PETE'S WAY EXTENSION

CITY OF WARNER ROBINS , GEORGIA

JULY, 2024

REVISED 11/8/24

SITE PROJECT DATA

PROJECT ADDRESS:
PETE'S WAY @ CRESTVIEW CHURCH ROAD
EXTENDED TO GA. HWY 247C.

TOTAL SITE AREA = 362.53 AC.
TOTAL DISTURBED AREA = 9.69 AC.

STREET DESIGN STANDARDS:
RIGHT OF WAY WIDTH = 120'
TOTAL STREET LENGTH = 3520'
ROAD WIDTH = 30'

ZONING REQUIREMENTS

N/A

⑤ OWNER/PRIMARY PERMITTEE

JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826
EMAIL: bj-walker@peachcounty.net

PROJECT ENGINEER CONTACT

CHAD BRYANT, P.E.
PRESIDENT
BRYANT ENGINEERING
111 PERIMETER ROAD, SUITE A
PERRY, GA 31069
OFFICE: (478) 224-7070
FAX: (478) 224-7072
EMAIL: chad@bryantengllc.com

SURVEYOR

MARTY McLEOD, R.L.S.
MCLEOD SURVEYING, LLC.
111 PERIMETER ROAD, SUITE A
PERRY, GA 31069
(478) 224-7070

LAND LOT/DISTRICT/COUNTY

LAND LOT 63/5 DISTRICT / HOUSTON COUNTY, GA

FLOOD ZONE INFORMATION

PER FEMA FLOOD MAP, PANEL 130 OF 300, THIS PROJECT DOES LIE WITHIN A FLOODPLAIN
PANEL NUMBER: 13225C0130E EFFECTIVE DATE: SEPTEMBER 26, 2008

PARKING CALCULATIONS

N/A

UTILITY NOTES

*ALL UTILITIES, STORM DRAINS AND SERVICE LINES WILL BE MARKED WITH LOCATOR WIRE

*ALL WATER AND SEWER INSTALLATIONS SHALL CONFORM TO THE CITY OF WARNER ROBINS UTILITY DEPARTMENT WATER, SEWER, AND GAS STANDARDS, LATEST EDITION

THE EXISTING UTILITIES SHOWN ON THIS PLAN WERE OBTAINED FROM VARIOUS UTILITY COMPANIES, VARIOUS GOVERNMENTAL AGENCIES, AND ABOVE GROUND OBSERVATION. THE SURVEYOR AND/OR ENGINEER MAKE NO CLAIM TO THE COMPLETENESS OF THIS INFORMATION. THE SIZE, LOCATION, OR ADDITIONAL UTILITIES MAY BE UNCOVERED UPON EXCAVATION. PRIOR TO BEGINNING ANY EARTH DISTURBING ACTIVITIES, THE UTILITY PROTECTION SERVICE FOR THIS AREA MUST BE NOTIFIED.

IF YOU DIG GEORGIA ...
CALL US FIRST
UTILITIES PROTECTION CENTER
STATE WIDE
1 800 282-7411
IT'S THE LAW

GEORGIA811
www.Georgia811.com

LEGEND

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
IPS	IRON PIN SET	L.L.L.	LAND LOT LINE	PIV	POST INDICATOR VALVE
IPF	IRON PIN FOUND	FH	FIRE HYDRANT	FDC	FIRE DEPARTMENT CONNECTION
R/W	RIGHT OF WAY	-X-	FENCE LINE	SS	SANITARY SEWER
BSL	BUILDING SETBACK LINE	FFE	FINISH FLOOR ELEVATION	Mp	MONITORING POINT
PL	PROPERTY LINE	-P-	POWER LINE	Sp	SAMPLING POINT
DE	DRAINAGE EASEMENT	PP	POWER POLE	N/F	NOW OR FORMERLY
SSE	SANITARY SEWER EASEMENT	CL	CENTER LINE	OCS	OUTLET CONTROL STRUCTURE
MH	MANHOLE	TH	TEST HOLE	WQ	WATER QUALITY
CB	CATCH BASIN	SPED	SITE PLAN ENG. DEPT.	CP	CHANNEL PROTECTION
DWCB	DOUBLE WING CATCH BASIN	SPHD	SITE PLAN HEALTH DEPT.	WSE	WATER SURFACE ELEVATION
SWCB	SINGLE WING CATCH BASIN	R=	RADIUS	WSA	WATER SURFACE AREA
JB	JUNCTION BOX	EL	ELEVATION		
DI	DROP INLET	INV	INVERT		
GI	GRATE INLET	RDP	RESIDENTIAL DRAINAGE PLAN		
HW	HEADWALL	RCP	REINFORCED CONCRETE PIPE		
YI	YARD INLET	CMP	CORRUGATED METAL PIPE		
SES	SAFETY END SECTION	HDPE	HIGH DENSITY POLYETHYLENE PIPE		
FES	FLARED END SECTION	LP	LIGHT POLE		
AC	ACRE	WV	WATER VALVE		
EP	EDGE PAVEMENT	WM	WATER METER		
BC	BACK OF CURB	⚠	REVISION NUMBERS		
CRK	CREEK				

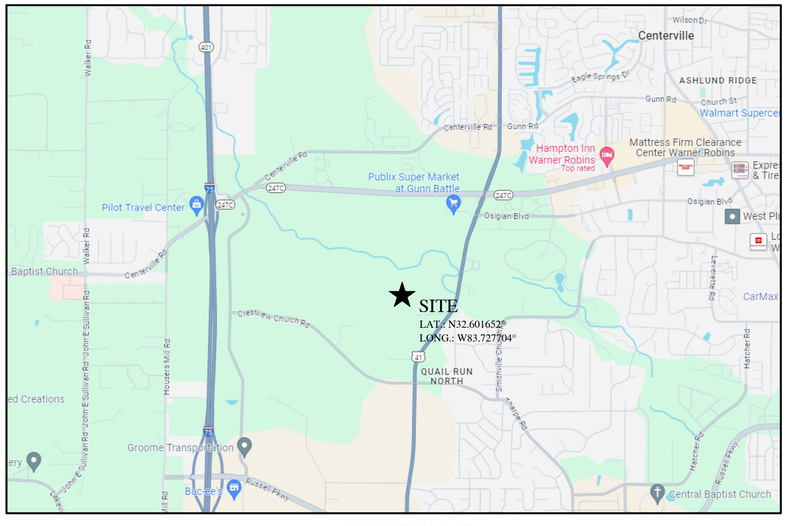
WETLANDS

P	PALUSTRINE
FO	FORESTED
I	BROAD LEAFED DECIDUOUS
A	TEMPORARILY FLOODED
★	CRITICAL SLOPE AREA

SYMBOL	DESCRIPTION
	EXISTING CATCH BASIN
	EXISTING YARD INLET
	EXISTING GRATE INLET
	EXISTING HEADWALL
	EXISTING DRAINAGE PIPE
	EXISTING SAFETY END SECTION
	EXISTING SANITARY SEWER MANHOLE
SS	EXISTING SANITARY SEWER LINE
W	EXISTING WATER MAIN
	EXISTING WATER VALVE & BOX
	EXISTING CROSS
	EXISTING TEE
	EXISTING REDUCER
	EXISTING PLUG
	EXISTING BLOW-OFF
	EXISTING FIRE HYDRANT
	EXISTING WATER METER
	EXISTING BOUNDARY/RW LINE
	EXISTING LOT LINE
22	EXISTING LOT NUMBER
B	EXISTING BLOCK NUMBER
LL 14	LAND LOT NUMBER
OHP	EXISTING OVERHEAD POWER LINE
	EXISTING POWER POLE
300	EXISTING CONTOUR

SYMBOL	DESCRIPTION
	PROPOSED OUTLET CONTROL STRUCTURE
	PROPOSED DOT 1034D
	PROPOSED DOT 1033D
	PROPOSED CATCH BASIN
	PROPOSED YARD INLET
	PROPOSED GRATE INLET
	PROPOSED HEADWALL
X	PROPOSED HIGH/LOW POINT
	PROPOSED DRAINAGE PIPE
	PROPOSED DRAINAGE FLOW ARROW
	PROPOSED SAFETY END SECTION
	PROPOSED SANITARY SEWER MANHOLE
	PROPOSED SANITARY SEWER LINE
	PROPOSED WATER VALVE & BOX
	PROPOSED CROSS
	PROPOSED TEE
	PROPOSED REDUCER
	PROPOSED PLUG
	PROPOSED BLOW-OFF
	PROPOSED FIRE HYDRANT
	PROPOSED WATER METER
	PROPOSED WATER MAIN
	PROPOSED BOUNDARY/RW LINE
	PROPOSED LOT LINE
22	PROPOSED LOT NUMBER
B	PROPOSED BLOCK NUMBER
300	PROPOSED CONTOUR
TF TF	PROPOSED TREE FENCE
	PROPOSED SILT FENCE

VICINITY MAP ⑩



VICINITY MAP
N.T.S.

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GEORGIA
REGISTERED
No. 035595
PROFESSIONAL
CHAD RUSSELL BRYANT
ENGINEER

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryantengllc.com

COUNTY: HOUSTON
L.L./DISTRICT: 63/5
DWG: 0322-002-MASTER
DATE: 7/16/24
SCALE: 1"= 50'
JOB NO.: 0322-002

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COVER SHEET FOR: PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-0.1

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG(12/4/2024 9:14:17 AM EST)

I. GENERAL NOTES:

1. STAKING DIMENSIONS ARE MEASURED TO AND FROM EDGE OF PAVEMENT TO EDGE OF PAVEMENT.
2. ANY AND ALL DAMAGE TO EXISTING ASPHALT OR CONCRETE PAVEMENT DESIGNATED TO REMAIN, WHICH RESULTS FROM THE NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIAL AT THE CONTRACTORS EXPENSE AND TO THE SATISFACTION OF THE ENGINEER.
3. THE CONTRACTOR MUST IDENTIFY ANY PRE-EXISTING DAMAGE TO ANY PAVEMENTS TO REMAIN PRIOR TO STARTING ANY WORK. THE PREEXISTING DAMAGE MUST BE REPORTED TO THE OWNER IN WRITING BEFORE ANY WORK IS STARTED. IF NO DAMAGE IS IDENTIFIED, THEN THE PAVEMENTS WILL BE CONSIDERED TO BE IN GOOD CONDITION AND UNDAMAGED.
4. THE CONTRACTOR SHALL NOT DISTURB ANY UTILITY WITHOUT THE PRIOR APPROVAL OF THE UTILITY OWNER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLYING WITH ALL FEDERAL, STATE, AND LOCAL CODES, LAWS, AND REGULATIONS AND SHALL VERIFY AND OBTAIN NECESSARY PERMITS REQUIRED FOR CONSTRUCTION INCLUDING POLLUTION CONTROL PERMITS PRIOR TO COMMENCEMENT OF CONSTRUCTION ACTIVITIES.
6. THE CONTRACTOR SHALL KEEP ALL PAVED SURFACES CLEAN AND FREE OF MUD AND DEBRIS.
7. NOTHING IN THE GENERAL NOTES OF CONSTRUCTION DOCUMENTS SHALL RELIEVE THE CONTRACTOR FROM HIS RESPONSIBILITIES TOWARD THE SAFETY AND CONVENIENCE OF THE GENERAL PUBLIC.
8. THE CONTRACTOR SHALL FIELD VERIFY ALL TIE-INS. ANY DIFFERENCE ENCOUNTERED SHALL BE BROUGHT TO THE ENGINEERS ATTENTION IMMEDIATELY.
9. SPOT ELEVATIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO CURB AND GUTTER INSTALLATION AND FINAL PAVEMENT INSTALLATION.
10. ANY CONFLICTS RESULTING FROM THE SPOT ELEVATIONS SHOWN ON THIS PLAN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR PERFORMING THE WORK SPECIFIC TO CURB AND GUTTER, SIDEWALK AND ASPHALT BASE AND PAVING.
11. ALL WORK SHALL BE IN ACCORDANCE WITH COUNTY/CITY STANDARDS AND SPECIFICATIONS.
12. CONTRACTOR SHALL HAVE ALL PERIMETER EROSION CONTROL MEASURES IN PLACE PRIOR TO CONSTRUCTION.
13. CONTRACTOR TO VERIFY ALL HORIZONTAL & VERTICAL LOCATIONS OF ALL EXISTING AND PROPOSED STRUCTURES PRIOR TO CONSTRUCTION.
14. CONTRACTOR TO PROVIDE ALL CONSTRUCTION STAKING.
15. ALL EXTENSIONS AND ADDITIONS TO THE COUNTY/CITY UTILITY SYSTEM WILL BE PERFORMED BY A GEORGIA LICENSED UTILITY CONTRACTOR.
16. ALL CONCRETE SLABS, DRAINAGE STRUCTURES, DRAINAGE PIPES AND OTHER DEBRIS REMOVED SHALL BE DISPOSED OF OFF SITE.

II. GENERAL UTILITY NOTES:

1. THE CONTRACTOR WILL PROVIDE ALL NECESSARY PROTECTIVE MEASURES TO SAFEGUARD EXISTING UTILITIES FROM DAMAGE DURING CONSTRUCTION OF THIS PROJECT. IN THE EVENT THAT SPECIAL EQUIPMENT IS REQUIRED TO WORK OVER AND AROUND THE UTILITIES, THE CONTRACTOR SHALL FURNISH SUCH EQUIPMENT. THE COST OF PROTECTING UTILITIES FROM DAMAGE AND FURNISHING SPECIAL EQUIPMENT SHALL BE INCLUDED IN THE CONTRACTOR'S BID.
2. THE CONTRACTOR SHALL VERIFY EXACT ROUTING AND LOCATION OF ALL EXISTING UTILITIES (SEWER, STORM SEWER, UNDERDRAIN, ELECTRICAL DUCTS, ELECTRICAL UTILITY, ETC..) TO BE DEMOLISHED AND OR TO REMAIN PRIOR TO BEGINNING ANY WORK.
3. THE CONTRACTOR SHALL VERIFY EXISTING CONDITION SHOWN ON THESE PLANS PRIOR TO BEGINNING ANY CONSTRUCTION OR DEMOLITION.
4. THE CONTRACTOR SHALL VERIFY THE EXISTING INVERT ELEVATIONS OF STORM SEWER AND CULVERTS PRIOR TO BEGINNING CONSTRUCTION.
5. THE CONTRACTOR SHALL TAKE SPECIAL CARE TO PLACE/COMPACT FILL SUFFICIENTLY AROUND AND OVER ALL PIPES, CONDUITS, STRUCTURES, ETC. TO PREVENT SETTLEMENT. ANY SETTLEMENT DURING THE WARRANTY PERIOD SHALL BE RESTORED AND COMPACTED AT NO ADDITIONAL EXPENSE TO THE OWNER.
6. THE EXISTING UTILITIES SHOWN ON THIS PLAN WERE OBTAINED FROM VARIOUS UTILITY COMPANIES, VARIOUS GOVERNMENTAL AGENCIES, AND ABOVE GROUND OBSERVATION. THE SURVEYOR AND/OR ENGINEER MAKE NO CLAIM TO THE COMPLETENESS OF THIS INFORMATION. THE SIZE, LOCATION, OR ADDITIONAL UTILITIES MAY BE UNCOVERED UPON EXCAVATION, PRIOR TO BEGINNING ANY EARTH DISTURBING ACTIVITIES, THE UTILITY PROTECTION SERVICE FOR THIS AREA MUST BE NOTIFIED.

III. GRADING/DRAINAGE NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION AND DEPTHS OF ALL EXISTING UTILITIES PRIOR TO BEGINNING ANY EXCAVATION (1-800-282-7411).
2. ALL BUILDING AND PAVING SUBGRADE AREAS SHALL BE COMPACTED IN 6" LAYERS TO 98% OF THE MAXIMUM DRY DENSITY AS DETERMINED IN ACCORDANCE WITH ASTMD698, CURRENT EDITION. ALL AREAS SHALL BE PROOFROLLED WITH A 20 TON DUMPTRUCK UNDERCUT ALL AREAS THAT PUMP AND REPLACE WITH A SUITABLE MATERIAL HEREIN SPECIFIED.
3. STORM SEWER PIPING ON SITE SHALL BE EITHER RCP, CMP, OR HDPE. PIPE SHALL MEET THE FOLLOWING REQUIREMENTS:

   A. RCP - REINFORCED CONCRETE PIPE
   PIPE SHALL BE REINFORCED CONCRETE PIPE CONFORMING TO ASTM C76, CLASS III.

   B. CMP - ALUMINUM CORRUGATED METAL PIPE
   PIPE SHALL MEET APPLICABLE REQUIREMENTS OF CURRENT AASHTO SPECIFICATIONS M-196 OR FEDERAL SPECIFICATIONS WW-P-402. PIPE SHALL BE FORMED FROM SHEET CONFORMING TO M-197 ALLOY A/C/AD 3004-H34.

   C. HDPE - HIGH DENSITY POLYETHYLENE PIPE ADS N-12
   POLYETHYLENE PIPE SHALL BE HIGH DENSITY POLYETHYLENE CORRUGATED PIPE WITH AN INTEGRALLY FORMED SMOOTH INTERIOR. PIPE SHALL CONFORM TO REQUIREMENTS OF AASHTO M-294 TYPE S.

4. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE PRINTED SPECIFICATIONS AND REQUIREMENTS.
5. MAXIMUM CUT AND FILL SLOPES ARE 3:1 EXCEPT WHERE NOTED.
6. FILL AND BACKFILL MATERIAL SHALL BE COMPACTED TO 95% STD. PROCTOR DENSITY AT OPTIMUM MOISTURE ± 2% UNLESS SPECIFIED OTHERWISE ON THE PLANS.
7. ALL GRADING OPERATIONS SHALL BE DONE IN SUCH A MANNER SO AS TO PROVIDE POSITIVE DRAINAGE AT ALL TIMES.
8. ANY AREA THAT IS DISTURBED OUTSIDE THE CONSTRUCTION LIMITS DURING THE LIFE OF THIS PROJECT SHALL BE REPAIRED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.

IV. WATER AND SANITARY SEWER NOTES:

1. CONTRACTOR SHALL VERIFY LOCATION, INVERT ELEVATIONS, AND SIZES OF ALL UTILITY MAINS AND LINES PRIOR TO INSTALLATION OF UTILITY MAINS (1-800-282-7411)
2. ALL WATER AND SANITARY SEWER CONSTRUCTION SHALL BE IN ACCORDANCE WITH LOCAL STANDARD SPECIFICATIONS FOR WATER AND SANITARY SEWER.
3. THE CONTRACTOR SHALL NOTIFY THE PROPER AUTHORITY 48 HRS. PRIOR TO MAKING CONNECTIONS TO EXISTING UTILITIES.
4. UTILITY LINES MATERIALS SHALL BE IN ACCORDANCE WITH THE FOLLOWING:
5. SANITARY SEWER:
   PVC - ASTM 3034, SDR35
   DUCTILE IRON - CLASS 350 AWWA C151
6. WATER MAINS
   PVC - C-900, DR-21 WITH THE APPROVAL FROM CITIES UTILITY DEPT.
   DUCTILE IRON PIPE - CLASS 350 AWWA C151
7. WATER SERVICE LINES (2" AND SMALLER)
   SCHEDULE 40 PVC
   HDPE SDR 9 ASTM D3035
8. WATER MAINS SHALL BE DISINFECTED AND TESTED, BY THE CONTRACTOR, IN ACCORDANCE WITH AWWA STANDARDS, GEORGIA EPD STANDARDS, AND LOCAL STANDARDS.
9. THE CONTRACTOR SHALL MEET ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES, LAWS, REGULATIONS AND REQUIREMENTS.
10. PROVIDE DUCTILE IRON SEWER PIPE WHERE PIPE CROSSES STORM PIPE AND WHERE SEWER PIPE HAS LESS THAN 3 FT. COVER.
11. CONTRACTOR SHALL PROVIDE DEWATERING AS REQUIRED FOR INSTALLATION OF ALL UTILITIES
12. SEWERS MUST BE LOW-PRESSURE TESTED PER ASTM F 1417 OR HIGH-PRESSURE TESTED PER AWWA C 600, C605 OR OTHER INDUSTRY STANDARD.
13. MANHOLES MUST BE VACUUM-TESTED PER ASTM C 1244 OR HYDRAULICALLY TESTED WITH LEAKS LIMITED TO 1/4 - INCH OVER 24 HOURS.
14. ALL SEWERS MADE OF NON-METALLIC PIPE MUST INCLUDE TRACER WIRE AND LOCATOR TAPE AS SHOWN IN DETAILS

V. DRAINAGE CHARTS

Storm Sewer Tabulation — Page 1

Station		Len	Drng Area		Rnoff coeff	Area x C		Tc		Rain (I)	Total flow	Cap full	Vel	Pipe		Invert Elev		HGL Elev		Grnd / Rim Elev		Line ID
Line	To Line	(ft)	Incr (ac)	Total (ac)	(C)	Incr	Total	Inlet (min)	Syst (min)	(in/hr)	(cfs)	(cfs)	(ft/s)	Size (in)	Slope (%)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	Dn (ft)	Up (ft)	
1	End	131.49	0.00	0.00	0.00	0.00	0.00	0.0	0.0	0.0	53.76	100.7	8.94	36	2.28	408.00	411.00	410.38	413.38	411.83	414.83	ST-A1

Project File: STORM CALCS-C.stm | Number of lines: 1 | Run Date: 7/24/2024

NOTES:Intensity = 63.52 / (Inlet time + 12.90) ^ 0.70; Return period =Yrs. 25 ; c = cir e = ellip b = box

Storm Sewers v2024.00

VI. EROSION CONTROL CHARTS

Energy Dissipation Summary (St)

Pipe outlet headwall / Detention pond outlet	25 year post-developed flow velocity at outlet headwall (fps)	25 year post-developed flow (cfs)	Non-erosive velocity from Storm Water Design Manual	Energy Dissipation Measures proposed	W1 (ft)	W2 (ft)	La (ft)	Quantity (SY)	Average Stone Diameter (d50) in.
ST-A1	8.94	53.76	5.00	St	9	13	10	16	6
ST-B1	11.34	1980.00	5.00	St	96	144	120	520	12

Erosion & Sediment Control Calculations

Sediment Control Calculations

Sediment Storage Basin Phase 1

Number	BMP	Disturbed Area (Ac.)	Length (ft)	Width (ft)	Depth (ft)	Factor (cy/ac)	Required Volume (cubic yd)	Provided Volume (cubic yd)	Adequate Protection?
1	Sd4-C	1.33	60	30	4	67	89.11	266.67	YES
2	Sd4-C	2.20	60	25	4	67	147.40	222.22	YES
3	Sd1-NS	6.16	na	na	na	67	412.72	1404.00	YES
Totals		**9.69**					**649.23**	**1892.89**	**Yes**

0504D-Erosion & Sediment Control Calculations Pete's Way Extension

Silt Fence Calculations

Total Area	362.53
Disturbed Area	6.16
Sediment Storage Required	V req= 67 CY X 6.16 = 412.72 CY
Sediment Storage Available	Length (L) of silt fence provided = 8386 ft Using the assumption that silt fence provides sediment storage for 1/4 acre per 100 ft, the available volume per foot of silt fence would equal 0.1675 CY/ft. (i.e. 1/4 acre x 67 CY / 100 ft = 0.1675 CY/ft) Vavail = L x 0.1675 CY/ft Vavail = 8386 ft x 0.1675 CY/ft Vavail = 1404 CY Vavail > Vreq

VII. EROSION, SEDIMENTATION & POLLUTION CONTROL CHECKLIST

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
INFRASTRUCTURE CONSTRUCTION PROJECTS

SWCD:
Project Name: PETE'S WAY EXTENSION **Address:** PETE'S WAY, WARNER ROBINS, GA.
Local Issuing Authority: HOUSTON COUNTY **Date on Plans:** 7/16/24.
Name & Email of person filling out checklist: CHAD BRYANT, P.E. (chad@bryantengllc.com)

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
0.2		1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)
ALL		2 Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ES&PC Plan or the Plan will not be reviewed)
ALL		3 The name and phone number of the 24-hour contact responsible for erosion, sedimentation and pollution controls.
5.4		4 Provide the name, address, email address, and phone number of primary permittee.
0.1 & 5		5 Note total and disturbed acreages of the project or phase under construction.
5.5		6 Provide the GPS locations of the beginning and end of the Infrastructure project. Give the Latitude and Longitude in decimal degrees.
ALL		7 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.
5.4		8 Descriptions of the nature of construction activity and existing site conditions.
5.5		9 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
5.5		10 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.
5.5		11 Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on **Part IV page 21** of the permit.
5.5		12 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive system of BMPs and sampling to meet permit requirements as stated on **Part IV page 20** of the permit.
5.5		13 Design professional certification statement and signature that the permittee's ES&PC Plan provides for representative sampling as stated on **Part IV.D.6.c.(3) page 37** of the permit as applicable. *
5.4		14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements, perimeter control BMPs, and sediment basins within 7 days after installation." in accordance with **Part IV.A.5 page 26** of the permit. *
5.4		15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested 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."
5.4		16 Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
5.4		17 Clearly note the statement that "Amendments/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional." *
5.4		18 Clearly note the statement that "Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit." *
5.4		19 Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."
5.4		20 Clearly note statement that "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."
5.4		21 Clearly note the statement "Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding."
5.5		22 Any construction activity which discharges storm water into an Impaired Stream Segment, or within 1 linear mile upstream of and within the same watershed as, any portion of a Biota Impaired Stream Segment must comply with Part III. C. of the permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment. *
N/A		23 If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan. *
5.5		24 BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited. *
5.5		25 Provide BMPs for the remediation of all petroleum spills and leaks.
5.4-5.5		26 Description of the measures that will be installed during the construction process to control pollutants in storm water that will occur after construction operations have been completed. *
5.5		27 Description of practices to provide cover for building materials and building products on site. *
5.5		28 Description of the practices that will be used to reduce the pollutants in storm water discharges. *
5.5		29 Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
5.5		30 Provide complete requirements of Inspections and record keeping by the primary permittee. *
5.5		31 Provide complete requirements of Sampling Frequency and Reporting of sampling results. *
5.5		32 Provide complete details for Retention of Records as per Part IV.F. of the permit. *
5.5		33 Description of analytical methods to be used to collect and analyze the samples from each location. *
5.5		34 Appendix B rationale for NTU values at all outfall sampling points where applicable. *
5.5		35 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged also provide a summary chart of the justification and analysis for the representative sampling as applicable. *
5.1-5.2		36 A description of appropriate controls and measures that will be implemented at the construction site including: (1) initial sediment storage requirements and perimeter control BMPs, (2) intermediate grading and drainage BMPs, and (3) final BMPs. For construction sites where there will be no mass grading and the initial perimeter control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the Plan may combine all of the BMPs into a single phase. *
ALL		37 Graphic scale and North arrow.
ALL		38 Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following: Existing Contours: USGS 1": 2000' Topographical Sheets; Proposed Contours: 1": 400' Centerline Profile
N/A		39 Use of alternative BMPs whose performance has been documented to be equivalent to or superior to conventional BMPs as certified by a Design Professional (unless disapproved by GAEPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gaswcc.georgia.gov.
N/A		40 Use of alternative BMP for application to the Equivalent BMP List. Please refer to Appendix A-2 of the Manual for Erosion & Sediment Control in Georgia 2016 Edition. *
1.1		41 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to State waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
1.1		42 Delineation of on-site wetlands and all State waters located on and within 200 feet of the project site.
Hydro		43 Delineation and acreage of contributing drainage basins on the project site.
Hydro		44 Delineate on-site drainage and off-site watersheds using USGS 1": 2000' topographical sheets.
Hydro		45 An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
0.2		46 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
1.1		47 Soil series for the project site and their delineation.
5.1-5.2		48 The limits of disturbance for each phase of construction.
0.2		49 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the Plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual must be included for structural BMPs and all calculations used by the design professional to obtain the required sediment storage when using equivalent controls. When discharging from sediment basins and impoundments, permittees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the Plan.
5.1-5.2		50 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
5.6		51 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
5.1-5.2		52 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of year that seeding will take place and for the appropriate geographic region of Georgia.

* If using this checklist for a project that is less than 1 acre and not part of a common development but within 200 ft of a perennial stream, the * checklist items would be N/A.

Effective January 1, 2024

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
111 Perimeter Road, Suite A
Perry, Georgia 31069
P.O. Box 1821
Perry, Georgia 31069
phone: (478) 224-7070 fax: (478) 224-7072
www.bryantenglle.com

COUNTY:	HOUSTON
LL/DISTRICT:	6/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

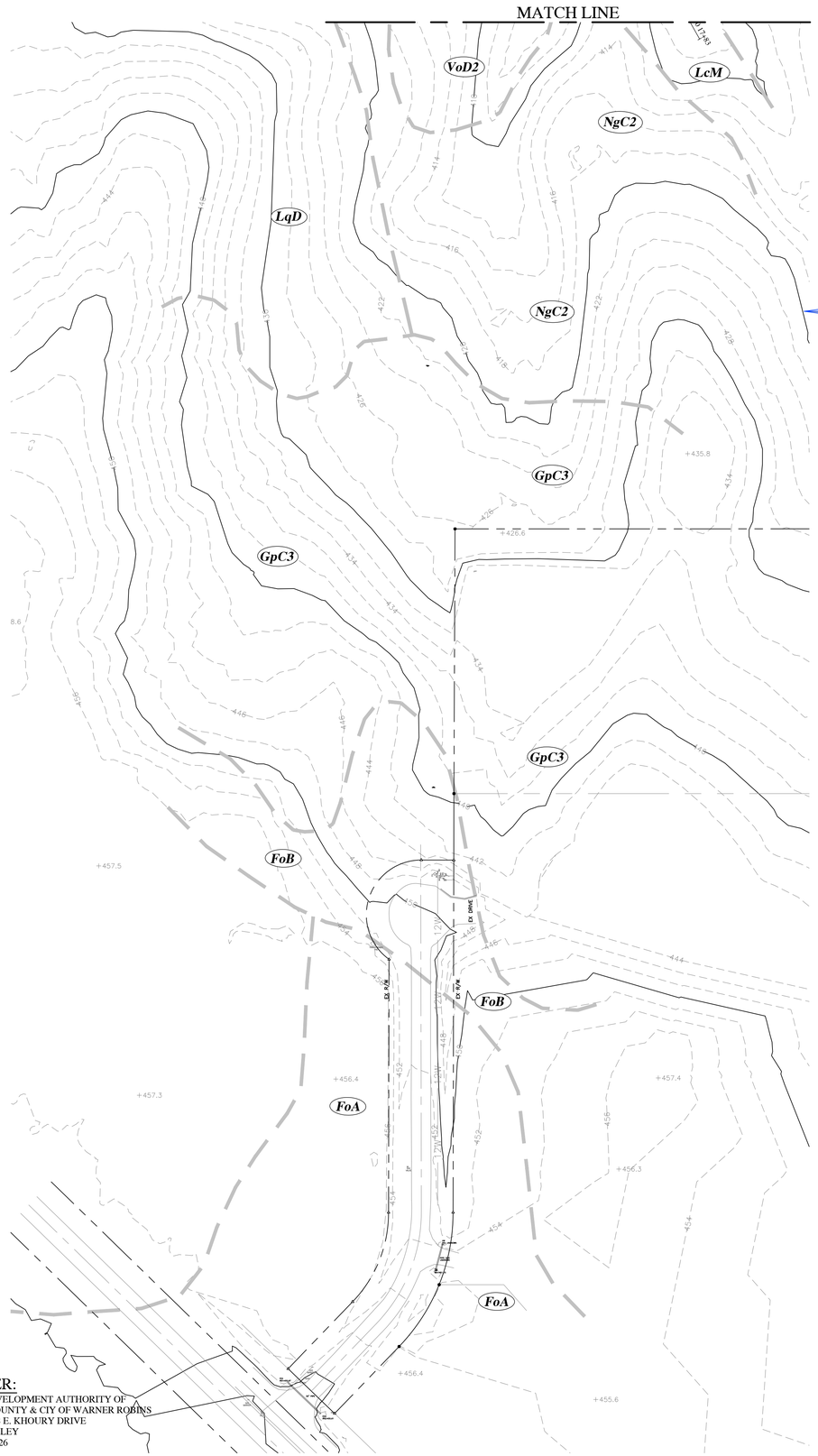
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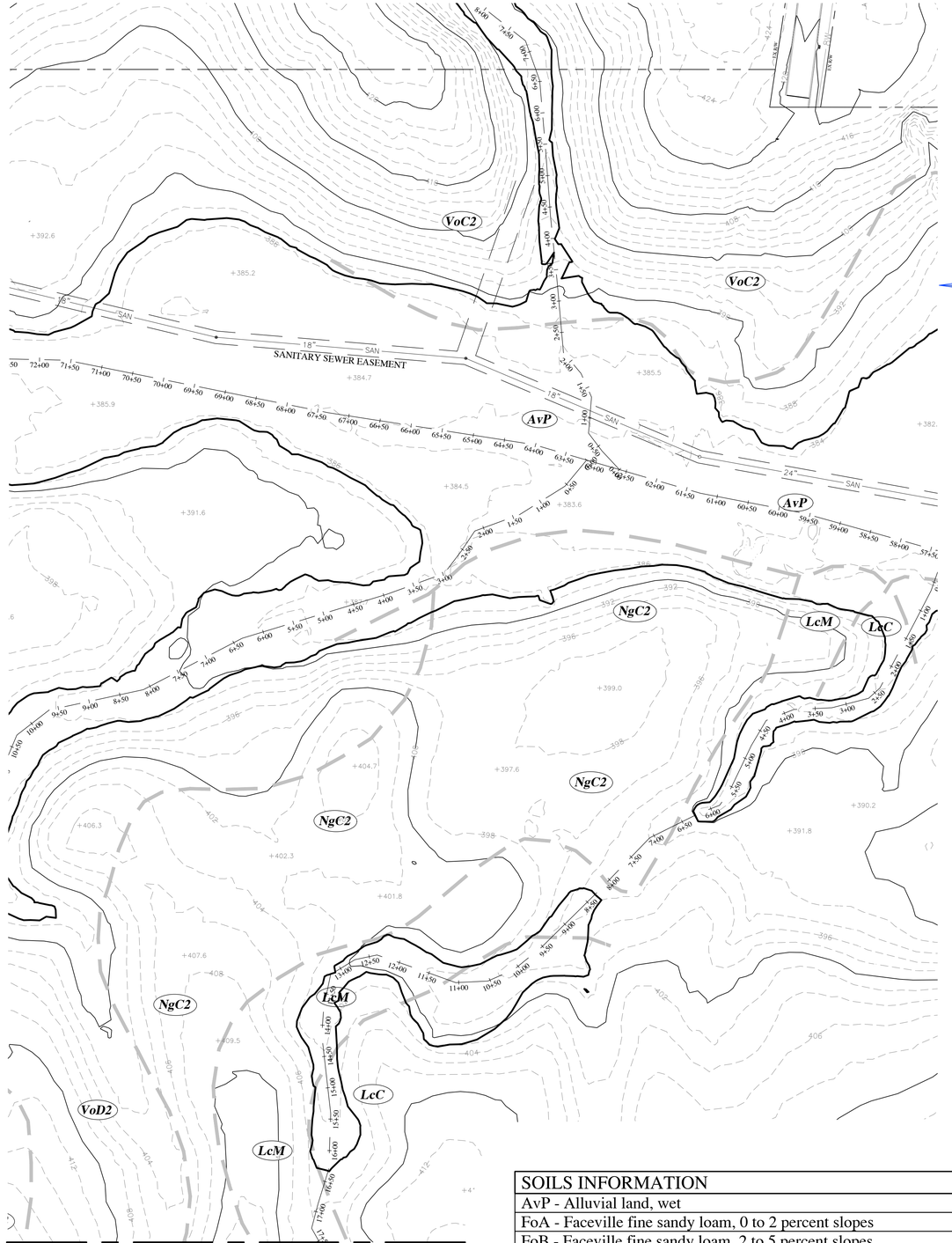
GENERAL NOTES FOR: PETE'S WAY EXTENSION — CITY OF WARNER ROBINS, GEORGIA

REVISIONS NO.	DATE	DESCRIPTION

SHEET NO. C-0.2

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG(12/4/2024 9:17 AM)





SOILS INFORMATION
AvP - Alluvial land, wet
FoA - Faceville fine sandy loam, 0 to 2 percent slopes
FoB - Faceville fine sandy loam, 2 to 5 percent slopes
GpC3 - Greenville clay loam, 5 to 8 percent slopes, severely eroded
LcC- Lucy sand, 5 to 8 percent slopes
LcM- Local alluvial land
LqD- Lakeland fine sand, 5 to 12 percent slopes
NgC2- Norfolk loamy fine sand, 5 to 8 percent slopes eroded
VOD2- Vaucluse-Hoffman complex, 8 to 12 percent slopes, eroded

100 50 0 100 200
GRAPHIC SCALE IN FEET
1" = 100'

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EXISTING CONDITIONS FOR:

PETE'S WAY EXTENSION

CITY OF WARNER ROBINS *GEORGIA*

REVISIONS

NO.	DATE	DESCRIPTION

SHEET NO.
C-1.1

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PETE'S WAY

3.30%

1.08%

INTERMITTENT STREAM

EPHEMERAL STREAM

WETLAND LIMITS

SUBMERGED WETLAND

SANITARY SEWER EASEMENT

GEORGIA WEST ZONE

GRAPHIC SCALE IN FEET
1" = 120'

OWNER:
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PEACH COUNTY & CIY OF WARNER ROBINS
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FORT VALLEY
478-825-3826

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OVERALL ROAD ALIGNMENT FOR:

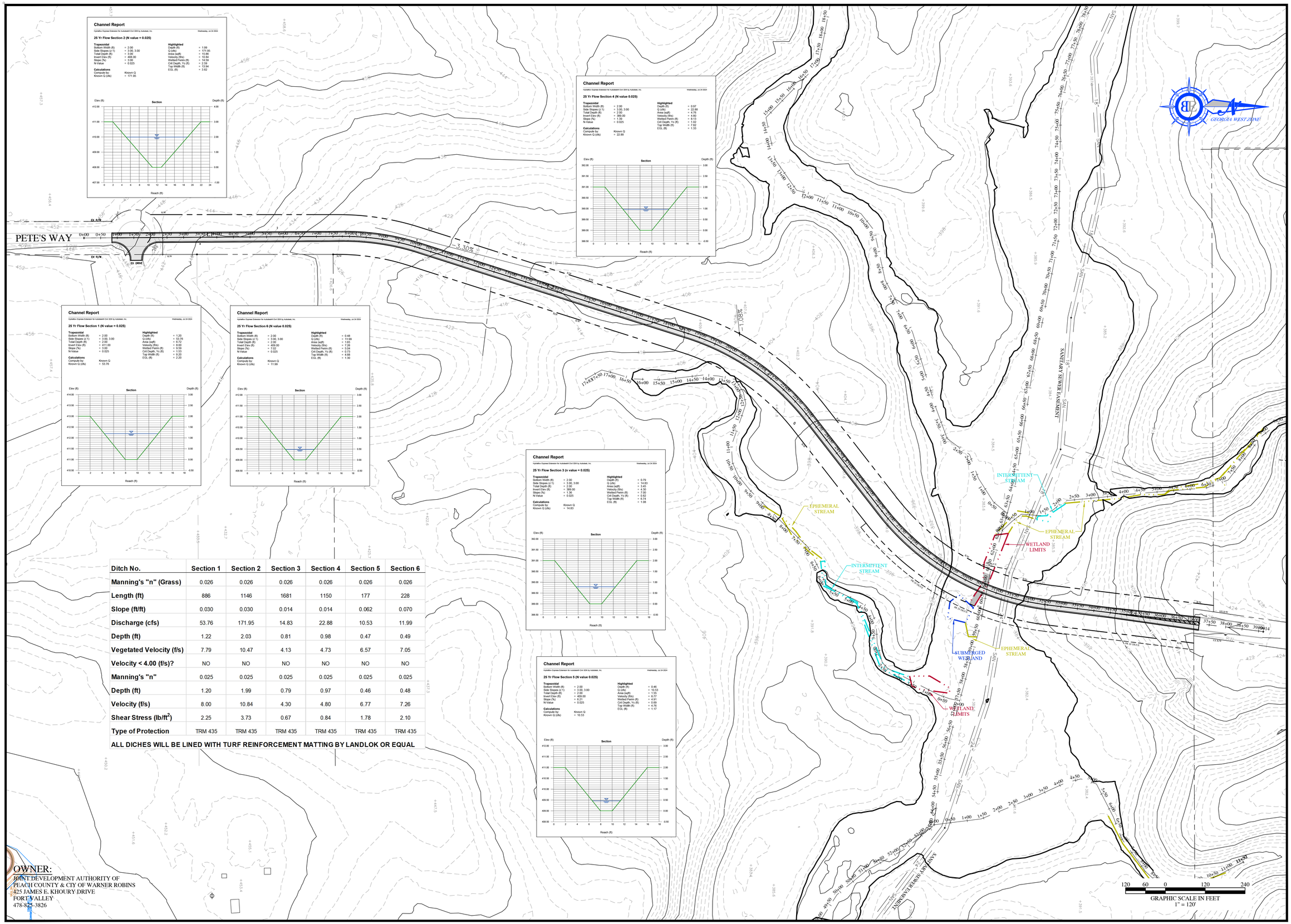
PETE'S WAY EXTENSION

CITY OF WARNER ROBINS GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

SHEET NO.

C-2.0



Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 2 (N value = 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 1.99
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 171.95
Total Depth (ft)	= 3.00	Area (sqft)	= 15.86
Invert Elev (ft)	= 408.00	Velocity (ft/s)	= 10.84
Slope (%)	= 3.00	Wetted Perim (ft)	= 14.59
N Value	= 0.025	Crit Depth, Yc (ft)	= 2.39
		Top Width (ft)	= 13.94
Calculations		EGL (ft)	= 3.82
Compute by:	Known Q		
Known Q (cfs)	= 171.95		

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 4 (N value 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 0.97
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 22.88
Total Depth (ft)	= 2.00	Area (sqft)	= 4.78
Invert Elev (ft)	= 369.00	Velocity (ft/s)	= 4.80
Slope (%)	= 1.39	Wetted Perim (ft)	= 8.13
N Value	= 0.025	Crit Depth, Yc (ft)	= 1.02
		Top Width (ft)	= 7.82
Calculations		EGL (ft)	= 1.33
Compute by:	Known Q		
Known Q (cfs)	= 22.88		

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 1 (N value = 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 1.20
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 53.76
Total Depth (ft)	= 2.00	Area (sqft)	= 6.72
Invert Elev (ft)	= 411.00	Velocity (ft/s)	= 8.00
Slope (%)	= 3.00	Wetted Perim (ft)	= 9.59
N Value	= 0.025	Crit Depth, Yc (ft)	= 1.53
		Top Width (ft)	= 9.20
Calculations		EGL (ft)	= 2.20
Compute by:	Known Q		
Known Q (cfs)	= 53.76		

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 6 (N value 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 0.48
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 11.99
Total Depth (ft)	= 2.00	Area (sqft)	= 1.65
Invert Elev (ft)	= 409.00	Velocity (ft/s)	= 7.26
Slope (%)	= 7.02	Wetted Perim (ft)	= 5.04
N Value	= 0.025	Crit Depth, Yc (ft)	= 0.73
		Top Width (ft)	= 4.84
Calculations		EGL (ft)	= 1.30
Compute by:	Known Q		
Known Q (cfs)	= 11.99		

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 3 (n value = 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 0.79
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 14.83
Total Depth (ft)	= 2.00	Area (sqft)	= 1.90
Invert Elev (ft)	= 399.00	Velocity (ft/s)	= 4.30
Slope (%)	= 1.36	Wetted Perim (ft)	= 7.00
N Value	= 0.025	Crit Depth, Yc (ft)	= 0.82
		Top Width (ft)	= 6.74
Calculations		EGL (ft)	= 1.08
Compute by:	Known Q		
Known Q (cfs)	= 14.83		

Channel Report

Hydraflow Express Extension for Autodesk® Civil 3D® by Autodesk, Inc. — Wednesday, Jul 24 2024

25 Yr Flow Section 5 (N value 0.025)

Trapezoidal		Highlighted	
Bottom Width (ft)	= 2.00	Depth (ft)	= 0.46
Side Slopes (z:1)	= 3.00, 3.00	Q (cfs)	= 10.53
Total Depth (ft)	= 2.00	Area (sqft)	= 1.61
Invert Elev (ft)	= 409.00	Velocity (ft/s)	= 6.77
Slope (%)	= 6.21	Wetted Perim (ft)	= 4.91
N Value	= 0.025	Crit Depth, Yc (ft)	= 0.69
		Top Width (ft)	= 4.76
Calculations		EGL (ft)	= 1.17
Compute by:	Known Q		
Known Q (cfs)	= 10.53		

Ditch No.	Section 1	Section 2	Section 3	Section 4	Section 5	Section 6
Manning's "n" (Grass)	0.026	0.026	0.026	0.026	0.026	0.026
Length (ft)	886	1146	1681	1150	177	228
Slope (ft/ft)	0.030	0.030	0.014	0.014	0.062	0.070
Discharge (cfs)	53.76	171.95	14.83	22.88	10.53	11.99
Depth (ft)	1.22	2.03	0.81	0.98	0.47	0.49
Vegetated Velocity (f/s)	7.79	10.47	4.13	4.73	6.57	7.05
Velocity < 4.00 (f/s)?	NO	NO	NO	NO	NO	NO
Manning's "n"	0.025	0.025	0.025	0.025	0.025	0.025
Depth (ft)	1.20	1.99	0.79	0.97	0.46	0.48
Velocity (f/s)	8.00	10.84	4.30	4.80	6.77	7.26
Shear Stress (lb/ft^2)	2.25	3.73	0.67	0.84	1.78	2.10
Type of Protection	TRM 435	TRM 435	TRM 435	TRM 435	TRM 435	TRM 435

ALL DICHES WILL BE LINED WITH TURF REINFORCEMENT MATTING BY LANDLOK OR EQUAL

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
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425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GEORGIA
REGISTERED
No. 035595
PROFESSIONAL
ENGINEER
CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
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www.bryanteng1lc.com

COUNTY:	HOUSTON
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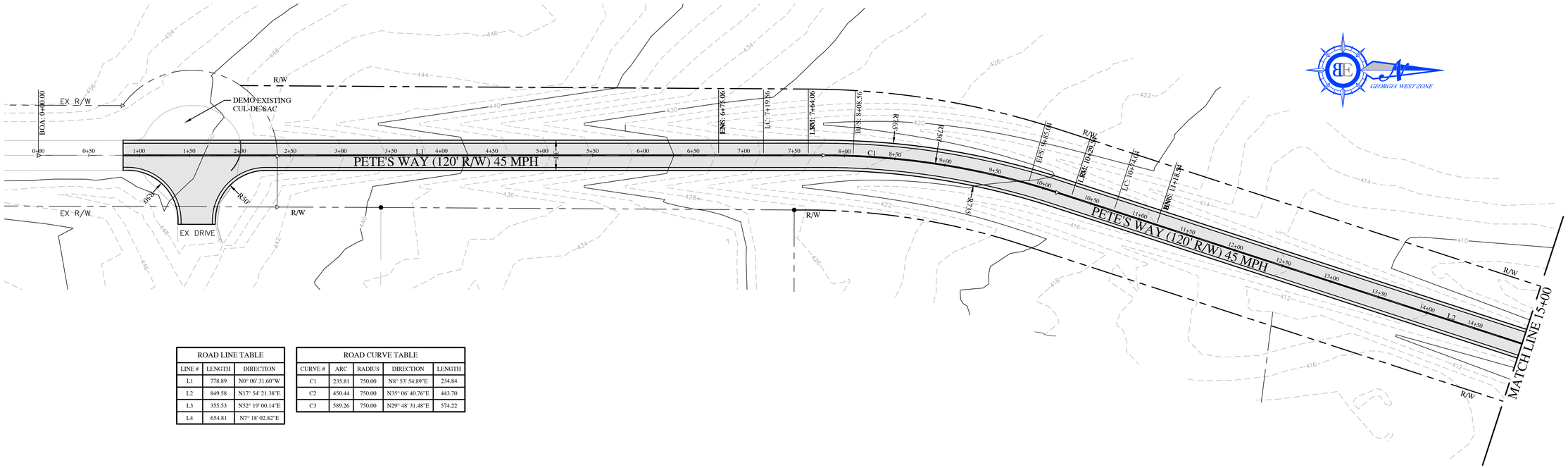
OVERALL ROAD DITCH BASIN MAP FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS *GEORGIA*

REVISIONS

NO.	DATE	DESCRIPTION

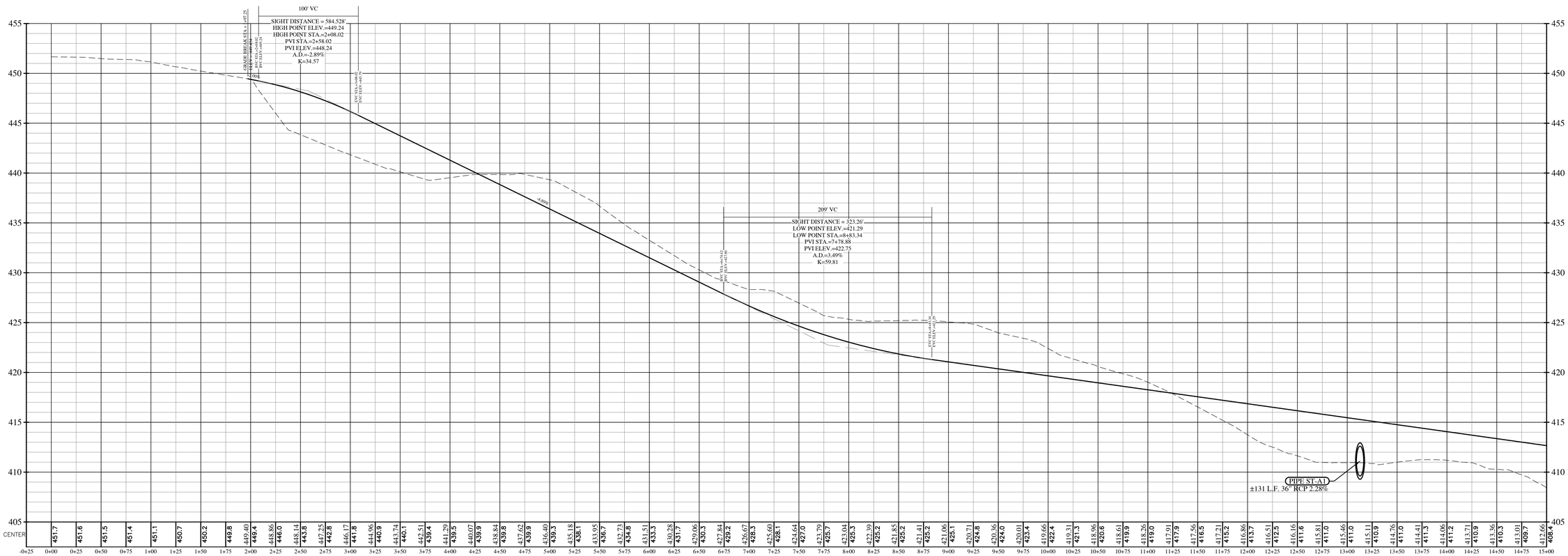
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C-2.1

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ROAD LINE TABLE		
LINE #	LENGTH	DIRECTION
L1	778.89	N0° 06' 31.60"W
L2	849.58	N17° 54' 21.38"E
L3	355.53	N52° 19' 00.14"E
L4	654.81	N7° 18' 02.82"E

ROAD CURVE TABLE				
CURVE #	ARC	RADIUS	DIRECTION	LENGTH
C1	235.81	750.00	N8° 53' 54.89"E	234.84
C2	450.44	750.00	N35° 06' 40.76"E	443.70
C3	589.26	750.00	N29° 48' 31.48"E	574.22



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PETE'S WAY
SCALE: 1" = 50' HORZ.
1" = 5' VERTICAL.

GRAPHIC SCALE IN FEET
1" = 50'

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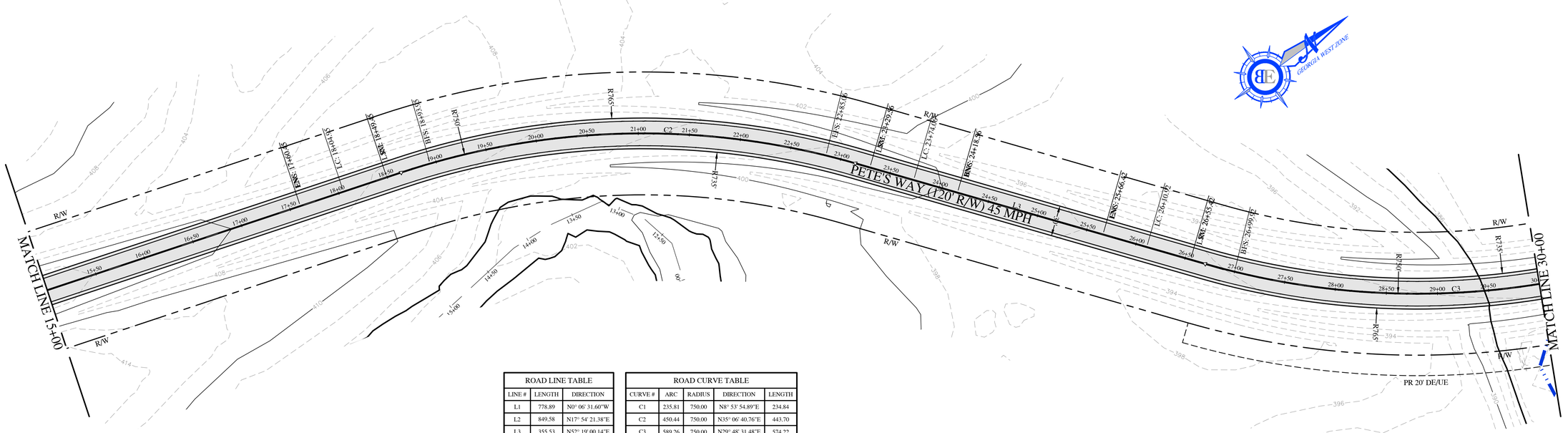
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PLAN AND PROFILE FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-2.2

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50 25 0 50 100
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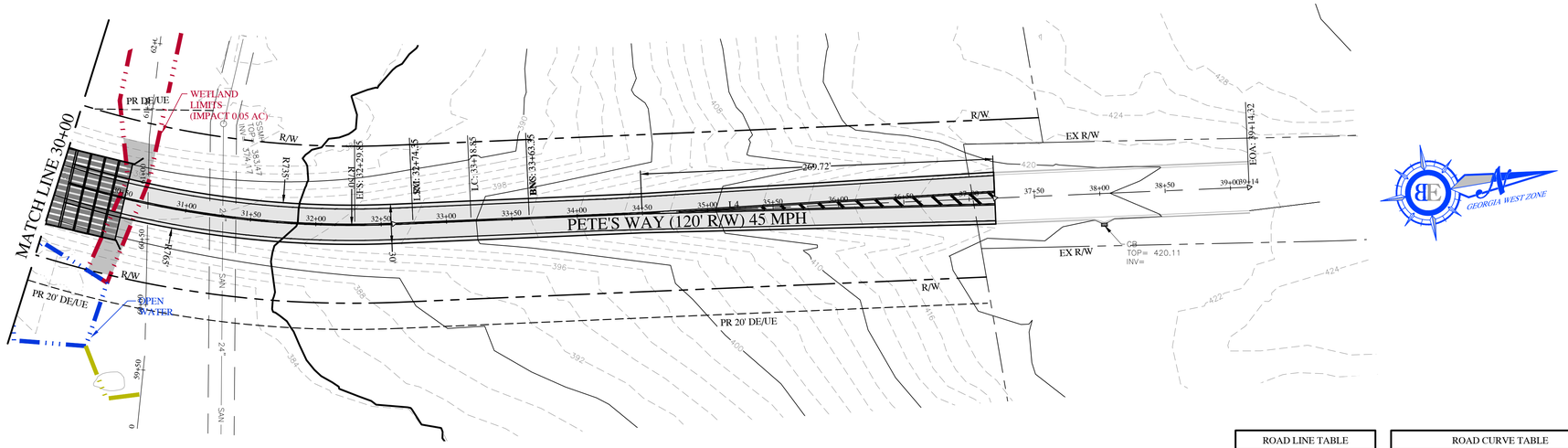
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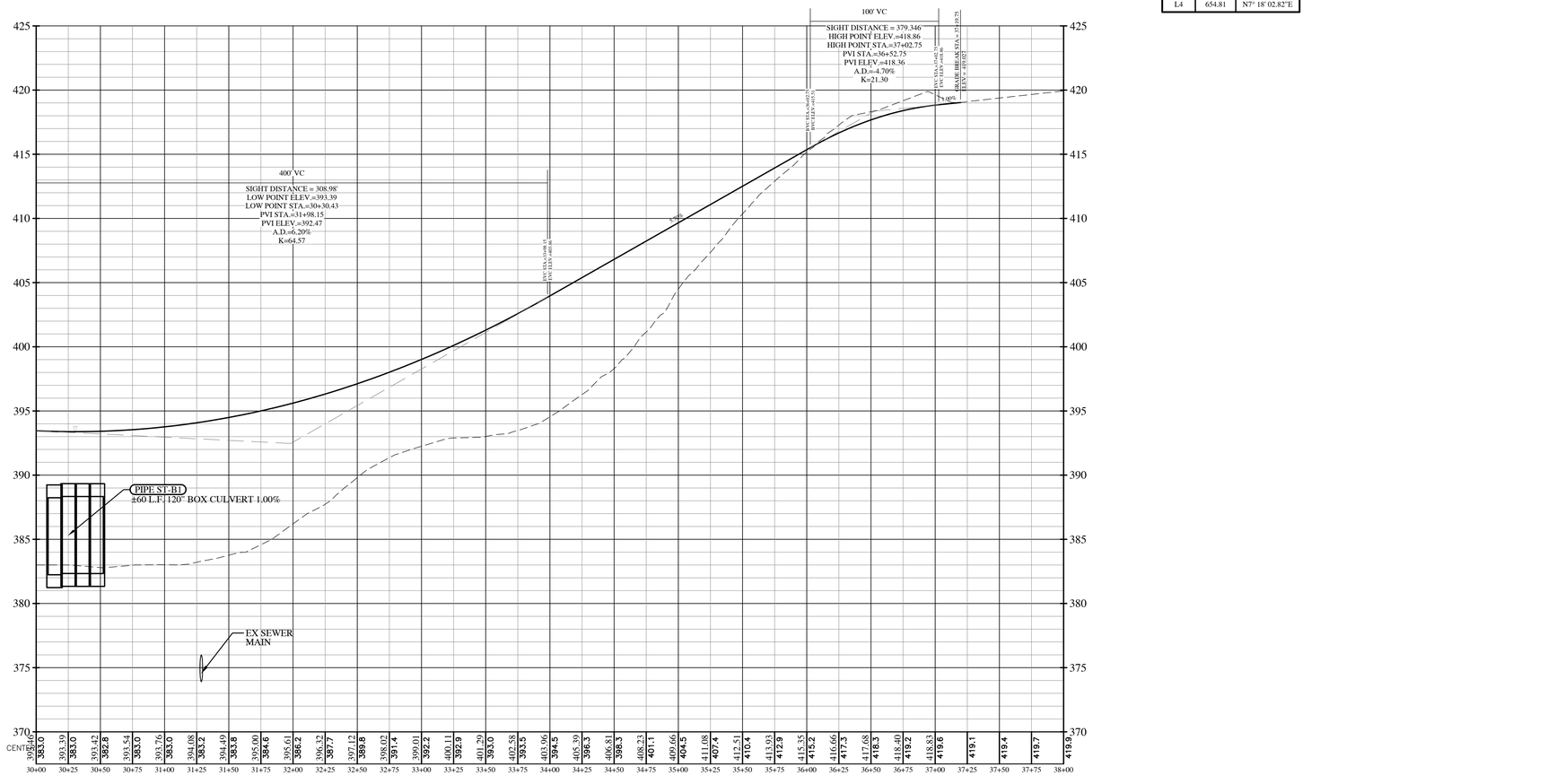
SHEET NO.
C-2.3

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GRAPHIC SCALE IN FEET
1" = 50'

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SCALE:	1"= 50'
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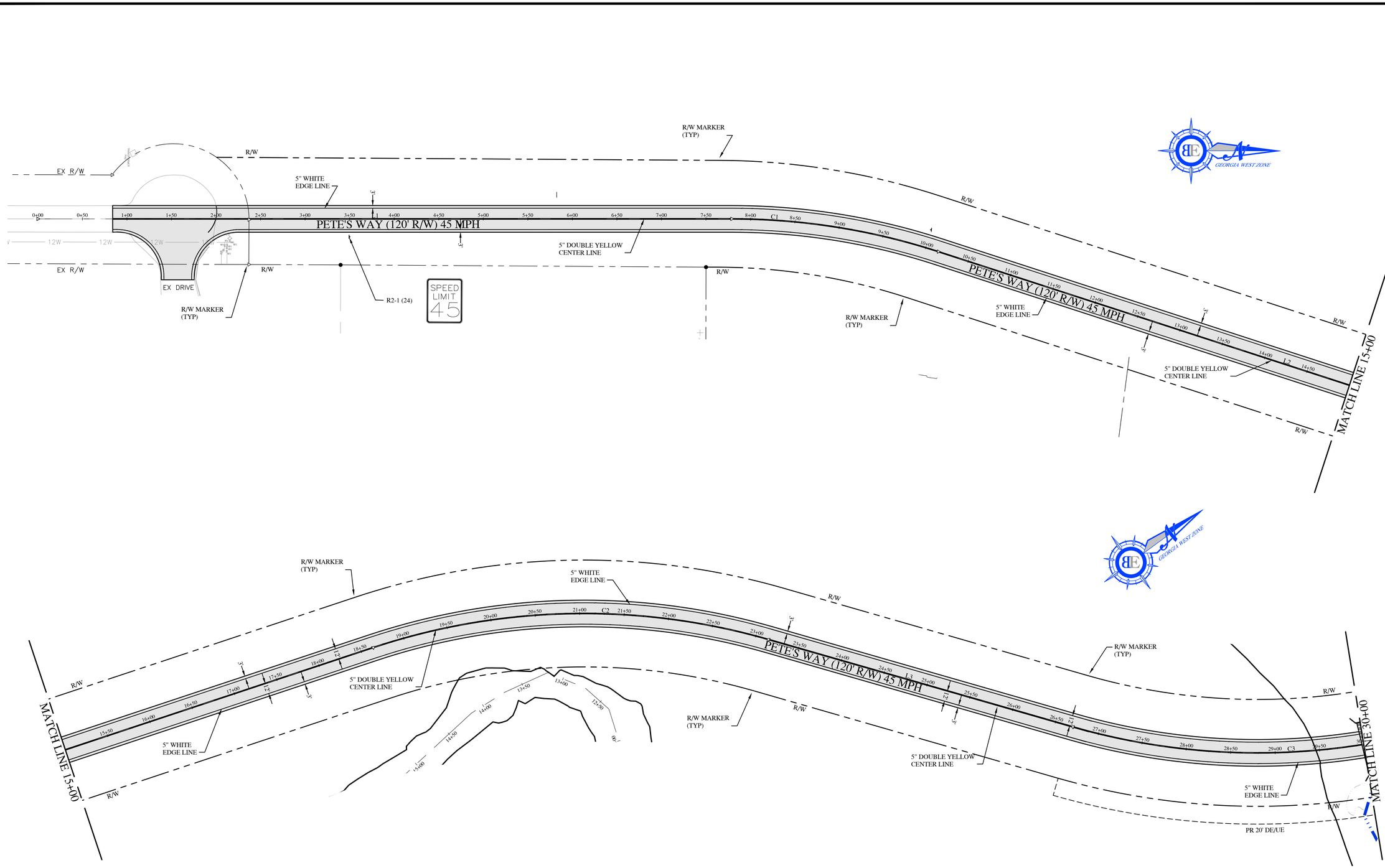
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PLAN AND PROFILE FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-2.4

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OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

50 25 0 50 100
GRAPHIC SCALE IN FEET
1" = 50'

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT
CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596
BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryanteng1lc.com

COUNTY:	HOUSTON
L.L./DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
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JOB NO.:	0322-002

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RIGHT-OF-WAY, STRIPING PLAN, & SIGNAGE PLAN FOR

PETE'S WAY EXTENSION

GEORGIA

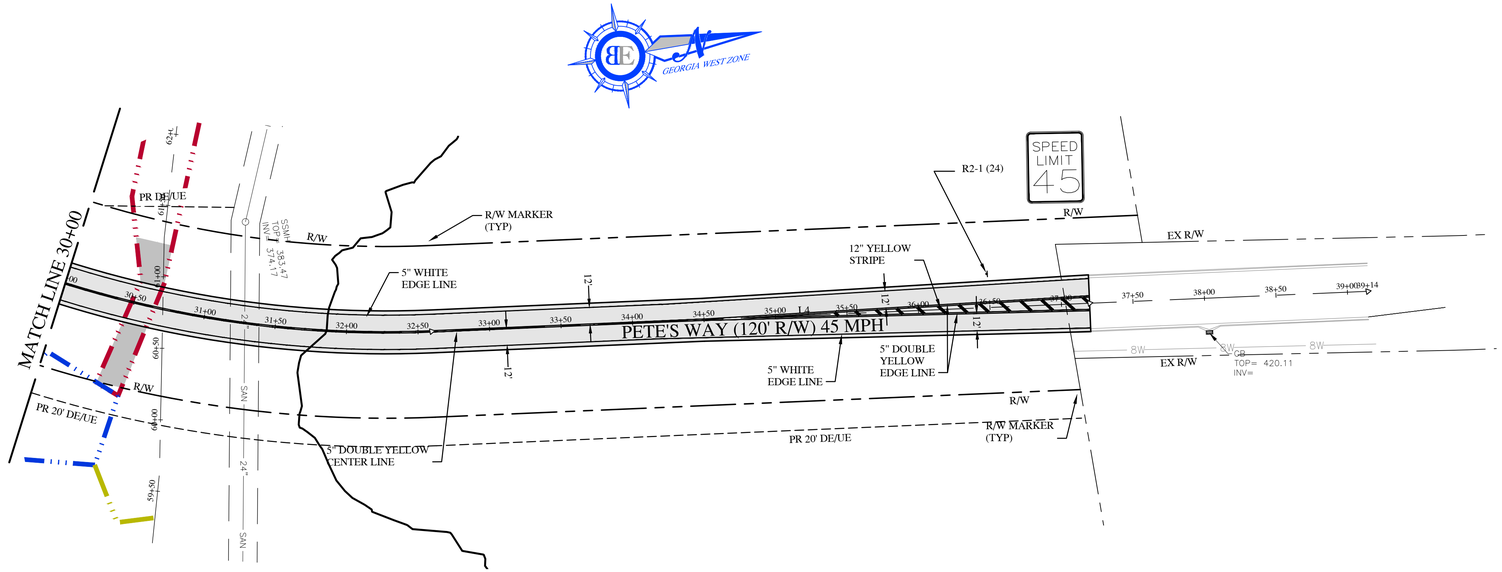
CITY OF WARNER ROBINS

REVISIONS

NO.	DATE	DESCRIPTION

SHEET NO.
C-2.5

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GEORGIA WEST ZONE

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

50 25 0 50 100
GRAPHIC SCALE IN FEET
1" = 50'

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

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www.bryanteng1lc.com

COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
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RIGHT-OF-WAY, STRIPING PLAN & SIGNAGE PLAN FOR:

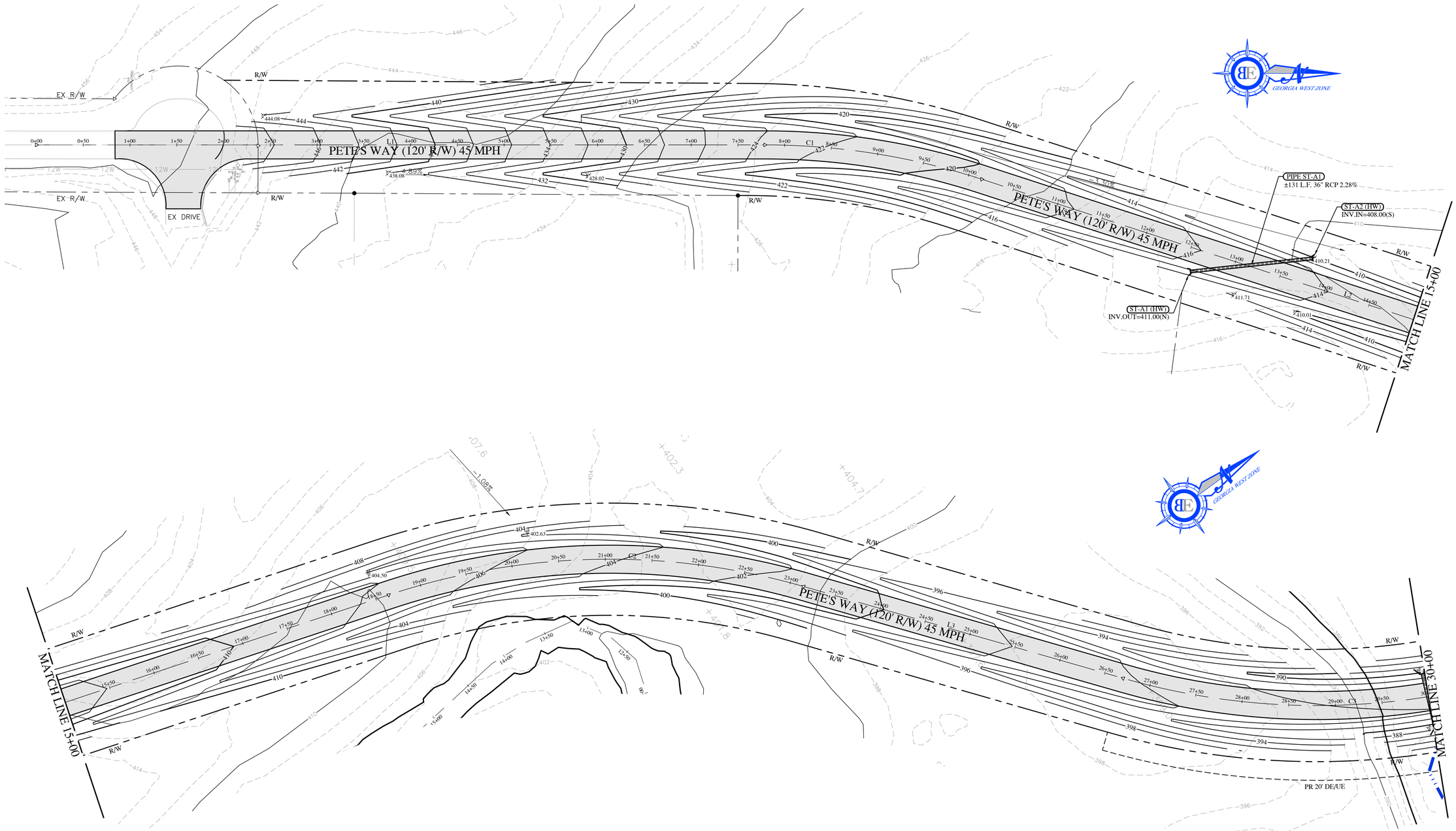
PETE'S WAY EXTENSION

CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-2.6

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG (12/4/2024 9:20 AM)



OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GRAPHIC SCALE IN FEET
1" = 50'

GEORGIA REGISTERED No. 033595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

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www.bryanteng1lc.com

COUNTY:	HOUSTON
L1/DISTRICT:	6/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

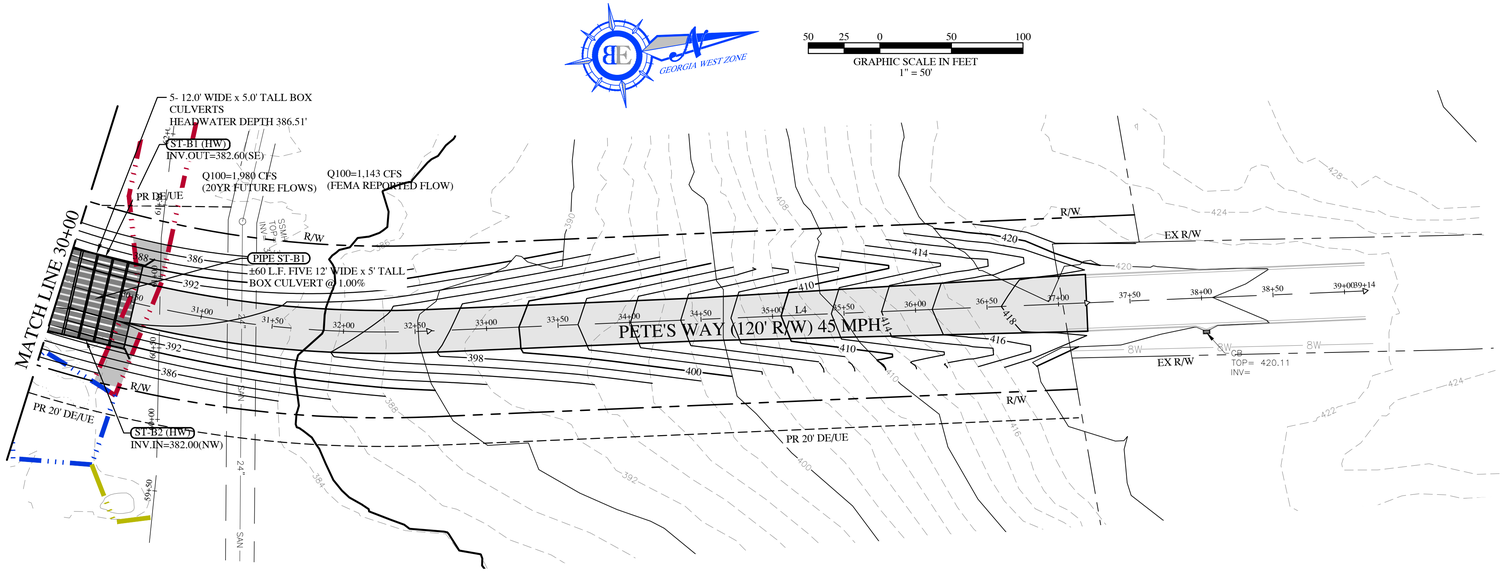
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GRADING & DRAINAGE PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

SHEET NO.
C-3.1

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GEORGIA WEST ZONE

50 25 0 50 100

GRAPHIC SCALE IN FEET
1" = 50'

ENGINEERING "NO-RISE" CERTIFICATION

This is to certify that I am a duly qualified engineer licensed to practice in the State of Georgia.

It is to further certify that the attached technical data supports the fact that proposed Pete's Way Extension will not impact the 100 year flood elevations, floodway elevations and floodway widths on Sandy Run Creek at published sections in the Flood Insurance Study for City of Warner Robins, Peach County, dated September 26, 2008 and will not impact the 100 year flood elevations, floodway elevations, and floodway widths at unpublished cross-sections in the vicinity of the proposed development.

DESIGN PROFESSIONAL	034595 LICENSE #	11/8/24 DATE

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GEORGIA REGISTERED No. 034595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

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COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

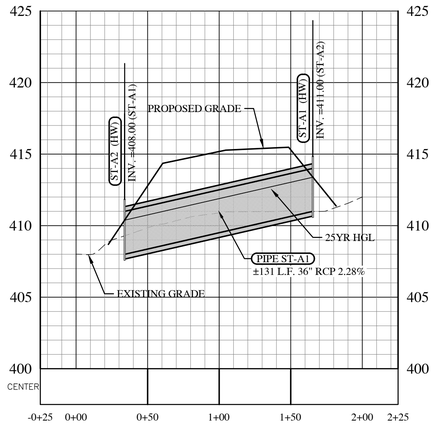
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GRADING & DRAINAGE PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

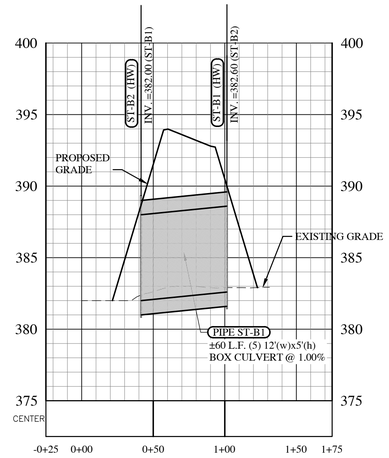
REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-3.2

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG (12/4/2024 9:20 AM)



STORM A
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



STORM B
SCALE: 1" = 50' HORZ.
1" = 5' VERT.

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GEORGIA
REGISTERED
No. 035595
PROFESSIONAL
ENGINEER
CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

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COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

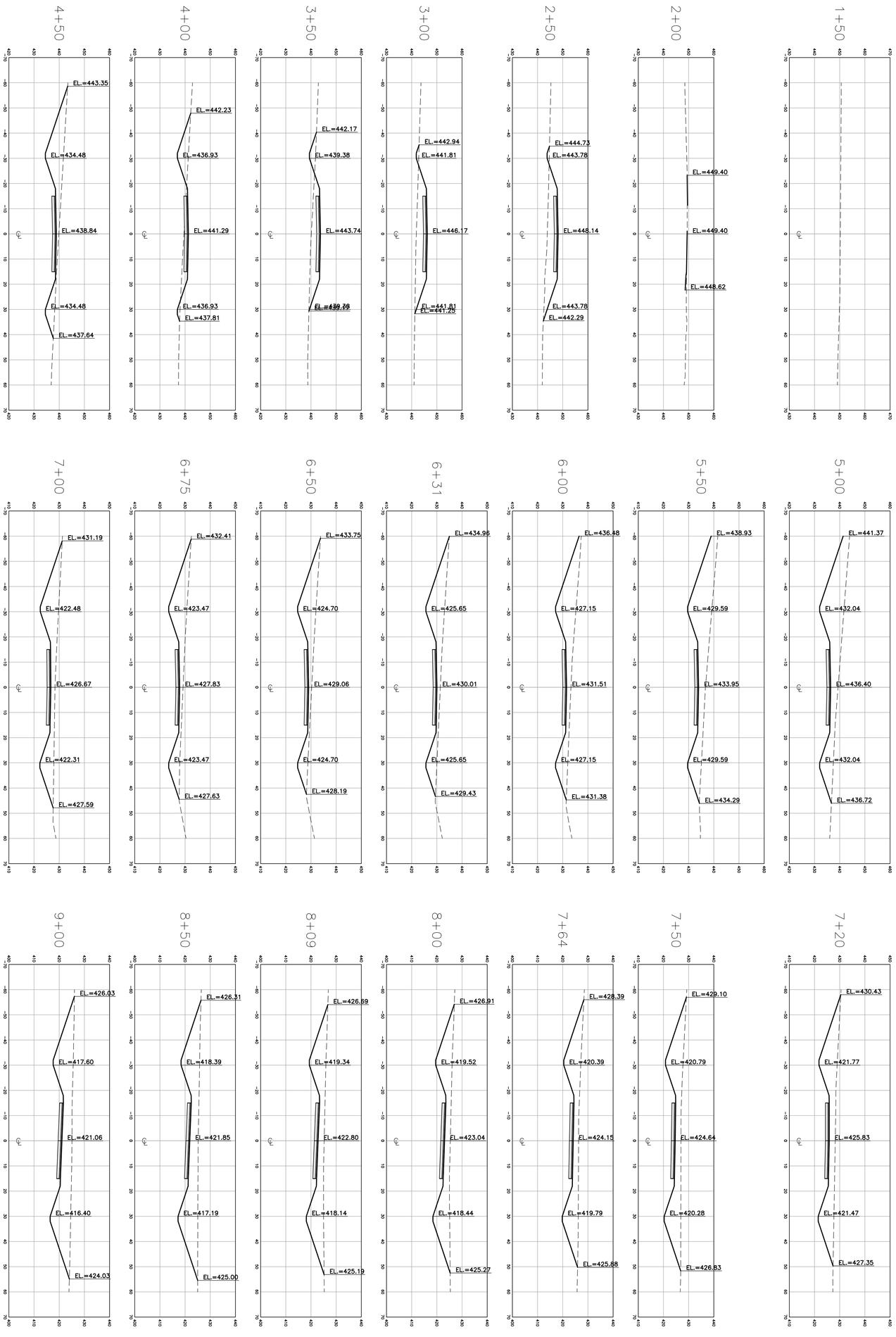
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DRAINAGE PROFILES FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-3.3

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SHEET NO.
C-3.4

REVISIONS		
NO.	DATE	DESCRIPTION

CROSS SECTIONS FOR:

PETE'S WAY EXTENSION

CITY OF WARNER ROBINS *GEORGIA*

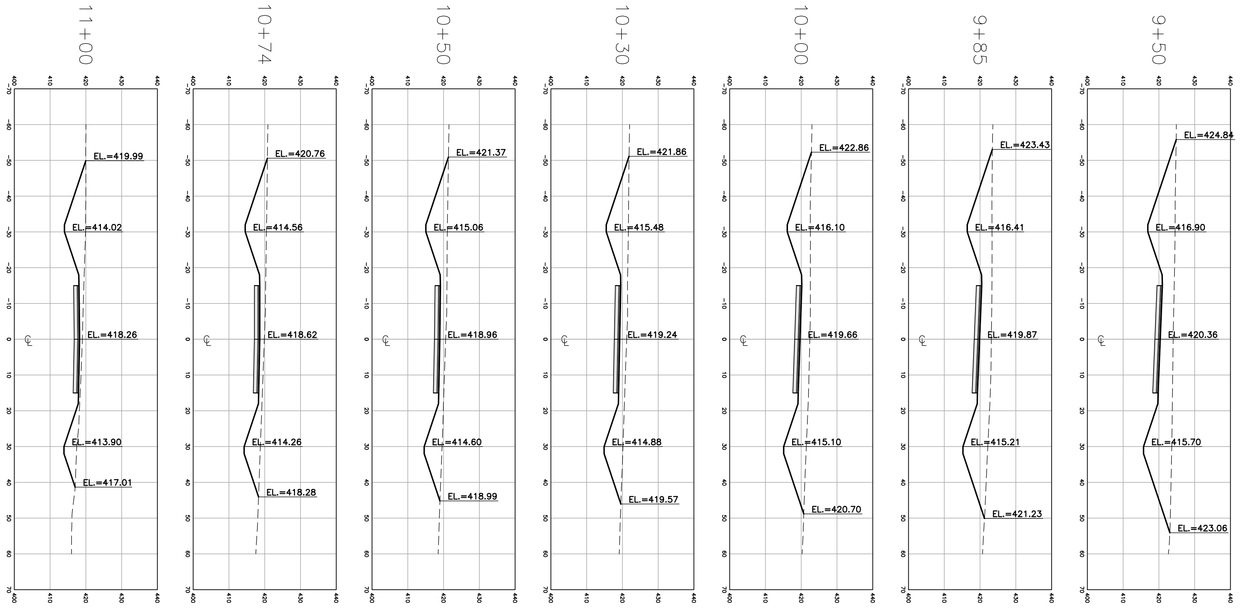
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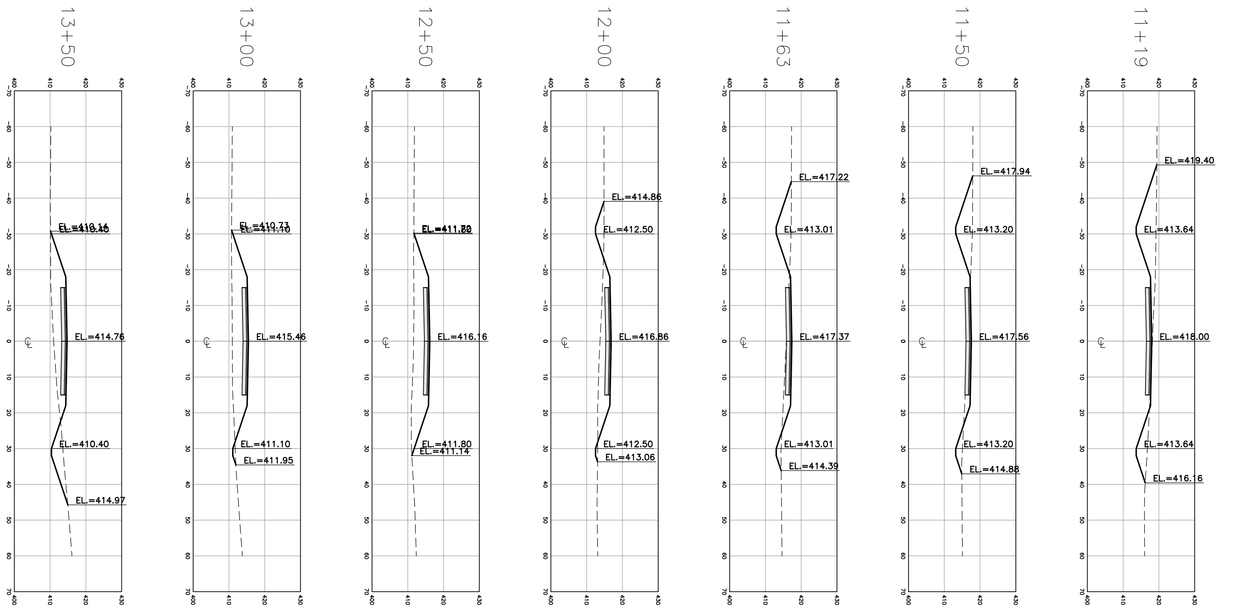
COUNTY:	*HOUSTON*
LL/DISTRICT:	*63/5*
DWG:	*0322-002-MASTER*
DATE:	*7/16/24*
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JOB NO.:	*0322-002*

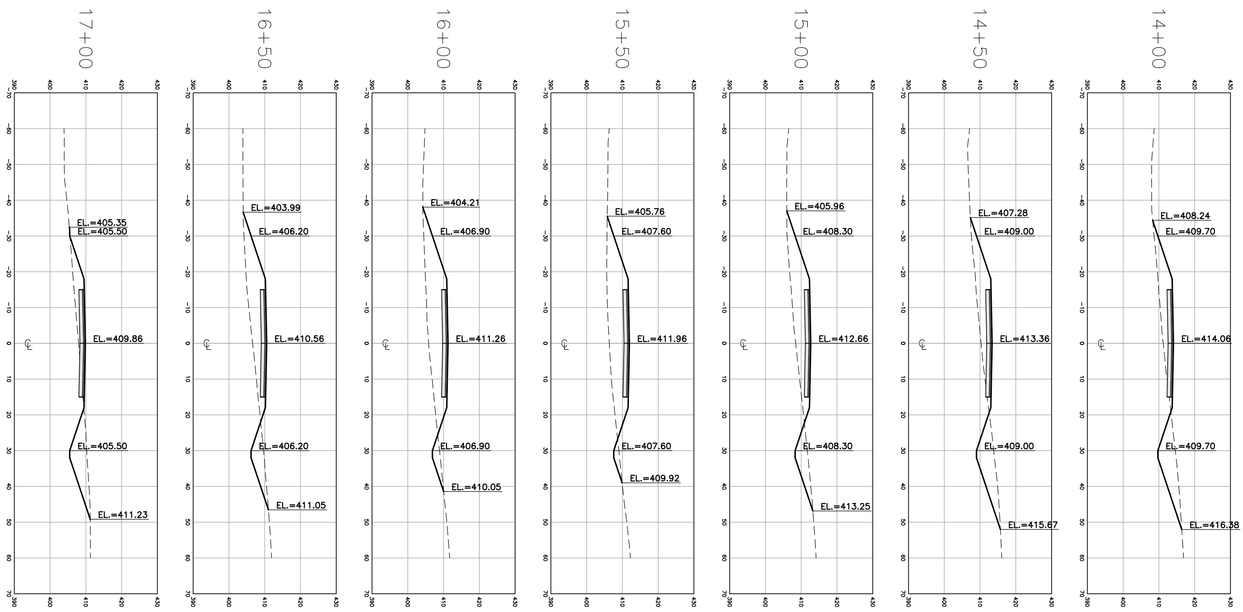
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P.O. Box 1821, Perry, Georgia 31069

CHADLE BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24296

GEORGIA REGISTERED PROFESSIONAL ENGINEER
CHADLE BRYANT RUSSELL
24296







SHEET NO.
C-3.5

REVISIONS		
NO.	DATE	DESCRIPTION

CROSS SECTIONS FOR:

PETE'S WAY EXTENSION

CITY OF WARNER ROBINS *GEORGIA*

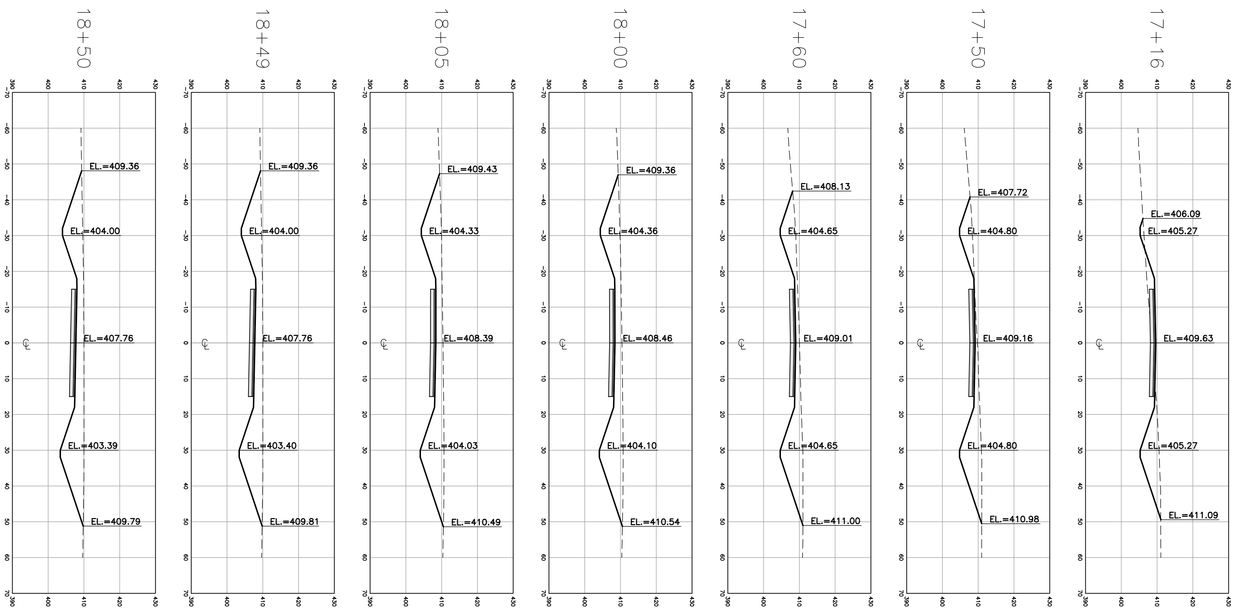
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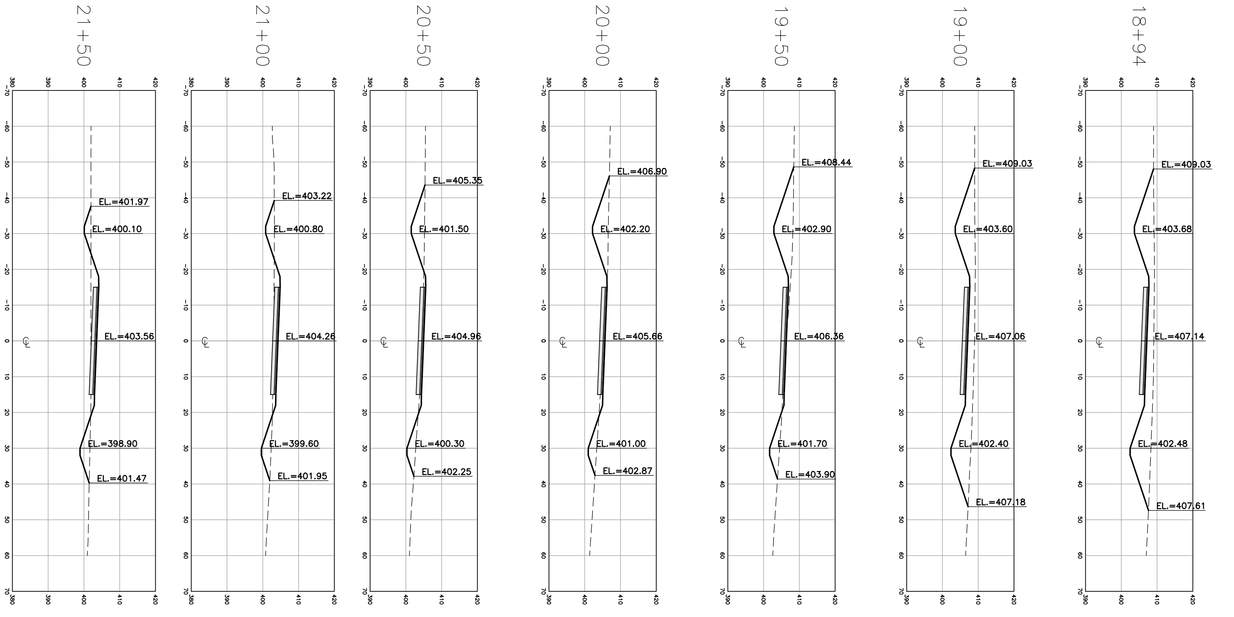
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LL/DISTRICT:	*63/5*
DWG:	*0322-002-MASTER*
DATE:	*7/16/24*
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JOB NO.:	*0322-002*

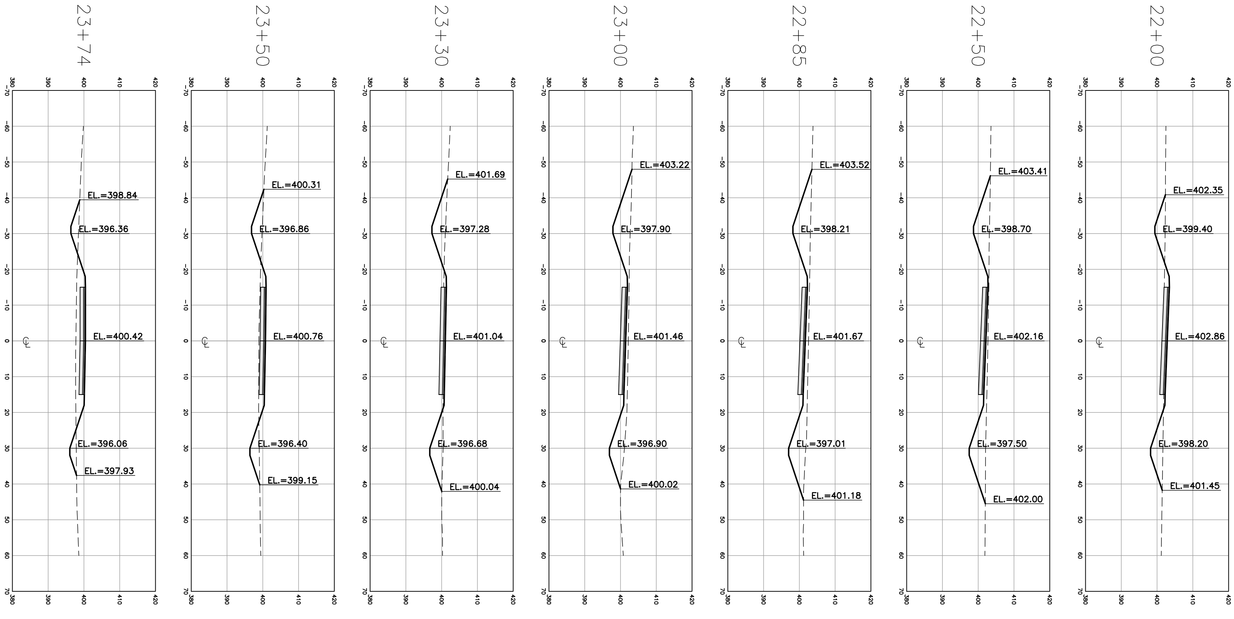
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CHADLE BRYANT, P.E.
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CERTIFICATION # 24596

GEORGIA REGISTERED PROFESSIONAL ENGINEER CHADLE BRYANT







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C-3.6

REVISIONS		
NO.	DATE	DESCRIPTION

CROSS SECTIONS FOR:

PETE'S WAY EXTENSION

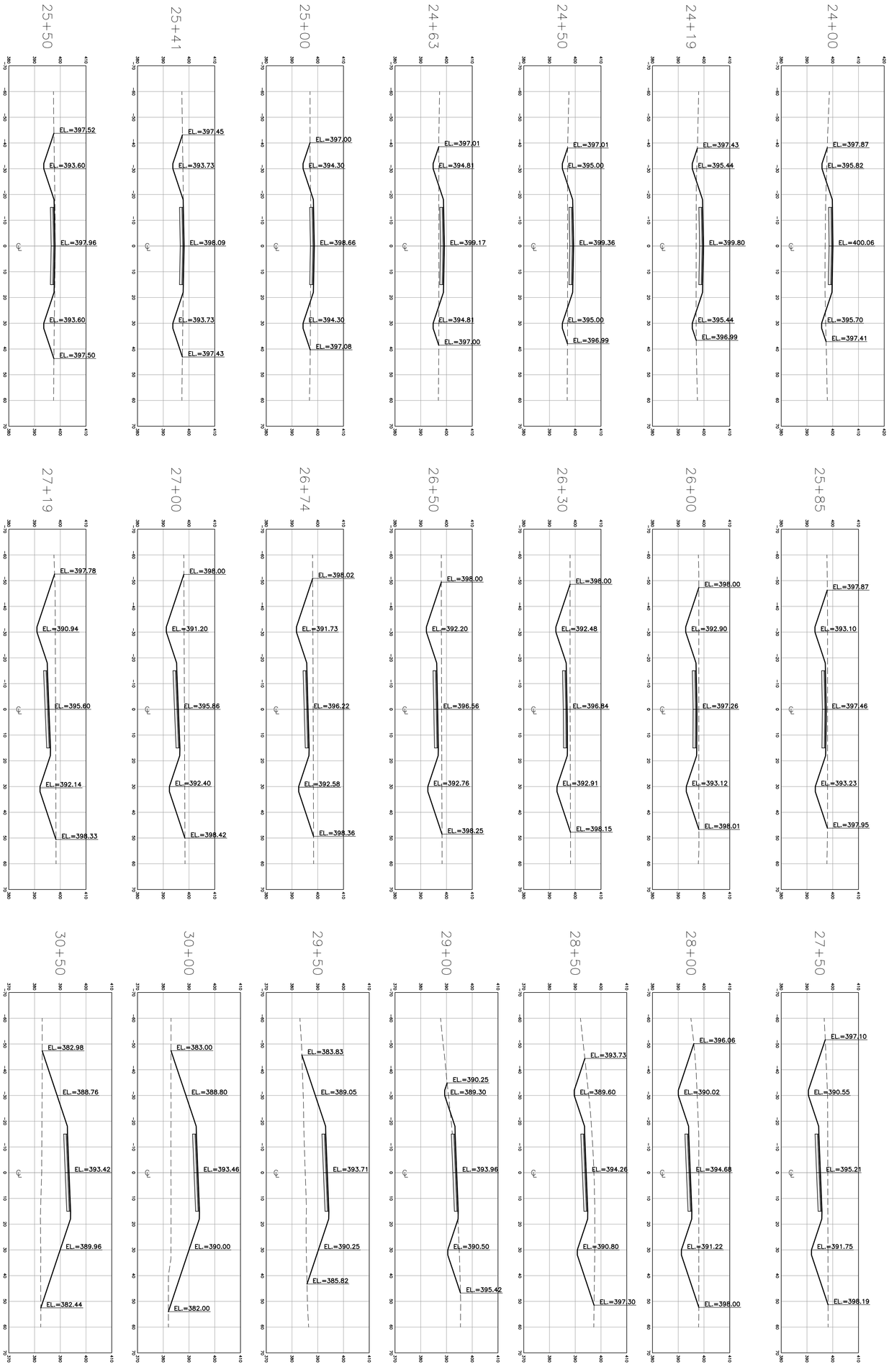
CITY OF WARNER ROBINS *GEORGIA*

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CERTIFICATION # 2696



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C-3.7

REVISIONS		
NO.	DATE	DESCRIPTION

CROSS SECTIONS FOR:

PETE'S WAY EXTENSION

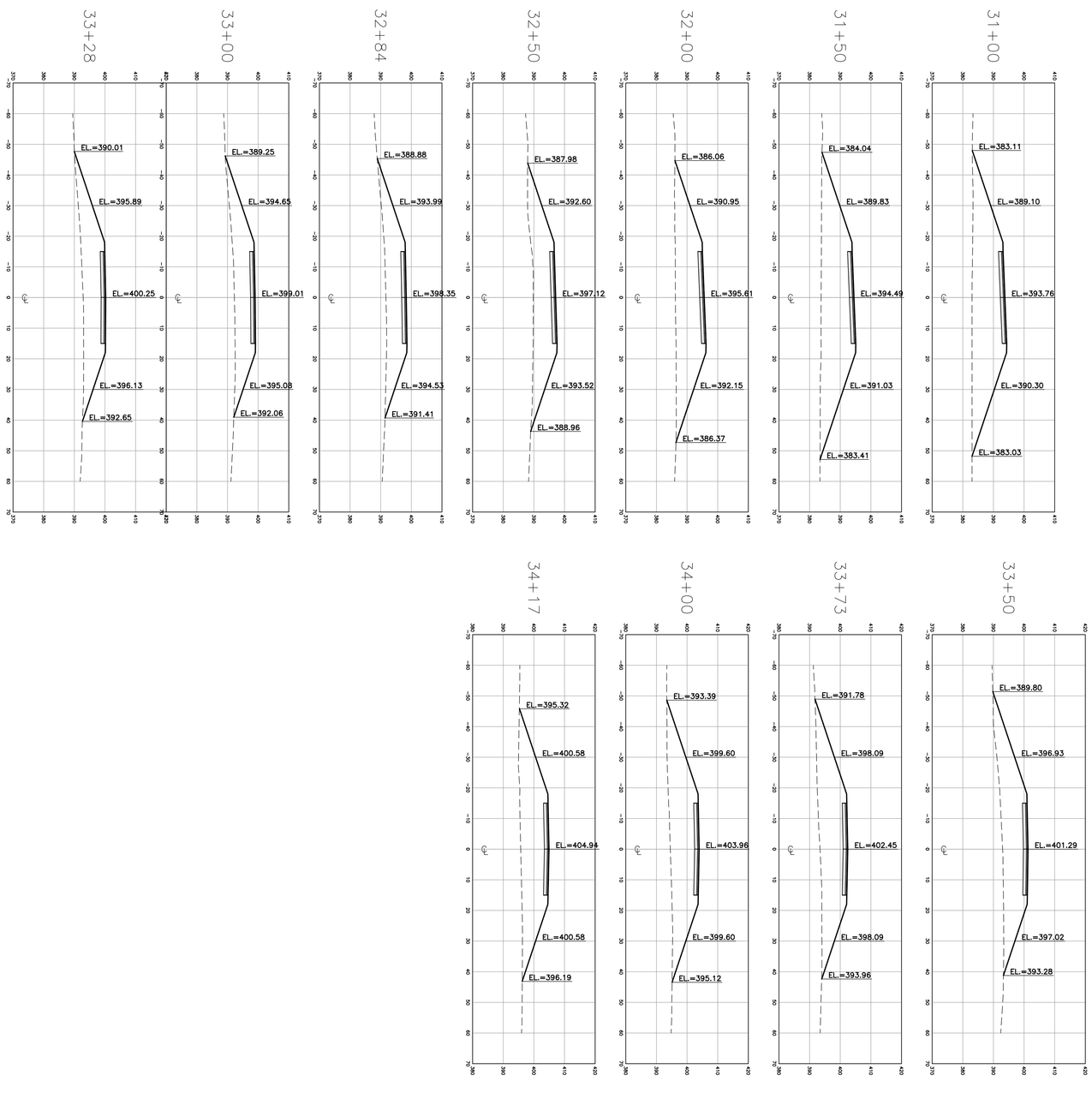
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GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596



SHEET NO.
C-3.8

REVISIONS		
NO.	DATE	DESCRIPTION

CROSS SECTIONS FOR:

PETE'S WAY EXTENSION

CITY OF WARNER ROBINS *GEORGIA*

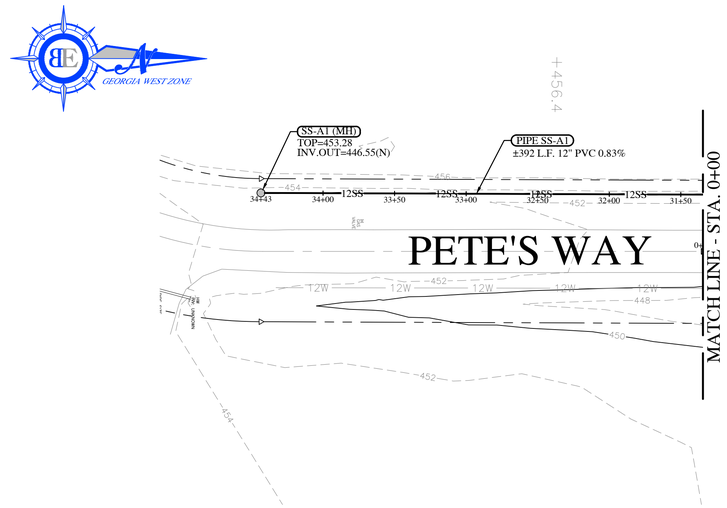
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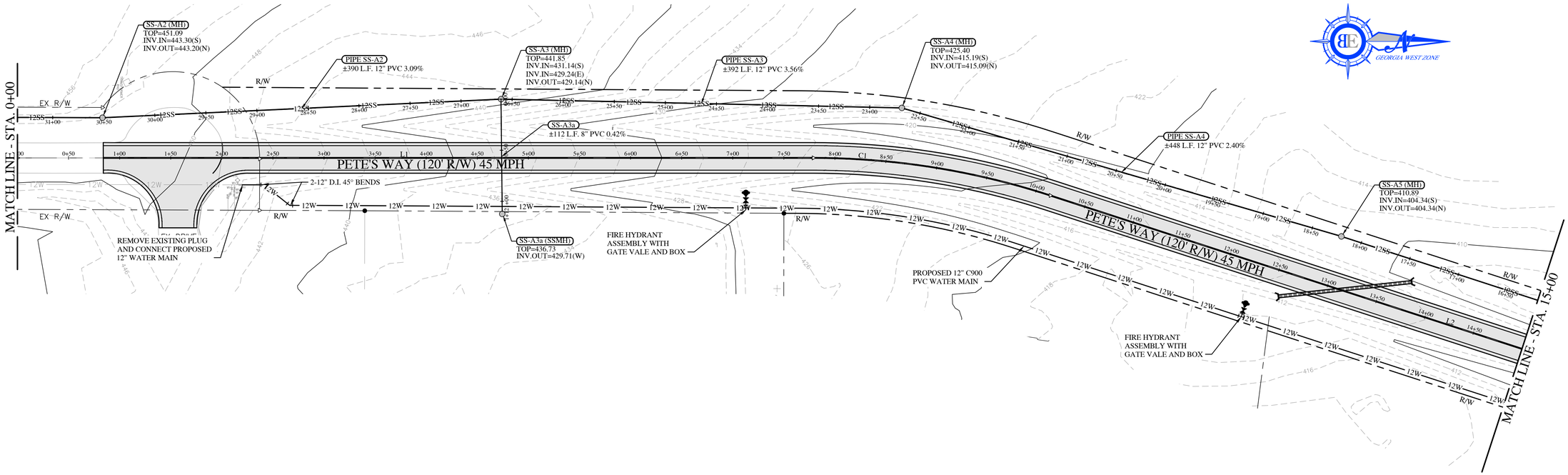
COUNTY:	*HOUSTON*
LL/DISTRICT:	*63/5*
DWG:	*0322-002-MASTER*
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CHADLE BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 2696

GEORGIA REGISTERED PROFESSIONAL ENGINEER CHADLE RUSSELL BRYANT





OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

50 25 0 50 100
GRAPHIC SCALE IN FEET
1" = 50'

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
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COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
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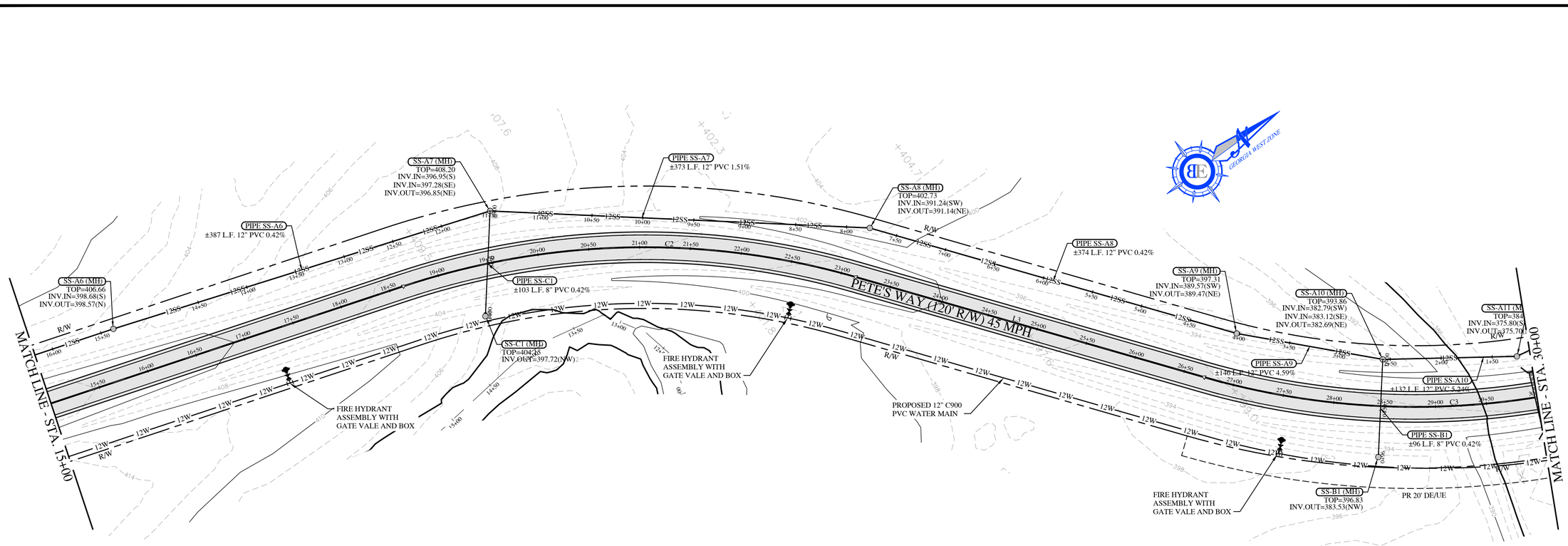
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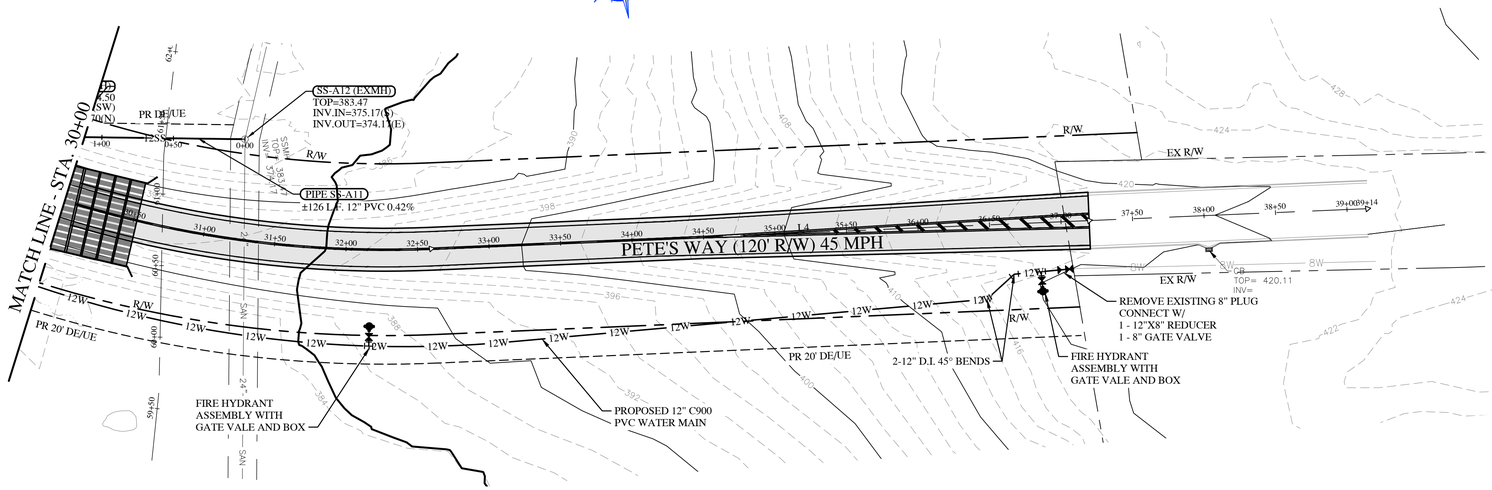
UTILITY PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS *GEORGIA*

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-4.1

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG(12/4/2024 9:21 AM)





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UTILITIES PROTECTION CENTER
STATE WIDE
1 800 282-7411
IT'S THE LAW

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

GRAPHIC SCALE IN FEET
1" = 50'

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GEORGIA
REGISTERED
No. 033595
PROFESSIONAL
CHAD RUSSELL BRYANT
ENGINEER

CHAD R. BRYANT, P.E.
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phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryantengllc.com

COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

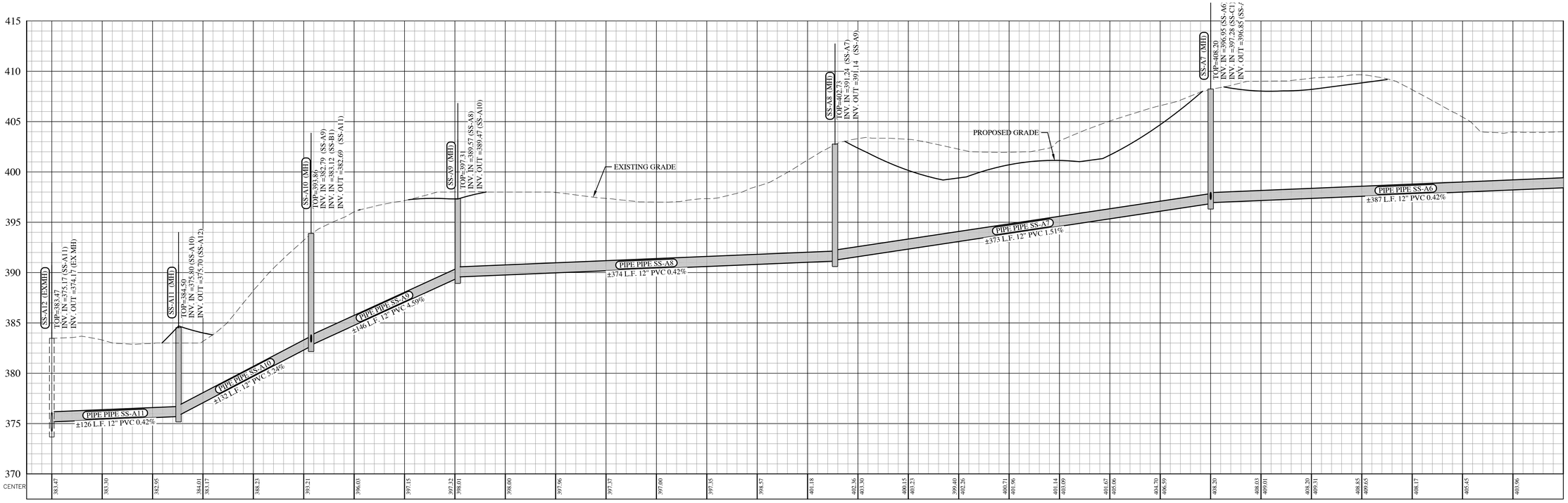
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UTILITY PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

SHEET NO.
C-4.2

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG (12/4/2024 9:20 AM)



SEWER A
SCALE: 1" = 50' HORZ.
1" = 5' VERT.

OWNER:
JOINT DEVELOPMENT AUTHORITY OF
PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryaneng1lc.com

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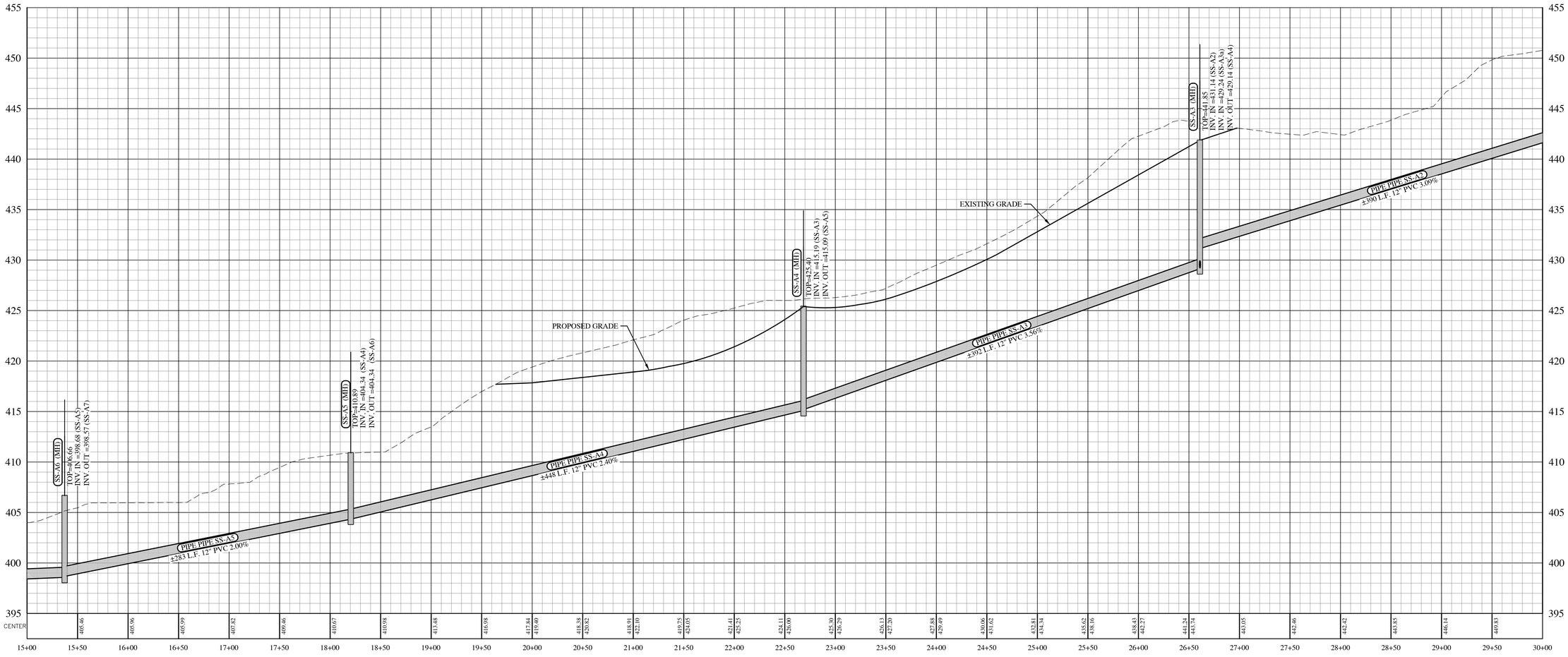
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SANITARY SEWER PROFILES FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS *GEORGIA*

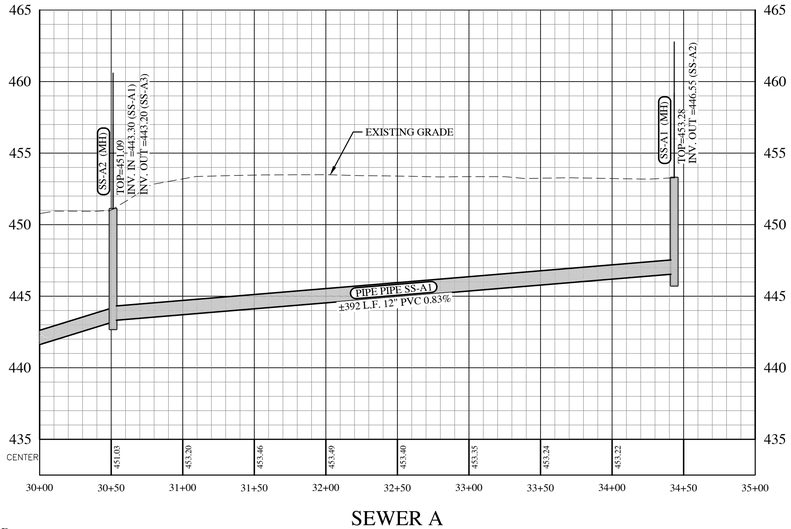
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NO. DATE DESCRIPTION

SHEET NO.
C-4.3

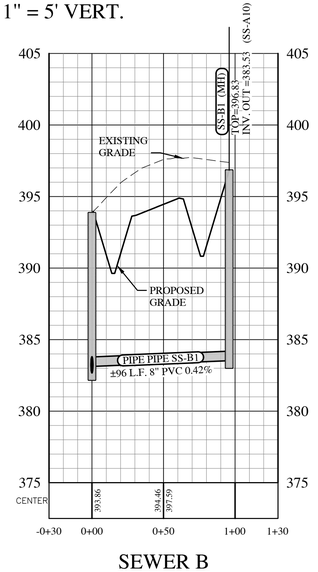
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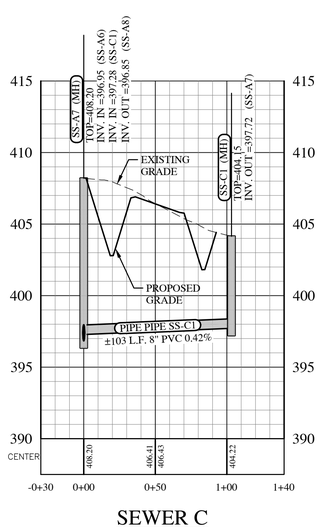
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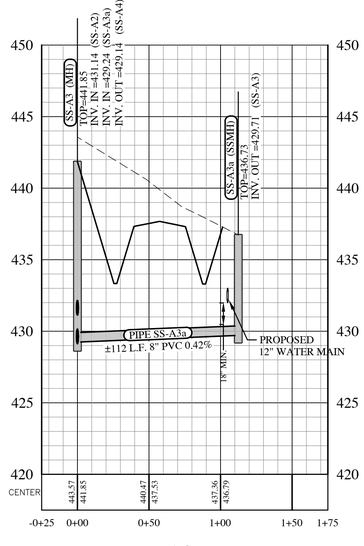
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SEWER B
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



SEWER C
SCALE: 1" = 50' HORZ.
1" = 5' VERT.



A3a
SCALE: 1" = 50' HORZ.
1" = 5' VERT.

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GEORGIA
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No. 035595
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CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
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BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A
Perry, Georgia 31069
P.O. Box 1821
Perry, Georgia 31069
www.bryanteng1lc.com

COUNTY:	HOUSTON
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SANITARY SEWER PROFILES FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-4.4

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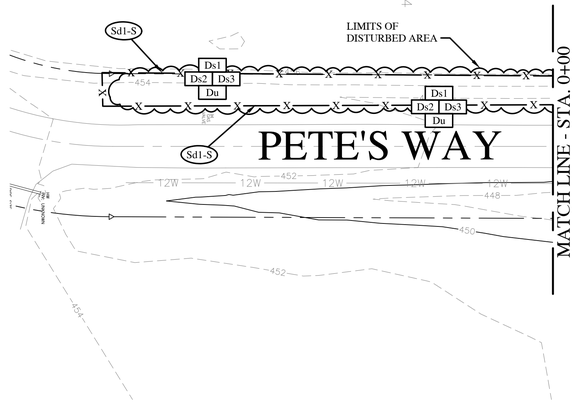
0504D-Erosion & Sediment Control Calculations Pete's Way Extension	
Silt Fence Calculations	
Total Area	362.53
Disturbed Area	6.16
Sediment Storage Required	V req= 67 CY X 6.16 = 412.72 CY
Sediment Storage Available	Length (L) of silt fence provided = 8386 ft Using the assumption that silt fence provides sediment storage for 1/4 acre per 100 ft, the available volume per foot of silt fence would equal 0.1675 CY/ft, (i.e. 1/4 acre x 67 CY / 100 ft = 0.1675 CY/ft) Vavail = L x 0.1675 CY/ft Vavail = 8386 ft x 0.1675 CY/ft Vavail = 1404 CY Vavail > Vreq

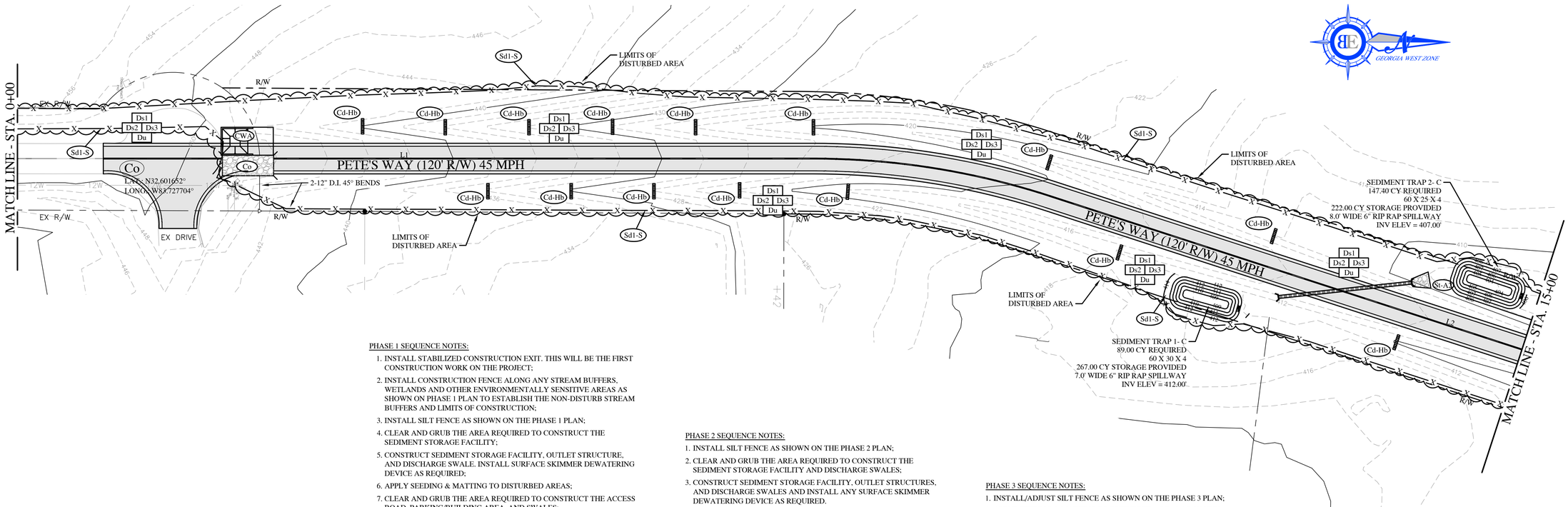
Erosion & Sediment Control Calculations

Sediment Control Calculations

Sediment Storage Basin Phase 1

Number	BMP	Disturbed Area (Ac.)	Length (ft)	Width (ft)	Depth (ft)	Factor (cy/ac)	Required Volume (cubic yd)	Provided Volume (cubic yd)	Adequate Protection?
1	Sd4-C	1.33	60	30	4	67	89.11	266.67	YES
2	Sd4-C	2.20	60	25	4	67	147.40	222.22	YES
3	Sd1-NS	6.16	na	na	na	67	412.72	1404.00	YES
Totals		**9.69**					**649.23**	**1892.89**	**Yes**





PHASE 1 SEQUENCE NOTES:

1. INSTALL STABILIZED CONSTRUCTION EXIT. THIS WILL BE THE FIRST CONSTRUCTION WORK ON THE PROJECT;
2. INSTALL CONSTRUCTION FENCE ALONG ANY STREAM BUFFERS, WETLANDS AND OTHER ENVIRONMENTALLY SENSITIVE AREAS AS SHOWN ON PHASE 1 PLAN TO ESTABLISH THE NON-DISTURB STREAM BUFFERS AND LIMITS OF CONSTRUCTION;
3. INSTALL SILT FENCE AS SHOWN ON THE PHASE 1 PLAN;
4. CLEAR AND GRUB THE AREA REQUIRED TO CONSTRUCT THE SEDIMENT STORAGE FACILITY;
5. CONSTRUCT SEDIMENT STORAGE FACILITY, OUTLET STRUCTURE, AND DISCHARGE SWALE. INSTALL SURFACE SKIMMER DEWATERING DEVICE AS REQUIRED;
6. APPLY SEEDING & MATTING TO DISTURBED AREAS;
7. CLEAR AND GRUB THE AREA REQUIRED TO CONSTRUCT THE ACCESS ROAD, PARKING/BUILDING AREA, AND SWALES;
8. CONSTRUCT ACCESS ROAD, PARKING/BUILDING AREAS, AND SALES. APPLY SEEDING, MATTING, AND INSTALL ROCK CHECK DAMS IN SWALES;
9. INSTALL STORM PIPE AND INLETS WITH INLET PROTECTION AS SHOWN ON PHASE 1 PLAN TO DIRECT STORMWATER TO POND;
10. STABILIZE ACCESS ROADS AND PAVEMENT AREAS WITH STONE AS SOON AS PRACTICAL;
11. APPLY SEED, STRAW/MATTING TO ALL REMAINING DISTURBED AREAS;
12. ONCE GRADING OF THE STORMWATER CONVEYANCE SWALES ARE COMPLETED, REMOVE SILT FENCE FROM CONCENTRATED FLOW PATHS.

PHASE 2 SEQUENCE NOTES:

1. INSTALL SILT FENCE AS SHOWN ON THE PHASE 2 PLAN;
2. CLEAR AND GRUB THE AREA REQUIRED TO CONSTRUCT THE SEDIMENT STORAGE FACILITY AND DISCHARGE SWALES;
3. CONSTRUCT SEDIMENT STORAGE FACILITY, OUTLET STRUCTURES, AND DISCHARGE SWALES AND INSTALL ANY SURFACE SKIMMER DEWATERING DEVICE AS REQUIRED.
4. APPLY SEEDING & MATTING TO DISTURBED AREAS;
5. CLEAR AND GRUB THE AREA REQUIRED TO PERFORM GRADING OPERATIONS;
6. GRADE THE SITE AS REQUIRED. APPLY SEEDING, MATTING, AND INSTALL ROCK CHECK DAMS IN THE SWALES AS REQUIRED;
7. INSTALL STORM PIPE AND AREA DRAINS WITH INLET PROJECTION AS SHOWN ON PHASE 2 PLAN TO DIRECT STORMWATER TO POND;
8. STABILIZE SITE WITH STONE OR GAB AS SOON AS PRACTICAL;
9. APPLY SEED, STRAW/MATTING TO ALL REMAINING DISTURBED AREAS;
10. ONCE GRADING OF THE MAIN DRAINAGE WAYS ARE COMPLETED, REMOVE SILT FENCE FROM CONCENTRATED FLOW PATH.

PHASE 3 SEQUENCE NOTES:

1. INSTALL/ADJUST SILT FENCE AS SHOWN ON THE PHASE 3 PLAN;
2. APPLY SEEDING & MATTING TO DISTURBED AREAS AS SHOWN;
3. APPLY SEED, STRAW/MATTING TO ALL REMAINING DISTURBED AREAS;
4. REMOVE EROSION AND SEDIMENT CONTROL MEASURES ONLY AFTER UPSTREAM AREA IS FULLY STABILIZED;
5. AFTER THE CONSTRUCTION SITE HAS BEEN FULLY STABILIZED, REMOVE ALL TEMPORARY BASIN STRUCTURES AND SEDIMENT IN SUCH A MANNER AS TO NOT ALLOW SEDIMENT TO BE DISCHARGED FROM THE BASINS. ALL REMOVED CONSTRUCTION PHASE SEDIMENT SHALL BE PLACED BACK ON THE PROJECT SITE AS DIRECTED BY THE PROJECT ENGINEER AND PERMANENTLY STABILIZED.
6. UPON FINAL STABILIZATION OF ALL DISTURBED AREAS, COMPLETE & SUBMIT THE NOTICE OF TERMINATION (NOT) TO EPD.

50 25 0 50 100
GRAPHIC SCALE IN FEET
1" = 50'

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PEACH COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

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111 Perimeter Road, Suite A
Perry, Georgia 31069
phone: (478) 224-7070 fax: (478) 224-7072
P.O. Box 1821
Perry, Georgia 31069
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COUNTY:	HOUSTON
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DWG:	0322-002-MASTER
DATE:	7/16/24
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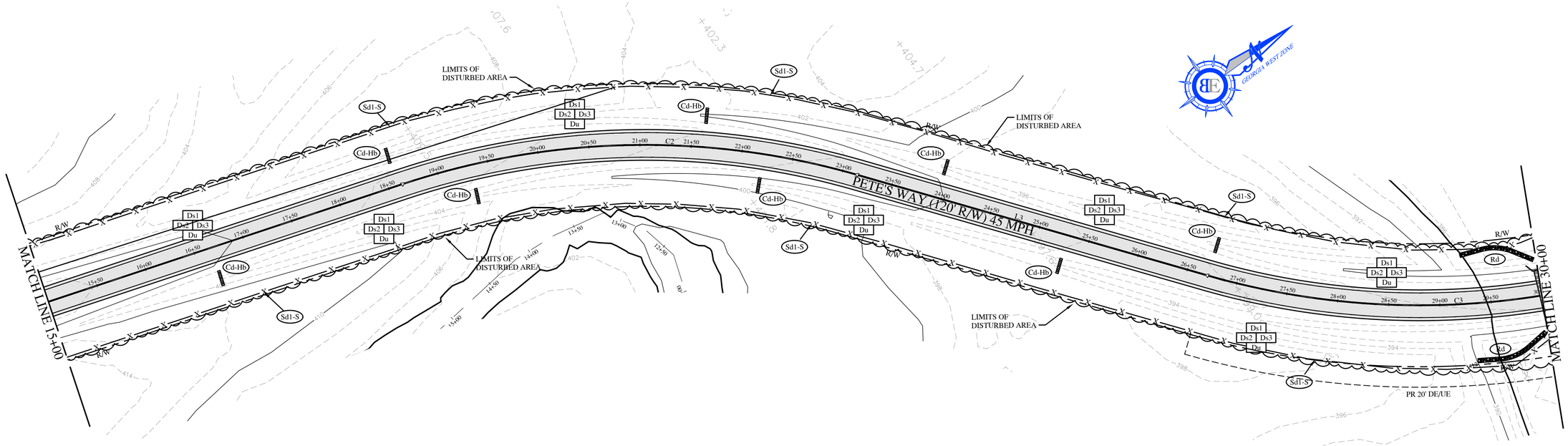
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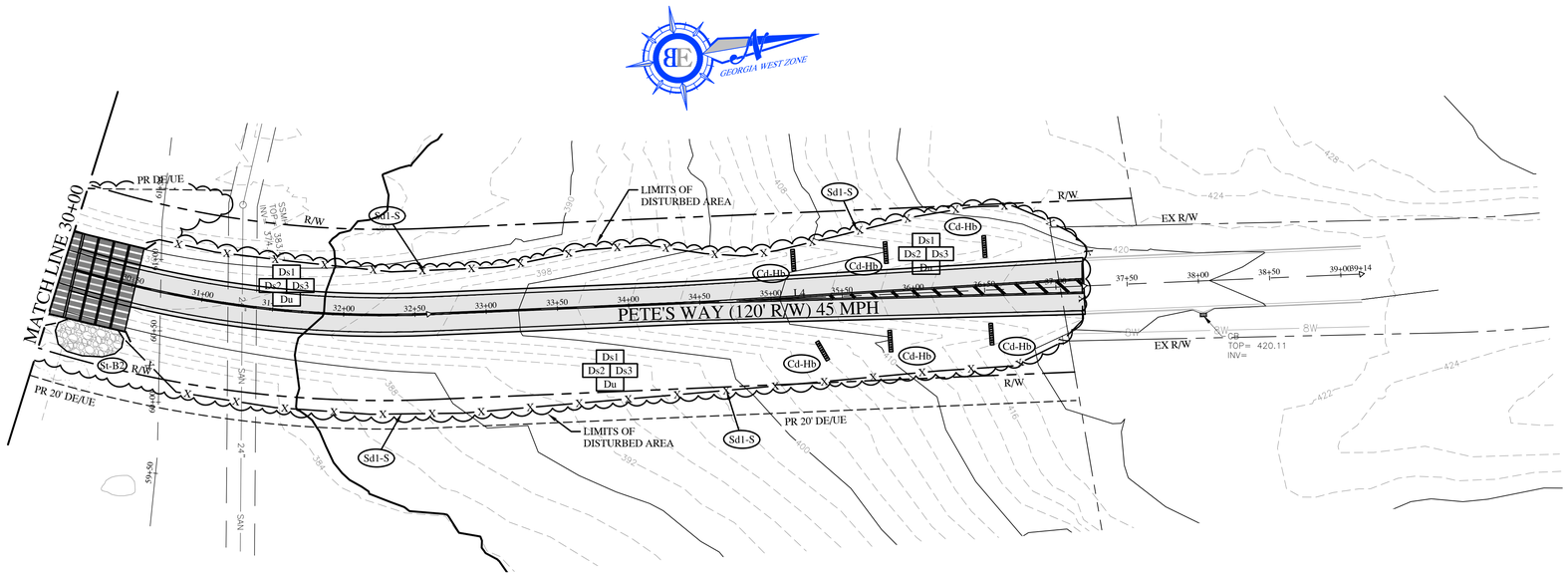
EROSION CONTROL PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

SHEET NO.
C-5.1

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FORT VALLEY
478-825-3826

50 25 0 50 100
GRAPHIC SCALE IN FEET
1" = 50'

GEORGIA
REGISTERED
No. 033595
PROFESSIONAL
ENGINEER
CHAD RUSSELL BRYANT

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GSWCC LEVEL II
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EROSION CONTROL PLAN FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

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I. EROSION CONTROL MEASURES

Erosion and Sedimentation Control Measures

1. Shall be installed before clearing and grubbing has commenced, if practical.
2. Shall conform to the standards set forth in the "Manual for Erosion and Sediment Control In Georgia".
3. Shall be maintained at all times, i.e. cleaned out, replaced if necessary.
4. The erosion and sediment control measures specified in these documents are minimum requirements. Additional measures may be needed to control sediment as required by law. Changes and reinforcements are required when failure of the erosion control measure persists.
5. All amendments or revisions to the ES&PC plan that affect BMP's with a hydraulic component must be certified by the Engineer. Revisions or amendments should be submitted to the Local Issuing Authority for review.

II. TEMPORARY EROSION CONTROL MEASURES

1. General

a. Scope
- i. Installation of temporary erosion control measures, such as, but not limited to, grassing, mulching, retrofitting of weir structures, silt gates, construction exits, check dams, inlet sediment traps, and sediment basins.
- ii. Maintenance of soil erosion and sediment control devices during construction.
- iii. Removal of temporary soil erosion and sediment control devices after disturbed areas have been permanently stabilized.

b. Quality Assurance
- i. After the specified erosion control devices called for in these documents have been installed, the Operator shall ensure that all reasonable measures have been taken to prevent siltation of nearby properties or water courses. If the Operator suspects that additional measures are needed, he shall immediately notify the Engineer. If rain is predicted before the Engineer is able to visit the site, the Operator shall install additional erosion control measures to minimize erosion and sedimentation.
- ii. The erosion and sediment control shall conform with the Georgia Erosion and Sedimentation Act of 1975, as amended, and the "Manual for Erosion and Sediment Control in Georgia".

2. Products

Ds1 a. Mulching (Ds1) shall be a grain straw, hay, or wood waste. Any other material must be approved by the Engineer before use.

Ds2 b. Temporary Seeding (Ds2) shall be an annual ryegrass or pearl millet. Other grassing may be substituted if proved effective by the Operator. Any substitutions must be approved by the Engineer before use.

Cd c. Check Dam (Cd) shall be constructed with a 2-10 inch graded stone underlayed with a geotextile that complies with AASHTO M288-96 Section 7.3, Separation Requirements, Table 3.

Co d. Construction Exit (Co) shall be constructed of 1.5-3.5 inch stone and in accordance with the National Stone Association R-2 with an approved geotextile underneath. The geotextile shall comply with AASHTO M288-96 Section 7.3, Separation Requirements, Table 3.

Rt e. Retrofitting (Rt) shall be constructed of a half round pipe with a stone filter. The pipe and stone shall conform to the specified dimensions in these documents.

Sd1 f. Sediment Barrier (Sd1) shall be silt fence that conforms to the current Georgia Department of Transportation specifications. The approved fabrics are listed in the GDOT Qualified Products List #36 (QPL-36).

Sd2 g. Inlet Sediment Trap (Sd2) is a protective device formed around a storm drain drop inlet to trap sediment. Inlet sediment traps shall be constructed of Type C - Silt Fence with nominal 2 x 4 boards bracing the corners to eliminate collapse.

Sd3 h. Temporary Sediment Basin (Sd3) shall be a constructed on site and consist of a drainage structure to allow storm water to flow from site at a slower rate than normal. The sediment basin shall be constructed to the dimensions and specifications provided in these documents.

3. Execution

a. General
- i. All erosion and sediment control items shall be installed at the earliest practical time to minimize erosion on the project.
- ii. Construct temporary erosion control measures as shown on the plans, and as required by site conditions, regulatory agency or Engineer. All permanent erosion control work shall be incorporated into the project at the earliest practical time. Temporary erosion control measures shall be coordinated with permanent erosion control measures and all work on the project to ensure economical, effective, and continuous erosion control throughout the construction and post construction period and to minimize escape of sediment onto adjacent properties or siltation of rivers, streams, lakes, or reservoirs.
- iii. If active construction ceases for more than 14 days, all disturbed areas shall be seeded and mulched using temporary seed type and planting rates specified in these documents.
- iv. Grading activity shall be controlled to prevent any damage to public or private property. Fines may be placed on the project by the local regulatory agencies due to soil erosion from the project site. Clearing shall be only in the areas required to install the soil erosion control devices.
- v. A request shall be made for an inspection by the local agency having jurisdiction.
- vi. All erosion control devices shall be inspected after each rainfall. Any required repairs shall be made immediately. Sediment deposits shall be removed when deposits reach approximately one-half of the capacity of the erosion control devices.

Ds1 b. Mulching
- i. Shall be performed within 14 days of disturbance, or as required by the erosion control inspector.
- ii. Shall be uniform and have 90% coverage.
- iii. Hand spreading or blower spreading is acceptable as long as acceptable coverage is accomplished.
- iv. Straw/Hay shall be installed at a depth of 2-4 inches.
- v. Wood waste shall be applied a depth of 2-3 inches.

Ds2 c. Temporary Seeding
- i. Shall be performed within 14 days of disturbance, or as required by the erosion control inspector.
- ii. Shall be uniform and have 90% coverage.
- iii. Hand spreading, mechanical spreading, and hydroseeding are all acceptable application methods.
- iv. Lime
  1. Shall be applied at rates recommended by the University of Georgia Extension Service, or;
  2. Two tons per acre.

Temporary seed shall be in accordance with the following schedule: (All rates are PLS.)

TEMPORARY SEEDING	LBS/ ACRE		DEPTH OF COVER	DATE OF PLANTING
	ALONE	IN MIXTURES		
ANNUAL RYEGRASS	40	N/A	1/4" - 1/2"	8/15 - 3/31
PEARL MILLET	50	N/A	1/4" - 1/2"	4/1 - 8/31
BROWN TOP MILLET	40	10	1/4" - 1/2"	4/1 - 7/15

Cd d. Check Dam
- i. Shall be installed in ditches, swales, or area of concentrated flow. Although, check dams shall never be installed in live streams.
- ii. Used as ditch protection while grass linings are established.
- iii. Used to control localized erosion in other areas.
- iv. If area is to be mowed, the check dam shall be removed after final stabilization. If the area is not to be mowed, the check may be left in place.

Co e. Construction Exit
- i. Shall be installed at the project exit.
- ii. Intended to clean vehicle tires before entering roadway to eliminate off-tracking. Washing of tires will be required if the construction exit is not removing mud from tires effectively.
- iii. Shall be a minimum of 50 feet long, 20 feet wide, and 6 inches thick. Geotextile liner shall be installed underneath stone.

Rt f. Retrofitting
- i. Shall be installed in front of detention pond outlet structures.
- ii. Shall serve as a temporary sediment filter.
- iii. Shall be kept free of trash and sediment deposits.

Sd1 g. Sediment Barrier
- i. Silt fence Shall be installed around perimeter of project to control sheet flow, and in other areas to slow down storm water runoff.
- ii. Silt fence shall be installed in a trench 6 inches deep and backfilled.
- iii. Type "C" silt fence shall be tight with steel posts spaced at a maximum of 4 feet apart with woven wire fence backing that shall be tight and connected to steel posts. Type "NS" silt fence shall be tight with wood posts spaced at a max. of 6'-3" with no wire backing.

Sd2 h. Inlet Sediment Trap
- i. Shall be installed around the perimeter of storm drain inlet structures.
- ii. Shall be constructed of Type "S" silt fence, including steel posts, woven wire fence backing, and filter fabric.
- iii. Shall be tight around structure with post spacing not to exceed 3 foot spacing.
- iv. Shall have at least two boards bracing the corners to minimize chance of failure.
- v. Shall be trenched in or backfilled with stone.

Sd3 i. Temporary Sediment Basin
- i. Shall be constructed on site by excavation of a hole to accommodate storm water during construction.
- ii. Shall be constructed during initial grading of the project to ensure the storm water is properly treated before discharged.
- iii. May be used in conjunction with the permanent detention pond. If so, undercutting of the permanent detention pond may be required.
- iv. Shall be constructed in strict accordance with these documents to be effective.

j. Removal of Temporary Erosion Control Devices
- i. All temporary erosion and sedimentation control devices shall be removed when final stabilization has been achieved. Approval shall be given by the local issuing authority or the Engineer.
- ii. All sediment deposits remaining shall be removed and disposed of. Disturbed area shall be dressed and graded to proposed grade, and finally permanently grassed.

III. PERMANENT EROSION & SEDIMENTATION CONTROL MEASURES

1. General

a. Work Included
- i. Provide all material, labor, equipment, tools, supervision, coordination, and other items necessary to provide permanent erosion and sedimentation control on the project.
- ii. Includes seedbed preparation, top soiling, liming, fertilizing, seeding, and mulching of all areas inside and outside the limits of this project that were disturbed by the Operator.
- iii. Includes installation of structural erosion and sedimentation control devices, which include but not limited to, installing rip rap stone in channels or at outlet ends of storm drain pipes.

2. Products

a. Lime
- i. Agricultural lime is required unless soil tests indicate otherwise.
- ii. Shall be free flowing with no lumps.

b. Fertilizer
- i. Fertilizer is required unless soil tests indicate otherwise.

c. Mulch
- i. Grain straw or hay free of weeds shall be used as mulch.

d. Storm Drain Outlet Protection
- i. Shall be DOT Type 3 rip rap stone.
- ii. Shall be underlayed with an approved geotextile.

e. Channel Stabilization
- i. Rip Rap (Ch-Rp) shall conform to same specifications as Storm Drain Outlet Protection (above).
- ii. Concrete Lining (Ch-C)
  1. Shall be 3000 psi concrete.
  2. One cubic foot of #57 stone is required at each weep hole.

3. Execution

a. Seeding
- i. Seedbed preparation shall be done on all grassed areas. This shall consist of harrowing and/or mixing to a minimum depth of 4 inches
- ii. Rocks and debris left on the surface after tillage larger than one inch shall be removed .
- iii. Soil shall not be muddy or in an undesirable condition for grassing.
- iv. Within 24 hours of seedbed preparation, the seed shall be applied. Hydroseeding or handspreading is acceptable.
- v. Seed shall be covered with the use of a spike tooth harrow.

Permanent seeding shall be in accordance with the following schedule:
(All rates are PLS.)

PERMANENT SEEDING	LBS/ ACRE		DEPTH OF COVER	DATE OF PLANTING
	ALONE W/ TEMP.	W/ OTHER PERENNIAL		
COMMON BERMUDA (HULLED)	10	6	1/4" - 1/2"	2/15 - 6/30
COMMON BERMUDA (UNHULLED)	10	6	1/4" - 1/2"	11/1 - 1/31
PENSACOLA BAHIA	60	30	1/4" - 1/2"	1/1 - 12/31
WEEPING LOVEGRASS	4	2	1/4" - 1/2"	2/1 - 6/15

- vi. Lime
  1. Shall be applied at rates recommended by the University of Georgia Extension Service, or;
  2. Two tons per acre.
- vii. Seeded areas shall be protected from traffic including but not limited to foot, vehicular, equipment traffic.

b. Mulch
- i. Shall be applied by hand or mechanical means.
- ii. Shall be evenly distributed on grassed areas.
- iii. Shall be applied at a rate of 2.5 tons per acre to achieve at least 75% coverage.

c. Storm Drain Outlet Protection
- i. Shall be installed at a depth of 18" minimum.
- ii. All geotextile joints shall be overlapped at least one foot with the top layer on the upstream side.
- iii. Shall be installed in accordance with these documents.

d. Channel Stabilization
- i. Shall have a minimum thickness of 4 inches.
- ii. Shall have a toewall on the upstream and downstream ends. Toewall shall be one foot deep and one foot long for the entire width of the channel.
- iii. Weep holes shall be installed 10 feet apart along the length of the lining.
- iv. Shall be installed in accordance with these documents.

e. Maintenance
- i. All erosion and sedimentation control devices shall be maintained at all times.
- ii. If full implementation of the approved plan does not provide adequate erosion and sedimentation control, additional devices shall be installed to treat the sediment source.
- iii. All erosion control measures designed to collect sediment when the control device is have full or before.
- iv. Upon completion of the project, all accumulated sediment shall be removed and proposed grade shall be achieved.

4. Fertilizer

Commercial grade, free flowing, uniform in composition and bearing the manufacturer's guaranteed statement of analysis. Analysis of fertilizer and application rates shall be as recommended by the University of Georgia County Extension Service through soil testing procedures, and in accordance with this schedule:

1/ Apply in spring following seeding
2/ Apply in split applications when high rates are used
3/ Apply to grass species only when high rates are used
4/ Apply when plants grow to height of 2 to 4 inches

	FERTILIZER REQUIREMENTS			
TYPE OF SPECIES	LBS/ ACRE	ANALYSIS OR EQUIVALENT N-P-K	RATE	N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST	6-12-12	1500 lbs/ac	50-100 lbs/ac 1/2/
2. COOL SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500 lbs/ac 1000 lbs/ac 400 lbs/ac	0-50 lbs/ac 3/
3. WARM SEASON GRASSES	FIRST	6-12-12	1500 lbs/ac	50-100 lbs/ac 2/4/
4. WARM SEASON GRASSES & LEGUMES	FIRST	6-12-12	1500 lbs/ac	50 lbs/ac 4/

WETLAND CERTIFICATION

THE DESIGN PROFESSIONAL, WHOSE SEAL APPEARS HEREON, CERTIFIES THE FOLLOWING:

1) THE NATIONAL WETLANDS INVENTORY MAPS HAVE BEEN CONSULTED, AN ONSITE JURISDICTIONAL WATERS DELINEATION/DETERMINATION HAS BEEN PERFORMED; AND,
2) THE APPROPRIATE PLAN SHEET DOES INDICATE AREAS OF UNITED STATES ARMY CORPS OF ENGINEERS JURISDICTIONAL WETLANDS AS SHOWN ON THE MAPS; AND,
3) IF WETLAND ARE INDICATED, THE LAND OWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS THE APPROPRIATE FEDERAL WETLANDS ALTERATION ("SECTION 404") PERMIT HAS BEEN OBTAINED.
4) ANY AMOUNT OF DISTURBANCE WILL REQUIRE PRE CONSTRUCTION COORDINATION WITH THE ARMY CORPS OF ENGINEERS.
5) TOTAL DISTURBANCE OF WETLANDS REQUIRED FOR DEVELOPMENT IS CALCULATED FROM ALL STAGES OF DEVELOPMENT.

(4) 24 HR. LOCAL EMERGENCY CONTACT

B.J. WALKER
(478) 825-3826
EMAIL: bj-walker@peachcounty.net

(5) OWNER/PRIMARY PERMITTEE

JOINT DEVELOPMENT AUTHORITY OF PEACH
COUNTY & CIY OF WARNER ROBINS
425 JAMES E. KHOURY DRIVE
FORT VALLEY
478-825-3826
EMAIL: bj-walker@peachcounty.net

(6) TOTAL AND DISTURBED ACERAGE

TOTAL SITE AREA = 362.53 AC.
TOTAL DISTURBED AREA = 9.69 AC.

(7) GPS LOCATION OF CONSTRUCTION EXIT

LAT.: N32.601652° LONG.: W83.727704°

(9) DESCRIPTION OF CONSTRUCTION ACTIVITIES

THIS PROPOSED PROJECT IS AN EXTENSION TO THE EXISTING 30' WIDE ROAD WITH 120' R/W THAT WILL CONNECT CRESTVIEW CHURCH ROAD TO WATSON BLVD IN WARNER ROBINS, GA. THE TOTAL SITE CONTAINS 362.53 ACRES BUT THE PROJECT WILL ONLY DISTURB 9.69 ACRES. THE COMPLETED ROAD WILL BE ± 3720 L.F. LONG AND WILL BE 30' WIDE. THE PROPOSED ROAD WILL CROSS SANDY RUN CREEK AND A BOX CULVERT HAS BEEN DESIGNED TO ALLOW THE FLOW UNDER THE ROAD. THE PROJECT WILL HAVE PROPOSED 12" WATER LINE, ±3500 L.F., AND 12" SEWER LINE, ± 3443.00 L.F., RUNNING INSIDE THE R/W. DITCHES ON BOTH SIDE OF THE ROAD WILL CONVEY WATER INTO SANDY RUN CREEK WHERE AN EXISTING DETENTION POND WILL PROVIDE THE REQUIRED WATER QUALITY, CHANNEL PROTECTION, AND DETENTION FOR THE AREA.

(14) THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS WITHIN 7 DAYS AFTER INSTALLATION

(15) NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED 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.

(16) DESCRIPTION OF STREAM BUFFER ENCROACHMENT

NO STREAM BUFFER ENCROACHMENT IS PROPOSED AND THEREFORE, NO VARIANCE IS REQUIRED.

(17) AMENDMENTS/REVISIONS TO THE ES&PC PLAN WHICH HAVE A SIGNIFICANT EFFECT ON BMPs WITH A HYDRAULIC COMPONENT MUST BE CERTIFIED BY THE DESIGN PROFESSIONAL.

(18) WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

(19) THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES PRIOR TO LAND DISTURBANCE ACTIVITIES.

(20) 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.

(21) ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

BEST MANAGEMENT PRACTICES (BMP's)

GEORGIA
UNIFORM CODING SYSTEM
GEORGIA SOIL AND WATER CONSERVATION COMMISSION
FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Cd	CHECKDAM			A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION			Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT			A crushed stone pad located at the construction site exit to provide a place for removing mud from tires thereby protecting public streets.
Cr	CONSTRUCTION ROAD STABILIZATION			A travelway constructed as part of a construction plan including access roads, subdivision roads, parking areas and other on-site vehicle transportation routes.
Dc	STREAM DIVERSION CHANNEL			A temporary channel constructed to convey flow around a construction site while a permanent structure is being constructed.
Di	DIVERSION			An earth channel or dike located above, below or across a slope to divert runoff. This may be a temporary or permanent structure.
Dn1	TEMPORARY DOWNDRAIN STRUCTURE			A flexible conduit of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary, and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE			A paved chute, pipe, sectional conduit or similar material designed to safely conduct surface runoff down a slope.
Fr	FILTER RING			A temporary stone barrier constructed at storm drain inlets and pond outlets.
Ga	GABION			Rock filter baskets which are hand-placed into position forming soil stabilizing structures.
Gr	GRADE STABILIZATION STRUCTURE			Permanent structures installed to protect channels or waterways where otherwise the slope would be sufficient for the running water to form gullies.
Lv	LEVEL SPREADER			A structure to convert concentrated flow of water into less erosive sheet flow. This should be constructed only on undisturbed soils.
Rd	ROCK FILTER DAM			A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL			A wall installed to stabilize cut and fill slopes where maximum permissible slopes are not obtainable. Each situation will require special design.
Rt	RETRO FITTING			A device or structure placed in front of a permanent stormwater detention pond outlet structure to serve as a temporary sediment filter.
Sd1	SEDIMENT BARRIER			A barrier to prevent sediment from leaving the construction site. It may be sandbags, bales of straw or hay, brush, logs and poles, gravel, or a silt fence.
Sd2	INLET SEDIMENT TRAP			An impounding area created by excavating around a storm drain drop inlet. The excavated area will be filled and stabilized on completion of construction activities.
Sd3	TEMPORARY SEDIMENT BASIN			A basin created by excavation or a dam across a waterway. The surface water runoff is temporarily stored allowing the bulk of the sediment to drop out.
Sd4	TEMPORARY SEDIMENT TRAP			A small temporary pond that drains a disturbed area so that sediment can settle out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser.
Sk	FLOATING SURFACE SKIMMER			A buoyant device that releases/drains water from the surface of sediment ponds, traps, or basins at a controlled rate of flow.
Spb	SEEP BERM			Linear control device constructed on a diversion perpendicular to the direction of flow. It functions by impounding water in sediment, while forming multiple sedimentation chambers with the impoundment of intermediate dikes.
Sr	TEMPORARY STREAM CROSSING			A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION			A paved or short section of riprap channel at the outlet of a storm drain system preventing erosion from the concentrated runoff.
Su	SURFACE ROUGHENING			A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN			A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Tp	TOPSOILING			The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
Tr	TREE PROTECTION			To protect desirable trees from injury during construction activity.
Wl	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL			Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE		Bf	Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surrounding an area of disturbance or bordering streams.
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)		Cs	Planting vegetation on dunes that are denuded, artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedings may not have a suitable growing season to produce an erosion retarding cover.
Ds2	DISTURBED AREA STABILIZATION (WITH TEMP. SEEDING)		Ds2	Establishing a temporary vegetative cover with fast growing seedings on disturbed areas.
Ds3	DISTURBED AREA STABILIZATION (WITH PERM. SEEDING)		Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)		Ds4	A permanent vegetative cover using sods on highly erodable or critically eroded lands.
Du	DUST CONTROL ON DISTURBED AREAS		Du	Controlling surface and air movement of dust on construction site, roadways and similar sites.
Fl-Cs	FLOCULANTS AND COAGULANTS		Fl-Cs	Substance formulated to assist in the solids/liquid separation of suspended particles in solution.
Sb	STREAMBANK STABILIZATION (USING PERM. VEGETATION)		Sb	The use of readily available native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems.
Ss	SLOPE STABILIZATION		Ss	A protective covering used to prevent erosion and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Tac	TACKIFIERS AND BINDERS		Tac	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryanteng1lc.com

COUNTY: HOUSTON 63/5
LL/DISTRICT:
DWG: 0322-002-MASTER 7/16/24
DATE:
SCALE: 1"= 50'
JOB NO.: 0322-002

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EROSION CONTROL NARRATIVE FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-5.4

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG(12/4/2024 9:19 AM)

I. AUTHORIZATION

Any person desiring coverage under this permit as either a Primary Permittee, a Secondary Permittee or a Tertiary Permittee must submit a Notice of Intent (NOI) to the EPD and the NOI must be received by the EPD in accordance with the requirements of Part II, using NOI forms provided by the EPD (or exact photocopy thereof), in order for storm water discharges from construction sites to be authorized. A Notice of Intent for Secondary Permittee coverage can be submitted either concurrently with or after submittal of a Notice of Intent by the Primary Permittee. The Primary Permittee shall provide a copy of the ESPC plan and any subsequent revisions to each Secondary Permittee. Each Secondary Permittee shall sign this sheet in the space provided, acknowledging their receipt of the plan, and the Primary shall retain the signed sheet in their records.

II. ACTIVITIES WITHIN STREAM BUFFERS

1. No construction activities shall be conducted within a 25 ft-buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action unless it meets an exemption, as defined in 391-3-7-.05 DNR rules on buffer variance procedures and criteria, or without first acquiring the necessary variances and permits.
2. No construction activities shall be conducted within a 50-foot buffer, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as "trout stream" unless it meets an exemption, as defined in 391-3-7-.05 DNR rules on buffer variance procedures and criteria, or without first acquiring the necessary variances and permits.
3. Except as provided above, for buffers required pursuant to (#1 and #2), no construction activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed, state of vegetation until all land-disturbing activities on the construction site are completed. Between the time final stabilization of the site is achieved and upon the submittal of a Notice of Termination, a buffer may be thinned or trimmed of vegetation as long as a protective vegetative cover remains to protect water quality and aquatic habitat and a natural canopy is left in sufficient quantity to keep shade on the stream bed.
4. No solid materials, including building materials, shall be discharged to waters of the state, except as authorized by a section 404 permit.
5. Off-site vehicle tracking of dirt, soils, and sediments and the generation of dust shall be eliminated or minimized to the maximum extent practical. A best management practice for this is the use of a construction exit, being a stone stabilized pad located at any point where traffic will be leaving a construction site to a public right-of-way. Geotextile underliners are required to stabilize and support the pad aggregates. The stone aggregate size is 1.5 to 3.5 inches and is to be a minimum pad thickness of 6 inches. Pad width should not be less than 20 feet and should be of sufficient length to perform the function of removing sediment, but no less than 50 feet. Wheels must be cleaned to remove mud prior to entrance onto public rights-of-way.

III. WASHDOWN AREAS (24)

1. The discharge of washdown water into stormdrains, streams, rivers, etc. is strictly prohibited.
2. Contractor shall coordinate with site superintendent to excavate a pit deep enough to contain the washdown water.
3. Washdown only tools, concrete mixer chutes, hoppers, and rear of the vehicle. Do not wash out the drum.
4. Contractor shall insure washdown water goes into and stays in the pit. Never allow washdown water to enter a stormdrain.
5. Pit shall be backfilled and smoothed out to proposed grade.
6. If a pit is not accessible, contractor shall washdown into a wheelbarrow or container and carry to a disposal site.

IV. SPILL PREVENTION/SPILL RESPONSE (25)

Equipment Maintenance : ensure equipment is working properly and free from leaks.
Material Storage : the site must contain plastic sheeting or temporary roofs, to cover building materials, building products, construction wastes, trash, landscape materials, fertilizers, pesticides, herbicides, detergents, sanitary waste, and other materials in order to minimize exposure to precipitation and to stormwater. Store containers, drums, and bags away from direct traffic routes, in accordance with manufacturer's recommendations, and in a manner to protect against contamination of storm water.
POL Spills and Leaks : minor spills and leaks from construction equipment are a source of potential discharge. Do not use water to clean up spills and dirt from pavements.
Spill Kits : have a full-service spill kit on site for minor leaks and drips. Spills kits should include absorbent pads, spill booms, personnel protection equipment, and disposal bags. Once the spill has been confined, use the pads in the kit to start absorbing the oil. These pads should be left for at least 2-3 minutes or until they are fully saturated. If the pads become saturated, remove them and place them in a safe disposal bag/bin. Any remaining saturated soil or material shall be removed and placed in a safe disposal bag/bin.
Drip Pan Use During Fueling : use drip pans and absorbent rags when fueling construction equipment and providing emergency maintenance on equipment. Absorbents are to be handled in accordance with the Resource Conservation and Recovery Act (RCRA) regulations.
Drip Pan use during vehicle storage : use drip pans under heavy equipment left idle for two drip pan use during vehicle storage or more calendar days.
Visual Inspections : visually inspect construction equipment daily for leaks and spills.
Hazmat Storage : store hazardous materials (including fuel) on site in covered areas with secondary containment (for example, flammable locker). Containers/tanks for fuel (mogas/diesel) should have secondary containment that meets regulatory requirements.
Protecting Storm Drains: do not dispose of waste in a storm drain (for example paint, oil, concrete, etc.)
Vehicle Operation : do not operate leaking equipment. Provide emergency repair to prevent further leaks.

V. STORM WATER SAMPLING (33)

Sampling Requirements.
This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit. This section is applicable to primary permittees with a total planned disturbance equal to or greater than one (1) acre and tertiary permittees with a total planned disturbance equal to or greater than five (5) acres. This section is not applicable to secondary permittees. The following procedures constitute EPD's guidelines for sampling turbidity.

a. *Sampling Requirements* shall include the following:
(1). A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1:24000 map showing the location of the site or the common development; (a) the location of all perennial and intermittent streams and other water bodies as shown on a USGS topographic map, and all other perennial and intermittent streams and other water bodies located during mandatory field verification, into which the stormwater is discharged and (b) the receiving water and/or outfall sampling locations. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the locations of the receiving water(s) must be hand-drawn on the USGS topographic map from where the stormwater(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;
(2). The analytical method used to collect and analyze the samples including quality control/quality assurance procedures. This narrative must include precise sampling methodology for each sampling location;
(3). When the permittee has determined that some or all outfalls will be sampled, a rationale must be included on the Plan for the NTU limit(s) selected from Appendix B. This rationale must include the size of the construction site, the calculation of the size of the surface water drainage area, and the type of receiving water(s) (i.e., trout stream or supporting warm water fisheries); and
(4). Any additional information EPD determines necessary to be part of the Plan. EPD will provide written notice to the permittee of the information necessary and the time line for submittal.

b. *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.
(1). Sample containers should be labeled prior to collecting the samples.
(2). Samples should be well mixed before transferring to a secondary container.
(3). Large mouth, clean and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.
(4). 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. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event. Dilution of samples is not required. Samples may be analyzed using a direct reading, properly calibrated turbidimeter. Samples are not required to be cooled.
(5). Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.

c. *Sampling Points.*
(1). For construction activities the primary permittee with a total planned disturbance equal to or greater than one (1) acre and tertiary permittee with a total planned disturbance equal to or greater than five (5) acres must sample all receiving water(s), or all outfall(s), or a combination of receiving water(s) and outfall(s). Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the stormwater outfalls using the following minimum guidelines:
(a). The upstream sample for each receiving water(s) must be taken immediately upstream of the confluence of the first stormwater discharge from the permitted activity (i.e., 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.
(b). The downstream sample for each receiving water(s) must be taken downstream of the confluence of the last stormwater discharge from the permitted activity (i.e., the discharge farthest downstream at the site) but upstream of any other stormwater discharge not associated with the permitted activity. Where appropriate, several downstream 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 downstream turbidity value.
(c). Ideally the samples should be taken from the horizontal and vertical center of the receiving water(s) or the stormwater outfall channel(s).
(d). Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall stormwater channel.
(e). The sampling container should be held so that the opening faces upstream.
(f). The samples should be kept free from floating debris.
(g). Permittees do not have to sample sheet flow that flows onto undisturbed natural areas or areas stabilized by the project. For purposes of this section, stabilized shall mean, for unpaved areas and areas not covered by permanent structures and areas located outside the waste disposal limits of a landfill cell that has been certified by EPD for waste disposal, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and seeding of target crop perennials appropriate for the region).
(h). All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether stormwater runoff from the construction site is in compliance with the standard set forth in Parts III.D.3. or III.D.4., whichever is applicable.

VI. INSPECTIONS & RECORD KEEPING (30)

Primary Permittee.
(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified 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 and (b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted.
(2). Measure and record rainfall within disturbed areas of the site that have not met final stabilization once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.
(3). Certified personnel (provided by the primary permittee) shall inspect the following at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first):
(a) disturbed areas of the primary permittee's construction site; (b) areas used by the primary permittee for storage of materials that are exposed to precipitation; 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 or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.
(4). Certified 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 submitted to EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. 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).
(5). 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. The primary permittee must amend the Plan in accordance with Part IV.D.4.b.(5). when a secondary permittee notifies the primary permittee of any Plan deficiencies.
(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). 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 site that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify an incident, the inspection report shall contain a statement that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

Secondary Permittee.
(1). Each day when any type of construction activity has taken place at a secondary permittee's site, certified personnel provided by the secondary permittee shall inspect: (a) all areas used by the secondary permittee where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment; and (b) all locations at the secondary permittee site where that permittee's vehicles enter or exit the site for evidence of off-site sediment tracking. These inspections must be conducted until a Notice of Termination is submitted. This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees.
(2). Certified personnel (provided by the utility companies and utility contractors if they are secondary permittees) shall inspect the following each day any type of construction activity has taken place at the construction site: (a) areas of the construction site disturbed by the utility companies and utility contractors that have not undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region; (b) areas used by the utility companies and utility contractors for storage of materials that are exposed to precipitation that have not undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region or established a crop of annual vegetation and a seeding of target perennials appropriate for the region; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the utility companies and utility contractors' construction activities 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). This paragraph is not applicable to utility companies and utility contractors when they are secondary permittees performing service line installations or when conducting repairs on existing line installations.
(3). Certified personnel (provided by the secondary permittee) shall inspect the following at least once every seven calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday or on any non-working Saturday, non-working Sunday or any non-working Federal holiday in which case the inspection shall be completed by the end of the next business day and/or working day, whichever occurs first): (a) disturbed areas of the secondary permittee's construction site; (b) areas used by the secondary permittee for storage of materials that are exposed to precipitation; and (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the secondary 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 or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D.4.b.(4). These inspections must be conducted until a Notice of Termination is submitted. This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees.
(4). Certified personnel (provided by the secondary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is submitted to EPD) the areas of their sites that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. 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). This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees.
(5). Based on the results of each inspection, the secondary permittee must notify the primary permittee within 24-hours of any suspected BMP design deficiencies. The primary permittee must evaluate whether these deficiencies exist within 48-hours of such notice, and if these deficiencies are found to exist must amend the Plan in accordance with Part IV.C. of this permit to address these deficient BMPs within seven (7) days of being notified by the secondary permittee. When the Plan is amended, the primary permittee must notify and provide a copy of the amendment to all affected secondary permittee(s) within this seven (7) day period. The secondary permittees must implement any new Plan requirements affecting their site(s) within 48-hours of notification by the primary permittee.
(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.b.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by the end of the second business day and /or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a certification that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit. This paragraph is not applicable to utility companies and utility contractors if they are secondary permittees performing only service line installations or when conducting repairs on existing line installations.

VII. RETENTION OF RECORDS (32)

F. Retention of Records.
1. The Primary Permittee shall retain the following records 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 NOT is submitted in accordance with Part VI:
a. A copy of all Notices of Intent submitted to EPD;
b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
d. A copy of all sampling information, results, and reports required by this permit;
e. A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;
f. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and
g. Daily rainfall information collected in accordance with Part IV.D.4.a.(2). of this permit.
2. Each secondary permittee shall retain the following records 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 NOT is submitted in accordance with Part VI:
a. A copy of all Notices of Intent submitted to EPD;
b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit or the applicable

VII. RETENTION OF RECORDS (cont.) (32)

a. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit or the applicable portion of the Erosion, Sedimentation and Pollution Control Plan for their activities at the construction site required by this permit;
b. A copy of all inspection reports generated in accordance with Part IV.D.4.b. of this permit; and
c. A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit.
3. Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports (including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation) or other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit 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 NOT is submitted in accordance with Part VI. of this permit. These records must be maintained at the permittee's primary place of business or at a designated alternative location once the construction activity has ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.

VIII. SAMPLING FREQUENCY & REPORTING OF SAMPLING RESULTS (31)

d. Sampling Frequency.
(1). The Primary Permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any stormwater discharge to a monitored receiving water and/or from a monitored outfall location within in forty-five (45) minutes or as soon as possible.
(2). However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the stormwater discharge.
(3). Sampling by the permittee shall occur for the following qualifying events:
(a). For each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit after all clearing and grubbing operations have been completed, but prior to completion of mass grading operations, in the drainage area of the location selected as the sampling location;
(b). In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a stormwater discharge that occurs during normal business hours as defined in this permit either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the sampling location, whichever comes first;
(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (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;
(d). Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and
(e). Existing construction activities, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.
*Note that the permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

7. Non-stormwater discharges. Except for flows from fire fighting activities, sources of non- stormwater listed in Part III.A.2. of this permit that are combined with stormwater discharges associated with construction activity must be identified in the Plan. The Plan shall identify and ensure the implementation of appropriate pollution prevention measures for the non-stormwater component(s) of the discharge.

E. Reporting.
1. The applicable permittees are required to submit the sampling results to the EPD at the address shown in Part II.C. 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 in accordance with Part V.G.2. 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 NOT is submitted in accordance with Part VI.
2. All sampling reports shall include the following information:
a. The rainfall amount, date, exact place and time of sampling or measurements;
b. The name(s) of the certified personnel who performed the sampling and measurements;
c. The date(s) analyses were performed;
d. The time(s) analyses were initiated;
e. The name(s) of the certified personnel who performed the analyses;
f. References and written procedures, when available, for the analytical techniques or methods used;
g. The results of such analyses, including the bench sheets, instrument readouts, computer disks or tapes, etc., used to determine these results;
h. Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and
i. Certification statement that sampling was conducted as per the Plan.
3. All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD according to the schedule in Appendix A of this permit. The permittee shall retain a copy of the proof of submittal at 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 NOT is submitted in accordance with Part VI.

IX. EROSION CONTROL/NPDES CERTIFICATION STATEMENT

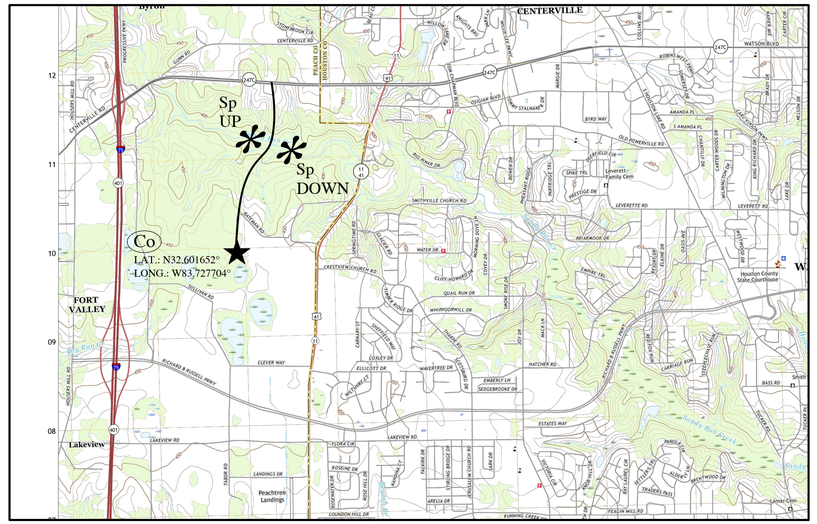
(12) (1) "I CERTIFY UNDER PENALTY OF LAW THAT THIS PLAN WAS PREPARED AFTER A SITE VISIT TO THE LOCATIONS DESCRIBED HEREIN BY MYSELF OR MY AUTHORIZED AGENT, UNDER MY SUPERVISION. "

(13) (2) 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 THE LAND-DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORMWATER OUTFALLS AND THAT THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR100001."

Chad R Bryant 24596

GSWCC LEVEL II DESIGN PROFESSIONAL — CERTIFICATION #

X. USGS QUADRANGLE MAP (35)



XI. DESCRIPTION OF RECEIVING WATERS (11)

THE RECEIVING WATERS FOR THIS SITE IS SANDY RUN CREEK. THIS CREEK IS A "BLUE-LINE STREAM" ON THE MOST RECENT USGS QUADRANGLE MAP AND SUPPORTS WARM WATER FISHERIES. THIS SITE IS LOCATED AT LATITUDE N32.601652°, LONGITUDE W83.727704°, 9.69 ACRES WILL BE DISTURBED.

XII. CRITICAL ADJACENT AREAS

No residential areas, lakes, wetlands, or streams will be affected by the proposed development nor are any adverse impacts expected due to the proposed development.

(22) (23) THIS SITE DOES NOT DISCHARGE STORM WATER INTO AN IMPAIRED STREAM SEGMENT, OR WITHIN 1 LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF A BIOTA IMPAIRED STREAM SEGMENT.

XIII. APPENDIX B RATIONALE (34)

Site Size Acres	Surface Water Drainage Area, square miles							
	0–4.99	5–9.99	10–24.99	25–49.99	50–99.99	100–249.99	250–499.99	500+
1.0–10	75	150	200	400	750	750	750	750
10.01–25	50	100	100	200	300	500	750	750
25.01–50	50	50	100	100	200	300	750	750
50.01–100	50	50	50	100	100	150	300	600
	50	50	50	50	50	100	200	100

XIV. WASTE PICKUP AND DISPOSAL (29)

Worksite Housekeeping: Maintain good housekeeping practices at the project jobsite and equipment/material storage locations.

Waste Pickup and Disposal: Regularly pick up and dispose of waste, and recyclables.

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 job Site 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 job site will be obtained and used for the proper management of potential wastes that may result from these products. All MSDS will be posed in the immediate area where such product is sorted and/or used and another copy of each MSDS will be maintained in the ESPCP file at the jobsite construction trailer office. Each employee who must handle a substance with hazardous properties will 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 ESPCP 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 stormwater discharges. If such contact occurs, the stormwater discharge will be contained on site until appropriate measures in compliance with State and Federal Regulations are taken to dispose of such contaminated stormwater. It shall be the responsibility of the job Site 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 unites 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 stormwater discharge is negligible. Additional containment BMP's must be implemented, such as gravel bags or specially designed plastic skid contributing to stormwater discharges. The location of sanitary waste units must be identified on the Erosion Control Plan – Phase 2 Plan Sheet, by the contractor once the locations have been determined. Sanitary sewer will be provided by the City or by an Individual Septic System at the completion of this project.

(26) PERMANENT STORMWATER POLLUTANT BMPS

1. STORMWATER DETENTION POND PROVIDED TO REDUCE STORMWATER RUNOFF.
2. OUTLET PROTECTION AT DISCHARGE LOCATIONS TO REDUCE VELOCITIES & SCOUR. THE VELOCITY DISSIPATION DEVICES WILL BE PLACED AT DISCHARGE LOCATIONS AND ALONG THE LENGTH OF ANY OUTLFLOW CHANNEL IN ORDER TO PROVIDE NON-EROSIVE FLOW SO THAT THE NATURAL PHYSICAL AND BIOLOGICAL CHARACTERISTICS AND FUNCTIONS OF THE WATER COURSE ARE MAINTAINED AND PROTECTED. THE INSTALLATION OF THESE DEVICES MAY BE SUBJECT TO SECTION 404 OF THE FEDERAL CLEAN WATER ACT.

NOTE: THE PERMITTEE IS ONLY RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF STORMWATER MANAGEMENT DEVICES PRIOR TO FINAL STABILIZATION OF THE SITE AND NOT THE OPERATION AND MAINTENANCE OF SUCH STRUCTURES AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

(27) ALL BUILDING MATERIALS, BUILDING PRODUCTS, CONSTRUCTION WASTES, TRASH, LANDSCAPE MATERIALS, FERTILIZERS, PESTICIDES, HERBICIDES, DETERGENTS, SANITARY WASTE, AND OTHER MATERIALS, SHALL BE COVERED WITH PLASTIC SHEETING OR TEMPORARY ROOFS, IN ORDER TO MINIMIZE EXPOSURE TO PRECIPITATION AND TO STORMWATER.

(22) SECONDARY PERMITTEE

THE PRIMARY PERMITTEE SHALL PROVIDE A COPY OF THE PLAN (AND SUBSEQUENT REVISIONS TO THE PLAN) TO EACH SECONDARY PERMITTEE. THE SECONDARY PERMITTEE SHALL SIGN BELOW INDICATING THAT THEY HAVE RECEIVED A COPY OF THE PLAN AND A COPY MUST BE KEPT IN THE PRIMARY'S RECORDS.

SECONDARY PERMITTEE SIGNATURES:
1. _____ DATE:
2. _____ DATE:
3. _____ DATE:
4. _____ DATE:
5. _____ DATE:

XV. ACTIVITY SCHEDULE (29)

ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6
START CONSTRUCTION						
INSTALLATION OF SILT FENCE & CONSTRUCTION EXITS						
CLEARING & GRUBBING						
GRADING						
STORM WATER SYSTEM INSTALLATION						
INSTALLATION OF UTILITIES						
TEMPORARY GRASSING						
PAVING/BASE						
PERMANENT VEGETATION						
MAINTENANCE OF EROSION CONTROL MEASURES						
REMOVE TEMPORARY STRUCTURES						
END OF CONSTRUCTION						

GEORGIA REGISTERED No. 003595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
111 Perimeter Road, Suite A
Perry, Georgia 31069
P.O. Box 1821
Perry, Georgia 31069
phone: (478) 224-7070 fax: (478) 224-7072
www.bryantengllc.com

COUNTY: HOUSTON 63/5
LL/DISTRICT:
DWG: 0322-002-MASTER
DATE: 7/16/24
SCALE: 1"= 50'
JOB NO.: 0322-002

THIS DRAWING IS THE PROPERTY OF BRYANT ENGINEERING, LLC. AND IS RELEASED AS PRELIMINARY / REVIEW ONLY UNLESS NOTED AS RELEASED FOR CONSTRUCTION. THIS DRAWING MAY NOT BE REPRODUCED WITHOUT EXPRESSED WRITTEN CONSENT.

REVISIONS
NO. DATE DESCRIPTION

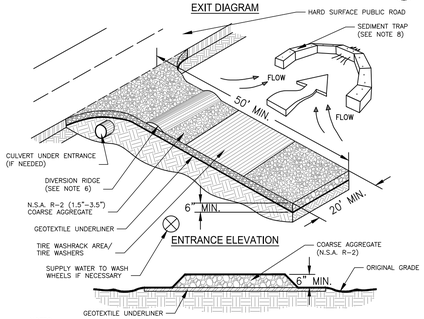
NPDES PERMIT NO. GAR 100002 FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS
GEORGIA

SHEET NO.
C-5.5

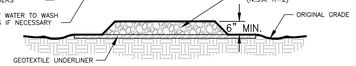
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CRUSHED STONE CONSTRUCTION EXIT (Co)

EXIT DIAGRAM

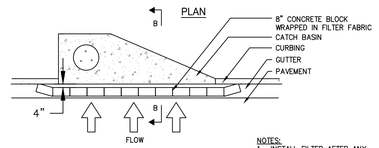


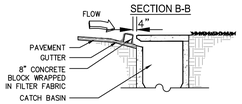
ENTRANCE ELEVATION



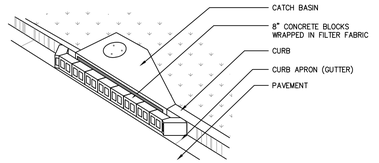
NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD SHALL HAVE A MINIMUM THICKNESS OF 6".
5. PAD WIDTH SHALL BE EQUAL FULL WIDTH AT ALL POINTS OF VEHICULAR EGRESS, BUT NO LESS THAN 20'.
6. A DIVERSION RIDGE SHOULD BE CONSTRUCTED WHEN GRADE TOWARD PAVED AREA IS GREATER THAN 2%.
7. INSTALL PIPE UNDER THE ENTRANCE IF NEEDED TO MAINTAIN DRAINAGE DITCHES.
8. WHEN WASHING IS REQUIRED, IT SHOULD BE DONE ON AN AREA STABILIZED WITH CRUSHED STONE THAT DRAINS INTO AN APPROVED SEDIMENT TRAP OR SEDIMENT BASIN (DIVERT ALL SURFACE RUNOFF AND DRAINAGE FROM THE ENTRANCE TO A SEDIMENT CONTROL DEVICE).
9. WASHRACKS AND/OR TIRE WASHERS MAY BE REQUIRED DEPENDING ON SCALE AND CIRCUMSTANCE. IF NECESSARY, WASHRACK DESIGN MAY CONSIST OF ANY MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT REMOVE MUD AND DIRT.
10. MAINTAIN AREA IN A WAY THAT PREVENTS TRACKING AND/OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAYS. THIS MAY REQUIRE TOP DRESSING, REPAIR AND/OR CLEANOUT OF ANY MEASURES USED TO TRAP SEDIMENT.

CURB INLET FILTER "PIGS IN BLANKET"



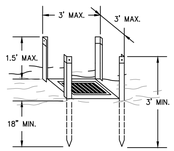


NOTES:
1. INSTALL FILTER AFTER ANY ASPHALT PAVEMENT INSTALLATION.
2. WRAP 8" CONCRETE BLOCKS IN FILTER FABRIC AND SPAN ACROSS CATCH BASIN INLET.
3. FACE OPENINGS IN BLOCKS OUTWARD.
4. LEAVE A GAP OF APPROXIMATELY 4 INCHES BETWEEN THE CURB AND THE FILTERS TO ALLOW FOR OVERFLOW TO PREVENT HAZARDOUS PONDING.
5. INSTALL OUTLET PROTECTION BELOW STORM DRAIN OUTLETS.

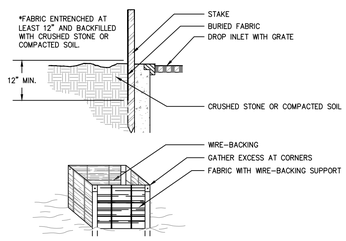


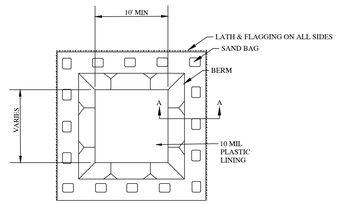
FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION (Sd2-F)

STEEL FRAME AND SILT FENCE INSTALLATION

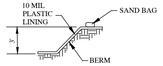


NOTES:
1. DESIGN IS FOR SLOPES NO GREATER THAN 5% (NOT DESIGNED FOR CONCENTRATED FLOWS).
2. THE STEEL POSTS SUPPORTING THE SILT FENCE MATERIAL SHOULD BE SPACED EVENLY AROUND THE PERIMETER OF THE INLET (MAXIMUM OF 3' APART).
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHOULD BE ENTRENCHED AT LEAST 12" AND THEN BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

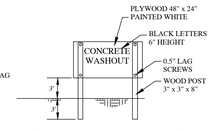




PLAN



SECTION A-A



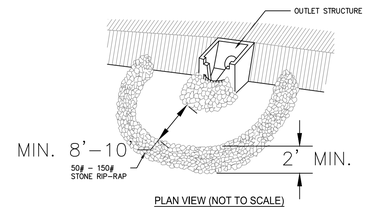
CONCRETE WASH OUT SIGN

NOTE:
1. ACTUAL LAYOUT DETERMINED IN FIELD.
2. THE CONCRETE WASHOUT SIGN SHALL BE INSTALLED WITHIN 30 FT. OF THE TEMPORARY CONCRETE WASHOUT FACILITY.

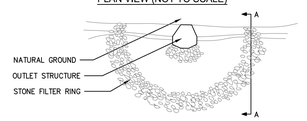
CONCRETE WASH AREA DETAIL

STONE FILTER RING (Fr)

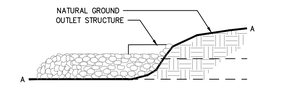
PERSPECTIVE VIEW



PLAN VIEW (NOT TO SCALE)



CROSS SECTION (NOT TO SCALE)



CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A
Perry, Georgia 31069
P.O. Box 1821
Perry, Georgia 31069
www.bryantengllc.com

COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	
JOB NO.:	

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REVISIONS

NO.	DATE	DESCRIPTION

EROSION CONTROL DETAILS FOR:

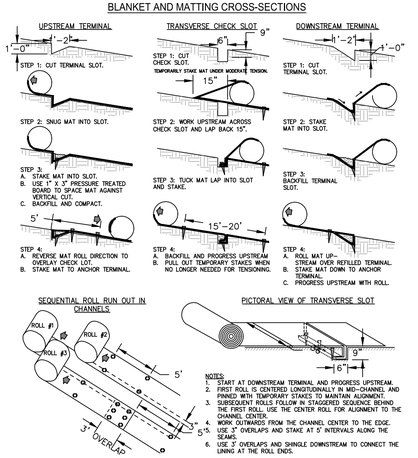
PETE'S WAY EXTENSION

SHEET NO.

C-5.6

TYPICAL INSTALLATION GUIDELINES FOR ROLLED EROSION CONTROL PRODUCTS (RECP) (Ss)

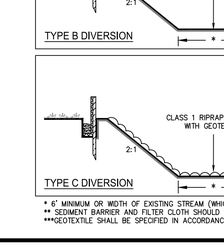
BLANKET AND MATTING CROSS-SECTIONS



NOTES:
1. START AT DOWNSTREAM TERMINAL AND PROGRESS UPSTREAM.
2. FIRST ROLL IS CENTERED LONGITUDINALLY IN MID-CHANNEL AND PINNED WITH TEMPORARY STAKES TO MAINTAIN ALIGNMENT.
3. SUBSEQUENT ROLLS FOLLOW STAGGERED SEQUENCE BEHIND THE FIRST ROLL. USE THE CENTER ROLL FOR ALIGNMENT TO THE CHANNEL CENTER.
4. WORK OUTWARDS FROM THE CHANNEL CENTER TO THE EDGE.
5. USE 3" OVERLAPS AND STAKE AT 5' INTERVALS ALONG THE SEAMS.
6. USE 3' OVERLAPS AND SHINGLE DOWNSTREAM TO CONNECT THE LINING AT THE ROLL ENDS.

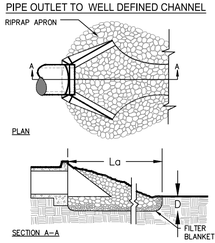
RIPRAP OUTLET PROTECTION (St)

PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



NOTES:
1. La IS THE LENGTH OF THE RIPRAP APRON.
2. D = 1.5 TIMES THE MAXIMUM STONE DIAMETER BUT NOT LESSTHAN 6".
3. IN A WELL-DEFINED CHANNEL, EXTEND THE APRON UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK (WHICHEVER IS LESS).
4. A FILTER BLANKET OR FILTER FABRIC SHOULD BE INSTALLED BETWEEN THE RIPRAP AND THE SOIL FOUNDATION.

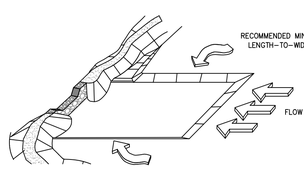
PIPE OUTLET TO WELL DEFINED CHANNEL



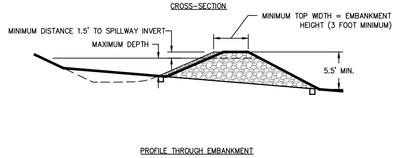
TEMPORARY SEDIMENT TRAP (Sd4)

COURTESY OF CITY OF KNOXVILLE BMP EROSION AND SEDIMENT

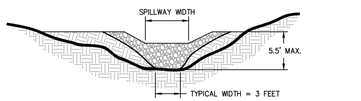
ROCK OUTLET



CROSS-SECTION

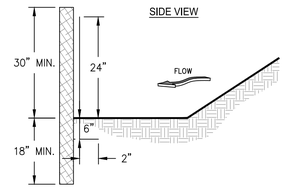


PROFILE THROUGH EMBANKMENT

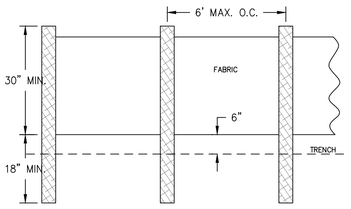


SILT FENCE - TYPE NON-SENSITIVE (Sd1-NS)

SIDE VIEW



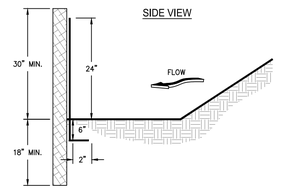
FRONT VIEW



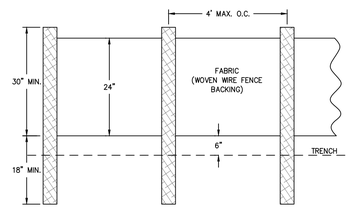
NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

SILT FENCE - TYPE SENSITIVE (Sd1-S)

SIDE VIEW

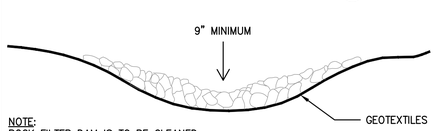


FRONT VIEW

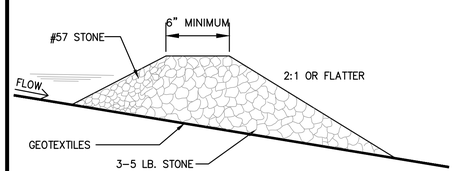


NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

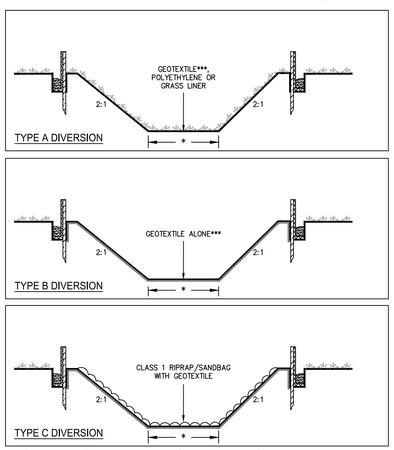
ROCK FILTER DAM (Rd)



NOTE:
ROCK FILTER DAM IS TO BE CLEANED OUT WHEN VOLUME BECOMES HALF FULL.



DIVERSION CHANNEL (Ch)



* 6" MINIMUM OR WIDTH OF EXISTING STREAM (WHICHEVER IS GREATER)
** SEDIMENT BARRIER AND FILTER CLOTH SHOULD BE ENTRENCHED IN THE SAME TRENCH.
***GEOTEXTILE SHALL BE SPECIFIED IN ACCORDANCE WITH AASHTO M288-96 SECTION 7.5

Disturbed Area Stabilization (With Permanent Vegetation) Ds3



DEFINITION
The planting of perennial vegetation such as trees, shrubs, vines, grasses, or legumes on exposed areas for final permanent stabilization. Permanent perennial vegetation shall be used to achieve final stabilization.

PURPOSE
- To protect the soil surface from erosion
- To reduce damage from sediment and runoff to down-stream areas
- To improve wildlife habitat and visual resources
- To improve aesthetics

REQUIREMENT FOR REGULATORY COMPLIANCE
This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at 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 and areas located outside the waste disposal limits of a landfill cell that has been certified by the GA EPD for waste disposal, 100% of the soil surface is uniformlycovered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures.

Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or 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. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. 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.

CONDITIONS
Permanent perennial vegetation is used to provide a protective cover for exposed areas including cuts, fills, dams, and other denuded areas.

PLANNING CONSIDERATIONS
1. Use conventional planting methods where possible.
2. When mixed plantings are done during marginal planting periods, companion crops shall be used.
3. No-till planting is effective when planting is done following a summer or winter annual cover crop. Sericea lespedeza planted no-till into stands of rye is an excellent procedure.
4. Block sod provides immediate cover. It is especially effective in controlling erosion adjacent to concrete flumes and other structures. Refer to Specification **Ds4-Disturbed Area Stabilization (With Sodding)**.
5. Irrigation should be used when the soil is dry or when summer plantings are done.
6. Low maintenance plants, as well as natives, should be used to ensure long-lasting erosion control.
7. Mowing should not be performed during the quail nesting season (May to September).
8. Wildlife plantings should be included in critical area plantings.

Dust Control on Disturbed Areas Du



DEFINITION
Controlling surface and air movement of dust on construction sites, roads, and demolition sites.

PURPOSE
- To prevent surface and air movement of dust from exposed soil surfaces.
- To reduce the presence of airborne substances that may be harmful or injurious to human health, welfare, or safety, or to animals or plant life.

CONDITIONS
This practice is applicable to areas subject to surface and air movement of dust where on and off-site damage may occur without treatment.

METHOD AND MATERIALS

A. Temporary Methods

Mulches. See standard **Ds1 - Disturbed Area Stabilization (With Mulching Only)**. Synthetic resins may be used instead of asphalt to bind mulch material. Refer to specification **Tac - Tackifiers**. Resins should be used according to manufacturer's recommendations.

Vegetative Cover. See specification **Ds2 - Disturbed Area Stabilization (With Temporary Seeding)**.

Spray-on Adhesives. These are used on mineral soils (not effective on muck soils). Keep traffic off these areas. Refer to specification **Tac - Tackifiers**.

Tillage. This practice is designed to roughen and bring clods to the surface. It is an emergency measure that should be used before wind erosion starts. Begin plowing on windward side of site. Chisel-type plows spaced about 12 inches apart, spring-toothed harrows, and similar plows are examples of equipment that may produce the desired effect.

Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface is wet. Repeat as needed.

Barriers. Solid board fences, snowfences, burlap fences, crate walls, bales of hay and similar material can be used to control air currents and soil blowing. Barriers placed at right angles to prevailing currents at intervals of about 15 times their height are effective in controlling wind erosion.

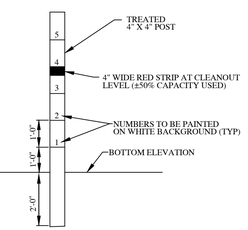
Calcium Chloride. Apply at rate that will keep surface moist. May need retreatment.

B. Permanent Methods

Permanent Vegetation. See specification **Ds3 -Disturbed Area Stabilization (With Permanent Vegetation)**. Existing trees and large shrubs may afford valuable protection if left in place.

Topsoiling. This entails covering the surface with less erosive soil material. See specification **Tp - Topsoiling**.

Stone. Cover surface with crushed stone or coarse gravel. See specification **Cr-Construction Road Stabilization**.



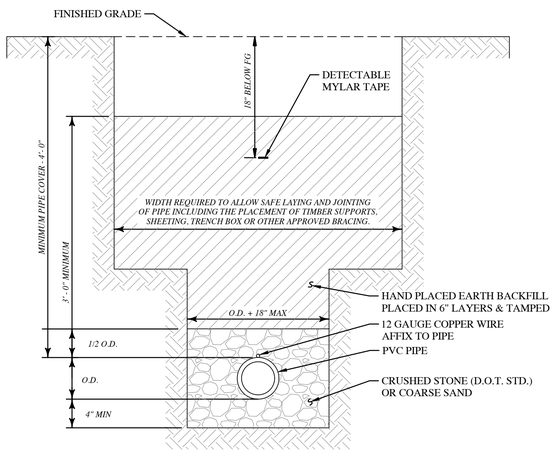
NOTE:
BASED ON THE VOLUME OF SEDIMENT GENERATED BY THIS SITE, THE SEDIMENT SHALL BE REMOVED FROM THE PONDS ANNUALLY. HOWEVER, SEDIMENT SHALL ALSO BE REMOVED WHEN THE SEDIMENT REACHES THE BASE OF THE SEDIMENT GAGE. WHEN WATER LEVELS PREVENT THE VISUAL INSPECTION OF SEDIMENT, THE OPERATOR SHALL USE THE RED STRIP ON THE SEDIMENT GAGE AS AN INDICATOR. IF THE WATER LEVEL STAYS ABOVE THE RED STRIPE FOR MORE THAN 60 DAYS, THEN THE SEDIMENT SHALL BE REMOVED.

SILT GAUGE

N.T.S.

PLEASE NOTE
DETAILS SHOWN ON THIS SHEET ARE STANDARD EROSION CONTROL PRACTICES USED IN THIS GEOGRAPHIC LOCATION. ALL EROSION CONTROL PRACTICES SHOWN MAY NOT BE USED DURING CONSTRUCTION ACTIVITIES. THESE DETAILS HAVE BEEN PROVIDED FOR THE CONTRACTOR TO MANAGE ANY UNFORESEEN EROSION PROBLEMS THAN MAY OCCUR DURING PHASED CONSTRUCTION ACTIVITIES. PLEASE REFER TO THE EROSION CONTROL PLAN FOR ALL PRACTICES REQUIRED FOR THIS PROJECT. ANY DESIGN CHANGES OR ADDITIONS SHOULD BE COORDINATED WITH THE DESIGN ENGINEER.

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG (12/4/2024 9:21 AM)



REQUIRED COMPACTION AND TESTING

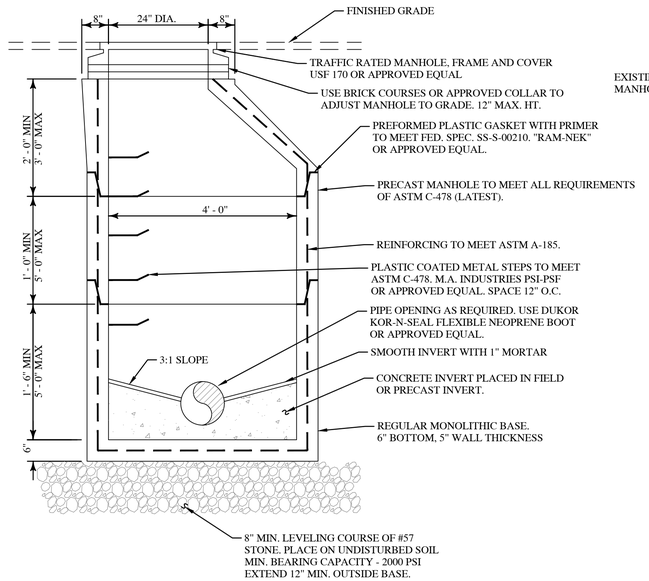
1. OUTSIDE OF PAVED OR PROPOSED PAVED AREAS STANDARD PROCTOR, 90% TESTING REQUIRED FIRST 3' ONLY.

2. UNDER PAVED OR PROPOSED PAVED AREAS STANDARD PROCTOR, 95%, TESTING REQUIRED EVERY 3' TO GRADE.

3. UNDER D.O.T. ROADWAYS OR PROPOSED D.O.T. ROADWAYS STANDARD PROCTOR, 98% TESTING REQUIRED EVERY 3' GRADE.

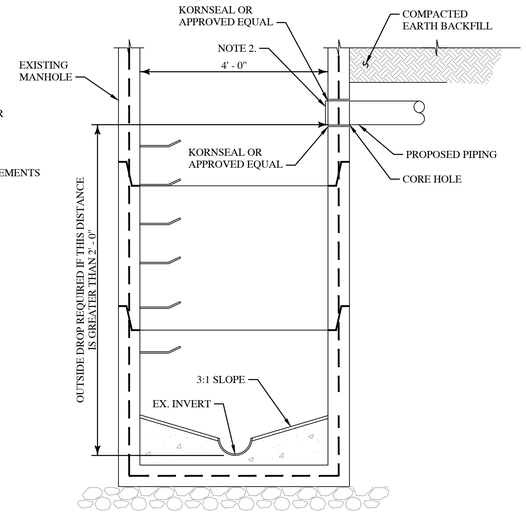
4. ALL COMPACTION TESTING SHALL BE CONDUCTED BY AN APPROVED SOILS TESTING FIRM.

SECTION - SANITARY SEWER BEDDING (PVC)
N.T.S.



NOTE: ALL MANHOLES SHALL BE ECCENTRIC CONE TYPE WITH VERTICAL SIDE. STEPS SHALL BE POSITIONED OVER INVERT SHELF AND AWAY FROM DROP CONNECTIONS.

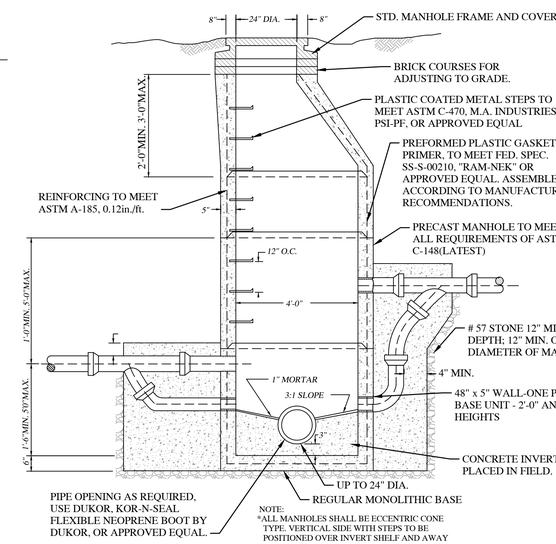
SECTION - STANDARD MANHOLE
N.T.S.



NOTE:

1. CONCRETE SHALL BE PLACED TO BOTTOM OF MANHOLE AND ENCASE DROP PIPING A MINIMUM OF 6" IN ALL DIRECTIONS.
2. EXTEND NEW PIPE A MAXIMUM OF 1" INTO EXISTING MANHOLE.
3. LOCATE DROP INVERT ABOVE EXISTING SHELF. GROUT SHELF TO 3:1 SLOPE.
4. DROP PIPE AND FITTINGS MAY BE DUCTILE IRON OR PVC.

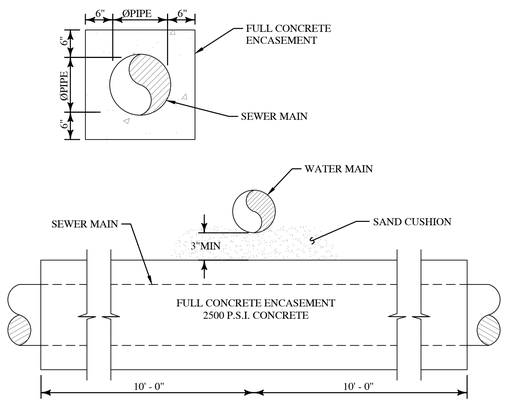
SECTION - PIPE TIE-IN TO EXISTING MANHOLE
N.T.S.



NOTE:
*ALL MANHOLES SHALL BE ECCENTRIC CONE TYPE. VERTICAL SIDE WITH STEPS TO BE POSITIONED OVER INVERT SHELF AND AWAY FROM DROP CONNECTIONS.

*OUTSIDE DROP MANHOLE REQUIRED IF DISTANCE IS GREATER THAN 2'

DETAIL - PRECAST DROP MANHOLE
N.T.S.



NOTES:

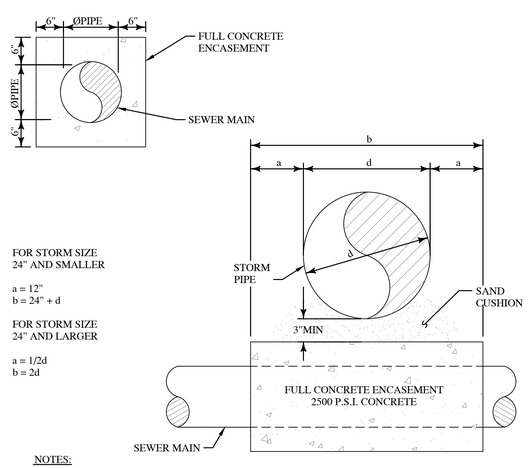
1. USE FOR ALL CROSSINGS WHERE WATER MAIN IS 2" DIA. OR LARGER AND VERTICAL CLEARANCE BETWEEN PIPES IS LESS THAN 18".

2. WATER MAIN SHALL BE LOCATED ABOVE OR BELOW ENCASEMENT AS SHOWN ON PLANS OR AS DETERMINED IN THE FIELD.

ALTERNATIVE:

DUCTILE IRON PIPE MAY BE USED IN LIEU OF CONCRETE ENCASEMENT WITH A MINIMUM OF ONE FULL JOINT OF PIPE CENTERED AT THE POINT OF CROSSING. NOTE THAT FLEXIBLE (FRENCO) TYPE COUPLINGS ARE NOT ACCEPTABLE. RIGID COUPLINGS ONLY MAY BE USED AT THE DUCTILE/PVC TRANSITION.

DETAIL - SEWER ENCASEMENT UNDER WATER MAIN
N.T.S.



FOR STORM SIZE 24" AND SMALLER

a = 12"
b = 24" + d

FOR STORM SIZE 24" AND LARGER

a = 1/2d
b = 2d

NOTES:

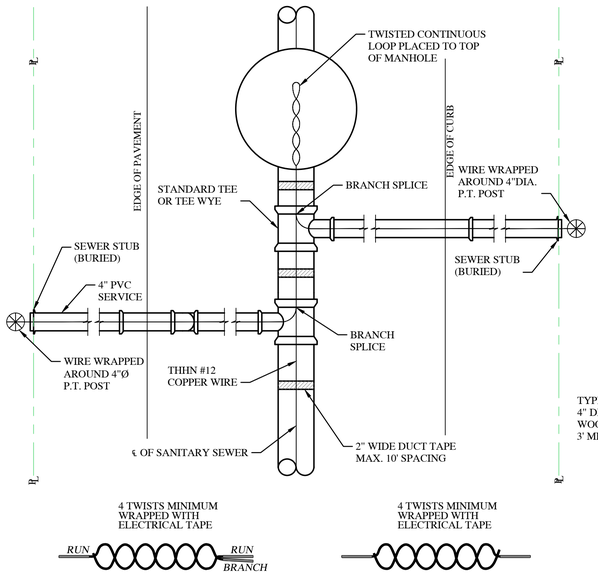
1. USE FOR ALL CROSSINGS WHERE VERTICAL CLEARANCE BETWEEN STORM PIPE IS LESS THAN 18".

2. CONCRETE SHALL BEAR ALL OVERBURDEN WEIGHT.

ALTERNATIVE:

DUCTILE IRON PIPE MAY BE USED IN LIEU OF CONCRETE ENCASEMENT WITH A MINIMUM OF ONE FULL JOINT OF PIPE CENTERED AT THE POINT OF CROSSING. NOTE THAT FLEXIBLE (FRENCO) TYPE COUPLINGS ARE NOT ACCEPTABLE. RIGID COUPLINGS ONLY MAY BE USED AT THE DUCTILE/PVC TRANSITION.

DETAIL - SEWER ENCASEMENT UNDER STORM PIPE
N.T.S.



BRANCH SPLICE

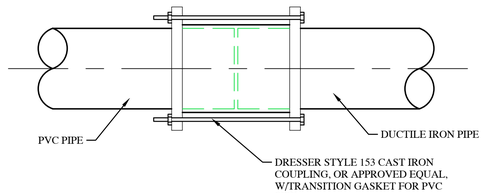
IN-LINE SPLICE

NOTE:

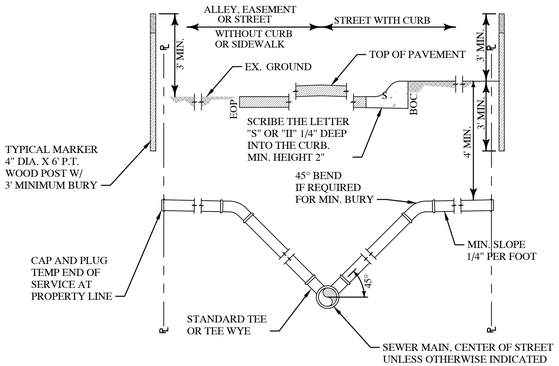
1. PROTECTIVE COATING SHALL BE STRIPPED PRIOR TO SPLICE. WRAP FINISHED SPLICE WITH ELECTRICAL TAPE.

DETAIL - TRACER WIRE PLACEMENT (SEWER)
N.T.S.

NOTE: COST OF COUPLING TO BE INCLUDED IN UNIT PRICE FOR PVC PIPE



DETAIL - DUCTILE IRON TO PVC CONNECTION
N.T.S.



NOTE::
1. THE MINIMUM SIZE OF ALL SERVICE LATERALS SHALL BE 4 INCHES.
2. FOR ROADS WITH SIDEWALKS AND NO CURB, SCRIBE THE LETTER "S" OR "II" ON THE EDGE OF THE SIDEWALK TO MARK LATERAL.
3. CURBS SHALL BE MARKED DIRECTLY OVER THE LATERAL REGARDLESS OF ANGLE THAT LATERAL EXITS THE PAVEMENT.
4. TOP 6" MARKER SHALL BE PAINTED GREEN.

PROFILE - SANITARY SEWER SERVICE LATERAL
N.T.S.

GEORGIA REGISTERED No. 035595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A
Perry, Georgia 31069
P.O. Box 1821
Perry, Georgia 31069
www.bryanteng1lc.com

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REVISIONS

NO.	DATE	DESCRIPTION

SEWER DETAILS FOR: PETE'S WAY EXTENSION

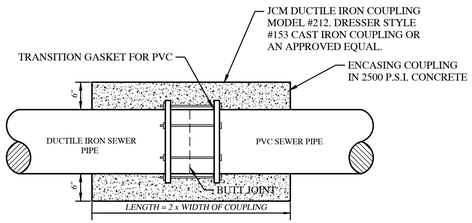
GEORGIA

CITY OF WARNER ROBINS

SHEET NO.

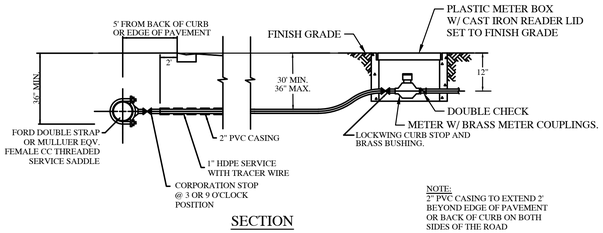
C-6.1

P:\03 - INSTITUTIONAL AUTHORITY\0322 - JOINT DEVELOPEMENT AUTHORITY\0322-002 ROAD EXTENSION PROJECT\04 - DESIGN CAD\01 - DWG\0322-002-MASTER.DWG (12/4/2024 9:21 AM)



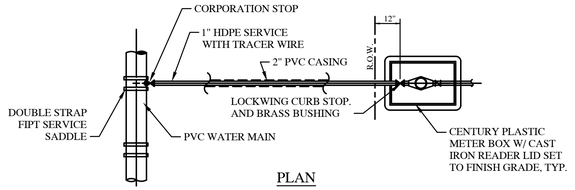
DETAIL - RIGID TRANSITION COUPLING

N.T.S.



SECTION

NOTE:
2" PVC CASING TO EXTEND 2'
BEYOND EDGE OF PAVEMENT
OR BACK OF CURB ON BOTH
SIDES OF THE ROAD

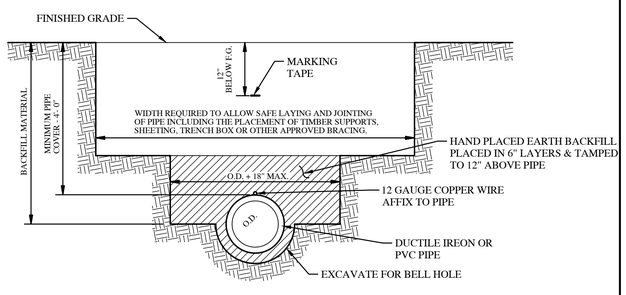


PLAN

DETAIL - WATER SERVICE CONNECTION

N.T.S.

PLASTIC MARKING TAPE INSTALLED OVER ALL WATER PIPE, BEING BURIED 1 FOOT BELOW THE GROUND SURFACE ABOVE THE WATER LINE. STATEMENT SHOULD REQUIRE TAPE TO BE BLUE IN COLOR AND AT LEAST TWO INCHES (2") WIDE AND SHALL BEAR THE PRINTED IDENTIFICATION " CAUTION: BURIED WATER LINE BELOW"



NOTE:

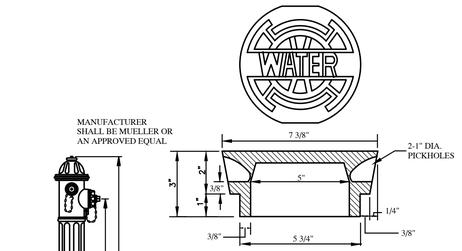
1. TRENCH SHALL BE EXCAVATED TO THE DEPTH REQUIRED PRROVIDING A UNIFORM AND CONTINUEOUS BEARING AND SUPPORT FOR THE PIPE ON SOLID, UNDISTURBED GROUND AT EVERY POINT BETWEEN BELLS OR COUPLINGS.

REQUIRED COMPACTION AND TESTING

1. OUTSIDE OF PAVED OR PROPOSED PAVED AREAS, COMPACTED TO 95% STANDARD PROCTOR.
2. UNDER PAVED OR PROPOSED PAVED AREAS, COMPACTED TO 100% STANDARD PROCTOR.
3. UNDER D.O.T. ROADWAYS OR PROPOSED D.O.T. ROADWAYS, COMPACTED TO 100% STANDARD PROCTOR.
4. ALL COMPACTION TESTING SHALL BE CONDUCTED BY AN APPROVED SOILS TESTING FIRM.

DETAIL - WATER LINE BEDDING

N.T.S.



WATER BOX COVER

N.T.S.

NOTE:

1. FACE STEAMER NOZZLE TOWARDS ROADWAY.
2. FIREHYDRANT SHALL BE DRY BARREL TYPE WITH BREAKABLE COUPLING FOR TRAFFIC EXSPOSURE. VALVE OPENING SHALL BE 5 - 1/4".
3. USE RETAINER GLANDS AT ALL JOINTS.

DETAIL - TYPICAL FIRE HYDRANT SETTING

N.T.S.

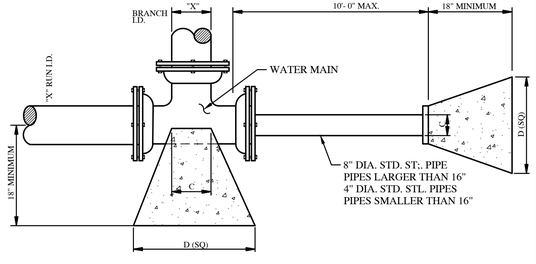
	BENDS			
	X	C	D	
90° BEND	4"	6"	1'- 2"	
	6"	8"	1'-10"	
	8"	9"	2'- 4"	
	10"	11"	3'- 0"	
	12"	12"	3'- 6"	
45° BEND	4"	6"	1'- 0"	
	6"	8"	1'- 4"	
	8"	9"	1'-10"	
	10"	11"	2'- 2"	
	12"	12"	2'- 8"	
22 1/2° BEND	4"	6"	1'- 0"	
	6"	8"	1'- 0"	
	8"	9"	1'- 4"	
	10"	11"	1'- 8"	
	12"	12"	1'-10"	
11 1/4° BEND	4"	6"	1'- 0"	
	6"	8"	1'- 0"	
	8"	9"	1'- 0"	
	10"	11"	1'- 2"	
	12"	12"	1'- 4"	

	TEES AND DEAD ENDS			
	X	C	D	
	4"	8"	1'- 6"	
	6"	10"	1'- 9"	
	8"	12"	2'- 0"	
	10"	14"	2'- 6"	
	12"	16"	3'- 0"	

NOTE:

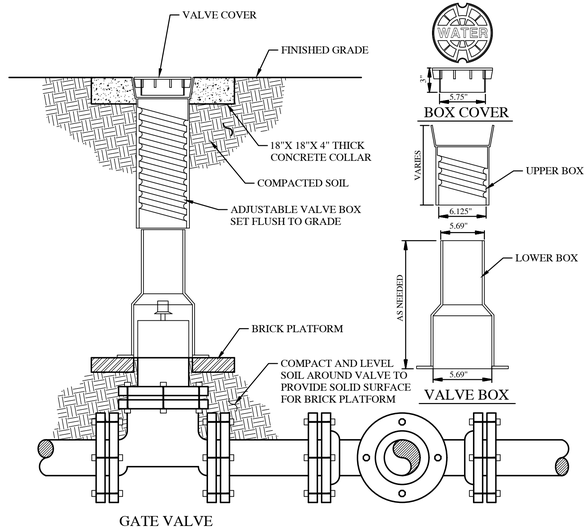
150 P.S.I. TEST PRESSURE
SOIL BORING OF 2000 P.S.F.
3000 P.S.I. CONCRETE

ALL C AND D"S HAVE MIN. OF 1'- 0"



DETAIL - THRUST BLOCKS FOR FITTINGS

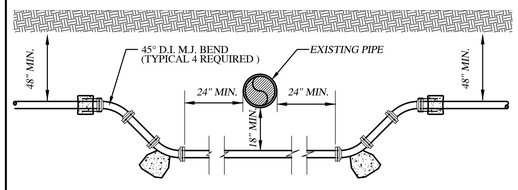
N.T.S.



DETAIL - TYPICAL WATER VALVE SETTING

N.T.S.

FINISHED GRADE

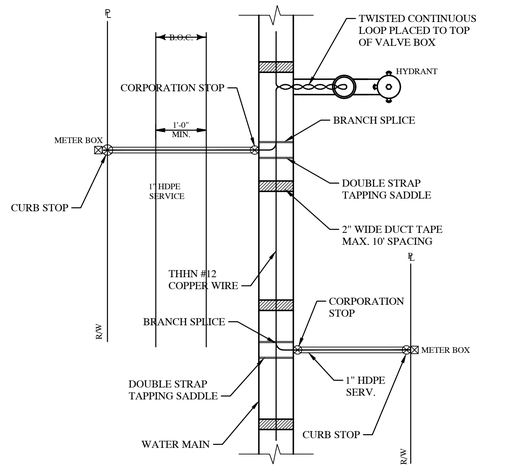


NOTES:

1. ALL FITTINGS SHALL BE PROPERLY BLOCKED OR TIE-RODDED AS REQUIRED TO INSURE SUFFICIENT ANCHORAGE OF THE PIPING.
2. PROVIDE SUFFICIENT BACKFILL AND COMPACTION OVER WATER LINE TO ASSURE PROTECTION OF THE PIPE.

WATER MAIN CONFLICT DETAIL

N.T.S.



PLAN VIEW



BRANCH SPLICE

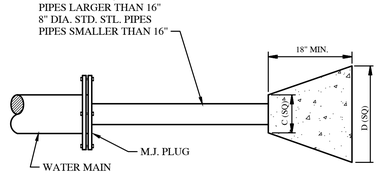
IN-LINE SPLICE

NOTE:

1. PROTECTIVE COATING SHALL BE STRIPPED PRIOR TO SPLICE. WRAP FINISHED SPLICE WITH ELECTRICAL TAPE.

DETAIL - TRACER WIRE PLACEMENT (WATER)

N.T.S.



PLUG SIZE	*C*	*D*	*CU.FT. CONC.*
6"	10"	21"	2.2
8"	12"	24"	3.0
10"	14"	30"	4.4
12"	16"	36"	6.0
14"	18"	42"	9.0
16"	20"	48"	11.0

NOTE:

1. ALL BEARING SURFACES TO BE CARRIED TO UNDISTURBED SOIL.
2. THESE TABLES SHOW MINIMUM SIZE THRUST BLOCKS FOR A SOIL BEARING PRESSURE OF 2,000 P.S.I. AND AN INTERNAL PRESSURE OF 150 P.S.I..
3. WHEN POOR SOIL (SILT, CLAY, MUCK, PEAT, ETC.) ARE ENCOUNTERED, SUBMIT DETAILS OF AN ALTERNATIVE SYSTEM TO THE PROJECT ENGINEER FOR APPROVAL.

DETAIL - THRUST BLOCKS FOR PLUGS

N.T.S.

GEORGIA REGISTERED No. 033595 PROFESSIONAL ENGINEER CHAD RUSSELL BRYANT

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
phone: (478) 224-7070 fax: (478) 224-7072
111 Perimeter Road, Suite A P.O. Box 1821
Perry, Georgia 31069 Perry, Georgia 31069
www.bryaneng1lc.com

COUNTY:	HOUSTON
LL/DISTRICT:	63/5
DWG:	0322-002-MASTER
DATE:	7/16/24
SCALE:	1"= 50'
JOB NO.:	0322-002

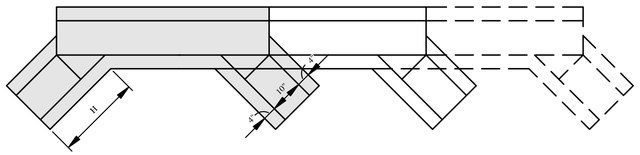
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WATER DETAILS FOR: PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS		
NO.	DATE	DESCRIPTION

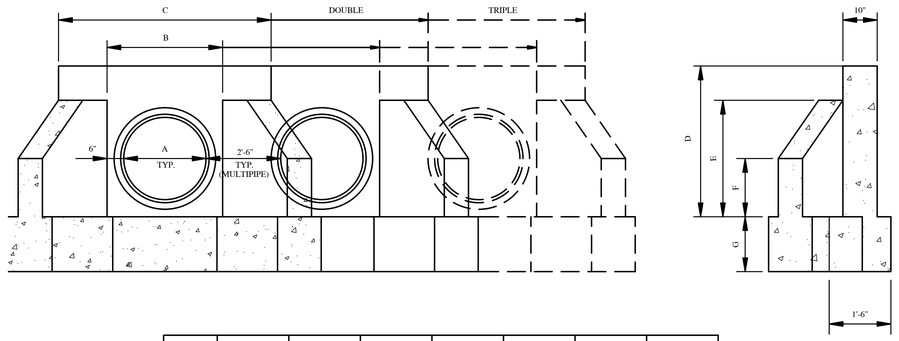
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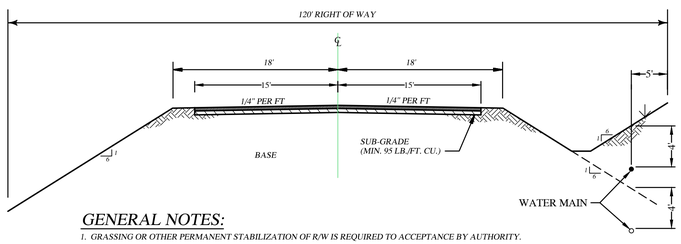
NOTES:

1. PRECAST CONSTRUCTION SHALL MEET THE REQUIREMENTS OF THE GA. D.O.T. AND ASTM C-478.
2. REINFORCING STEEL SHALL BE A MINIMUM OF #4@ 6 O.C.E.W.



"A"	"B"	"C"	"D"	"E"	"F"	"G"	"H"
12"	4'-2"	6'-6"	2'-6"	1'-8"	1'-2"	1'-3"	1'-7"
15"	4'-6"	6'-10"	2'-10"	2'-0"	1'-3"	1'-3"	1'-7"
18"	4'-10"	7'-2"	3'-2"	2'-4"	1'-4"	1'-3"	1'-7"
24"	5'-4"	7'-8"	3'-8"	2'-10"	1'-5"	1'-4"	2'-1"
30"	6'-0"	8'-4"	4'-4"	3'-6"	1'-9"	1'-6"	2'-5"
36"	6'-6"	8'-10"	4'-10"	4'-0"	2'-0"	1'-8"	2'-11"
3-36"	17'-6"	19'-10"	4'-10"	4'-0"	2'-0"	1'-8"	2'-11"
42"	7'-0"	9'-4"	5'-4"	4'-6"	2'-3"	2'-0"	3'-6"
48"	7'-8"	10'-0"	6'-0"	5'-2"	2'-6"	2'-0"	4'-0"
54"	8'-3"	10'-2"	6'-7"	5'-9"	2'-9"	2'-0"	4'-6"
60"	8'-10"	11'-2"	7'-2"	6'-4"	3'-0"	2'-2"	5'-0"
5-60"	31'-4"	33'-8"	7'-2"	6'-4"	3'-0"	2'-2"	5'-0"
6-60"	38'-10"	41'-2"	7'-2"	6'-4"	3'-0"	2'-2"	5'-0"

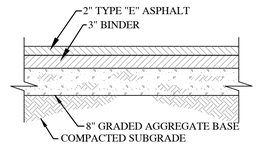
DETAIL - CONCRETE HEADWALL
N.T.S.



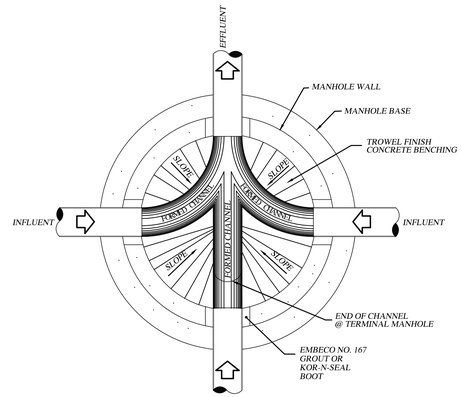
GENERAL NOTES:

1. GRASSING OR OTHER PERMANENT STABILIZATION OF R/W IS REQUIRED TO ACCEPTANCE BY AUTHORITY.
2. ENTIRE R/W SHALL BE CLEARED AND GRUBBED AND GRADED AS SHOWN ON PLANS.
3. ALL FILL MATERIAL MUST BE APPROVED BY THE ENGINEER AND TESTED FOR SPECIFIED COMPACTION.

TYPICAL SECTION FOR 120' R/W
N.T.S.



TYPICAL PAVING DETAIL
HEAVY DUTY
N.T.S.



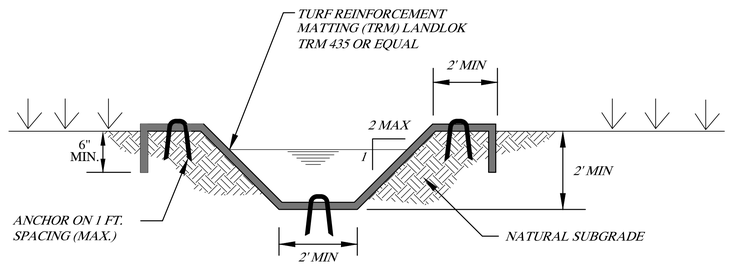
FLOW PATTERNS FOR INVERT CHANNELS

NOTES: 1. INVERT CHANNELS TO BE CONSTRUCTED FOR SMOOTH FLOW WITH NO OBSTRUCTIONS. HALF PIPE INVERT CHANNELS.
2. SPILLWAYS SHALL BE CONSTRUCTED BETWEEN PIPES WITH DIFFERENT INVERT ELEVATIONS PROVIDING FOR SMOOTH FLOWS.
3. CHANNELS FOR FUTURE CONNECTIONS (STUBS) SHALL BE CONSTRUCTED, FILLED WITH SAND AND COVERED WITH 1" OF MORTAR.
4. WHERE PIPE INVERTS DIFFER BY MORE THAN 2 FEET (2'), PROVIDE A TEE AND DROP-PIPE TO PREVENT SPLATTER.

DETAIL - TYPICAL MANHOLE PLAN
N.T.S.

NOTES:

1. INSTALL PER MANUFACTURER'S RECOMMENDATION.
2. OVERLAP ADJACENT ROLLS A MINIMUM OF 3" OR MORE IF RECOMMENDED BY MANUFACTURER. INSTALL ANCHORS ON OVERLAP SEAM AT A MAXIMUM OF EVERY 18".
3. LAY TRM LOOSE TO MAINTAIN DIRECT CONTACT WITH SOIL.
4. SECURE TRM TO GROUND SURFACE USING U-SHAPED WIRE STAPLES SPACED AT 2 PER SQUARE YARD. REFER TO MANUFACTURER'S RECOMMENDATION FOR WIRE STAPLE SPACING PATTERN.



TURF REINFORCEMENT MATTING (TRM)

CHAD R. BRYANT, P.E.
GSWCC LEVEL II
DESIGN PROFESSIONAL
CERTIFICATION # 24596

BRYANT ENGINEERING
P.O. Box 1821
111 Perimeter Road, Suite A
Perry, Georgia 31069
phone: (478) 224-7070 fax: (478) 224-7072
www.bryanteng1lc.com

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SCALE:	1"= 50'
JOB NO.:	0322-002

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MISCELLANEOUS DETAILS FOR:
PETE'S WAY EXTENSION
CITY OF WARNER ROBINS GEORGIA

REVISIONS
NO. DATE DESCRIPTION

SHEET NO.
C-6.3

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