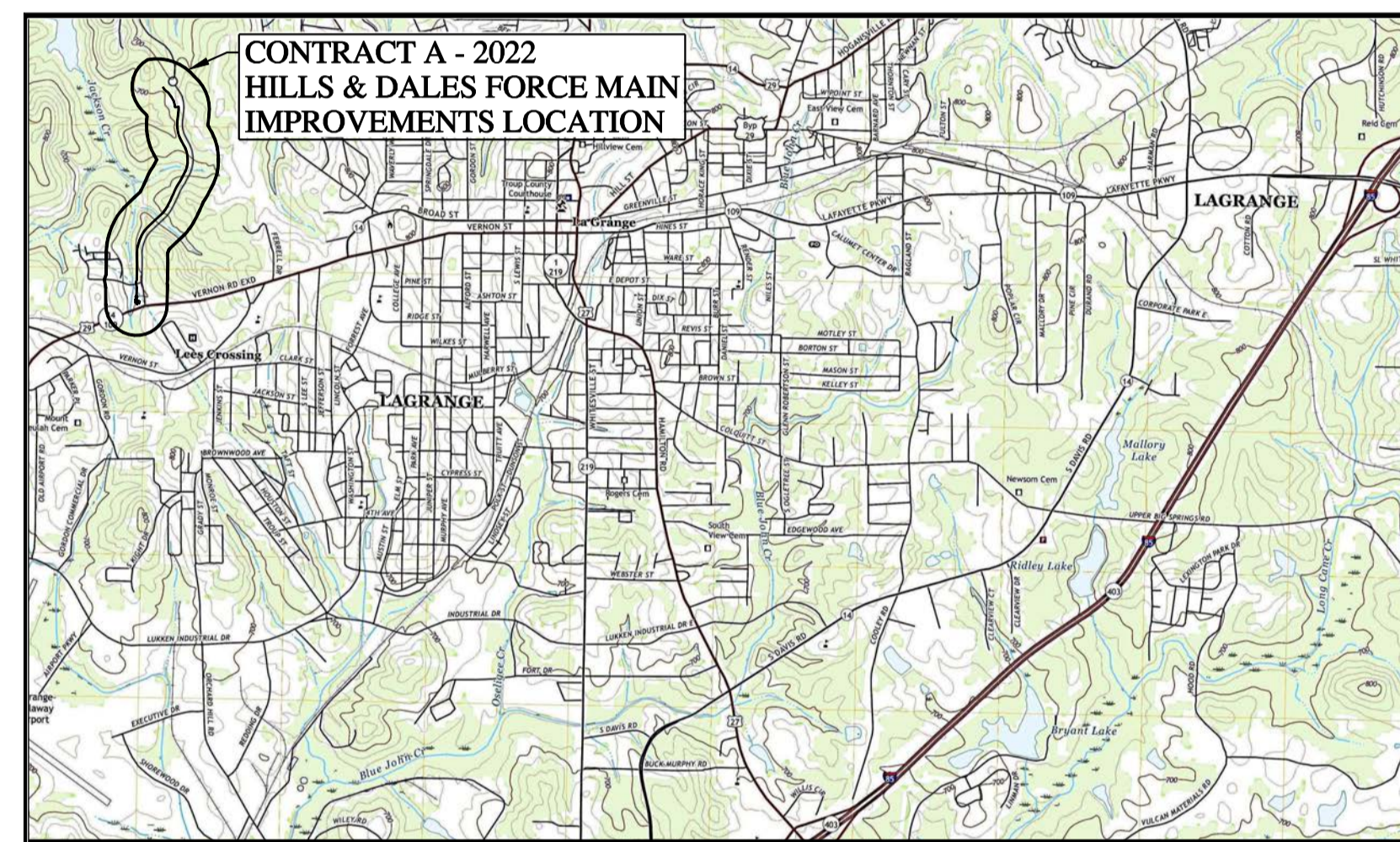


CITY OF LAGRANGE, GEORGIA

CONTRACT A - 2022 HILLS & DALES FORCE MAIN IMPROVEMENTS



VICINITY MAP
N.T.S.

MAYOR
JIM THORNTON

CITY MANAGER
MEG KELSEY

DIRECTOR OF UTILITIES
PATRICK BOWIE

INDEX TO SHEETS

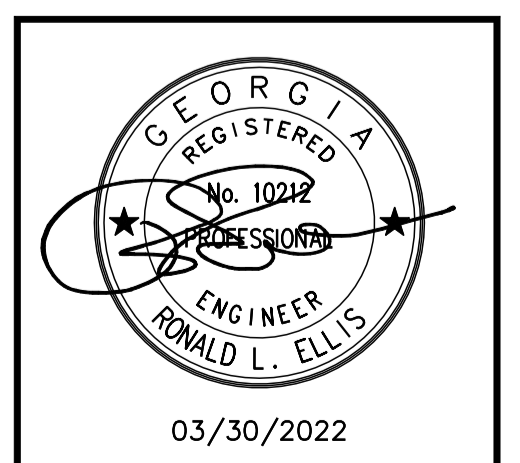
SHEET	TITLE
A-1.	COVER SHEET/INDEX
A-2.	GENERAL NOTES, CONSTRUCTION NOTES & LEGEND
B-1.	6" HDPE DR11 FORCE MAIN STA. 17+63.41 TO STA. 22+00.00
B-2.	6" HDPE DR11 FORCE MAIN STA. 22+00.00 TO STA. 35+00.00
B-3.	6" HDPE DR11 FORCE MAIN STA. 35+00.00 TO STA. 48+00.00
B-4.	6" HDPE DR11 FORCE MAIN STA. 48+00.00 TO STA. 61+00.00
B-5.	6" HDPE DR11 FORCE MAIN STA. 61+00.00 TO STA. 71+89.09
G-1.	EROSION CONTROL PLAN
G-2.	EROSION CONTROL PLAN
G-3.	EROSION CONTROL PLAN
G-4.	EROSION CONTROL PLAN DETAILS
G-5.	EROSION CONTROL PLAN NOTES
G-6.	EROSION CONTROL PLAN NOTES
S-1.	CIVIL / SITEWORK DETAILS
S-2.	CIVIL / SITEWORK DETAILS
S-3.	CIVIL / SITEWORK DETAILS

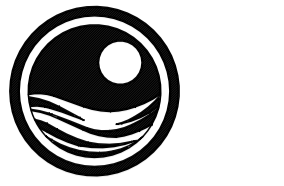
CONTRACT A - HILLS & DALES
FORCE MAIN IMPROVEMENTS

GPS LOCATIONS :
BEGINNING POINT : N 33.048077
 W 85.060144
ENDING POINT : N 33.034928
 W 85.062335

CITY OF LAGRANGE
200 RIDLEY AVENUE
LAGRANGE, GEORGIA 30240
TROUP COUNTY, GEORGIA

PREPARED BY:
RONALD L. ELLIS & ASSOCIATES, INC.
P.O. BOX 1150
PELHAM, ALABAMA 35124
MARCH 30, 2022





ELLIS & ASSOCIATES

RONALD L. ELLIS & ASSOCIATES, INC.

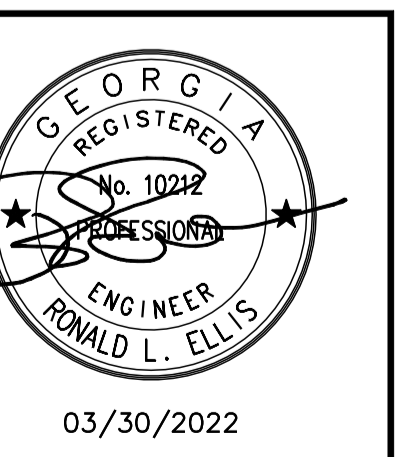
Consulting Engineers Pelham, Alabama

CITY OF LAGRANGE, GEORGIA 2022-HILLS & DALES FORCE MAIN IMPROVEMENTS

GENERAL NOTES, CONSTRUCTION NOTES & LEGEND

Table with drawing name, project no., drawn by, designed by, approved by, scale, and date.

Table with columns for revision number, date, and description.



GENERAL NOTES

- 1. EFFORTS HAVE BEEN MADE TO INDICATE LOCATIONS OF EXISTING STRUCTURES, PIPING AND UTILITIES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING EXACT SIZES AND LOCATIONS OF ALL EXISTING UTILITIES BEFORE INITIATING ANY CONSTRUCTION OPERATIONS. ANY EXISTING STRUCTURE, PIPING, FITTING, VALVES, YARD HYDRANTS, SIDEWALKS, ELECTRICAL & INSTRUMENTATION, CONDUIT & WIRING, LIGHT POLE FIXTURES, FENCING AND OTHER OBSTRUCTIONS DISTURBED OR DAMAGED BY THE CONTRACTOR DURING CONSTRUCTION OPERATIONS SHALL BE REPLACED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR ENGINEER.
2. THE LIMITS OF CONSTRUCTION SHALL BE THE PROPERTY LINES OR EASEMENT LINES AS SHOWN ON THE PLANS. ANY ADDITIONAL EASEMENTS REQUIRED FOR CONSTRUCTION SHALL BE ACQUIRED BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE OWNER AND/OR ENGINEER.
3. DIMENSIONS OF EXISTING STRUCTURES AND/OR SIZE RESTRICTIONS ARE APPROXIMATE. ALL NECESSARY DIMENSIONS AND ELEVATIONS OF EXISTING STRUCTURES & TOPOGRAPHY SHALL BE VERIFIED BY THE CONTRACTOR IN THE FIELD PRIOR TO CONSTRUCTION OPERATIONS.
4. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO WORK ALL APPLICABLE DRAWINGS AND THE APPROPRIATE SPECIFICATIONS AS A UNIT. ANY OMISSIONS, DELETIONS, OR CONFLICTS ARISING AS A RESULT OF FAILURE TO INCORPORATE ALL DRAWINGS AND SPECIFICATIONS WHICH APPLY SHALL BE CORRECTED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER AND/OR ENGINEER.
5. ALL PROPERTY LINE MARKERS (IRON PINS, CONCRETE MONUMENTS, ETC.) DESTROYED DURING CONSTRUCTION SHALL BE REPLACED IN KIND BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER. THE CONTRACTOR SHALL EMPLOY A LAND SURVEYOR REGISTERED IN THE STATE OF GEORGIA TO RESET PROPERTY MARKERS.
6. ALL EXCESS MATERIAL FROM THE PROJECT EXCAVATION SHALL BE DISPOSED OF BY THE CONTRACTOR AT NO ADDITIONAL COST.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR TRAFFIC CONTROL WHICH SHALL BE IN ACCORDANCE WITH THE NATIONAL MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES. THIS WILL BE CONSIDERED INCIDENTAL TO THE WORK AND NO SEPARATE PAYMENT WILL BE MADE FOR IT.
8. ALL EXCAVATION IS TO BE CONSIDERED UNCLASSIFIED. NO ADDITIONAL PAYMENT WILL BE MADE FOR ROCK EXCAVATION, UNLESS PAY ITEM IS INCLUDED ON BID FORM.
9. JOB SAFETY IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR, INCLUDING COMPLIANCE WITH OSHA REQUIREMENTS. NEITHER THE OWNER, NOR THE ENGINEER, WILL SUPERVISE OR INSPECT THE JOB WITH REGARD TO SAFETY ISSUES.
10. JOB SITE IS TO BE CLEANED UP ON A DAILY BASIS. THE CONTRACTOR SHALL RESTORE ALL AREAS, BOTH PUBLIC AND PRIVATE, WHICH HAVE BEEN DAMAGED BY THE CONSTRUCTION ACTIVITIES TO PRE-CONSTRUCTION CONDITIONS OR BETTER.
11. CONTRACTOR IS RESPONSIBLE FOR DOCUMENTATION OF ALL PRE-EXISTING CONDITIONS PRESENT ADJACENT TO THE CONSTRUCTION AREA. DOCUMENTATION SHALL CONSIST AT A MINIMUM OF VIDEOS, PHOTOGRAPHS AND WRITTEN DOCUMENTATION. DOCUMENTATION SHALL BE DELIVERED TO THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.
12. THE TIME FOR COMPLETION OF THIS PROJECT IS BASED ON A STANDARD WEEKLY WORK SCHEDULE OF MONDAY THROUGH FRIDAY. EMERGENCY WORK MUST BE APPROVED BY THE ENGINEER. NO WORK SHALL BE SCHEDULED OR PERFORMED ON SATURDAY, SUNDAY OR HOLIDAYS, WITHOUT APPROVAL BY THE ENGINEER.
13. REFER TO SECTION 01152, 1.10 EXPLANATION OF BID ITEMS AND PAYMENT, FOR A DESCRIPTION OF THE BID ITEMS AND THE UNIT BID PRICE FOR EACH ITEM.
14. CONTRACTOR SHALL NOT BLAST ANY MORE DISTANCE THAN HE CAN LAY DURING THE SAME DAY. PRE-BLAST SURVEY & SEISMOGRAPH REQUIRED FOR ALL BLASTING EVENTS, AND CONTRACTOR IS FULLY RESPONSIBLE FOR DESIGNING HIS BLASTING OPERATIONS SO THERE IS NO DAMAGE TO SURROUNDING PROPERTY.

CONSTRUCTION NOTES

- 1. ALL HDPE PIPE SHALL BE DR 11 AND MEET THE DIPS SIZING SYSTEM, REFER TO SPECIFICATION SECTION 15105.
2. ALL DI FLANGED PIPE SHALL BE CLASS 350.
3. ALL FLANGED ACCESSORIES SHALL BE 316 STAINLESS STEEL.
4. ALL PIPE SUPPORTS AND ACCESSORIES SHALL BE 316 STAINLESS STEEL.
5. ALL DI MJ FITTINGS AS NOTED ON THE PLANS REQUIRE HEAVY DUTY RETAINER GLANDS AND ACCESSORIES, MEGALUG SERIES 1100, BY EBAA IRON, INC. OR APPROVED EQUAL.
6. ALL MANHOLES ARE STANDARD 48" DIAMETER, WITH MANHOLE JOINT STRAPS AND BOLT-DOWN WATER TIGHT MANHOLE COVER AND FRAME.
7. THE CONTRACTOR SHALL VERIFY THE TYPE AND DIAMETER OF EXISTING SEWER PIPE WHICH CONNECTS TO PROPOSED MANHOLES PRIOR TO SUBMITTING THE SHOP DRAWINGS.
8. UTILIZE MANHOLE BRICK, PER ASTM C32, TO CONSTRUCT INLET AND/OR OUTLET PLUGS FOR EXISTING MANHOLES (MH) NOTED ON PLANS. PROVIDE A DOUBLE WALL OF MANHOLE BRICK FROM THE MANHOLE INVERT TO A MINIMUM OF 12" ABOVE THE TOP OF THE PIPE OPENING AND A MINIMUM OF 12" ON EACH SIDE OF THE PIPE OPENING BEING PLUGGED. USE #4 REBAR VERTICALLY ALONG PLUG WALL TO PROVIDE STRUCTURAL SUPPORT TO PLUG WALL. USE WALL TIES TO CONNECT THE FIRST AND SECOND ROW OF MANHOLE BRICK TO ADEQUATELY SECURE MANHOLE BRICK PLUG TO THE EXISTING STRUCTURE. USE NON-SHRINK GROUT TO COAT OUTSIDE FACE OF MANHOLE PLUG AND TO THE INTERFACE BETWEEN THE MANHOLE PLUG AND THE EXISTING STRUCTURE.
9. TRENCH BACKFILLING-SANITARY SEWER PIPELINE, SECTION 02201.1.08 SHALL BE MODIFIED TO REQUIRE THAT ALL SEWER AND FORCE MAIN PIPELINE TRENCHES FOR THIS PROJECT SHALL BE COMPACTED WITH VIBRATORY COMPACTION EQUIPMENT.
10. ALL EXISTING ROADWAYS, DRIVES, SIDEWALKS, AND CONCRETE AREAS THAT ARE EXCAVATED IN ORDER TO PERFORM THE WORK ASSOCIATED WITH THE CONTRACT PLANS AND SPECIFICATIONS SHALL BE SAW CUT, BACKFILLED WITH COMPACTED CRUSHED STONE PER SD 315 PER THE PLANS AND SPECIFICATIONS.
11. THE PAVEMENT REPLACEMENT WIDTH FOR ALL TRENCH EXCAVATIONS SHALL BE THE TRENCH WIDTH PLUS 12" ON EACH SIDE OF TRENCH AND SHALL BE SAW CUT PRIOR TO REPLACEMENT. THE AREA BEING REPLACED WITH PAVEMENT REQUIRES A 12" BASE OF COMPACTED #8910 STONE OR CRUSHER RUN OVER THE TRENCH STONE BACKFILL, REFER TO SD 320 PER THE PLANS AND SPECIFICATIONS FOR ALL PAVEMENT REPLACEMENT.
12. IT IS THE REQUIREMENT OF THE CONTRACTOR TO REFER TO ALL CIVIL/SITWORK STANDARD DETAILS, REFER TO THE S PLANS.
13. PROVIDE 4" DETECTABLE TAPE (5.0 MIL) - PRINTED CAUTION BURRIED FORCE MAIN BY PRO-LINE SAFETY PRODUCTS OR EQUAL FOR ALL HDPE FORCE MAIN PIPE INSTALLATIONS.

LEGEND

UTILITIES

Table mapping utility symbols to descriptions, including existing and proposed symbols for light poles, power poles, telephone poles, service, fire hydrants, reducers/increasers, gate valves, indicator post valves, butterfly valves, eccentric plug valves, cleanouts, catch basins, light poles w/concrete base, power poles w/concrete base, telephone poles w/concrete base, guy poles, guy wires, valves, water meters, air release valves, gas meters, gas lamps, power manholes, sewer manholes, telephone manholes, buried cable markers, underground telephone markers, underground gas markers, telephone pedestals, non-connecting piping, fiber optic lines, cable television lines, underground telephone lines, telephone lines, underground power lines, power lines, gas lines, water lines, existing gravity sewers, proposed gravity sewers, existing force mains, proposed force mains, existing pipes, and proposed pipes.

SITE WORK SYMBOLS

Table mapping site work symbols to descriptions, including existing and proposed grade elevations and contours (1 or 2 ft. and 10 ft. contours).

SURVEYING SYMBOLS

Table mapping surveying symbols to descriptions, including iron pin found, set, concrete monument found, set, R.O.W. monument, P.K. nail found, set, cotton spindle found, set, hub & tack found, set, land hook, temporary benchmark, section corner, permanent easement, prop. or temp. easement, property line, limits (town or city), section line, and survey base line.

TOPOGRAPHICAL SYMBOLS

Table mapping topographical symbols to descriptions, including sign, billboard, mail box, wire fence, chain link fence, wood fence, guard rail, railroad tracks, tree line, drainage ditch, improved road, unimproved road, creek, lake or pond, marsh, beaver dam, hedgerow, and tree.

ABBREVIATIONS

Large table of abbreviations mapping letters and symbols to their corresponding full names, such as AB for anchor bolts, ALUM for aluminum, BFV for butterfly valve, CB for catch basin, etc.

Before any excavation work begins or any work begins within ten (10) feet of overhead power lines of 750 volts or more, notification must be made to the Utilities Protection Center, Inc. at 1-800-282-7411

COLOR CODES FOR UTILITY LOCATING

Table showing color codes for utilities: RED for ELECTRIC, YELLOW for GAS-OIL, ORANGE for TELEPHONE/CATV, BLUE for WATER, GREEN for SEWER.

IF YOU DIG GEORGIA CALL US FIRST!

1-800-282-7411 It's The Low!

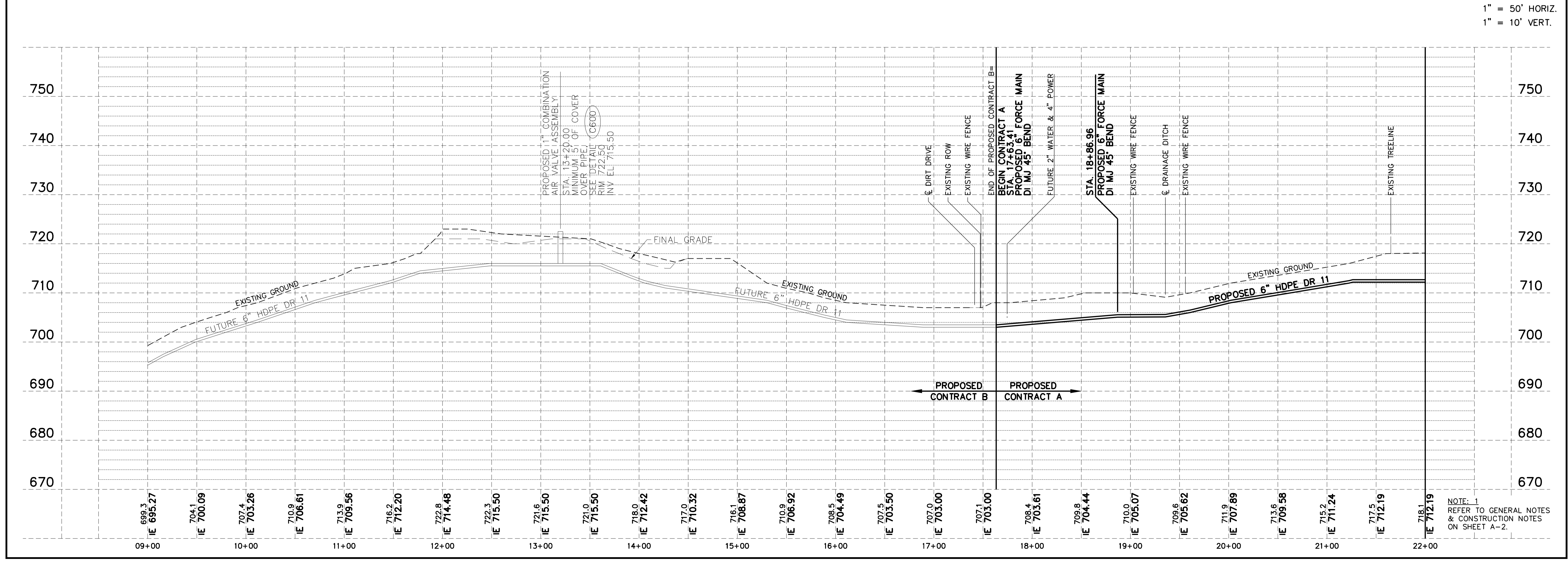
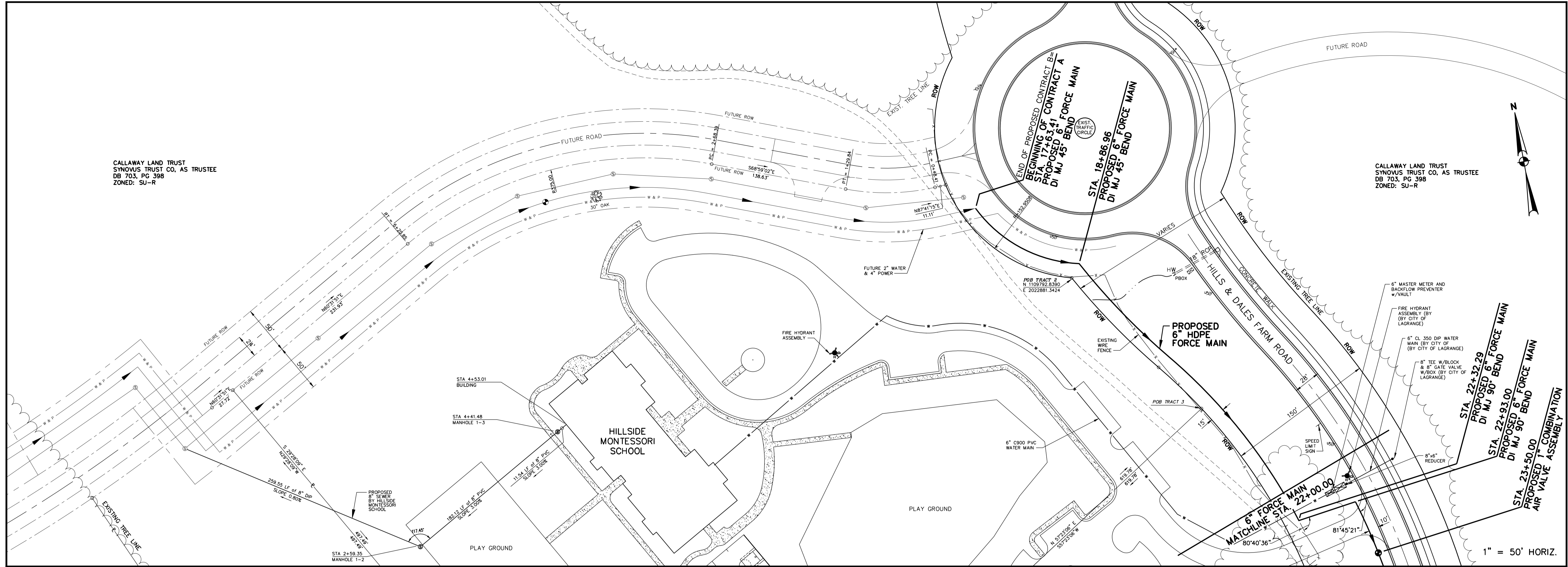
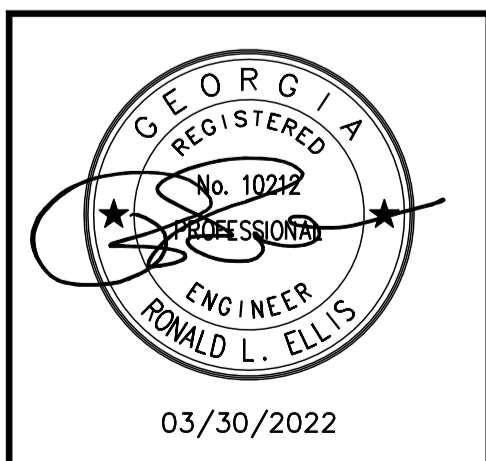
Utilities Protection Center, Inc.

**CITY OF LAGRANGE, GEORGIA
 2022-HILLS & DALES FORCE MAIN
 IMPROVEMENTS**

6" HDPE FORCEMAIN STA. 17+63.41 TO STA. 22+00.00

DRAWING NAME : CONT-A-B-1
 PROJECT NO. : 21.135
 DRAWN BY : RDE
 DESIGNED BY : RLE
 APPROVED BY : RLE
 SCALE : AS SHOWN
 DATE : 03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION

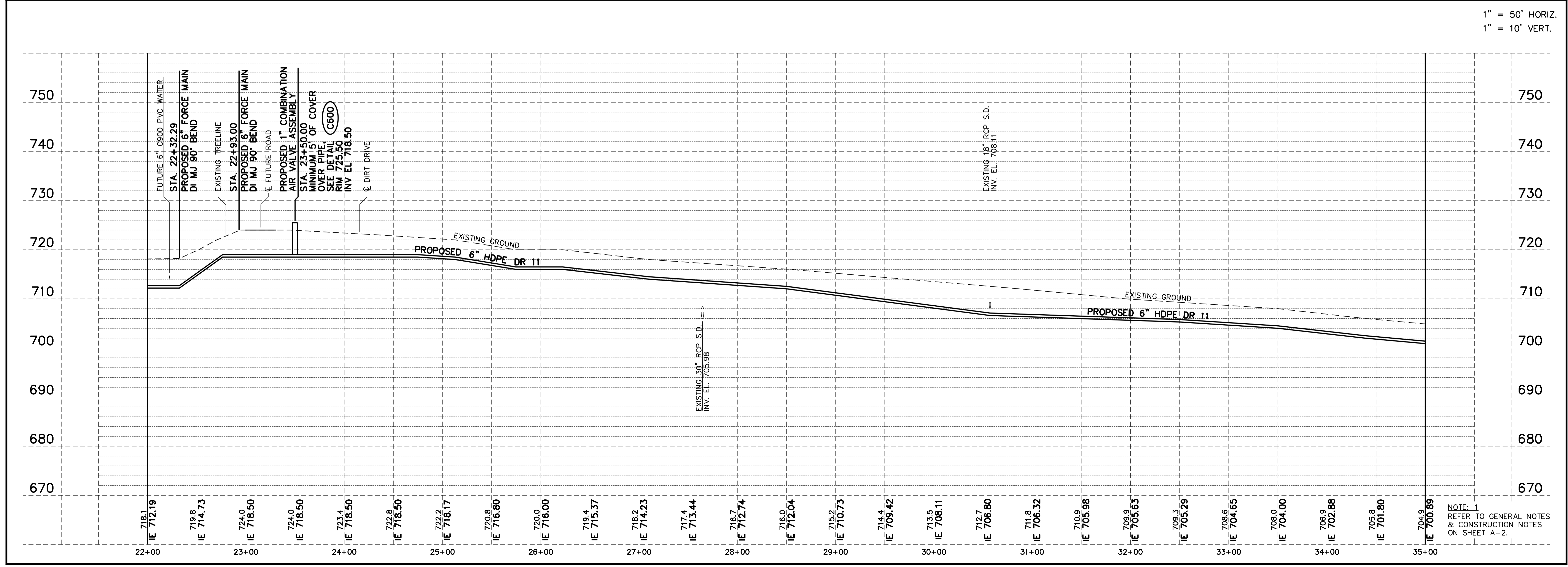
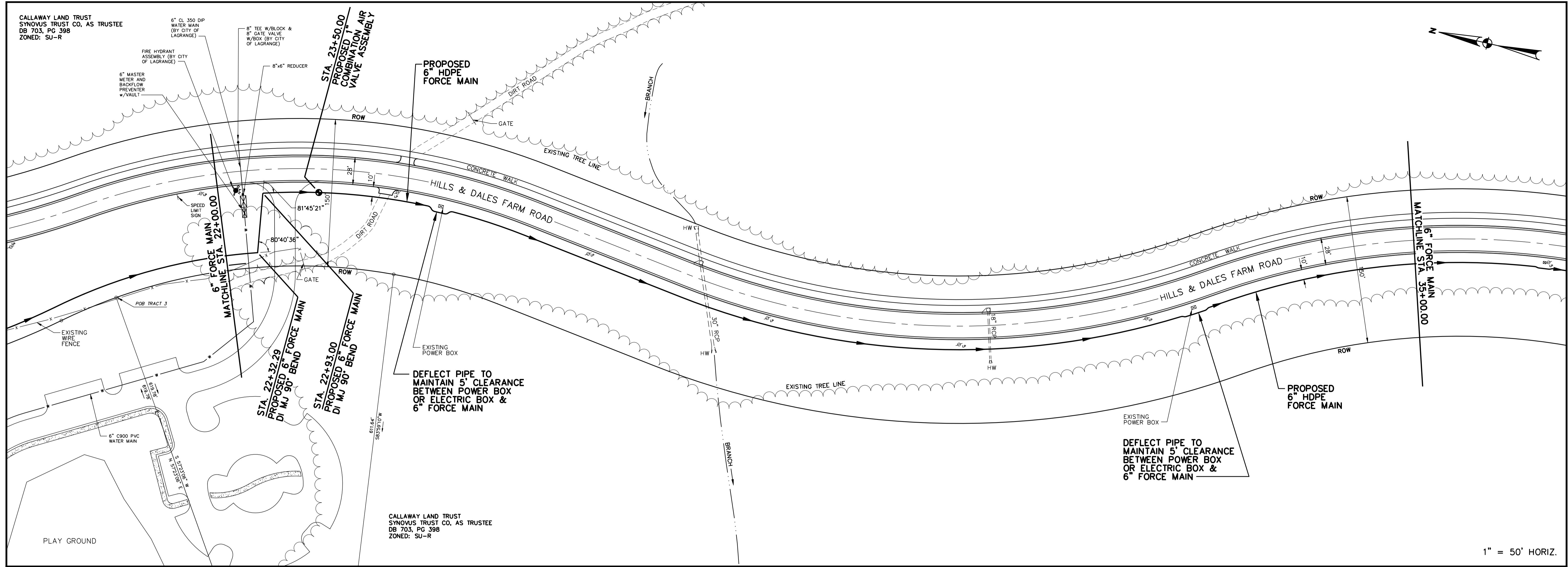


CALLAWAY LAND TRUST
 SYNOPSIS TRUST CO, AS TRUSTEE
 DB 703, PG 398
 ZONED: SU-R

CALLAWAY LAND TRUST
 SYNOPSIS TRUST CO, AS TRUSTEE
 DB 703, PG 398
 ZONED: SU-R

1" = 50' HORIZ.
 1" = 10' VERT.

NOTE: 1
 REFER TO GENERAL NOTES
 & CONSTRUCTION NOTES
 ON SHEET A-2.



1" = 50' HORIZ.
1" = 10' VERT.

ELLIS
&
ASSOCIATES
RONALD L. ELLIS
&
ASSOCIATES, INC.
Consulting Engineers
Pelham, Alabama

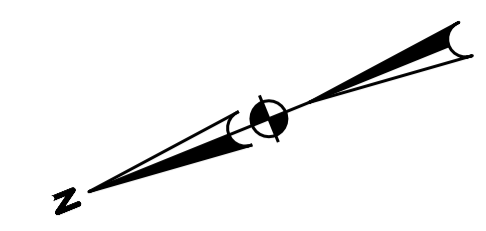
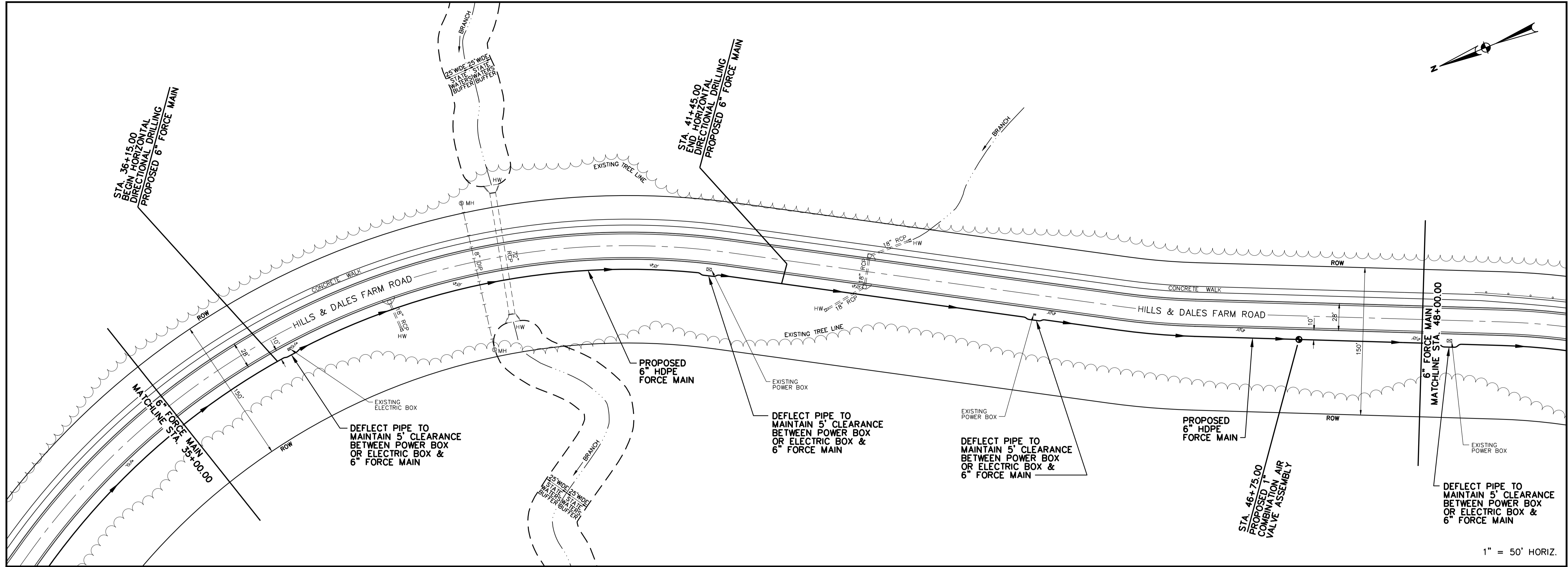
CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FARM ROAD
IMPROVEMENTS
6" HDPE FORCEMAIN STA. 22+00.00 TO STA. 35+00.00

DRAWING NAME :	CONT-A_B-2
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	RLE
APPROVED BY :	RLE
SCALE :	AS SHOWN
DATE :	03/30/2022

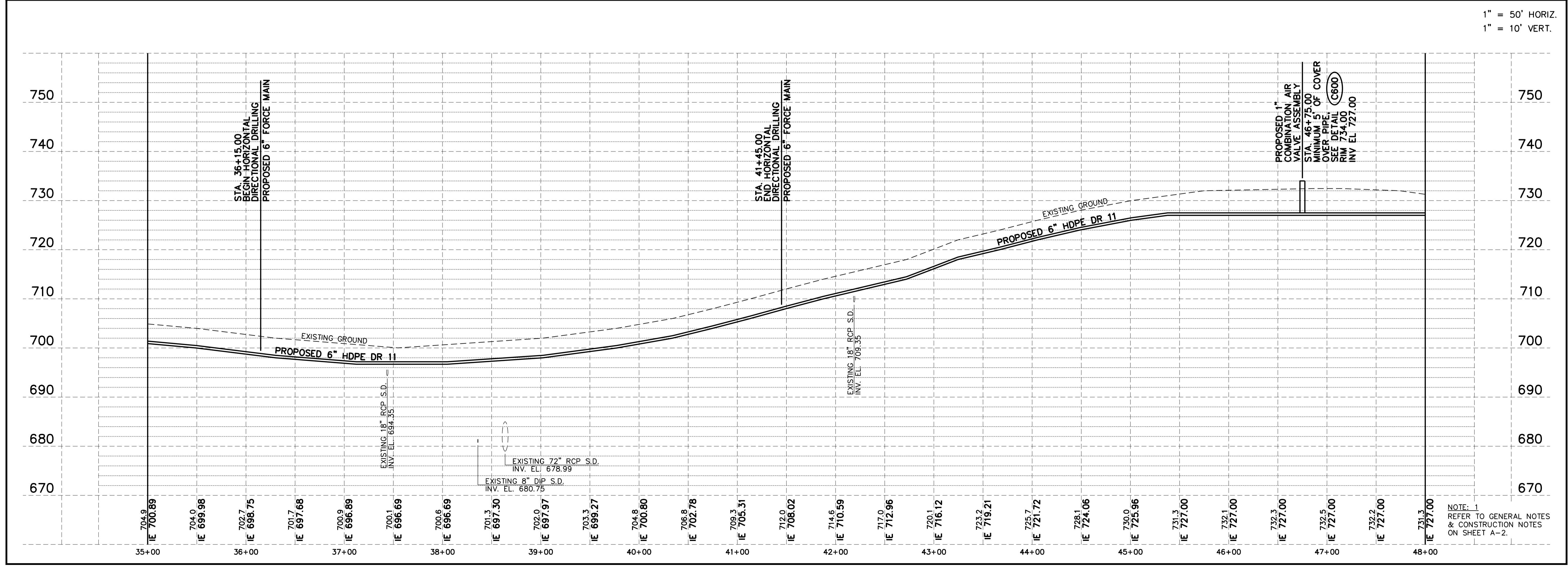
REVISIONS		
NO.	DATE	DESCRIPTION

03/30/2022

NOTE: 1
REFER TO GENERAL NOTES
& CONSTRUCTION NOTES
ON SHEET A-2.



1" = 50' HORIZ.
 1" = 10' VERT.

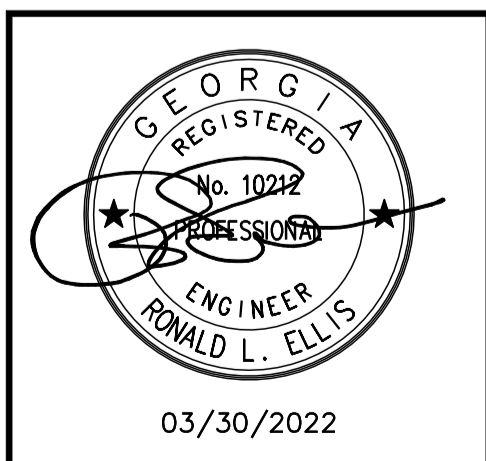


NOTE: 1
 REFER TO GENERAL NOTES
 & CONSTRUCTION NOTES
 ON SHEET A-2.

CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FARM ROAD
IMPROVEMENTS
 6" HDPE FORCEMAIN STA. 35+00.00 TO STA. 48+00.00

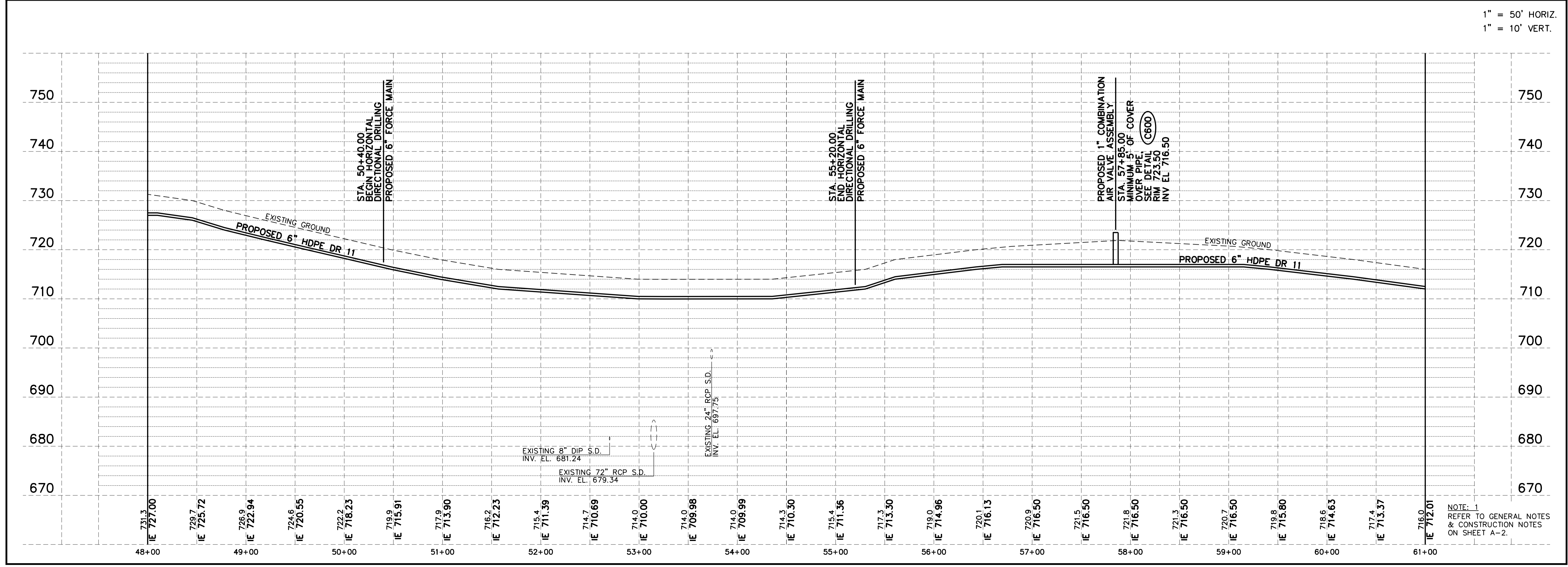
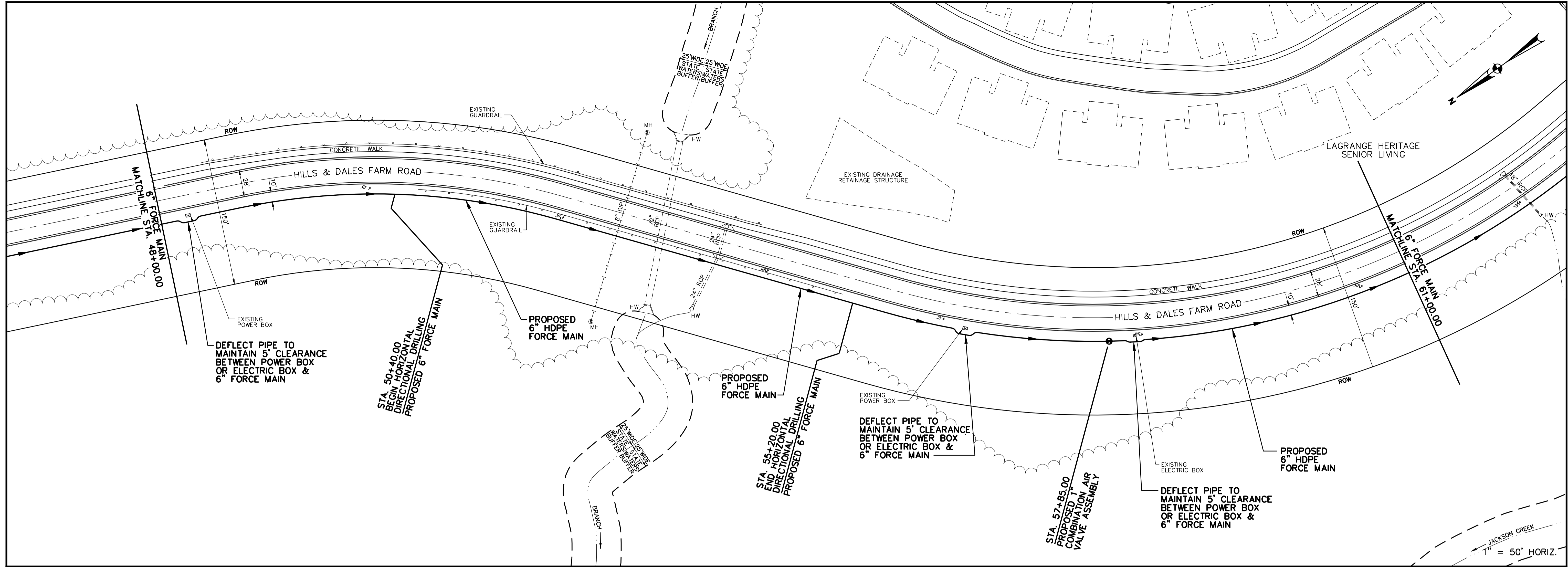
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PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	RLE
APPROVED BY :	RLE
SCALE :	AS SHOWN
DATE :	03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION



**CITY OF LAGRANGE, GEORGIA
 2022-HILLS & DALES FORCE MAIN
 IMPROVEMENTS**

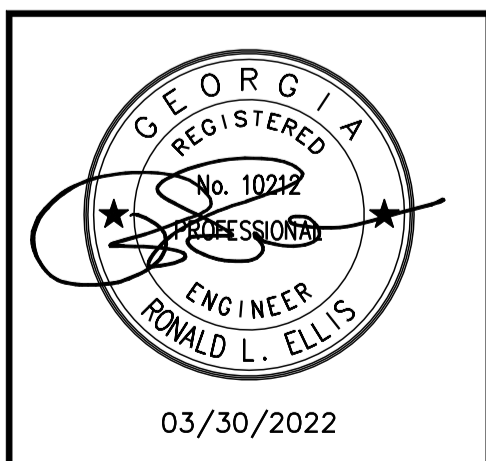
6" HDPE FORCEMAIN STA. 48+00.00 TO STA. 61+00.00



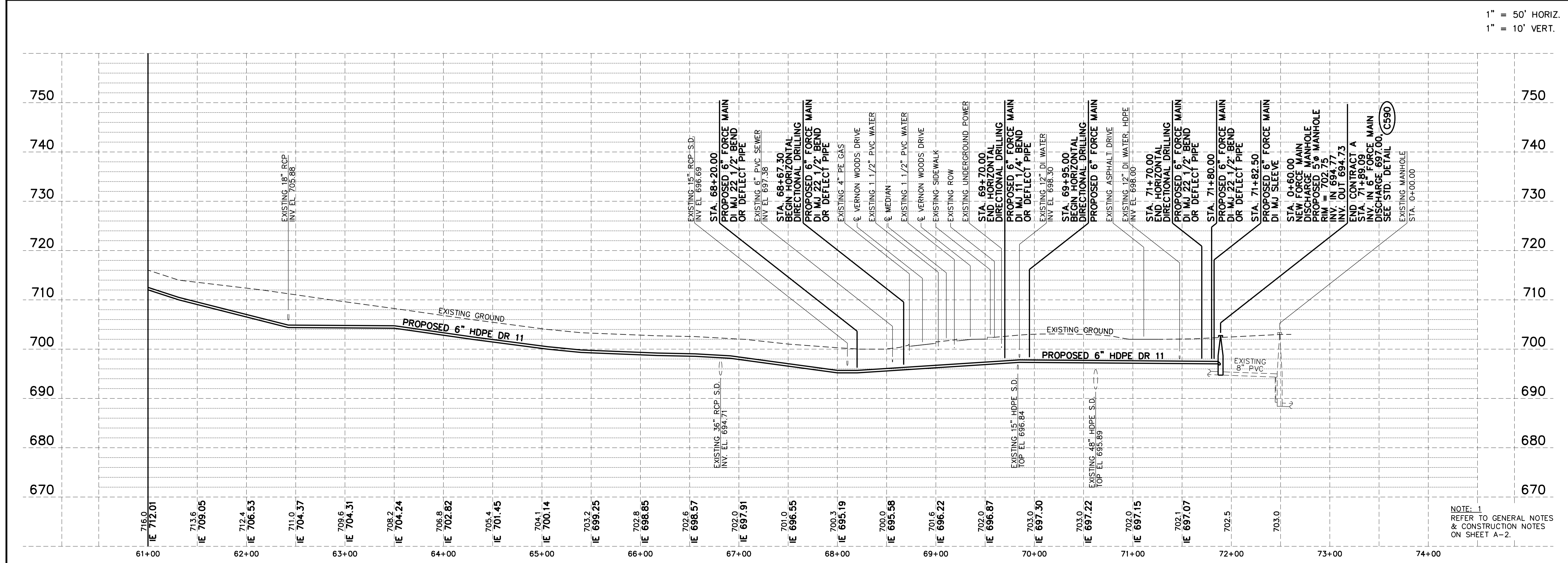
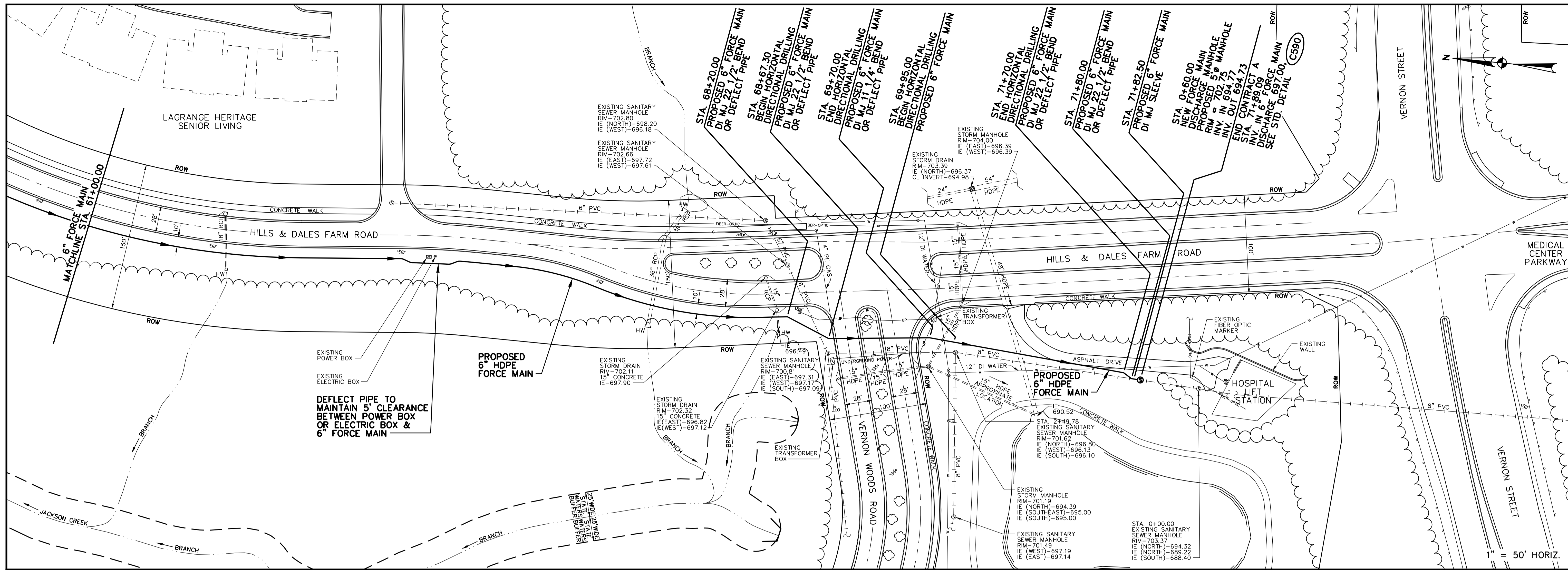
1" = 50' HORIZ.
 1" = 10' VERT.

DRAWING NAME : CONT-A_B-4
 PROJECT NO. : 21.135
 DRAWN BY : RDE
 DESIGNED BY : RLE
 APPROVED BY : RLE
 SCALE : AS SHOWN
 DATE : 03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION



NOTE: 1
 REFER TO GENERAL NOTES
 & CONSTRUCTION NOTES
 ON SHEET A-2.



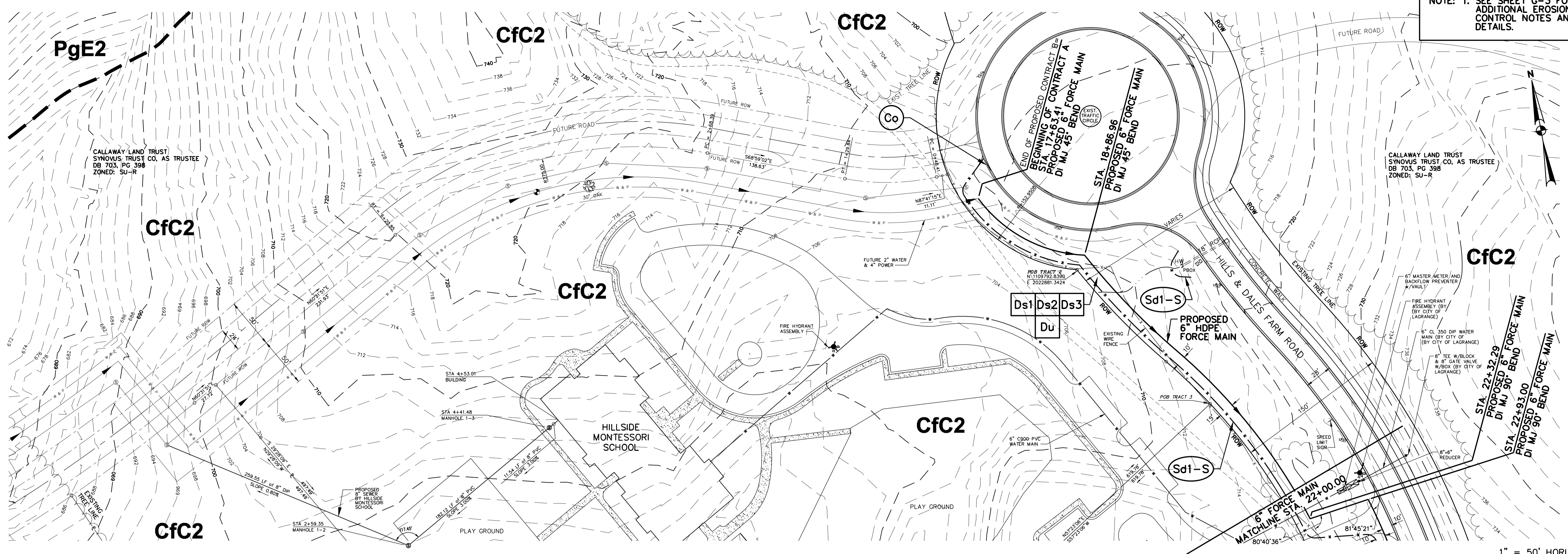
NOTE: 1
REFER TO GENERAL NOTES
& CONSTRUCTION NOTES
ON SHEET A-2.

ELLIS & ASSOCIATES
RONALD L. ELLIS & ASSOCIATES, INC.
Consulting Engineers
Pelham, Alabama

CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FORCE MAIN IMPROVEMENTS
6" HDPE FORCEMAIN STA. 61+00.00 TO STA. 71+89.09

DRAWING NAME : CONT-A_B-5
PROJECT NO. : 21.135
DRAWN BY : RDE
DESIGNED BY : RLE
APPROVED BY : RLE
SCALE : AS SHOWN
DATE : 03/30/2022

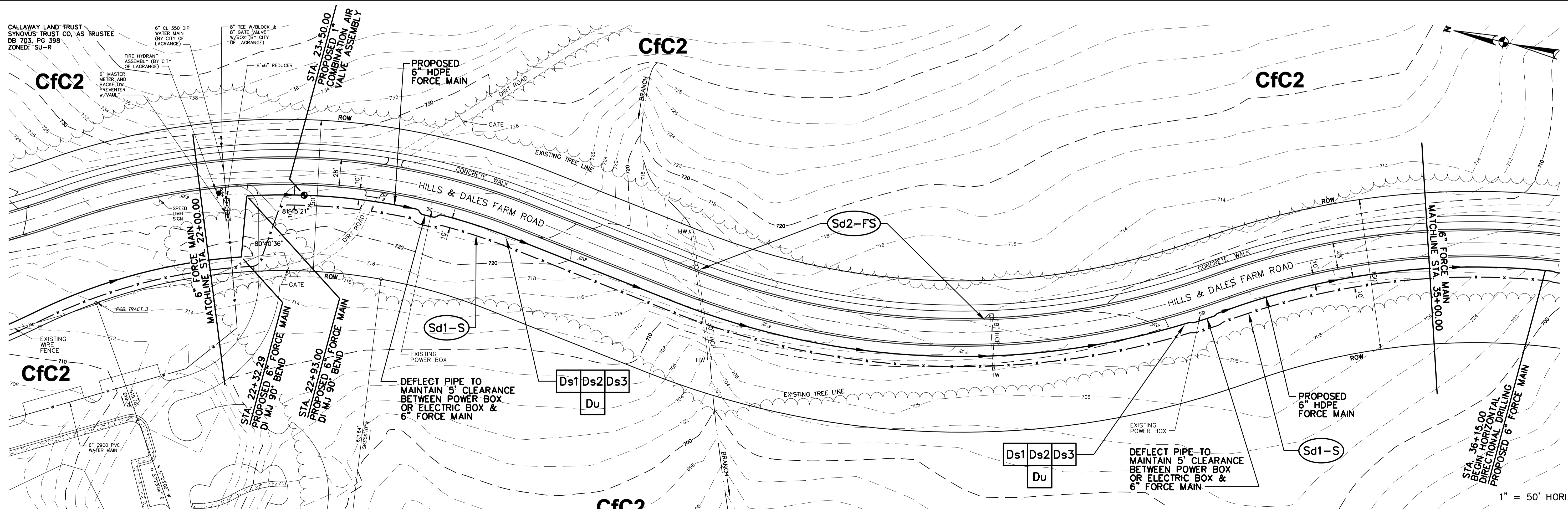
REVISIONS		
NO.	DATE	DESCRIPTION



NOTE: 1. SEE SHEET G-3 FOR ADDITIONAL EROSION CONTROL NOTES AND DETAILS.



1" = 50' HORIZ.



1" = 50' HORIZ.

James Stothard
 JAMES STOTHARD, PE NO. 15360
 LEVEL II CERTIFIED DESIGN PROFESSIONAL NO. 0000029517
 MARCH 30, 2022

ELLIS
 &
 ASSOCIATES
 RONALD L. ELLIS
 &
 ASSOCIATES, INC.
 Consulting Engineers
 Pelham, Alabama

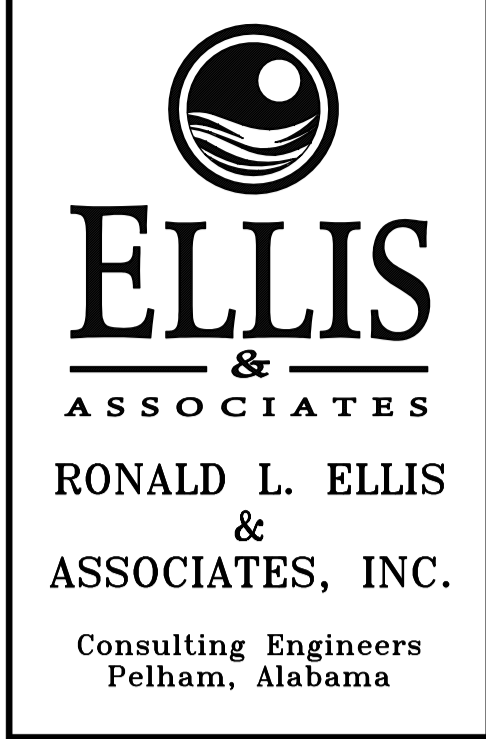
CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FORCE MAIN
IMPROVEMENTS

EROSION CONTROL PLAN STA. 17+63.41 TO STA. 35+00.00

DRAWING NAME :	CONT-A-G-1
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	JS/RLE
APPROVED BY :	JS
SCALE :	AS SHOWN
DATE :	03/30/2022

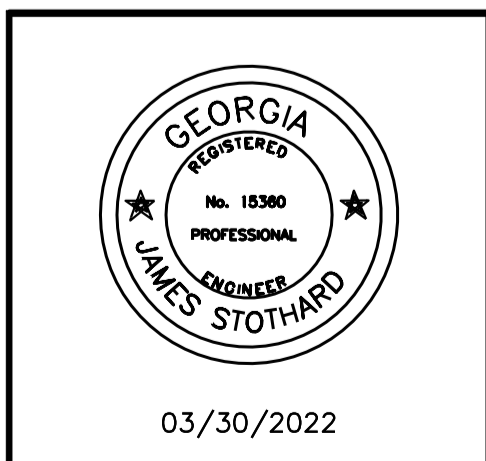
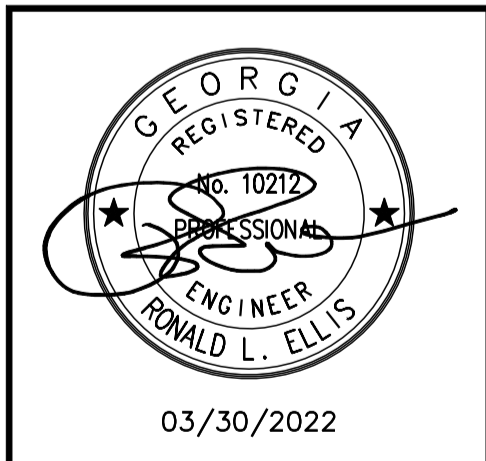
SHEET NO.
G - 1

NOTE: 1. SEE SHEET G-3 FOR ADDITIONAL EROSION CONTROL NOTES AND DETAILS.

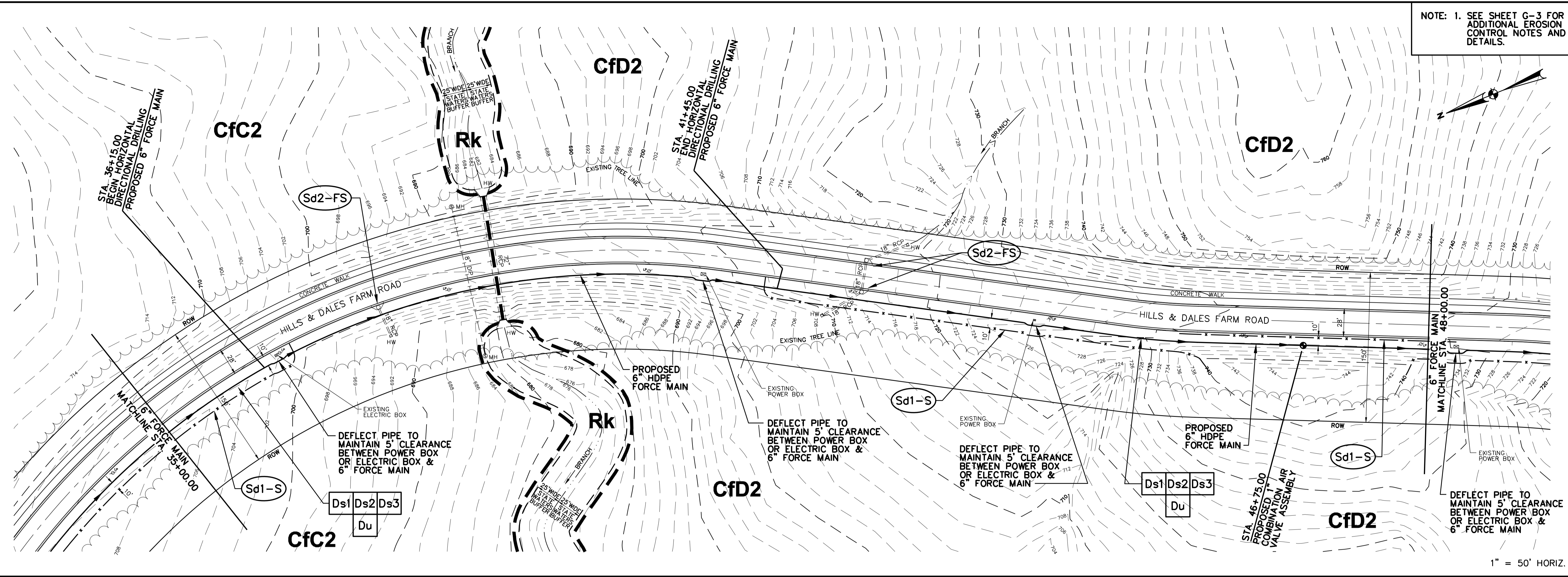


CITY OF LAGRANGE, GEORGIA
 2022-HILLS & DALES FARM ROAD
 IMPROVEMENTS
 EROSION CONTROL PLAN STA. 35+00.00 TO STA. 61+00.00

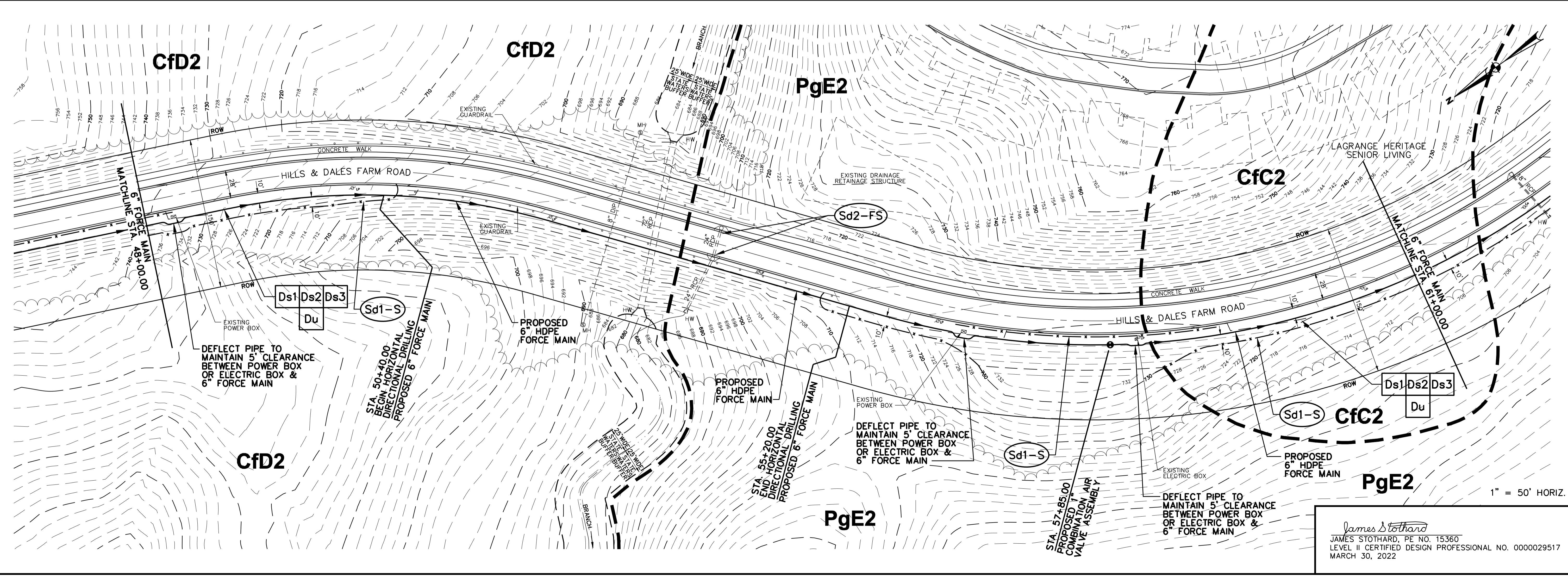
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 PROJECT NO. : 21.135
 DRAWN BY : RDE
 DESIGNED BY : JS/RLE
 APPROVED BY : JS
 SCALE : AS SHOWN
 DATE : 03/30/2022



SHEET NO.
 G - 2

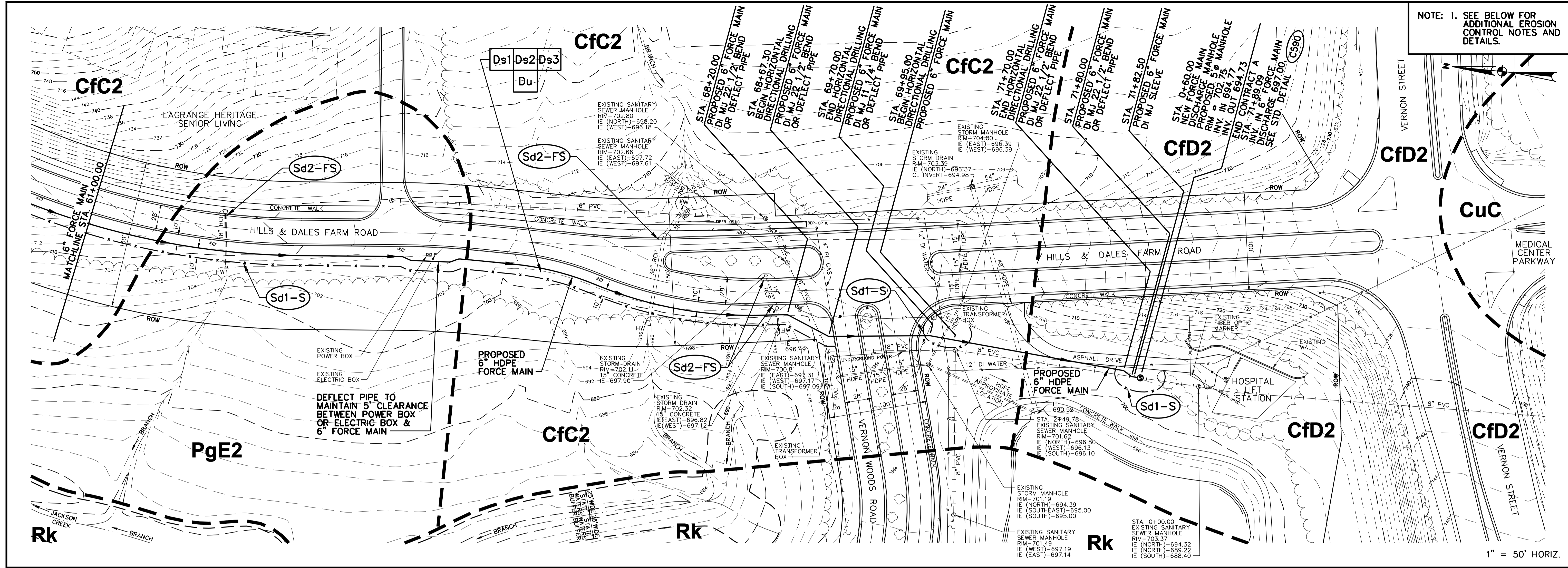


1" = 50' HORIZ.

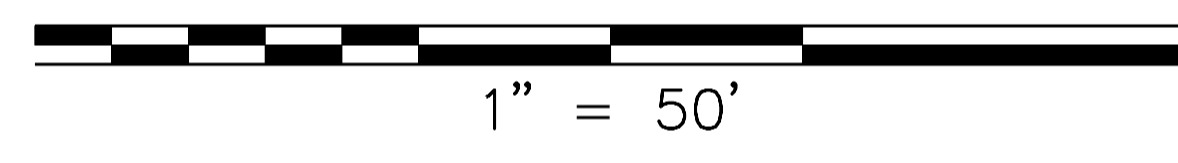


1" = 50' HORIZ.

James Stothard
 JAMES STOTHARD, PE NO. 15360
 LEVEL II CERTIFIED DESIGN PROFESSIONAL NO. 0000029517
 MARCH 30, 2022



NOTE: 1. SEE BELOW FOR ADDITIONAL EROSION CONTROL NOTES AND DETAILS.



- NOTES:
1. ALL DISTURBED AREAS REQUIRE Ds1 EROSION CONTROL.
 2. SEE EROSION CONTROL DETAILS, SHT. G-4.
 3. SEE EROSION CONTROL NOTES, SHTS. G-5 & G-6.

EROSION AND SEDIMENT CONTROL LEGEND

- | | |
|--|--|
| (Co) CONSTRUCTION EXIT | (Ds1) DISTURBED AREA STABILIZATION MULCHING ONLY |
| (Sd1-S) SEDIMENT BARRIER - SILT FENCE TYPE SENSITIVE SINGLE ROW | (Ds2) DISTURBED AREA STABILIZATION TEMPORARY GRASSING |
| (Sd2-FS) INLET SEDIMENT TRAP | (Ds3) DISTURBED AREA STABILIZATION PERMANENT VEGETATION |
| (CdS) CHECK DAM - STONE, AS REQUIRED | (Du) DUST CONTROL |
| (Cd-Hb) CHECK DAM - HAY BALE | (Ss) SLOPE STABILIZATION, AS REQUIRED |
| | (Tr) TREE PROTECTION |

- NOTES:
1. THE ENGINEER HAS AUTHORITY TO REQUIRE ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES, AS DEPICTED FOR THE EROSION CONTROL PLANS, IF THE PROJECT SO REQUIRES TO PREVENT AND CONTROL EROSION AND SEDIMENT CONTROL.
 2. PROVIDE **(Cd-Hb)** ALONG DISTURBED AREA AFTER FORCE MAIN INSTALLATION TO STABILIZED AREA DURING APPLICATION OF **(Ds2)** & **(Ds3)**, ESPECIALLY STEEP GRADES, AS REQUIRED.
 3. DETAILS & LEGEND ON SHT. G-3 APPLIES TO EROSION CONTROL PLANS ON SHTS. G-1, G-2 & G-3.

SOIL DESCRIPTIONS	
CuC	Cecil - Urban Land Complex, 2 to 10% Slopes
CfC2	Cecil Sandy Clay Loom, 6 to 10% Slopes, Eroded
CfD2	Cecil Sandy Clay Loom, 10 to 15% Slopes, Moderately Eroded
PgE2	Pacolet Sandy Clay Loom, 15 to 25% Slopes
Rk	Riverview - Chewada Association Moderate Permeability, Poorly Drained

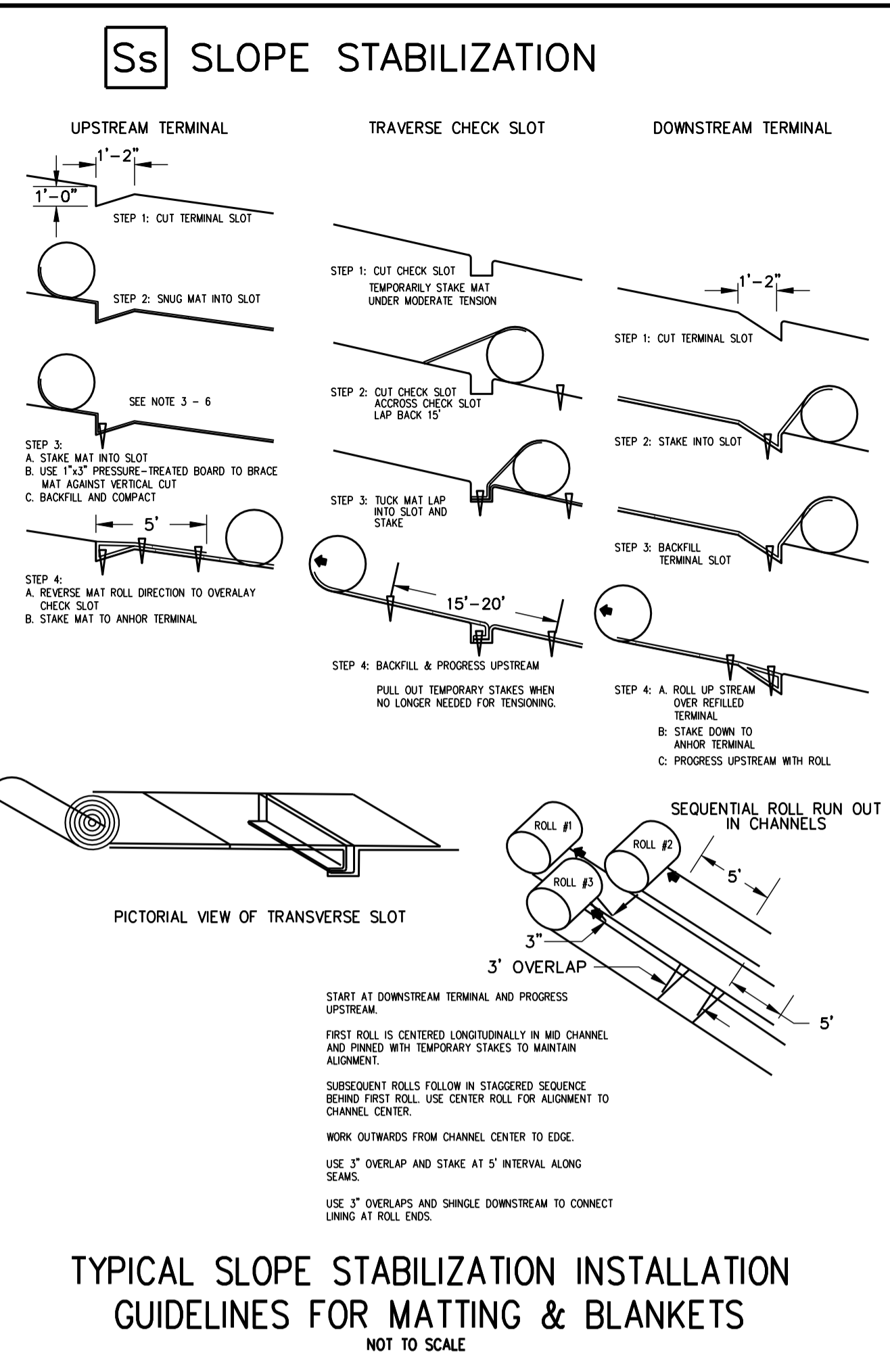
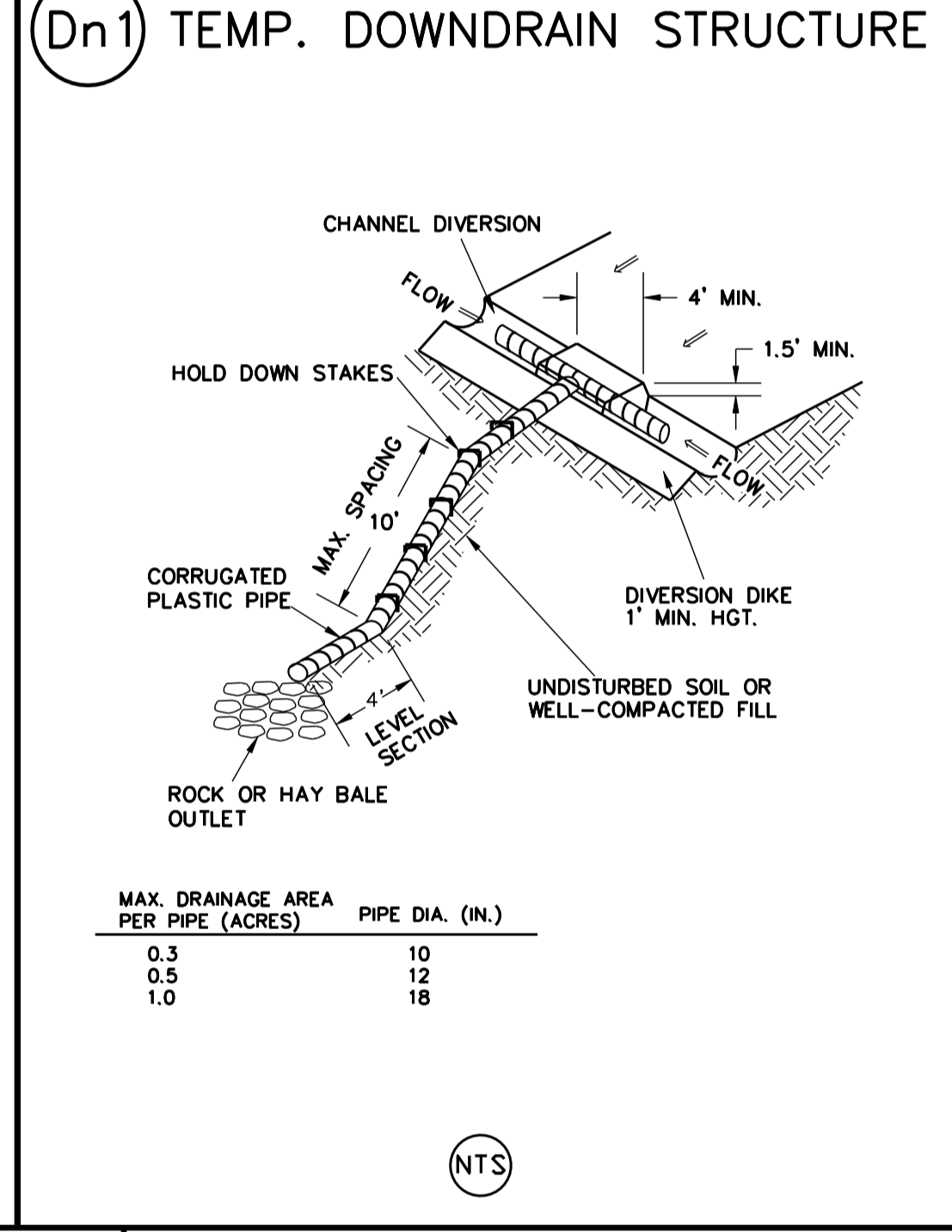
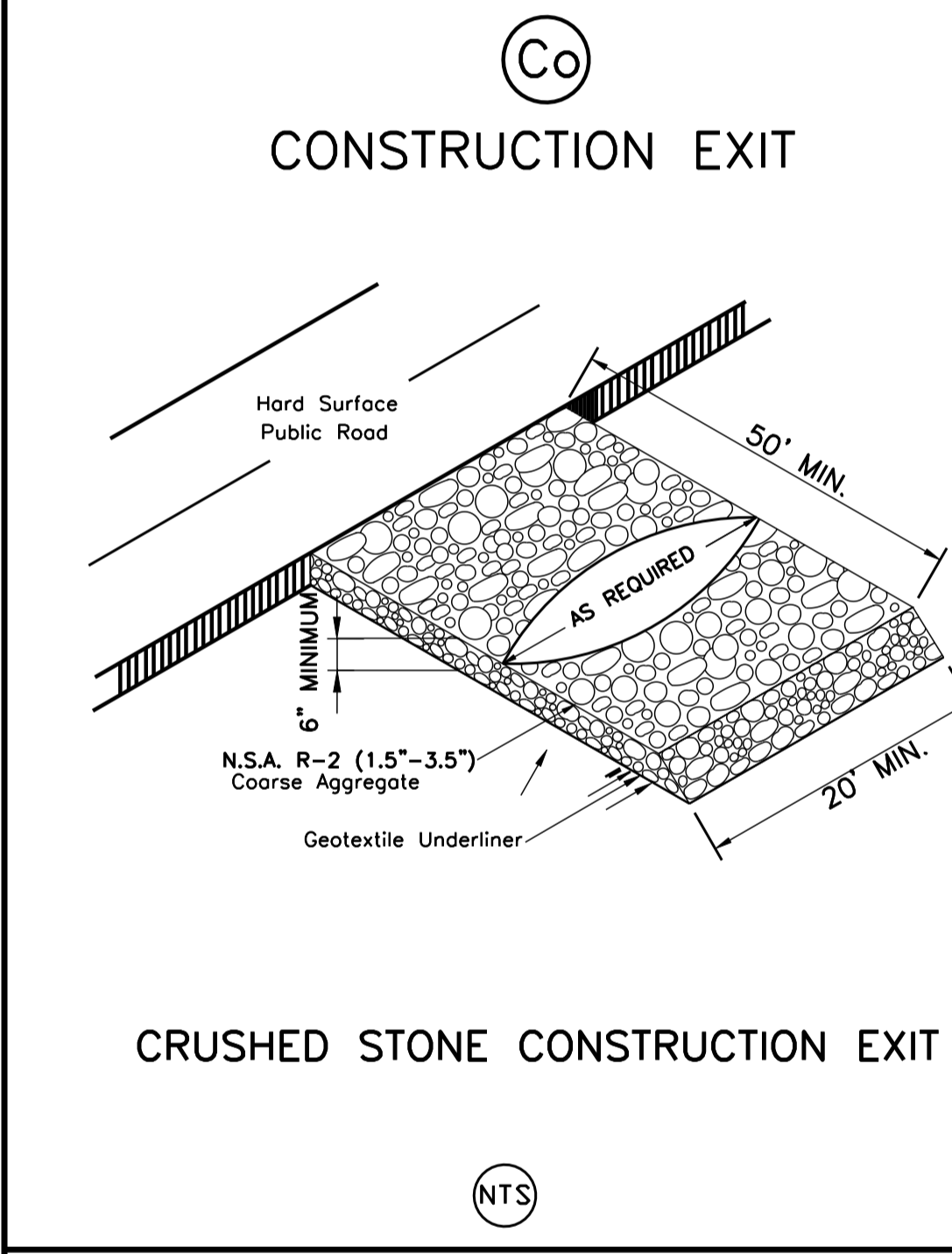
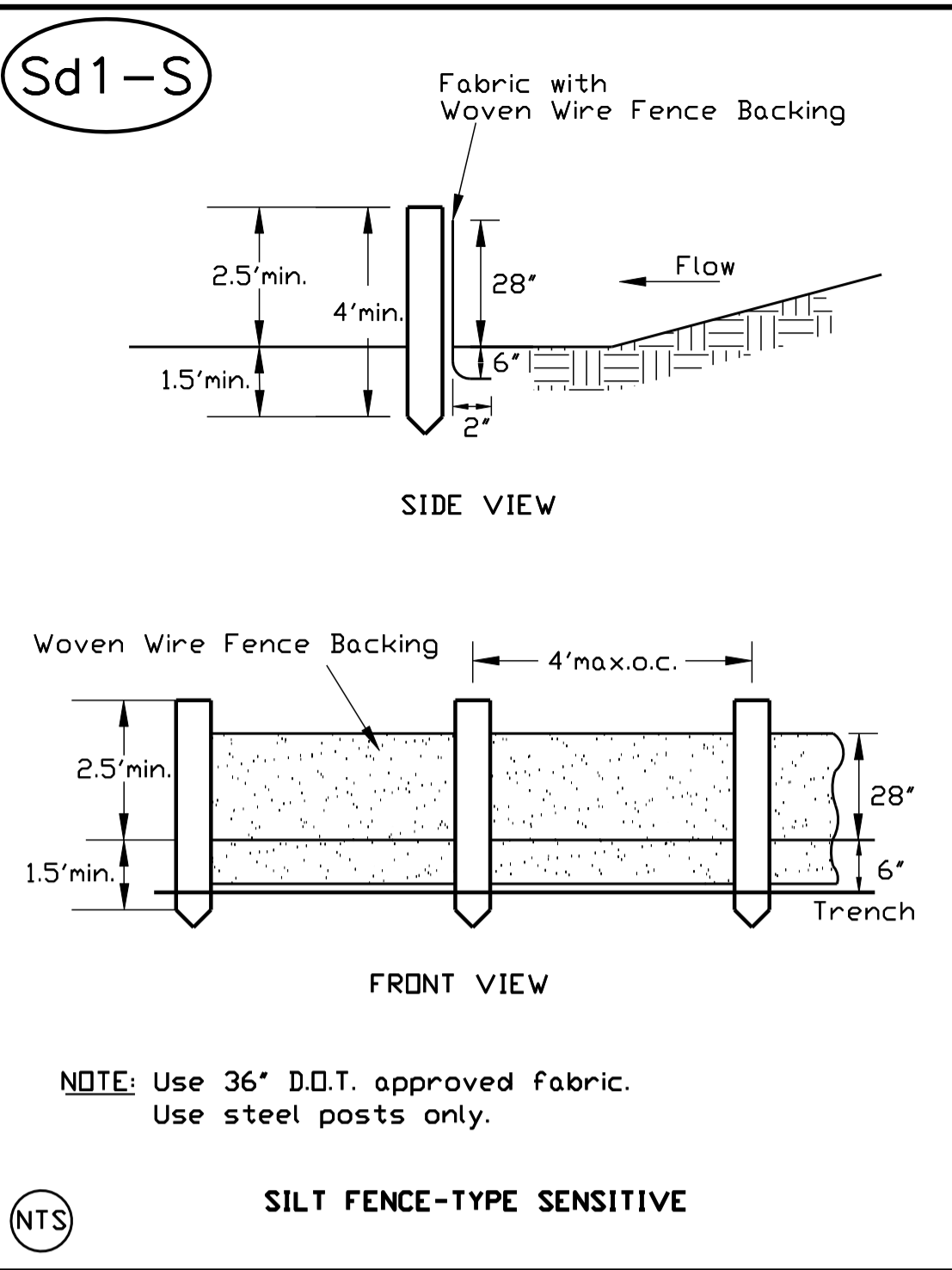
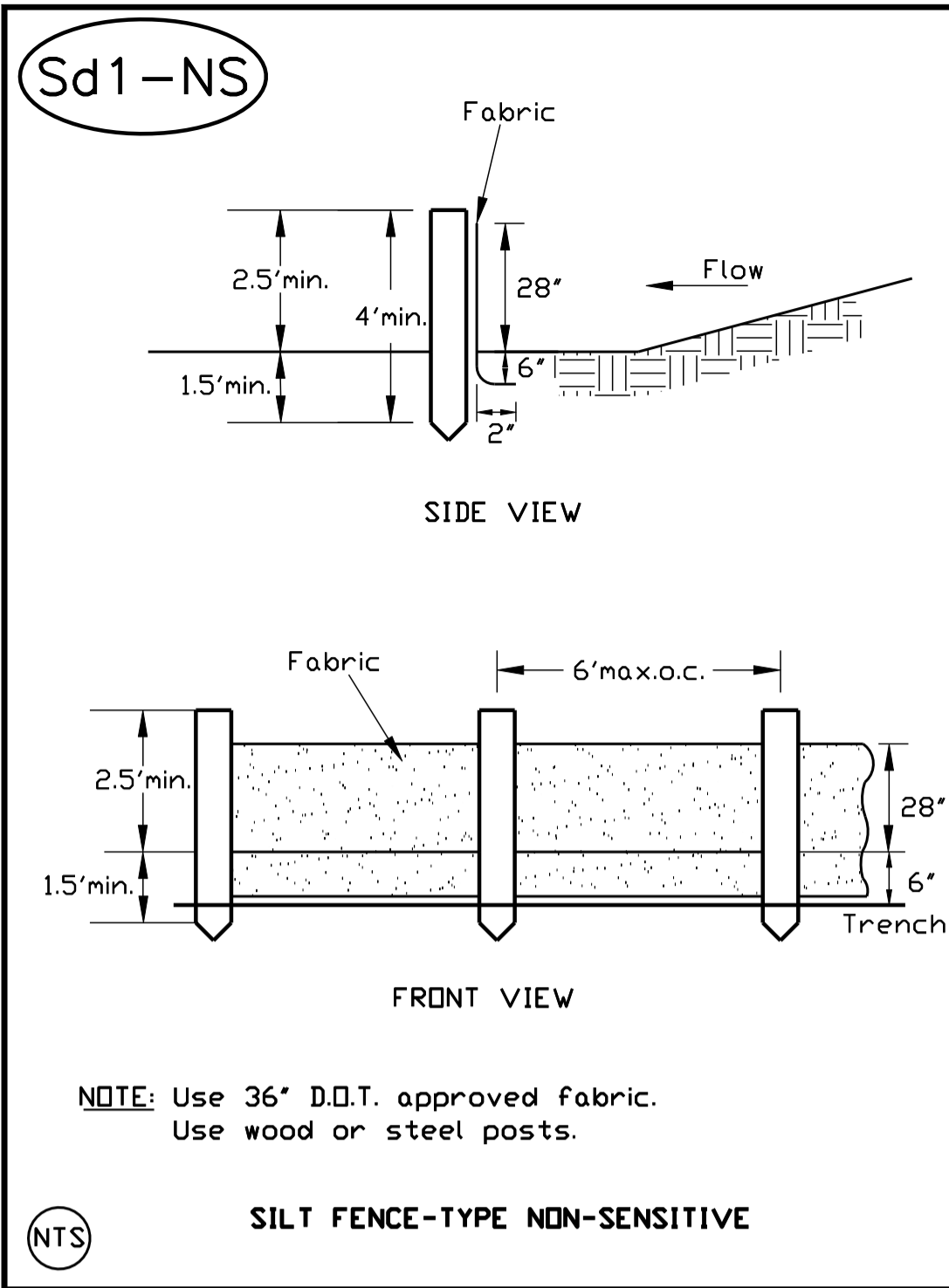
James Stothard
 JAMES STOTHARD, PE NO. 15360
 LEVEL II CERTIFIED DESIGN PROFESSIONAL NO. 0000029517
 MARCH 30, 2022

ELLIS & ASSOCIATES
 RONALD L. ELLIS & ASSOCIATES, INC.
 Consulting Engineers
 Pelham, Alabama

**CITY OF LAGRANGE, GEORGIA
 2022-HILLS & DALES FORCE MAIN
 IMPROVEMENTS**

EROSION CONTROL PLAN STA. 61+00.00 TO STA. 71+89.09

DRAWING NAME :	CONT-A_G-3
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	JS/RLE
APPROVED BY :	JS
SCALE :	AS SHOWN
DATE :	03/30/2022



Temporary Erosion Control Blankets

This includes temporary "combination" blankets (rolled erosion control blankets-RECB) consisting of a plastic netting which covers and is intertwined with a natural organic or manmade mulch; or, a jute mesh which is typically homogeneous in design and can act alone as a soil stabilization blanket.

Temporary blankets as a minimum shall be used to stabilize concentrated flow areas with a velocity less than 5 ft/sec and slopes 2:5:1 or steeper with a height of 10 feet or greater. Because temporary blankets will deteriorate in a short period of time, they provide no enduring reduction in erosion protection.

Benefits of using erosion control blankets include the following:

1. Protection of the seed and soil from raindrop impact and subsequent displacement.
2. Thermal consistency and moisture retention for seeded areas.
3. Stronger and faster germination of grasses and legumes.
4. Planting of excess stormwater runoff.
5. Prevention of sloughing of topsoil added to steeper slopes.

Permanent Erosion Control Matting

Consists of a permanent non-degradable, three-dimensional plastic structure which can be filled with soil prior to planting. These mats are also known as permanent soil reinforcing mats (soil reinforcement matting). Roots penetrate and become entangled in the matrix, forming a continuous anchorage for surface growth and promoting enhanced energy dissipation. Matting shall be used when a vegetative lining is desired in stormwater conveyance channels where the velocity is between five and ten per second.

Benefits of using erosion control matting include the following:

1. All benefits gained from using erosion control blankets.
2. Causes soil to drop out of stormwater and fill matrix with fine soils which become the growth medium for the development of roots.
3. Acts with the vegetative root system to form an erosion resistant cover which resists hydraulic lift and shear forces when embedded in the soil within stormwater channels.

Materials

All blanket and matting materials shall be on the Georgia Department of Transportation Qualified Products List (QPL #62 for blankets, QPL #49 for matting). All blankets shall be nontoxic to vegetation and to the germination of seed and shall not be injurious to the unprotected skin of humans. At a minimum, the plastic netting shall be intertwined with the mulching material/fiber to maximize strength and provide for ease of handling.

Temporary Blankets

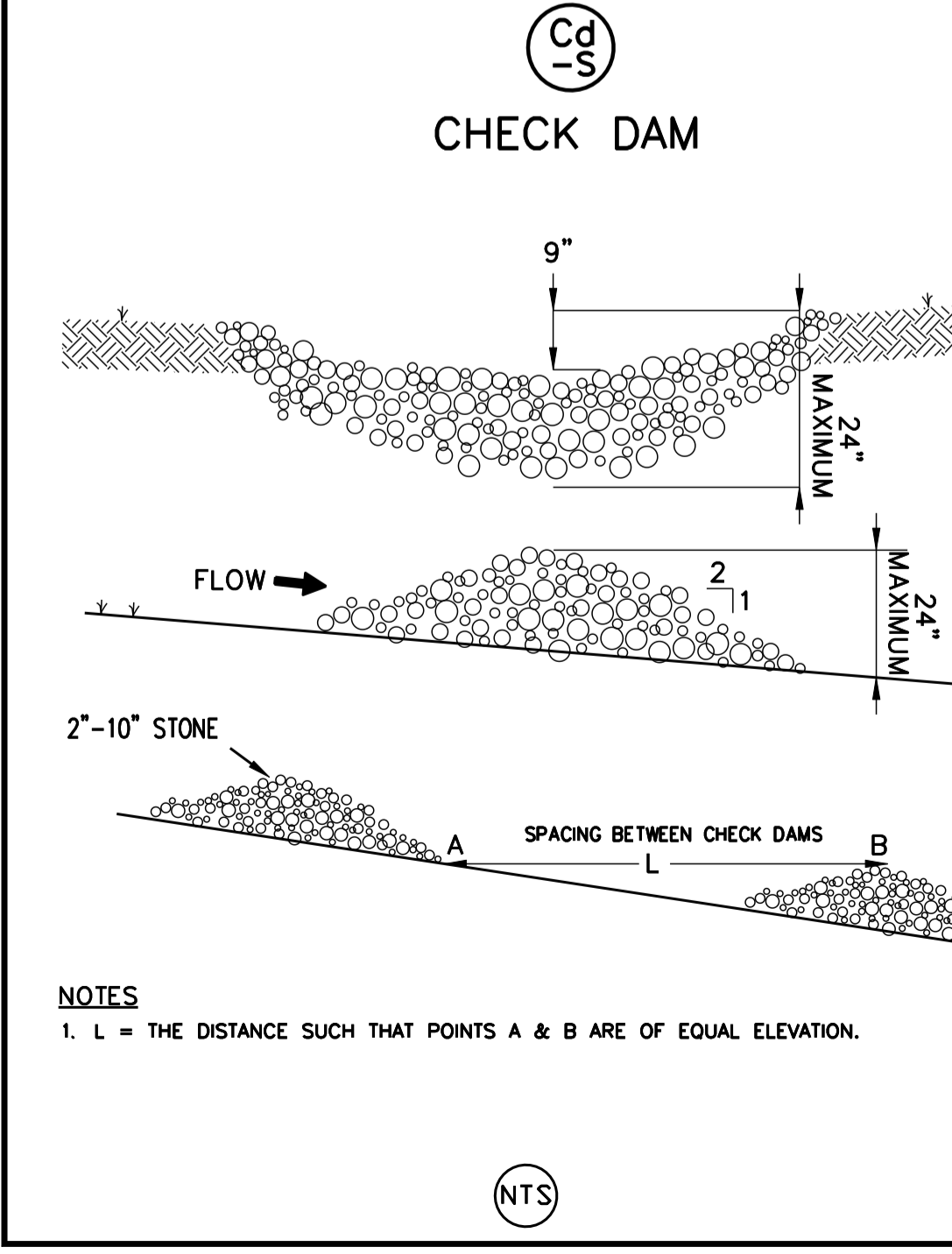
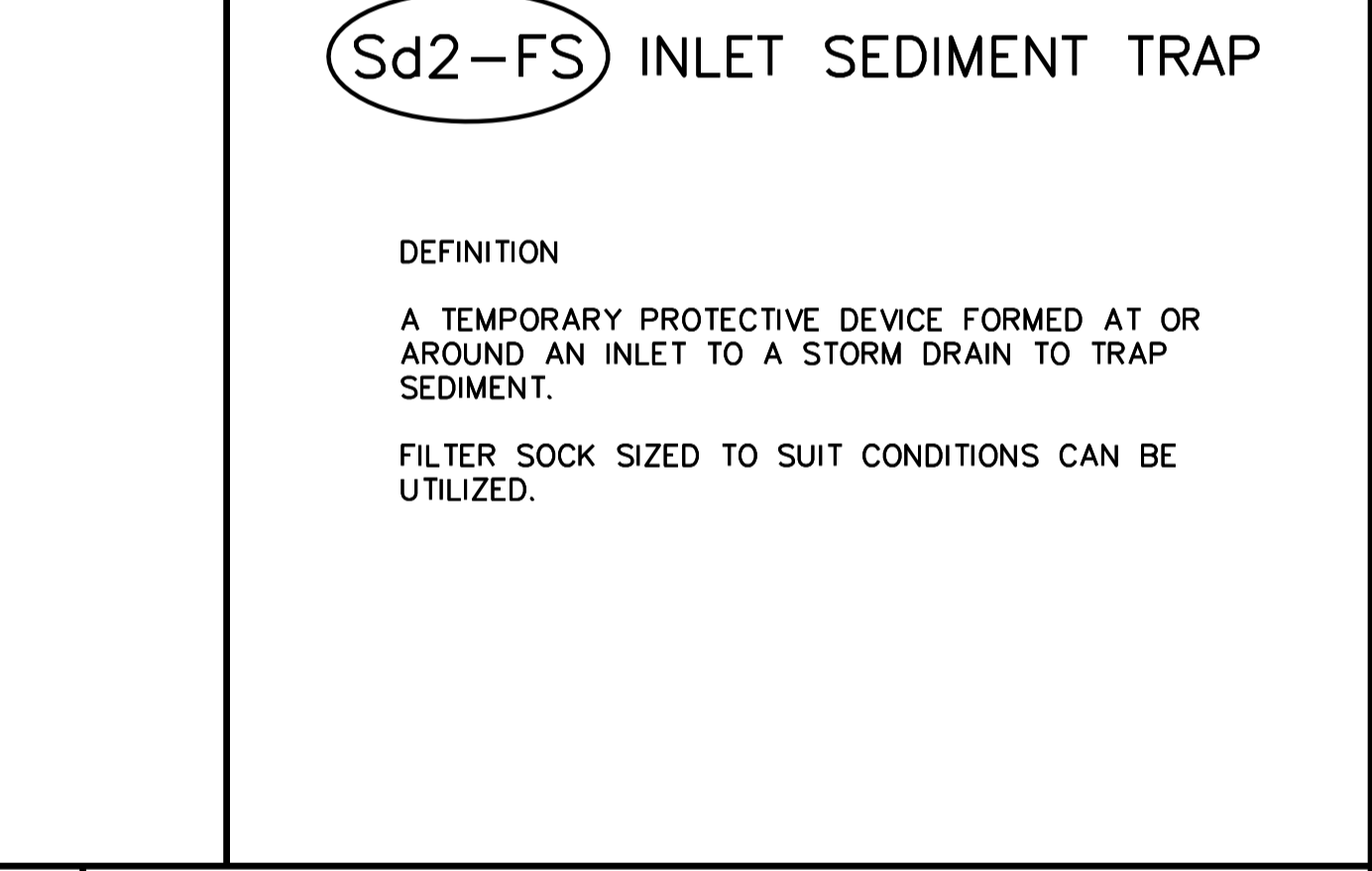
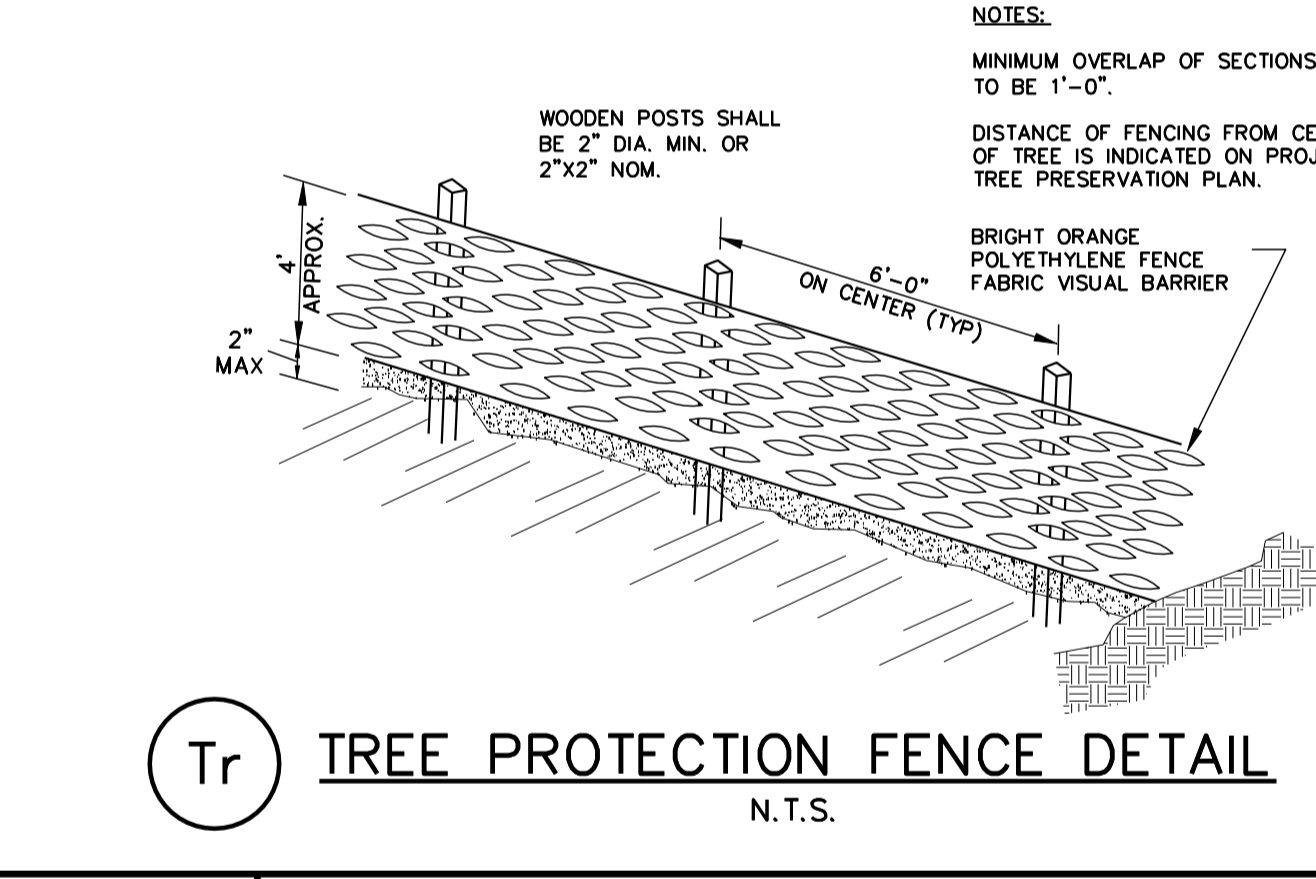
Machine produced temporary combination blankets shall have a consistent thickness with the organic material evenly distributed over the entire blanket area. All combination blankets shall have a minimum width of 48 inches. Machine produced combination blankets include the following:

1. Straw blankets are combination blankets that consist of weed-free straw from agricultural crops formed into a blanket. Blankets with a top side of photodegradable plastic mesh with a maximum mesh size of 5/16 x 5/16 inch and sewn to the straw with biodegradable thread is appropriate for slopes. The blanket shall have a minimum thickness of 3/8 inch and minimum dry weight of 0.5 pounds per square yard.
2. Excelsior blankets are combination blankets that consist of curled wood excelsior (80% of fibers are six inches or longer) formed into a blanket. The blanket shall have clear markings indicating the top side of the blanket and be smaller resistant. Blankets shall be photodegradable plastic mesh having a maximum mesh size of 1 1/2 x 3 inches. The blanket shall have a minimum thickness of 1/4 of an inch and a minimum dry weight of 0.8 pounds per square yard. Slopes require excelsior matting with the top side of the blanket covered in the plastic mesh, and for waterways, both sides of the blanket require plastic mesh.
3. Coconut fiber blankets are combination blankets that consist of 100% coconut fiber formed into a blanket. The minimum thickness of the blanket shall be 1/4 of an inch with a minimum dry weight of 0.5 pounds per square yard. Blankets shall have photodegradable plastic mesh, with a maximum mesh size of 5/8 x 5/8 inch and sewn to the fiber with a breakdown resistant synthetic yarn. Plastic mesh is required on both sides of the blanket is used in waterways. A maximum of two inches is allowable for the stitch pattern and row spacing.
4. Wood fiber blankets are combination blankets that consist of reprocessed wood fibers that do not possess or contain any growth or germination inhibiting factors. The blanket shall have a photodegradable plastic mesh, with a maximum mesh size of 5/8 x 3/4 inch, securely bonded to the top of the mat. The blanket shall have a minimum dry weight of 0.35 pounds per square yard. A maximum of two inches is allowable for the stitch pattern and row spacing. This practice shall be applied only to slopes.
5. Jute Mesh can be applied to slopes. Jute mesh with shall show between 76 and 80 warplings and a one yard length shall show between 39 to 43 weftings. The woven mesh shall be at least 45 inches wide. Yarn shall have a unit weight of at least 0.9 pounds per square yard, but not more than 1.5 pounds per square yard.

Permanent Matting

Permanent matting shall consist of a lathy web of mechanically or melt bonded polymer nettings, monofilaments or fibers which are entangled to form a strong and dimensionally stable matrix. Polymer welding, thermal of polymer fusion, or the placement of fibers between two high strength, biaxially oriented mats bound securely together by parallel lock stitching with polyethylene, nylon or polyester threads are all appropriate bonding methods. Mats shall maintain their shape before, during, and after installation, under dry or water saturated conditions. Mats must be stabilized against ultraviolet degradation and shall be inert to chemicals normally encountered in a natural soil environment.

The mat shall conform to the following physical properties:



Ds1

Disturbed Area Stabilization (With Mulching Only)

CONSTRUCTION SPECIFICATIONS

Site Preparation

1. Grade to permit the use of equipment for applying and anchoring mulch.
2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and sediment barriers.
3. Loosen compact soil to a minimum depth of 3 inches.

Mulching Materials

Select one of the following materials and apply at the depth indicated:

1. Dry straw or hay shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
2. Wood waste (chips, sawdust or bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch. This method of mulching can greatly reduce erosion control costs.
3. Cutback asphalt (slow curing) shall be applied at 1200 gallons per acre (or 1/4 gallon per sq. yd.).
4. Polyethylene film shall be secured over berms or stockpiled soil material for temporary protection. This material can be salvaged and re-used.

Applying Mulch

When mulch is used without seeding, mulch shall be applied to provide full coverage of exposed area.

1. Dry straw or hay mulch and wood chips shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
3. Cutback asphalt shall be applied uniformly. Care should be taken in areas of pedestrian traffic due to problems of "tracking in" or damage to shoes, clothing, etc.
4. Apply polyethylene film on exposed areas.

Anchoring Mulch

1. Straw or hay mulch can be pressed into the soil with a disk harrow with the disk set straight or with a special packer disk. Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. Straw or hay mulch shall be anchored immediately after application.

Ds2 Ds3 - TEMPORARY AND PERMANENT GRASSING

SPECIES	YEAR	ANALYSIS OR EQUIVALENT	RATE	N DRESSING RATE
1. COOL SEASON GRASSES	FIRST SECOND MAINT	6-12-12 6-12-12 10-10-10	1500 lbs/AC 1000 lbs/AC 400 lbs/AC	50-100 LBS/AC 1/2/ 30 LBS/AC
2. COOL SEASON GRASSES AND LEGUMES	FIRST SECOND MAINT	6-12-12 0-10-10 0-10-10	1500 lbs/AC 1000 lbs/AC 400 lbs/AC	0-50 LBS/AC 1/ -
3. WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINT	10-10-10 10-10-10 10-10-10	1300 lbs/AC 1300 lbs/AC 1100 lbs/AC	- - -
4. PINE SEEDLINGS	FIRST	20-10-15	one 21 gram pellet per seeding placed in the closing hole	-
5. SHRUB LEEPEDEZA	FIRST MAINT	0-10-10 0-10-10	700 lbs/AC 700 lbs/AC	-
6. TEMP COVER CROP SEEDING DONE	FIRST	10-10-10	500 lbs/AC	30 LBS/AC 5/
7. WARM SEASON GRASSES	FIRST SECOND MAINT	6-12-12 6-12-12 10-10-10	1500 lbs/AC 800 lbs/AC 400 lbs/AC	50-100 LBS/AC 2/6/ 50-100 LBS/AC 2/ 30 LBS/AC
8. WARM SEASON GRASSES AND LEGUMES	FIRST SECOND MAINT	6-12-12 0-10-10 0-10-10	1500 lbs/AC 1000 lbs/AC 400 lbs/AC	50 LBS/AC 6/ -

LIME RATES

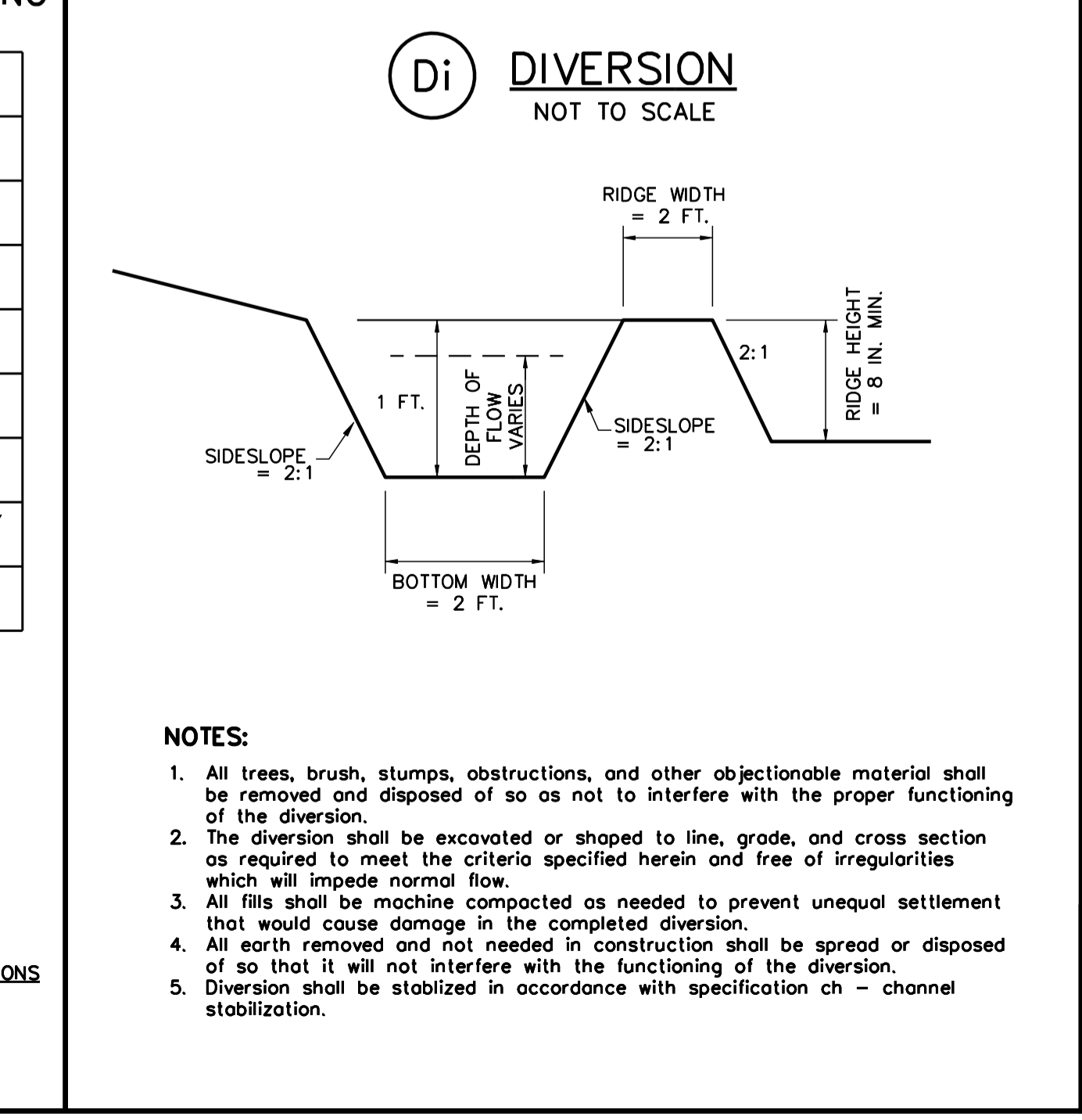
AGRICULTURAL LIME IS REQUIRED AT THE RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. ALL GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

PERMANENT GRASSING SPECIFICATIONS

MARCH 1 TO JUNE 30
BERMUDA, COMMON (HULLED) - 10 LBS/AC
OR
APRIL 1 TO JUNE 30
CENTIPEDE - BLOCK SOD ONLY

TEMPORARY SEEDING SPECIFICATIONS

AUGUST 15 TO DECEMBER 30
RYE - 3 BU/AC
OR
APRIL 15 TO AUGUST 31
MILLET, PEARL - 50 LBS/AC



ELLIS & ASSOCIATES

RONALD L. ELLIS & ASSOCIATES, INC.

Consulting Engineers
Pelham, Alabama

CITY OF LAGRANGE, GEORGIA

2022-HILLS & DALES FORCE MAIN IMPROVEMENTS

EROSION CONTROL PLAN DETAILS

DRAWING NAME : CONT-A_G-4
PROJECT NO. : 21.135
DRAWN BY : RDE
DESIGNED BY : JS/RLE
APPROVED BY : JS
SCALE : AS SHOWN
DATE : 03/30/2022

REGISTERED PROFESSIONAL ENGINEER
RONALD L. ELLIS
03/30/2022

REGISTERED PROFESSIONAL ENGINEER
JAMES STOTHARD
03/30/2022

SHEET NO.
G - 4

**CLEARING PHASE
EROSION CONTROL NOTES:**

Prior to the land disturbing constructions, the contractor shall schedule a pre-construction meeting with the area site development inspector.

The contractor shall observe the project sequence shown on the plans. The contractor shall maintain careful scheduling and performance to insure that land stripped of its natural cover is exposed only in small quantities.

The owner agrees to provide and maintain off-street parking on the subject property during the entire construction period.

No staging areas, material storage, concrete wash out areas, or debris burn and burial haled shall be located within 500 feet of designated tree protection areas.

A copy of the approved land disturbance plan and permit shall be present on the site at all times.

The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land-disturbing activities.

Prior to commencing land disturbance activity, the limits of land disturbance shall be clearly and accurately demarcated with stakes, ribbon, 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 indicated on the approved plans.

Prior to any other construction, a stabilized construction entrance shall be constructed at each point of entry to or exit from the site or onto any public roadway.

The following initial erosion control measures shall be implemented prior to any other construction activity.

- 1. The construction exit, consisting of a minimum pad size of 20 feet by 50 feet with a minimum of 6" thick stone, shall be placed as shown on the plan. The stone size should consist of coarse aggregate between 1-1/2 and 3-1/2" in diameter and overlaid on a geotextile underliner. The geotextile underliner shall meet the requirements of AASHTO M288-96, Section 7.3 separation requirements.
- 2. Immediately after the establishment of construction entrance/exits, all perimeter erosion control and storm water management devices shall be installed as shown on the clearing phase erosion control plan.
- 3. Type "S" silt fence shall be installed at the perimeter of the disturbed area as shown on the plan. The silt fence shall be placed in accordance with the Manual for Erosion Control in Georgia. The silt fence should be kept erect at all times and repaired when requested by the site inspector or the project design professional of record. Silt should be removed when accumulation reaches 1/2 height of the barrier. The perimeter silt fence shall be inspected daily for any failures. Any failures of said fencing should be repaired immediately.
- 4. Stone check dams shall be installed in areas of concentrated flows as shown on the plan.
- 5. Tree protection fencing should be installed prior to the start of any land disturbance activity and maintained until final landscape is installed. The tree protection fencing should be inspected daily. Any failures of said fencing should be repaired immediately.

After installation of initial erosion control measures the site contractor shall schedule an inspection by the project design professional. No other construction activities shall occur until the project design professional approves the installation of said erosion control measures. If unforeseen conditions exist in the field that warrant additional erosion control measures, the contractor must construct any additional erosion control devices deemed necessary by the site inspection.

After approval of the initial erosion control installation, the contractor may proceed with clearing and grubbing activities.

The contractor can utilize cleared trees as barrier brush sediment control in areas shown on plan where initial grading activities will not occur.

No burn or bury pits shall be permitted on the construction site without written permission by the owner and/or the engineer of record.

Additional silt barriers must be placed as shown on the plan as access is obtained during clearing. No grading shall take place until silt barrier installation and check dams are constructed as shown on the clearing phase erosion control plan.

All silt fence must meet the requirements of Section 171-Temporary Silt Fence for the Department of Transportation, State of Georgia, Standard Specifications, 1983 Edition.

All items in this section of the specifications shall meet the requirements as set forth in Sections 161, 162, 163 and 164 of the Georgia D.O.T. Standard Specifications for Roads and Bridges.

Mulch or temporary grassing shall be applied to all exposed areas within 7 days of land disturbance.

All disturbed areas left mulched after 30 days shall be stabilized with temporary vegetation.

Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained or replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.

The construction exit shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.

Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.

Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the design professional.

Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.

**CONSTRUCTION PHASE
EROSION CONTROL NOTES:**

During construction, the contractor shall maintain careful scheduling and performance to ensure that land stripped of its natural ground cover is exposed only in small quantities and therefore limited durations, before permanent erosion protection is established.

Earthwork operations in the vicinity of stream buffers shall be carefully controlled to avoid dumping or sloughing into the buffer areas.

The following erosion control measures shall be implemented during the construction phase.

Erosion control devices shall be installed immediately after ground disturbance occurs. The location of some of the erosion control devices may have to be altered from that shown on the approved plans if drainage patterns during construction are different from the proposed drainage patterns. It is the contractor's responsibility to accomplish erosion control for all drainage patterns created at various stages during construction. Any difficulty in controlling erosion during any phase of construction shall be reported to the design professional immediately.

Type "S" silt fence should be installed at the toe of all fill slopes 10 feet or greater in height. The silt fence should be placed in accordance with the manual for erosion control in Georgia. The silt fence shall be maintained until permanent ground cover is established on the slope. Silt shall be removed when accumulation reaches 1/2 height of the barrier. Additionally, diversion dikes shall be constructed along the top of all solid fill slopes with the use of temporary down drains to control storm water run off as shown on the plans. See separate details for additional information.

The contractor shall be responsible for establishing barriers at the toe of slopes under construction. These barriers shall be as shown in the plans. These barriers may be relocated and replaced after permanent slope stabilization becomes fully established. As they are relocated, any defective materials in the barrier shall be replaced. In addition, all debris and silt at the previous location shall be removed.

Cut and fill slopes are not to exceed "2H: 1V". All slopes steeper than 2.5:1 and with a height of ten feet or greater, and cuts and fills within stream buffers, shall be stabilized with appropriate erosion control matting or blankets. See separate details for additional information.

Type "S" silt fence shall be placed at the toe of all dirt stock pile areas. See separate details for additional information.

Storm drain outlet protection shall be placed at all existing outlet headwalls that discharge across the infrastructure linear project area. See separate details for additional information.

Stone check dams shall be installed in areas of concentrated flows as shown on the plan. See separate detail for additional information.

All drainage swales shall be applied with vegetative cover as soon as final grade is achieved.

All graded areas shall be applied with vegetative cover as soon as final grade is achieved.

Mulch or temporary grassing shall be applied to all exposed areas within 7 days of land disturbance.

All disturbed areas left mulched after 30 days shall be stabilized with temporary grassing.

Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained or replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.

The construction exit shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.

Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.

Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the design professional.

Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.

**FINAL PHASE
EROSION CONTROL NOTES:**

The following erosion control measures shall be implemented during the final erosion control phase of construction.

Sediment shall not be washed into inlets. It shall be removed from the sediment traps and disposed of and stabilized so that it will not enter the inlets again.

Mulch or permanent grassing shall be applied to all exposed areas of land disturbance.

All disturbed areas left mulched after 30 days shall be stabilized with permanent grassing.

The contractor shall maintain all erosion control measures until permanent ground cover is established. Sediment shall be cleaned out of the erosion devices when it reaches the half way point on the device.

Sediment and erosion control measures should be checked after each rain event. Each device is to be maintained or replaced if sediment accumulation has reached one half the capacity of the device. Additional devices must be installed if new channels have developed.

The construction exit shall be maintained in a condition which will prevent track or flow of mud onto public right-of-way. This may require periodic top dressing with 1-3" of stone, as conditions demand. All materials spilled, dropped, washed, or tracked from vehicle onto public roadway or into storm drain must be removed immediately.

Contractor shall inspect control measures at the end of each working day to ensure measures are functioning properly.

Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source as directed by the on site inspector or the design professional.

Failure to install, operate, or maintain all erosion control measures will result in all construction being stopped on the job until such measures are corrected back to the approved erosion control plans.

Upon completion of the project and receipt of certificate of occupancy, the contractor shall remove all temporary erosion control measures and dispose of them unless noted on plans.

Permit Coverage:

This plan has been prepared to meet the requirements under the State of Georgia, Department of Natural Resources, Environmental Protection Division (ED), General Permit No. 100022 for authorization to discharge under the National Pollutant Discharge Elimination System (NPDES), stormwater discharges associated with construction activity for infrastructure.

Authorized discharges

- 1. All discharges of stormwater associated with construction activity that will result in land disturbance equal to or greater than one acre. Part I.C.1.a.c
- 2. All discharges covered by this permit shall be composed entirely of stormwater except as provided in Part I.C.2 and Part III.A.2 of the permit. Part III.A.1.
- 3. Sampling shall occur for the following qualifying events for each area of the site that discharges to a receiving stream:
 - A. The first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours that occurs after all clearing and grubbing operations have been completed in the drainage area of the location selected as the representative sampling location.
 - B. The first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours that occurs either 90 days after the first sampling event or after all mass grading operations have been completed in the drainage area of the location selected as the representative sampling location.
 - C. If BMPs in any area of the site that discharges to a receiving stream are not properly designed, installed and maintained, corrective action shall be defined and implemented within 2 business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained.
- 4. Authorized Non-Stormwater Discharges: Part III.A.2
 - A. Fire fighting activities
 - B. Fire hydrant flushing
 - C. Potable water sources including water line flushing
 - D. Irrigation drainage
 - E. Air conditioning condensate
 - F. Springs
 - G. Uncontaminated ground water
 - H. Foundation or footing drains where flows are not contaminated with process materials or pollutants

Limitations on coverage Part I.C.3

- 1. The following stormwater discharges from construction sites are not authorized by this permit:
 - A. Stormwater discharges associated with an industrial activity that originates from the site after construction activities have been completed and the site has undergone final stabilization.
 - B. Discharges that are mixed with sources of non-stormwater other than discharges which are identified in Part III.A.2 of this permit and which are in compliance with part IV.D.6 (Non-stormwater discharges) of this permit.

- C. Stormwater discharges associated with industrial activity that are subject to an existing NPDES individual or general permit. Such discharges may be authorized under this permit after an existing permit expires provided the existing permit did not establish numeric limitations for such discharges.
 - D. Stormwater discharges from construction sites that the direc (EPD) has determined to be or may reasonably be expected to be contributing to a violation of a water quality standard.
- 2. Where a release containing a hazardous substance in an amount equal to or in excess of a reporting quantity established under either Georgia's Oil or Hazardous Material Spills or Releases Act (O.C.G.A. 12-14-2, ET Seq.) 40-CFR 117 or 40 CFR 302 occurs during a 24-hour period. The permittee is required to notify the following agencies in accordance with the above mentioned regulations as soon as he has knowledge of the discharge EPD at (404) 656-4863 or (800) 241-4113, or the National Response Center (NRC) at (800) 424-8802. Part III.B.1.
 - 3. This permit does not authorize the discharge of hazardous substances or oil resulting from an onsite spill. Part III.B.2.

Water Quality Compliance Part I.C.4

All discharges authorized by this permit shall not cause violations of Georgia's in-stream water quality standards as provided by the Rules and Regulations for Water Quality Control, Chapter 391-3-6-03.

Sampling Methodology Part IV.D.5

All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved), the guidance document titled "NPDES Stormwater Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.

- 1. Sample container should be labeled prior to collecting the samples.
- 2. Large mouth, clean and rinsed glass or plastic jars with a minimum sample size of 200 milliliters should be used for collecting samples.
- 3. Samples should be taken from the horizontal and vertical center of the receiving water(s) or the stormwater outfall channel(s).
- 4. Samples should be well mixed before transferring to a secondary container.
- 5. Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized.
- 6. If manual sampling is employed, the sampling container should be held so that the opening faces upstream, the samples should be kept free from floating debris, and care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall stormwater channel.
- 7. The upstream sample for each receiving water(s) must be taken at the discharge farthest upstream at the site but downstream of any other stormwater discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the upstream turbidity value.
- 8. The downstream sample for each receiving water(s) must be taken at the discharge farthest upstream at the site but downstream of any other stormwater discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used for the upstream turbidity value.
- 9. Permittees do not have to sample sheet flow that flows onto undisturbed natural areas or areas stabilized by the project.
- 10. Dilution of samples is not required.
- 11. Samples may be analyzed using a direct reading, properly calibrated turbidimeter.
- 12. Samples are not required to be cooled.
- 13. Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in the permit must be reported to EPD as specified in Part IV.E of the permit.
- 14. Turbidity results which exceed 1000 NTU shall be reported as "exceeds 1000NTU".

Sampling Frequency Part IV.D.5.d

- 1. Sampling frequency shall occur in accordance with Part IV.D.5.d of the permit.
- 2. For a qualifying event, samples must be taken within forty-five (45) minutes of:
 - A. The accumulation of the minimum amount of rainfall for the qualifying event, if the stormwater discharge to a monitored receiving water or from a monitored outfall, if the discharge begins after the accumulation of the minimum amount of rainfall for the qualifying event.
 - B. The beginning of any stormwater discharge to a monitored receiving water or from a monitored outfall, if the discharge begins after the accumulation of the minimum amount of rainfall for the qualifying event.
 - C. Where manual and automatic sampling are not impossible (as defined in the permit) as soon as possible, but in no case more than twelve (12) hours after the beginning of the stormwater discharge.
 - D. Normal business hours, as defined by the permit, are Monday through Friday, 8:00 a.m. to 5:00 p.m. and Saturday 8:00 a.m. to 5:00 p.m. when construction activity is being conducted by the primary permittee.
- 3. Sampling shall occur for the following qualifying events for each area of the site that discharges to a receiving stream:
 - A. The first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours that occurs after all clearing and grubbing operations have been completed in the drainage area of the location selected as the representative sampling location.
 - B. The first rain event that reaches or exceeds 0.5 inch and allows for monitoring during normal business hours that occurs either 90 days after the first sampling event or after all mass grading operations have been completed in the drainage area of the location selected as the representative sampling location.
 - C. If BMPs in any area of the site that discharges to a receiving stream are not properly designed, installed and maintained, corrective action shall be defined and implemented within 2 business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained.
- 5. The permittee may choose to meet the requirements of No. 5.1 and 5.2 by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for monitoring at any time of the day or week.

ALLOWABLE NTU VALUE BASED ON TABLE IN APPENDIX B OF GAR 100002 IS 75.

APPROXIMATE CONSTRUCTION SCHEDULE

ACTIVITY	TIME IN MONTHS											
	1	2	3	4	5	6	7	8	9	10	11	12
EROSION CONTROL MEASURES												
CONSTRUCTION												
VEGETATION & PERMANENT VEGETATION												
FINAL EROSION CONTROL MEASURES												
MAINTENANCE EROSION & SEDIMENT CONTROL MEASURES												

**CONTRACT A - 2022 HILLS & DALES
FORCE MAIN IMPROVEMENTS**

APPROXIMATE CONSTRUCTION SCHEDULE

ACTIVITY	TIME IN MONTHS											
	1	2	3	4	5	6	7	8	9	10	11	12
EROSION CONTROL MEASURES												
CONSTRUCTION												
VEGETATION & PERMANENT VEGETATION												
FINAL EROSION CONTROL MEASURES												
MAINTENANCE EROSION & SEDIMENT CONTROL MEASURES												

EXISTING LAND USE:
GRASSED ROW, ASPHALT ROAD,
RESIDENTIAL & SCHOOL

PROPOSED LAND USE:
CONTRACT A-HILLS & DALES
FORCE MAIN IMPROVEMENTS

TOTAL PROJECT DRAINAGE
BASIN = 103.00 ACRES

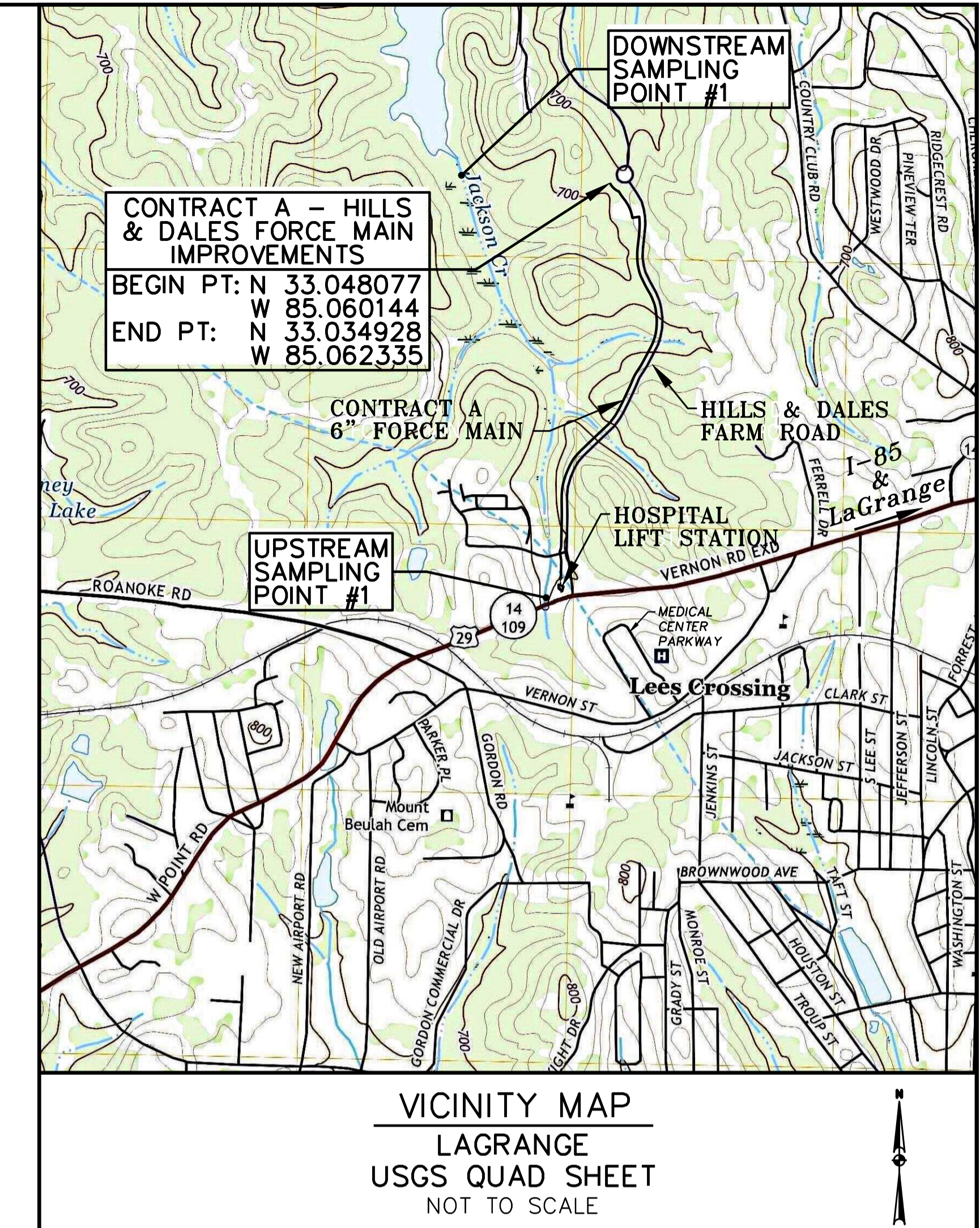
TOTAL AREA OF PROJECT = 3.20 AC

TOTAL DISTURBED AREA = 1.90 AC

SEDIMENT CALCULATIONS

REQUIRED STORAGE	±190 ACS. DISTURBED X 67 = ±128 CYs
REQUIRED STORAGE	= ±128 CYs
TOTAL STORAGE	(4,920 LF) Sd1-S X 4 CF / LF = ±19,680 CF = ±19,680 CF / 27 = ±729 CYs
TOTAL STORAGE	(10 EA) Sd2-FS X 4 CF / EA = ±40 CF = ±40 CF / 27 = ±2 CYs
TOTAL STORAGE	= ±731 CYs
TOTAL STORAGE > REQUIRED STORAGE	±731 CYs > ±128 CYs

24 HR. EMERGENCY CONTACT
MR. JAMES B. RUSSELL
200 Ridley Avenue
City of LaGrange, Ga, 30240
jrussell@lagrange-ga.org
(706) 883-2118



VICINITY MAP
LAGRANGE
USGS QUAD SHEET
NOT TO SCALE

EROSION CONTROL NOTES:

EROSION CONTROL AND TREE PROTECTION MEASURES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION ACTIVITY AND MAINTAINED UNTIL PERMANENT GROUND COVER IS ESTABLISHED.

"THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH LAND-DISTURBING ACTIVITIES."

"EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE."

ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 7 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

DESIGN PROFESSIONAL 7-DAY INSPECTION

The Design Professional who prepared the ES & PC Plan will inspect the installation within 7 days after the installation of all BMP Controls.

EROSION CONTROL CERTIFICATION

(1) I certify that the permittee's erosion, sedimentation and pollution control plan provides for an appropriate and comprehensive system of best management practices required by the Georgia Water Quality Control Act and the document "Manual for Erosion and Sediment Control in Georgia" (Manual) published by the Georgia Soil and Water Conservation Commission as of January 1 of the year in which land disturbing activity was permitted. The plan provides for the sampling of the receiving water(s) or the sampling of the storm water outfalls. The designed system of best management practices and sampling methods is expected to meet the requirements contained in the general NPDES Permit No. GAR 100002.

(2) I certify under penalty of law that this plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my direct supervision.

(3) I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for the monitoring of (a) all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other field verified perennial and intermittent streams and other water bodies, or (b) where any such specific identified perennial or intermittent stream and other water body is not proposed to be sampled, I have determined in my professional judgment, utilizing the factors required in the General NPDES Permit No. GAR 100002, that the increase in the turbidity of each specific identified sampled receiving water will be representative of the increase in the turbidity of a specific identified un-sampled receiving water."

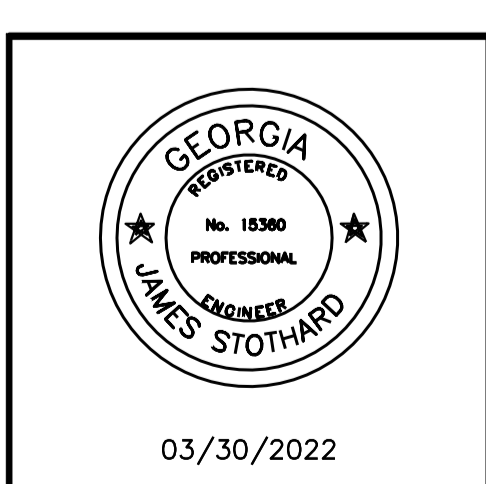
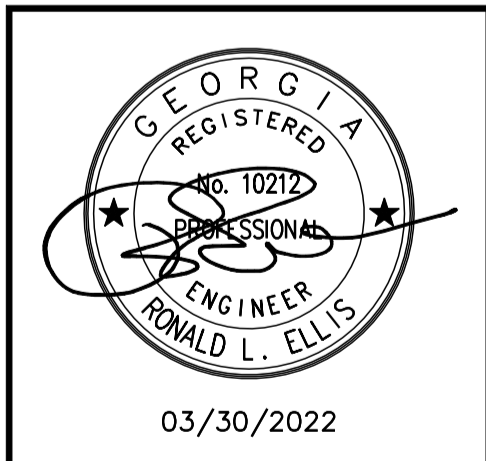
(4) I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

James Stothard
JAMES STOTHARD, PE No. 15360
LEVEL II CERTIFIED DESIGN PROFESSIONAL NO. 0000029517
MARCH 30, 2022

ELLIS & ASSOCIATES
RONALD L. ELLIS & ASSOCIATES, INC.
Consulting Engineers
Pelham, Alabama

CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FORCE MAIN IMPROVEMENTS
EROSION CONTROL PLAN NOTES

DRAWING NAME : CONT-A-G-5
PROJECT NO. : 21.135
DRAWN BY : RDE
DESIGNED BY : JS/RLE
APPROVED BY : JS
SCALE : AS SHOWN
DATE : 03/30/2022



EROSION, SEDIMENTATION, AND POLLUTION CONTROL NARRATIVE TO COMPLY WITH GENERAL PERMIT NO. GAR100002.

GENERAL NOTES

- The ESDCP must be completed prior to the start of any land disturbance activity.
- The Plan shall be based on and adhere to (at a minimum) the practices contained in the "Manual For Erosion and Sediment Control in Georgia".
- A copy of the ESDCP shall be kept at the construction site at all times.
- The ESDCP shall be revised to reflect any construction changes that could effect the potential for discharge of pollutants into adjacent state waters.
- The ESDCP shall incorporate the erosion control plans which shall be referred to herein.

SITE DESCRIPTION

Existing Conditions:

The project site is currently grassed road row and open grassed ground cover. Site slopes vary from 2% to 15% along banks of streams. The water quality from this site meets expectations for this type of area, with water containing organic particulate from vegetation decomposition.

Proposed Conditions:

The proposed project will consist of the Contract A - 2022 Hills & Dales Force Main Improvements. Proposed slopes and drainage patterns will approximately match pre-construction conditions.

Construction Activity and Sequence:

- Flag state water buffers to be protected from disturbance. No activity shall be conducted within the 25-foot stream buffer along the banks of all state waters.
- Install construction entrance.
- Clear and grub construction area to be disturbed and install clearing silt barriers and check dams.
- Stabilize slopes with mats, temporary vegetation, and check dams.
- Final grading for construction of improvements.
- Stabilization of finish grade areas with temporary vegetation or mulch as needed to exceed 90% cover.
- Final construction of improvements.
- Remove accumulated sediment in silt fences and check dams.
- Conduct final stabilization procedures installing permanent vegetation and/or gravel as needed to exceed 80% cover.

Total site area = 3.20 AC.

Total area disturbed by excavation and grading = 1.90 AC.

Pre-construction curve number = 61.

Post-construction curve number = 74.

Soils:

Soils for this area consist of sandy loams and sandy clay loams. Site runoff is conveyed into BMP's facilities.

Site Maps:

Refer to erosion control plans, for location of BMP's and drainage patterns and slopes.

Name of Receiving Waters:

Jackson Creek

CONTROLS

Erosion and Sediment Controls:

All perimeter silt fences and construction exits shall be in place prior to any land disturbing activities.

Existing vegetation shall be left in place until such time that land disturbing activities are to take place upon that portion of the site. When construction activities have ceased in an area, that area shall be stabilized within 14 days. If the area is not yet to final grade, it shall be mulched. If the area is to final grade and will eventually contain site improvements such as the manholes or sewers, it shall be temporary seeded. Areas brought to final grade that will remain pervious are to be permanently seeded. Allowable exceptions from the NPDES General Permit, GAR 100002, are noted below.

"Where the initiation of stabilization measures by the 14th day after construction activity temporary or permanently cease is precluded by snow cover or other adverse weather conditions, stabilization measures shall be initiated as soon as practicable."

"Where construction activity will resume on a portion of the site within 21 days from when activities ceased, (e.g. the total time period that construction activity is temporarily ceased is less than 21 days) then stabilization measures do not have to be initiated on that portion of the site by the 14th day after construction activity temporarily ceased."

Please refer to Detail Sheets for the land disturbance construction schedule and temporary and permanent grassing schedules.

Storm water from this development will be routed through the existing onsite BMP's and grass swales to the existing tributary, Blue John Creek.

NON-STORM WATER DISCHARGES

All non-storm water discharges will be routed through onsite BMP's and the storm water management system where possible. These discharges include flushing of water, ground water, dewatering of pits or trenches within the construction site and rinse off water of non-toxic materials.

OTHER CONTROLS

NO WASTE WILL BE DISPOSED OF INTO STORM WATER INLETS OR WATERS OF THE STATE.

Waste Materials:

All waste materials will be collected and stored in a securely lidded metal dumpster. The dumpster will meet all solid waste management regulations. All trash and construction debris from the site will be deposited in the dumpster. The dumpster will be emptied a minimum of once per week or more often if necessary and trash will be hauled as required by local regulations. No construction waste will be buried on site.

All personnel will be instructed on proper procedures for waste disposal. A notice stating these practices will be posted at the jobsite and the Contractor will be responsible for seeing that these procedures are followed.

Hazardous Wastes:

All hazardous waste materials will be disposed of in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. The jobsite superintendent, who will also be responsible for seeing that these practices are followed, will instruct site personnel in these practices. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the jobsite will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the ESDCP file at the jobsite construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

The contractor will implement the Spill Prevention Control and Countermeasures (SPCC) Plan found within this ESDCP and will train all personnel in the proper cleanup and handling of spilled materials. No spilled hazardous materials or hazardous wastes will be allowed to come in contact with storm water discharges. If such contact occurs, the storm water discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated storm water. It shall be the responsibility of the jobsite superintendent to properly train all personnel in the use of the SPCC plan.

Sanitary Wastes:

A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.

All sanitary waste units will be located in an area where the likelihood of the unit contributing to storm water discharge is negligible. Additional containment BMP's must be implemented, such as gravel bags or specially designed plastic skid containers around the base, to prevent wastes from contributing to storm water discharges. The location of sanitary units must be identified on the Erosion Control Plan Construction Plan by the contractor once the locations have been determined.

Offsite Vehicle Tracking:

Stabilized construction exits have been provided to help reduce vehicle tracking of sediment. The exits will be inspected daily for tracking of mud, dirt or rock. Dump trucks hauling material from the construction site will be covered with a tarpaulin.

INVENTORY FOR POLLUTION PREVENTION PLAN

The following materials are expected onsite during construction: Concrete products, petroleum based fuels and lubricants for equipment, soil stabilization materials, pesticides, fertilizers, herbicides, crushed stone, ductile iron pipes and precast concrete manholes.

SPILL PREVENTION

Practices such as good housekeeping, proper handling of hazardous products and proper spill control practices will be followed to reduce the risk of spills and spills from discharging into storm water runoff.

Good Housekeeping:

- Quantities of products stored onsite will be limited to the amount needed for the job.
- Products and materials will be stored in a neat, orderly manner in appropriate containers protected from rainfall, where possible.
- Products will be kept in their original containers with manufacturer labels legible and visible.
- Product mixing, disposal and disposal of product containers will be according to the manufacturer's recommendations.
- The Contractor will inspect such materials to ensure proper use, storage and disposal.

Product Specific Practices:

Petroleum Based Products - Containers for products such as fuels, lubricants and tars will be inspected daily for leaks and spills. This includes onsite vehicle and machinery daily inspections and regular preventative maintenance of such equipment. Equipment maintenance areas will be located away from state water, natural drains and storm water drainage inlets. In addition, temporary fueling tanks shall have a secondary containment liner to prevent/minimize site contamination. Discharge of oils, fuels and lubricants is prohibited. Proper disposal methods will include collection in a suitable container and disposal as required by local and state regulations.

Concrete Truck Washing - NO concrete trucks will be allowed to wash out or discharge surplus concrete or drum wash water onsite.

Fertilizer/Herbicides - These products will be applied at rates that do not exceed the manufacturer's specifications or above the guidelines set forth in the crop establishment or in the CSWPC Manual for Erosion and Sediment Control in Georgia. Any storage of these materials will be under roof in sealed containers.

Construction Materials - No construction materials will be buried or disposed of onsite. All such material will be disposed of according to proper waste disposal procedures. Spill Cleanup and Control Practices

- Local, state and manufacturer's recommended methods for spill cleanup will be clearly posted and procedures will be made available to site personnel.
- Material and equipment necessary for spill cleanup will be kept in the material storage areas. Typical materials and equipment includes, but is not limited to, brooms, rags, gloves, goggles, sand, sawdust and properly labeled plastic and metal waste containers.
- Spill prevention practices and procedures will be reviewed after a spill and adjusted as necessary to prevent future spills.
- All spills will be cleaned up immediately upon discovery. All spills will be reported as required by local, state and federal regulations.
- FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
- FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
- FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
- FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.

The Contractor shall notify the licensed professional who prepared this plan if more than 1320 gallons of petroleum is stored onsite (this includes capacities of equipment) or if any one piece of equipment has a capacity greater than 660 gallons. The Contractor will notify the Spill Prevention Containment and Countermeasures Plan prepared by that licensed professional.

INSPECTIONS

Primary Permittee. Any type of construction activity has taken place at a primary permittee's site, qualified personnel provided by the primary permittee shall inspect: a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of offsite sediment tracking; and c) measure rainfall once each twenty-four hour period at the site. These inspections must be conducted until a Notice of Termination is submitted.

2. Qualified personnel (provided by the primary permittee) shall inspect at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches or greater the following: a) disturbed areas of the primary permittee's construction site that have not undergone final stabilization; b) areas used by the primary permittee for storage of materials that are exposed to precipitation that have not undergone final stabilization; and c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization, the permittee must comply with Part IV.D.3.a(3). These inspections must be conducted until a Notice of Termination is submitted.

3. Qualified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e. until a Notice of Termination is received by EPD) the areas of the site that have undergone final stabilization. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

4. Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection. 5. A report (i.e. not individual inspection form(s) summarizing the scope of each inspection and the name(s) of personnel making each inspection, the date(s) of each inspection, major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan and actions taken in accordance with Part V.A.5.a(4) of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall identify any incidents of non-compliance. Where the report does not identify any incidents of non-compliance, the report shall contain a certification that the facility is in compliance with the Erosion, Sedimentation and Pollution Control Plan and this permit. The report shall be signed in accordance with Part V.G. of this permit. Should the inspection reveal any deficiencies, a copy of the "Erosion and Sedimentation Inspection and Maintenance Report" shall be sent to:

OWNER:
Mr. Patrick Bowie
City of LaGrange
200 Ridley Avenue
LaGrange, GA 30240
pbowie@lagrange.net
(706)883-2065

ENGINEER:
Mr. Ronald L. Ellis
Ronald L. Ellis & Associates, Inc.
P. O. Box 1150
Pelham, AL 35124
ron@rellisco.com
(205)966-8191

MAINTENANCE & INSPECTION OF EROSION & SEDIMENT CONTROLS

Maintenance:

The following best management practice maintenance criteria are taken from the "Manual for Erosion and Sediment Control in Georgia", Sixth Edition.

Construction exits shall be maintained in a condition that will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 1.5 - 3.5 inch stone, as conditions demand, and repair and/or clean out of any structures to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed immediately.

Retrofit structures shall be kept clear of trash and debris. This will require continuous monitoring and maintenance, which includes sediment removed when one-third of the sediment storage capacity has been lost.

Sediment shall be removed from silt fences once it has accumulated to 1/2 the original height of the barrier. Filter fabric shall be replaced whenever it has deteriorated to such an extent that the effectiveness of the fabric is reduced (approximately six months).

Sediment shall be removed from sediment traps when the sediment has accumulated to 1/2 the height of the trap. Sediment shall be removed from curb inlet protection immediately. For excavated inlet sediment traps, sediment shall be removed when one-half of the sediment storage capacity has been lost to sediment accumulation.

Sediment shall not be washed into the inlet. It shall be removed from the sediment trap and disposed of and stabilized so that it will not enter the inlet, again.

When the contributing drainage area has been permanently stabilized, all materials and any sediment shall be removed, and either salvaged or disposed of properly. The disturbed area shall be brought to proper grade, then smoothed and compacted. Appropriately stabilize all disturbed areas around the inlet.

Repair all damages caused to temporary sediment basins by soil erosion or construction equipment at or before the end of each working day. Sediment shall be removed from the basin when it reaches the specified distance below the top of the riser. Sediment shall not enter adjacent streams or drainage ways during sediment removal or disposal. The sediment shall not be deposited downstream from the embankment, adjacent to a stream or floodplain.

Inspect riprap outlet structures after heavy rains to see if any erosion around or below the riprap has taken place or if stones have been dislodged. Immediately make all needed repairs to prevent further damage.

Regraded areas shall be seeded and mulched as soon as possible to obtain optimum seed germination and seeding growth.

Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Mulch can be used as a singular erosion control device for up to six months, but it shall be applied of the appropriate depth, depending on the material used, anchored, and have a continuous 90% cover. Temporary vegetation may be employed instead of mulch if the area will remain undisturbed for less than six months. If an area will remain undisturbed for greater than six months, permanent vegetative techniques shall be employed.

Permanent vegetation shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice shall be applied immediately to all areas of final grade. Final Stabilization means that all soil disturbing activities at the site have been completed, and that for unpaved areas and areas not covered by permanent structures, at least 70% of the soil surface is uniformly covered in permanent vegetation or equivalent permanent stabilization measures (such as the use of riprap, gabions, permanent mulches or geotextiles) have been employed. Permanent vegetation shall consist of a crop of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final Stabilization applies to each phase of construction. Until this standard is satisfied and permanent control measures and facilities are operational, interim stabilization measures and temporary erosion and sedimentation control measures shall not be removed.

STORM WATER SAMPLING

SAMPLE ANALYSIS

Storm water samples are to be analyzed in accordance with methodology and test procedures established by 40 CFR Part 136 and the guidance document titled "NPDES Storm Water Sampling Guidance document, EPA 833-B-92-001."

Storm water to be sampled for nephelometric turbidity units (NTU) at the outfall location. A discharge of storm water runoff from disturbed areas where best management practices have not been properly designed, installed, and maintained shall constitute a separate violation for each day on which such condition results in the turbidity of the discharge exceeding 75, the value that was selected from Appendix B, in Permit No. GAR 100002. The NTU is based upon the disturbed acreage of 0.50 acres for the project site, the surface water drainage area of 0.60 square miles, and receiving water which supports warm water fisheries.

Sample Type:

All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved); the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.

Per NPDES Permit, GAR 100002, "sample containers should be labeled prior to collecting the samples. Samples should be well mixed before transferring to a secondary container. Large mouth, well-cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination. Manual, automatic or rising stage sampling may be utilized."

Sampling Points:

There will be 2 storm water sampling locations. Sampling locations numbered 1 will be the upstream sampling point. Sampling location number 2 will be the downstream location. Per NPDES Permit GAR 100002, for construction activities, the Primary Permittee must complete all sampling.

Appendix B was used to determine the NTU units allowable and upstream and downstream sampling will be performed for this project.

- * Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall storm water channel.
- * The sampling container should be held so that the opening faces upstream.
- * The samples should be kept free from floating debris.
- * The Primary Permittee does not have to sample sheet flow onto undisturbed natural areas or areas stabilized by the project.

Sampling Frequency:

Storm water samples shall be taken for the following storm events:

A) For each area of the site that discharges to a receiving stream, the first rain event that reached or exceeds 0.5 inch and allows for monitoring during normal business hours (Monday through Friday, 06:00 am to 5:00 pm and Saturday 8:00 am to 5:00 pm) when construction activity is being conducted by the Primary Permittee) that occurs after all clearing and grubbing operation.

SOIL EROSION AND SEDIMENTATION CONTROL NOTES:

- This project does not include critical work zones.
- The construction limits shall be maintained in a condition that will prevent the tracking of mud onto public streets.
- This project does not propose to encroach into stream buffers.
- No clearing activities will be allowed outside the limits of construction or disturbance and also within any tree save area.
- All state waters that are located on or within 200 feet of the project have been delineated.
- The project site does contain wetlands that have been delineated.
- The soil types were provided by the U.S. Department of Agriculture Natural Resources Conservation Service.
- The contractor shall furnish the Owner with a schedule and sequence of activities to accomplish the soil erosion and sediment control plan.
- Silt fence barriers and check dams shall be cleaned and maintained to operate until permanent erosion control measures are established. All erosion and sediment devices must be maintained in a satisfactory condition 24 hours a day, 7 days a week.
- All temporary and permanent grassing shall comply with the manual for erosion and sediment control in Georgia. The grassing shall be performed for the appropriate season. Additional grassing will be necessary if sufficient stand of grass fails to grow.
- All erosion control devices shall be installed before the site is disturbed and must be inspected daily and repaired or restored as needed to function properly until permanent measures are established and the project is complete. All construction exits, silt fences and check dams shall be cleaned and restored as silt reduces the effectiveness of the device.

- All disturbed areas left exposed for a period greater than 14 days shall be stabilized with mulch or temporary grassing.
- All disturbed areas require permanent vegetation as quickly as possible.
- Rip rap shall be placed as required to control erosion.
- All slopes steeper than 3:1 require surfacing roughening.
- All construction debris resulting from clearing and grubbing activities shall be hauled to an off-site location.
- Notice is hereby given that all erosion and sediment devices must be installed and maintained at all times. No further notice will be given.
- It is the responsibility of the contractor to obtain a qualified professional advice when questions arise concerning design and effectiveness of erosion control devices.
- Any amendment to the erosion control plans which have a significant effect on BMP's with a hydraulic component must be certified by the design professional.
- The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land disturbing activities.
- Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.
- All disturbed areas left exposed for a period greater than 7 days shall be stabilized with mulch or temporary grassing.
- Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of westered vegetation or within 25 feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits.
- Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit.

RECORD KEEPING AND REPORTING REQUIREMENTS

- The applicable permittees are required to submit the sampling results to the EPD by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any stormwater discharge(s) or the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to the EPD. The sampling reports must be signed. Sampling reports must be submitted to EPD using the electronic submittal service provided by EPD. Sampling reports must be submitted to EPD until such time as a "N.O.T." is submitted.
- All sampling reports shall include the following information:
 - The rainfall amount, date, exact place and time of sampling or measurements.
 - The name(s) of the certified personnel who performed the sampling and measurements.
 - The date(s) analyses were performed.
 - The time(s) analyses were initiated.
 - The name(s) of the certified personnel who performed the analyses.
 - References and written procedures, when available, for the analytical techniques or methods used.
 - The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results.
 - Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU".
 - Certification statement that sampling was conducted as per the Plan.
- All written correspondence required by this permit shall be submitted by return receipt certified mail to the appropriate District Office of the EPD. The permittee shall retain a copy of the proof of submittal of the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a "N.O.T." is submitted.

RETENTION OF RECORDS

- The primary permittee shall retain the following records as required by this permit at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a "N.O.T." is submitted.
 - All notices of intent submitted EPD;
 - The erosion, sedimentation and pollution control plan;
 - The design professional's report of the results, and reports;
 - A copy of all monitoring information, results, and reports;
 - A copy of all inspection reports;
 - A copy of all violation summaries and violation summary reports;
 - Daily rainfall information collected.
- All records shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the "N.O.T." is submitted in accordance with this permit. This period may be extended by request of the EPD at any time upon written notification to the permittee.



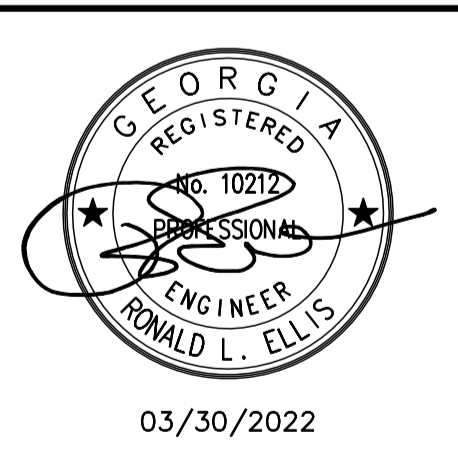
RONALD L. ELLIS & ASSOCIATES, INC.

Consulting Engineers
Pelham, Alabama

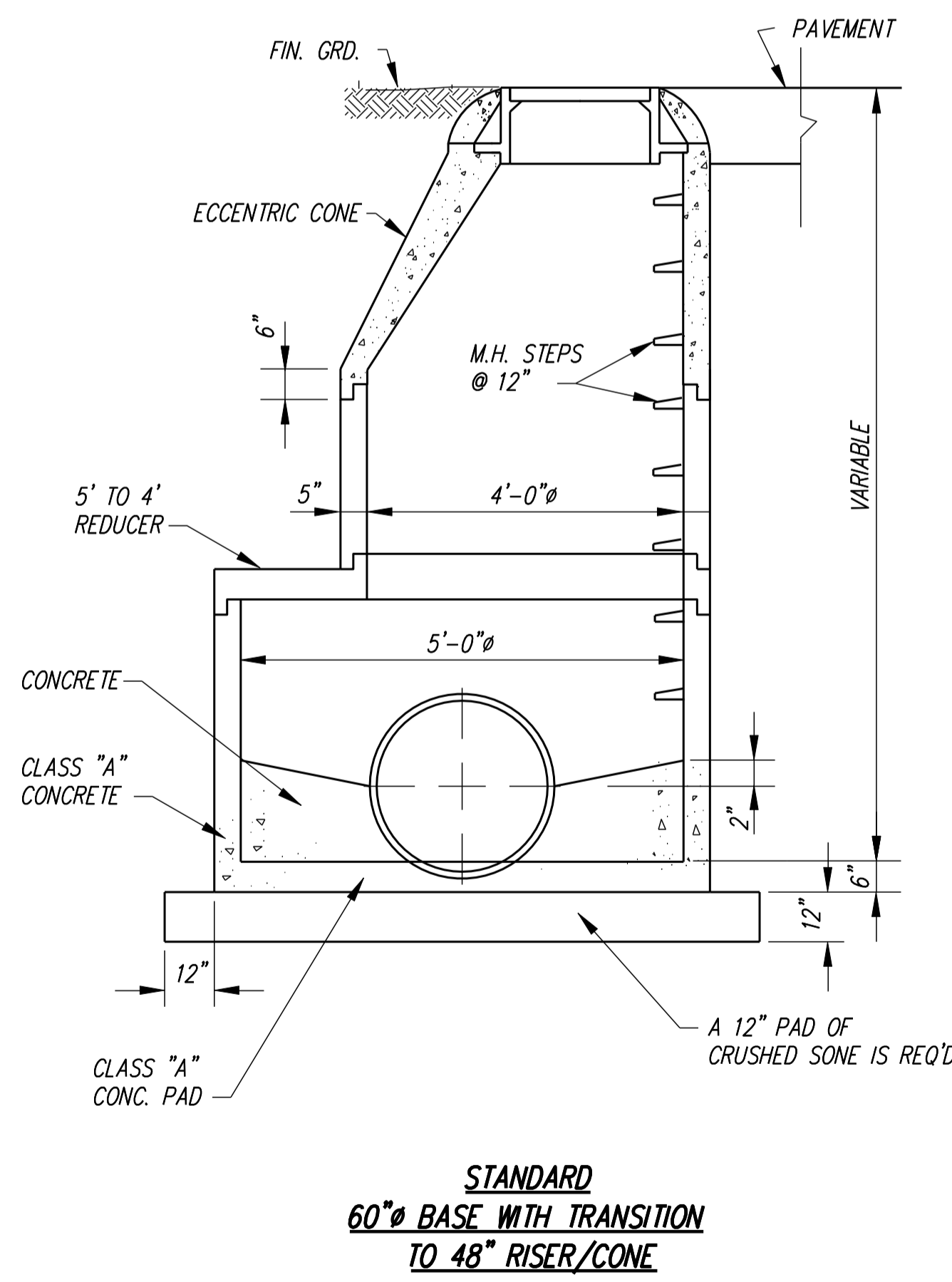
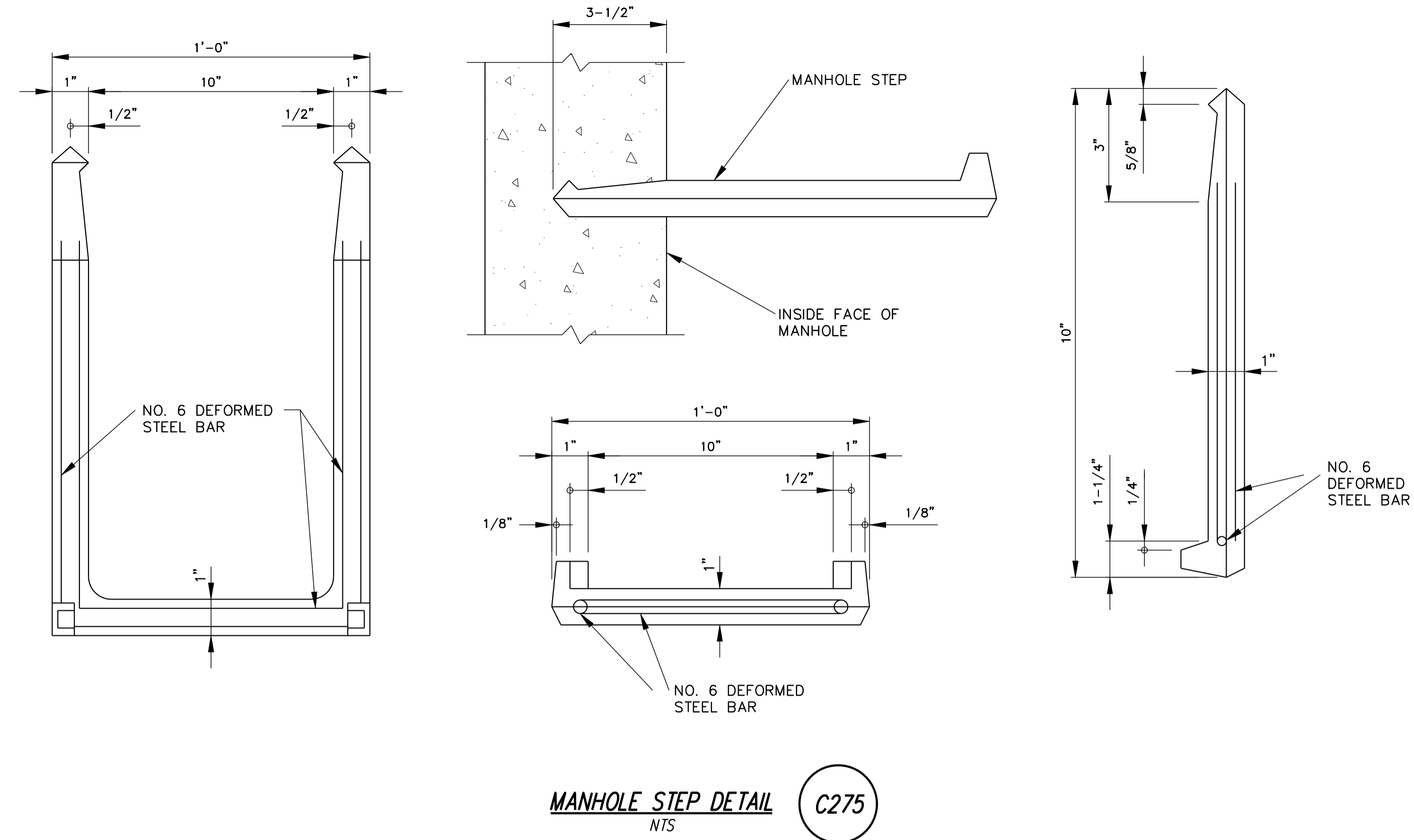
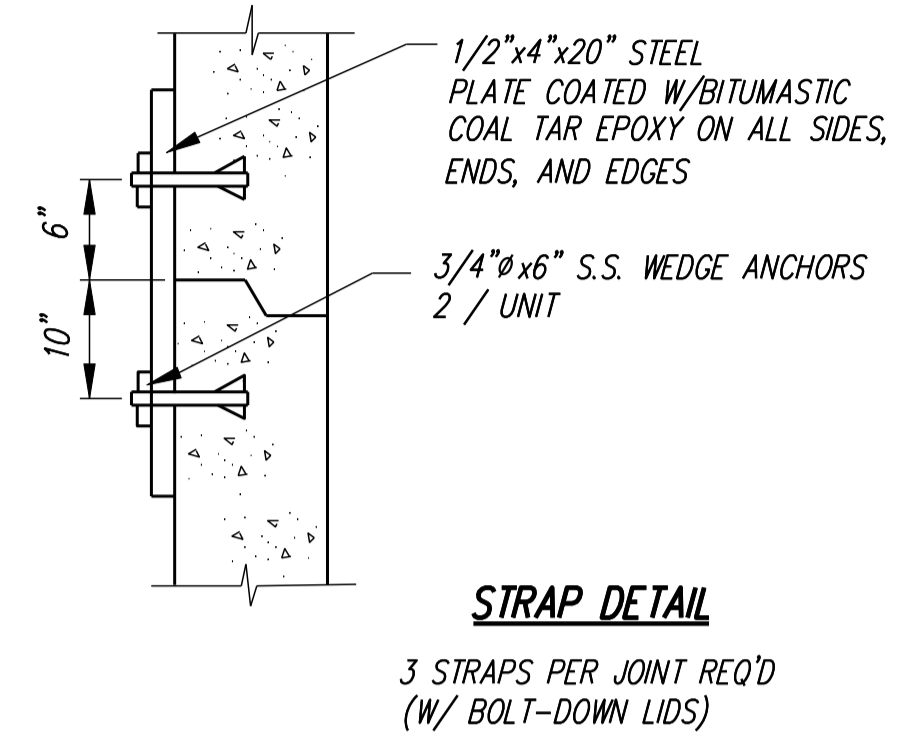
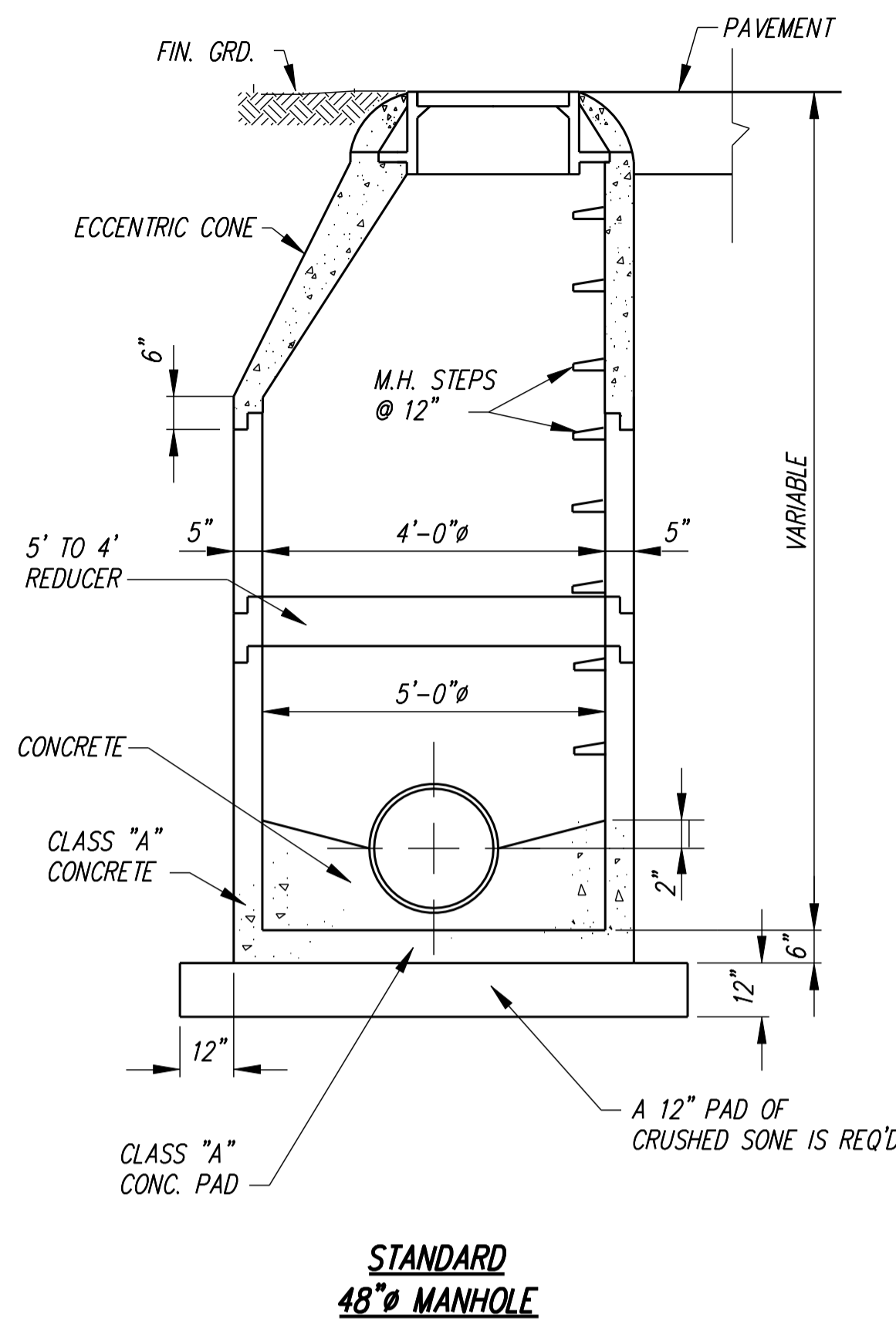
CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FORCE MAIN
IMPROVEMENTS

EROSION CONTROL PLAN NOTES

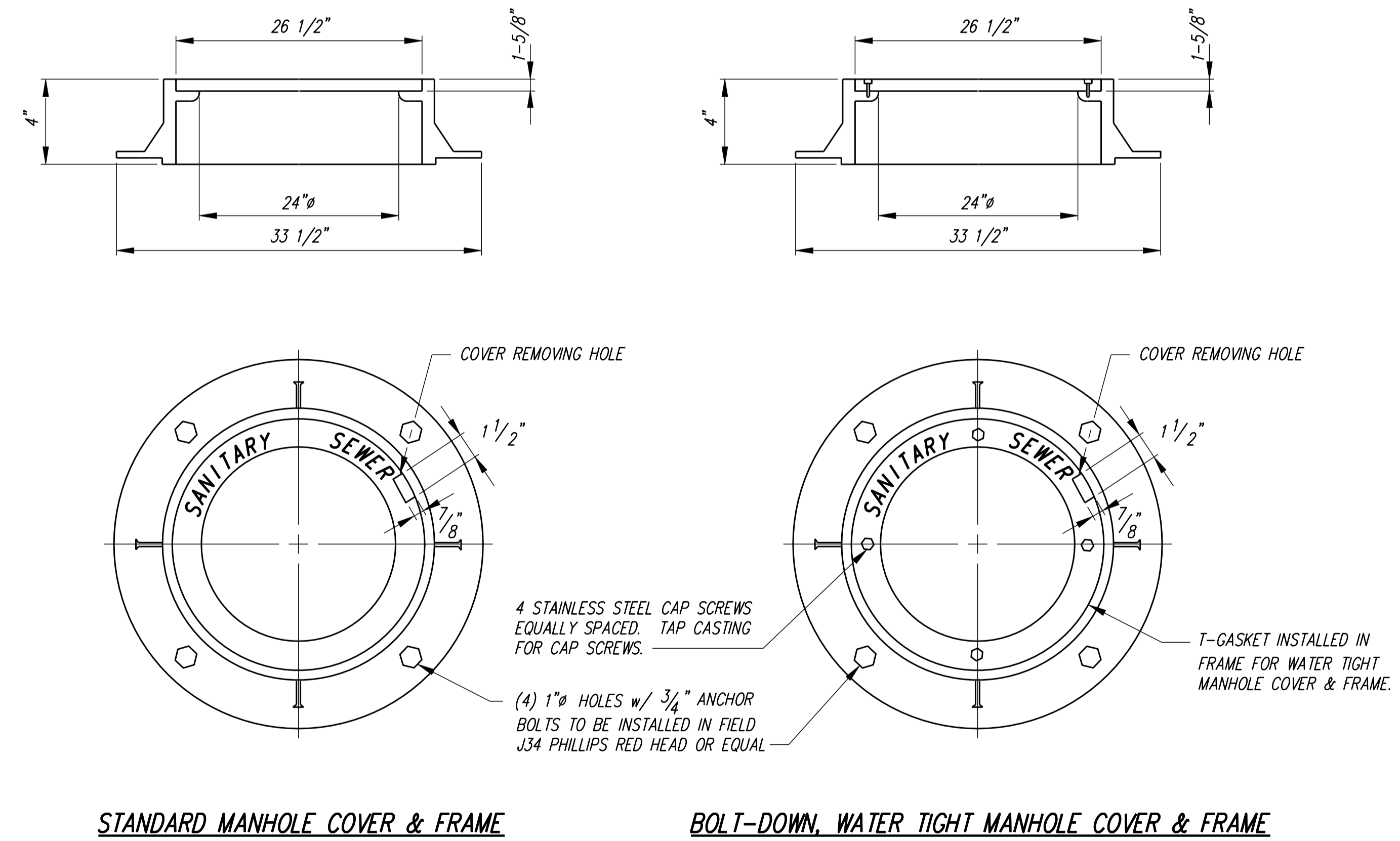
DRAWING NAME :	CONT-A_G-6
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	JS/RLE
APPROVED BY :	JS
SCALE :	AS SHOWN
DATE :	03/30/2022



James Stothard
JAMES STOTHARD, PE NO. 15360
LEVEL II CERTIFIED DESIGN PROFESSIONAL NO. 0000029517
MARCH 30, 2022



- NOTES:
1. ALL BASES TO BE POURED MONOLITHIC.
 2. ALL PRECAST MANHOLES SHALL BE WATERTIGHT WITH GROUT APPLIED SMOOTHLY TO THE OUTSIDE AND INSIDE FACE OF ALL JOINTS, PIN HOLES AND AROUND ALL STEPS, FRAME AND COVER. ALL PIPE SHALL BE CUT FLUSH WITH THE INSIDE FACE OF THE MANHOLE.
 3. PROVIDE A-LOK FLEXIBLE PIPE TO MANHOLE CONNECTOR FOR ALL MANHOLES, SEE SPEC.
 4. JOINTS REQUIRE TYLOX SUPER SEAL GASKET AND CONSEAL CS-231 WATERSTOP SEALANT, SEE SPEC.
 5. MANHOLE CONSTRUCTION REQUIRES XYPEX ADMIX C-1000, SEE SPEC.



- NOTES:
1. ALL COVERS ARE HINGED & INCORPORATE A 90° BLOCKING SYSTEM TO PREVENT ACCIDENTAL CLOSURE.
 2. FRAME & COVER SHALL BE DUCTILE IRON.
 3. COVERS SHALL BE ONE-MAN OPERABLE.
 4. ALL MANHOLE FRAMES AND COVERS SHALL BE PAMREX FOR STD. MH. & PAMREX PAMTIGHT FOR WATERTIGHT MH OR EQUAL.

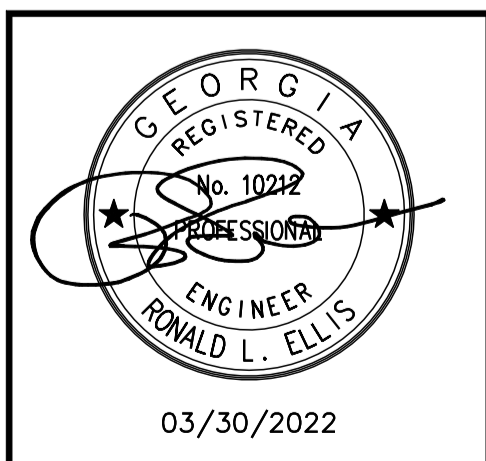
TYPICAL PRECAST MANHOLE DETAILS
NTS

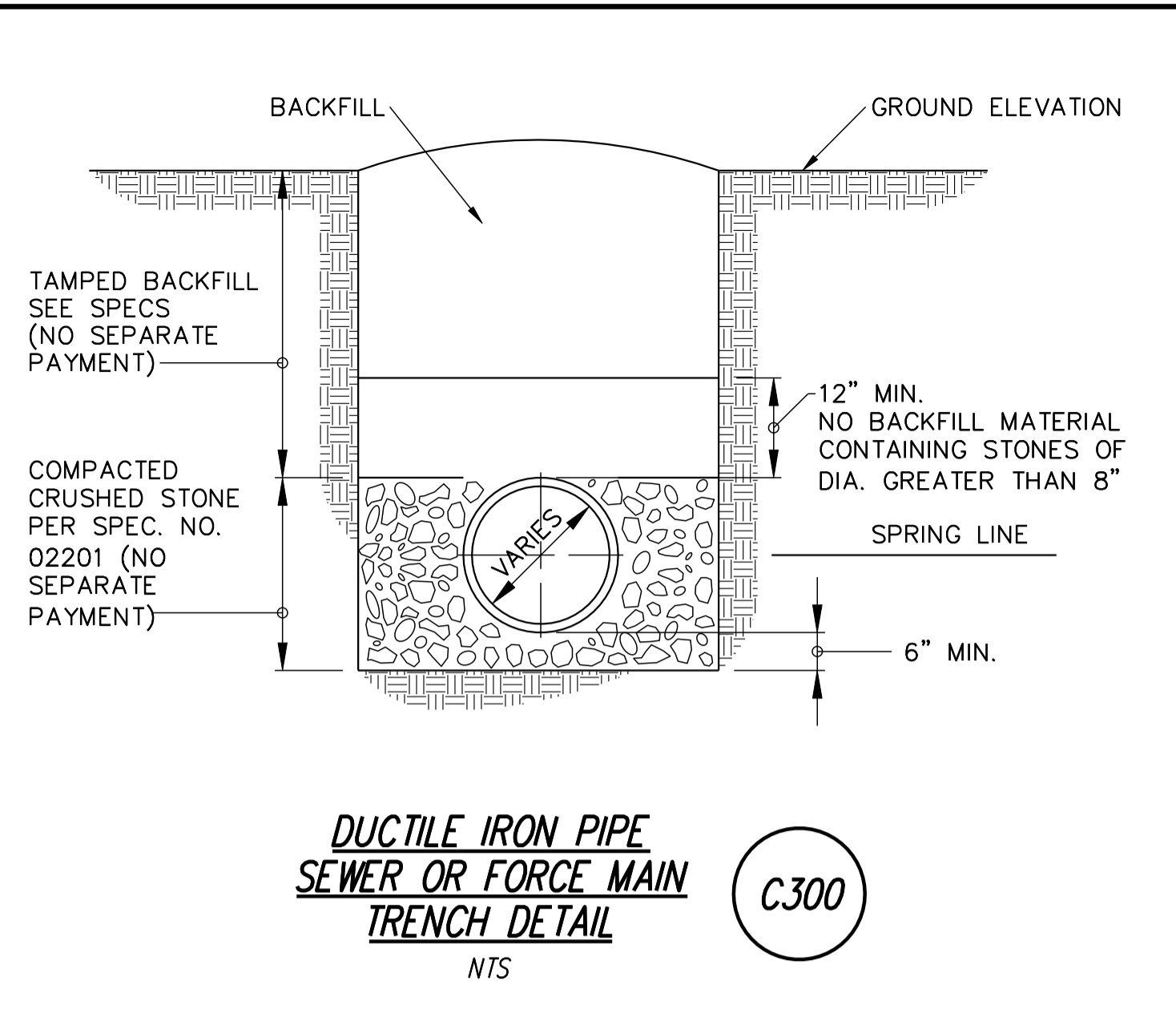
MANHOLE COVER & FRAME DETAILS
N.T.S.

**CITY OF LAGRANGE, GEORGIA
2022-HILLS & DALES FORCE MAIN
IMPROVEMENTS**
CIVIL / SITEWORK DETAILS

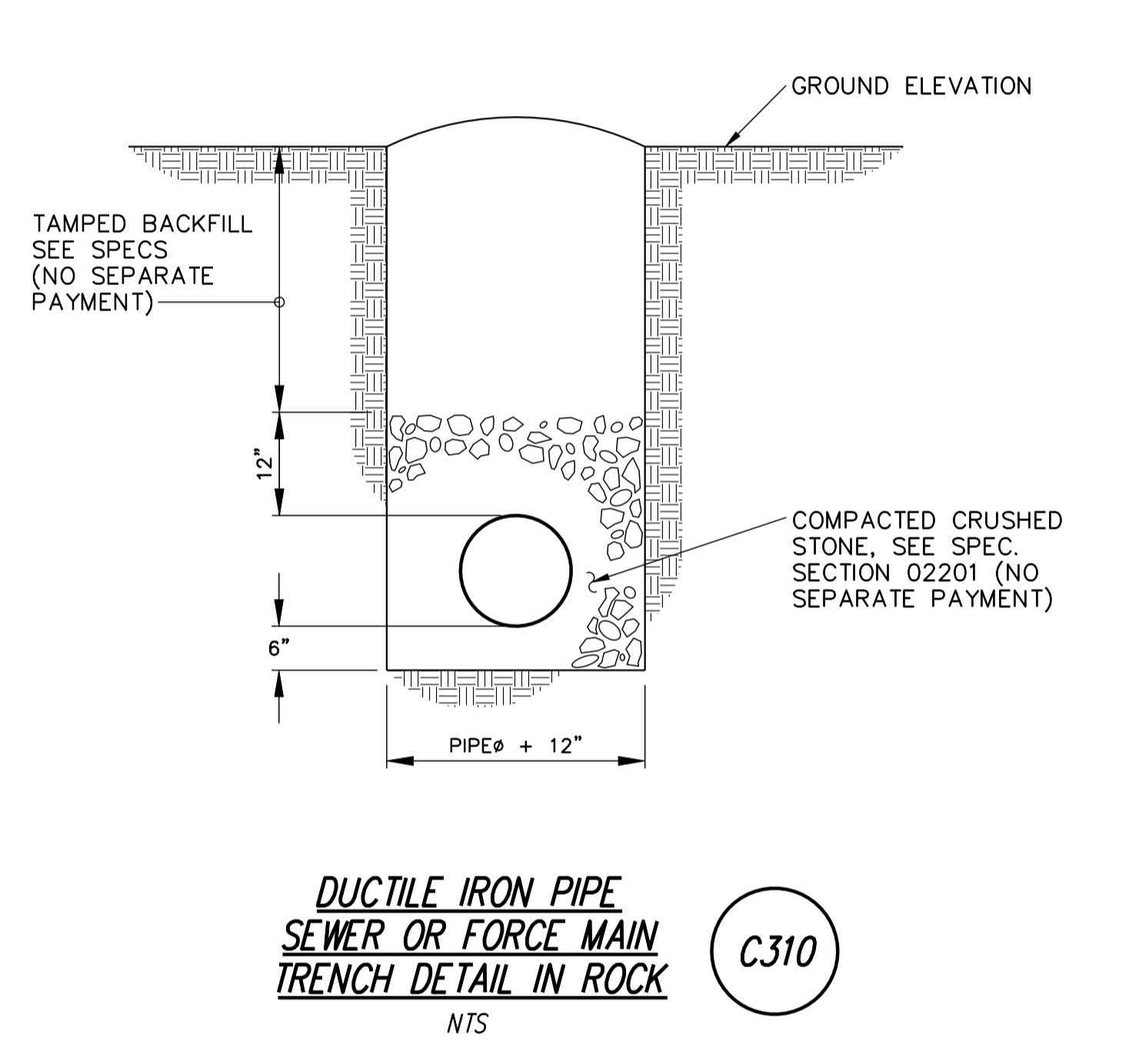
DRAWING NAME :	CONT-A_S-1
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	RLE
APPROVED BY :	RLE
SCALE :	AS SHOWN
DATE :	03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION

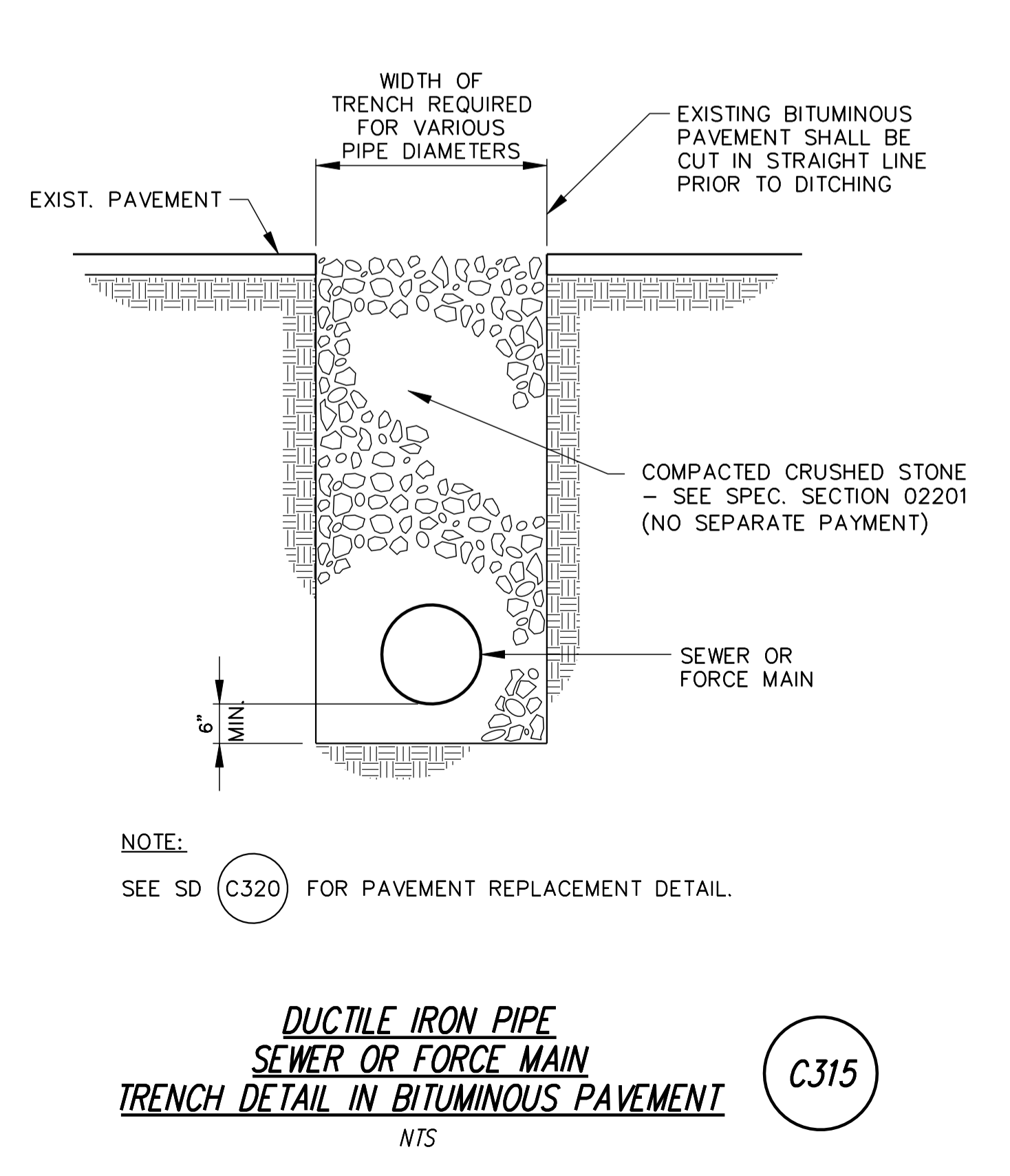




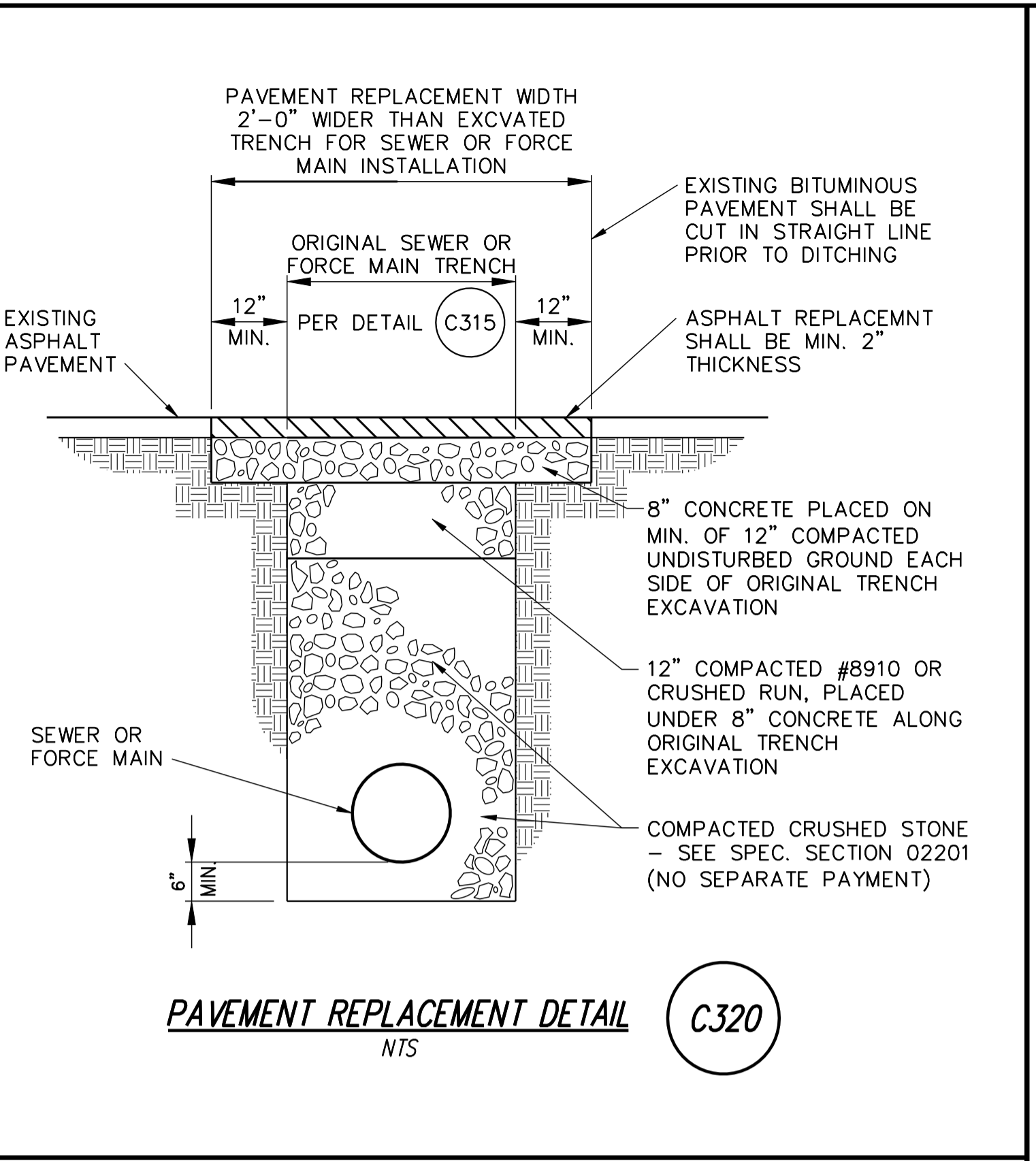
**DUCTILE IRON PIPE
SEWER OR FORCE MAIN
TRENCH DETAIL**
NTS (C300)



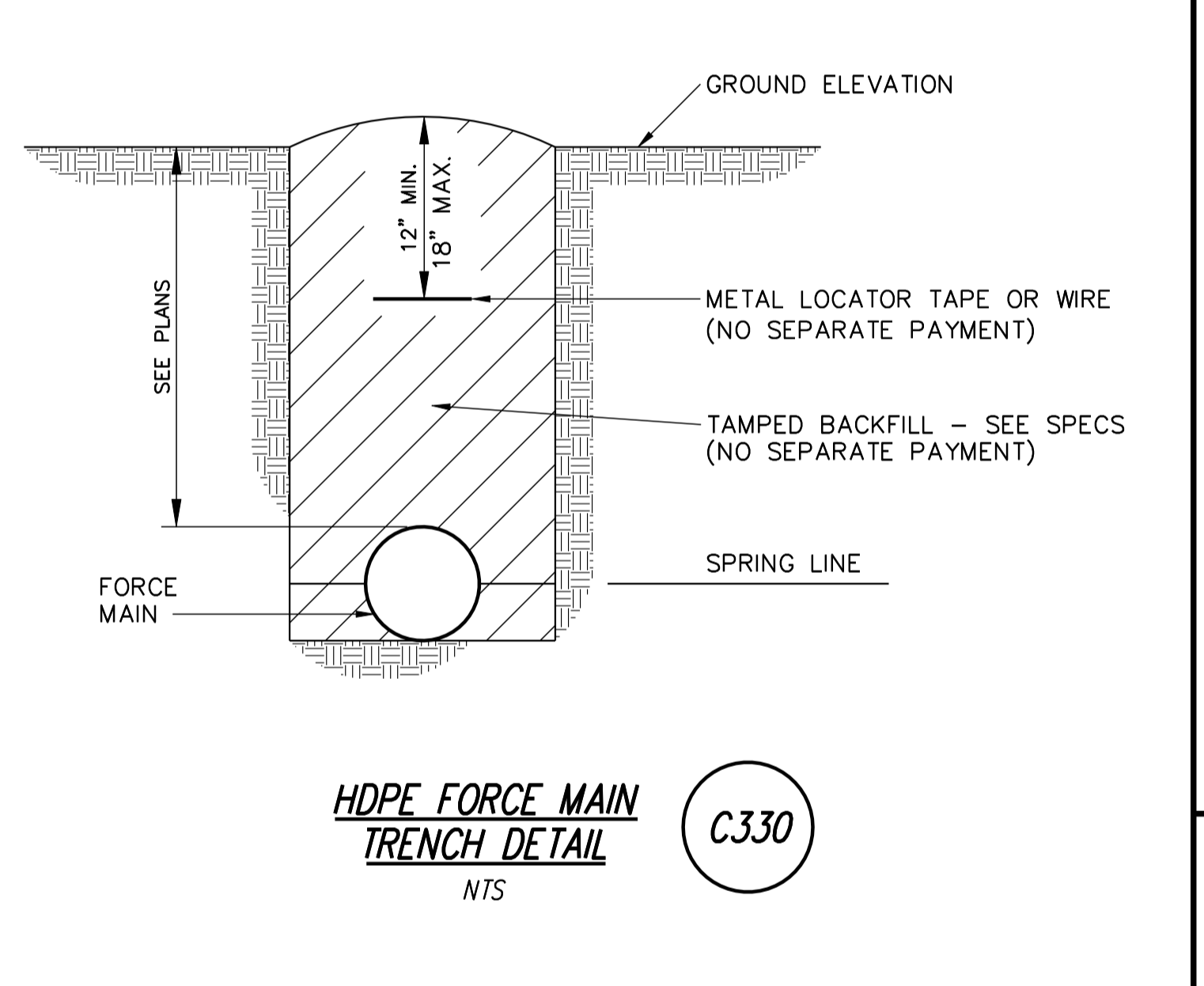
**DUCTILE IRON PIPE
SEWER OR FORCE MAIN
TRENCH DETAIL IN ROCK**
NTS (C310)



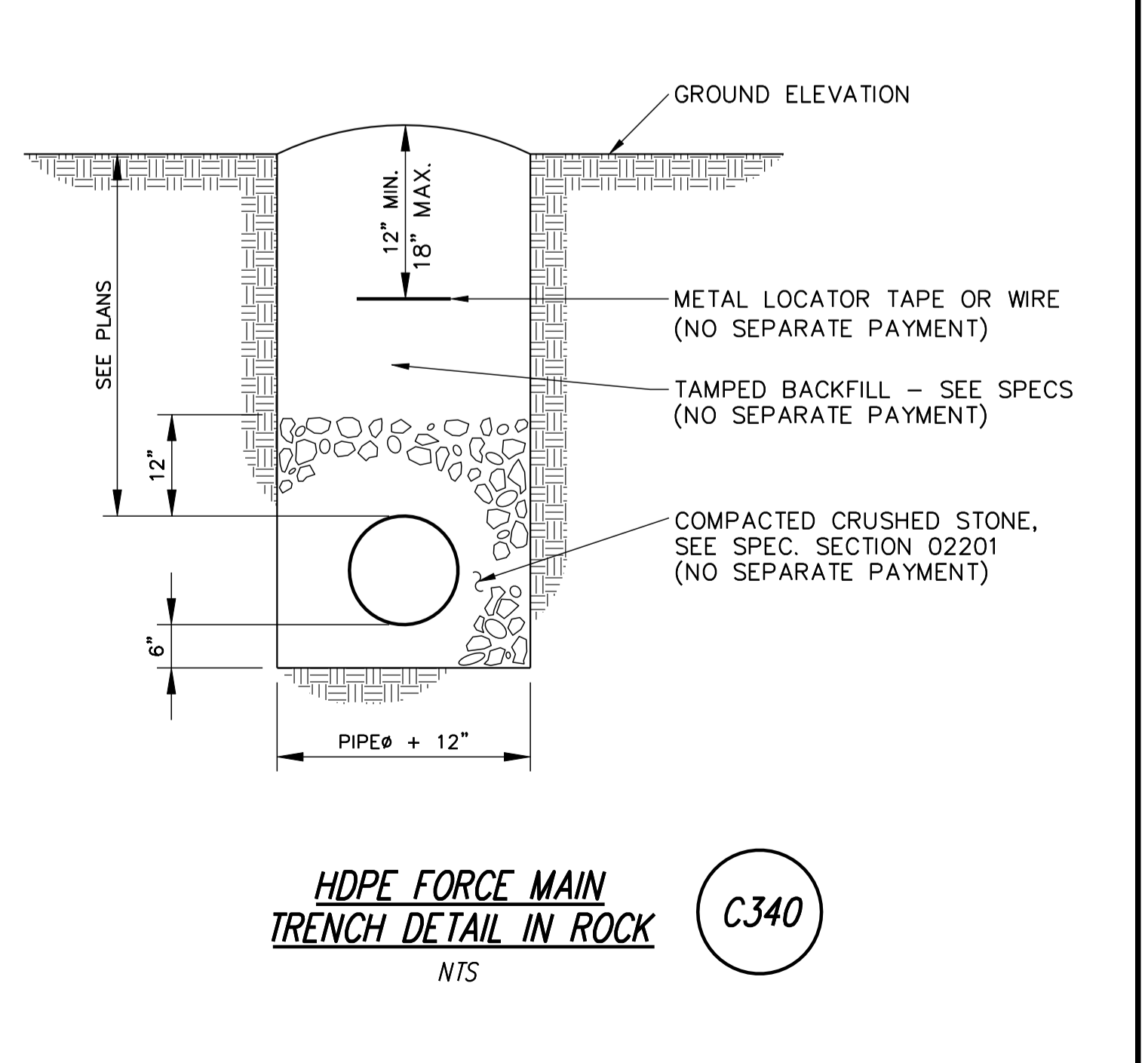
**DUCTILE IRON PIPE
SEWER OR FORCE MAIN
TRENCH DETAIL IN BITUMINOUS PAVEMENT**
NTS (C315)



PAVEMENT REPLACEMENT DETAIL
NTS (C320)

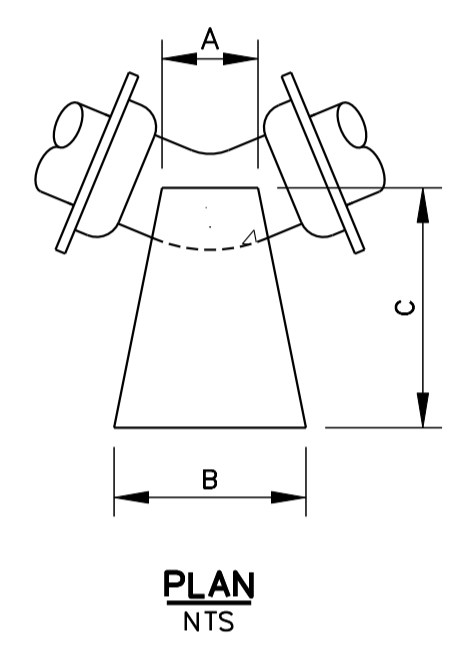
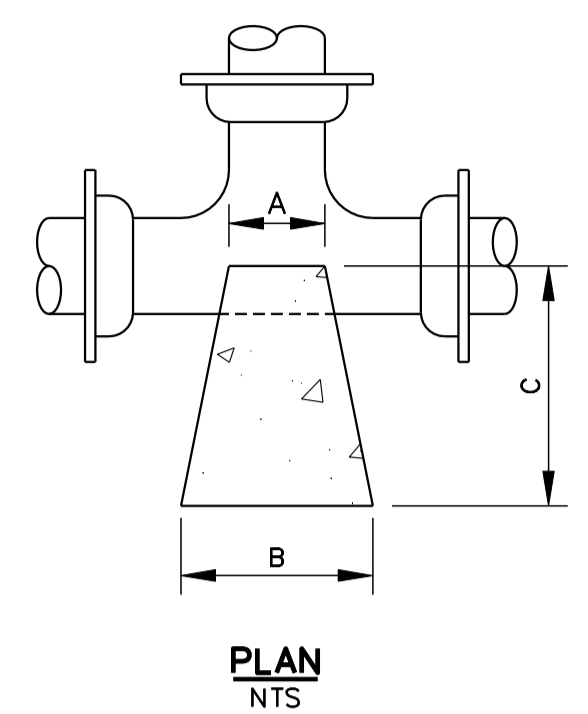


**HDPE FORCE MAIN
TRENCH DETAIL**
NTS (C330)

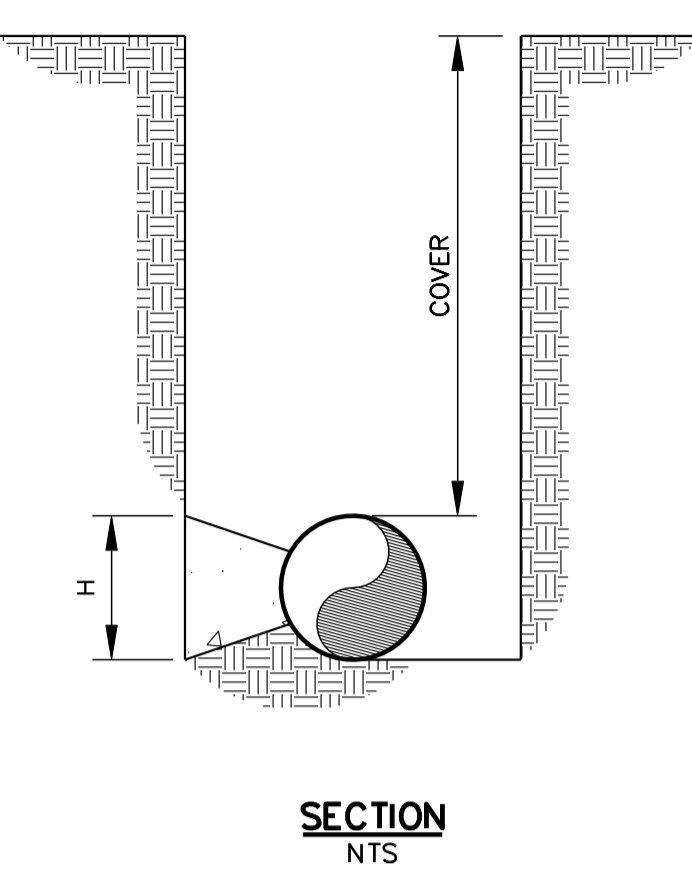


**HDPE FORCE MAIN
TRENCH DETAIL IN ROCK**
NTS (C340)

PIPE Ø	A	B	C	H	MIN. COVER	
3" & 4"	4"	1'-0"	1'-10"	1'-0"	2'-6"	90° BEND
6"	6"	2'-0"	1'-9"	1'-6"	2'-6"	
8"	8"	2'-8"	1'-9"	2'-0"	3'-0"	
10"	10"	4'-2"	1'-11"	2'-6"	3'-0"	
12"	1'-2"	5'-0"	1'-11"	3'-0"	5'-0"	
14"	1'-2"	5'-0"	2'-0"	3'-6"	5'-0"	
16"	1'-4"	5'-10"	2'-1"	4'-0"	5'-0"	
18"	1'-6"	6'-8"	2'-2"	4'-6"	5'-0"	
20"	1'-8"	7'-0"	2'-3"	5'-0"	5'-0"	
24" & 36"	2'-6"	8'-6"	2'-5"	6'-0"	5'-0"	45° BEND
42" & 48"	3'-4"	10'-0"	2'-7"	7'-0"	5'-0"	
3" - 4"	4"	7"	1'-1"	1'-0"	2'-6"	
6"	6"	1'-1"	1'-2"	1'-6"	2'-6"	
8"	8"	1'-8"	1'-2"	2'-0"	3'-0"	
10"	10"	2'-3"	1'-4"	2'-6"	3'-0"	
12"	1'-2"	2'-9"	1'-8"	3'-0"	5'-0"	
14"	1'-2"	2'-9"	1'-8"	3'-6"	5'-0"	
16"	1'-2"	3'-2"	1'-10"	4'-0"	5'-0"	
18"	1'-4"	3'-7"	2'-4"	4'-6"	5'-0"	
20"	1'-4"	4'-0"	2'-10"	5'-0"	5'-0"	
24" & 36"	1'-6"	4'-6"	3'-0"	6'-0"	5'-0"	22-1/2° BEND
42" & 48"	1'-8"	5'-6"	3'-6"	7'-0"	5'-0"	
3" - 4"	4"	4"	1'-1"	8"	2'-6"	
6"	6"	8"	1'-0"	1'-0"	2'-6"	
8"	8"	1'-0"	1'-0"	1'-4"	3'-0"	
10"	10"	1'-4"	1'-1"	1'-8"	3'-0"	
12"	1'-2"	1'-9"	1'-7"	2'-0"	5'-0"	
14"	1'-2"	1'-11"	2'-1"	2'-4"	5'-0"	
16"	1'-2"	2'-2"	2'-5"	3'-4"	5'-0"	
18"	1'-4"	2'-0"	2'-1"	3'-8"	5'-0"	
20"	1'-4"	2'-4"	2'-1"	4'-2"	5'-0"	
24" & 36"	1'-6"	3'-0"	3'-0"	4'-10"	5'-0"	TEE RUN
42" & 48"	1'-8"	3'-8"	3'-8"	5'-10"	5'-0"	
3" - 4"	5"	10"	6"	1'-0"	2'-6"	
6"	6"	1'-4"	6"	1'-6"	2'-6"	
8"	7"	4'-0"	6"	2'-0"	3'-0"	
10"	9"	3'-0"	6"	2'-6"	3'-0"	
12"	10"	3'-8"	6"	3'-0"	5'-0"	
14"	11-1/2"	3'-6"	7"	3'-6"	5'-0"	
16"	1'-0 1/2"	4'-0"	8"	4'-0"	5'-0"	
18"	1'-2"	4'-8"	9"	4'-6"	5'-0"	
20"	1'-3 1/2"	5'-0"	10"	5'-0"	5'-0"	
24" & 36"	2'-3"	6'-0"	12"/18"	6'-0"	5'-0"	11-1/4° BEND
42" & 48"	3'-0"	7'-0"	21"/24"	7'-0"	5'-0"	
3" - 4"	4"	4"	1'-0"	6"	2'-6"	
6"	4"	4"	1'-0"	8"	2'-6"	
8"	6"	8"	1'-0"	10"	3'-0"	
10"	8"	10"	1'-0"	1'-0"	3'-0"	
12"	10"	12"	1'-0"	1'-2"	5'-0"	
14"	1'-0"	1'-4"	1'-0"	1'-4"	5'-0"	
16"	1'-0"	1'-8"	1'-0"	1'-6"	5'-0"	
18"	1'-2"	2'-0"	1'-0"	1'-8"	5'-0"	
20"	1'-2"	2'-6"	1'-0"	2'-6"	5'-0"	
24" & 36"	1'-9"	3'-0"	1'-0"	3'-9"	5'-0"	
42" & 48"	2'-7"	4'-0"	1'-0"	5'-0"	5'-0"	



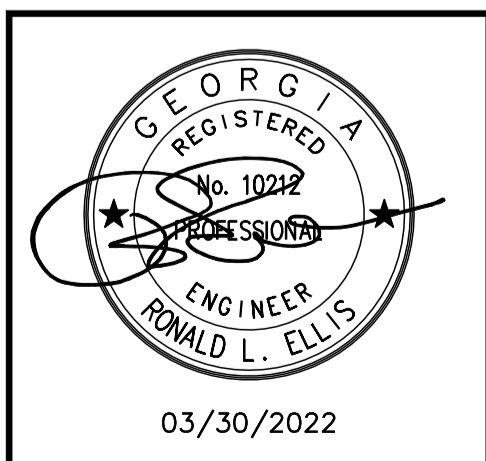
THRUST BLOCKING DETAIL
NTS (C450)



- NOTES:
1. CONCRETE MUST BE PLACED AGAINST UNDISTURBED MATERIAL ON BEARING FACE
 2. PLACE NO CONCRETE UNDER PIPE OR ON JOINT BOLTS. JOINT MAY BE WRAPPED IN PLASTIC TO PREVENT ADHERENCE.
 3. ALL JOINTS MECHANICAL

DRAWING NAME : CONT-A-S-2
PROJECT NO. : 21.135
DRAWN BY : RDE
DESIGNED BY : RLE
APPROVED BY : RLE
SCALE : AS SHOWN
DATE : 03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION





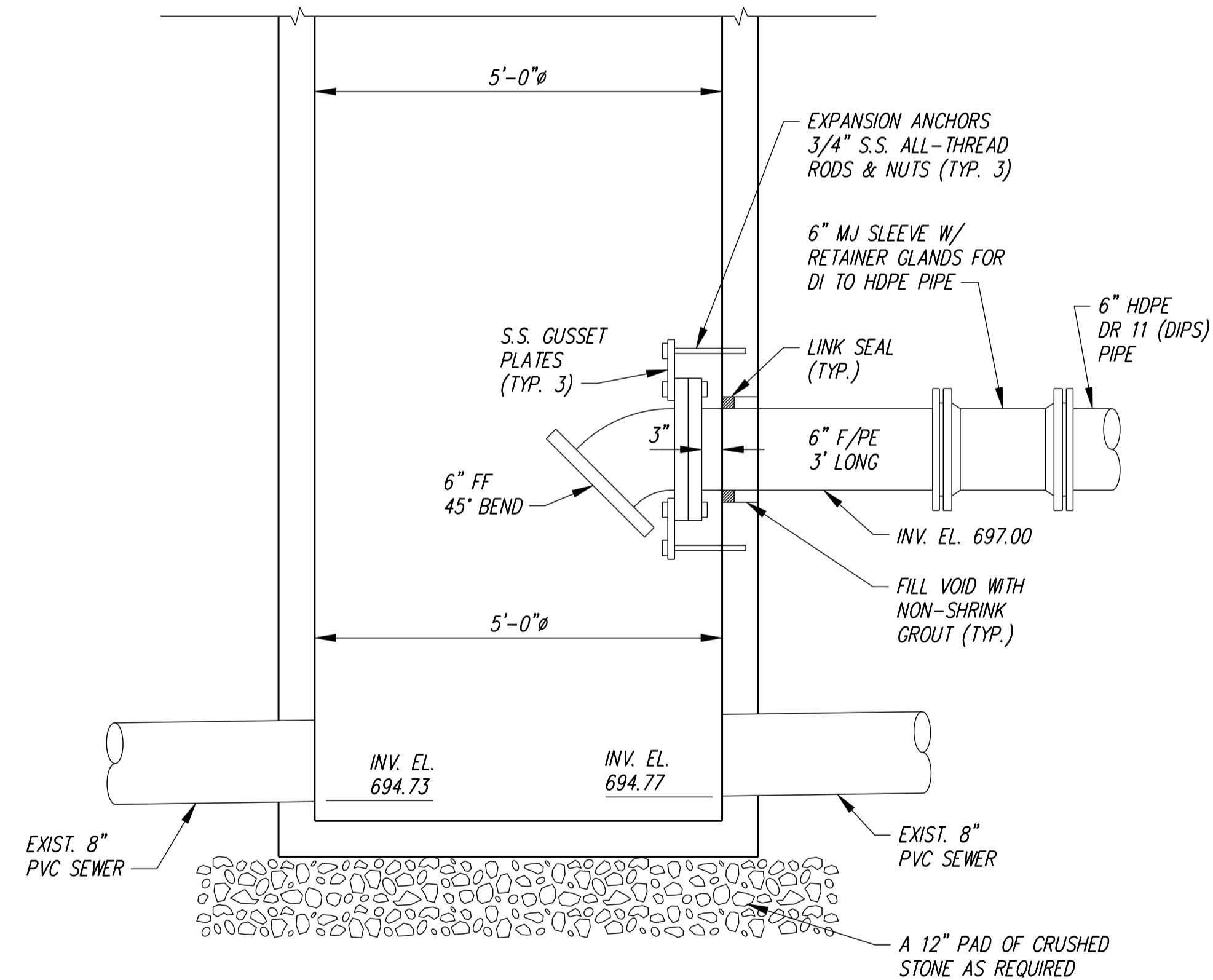
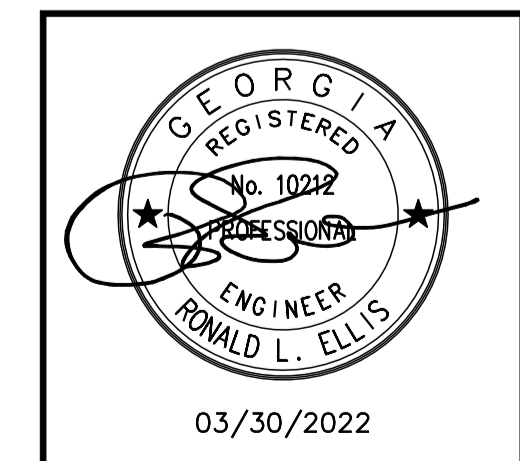
ELLIS
 &
 ASSOCIATES
 RONALD L. ELLIS
 &
 ASSOCIATES, INC.
 Consulting Engineers
 Pelham, Alabama

**CITY OF LAGRANGE, GEORGIA
 2022-HILLS & DALES FORCE MAIN
 IMPROVEMENTS**

CIVIL / SITEWORK DETAILS

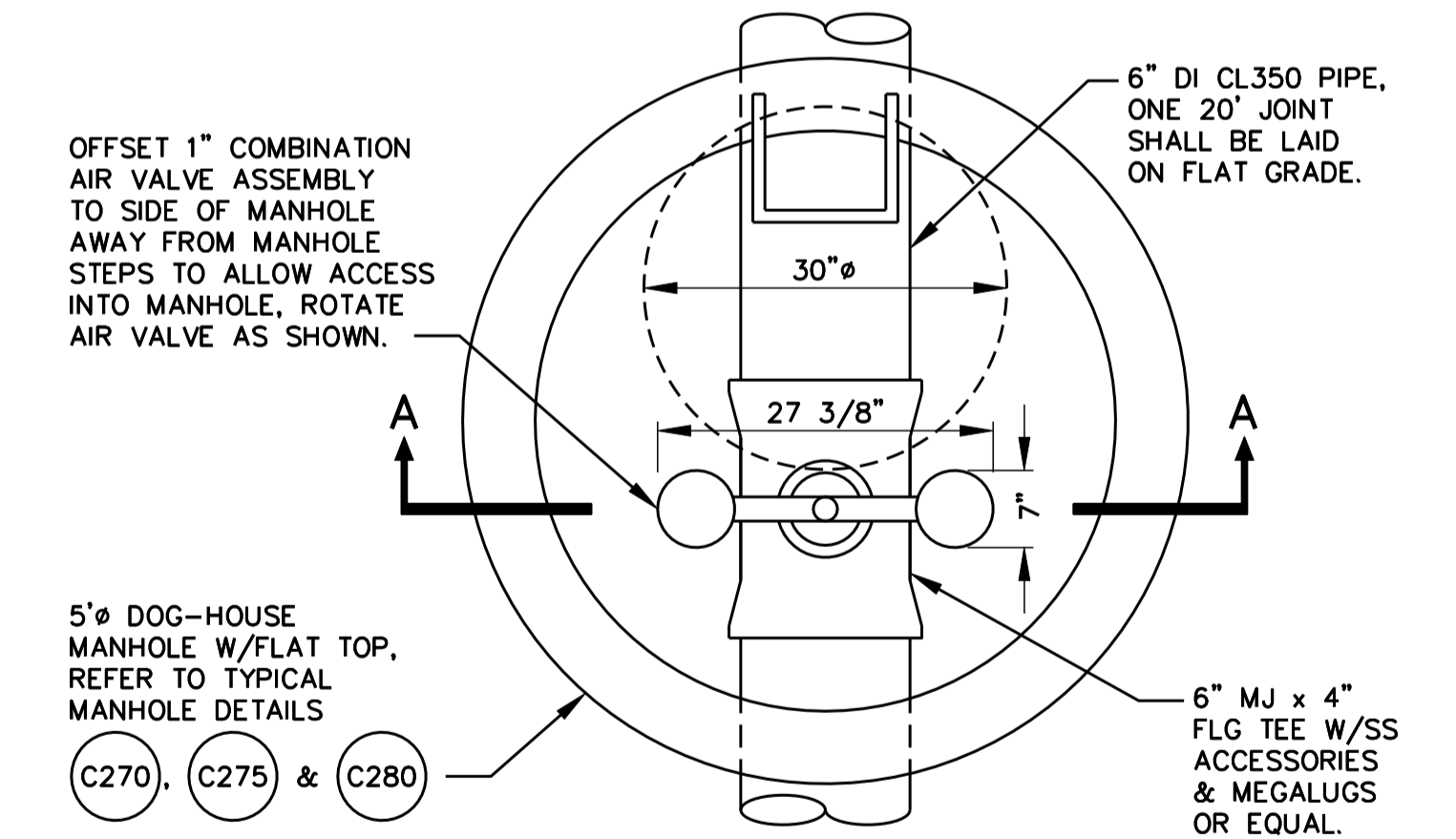
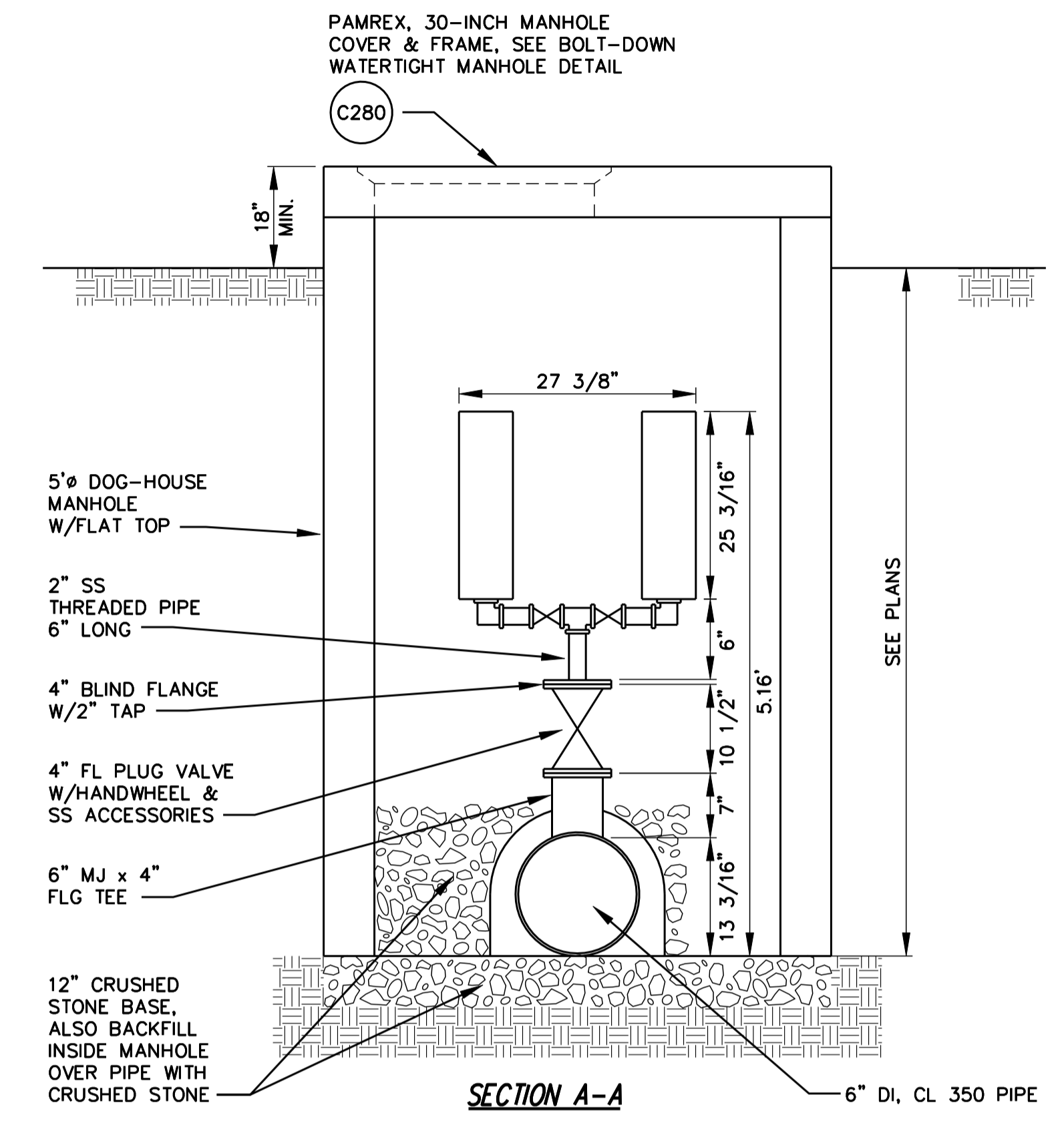
DRAWING NAME :	CONT-A_S-3
PROJECT NO. :	21.135
DRAWN BY :	RDE
DESIGNED BY :	RLE
APPROVED BY :	RLE
SCALE :	AS SHOWN
DATE :	03/30/2022

REVISIONS		
NO.	DATE	DESCRIPTION



- NOTES:
- USE 60" MANHOLE & FLAT TOP AT EL. 702.75, REFER TO DETAIL (C270)
 - PROVIDE PAMREX, 30 INCH MANHOLE COVER & FRAME, SEE BOLT-DOWN WATERTIGHT MANHOLE DETAIL (C280)
 - PROVIDE PIPE RESTRAINT FOR 6" DI F/PE PIPE TO MANHOLE WALL PER DETAIL. ALL MATERIALS SHALL BE 316 S.S. PROVIDE SUBMITTAL FOR REVIEW.
 - PROVIDE 6" DI BLIND FLANGE FOR PRESSURE TEST OF 6" FORCE MAIN.

**6" FORCE MAIN DISCHARGE
 PROPOSED 5' MANHOLE**
 NTS (C590)



1" COMBINATION AIR VALVE ASSEMBLY
 NTS (C600)

- NOTE:
- SEE PLANS FOR FORCE MAIN INVERT ELEVATIONS AND MANHOLE RIM ELEVATIONS.