

100% CONSTRUCTION PLANS FOR: ORION DRIVE CULVERT IMPROVEMENT PROJECT

**DEKALB COUNTY DEVELOPMENT FILE # 1243145
DECEMBER 7, 2020
TAX PARCEL # 18 063 13 001**



DeKalb County
GEORGIA
DEVELOPMENT SERVICES

2835 Brandywine Road
Suite 100
Atlanta, GA 30341-4015
678.530.0022
GA Lic. No. PEF002398 (6/30/2020)

APPROVED
N

AP 1243795
DATE 12/10/20

This Department is not responsible for any errors or omissions by engineers or other design professionals in design or county code requirements of the project.

The issuance or granting of a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of applicable codes or of any other ordinance of the jurisdiction. It is presumed to give authority to violate or cancel the provisions of applicable codes or any other ordinance of the jurisdiction shall not be valid. The issuance of a permit based on construction documents and other data shall not provide the code official from requiring the correction of work.

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- G-001 COVER SHEET
 - C-001 GENERAL NOTES
 - C-002 QUANTITY SHEET
 - V-101 EXISTING CONDITIONS
 - CD-101 DEMO & STAGING PHASE I
 - CD-102 DEMO & STAGING PHASE II
 - CP-101 CONSTRUCTION PLAN
 - CP-102 CENTERLINE ALIGNMENT
 - CU-501 CONSTRUCTION DETAILS
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 - CU-503 CONSTRUCTION DETAILS (3)
 - CU-504 CONSTRUCTION DETAILS (4)
 - CU-505 CONSTRUCTION DETAILS (5)
 - CU-506 CONSTRUCTION DETAILS (6)
 - CU-507 CONSTRUCTION DETAILS (7)
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 - CU-509 CONSTRUCTION DETAILS (9)
 - CD-401 TRAFFIC CONTROL PLAN
 - EC-101 EROSION CONTROL INITIAL & INTERMEDIATE (1) PLAN
 - EC-102 EROSION CONTROL INTERMEDIATE (2) PLAN
 - EC-103 EROSION CONTROL FINAL PLAN
- 21 SHEETS TOTAL**

ADJOINING PROPERTIES:

1. 2057 LAWRENCEVILLE HWY
OWNER: DEKALB COUNTY
DB 16306 PG 332
TAX PARCEL # 18 063 13 001
2. 2821 ORION DR
OWNER: GREG FRADY
DB 25375 PG 394
TAX PARCEL # 18 063 11 029
3. 2827 ORION DR
OWNER: ZHANG YING & MERLIN DIDIER
DB 9971 PG 357
TAX PARCEL # 18 063 11 028
4. 2833 ORION DR
OWNER: SANDRA ALISA SCHEIN
DB 9688 PG 313
TAX PARCEL # 18 063 11 027

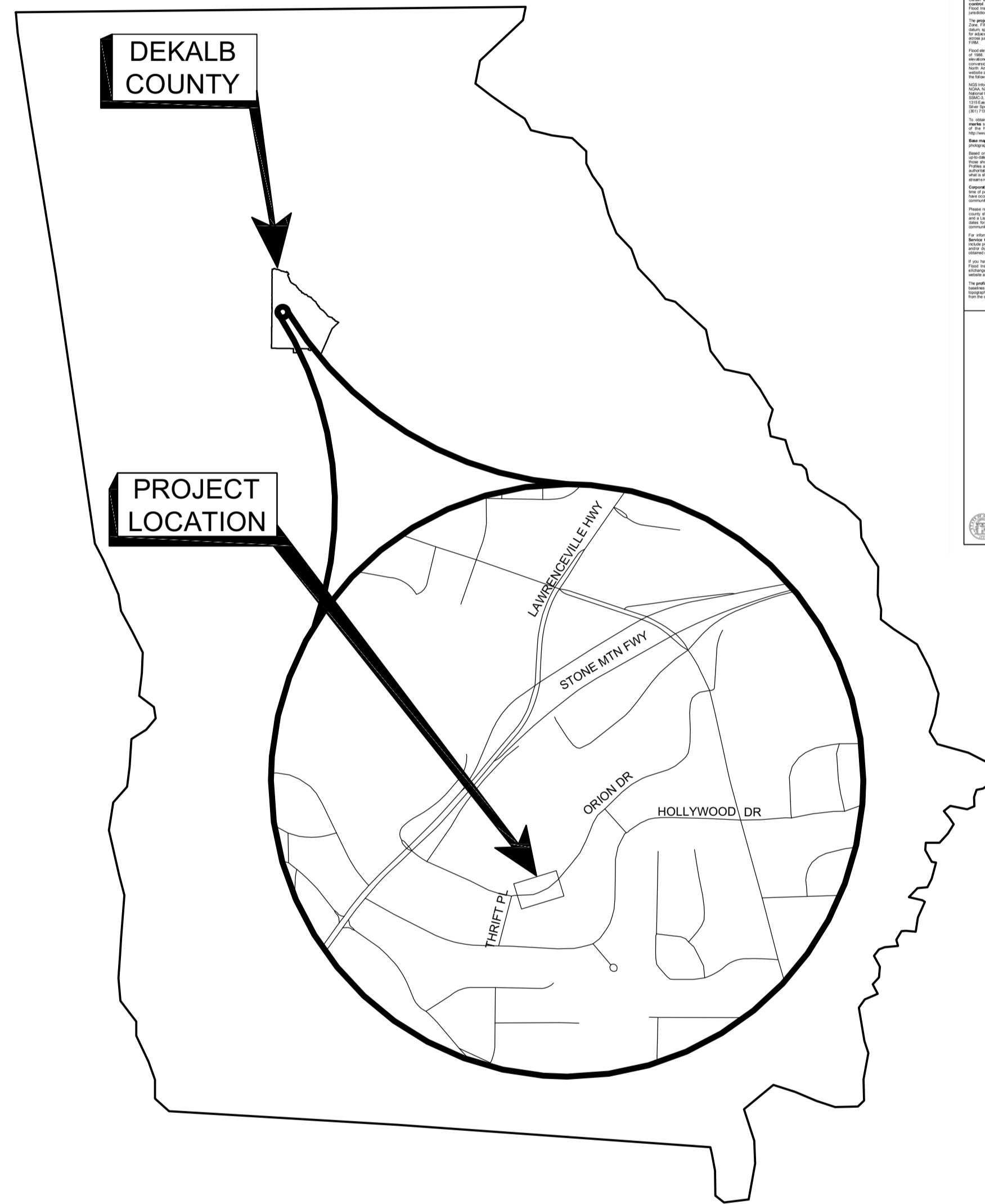
ZONING DISTRICT R-75
ZONING CASE # N/A

DISTURBED AREA: 0.4 ACRES
TOTAL TRACT SIZE: 0.4 ACRES
IMPERVIOUS AREA: 0.1 ACRES
PCT OF TRACT IMP: 25%

BEGINNING OF STRUCTURE:
LAT: 33.8026
LONG: -84.2735
END OF STRUCTURE:
LAT: 33.8024
LONG: -84.2734

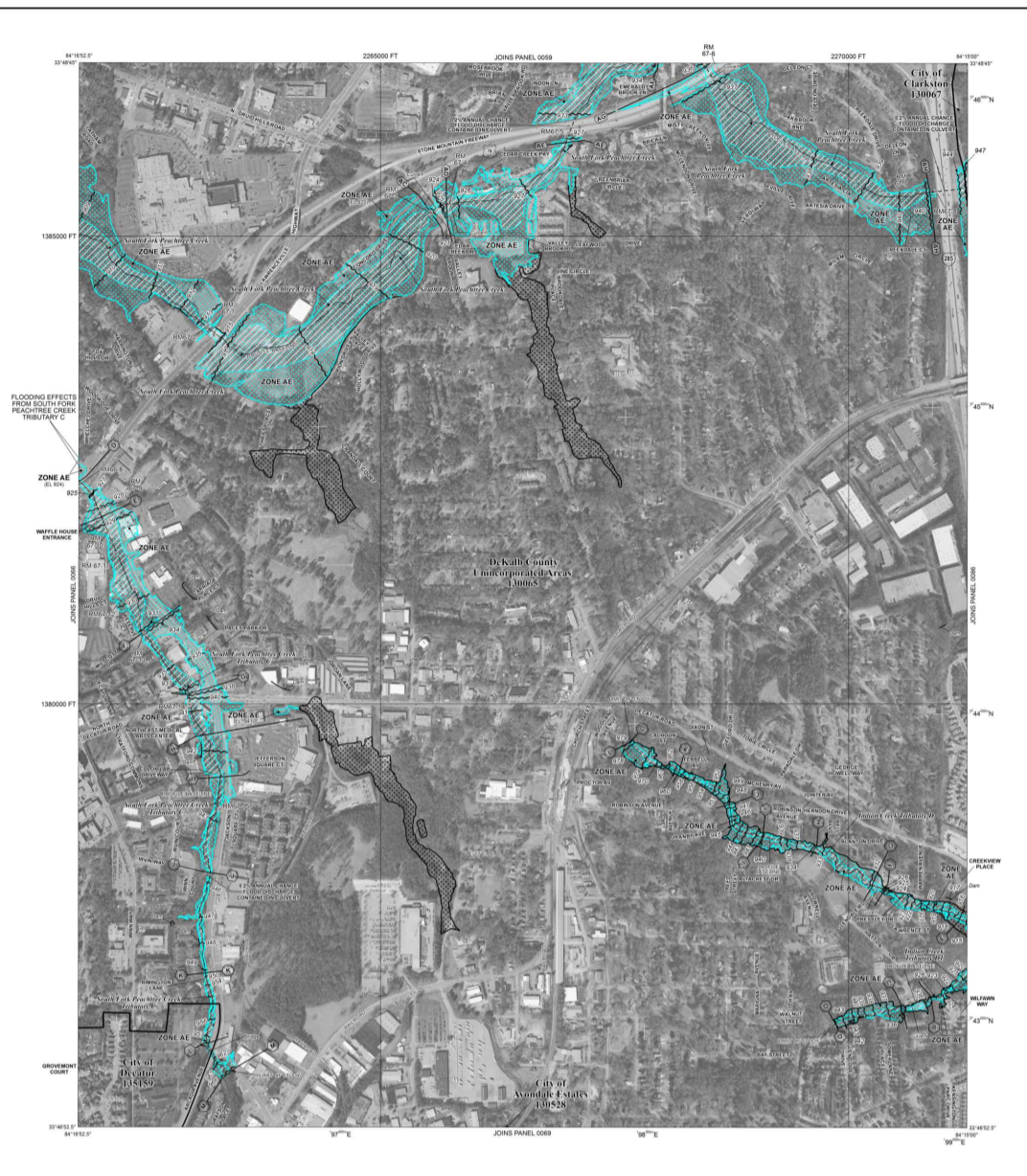
Samuel L. Fleming

SAMUEL L. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



VICINITY MAP

NOTES TO USERS



FEMA MAP PANEL IMAGE FOR PANEL # 0067J

Plumbing, Mechanical, Gas and Electrical systems of these plans have not been reviewed for compliance with applicable codes and regulations. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities. The user shall be responsible for obtaining all necessary permits and approvals from the appropriate authorities.

**ORION DRIVE CULVERT
IMPROVEMENT PROJECT**

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

OWNER:
DEKALB COUNTY
1330 COMMERCE DRIVE
DECATUR, GA 30030

PRIMARY PERMITTEE:
DEKALB COUNTY ROADS AND DRAINAGE
727 CAMP ROAD
DECATUR, GA 30032
CONTACT: REGINALD ANDERSON
RANDERSON3@DEKALBCOUNTYGA.GOV
404-294-2878

DEVELOPER:
N/A

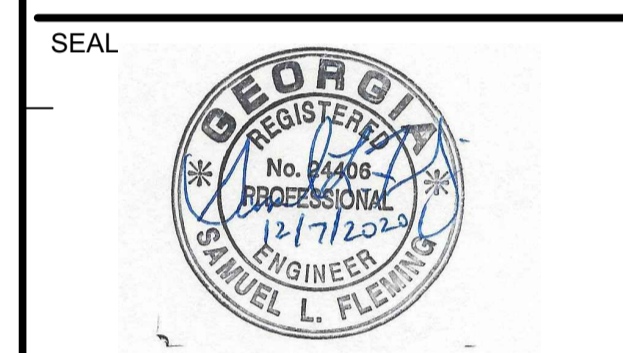
24 HOUR EMERGENCY CONTACT:
BILLY COX
727 CAMP ROAD
DECATUR, GA 30032
404-297-2563

ENGINEER:
SAM FLEMING, PE
DEWBERRY
2835 BRANDYWINE ROAD
SUITE 100
ATLANTA, GA 30341-4015
678.537.8627
678.530.0040 FAX



WEEK	CONSTRUCTION SCHEDULE												
	1	2	3	4	5	6	7	8	9	10	11	12	13
INSTALL EROSION CONTROLS	█	█	█										
CLEARING AND GRADING		█	█	█	█								
MAINTAIN EROSION CONTROL		█	█	█	█	█	█	█	█	█	█	█	█
STORM DRAIN, SS, & WATERLINE INSTALLATION				█	█	█	█	█	█	█	█	█	█
FINAL LANDSCAPING (PERM. GRASSING)										█	█	█	█
CLEANUP / REMOVE BMP'S												█	█

DEKALB COUNTY BOARD OF COMISSIONERS	
NANCY JESTER	DISTRICT 1
JEFF RADER	DISTRICT 2
LARRY JOHNSON	DISTRICT 3
STEVE BRADSHAW	DISTRICT 4
MEREDA DAVIS JOHNSON	DISTRICT 5
KATHIE GANNON	DISTRICT 6
LORRAINE COCHRAN-JOHNSON	DISTRICT 7



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
6	REVISED CERTIFICATIONS	12/7/2020
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	80% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	12/7/2020

TITLE
COVER SHEET

PROJECT NO. 50088969

G-001

SHEET NO.

GENERAL NOTES

- 1. OWNER DEKALB COUNTY, ROADS AND DRAINAGE DIVISION
2. EMERGENCY NAME: BILLY COX
3. DISTURBED AREA: 0.4 ACRES
4. THE LAND DISTRICT AND LAND LOT FOR THE PROJECT IS: 04-0063.
5. DESCRIPTION: WORK PERFORMED BY THIS CONTRACTOR WILL INCLUDE REPLACING 12" X 36" CORRUGATED STEEL PIPE WITH 78 LF OF THREE 6" X 3" REINFORCED CONCRETE BOX CULVERTS...

EROSION CONTROL NOTES

- 1. INSTALLATION: 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.
2. MAINTENANCE: 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.
3. ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

SOIL CLEANUP AND CONTROL PRACTICES

- 1. LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE MADE AVAILABLE TO SITE PERSONNEL.
2. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS.
3. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.

CONCRETE TRUCKS

- 1. CONCRETE TRUCK DRUMS WILL NOT BE WASHED OUT ONSITE.
2. SURPLUS CONCRETE WILL NOT BE DISCARDED ONSITE.
3. CONCRETE TRUCK SHOOTING AND TOOLS WILL BE WASHED INTO THE WORKING TRENCH PRIOR TO BACKFILL.
4. NO WATER FROM WASHING OFF TOOLS OR SHOOTS WILL LEAVE THE SITE OR DRAIN ONTO UNDISTURBED AREAS.

STREAM BUFFER ENCROACHMENT

- 1. DUE TO THE NATURE OF A RCB CONSTRUCTION PROJECT, WORK WILL OCCUR IN 0.3 ACRES OF STREAM BUFFER OF SPFC UNNAMED TRIBUTARY 5. SINCE THE ENCROACHMENT IS ASSOCIATED WITH A DRAINAGE STRUCTURE THAT MUST BE CONSTRUCTED IN A STREAM BUFFER, THE WORK IS EXEMPT FROM A STREAM BUFFER VARIANCE PER GADNR RULES 391-3-7.05(1)(B) AND 391-3-7.05(1)(C).

WATER AND SEWER NOTES

- 1. ALL WATER MAIN AND SANITARY SEWER MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT'S 'POTABLE WATER MAIN, GRAVITY SANITARY SEWER, SANITARY SEWER PUMP STATION AND FORCE MAIN DESIGN STANDARDS, AND GENERAL CONSTRUCTION STANDARDS'.
2. THE DEKALB COUNTY DEPARTMENT OF WATERSHED MANAGEMENT SHALL BE NOTIFIED 72 HOURS PRIOR TO ANY WATER OR SANITARY SEWER LINE CONSTRUCTION OR REPAIRS.
3. THE CONTRACTOR SHALL BE ALLOWED TO PERFORM CONSTRUCTION OR REPAIRS CONNECTED TO SAID WATER OR SANITARY SEWER MAINS. NOTIFY WATER AND SEWER INSPECTOR AT 770-621-7212 PRIOR TO THE START OF CONSTRUCTION.

CERTIFICATION STATEMENT

I CERTIFY THAT THIS EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN HAS BEEN PREPARED IN ACCORDANCE WITH PART IV GAR 100002.
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 STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND DISTURBING ACTIVITY WAS PERMITTED...

LEGEND

DETAILED LEGEND listing symbols for SURVEY CONTROL, TOPOGRAPHIC FEATURES, WATER, ELECTRIC/POWER, MISC. UTILITY, EXISTING OVERHEAD, EXISTING UNDERGROUND, APPROX. UNDERGROUND, FENCE LINES, EROSION CONTROL, and ABBREVIATIONS.

LINETYPES

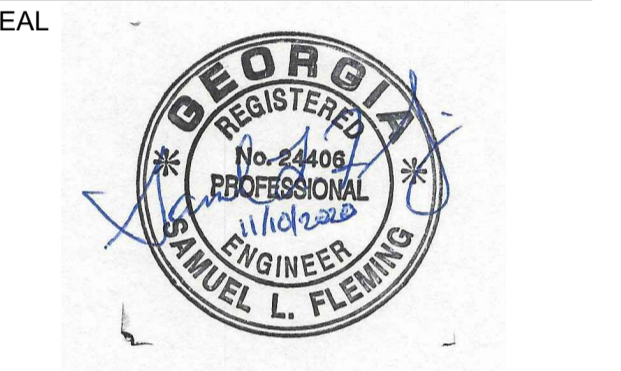
LINETYPES table mapping line styles to utility types such as Electric Line, Sanitary Sewer, Gas Line, and various types of Fences.

ABBREVIATIONS table listing symbols and their corresponding utility names like B/LA, B/W, C&G, etc.



2835 Brandywine Road
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Atlanta, GA 30341-1015
678.530.0222
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ORION DRIVE CULVERT IMPROVEMENT PROJECT
2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN table with columns for NO., DESCRIPTION, and DATE.

SCALE table with columns for NO., DESCRIPTION, and DATE.

REVISIONS table with columns for NO., DESCRIPTION, and DATE.

DRAWN BY: KH
APPROVED BY: SF
CHECKED BY: MH
DATE: 11/10/2020

GENERAL NOTES
PROJECT NO. 50088969
SHEET NO. C-001

11/22/2016 8:07:15 AM
\\BLA\GROCK\PROJECTS\DEKALB\2827ORIONDRIVE\CADD\FINAL - PERMIT REVISIONS 11/22/2016\ORION_SITE.DWG

QUANTITIES ESTIMATE			
Orion Drive Culvert Replacement			
Item Code	Item Description	Quantity	Unit
150-1000	Traffic Control	1	LS
163-0232	Temporary Grassing	0.2	AC
163-0541	Construct and Remove Rock Filter Dam	1	EA
165-0030	Maintenance of Temporary Silt Fence, TP C (Sensitive)	750	LF
165-0110	Maintenance of Rock Filter Dam	1	EA
171-0300	Temporary Silt Fence, TP C	750	LF
201-1500	Clearing & Grubbing	1	LS
205-0001	Unclassified Excavation	575	CY
207-0203	Foundation Backfill Material, TP II	60	CY
208-0100	In Place Embankment	250	CY
310-5080	Gr Aggr Base Crs, 8-inch, Incl Matl	320	SY
402-3113	Recycled Asph Conc 12.5 mm Superpave, GP1 or 2, Incl Bitum Matl & H Lime	35	TN
402-3190	Recycled Asph Conc 19 mm Superpave, GP1 of GP2, Incl Bitum Matl & H Lime	70	TN
432-0206	Mill Asph Conc Pvmt, 1 1/2 in Depth	320	SY
441-0016	Driveway Concrete, 6 in TK	50	SY
500-3200	Class B Concrete	10	CY
500-3800	Class A Conc INCL Reinf Steel (Three 6x3 RCB including WW and parapets)	130	CY
550-1150	Storm Drain Pipe, 15 in, H 1-10	35	LF
550-4215	Flared End Section 15 in, Side Drain	1	EA
603-2181	Rip rap, Type 3, 18"	80	SY
603-7000	Plastic Filter Fabric	375	SY
610-1725	Remove San Sewer Pipe, 8 in	44	LF
610-1840	Remove Asbestos Cement Pipe	50	LF
643-0010	Field Fence Woven Wire	35	LF
660-0508	San Sewer Pipe, 8 in, Epoxy Coated Stainless Steel	44	LF
670-1060	Water Main, 6" incl fittings, thrust restraint, and plugs	110	LF
670-2060	Gate Valve, 6 in.	2	EA
700-6001	Grassing Complete	0.2	AC
702-0542	Crepe Myrtle Replacement	1	EA



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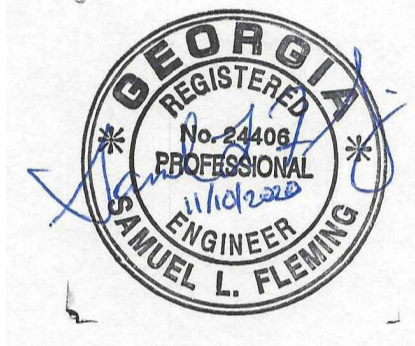
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ORION DRIVE CULVERT
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2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

SEAL



KEY PLAN

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REVISIONS

DRAWN BY _____ KH
APPROVED BY _____ SF
CHECKED BY _____ MH
DATE _____ 11/10/2020

TITLE
QUANTITY SHEET

PROJECT NO. 50088969

C-002

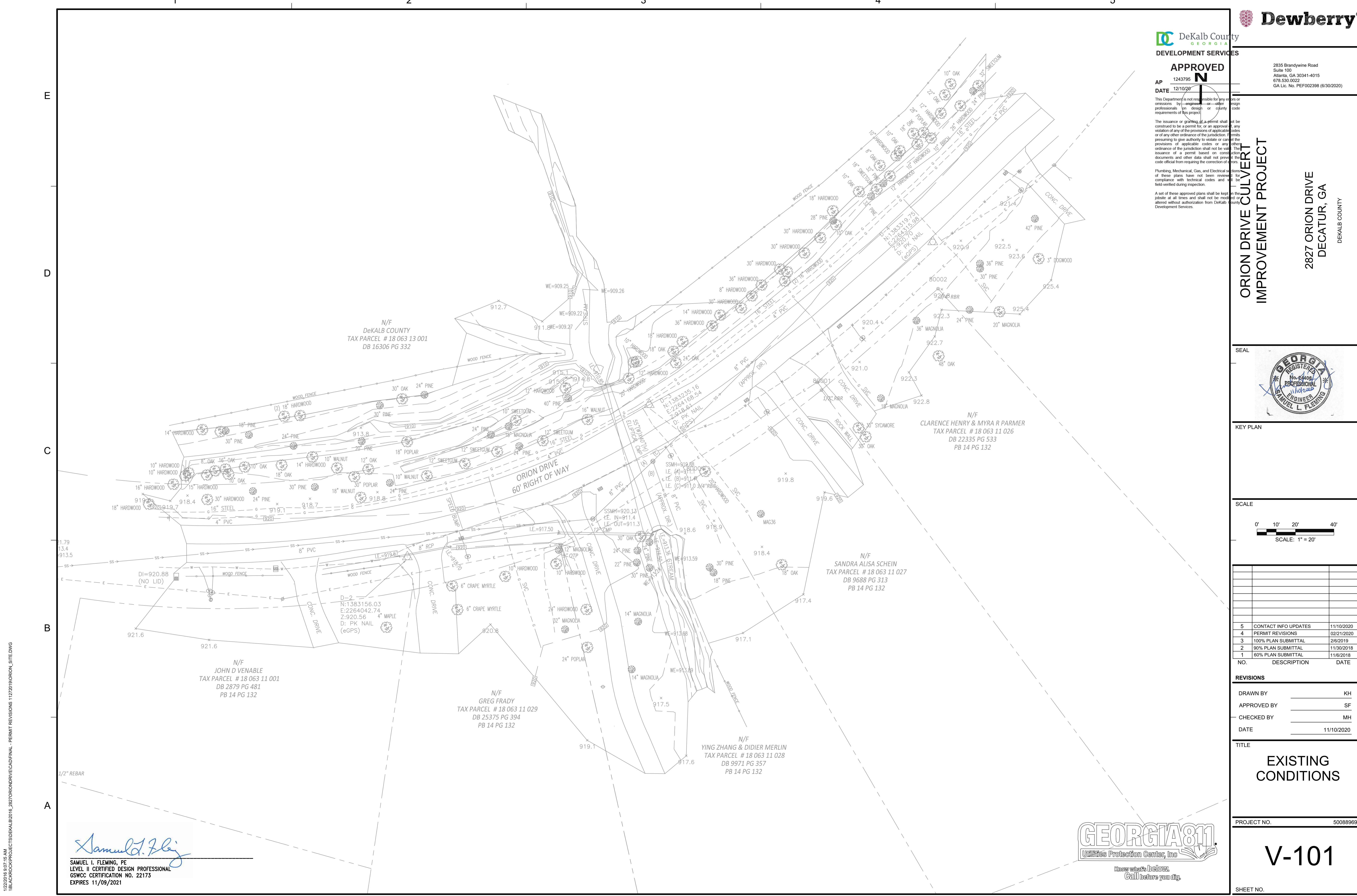
SHEET NO.

Samuel L. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



Know what's below.
Call before you dig.

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DeKalb County
 DEVELOPMENT SERVICES

APPROVED

AP 1243795
 DATE 12/10/20

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 Atlanta, GA 30341-4015
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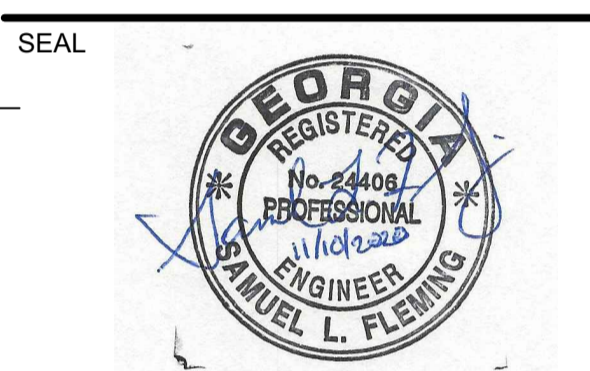
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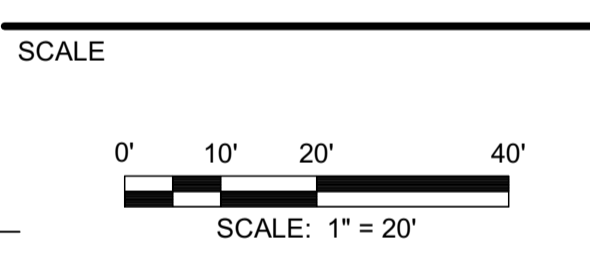
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ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
 DECATUR, GA
 DEKALB COUNTY



KEY PLAN



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REVISIONS

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TITLE

EXISTING CONDITIONS

PROJECT NO. 50088969

V-101

SHEET NO.

Samuel L. Fleming

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 LEVEL II CERTIFIED DESIGN PROFESSIONAL
 GSWCC CERTIFICATION NO. 22173
 EXPIRES 11/09/2021

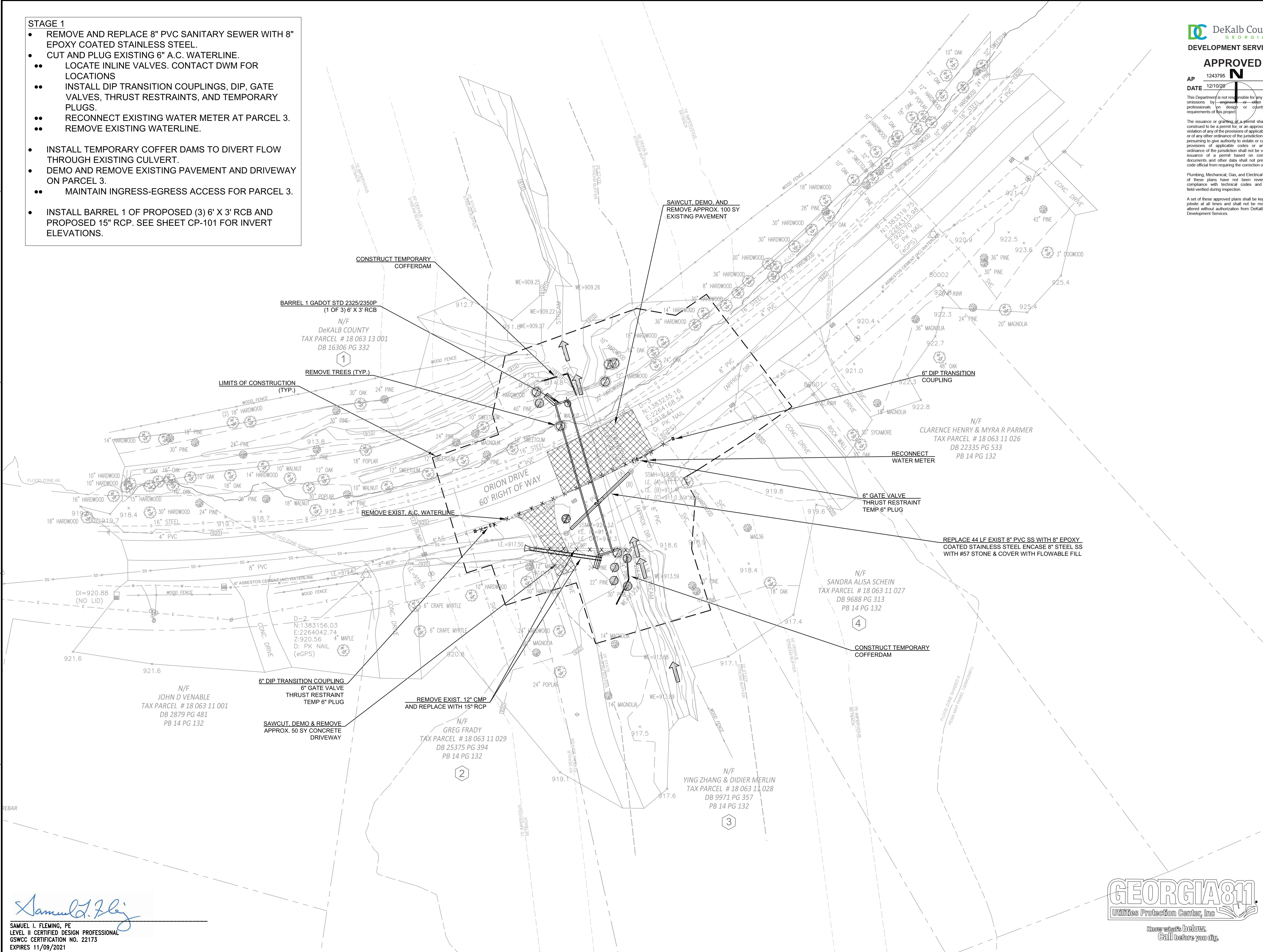


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- STAGE 1**
- REMOVE AND REPLACE 8" PVC SANITARY SEWER WITH 8" EPOXY COATED STAINLESS STEEL.
 - CUT AND PLUG EXISTING 6" A.C. WATERLINE.
 - LOCATE INLINE VALVES. CONTACT DWM FOR LOCATIONS
 - INSTALL DIP TRANSITION COUPLINGS, DIP, GATE VALVES, THRUST RESTRAINTS, AND TEMPORARY PLUGS.
 - RECONNECT EXISTING WATER METER AT PARCEL 3.
 - REMOVE EXISTING WATERLINE.
 - INSTALL TEMPORARY COFFER DAMS TO DIVERT FLOW THROUGH EXISTING CULVERT.
 - DEMO AND REMOVE EXISTING PAVEMENT AND DRIVEWAY ON PARCEL 3.
 - MAINTAIN INGRESS-EGRESS ACCESS FOR PARCEL 3.
 - INSTALL BARREL 1 OF PROPOSED (3) 6' X 3' RCB AND PROPOSED 15" RCP. SEE SHEET CP-101 FOR INVERT ELEVATIONS.

E
D
C
B
A



DeKalb County
GEORGIA
DEVELOPMENT SERVICES

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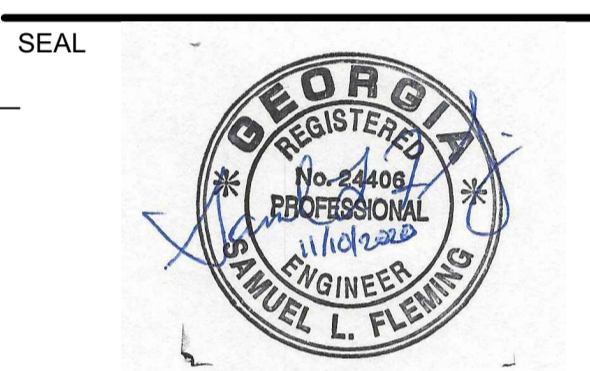
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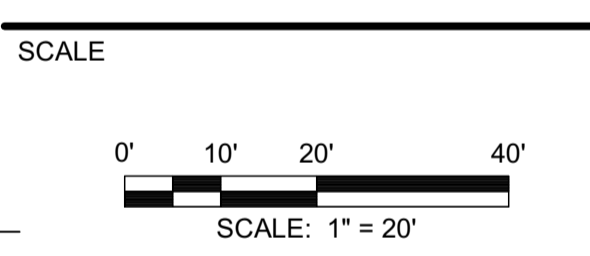
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DEKALB COUNTY



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TITLE
DEMO & STAGING PHASE I

PROJECT NO. 50088969

CD-101

SHEET NO.

Samuel L. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22175
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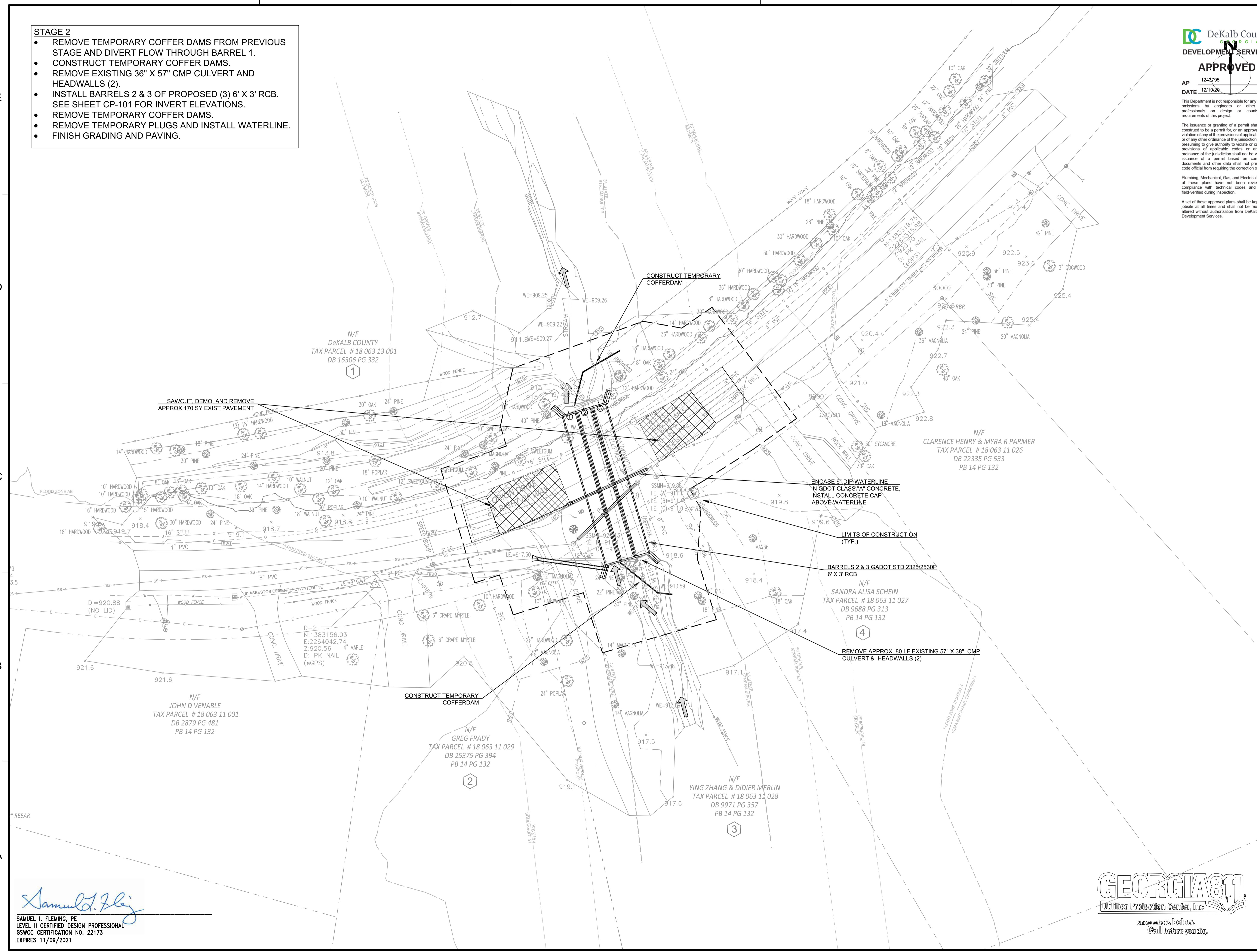
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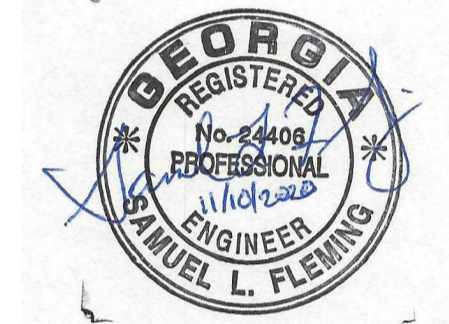
ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

- STAGE 2**
- REMOVE TEMPORARY COFFER DAMS FROM PREVIOUS STAGE AND DIVERT FLOW THROUGH BARREL 1.
 - CONSTRUCT TEMPORARY COFFER DAMS.
 - REMOVE EXISTING 36" X 57" CMP CULVERT AND HEADWALLS (2).
 - INSTALL BARRELS 2 & 3 OF PROPOSED (3) 6' X 3' RCB. SEE SHEET CP-101 FOR INVERT ELEVATIONS.
 - REMOVE TEMPORARY COFFER DAMS.
 - REMOVE TEMPORARY PLUGS AND INSTALL WATERLINE.
 - FINISH GRADING AND PAVING.

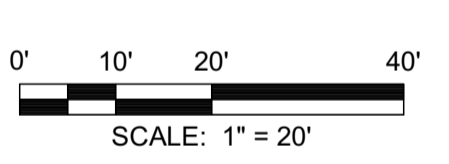


SEAL



KEY PLAN

SCALE



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2	30% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

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TITLE

DEMO & STAGING PHASE II

PROJECT NO. 50088969

CD-102

SHEET NO.

Samuel L. Fleming
SAMUEL L. FLEMING, PE
LEVEL III CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



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GEORGIA
DEVELOPMENT SERVICES



2835 Brandywine Road
Suite 100
Atlanta, GA 30341-4015
678.530.0022
GA Lic. No. PEF002398 (6/30/2020)

APPROVED
DATE 12/10/20

This Department is not responsible for any errors or omissions by the engineer or other design professionals in design or county code requirements of the project.

The issuance of graphics as a permit shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of applicable codes or of any other ordinance of the jurisdiction. It is the responsibility of the applicant to ensure compliance with all applicable codes and ordinances. The issuance of a permit based on construction documents and other data shall not provide the code official from requiring the correction of work.

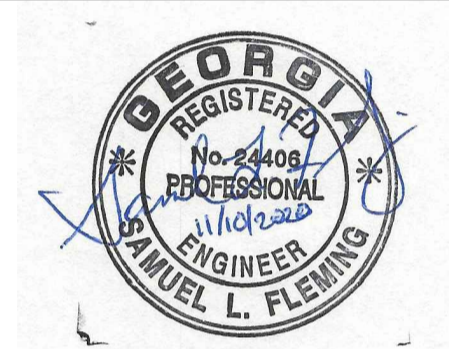
Plumbing, Mechanical, Gas, and Electrical portions of these plans have not been reviewed for compliance with technical codes and shall be field-verified during inspection.

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ORION DRIVE CULVERT
IMPROVEMENT PROJECT

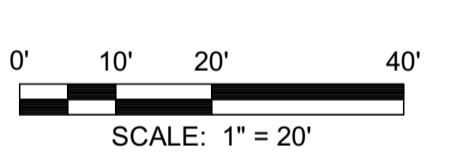
2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

SEAL



KEY PLAN

SCALE



NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY: KH
APPROVED BY: SF
CHECKED BY: MH
DATE: 11/10/2020

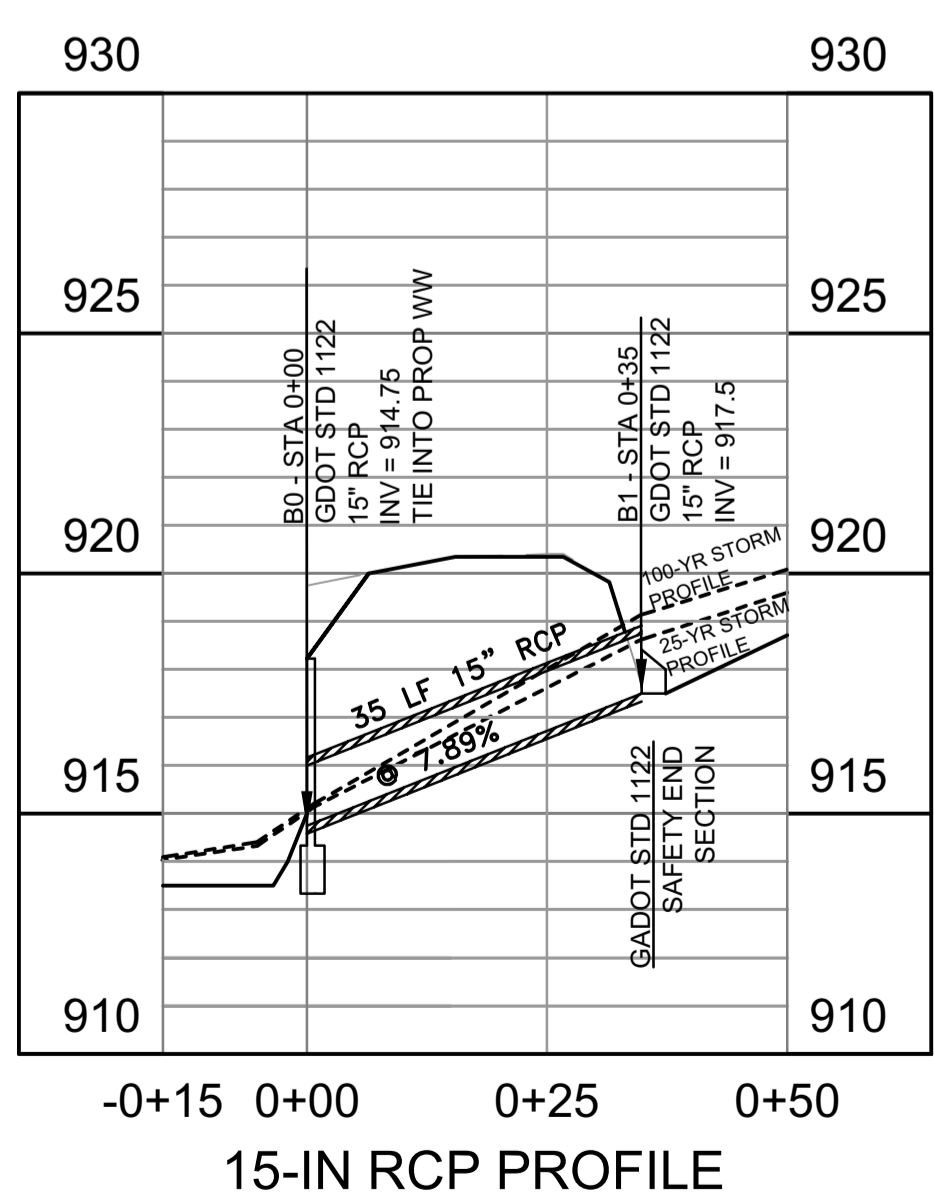
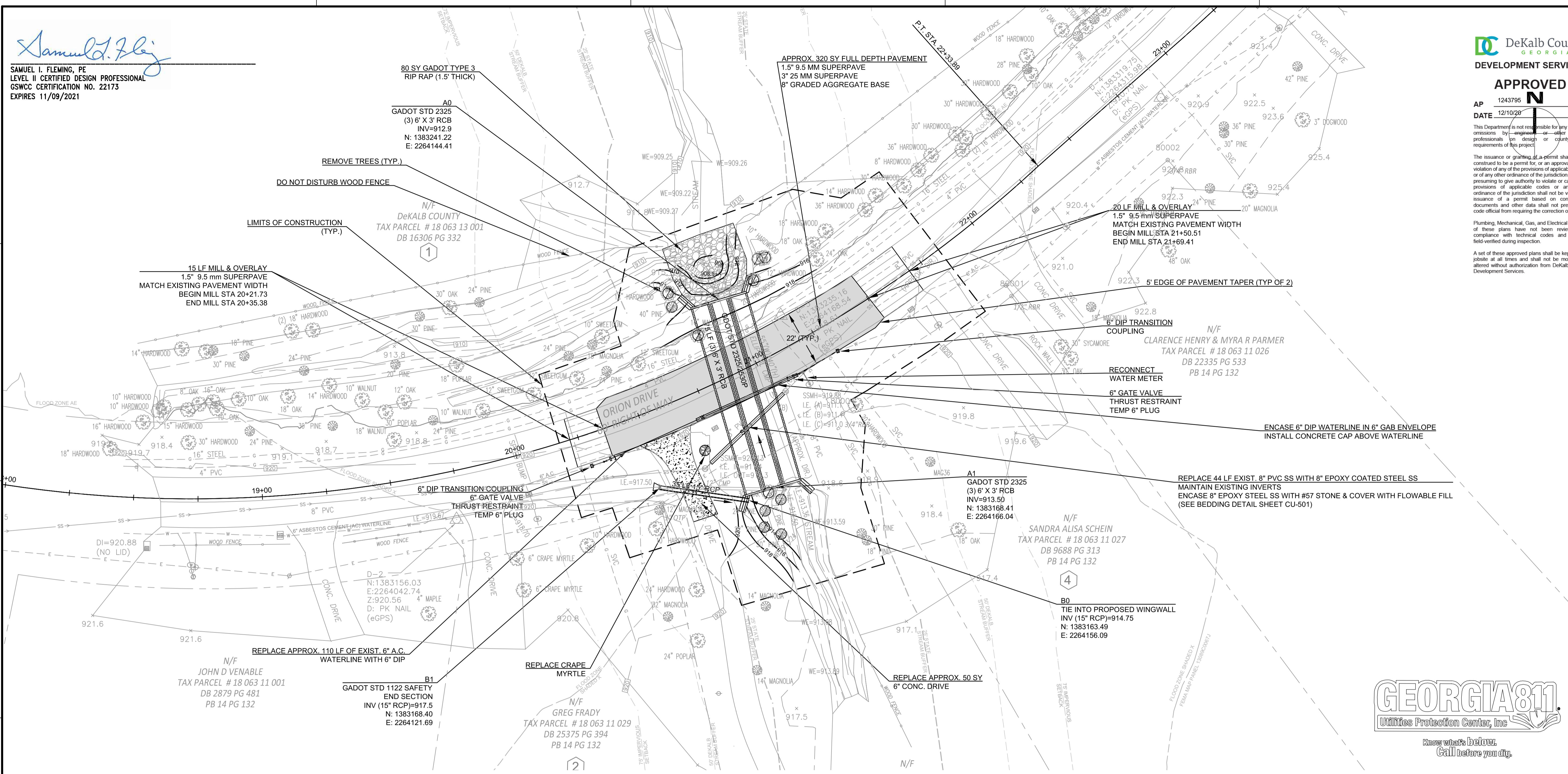
TITLE

CONSTRUCTION
PLAN

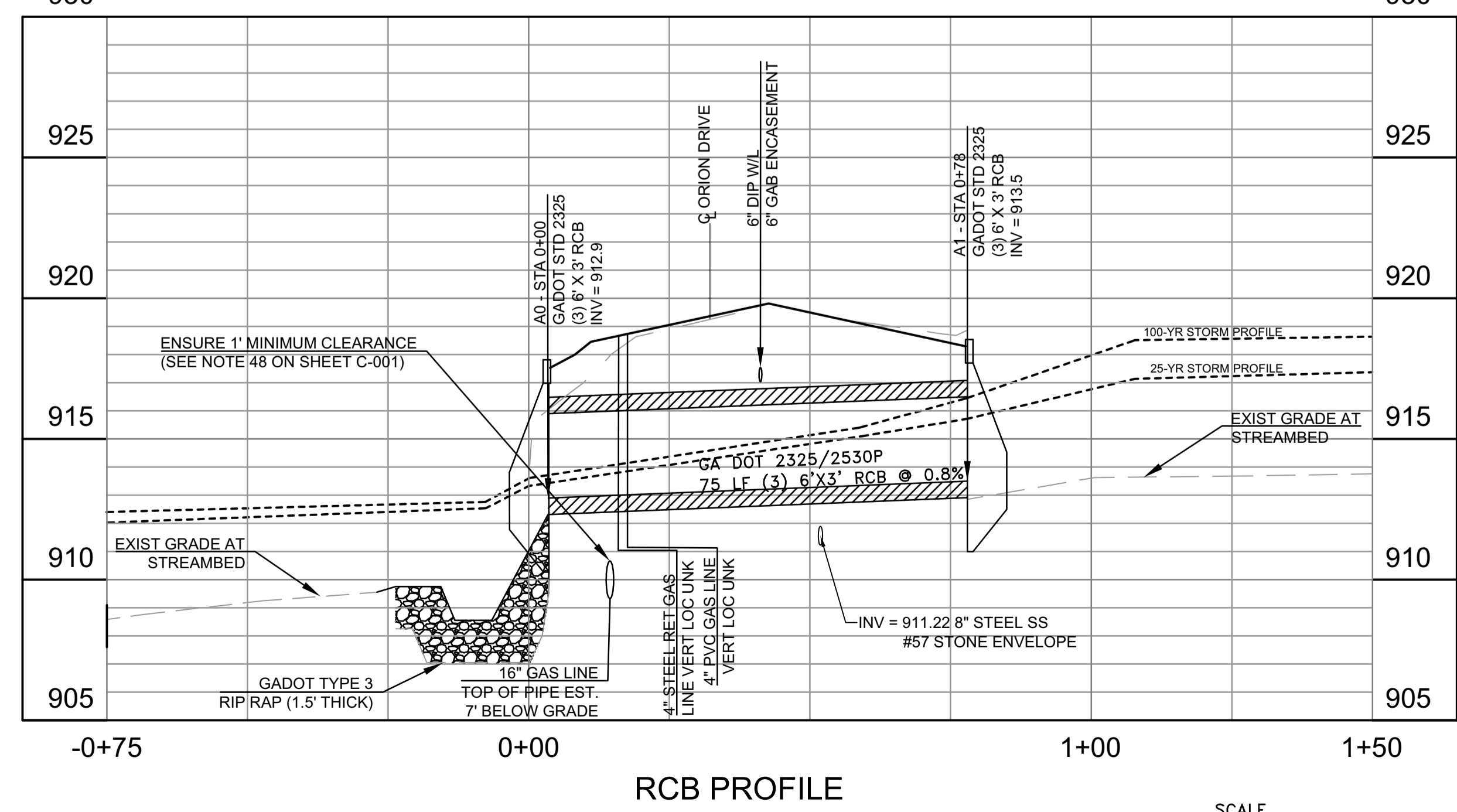
PROJECT NO. 50088969

CP-101

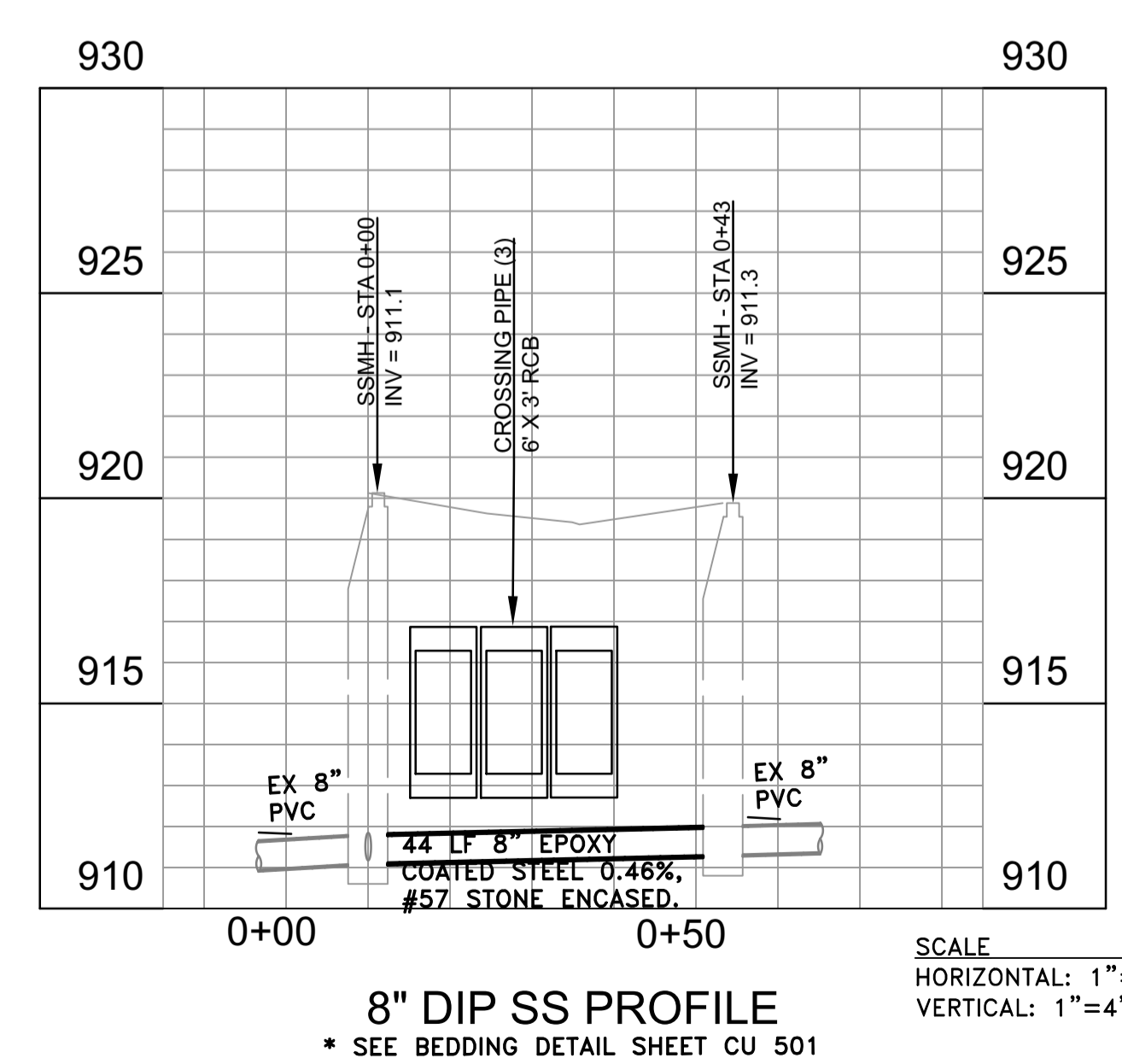
SHEET NO.



SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=4'



SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=4'



SCALE
HORIZONTAL: 1"=20'
VERTICAL: 1"=4'

1/22/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2016_2827ORIONDRIVE\CAD\FINAL - PERMIT REVISIONS 11/20/2016\ORION_SITE.DWG

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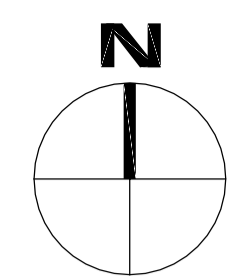
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**ORION DRIVE CULVERT
IMPROVEMENT PROJECT**

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



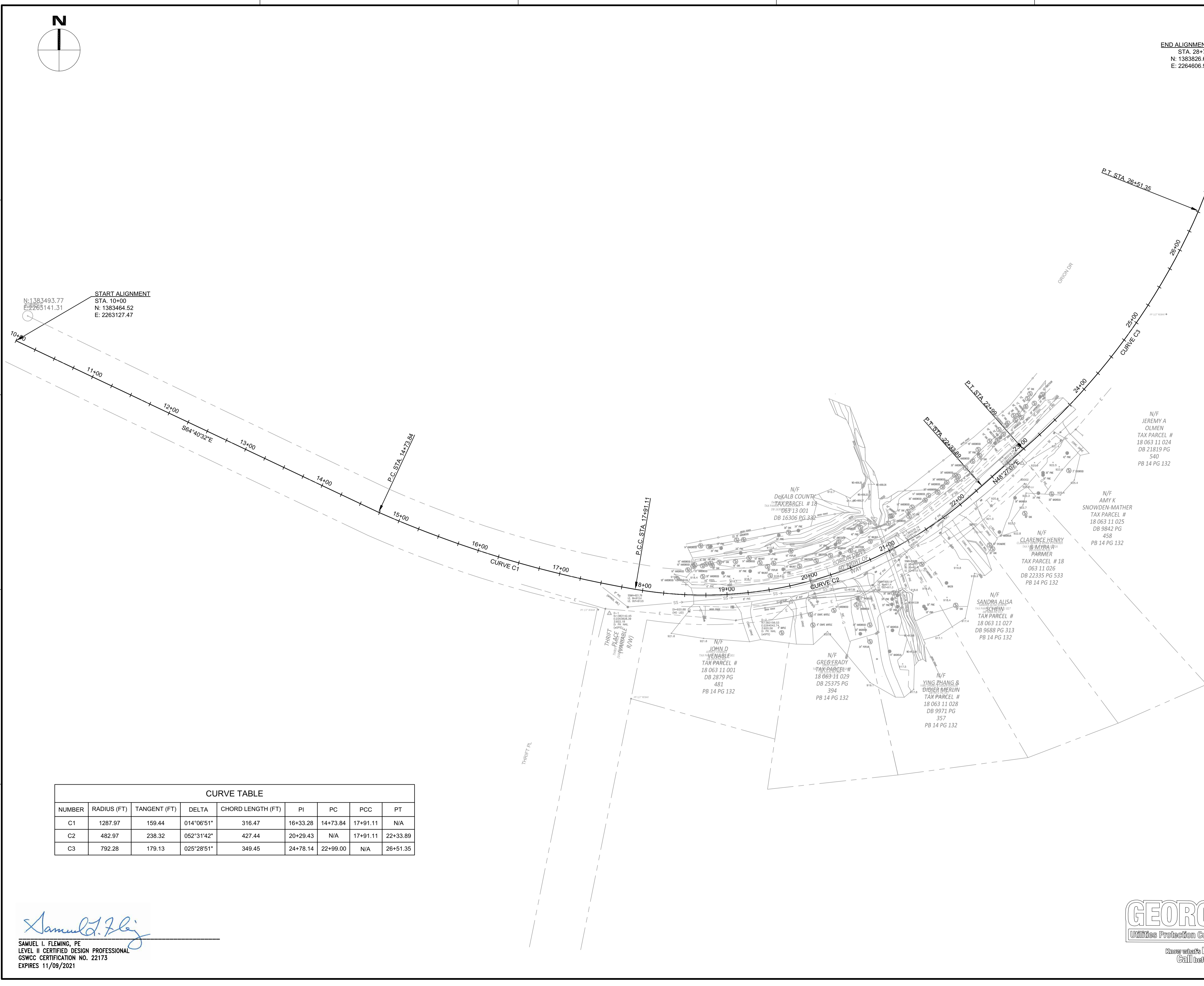
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START ALIGNMENT
STA. 10+00
N: 1383493.77
E: 2265141.31
N: 1383464.52
E: 2263127.47

S64°40'32"E

P.C. STA. 14+73.84

P.C.C. STA. 17+91.11

P.T. STA. 26+51.35

P.I. STA. 22+28.89

P.I. STA. 22+28.89

P.I. STA. 22+28.89

N/F
JEREMY A
OLMEN
TAX PARCEL #
18 063 11 024
DB 21819 PG
540
PB 14 PG 132

N/F
AMY K
SNOWDEN-MATHER
TAX PARCEL #
18 063 11 025
DB 9842 PG
458
PB 14 PG 132

N/F
CLARENCE HENRY
MYRA R
PARMER
TAX PARCEL # 18
063 11 026
DB 22335 PG 533
PB 14 PG 132

N/F
SANDRA ALISA
SCHEIN
TAX PARCEL #
18 063 11 027
DB 9688 PG 313
PB 14 PG 132

N/F
JOHN D
WENABLE
TAX PARCEL #
18 063 11 001
DB 2879 PG
481
PB 14 PG 132

N/F
GREG GRADY
TAX PARCEL #
18 063 11 029
DB 25375 PG
394
PB 14 PG 132

N/F
YING ZHANG &
DIDER MERLIN
TAX PARCEL #
18 063 11 028
DB 9971 PG
357
PB 14 PG 132

CURVE TABLE								
NUMBER	RADIUS (FT)	TANGENT (FT)	DELTA	CHORD LENGTH (FT)	PI	PC	PCC	PT
C1	1287.97	159.44	014°06'51"	316.47	16+33.28	14+73.84	17+91.11	N/A
C2	482.97	238.32	052°31'42"	427.44	20+29.43	N/A	17+91.11	22+33.89
C3	792.28	179.13	025°28'51"	349.45	24+78.14	22+99.00	N/A	26+51.35

Samuel I. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021

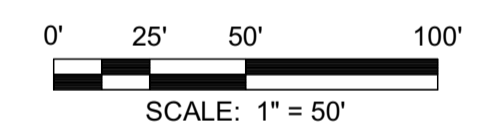


SEAL



KEY PLAN

SCALE



NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
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3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY _____ KH
APPROVED BY _____ SF
CHECKED BY _____ MH
DATE _____ 11/10/2020

TITLE

**CENTERLINE
ALIGNMENT**

PROJECT NO. 50088969

CP-102

SHEET NO.

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ORION DRIVE CULVERT IMPROVEMENT PROJECT
 2827 ORION DRIVE
 DECATUR, GA
 DEKALB COUNTY

(2) #4 REINFORCED BARS
 COAT EXPOSED AREA OF BARS WITH ROSKOTE

FITTING θ	DIA (IN)	B (FT)	H (FT)	VOL (YD ³)
11-1/4	6	1.0	0.3	0.008
	8	1.2	0.4	0.012
	10	1.5	0.6	0.026
	12	1.9	0.8	0.055
22-1/2	6	1.3	0.5	0.017
	8	1.7	0.7	0.039
	10	2.1	0.9	0.075
	12	2.5	1.1	0.129
45	6	1.7	0.7	0.039
	8	2.2	0.9	0.083
	10	2.7	1.2	0.164
	12	3.3	1.5	0.305
	16	4.3	2.0	0.688

NOTE:
 1. DIMENSIONS OF THRUST BLOCKS WERE CALCULATED ASSUMING A STATIC PRESSURE OF 250 PSF, A DEPTH OF COVER OF 4 FT., AND A SOIL BEARING PRESSURE OF 2,000 PSF.
 2. DIMENSIONS SHOWN CAN BE VARIED AS FIELD CONDITIONS DICTATE, BUT IT IS IMPORTANT THAT THE CORRECT VOLUME AS SHOWN IN TABLE BE USED AND THAT ALLOWABLE SOIL BEARING PRESSURE NOT BE EXCEEDED.
 3. IT IS THE RESPONSIBILITY OF THE DESIGN ENGINEER TO VERIFY THAT THE THRUST BLOCKS IN THE CHART MEET THE REQUIRED FORCES THAT ARE ASSOCIATED WITH THE PROPOSED WATER LINE OR FORCE MAIN.

STANDARD DETAILS
 Blocking Detail Downward Thrust
 NOT TO SCALE
 09/17
 DeKalb County
 WATER SERVICES
 DETAIL NO. G-002

PROPOSED RCB
 VARIES 0.7' MIN. COVER
 12" MIN.
 12" MIN.
 GEOTEXTILE FILTER FABRIC
 #57 STONE
 6" MIN.

SANITARY SEWER BEDDING DETAIL
 N.T.S.

STANDARD DETAILS
 Thrust Restraint (150 psi) Tie-rod Installation Detail
 NOT TO SCALE
 09/17
 DeKalb County
 WATER SERVICES
 DETAIL NO. G-008

TRENCH LIMITS AS REQUIRED BY THE CONCRETE COLLAR
 18" MIN.
 9" MIN (TYP)
 #4 BARS ALL AROUND (MIN 2" CLEARANCE AROUND PIPE)
 STAINLESS STEEL TIE RODS INCLUDING NUTS AND WASHERS (SEE SCHEDULE BELOW)
 MECHANICAL JOINTS
 4" X 4" X 1/2" STEEL BEARING PLATE (TYP)
 #4 BARS
 SEE TRENCH DETAILS FOR PIPE BEDDING REQUIREMENTS
 UNDISTURBED EARTH
 INSTALL TIE RODS IN 1-1/2" PVC SLEEVE
 3" COVER
 9" MIN

PIPE SIZE (INCHES)	DIMENSIONS (FT.)			TIE RODS REQ'D	
	A	B	C	DIA. INCHES	NO.
6	2.0	2.0	1.0	3/4	2
8	2.5	2.5	1.0	3/4	2
10	3.5	3.0	1.0	3/4	2
12	5.0	3.0	1.0	3/4	2
16	6.0	4.0	1.5	3/4	4
20	8.0	5.0	1.5	3/4	6
24	9.0	6.0	1.5	3/4	8

NOTE: THRUST COLLAR AREAS TO BE COMPUTED ON BASIS OF 2000 LBS/SF SOIL RESTRAINT BEARING.

NOTES:
 1. ADDITIONAL REINFORCEMENTS SHALL BE AS SPECIFIED BY THE ENGINEER.
 2. MINIMUM COMPRESSIVE STRENGTH FOR CONCRETE SHALL BE 3000 PSI.
 3. BEDDING, BACKFILL AND COMPACTION SHALL BE AS SPECIFIED ELSEWHERE IN THE STANDARDS.
 4. ALL FORM BOARDS SHALL BE REMOVED PRIOR TO BACKFILL.
 5. NO ALLOWANCE SHALL BE MADE FOR FRICTION BETWEEN THE PIPE WALL AND THE THRUST COLLAR.
 6. DESIGN PRESSURE: 150 PSI.
 7. PIPE SIZE GREATER THAN 24" DIAMETER SHALL HAVE THRUST RESTRAINT DESIGNED BY A REGISTERED P.E.

STANDARD DETAILS
 Thrust Restraint (150 psi) Tie-rod Installation Detail
 NOT TO SCALE
 09/17
 DeKalb County
 WATER SERVICES
 DETAIL NO. G-008

FIG. 1 COMPLETED JOINT BEFORE OFFSET
 FIG. 2 COMPLETED JOINT AFTER OFFSET
 ANGLE OF DEFLECTION

TYPE JOINT	PIPE SIZE	PIPE LENGTH	MAXIMUM ANGLE OF DEFLECTION	MAXIMUM OFFSET	RADIUS OF CURVATURE
SLIP	6" - 8"	18'	5'	19"	205'
MJ	6" - 8"	18'	5'	19"	205'
SLIP	16"	12'	4'	10"	175'
SLIP	16"	18'	4'	15"	260'

NOTE:
 ALL JOINTS MUST BE ASSEMBLED AS SHOWN IN FIG. 1 BEFORE MAKING DEFLECTION.

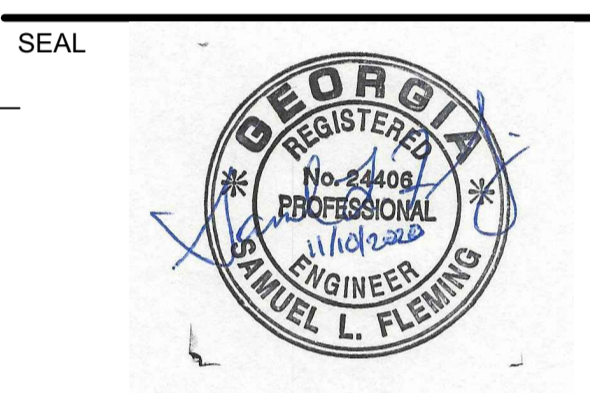
STANDARD DETAILS
 Maximum Allowable Offsets and Deflections
 NOT TO SCALE
 11/07
 DeKalb County
 WATER SERVICES
 DETAIL NO. W-005

SLIDING VALVE BOX
 SQUARE WRENCH NUT
 GATE VALVE
 MJ

STANDARD DETAILS
 Typical Gate Valve Installation
 NOT TO SCALE
 09/17
 DeKalb County
 WATER SERVICES
 DETAIL NO. W-007

GENERAL BACKFILL
 PIPE BELL
 3,000 PSI CONCRETE
 6" MIN.
 6" MIN.

STANDARD DETAILS
 Concrete Encasement
 NOT TO SCALE
 11/18
 DeKalb County
 WATER SERVICES
 DETAIL NO. G-011



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	60% PLAN SUBMITTAL	11/6/2018

REVISIONS
 DRAWN BY _____ KH
 APPROVED BY _____ SF
 CHECKED BY _____ MH
 DATE _____ 11/10/2020

TITLE
CONSTRUCTION DETAILS (1)

PROJECT NO. 50088969

CU-501

SHEET NO.

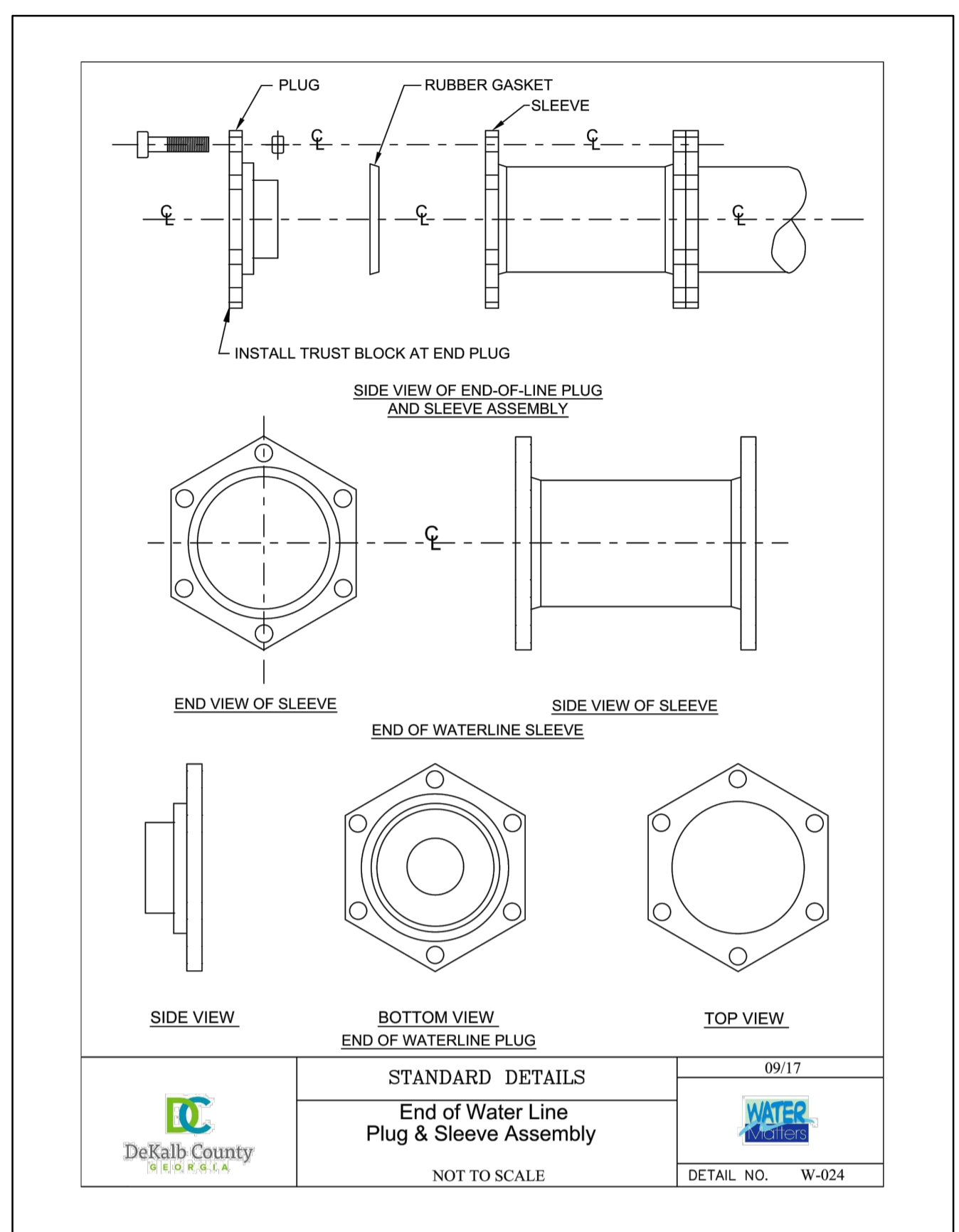
Samuel L. Fleming
 SAMUEL L. FLEMING, PE
 LEVEL II CERTIFIED DESIGN PROFESSIONAL
 GSWCC CERTIFICATION NO. 22173
 EXPIRES 11/09/2021



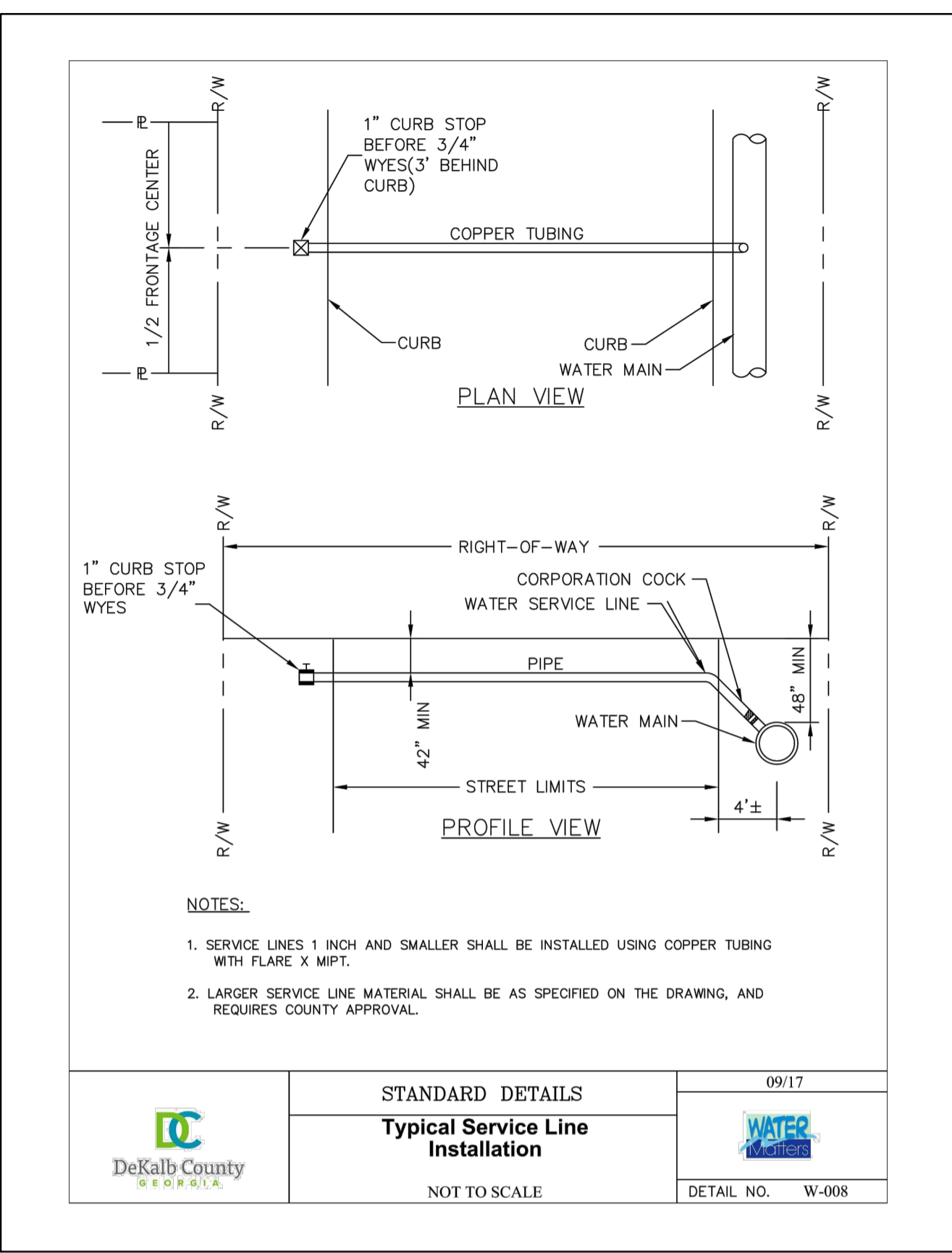
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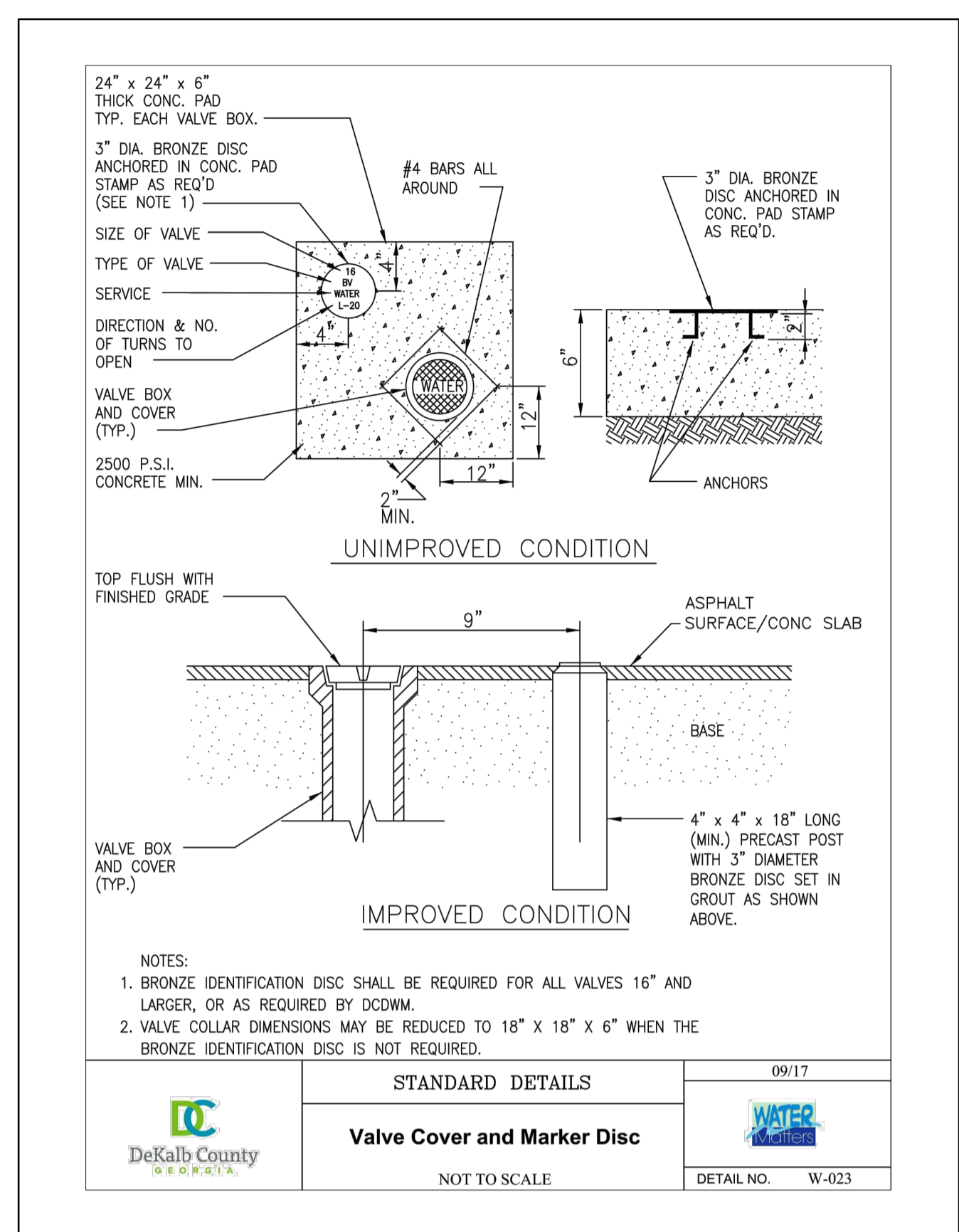
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STANDARD DETAILS
End of Water Line Plug & Sleeve Assembly
NOT TO SCALE
09/17
WATER
DEKALB COUNTY
DETAIL NO. W-024



STANDARD DETAILS
Typical Service Line Installation
NOT TO SCALE
09/17
WATER
DEKALB COUNTY
DETAIL NO. W-008

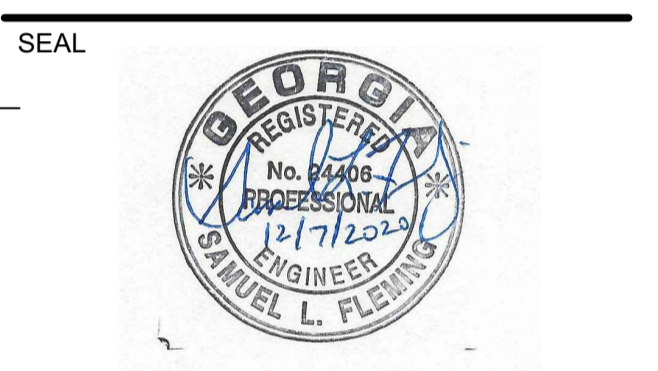


STANDARD DETAILS
Valve Cover and Marker Disc
NOT TO SCALE
09/17
WATER
DEKALB COUNTY
DETAIL NO. W-023

APPROVED
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ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
6	REVISED CERTIFICATIONS	12/7/2020
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/2/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	60% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY _____ KH
APPROVED BY _____ SF
CHECKED BY _____ MH
DATE _____ 12/7/2020

TITLE
CONSTRUCTION DETAILS (2)

PROJECT NO. 50088969

CU-502

SHEET NO.

DEPARTMENT OF PLANNING & SUSTAINABILITY
Clark Harrison Building
330 W. Ponce de Leon Ave
Decatur, GA 30030
404.371.2155 (e)
404.371.4556 (f)
DeKalbCountyGa.gov

Chief Executive Officer
Michael Thurmond

Director
Andrew A. Baker, AICP

*****ENGINEER'S CERTIFICATE*****
STORM WATER RUN-OFF

I, Sam Fleming
a registered professional engineer in the State of Georgia, hereby certify with my signature and seal, that the grading and drainage plans for the project known as Orion Drive Culvert Improvement Project, Development/Building Permit# 1243145, lying in Land Lot 063 of the 18 District, DeKalb County, have been reviewed under my supervision, and state that, in my opinion, the execution of said plans will comply with the DeKalb County Land Development Ordinance.

This, the Sixteenth day of November, 2020.

Signature: Sam Fleming
Georgia Registration No. 24008

Revised 2/14/17

DEPARTMENT OF PLANNING & SUSTAINABILITY
Clark Harrison Building
330 W. Ponce de Leon Ave
Decatur, GA 30030
404.371.2155 (e)
404.371.4556 (f)
DeKalbCountyGa.gov

Chief Executive Officer
Michael Thurmond

Director
Andrew A. Baker, AICP

*****ENGINEER'S CERTIFICATE*****
FLOOD PLAINS

I, Sam Fleming
a registered professional engineer in the State of Georgia, hereby certify with my signature and seal, that the grading and drainage plans for the project known as Orion Drive Culvert Improvement Project, Development Permit # 1243145, lying in Land Lot 063, of the 18 District, DeKalb County, have been reviewed under my supervision, and state that, in my opinion, the execution of said plans has not diminished the natural storage capacity of the adjacent flood plain, nor caused any increase in the flood levels of the Base Flood (IRF - 100 Year Flood), and is in compliance with the DeKalb County Land Development Ordinance.

This, the Sixteenth day of November, 2020.

Signature: Sam Fleming
Georgia Registration No. 24008

Revised 4/21/2017

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Samuel L. Fleming
SAMUEL L. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



APPROVED

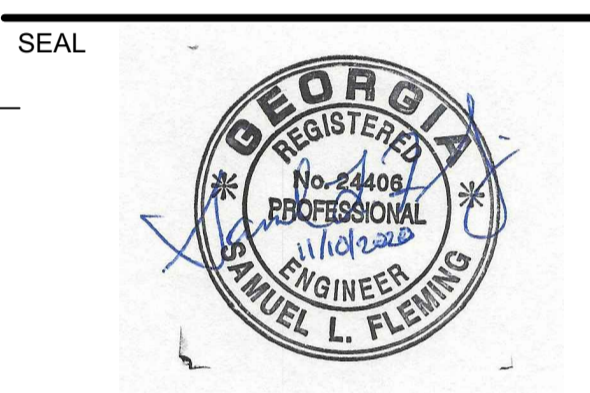
DATE: 12/10/20

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

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ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN

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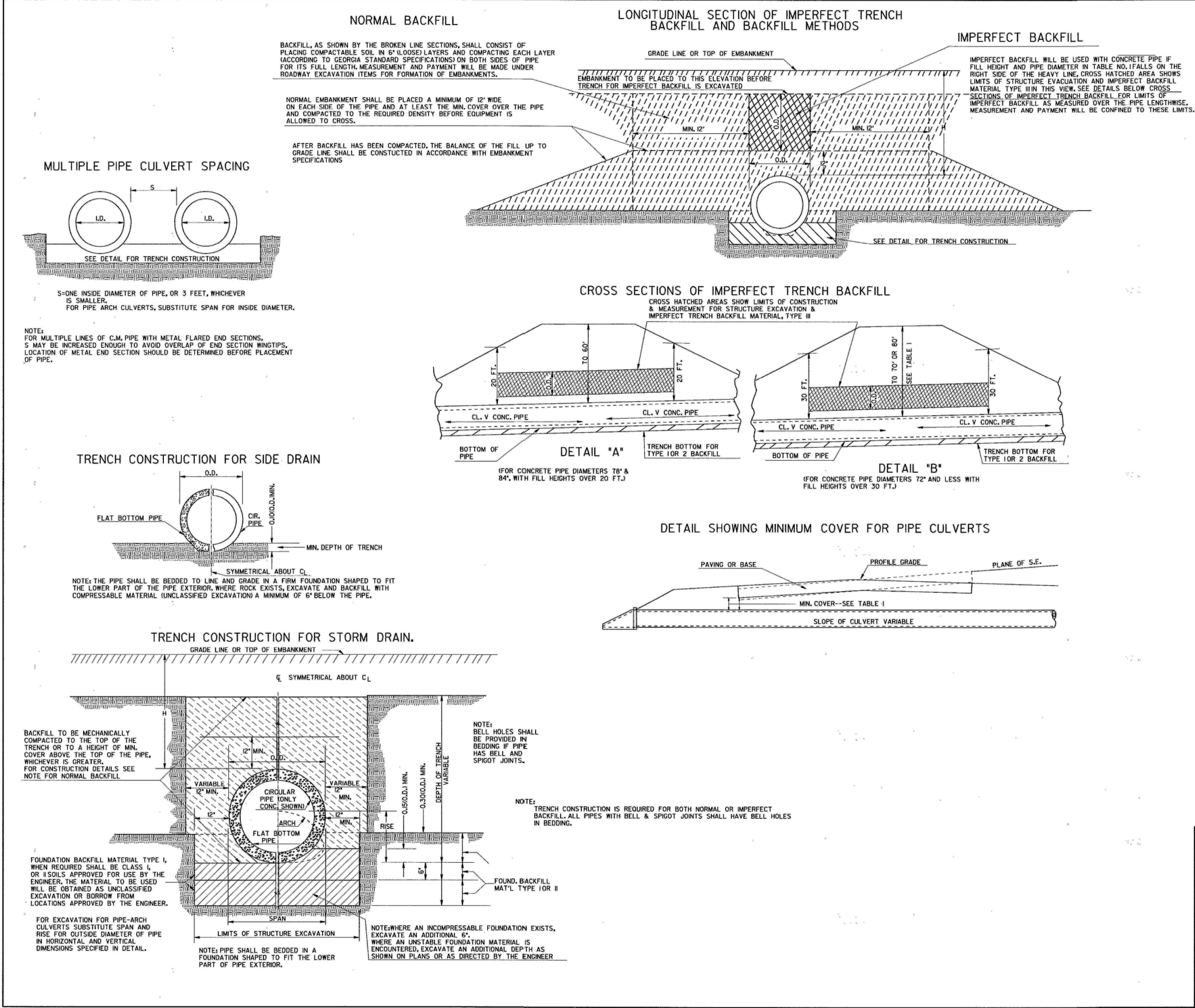
REVISIONS	
DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	11/10/2020

TITLE
**CONSTRUCTION
DETAILS (3)**

PROJECT NO. 50088969

CU-503

SHEET NO.



NOTE:
1. FOR FILL HEIGHT TABLES SEE SHEET 2 OF 3 AND SHEET 3 OF 3.
2. ONLY ONE CLASS OR THICKNESS OF PIPE WILL BE SPECIFIED FOR EACH INDIVIDUAL LOCATION. THE CLASS OR THICKNESS WILL BE DETERMINED BY THE MAXIMUM HEIGHT OF FILL.

DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
STANDARD CONCRETE & METAL PIPE CULVERTS SHEET 1 OF 3 (TRENCH CONSTRUCTION, BEDDING, BACKFILLING)	
REV. & REDR.: SEPT., 2001	
NO SCALE	NUMBER 1030D
DES. (SUBMITTED) <i>Samuel L. Fleming</i>	STAFF BOARD & AIRPORT DESIGN ENGR.
DRW. (APPROVED) <i>Samuel L. Fleming</i>	CHIEF ENGINEER
TRA.	
CHK.	

Samuel L. Fleming
SAMUEL L. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



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STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

GENERAL NOTES
ALTERNATE I

GALVANIZED STEEL SHEET
USE GALVANIZED STEEL SHEET CONFORMING TO AASHTO M 218.

CONNECTORS
PAYMENT FOR END SECTION SHALL INCLUDE CONNECTION OF THE TYPE REQUIRED FOR THE SIDE DRAIN USED.

SAFETY BARS
SHALL BE 3" SCHEDULE 40 GALVANIZED STEEL PIPE. PIPE TO BE GALVANIZED AFTER FORMING. SAFETY BAR(S) SHALL BE REQUIRED FOR ALL SAFETY END SECTIONS.

MISCELLANEOUS DETAILS
DETAILS OF CONSTRUCTION MATERIALS AND WORKMANSHIP NOT SHOWN ON THIS DRAWING SHALL CONFORM TO THE MANUFACTURER'S REQUIREMENTS, SUBJECT TO APPROVAL BY THE D.O.T.'S LABORATORY. A SAMPLE MUST BE SUBMITTED TO PRE-QUALIFY THE PRODUCT.

PIPE DIA. (IN.)	MIN. THICK. (IN.)	DIMENSIONS (INCHES)				* L DIMENSION				
		GAGE	A	H	W (D+6")	OVERALL WIDTH	SLOPE LENGTH (SH)	SLOPE LENGTH (SH)	LENGTH (IN.)	
15	.064	16	8	6	21	37	44	20	64	30
18	.064	16	8	6	24	40	44	32	64	48
24	.064	16	8	6	30	43	44	56	64	84
30	.109	12	12	9	36	60	44	80	64	120
36	.109	12	12	9	42	66	44	104	64	156
42	.109	12	16	12	48	80	44	128	64	192
48	.109	12	16	12	54	86	44	152	64	228

*SEE STD. NO. 903IT FOR SLOPES AT SIDE ROAD OR AT DRIVES.

SPECIAL NOTE:

WHERE THE LENGTH OF DITCH OR THE DISTANCE BETWEEN THE POINTS OF END SECTIONS ON SEPARATE INSTALLATIONS WOULD BE LESS THAN 30 FT., CONTINUED S.D. PIPE WITH AN INTERMEDIATE INLET OR OTHER ALTERNATE MAY BE SPECIFIED INSTEAD.

REVISED GENERAL NOTES		1-28-05	
CONVERTED TO STANDARD	12-14-04		
PAY ITEM REVISION	11-18-04		
GEN. REVISION	11-18-04		
RUNDL. REFER TO STD. 903-T	12-20-03		
BY	REVISION	DATE	

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD SAFETY END SECTION (METAL)
(FOR SIDE DRAIN PIPE-OR FOR STORM DRAIN PIPE PARALLEL TO MAINLINE)
ALTERNATE I

NO SCALE

DESIGNED BY: *[Signature]*
DRAWN BY: *[Signature]*
TRACED BY: *[Signature]*
CHECKED BY: *[Signature]*

(SUBMITTED) *[Signature]*
STATE ROAD & AIRPORT DESIGN ENGINEER
(APPROVED) *[Signature]*
CHIEF ENGINEER

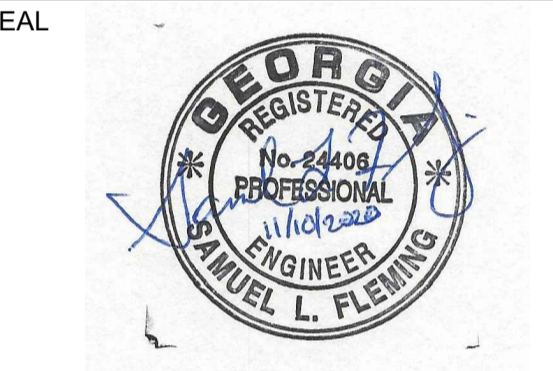
SEPT., 1993

NUMBER 1122

SHEET 1 OF 3

ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	60% PLAN SUBMITTAL	11/6/2016

REVISIONS

DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	11/10/2020

TITLE

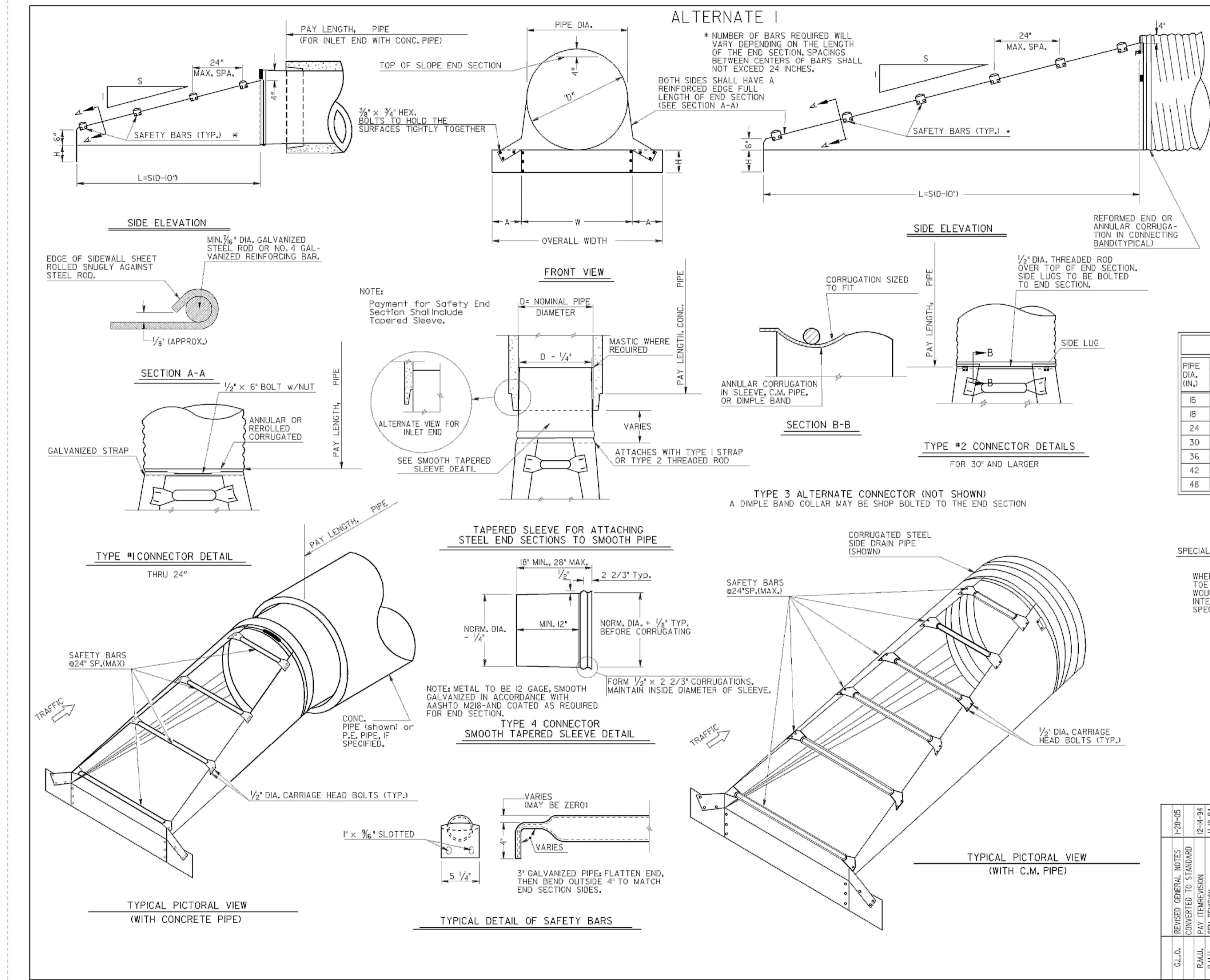
CONSTRUCTION DETAILS (4)

PROJECT NO. 50088969

CU-504

SHEET NO.

7/24/2009 12:09:34 PM \\16007-DSK\100PLOT\GCF\go_11ff_output.dwg gowena Y:\Standards\English Standards L.PRF\11122-L.pr1 60-R06



7/24/2009 12:09:34 PM \\16007-DSK\100PLOT\GCF\go_11ff_output.dwg gowena Y:\Standards\English Standards L.PRF\11122-L.pr1 60-R06

Samuel L. Fleming
SAMUEL L. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



1/22/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2016_2827ORIONDRIVE\CADD\FINAL - PERMIT REVISIONS 11/20/19\ORION_SITING.DWG

This Department is not responsible for any errors or omissions by engineers or other professionals on design requirements of this project. The issuance or granting of a permit shall not be construed as an approval of any violation of any of the provisions of applicable codes or of any other ordinance of the jurisdiction. The issuance of a permit based on construction documents and other data shall not provide the code official from requiring the correction of errors. Plumbing, Mechanical, Gas and Electrical portions of these plans have not been reviewed for compliance with technical codes and will be field-verified during inspection. A set of these approved plans shall be kept on the jobsite at all times and shall not be modified or altered without authorization from DeKalb County Development Services.

CLEAR SPAN	CLEAR HEIGHT	REINFORCING STEEL - BARRELS												DIMENSIONS																		
		BARREL DESIGN NO. 1						BARREL DESIGN NO. 2						BARREL DESIGN NO. 1			BARREL DESIGN NO. 2			FOR ALL DESIGNS			CLEAR HEIGHT	CLEAR SPAN								
		FOR 1.5' TO 12.0' DEPTH OF FILL OVER BBL. INCL. PAVING						FOR 12.1' TO 20.0' DEPTH OF FILL						T ₁	T ₂	V	H	W ₁	T ₁	T ₂	V	H			W ₁	P	M	W ₂	R			
3'	2'-6"	7'-2"	8"	7'-2"	8"	4'-6"	8"	3'-4"	12"	16"	4'-6"	8"	3'-4"	12"	16"	7"	6"	3'-8"	3'-7"	2'-2"	7"	6"	3'-8"	3'-7"	2'-2"	7"	6"	5'-6"	1'-5"	9'-1"	2'-6"	3'

CLEAR SPAN	CLEAR HEIGHT	QUANTITIES												CLEAR HEIGHT	CLEAR SPAN
		REINF. STEEL						CONCRETE							
		LBS. PER LINEAL FT. OF BARREL		WINGWALLS & PARAPETS TOTAL LBS.		CU YD CONC.		WINGWALLS & PARAPETS							
3'	2'-6"	79.8	79.8	185	.481	.481	7.92	1'-11"	2'-6"	3'					

- GENERAL NOTES**
- CHAMFER - CHAMFER ALL EXPOSED EDGES 3/4".
 - APRON WALLS - APRON WALLS MAY BE OMITTED IF ENGINEER APPROVES. ENGINEER MAY ALSO REQUIRE BOTTOM SLAB TO EXTEND TO ENDS OF WINGS AND APRON PLACED AT THIS POINT.
 - QUANTITIES - QUANTITIES FOR STEEL SHOWN ON THIS SHEET COMPUTED CONSIDERING ALL A, B, C, D, G AND H BARS AS PART OF BARREL QUANTITIES. STEEL PER LINEAL FOOT IS AN AVERAGE VALUE FOR A CULVERT OF 40' LENGTH ALLOWING ONE LAP IN LONGITUDINAL BARS.
 - SIZE OF CULVERT - IN DESIGNATING SIZES OF CULVERTS STATE CLEAR SPAN FIRST. I.E., A 6' X 4' CULVERT HAS A 6' CLEAR SPAN AND A 4' CLEAR HEIGHT. L = LENGTH OF CULVERT = DISTANCE BETWEEN BACKS OF PARAPETS. PAVEMENT.
 - COVER - CULVERT TO HAVE MINIMUM OF 1.0' BELOW BOTTOM OF BASE OR CONCRETE PAVEMENT.
- BAR SUPPORTS - FOR CULVERT SIZES WHERE BARS "G" ARE NOT UTILIZED, BAR SUPPORTS ARE REQUIRED FOR POSITIONING OF SLAB BARS "H".

DESIGN DATA
LOADING-H20 S-16-44 AND/OR MILITARY SPECIFICATIONS A.A.S.H.O. 1957, T-58

BOX CULVERT REQUIREMENTS:

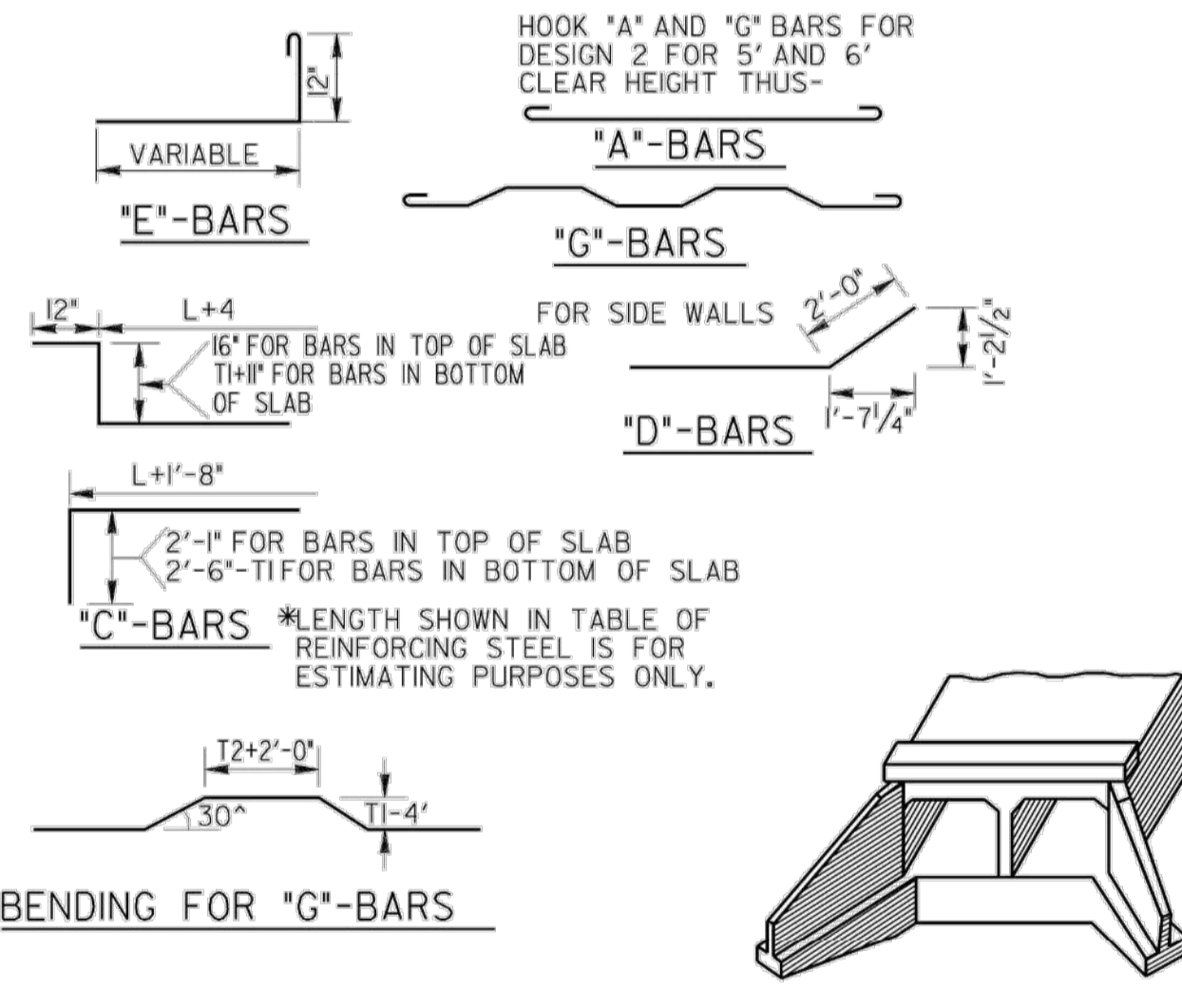
MINIMUM FILL HEIGHT FROM TOP OF CULVERT TO BOTTOM OF BASE WITHIN TRAVELWAY SHALL BE 12 INCHES.

MAXIMUM POUR LENGTH SHALL NOT EXCEED 30 FEET ALONG THE LENGTH OF THE CULVERT.

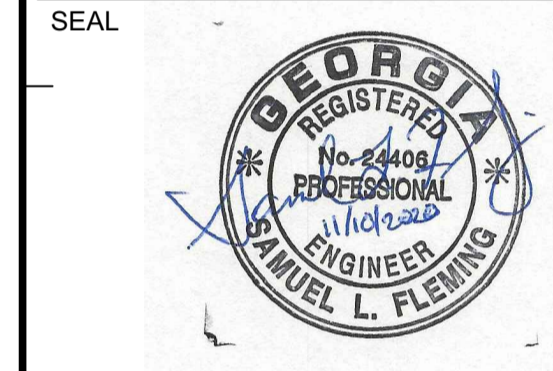
TRANSVERSE CONSTRUCTION JOINTS SHALL BE PLACED IN THE BARREL, NORMAL TO THE CENTERLINE OF CULVERT, AT THE OUTSIDE SHOULDER BREAK POINTS. LONGITUDINAL BARREL REINFORCING STEEL SHALL NOT BE CONTINUOUS THROUGH THESE JOINTS, PROVIDED THAT THE JOINTS ARE MORE THAN 15 FEET FROM THE BARREL ENDS.

WHEN TRANSVERSE CONSTRUCTION JOINTS OCCUR WITHIN 15 FEET OF THE BARREL ENDS OR WITHIN THE LIMITS OF THE PAVEMENT, THE LONGITUDINAL BARREL REINFORCING SHALL THEN BE CONTINUOUS THROUGH SUCH JOINTS. THE MINIMUM LENGTH OF LAP SPLICE FOR LONGITUDINAL REINFORCING SHALL BE 24 INCHES.

TRANSVERSE CONSTRUCTION JOINTS PLACED AT ANY OTHER LOCATION NOT SPECIFIED ABOVE SHALL BE FORMED WITH NO LONGITUDINAL REINFORCING STEEL PASSING THROUGH THE JOINTS.



DATE		DEPARTMENT OF TRANSPORTATION STATE OF GEORGIA	
REVISION		STANDARD REINFORCED CONCRETE BOX CULVERTS DOUBLE 3'x2'-6" TO TRIPLE 6'x6' FOR DEPTHS OF FILL UP TO 20' FT.	
NO SCALE		REV. & REDR. NOV., 2001	
DESIGNED	(SUBMITTED)	NUMBER	
TRACED	STATE ROAD	2325	
CHECKED	(APPROVED)	SHEET 1 OF 2	
REVISOR	CHEF ENGINEER		



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	60% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY _____ KH

APPROVED BY _____ SF

CHECKED BY _____ MH

DATE _____ 11/10/2020

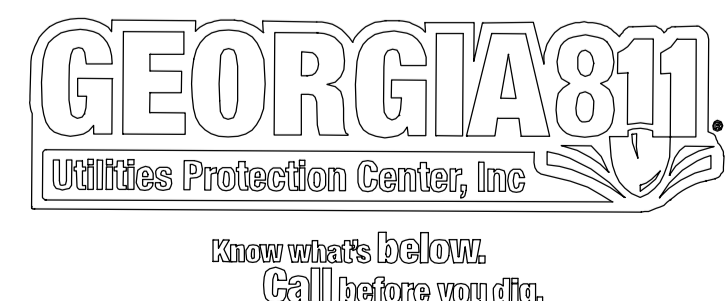
TITLE
CONSTRUCTION
DETAILS (5)

PROJECT NO. 50088969

CU-505

SHEET NO.

Samuel L. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



11/20/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2827\ORIONDRIVE\CAD\FINAL - PERMIT REVISIONS 11/20/2019\ORION_SITE.DWG

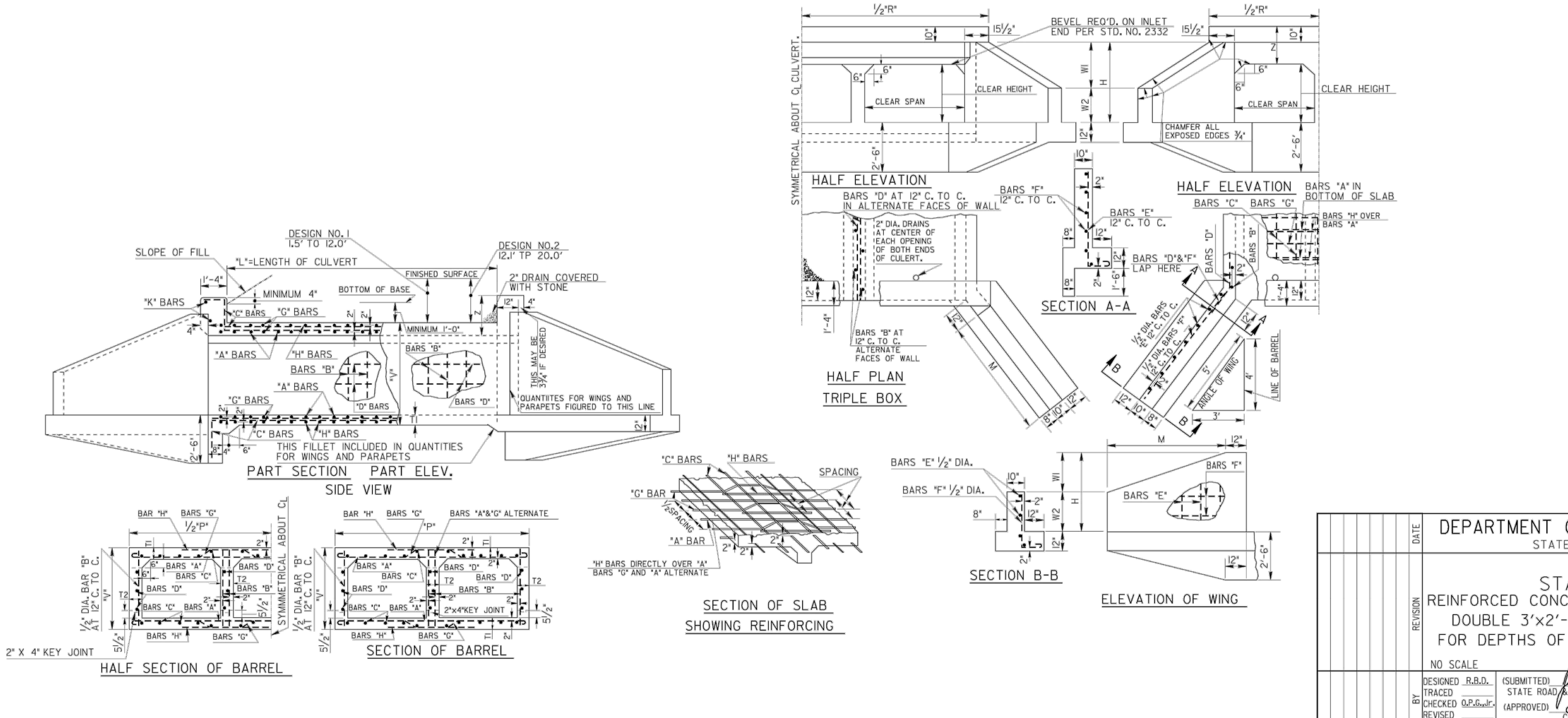
APPROVED

AP 1243795
DATE 12/10/20

STATE	PROJECT NUMBER	SHEET NO.	TOTAL SHEETS
GA.			

The issuance of a permit shall not be construed to be an approval or endorsement by the State of Georgia or any other jurisdiction of the design or construction of the project. The provisions of applicable codes or any other ordinance of the jurisdiction shall not be violated or circumvented by the issuance of a permit. The issuance of a permit shall not be construed to be a warranty of the design or construction of the project. The design and construction of the project shall be in accordance with the applicable codes and ordinances of the jurisdiction. The design and construction of the project shall be the responsibility of the contractor. The design and construction of the project shall be the responsibility of the contractor. The design and construction of the project shall be the responsibility of the contractor.

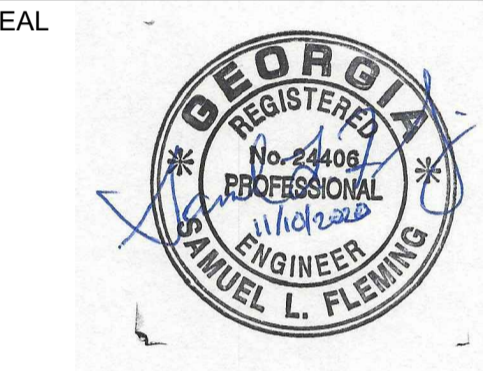
CLEAR SPAN	CLEAR HEIGHT	REINFORCING STEEL - 4 WINGS & 2 PARAPETS																								CLEAR HEIGHT	CLEAR SPAN
		SAME FOR ALL DEPTHS OF FILL												1/2" DIA. 'K' BARS													
		'E' BARS 1/2" DIA. AT 12" C. TO C.												DOUBLE		TRIPLE											
3'	2'-6"	4 BARS OF EACH LENGTH SHOWN												NO.		LENGTH		2'-6"	3'								
	3'	4 BARS OF EACH LENGTH SHOWN												4		8'-9"											
	4'	4 BARS OF EACH LENGTH SHOWN												4		12'-3"											
4'	2'-6"	4 BARS OF EACH LENGTH SHOWN												NO.		LENGTH		2'-6"	4'								
	3'	4 BARS OF EACH LENGTH SHOWN												4		10'-9"											
	4'	4 BARS OF EACH LENGTH SHOWN												4		15'-3"											
5'	2'-6"	4 BARS OF EACH LENGTH SHOWN												NO.		LENGTH		2'-6"	5'								
	3'	4 BARS OF EACH LENGTH SHOWN												4		12'-9"											
	4'	4 BARS OF EACH LENGTH SHOWN												4		18'-3"											
6'	2'-6"	4 BARS OF EACH LENGTH SHOWN												NO.		LENGTH		2'-6"	6'								
	3'	4 BARS OF EACH LENGTH SHOWN												4		12'-9"											
	4'	4 BARS OF EACH LENGTH SHOWN												4		18'-3"											



DEPARTMENT OF TRANSPORTATION	
STATE OF GEORGIA	
STANDARD	
REINFORCED CONCRETE BOX CULVERTS	
DOUBLE 3'x2'-6" TO TRIPLE 6'x6'	
FOR DEPTHS OF FILL UP TO 20' FT.	
NO SCALE REV. & REDR. NOV., 2001	
DESIGNED R.B.D.	NUMBER
TRACED	2325
CHECKED O.P.B./J.C.	SHEET 2 OF 2
REVISED	
(SUBMITTED) <i>James A. Kaul</i> STATE ROAD & AIRPORT DESIGN ENGINEER (APPROVED) <i>Samuel I. Fleming</i> CHIEF ENGINEER	

ORION DRIVE CULVERT
IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
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1	60% PLAN SUBMITTAL	11/6/2016

REVISIONS

DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	11/10/2020

TITLE
**CONSTRUCTION
DETAILS (6)**

PROJECT NO. 50088969

CU-506

SHEET NO.

APPROVED

AP 1243795
DATE 12/10/20

This Department is not responsible for any errors or omissions by engineers or other persons or for any violation of any of the provisions of applicable codes or of any other ordinance of the jurisdiction. It is the responsibility of the engineer to verify that the design complies with all applicable codes and standards.

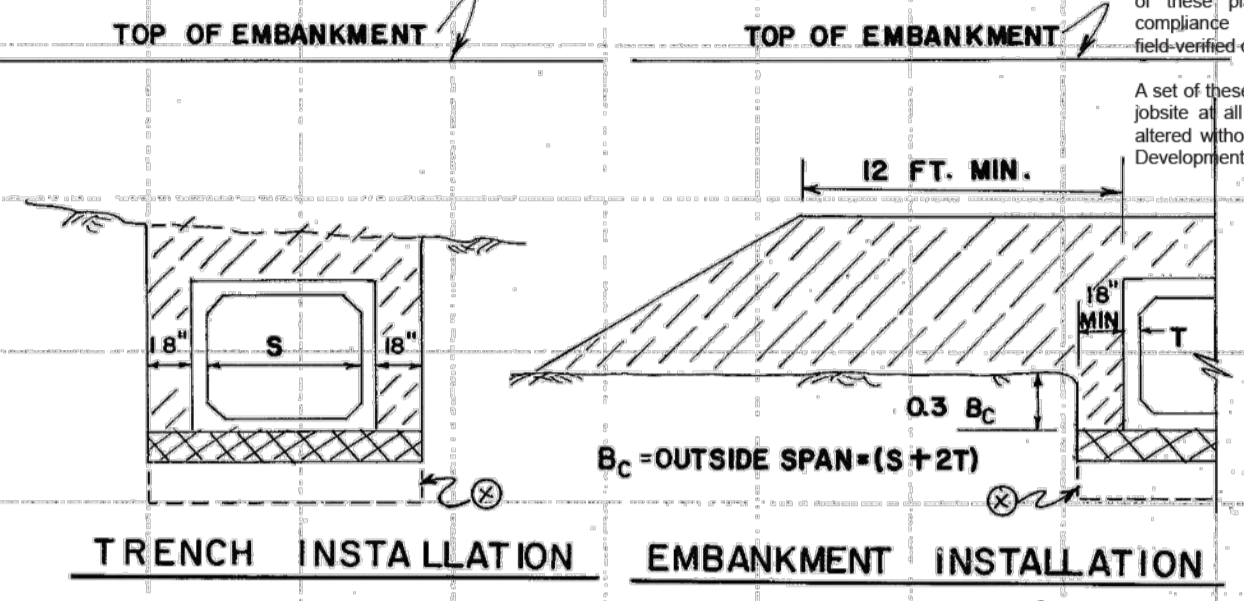
The issuance or granting of a permit shall not be construed as a guarantee of the accuracy of any information or data provided by the applicant. The Department shall not be held responsible for any errors or omissions in the design or construction of the project.

Plumbing, Mechanical, Civil and Electrical work shall be in accordance with applicable codes and standards. The Department shall not be held responsible for any errors or omissions in the design or construction of the project.

A set of these approved plans shall be kept on the jobsite at all times and shall not be modified or altered without authorization from DeKalb County Development Services.

STATE	PROJECT NUMBER	SHEET NUMBER	TOTAL SHEETS
GA.			

CULVERT SIZE CLEAR SPAN (FT) CLEAR HEIGHT (FT)	DESIGN I-A 2 FT. MINIMUM COVER					DESIGN I-B 3 FT. MINIMUM COVER					CULVERT SIZE CLEAR SPAN (FT) CLEAR HEIGHT (FT)
	MINIMUM AREAS OF CIRCUMFERENTIAL REINFORCING STEEL (SQ. IN. PER LIN. FT.)					MINIMUM AREA OF CIRCUMFERENTIAL REINFORCING STEEL (SQ. IN. PER LIN. FT.)					
	As1	As2	As4	MAXIMUM SPACING (FEET)	MAXIMUM SPACING (FEET)	As1	As2	As4	MAXIMUM SPACING (FEET)	MAXIMUM SPACING (FEET)	
3' x 3'	0.21	0.27	0.12	16	0.13	0.18	0.12	10	6	3	3' x 3'
4' x 4'	0.18	0.30	0.12	16	0.12	0.19	0.12	10	6	4	4' x 4'
5' x 5'	0.24	0.33	0.14	16	0.15	0.23	0.14	10	6	5	5' x 5'
6' x 6'	0.27	0.37	0.17	16	0.20	0.27	0.17	10	7	6	6' x 6'
7' x 7'	0.26	0.29	0.14	16	0.17	0.21	0.14	10	6	3	7' x 7'
8' x 8'	0.24	0.33	0.14	16	0.16	0.23	0.14	10	6	4	8' x 8'
9' x 9'	0.20	0.35	0.14	16	0.14	0.25	0.14	10	6	5	9' x 9'
10' x 10'	0.25	0.39	0.17	16	0.18	0.29	0.17	10	7	6	10' x 10'
11' x 11'	0.32	0.33	0.17	16	0.23	0.23	0.17	10	7	5	11' x 11'
12' x 12'	0.27	0.37	0.17	16	0.20	0.27	0.17	10	7	4	12' x 12'
13' x 13'	0.25	0.39	0.17	16	0.18	0.29	0.17	10	7	5	13' x 13'
14' x 14'	0.23	0.41	0.17	16	0.17	0.30	0.17	10	7	6	14' x 14'
15' x 15'	0.35	0.41	0.19	16	0.25	0.27	0.19	10	8	4	15' x 15'
16' x 16'	0.31	0.44	0.19	16	0.23	0.29	0.19	10	8	5	16' x 16'
17' x 17'	0.28	0.47	0.19	14	0.21	0.34	0.19	10	8	6	17' x 17'
18' x 18'	0.26	0.44	0.19	14	0.19	0.36	0.19	10	8	7	18' x 18'
19' x 19'	0.43	0.40	0.19	10	0.33	0.30	0.19	8	8	4	19' x 19'
20' x 20'	0.38	0.43	0.19	10	0.30	0.33	0.19	8	8	5	20' x 20'
21' x 21'	0.35	0.47	0.19	10	0.27	0.35	0.19	8	8	6	21' x 21'
22' x 22'	0.33	0.50	0.19	10	0.25	0.38	0.19	8	8	7	22' x 22'
23' x 23'	0.31	0.53	0.19	10	0.24	0.43	0.19	8	8	8	23' x 23'
24' x 24'	0.47	0.45	0.22	10	0.38	0.38	0.22	8	9	4	24' x 24'
25' x 25'	0.43	0.45	0.22	10	0.35	0.39	0.22	8	9	5	25' x 25'
26' x 26'	0.40	0.49	0.22	10	0.32	0.42	0.22	8	9	6	26' x 26'
27' x 27'	0.37	0.52	0.22	10	0.30	0.45	0.22	8	9	7	27' x 27'
28' x 28'	0.35	0.54	0.22	10	0.28	0.47	0.22	8	9	8	28' x 28'
29' x 29'	0.33	0.57	0.22	10	0.27	0.49	0.22	8	9	9	29' x 29'
30' x 30'	0.33	0.61	0.24	10	0.30	0.55	0.24	8	10	10	30' x 30'
31' x 31'	0.50	0.46	0.24	10	0.44	0.42	0.24	8	10	4	31' x 31'
32' x 32'	0.47	0.46	0.24	10	0.41	0.42	0.24	8	10	5	32' x 32'
33' x 33'	0.44	0.50	0.24	10	0.38	0.45	0.24	8	10	6	33' x 33'
34' x 34'	0.41	0.53	0.24	10	0.35	0.48	0.24	8	10	7	34' x 34'
35' x 35'	0.38	0.56	0.24	10	0.33	0.51	0.24	8	10	8	35' x 35'
36' x 36'	0.36	0.60	0.24	10	0.32	0.53	0.24	8	10	9	36' x 36'
37' x 37'	0.35	0.61	0.24	10	0.30	0.55	0.24	8	10	10	37' x 37'



TRENCH INSTALLATION **EMBANKMENT INSTALLATION**

MINIMUM TRENCH DEPTH = 0.3 Bc + BEDDING DEPTH

— 6" MIN. DEPTH OF FOUNDATION BACKFILL MATERIAL TYPE II FOR WET AREAS OR 3" MIN. DEPTH FOUNDATION BACKFILL MATERIAL TYPE I OTHERWISE, TYPE I AND II MATERIAL BOTH MAY BE USED IF SPECIFIED. CLASS I SOIL SHALL BE REQUIRED FOR TYPE I BACKFILL MATERIAL.

— NORMAL BACKFILL COMPACTED IN 6" LAYERS BROUGHT UP EVENLY ON BOTH SIDES OF CULVERT FROM TOP OF BEDDING TO MINIMUM REQUIRED COVER.

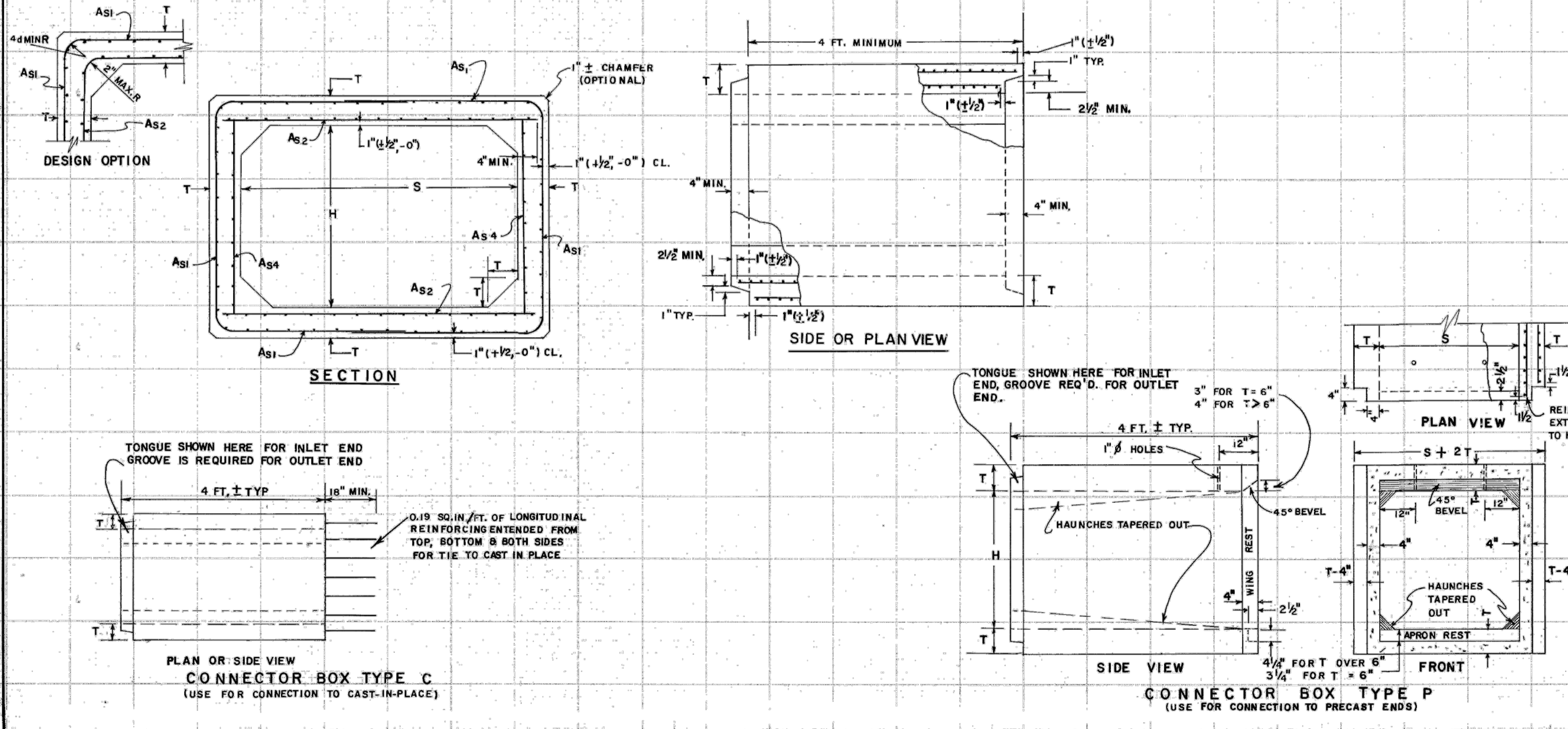
⊗ FOR AN INCOMPRESSIBLE FOUNDATION, INCREASE TRENCH UNDER BOX TO 12" MINIMUM, WHERE AN UNSTABLE MATERIAL IS ENCOUNTERED, ADDITIONAL EXCAVATION AND BACKFILLING TO DEPTHS AND WIDTHS SPECIFIED BY THE ENGINEER IS REQUIRED.

TYPICAL MATERIALS	FILLERS	SPACE	NOTE
6" ROUT	2" ±		PAYMENT FOR CULVERT INCLUDE FILLER.
CL. B CONC.	4" ±		

MULTIPLE LINE

NOTE: A CULVERT COMBINATION HAVING A TOTAL CLEAR SPAN & HEIGHT EQUAL TO OR EXCEEDING THAT SPECIFIED MAY BE SUBSTITUTED. EXAMPLE: A TRIPLE 6'x6' MAY BE SUBSTITUTED FOR A DOUBLE 9'x6' OR VICE VERSA.

- GENERAL NOTES:**
- SPECIFICATIONS: GA STANDARD, CURRENT EDITION, AND SUPPLEMENTS THERETO, CONCRETE SHALL CONFORM TO SECTION 603, 5000 PSI, MINIMUM.
 - REINFORCING REQUIREMENTS NOT SHOWN SHALL BE ACCORDING TO A.A.S.H.T.O. M-259, MINIMUM CLEARANCE FOR CIRCUMFERENTIAL REINFORCEMENT SHALL BE 1" WITH LESS THAN 1" OF CLEARANCE BEING CAUSE FOR REJECTION.
 - ALL JOINTS BETWEEN PRECAST SECTIONS SHALL BE TONGUE & GROOVE WITH JOINT MATERIAL. JOINTS BETWEEN CAST-IN-PLACE AND PRECAST SECTIONS SHALL HAVE LONGITUDINAL STEEL EXTENDING FROM TOP, BOTTOM AND BOTH SIDE SLABS OF THE PRECAST BOX TIED TO THE CAST-IN-PLACE REINFORCEMENT.
 - CULVERTS LARGER THAN THE SPECIFIED SIZE MAY BE SUBSTITUTED WITH PAYMENT BEING BASED UPON THE SPECIFIED SIZE RATHER THAN THE SUBSTITUTION, SUCH A SUBSTITUTION MUST BE APPROVED BY THE ENGINEER, MINIMUM COVER MUST BE RETAINED AND NO ADVERSE EFFECTS PRODUCED.
 - ALTER NATES: CAST-IN-PLACE BOX CULVERTS OR OTHER APPROVED PRECAST DESIGNS.
 - LOADING: HS-20 AND ANY FILL HEIGHTS BETWEEN THE MINIMUM AND MAXIMUM SHOWN.
 - ONLY ONE DESIGN OF PRECAST BOX CULVERT IS TO BE USED FOR ANY INSTALLATION.



DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

STANDARD
PRECAST BOX CULVERT BARRELS
4' x 3' THRU 10' x 10'
SINGLE & MULTIPLE LINES

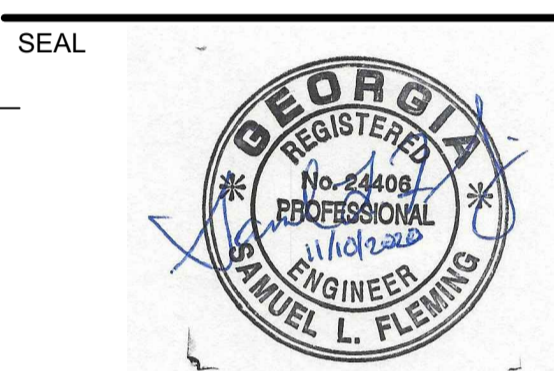
NO SCALE MARCH, 1985

DES. R.M.U. (SUBMITTED) *Samuel I. Fleming*
DRW. R.M.U. STATE ROAD & AIRPORT DESIGN ENGR
TR.A. G.M.E. (APPROVED) *John R. Rice*
CHK. R.K.C. STATE HIGHWAY ENGINEER

NUMBER
2530P

ORION DRIVE CULVERT
IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN

SCALE

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REVISIONS

DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	11/10/2020

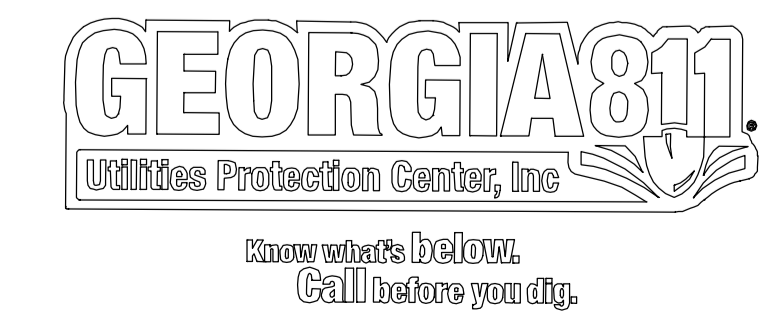
TITLE
**CONSTRUCTION
DETAILS (7)**

PROJECT NO. 50088969

CU-507

SHEET NO.

Samuel I. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



1/22/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2016_2827ORIONDRIVE\CD\FINAL - PERMIT REVISIONS 11/27/2019\ORION_SITED.WG

APPROVED
 DATE 12/10/20
 AP 1243795

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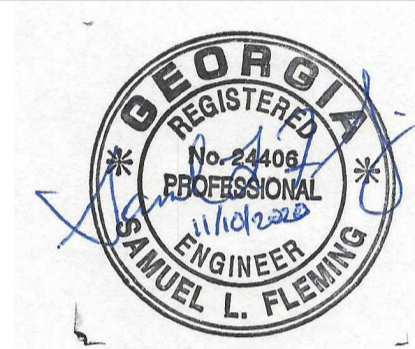
Plumbing, Mechanical, Gas, and Electrical portions of these plans have not been reviewed for compliance with technical codes and will be field-verified during inspection.

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ORION DRIVE CULVERT
 IMPROVEMENT PROJECT

2827 ORION DRIVE
 DECATUR, GA
 DEKALB COUNTY

SEAL



KEY PLAN

SCALE

NO.	DESCRIPTION	DATE
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REVISIONS

DRAWN BY _____ KH
 APPROVED BY _____ SF
 CHECKED BY _____ MH
 DATE _____ 11/10/2020

TITLE
**CONSTRUCTION
 DETAILS (8)**

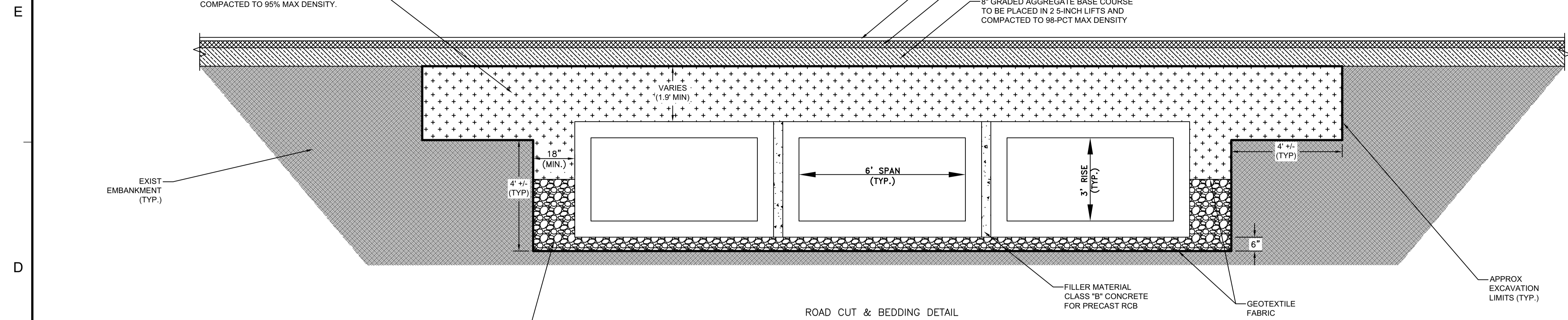
PROJECT NO. 50088969

CU-508

SHEET NO.

STRUCTURAL AND FINAL BACKFILL TO BE IN 4"-6" THICK LIFTS. MATERIAL TO BE GDOT FOUNDATION BACKFILL TYPE I COMPACTED TO 95% MAX DENSITY PER AASHTO T-99 OR TYPE II COMPACTED TO 95% MAX DENSITY.

1.5" 9.5 MM SUPERPAVE
 3" 25 MM SUPERPAVE
 8" GRADED AGGREGATE BASE COURSE TO BE PLACED IN 2 5-INCH LIFTS AND COMPACTED TO 98-PCT MAX DENSITY

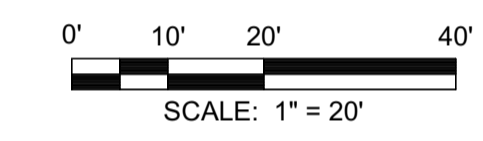


ROAD CUT & BEDDING DETAIL

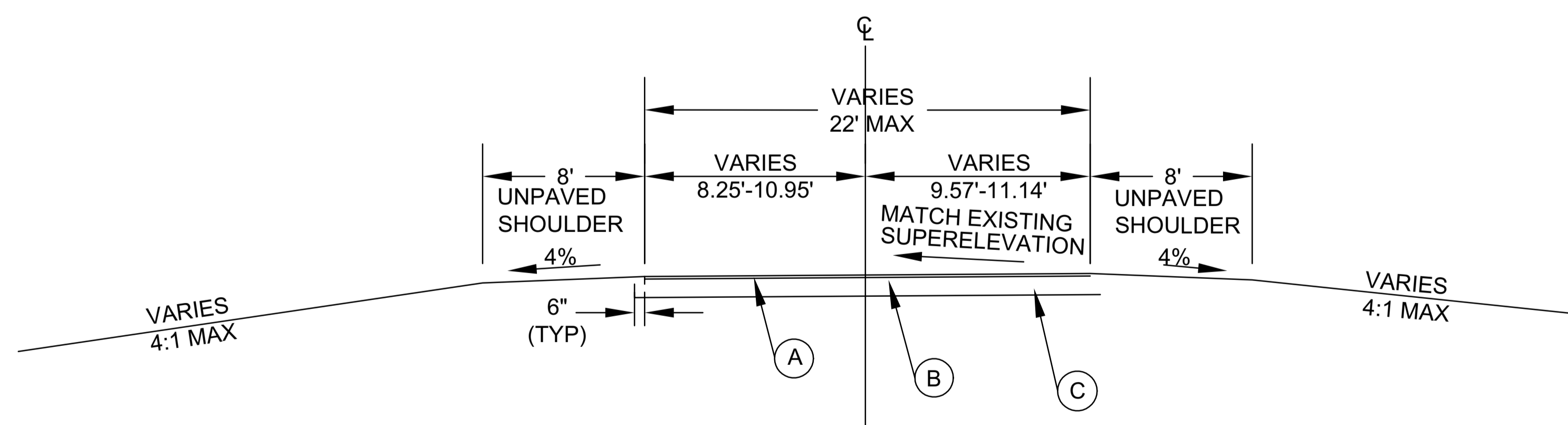
BEDDING AND STRUCTURAL BACKFILL MATERIAL TO SPRINGLINE TO BE GDOT FOUNDATION BACKFILL TYPE II COMPACTED TO 95% MAX DENSITY AND TO BE PLACED IN 4"-6" LIFTS.

NOTES:

- ALL EDGES WILL BE SAW CUT AND TACKED ON REPAVING.
- TRENCH BOTTOMS SHOULD BE FREE OF LARGE STONES, CLUMPS OF SOIL, FROZEN SOIL AND DEBRIS. EXCAVATE TO THE DEPTH AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER AND BACKFILL WITH GDOT FOUNDATION BACKFILL TYPE II.
- GROUNDWATER MAY CAUSE MIGRATION OF FINES WHEN COARSE AND OPEN-GRADED MATERIAL IS PLACED ADJACENT TO A FINER MATERIAL. USE GEOTEXTILE FILTER FABRIC TO MINIMIZE SUCH MIGRATION. GEOTEXTILE FILTER FABRIC TO BE PLACED BETWEEN FOUNDATION BACKFILL MATERIAL TYPE II AND EMBANKMENT/SUBGRADE MATERIALS.
- FILL TO BE COMPACTED IN 4"-6" (MAX.) LIFTS. WHERE THERE ARE EXISTING SLOPES, BENCHES ARE TO BE EXCAVATED TO KEY FILL INTO EXISTING SLOPE.



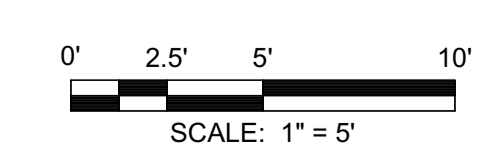
TYPICAL ROAD CROSS SECTION



PAVEMENT MATERIAL SCHEDULE¹

- (A) ASPH. CONC. 9.5 MM SUPERPAVE (1-1/2")
- (B) ASPH. CONC. 19 MM SUPERPAVE (3")
- (C) GRADED AGGREGATE BASE² (CRUSHER RUN) 8"

- TACK COAT (CRS2H, SS1 OR AC30) TO BE USED AS REQUIRED; PRIME COAT (RC70) TO BE USED AS REQUIRED
- GRADED AGGREGATE BASE COURSE TO BE PLACED IN 2 4-INCH LIFTS AND COMPACTED TO 98-PCT MAX DENSITY.



Samuel L. Fleming
 SAMUEL L. FLEMING, PE
 LEVEL II CERTIFIED DESIGN PROFESSIONAL
 GSWCC CERTIFICATION NO. 22173
 EXPIRES 11/09/2021

1/22/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2016_2827ORIONDRIVE\CD\FINAL - PERMIT REVISIONS 11/27/2019\ORION_SITING.DWG



DeKalb County
DEVELOPMENT SERVICES

APPROVED
DATE 12/10/20

2835 Brandywine Road
Suite 100
Atlanta, GA 30341-4015
678.530.0022
GA Lic. No. PEF002398 (6/30/2020)

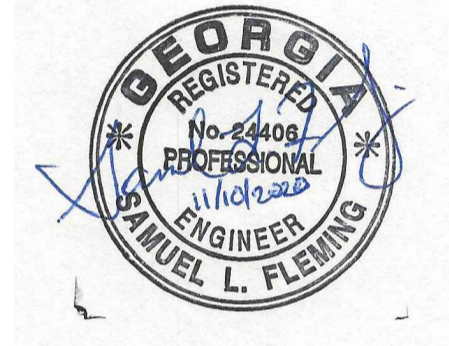
The Department is not responsible for any errors or omissions by engineers or other design professionals on design or other requirements of this project.

The issuance or granting of a permit shall not be construed to be a permit for, or approval of, any violation of any of the provisions of applicable codes or of any other ordinance of the jurisdiction. It is the responsibility of the contractor to ensure compliance with all applicable codes and ordinances. The issuance of a permit based on construction documents and other data shall not prevent the code official from requiring the correction of work. Plumbing, Mechanical, Gas, and Electrical portions of these plans have not been reviewed for compliance with technical codes and will be field-verified during inspection. A set of these approved plans shall be kept on the site at all times and shall not be modified or altered without authorization from DeKalb County Development Services.

ORION DRIVE CULVERT
IMPROVEMENT PROJECT

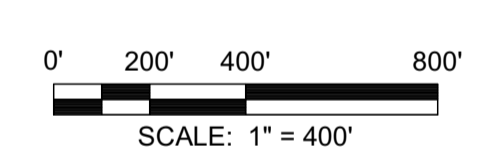
2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

SEAL



KEY PLAN

SCALE



NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY _____ KH
 APPROVED BY _____ SF
 CHECKED BY _____ MH
 DATE _____ 11/10/2020

TITLE
TRAFFIC CONTROL PLAN

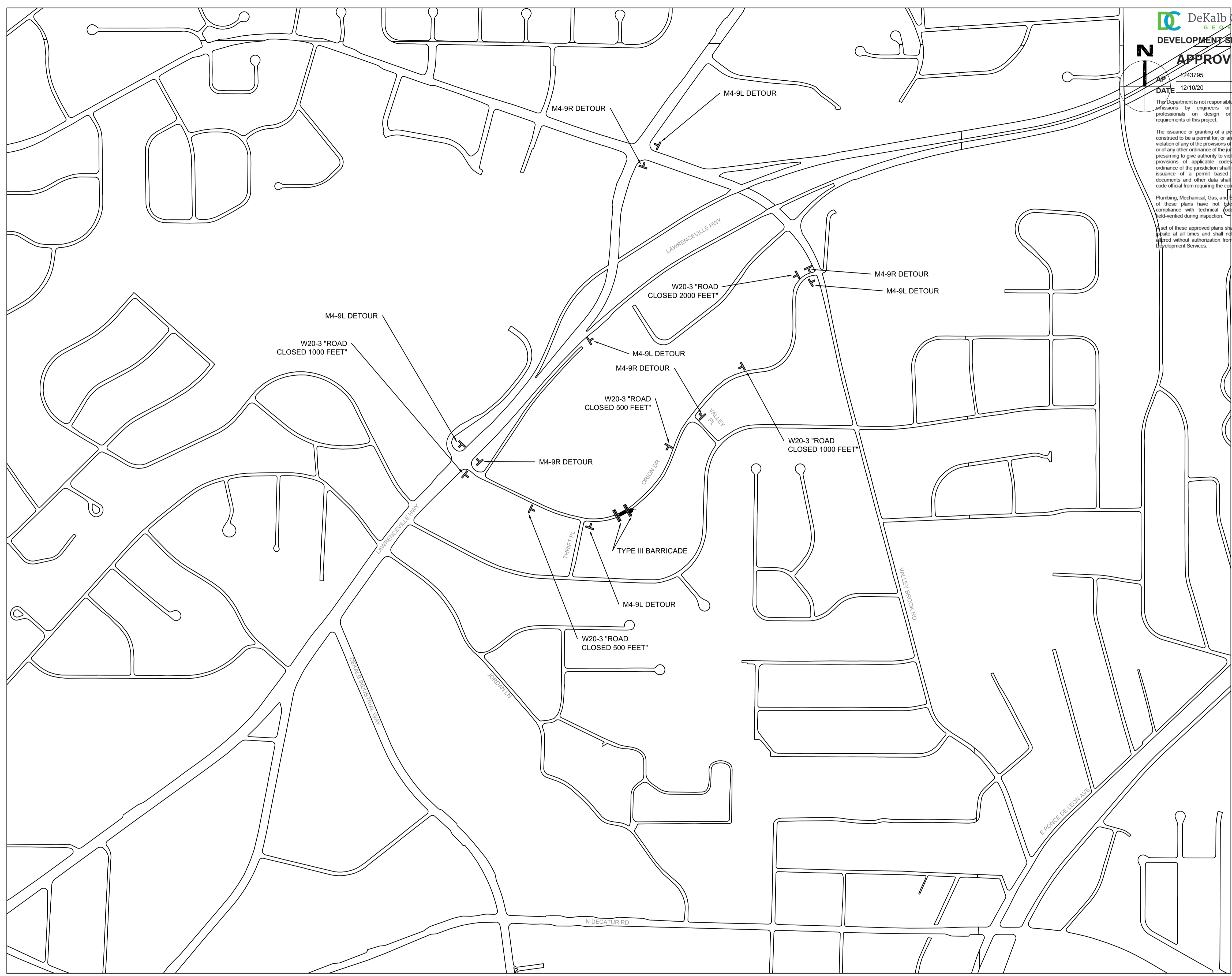
PROJECT NO. 50088969

CD-401

SHEET NO.

TRAFFIC CONTROL NOTES

- FOR DETOUR (M4-9) SIGNS, A STREET NAME SHOULD BE PLACED ABOVE, OR THE STREET NAME SHOULD BE INCORPORATED INTO THE DETOUR SIGN TO INDICATE THE NAME OF THE STREET BEING DETOURED.
- CONTRACTOR MUST CONTACT DEKALB COUNTY TRANSPORTATION DIVISION A MINIMUM OF 72 HOURS PRIOR TO ROAD CLOSURE. PLEASE CALL 770.492.5206 TO PROVIDE CLOSURE DATES FOR PROPOSED WORK.
- ALL SIGNS SHALL BE HIGH INTENSITY SHEETING ON METAL.
- ALL TRAFFIC CONTROL SIGNS, DEVICES, AND METHODS SHALL CONFORM TO THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES.
- CONTRACTOR SHALL INSPECT ALL TRAFFIC CONTROL DEVICES DAILY TO MAKE CERTAIN ALL DEVICES ARE PROPERLY MAINTAINED AND VISIBLE TO MOTORISTS.
- CONTRACTOR MUST MAKE CERTAIN THAT TRAFFIC CONTROL SIGNS DO NOT BLOCK MOTORISTS' VIEW OF EXISTING TRAFFIC SIGNS.
- CONTRACTOR'S EQUIPMENT MUST BE PROPERLY STORED AT TIMES OF ONE-LANE CLOSURE WITHOUT FLAGMAN AS TO NOT OBSTRUCT SIGHT DISTANCES FROM THE BEGINNING OF LANE CLOSURE TO THE END OF THE LANE CLOSURE.
- TRAFFIC CONTROL PLANS:
 - THE OWNER AND ENGINEER RESERVE THE RIGHT TO MODIFY THE TRAFFIC CONTROL PLANS AS NECESSARY IN THE INTEREST OF PUBLIC SAFETY OR TRAFFIC EFFICIENCY.
 - PRIOR TO BEGINNING WORK, IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT ALL TRAFFIC CONTROL DEVICES AND MEASURES COMPLY WITH THE APPROVED TRAFFIC CONTROL PLANS.
- WHEN THE USE OF TYPE III BARRICADES IS REQUIRED (DAY OR NIGHT), ALL BARRICADES SHALL BE EQUIPPED WITH TYPE B HIGH INTENSITY FLASHING WARNING LIGHTS.
- ALL CONTRACTOR EMPLOYEES EXPOSED TO VEHICULAR TRAFFIC SHALL BE PROVIDED WITH AND REQUIRED TO WEAR WARNING VESTS MARKED WITH OR MADE OF REFLECTORIZED OR HIGH VISIBILITY MATERIALS.
- THE CONTRACTOR SHALL INSTALL "ROAD WORK AHEAD" SIGNS (W21-4, 48" X 48") AND "END ROAD WORK" (G20-2A, 48" X 24") WARNING SIGNS ON 6"x6" WOODEN GROUND MOUNTED POSTS. THESE SIGNS MUST BE INSTALLED PRIOR TO BEGINNING WORK AND SHALL BE REMOVED AFTER COMPLETION OF ALL CONSTRUCTION AND RESTORATION ACTIVITIES.
- ANY TRAFFIC CONTROL DEVICES INCLUDING BUT NOT LIMITED TO PAVEMENT MARKINGS, SIGNS, AND TRAFFIC CONTROL SIGNAL EQUIPMENT AND LOOPS THAT IS DAMAGED OR DESTROYED BY THE CONTRACTOR MUST BE REPLACED AT THE CONTRACTOR'S EXPENSE UNLESS THEIR REMOVAL OR DESTRUCTION IS CALLED FOR BY THE CONTRACT DOCUMENTS.
- WHERE EXISTING PAVEMENT MARKINGS AND LINES ARE IN CONFLICT WITH THE TRAFFIC PATTERN BEING USED ON CONSTRUCTION, THE CONTRACTOR SHALL REMOVE OR OVERLAY LINES TO THE SATISFACTION OF THE ENGINEER SUCH THAT THE LINES DO NOT CONFUSE THE TRAVELING PUBLIC. ALL REMAINING LINES OR MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", OR AS DIRECTED BY THE ENGINEER. TRAFFIC SHALL NOT BE ALLOWED ON ANY PAVEMENT NOT PROPERLY STRIPED. ALL TEMPORARY SIGNING AND PAVEMENT MARKINGS SHALL BE IN ACCORDANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", CURRENT EDITION AND/OR AS DIRECTED BY THE ENGINEER. ADDITIONAL DETOUR SIGNAGE MAY BE REQUIRED IN ORDER TO CONFORM TO THE MUTCD.
- LOCAL VEHICULAR TRAFFIC SHALL BE MAINTAINED AT ALL TIMES DURING CONSTRUCTION. SAFETY DEVICES AND FLAG-PERSON SHALL BE PROVIDED BY THE CONTRACTOR AT HIS EXPENSE.
- DURING CONSTRUCTION, THE CONTRACTOR IS RESPONSIBLE FOR PROVIDING TEMPORARY TRAFFIC CONTROL MEASURES TO ENSURE SAFETY AT ALL TIMES FOR EMPLOYEES, RESIDENTS, AND MOTORISTS, IN ACCORDANCE WITH THE 'MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES', ANSI D6.1, LATEST REVISION.



Samuel L. Fleming
 SAMUEL L. FLEMING, PE
 LEVEL II CERTIFIED DESIGN PROFESSIONAL
 GSWCC CERTIFICATION NO. 22173
 EXPIRES 11/09/2021

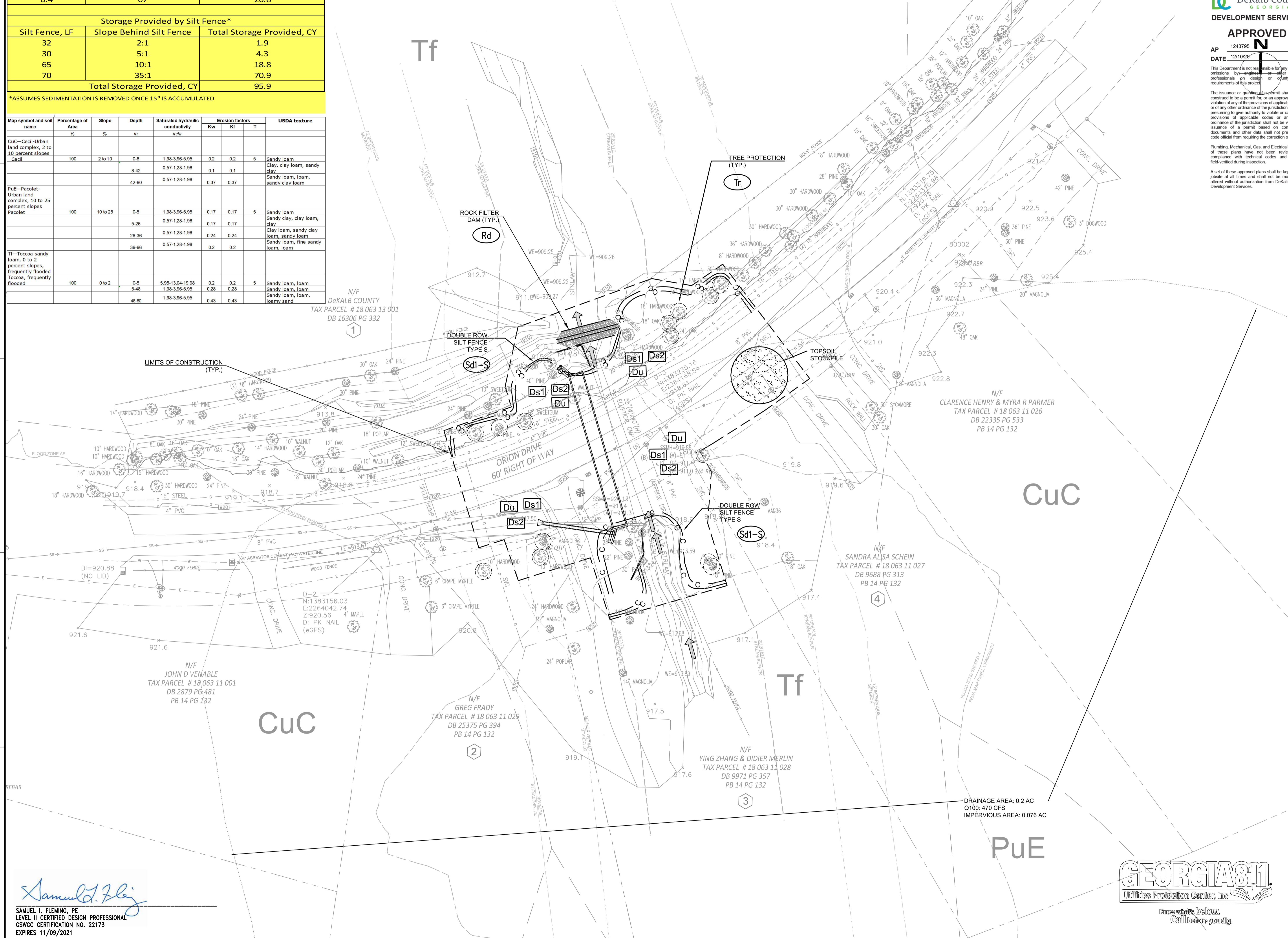


Required Sediment Storage		
Acres Disturbed	Minimum Storage, CY/AC	Total Required Storage, CY
0.4	67	26.8
Storage Provided by Silt Fence*		
Silt Fence, LF	Slope Behind Silt Fence	Total Storage Provided, CY
32	2:1	1.9
30	5:1	4.3
65	10:1	18.8
70	35:1	70.9
Total Storage Provided, CY		95.9

*ASSUMES SEDIMENTATION IS REMOVED ONCE 15" IS ACCUMULATED

Map symbol and soil name	Percentage of Area %	Slope %	Depth in	Saturated hydraulic conductivity in/hr	Erosion factors K _w K _f T	USDA texture
CuC-Cecil-Urban land complex, 2 to 10 percent slopes Cecil	100	2 to 10	0-8	1.98-3.96-5.95	0.2 0.2 5	Sandy loam Clay, clay loam, sandy clay
PuE-Pacolet-Urban land complex, 10 to 25 percent slopes Pacolet	100	10 to 25	0-5	1.98-3.96-5.95	0.17 0.17 5	Sandy loam Sandy clay, clay loam, clay
Tf-Toccoa sandy loam, 0 to 2 percent slopes, frequently flooded Toccoa, frequently flooded	100	0 to 2	0-5	5.95-13.04-19.98	0.2 0.2 5	Sandy loam, loam Sandy loam, loam, loamy sand

INITIAL AND INTERMEDIATE EROSION CONTROLS INCLUDE INSTALLATION OF DOUBLE ROW TYPE S SILT FENCE, TREE PROTECTION, AND VEGETATIVE BMPS INCLUDING DS1 AND DS2



Dewberry
2835 Brandywine Road
Suite 100
Atlanta, GA 30341-4015
678.530.0022
GA Lic. No. PEF002398 (6/30/2020)

DeKalb County
DEVELOPMENT SERVICES
APPROVED
AP 1243795
DATE 12/10/20
This Department is not responsible for any errors or omissions by an engineer or other design professionals in design or construction documents and other data shall not provide the code official from requiring the correction of errors. The issuance of a permit based on construction documents and other data shall not provide the code official from requiring the correction of errors. Plumbing, Mechanical, Gas, and Electrical portions of these plans have not been reviewed for compliance with technical codes and shall be field-verified during inspection. A set of these approved plans shall be kept on the jobsite at all times and shall not be modified or altered without authorization from DeKalb County Development Services.

ORION DRIVE CULVERT IMPROVEMENT PROJECT
2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY

SEAL

KEY PLAN

SCALE
0' 10' 20' 40'
SCALE: 1" = 20'

NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS

DRAWN BY	KH
APPROVED BY	SF
CHECKED BY	MH
DATE	11/10/2020

TITLE
EROSION CONTROL INITIAL & INTERMEDIATE (1) PLAN
PROJECT NO. 50088969
EC-101
SHEET NO.

1/22/2016 8:07:15 AM \\BLACKROCK\PROJECTS\DEKALB\2016_2827ORIONDRIVE\CADD\FINAL - PERMIT REVISIONS 11/20/2019\ORION_SITE.DWG

Samuel L. Fleming
SAMUEL L. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021

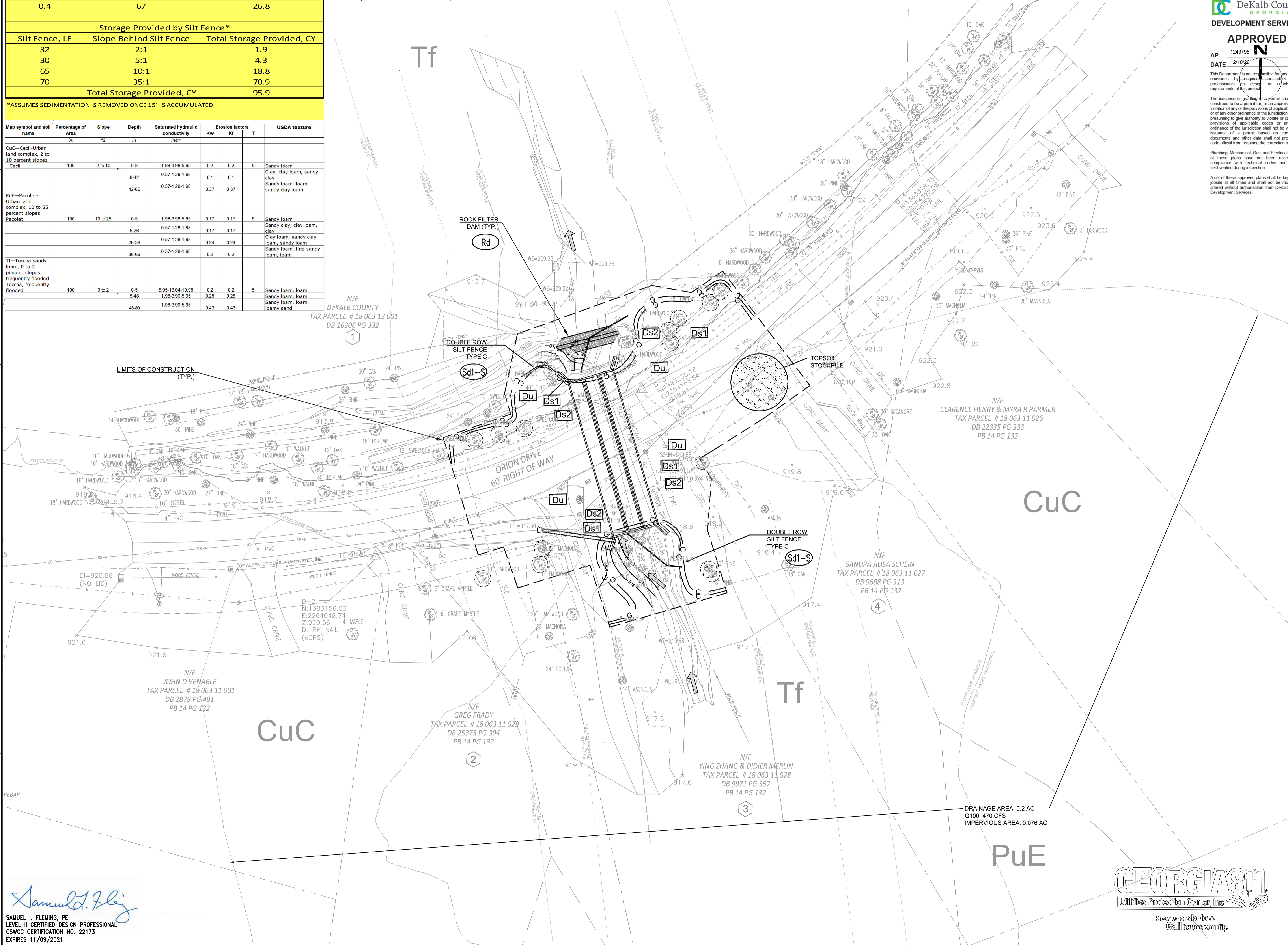
GEORGIA811
Utilities Protection Center, Inc.
Know what's below.
Call before you dig.

Required Sediment Storage		
Acres Disturbed	Minimum Storage, CY/AC	Total Required Storage, CY
0.4	67	26.8
Storage Provided by Silt Fence*		
Silt Fence, LF	Slope Behind Silt Fence	Total Storage Provided, CY
32	2:1	1.9
30	5:1	4.3
65	10:1	18.8
70	35:1	70.9
Total Storage Provided, CY		95.9

*ASSUMES SEDIMENTATION IS REMOVED ONCE 15" IS ACCUMULATED

Map symbol and soil name	Percentage of Area %	Slope %	Depth in	Saturated hydraulic conductivity in/hr	Erosion factors K _w K _f T	USDA texture
CuC-Cecil-Urban land complex, 2 to 10 percent slopes Cecil	100	2 to 10	0-8	1.98-3.96-5.95	0.2 0.2 5	Sandy loam Clay, clay loam, sandy clay
PuE-Pacolet-Urban land complex, 10 to 25 percent slopes Pacolet	100	10 to 25	0-5	1.98-3.96-5.95	0.17 0.17 5	Sandy loam Sandy clay, clay loam, clay
Tf-Toccoa sandy loam, 0 to 2 percent slopes, frequently flooded Toccoa, frequently flooded	100	0 to 2	0-5	5.95-13.04-19.98	0.2 0.2 5	Sandy loam, loam Sandy loam, loam, loamy sand

INTERMEDIATE EROSION CONTROLS INCLUDE INSTALLATION OF DOUBLE ROW TYPE S SILT FENCE, TREE PROTECTION, AND VEGETATIVE BMPs INCLUDING DS1 AND DS2

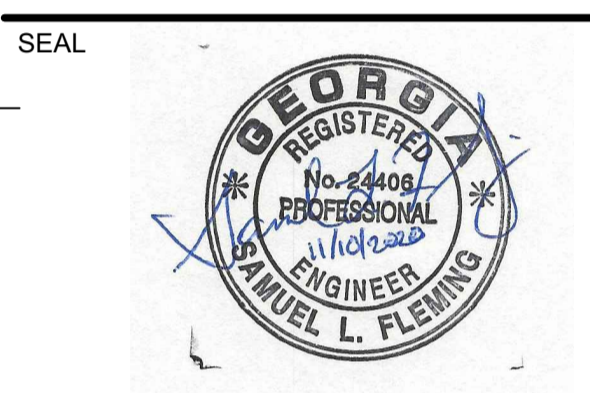


Dewberry
 DeKalb County
 DEVELOPMENT SERVICES
APPROVED
 AP 1243795
 DATE 12/10/20

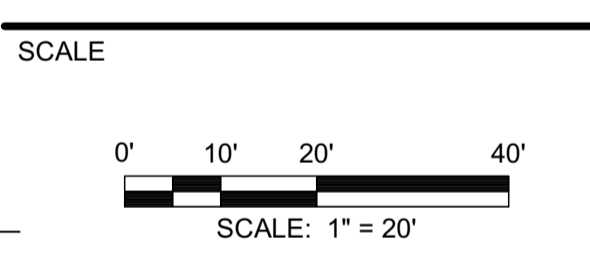
This Department is not responsible for any errors or omissions by any other professionals (in design or construction) or any other ordinance of the jurisdiction. The issuance of a permit based on construction documents and other data shall not provide the code official from requiring the correction of work. Plumbing, Mechanical, Gas, and Electrical portions of these plans have not been reviewed for compliance with technical codes and shall be field-verified during inspection. A set of these approved plans shall be kept on the jobsite at all times and shall not be modified or altered without authorization from DeKalb County Development Services.

ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
 DECATUR, GA
 DEKALB COUNTY



KEY PLAN



NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	80% PLAN SUBMITTAL	11/30/2018
1	80% PLAN SUBMITTAL	11/6/2018

REVISIONS
 DRAWN BY: KH
 APPROVED BY: SF
 CHECKED BY: MH
 DATE: 11/10/2020

TITLE
EROSION CONTROL INTERMEDIATE (2) PLAN
 PROJECT NO. 50088969

SHEET NO.
EC-102

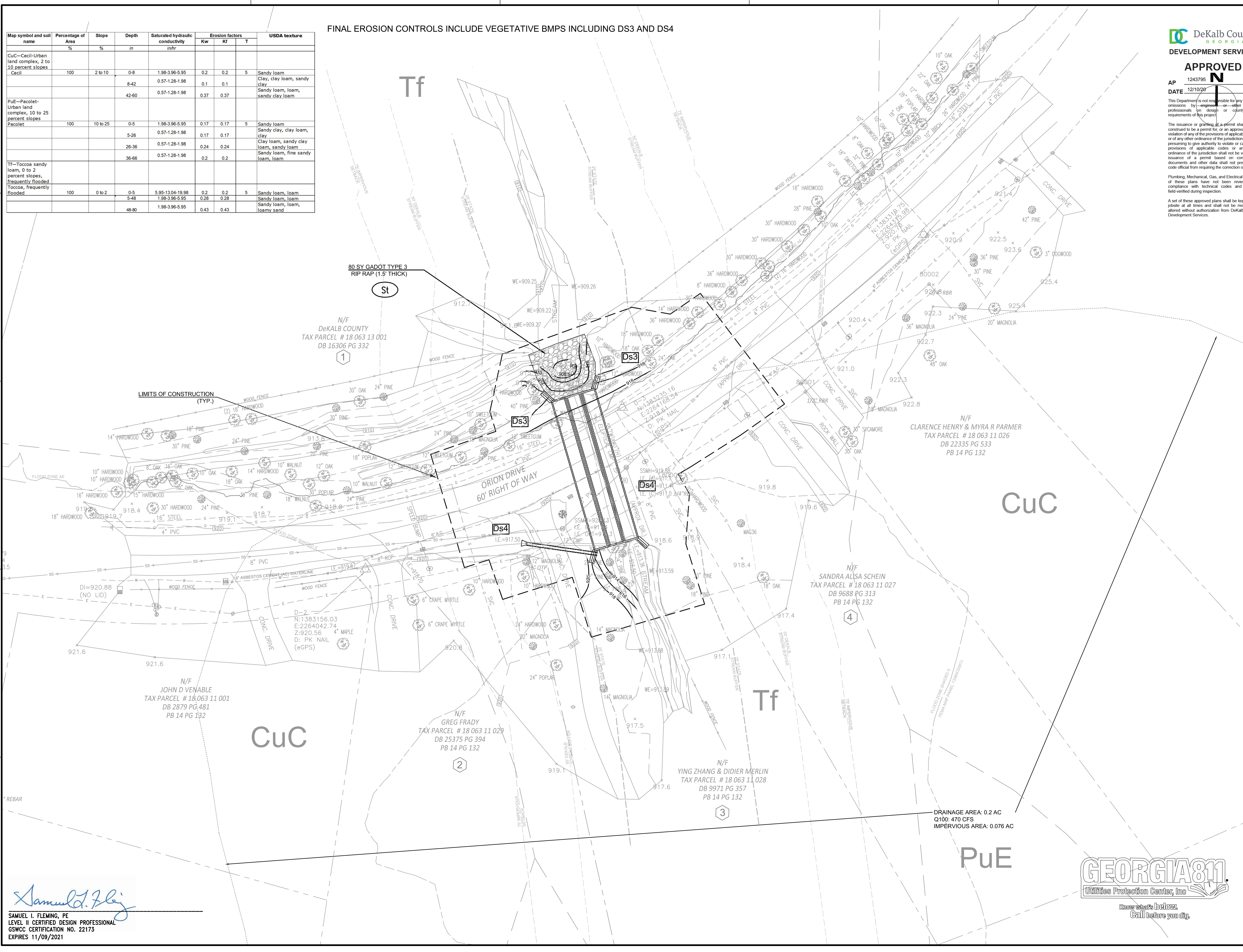
Samuel L. Fleming
 SAMUEL L. FLEMING, PE
 LEVEL II CERTIFIED DESIGN PROFESSIONAL
 GSWCC CERTIFICATION NO. 22173
 EXPIRES 11/09/2021



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Map symbol and soil name	Percentage of Area	Slope	Depth	Saturated hydraulic conductivity	Erosion factors			USDA texture
					Kw	Kf	T	
CuC-Cecil-Urban land complex, 2 to 10 percent slopes Cecil	100	2 to 10	0-8 8-42	1.98-3.96-5.95 0.57-1.28-1.98	0.2 0.1	0.2 0.1	5	Sandy loam Clay, clay loam, sandy clay
PuE-Pacolet-Urban land complex, 10 to 25 percent slopes Pacolet	100	10 to 25	0-5 5-26 26-36 36-66	1.98-3.96-5.95 0.57-1.28-1.98 0.57-1.28-1.98 0.57-1.28-1.98	0.17 0.17 0.24 0.2	0.17 0.17 0.24 0.2	5	Sandy loam Sandy clay, clay loam, clay Clay loam, sandy clay loam, sandy loam Sandy loam, fine sandy loam, loam
Tf-Toccoa sandy loam, 0 to 2 percent slopes, frequently flooded Toccoa, frequently flooded	100	0 to 2	0-5 5-48 48-80	5.95-13.04-19.98 1.98-3.96-5.95 1.98-3.96-5.95	0.2 0.28 0.43	0.2 0.28 0.43	5	Sandy loam, loam Sandy loam, loam Sandy loam, loam, loamy sand

FINAL EROSION CONTROLS INCLUDE VEGETATIVE BMPs INCLUDING DS3 AND DS4



DeKalb County
DEVELOPMENT SERVICES

APPROVED

AP 1243795
DATE 12/10/20

2835 Brandywine Road
Suite 100
Atlanta, GA 30341-4015
678.530.0022
GA Lic. No. PEF002398 (6/30/2020)

This Department is not responsible for any errors or omissions by any other professional (in design or code requirements of the project).

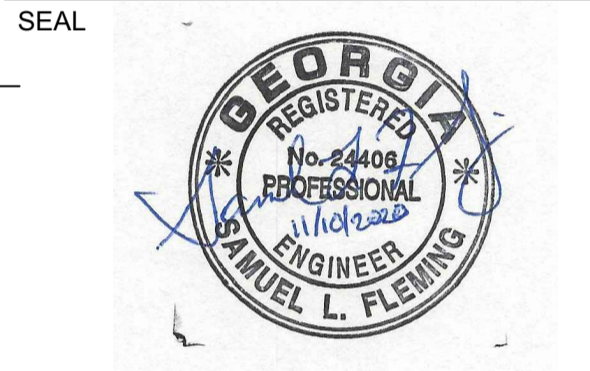
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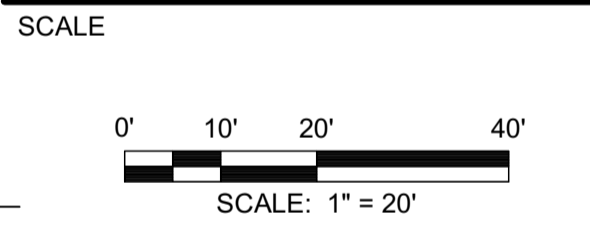
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ORION DRIVE CULVERT IMPROVEMENT PROJECT

2827 ORION DRIVE
DECATUR, GA
DEKALB COUNTY



KEY PLAN



NO.	DESCRIPTION	DATE
5	CONTACT INFO UPDATES	11/10/2020
4	PERMIT REVISIONS	02/21/2020
3	100% PLAN SUBMITTAL	2/6/2019
2	90% PLAN SUBMITTAL	11/30/2018
1	60% PLAN SUBMITTAL	11/6/2016

REVISIONS

DRAWN BY _____ KH
APPROVED BY _____ SF
CHECKED BY _____ MH
DATE _____ 11/10/2020

TITLE

EROSION CONTROL FINAL

PROJECT NO. 50088969

EC-103

SHEET NO.

Samuel L. Fleming
SAMUEL I. FLEMING, PE
LEVEL II CERTIFIED DESIGN PROFESSIONAL
GSWCC CERTIFICATION NO. 22173
EXPIRES 11/09/2021



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