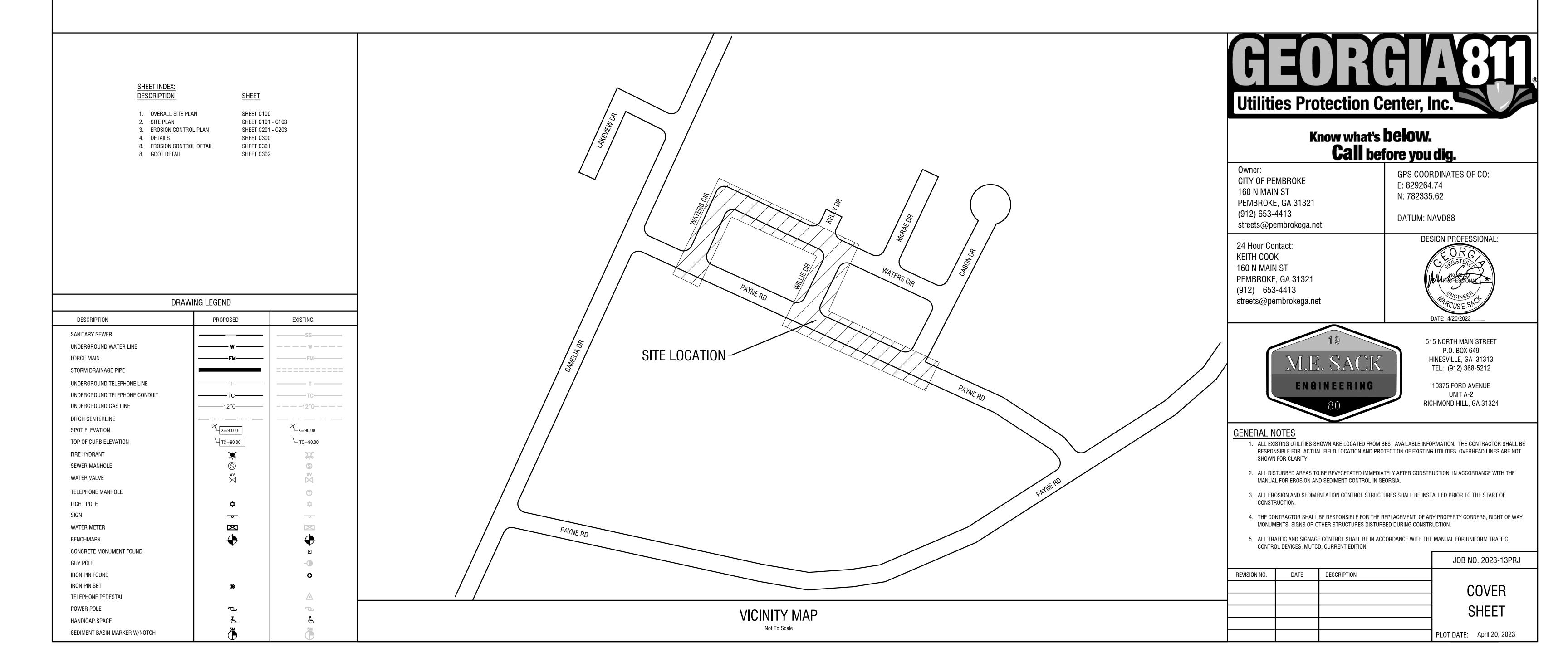
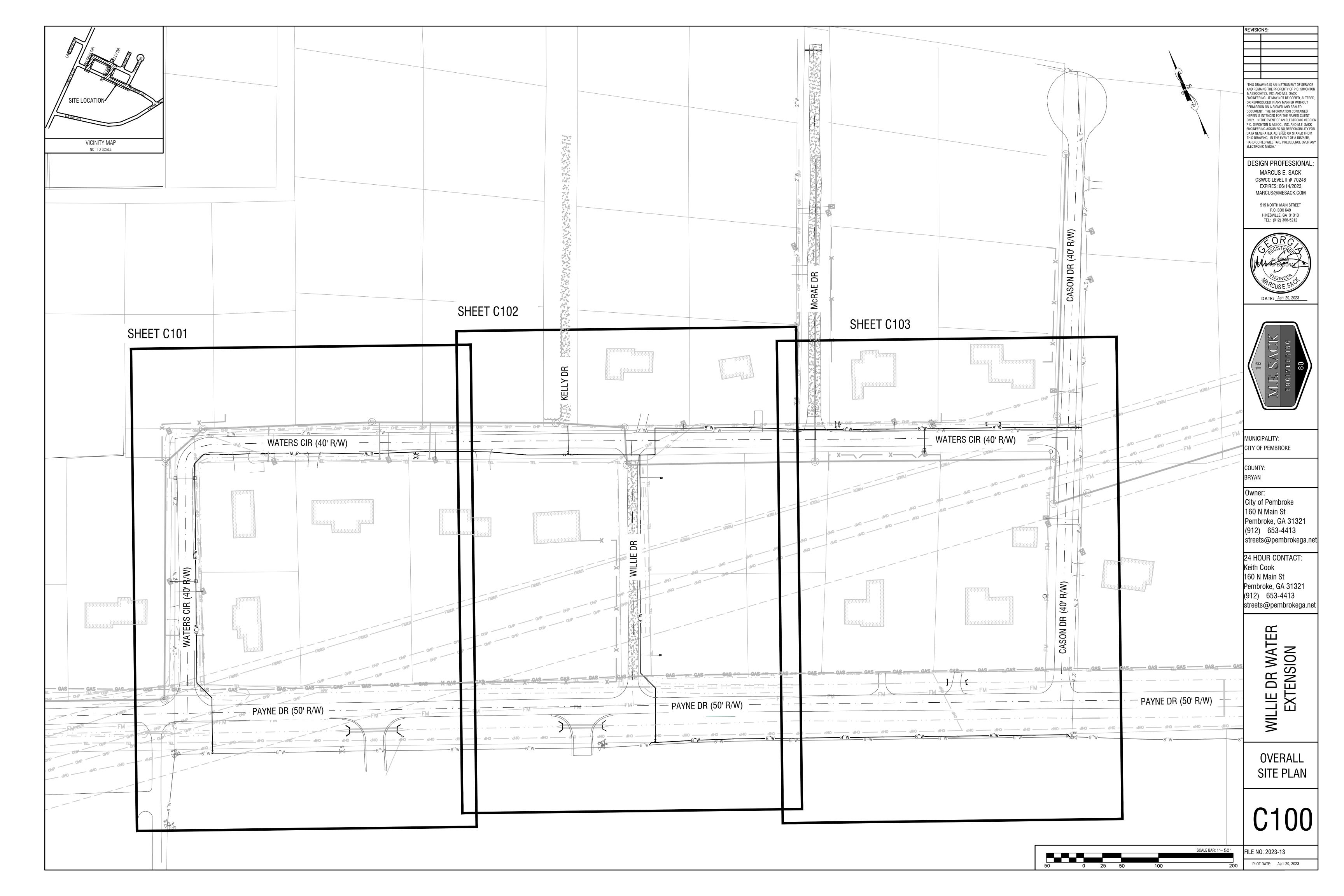
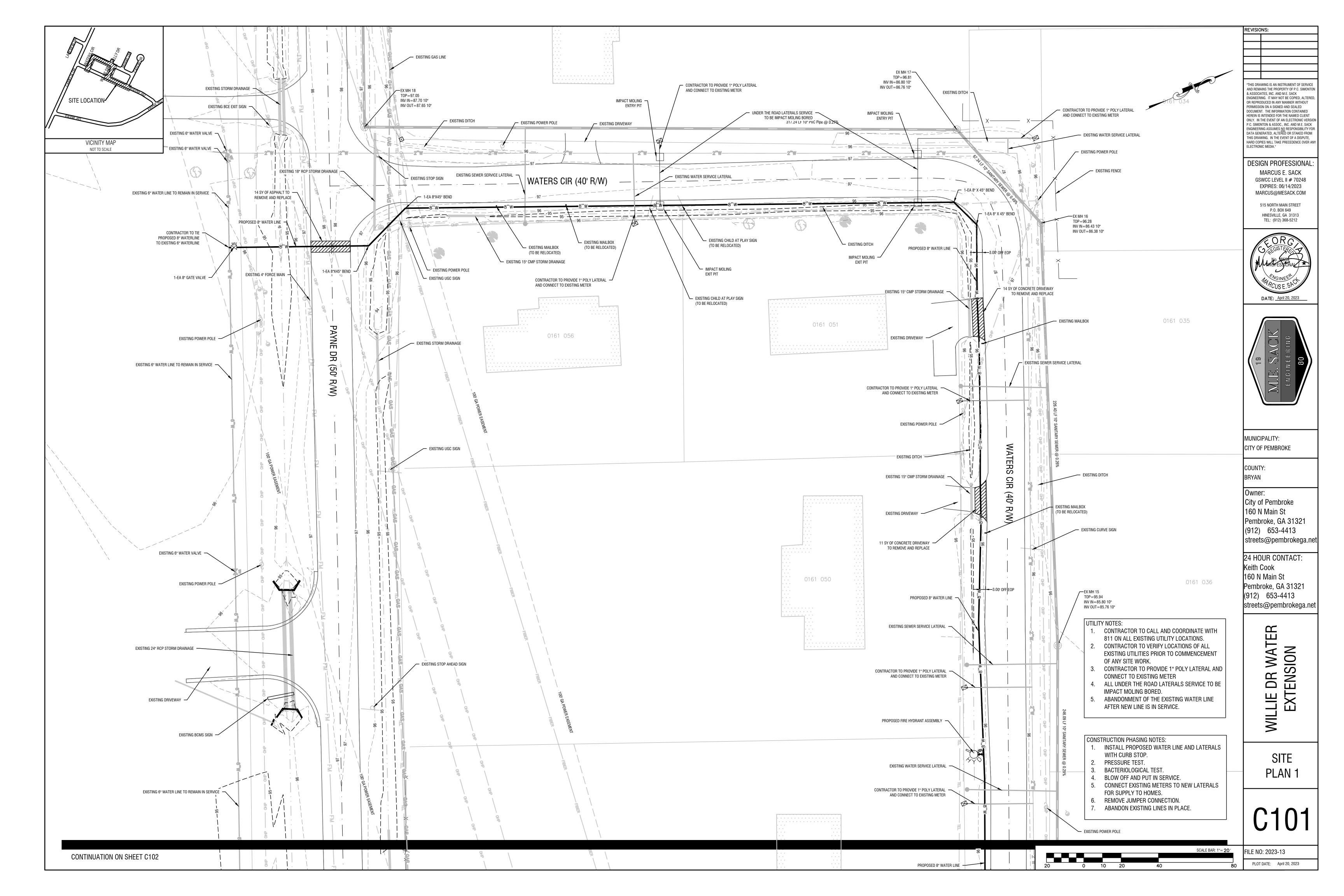
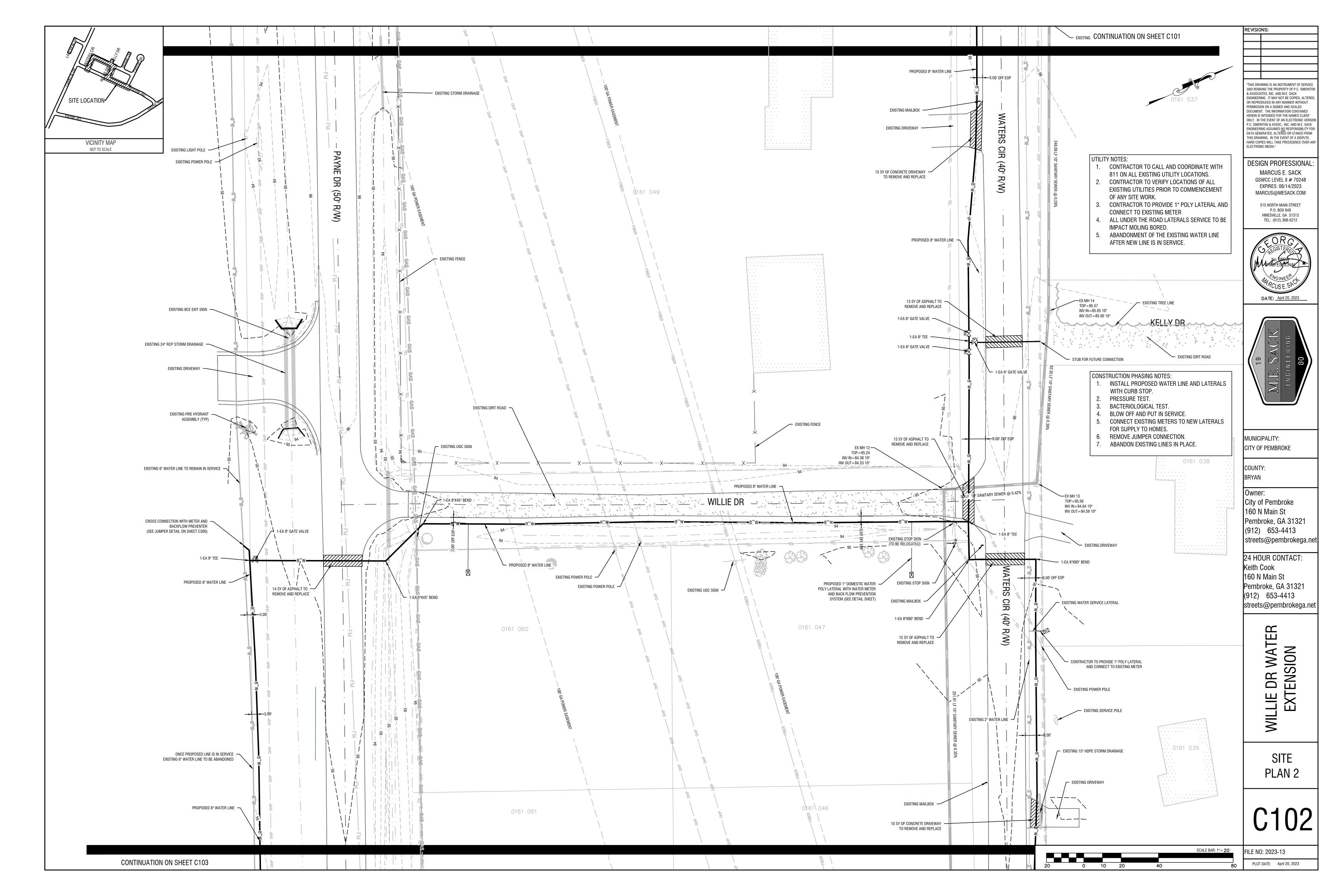
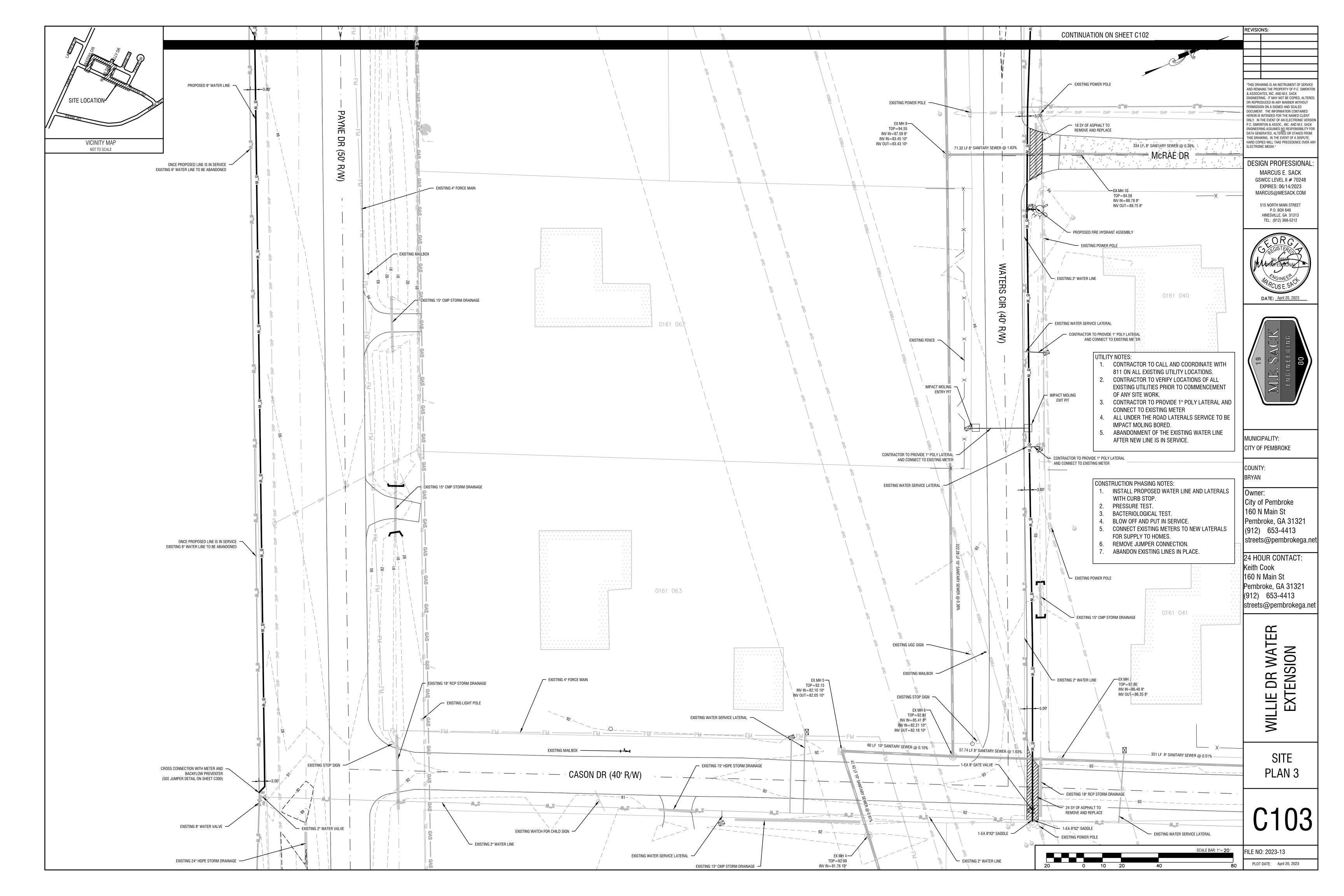
WILLIE DR WATER EXTENSION FOR THE CITY OF PEMBROKE BRYAN COUNTY, GEORGIA DATE: MARCH 07, 2023

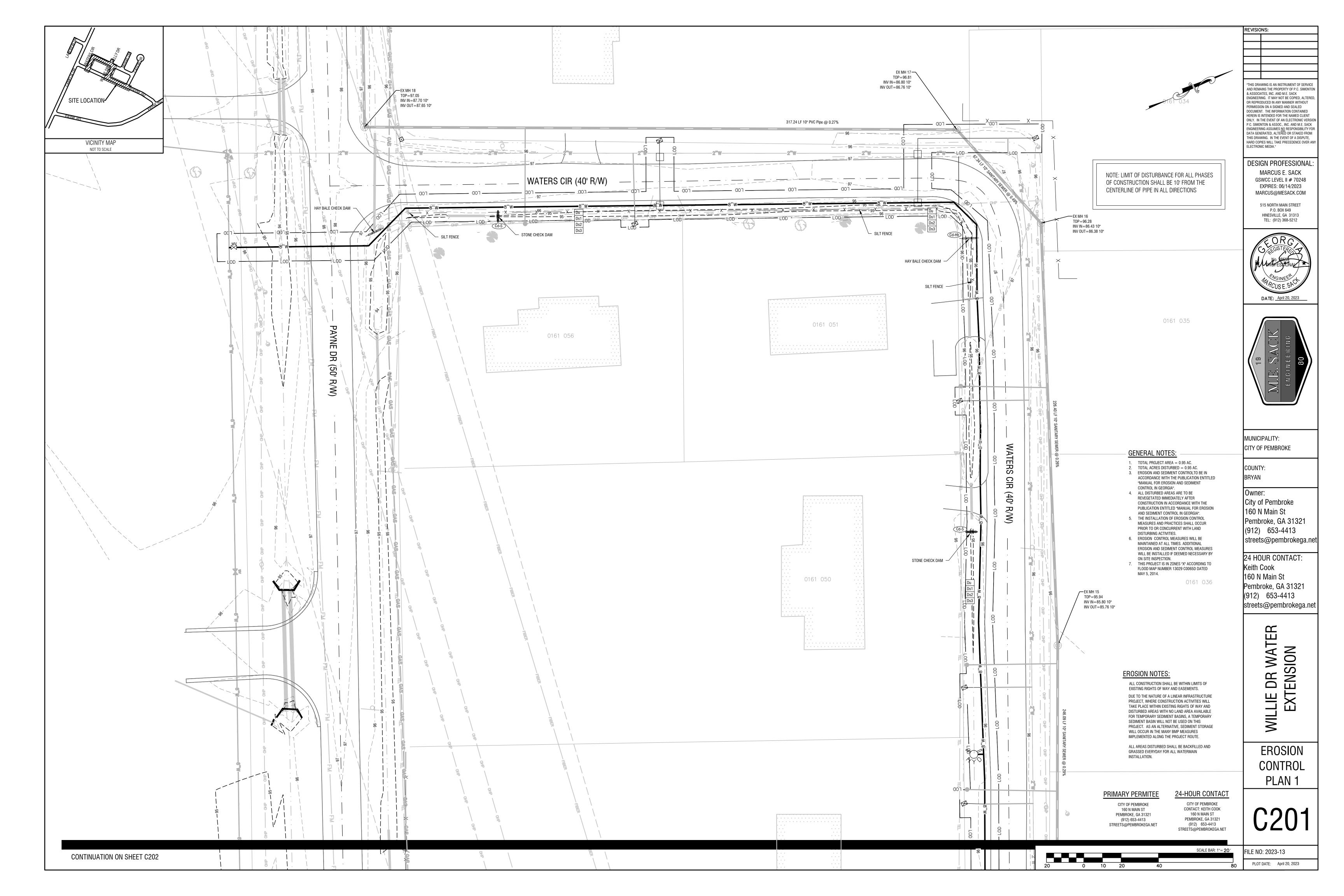


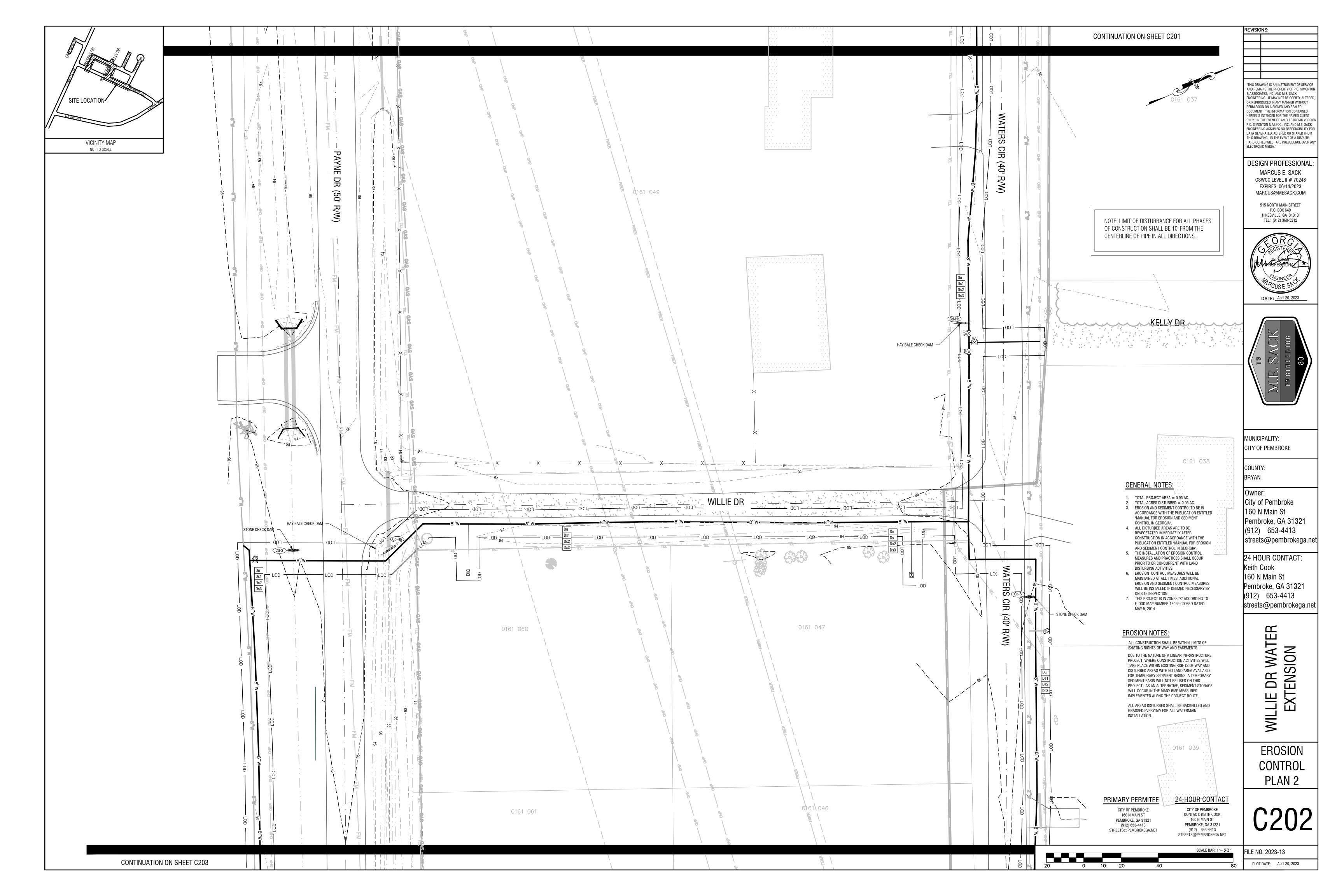


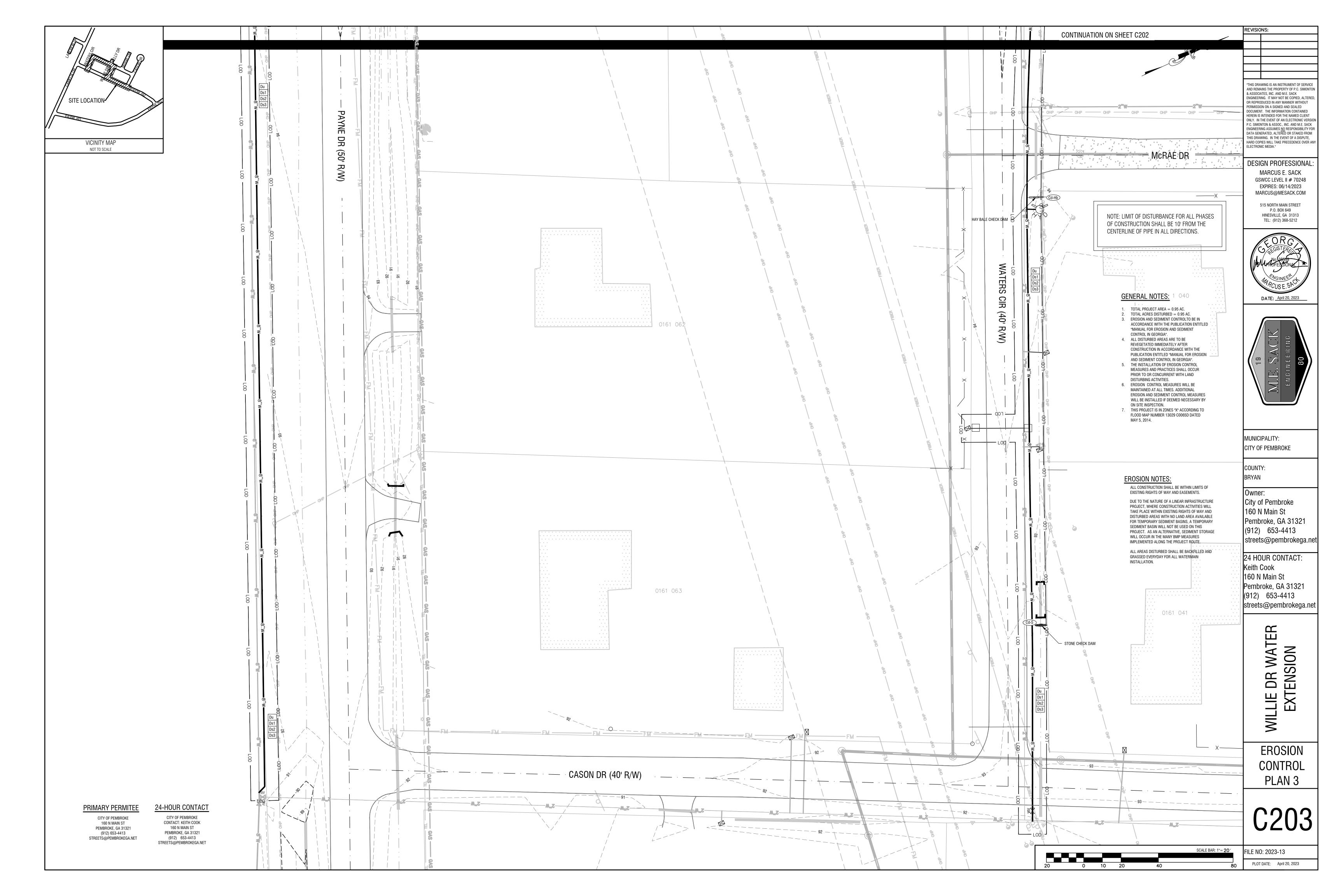


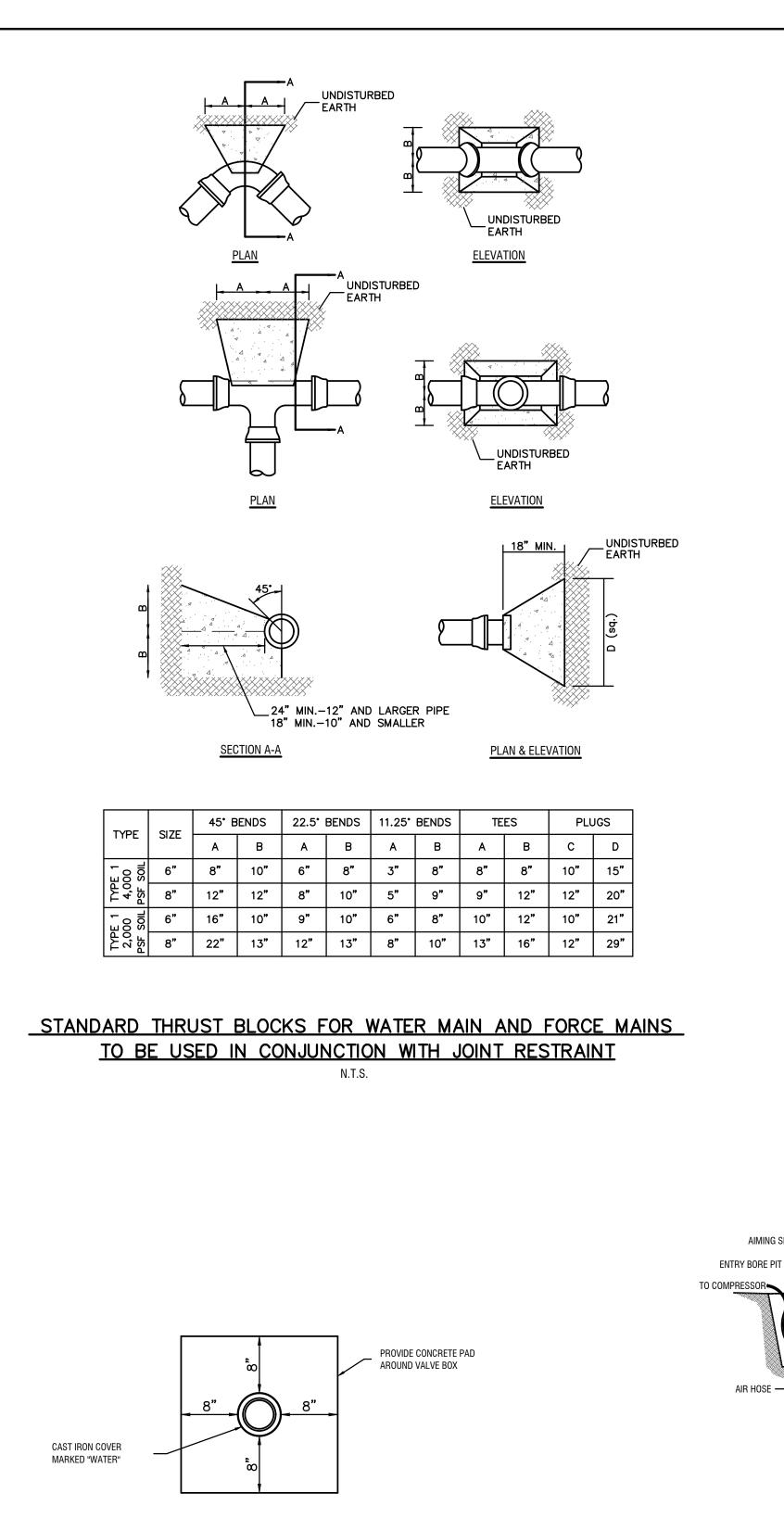








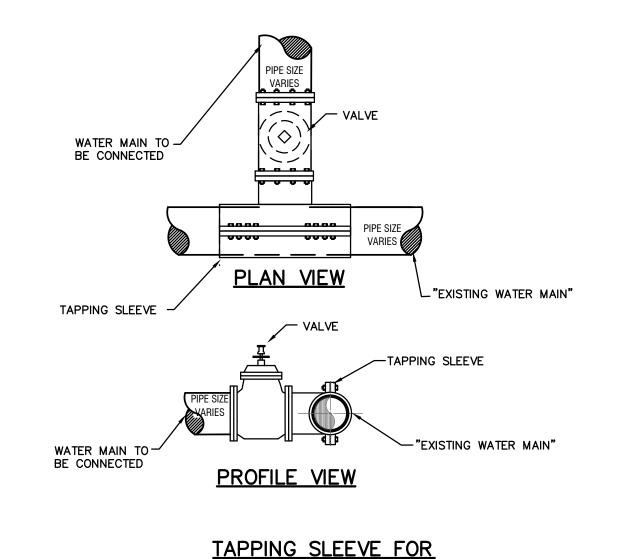




ELEVATION

VALVE BOX DETAIL

N.T.S.



CONNECTION TO EXISTING WATER MAIN DETAIL

N.T.S.

WATER MAIN -

AIMING SIGHT —

-CORPORATION COCK

THE PISTON STRIKES

— AIMING POLE

DEPTH 10X PIPE DIAMETER OR 3 FT, WHICHEVER IS GREATER.

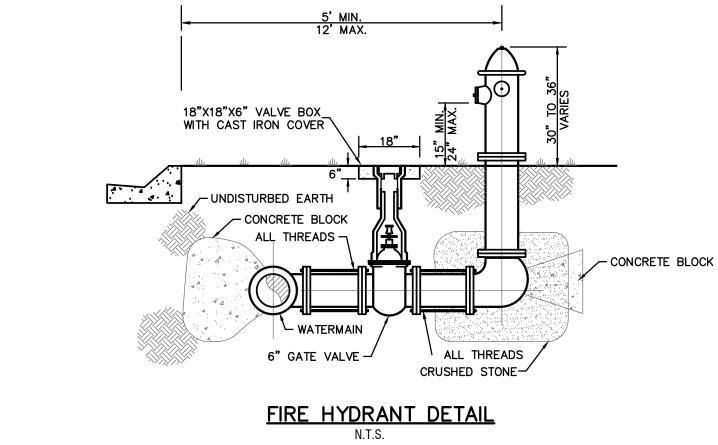
WATER SERVICE DETAIL

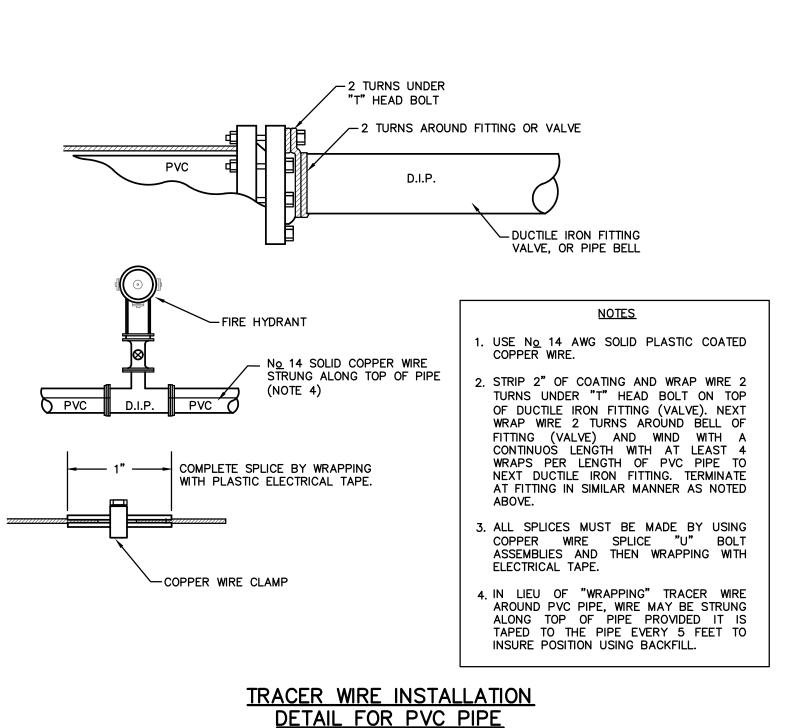
TORPEDO SHAPED

HEAD ASSEMBLY

— — — LINE OF SIGHT -/ — — — -

/ CURB STOP



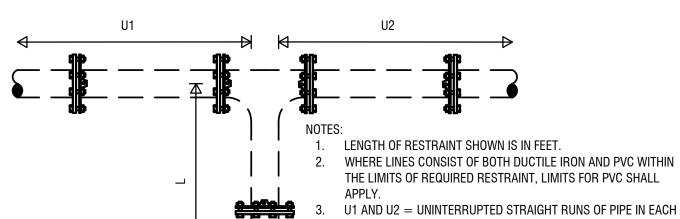


N.T.S.

LENGTH OF RESTRAINT SHOWN IS IN FEET. WHERE LINES CONSIST OF BOTH DUCTILE IRON AND PVC WITHIN THE LIMITS OF REQUIRED RESTRAINT, LIMITS FOR PVC SHALL APPLY.

		DUCTIL	E IRON		PVC LINE						
		BEND	ANGLE		BEND ANGLE						
PIPE DIAMETER	11] *	22 ½*	45°	90*	11 [*	22 ½*	45°	90°			
4	2	4	8	20	3	6	12	29			
6	3	6	12	28	4	8	17	41			
8	4	7	15	36	5	11	22	53			

HORIZONTAL BEND RESTRAINT



U1 AND U2 = UNINTERRUPTED STRAIGHT RUNS OF PIPE IN EACH

4. Ur = THE SMALLER OF U1 AND U25. L = MINIMUM RESTRAINED LENGTH ALONG THE BRANCH.

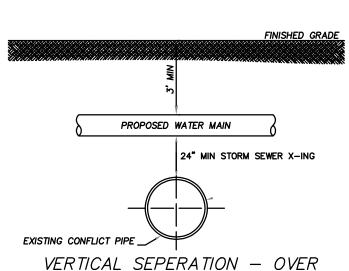
WHERE Ur IS LESS THAN 5', RESTRAINT TEE AS A 90° HORIZONTAL BEND.

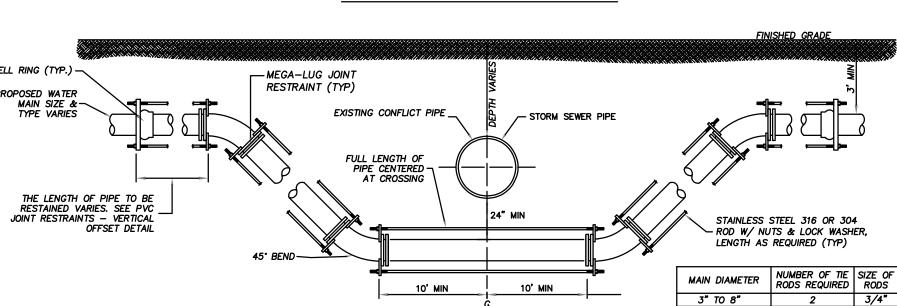
	DUC	CTILE IRON L	INE		PVC LINE									
EE/	5'–10'	11'-20'	21'–35'	36'-50	TEE	5'-10'	11'-20'	21'–35'	> 35'					
4X4	23	15	2	*	4X4	43	28	4	*					
6X4	21	9	*	*	6X4	38	17	*	*					
6X6	35	27	14	*	6X6	64	49	25	*					
8X4	18	3	*	*	8X4	34	6	*	*					
8X6	33	23	5	*	8X6	61	42	10	*					
8X8	47	39	26	6	8X8	87	72	48	12					

MINIMUM RESTRAINED LENGHT (L)

* RESTRAINT AT TEE ONLY TEE RESTRAINT

RESTRAINED JOINTS DETAILS





WATER MAINS AND WATER SERVICE LINES CROSSING HOUSE SEWERS, STORM SEWERS OR SANITARY SEWER SHALL BE LAID TO PROVIDE A MINIMUM VERTICAL SEPARATION OF AT LEAST 24" BETWEEN THE BOTTOM OF THE WATER MAIN AND THE TOP OF THE SEWER. AT CROSSINGS, ONE FULL LENGTH OF WATER PIPE SHALL BE LOCATED SO BOTH JOINTS WILL BE AS FAR AS POSSIBLE.

WHEN LOCAL CONDITIONS PREVENT A VERTICAL SEPARATION OF 24", THE SEWER PASSING OVER OR UNDER WATER MAINS SHALL BE CONSTRUCTED OF MATERIALS AND WITH JOINTS THAT ARE EQUIVALENT TO WATER MAIN STANDARDS OF CONSTRUCTION EXTENDING ON EACH SIDE OF THE CROSSING UNTIL AT LEAST 10' SEPARATES THE TWO PIPES AND SHALL BE PRESSURE TESTED TO ASSURE WATER-TIGHTNESS PRIOR TO BACKFILLING. THE LENGTH OF WATER PIPE MUST BE CENTERED AT THE POINT OF CROSSING SO THAT THE JOINTS WILL BE EQUIDISTANT AND AS FAR AS POSSIBLE FROM THE SEWER.

ADEQUATE STRUCTURAL SUPPORT FOR THE SEWERS TO PREVENT EXCESSIVE DEFLECTION OF JOINTS AND SETTLING ON AND BREAKING THE WATER MAINS.

IN CASE THAT A SEWER LATERAL PASSES ABOVE WATER MAIN, THE SEWER LATERAL MUST BE ENCASED IN A CARRIER PIPE CONSTRUCTED OF WATER MAIN MATERIALS, EXTENDING EACH SIDE OF THE CROSSING UNTIL AT LEAST 10 FEET SEPARATES THE TWO PIPES.

WATER SERVICE LINES SHOULD GO OVER ANY SANITARY SEWER LINE AND MAINTAIN THE 24" VERTICAL SEPARATION

UTILITY SEPARATION DETAIL

VERTICAL SEPERATION - UNDER

DETAILS

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Pembroke, GA 31321

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DR

Keith Cook

160 N Main St

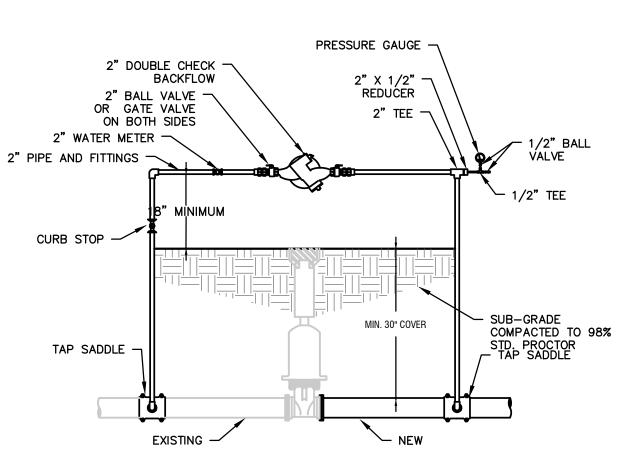
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FILE NO: 2023-13 PLOT DATE: April 20, 2023





2. CONTRACTOR SHALL REMOVE EXISTING BLOW-OFF AND/OR MJ PLUG AND DISPOSE OF PROPERLY.

- 3. CONTRACTOR SHALL CONNECT TO EXISTING VALVE AND INSTALL NEW 2" TAP SADDLE, BY-PASS PIPING AND BACKFLOW DEVICE AS SHOWN. A NEARBY HYDRANT OR SERVICE TAP MAY ALSO BE UTILIZED AS A POTABLE WATER SOURCE.
- 4. LINE FLUSHING AND PRESSURE TESTING SHALL BE PERFORMED IN THE PRESENCE OF AN UTILITY INSPECTOR, AND SHALL MEET ALL LOCAL AND/OR STATE REGULATORY SPECIFICATIONS. 5. DISINFECTION AND BACTERIOLOGICAL CLEARANCE OF THE NEW WATER LINE SHALL BE IN ACCORDANCE WITH LOCAL AND/OR STATE
- 6. UPON CLEARANCE AND ACCEPTANCE OF THE NEW WATER LINE, THE CONTRACTOR SHALL CLOSE THE 2" TAP SADDLE BALL VALVES AND CAP WITH BRASS PLUG. ALL BYPASS ASSEMBLIES AND ROADWAY BOXES SHALL BE REMOVED PRIOR TO BACKFILLING AND GRADING

WATER MAIN JUMPER DETAIL

N.T.S.

IMPACT MOLING DETAIL N.T.S. NOTE: IF PRECAST CONCRETE VALVE COLLAR IS USED IN LIEU OF IN PLACE POUR, ANNULAR VOID AROUND - EXISTING PAVEMENT VALVE BOX SHALL BE GROUTED TO THE FULL DEPTH OF THE COLLAR. 6" 3,000 PSI CONCRETE CAST IRON COVER W/ 2" ASPHALTIC CONCRETE 6" OR MATCH EXISTING MARKED "WATER" OR 8" 3,000 PSI CONCRETE CONCRETE THICKNESS UNDISTURBED SOIL WITH BLACK DYE TRENCH BACKFILL IN PROVIDE EXTENSION 9" COMPACTED LAYERS STEM WHERE 2' IS SUB-GRADE COMPACTED EXCEEDED TO 98% STD. PROCTOR VALVE BONNET AND PIPELINE TRENCH EXTENSION AS REQUIRED - BACKFILLED IN 6" VARIES COMPACTED LAYER (SEE CHART) SUB-GRADE COMPACTED -TO 98% STD. PROCTOR

MAXIMUM MAXIMUM DIAMETER TRENCH WIDTH PAVEMENT WIDTH 0 - 6' CUT DEPTH 0 - 6' CUT DEPTH 6" TO 15" 16" + DIA. 40" + DIA.

> MAXIMUM PAVEMENT WIDTH FOR CUT DEPTH OVER 6 FEET SHALL BE 8 FEET UNLESS NOTED OTHERWISE ON PLANS.

PAVEMENT REMOVAL & REPLACEMENT

GEORGIA UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE PRACTICE DETAIL MAP SYMBOL

0022		5217112	SYMBOL	220011111111
Cd	CHECKDAM		J	A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION	90	T	Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT		(LABEL)	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		©r,	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		(LABEL)	A flexible conduit of heavy—duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporal and inexpensive.
Dn2	PERMANENT DOWNDRAIN STRUCTURE		(LABEL)	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		(LABEL)	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		\rightarrow	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		5	A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL		Re	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		(LABEL)	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		(INDICATE TYPE)	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		Sd3 (ABEL)	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		Sk) (LABEL)	A buoyant device that releases/drains water from the surface of sediment ponds, traps, a basins at a controlled rate of flow.
Spb	SEEP BERM		(LABEL)	Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chamber with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
			ı	
Sr	TEMPORARY STREAM CROSSING		Sr)	A temporary bridge or culvert—type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION		§1)	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		⊢Su-l	A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
	TURBIDITY CURTAIN		To	A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Тр	TOPSOILING		(SHOW STRIPING AND STORAGE AREAS)	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	0	(DENOTE TREE CENTERS)	To protect desirable trees from injury during construction activity.
Wt	VEGETATED WATERWAY OR STORMWATER CONVEYANCE CHANNEL)	Paved or vegetative water outlets for diversions, terraces, berms, dikes or similar structures.

VEGETATIVE PRACTICES

	V	EGETATI		RACTICES
CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
Bf	BUFFER ZONE		Bf (LABEL)	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)	अस्त्रम् _र स्ट्रम् स्ट्रम्	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 seedlings 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)	11/1/10 B	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.
FI-Co	FLOCCULANTS AND COAGULANTS		FI-Co	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.

GaSWCC (Amended - 2013)

Ds1 DISTURBED AREA STABILIZATION (W/MULCHING ONLY)

A. For temporary protection of critical areas without seeding. This standard applies to grades or cleared areas which may be subjected to erosion for 6 months or less, where seeding may not have a suitable growing season to produce an erosion retardant cover, but which can be stabilized with a mulch cover.

Site Preparation

1. Grade, as needed and feasible, to permit the use of equipment for applying and anchoring mulch. 2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and sediment barriers.

3. As needed and feasible, loosen compact soil to a minimum depth of 3 inches.

1. Dry straw or hay - spread at a rate of 2 1/2 tons per acre. 2. Wood waste, chips, sawdust or bark - spread 2 to 3 inches deep (about 6 to 9 tons per acre).

3. Erosion control matting or netting, such as excelsior, jute, textile and plastic matting and netting - applied in accordance with

manufacturers recommendations. 4. Polyethylene film - secured over banks or stockpiled soil material for temporary protection.

Applying and Anchoring Mulch

1. Apply straw or hay mulch uniformly by hand or mechanically. Anchor as appropriate and feasible. It may be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk."

The disk may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. the edges of the disk should be

dull enough not to cut the mulch but press it into the soil leaving much of it in an erect position. Straw hay mulch spread with special blower-type equipment may be anchored

with emulsified asphalt (Grade AE-5 or SS-1). The asphalt emulsion must be sprayed onto the mulch as it is ejected from the machine. Use 100 gallons of water per

2. Spread wood waste uniformly on slopes that are 3:1 and flatter. No anchoring is needed.

3. Commercial matting and netting. Follow manufacturer's specification included with the material.

Mulching Materials Use one of the materials given below and apply at thickness indicated.

1. Grain straw or grass hay 6" to 10"

2. Pine needle Wood waste

(sawdust, bark, chips)

Shredded residues (crops, leaves, etc.)

5. Completely cover area with black polyethylene film and hold in place by placing soil on the outer edge.

When using organic mulches, apply 20-30 pounds of nitrogen in addition to the normal amount needed for plant growth to offset the tie up of N by decomposition of mulch

Ds2 SPECIES AND PLANTING SCHEDULE

SPECIES		DCAST	PLANTING DATES BY RESOURCE						REMARKS								
	RATES 1* PER	PER	RESOURCE AREA 3*						AR	EAS	*						
	ACRE	1000 SF		J	F	М	Α	М	_	J	Α	S	0	N	D		
RYEGRASS, ANNUAL	40 lbs	0.9 lbs	M - L							-						П	227,000 SEED PER POUND. DENSE COVER. VERY
ALONE			C								_						COMPETITIVE AND IS NOT BE USED IN MIXTURES.

Ds3 SPECIES AND PLANTING SCHEDULE

SPECIES		DCAST PLS 2* PER	PLAN RESOURCE AREA 3*	AREAS*											REMARKS	
	ACRE	1000 SF		J	F	M	Α	М	J	J	Α	S	0	N	D	
BERMUDA, COMMON HULLED SEED ALONE WITH OTHER PERENNIALS	10 lbs 6 lbs	0.2 lbs 0.1 lbs	P C		-											1,787,000 SEED PER POUND. QUICK COVER. LOV GROWING AND SOD FORMING. FULL SUN. GOO FOR ATHLETIC FIELDS.
BERMUDA, COMMON UNHULLED SEED ALONE WITH OTHER PERENNIALS			P C													PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE.
BERMUDA, SPRIGS COASTAL, COMMON, MIDLAND, OR TIFT 44 COASTAL, COMMON, TIFT 44 TIFT 78	40 CU FT OF SOD PLU		M-L P C C													A CUBIC FT. CONTAINS APPROXIMATLY 65 SPRIGS. A BUSHEL CONTAINS 1.25 C.F. OI APPROXIMATLY 800 SPRIGS. SAME AS ABOVE. SOUTHERN COASTAL PLAIN ONLY

Du DUST CONTROL ON DISTURBED AREAS

A. To prevent surface and air movement of dust from B. To reduce the presence of airborne substances which may be harmful or injurious to human health,

(with Permanent Vegetation)

welfare, or safety, or to animals or plant life. 1. Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface is wet.

3. Vegetative Cover - See Ds2 - Disturbed Area Stabilization (with Temporary Seeding) 1. Permanent Vegetation - See Ds3 - Disturbed Area Stabilization

2. Mulching - See Ds1- Disturbed Area Stabilization (with Mulching only)

FERTILIZER REQUIREMENTS

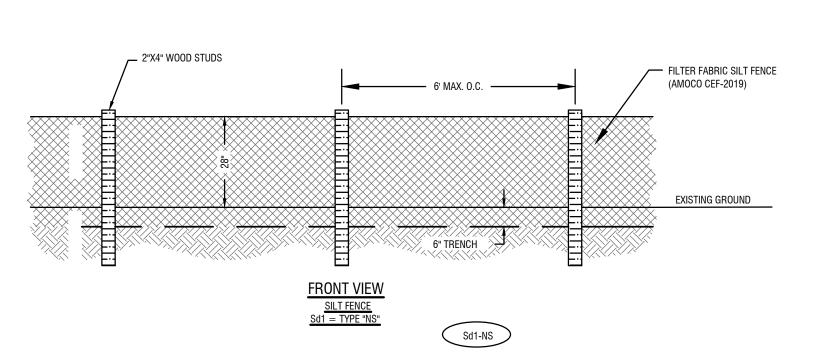
TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT	RATE	N TOP DRESSING RATE	LIME APPLICATION
Cool season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 1/ 2/ - 30	2000 lbs./ac.
Cool season grasses legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	0-50 lbs./ac. 1/ - -	2000 lbs./ac.
Ground covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	-	-
Pine seedings	First	20-10-5	one 21-gram pallet per seeding placed in the closing hole	-	-
Shrub leapedeza	First Maintenance	0-10-10 0-10-10	700 lbs./ac. 700 lbs./ac. 4/	-	-
Temporary cover crops seeded clone	First	10-10-10	500 lbs./ac.	30 lbs./ac. 5/	-
Warm season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 800 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 2/ 6/ 50-100 lbs./ac. 2/ 30 lbs./ac	2000 lbs./ac.
Warm season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50 lbs./ac. 6/	2000 lbs./ac.

1/ Apply in spring following seeding.

2/ Apply in split applications when high rates are used. 3/ Apply in 3 split applications.

4/ Apply when plants are pruned.

5/ Apply to grass species only. 6/ Apply when plants grow to height of 2 to 4 inches.



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ENSION

EROSION DETAILS

PLOT DATE: April 20, 2023

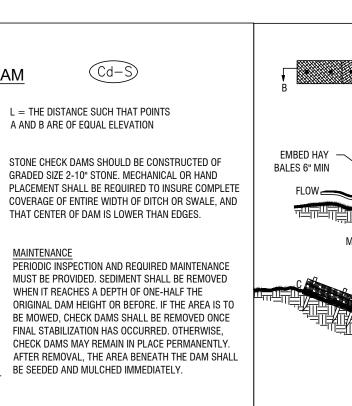
FILE NO: 2023-13

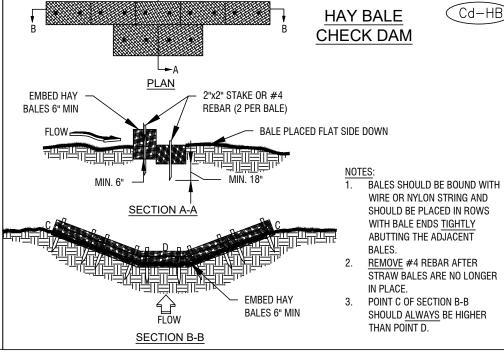
MULCHING RATES FOR PERMANENT COVER

TYPE OF MULCH	RATE PER ACRE	NOTES
Dry straw	2 Tons	Free of weed seeds.
Dry hay	2.5 Tons	Free of weed seeds.
Wood Cellulose	500 lbs. 1000 lbs. 3/4:1	Slope less than 3/4:1 Slope greater than
Wood Pulp Fiber	500 lbs. 1000 lbs. 3/4:1	Slope less than 3/4:1 Slope greater than
Sericea Lespedeza Hay	3 Tons	Containing mature seeds.
Pine Straw or Bark	3 inches thick for bedding	Not for seeding.
Bituminous treated roving	See DOT specs.	Use on slopes. in ditches, or dry waterways.

^{1.} Mulching is not required for temporary grassing.

STONE CHECK DAM SPACING BETWEEN CHECK DAMS GEOTEXTILE LINER EXXON PO511 OR EQUAL GEOTEXTILE -





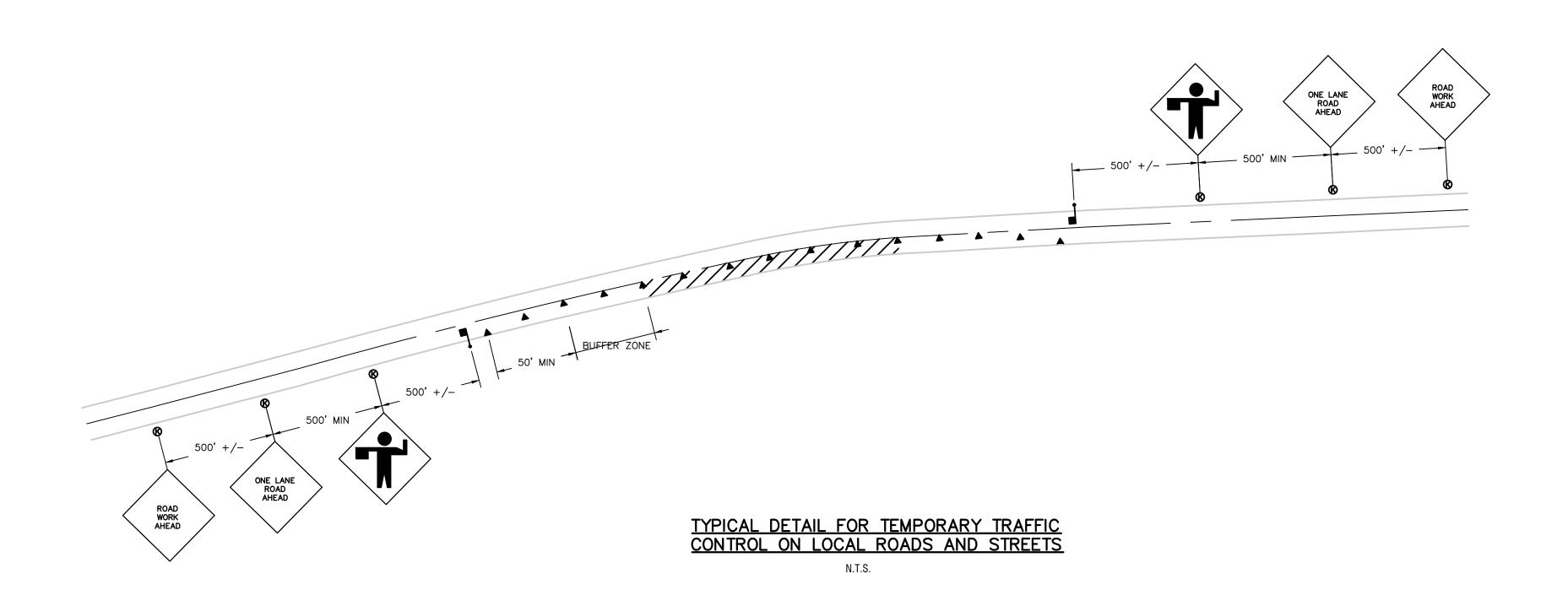
PRIMARY PERMITEE

FLOW T

CITY OF PEMBROKE 160 N MAIN ST PEMBROKE, GA 31321 (912) 653-4413 STREETS@PEMBROKEGA.NET 24-HOUR CONTACT CITY OF PEMBROKE CONTACT: KEITH COOK 160 N MAIN ST PEMBROKE, GA 31321 (912) 653-4413 STREETS@PEMBROKEGA.NET

^{2.} Mulch shall be applied to cover 75% of the soil surface. 3. Sod does not require mulch.

NOTE: ALL TRAFFIC CONTROL AND TEMPORARY LANE CLOSURES OF STATE ROUTES CONTROL GENERAL NOTES, STANDARDS LEGEND, MISCELLANEOUS DETAILS"CURRENT



1. BUFFER ZONE — 200' MINIMUM, 300' DESIRABLE ON TANGENTS CAN BE INCREASED BY THE ENGINEER FOR HORIZONTAL OR VERTICAL CURVES DUE TO SIGHT DISTANCE CONSIDERATION.
2. ALL TRAFFIC CONTROL DEVICES SHALL BE MADE AND ERECTED IN ACCORDANCE WITH THE DETAILS ON THE PLANS; THE MUTCD; THE GEORGIA STANDARD SPECIFICATIONS, AND OR

3. ALL PORTABLE SIGNS SHALL BE MOUNTED A MINIMUM OF 1 FOOT ABOVE THE LEVEL OF PAVEMENT EDGE FOR DIRECTIONAL TRAFFIC OF TWO LANES OR LESS AND A MINIMUM OF SEVEN FOOT FOR DIRECTIONAL TRAFFIC OF THREE LANES OR MORE, ALL PORTABLE SIGNS AND SIGN MOUNTING DEVICES UTILIZED IN THE WORK SHALL BE NCHRP 350 COMPLIANT, PORTABLE SIGNS MAY BE USED WHEN THE DURATION OF WORK IS LESS THAN 3 DAYS.

4. WHEN THE CONSTRUCTION AREA HAS ENTRANCE/EXIT RAMPS OR INTERSECTIONS, WORK SHALL BE PREFORMED IN SUCH A MANNER TO PERMIT TRAFFIC TO OPERATE WITH THE LEAST AMOUNT OF INCONVENIENCE AS POSSIBLE.

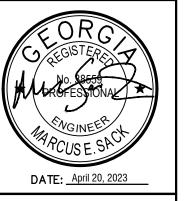
5. FOR NIGHT OPERATIONS, DRUMS SHALL HAVE, FOR THE LENGTH OF THE TAPER ONLY, A SIX INCH ORANGE REFLECTIZED TOP STRIP ON EACH DRUM. DURING DAYLIGHT HOURS CONES

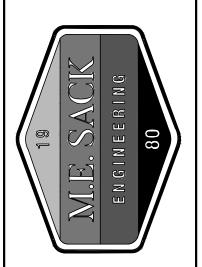
(28" MINIMUM) MAY BE USED IN ADVANCE AND THROUGHOUT WORK AREA. 6. FLAGGERS SHALL BE PROVIDED AS NECESSARY TO PROHIBIT WRONG DIRECTION OF TRAFFIC THRU WORK AREAS. MUST BE CONDUCTED IN ACCORDANCE WITH GDOT STANDARD 9100 "TRAFFIC DETAILS AND STANDARDS CAN BE FOUND ON THE GEORGIA DEPARTMENT OF TRANSPORTATION WEBSITE.

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> DESIGN PROFESSIONAL MARCUS E. SACK GSWCC LEVEL II # 70248 EXPIRES: 06/14/2023 MARCUS@MESACK.COM

> > 515 NORTH MAIN STREET P.O. BOX 649 HINESVILLE, GA 31313 TEL: (912) 368-5212





MUNICIPALITY: CITY OF PEMBROKE

BRYAN

Owner: City of Pembroke 160 N Main St Pembroke, GA 31321 (912) 653-4413 streets@pembrokega.net

24 HOUR CONTACT: Keith Cook 160 N Main St Pembroke, GA 31321 (912) 653-4413 streets@pembrokega.net

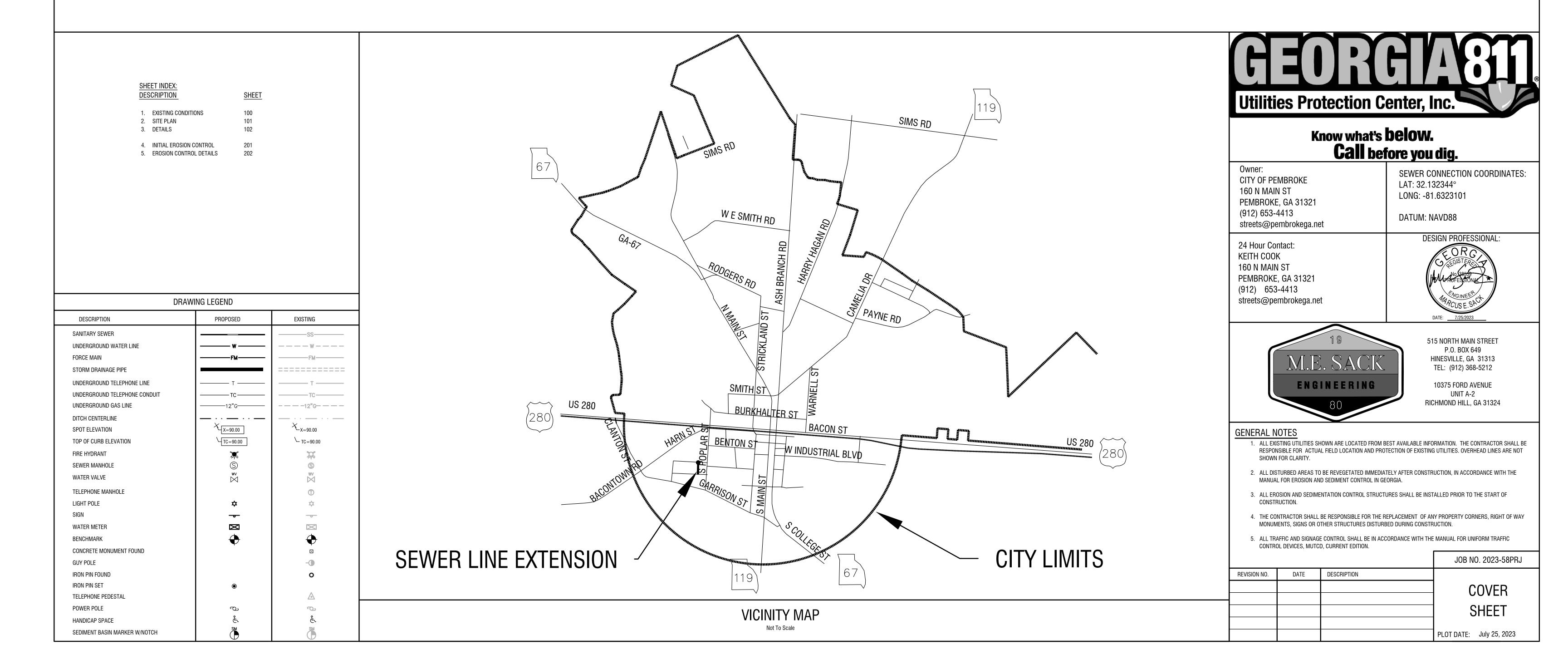
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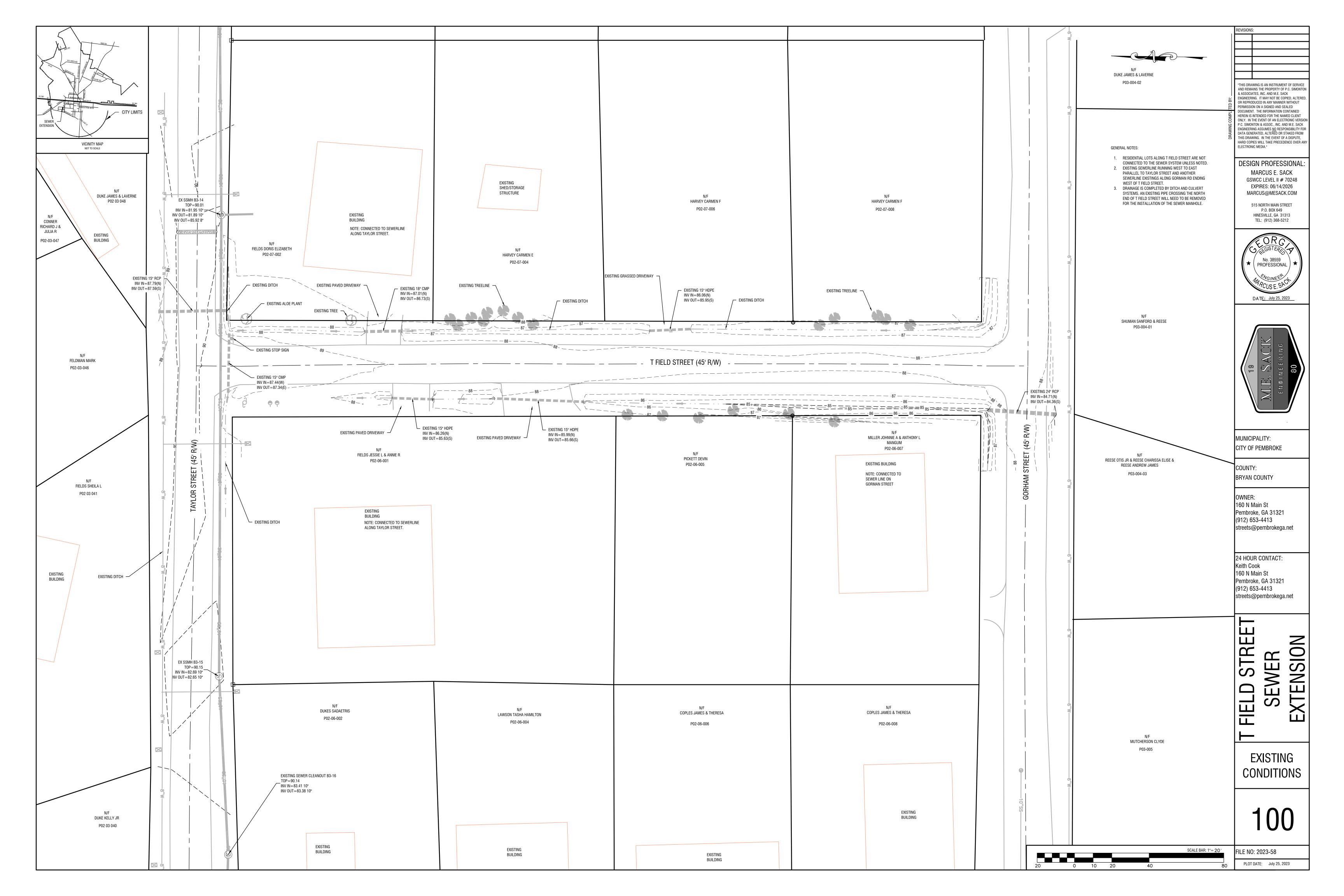
GDOT DETAILS

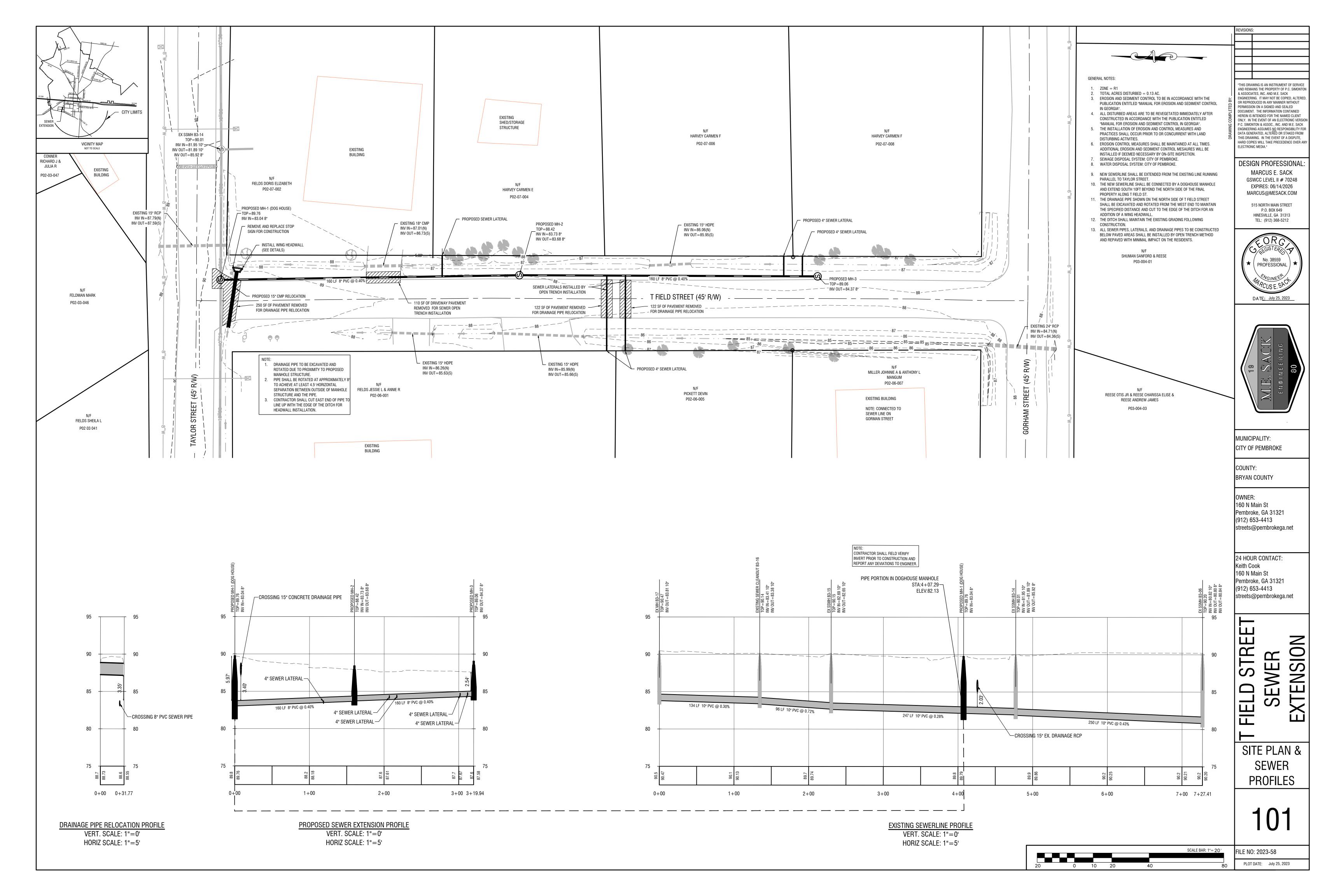
FILE NO: 2023-13

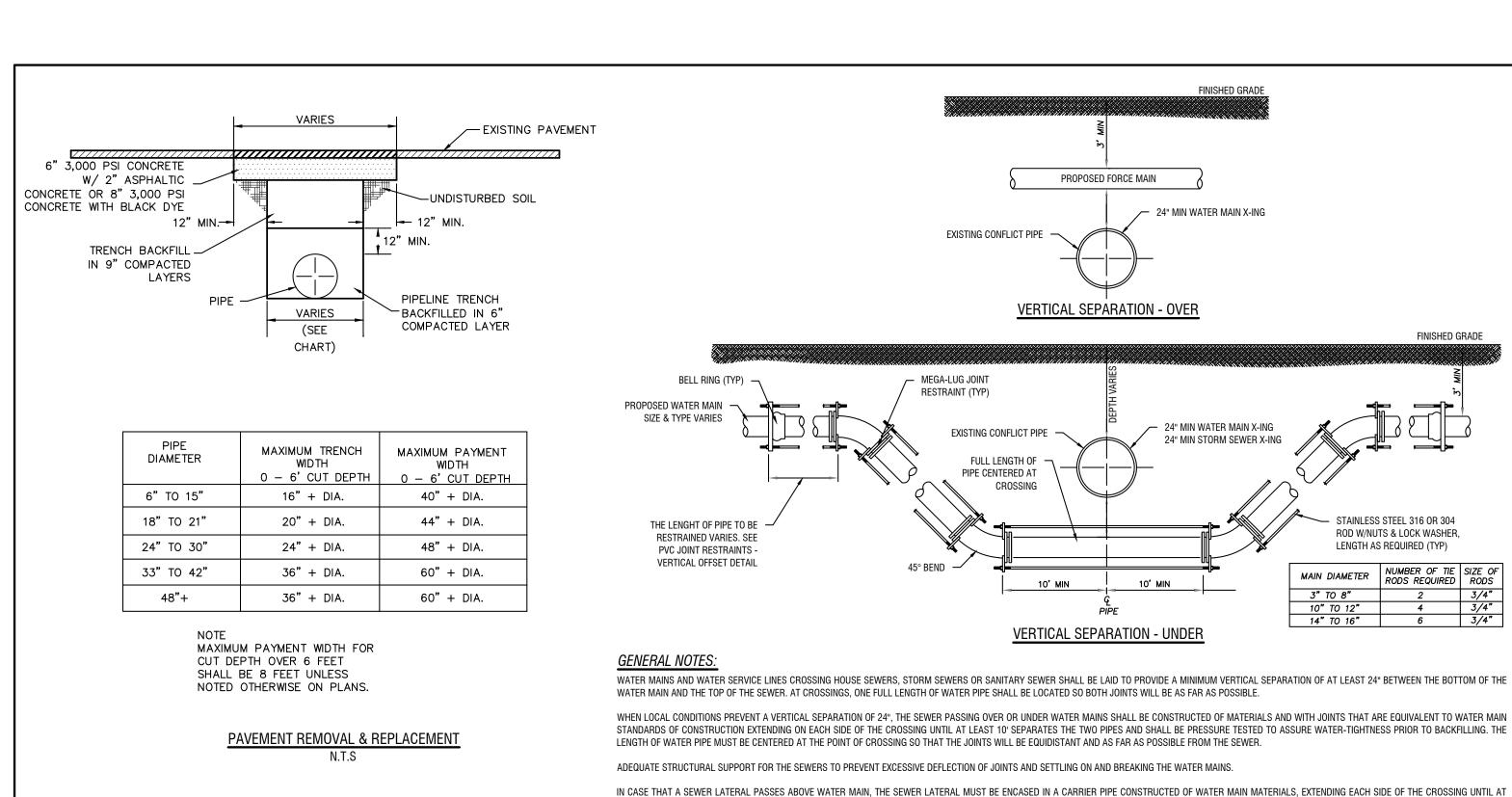
PLOT DATE: April 20, 2023

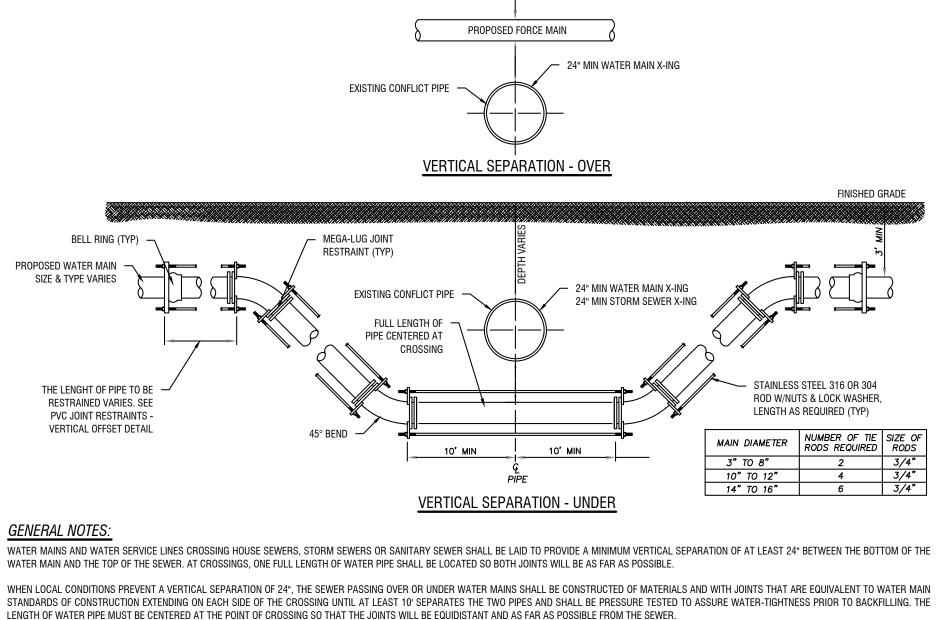
T FIELDS STREET SEWER EXTENSION FOR THE CITY OF PEMBROKE BRYAN COUNTY, GEORGIA DATE: JULY 15, 2023



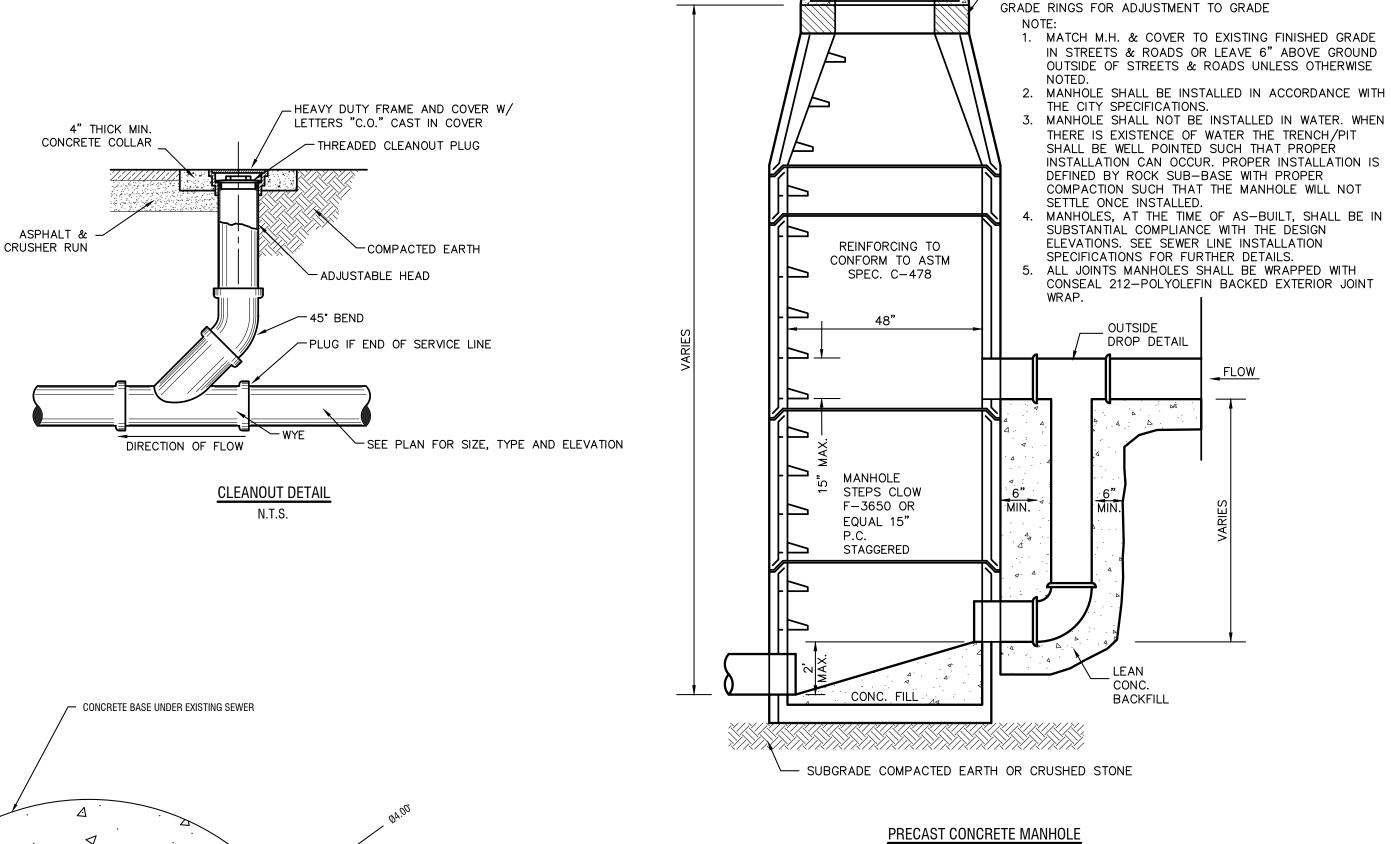








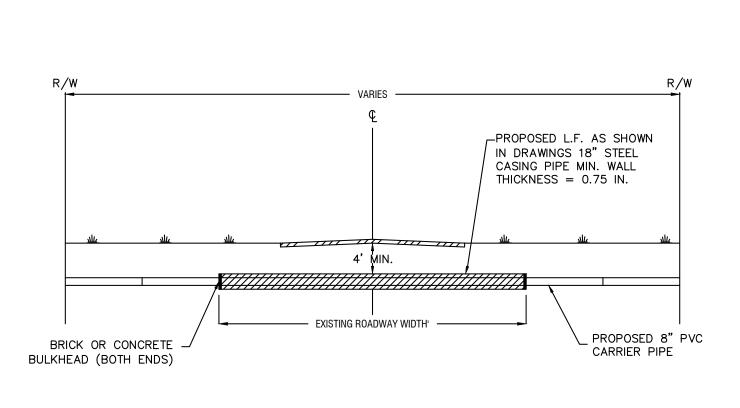
UTILITY SEPARATION DETAIL



STANDARD MANHOLE

MAXIMUM HEIGHT OF 5" FOR BRICK COURSES OR

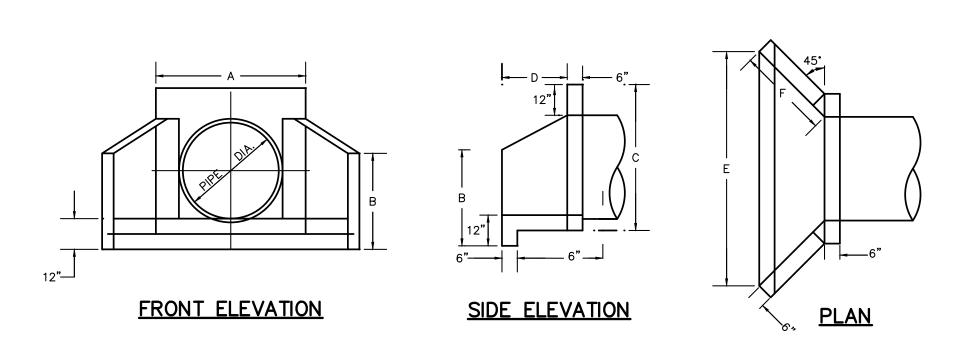
FRAME & COVER



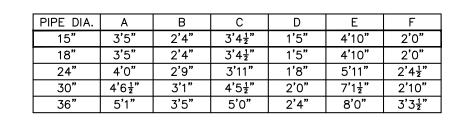
LEAST 10 FEET SEPARATES THE TWO PIPES.

WATER SERVICE LINES SHOULD GO OVER ANY SANITARY SEWER LINE AND MAINTAIN THE 24" VERTICAL SEPARATION

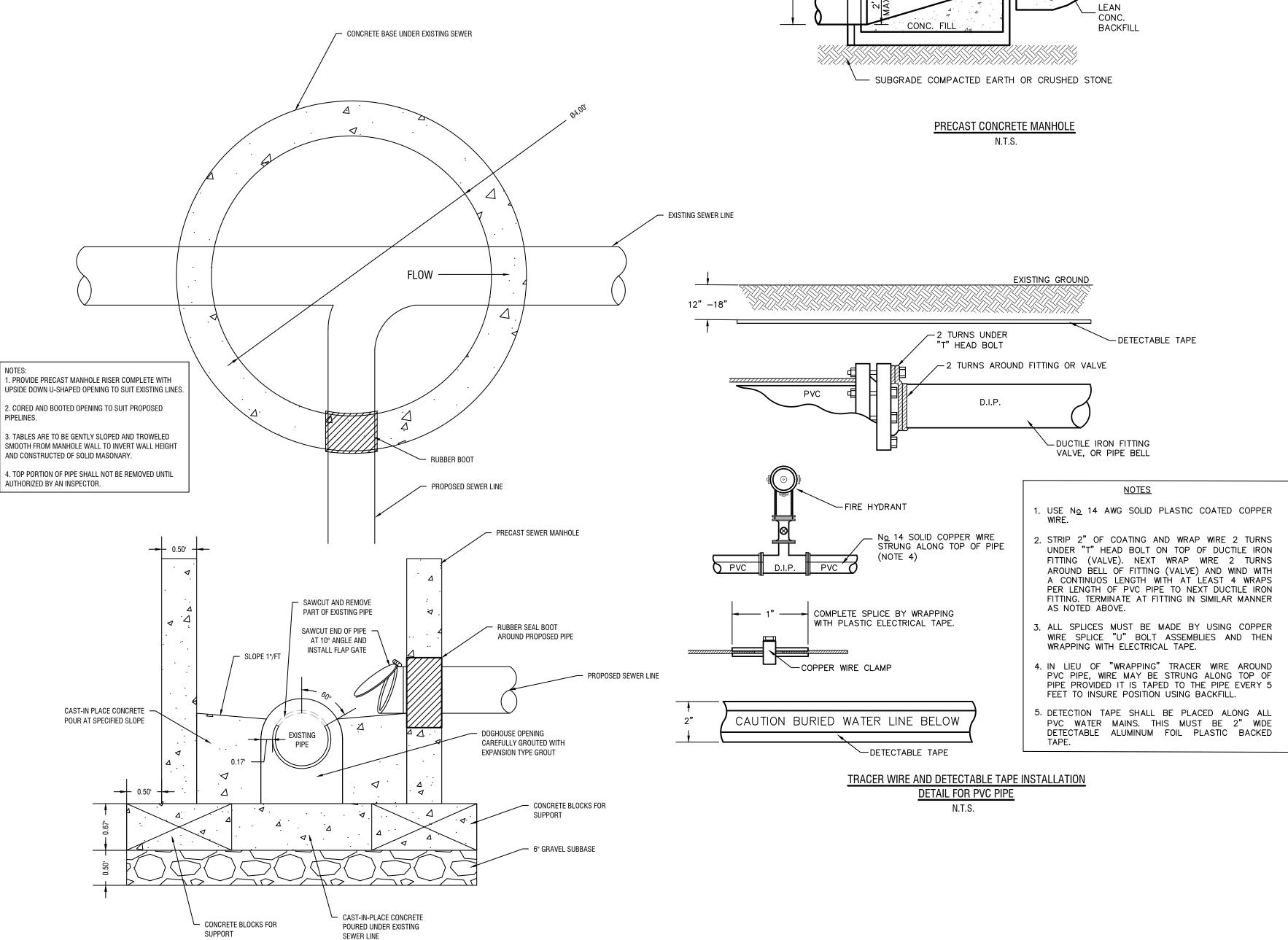
TYPICAL ROADWAY VERTICAL SEPARATION N.T.S.



NOTES:
1. TOP OF HEADWALL SHOULD BE SAME ELEVATION AS EDGE OF PAVEMENT WHEN WITHIN RIGHT OF WAY.
 ALL OUTLET HEADWALLS TO HAVE A SPLASH PAD.
3. CHAMFER ALL EXPOSED EDGES.



WING HEADWALL



MANHOLE OVER EXISTING PIPE

(DOGHOUSE N.T.S.

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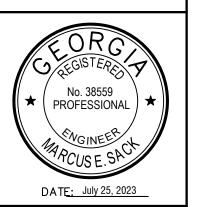
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DESIGN PROFESSIONAL: MARCUS E. SACK GSWCC LEVEL II # 70248

EXPIRES: 06/14/2026

MARCUS@MESACK.COM

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MUNICIPALITY: CITY OF PEMBROKE

COUNTY: BRYAN COUNTY

OWNER: 160 N Main St Pembroke, GA 31321 (912) 653-4413 streets@pembrokega.net

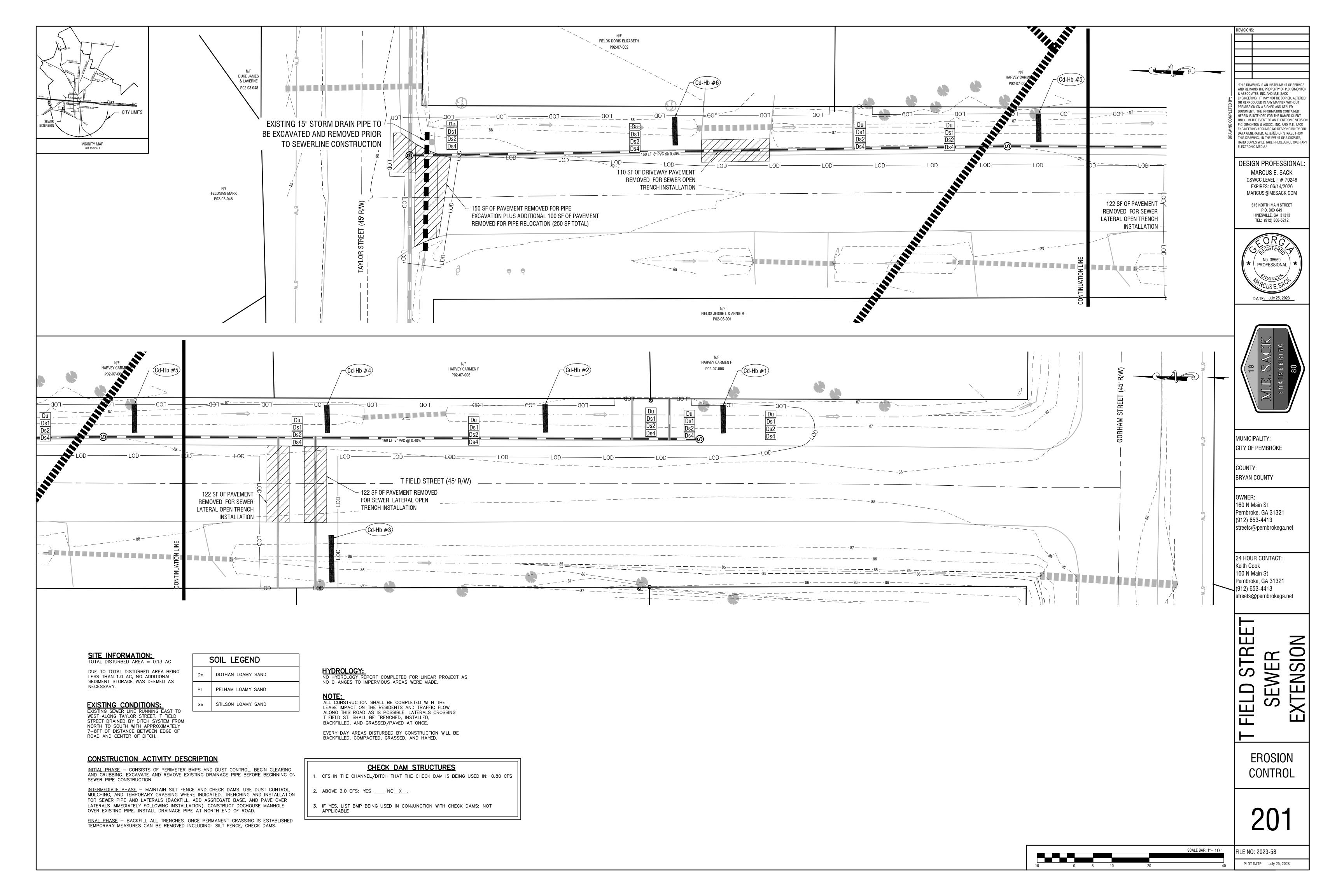
24 HOUR CONTACT: Keith Cook 160 N Main St Pembroke, GA 31321 (912) 653-4413 streets@pembrokega.net

TENSION

DETAILS

FILE NO: 2023-58 PLOT DATE: July 25, 2023

SCALE BAR: 1"= 10 '



GEORGIA UNIFORM CODING SYSTEM

FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES

GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES

CODE PRACTICE DETAIL MAP SYMBOL

Cd	CHECKDAM		1	A small temporary barrier or dam constructed across a swale, drainage ditch or area of concentrated flow.
Ch	CHANNEL STABILIZATION	90	1	Improving, constructing or stabilizing an open channel, existing stream, or ditch.
Co	CONSTRUCTION EXIT		(LABEL)	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		رت جين	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		(LABEL)	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		(LABEL)	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		Gr (LABEL)	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 AMERICAN		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		5	A permanent or temporary stone filter dam installed across small streams or drainageways.
Re	RETAINING WALL		(LABEL)	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		(LABEL)	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		(NDICATE TYPE)	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	7 - 2		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		(ABEL)	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		(LABEL)	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		(ABEL)	Linear control device constructed as a diversion perpendicular to the direction of runoff to enhance dissipation and infiltration, while creating multiple sedimentation chambers with the employment of intermediate dikes.

STRUCTURAL PRACTICES

CODE	PRACTICE	DETAIL	MAP SYMBOL	DESCRIPTION
(sr)	TEMPORARY STREAM CROSSING		(LABEL)	A temporary bridge or culvert—type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION		St.	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		⊢Su →	A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN		To	A floating or staked barrier installed within the water (it may also be referred to as a floating boom, silt barrier, or silt curtain).
Тр	TOPSOILING		(SHOW STRIPING AND STORAGE AREAS)	The practice of stripping off the more fertile soil, storing it, then spreading it over the disturbed area after completion of construction activities.
(F)	TREE PROTECTION	0	(DENOTE TREE CENTERS)	To protect desirable trees from injury during construction activity.
Wt	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 (LABEL)	Strip of undisturbed original vegetation, enhanced or restored existing vegetation or the reestablishment of vegetation surroundir an area of disturbance or bordering stream
Cs	COASTAL DUNE STABILIZATION (WITH VEGETATION)	JANE SE E E E E E E E E E E E E E E E E E	Cs	Planting vegetation on dunes that are denu- artificially constructed, or re-nourished.
Ds1	DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)		Ds1	Establishing temporary protection for disturbed areas where seedlings may not ha 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)	11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	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 or 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.
FI-Co	FLOCCULANTS AND COAGULANTS		FI-Co	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 erosic and establish temporary or permanent vegetation on steep slopes, shore lines, or channels.
Тас	TACKIFIERS AND BINDERS		Tac	Substance used to anchor straw or hay mulch by causing the organic material to bind together.

GaSWCC (Amended - 2013)

Ds1 DISTURBED AREA STABILIZATION (W/MULCHING ONLY)

<u>SPECIFICATIONS</u>
A. For temporary protection of critical areas without seeding.

This standard applies to grades or cleared areas which may be subjected to erosion for 6 months or less, where seeding may not have a suitable growing season to produce an erosion retardant cover, but which can

Site Preparation

1. Grade, as needed and feasible, to permit the use of equipment for applying and anchoring mulch. 2. Install needed erosion control measures as required such as dikes, diversions, berms, terraces and

3. As needed and feasible, loosen compact soil to a minimum depth of 3 inches.

Mulching Materials

1. Dry straw or hay - spread at a rate of 2 1/2 tons per acre.

2. Wood waste, chips, sawdust or bark - spread 2 to 3 inches deep (about 6 to 9 tons per acre). 3. Erosion control matting or netting, such as excelsior, jute, textile and plastic matting and netting -4. Cutback asphalt, slow curing - applied at 1200 gallons per acre (or 1/4 gallon per sq. yd.) 5. Polyethylene film - secured over banks or stockpiled soil material for temporary protection.

Applying and Anchoring Mulch

1. Apply straw or hay mulch uniformly by hand or mechanically. Anchor as appropriate and feasible. It

may be pressed into the soil with a disk harrow with the disk set straight or with a special "packer disk." The disk may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. the edges of the disk should be dull enough not to cut the mulch but press it into the soil leaving much of it in an erect position. Straw hay mulch spread with special blower-type equipment may be anchored with emulsified asphalt (Grade AE-5 or SS-1). The asphalt emulsion must be sprayed onto the mulch as it is ejected from the

machine. Use 100 gallons of water per 2. Spread wood waste uniformly on slopes that are 3:1 and flatter. No anchoring is needed. 3. Commercial matting and netting. Follow manufacturer's specification included with the material. 4. Apply asphalt so area has uniform appearance. (Note: Use in areas of pedestrian traffic could cause

To conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bar areas

$\frac{\text{Mulching Materials}}{\text{Use one of the materials given below and apply at thickness indicated}}.$

1. Grain straw or grass hay Pine needle 3. Wood waste (sawdust, bark, chips)

problems or "tracking in" or damage to shoes, clothing, etc.)

4. Shredded residues (crops, leaves, etc.) 4" to 8" 5. Completely cover area with black polyethylene film and hold in place by placing soil on the outer edge.

When using organic mulches, apply 20-30 pounds of nitrogen in addition to the normal amount needed for plant growth to offset the tie up of N by decomposition of mulch.

Du DUST CONTROL ON DISTURBED AREAS

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

Temporary Methods
1. Irrigation. This is generally done as an emergency treatment. Site is sprinkled with water until the surface 2. Mulching - See Ds1- Disturbed Area Stabilization (with Mulching only)

3. Vegetative Cover - See Ds2 - Disturbed Area Stabilization Permanent Methods

1. Permanent Vegetation - See Ds3 - Disturbed Area Stabilization (with Permanent Vegetation)

Ds4 DISTURBED AREA STABILIZATION (W/SODDING)

SPECIFICATIONS
Establishing permanent vegetative using sods on highly erodible or critically eroded lands.

1. Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils. Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants. 2. Mix fertilizer into surface. Fertilizer based on soil tests. Agriculture lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Applying Sods 1. Sod should be machine cut and contain 3/4" (+ or - 1/4") of soil, not including shoots or thatch. 2. Sod should be cut to the desired size within + or - 5%. Torn or uneven pads should be rejected.

4. Avoid planting when subject to frost heave or hot weather if irrigation is not available.

SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA	GROWING SEASON	 Apply in spring following seeding. Apply in split applications
1. BERMUDAGRASS	Common Tifway Tifgreen Tiflawn	M-L,P,C P,C P,C P,C	Warm Weather	when high rates are used. 3. Apply in 3 split applications. 4. Apply when plants are
2. TALL FESCUE	Kentucky 31	M-L, P	Cool Weather	pruned. 5. Apply to grass species only. 6. Apply when plants gray.
				Apply when plants grow to height of 2 to 4 inches.

FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N-P-K)	RATE (LBS.ACRE)	NIRTOGEN TOP DRESSING RATE (LBS./ACRE)
COOL SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 1000 400	50-1000 30
WARM SEASON GRASSES	FIRST SECOND MAINTENANCE	6-12-12 6-12-12 10-10-10	1500 800400	50-1000 50-100 30

- BALE PLACED FLAT SIDE DOWN EMBED HAY BALES A MIN. OF 6 INCHES -EMBED HAY BALES A MIN. OF 6 INCHES BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

M.E. SACK ENGINEERING

CONSTRUCTION SCHEDULE

PEMBROKE, GA

CLEARING & INSTALLATION OF ESPC AND MAINTENANCE OF BMP

CLEARING AND GRUBBING WITHIN LIMITS OF DISTURBANCES

DRAINAGE PIPE REMOVAL DRAINAGE PIPE RELOCATION

NOVEMBER

2023

SEWER MANHOLE AND PIPE TRENCHING AND INSTALLATION

TRENCH BACKFILL & COMPACTION

REPAVING OF DISTURBED ROAD

515 N. MAIN ST. HINESVILLE, GEORGIA 31313

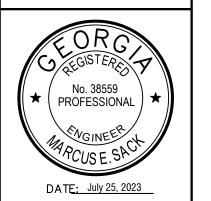
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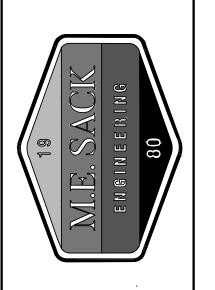
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EROSION DETAILS

FILE NO: 2023-58 PLOT DATE: July 25, 2023

Ds2 SPECIES AND PLANTING SCHEDULE

SPECIES	BROAI RATES 1* PER		PLAN RESOURCE AREA 3*	ITIN	G DA	ATES	S BY	'RES	SOU! ARI		_					REMARKS
	ACRE	1000 SF		J	F	М	Α	М	J	J	Α	S	0	N	D	
RYEGRASS, ANNUAL ALONE	40 lbs	0.9 lbs	M - L P C								_					227,000 SEED PER POUND. DENSE COVER. VERY COMPETITIVE AND IS NOT BE USED IN MIXTURES.

De3 SPECIES AND DI ANTING SCHEDIII E

HULLED SEED ALONE ALONE WITH OTHER PERENNIALS 6 lbs 0.1 lbs C BERMUDA, COMMON UNHULLED SEED ALONE WITH OTHER PERENNIALS P P PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE. BERMUDA, SOME WITH OTHER PERENNIALS OCCUPANTIAL SEED ALONE WITH OTHER PERENNIALS A CUBIC FT. CONTAINS APPROACH AND SOME PROPERTY OF THE PR		SPECIES BROADCAST RATES 1* PLS 2* PER PER	ARFAS* I	
HULLED SEED ALONE WITH OTHER PERENNIALS 10 lbs 0.2 lbs 6 lbs 0.1 lbs C BERMUDA, COMMON UNHULLED SEED ALONE WITH OTHER PERENNIALS P C P C P C P C P C P C A CUBIC FT. CONTAINS APPROXIMALS A CUBIC FT. CONTAINS APPROXIMALS P C A CUBIC FT. CONTAINS APPROXIMALS	1000 SF	ACRE 1000 S	J F M A M J J A S O N D	
UNHULLED SEED ALONE WITH OTHER PERENNIALS BERMUDA, SPRIGS 40 CU FT 0.9 CU FT M-L A CUBIC FT. CONTAINS APPR	0.2 100	LED SEED NE 10 lbs 0.2 lbs	1,787,000 SEED PER POUND. QUICK GROWING AND SOD FORMING. FUL FOR ATHLETIC FIELDS.	
CONSTAL COMMON TO GOT C.C. CONTAINS	· ·	IULLED SEED NE		
MIDLÁND, OR TIFT 44 COASTAL, COMMON, TIFT 44 COASTAL, COMMON, TIFT 44 COASTAL, COMMON, TIFT 44	as 3' X 3' P	STAL, COMMON, MIDLAND, OR TIFT 44 STAL, COMMON, SOD PLUGS 3' X 3		

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT	RATE	N TOP DRESSING RATE	LIME APPLICATION
Cool Season Grasses	First Second Maintenance	6 - 12 - 12 6 - 12 - 12 10 - 12 - 12	1500 lbs/ac 1000 lbs/ac 400 lbs/ac	50 - 100 lbs/ac 1*2* 30	2000 lbs/ac
Cool Season Grasses and Legumes	First Second Maintenance	6 - 12 - 12 0 - 10 - 10 0 - 10 - 10	1500 lbs/ac 1000 lbs/ac 400 lbs/ac	0 - 50 lbs/ac 1* 	2000 lbs/ac
Ground Covers	First Second Maintenance	10 - 10 - 10 10 - 10 - 10 10 - 10 - 10	1500 lbs/ac 1000 lbs/ac 400 lbs/ac		
Pine Seedings	First	20 - 10 - 5	one 21-gram pallet per seeding placed in the closing hole		
Shrub Leapedeza	First Maintenance	0 - 10 - 10 0 - 10 - 10	700 lbs/ac 700 lbs/ac 4*		
Temporary Cover Crops Seeded Clone	First	10 - 10 - 10	500 lbs/ac	30 lbs/ac 5*	
Warm Season Grasses	First Second Maintenance	6 - 12 - 12 6 - 12 - 12 10 - 10 - 12	1500 lbs/ac 800 lbs/ac 400 lbs/ac	50 - 100 lbs/ac 2*6* 50 - 100 lbs/ac 2*6* 30 lbs/ac	2000 lbs/ac
Warm Season Grasses and Legumes	First Second Maintenance	6 - 12 - 12 0 - 10 - 12 0 - 10 - 12	1500 lbs/ac 1000 lbs/ac 400 lbs/ac	50 lbs/ac 6*	2000 lbs/ac

PER ACRE	NOTES			
2 Tons	Free of weed seeds			
2.5 Tons	Free of weed seeds			
500 lbs. 1000 lbs.	Slope less than 3/4:1 Slope greater than 3/4:1			
500 lbs. 1000 lbs.	Slope less than 3/4:1 Slope greater than 3/4:1			
3 Tons	Containing mature seeds			
3 inches thick	For bedding Not for seeding			
See DOT specs.	Use on slopes, in ditches, or dry waterways.			
	2 Tons 2.5 Tons 500 lbs. 1000 lbs. 500 lbs. 1000 lbs. 3 Tons 3 inches thick			

 Mulch shall be applied to cover 75% of the soil surface. Sod does not require mulch.