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

SHEET INDEX: DESCRIPTION

1. OVERALL SITE PLAN

SITE PLAN
EROSION CONTROL PLAN

4. DETAILS

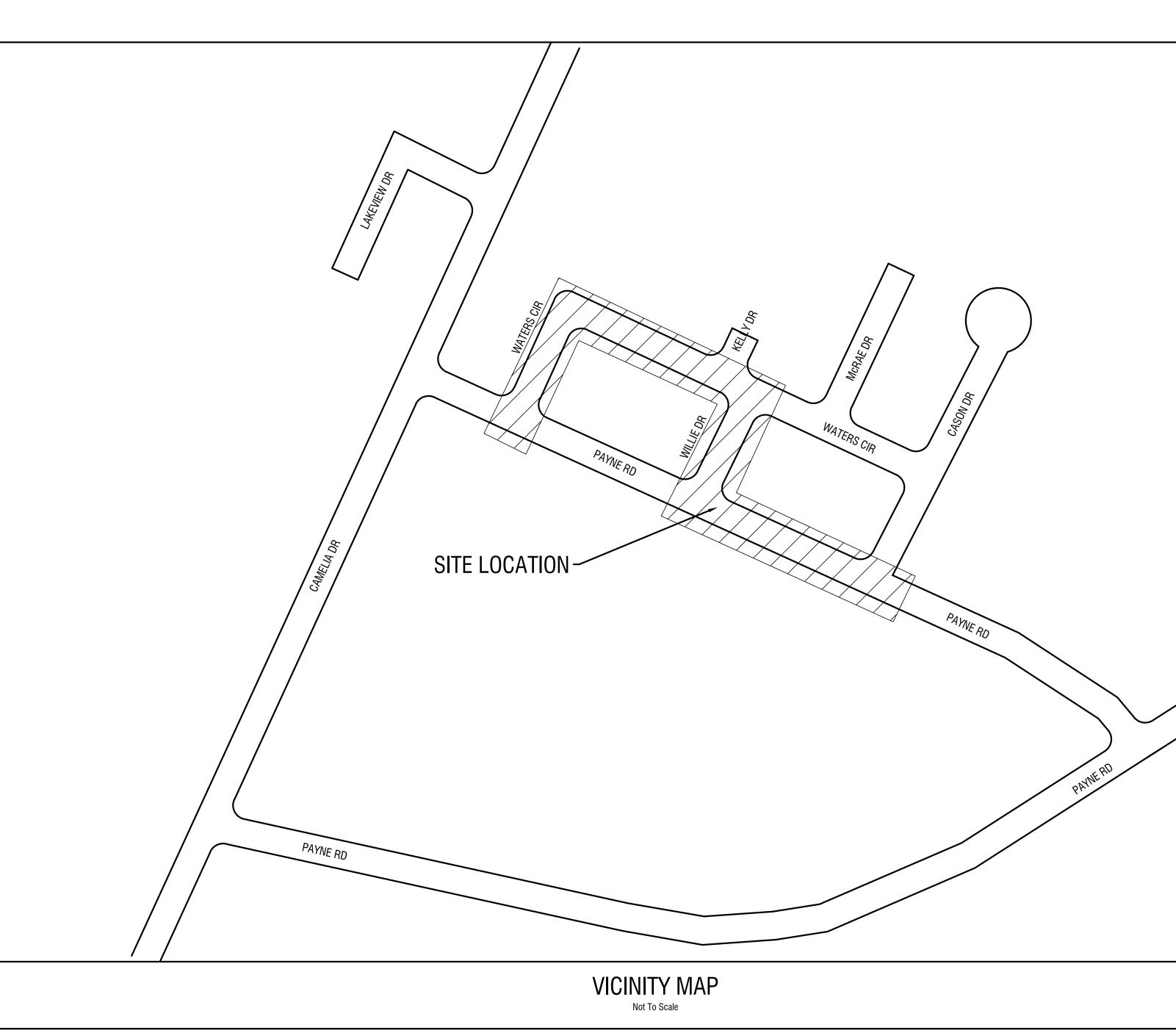
EROSION CONTROL DETAIL
GDOT DETAIL

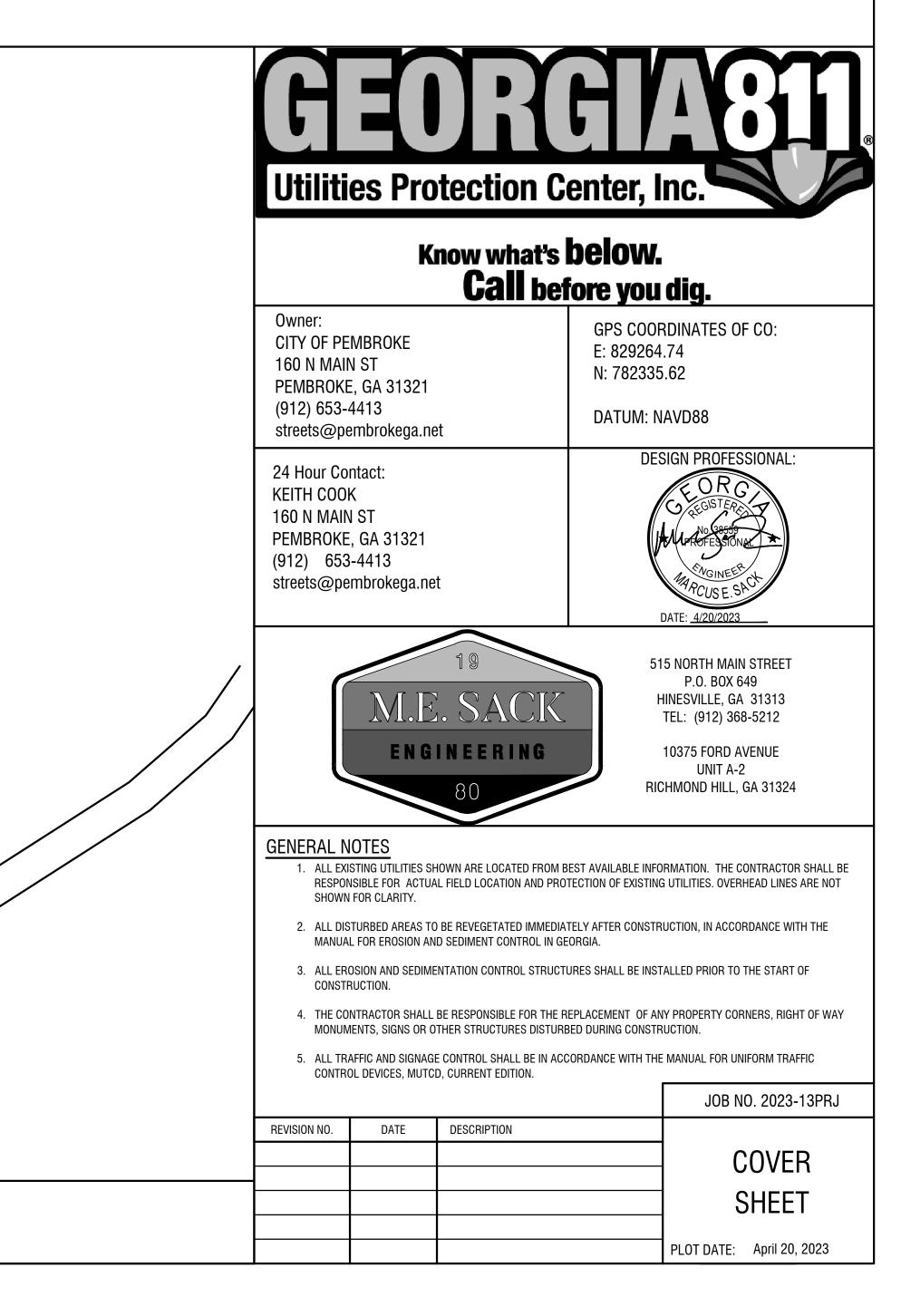
SHEET C101 - C103 SHEET C201 - C203 SHEET C300 SHEET C301 SHEET C302

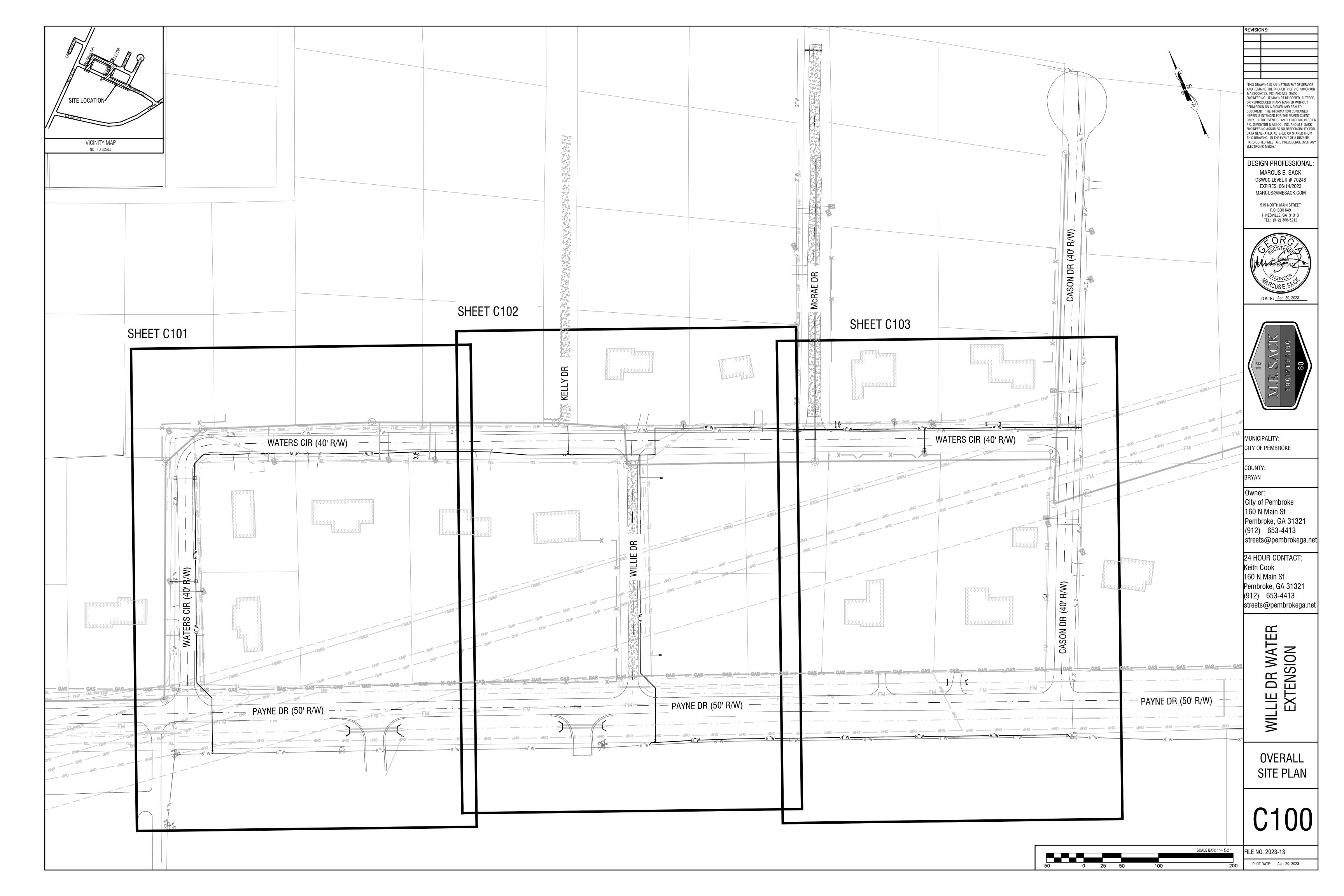
<u>SHEET</u>

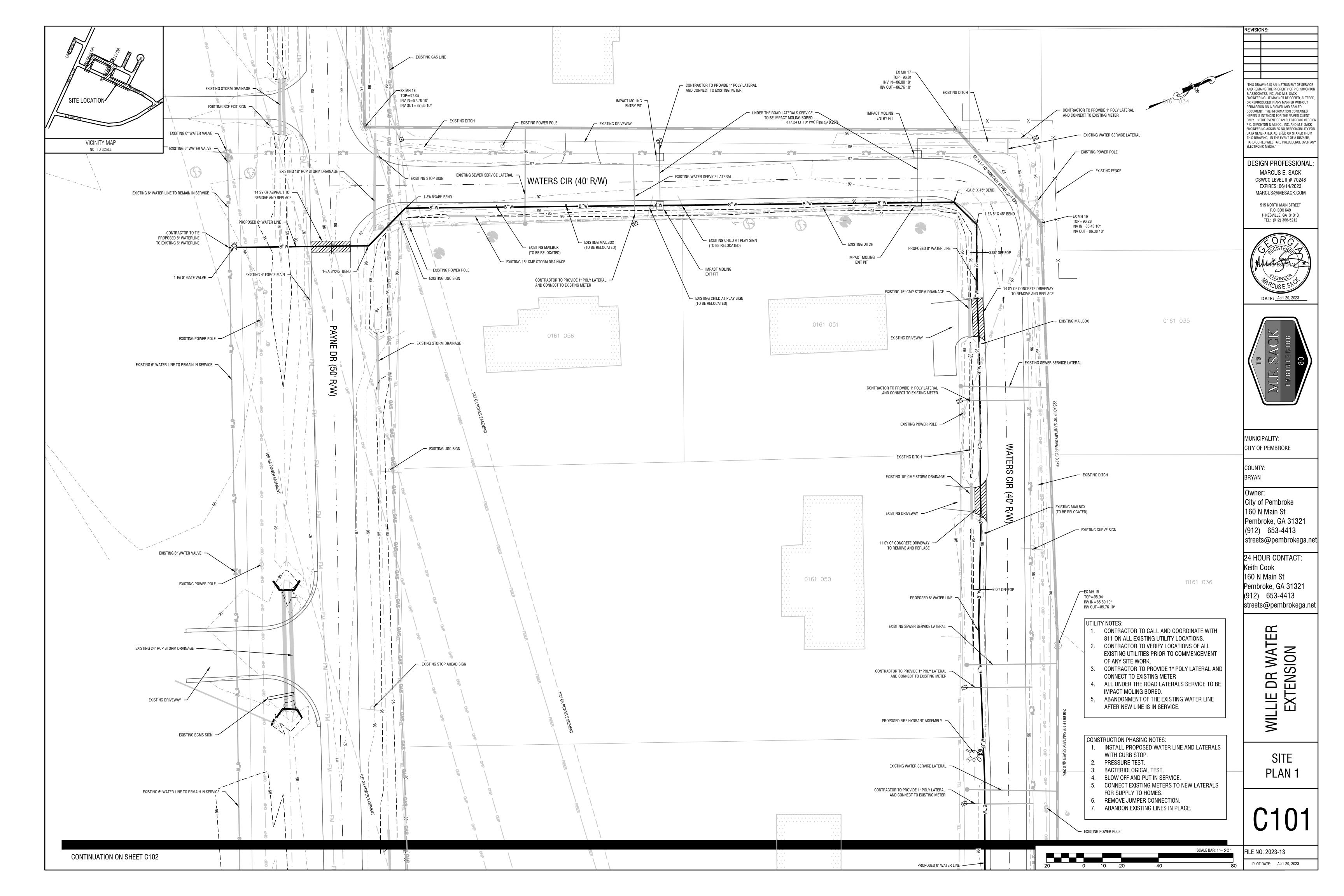
SHEET C100

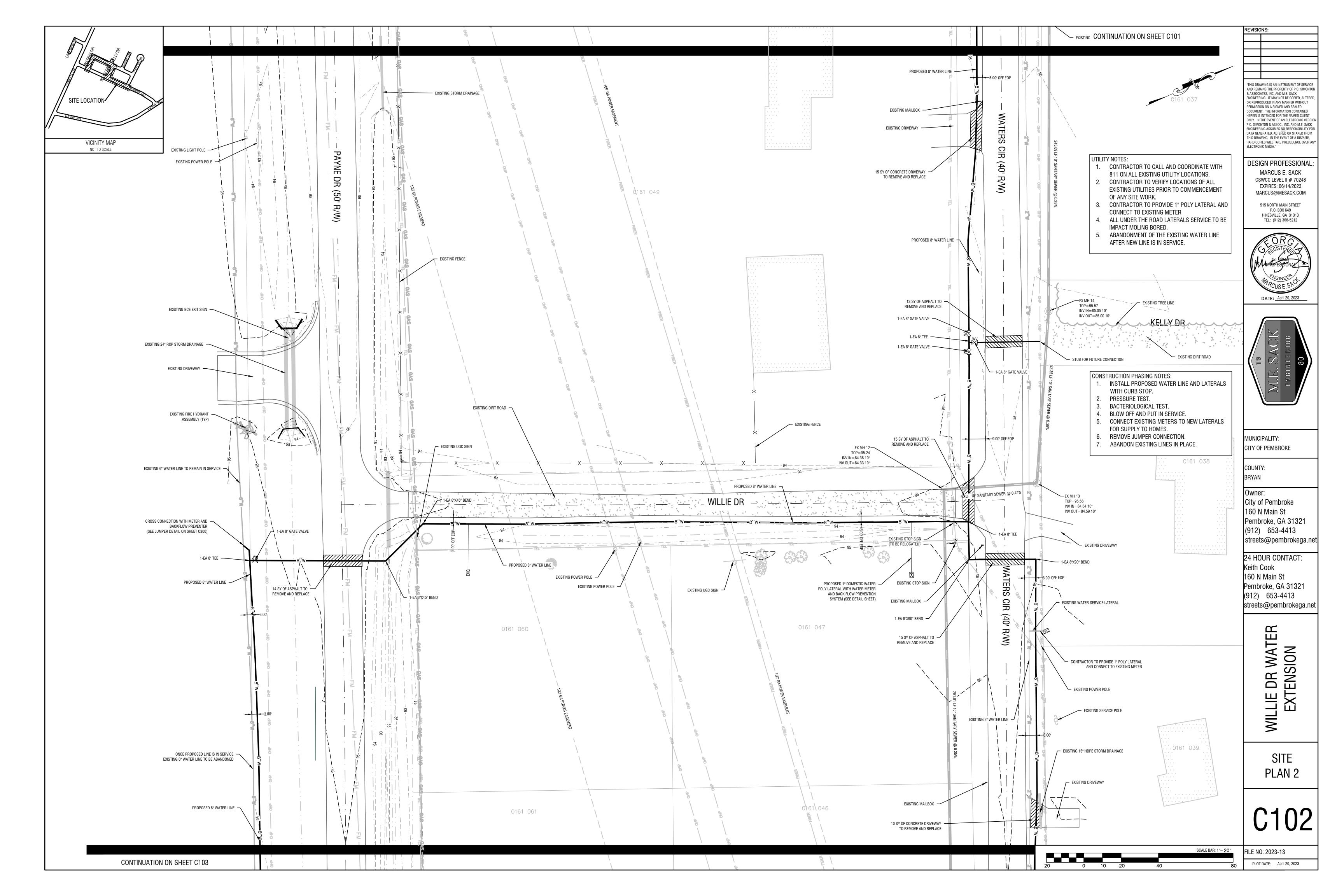
DRAWING LEGEND				
DESCRIPTION	PROPOSED	EXISTING		
SANITARY SEWER		SS		
UNDERGROUND WATER LINE	—— w ——	w		
FORCE MAIN	FM	FM		
STORM DRAINAGE PIPE				
UNDERGROUND TELEPHONE LINE	T	т		
UNDERGROUND TELEPHONE CONDUIT	тс	тс		
UNDERGROUND GAS LINE	12"G			
DITCH CENTERLINE	<u> </u>			
SPOT ELEVATION	XX=90.00	X_X=90.00		
TOP OF CURB ELEVATION	\TC=90.00	\TC=90.00		
FIRE HYDRANT	X	X		
SEWER MANHOLE	Ś	S		
WATER VALVE	wv X	wv X		
TELEPHONE MANHOLE		Ū		
LIGHT POLE	\$	¢		
SIGN				
WATER METER		\bowtie		
BENCHMARK	•			
CONCRETE MONUMENT FOUND	Ť			
GUY POLE		-0		
IRON PIN FOUND		o		
IRON PIN SET	۲			
TELEPHONE PEDESTAL		\triangle		
POWER POLE	വ	5		
HANDICAP SPACE	Ê.	Ĕ.		
SEDIMENT BASIN MARKER W/NOTCH	SM ■			

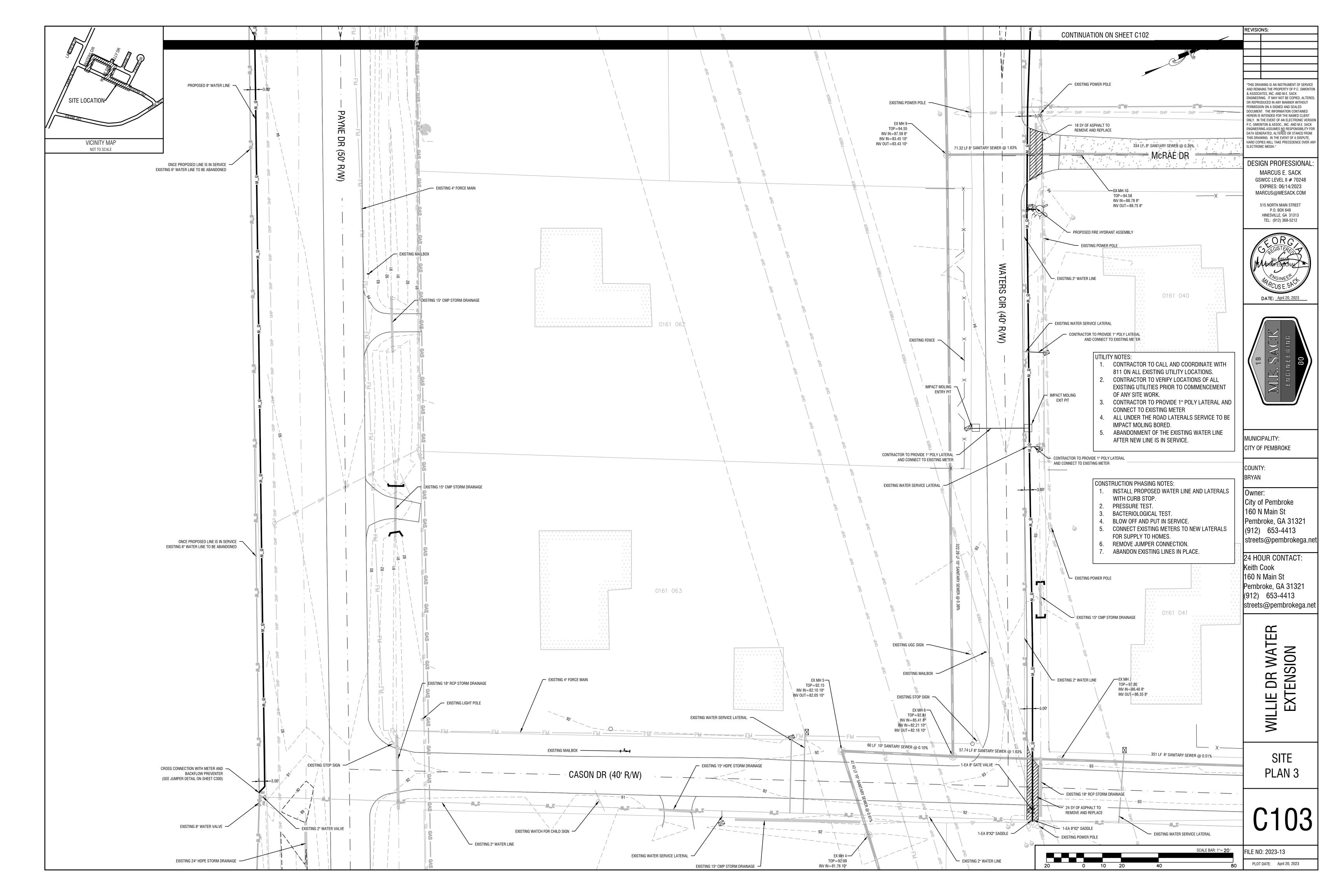


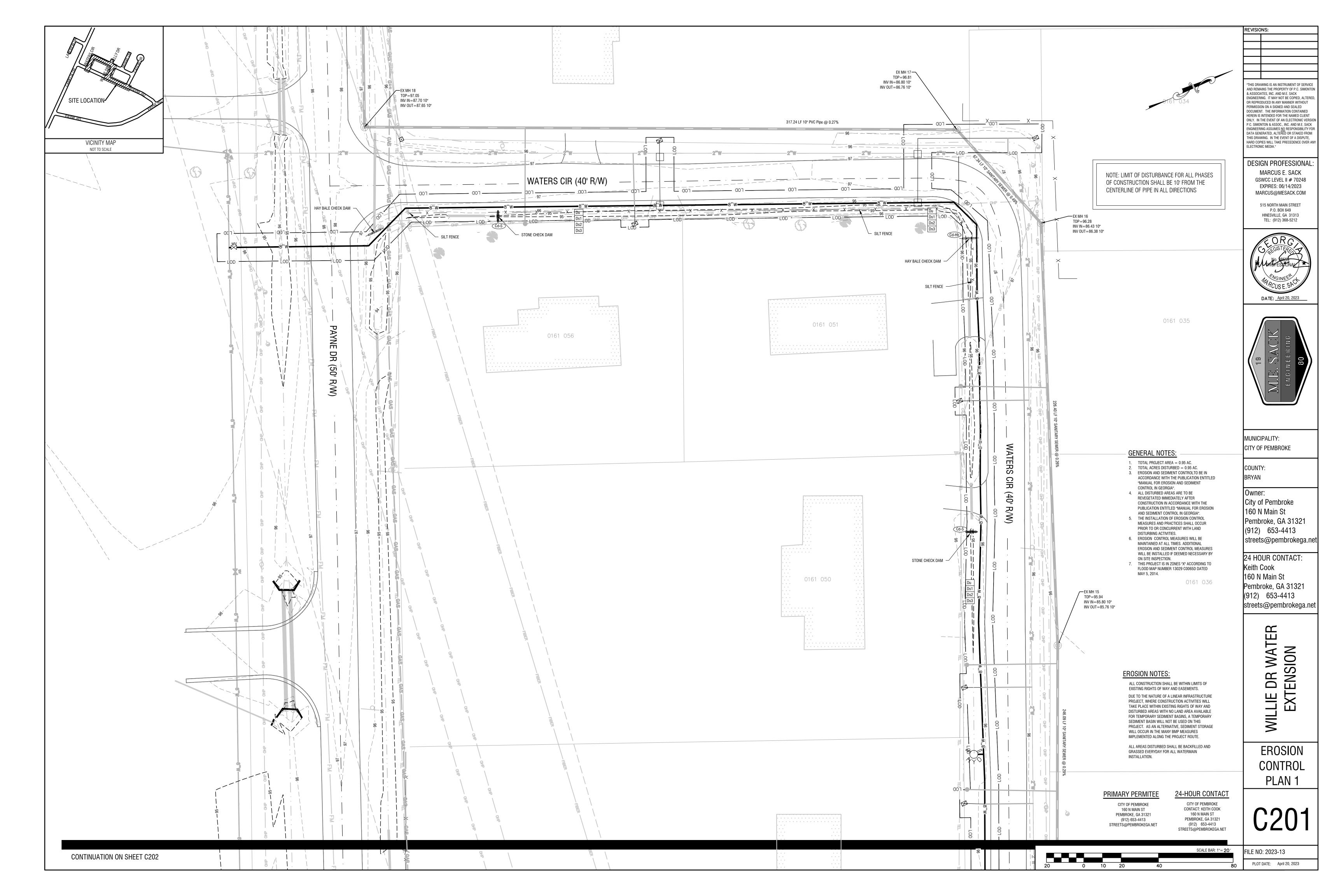


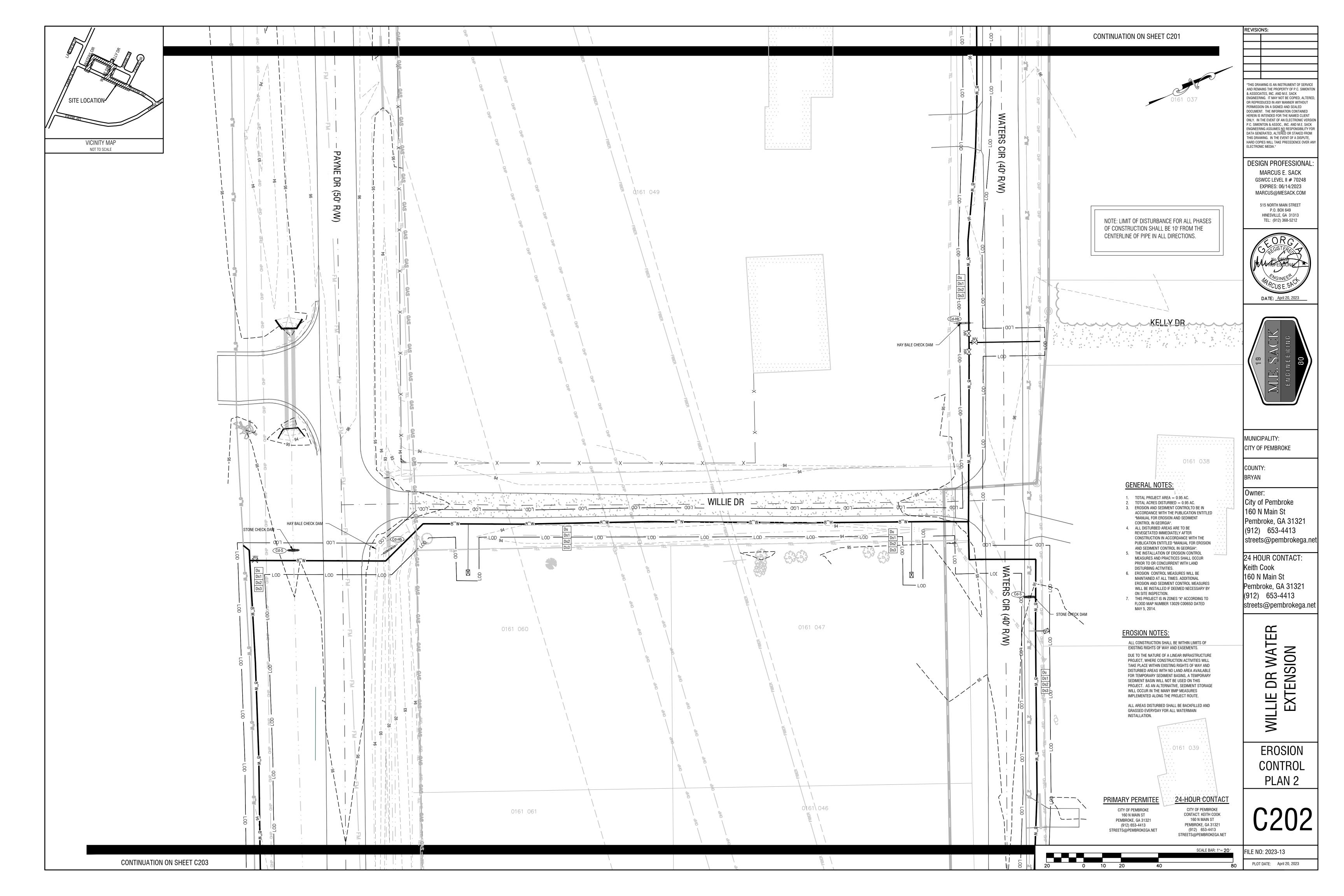


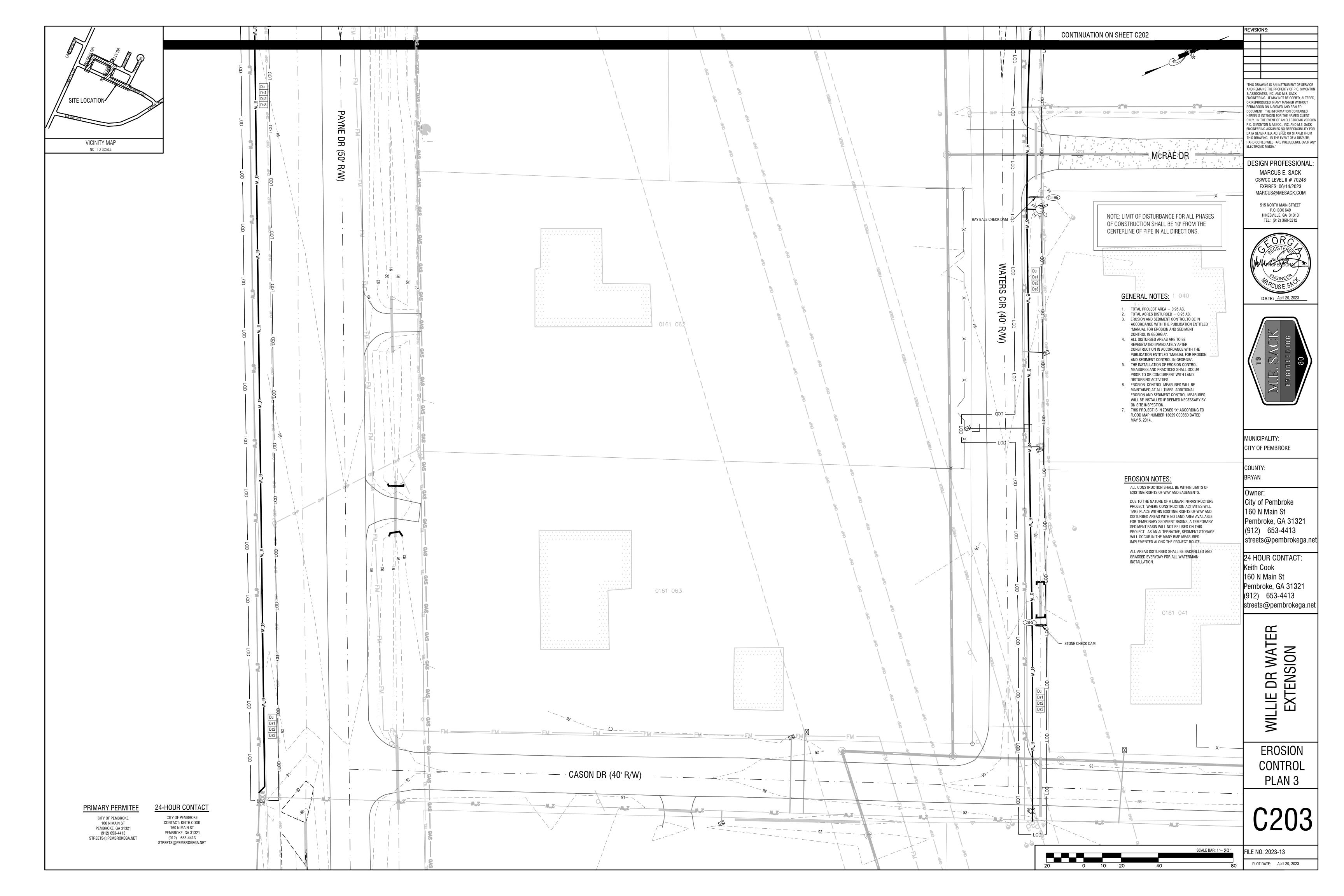


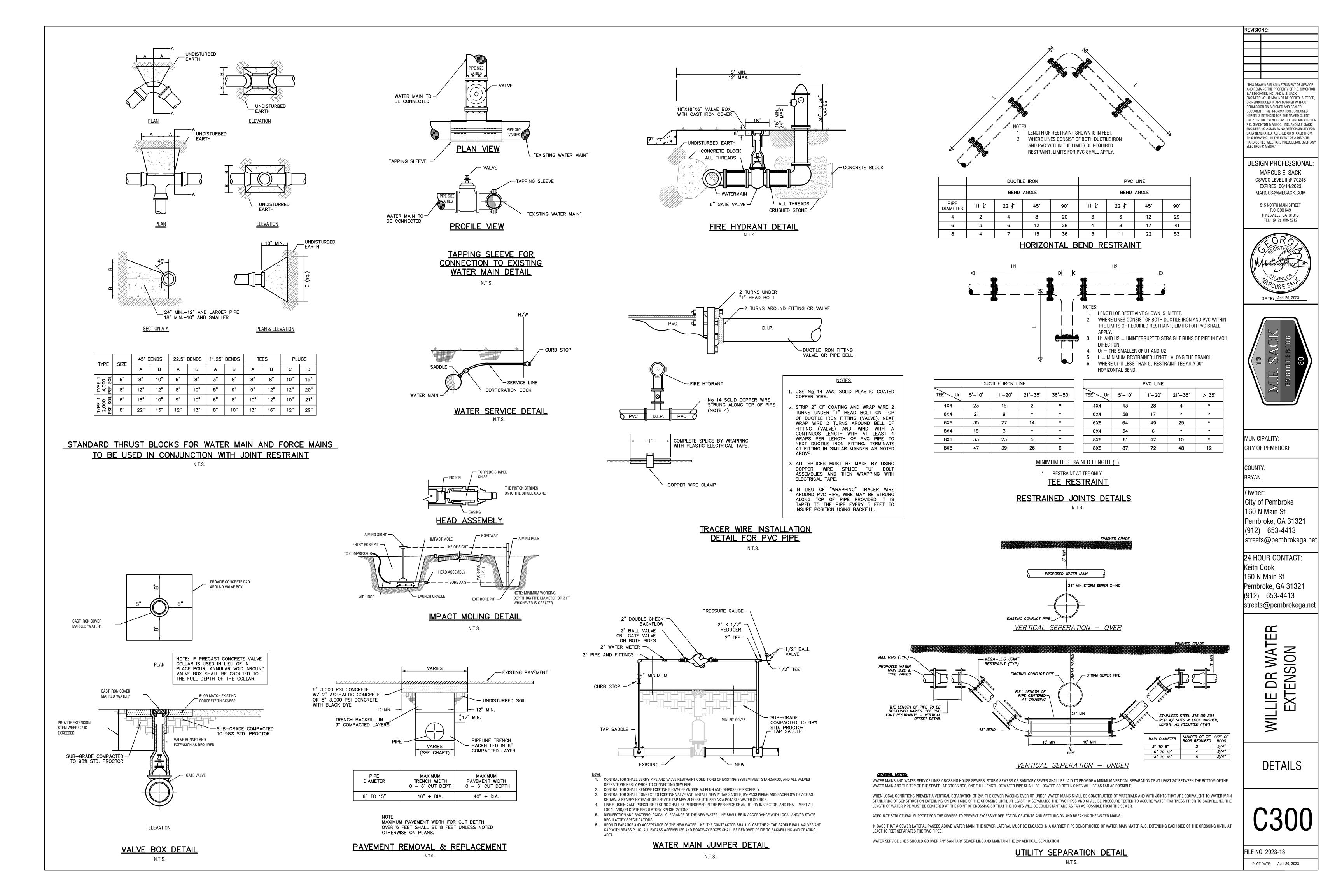












GEORGIA UNIFORM CODING SYSTEM FOR SOIL EROSION AND SEDIMENT CONTROL PRACTICES GEORGIA SOIL AND WATER CONSERVATION COMMISSION

STRUCTURAL PRACTICES CODE PRACTICE DETAIL MAP SYMBOL DESCRIPTION A small temporary barrier or dam construct Cd across a swale, drainage ditch or area of CHECKDAM oncentrated flow. Improving, constructing or stabilizing an ope channel, existing stream, or ditch. Ch STABILIZATION A crushed stone pad located at the Co construction site exit to provide a place for CONSTRUCTION EXIT removing mud from tires thereby protecting public streets. A travelway constructed as part of a Cr CONSTRUCTION construction plan including access roads, ROAD subdivision roads, parking areas and other STABILIZATION on-site vehicle transportation routes. temporary channel constructed to convey STREAM Dc flow around a construction site while a DIVERSION CHANNEL permanent structure is being constructed. An earth channel or dike located above, belo Di DIVERSION or across a slope to divert runoff. This may be a temporary or permanent structure. A flexible conduit of heavy-duty fabric or Onition of heavy-duty fabric or other material designed to safely conduct surface runoff down a slope. This is temporary Dn1 TINGITT TEMPORARY DOWNDRAIN STRUCTURE and inexpensive. Dn2 A paved chute, pipe, sectional conduit or Dn2 PERMANENT DOWNDRAIN STRUCTURE similar material designed to safely conduct surface runoff down a slope. A temporary stone barrier constructed at storm drain inlets and pand with t C Fr FILTER RING storm drain inlets and pond outlets. Ga Rock filter baskets which are hand-placed GABION into position forming soil stabilizing structures. Permanent structures installed to protect (Gr) GRADE channels or waterways where otherwise the Gr STABILIZATION STRUCTURE slope would be sufficient for the running water to form gullies. A structure to convert concentrated flow of LEVEL / water into less erosive sheet flow. This SPREADER should be constructed only on undisturbed ROCK FILTER DAM A permanent or temporary stone filter dam Rd installed across small streams or drainageways. A wall installed to stabilize cut and fill slope Re RETAINING where maximum permissible slopes are not
 Replote
 obtainable
 Each situation
 will require
 special
 WALL desian. A device or structure placed in front of a R permanent stormwater detention pond outlet Rt RETRO FITTING structure to serve as a temporary sediment filter A barrier to prevent sediment from leaving the construction site. It may be sandbags, (Sd1 SEDIMEN BARRIER bales of straw or hay, brush, logs and poles gravel, or a silt fence. -z INLET Sd2 $\langle \lambda \rangle$ around a storm drain drop inlet. The SEDIMENT TRAP excavated area will be filled and stabilized or completion of construction activities. sa A basin created by excavation or a dam TEMPORARY across a waterway. The surface water runo (Sd3) SEDIMENT BASIN is temporarily stored allowing the bulk of the sediment to drop out. A small temporary pond that drains a TEMPORARY disturbed area so that sediment can settle (Sd4) SEDIMENT TRAP /// out. The principle feature distinguishing a temporary sediment trap from a temporary sediment basin is the lack of a pipe or riser A buoyant device that releases/drains water FI OATING (Sk) (sk) / from the surface of sediment ponds, traps, o SURFACE SKIMMER Winner De basins at a controlled rate of flow. Linear control device constructed as a (Sp) diversion perpendicular to the direction of Spb SEEP BERM 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
Sr	TEMPORARY STREAM CROSSING		Sr (LABEL)	A temporary bridge or culvert-type structure protecting a stream or watercourse from damage by crossing construction equipment.
St	STORMDRAIN OUTLET PROTECTION		(SI)	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		H-Su-H	A rough soil surface with horizontal depressions on a contour or slopes left in a roughened condition after grading.
Tc	TURBIDITY CURTAIN		Te	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	\bigcirc	(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		J. Bf (ABEL)	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)	Jeres a service a service of a	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)	WWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWWW	Ds3	Establishing a permanent vegetative cover such as trees, shrubs, vines, grasses, or legumes on disturbed areas.
Ds4	DISTURBED AREA STABILIZATION (SODDING)	8 2	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.
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)

SPECIFICATIONS

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.

<u>Site Preparation</u> 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.

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

<u>Applying and Anchoring Mulch</u> 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 spraved onto the mulch as it is elected 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.

4" to 8"

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

2. Pine needle 4" to 6"

Wood waste 4" to 8" (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	BROAI RATES 1* PER		PLAN RESOURCE AREA 3*	ABEAS*					REMARKS							
	ACRE	1000 SF		J	F	М	А	Μ	J	J	Α	3	S C	Ν	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.

Ds3 SPECIES AND PLANTING SCHEDULE

SPECIES	BROAD RATES 1* PER		PLANTING DATES BY RESOURCE RESOURCE AREA 3* AREAS*									REMARKS				
	ACRE	1000 SF		J	F	М	А	М	J	J	А	S	0	Ν	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. LOW GROWING AND SOD FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
BERMUDA, COMMON UNHULLED SEED ALONE WITH OTHER PERENNIALS			P C													PLANT WITH WINTER ANNUALS. PLANT WITH TALL FESCUE.
COASTAL, COMMON, MIDLAND, OR TIFT 44 COASTAL, COMMON, TIFT 44	40 CU FT OR SOD PLUC	l	M-L P C C													A CUBIC FT. CONTAINS APPROXIMATLY 650 SPRIGS. A BUSHEL CONTAINS 1.25 C.F. OR APPROXIMATLY 800 SPRIGS. SAME AS ABOVE.
TIFT 78																SOUTHERN COASTAL PLAIN ONLY

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

STONE CHECK DAM ANT CONTRACTOR SPACING BETWEEN CHECK DAMS STONE CHECK DAM GEOTEXTILE LINER EXXON P0511 OR EQUAL GEOTEXTILE -

leau Gro COV

Du DUST CONTROL ON DISTURBED AREAS

A. To prevent surface and air movement of dust from

B. To reduce the presence of airborne substances

welfare, or safety, or to animals or plant life.

which may be harmful or injurious to human health,

Site is sprinkled with water until the surface is wet.

1. Irrigation. This is generally done as an emergency treatment.

3. Vegetative Cover - See Ds2 - Disturbed Area Stabilization

1. Permanent Vegetation - See Ds3 - Disturbed Area Stabilization

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

PURPOSE

exposed surfaces.

Temporary Methods

(with Temporary Seeding)

(with Permanent Vegetation)

Permanent Methods

leaumes

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.

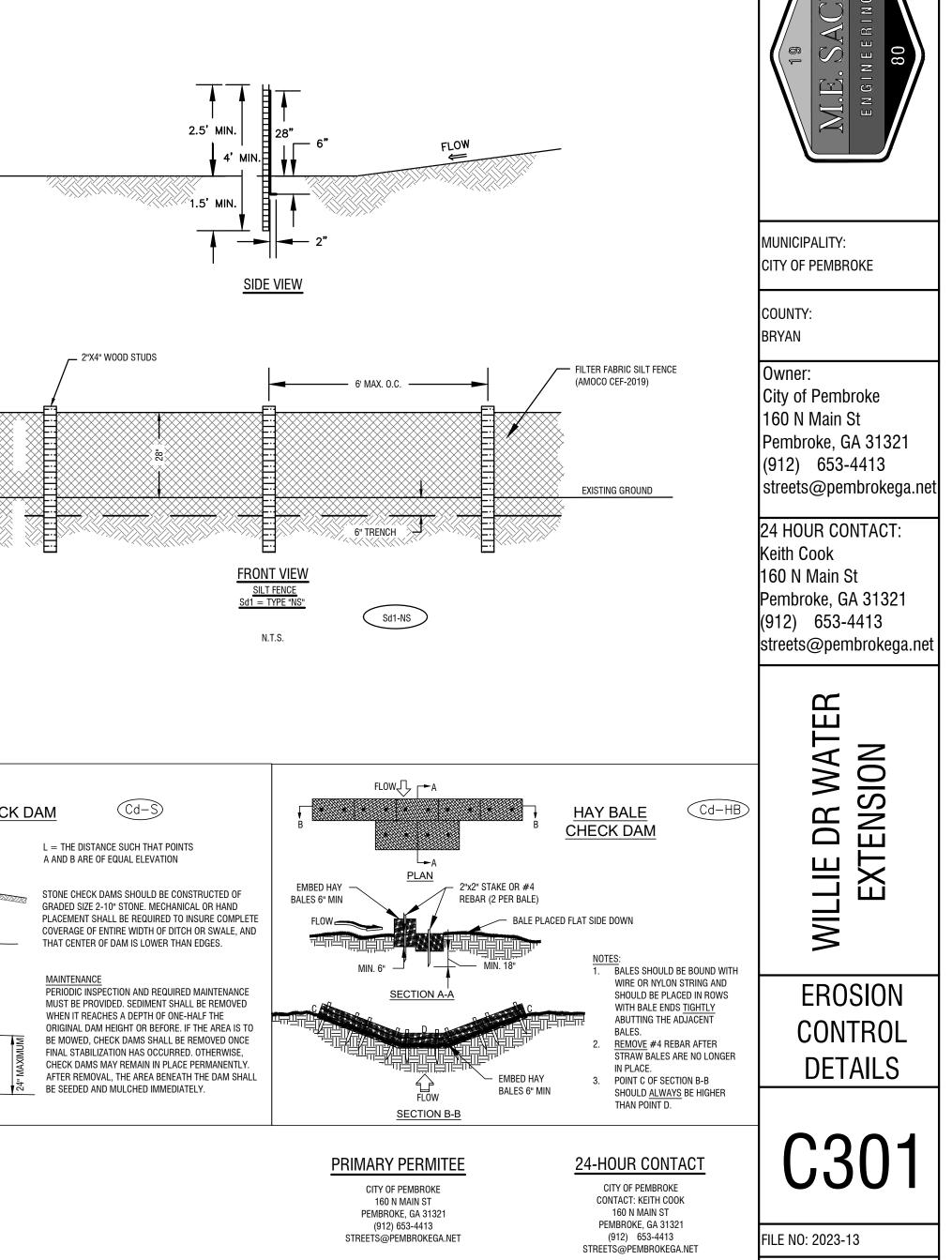
1/ Apply in spring following seeding.

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

4/ Apply when plants are pruned.

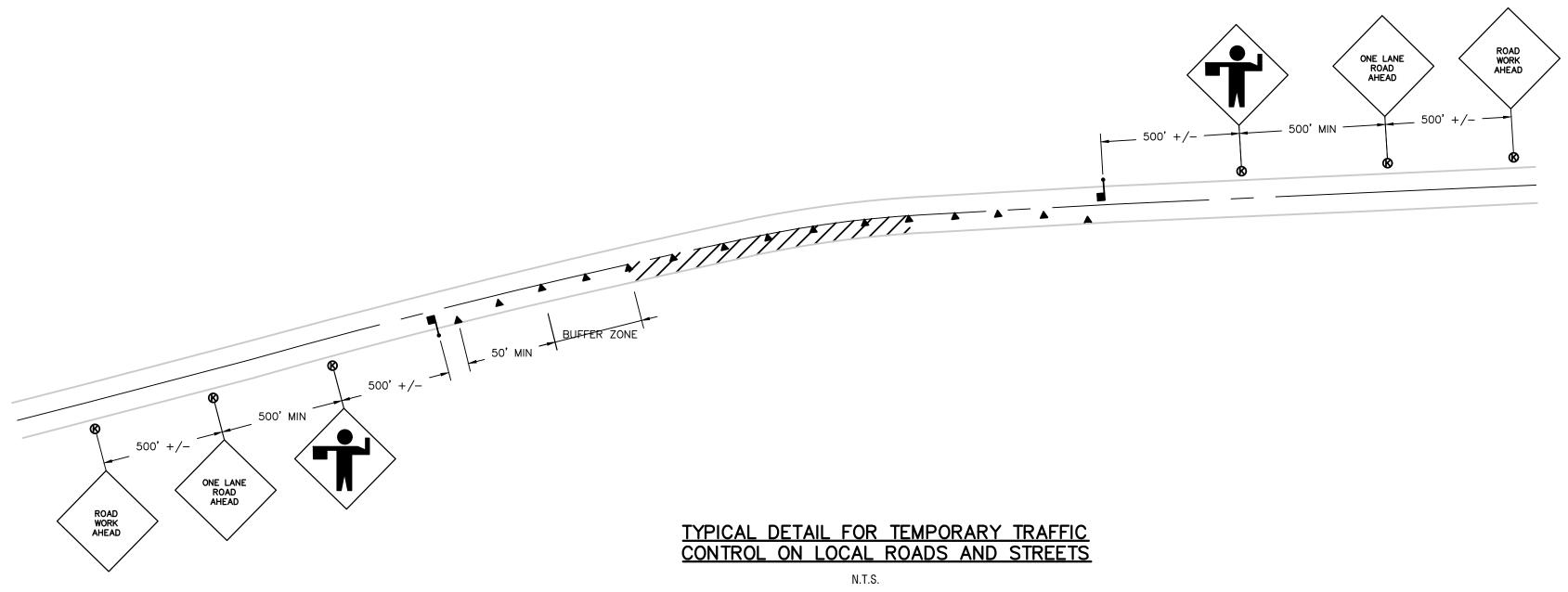
5/ Apply to grass species only.

6/ Apply when plants grow to height of 2 to 4 inches.



REVISIONS:
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EXPIRES: 06/14/2023 MARCUS@MESACK.COM 515 NORTH MAIN STREET
P.O. BOX 649 HINESVILLE, GA 31313 TEL: (912) 368-5212
ECISTERS NO 08559 NO 08559 NO ORESSIONAL MARCUSE.SACL DATE: <u>April 20, 2023</u>
19 M.E. SACK f n g i n e e r i n g
MUNICIPALITY: CITY OF PEMBROKE
COUNTY: 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
LLIE DR WATER Extension

PLOT DATE: April 20, 2023



NOTES: SPECIAL PROVISIONS.

- AMOUNT OF INCONVENIENCE AS POSSIBLE.
- (28" MINIMUM) MAY BE USED IN ADVANCE AND THROUGHOUT WORK AREA.

NOTE: ALL TRAFFIC CONTROL AND TEMPORARY LANE CLOSURES OF STATE ROUTES MUST BE CONDUCTED IN ACCORDANCE WITH GDOT STANDARD 9100 "TRAFFIC CONTROL GENERAL NOTES, STANDARDS LEGEND, MISCELLANEOUS DETAILS"CURRENT DETAILS AND STANDARDS CAN BE FOUND ON THE GEORGIA DEPARTMENT OF TRANSPORTATION WEBSITE.

 BUFFER ZONE - 200' MINIMUM, 300' DESIRABLE ON TANGENTS CAN BE INCREASED BY THE ENGINEER FOR HORIZONTAL OR VERTICAL CURVES DUE TO SIGHT DISTANCE CONSIDERATION.
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 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 6. FLAGGERS SHALL BE PROVIDED AS NECESSARY TO PROHIBIT WRONG DIRECTION OF TRAFFIC THRU WORK AREAS.

