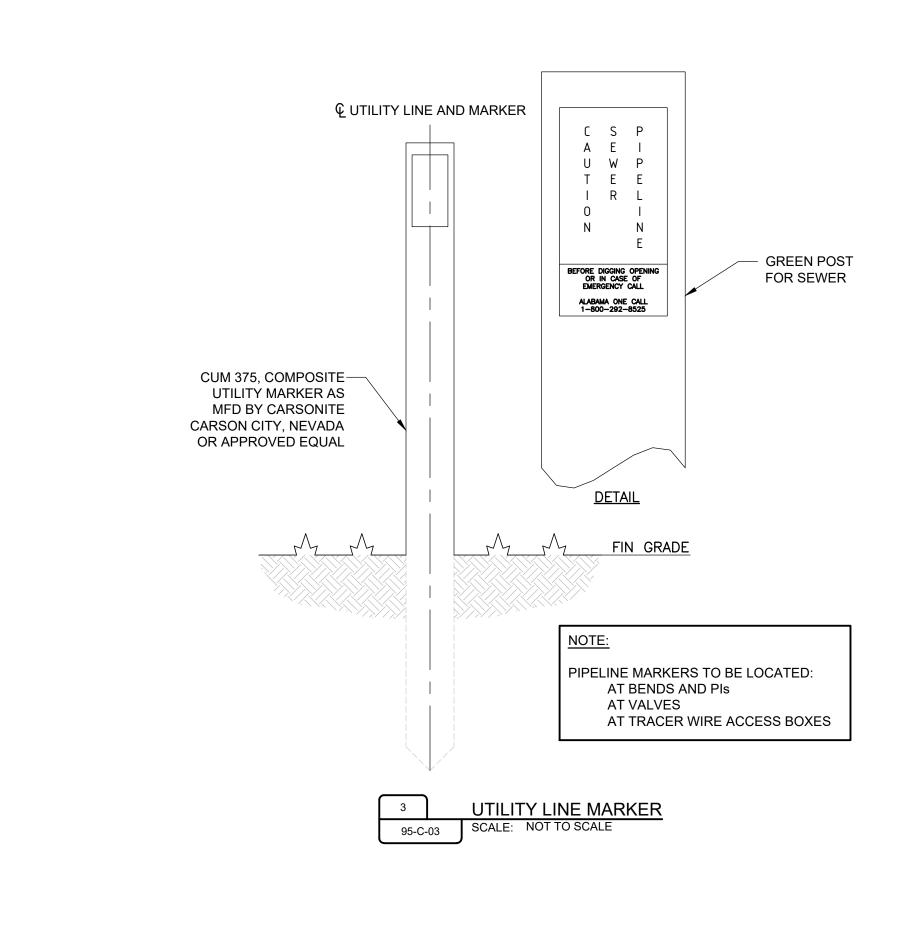
MISCELLANEOUS **DETAILS SHEET #1** 

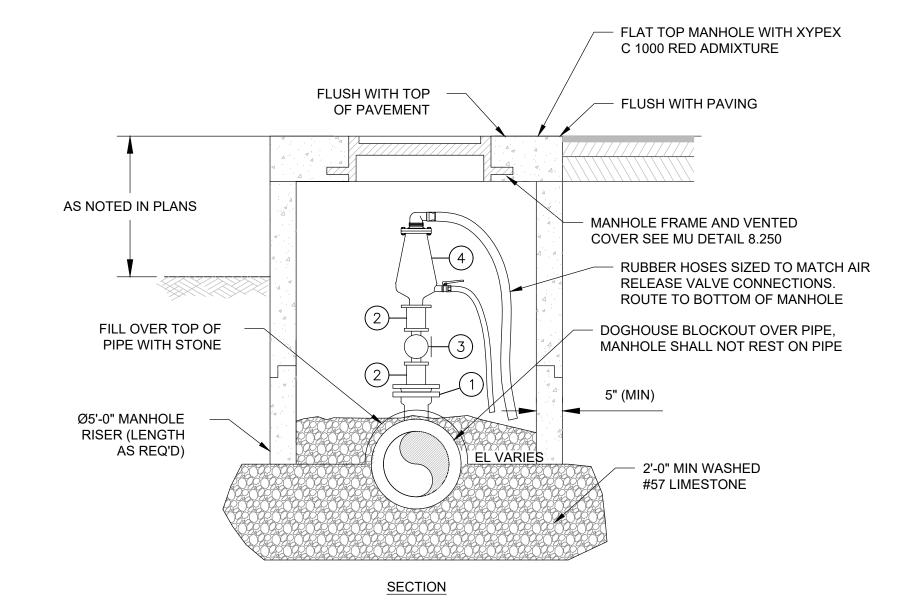
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JOB NO: CC-22068 DATE: JULY 2022 DESIGNED BY: WCE DRAWN BY: DWG: 95-C-02

> SHEET NUMBER



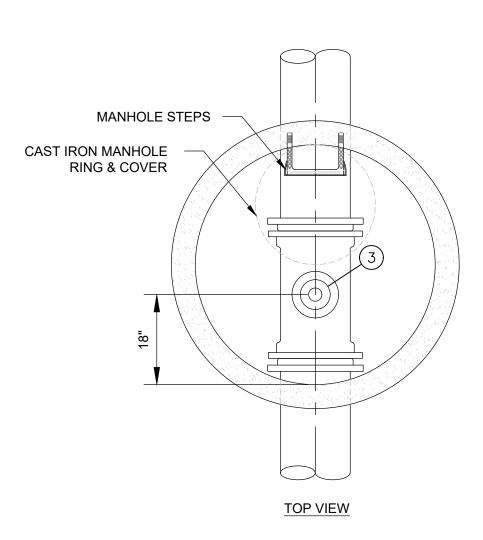




#### FITTINGS LIST

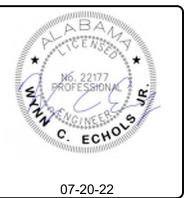
- 16"x4" HDPE OR DI MJ PROTECTO 401 LINED TEE (WITH MJ ADAPTERS)
- WITH THREADED PLUG

  (2) 3" SS NIPPLE
- (3) 3" THREADED SS BALL VALVE
- 3" SS AUTOMATIC AIR AND VACUUM RELEASE ARI MODEL D-26, H-TEC MODEL 986SS2T



2 AIR RELEASE VALVE
95-C-03 SCALE: NOT TO SCALE





REVISIONS

DATE

DESCRIPTION

CONSTRUCTION

AND COMMENT

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CONSTRUCTION

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MISCELLANEOUS DETAILS SHEET #2

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: CC-22068

DATE: JULY 2022

DESIGNED BY: WCE

DRAWN BY: TCW

DWG: 95-C-03

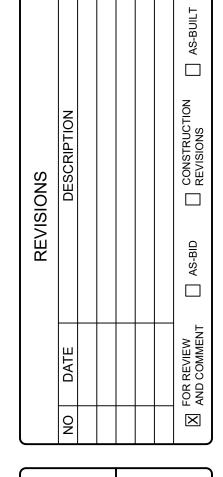
SHEET 10

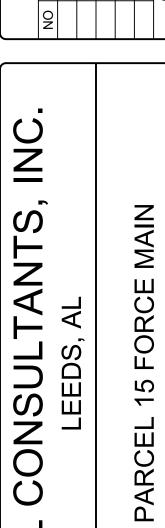
5 TYPICAL UTILITY LINE CROSSING DETAIL
95-C-04 SCALE: NOT TO SCALE











MISCELLANEOUS DETAILS SHEET #3

BOX IS 2 IN WIDE AT FULL SCALE

JOB NO: CC-22068 JULY 2022 DATE: DESIGNED BY: WCE DRAWN BY: 95-C-04 DWG: SHEET NUMBER