

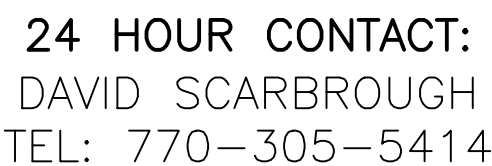
1. AS-BUILT REQUIRED PRIOR TO FINAL BUILDING INSPECTION.
2. THE INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND PRACTICES SHALL OCCUR PRIOR TO OR CONCURRENT WITH LAND DISTURBING ACTIVITIES.
3. THE ONLY MATERIAL TO BE BURIED ON-SITE IS VEGETATIVE MATERIAL, PROVIDED IT IS NOT BURIED WITHIN 100' OF ANY PROPERTY LINE OR ENCLOSED STRUCTURE. CONSTRUCTION WASTE MAY NEITHER BE BURNED NOR BURIED AND MUST BE TAKEN TO A STATE APPROVED LANDFILL.
4. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL AND LOCAL CODES.
5. ALL MATERIALS AND CONSTRUCTION METHODS TO BE IN ACCORDANCE WITH THE FAYETTE COUNTY STANDARDS AND THE GEORGIA DEPARTMENT OF TRANSPORTATION, AS APPLICABLE.
6. DEVIATION FROM THESE PLANS AND SPECIFICATIONS WITHOUT THE PRIOR WRITTEN CONSENT OF THE ENGINEER MAY CAUSE THE WORK TO BE UNACCEPTABLE.
7. CONTRACTOR IS RESPONSIBLE FOR NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATION AND TIE-IN TO PUBLIC UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR NOTIFYING ALL INSPECTORS, INCLUDING COUNTY AND CITY INSPECTORS PRIOR TO BEGINNING SITE CONSTRUCTION.
8. THERE MAY BE ADDITIONAL UTILITIES THAN THOSE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS AND NECESSARY INVERTS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE DEPARTMENT OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATING AND TIE-IN TO THE PUBLIC UTILITIES.
9. IF CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION, HE SHALL, AT HIS OWN EXPENSE, REPLACE OR REPAIR THE UTILITIES TO ORIGINAL CONDITION AND QUALITY, AS APPROVED BY THE ENGINEER AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY.
10. LAND DISTURBANCE PERMIT TO BE DISPLAYED ON SITE AT ALL TIMES DURING CONSTRUCTION.
11. CONSTRUCTION EQUIPMENT SHALL NOT BE PARKED IN RIGHT-OF-WAY AND MUST BE STORED WITHIN SITE.
12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING A MARKED-UP SET OF DESIGN DRAWINGS SHOWING ALL "AS-BUILT" CONDITIONS. THESE "RECORD DRAWINGS" SHALL BE MADE AVAILABLE TO THE DESIGNER AND/OR THE COUNTY INSPECTOR UPON REQUEST. THE MARK-UPS SHALL BE AT THE SITE AT ALL TIMES AND SHALL BE UTILIZED BY THE CONTRACTOR TO DEVELOP FINAL RECORD DRAWINGS.
13. STUMPS AND CONSTRUCTION DEBRIS SHALL BE DEPOSITED IN A PROPERLY PERMITTED LANDFILL.
14. THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13113C0108E, AND THE DATE OF SAID MAP IS SEPTEMBER 26, 2008. THIS DETERMINATION WAS MADE BY GRAPHICALLY DETERMINING THE POSITION OF THIS SITE ON SAID FIRM MAP UNLESS NOTED OTHERWISE.
15. THE CONTRACTOR SHALL TELEPHONE TOLL FREE 1-800-282-7411 A MINIMUM OF 48 HOURS PRIOR TO THE START OF ANY EXCAVATION AS SHOWN AND NOTED ON THE PLANS FOR A UTILITY LOCATION SERVICE.
16. ALL APPROPRIATE SITE WORK SHALL CONFORM TO ADA STANDARDS.

Case	Age	Sex	Occupation	Duration of symptoms (years)	Onset	Course	Family history	Social history	Physical examination	Laboratory studies	Imaging studies	Pathology	Treatment	Outcome
1	45	M	Teacher	10	1985	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
2	52	F	Homemaker	5	1990	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
3	60	M	Engineer	15	1975	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
4	38	F	Manager	8	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
5	42	M	Doctor	12	1980	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
6	55	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
7	65	M	Retired	20	1965	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
8	35	F	Teacher	6	1989	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
9	48	M	Engineer	11	1982	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
10	58	F	Homemaker	9	1983	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
11	62	M	Retired	18	1970	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
12	32	F	Manager	4	1992	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
13	40	M	Doctor	10	1985	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
14	50	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
15	60	M	Retired	15	1975	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
16	30	F	Teacher	3	1993	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
17	45	M	Engineer	12	1980	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
18	55	F	Homemaker	8	1987	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
19	65	M	Retired	18	1970	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
20	35	F	Manager	5	1990	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
21	42	M	Doctor	10	1982	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
22	52	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
23	62	M	Retired	15	1975	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
24	32	F	Teacher	4	1992	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
25	40	M	Engineer	10	1985	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
26	50	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
27	60	M	Retired	15	1975	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
28	30	F	Manager	3	1993	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
29	45	M	Doctor	10	1985	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
30	55	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
31	65	M	Retired	18	1970	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
32	35	F	Teacher	5	1990	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
33	42	M	Engineer	10	1982	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
34	52	F	Homemaker	7	1988	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
35	62	M	Retired	15	1975	Chronic	None	None	Normal	Normal	Normal	Normal	None	Stable
36	32	F	Teacher	4	1992	Chronic	None	None	Normal	Normal	Normal			

[illegible][illegible]

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13113C0108E AND THE DATE OF SAID MAP IS SEPTEMBER 26, 2008.

AS PER THE GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION, NPDES GENERAL PERMITS FOR CONSTRUCTION ACTIVITY GARI00001, GARI00002, & GARI00003: PART IV, A., 7. REQUIRES THE EROSION CONTROL PLAN DESIGN PROFESSIONAL TO MAKE A SITE INSPECTION, FOR STAND ALONE PROJECTS THAT BEGIN CONSTRUCTION ACTIVITY AFTER THE EFFECTIVE DATE OF THE PERMIT, TO VERIFY THAT THE PERMITTEE HAS IMPLEMENTED THE EROSION CONTROL MEASURES (BMP'S) OF THE EROSION CONTROL AND POLLUTION CONTROL PLAN, EXCEPT WHEN THE PRIMARY PERMITTEE HAS REQUESTED IN WRITING AND EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE CONTROL MEASURES (BMP'S) OF THE DESIGN PROFESSIONAL. DESIGN INSPECTION (7) DAYS AFTER THE BEGINNING OF CONSTRUCTION ACTIVITY COMMENCED FOR CONSTRUCTION ACTIVITY. DESIGN INSPECTION BEGAN ON OR BEFORE THE EFFECTIVE DATE OF THE PERMIT. THE INSPECTION TO BE MADE WITHIN SEVEN (7) DAYS AFTER THE PLAN HAS BEEN IMPLEMENTED, THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMP'S HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PRIMARY PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITTEE SHALL CORRECT ANY DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF REPORT FROM THE DESIGN PROFESSIONAL. UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED



NAME: K. A. OLDHAM DESIGN, INC.  
ADDRESS: 75 JACKSON STREET, SUITE 401 NEWNAN, GA 30263  
CONTACT: KIP OLDHAM  
PHONE: (770)-683-9170

SHEET	DRAWING NAME	SHEET NAME	PLAN DATE	LAST REVISED
1	C-000	COVER SHEET	04/30/2018	
2	C-100	EXISTING CONDITIONS	04/30/2018	
3	C-200	SITE PLAN	04/30/2018	
4	C-300	UTILITY PLAN	04/30/2018	
5	C-400	GRADING & DRAINAGE PLAN	04/30/2018	
6	C-500	DETENTION POND PLAN, PROFILE & DETAILS	04/30/2018	
7	C-600	PROFILES	04/30/2018	
8	C-700	CONCRETE JOINT LAYOUT	04/30/2018	
9	C-800	SEPTIC FIELD PLAN	04/30/2018	
10	C-900	PRE-DEVELOPED BASINS	04/30/2018	
11	C-901	EXISTING-DEVELOPED BASINS	04/30/2018	
12	C-902	POST-DEVELOPED BASINS	04/30/2018	
13-16	C-1000-1003	CONSTRUCTION DETAILS	04/30/2018	
17	ER-000	EROSION CONTROL COVER	04/30/2018	
18	ER-100	EROSION CONTROL NOTES	04/30/2018	
19	ER-200	EROSION CONTROL PLAN - INITIAL PHASE	04/30/2018	
20	ER-300	EROSION CONTROL PLAN - INTERMEDIATE PHASE	04/30/2018	
21	ER-400	EROSION CONTROL PLAN - FINAL PHASE	04/30/2018	
22-23	ER-500-501	EROSION CONTROL DETAILS	04/30/2018	

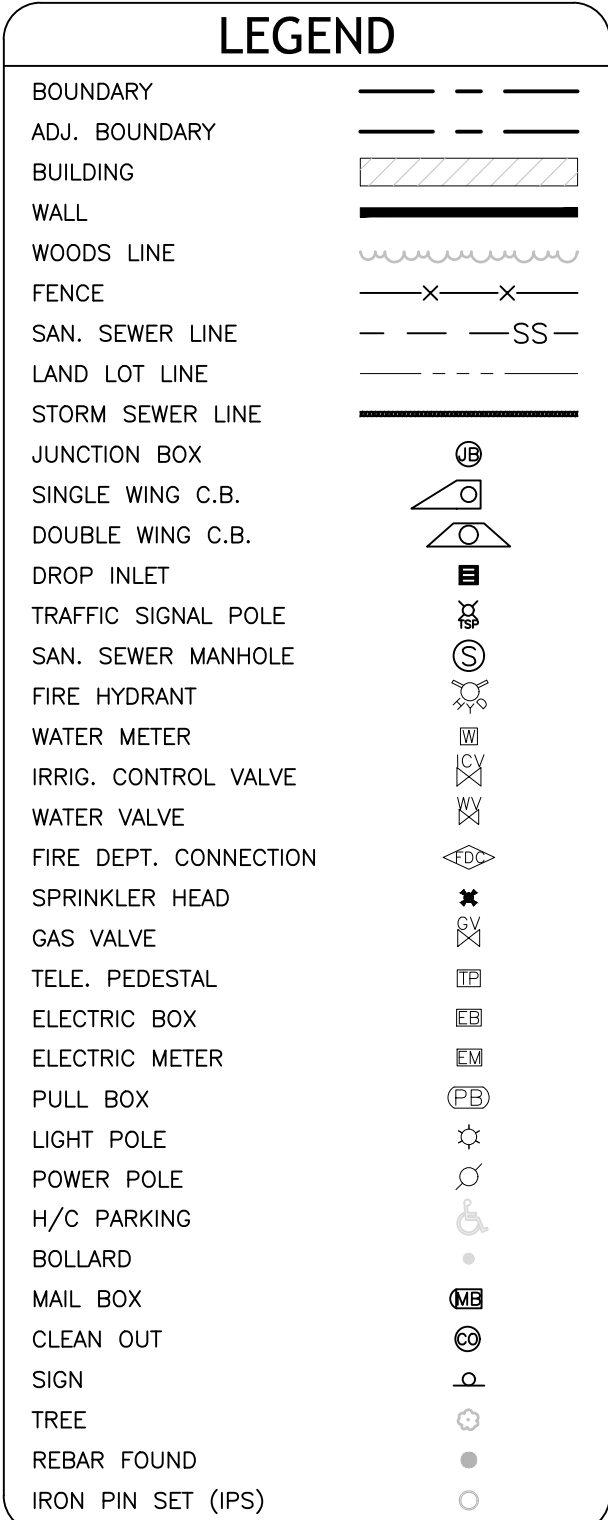
Plot Style: Design.ctb Plotted By: Scott McNally on 5/1/2018, 8:28 AM

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

# 1ST SUBMITTAL FOR PERMITTING

Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000 Cover Details.dwg



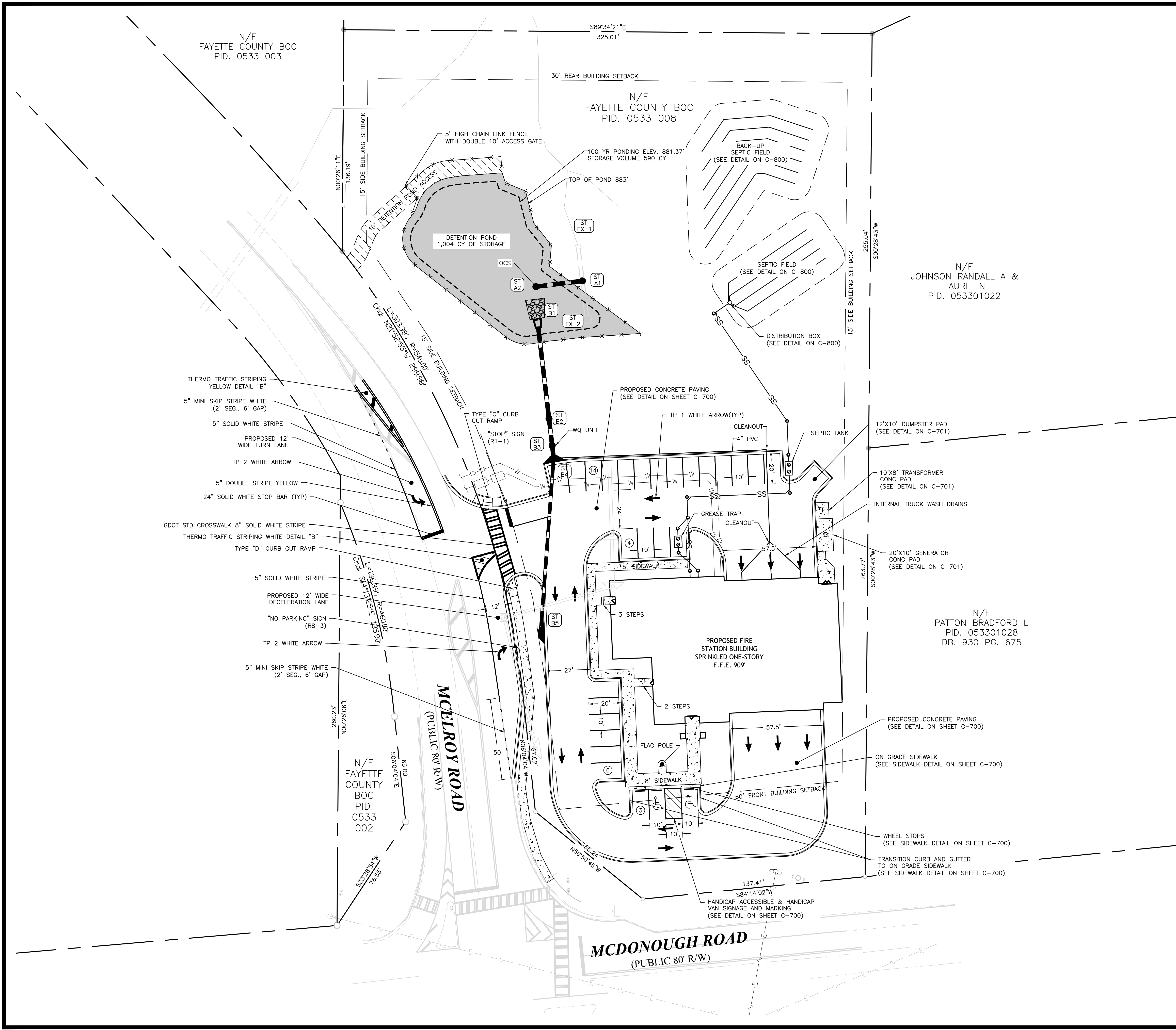


24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414

A north arrow pointing upwards, labeled 'N'. Below it is a scale bar in feet, with markings at 30, 0, 30, 60, and 90. The segment from 0 to 30 is checkered, and the segment from 30 to 60 is white.

# 1ST SUBMITTAL FOR PERMITTING





SITE PLAN NOTES

- 1. THE SITE CONTRACTOR SHALL COORDINATE SERVICE ROUTING OF ALL GAS, TELEPHONE, AND ELECTRICAL LINES WITH THE APPROPRIATE UTILITY COMPANY. ALL CONSTRUCTION MUST COMPLY WITH EACH UTILITY'S STANDARDS AND SPECIFICATIONS AND NOT INTERFERE WITH TREE PLANTING SITES OR EXISTING TREES TO BE PRESERVED.

SITE DATA

- 1. OWNER: FAYETTE COUNTY FIRE DEPARTMENT  
140 STONEWALL AVENUE  
FAYETTEVILLE, GEORGIA 30214  
24 HOUR CONTACT: DAVID SCARBROUGH  
PHONE: 770-305-5414
- 2. TOTAL AREA = 3.13 ACRES  
DISTURBED AREA = 2.06 ACRES  
IMPERVIOUS AREA = 0.93 ACRES  
%IMPERVIOUS = 29.81%
- 3. ZONING: R-40  
BUILDING SETBACKS:  
FRONT: 60'  
REAR: 30'  
SIDE: 15'

PARKING DATA

STANDARD SPACES:	25
COMPACT SPACES:	0
HANDICAP SPACES:	2
PROVIDED SPACES:	27
VARIANCE REQUIRED:	NONE

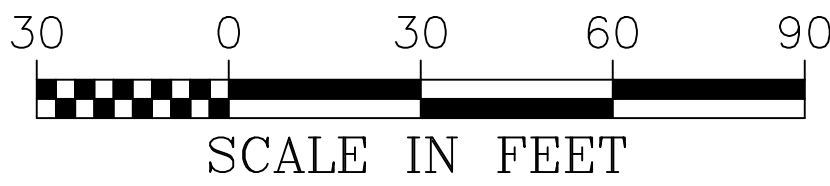
LEGEND

PROPERTY AND EXISTING R/W LINE	---
LAND LOT LINE	---
PARKING SPACE COUNT	①
BUILDING SETBACK LINE	---
FENCE	---
ACCESS EASEMENT	---
POND	---
CONCRETE	---

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414



Engineers  
Planners  
Surveyors

**CROY**  
ENGINEERING

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620

FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

1ST SUBMITTAL FOR PERMITTING

NO.	REVISION REFERENCE	DATE
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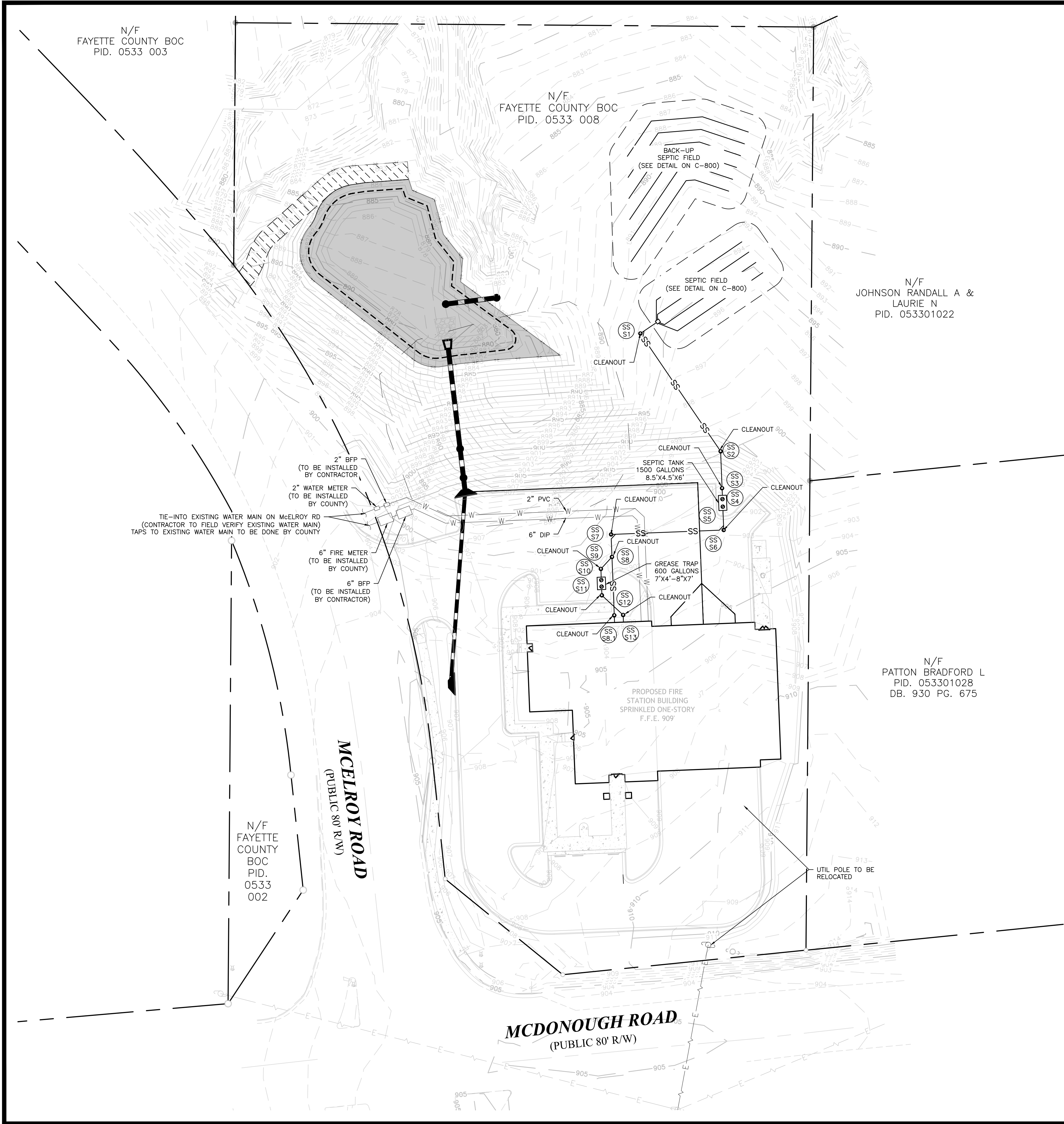


SHEET TITLE  
SITE PLAN

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=30'	ISSUE DATE 04/30/2018
PROJECT NUMBER 1788.000	
DRAWING NUMBER	

**C-200**  
SHEET 3 of 22





WATER SYSTEM NOTES

1. WATER AND SEWER SOURCE IS THE FAYETTE COUNTY DEPARTMENT OF WATER AND SEWER.
2. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FINAL INSPECTIONS ARE COMPLETED BY FAYETTE COUNTY WATER AND SEWER DEPARTMENT.
3. THE DEVELOPER OR DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION, SIZE, AND MATERIAL OF ANY EXISTING WATER AND SEWER FACILITY PROPOSED FOR CONNECTION OR USE BY THIS PROJECT. THE RELOCATION OF ANY WATER/SEWER FACILITY REQUIRED TO AVOID ANY PART OF THIS DEVELOPMENT IS THE RESPONSIBILITY OF THE DEVELOPER.
4. THE OWNER/DEVELOPER IS RESPONSIBLE FOR FEES RELATED TO IMPACT FEES, METER FEES, AND INSTALLATION FEES.
5. A FAYETTE COUNTY INSPECTOR IS TO BE PRESENT WHEN CONNECTING TO ANY EXISTING MAINS.
6. NOTIFY FAYETTE COUNTY WATER AND SEWER DEPARTMENT 24 HOURS PRIOR TO ANY SEWER CONSTRUCTION AT (770) 461-1146 OPTION 5.
7. ALL WORK AND MATERIALS TO CONFORM TO CURRENT FAYETTE COUNTY STANDARDS.
8. NO DEVIATIONS FROM APPROVED DRAWINGS ARE ALLOWED WITHOUT APPROVAL FROM FAYETTE COUNTY DEPARTMENT OF WATER AND SEWER.
9. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL INFRASTRUCTURE FOR A ONE YEAR PERIOD FOLLOWING FINAL PLAT.
10. ALL WATER LINES SHALL BE DUCTILE IRON PIPE CLASS 50 OR 350 PVC CLASS 200 DR 14.
11. WATER LINES SHALL BE INSTALLED 5' FROM BACK OF CURB.
12. WATER LINES SHALL HAVE 3.5' MINIMUM COVER.
13. SHORT SIDE SERVICES SHALL BE 3/4" COPPER
14. LONG SIDE SERVICES SHALL BE 1" COPPER IN 2" PVC CONDUITS WITH 3/4" WYES AT CORNERS.
15. WATER METERS ARE TO BE LOCATED IMMEDIATELY BACK OF CURB.
16. FIRE HYDRANTS ARE TO BE 3-WAY 5-1/4" TYPE.
17. FIRE HYDRANTS MUST BE FLOW TESTED PRIOR TO FINAL PLAT TO ENSURE ADEQUATE FIRE FLOWS.
18. CONCRETE VALVE MARKERS ARE TO BE INSTALLED AT ALL VALVE TYPES EXCEPT AT FIRE HYDRANTS.
19. CONCRETE BLOCKING SHALL BE PLACED AT ALL BENDS, TEES AND FITTINGS.
20. 300 PSI CURB STOPS, CORPS, AND WYES REQUIRED PER FORTSYTH COUNTY STANDARDS.
21. ALL VALVES SHALL BE GATE VALVES.
22. GATE VALVES OVER 5' DEEP SHALL HAVE STEM EXTENSIONS.
23. LINES ARE TO BE PRESSURE TESTED AND DISINFECTED PER COUNTY SPECIFICATIONS.
24. ALL SITE DOMESTIC WATER SERVICE LESS THAN 4" DIAMETER SHALL BE TYPE "K" COPPER WITH SAND BED.
25. THRUST BLOCKING SHALL BE USED AT ALL BENDS, PLUGS AND TEES FOR LINES 4" AND LARGER IN SIZE.

BACKFLOW PREVENTOR NOTES

1. BACKFLOW DEVICES MUST BE INSTALLED AT EVERY WATER CONNECTION AND INSTALLATION MUST BE DONE PER CURRENT FAYETTE COUNTY STANDARDS.
2. EVERY METER MUST HAVE AN ADEQUATE DEVICE. THIS INFORMATION CAN BE FOUND IN THE PLUMBING CODE BOOK.
3. THE INSTALLATION MUST MEET THE REQUIREMENTS SET FORTH IN THE BACKFLOW PREVENTION POLICY AND PROCEDURE MANUAL WHICH CAN BE PURCHASED AT THE FAYETTE COUNTY WATER AND SEWER DEPARTMENT.

LEGEND

EXISTING UTILITIES

- EX WATER LINE
- EX FIRE HYDRANT
- EX WATER METER
- EX WATER VALVE
- EX SANITARY SEWER
- EX SS MANHOLE
- EX WATER VALVE
- EX UTIL POLE

PROPOSED UTILITIES

- PROP. WATER LINE
- PROP. FIRE HYDRANT
- PROP. WATER METER
- PROP. WATER VALVE
- PROP. SANITARY SEWER
- PROP. SS MANHOLE
- PROP. SS CLEANOUT
- PROP. UTIL POLE
- PROP. AERIAL ELEC. LINE

SANITARY SEWER NOTES

1. WATER AND SEWER SOURCE IS THE FAYETTE COUNTY DEPARTMENT OF WATER AND SEWER.
2. CERTIFICATE OF OCCUPANCY WILL NOT BE ISSUED UNTIL FINAL INSPECTIONS ARE COMPLETED BY FAYETTE COUNTY WATER AND SEWER DEPARTMENT.
3. THE DEVELOPER OR DEVELOPER'S CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFYING THE EXACT LOCATION, SIZE, AND MATERIAL OF ANY EXISTING WATER AND SEWER FACILITY PROPOSED FOR CONNECTION OR USE BY THIS PROJECT. THE RELOCATION OF ANY WATER/SEWER FACILITY REQUIRED TO AVOID ANY PART OF THIS DEVELOPMENT IS THE RESPONSIBILITY OF THE DEVELOPER.
4. THE OWNER/DEVELOPER IS RESPONSIBLE FOR FEES RELATED TO IMPACT FEES, METER FEES, AND INSTALLATION FEES.
5. A FAYETTE COUNTY INSPECTOR IS TO BE PRESENT WHEN CONNECTING TO ANY EXISTING MAINS.
6. ALL CONNECTIONS TO EXISTING MANHOLES SHALL BE CORED AND BOOTED.
7. ALL MANHOLES REQUIRE "KOR-N-SEAL" OR EQUAL RUBBER BOOT.
8. NOTIFY FAYETTE COUNTY WATER AND SEWER DEPARTMENT 24 HOURS PRIOR TO ANY SEWER CONSTRUCTION AT (770) 461-1146 OPTION 5.
9. ALL WORK AND MATERIALS TO CONFORM TO CURRENT FAYETTE COUNTY STANDARDS.
10. NO DEVIATIONS FROM APPROVED DRAWINGS ARE ALLOWED WITHOUT APPROVAL FROM FAYETTE COUNTY DEPARTMENT OF WATER AND SEWER.
11. ALL MANHOLES OUTSIDE OF PAVEMENT SHALL BE 2' ABOVE GRADE WITH BOLT-DOWN WATERTIGHT COVERS.
12. SEWER LATERALS SHALL BE OF SAME MATERIAL AS SEWER MAIN.
13. SEWER LATERALS SHALL BE INSTALLED WITH 6" CLEAN-OUT, STUBBED UP 5' ABOVE GRADE AND CAPPED UNLESS LOCATED IN PAVING OR SIDEWALK.
14. NO FENCES, STRUCTURES, TREES OR OTHER OBSTRUCTIONS ARE ALLOWED ON SANITARY SEWER EASEMENTS.
15. SEWER LINES ARE TO BE TESTED PER COUNTY SPECIFICATIONS PRIOR TO FINAL PLAT.
16. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL INFRASTRUCTURE FOR A ONE YEAR PERIOD FOLLOWING FINAL PLAT.
17. 16' IS MAXIMUM DEPTH FOR PVC SEWER, ANY PIPE EXCEEDING 16', WHETHER OR NOT SHOWN ON PLANS, MUST BE INSTALLED AS D.I.P.

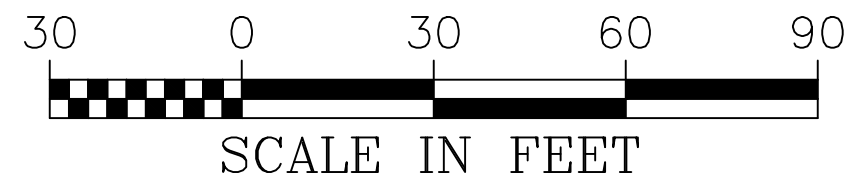
THERE MAY BE ADDITIONAL UTILITIES THAN THOSE SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR LOCATIONS SHOWN AND IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE LOCATIONS AND NECESSARY INVERTS OF ALL UTILITIES WITHIN THE LIMITS OF CONSTRUCTION. PRIOR TO ANY CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE DEPARTMENT OF THE UTILITY COMPANIES. THE CONTRACTOR IS RESPONSIBLE FOR THE NOTIFICATIONS AND LIAISON WITH UTILITY COMPANIES IN THE PROCESS OF LOCATING, RELOCATING AND TIE-IN TO THE PUBLIC UTILITIES.

NOTIFY FAYETTE COUNTY WATER AND SEWER DEPARTMENT 24 HOURS PRIOR TO ANY WATER OR SEWER CONSTRUCTION: (770-461-1146)5.

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



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200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
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FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

1ST SUBMITTAL FOR PERMITTING

NO.	REVISION REFERENCE	DATE

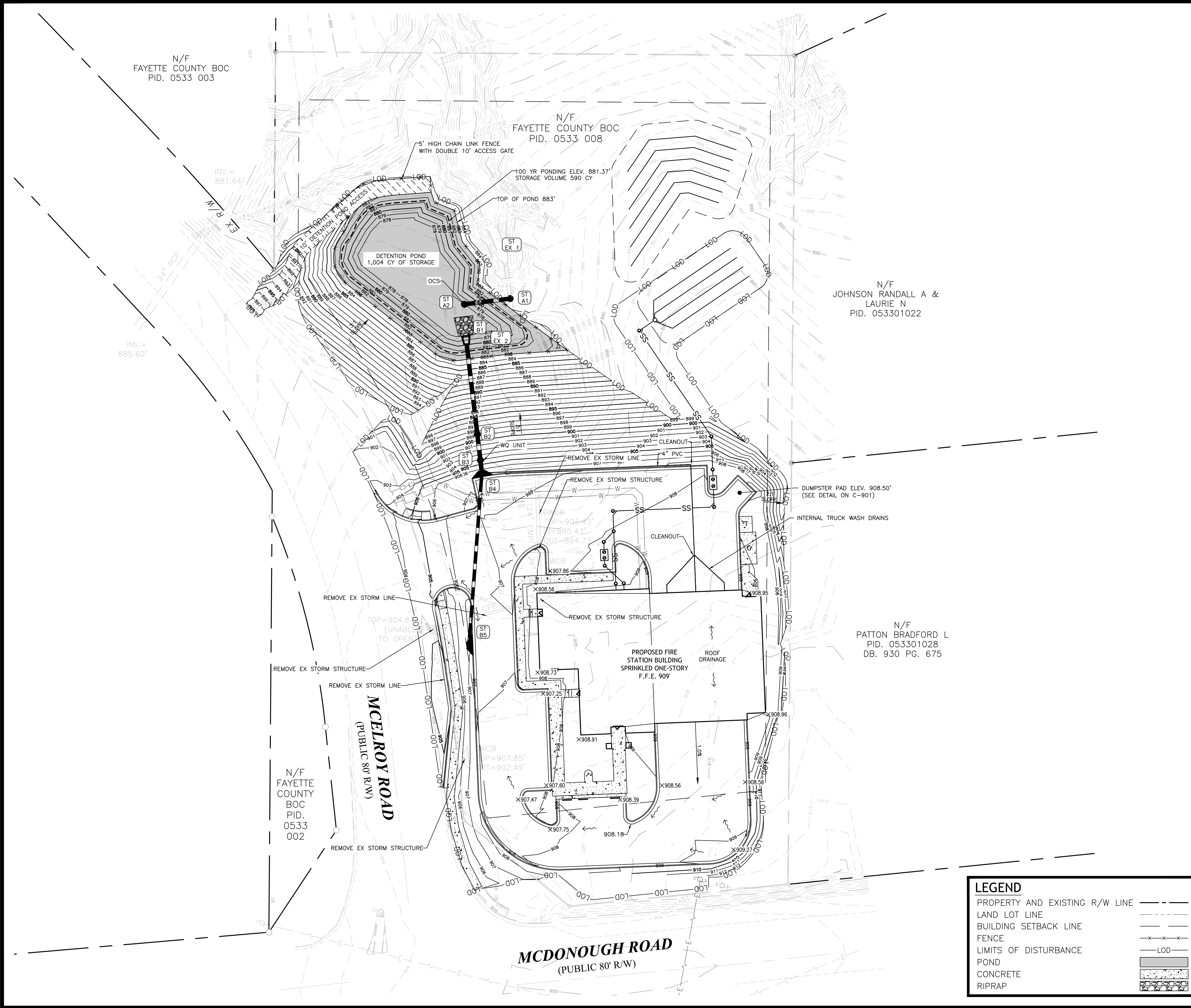


SHEET TITLE  
UTILITY PLAN

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=30'	ISSUE DATE 04/30/2018

PROJECT NUMBER  
1788.000  
DRAWING NUMBER  
**C-300**  
SHEET 4 of 22





GRADING AND PAVING NOTES

1. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. AREAS TO BE GRADED ARE TO BE STRIPPED, CLEARED AND GRUBBED PRIOR TO COMMENCING GRADING OPERATIONS. TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER AS TO NOT CONTAMINATE STRUCTURAL FILL.
3. NO SOIL FOUND ON THE SITE OR TRANSPORTED TO THE SITE WHICH IS CONTAMINATED SHALL BE USED FOR FILL, BACKFILL OR LANDSCAPING TOPSOIL.
4. ONCE DESIGNATED AREAS ARE STRIPPED, AT GRADE AREAS AND AREAS THAT ARE TO RECEIVE FILL SHALL BE PROOFROLLED WITH A HEAVILY LOADED DUMP TRUCK OR OTHER RUBBER-TIRED CONSTRUCTION EQUIPMENT. ANY MATERIAL THAT DEFLECTS EXCESSIVELY, WHICH CANNOT BE DENSIFIED BY CONTINUED ROLLING SHOULD BE UNDERCUT TO A MORE STABLE SOIL BEFORE PLACING FILL MATERIAL.
5. ALL FILL MATERIAL SHOULD BE PLACED IN THIN, HORIZONTAL LIFTS (MAXIMUM 8-INCH) AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698). THE UPPER 12 INCHES OF SOIL BENEATH PAVEMENTS AND SLABS-ON-GRADE SHOULD BE COMPACTED TO AT LEAST 98 PERCENT. IN CONFINED AREAS, SUCH AS UTILITY TRENCHES OR BEHIND RETAINING WALLS, PORTABLE EQUIPMENT AND THINNER FILL LIFTS (3 TO 4 INCHES) MAY BE NECESSARY. FILL MATERIAL USED IN STRUCTURAL AREAS SHOULD HAVE A TARGET MAXIMUM DRY DENSITY OF 95 pcf, OR GREATER. IF LIGHTER WEIGHT FILL MATERIALS ARE USED, A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED.
6. MAXIMUM PROPOSED CUT AND FILL SLOPES SHALL BE 2' HORIZONTAL: 1' VERTICAL.
7. ALL CATCH BASINS, DROP INLETS OR OTHER DRAINAGE STRUCTURES SHALL COMPLY WITH THE LATEST STANDARDS APPROVED AND PROMULGATED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION IN STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES, LATEST EDITION.
8. CONCRETE PIPE: FLAT BOTTOM AND CIRCULAR PIPE SECTIONS SHALL BE LAID IN A PREPARED TRENCH WITH SOCKET ENDS POINTING UPSTREAM. SECTIONS MAY BE JOINED BY BITUMINOUS PLASTIC CEMENT JOINTS, RUBBER TYPE GASKET JOINTS, "O" RING GASKET JOINTS, OR PRE-FORMED PLASTIC GASKET JOINTS. IN BITUMINOUS PLASTIC CEMENT JOINTS, THE ANNULAR SPACE SHALL BE FILLED WITH JOINT MATERIAL, AND THE INSIDE OF EACH JOINT WIPED SMOOTH. RUBBER-TYPE, "O" RING, AND PRE-FORMED PLASTIC GASKET JOINTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
9. TRENCH CONSTRUCTION FOR STORM DRAINAGE PIPE SHALL BE IN ACCORDANCE WITH STATE HIGHWAY STANDARD 1030D (OR MOST CURRENT).
10. THE DEPARTMENT OF TRANSPORTATION, STATE OF GEORGIA STANDARD PIPE CULVERTS NUMBER 1030D, LATEST EDITION SHALL BE USED IN DETERMINING THE CLASS OF REINFORCED CONCRETE PIPE OR GAUGE OF CORRUGATED STEEL PIPE OR TYPE 2 CORRUGATED ALUMINUM PIPE UNDER FILL AND THE METHOD OF BACKFILLING.
11. CONTRACTOR TO ENSURE POSITIVE DRAINAGE AWAY FROM BUILDING.
12. ALL SIDEWALK CROSS SLOPES ARE 2.00% AWAY FROM THE BUILDING.

EARTHWORK DATA

THE FOLLOWING EARTHWORK QUANTITY IS FOR PERMITTING PURPOSES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY HIS OWN QUANTITIES. THESE QUANTITIES SHALL NOT BE USED FOR BIDDING PURPOSES.

CUT: 3,308 CUBIC YARDS  
FILL: 10,353 CUBIC YARDS  
NET: 7,045 CUBIC YARDS OF FILL

FEMA STATEMENT

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13113C0108E AND THE DATE OF SAID MAP IS SEPTEMBER 26, 2008.

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414

LEGEND

- PROPERTY AND EXISTING R/W LINE
- LAND LOT LINE
- BUILDING SETBACK LINE
- FENCE
- LIMITS OF DISTURBANCE
- POND
- CONCRETE
- RIPRAP



SCALE IN FEET

Engineers  
Planners  
Surveyors

**CROY**  
ENGINEERING

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407  
FAX: (770) 971-0620

FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

1ST SUBMITTAL FOR PERMITTING

NO.	REVISION REFERENCE	DATE
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SEAL



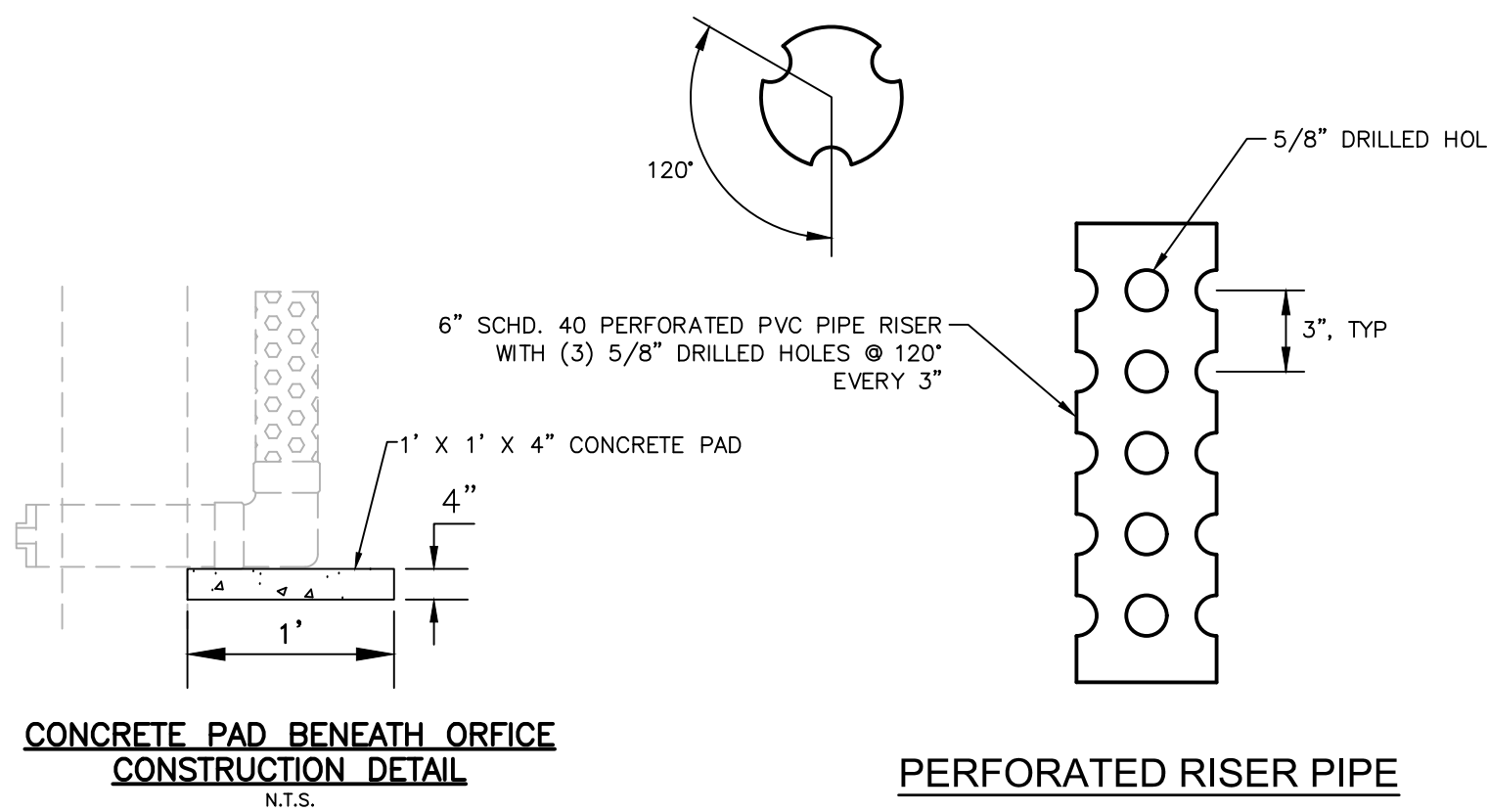
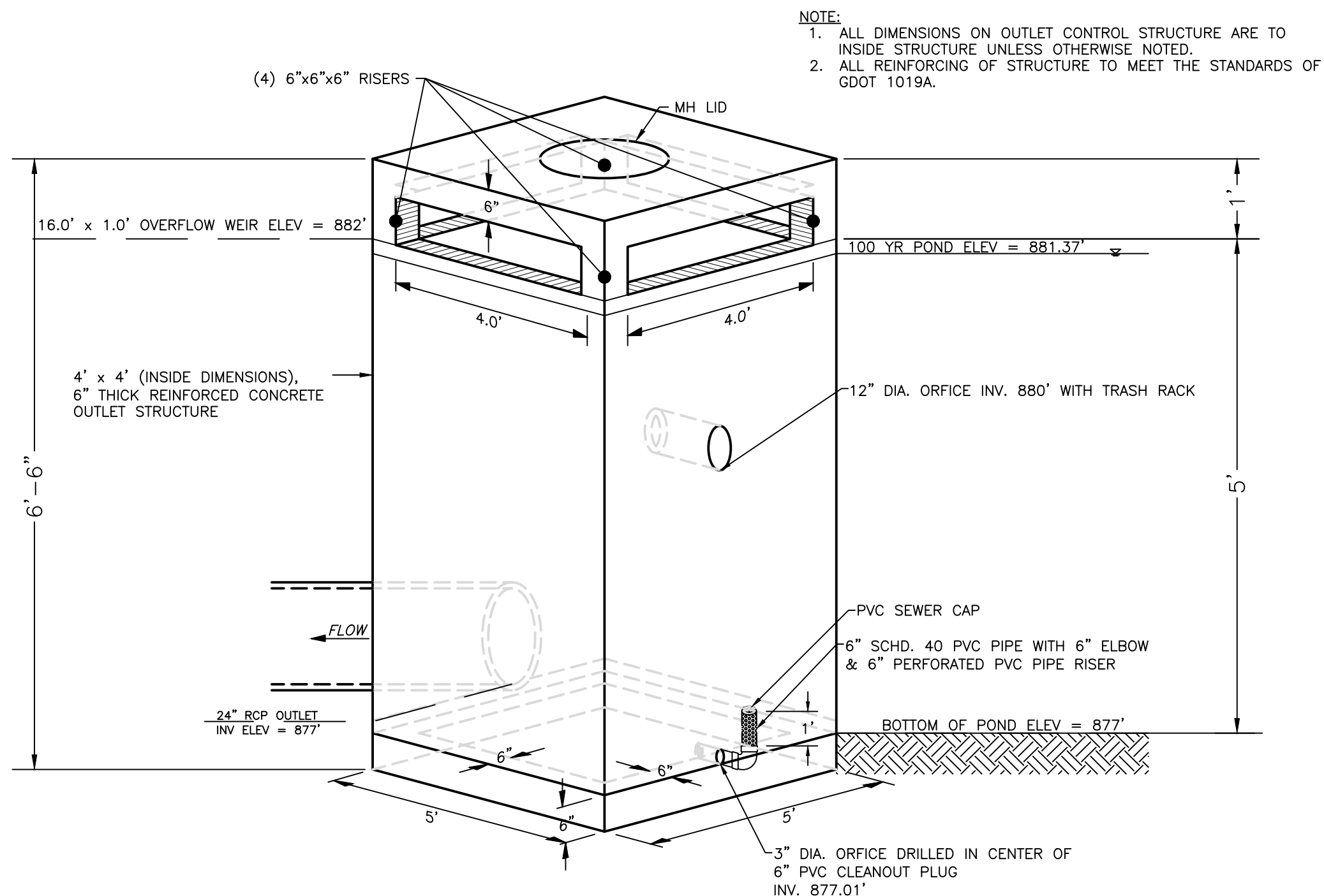
SHEET TITLE  
GRADING AND  
DRAINAGE PLAN

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=30'	ISSUE DATE 04/30/2018

PROJECT NUMBER  
1788.000

DRAWING NUMBER  
**C-400**  
SHEET 5 of 22





**BUOYANCY CALCULATIONS**

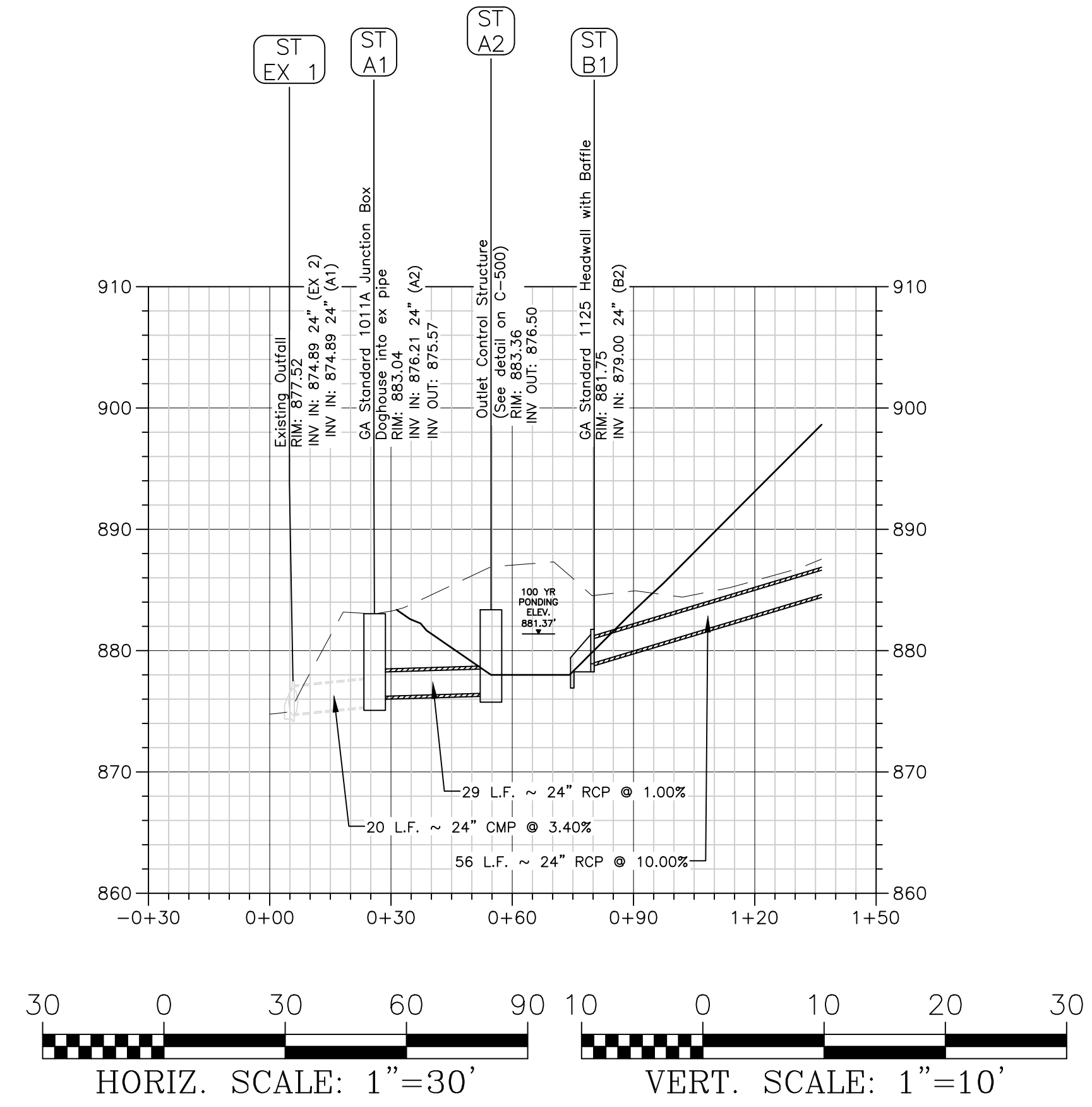
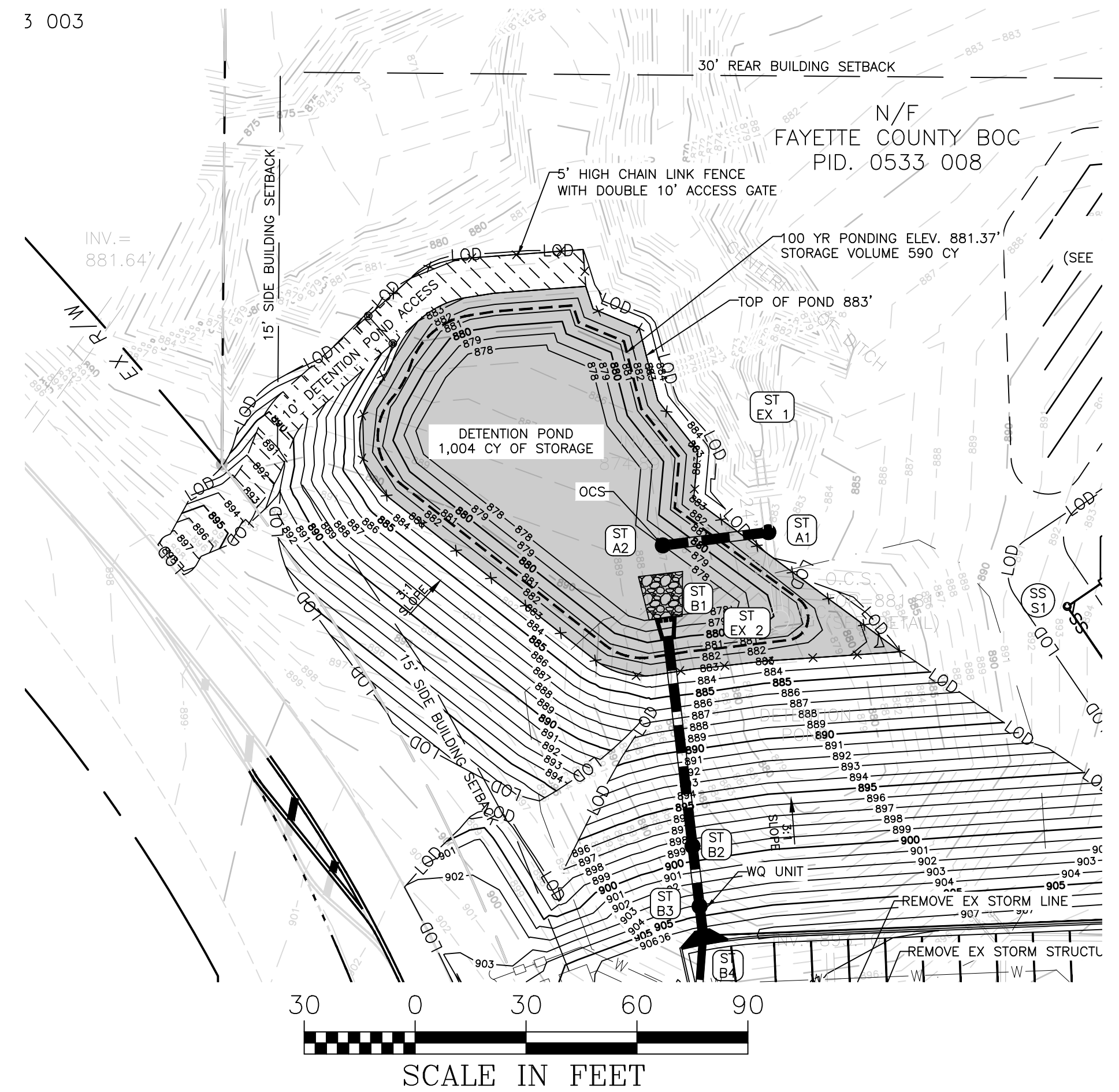
VOLUME OF STRUCTURE ABOVE GROUND  
 $883' - 877' = 6'$   
 $6' \times 5' \times 5' = 150 \text{ CF}$

BOUYANCY OF WATER  
 $62.4 \text{ LB/CF} \times (150 \text{ CF}) = 9,360 \text{ LB}$

VOLUME OF CONCRETE minus orifices  
 $882' - 877' = 5'$   
 $[5' \times 5' \times 5'] - [5' \times 4' \times 4'] = 45 \text{ CF}$   
 $45 \text{ CF} + [5' \times 5' \times .5' \times 2] + [1' \times .5' \times .5' \times 4] = 71 \text{ CF}$   
 $71 \text{ CF} - [ \pi \times (.5')^2 \times .5' ] = 70.61 \text{ CF}$   
 $70.61 \text{ CF} - [ \pi \times (1.25')^2 \times .5' ] = 70.59 \text{ CF}$   
 $70.59 \text{ CF} - [ \pi \times (1')^2 \times .5' ] = 69.02 \text{ CF}$

WEIGHT OF STRUCTURE  
 $69.02 \text{ CF} \times 150 \text{ LB/CF} = 10,353 \text{ LB}$

WEIGHT OF CONCRETE SLUMP REQUIRED  
 $6,240 \text{ LB} < 10,353 \text{ LB}$  THEREFORE STRUCTURE NOT BOUYANT



GRADING AND PAVING NOTES

1. EROSION AND SEDIMENT CONTROL DEVICES MUST BE INSTALLED AND INSPECTED PRIOR TO ANY LAND DISTURBING ACTIVITIES.
2. AREAS TO BE GRADED ARE TO BE STRIPPED, CLEARED AND GRUBBED PRIOR TO COMMENCING GRADING OPERATIONS. TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER AS TO NOT CONTAMINATE STRUCTURAL FILL.
3. NO SOIL FOUND ON THE SITE OR TRANSPORTED TO THE SITE WHICH IS CONTAMINATED SHALL BE USED FOR FILL, BACKFILL OR LANDSCAPING TOPSOIL.
4. ONCE DESIGNATED AREAS ARE STRIPPED, AT GRADE AREAS AND AREAS THAT ARE TO RECEIVE FILL SHALL BE PROOFROLLED WITH A HEAVILY LOADED DUMP TRUCK OR OTHER RUBBER-TIRED CONSTRUCTION EQUIPMENT. ANY MATERIAL THAT DEFLECTS EXCESSIVELY, WHICH CANNOT BE DENSIFIED BY CONTINUED ROLLING SHOULD BE UNDERCUT TO A MORE STABLE SOIL BEFORE PLACING FILL MATERIAL.
5. ALL FILL MATERIAL SHOULD BE PLACED IN THIN, HORIZONTAL LIFTS (MAXIMUM 8-INCH) AND COMPACTED TO AT LEAST 95 PERCENT OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D 698). THE UPPER 12 INCHES OF SOIL BENEATH PAVEMENTS AND SLABS-ON-GRADE SHOULD BE COMPACTED TO AT LEAST 98 PERCENT. IN CONFINED AREAS, SUCH AS UTILITY TRENCHES OR BEHIND RETAINING WALLS, PORTABLE EQUIPMENT AND THINNER FILL LIFTS (3 TO 4 INCHES) MAY BE NECESSARY. FILL MATERIAL USED IN STRUCTURAL AREAS SHOULD HAVE A TARGET MAXIMUM DRY DENSITY OF 95 pcf, OR GREATER. IF LIGHTER WEIGHT FILL MATERIALS ARE USED, A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED.
6. MAXIMUM PROPOSED CUT AND FILL SLOPES SHALL BE 2' HORIZONTAL: 1' VERTICAL.
7. ALL CATCH BASINS, DROP INLETS OR OTHER DRAINAGE STRUCTURES SHALL COMPLY WITH THE LATEST STANDARDS APPROVED AND PROMULGATED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION IN STANDARD SPECIFICATIONS FOR CONSTRUCTION OF ROADS AND BRIDGES, LATEST EDITION.
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**LEGEND**

PROPERTY AND EXISTING R/W LINE	---
LAND LOT LINE	----
PARKING SPACE COUNT	①
BUILDING SETBACK LINE	---
FENCE	xxx
LIMITS OF DISTURBANCE	---
POND	---
RIPRAP	---

**FEMA STATEMENT**

THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13113C0108E AND THE DATE OF SAID MAP IS SEPTEMBER 26, 2008.
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**24 HOUR CONTACT:**  
DAVID SCARBROUGH  
TEL: 770-305-5414

**SEAL**

**GEORGIA 811**  
UTILITIES PROTECTION CENTER, INC.

**SEAL**

**REGISTERED PROFESSIONAL ENGINEER**  
CARL CARL

**SHEET TITLE**  
DETENTION POND  
PLAN, PROFILE &  
DETAILS

DRAWN BY SMM	CHECKED BY LCC
SCALE SEE SHEET	ISSUE DATE 04/30/2018
PROJECT NUMBER 1788.000	
DRAWING NUMBER C-500	

SHEET 6 of 22

**Engineers  
Planners  
Surveyors**

**CROY  
ENGINEERING**

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620

**FIRE STATION NO. 4**

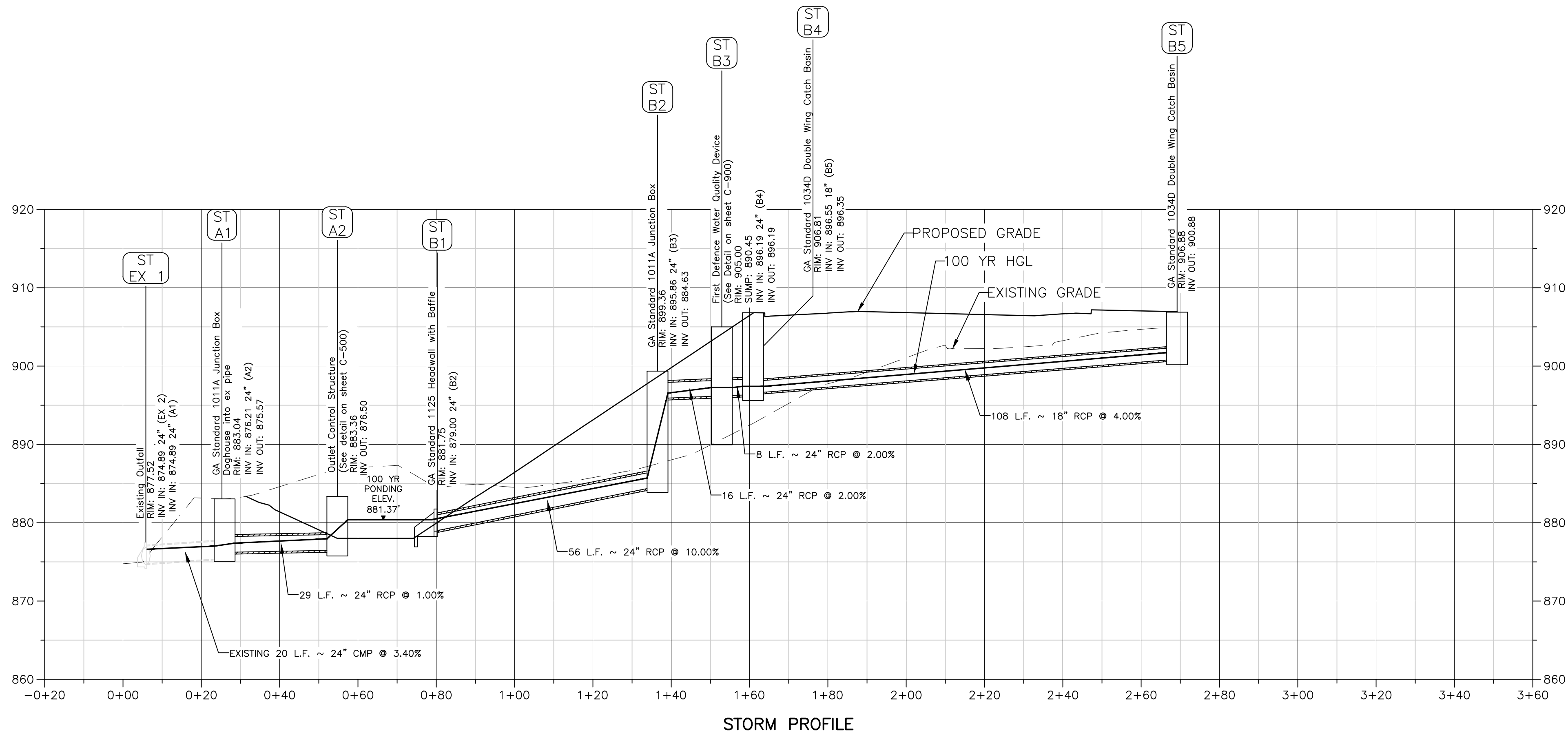
**DESIGN PHASE**

**LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA**

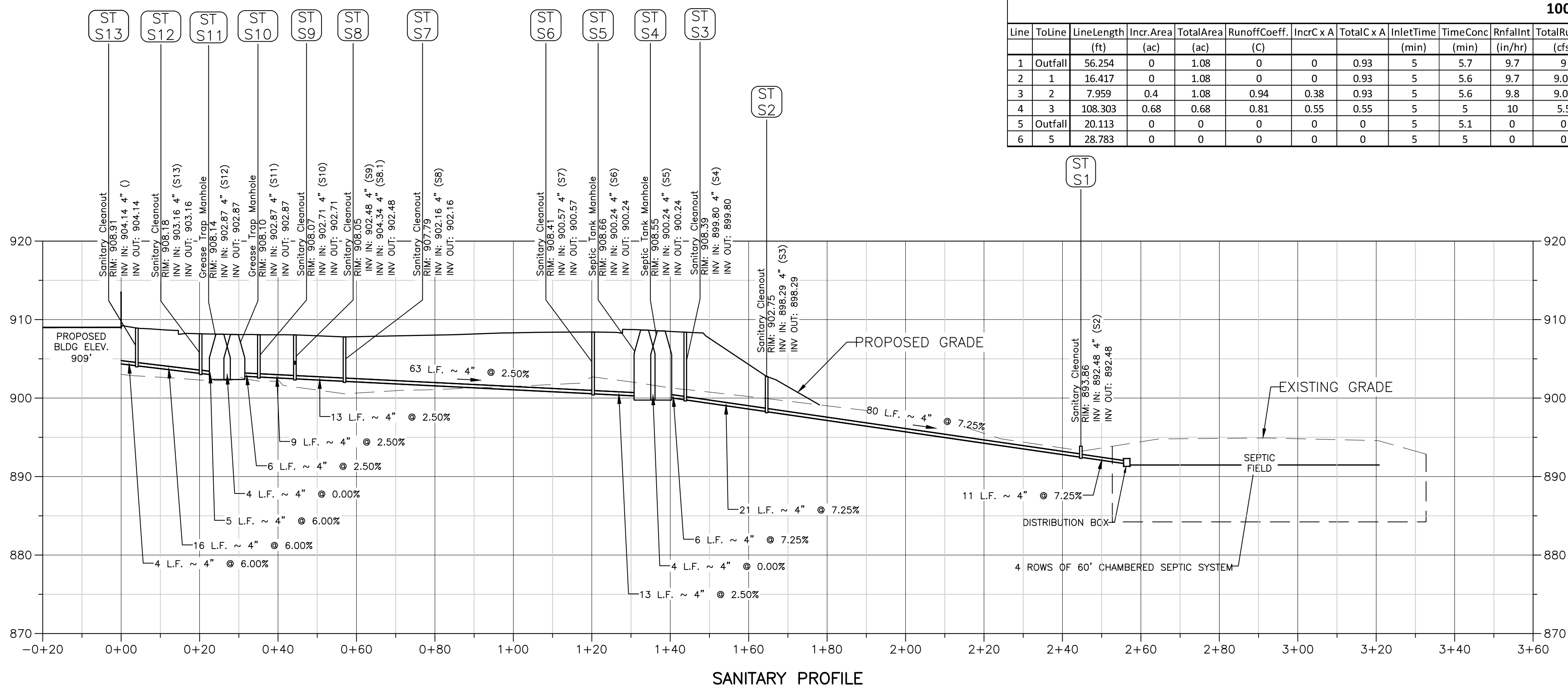
**1ST SUBMITTAL FOR PERMITTING**

Drawing Location: P:\1788 K.A. Odham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000\_Design.dwg





STORM PROFILE



SANITARY PROFILE

100 YEAR PIPE CHART																			
Line	ToLine	LineLength (ft)	Incr.Area (ac)	TotalArea (ac)	RunoffCoeff. (C)	IncrCx A	TotalCx A	InletTime (min)	TimeConc (min)	RfallInt (in/hr)	TotalRunoff (cfs)	AdnlFlow (cfs)	TotalFlow (cfs)	CapacFull (cfs)	Veloc (ft/s)	PipeSize (in)	PipeSlope (%)	Inv ElevDn (ft)	Inv ElevUp (ft)
1	Outfall	56.254	0	1.08	0	0	0.93	5	5.7	9.7	9	0	9	77.52	4.37	24	10.01	879	884.63
2	1	16.417	0	1.08	0	0	0.93	5	5.6	9.7	9.03	0	9.03	34.74	7.28	24	2.01	895.86	896.19
3	2	7.959	0.4	1.08	0.94	0.38	0.93	5	5.6	9.8	9.05	0	9.05	34.74	5.27	24	2.01	896.19	896.35
4	3	108.303	0.68	0.68	0.81	0.55	0.55	5	5	10	5.5	0	5.5	22.75	5.05	18	4	896.55	900.88
5	Outfall	20.113	0	0	0	0	0	5	5.1	0	0	0	0	16	45.05	6.08	24	3.38	874.89
6	5	28.783	0	0	0	0	0	5	5	0	0	16	16	24.59	7.47	24	1.01	876.21	876.5
																		877.39	877.94
																		883.04	883.36
																		899.36	905
																		906.81	906.88
																		883.04	883.36

LEGEND

EXISTING GRADE

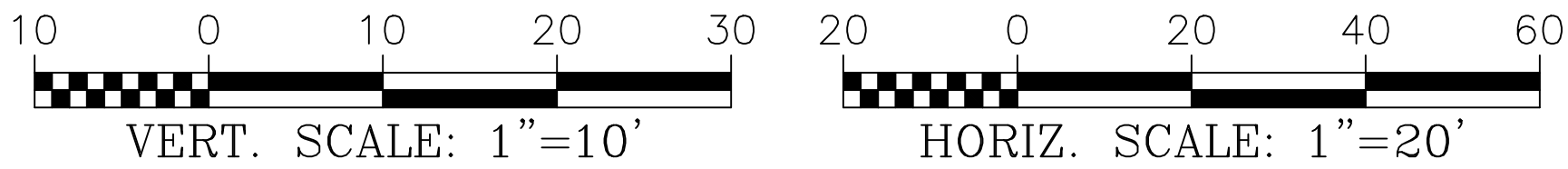
PROPOSED GRADE

100 YEAR HGL

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24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414

FIRE STATION NO. 4

DESIGN PHASE  
LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

1ST SUBMITTAL FOR PERMITTING



SHEET TITLE  
PROFILES

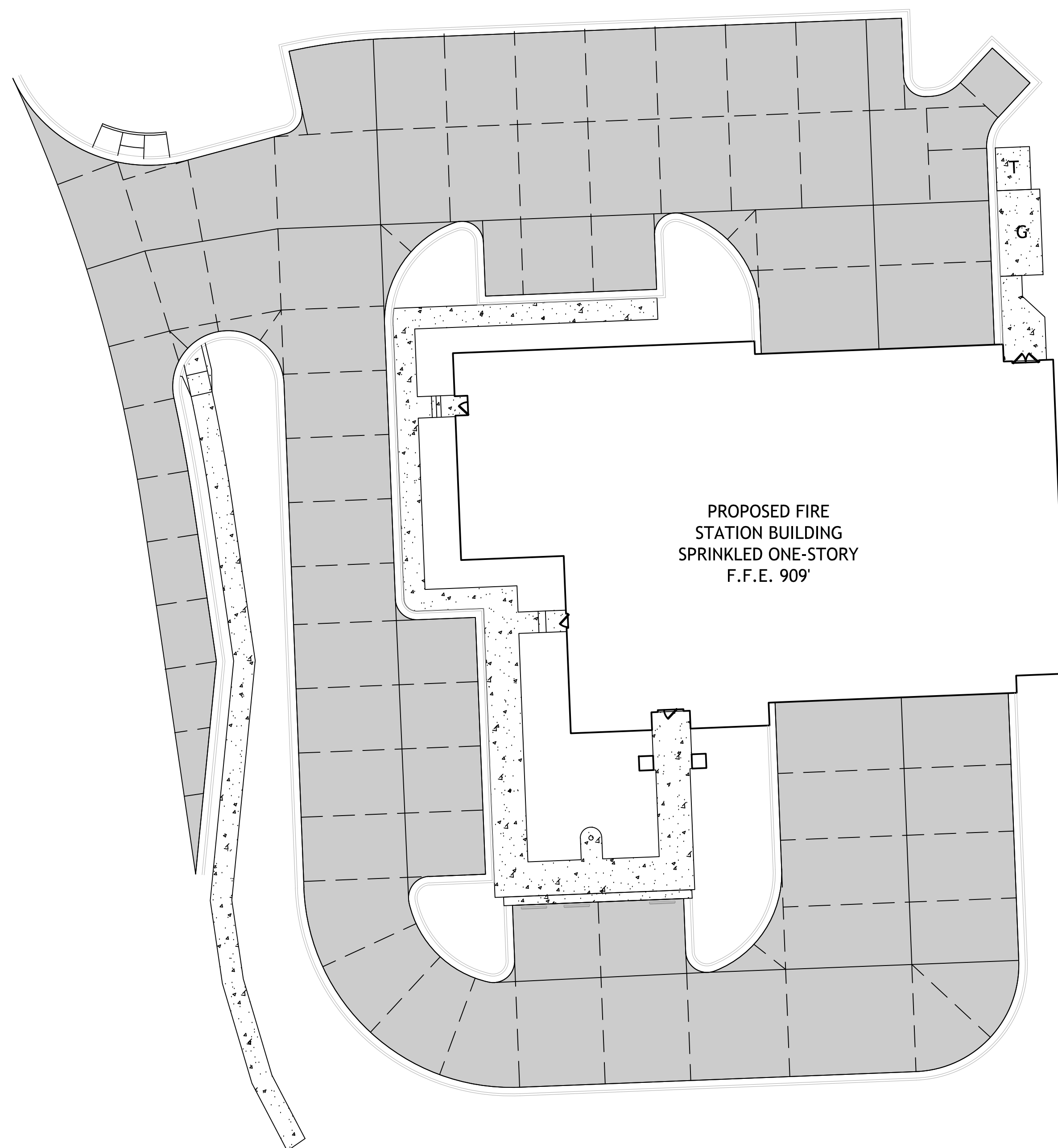
DRAWN BY SMM	CHECKED BY LCC
SCALE SEE SHEET	ISSUE DATE 04/30/2018
PROJECT NUMBER 1788.000	
DRAWING NUMBER C-600	

SHEET 7 of 22

CROY  
ENGINEERING

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620





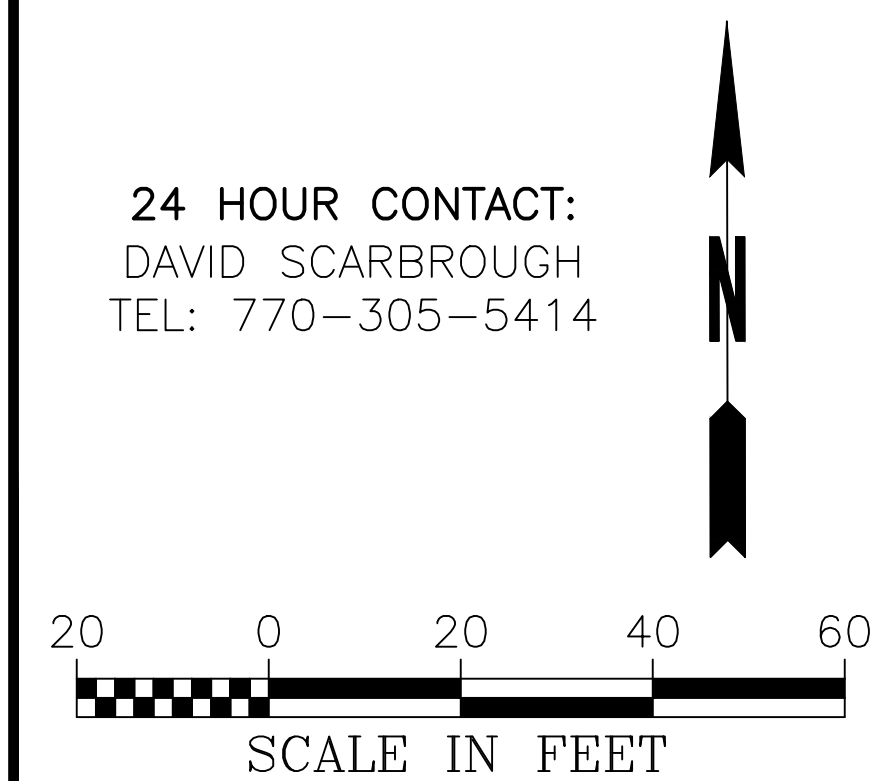
## LEGEND

PROPERTY AND EXISTING R/W LINE  
LAND LOT LINE  
CONCRETE  
CONCRETE PAVING  
CONTRACTION JOINT  
EXPANSION JOINT

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



**24 HOUR CONTACT:**  
DAVID SCARBROUGH  
TEL: 770-305-5414



## FIRE STATION NO. 4

DESIGN PHASE  
LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

[illegible]

SEAL



SHEET TITLE  
CONCRETE JOINT  
LAYOUT

DRAWN BY <b>SMM</b>	CHECKED BY <b>LCC</b>
SCALE <b>1"=20'</b>	ISSUE DATE <b>04/30/2018</b>

PROJECT NUMBER

1788.000

DRAWING NUMBER

**C-700**  
SHEET 8 of 22

**CROY**  
**ENGINEERING**

Engineers  
Planners  
Surveyors

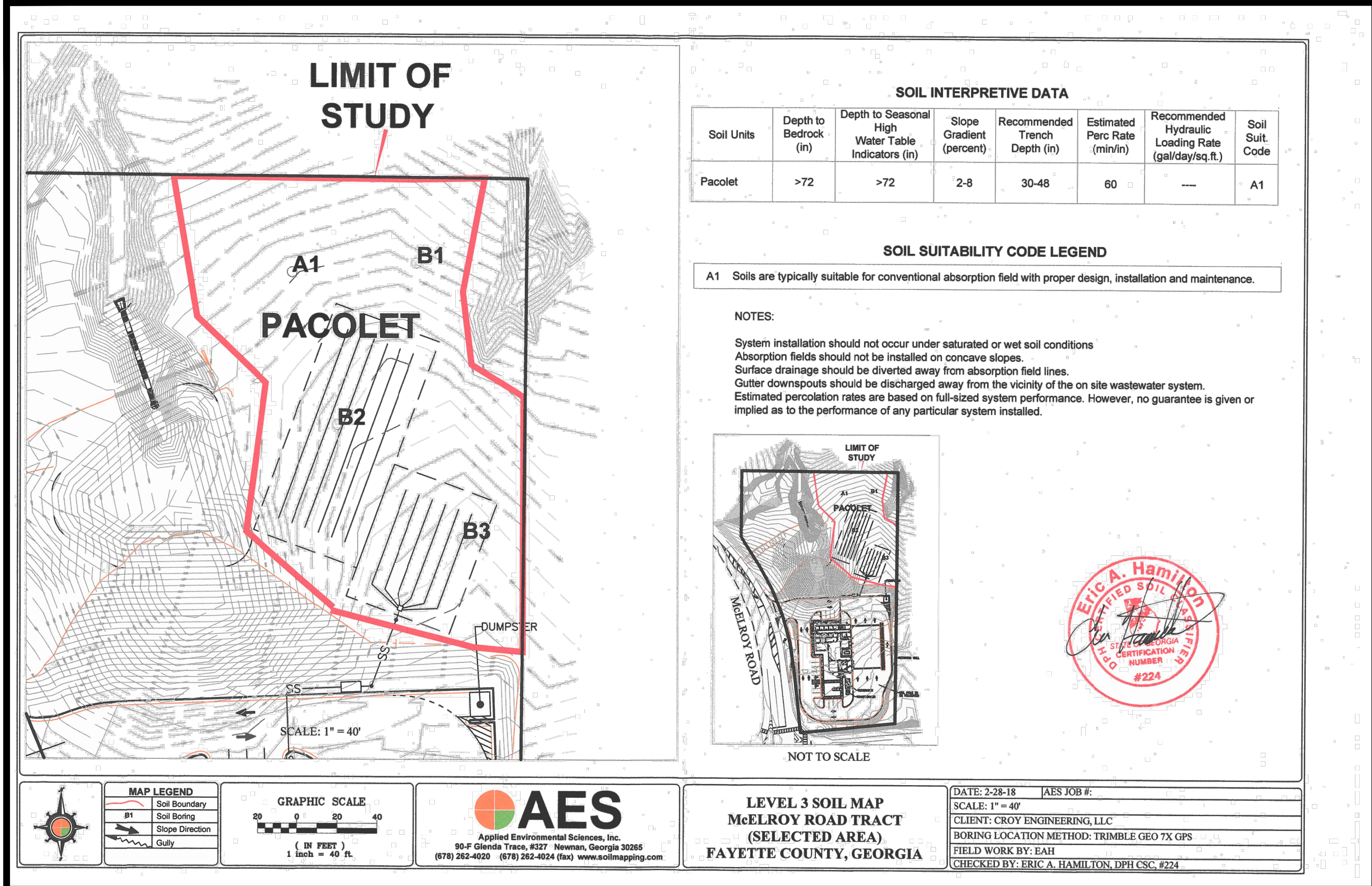
200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620

THESE PLANS AND DRAWINGS ARE NOT TO BE REPRODUCED, CHANGED OR COPIED IN ANY FORM OR MANNER WHATSOEVER WITHOUT FIRST OBTAINING THE EXPRESS WRITTEN PERMISSION AND CONSENT OF CH2M HILL ENGINEERING, LLC. NOR ARE THEY TO BE ASSIGNED TO ANY PARTY WITHOUT WRITTEN PERMISSION AND CONSENT.

Plot Scale: 1" = 20'; Drawing Rotation: 0.0°; Plot Style: Design.ctb; Plotted By: Scott McNally on 5/1/2018, 8:28 AM

Plot Scale: 1" = 20'. Drawing Rotation: 0.0°. Plot Style: Design.ctb. Plotted By: Scott McNally on 5/1/2018. 8:28 AM





**CALCULATIONS**

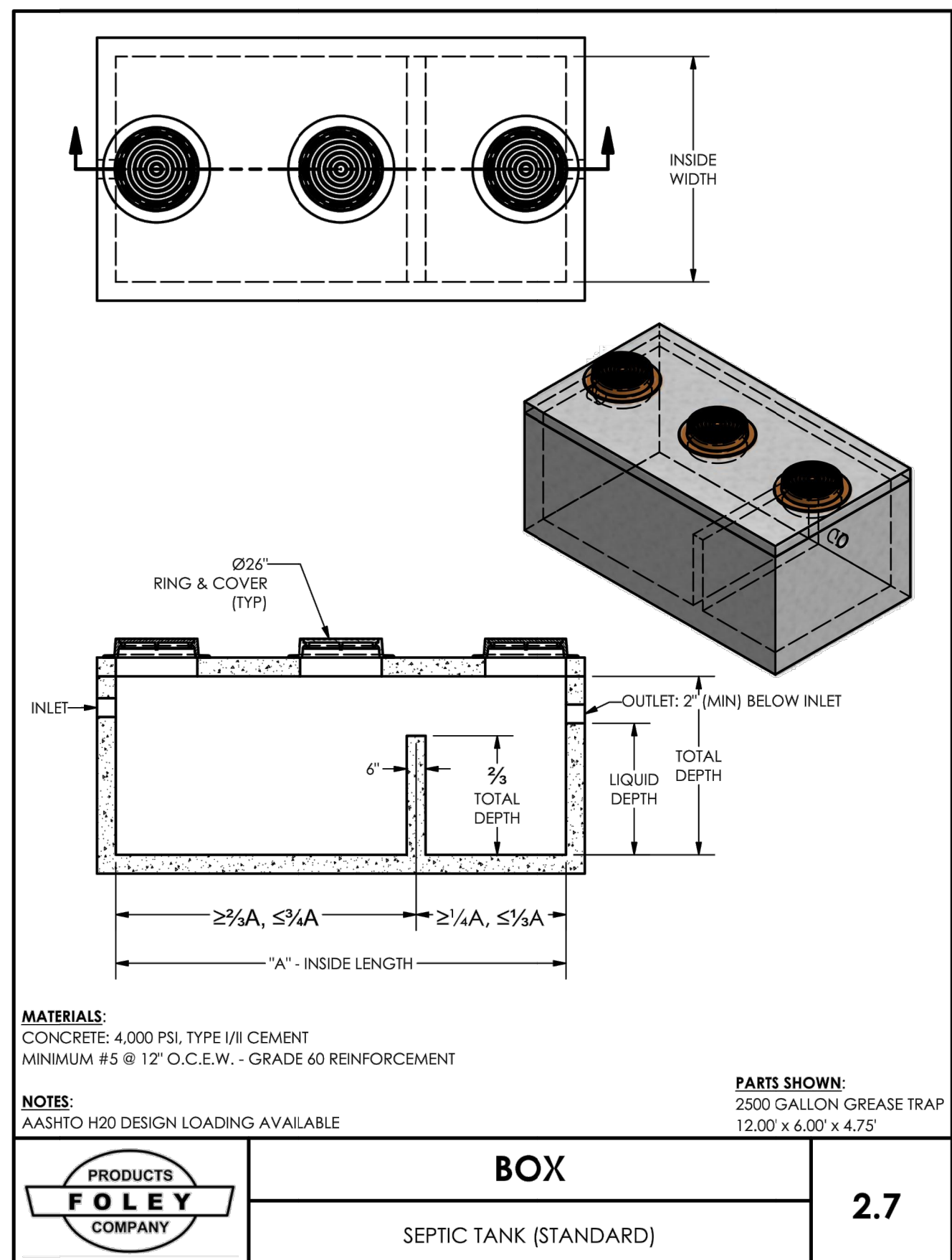
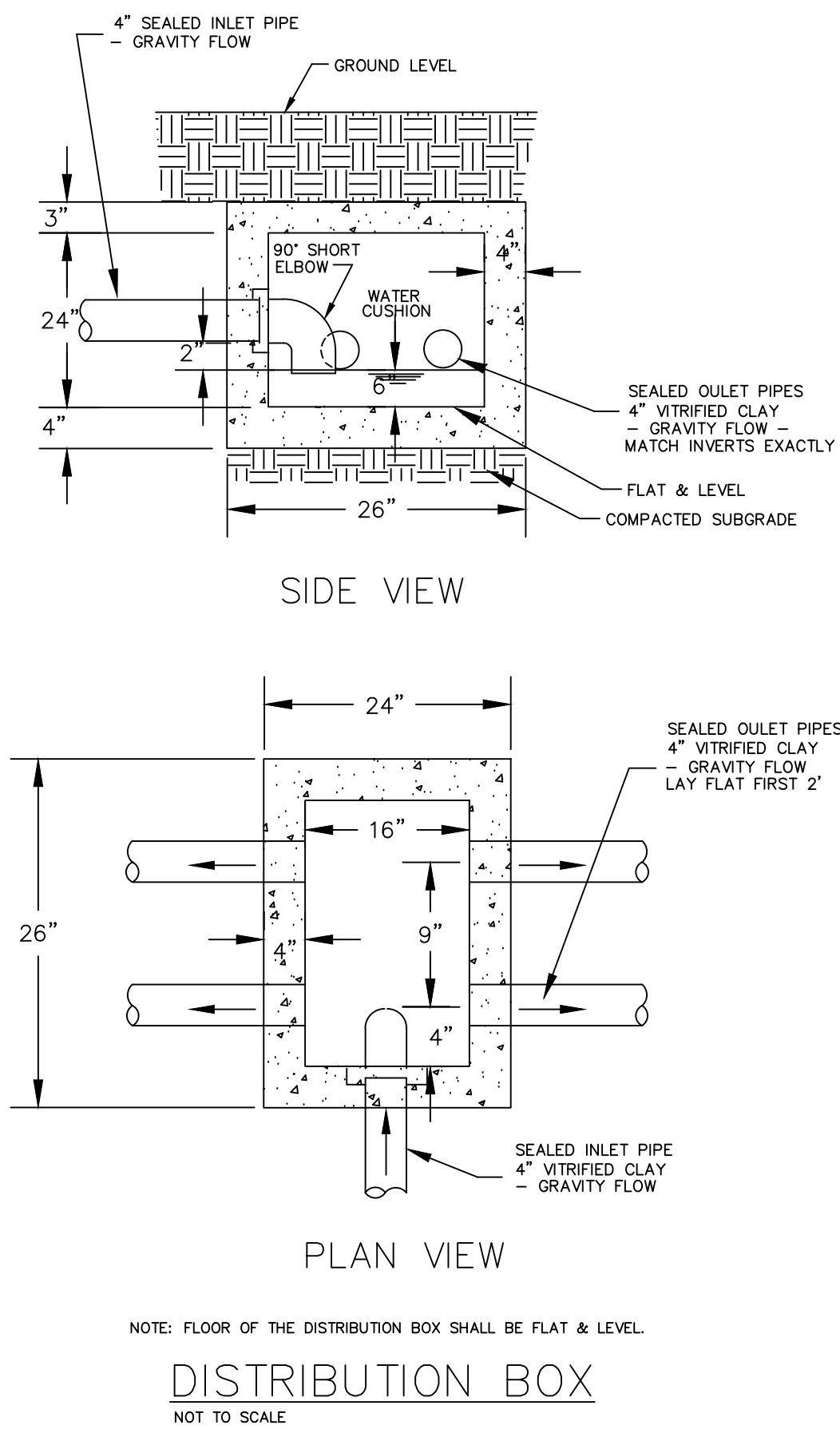
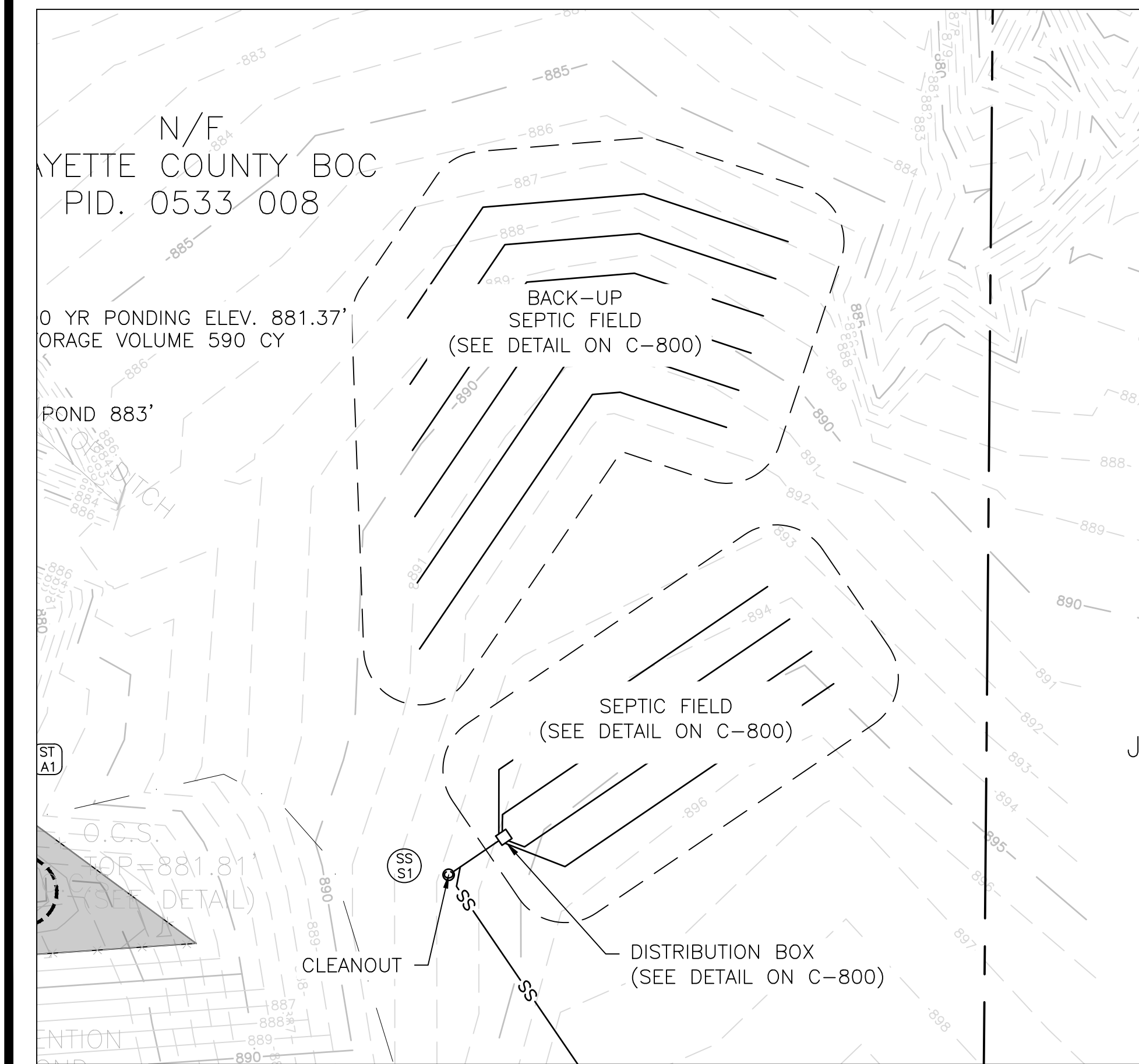
This project is located at the Northeast corner of McDonough Rd and McElroy Rd, in Land Lot 139 of the 5th District

**Fire Station No. 4**

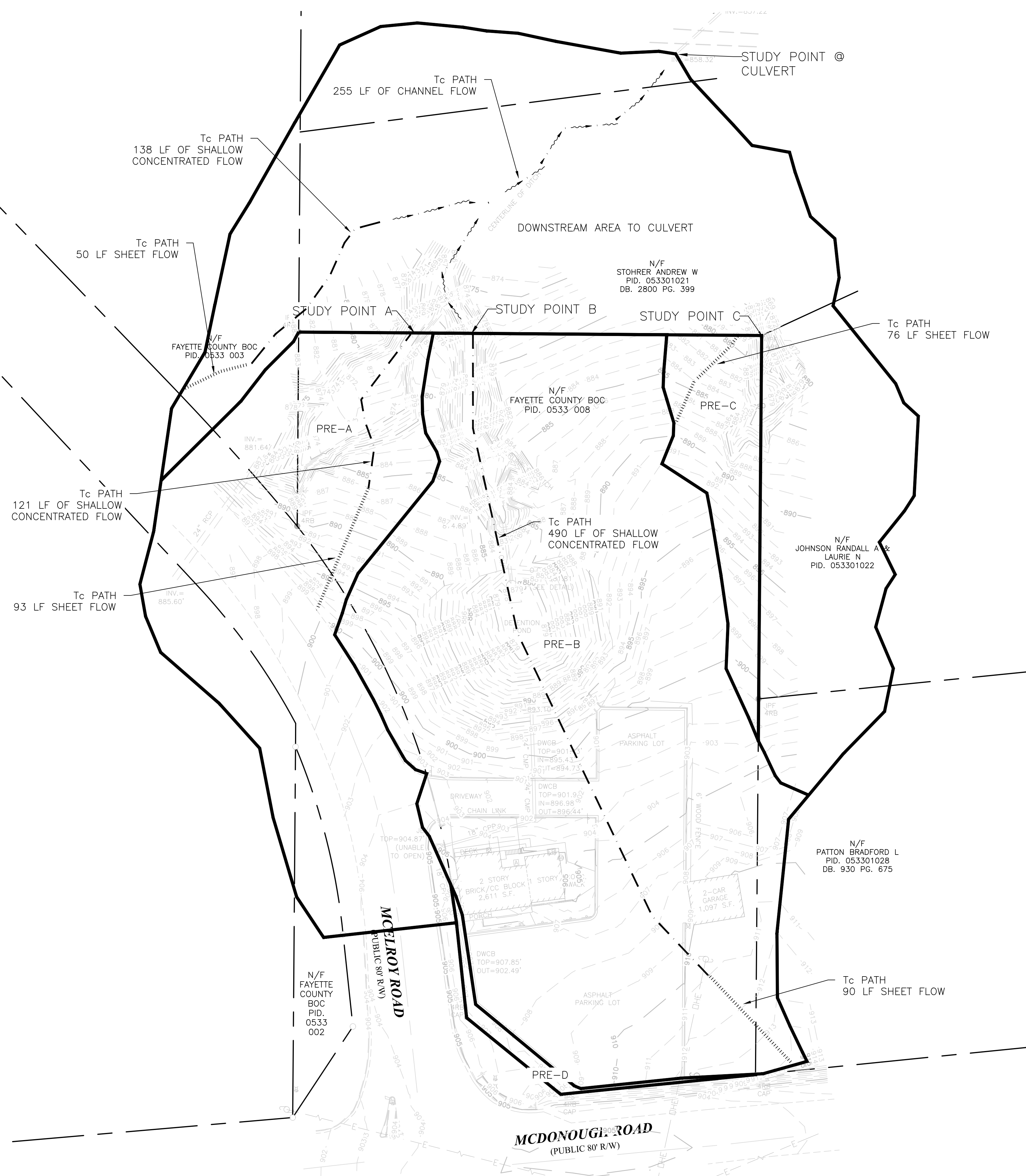
- Flow and Absorption Field
  - Sewerage Flow Rate: 35 gpd/person  
(Table JT-1: Workers Including Factory, Office, School, Commercial and Construction with showers and no Industrial Waste)  
With Kitchen Add +5 gpd/person  
Washing Machine +500 gpd/daily
  - Use approximately: 10 people daily
  - Sewage Flow: (40)(10) + (500) = 900 gpd
  - Length of Line  
Using Fayetteville County Minimum Percolation Rate of 60 minutes per inch from table DT-1 the factor is 1.549 sq.ft./gal assuming a trench width of three (3) feet.  
The total length of line is L = (1.549)(Flow gpd)/3
  - L = (1.549)(900)/3  
L = 464.7 L.F.  
Use L = 480 L.F. for conventional System
  - According to the Department of Public Health's Manual for On-Site Sewage Management System a 50% reduction in the absorption trench length for Non-Conventional On-Site Sewage Management Systems. Therefore, use the L = 240 L.F. for 4 rows of 60 foot long chambered system. Use L = 480 L.F. for 6 rows of 80 foot long for the conventional back up septic field system.

- Septic Tank  
The design of the septic tank shall be based on a capacity equal to a 24 hour retention, but not less than 750 gallon minimum.

Based on a daily flow rate of 900 gpd, we recommend using a 1,500 gallon septic tank.















DRAINAGE BASIN SUMMARY			
BASIN A:	1.20 AC	CN =	69
BASIN B POND:	1.97 AC	CN =	77
BASIN B BYPASS:	0.69 AC	CN =	55
BASIN C:	0.25 AC	CN =	55
BASIN D:	0.06 AC	CN =	61
DS BASIN TO CULVERT:	2.50 AC	CN =	55
TOTAL:	6.67 AC		


**LEGEND**

PROPERTY AND EXISTING R/W LINE ———


SHEET FLOW ———

SHALLOW CONCENTRATED FLOW - - - - -

OPEN CHANNEL FLOW - . - . - .



24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414



SCALE IN FEET

Engineers  
Planners  
Surveyors

**CROY**  
ENGINEERING

200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620

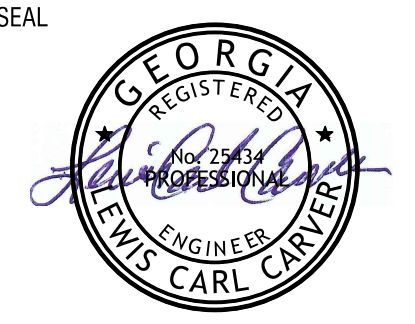
FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

NO.	REVISION	REFERENCE	DATE

SEAL



SHEET TITLE

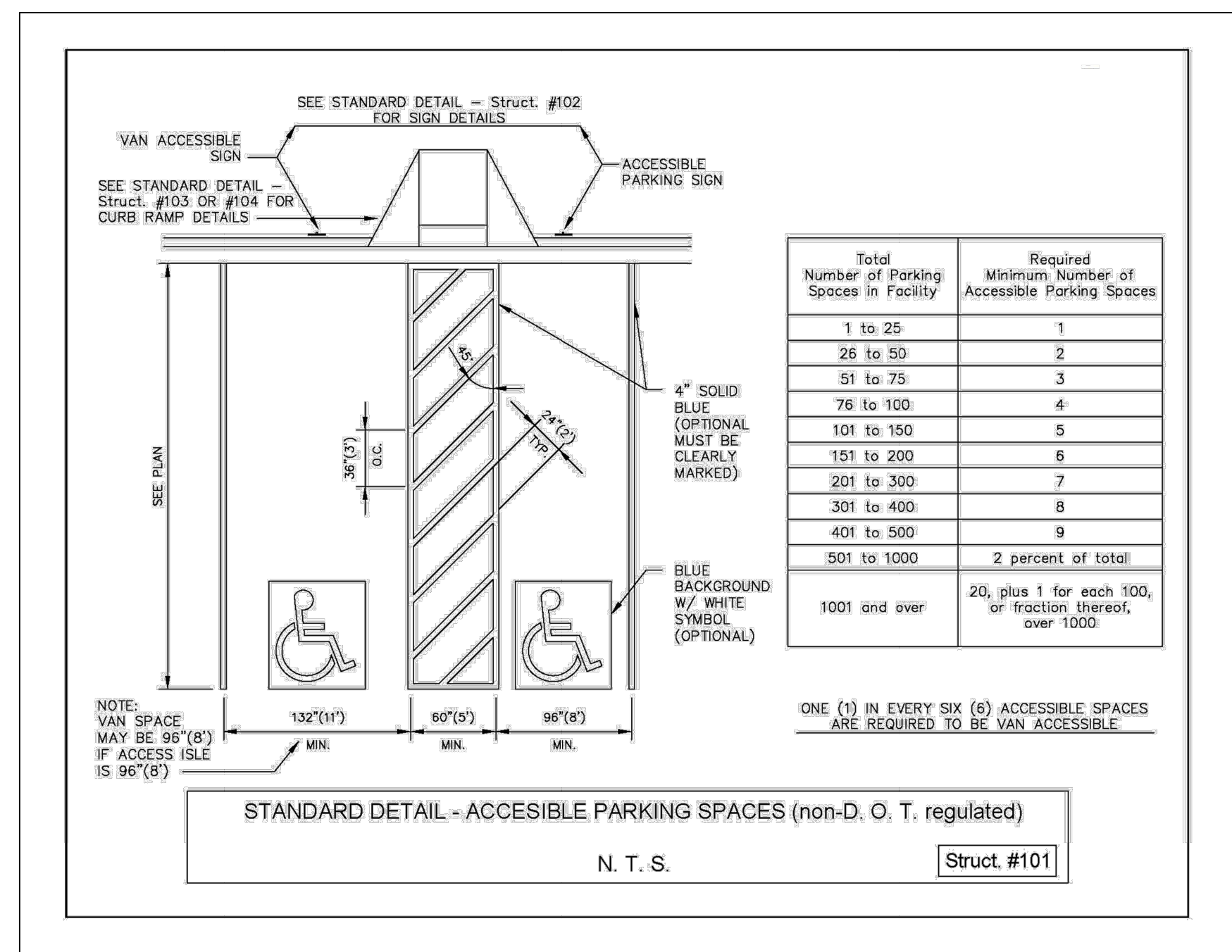
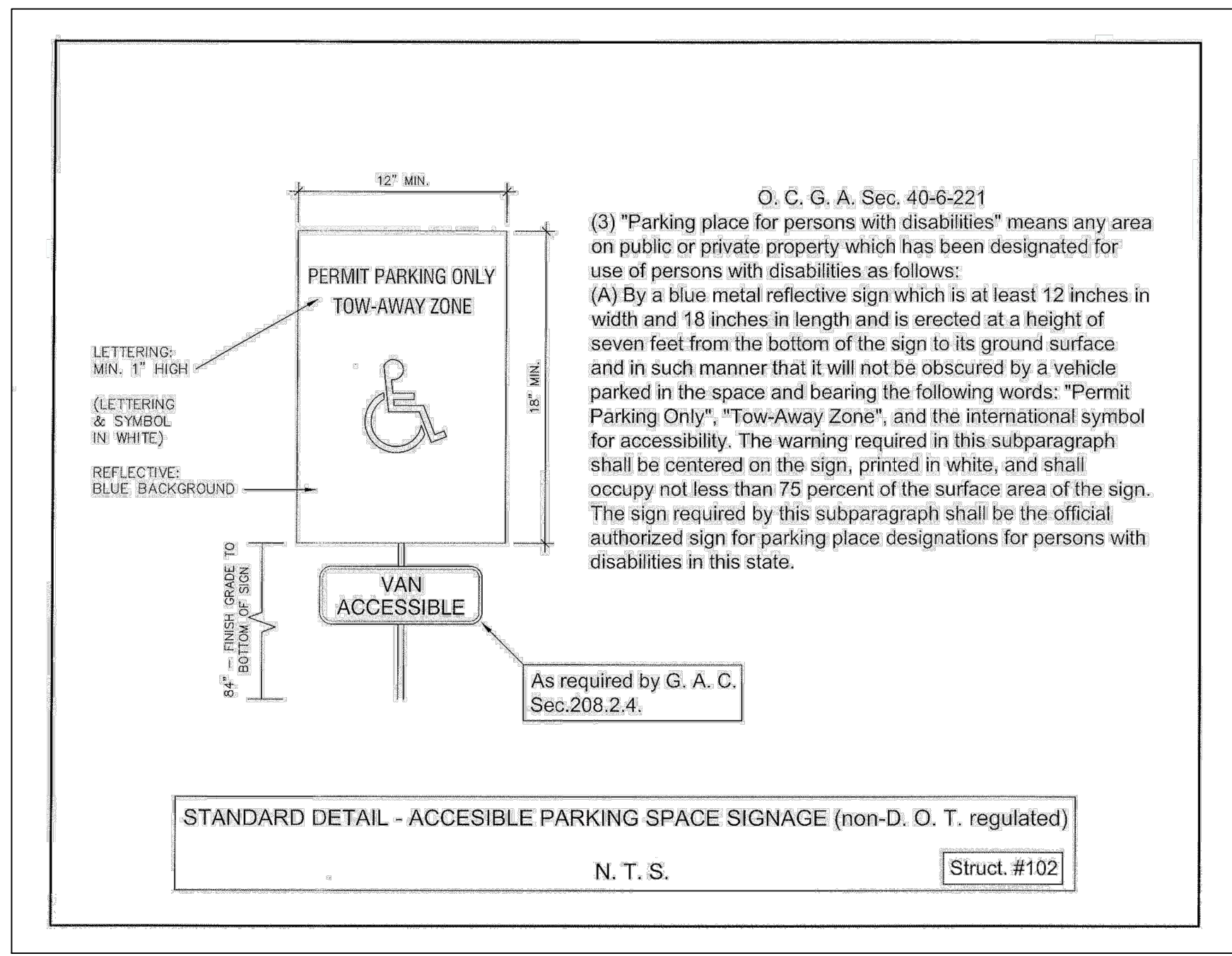
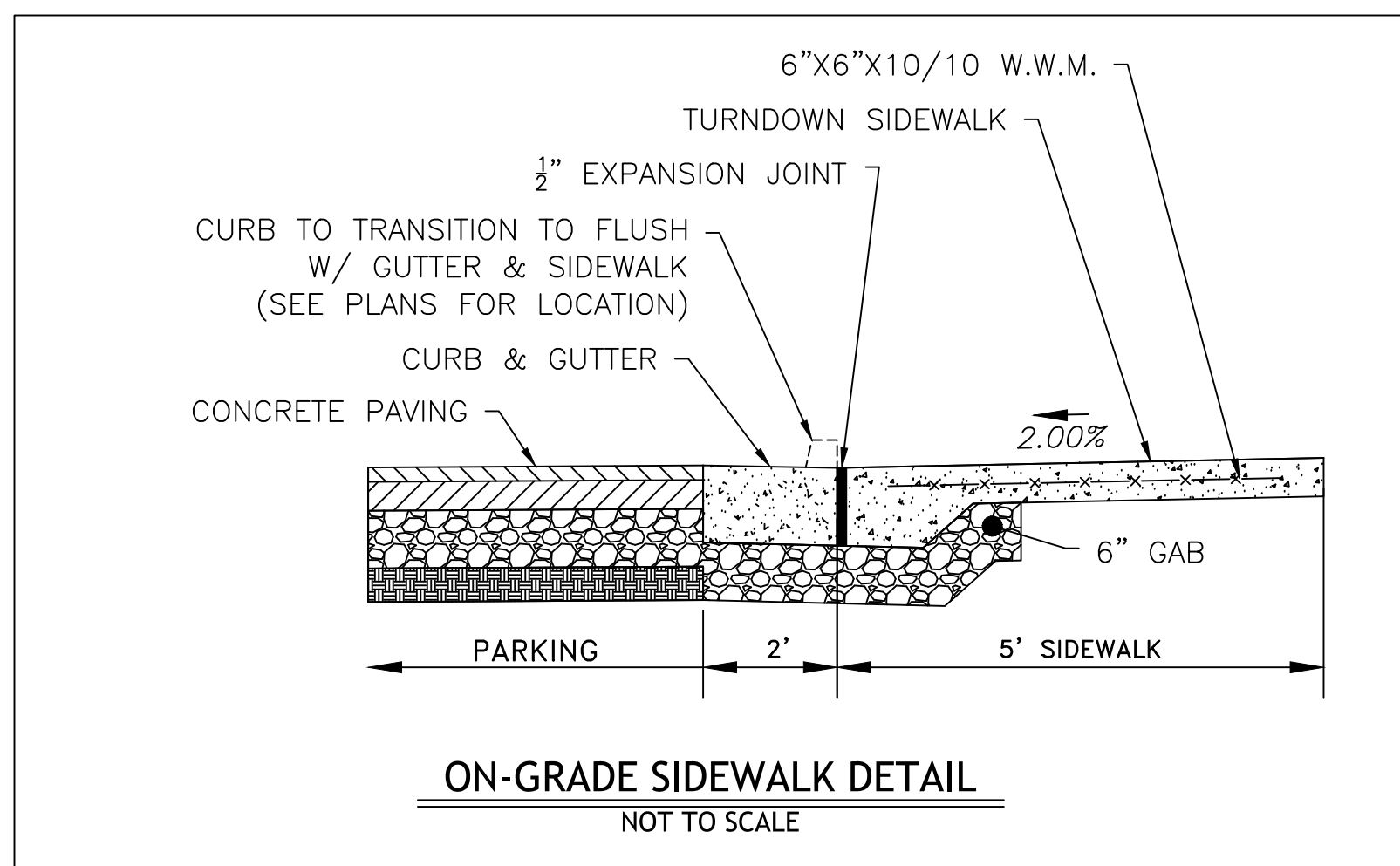
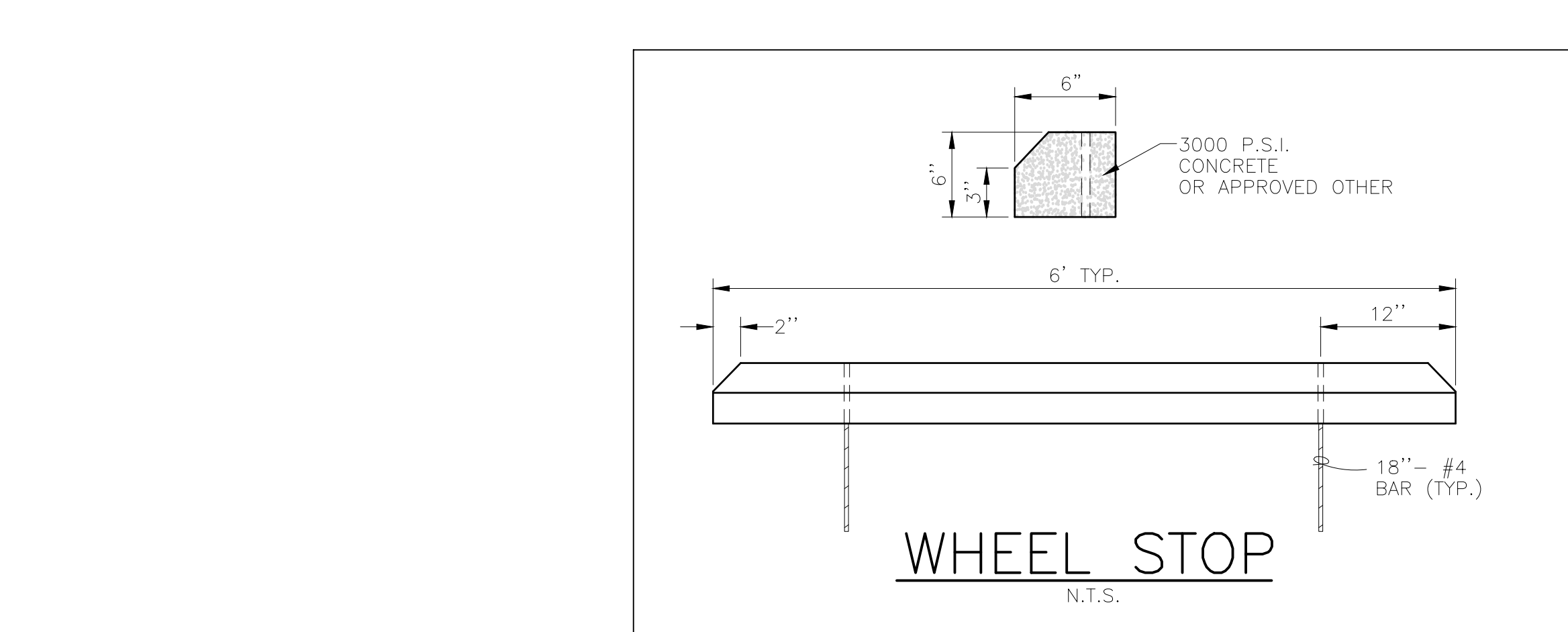
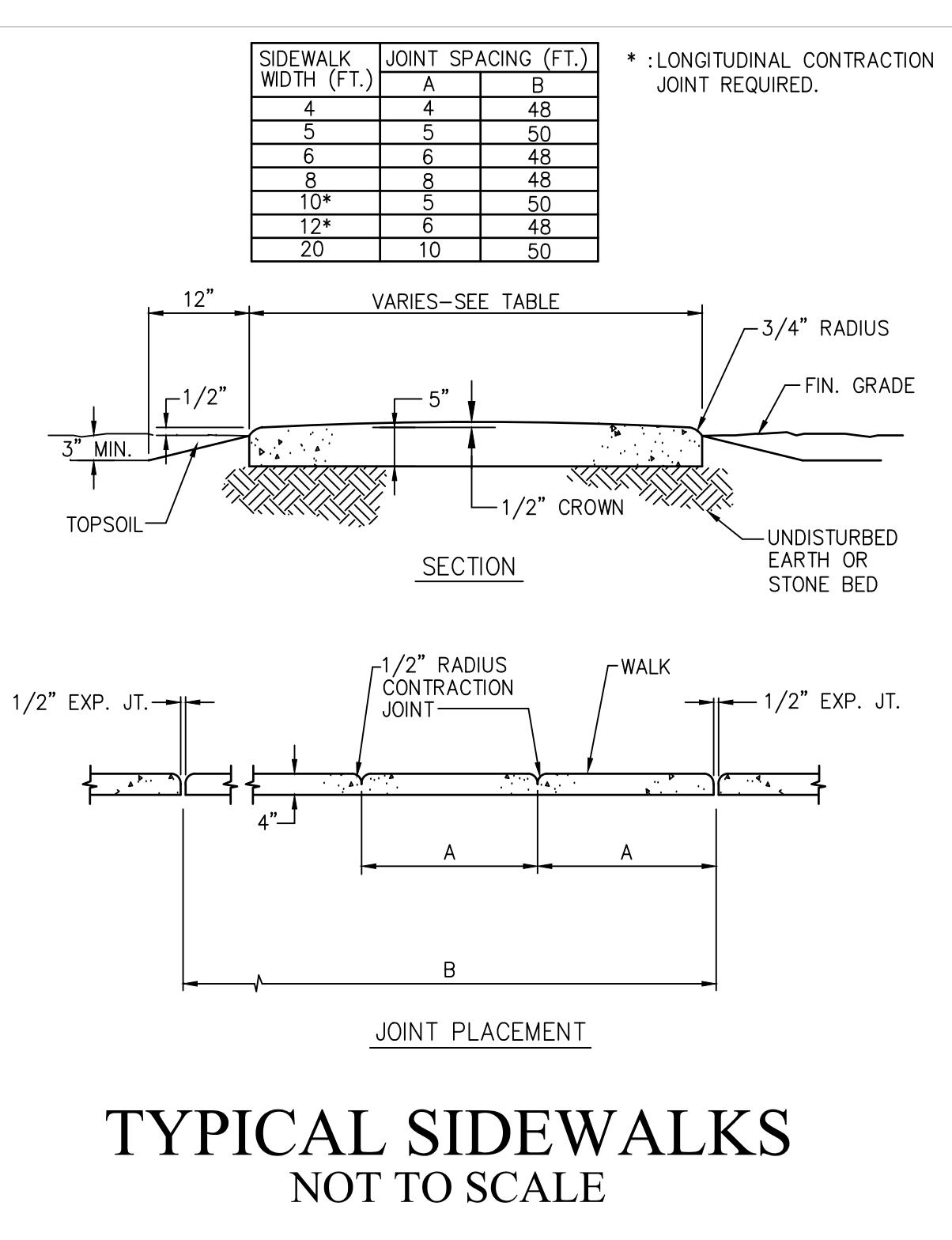
POST-DEVELOPED  
BASINS

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=40'	ISSUE DATE 04/30/2018
PROJECT NUMBER 1788.000	
DRAWING NUMBER <b>C-902</b>	
SHEET 12 of 22	

1ST SUBMITTAL FOR PERMITTING

Drawing Location: P:\1788 K.A. Odham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000\_Basin.dwg  
Plot Scale: 1"=40'  
Drawing Rotation: 358.9°  
Plot Style: Design.ctb  
Plotted By: Scott McElroy on 5/1/2018, 8:28 AM



[illegible]















CROY ENGINEERING PROJECT NO. 1788.000  
MONTH, YEAR

SHEET INDEX		
SHEET	DRAWING NAME	SHEET NAME
11	ER-000	EROSION CONTROL COVER
12	ER-100	EROSION CONTROL NOTES
13	ER-200	EROSION CONTROL PLAN - INITIAL PHASE
14	ER-300	EROSION CONTROL PLAN - INTERMEDIATE PHASE
15	ER-400	EROSION CONTROL PLAN - FINAL PHASE
16-17	ER-500-501	EROSION CONTROL DETAILS

[illegible]

DESIGN PROFESSIONAL'S CERTIFICATION:

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

I CERTIFY THAT THE PERMITTEE'S EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN PROVIDES FOR AN APPROPRIATE AND COMPREHENSIVE SYSTEM OF BEST MANAGEMENT PRACTICES REQUIRED BY THE GEORGIA WATER QUALITY CONTROL ACT AND THE DOCUMENT "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" (MANUAL) PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND DISTURBING ACTIVITY WAS PERMITTED, PROVIDES FOR THE SAMPLING OF THE RECEIVING WATER(S) OR THE SAMPLING OF THE STORM WATER 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.

Levinthal, Anne

05/01/2018

KAK DATE  
GSWCC LEVEL II CERTIFICATION #2973

PRIMARY PERMITTEE'S CERTIFICATION:

I CERTIFY UNDER PENALTY OF LAW THAT THIS DOCUMENT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT QUALIFIED PERSONNEL PROPERLY GATHER AND EVALUATE THE INFORMATION SUBMITTED. BASED ON MY INQUIRY OF THE PERSON OR PERSONS WHO MANAGE THE SYSTEM, OR THOSE PERSONS DIRECTLY RESPONSIBLE FOR GATHERING THE INFORMATION, THE INFORMATION SUBMITTED IS, TO THE BEST OF MY KNOWLEDGE AND BELIEF, TRUE, ACCURATE, AND COMPLETE. I AM AWARE THAT THERE ARE SIGNIFICANT PENALTIES FOR SUBMITTING FALSE INFORMATION, INCLUDING THE POSSIBILITY OF FINE AND IMPRISONMENT FOR KNOWING VIOLATIONS.

PRIMARY PERMITTEE'S CERTIFYING SIGNATURE:

SIGNATURE \_\_\_\_\_ TITLE \_\_\_\_\_

TYPED OR PRINTED NAME \_\_\_\_\_ DATE \_\_\_\_\_

LOCATION MAP N.T.S.



**GEORGIA811**  
Utilities Protection Center, Inc.

**Know what's below.  
Call before you dig.**

AS PER THE GEORGIA DEPARTMENT OF NATURAL RESOURCES ENVIRONMENTAL PROTECTION DIVISION, NPDES GENERAL PERMITS FOR CONSTRUCTION ACTIVITY GAR100001, GAR100002, & GAR100003; PART IV, A, 7 REQUIRES THE EROSION CONTROL PLAN DESIGN PROFESSIONAL TO MAKE A SITE INSPECTION. FOR STAND-ALONE PROJECTS THAT BEGIN CONSTRUCTION ACTIVITY AFTER THE EFFECTIVE DATE OF THIS PERMIT, THE PRIMARY PERMITEE MUST RETAIN THE DESIGN PROFESSIONAL WHO PREPARED THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN, EXCEPT WHEN THE PRIMARY PERMITEE HAS REQUESTED IN WRITING AND EPP HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE CONTROL MEASURES (BMPs) WHICH THE DESIGN PROFESSIONAL DESIGNED WITHIN SEVEN (7) DAYS AFTER THE INITIAL CONSTRUCTION ACTIVITIES COMMENCE. FOR CONSTRUCTION ACTIVITIES WHERE CONSTRUCTION BEGAN ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THE IMPACTS TO THIS REQUIREMENT WILL OCCUR WITHIN SEVEN (7) DAYS AFTER THE PLAN IS BEING INSTALLED. THE DESIGN PROFESSIONAL SHALL DETERMINE IF THESE BMPs HAVE BEEN INSTALLED AND ARE BEING MAINTAINED AS DESIGNED. THE DESIGN PROFESSIONAL SHALL REPORT THE RESULTS OF THE INSPECTION TO THE PRIMARY PERMITEE WITHIN SEVEN (7) DAYS AND THE PERMITEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT. THE DESIGN PROFESSIONAL SHALL WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST									
STAND ALONE CONSTRUCTION PROJECTS									
SWDC: _____ Towaliga - Region 4 _____									
Project Name: _____ Fire Station No. _____		Address: _____ 278 McElroy Road _____							
City/County: _____ Fayette County, Georgia _____		Date of Plans: _____ 4/30/2018 _____							
Name & email of person filling out checklist: _____ Scott McNally _____									
Plan		Included		TO BE SHOWN ON ES&PC PLAN					
Page #		Y/N							
ER-000	Y			1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission and January 1 of the year this plan is submitted.					
ALL	Y			2 Level 1 certification number issued by the Commission, signature and seal of the certified design professional (Signature, seal and Level 1 number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)					
N/A			N/A	3 Limits of disturbance shall be no greater than 10 acres at any one time without prior written authorization from the ERD District Office. If EROD approves that disturbance 50 acres or more at any one time, the plan must include at least 4 of the BMPs listed in Appendix 1 of this checklist.					
ALL	Y			4 The name and phone number of the 24 hour local contact responsible for erosion, sedimentation and pollution controls.					
ER-000	Y			5 Provide the name, address and phone number of primary respondent.					
ER-100	Y			6 Note total and disturbed acreage of the project or phase under construction.					
ER-200	Y			7 Provide the GPS location of the construction area for the site. Give the Latitude and Longitude in decimal degrees.					
ALL	Y			8 Initial date of the Plan and the dates of any revisions made to the Plan including the entity who requested the revisions.					
ER-100	Y			9 Description of the nature of construction activity.					
ER-000	Y			10 Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.					
ER-100	Y			11 Identify the project receiving waters and describe all sensitive adjacent areas including streams, lakes, residential areas, wetlands, marshlands, etc. which may be affected.					
ER-000	Y			12 Design professional's certification statement and signature that the site was visited prior to development of the ES&PC Plan as stated on page 15 of the permit.					
ER-000	Y			13 Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate and comprehensive erosion and sedimentation control plan to implement requirements as stated on page 15 of the permit.					
ER-100	Y			14 Clearly note the statement that "The design professional who prepared the ES&PC Plan is in compliance with the initial sediment control storage requirements and perimeter control BMPs within 7 days after installation."					
ALL	Y			15 Clearly note the statement that "Non-erect activities shall not be conducted within 25 or 50 feet of the coastal undisturbed shore buffer as measured from the point of arested 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."					
ER-100	Y			16 Provide a description of any buffer encroachments and indicate whether a buffer variance is required.					
ER-100	Y			17 Clearly note the statement that "Amendments/changes to the ES&PC Plan which have a significant effect on BMPs with a hydraulic control function shall require the design professional's approval."					
ER-100	Y			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."					
ALL	Y			19 Clearly note statement that "The erosion of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."					
ER-100	Y			20 Clearly note statement that "Erosion control measures will be maintained at all times. If/when 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."					
ER-100	Y			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."					
N/A			N/A	22 Any construction activity which discharges storm water into an Impaired Stream Segment, within 1 linear mile upstream of within 1/4 mile of the mouth of an impaired stream, or into an Impaired Stream Segment pursuant to Part III.C. of the Permit, includes the Impaired Segment. 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Segment."					
N/A			N/A	23 If a TMDL Implementation Plan for sediments has been finalized for the Impaired Stream Segment (item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any identified conditions or requirements included in the TMDL Implementation Plan."					
ER-100	Y			24 BMPs for concrete washdown of truck, concrete mixer trucks, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited."					
ER-100	Y			25 Provide BMPs for the remediation of oil petroleum spills and leaks.					
ER-100	Y			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."					
ER-100	Y			27 Description of the practices that will be used to reduce the pollutants in stormwater discharges."					
ER-100	Y			28 Description of each or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., site preparation, foundation, framing, roof, exterior siding, interior finishing, excavation activities, utility activities, temporary and final stabilization).					
ER-100	Y			29 Provide complete requirements of inspections and record keeping by the primary permittee."					
ER-100	Y			30 Provide complete requirements of sampling frequency and reporting of sampling results."					
ER-100	Y			31 Provide complete details for retention of records as per Part IV.F. of the permit."					
ER-100	Y			32 Description of analytical methods to be used to collect and analyze the samples from each location."					
ER-100	Y			33 Appendix B reference for NTU values at all outfall sampling points where applicable."					
ER-100	Y			34 Describe all sampling locations, personnel and instrumentations and other water bodies into which stormwater is discharge."					
ER-100	Y			35 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 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	Y			36 Graphic scale and North arrow.					
ER-200-400	Y			37 Existing and proposed contour lines with contour interval drawn at an interval in accordance with the following:					
				Map Scale		Ground Slope		Contour Interval, ft	
				1 inch = 100 ft		1 to 2%		0.5 or 1	
				larger scale		Rolling 2 - 8% Steep 8% +		1 or 2 2.5 or 4	
N/A			N/A	38 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 ERD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at <a href="http://www.gawc.org">www.gawc.org</a> .					
N/A			N/A	39 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.					
N/A			N/A	40 Definition of the applicable 25-foot or 50-foot undisturbed buffers adjacent to streams and any additional buffers required by the Local issuing Authority. Clearly note and delineate all areas of impact.					
N/A			N/A	41 Definition of on-site wetlands and all site waters located within 200 feet of the project.					
ER-900-902	Y			42 Definition and acreage of contributing drainage basins on the project.					
C-900-902	Y			43 Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions."					
ER-100	Y			44 An estimate of the runoff coefficient and peak discharge flow of the site prior to and after construction activities are completed.					
ER-300	Y			45 Storm-drain pipe and wet velocities with appropriate outfall protection to accommodate discharges without erosion. Identify/delineate all storm water discharge outlets."					
ER-100-200	Y			46 Soil series for the project site and their delineation.					
ER-200-400	Y	</							

Engineers  
Planners  
Surveyors

# CROY ENGINEERING

2200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413  
MARIETTA, GA 30062  
PHONE: (770) 971-5407 FAX: (770) 971-0620

MANICITA, GA 30062  
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Plot Style: Design.ctb, Plotted By: Scott McNally on 5/1/2018, 8:28 AM

# FIRE STATION NO. 4

## DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

# 1ST SUBMITTAL FOR PERMITTING

No.	REVISION REFERENCE	DATE

SEARCH



GSWCC CERT #2973

SHEET TITLE  
EROSION CONTROL  
COVER

DRAWN BY

CHECKED BY \_\_\_\_\_

SCALE

ISSUE DATE

PROJECT NUMBER

1788.000

**DRAWING NUMBER**  
**FD-00**

FR-00

SHEET 17 of 22



## ESPC GENERAL NOTES

STATEMENTS FROM 2015 GSWCC CHECKLIST:

- 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.
- NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50-FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.
- 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.
- WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
- 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.
- EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF THE APPROVED PLAN DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.
- ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD OF GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING.

## GENERAL NOTES

- PROJECT LOCATED IN FAYETTE COUNTY, GEORGIA
- TOTAL SITE AREA = 3.13 AC.
- TOTAL DISTURBED AREA = 2.06 AC.
- PRIMARY PERMITTEE DISTURBED AREA = 2.06 AC.
- SECONDARY PERMITTEE DISTURBED AREA = N/A
- 24 HOUR LOCAL CONTACT INFORMATION:  
NAME: DAVID SCARBROUGH  
PHONE: 770-305-5414
- THE NATURE OF CONSTRUCTION ACTIVITY IS SITE DESIGN FOR PROPOSED FIRE STATION.
- THE RECEIVING WATERS FROM THIS CONSTRUCTION PLAN IS AN UNNAMED INTERMITTENT TRIBUTARY TO MORNING CREEK WHICH IS A PART OF THE GREATER FULTON WATERSHED BASIN.
- THE PRE-CONSTRUCTION SITE SCS CURVE NUMBER = 78 AND THE POST-CONSTRUCTION SITE SCS CURVE NUMBER = 78.
- PRIMARY OR TERTIARY PERMITTEE SHALL NOTIFY DESIGN PROFESSIONAL ON DAY OF THE INITIAL SEDIMENT STORAGE AND PERIMETER CONTROL BMP INSTALLATION.
- THIS ES&PC PLAN EMPLOYS SEVERAL PRACTICES THAT ARE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES. SEVERAL EROSION CONTROL BMPs ARE USED TO REDUCE THE AMOUNT OF SEDIMENT RUNNING OFF SITE, INCLUDING SILT FENCE, ROCK FILTER DAMS, CHECK DAMS, DIVERSIONS, SURFACE SWOMMER, CHANNEL STABILIZATION, AND INLET PROTECTION.

## PLAN ALTERATIONS

THE CONTRACTOR, THE CERTIFIED DESIGN PROFESSIONAL, AND THE WECS SHALL CAREFULLY EVALUATE THIS PLAN PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES. 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. ADDITIONAL BMPs MAY BE ADDED AS NEEDED PER SPECIAL PROVISION 161 - CONTROL OF SOIL EROSION AND SEDIMENTATION.

## TEMPORARY MULCHING

EPA GENERAL PERMIT CAR 10001 STATES THAT "ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABILIZED WITH MULCH OR TEMPORARY SEEDING." SEE EROSION CONTROL DETAIL SHEETS FOR (DS1) TEMPORARY MULCHING REQUIREMENTS AND (DS2) TEMPORARY SEEDING REQUIREMENTS.

## VEGETATION AND PLANTING SCHEDULE

TEMPORARY AND PERMANENT VEGETATION PRACTICES INCLUDING PLANT SPECIES, PLANTING DATES, SEEDING FERTILIZER, LINE AND MULCHING RATES FOR THIS PROJECT CAN BE FOUND IN THE EROSION CONTROL DETAIL SHEETS. SEE EROSION CONTROL DETAIL SHEETS FOR (DS2) TEMPORARY VEGETATIVE AND (DS3) PERMANENT VEGETATIVE DETAILS.

## BMP INSTALLATION SEQUENCE

EVENT	BMPs
INSTALL INITIAL BMPs	INSTALL SILT FENCE AT PERIMETER AND BUFFERS, CONSTRUCTION EXITS, STORM DRAIN INLET CONTROLS, CHECK DAMS, STORAGE PONDS WITH RETROFITS, AND SEDIMENT POND. PROVIDE INTERMEDIATE OR FINAL STABILIZATION FOR AREAS DISTURBED BY INSTALLATION OF THE PRELIMINARY BMPs.
INSTALL INTERMEDIATE GRADING AND DRAINAGE BMPs	INSTALL INTERIOR SILT FENCE, RIP RAP, INLET PROTECTION, OUTLET PROTECTION, EROSION CONTROL MATS AND CHECK DAMS AS WORK AREAS BECOME ACCESSIBLE. APPLY POLYACRYLAMIDE AS NEEDED. PROVIDE INTERMEDIATE OR FINAL STABILIZATION FOR DISTURBED AREAS.
INSTALL FINAL BMPs	CLEAN OUT TRAPPED SEDIMENTS AND DISPOSE OF PROPERLY. REMOVE BMPs THAT WILL NOT BE RETAINED IN THE FINAL PLAN. SOW SEED AND PLANT. PAYMENT FOR FINAL STABILIZATION.

## SEQUENCE OF LAND DISTURBANCE ACTIVITIES

START JUNE 2018

STOP FEBRUARY 2019

## ANTICIPATED CONSTRUCTION ACTIVITY SCHEDULE

CONSTRUCTION ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8
INITIAL CONSTRUCTION								
INITIAL SEDIMENT CONTROL								
WASHDOWN EROSION CONTROL DEVICES								
CLEANING AND GRADING								
INSTALL A MAJOR SEDIMENT CONTROL								
PERM. UNCOVERING & STABILIZE DRAIN								
CLEANUP SITE & REMOVE TEMPORARY BMPs								

FINAL STABILIZATION IS NOT DEEMED TO BE ACCOMPLISHED UNTIL ALL TEMPORARY BMPs HAVE BEEN REMOVED.

## PRODUCT SPECIFIC PRACTICES

- PETROLEUM-BASED PRODUCTS – CONTAINERS FOR PRODUCTS SUCH AS FUELS, LUBRICANTS, AND TARS WILL BE INSPECTED DAILY FOR LEAKS AND SPILLS. THIS INCLUDES ONSITE VEHICLES AND MACHINERY DAILY INSPECTIONS AND REGULAR PREVENTATIVE MAINTENANCE OF SUCH EQUIPMENT. EQUIPMENT MAINTENANCE AREAS WILL BE LOCATED AWAY FROM STATE WATERS, NATURAL DRAINS, AND STORM WATER DRAINAGE INLETS. IN ADDITION, TEMPORARY FUELING TANKS SHALL HAVE A SECONDARY CONTAINMENT UNDER TO PREVENT/MINIMIZE SITE CONTAMINATION, DISCHARGE OF OILS, FUELS, AND LUBRICANTS IS PROHIBITED. PROPER DISPOSAL METHODS WILL INCLUDE COLLECTION IN A SUITABLE CONTAINER AND DISPOSAL AS REQUIRED BY LOCAL AND STATE REGULATIONS.
  - PAINTS/INKS/RESINS/SOLVENTS – ALL PRODUCTS WILL BE STORED IN TIGHTLY SEALED ORIGINAL CONTAINERS WHEN NOT IN USE. EXCESS PRODUCT WILL NOT BE DISCHARGED INTO THE STORM WATER COLLECTION SYSTEM. EXCESS PRODUCT, MATERIALS USED WITH THESE PRODUCTS, AND PRODUCT CONTAINERS WILL BE DISPOSED OF ACCORDING TO MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
  - CONCRETE TRUCK WASHING – NO CONCRETE TRUCKS WILL BE ALLOWED TO WASHOUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.
  - FERTILIZERS/HERBICIDES – THESE PRODUCTS WILL BE APPLIED AT RATES THAT DO NOT EXCEED MANUFACTURER'S SPECIFICATIONS OR ABOVE THE GUIDELINES SET FORTH IN THE CROP ESTABLISHMENT OR ON THE GENCO MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS.
  - BUILDING MATERIALS – NO BUILDING OR CONSTRUCTION MATERIALS WILL BE BURIED OR DISPOSED OF ONSITE. ALL SUCH MATERIAL WILL BE DISPOSED OF IN PROPER WASTE DISPOSAL PROCEDURES.
- SPILL CLEANUP AND CONTROL PRACTICES**
- LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE AVAILABLE TO SITE PERSONNEL.
  - MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIALS STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO: BROMES, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
  - SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
  - ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
  - FOR SPILLS THAT IMPACT SURFACE WATER (LEAVE A SHEEN ON SURFACE WATER), THE NATIONAL RESPONSE CENTER (NRC) WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
  - FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
  - FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS OCCUR, THE GEORGIA EPO WILL BE CONTACTED WITHIN 24 HOURS.
  - FOR SPILLS LESS THAN 25 GALLONS AND NO SURFACE WATER IMPACTS OCCUR, THE SPILL WILL BE CLEANED UP AND LOCAL AGENCIES WILL BE CONTACTED AS REQUIRED.
  - THE CONTRACTOR SHALL NOTIFY THE LICENSED PROFESSIONAL WHO PREPARED THIS PLAN IF MORE THAN 1200 GALLONS OF PETROLEUM IS STORED ONSITE (THIS INCLUDES CAPACITIES OF EQUIPMENT) OR IF ANY ONE PIECE OF EQUIPMENT HAS THE CAPACITY OF GREATER THAN 650 GALLONS. THE CONTRACTOR WILL NEED A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN PREPARED BY THAT LICENSED PROFESSIONAL.

THIS CONSTRUCTION PROJECT DOES NOT DISCHARGE INTO, OR WITHIN ONE LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF A BIOTA IMPAIRED STREAM SECTIO

## ADDITIONAL NOTES FOR 2013 STORMWATER NPDES PERMITS FOR CONSTRUCTION ACTIVITIES

- THE PROJECT WILL DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES TO MORNING CREEK, WHICH IS NOT AN IMPAIRED STREAM SECTOR, AS IDENTIFIED BY "NOT SHOWN" ITS DISTURBED LENGTH(S) FOR OTHER VIOLATIONS OF "BIO F" (IMPAIRED FISH COMMUNITY) AND/OR "BIO W" (IMPAIRED MACROINVERTEBRATE COMMUNITY), WITH CATEGORY 4A, 4B OR 5 WHERE THE POTENTIAL CAUSE IS EITHER "NP" (NATURAL SOURCE) OR "UR" (URBAN RUNOFF) AS SHOWN ON GEORGIA'S 2012 OR SUBSEQUENT 303(B)(303)(D) LIST DOCUMENT (FWMA) AT THE TIME OF NO SUBMITAL.
- THE FOLLOWING SUPPLEMENTAL BMPs ARE SELECTED FOR DISCHARGE TO THE IMPAIRED STREAM FROM THE LIST BELOW:  
NONE, NO IMPAIRED STREAM IMPACTED
- DURING ALL CONSTRUCTION ACTIVITIES AS DEFINED BY THIS PERMIT, DOUBLE THE WIDTH OF THE 25 FOOT UNDISTURBED VEGETATED BUFFER ALONG ALL STATE WATERS REQUIRING A BUFFER AND THE 50 FOOT UNDISTURBED VEGETATED BUFFER ALONG ALL STATE WATERS CLASSIFIED AS "TROUT STREAMS" REQUIRING A BUFFER. DURING CONSTRUCTION ACTIVITIES, EPO WILL NOT GRANT VARIANCES TO ANY SUCH BUFFERS THAT ARE INCREASED IN WIDTH PURSUANT TO THIS SECTION.
- INCREASE ALL TEMPORARY SEDIMENT BASINS AND RETROFITTED STORM WATER MANAGEMENT BASINS TO PROVIDE SEDIMENT STORAGE OF AT LEAST 3600 CUBIC FEET (134 CUBIC YARDS) PER ACRE DRAINED.
- USE BARRIES IN ALL TEMPORARY SEDIMENT BASINS AND RETROFITTED STORM WATER MANAGEMENT BASINS TO AT LEAST DOUBLE THE CONVENTIONAL FLOW PATH LENGTH TO THE OUTLET STRUCTURE.
- A LARGE SIGN (MINIMUM 4 FEET X 8 FEET) MUST BE ON THE SITE ON THE ACTUAL START DATE OF CONSTRUCTION VISIBLE FROM A PUBLIC ROADWAY IDENTIFYING THE CONSTRUCTION SITE, THE PERMITTEE(S), AND THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S) UNTIL A NOT HAS BEEN SUBMITTED.
- USE ANONIC POLYACRYLAMIDE (PAM) AND/OR MULCH TO STABILIZE ALL AREAS LEFT DISTURBED FOR MORE THAN SEVEN (7) CALENDAR DAYS IN ACCORDANCE WITH PART III.D.1. OF THIS PERMIT.
- CONDUCT TURBIDITY SAMPLING AFTER EVERY RAIN EVENT OF 0.5 INCH OR GREATER WITHIN ANY 24 HOUR PERIOD, RECOGNIZING THE EXCEPTIONS SPECIFIED IN PART N.D.6.D. OF THIS PERMIT.
- COMPLY WITH THE APPLICABLE END-OF-PIPE TURBIDITY EFFLUENT LIMIT, WITHOUT THE "BMP DEFENSE" AS PROVIDED FOR IN O.C.6.A. 12-7-04(R)(1).
- REDUCE THE TOTAL PLANNED SITE DISTURBANCE TO LESS THAN 50% IMPEROUS SURFACES (EXCLUDING ANY STATE MANAGED BUFFER AREAS SUCH CALCULATIONS). ALL CALCULATIONS MUST BE INCLUDED ON THE PLAN.
- LIMIT THE AMOUNT OF AREA DISTURBED AT ANY ONE TIME TO NO GREATER THAN 25 ACRES OR 50% OF THE TOTAL PLANNED SITE, WHICHEVER IS LESS. ALL CALCULATIONS MUST BE INCLUDED ON THE PLAN.
- USE "DIRT" IF TECHNIQUES AVAILABLE ON THE EPO WEBSITE, WWW.GAPD.ORG, (E.G., SEEP BERM, SAND FILTERS, ANONIC PAM) TO MODEL AND MANAGE STORM WATER RUNOFF (INCLUDING SHEET FLOW). ALL CALCULATIONS MUST BE INCLUDED ON THE PLAN.
- ADD APPROPRIATE ORGANIC SOIL AMENDMENTS (E.G., COMPOST) AND CONDUCT PRE- AND POST-CONSTRUCTION SOIL SAMPLING TO A DEPTH OF 6 (SIX) INCHES TO DOCUMENT IMPROVED LEVELS OF SOIL CARBON AFTER FINAL STABILIZATION OF THE CONSTRUCTION SITE.
- USE MULCH FILTER BERM, IN ADDITION TO A SILT FENCE, ON THE SITE PERIMETER WHEREVER CONSTRUCTION STORM WATER (INCLUDING SHEET FLOW) MAY BE DISCHARGED. MULCH FILTER BERMS CANNOT BE PLACED IN WATERSHEDS OR AREAS OF CONCENTRATED FLOW.
- APPLY THE APPROPRIATE GEORGIA DEPARTMENT OF TRANSPORTATION APPROVED EROSION CONTROL MATTING OR BLANKETS OR BONDED FIBER MATRIX TO ALL SLOPES STEEPER THAN 3:1. ALL GRAPHICAL ILLUSTRATIONS MUST BE INCLUDED ON THE PLAN.
- USE APPROPRIATE EROSION CONTROL MATTING OR BLANKETS INSTEAD OF CONCRETE IN ALL CONSTRUCTION STORM WATER DITCHES AND STORM DRAINAGE DEVICES FOR ALL SITE-SPECIFIC FLOW PATHS.
- USE ANONIC PAM UNDER A PASSIVE DOSING METHOD (E.G., FLOCCULANT BLOCKS) WITHIN ALL CONSTRUCTION STORM WATER DITCHES AND STORM DRAINAGES THAT FEED INTO TEMPORARY SEDIMENT BASINS AND RETROFITTED MANAGEMENT BASINS.
- INSTALL SOD FOR A MINIMUM 20 FOOT WIDTH (IN LIEU OF SEEDING) AFTER FINAL GRADE HAS BEEN ACHIEVED, ALONG THE SITE PERIMETER WHEREVER CONSTRUCTION STORM WATER (INCLUDING SHEET FLOW) MAY BE DISCHARGED.
- CONDUCT SOIL TESTS TO IDENTIFY AND TO IMPLEMENT NECESSARY SOIL AMENDMENTS.
- CERTIFIED PERSONNEL SHALL CONDUCT INSPECTIONS AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF THE STORM THAT IS 0.5 INCHES RAINFALL OR GREATER IN ACCORDANCE WITH PART N.D.4.A.(3), (A) – (C) OF THIS PERMIT.
- APPLY THE APPROPRIATE COMPOST BLANKETS (MINIMUM 1.5 INCHES) TO PROTECT SOIL SURFACES UNTIL VEGETATION IS ESTABLISHED DURING THE FINAL STABILIZATION PHASE OF THE CONSTRUCTION ACTIVITY.
- USE ALTERNATIVE BMPs WHOSE PERFORMANCE HAS BEEN DOCUMENTED TO BE SUPERIOR TO CONVENTIONAL BMPs AS CERTIFIED BY A DESIGN PROFESSIONAL (UNLESS DISAPPROVED BY EPO OR THE STATE SOIL AND WATER CONSERVATION COMMISSION).
- LIMIT THE TOTAL PLANNED SITE DISTURBANCE TO LESS THAN 15% IMPEROUS SURFACES (EXCLUDING ANY STATE-MANAGED BUFFER FROM SUCH CALCULATIONS). ALL CALCULATIONS MUST BE INCLUDED IN PLAN.

- A TMDL PLAN FOR SEDIMENT DOES NOT APPLY TO THE RECEIVING WATERS.
- LAND DISTURBANCE SHALL NOT EXCEED 50 ACRES AT ANY TIME WITHOUT AUTHORIZATION OF THE GEORGIA EPO. SHOULD PRIMARY PERMITTEE WISH TO EXCEED THE 50-ACRE LIMIT, PRIMARY PERMITTEE SHALL OBTAIN AUTHORIZATION FROM THE GEORGIA EPO.
- RETENTION OF RECORDS  
THE FOLLOWING RECORDS MUST BE RETAINED AT THE SITE OR BE READILY AVAILABLE AT DESIGNATED ALTERNATE LOCATION:
  - COPY OF NOTICE OF INTENT AND PROOF OF SUBMITAL.
  - COPY OF ES&PC PLAN.
  - DESIGN PROFESSIONAL INSPECTION REPORT
  - SAMPLING INFORMATION, RESULTS AND REPORTS
  - INSPECTION REPORTS, (DAILY WEEKLY & MONTHLY)
  - WATERSHED SUMMARY REPORTS
  - RAINFALL DATA
- PRIMARY PERMITTEE MAY SUBMIT A NOTICE OF TERMINATION (NOT) ONLY AFTER ALL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED FOR A MINIMUM OF 90 DAYS. FINAL STABILIZATION HAS BEEN IMPLEMENTED BY PRIMARY PERMITTEE AND THE SITE IS IN COMPLIANCE WITH THE PERMIT.
- SECONDARY PERMITTEES AND TERTIARY PERMITTEES DO NOT APPLY TO GAR10001 FOR STAND ALONE PROJECTS.

## READY MIX CHUTE WASH-DOWN

THE WASHING OF READY-MIX CONCRETE DRUMS AND DUMP TRUCK BODIES USED IN THE DELIVERY OF PORTLAND CEMENT CONCRETE IS PROHIBITED ON THIS SITE. IN ACCORDANCE WITH STANDARD SPECIFICATION 107 – LEGAL REGULATIONS AND RESPONSIBILITY TO THE PUBLIC, ONLY THE DISCHARGE "CHUTE" UTILIZED IN PORTLAND CEMENT CONCRETE DELIVERY MAY BE RINSED FREE OF FRESH CONCRETE REMAINS. THE CONTRACTOR SHALL EXCAVATE A PIT OUTSIDE OF STATE WATER BUFFERS, AT LEAST 25 FEET FROM ANY STORM DRAIN AND OUTSIDE OF THE TRAVEL WAY, INCLUDING SHOULDER, FOR A WASH/PIT AREA. THE PIT SHALL BE LARGE ENOUGH TO STORE WASH-DOWN WATER WITHOUT OVERTOPPING THE PIT. IMMEDIATELY AFTER THE WASH-DOWN OPERATIONS ARE COMPLETED AND AFTER THE WASH-DOWN WATER HAS SOAKED INTO THE GROUND, THE PIT SHALL BE FILLED IN, AND THE GROUND ABOVE SHALL BE GRADED TO MATCH THE ELEVATION OF THE SURROUNDING AREAS SMOOTHED OUT. ALTERNATE WASH DOWN PLANS MUST BE APPROVED BY THE PROJECT ENGINEER.

WASH-DOWN PLANS DESCRIBE PROCEDURES THAT PREVENT WASH-DOWN WATER FROM ENTERING STREAMS AND RIVERS, NEVER DISPOSE OF WASH-DOWN WATER DRAIN A STORM DRAIN. ESTABLISH A WASH-DOWN-PIT LOCATION THAT INCLUDES THE FOLLOWING: (1) THE PIT IS LOCATED AWAY FROM A STORM DRAIN, STREAM OR RIVER, (2) THE PIT IS ACCESSIBLE TO THE VEHICLE BEING USED FOR WASH-DOWN, (3) THE PIT HAS ENOUGH VOLUME FOR WASH-DOWN WATER, AND (4) MAKE SURE YOU HAVE PERMISSION TO USE THE AREA FOR WASH-DOWN. ON SOME SITES, YOU MAY NOT HAVE PERMISSION OR ACCESS TO A LOCATION WHICH ALLOWS FOR A WASH-DOWN PIT. IN THOSE CASES, THE CONTRACTOR MAY HAVE TO WASH-DOWN IN A WHEELBARROW OR OTHER CONTAINER AND CARRY THE CONTAINER FOR TRANSPORT TO A PROPER DISPOSAL SITE. FOR ADDITIONAL INFORMATION, REFER TO THE GEORGIA SMALL BUSINESS ENVIRONMENTAL ASSISTANCE PROGRAM'S A GUIDE FOR READY MIX CHUTE/HOPPER WASH-DOWN.

## SILT FENCE INSTALLATIONS WITH J-HOOKS AND SPURS

SILT FENCE SHOULD NEVER RUN CONTINUOUS WITHOUT J-HOOKS OR SPURS. THE SILT FENCE SHOULD TURN BACK INTO THE FLOW OR SLOPE TO CREATE SMALL POCKETS THAT TRAP SILT AND FORCE STORMWATER TO FLOW THROUGH THE SILT FENCE. THIS TECHNIQUE OR CONFIGURATION IS COMMONLY REFERRED TO AS J-HOOKS OR SPURS. THE J-HOOKS OR SPURS SHALL BE INSTALLED ON ALL SILT FENCES THAT ARE LOCATED AROUND THE PERIMETER OF THE PROJECT AND ALONG THE TOE OF EMBANKMENTS OR SLOPES. THE J-HOOKS AND SPURS SHALL BE SPACED IN ACCORDANCE WITH THE TYPICAL LOCATION DETAILS FOR SILT FENCES / GRADED STORM SPACING FOR J-HOOKS OR SPURS SHALL NOT BE LESS THAN 50 FEET EXCEPT AS NOTED. SILT FENCES THAT ARE NEAR THE OUTLET OF CULVERTS, CROSS DRAINS, AND STORM DRAINS SHALL HAVE A MINIMUM OF 3 J-HOOKS OR SPURS ON BOTH SIDES OF THE STRUCTURE AT SPACING NOT TO EXCEED 30 FEET. J-HOOKS OR SPURS SHALL BE PAID FOR AS SILT FENCE ITEMS PER FOOT. ALL COSTS AND OTHER INCIDENTAL ITEMS ARE INCLUDED IN COST OF INSTALLING AND MAINTAINING THE SILT FENCE.

## POST-CONSTRUCTION BMPs

ON PERMIT, POST-CONSTRUCTION BMPs ARE SHOWN IN THE CONSTRUCTION PLANS AND IN THE ES&PC PLAN. THE POST-CONSTRUCTION BMPs FOR THIS PROJECT CONSISTS OF SLOPE STABILIZATION, STORM OUTLET PROTECTION, AND PERMANENT GRASSING ON ALL DISTURBED AREAS. THE POST-CONSTRUCTION BMPs WILL PROVIDE PERMANENT STABILIZATION OF THE SITE AND PREVENT ACCELERATED TRANSPORTATION OF SEDIMENT AND POLLUTANTS INTO RECEIVING WATERS.

## MAINTENANCE AND STABILIZATION MEASURES

ALL STRUCTURAL BMPs SHALL BE MAINTAINED IN ACCORDANCE WITH THE CURRENT EDITION OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (GREEN BOOK).

## WASTE DISPOSAL

WHERE ATTAINABLE, LOCAL WASTE COLLECTION AREAS, DUMPSTERS, TRASH CANS AND PORTABLE TOILETS AT LEAST 50 FEET AWAY FROM STREETS, CULVERTS, BUFFERED STREAMS AND PRODUCE BASINS. SECONDARY CONTAINMENT SHALL BE LOCATED AROUND LIQUID WASTE COLLECTION AREAS TO MINIMIZE THE LIKELIHOOD OF CONTAMINATED DISCHARGES. THE CONTRACTOR SHALL COMPLY WITH APPLICABLE STATE AND LOCAL WASTE STORAGE AND DISPOSAL REGULATIONS AND OBTAIN ALL NECESSARY PERMITS. WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.

## NON-STORM WATER DISCHARGES

EXCEPT FOR FLOWS FROM FIRE FIGHTING ACTIVITIES, NON-STORM WATER DISCHARGES LISTED IN PART II.A.2 OF THE NPDES CARRYOVER PERMIT THAT ARE COMBINED WITH STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY MUST BE IDENTIFIED IN THE PLAN. THE PLAN SHALL IDENTIFY AND ENSURE THE IMPLEMENTATION OF APPROPRIATE POLLUTION PREVENTION PRACTICES AND PROCEDURES THAT ARE COMBINED WITH STORM WATER DISCHARGES. THESE DISCHARGES SHALL BE SUBJECT TO THE SAME REQUIREMENTS AS STORM WATER DISCHARGES REQUIRED BY THE GEORGIA EROSION AND SEDIMENTATION CONTROL ACT, THE NPDES PERMIT, THE CLEAN WATER ACT, THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA, AND CONTRACT DOCUMENTS.

NON-STORMWATER DISCHARGE	ACTIVITY	BMP
FIRE HYDRANT FLUSHING		
POTABLE WATER SOURCES		
IRRIGATION DRAINAGE		
AIR CONDITIONING CONDENSATE		
SPRINGS		
UNCONTAMINATED GROUND WATER		
UNCONTAMINATED DISCHARGES FROM FOUNDATIONS		
UNCONTAMINATED DISCHARGES FROM FOOT DRAINS		

## DE-WATERING ACTIVITIES AND USE OF PUMPS

ANY PUMPED DISCHARGE FROM AN EXCAVATION OR DISTURBED AREA SHALL BE ROUTED THROUGH AN APPROPRIATELY SIZED SEDIMENT BASIN, SILT FILTER BAG OR SHALL BE TREATED EQUIVALENTLY WITH SUITABLE BMPs. THE CONTRACTOR SHALL ENSURE THE POST BMP TREATED DISCHARGE IS SHEET FLOWING. FAILURE TO CREATE SHEET FLOW WILL OBLIGATE THE CONTRACTOR TO PERFORM WATER QUALITY SAMPLING OF THEIR PUMPED DISCHARGES. THE CONTRACTOR SHALL PREPARE SAMPLING PLANS IN ACCORDANCE WITH THE CURRENT GAR10001 NPDES PERMIT UTILIZING A CERTIFIED DESIGN PROFESSIONAL. NO SEPARATE PAYMENT WILL BE MADE FOR WATER QUALITY SAMPLING OF PUMP DISCHARGES.

## OTHER CONTROLS

THE ES&PC PLAN SHALL BE IN COMPLIANCE WITH WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC TANK REGULATIONS DURING AND AFTER CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED.

THE CONTRACTOR SHALL CONTROL DUST FROM THE SITE IN ACCORDANCE WITH CURRENT EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA".

## INSPECTIONS

ALL INSPECTIONS SHALL BE DOCUMENTED ON THE APPROPRIATE JURISDICTIONS FORMS. IF NO LOCAL FORM EXISTS DOT-EC-1 MAY BE USED. ALL INSPECTIONS SHALL BE DOCUMENTED TO THE APPROPRIATE JURISDICTION. THESE INSPECTIONS SHALL BE CONDUCTED BY THE PROJECT ENGINEER OR ANOTHER QUALIFIED PERSON WHO HAS BEEN TRAINED AND CERTIFIED TO CONDUCT SUCH INSPECTIONS. THE INSPECTIONS SHALL BE CONDUCTED AT LEAST TWICE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF THE STORM THAT IS 0.5 INCHES RAINFALL OR GREATER IN ACCORDANCE WITH PART N.D.4.A.(3), (A) – (C) OF THIS PERMIT.

- APPLY THE APPROPRIATE COMPOST BLANKETS (MINIMUM 1.5 INCHES) TO PROTECT SOIL SURFACES UNTIL VEGETATION IS ESTABLISHED DURING THE FINAL STABILIZATION PHASE OF THE CONSTRUCTION ACTIVITY.
- USE ALTERNATIVE BMPs WHOSE PERFORMANCE HAS BEEN DOCUMENTED TO BE SUPERIOR TO CONVENTIONAL BMPs AS CERTIFIED BY A DESIGN PROFESSIONAL (UNLESS DISAPPROVED BY EPO OR THE STATE SOIL AND WATER CONSERVATION COMMISSION).
- LIMIT THE TOTAL PLANNED SITE DISTURBANCE TO LESS THAN 15% IMPEROUS SURFACES (EXCLUDING ANY STATE-MANAGED BUFFER FROM SUCH CALCULATIONS). ALL CALCULATIONS MUST BE INCLUDED IN PLAN.
- LAND DISTURBANCE SHALL NOT EXCEED 50 ACRES AT ANY TIME WITHOUT AUTHORIZATION OF THE GEORGIA EPO. SHOULD PRIMARY PERMITTEE WISH TO EXCEED THE 50-ACRE LIMIT, PRIMARY PERMITTEE SHALL OBTAIN AUTHORIZATION FROM THE GEORGIA EPO.
- RETENTION OF RECORDS  
THE FOLLOWING RECORDS MUST BE RETAINED AT THE SITE OR BE READILY AVAILABLE AT DESIGNATED ALTERNATE LOCATION:
  - COPY OF NOTICE OF INTENT AND PROOF OF SUBMITAL.
  - COPY OF ES&PC PLAN.
  - DESIGN PROFESSIONAL INSPECTION REPORT
  - SAMPLING INFORMATION, RESULTS AND REPORTS
  - INSPECTION REPORTS, (DAILY WEEKLY & MONTHLY)
  - WATERSHED SUMMARY REPORTS
  - RAINFALL DATA
- PRIMARY PERMITTEE MAY SUBMIT A NOTICE OF TERMINATION (NOT) ONLY AFTER ALL CONSTRUCTION ACTIVITIES HAVE BEEN COMPLETED FOR A MINIMUM OF 90 DAYS. FINAL STABILIZATION HAS BEEN IMPLEMENTED BY PRIMARY PERMITTEE AND THE SITE IS IN COMPLIANCE WITH THE PERMIT.
- SECONDARY PERMITTEES AND TERTIARY PERMITTEES DO NOT APPLY TO GAR10001 FOR STAND ALONE PROJECTS.

ACTIVITY TO BE INSPECTED (PARAGRAPH OF THE GENERAL PERMIT)	INSPECTION FREQUENCY OR TIMING
LICENSED PROFESSIONAL WHO DESIGNED THE PLAN INSPECTS BMPs FOR PROPER INSTALLATION AND MAINTENANCE (PART N.A.5)	ONCE PER PROJECT OR PHASE, WITHIN 7 DAYS OF INSTALLING INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER BMPs
◆ INSPECT PETROLEUM STORAGE, USE AND HANDLING AREAS FOR SPILLS OR LEAKS FROM VEHICLES AND EQUIPMENT AND STORAGE CONTAINERS (PART N.A.4.a.(1)(a);	DAILY WHEN CONSTRUCTION OCCURS, UNTIL NOTICE OF TERMINATION IS SUBMITTED TO GEORGIA EPO.
◆ INSPECT CONSTRUCTION SITE ENTRANCES AND EXITS FOR OFF-SITE SEDIMENT TRACKING (PART N.A.4.a.(1)(b));	AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF EACH RAINFALL OF 1/2" OR GREATER
◆ INSPECT ALL AREAS WHERE PRIMARY PERMITTEE STORES MATERIALS THAT ARE EXPOSED AFTER CONSTRUCTION ACTIVITIES HAVE NOT UNDERGONE FINAL STABILIZATION, FOR PROPER OPERATION OF BMPs (PART N.A.4.a.(2)(b));	AT LEAST ONCE PER MONTH UNTIL NOTICE OF TERMINATION IS RECEIVED BY GEORGIA EPO.
◆ INSPECT STRUCTURAL CONTROL MEASURES AND ACCESSIBLE DISCHARGE POINTS TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S) (PART N.A.4.a.(2)(c);	FOLLOWING EACH INSPECTION UNTIL THE NOT IS SUBMITTED TO GEORGIA EPO.
AREAS UNDER FINAL STABILIZATION AND ACCESSIBLE DISCHARGE POINTS FOR EVIDENCE OF EROSION, POTENTIAL DISCHARGE OF POLLUTANTS, AND EFFECTIVENESS OF BMPs (PART N.A.4.a.(3))	WITHIN 7 CALENDAR DAYS FOLLOWING EACH INSPECTION.

PREPARE AN INSPECTION REPORT FOLLOWING EACH INSPECTION EVENT AND KEEP A COPY ON SITE (PART N.A.4.a.(5))

REVISE PLAN AND IMPLEMENT MODIFICATIONS WHEN INSPECTIONS INDICATE THAT BMPs ARE NOT EFFECTIVE (PART N.A.3.a.(4))

IN ORDER TO PREVENT RUNOFF FROM BYPASSING INLET SEDIMENT TRAPS, A TEMPORARY BERM SHALL BE INSTALLED ON THE DOWNSTREAM SIDE OF ALL INLET SEDIMENT TRAPS THAT ARE NOT LOCATED IN A LOW POINT OR AN EXCAVATED SUMP. TEMPORARY BERMS, WHEN NECESSARY, SHALL BE A MINIMUM OF 18" HIGH AND CONSTRUCTED IN A MANNER THAT ENSURES STORM WATER DOES NOT BYPASS THE SEDIMENT TRAP. THE CONTRACTOR MAY SUBMIT ALTERNATE TEMPORARY CONTAINMENT BERM DESIGNS TO THE DESIGN PROFESSIONAL FOR APPROVAL.

## SEDIMENT STORAGE

THE CONTRACTOR SHALL PROVIDE AND MAINTAIN THE STORAGE VOLUMES FOR THE BMPs SPECIFIED IN THE "SEDIMENT STORAGE TABLE" LOCATED ON ER-300.

SOIL SERIES INFORMATION  
FOR A SUMMARY OF THE SOILS THAT ARE EXPECTED TO BE FOUND ON THE PROJECT SITE BASED ON NRCS SOIL MAPS: SEE SHEET E-200 FOR SOIL SERIES DELINEATION AND THE TABLE BELOW FOR SOIL DESCRIPTIONS.

## SOILS SERIES TABLE

SOILS SERIES TABLE	
CECIL SANDY LOAM	CeB 2 TO 6 PERCENT SLOPES
CECIL SANDY CLAM LOAM	CtCZ 6 TO 10 PERCENT SLOPES

## SAMPLING 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 EPO.

- SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
- SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
- LARGE MOUTH, CLEAR AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.
- MANUAL AUTOMATIC OR RISING STAKE 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 THAT ARE EXPOSED AFTER 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 STAKE SAMPLING

DURING THE QUALIFYING EVENT, DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.

SAMPLING AND ANALYSIS OF THE RECEIVING WATERS) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPO AS SPECIFIED IN PART I.V.E.

## SAMPLING POINTS

- FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES SHOWN ON THE USGS TOPOGRAPHIC MAP AND ALL OTHER FIELD VERIFIED PERENNIAL AND INTERMITTENT STREAMS AND OTHER WATER BODIES, OR ALL OUTFALLS INTO SUCH STREAMS AND OTHER WATER BODIES, OR A COMBINATION THEREOF. HOWEVER, PROVIDED FOR IN AND IN ACCORDANCE WITH PART N.D.6.C.(2) OF THE PERMIT, PRIMARY PERMITTEES OF AN INFRASTRUCTURE CONSTRUCTION PROJECT MAY SAMPLE THE REPRESENTATIVE PERENNIAL AND INTERMITTENT STREAMS, OTHER WATER BODIES OR OUTFALLS, OR A COMBINATION THEREOF. 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 STORM WATER OUTFALLS USING THE FOLLOWING MINIMUM GUIDELINES:
  - THE UPSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST UPSTREAM AT THE SITE) BUT DOWNSTREAM OF ANY OTHER STORM WATER DISCHARGE 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.
  - THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE FROM THE PERMITTED ACTIVITY (I.E., THE DISCHARGE FARTHEST DOWNSTREAM AT THE SITE) BUT UPSTREAM OF ANY OTHER STORM WATER 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.
  - DEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORM OUTLET CHANNEL(S).
  - CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER CHANNEL(S).
  - THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.
  - THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.
  - PERMITTEES DO NOT HAVE TO SAMPLE SHEETFLOW THAT FLOWS INTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNIMPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, 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 LANDSCAPED MATERIALS IN PLANNED LANDSCAPES) OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARTED CROP PERENNELS APPROPRIATE FOR THE REGION). FOR INFRASTRUCTURE 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.
  - ALL SAMPLING PUSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER STORM WATER RUNOFF FROM THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE STANDARD SET FORTH IN PARTS III.D, OR III.E, WHICHEVER APPLICABLE.
- FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, THE PERMITTEE IS NOT REQUIRED TO SAMPLE A PERENNIAL OR INTERMITTENT STREAM OR OTHER WATER BODIES (OR THE ASSOCIATED OUTFALL, IF APPLICABLE) IF THE DESIGN PROFESSIONAL, PRIOR TO THE PERMIT, CERTIFIES THAT AN INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIFIED RECEIVING WATER TO BE SAMPLED WILL BE REPRESENTATIVE OF THE INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIFIED UN-SAMPLED RECEIVING WATER. THE DESIGN PROFESSIONAL'S JUSTIFICATION AND DETAILED ANALYSIS SHALL BE PREPARED BY THE DESIGN PROFESSIONAL. JUSTIFYING SUCH SAMPLING, A SUMMARY CHART OF THE JUSTIFICATION AND ANALYSIS FOR THE REPRESENTATIVE SAMPLING MUST BE INCLUDED ON THE PLAN. THE JUSTIFICATION AND ANALYSIS SHALL INCLUDE THE LOCATION AND DESCRIPTION OF THE TRAPPED RECEIVING WATER AND UN-SAMPLED RECEIVING WATER, AND SHALL CONTAIN A DETAILED COMPARISON AND DISCUSSION OF EACH SUCH RECEIVING WATER IN THE FOLLOWING AREAS:
  - SITE LAND DISTURBANCES AND CHARACTERISTICS;
  - RECEIVING WATER WATERSHED AREAS AND CHARACTERISTICS; AND
  - SITE AND WATERSHED RUNOFF CHARACTERISTICS UTILIZING THE METHODS IN APPENDIX A-1 (UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE'S 18-55, URBAN HYDROLOGY FOR LAND USE/COVER CHANGES) OF THE MOST RECENT VERSION OF THE "MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA" FOR THE VARIOUS PRECIPITATION EVENTS AND ANY OTHER SUCH CONSIDERATIONS NECESSARY TO SHOW THAT THE INCREASE IN THE TURBIDITY OF A SPECIFIC IDENTIFIED SAMPLING RECEIVING WATER WILL BE REPRESENTATIVE OF THE INCREASES IN THE TURBIDITY OF A SPECIFIC IDENTIFIED UN-SAMPLED RECEIVING WATERS.
- FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, WHEN THE DESIGN DETERMINES THAT SOME RECEIVING WATER(S) WILL NOT BE SAMPLED DUE TO REPRESENTATIVE SAMPLING, THE DESIGN PROFESSIONAL MAKING THIS DETERMINATION AND PREPARING THE PLAN MUST INCLUDE AND SIGN THE FOLLOWING CERTIFICATION IN THE PLAN: SEE CERTIFICATION STATEMENT ON EROSION CONTROL SHEET 300.
- FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, WHEN AT ANY TIME DURING THE LIFE OF THE PROJECT A SELECTED RECEIVING WATER NO LONGER REPRESENTS ANOTHER RECEIVING WATER, THEN THE PERMITTEE SHALL SAMPLE THE LATER RECE







St Table									
Structure	Q <sub>25</sub>	W <sub>1</sub>	W <sub>2</sub>	L <sub>a</sub>	d <sub>50</sub>	D	V <sub>25</sub>	TAILWATER	
1	8.9	6	6	10	0.5	1.1	4.3	>0.5D <sub>o</sub>	

Sd2	Drainage Area	Dimensions			Required Sediment Storage		Provided Sediment Storage
		Acre	Depth (ft)	Length (ft)	Width (ft)	yd³	ft³
A	0.29	2	24	12	19.43	524.61	576
B	0.71	2	36	18	47.57	1284.39	1296
				Totals	67	1809	1872

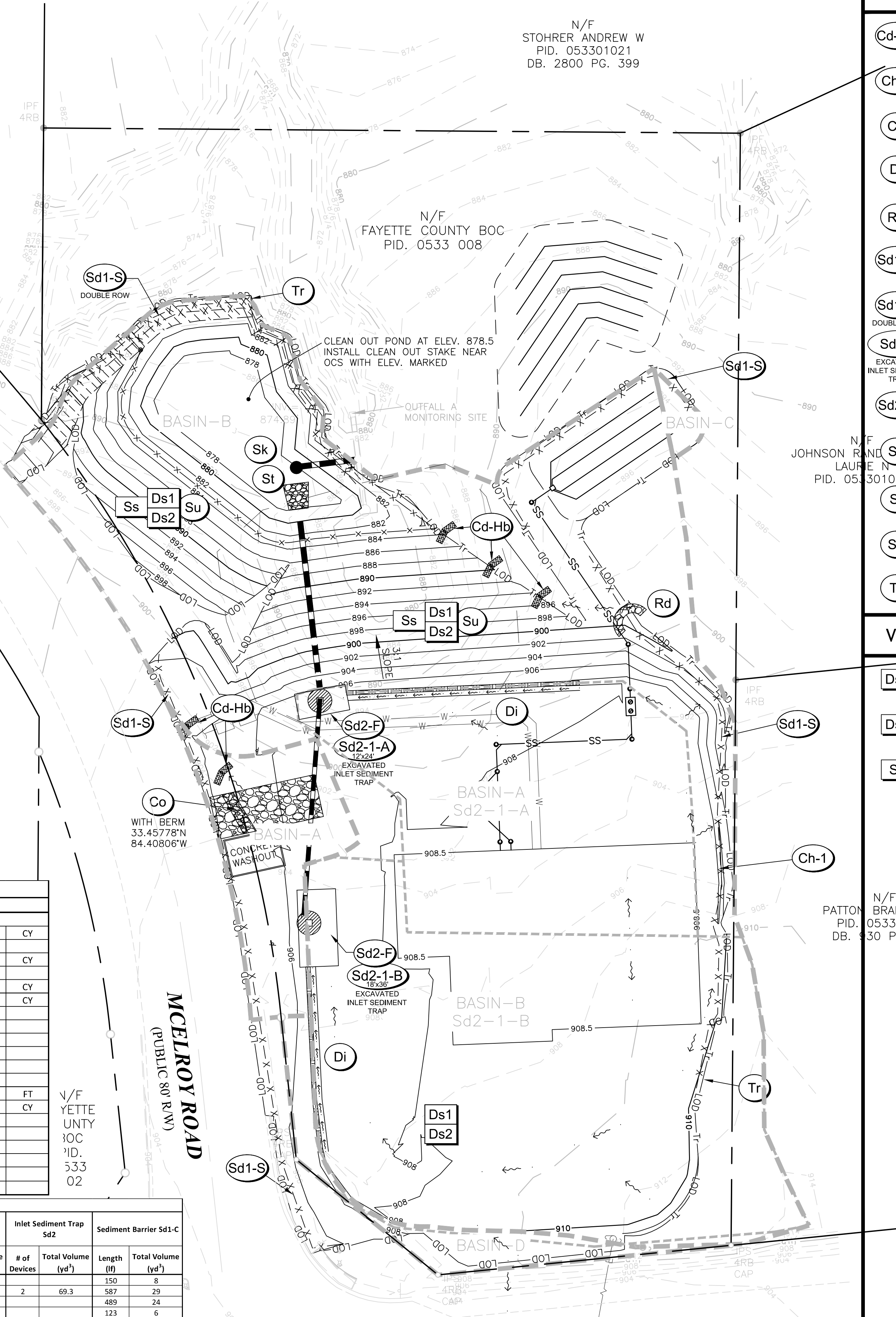
\*Length and Width dimensions are based on bottom of excavated area  
\*\*All side slopes shall not be steeper than 2:1

Calculate Skimmer Size			
Basin Volume in Cubic Feet	26,870 Cu.Ft	Skimmer Size	3.0 Inch
Days to Drain*	3 Days	Orifice Radius	1.4 Inch(es)
		Orifice Diameter	2.9 Inch(es)

\*In NC assume 3 days to drain

TO BE SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN		
Retrofit Storage Calculations		
1. Required stormwater storage (as determined by local ordinance)	590.2	CY
2. Required sediment storage (Supplemental BMP b)(67 cy/ac * 2.0 ac disturbed area)	134.0	CY
3. Total required storage	724.2	CY
4. Available storage	995.2	CY
5. Is the available storage (4) greater than the total required storage (3)?	X yes	no
6. If "no", the sediment storage capacity of the pond must be increased. Choose the method to be used:		
Raise the invert of the outlet structure		inches
Undercut the pond		feet
Other		
7. Clean-out elevation (Elevation corresponding to 22 cy/ac * 2.0 ac disturbed area)	878.5	FT
8. Is the length-width ratio 2:1 or greater?	X yes	no
9. If "no", the length of flow must be increased. Choose the method to be used:		
Baffles (Type of baffle : )		N/A
Other		

SEDIMENT STORAGE CALCULATIONS											
Drainage Area	Total Drainage Area (acres)	Disturbed Area (acres)	Required Sediment Storage Volume (yd <sup>3</sup> )	Total Storage Volume Provided (yd <sup>3</sup> )	Temporary Sediment Basin Sd3	Rock Dam Rd	Check Dam Cd	Inlet Sediment Trap Sd2	Sediment Barrier Sd1-C		
					# of Devices	Total Volume (yd <sup>3</sup> )	# of Devices	Total Volume (yd <sup>3</sup> )	# of Devices	Total Volume (yd <sup>3</sup> )	Length (ft)
A	0.13	0.13	9	9	1	134	1	1.7	2	69.3	587
B	2.66	1.82	178	234							29
C	0.01	0.01	1	24							24
D	0.09	0.09	6	6							6



#### STRUCTURAL BMP LEGEND

Cd-Hb		CHECK DAM-HAY BALE
Ch-1		CHANNEL STABILIZATION-VEGETATED LINING
Co		CONSTRUCTION EXIT
Di		DIVERSION
Rd		ROCK FILTER DAM
Sd1-S		SILT FENCE-TYPE SENSITIVE
Sd1-S		SILT FENCE-TYPE SENSITIVE (DOUBLE ROW)
Sd2-1		EXCAVATED INLET SEDIMENT TRAP
Sd2-F		INLET SEDIMENT TRAP-FILTER FABRIC WITH SUPPORTING FRAME
Sk		FLOATING SURFACE SKIMMER
St		STORM DRAIN OUTLET PROTECTION
Su		SURFACE ROUGHENING
Tr		TREE PROTECTION

#### VEGETATIVE BMP LEGEND

Ds1		DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)
Ds2		DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)
Ss		SLOPE STABILIZATION

#### EROSION CONTROL NOTES

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

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

NO LAND DISTURBANCE, CONSTRUCTION PROCESSES, OR STORAGE OF EQUIPMENT OR MATERIALS SHALL TAKE PLACE WITHIN A DESIGNATED TREE PROTECTION AREA IN ORDER TO PREVENT DIRECT PHYSICAL ROOT DAMAGE THAT OCCURS DURING SITE CLEARING AND GRADING AND CAN CAUSE TRANSPORT OR FEEDER ROOTS TO BE CUT, TORN, OR REMOVED; INDIRECT ROOT DAMAGE CAUSED FROM GRADE CHANGES; AND TRUNK AND CROWN DAMAGE CAUSED BY DIRECT CONTACT WITH LAND CLEARING MACHINERY OR GALLING OF ADJACENT TREES.

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 EPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE FOUND AT [www.gswcc.georgia.gov](http://www.gswcc.georgia.gov).

USE OF ALTERNATIVE BMP FOR APPLICATION TO THE EQUIVALENT BMP LIST. PLEASE REFER TO APPENDIX A-2 OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA 2016 EDITION.

#### INTERMEDIATE PHASE NARRATIVE:

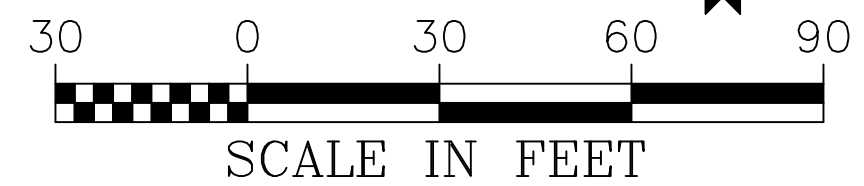
AFTER THE PERIMETER CONTROL BMPs IN THE INITIAL PHASE ARE INSTALLED AND FUNCTIONING PROPERLY, GRADING OPERATIONS CAN COMMENCE FOR THE NEW DETENTION POND AND SK FOR INITIAL SEDIMENT STORAGE. SK SHALL BE INSTALLED AND FUNCTIONING BEFORE GRADING FOR THE REST OF SITE CAN COMMENCE. AS GRADING IS OCCURRING, FINAL GRADES ARE BEING REACHED AND STORM DRAINAGE IS BEING INSTALLED. Sd2 EXCAVATED INLET SEDIMENT TRAPS ARE PROPOSED AROUND THE INLETS AS SHOWN. THE ROCK FILTER DAM (Rd) PROVIDES SEDIMENT STORAGE TO MINIMIZE SEDIMENT FROM ENTERING POND AS SHOWN. DISTURBED AREA STABILIZATION SHALL BE IMPLEMENTED IN ACCORDANCE WITH THE MANUAL. Ss, HYDROSEED AND MULCH SHALL BE PLACED ON FINAL POND SLOPES AS APPROVED ON ALTERNATIVE BMP LIST.

INITIAL PHASE BMPs SHALL BE MAINTAINED AS SHOWN THROUGH THE INTERMEDIATE PHASE. CLEAN-OUT ACCUMULATED SILT AND SEDIMENT STORED IN BMPs, IMPLEMENTATION AND MAINTENANCE OF ALL BMPs SHALL BE ACCORDING TO THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. DETAILS FOR THE PROPOSED BMPs ARE INCLUDED ON SHEETS ER-500-501.

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.



24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414



Engineers  
Planners  
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PHONE: (770) 971-5407  
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## FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

## 1ST SUBMITTAL FOR PERMITTING

NO.	REVISION REFERENCE	DATE



GSWCC CERT #2973

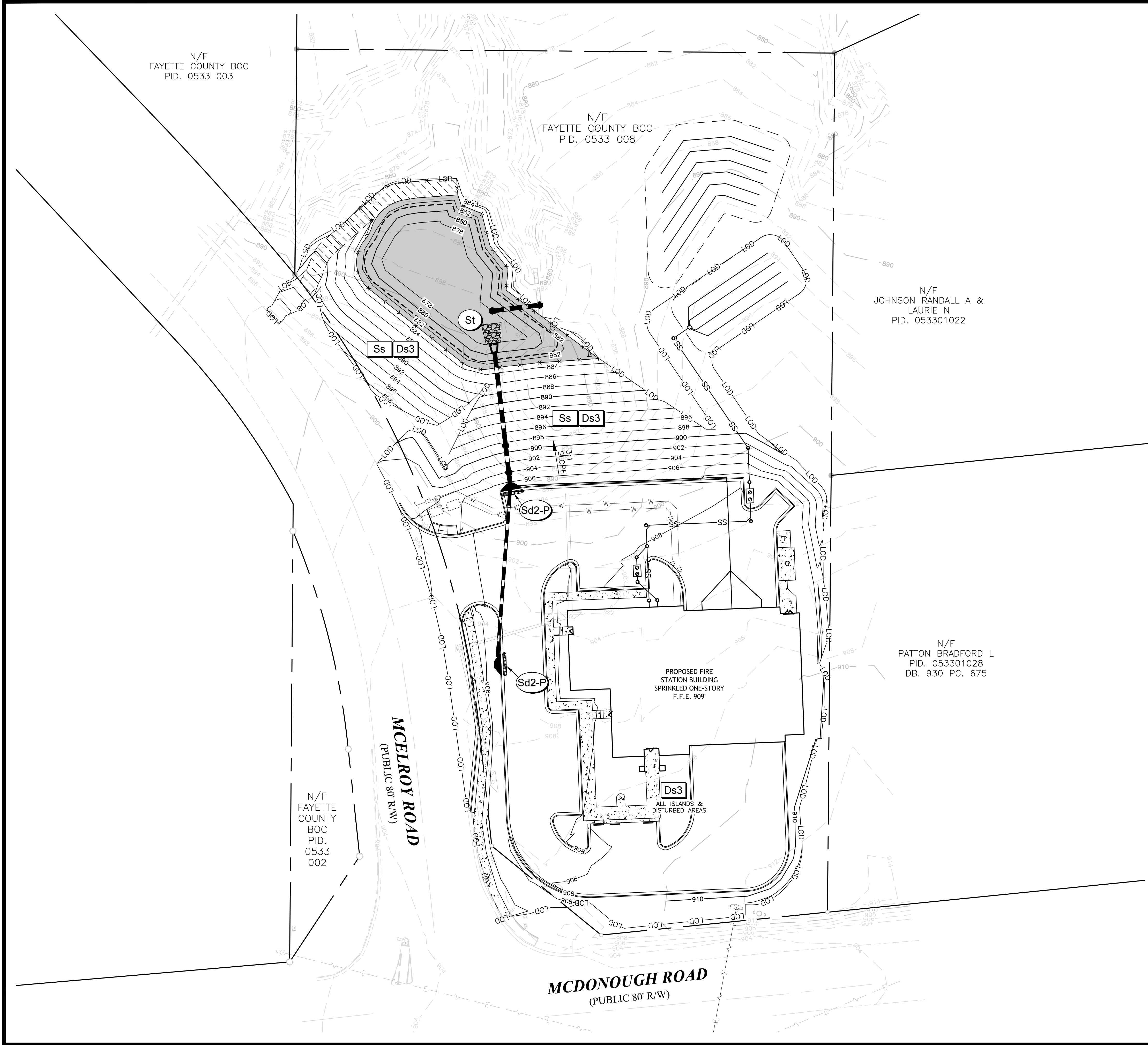
SHEET TITLE  
EROSION CONTROL  
PLAN - INTERMEDIATE  
PHASE

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=30'	ISSUE DATE 04/30/2018

PROJECT NUMBER  
1788.000

DRAWING NUMBER  
**ER-300**  
SHEET 20 of 22





### EROSION CONTROL NOTES

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

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

NO LAND DISTURBANCE, CONSTRUCTION PROCESSES, OR STORAGE OF EQUIPMENT OR MATERIALS SHALL TAKE PLACE WITHIN A DESIGNATED TREE PROTECTION AREA IN ORDER TO PREVENT DIRECT PHYSICAL ROOT DAMAGE THAT OCCURS DURING SITE CLEARING AND GRADING AND CAN CAUSE TRANSPORT OF FEEDER ROOTS TO BE CUT, TORN, OR REMOVED; INDIRECT ROOT DAMAGE CAUSED FROM GRADE CHANGES; AND TRUNK AND CROWN DAMAGE CAUSED BY DIRECT CONTACT WITH LAND CLEARING MACHINERY OR GALLING OF ADJACENT TREES.

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 EPD OR THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION). PLEASE REFER TO THE ALTERNATIVE BMP GUIDANCE FOUND AT [www.goswcc.georgia.gov](http://www.goswcc.georgia.gov).

USE OF ALTERNATIVE BMP FOR APPLICATION TO THE EQUIVALENT BMP LIST. PLEASE REFER TO APPENDIX A-2 OF THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA 2016 EDITION.

### FINAL PHASE NARRATIVE:

ONCE THE GRADING IS COMPLETE ACCUMULATED SEDIMENT SHALL BE REMOVED FROM THE SITE AND DISPOSED OF PROPERLY. IN PREPARATION OF FINAL CONSTRUCTION, PERMANENT GRASSING WILL BE INSTALLED AND MAINTAINED AS SHOWN. ONCE AREAS OF DISTURBANCE IN THIS PHASE ARE COMPLETELY STABILIZED AND ALL PERMANENT BMPs ARE IN PLACE AND FUNCTIONING PROPERLY, ALL TEMPORARY BMPs SHALL BE REMOVED.

### STRUCTURAL BMP LEGEND

	CURB INLET PROTECTION "PIGS IN A BLANKET"
	STORM DRAIN OUTLET PROTECTION

### VEGETATIVE BMP LEGEND

	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
	SLOPE STABILIZATION

IF ANY CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE DISCOVERED, EITHER ON THE CONSTRUCTION DOCUMENTS OR THE FIELD CONDITIONS, THE CONTRACTOR MUST NOTIFY THE ENGINEER IMMEDIATELY AND SHALL NOT COMMENCE OPERATION UNTIL THE CONFLICTS, DISCREPANCIES OR OTHER UNSATISFACTORY CONDITIONS ARE RESOLVED.

Know what's Below.  
Call before you dig.

24 HOUR CONTACT:  
DAVID SCARBROUGH  
TEL: 770-305-5414

SEAL

GSWCC CERT #2973

SHEET TITLE  
EROSION CONTROL  
PLAN - FINAL PHASE

DRAWN BY SMM	CHECKED BY LCC
SCALE 1"=30'	ISSUE DATE 04/30/2018
PROJECT NUMBER 1788.000	
DRAWING NUMBER ER-400	

SHEET 21 of 22

Engineers  
Planners  
Surveyors

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## FIRE STATION NO. 4

DESIGN PHASE

LAND LOT(S) 139  
OF THE 2ND DISTRICT, 5TH SECTION  
FAYETTE COUNTY, GEORGIA

Plot Scale: 1"= ##' Drawing Location: 0.0' Plot Style: Design.ctb Plotted By: Scott McElroy on 5/1/2018, 8:32 AM

### 1ST SUBMITTAL FOR PERMITTING







**Ds1** **DISTURBED AREA STABILIZATION**  
**(WITH MULCHING ONLY)**

**SPECIFICATIONS**

N.T.S.

**Mulching Without Seeding**

This standard applied to grades or cleared areas where seedlings may not have a suitable growing season to produce an erosion retardant cover, but can be stabilized with a mulch cover.

**Site Preparation**

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

**Mulching Materials**

- Select one of the following materials and apply at the depth indicated:
1. *Dry straw or hay* shall be applied at a depth of 2 to 4 inches providing complete soil coverage. One advantage of this material is easy application.
  2. *Wood waste* (chips, sawdust or bark) shall be applied at a depth of 2 to 3 inches. Organic material from the clearing stage of development should remain on site, be chipped, and applied as mulch. The method of mulching can greatly reduce erosion control costs.
  3. *Polyethylene film* shall be secured over banks or stockpiled soil material for temporary protection. This material can be salvaged and reused.

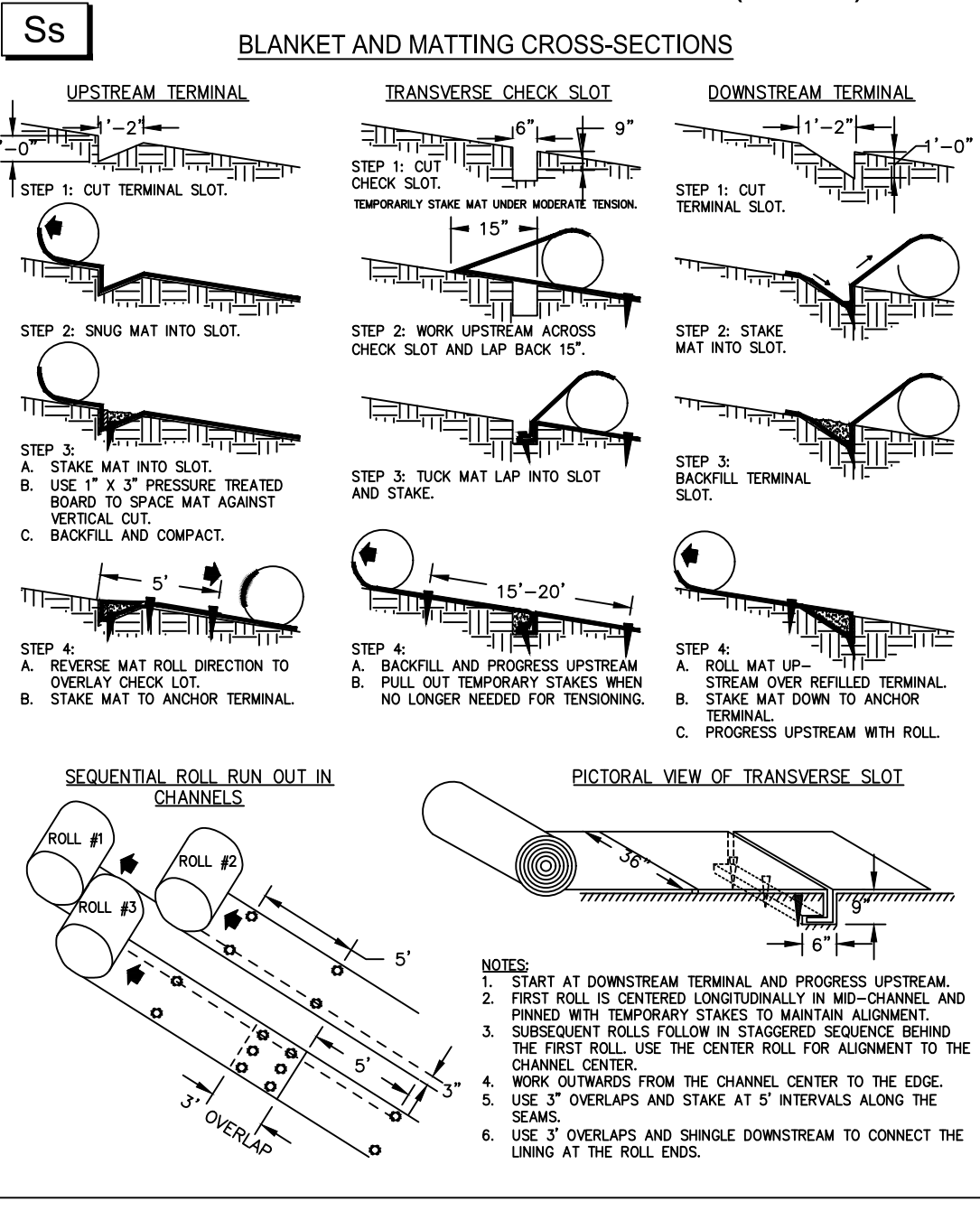
**Applying Mulch**

- When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.
1. *Dry straw or hay mulch* and *wood chips* shall be applied uniformly by hand or by mechanical equipment.
  2. If the area will eventually be covered with perennial vegetation, 20-30 pounds of nitrogen per acre in addition to the normal amount shall be applied to offset the uptake of nitrogen caused by the decomposition of the organic mulches.
  3. Apply polyethylene film on exposed areas.

**Anchoring Mulch**

1. *Straw or hay mulch* can be pressed into the soil with a disk harrow with the disk set straight or with a special "pucker disk". Disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disk should be dull enough not to cut the mulch but to press it into the soil leaving much of it in an erect position. **Straw or hay mulch shall be anchored immediately after application.**
2. Netting of the appropriate size shall be used to anchor *wood waste*. Openings of the netting shall not be larger than the average size of the wood waste chips.
3. *Polyethylene film* shall be anchor trenched at the top as well as incrementally as necessary.

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



**Ds2** **DISTURBED AREA STABILIZATION**  
**(WITH TEMPORARY SEEDING)**

N.T.S.

**SPECIFICATIONS**

**Grading and Shaping**

Excessive water run-off shall be reduced by properly designed and installed erosion control practices such as closed drains, ditches, diversions, sediment barriers and others.

No shaping or grading is required if slopes can be stabilized by hand-seeded vegetation or if hydraulic seeding equipment is to be used.

**Seedbed Preparation**

When a hydraulic seeder is used, seedbed preparation is not required. When using conventional or hand-seeding, seedbed preparation is not required if the soil material is loose and not sealed by rainfall.

When soil has been sealed by rainfall or consists of smooth cut slopes, the soil shall be pitted, trenched or otherwise scarified to provide a place for seed to lodge and germinate.

**Lime and Fertilizer**

Agricultural lime is required unless soil tests indicate otherwise. Apply agricultural lime at determined by soil test for pH. Quick acting lime should be incorporated to modify pH during the germination period. Bio stimulants should also be considered when there is less than 3% organic matter in the soil. Graded areas require lime application. Soils must be tested to determine required amounts of fertilizer and amendments. Fertilizer should be applied before land preparation and incorporated with a disk, ripper, or chisel. On slopes too steep for, or inaccessible to equipment, fertilizer shall be hydraulically applied, preferably in the first pass with seed and some hydraulic mulch, then topped with the remaining required application rate.

**Seeding**

Select a grass or grass-legume mixture suitable to the area and season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, cultipacker-seeder, or hydraulic seeder (slurry including seed and fertilizer). Drill or cultipacker seeders should normally place seed one-quarter to one-half inch deep. Appropriate depth of planting is ten times the seed diameter. Soil should be "raked" lightly to cover seed with soil if seeded by hand. See table below.

**Mulching**

Temporary vegetation can, in most cases, be established without the use of mulch provided there is little to no erosion potential. However, the use of mulch can often accelerate and enhance germination and vegetation establishment. Mulch without seeding should be considered for short term protection. Refer to **Ds1 - Disturbed Area Stabilization (With Mulching Only)**.

**Irrigation**

During times of drought, water shall be applied at a rate not causing runoff and erosion. The soil shall be thoroughly wetted to a depth that will insure germination of the seed. Subsequent applications should be made when needed.

**PLANT, PLANTING RATES, AND PLANTING DATES FOR TEMPORARY COVER OR COMPANION CROPS**

SPECIES	BROADCAST RATES		PLANTING DATES FOR SOUTHERN PIEDMONT REGION												REMARKS
	PER ACRE	PER 1000 SQ. FT.	J	F	M	A	M	J	J	A	S	O	N	D	
BARLEY (Hordeum vulgare) alone in mixture	144 lbs. 24 lbs.	3.3 lbs. 0.6 lb.	J	F	M	A	M	J	J	A	S	O	N	D	14,000 seed per pound. Winterhardy. Use on productive soils.
LESPEDEZA, ANNUAL (Lespedeza striata) alone in mixture	40 lbs. 10 lbs.	0.9 lb. 0.2 lb.	J	F	M	A	M	J	J	A	S	O	N	D	200,000 seed per pound. May volunteer for several years. Use inoculant EL.
LOVEGRASS, WEEPING (Hordeum vulgare) alone in mixture	4 lbs. 2 lbs.	0.1 lb. 0.05 lb.	J	F	M	A	M	J	J	A	S	O	N	D	1,500,000 seed per pound. May last for several years. Mix with Sericea lespedeza.
MILLET, BROWN TOP (Panicum fasciculatum) alone in mixture	40 lbs. 10 lbs.	0.9 lb. 0.2 lb.	J	F	M	A	M	J	J	A	S	O	N	D	137,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded in high rates.
MILLET, PEARL (Pennisetum glaucum) alone	50 lbs.	1.1 lb.	J	F	M	A	M	J	J	A	S	O	N	D	88,000 seed per pound. Quick dense cover. May reach 5 feet in height. Not recommended for mixtures.
OATS (Avena sativa) alone in mixture	128 lbs. 32 lbs.	2.9 lbs. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	13,000 seed per pound. Use on productive soils. Not as winterhardy as rye or barley.
RYE (Secale cereale) alone in mixture	168 lbs. 28 lbs.	3.9 lbs. 0.6 lb.	J	F	M	A	M	J	J	A	S	O	N	D	18,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
RYEGRASS, ANNUAL (Lolium temulentum) alone	40 lbs.	0.9 lb.	J	F	M	A	M	J	J	A	S	O	N	D	227,000 seed per pound. Dense cover. Very competitive and is not to be used in mixtures.
SUDANGRASS (Sorghum sudanense) alone	60 lbs.	1.4 lb.	J	F	M	A	M	J	J	A	S	O	N	D	55,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
WHEAT (Triticum aestivum) alone in mixture	180 lbs. 30 lbs.	4.1 lbs. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	15,000 seed per pound.

**Ds3** **DISTURBED AREA STABILIZATION**  
**(WITH PERMANENT VEGETATION)**

N.T.S.

**Seedbed Preparation**

Seedbed preparation may not be required where hydraulic seeding and fertilizing equipment is to be used (but is strongly recommended for any seeding process, when possible). When conventional seeding is to be used, seedbed preparation will be done as follows:

1. Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; allocate compaction; incorporate lime and fertilizer; smooth and firm the soil, allow for the proper placement of seed, sprigs, or plants; and allow for the anchoring of straw or hay mulch if a disk is to be used.
2. Tillage may be done with any suitable equipment.
3. Tillage should be done on the contour where feasible.
4. On slopes too steep for the safe operation of tillage equipment, the soil surface shall be pitted or trenched across the slope with appropriate hand tools to provide two places 6 to 8 inches apart in which seed may lodge and germinate. Hydraulic seeding may also be used.
5. Where individual plants are to be set, the soil shall be prepared by excavating holes, opening furrows, or dibble planting.
6. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
7. Where pine seedlings are to be planted, subsoil under the row 36 inches deep on the contour four to six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.

**Inoculants**

All legume seed shall be inoculated with appropriate nitrogen-fixing bacteria; the inoculant shall be a pure culture prepared specifically for the seed species and used within the dates on the container.

A mixing medium recommended by the manufacturer shall be used to hold the inoculant to the seed for conventional seeding, or use the amount of inoculant recommended by the manufacturer. For hydraulic seeding, four times the amount of inoculant recommended by the manufacturer shall be used.

All inoculated seed shall be protected from the sun and high temperatures and shall be planted the same day inoculated. No inoculated seed shall remain in the hydroseeder longer than one hour.

**Planting**

**Hydraulic Seeding**  
Mix the seed (inoculated if needed), fertilizer, and wood cellulose or wood pulp fiber mulch with water and apply in a slurry uniformly over the area to be treated. Apply within one hour after the mixture is made.

**Conventional Seeding**  
Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a cultipacker-seeder, drill, rotary seeder, other mechanical seeder, or hand seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with 1/8 to 1/4 inch of soil for small seed and 1/2 to 1 inch for large seed when using a cultipacker or other suitable equipment.

**No-Till Seeding**

No-till seeding is permissible into annual cover crops when planting is done following maturity of the cover crop or if the temporary cover stand is sparse enough to allow adequate growth of the permanent (perennial) species. No-till seeding shall be done with appropriate no-till seeding equipment; the seed must be uniformly distributed and planted at the proper depth.

**Individual Plants**  
Shrubs, vines and sprigs may be planted with appropriate planters or hand tools; pine trees shall be planted manually in the subsoil furrow. Each plant shall be set in a manner that will avoid crowding the roots.

Nursery stock plants shall be planted at the same depth or slightly deeper than they grew at the nursery. The top of vines and sprigs must be at or slightly above the ground surface.

Where individual holes are dug, fertilizer shall be placed in the bottom of the hole, two inches of soil shall be added and the plant shall be set in the hole.

**Mulching**

Mulch is required for all permanent vegetation applications; mulch applied to seeded areas shall achieve 75% to 100% soil cover. When selecting a mulch, design professionals should consider the mulch's functional longevity, vegetation establishment enhancement, and erosion control effectiveness. Select the mulching material from the following and apply as indicated:

1. Dry straw or dry hay of good quality and free of weed seeds can be used; dry straw shall be applied at the rate of 2 tons per acre. Dry hay shall be applied at a rate of 2 1/2 tons per acre.
2. Wood cellulose mulch or wood pulp fiber shall be used with hydraulic seeding. It shall be applied at the rate of 500 pounds per acre. Dry straw or dry hay shall be applied at the rate indicated above after hydraulic seeding.
3. One thousand pounds of wood cellulose or wood pulp fiber, which includes a tackifier, shall be used with hydraulic seeding on slopes 3:4 or steeper.
4. Sericea lespedeza hay containing mature seed shall be applied at a rate of three tons per acre.
5. Pine straw or pine bark shall be applied at a thickness of 3 inches for bedding purposes; other suitable materials in sufficient quantity may be used where ornamentals or other ground covers are planted. This is **NOT** appropriate for seeded areas.
6. When using temporary erosion control blankets or black soil, mulch is not required.
7. Biominous treated roving may be applied on planted areas, slopes, in ditches or dry waterways to prevent erosion. Biominous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet Georgia Department of Transportation specifications.

Wood cellulose and wood pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when applied in water. The fibers shall contain a dye to allow visual screening and aid in uniform application during seeding.

**Applying Mulch**

Straw or hay mulch will be spread uniformly within 24 hours after seeding and/or planting the mulch may be spread by blower-type spreading equipment, other spreading equipment or by hand. Mulch shall be applied to cover 75% of the soil surface.

Wood cellulose or wood pulp fiber mulch shall be applied uniformly with hydraulic seeding equipment.

**Anchoring Mulch**

- Anchor straw or hay mulch immediately after application by one of the following methods:
1. Hay and straw mulch shall be pressed into the soil immediately after the mulch is spread. A special "pucker disk" or disk harrow with the disks set straight may be used. The disks may be smooth or serrated and should be 20 inches or more in diameter and 8 to 12 inches apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
  2. Synthetic tackifiers, binders or hydraulic mulch specifically designed to tack straw, shall be applied in conjunction with or immediately after the mulch is spread. Synthetic tackifiers shall be mixed and applied according to manufacturer's specifications. All tackifiers, binders or hydraulic mulch specifically designed to tack straw should be verified nontoxic through EPA 20210 testing. Refer to "Tackifiers-Tac".
  3. Rye or wheat can be included with fall and winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one-half bushel per acre.
  4. Plastic mesh or netting with mesh no larger than one inch by one inch may be needed to anchor straw or hay mulch on unstable soils and concentrated flow areas. These materials shall be installed and anchored according to manufacturer's specifications.

**Bedding Material**

Mulch is used as a bedding material to conserve moisture and control weeds in nurseries, ornamental beds, around shrubs, and on bare areas on lawns.

Material	Depth
Grass Straw	4" TO 6"
Grass Hay	4" TO 6"
Pine Needles	3" TO 5"
Wood Waste	4" TO 6"

**Irrigation**

Irrigation will be applied at a rate that will not cause runoff.

**Topdressing**

Topdressing will be applied on all temporary and permanent (perennial) species planted alone or in mixtures with other species. Recommended rates of application are listed in table 6-5.1.

**Second Year and Maintenance Fertilization**

Second year fertilizer rate and maintenance fertilizer rates are listed in table 6-5.1.

**Lime Maintenance Application**

Apply one ton of agricultural lime every 4 to 6 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements, if desired.

**Use And Management**

Mow Sericea lespedeza only after first to ensure that the seeds are mature. Mow between November and March.

Perennial grasses, Bahia grass and Tall Fescue may be mowed as desired. Maintain at least 6 inches of top growth under any use and management. Moderate use of top growth is beneficial after establishment.

Exclude traffic until the plants are well established. Because of the quail nesting season, mowing should not take place between May and September.

**FERTILIZER REQUIREMENTS**

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	NITROGEN TOP DRESSING RATE
1. Cool season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac.
	Second	6-12-12	1000 lbs./ac.	----
	Maintenance	10-10-10	400 lbs./ac.	30 lbs./ac.
2. Cool season grasses and legumes	First	6-12-12	1500 lbs./ac.	0-50 lbs./ac.
	Second	6-12-12	1000 lbs./ac.	----
	Maintenance	10-10-10	400 lbs./ac.	----
3. Ground covers	First	10-10-10	1300 lbs./ac.	----
	Second	10-10-10	1300 lbs./ac.	----
	Maintenance	10-10-10	1100 lbs./ac.	----
4. Pine seedlings	First	20-10-5	one 21-gram pellet per seedling placed in the closing hole	----
5. Shrub Lespedeza	First	6-10-10	700 lbs./ac.	----
	Maintenance	6-10-10	700 lbs./ac.	----
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac.
7. Warm season grasses	First	6-12-12	1500 lbs./ac.	50-100 lbs./ac.
	Second	6-12-12	800 lbs./ac.	50-100 lbs./ac.
	Maintenance	10-10-10	400 lbs./ac.	30 lbs./ac.
8. Warm season grasses and legumes	First	6-12-12	1500 lbs./ac.	50 lbs./ac.
	Second	6-12-12	1000 lbs./ac.	----
	Maintenance	6-10-10	400 lbs./ac.	----

**PLANT, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER**

SPECIES	BROADCAST RATES		PLANTING DATES FOR SOUTHERN PIEDMONT REGION												REMARKS
	PER ACRE	PER 1000 SQ. FT.	J	F	M	A	M	J	J	A	S	O	N	D	
BAHIA, PENSACOLA (Paspalum notatum) alone or w/ temp. cover with other perennials	60 lbs. 30 lbs.	1.4 lb. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	166,000 seed per pound. Low growing. Seed dormant. Slow to establish. Plant with a companion crop. Will sprout in bermuda pastures and lawns. Mix with Sericea lespedeza or weeping lovegrass or bermuda.
BAHIA, WILMINGTON (Paspalum notatum) alone or w/ temp. cover with other perennials	60 lbs. 30 lbs.	1.4 lb. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	1,787,000 seed per pound. Quick cover. Low growing and seed dormant. Full sun and good for athletic fields.
BERMUDA, COMMON (Cynodon dactylon) alone with other perennials	10 lbs. 6 lbs.	0.2 lb. 0.1 lb.	J	F	M	A	M	J	J	A	S	O	N	D	Plant with winter annuals.
BERMUDA, COMMON (Cynodon dactylon) with temporary cover with other perennials	10 lbs. 6 lbs.	0.2 lb. 0.1 lb.	J	F	M	A	M	J	J	A	S	O	N	D	Plant with tall fescue.
BERMUDA SPRIGS (Cynodon dactylon) Coastal, Common, or Tift 44	40 cu. ft. 0.9 cu. ft.		J	F	M	A	M	J	J	A	S	O	N	D	A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs.
CENTPEDEE (Fremontia ophioides)	Block seed only		J	F	M	A	M	J	J	A	S	O	N	D	Establishes in bare soil or on compacted soil. Do not plant near pastures or lawns. Do not use in areas where it will be mowed.
CROWN VETCH (Coronilla varia) with winter annuals or cool season grasses	15 lbs. 0.3 lb.		J	F	M	A	M	J	J	A	S	O	N	D	10,000 seed per pound. Dense growth. Attractive color, red, and white. Blooms in late May and early June. Do not use in areas of athletic fields.
FESCUE, TALL (Festuca arundinacea) alone with other perennials	50 lbs. 30 lbs.	1.1 lb. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	227,000 seed per pound. Use alone or with other perennials. Mix with perennial legumes or covercrops. Will sprout in bermuda pastures and lawns. Do not use in areas of athletic fields.
LESPEDEZA, SERICA (Lespedeza cuneata) scarified unscarified seed-bearing hay	60 lbs. 75 lbs. 3 tons	1.4 lbs. 1.7 lbs. 138 lbs.	J	F	M	A	M	J	J	A	S	O	N	D	150,000 seed per pound. Widely adapted. Low maintenance. Mix with weeping lovegrass, common bermuda, tall fescue, and tall grass. Take 2 to 3 years to become fully established. Excellent for roadbanks, broadcast seed with EL inoculant.
LESPEDEZA (Lespedeza virgata DC) or (Lespedeza cuneata G. Don) scarified unscarified	60 lbs. 75 lbs.	1.4 lbs. 1.7 lbs.	J	F	M	A	M	J	J	A	S	O	N	D	160,000 seed per pound. Rapid growth. 1 to 2 feet tall. Attractive green leaves. Tolerant of shade. Mix with weeping lovegrass, common bermuda, white clover, or other cover crops. Do not use in areas of athletic fields. Do not use in areas of athletic fields.
LESPEDEZA, SHRUB (Lespedeza bicolor) (Lespedeza thumbergii) plants	3' x 3'		J	F	M	A	M	J	J	A	S	O	N	D	Provide wildlife food and cover.
LOVEGRASS, WEEPING (Eragrostis curvula) alone with other perennials	4 lbs. 2 lbs.	0.1 lb. 0.05 lb.	J	F	M	A	M	J	J	A	S	O	N	D	1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea lespedeza on roadbanks.
PANICGRASS, ATLANTIC COASTAL (Panicum amarum var. amarum)	20 lbs. 0.5 lb.		J	F	M	A	M	J	J	A	S	O	N	D	Grows well on coastal and dunes. Berries are red and green. Mix with weeping lovegrass, common bermuda, white clover, or other cover crops. Do not use in areas of athletic fields. Do not use in areas of athletic fields.
FEED CANARY GRASS (Phalaris arundinacea) alone with other perennials	50 lbs. 30 lbs.	1.1 lb. 0.7 lb.	J	F	M	A	M	J	J	A	S	O	N	D	Grows similar to tall fescue.
SUNFLOWER, 'AZTEC' MAXIMILLIAM (Helianthus maximilianii)	10 lbs. 0.2 lb.		J	F	M	A	M	J	J	A	S	O	N	D	227,000 seed per pound. Mix with weeping lovegrass or other low- growing grasses or legumes.

**DURABLE SHRUBS AND GROUND COVERS FOR PERMANENT COVER**

Common Name	Scientific Name	Mature Height	Plant Spacing	Comments
Albela	Abelia grandiflora	3-4 ft.	5 ft.	Also a prostrate form 2 feet high. Sun, semi-shade. Semi-evergreen.
Carolina Yellow Jessamine	Gelsemium sempervirens	low	3 ft.	Vine. Yellow, trumpet-like flowers. Hardy, one of best vines. Evergreen. Native to Georgia.
Carpet Blue	Ajuga reptans	2-4 in.	3 ft.	Needs good drainage, partial shade. Blue or white flowers. Evergreen.
Berberis Cotoneaster	Cotoneaster dammeri	2-4 in.	5 ft.	White flowers, red fruit. Sun. Evergreen.
Ground Cover Cotoneaster	Cotoneaster salicifolius 'Repens'	1-2 ft.	5 ft.	White flowers, red fruit. Sun. Evergreen.
Rock Cotoneaster	Cotoneaster horizontalis	1-2 ft.	5 ft.	Semi-evergreen. Sun.
Virginia Creeper	Parthenocissus quinquefolia	low	3 ft.	Red in fall. Vine. Deciduous. Native to Georgia.
Daylily	Hemerocallis spp.	2-3 ft.	2 ft.	Many flower colors. Full sun. Very Hardy.
English Ivy	Hedera helix	low	3 ft.	Shade only. Climbs.
Compact Holly	Ilex cornuta 'Compacta'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Chinese Holly	Ilex cornuta 'Rotunda'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Dwarf Barford Holly	Ilex barfordii 'Nana'	5-8 ft.	8 ft.	
Dwarf Yaupon Holly	Ilex vomitoria 'Nana'	3-4 ft.	5 ft.	Very durable, sun, semi-shade.
Rebrenders Holly	Ilex cornuta 'Repandens'	2-3 ft.	5 ft.	Sun, semi-shade.
Andorra Juniper	Juniperus horizontalis 'Plumosa'	2-3 ft.	5 ft.	Excellent for slopes. Sun.
Andorra Compacta Juniper	Juniperus horizontalis 'Plumosa compacta'	1-2 ft.	5 ft.	More compact than andorra.
Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	8-10 in.	4 ft.	
Blue Rug Juniper	Juniperus horizontalis 'Wiltoni'	4-6 in.	3 ft.	Very low. Sun.
Parsons Juniper	Juniperus dravica 'Expansa' (Squamata Parsons)	18-24 in.	5 ft.	One of the best, good winter cover.
Prince of Wales Juniper	Juniperus chinensis 'Wittiana'	6-8 ft.	6 ft.	Needs room.
Prince of Wales Juniper	Juniperus chinensis 'Prince of Wales'	8-10 in.	4 ft.	Feathery appearance.
Sargent Juniper	Juniperus chinensis 'Sargentii'	1-2 ft.	5 ft.	Full sun. Needs good drainage. Good winter color.
Shore Juniper	Juniperus conferta	2-3 ft.	5 ft.	Emerald Sea or Blue Pacific cultivars are rare.
Liriope	Liriope muscari	8-10 in.	3 ft.	
Creeeping Liriope	Liriope spicata	10-12 in.	1 ft.	Spreads by runners.
Big Leaf Periwinkle	Vinca major	12-15 in.	4 ft.	Light blue flowers in spring. Semi-shade.
Common Periwinkle	Vinca minor	5-6 in.	4 ft.	Lavender-blue flowers in spring. Semi-shade.
Cherokee Rose	Rosa laevigata	2 ft.	5 ft.	Rampant grower. Not for restricted spaces.
Memoria Rose	Rosa wichuriana	2 ft.	5 ft.	Rampant grower.
St. Johnswort	Hypericum calycinum	8-12 in.	3 ft.	Semi-shade.
Anthony Waterer Spirea	Spiraea bumalda	3-4 ft.	5 ft.	Sun.
Thunberg Spirea	Spiraea thibergii	3-4 ft.	5 ft.	Sun.