GENERAL NOTES

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. ALSO, 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.

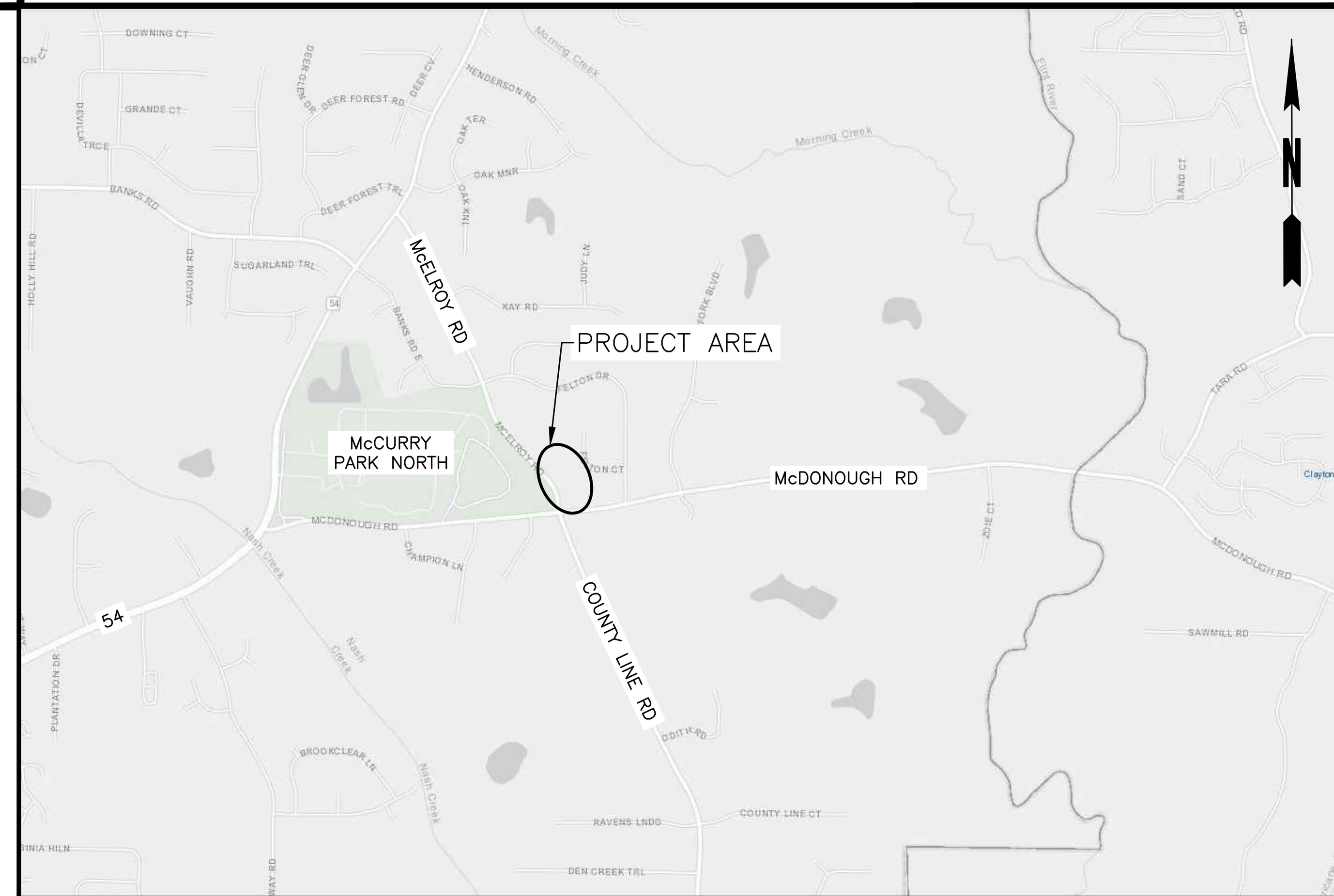
14. THIS PROPERTY IS NOT LOCATED IN A 100 YEAR FLOOD HAZARD AREA BASED ON THE FLOOD INSURANCE RATE MAP FOR THIS AREA. THE MAP NUMBER FOR THIS AREA IS 13113C0108E, AND THE DATE OF SAID MAP IS SEPTEMBER 26, 2008. THIS DETERMINATION WAS MADE BY GRAPHICALLY DETERMINING THE POSITION OF THIS SITE ON SAID FIRM 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.

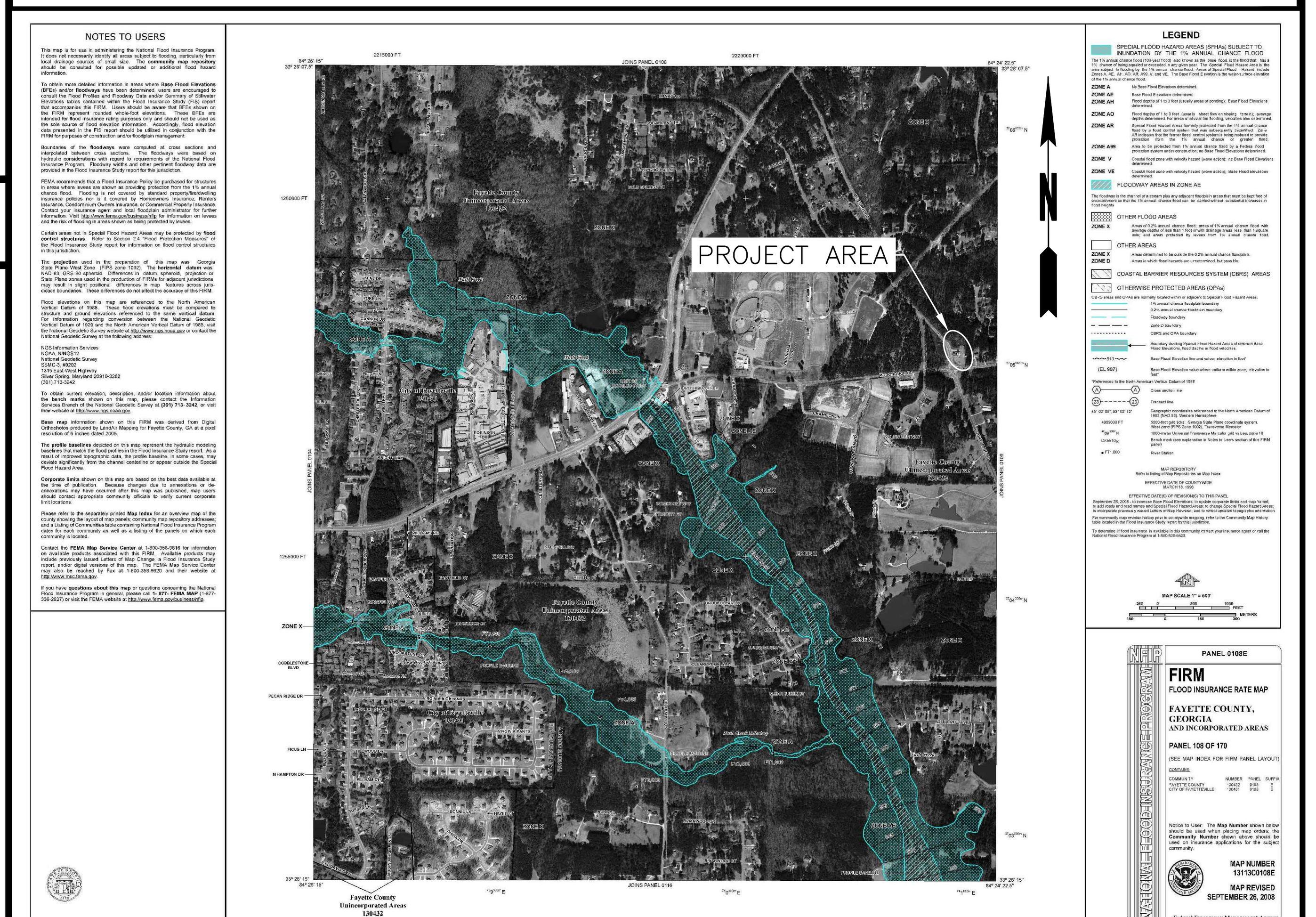
16. ALL APPROPRIATE SITE WORK SHALL CONFORM TO ADA STANDARDS.

APPROVAL REVIEW STAMPS

LOCATION MAP



FEMA MAP



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.

REQUIRED ENGINEER'S INSPECTION

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 EPD HAS AGREED TO AN ALTERNATE DESIGN PROFESSIONAL, TO INSPECT THE INSTALLATION OF THE CONTROL MEASURES (BMP'S) 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 INSPECTION IS TO OCCUR 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 PERMITEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED

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

PROJECT INFORMATION

FIRE STATION NO. 4

ADDRESS: 278 MCELROY RD
FAYETTEVILLE, GA 30214
LAND LOT 139 OF THE 2ND DISTRICT, 5TH SECTION
FAYETTE COUNTY, GEORGIA

ZONING: R-40
TAX PARCEL NUMBER: 0533008
TOTAL AREA: 3.13 ACRES
DISTURBED AREA: 2.31 ACRES

OWNER:

NAME: FAYETTE COUNTY FIRE DEPARTMENT
ADDRESS: 140 STONEWALL AVENUE FAYETTEVILLE, GEORGIA 30214
CONTACT: DAVID SCARBROUGH
PHONE: (770)-305-5414

CLIENT/ARCHITECT:

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

SHEET INDEX

SHEET	DRAWING NAME	SHEET NAME	PLAN DATE	LAST REVISED
1	C-000	COVER SHEET	04/30/2018	05/29/2018
2	C-100	EXISTING CONDITIONS	04/30/2018	05/29/2018
3	C-200	SITE PLAN	04/30/2018	05/29/2018
4	C-201	VEHICLE TRACKING	05/29/2018	
5	C-300	UTILITY PLAN	04/30/2018	05/29/2018
6	C-301	UTILITY PLAN	05/29/2018	
7	C-400	GRADING & DRAINAGE PLAN	04/30/2018	05/29/2018
8	C-500	DETENTION POND PLAN, PROFILE & DETAILS	04/30/2018	05/29/2018
9	C-600	PROFILES	04/30/2018	05/29/2018
10	C-700	CONCRETE JOINT LAYOUT	04/30/2018	05/29/2018
11	C-800	SEPTIC FIELD PLAN	04/30/2018	05/29/2018
12	C-900	PRE-DEVELOPED BASINS	04/30/2018	
13	C-901	EXISTING-DEVELOPED BASINS	04/30/2018	
14	C-902	POST-DEVELOPED BASINS	04/30/2018	
15	C-1000	CONSTRUCTION DETAILS	04/30/2018	05/29/2018
16	C-1001	CONSTRUCTION DETAILS	04/30/2018	05/29/2018
17	C-1002	CONSTRUCTION DETAILS	04/30/2018	05/29/2018
18	C-1003	CONSTRUCTION DETAILS	04/30/2018	05/29/2018
19	ER-000	EROSION CONTROL COVER	04/30/2018	05/29/2018
20	ER-100	EROSION CONTROL NOTES	04/30/2018	05/29/2018
21	ER-200	EROSION CONTROL PLAN - INITIAL PHASE	04/30/2018	05/29/2018
22	ER-300	EROSION CONTROL PLAN - INTERMEDIATE PHASE	04/30/2018	05/29/2018
23	ER-400	EROSION CONTROL PLAN - FINAL PHASE	04/30/2018	05/29/2018
24	ER-500	EROSION CONTROL DETAILS	04/30/2018	
25	ER-501	EROSION CONTROL DETAILS	04/30/2018	

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

Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 9:01 AM

FIRE STATION NO. 4
DESIGN PHASE
LAND LOT(S) 139
OF THE 2ND DISTRICT, 5TH SECTION
FAYETTE COUNTY, GEORGIA

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

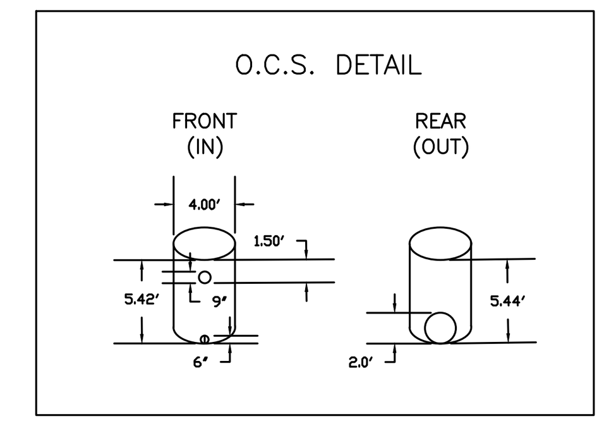
SHEET TITLE
COVER SHEET

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
AS SHOWN	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-000

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



LEGEND

- BOUNDARY
- ADJ. BOUNDARY
- BUILDING
- WALL
- WOODS LINE
- FENCE
- SAN. SEWER LINE
- LAND LOT LINE
- STORM SEWER LINE
- JUNCTION BOX
- SINGLE WING C.B.
- DOUBLE WING C.B.
- DROP INLET
- TRAFFIC SIGNAL POLE
- SAN. SEWER MANHOLE
- FIRE HYDRANT
- WATER METER
- IRRIG. CONTROL VALVE
- WATER VALVE
- FIRE DEPT. CONNECTION
- SPRINKLER HEAD
- GAS VALVE
- TELE. PEDESTAL
- ELECTRIC BOX
- ELECTRIC METER
- PULL BOX
- LIGHT POLE
- POWER POLE
- H/C PARKING
- BOLLARD
- MAIL BOX
- CLEAN OUT
- SIGN
- TREE
- REBAR FOUND
- IRON PIN SET (IPS)

SURVEYOR'S NOTES

1. THIS PROPERTY MAY BE SUBJECT TO EASEMENTS, CLAIMS, PRESCRIPTIONS, SUBSURFACE CONDITIONS, OR OTHER MATTERS OF TITLE WHICH ARE NOT VISIBLE, NOT RECORDED, OR NOT DISCLOSED IN THE TITLE COMMITMENT PROVIDED BY THE OWNER, THE PURCHASER, OR ANY AGENTS THEREOF.

2. THE UTILITIES SHOWN ARE FOR THE CLIENT'S CONVENIENCE ONLY - THERE MAY BE OTHER UNDERGROUND UTILITIES NOT SHOWN HEREON. THE SURVEYOR ASSUMES NO RESPONSIBILITY FOR THE UNDERGROUND UTILITIES SHOWN OR NOT SHOWN. ALL DAMAGES MADE TO EXISTING UTILITIES BY THE OWNER OR THE OWNER'S AGENT, SHALL BE THE SOLE RESPONSIBILITY OF THE OWNER, OR THE OWNER'S AGENT; I.E. UNDERGROUND TANKS, GAS LINES, WATER LINES, SEWER LINES, ETC.

3. THIS PLAT IS FOR THE EXCLUSIVE USE OF THE PARTIES STATED ON THE FACE OF THE SURVEY. ANY USE BY THIRD PARTIES IS AT THEIR OWN RISK.

4. ACCORDING TO THE F.E.M.A. FLOOD INSURANCE RATE MAP, COMMUNITY PANEL NUMBER 13113C0108E, EFFECTIVE DATE 09/26/2008, FOR FAYETTE COUNTY, GEORGIA, THIS PROPERTY DOES NOT LIE WITHIN A 100 YEAR FLOOD PLAIN AS DEFINED BY F.E.M.A.

5. FIELD WORK FOR THIS PROJECT WAS COMPLETED ON 04/09/18. THIS PLAT IS PREPARED FROM A FIELD SURVEY USING A TRIMBLE S8 ROBOTIC TOTAL STATION, AND TRIMBLE TSC3 DATA COLLECTOR; LINEAR PRECISION OF TRAVERSE: 1/35,454; ANGULAR ERROR: 2.2" PER POINT. THE COMPASS RULE WAS APPLIED TO THIS PROJECT. LINEAR PRECISION OF THIS PLAT: 1/180,843 MATTERS OF TITLE EXCEPTED.

6. THE BEARINGS SHOWN ON THIS PLAT WERE BASED ON A GRID NORTH GEORGIA STATE PLANE COORDINATE SYSTEM - WEST ZONE NAD83 AS ESTABLISHED BY CROY-ENGINEERING LLC. DISTANCES AND AREAS SHOWN REFLECT HORIZONTAL GROUND - SURFACE MEASUREMENTS.

7. BOUNDARY AND RIGHT-OF-WAY INFORMATION SHOWN HEREON IS DERIVED FROM EXISTING MONUMENTS AND INFORMATION LOCATED IN THE PROCESS OF CONDUCTING THIS SURVEY, INFORMATION FOUND IN DEEDS AND PLATS AND TAKEN FROM OTHER SOURCES SUCH AS THE ROADS DEPARTMENT AND TAX ASSESSOR'S OFFICE.

8. STREAM BUFFERS MAY EXIST WITHIN PROPERTY AND ARE DEPENDENT UPON CLASSIFICATION OF "WATERS OF THE STATE" WHICH IS BASED ON THE EROSION & SEDIMENTATION CONTROL ACT OF 1975 AS AMENDED (PER O.G.C.A. 12-7-1). ADDITIONAL BUFFERS MAY EXIST PER CITY/COUNTY REQUIREMENTS.

9. THE INITIAL CONTROL POINTS FOR THIS SURVEY WERE LOCATED UTILIZING GPS. THE EQUIPMENT USED WAS A TRIMBLE R8 MODEL 3 DUAL FREQUENCY RECEIVER WITH A TRIMBLE TSC3 DATA COLLECTOR RUNNING TRIMBLE ACCESS SOFTWARE. NETWORK RTK CORRECTIONS WERE RECEIVED VIA CELLULAR MODEM. THE TYPE OF SURVEY WAS NETWORK RTK UTILIZING THE TRIMBLE VRS REAL TIME NETWORK OPERATED BY TRIMBLE VRS. THE RELATIVE POSITIONAL ACCURACY, AS CALCULATED ACCORDING TO THE FEDERAL GEOGRAPHIC DATA COMMITTEE PART 3: NATIONAL STANDARD FOR SPATIAL DATA ACCURACY, IS .04 FT. HORIZONTAL AND .07 FT VERTICAL AT THE 95% CONFIDENCE LEVEL.

10. NO RIGHT-OF-WAY PLANS FOR THE RELOCATED MCELROY ROAD WERE PROVIDED OR FOUND. THEREFORE, THE RIGHT-OF-WAY AND MITER SHOWN ARE COMPUTED USING THE CURRENT ALIGNMENT OF MCELROY ROAD AS A MONUMENT AND OFFSETTING THE EXISTING CENTERLINE. THIS DECISION WAS APPROVED BY FAYETTE COUNTY ENGINEERING DEPARTMENT (ANTHONY STANLEY), APRIL 2018.

SOILS SERIES TABLE - HSG B

CeB	CECIL SANDY LOAM 2 TO 6 PERCENT SLOPES
CfC2	CECIL SANDY CLAY LOAM 6 TO 10 PERCENT SLOPES, ERODED

FEMA STATEMENT

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

N

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SCALE IN FEET

CROY ENGINEERING
Engineers Planners Surveyors
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
1	ADDENDUM 1	05/29/2018

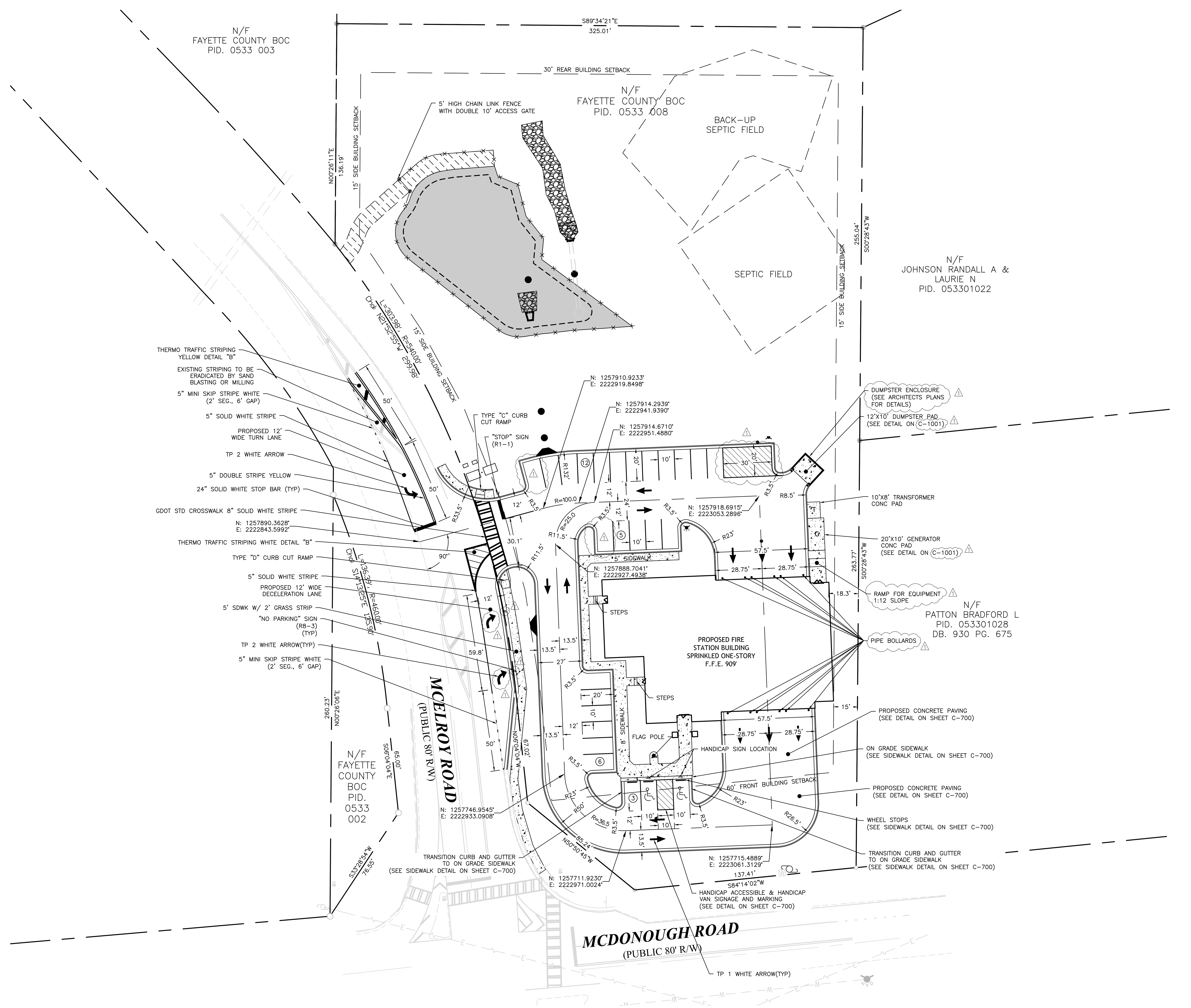
SEAL
GEORGIA REGISTERED PROFESSIONAL ENGINEER
LEWIS CARL CARVER

SHEET TITLE
EXISTING CONDITIONS

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

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-100



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 = 2.31 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:	24
COMPACT SPACES:	0
HANDICAP SPACES:	2
PROVIDED SPACES:	26
VARIANCE REQUIRED:	NONE

LEGEND

- PROPERTY AND EXISTING R/W LINE
- LAND LOT LINE
- PARKING SPACE COUNT
- 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.

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Engineers Planners Surveyors
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
1	ADDENDUM 1	05/29/2018

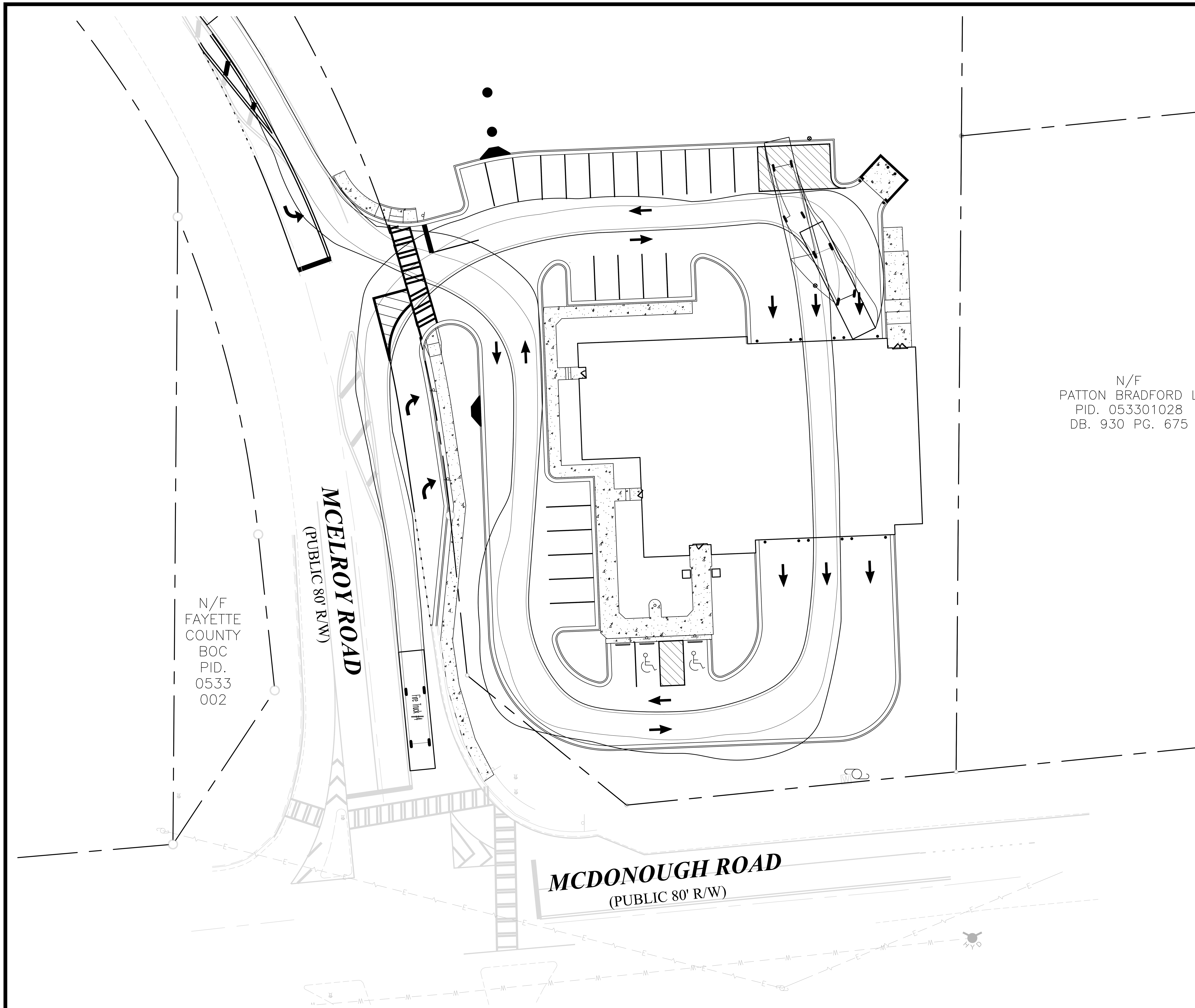
SEAL
GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARVER

SHEET TITLE
SITE PLAN

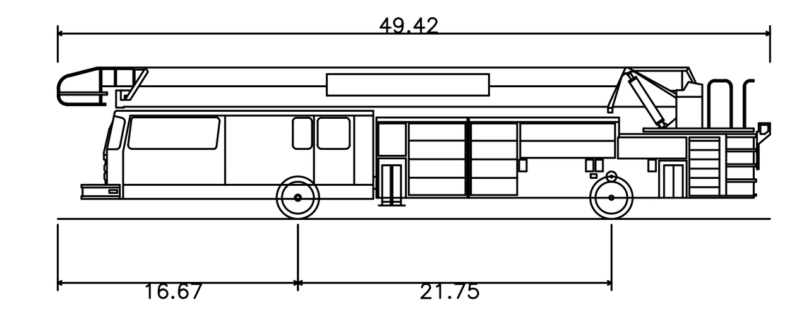
DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=30'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-200



VEHICLE TRACKING



Fire Truck #4	
Overall Length	49.420ft
Overall Width	10.500ft
Overall Body Height	10.502ft
Min Body Ground Clearance	0.932ft
Track Width	8.400ft
Lock-to-lock time	5.00s
Curb to Curb Turning Radius	40.580ft

LEGEND

PROPERTY AND EXISTING R/W LINE

TIRE LINE

OVERHANG LINE

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.

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

Plot Scale: 1"=20', Drawing Rotation: 359.9°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:51 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL

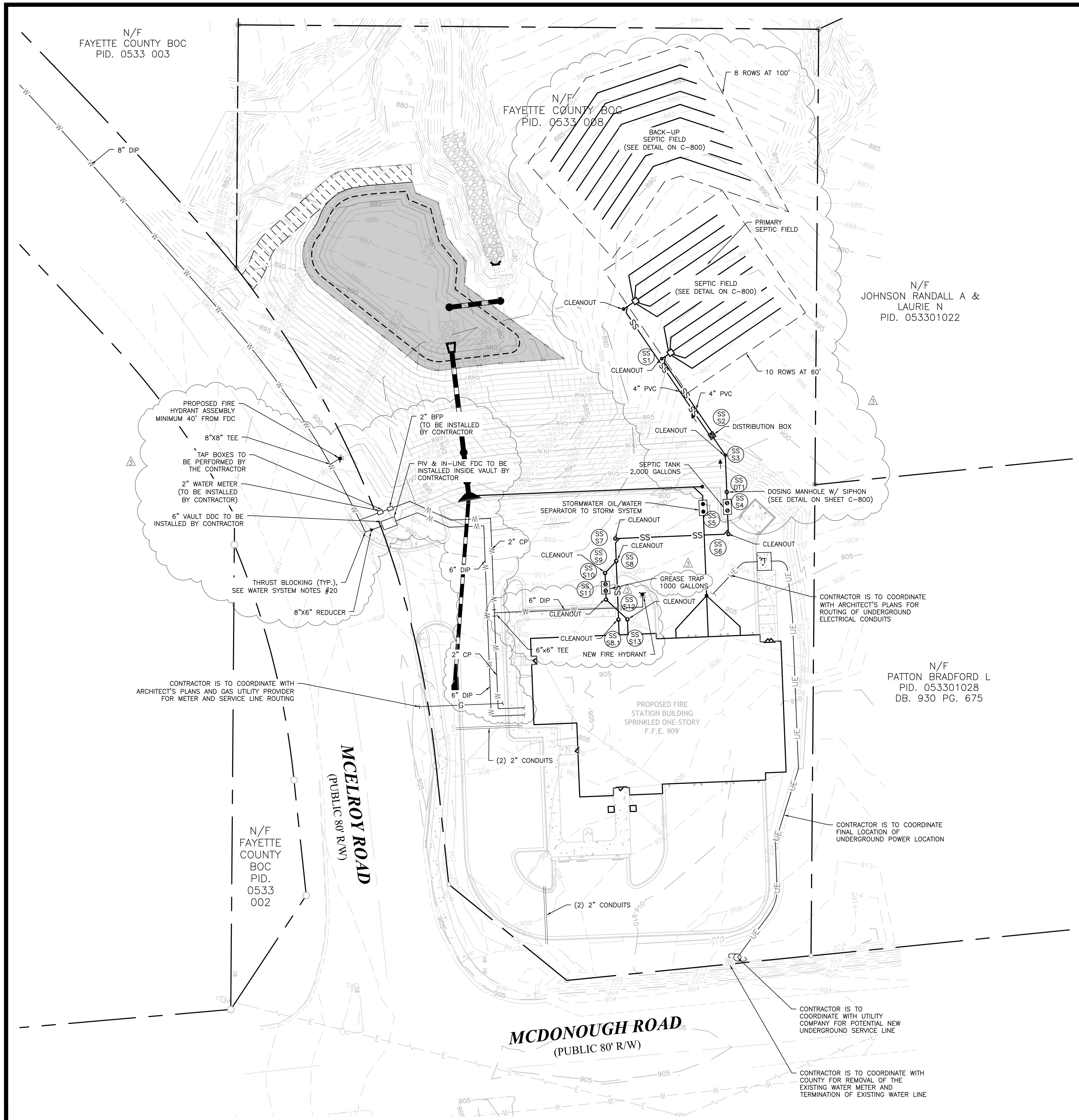
GEORGIA
REGISTERED
PROFESSIONAL
ENGINEER
LEWIS CARL CARVER

SHEET TITLE
VEHICLE TRACKING

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=20'	05/29/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-201



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.

11. WATER LINES SHALL HAVE 48" MINIMUM COVER.

12. FIRE HYDRANTS ARE TO BE 3-WAY 5-1/4" TYPE.

13. CONCRETE VALVE MARKERS ARE TO BE INSTALLED AT ALL VALVE TYPES EXCEPT AT FIRE HYDRANTS.

14. CONCRETE BLOCKING SHALL BE PLACED AT ALL BENDS, TEES AND FITTINGS.

15. 3000 PSI CURB STOPS, CORPS, AND WYES REQUIRED PER FORSYTH COUNTY STANDARDS.

16. ALL VALVES SHALL BE GATE VALVES.

17. GATE VALVES OVER 5' DEEP SHALL HAVE STEM EXTENSIONS.

18. LINES ARE TO BE PRESSURE TESTED AND DISINFECTED PER COUNTY SPECIFICATIONS.

19. ALL SITE DOMESTIC WATER SERVICE LESS THAN 4" DIAMETER SHALL BE TYPE "K" COPPER WITH SAND BED.

20. THRUST BLOCKING SHALL BE USED AT ALL BENDS, PLUGS AND TEES FOR LINES 4" AND LARGER IN SIZE.

SANITARY SEWER NOTES

1.

2.

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 MANHOLES REQUIRE "KOR-N-SEAL" OR EQUAL RUBBER BOOT.

7.

8. ALL WORK AND MATERIALS TO CONFORM TO CURRENT FAYETTE COUNTY STANDARDS.

9. NO DEVIATIONS FROM APPROVED DRAWINGS ARE ALLOWED WITHOUT APPROVAL FROM FAYETTE COUNTY DEPARTMENT OF WATER AND SEWER.

10. ALL MANHOLES OUTSIDE OF PAVEMENT SHALL BE 2' ABOVE GRADE WITH BOLT-DOWN WATERTIGHT COVERS.

11. SEWER LATERALS SHALL BE OF SAME MATERIAL AS SEWER MAIN.

12. SEWER LATERALS SHALL BE INSTALLED WITH 6" CLEAN-OUT, STUBBED UP 5' ABOVE GRADE AND CAPPED UNLESS LOCATED IN PAVING OR SIDEWALK.

13. NO FENCES, STRUCTURES, TREES OR OTHER OBSTRUCTIONS ARE ALLOWED ON SANITARY SEWER EASEMENTS.

14. SEWER LINES ARE TO BE TESTED PER COUNTY SPECIFICATIONS PRIOR TO FINAL PLAT.

15. THE DEVELOPER/CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL INFRASTRUCTURE FOR A ONE YEAR PERIOD FOLLOWING FINAL PLAT.

16. 16' IS MAXIMUM DEPTH FOR PVC SEWER, ANY PIPE EXCEEDING 16', WHETHER OR NOT SHOWN ON PLANS, MUST BE INSTALLED AS D.I.P.

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.

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.

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. TAPPING VALVE
- PROP. FDC
- PROP. SANITARY SEWER
- PROP. SS MANHOLE
- PROP. SS CLEANOUT
- PROP. UTIL POLE
- PROP. UG ELEC. LINE
- PROP. GAS SERVICE LINE

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

N

30 0 30 60 90
SCALE IN FEET

CROY ENGINEERING
Engineers Planners Surveyors
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
3	SEPTIC & WATER SYSTEM	09/24/2018
2	POST PERMIT REVISIONS	08/15/2018
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

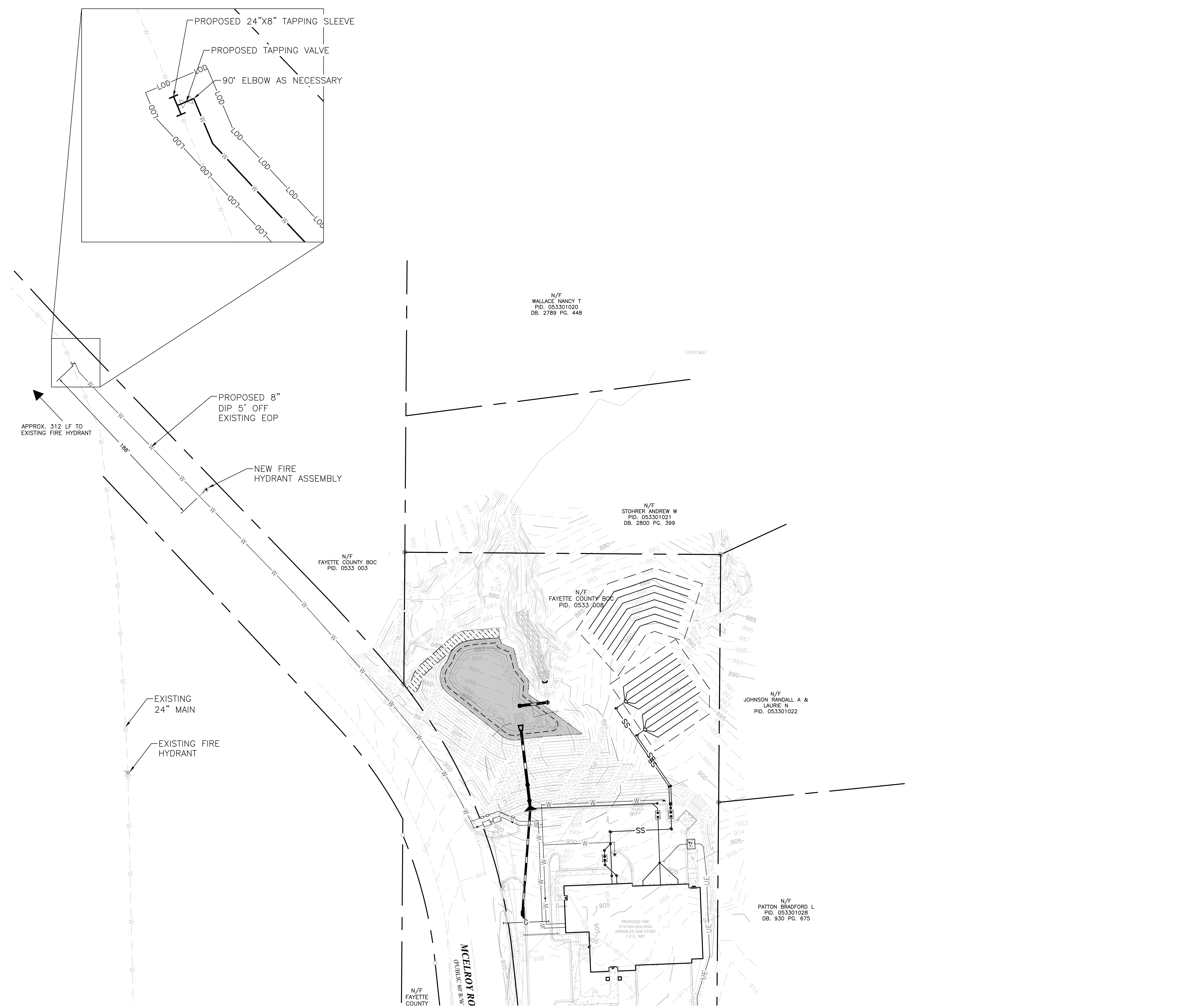
SHEET TITLE
UTILITY PLAN

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

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-300

Plot Scale: 1"=30', Drawing Rotation: 0.0°, Plot Style: Design.ctb, Plotted By: Travis Stewart on 9/27/2018, 2:16 PM
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Plans.dwg



LEGEND

EXISTING UTILITIES

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- EX FIRE HYDRANT
- EX WATER METER
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- EX SS MANHOLE
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PROPOSED UTILITIES

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Engineers Planners Surveyors
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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
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARVERS

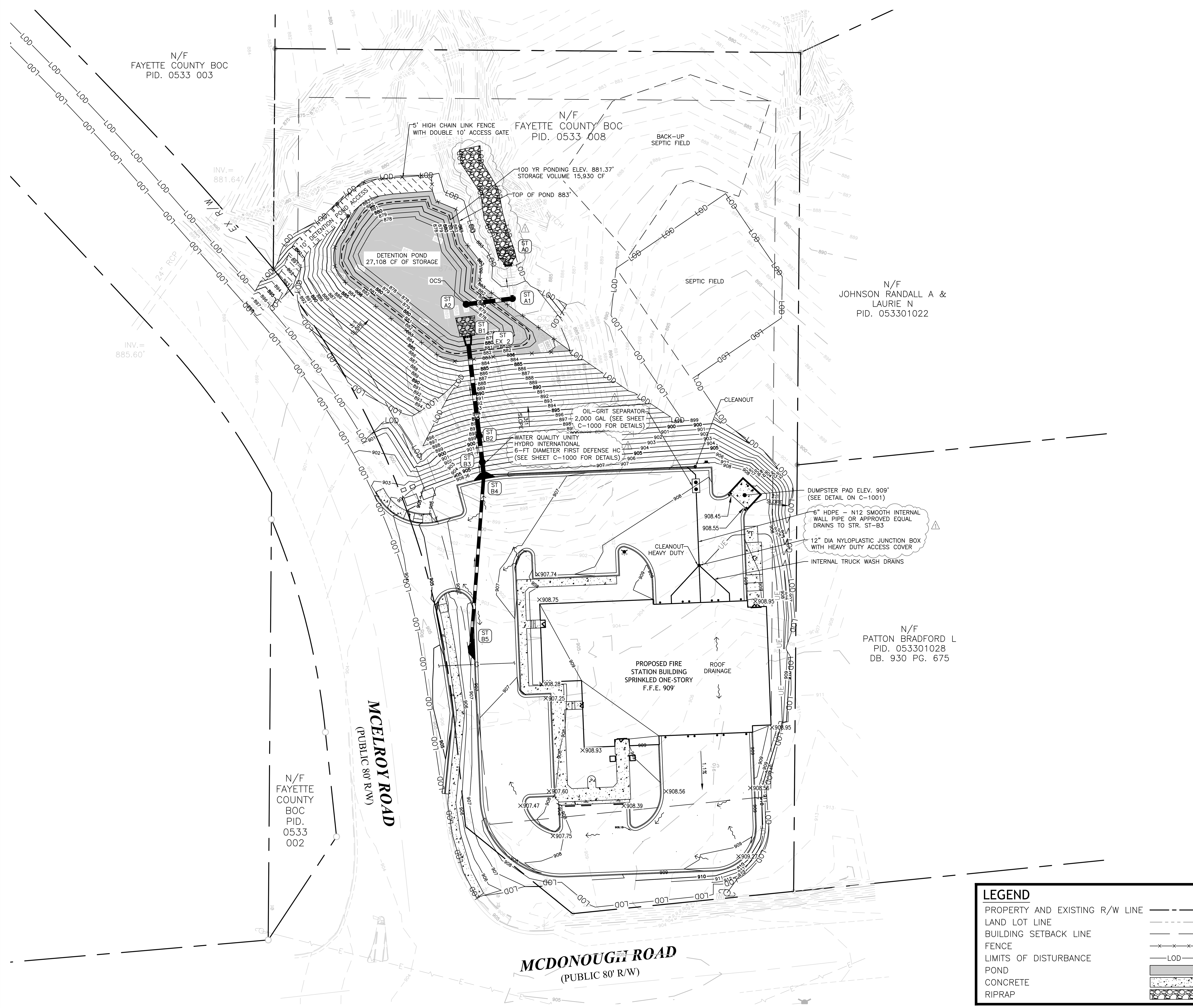
SHEET TITLE
UTILITY PLAN

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=50'	05/29/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-301

SHEET 6 of 25



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 QUANITITES. EARTHWORK QUANTITIES DO NOT TAKE INTO CONSIDERATION TOP SOIL, PAVING, AND UNSUITABLE MATERIAL.

CUT: 3,333 CUBIC YARDS
FILL: 10,318 CUBIC YARDS
NET: 6,985 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.

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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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

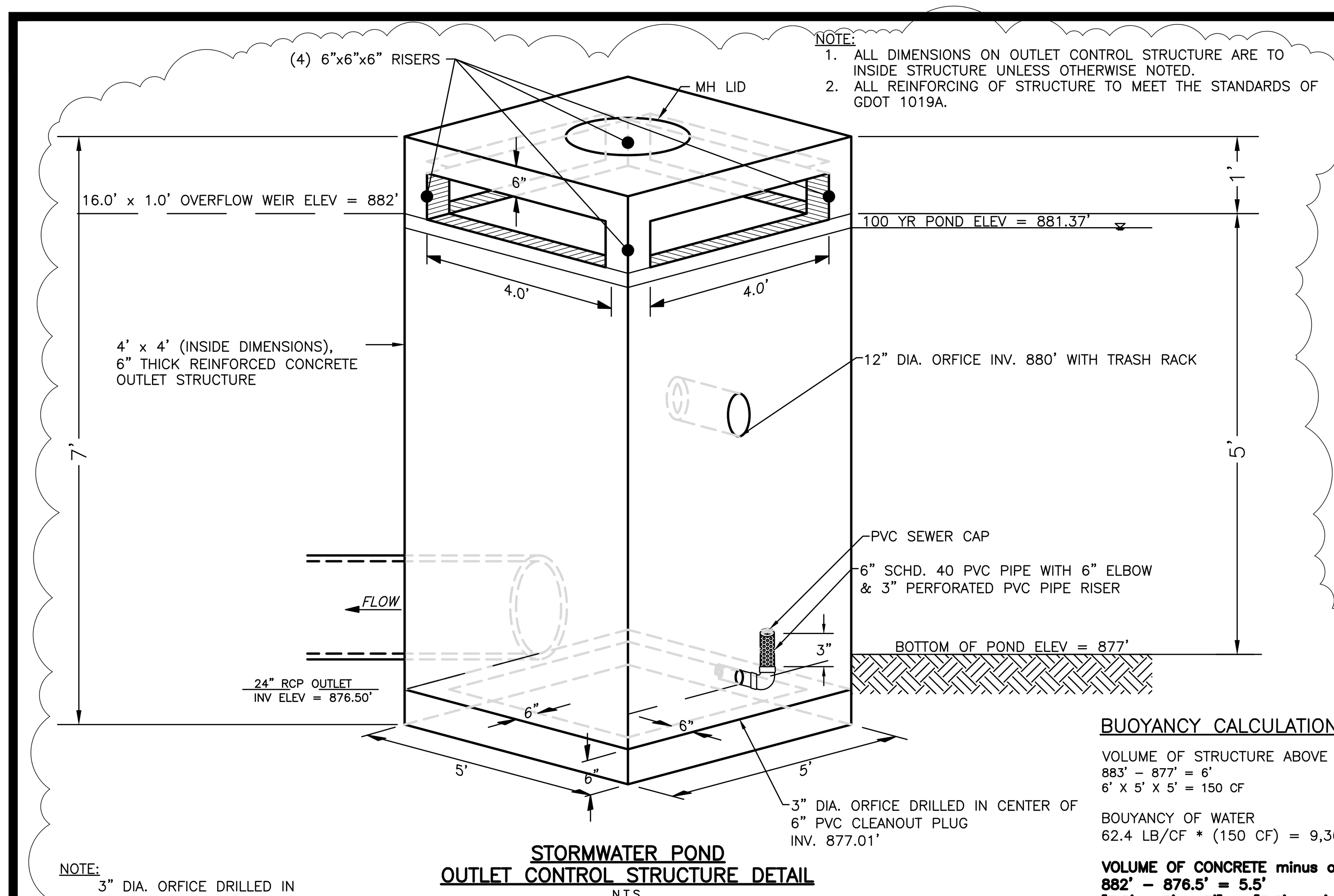
SHEET TITLE
GRADING AND DRAINAGE PLAN

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

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-400

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



STORMWATER POND
OUTLET CONTROL STRUCTURE DETAIL
N.T.S.

NOTE:
3" DIA. ORFICE DRILLED IN CENTER OF 6" PVC CLEANOUT PLUG INV. 877.01'

BUOYANCY CALCULATIONS

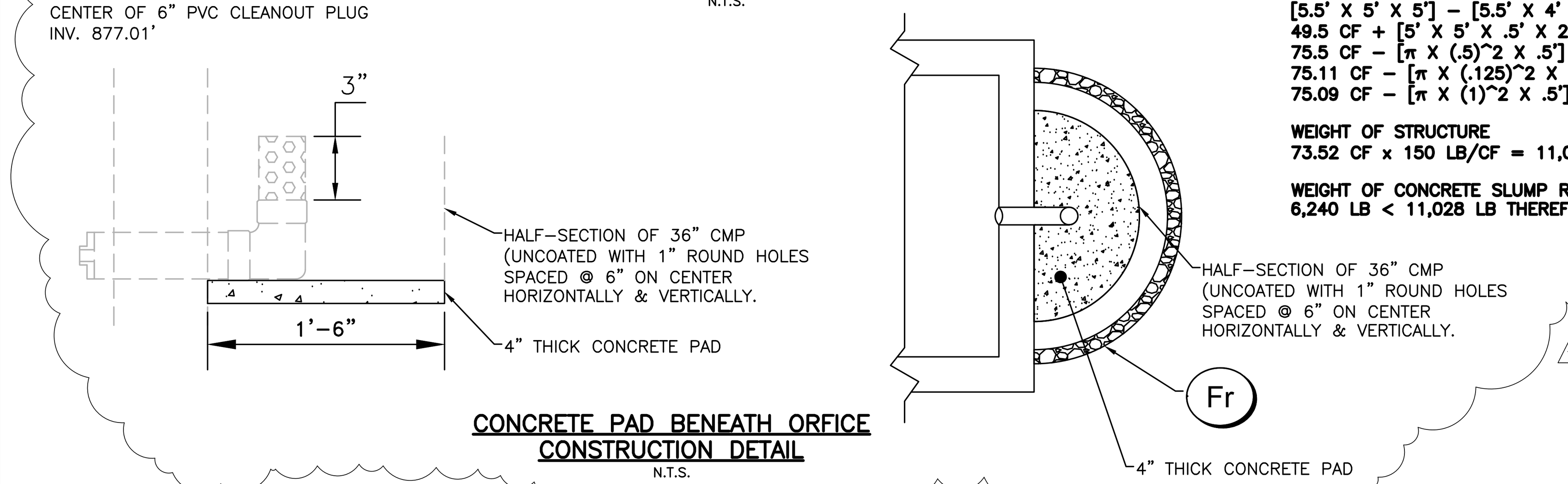
VOLUME OF STRUCTURE ABOVE GROUND
883' – 877' = 6'
6' X 5' X 5' = 150 CF

BOUYANCY OF WATER
62.4 LB/CF * (150 CF) = 9,360 LB

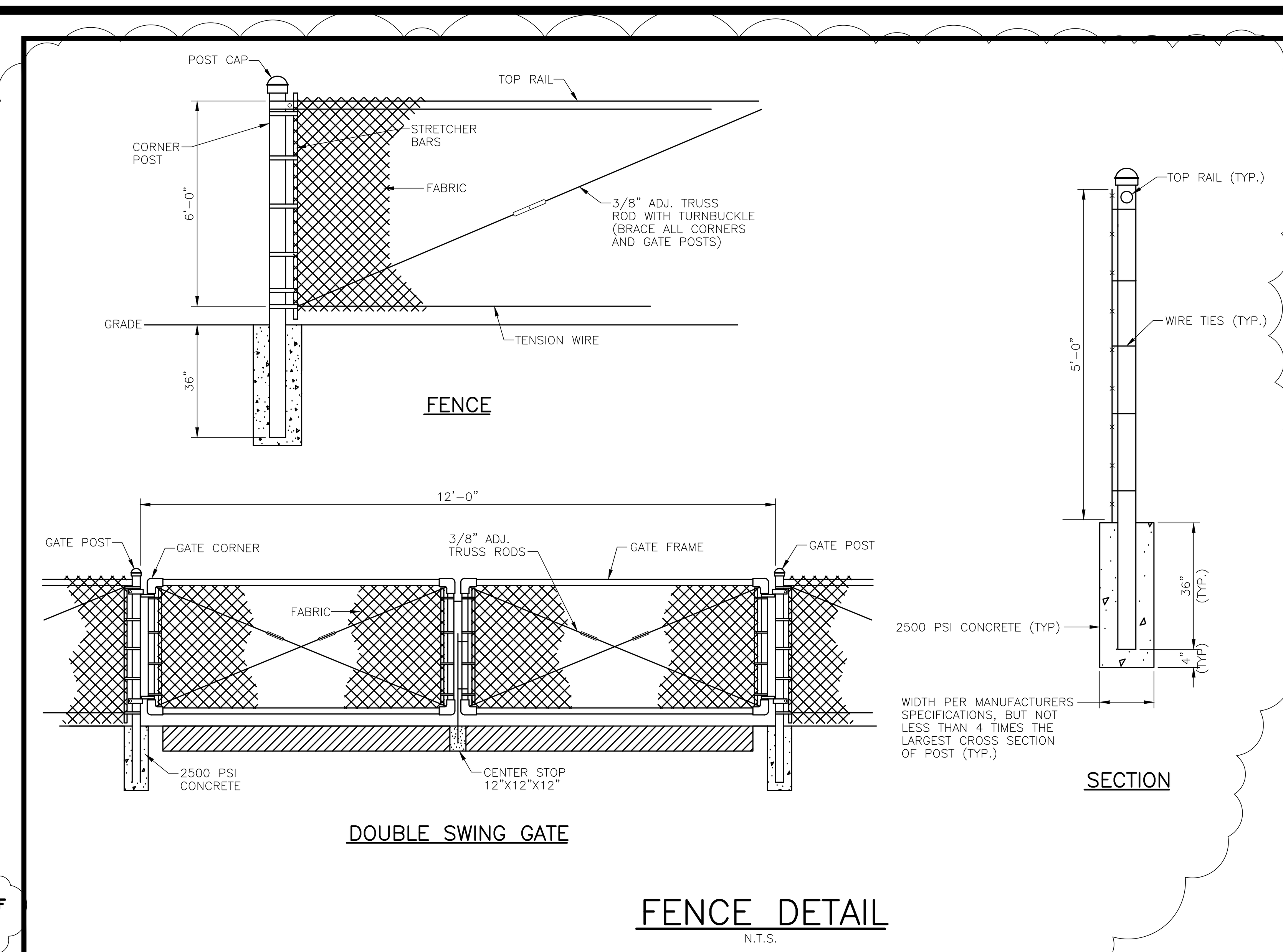
VOLUME OF CONCRETE minus orfices
882' – 876.5' = 5.5'
[5.5' X 5' X 5'] – [5.5' X 4' X 4'] = 49.5 CF
49.5 CF + [5' X 5' X .5' X 2] + [1' X .5' X .5' X 4] = 75.5 CF
75.5 CF – [π X (.5)^2 X .5'] = 75.11 CF
75.11 CF – [π X (.125)^2 X .5'] = 75.09 CF
75.09 CF – [π X (1)^2 X .5'] = 73.52 CF

WEIGHT OF STRUCTURE
73.52 CF X 150 LB/CF = 11,028 LB

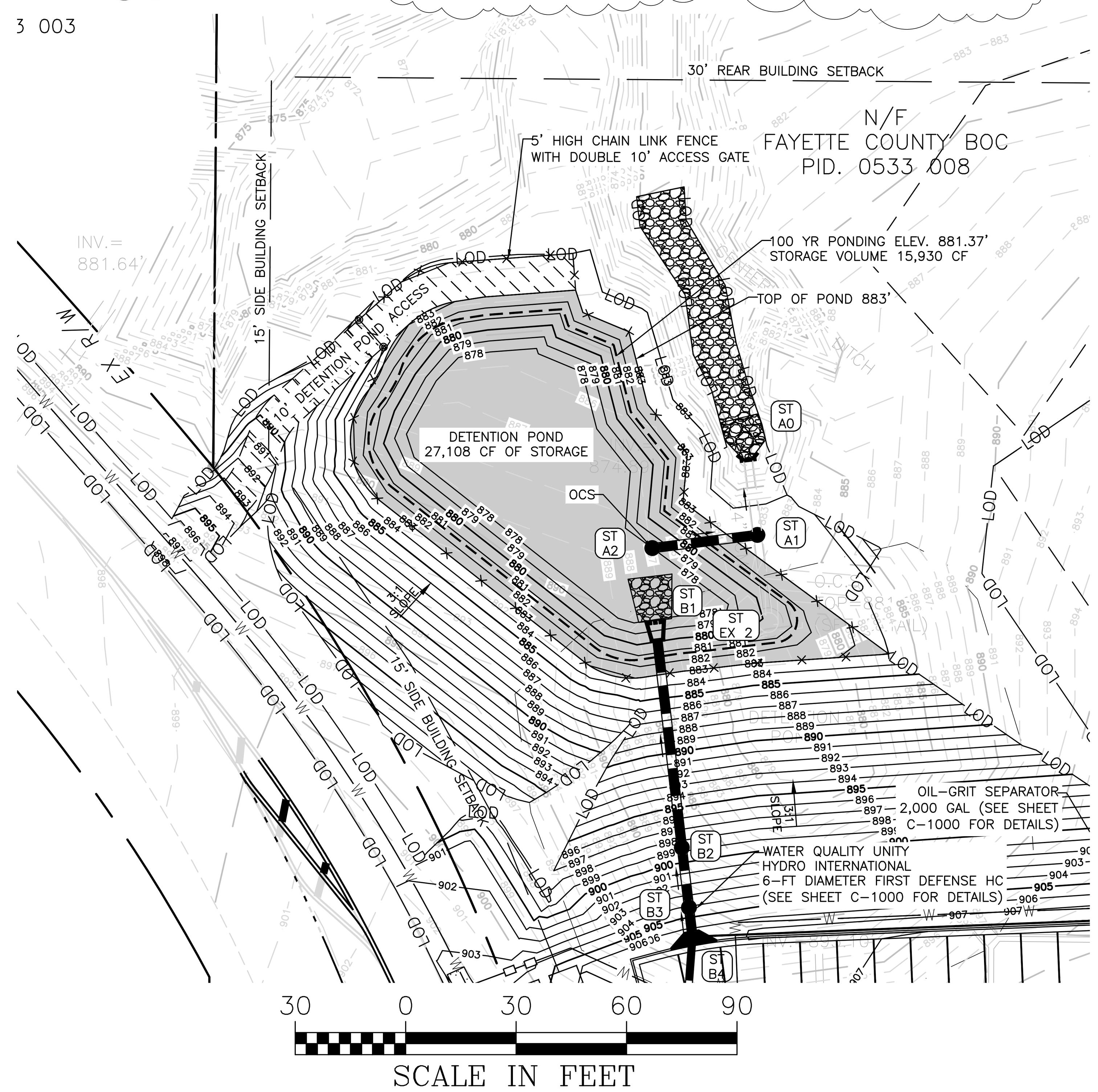
WEIGHT OF CONCRETE SLUMP REQUIRED
6,240 LB < 11,028 LB THEREFORE STRUCTURE NOT BOUYANT

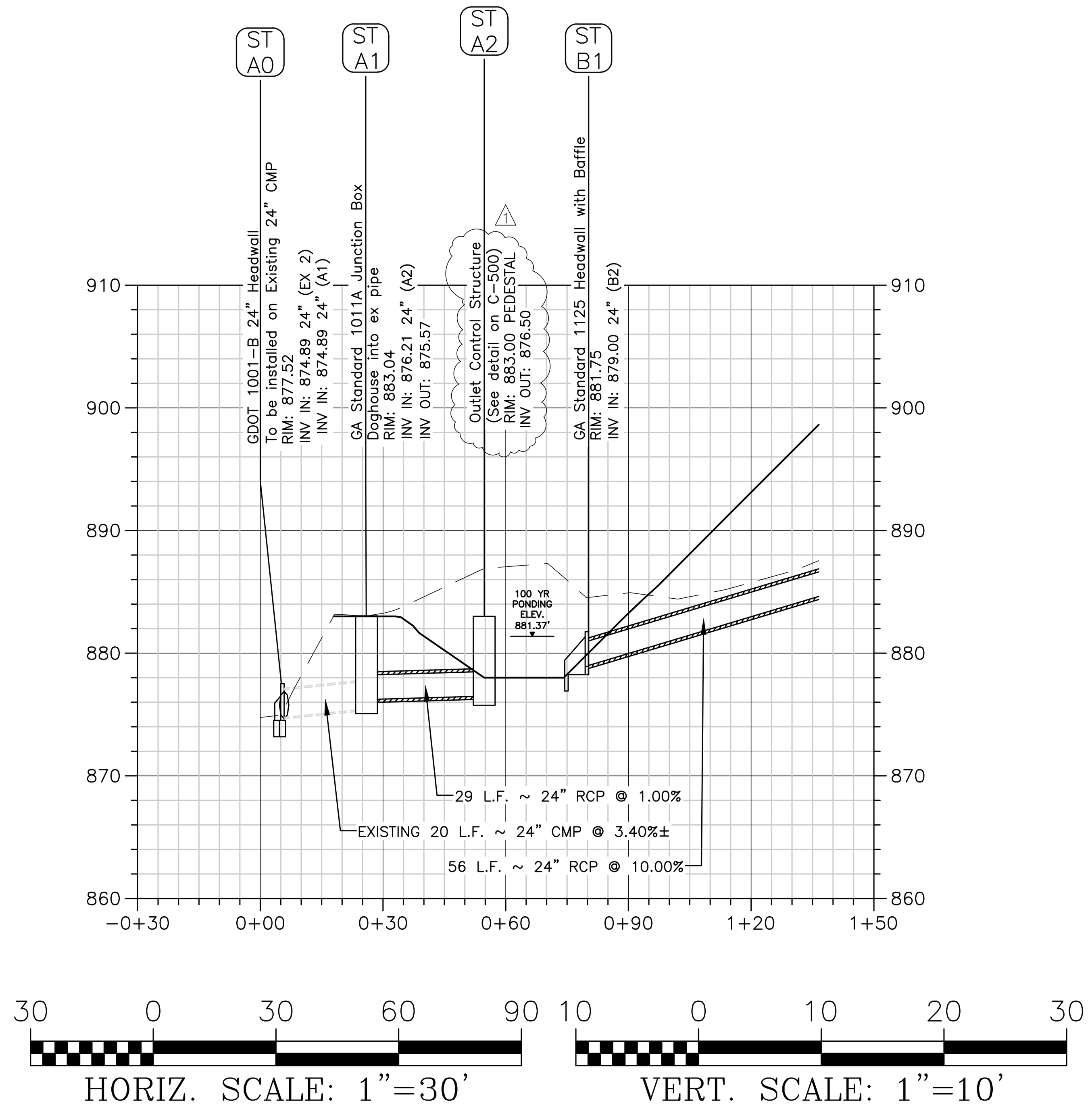


CONCRETE PAD BENEATH ORFICE
CONSTRUCTION DETAIL
N.T.S.



FENCE DETAIL
N.T.S.





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LEGEND

PROPERTY AND EXISTING R/W LINE	
LAND LOT LINE	
BUILDING SETBACK LINE	
FENCE	—x—x—x—
LIMITS OF DISTURBANCE	—LOD—
POND	
RIPRAP	

FEMA STATEMENT

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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
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

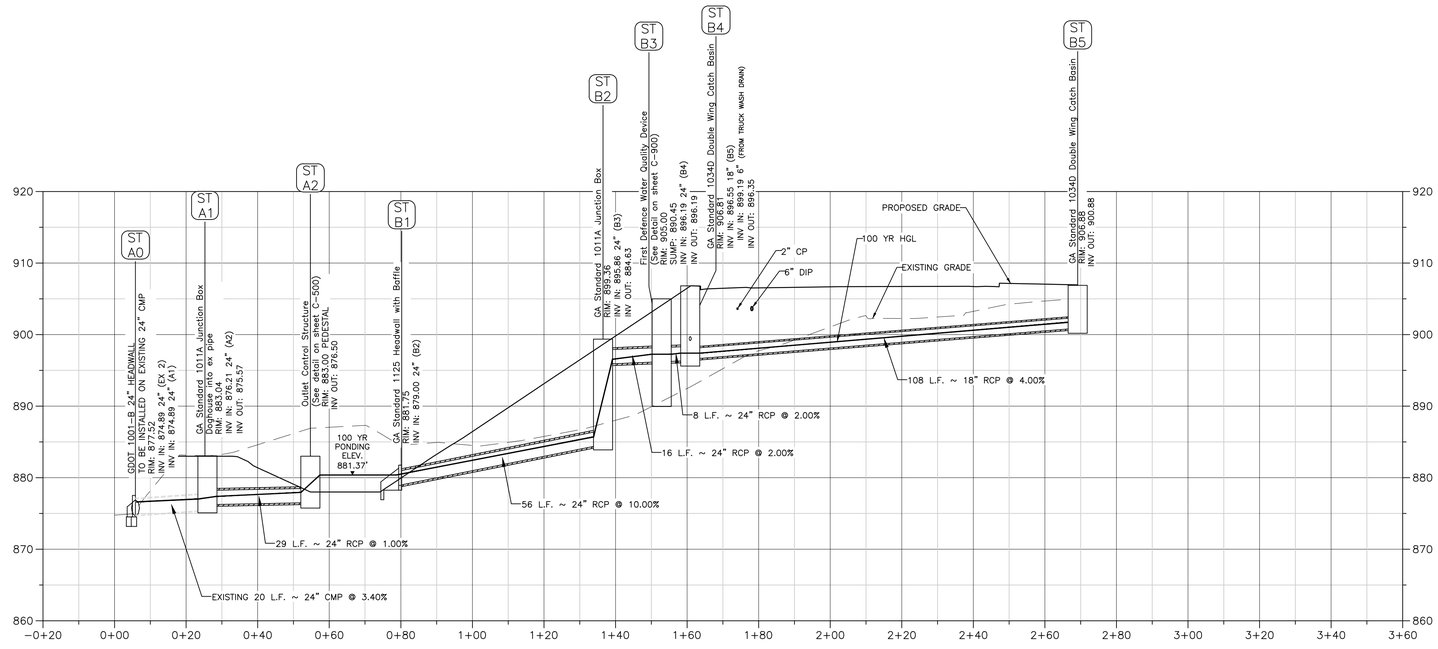
SHEET TITLE
DETENTION POND PLAN, PROFILE & DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
SEE SHEET	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-500
SHEET 8 of 25

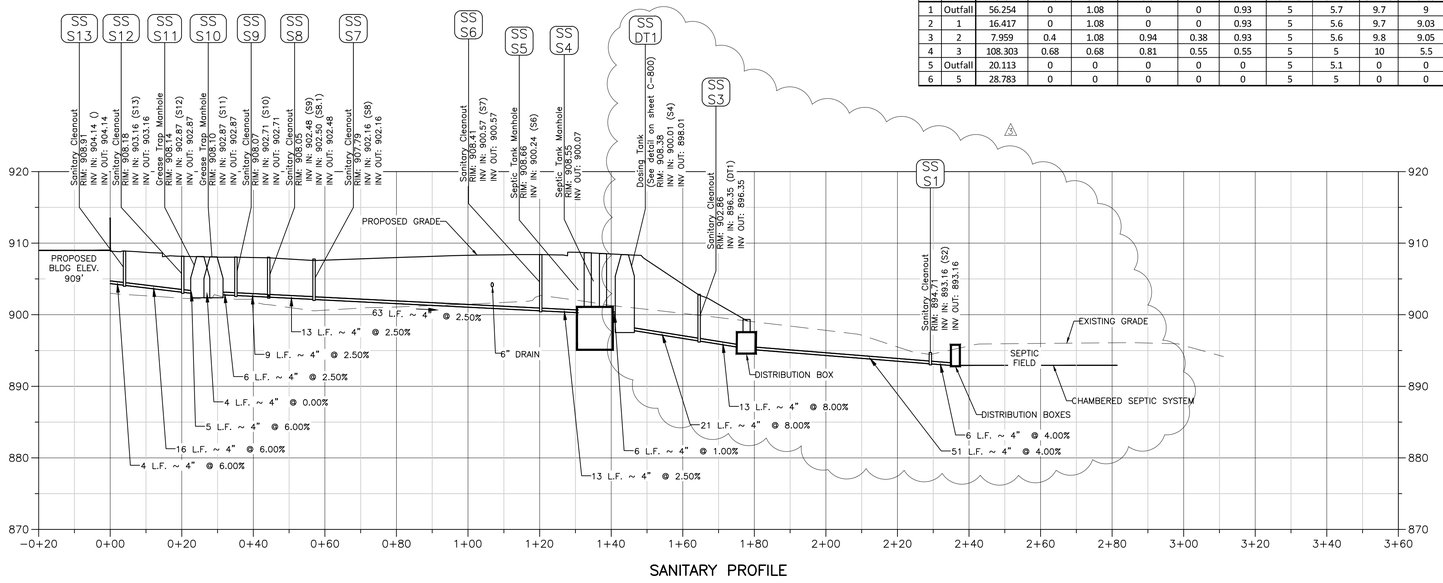
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Design.dwg



STORM PROFILE

100 YEAR PIPE CHART

Line	ToLine	LineLength	Incr.Area	TotalArea	RunoffCoeff.	IncrC x A	TotalC x A	InletTime	TimeConc	RnfallInt	TotalRunoff	AdnlFlow	TotalFlow	CapacFull	Veloc	PipeSize	PipeSlope	Inv ElevDn	Inv ElevUp	HGLDn	HGLUp	Grnd/RimDn	Grnd/RimUp	Line ID
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(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	880.53	885.7	881.75	899.36	B1<B2
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	896.56	897.26	899.36	905	B2<B3
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	897.26	897.42	905	906.81	S2<B4
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	897.42	901.78	906.81	906.88	B4<B5
5	Outfall	20.113	0	0	0	0	0	5	5.1	0	0	0	16	45.05	6.08	24	3.38	874.89	875.57	876.61	877.01	877.52	883.04	EX1<A1
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	A1<A2



SANITARY PROFILE

LEGEND

EXISTING GRADE ——— ——— ———

PROPOSED GRADE ———————

100 YEAR HGL ———————

10 0 10 20 30

VERT. SCALE: 1"=10'

20 0 20 40 60

HORIZ. SCALE: 1"=20'

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TEL: 770-305-5414

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PHONE: (770) 971-5407 FAX: (770) 971-0620

Plot Scale: 1"=20' Drawing Rotation: ###° Plot Style: Design.ctb Plotted By: Travis Stewart on 9/26/2018, 4:01 PM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
3	SEPTIC & WATER SYSTEM	09/24/2018
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARPER

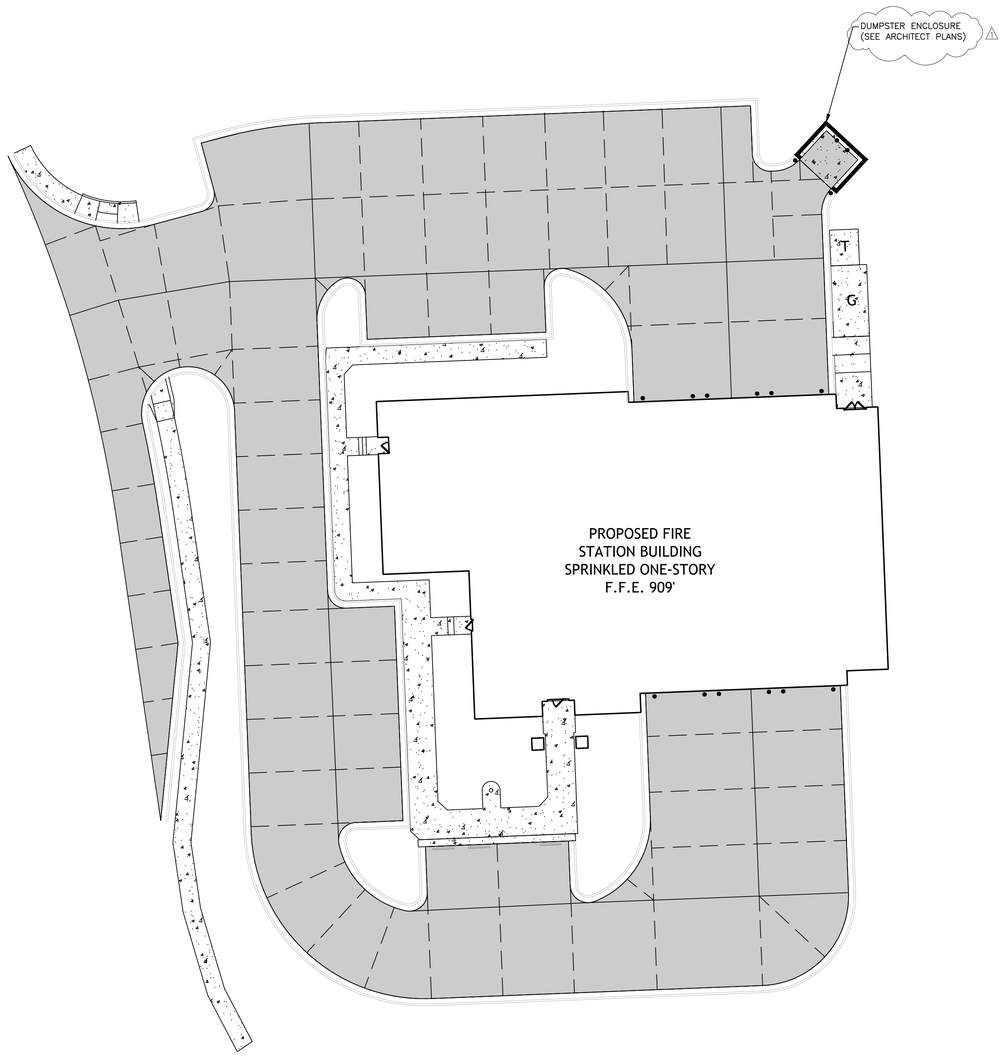
SHEET TITLE
PROFILES

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
SEE SHEET	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-600
SHEET 9 of 25

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



CONCRETE PAVING NOTES

1. SEE SHEET C-1001 FOR DETAILS.
2. CONTRACTOR IS TO SUBMIT MIX DESIGN FOR APPROVAL.
3. CONTRACTOR IS TO PREPARE AND SUBMIT FOR APPROVAL ALL MATERIAL FOR CONCRETE JOINTS.

LEGEND

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.

GEORGIA 811
Utilities Protection Center, Inc
Know what's below.
Call before you dig.

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

N

20 0 20 40 60
SCALE IN FEET

CROY ENGINEERING
Engineers
Planners
Surveyors
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
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED PROFESSIONAL ENGINEER
LEWIS CARL CARPENTER

SHEET TITLE
CONCRETE JOINT LAYOUT

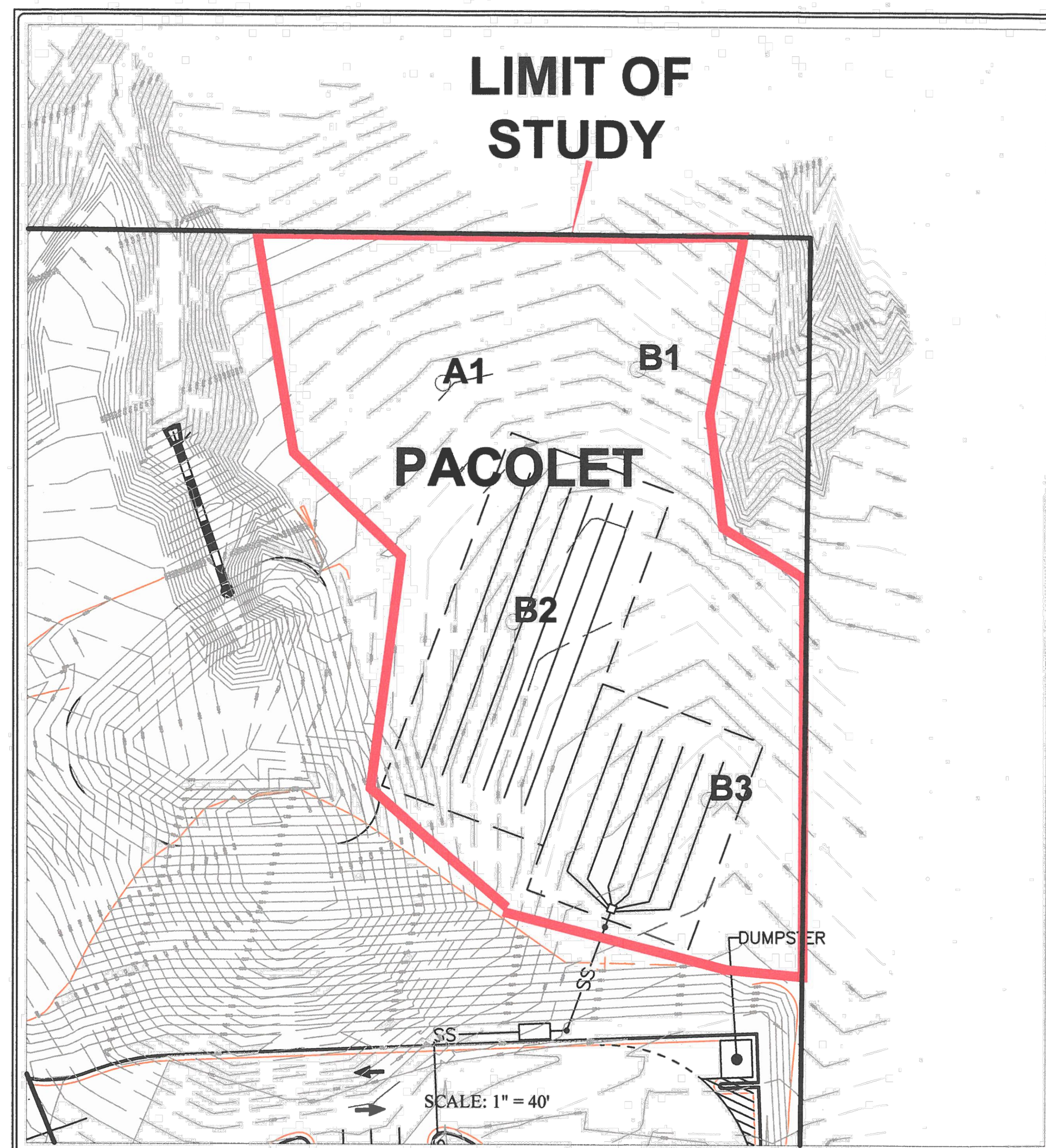
DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=20'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-700
SHEET 10 of 25

Plot Scale: 1" = 20' Drawing Rotation: 0.0° Plot Style: Design.ctb Plotted By: Scott McNally on 5/29/2018, 8:52 AM

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



SOIL INTERPRETIVE DATA

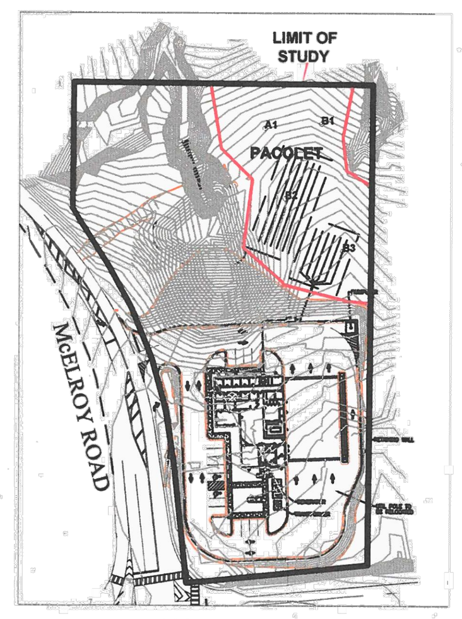
Soil Units	Depth to Bedrock (in)	Depth to Seasonal High Water Table Indicators (in)	Slope Gradient (percent)	Recommended Trench Depth (in)	Estimated Perc Rate (min/in)	Recommended Hydraulic Loading Rate (gal/day/sq.ft.)	Soil Suit. Code
Pacolet	>72	>72	2-8	30-48	60	----	A1

SOIL SUITABILITY CODE LEGEND

A1	Soils are typically suitable for conventional absorption field with proper design, installation and maintenance.

NOTES:

System installation should not occur under saturated or wet soil conditions
Absorption fields should not be installed on concave slopes.
Surface drainage should be diverted away from absorption field lines.
Gutter downspouts should be discharged away from the vicinity of the on site wastewater system.
Estimated percolation rates are based on full-sized system performance. However, no guarantee is given or implied as to the performance of any particular system installed.



NOT TO SCALE

MAP LEGEND: Soil Boundary; B1 Soil Boring; Slope Direction; Gully

GRAPHIC SCALE 20 0 20 40 (IN FEET) 1 inch = 40 ft.

AES Applied Environmental Sciences, Inc.
90-F Glenda Trace, #327 Newnan, Georgia 30265
(678) 262-4020 (678) 262-4024 (fax) www.soilmapping.com

LEVEL 3 SOIL MAP
McELROY ROAD TRACT
(SELECTED AREA)
FAYETTE COUNTY, GEORGIA

DATE: 2-28-18 | AES JOB #:
SCALE: 1" = 40'
CLIENT: CROY ENGINEERING, LLC
BORING LOCATION METHOD: TRIMBLE GEO 7X GPS
FIELD WORK BY: EAH
CHECKED BY: ERIC A. HAMILTON, DPH CSC, #224

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

1. 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
     2 Washing Machines +1000 gpd/daily
   - Use approximately: 10 people daily
   - Sewage Flow: (40)(10) + (1000) = 1,400 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)(1,400)/3
     L = 722.867 L.F.
     Use L = 730 L.F. for conventional System
   - According to the Department of Public Health's Manual for On-Site Sewage Management System a 35% reduction in the absorption trench length for Non-Conventional On-Site Sewage Management Systems. Therefore, use the L = 480 L.F. for the chambered system. Use L = 730 L.F. for the conventional back up septic field system.
   - Per request of Fayette County Fire Department, Use 600' of Chambered system.
2. 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 1,400 gpd, we recommend using a 2,000 gallon septic tank.
3. Dosing Tank Calculations
   According to the Department of Public Health's Manual for On-Site Sewage Management System, Dosing Volume (DV) is equal to 75% of interior volume of absorption lines to be dosed. For a 4" conventional system the operating volume is equal to 0.5 gal/LF of line; LF of line = 800 LF. Therefore,
   800 LF x 0.5 gal/LF = 400 Gallons; DV = 400 Gallons.
   Using Figure EF-2 (provided this sheet) and a 4" carrier pipe, the dimensions of the sewage siphon inside the dosing tank are provided in the Table ET-1. For a 4" carrier pipe, the Average Discharge Rate is 72 GPM.
   400 Gallons x min. / 72 Gallons ~ 6 minutes. According to the Figure and Table, the dosing volume can be dosed and discharged in 6 minutes.
4. Infiltration Chambered system shall be installed per manufacturer's standards.

Figure EF-2
Sewage Siphon
3", 4", 5", 6", and 8" Standard Design Single Sewage Siphon

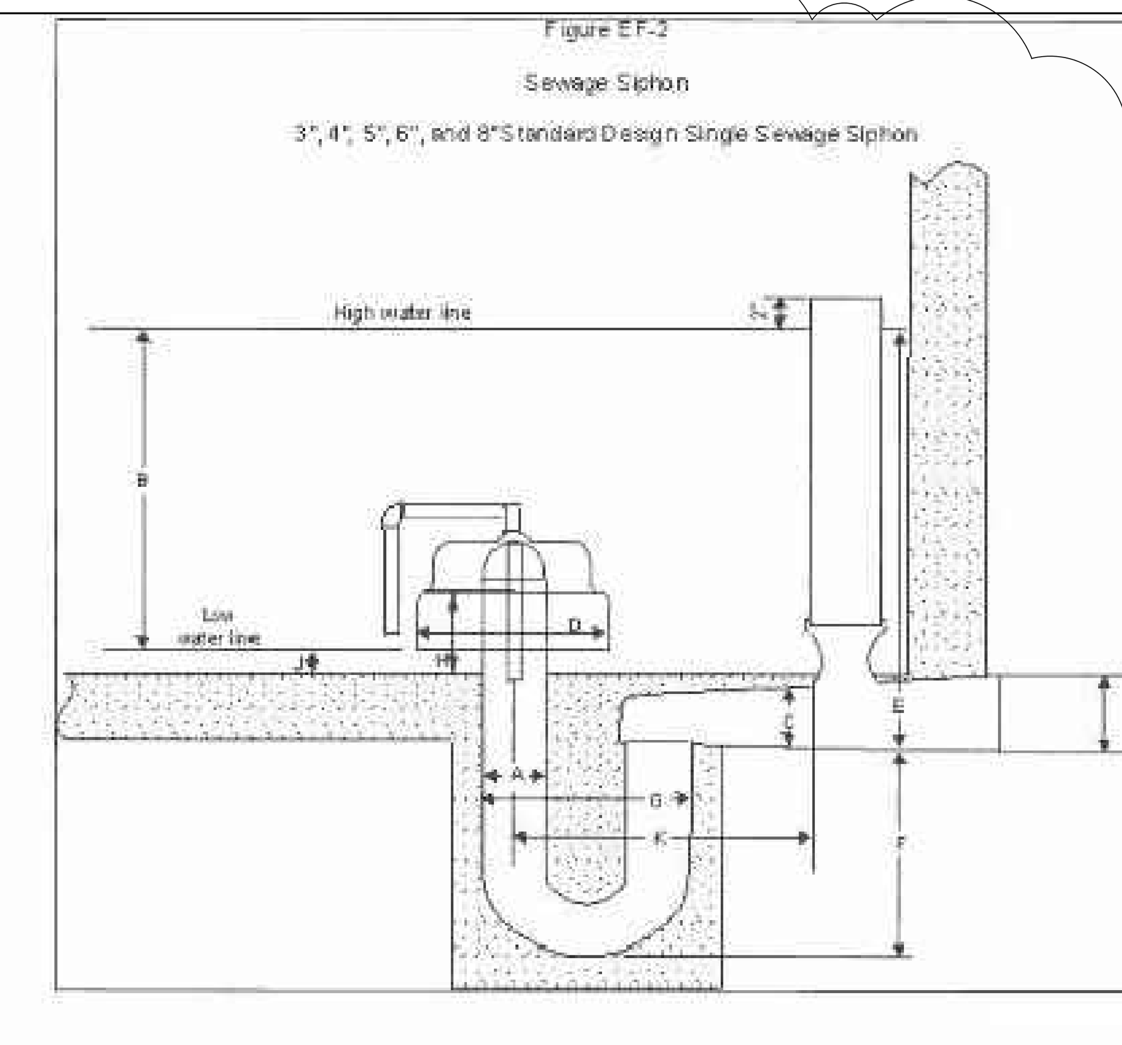
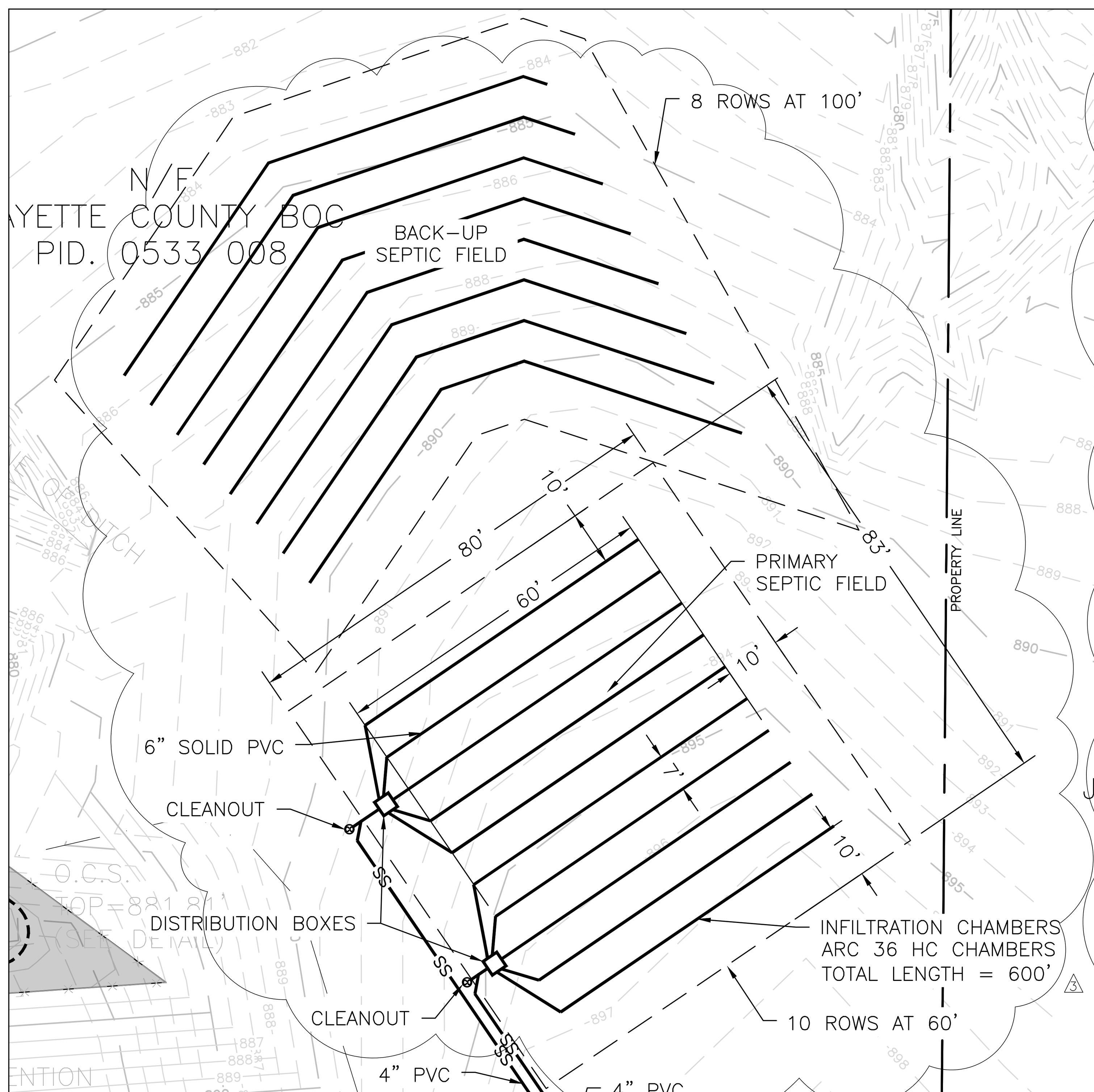
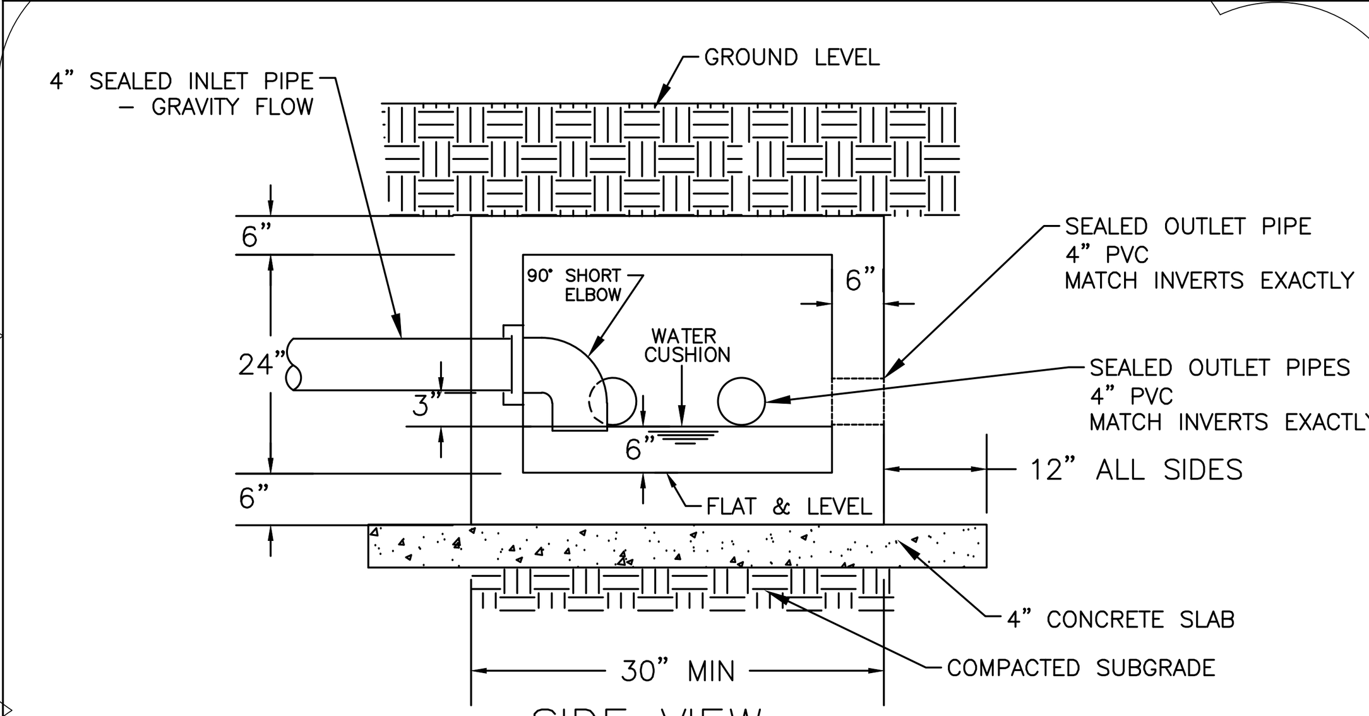


Table ET-1

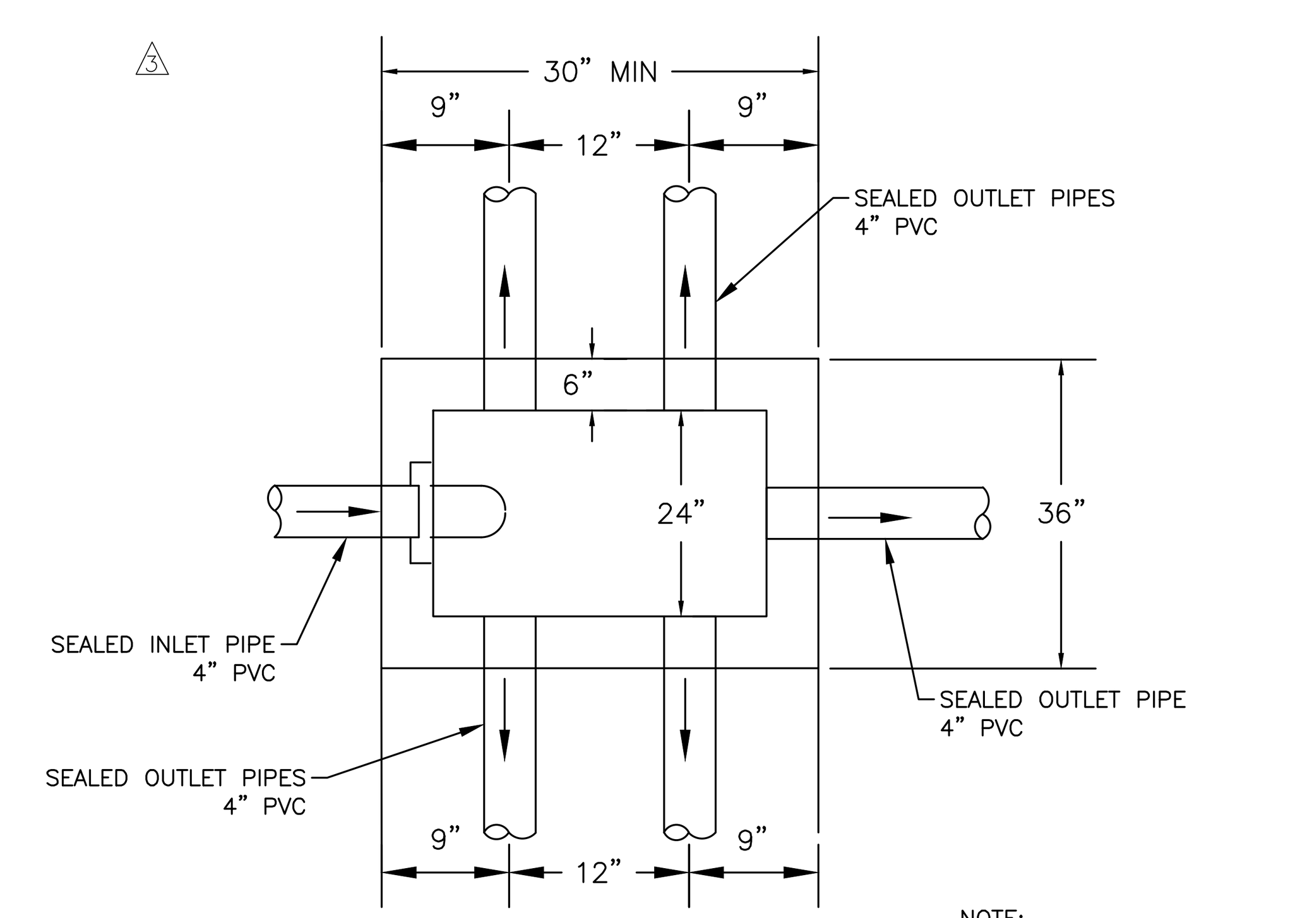
		Approximate Dimensions in Inches				
Diameter of Siphon	A	3	[illegible]	5	6	8
Draw Depth	B	13	17	23	30	35
Diameter of Discharge Head	C	4	4	6	8	10
Diameter of Bell	D	10	12	15	19	24
Invert below floor	E	4 1/4	5 1/8	[illegible]	10	12
Depth of Trap	F	13	14 1/4	23	30 1/4	35 ½
Width of Trap	G	10	12	14	16	22 ½
Height above floor	H	7 1/4	11 3/4	9 1/2	[illegible]	13 ½
Invert to Discharge = B + E + J	I	20 1/4	25 1/2	33 1/2	[illegible]	52
Bottom of Bell to floor	J	3	3	3	4	5
Center of Trap to end of discharge	K	8 1/8	11 3/4	[illegible]	17 1/2	23 1/8
Diameter of Carrier Pipe	L	4	4 -6	6 - 8	8 – 10	[illegible] – 15
Avg. Discharge Rate- GPM		72	165	328	472	950
Max. Discharge Rate-GPM		96	227	422	604	1270
Min. Discharge Rate- GPM		48	[illegible]	234	340	698

DOSING TANK
NOT TO SCALE





SIDE VIEW

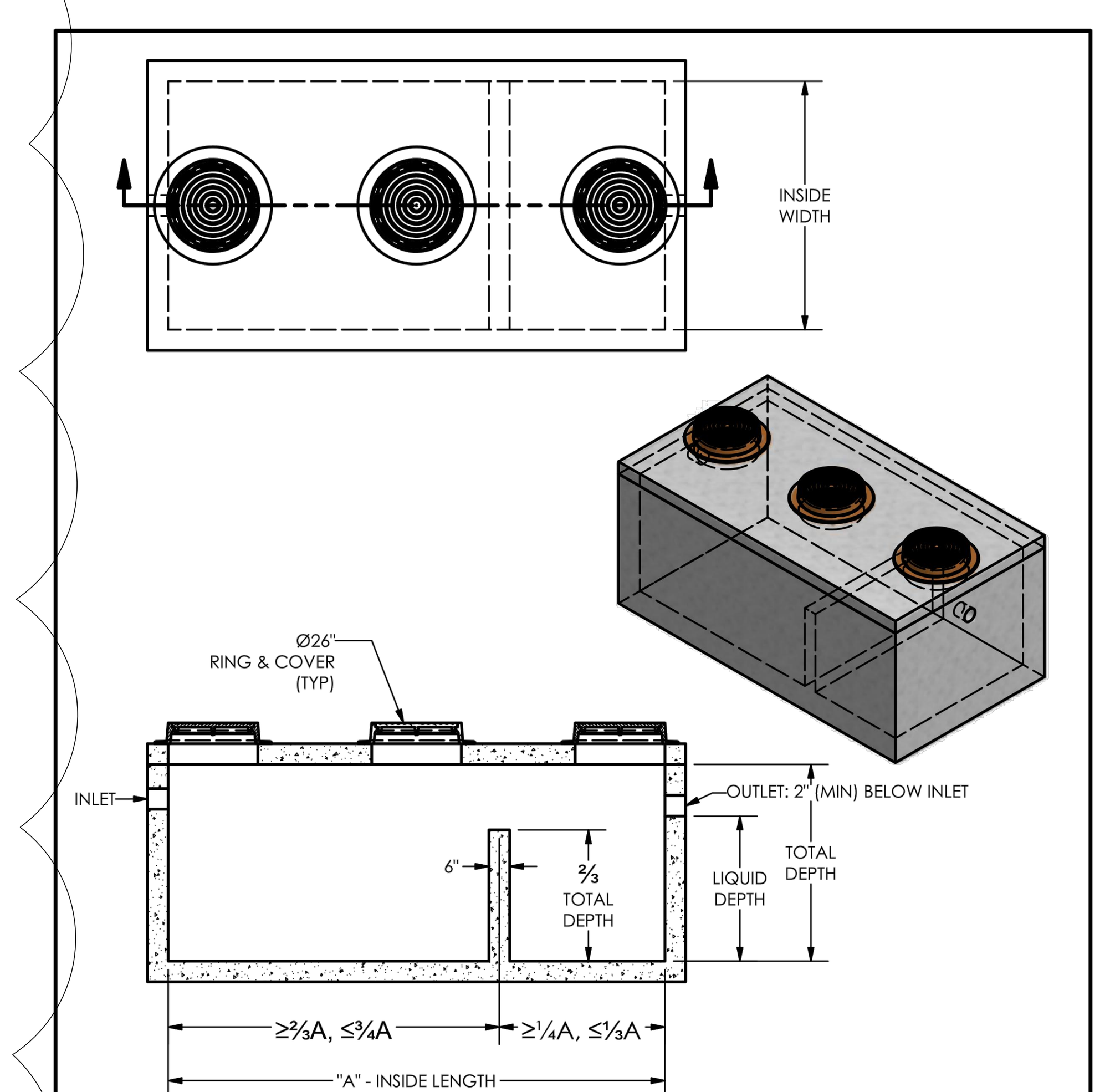


PLAN VIEW

NOTE: FLOOR OF THE DISTRIBUTION BOX SHALL BE FLAT & LEVEL.

NOTE:
1. DISTRIBUTION LINES EXITING THE DISTRIBUTION BOX MUST REMAIN LEVEL FOR A MINIMUM OF 2'.

DISTRIBUTION BOXES
NOT TO SCALE



MATERIALS:
CONCRETE: 4,000 PSI, TYPE I/II CEMENT
MINIMUM #5 @ 12" O.C.E.W. - GRADE 60 REINFORCEMENT

NOTES:
AASHTO H20 DESIGN LOADING AVAILABLE

FOLEY PRODUCTS COMPANY | BOX | SEPTIC TANK (STANDARD) | 2.7

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.

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

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

N

20 0 20 40 60
SCALE IN FEET

CROY ENGINEERING
Engineers Planners Surveyors
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
3	SEPTIC & WATER SYSTEM	09/24/2018
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARTER

SHEET TITLE
SEPTIC FIELD PLAN

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

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-800

Plot Scale: 1"=20', Drawing Rotation: 0.0°, Plot Style: Design.ctb, Plotted By: Travis Stewart on 9/26/2018, 3:59 PM
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Plans.dwg

DRAINAGE BASIN SUMMARY		
BASIN A:	1.24 AC	CN = 69
BASIN B:	2.67 AC	CN = 55
BASIN C:	0.25 AC	CN = 55
BASIN D:	0.04 AC	CN = 61
DS BASIN TO CULVERT:	2.46 AC	CN = 56
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

40 0 40 80 120
SCALE IN FEET

CROY ENGINEERING
Engineers Planners Surveyors
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

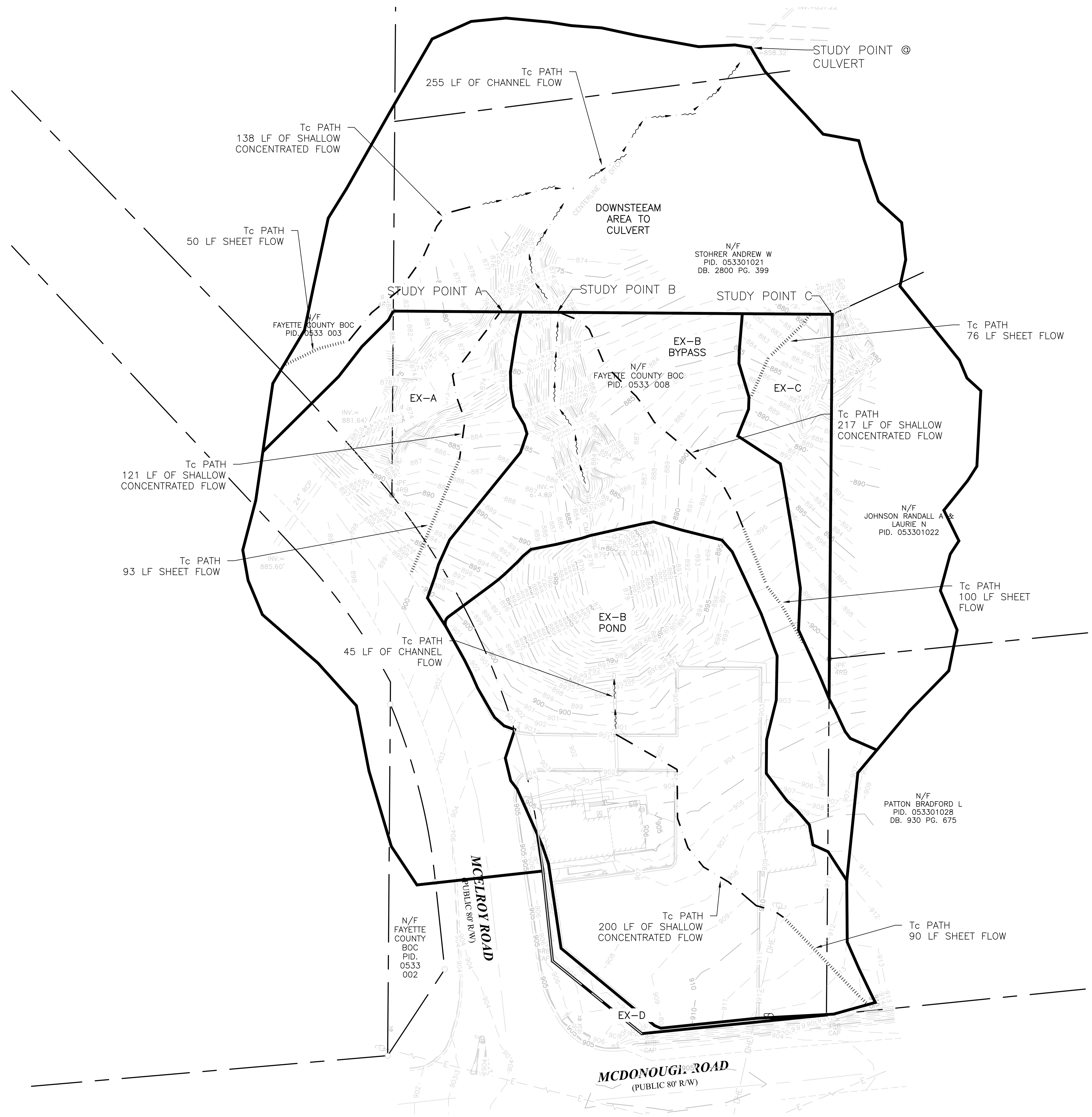
SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

SHEET TITLE
PRE-DEVELOPED BASINS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=40'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-900



DRAINAGE BASIN SUMMARY

BASIN A:	1.24 AC	CN = 69
BASIN B POND:	1.67 AC	CN = 77
BASIN B BYPASS:	1.00 AC	CN = 55
BASIN C:	0.25 AC	CN = 55
BASIN D:	0.04 AC	CN = 61
DS BASIN TO CULVERT:	2.46 AC	CN = 55
TOTAL:	6.67 AC	

LEGEND

PROPERTY AND EXISTING R/W LINE
SHEET FLOW
SHALLOW CONCENTRATED FLOW
OPEN CHANNEL FLOW

N

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

40 0 40 80 120
SCALE IN FEET

CROY ENGINEERING
Engineers Planners Surveyors
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
GEORGIA REGISTERED ENGINEER LEWIS CARL CARVER

SHEET TITLE
EX-DEVELOPED BASINS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=40'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-901

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

40 0 40 80 120
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

Plot Scale: 1"=40' Drawing Rotation: 359.9° Plot Style: Design.ctb Plotted By: Scott McNally on 5/29/2018, 8:52 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE

SEAL

GEORGIA REGISTERED No. 28424 PROFESSIONAL ENGINEER LEWIS CARL CARVER

SHEET TITLE
POST-DEVELOPED BASINS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=40'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-902

SHEET 14 of 25

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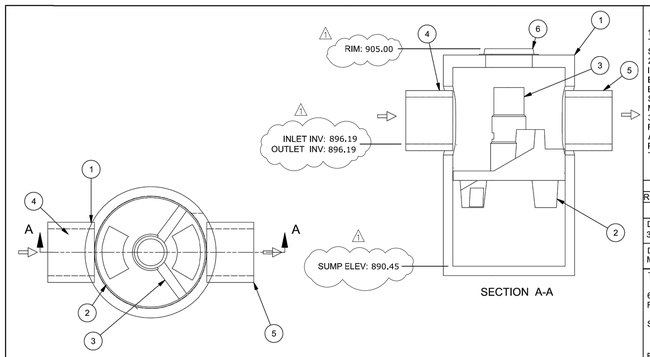


Notes

1. MANHOLE WALL AND SLAB THICKNESSES ARE NOT TO SCALE.
2. CONTACT HYDRO INTERNATIONAL FOR A BOTTOM OF STRUCTURE ELEVATION PRIOR TO SETTING FIRST DEFENSE MANHOLE.
3. CONTRACTOR TO CONFIRM RIM, PIPE INVERTS, PIPE DIA. AND PIPE ORIENTATION PRIOR TO RELEASE OF UNIT TO FABRICATION.

REV	BY	DATE	DESCRIPTION
	RC	1/15/15	FIRST ISSUE

REVISION HISTORY

Date	Scale
3-20-18	1/4" = 1'0"

Drawn	Checked	Approved
MHM		

Title

6-FT DIAMETER
FIRST DEFENSE HC

STR 1

FAYETTE CO. FIRE STATION #4
FAYETTEVILLE, GA

Hydro International

Stormwater Solutions
94 Hutchins Drive
Portland, Maine 04102
Tel: (207) 756-6200
Fax: (207) 756-6212
stormwaterinquiry@hydro-int.com

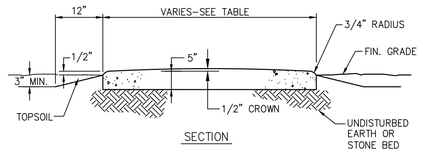
CAD Ref:	FSHC-MAX
Project No.	xx-xxxx
Drawing No.	FSHCS1 Rev.

Parts List

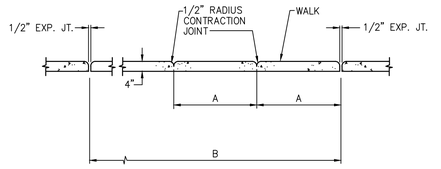
ITEM	SIZE (in)	DESCRIPTION
1	72	I.D. PRECAST MANHOLE
2		LEDGER SUPPORT
3		SEPARATION MODULE
4	24"	INLET PIPE (HDPE)
5	24"	OUTLET PIPE (HDPE)
6	30"	RING/COVER BY HYDRO-INTERNATIONAL

SIDEWALK WIDTH (FT.)	JOINT SPACING (FT.) A	JOINT SPACING (FT.) B
4	4	48
5	5	50
6	6	48
8	8	48
10*	5	50
12*	6	48
20	10	50

* : LONGITUDINAL CONTRACTION JOINT REQUIRED.

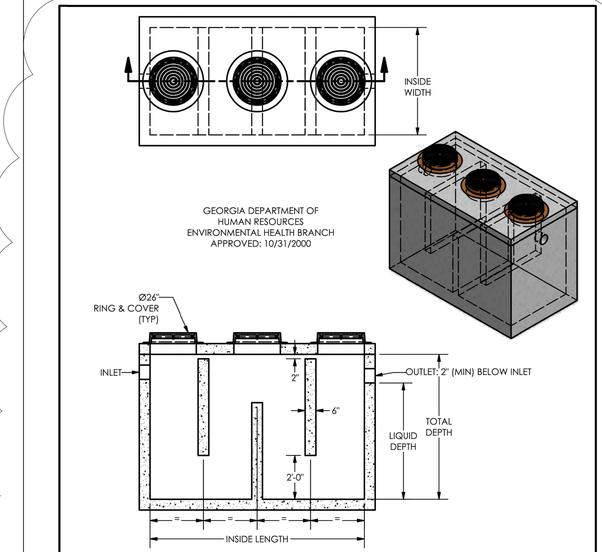


SECTION



JOINT PLACEMENT

TYPICAL SIDEWALKS
NOT TO SCALE

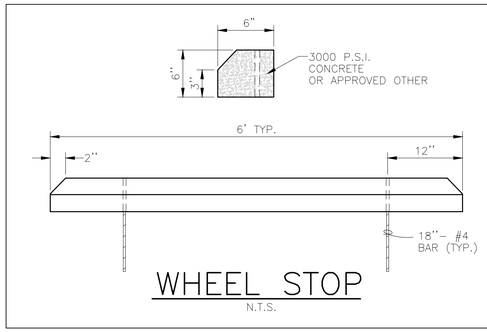


MATERIALS:
CONCRETE: 4,000 PSI, TYPE I/II CEMENT
MINIMUM #5 @ 12" O.C.E.W. - GRADE 60 REINFORCEMENT

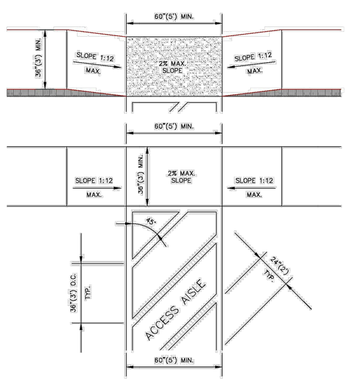
NOTES:
AASHTO H20 DESIGN LOADING AVAILABLE

PARTS SHOWN:
2000 GALLON OIL WATER SEPARATOR
10.00' x 5.00' x 6.50'

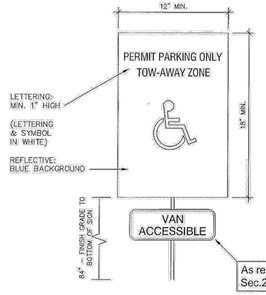
PRODUCTS FOLEY COMPANY	BOX	2.5
	OIL WATER SEPARATOR (STANDARD)	



WHEEL STOP
N.T.S.



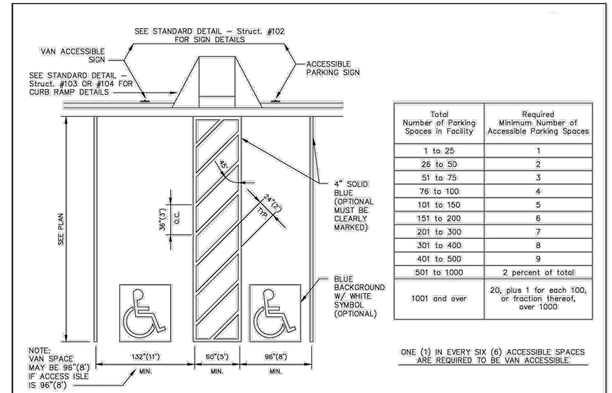
STANDARD DETAIL - ALTERNATE PARALLEL CURB RAMP (non-D. O. T. regulated)
N. T. S. Struct. #104



As required by G. A. C. Sec.208.2.4.

O. C. G. A. Sec. 40-6-221
(3) "Parking place for persons with disabilities" means any area on public or private property which has been designated for use of persons with disabilities as follows:
(A) By a blue metal reflective sign which is at least 12 inches in width and 18 inches in length and is erected at a height of seven feet from the bottom of the sign to its ground surface and in such manner that it will not be obscured by a vehicle parked in the space and bearing the following words: "Permit Parking Only", "Tow-Away Zone", and the international symbol for accessibility. The warning required in this subparagraph shall be centered on the sign, printed in white, and shall occupy not less than 75 percent of the surface area of the sign. The sign required by this subparagraph shall be the official authorized sign for parking place designations for persons with disabilities in this state.

STANDARD DETAIL - ACCESIBLE PARKING SPACE SIGNAGE (non-D. O. T. regulated)
N. T. S. Struct. #102



Total Number of Parking Spaces in Facility	Required Minimum Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 to 300	7
301 to 400	8
401 to 500	9
501 to 1000	2 percent of total
1001 and over	20, plus 1 for each 100, or fraction thereof, over 1000

ONE (1) IN EVERY SIX (6) ACCESSIBLE SPACES ARE REQUIRED TO BE VAN ACCESSIBLE

STANDARD DETAIL - ACCESIBLE PARKING SPACES (non-D. O. T. regulated)
N. T. S. Struct. #101

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

Plot Scale: 1"=##"; Drawing Rotation: ###°; Plot Style: Design.ctb; Plotted By: Scott McNally on 5/29/2018, 8:52 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARTER No. 24434

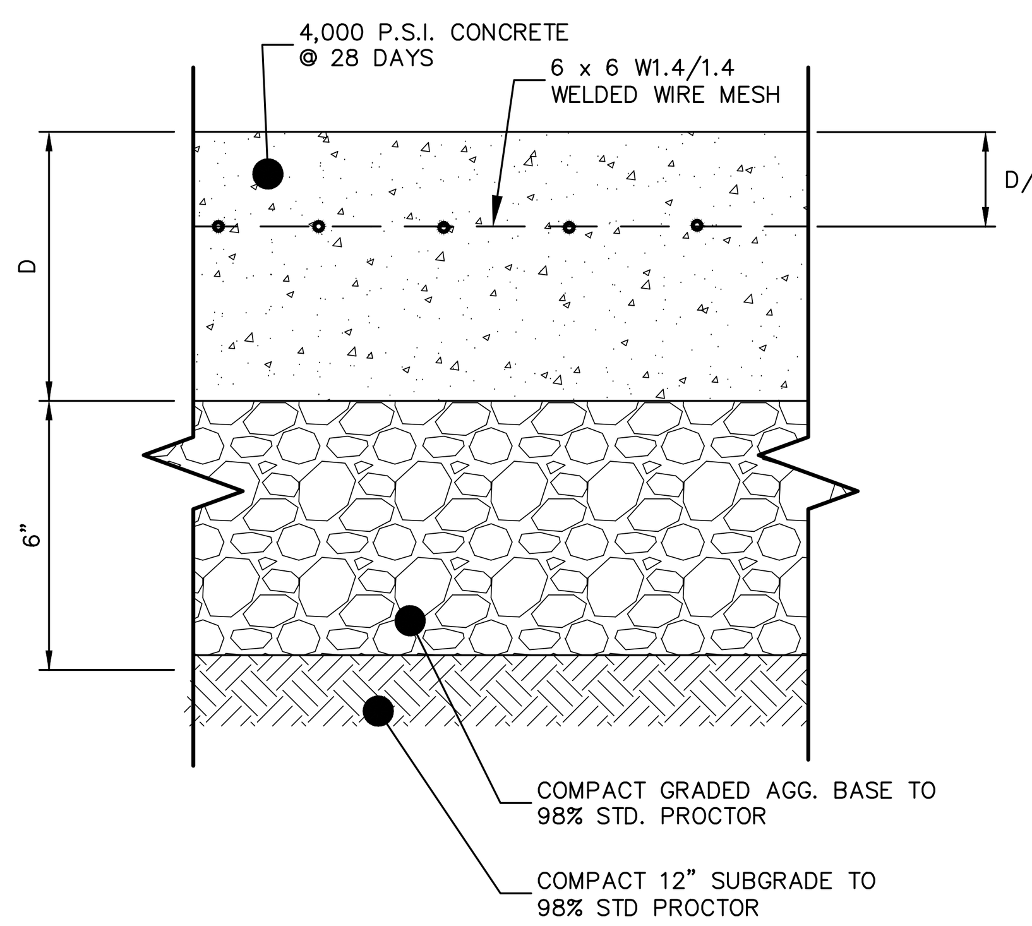
SHEET TITLE
CONSTRUCTION DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
N.T.S.	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-1000
SHEET 15 of 25

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



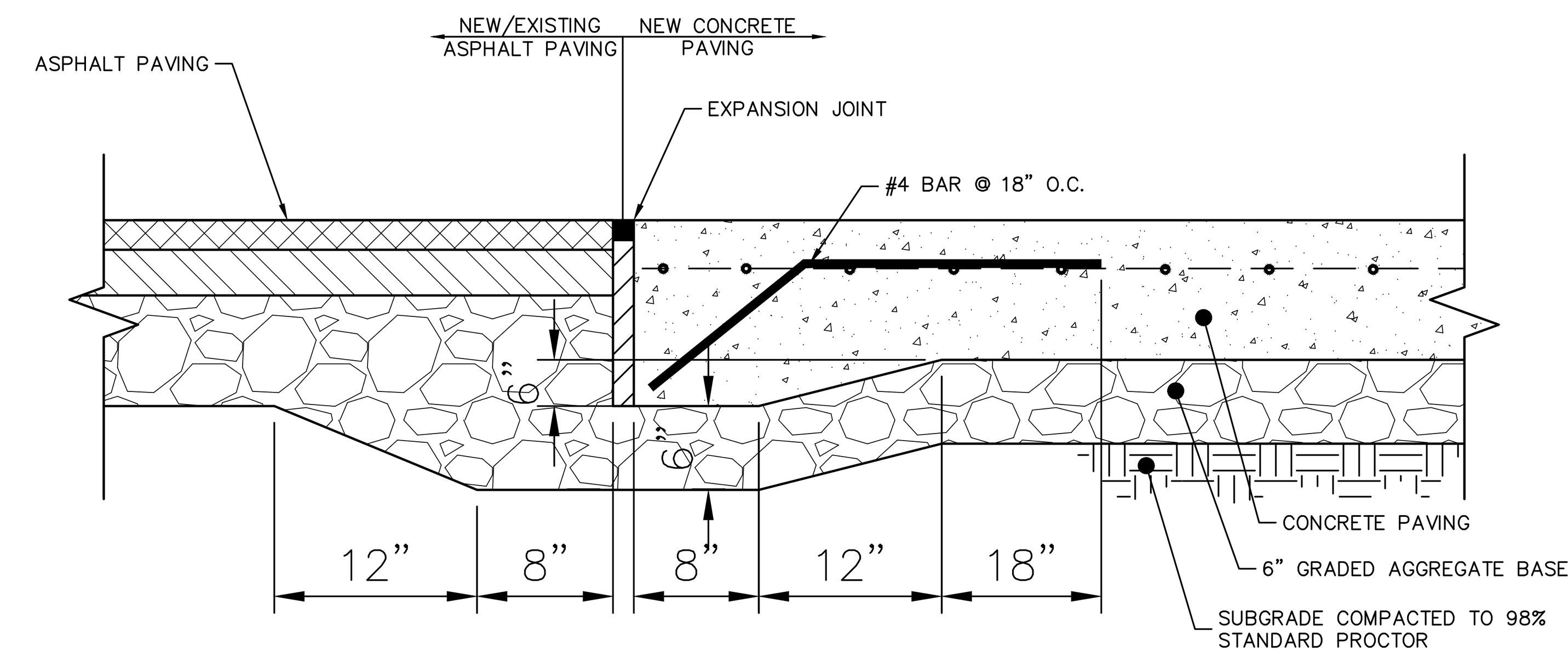
D	REINFORCEMENT	T (INCHES) (INITITAL SAW CUT)	DOWEL BARS
8"	6x6 W1.4/1.4	2.0"	1"x16" @ 12" O.C.

NOTES

1. CONCRETE TO BE 4,000 PSI AT 28 DAYS
2. WELDED WIRE MESH SHALL MEET THE REQUIREMENTS OF ASTM F2453, CURRENT EDITION
3. DOWEL BARS
4. REINFORCEMENT BARS SHALL BE GRADE 60 MEETING THE REQUIREMENTS OF ASTM A615–81.
5. JOINT SEALANT
6. CONTRACTOR TO SUBMIT THE FOLLOWING FOR APPROVAL:
   - 6.1. CONCRETE MIX DESIGN
   - 6.2. ALL REINFORCEMENT MATERIAL
   - 6.3. ALL JOINT MATERIAL
   - 6.4. JOINT LAYOUT
7. DOWELS TO BE PLACED AT D/2.
8. CONTRACTOR IS TO SUBMIT CONCRETE MIX DESIGN FOR APPROVAL.
9. CONTRACTOR IS TO PREPARE AND SUBMIT FOR APPROVAL ALL MATERIAL FOR CONCRETE JOINTS.

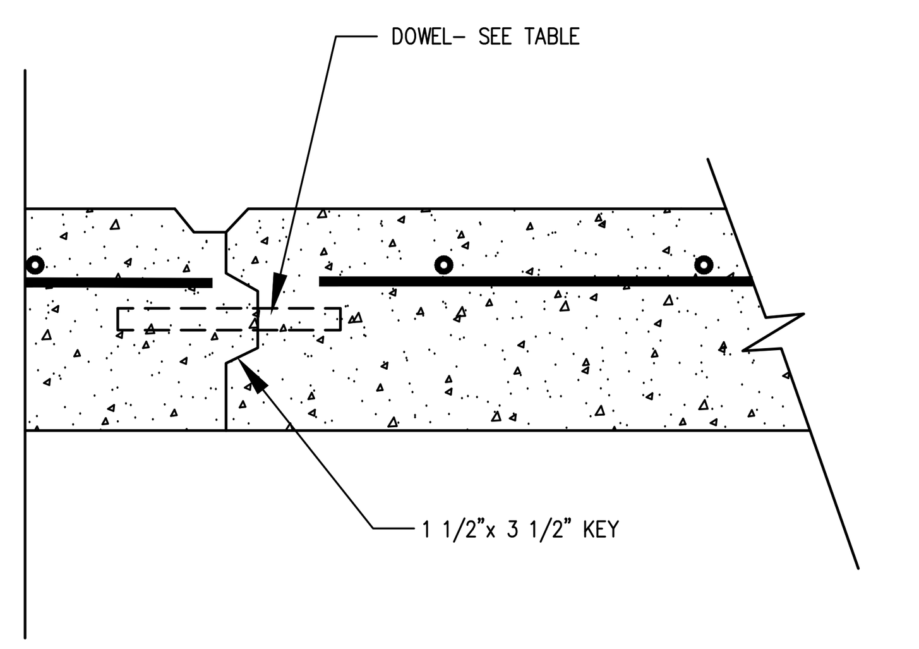
CONCRETE PAVEMENT SECTION

SCALE: N.T.S.



CONCRETE/ASPHALT TRANSITION DETAIL

SCALE: N.T.S.



KEYED CONSTRUCTION JOINT

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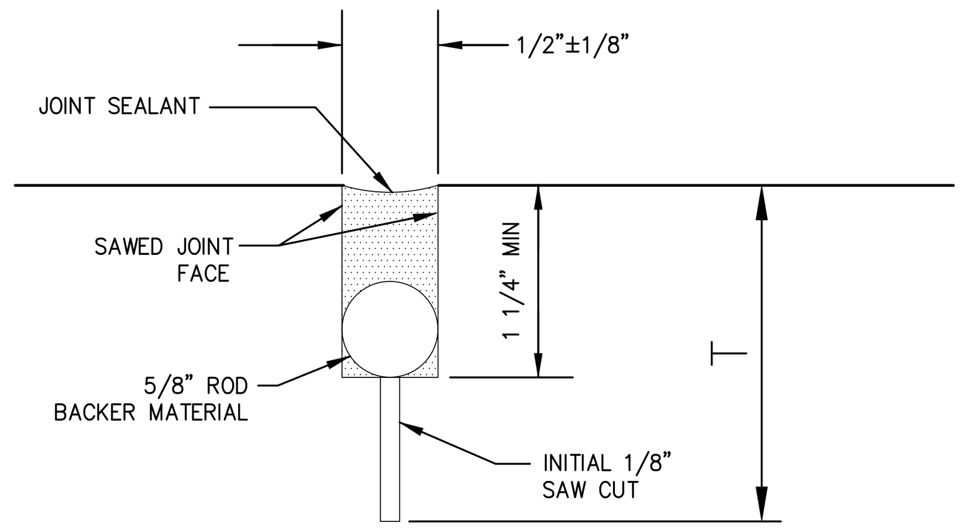

CONTRACTION JOINT (CJ)

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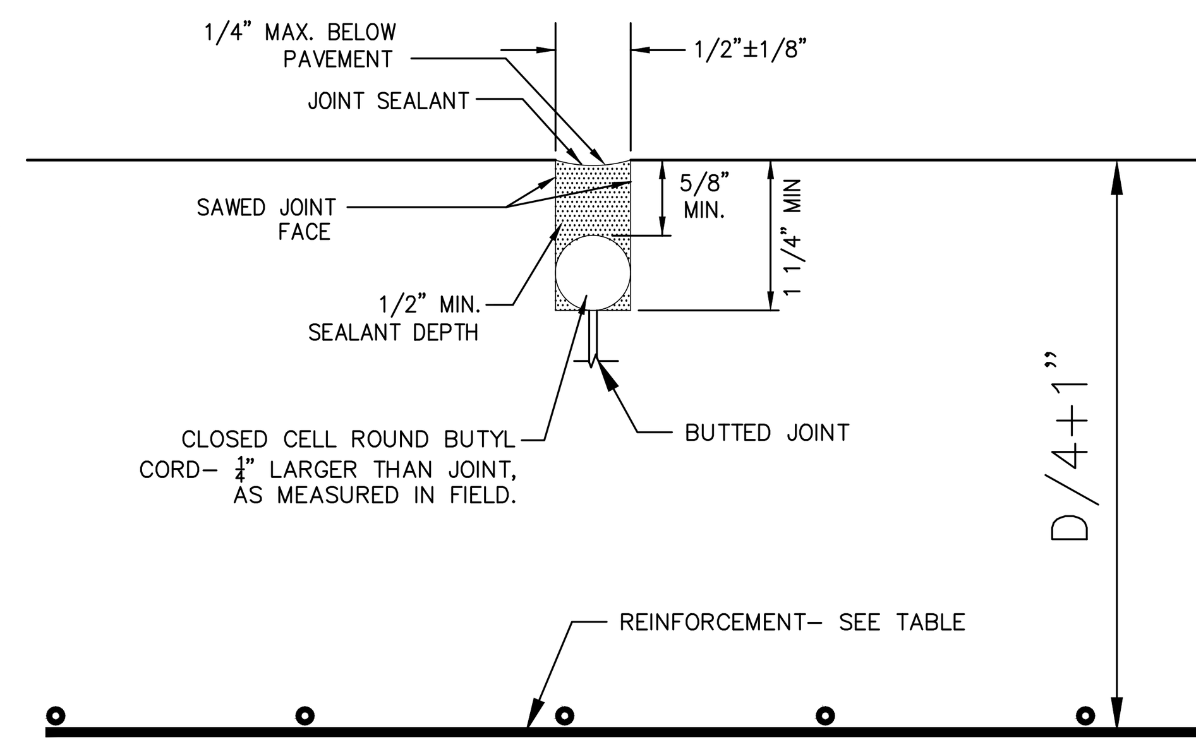

CONSTRUCTION JOINT (CRJ)

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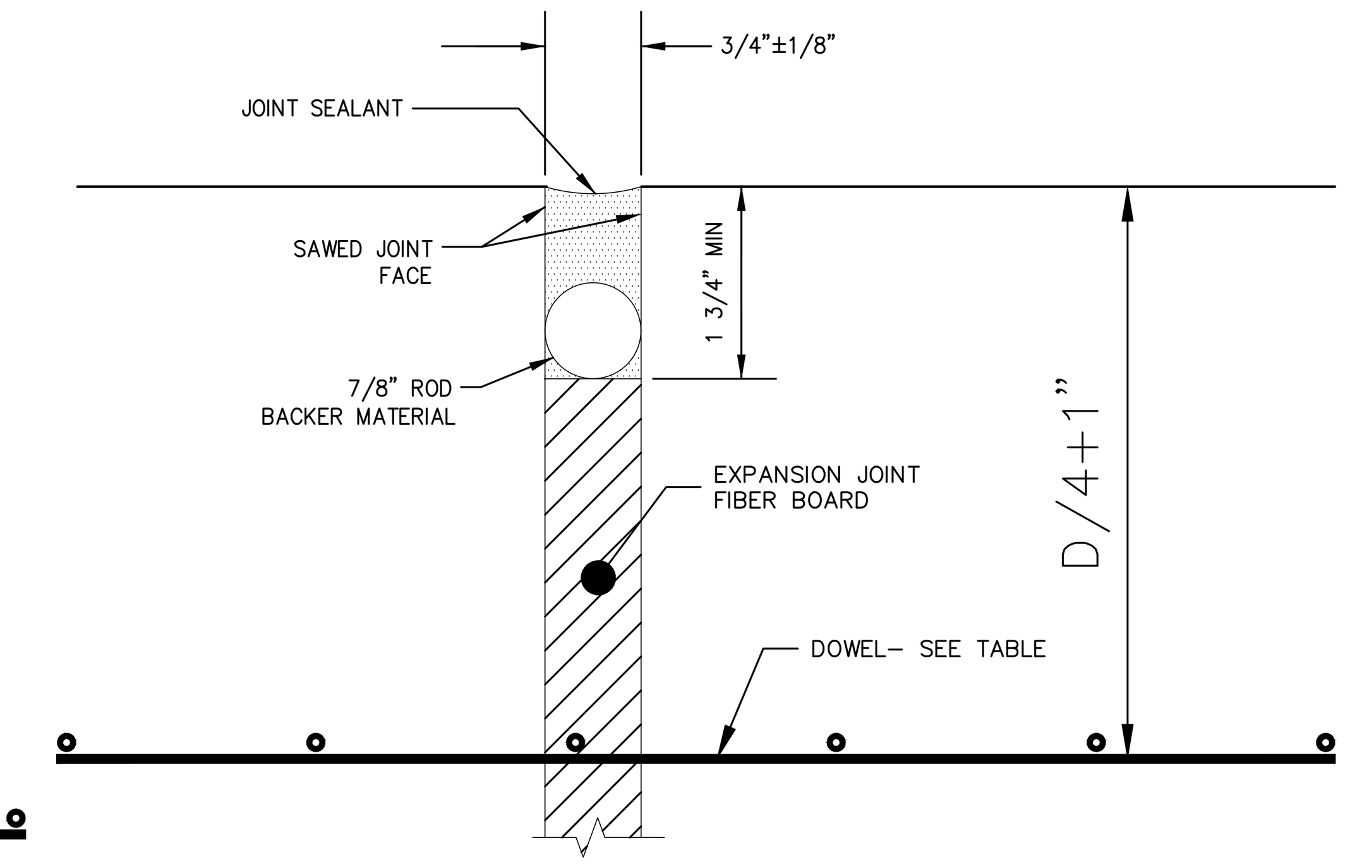

EXPANSION JOINT (EJ)

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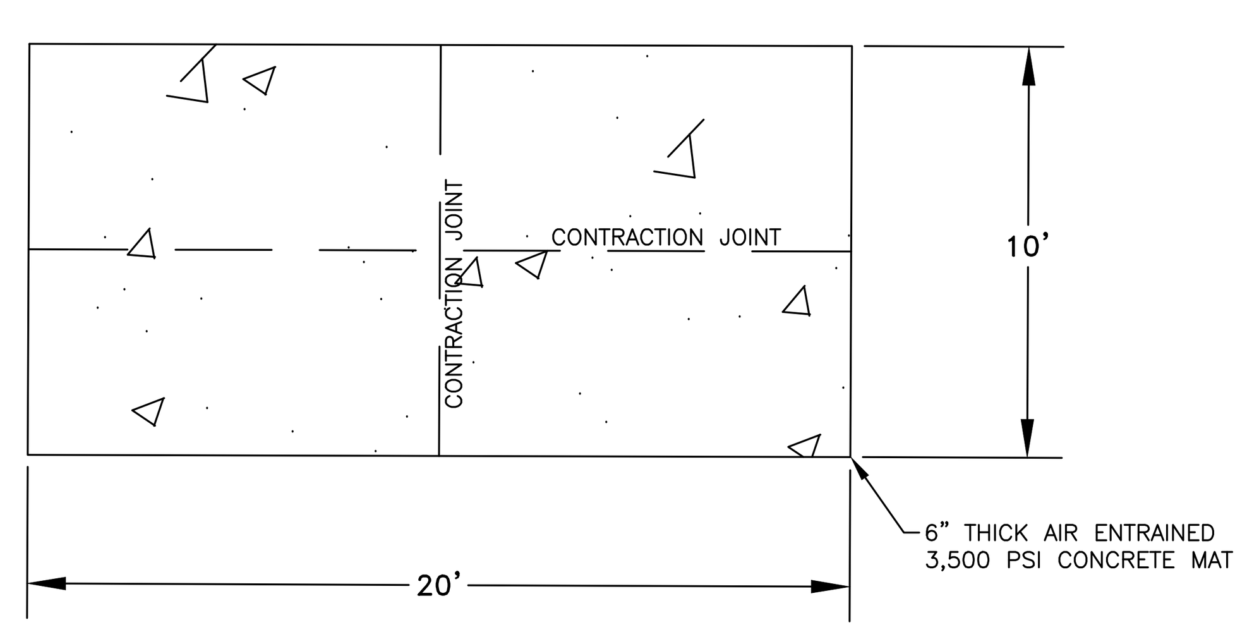
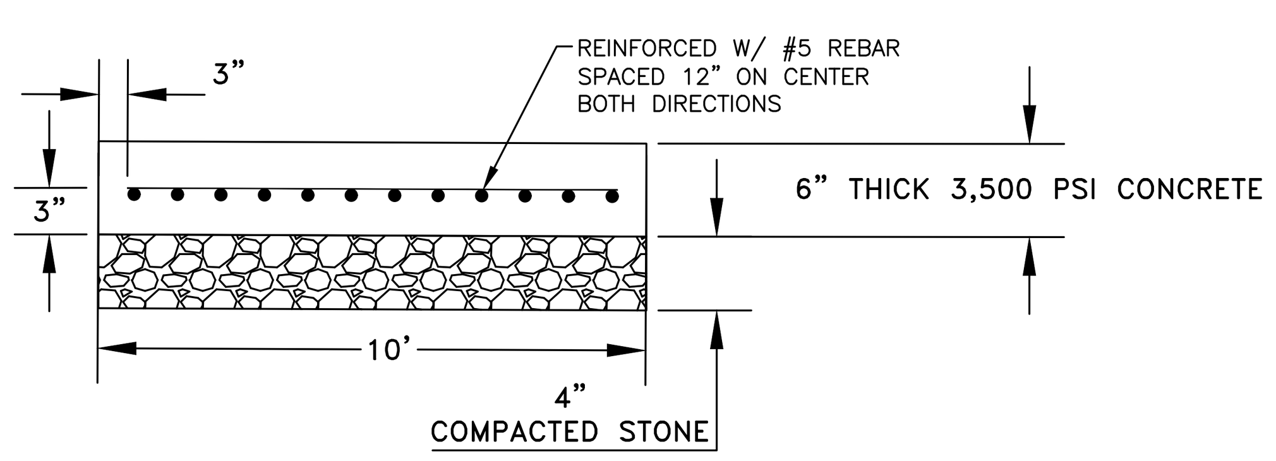


PLAN VIEW

GENERATOR PAD DETAIL

N.T.S.



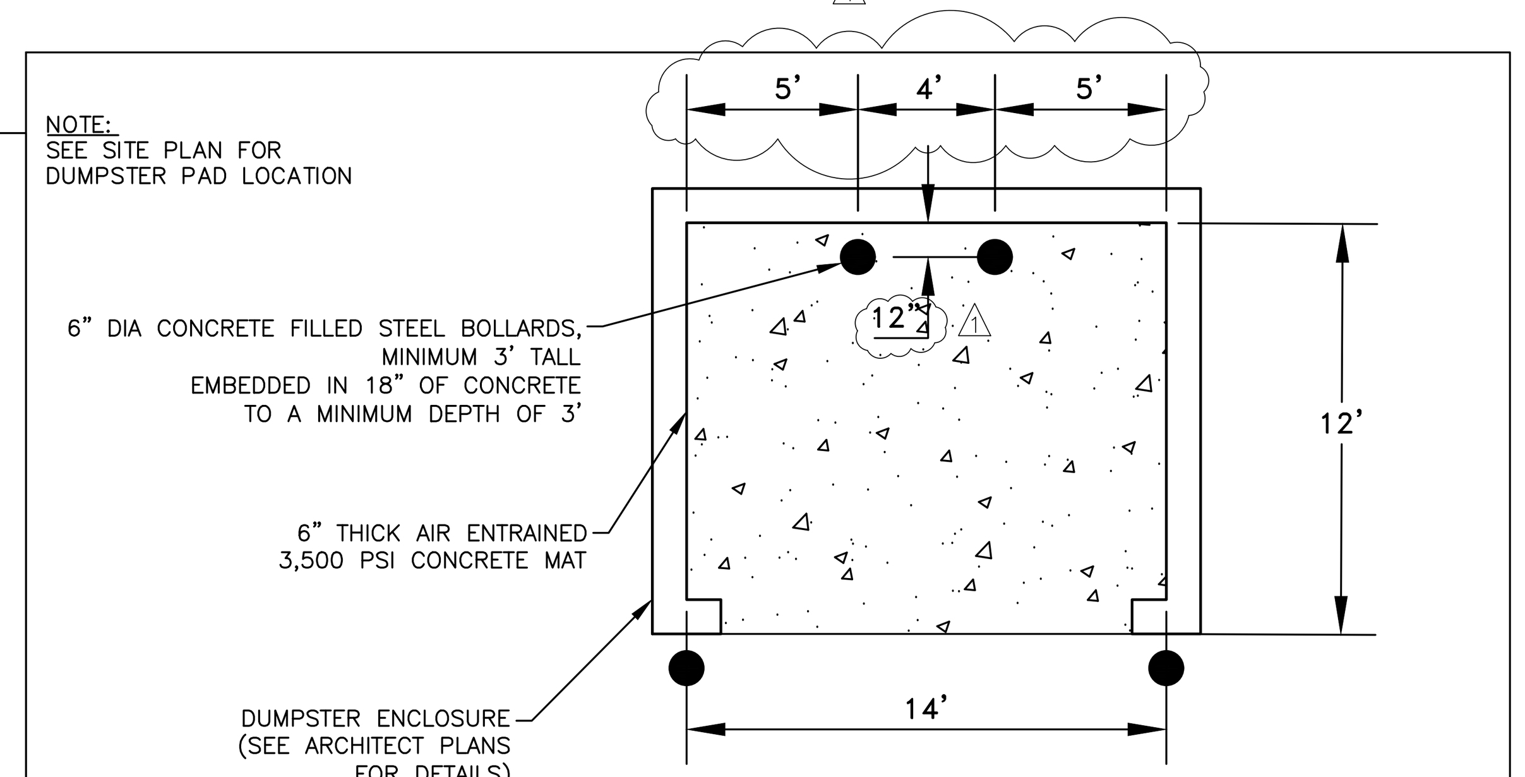
CROSS–SECTION VIEW

GENERATOR PAD DETAIL

N.T.S.

NOTE:
SEE SITE PLAN FOR GENERATOR PAD LOCATION

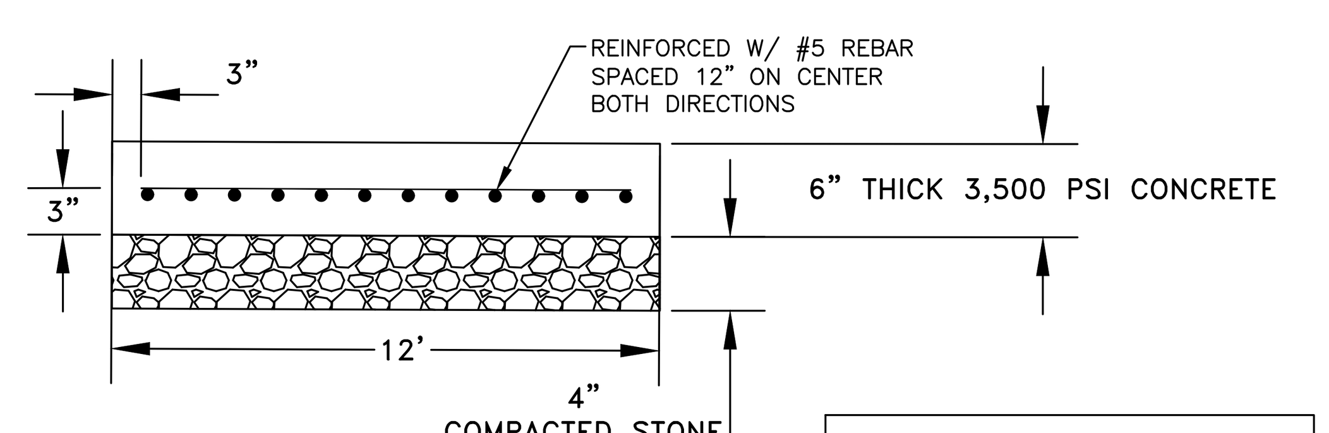
NOTE:
SEE SITE PLAN FOR DUMPSTER PAD LOCATION



PLAN VIEW

DUMPSTER PAD ENCLOSURE DETAIL

N.T.S.

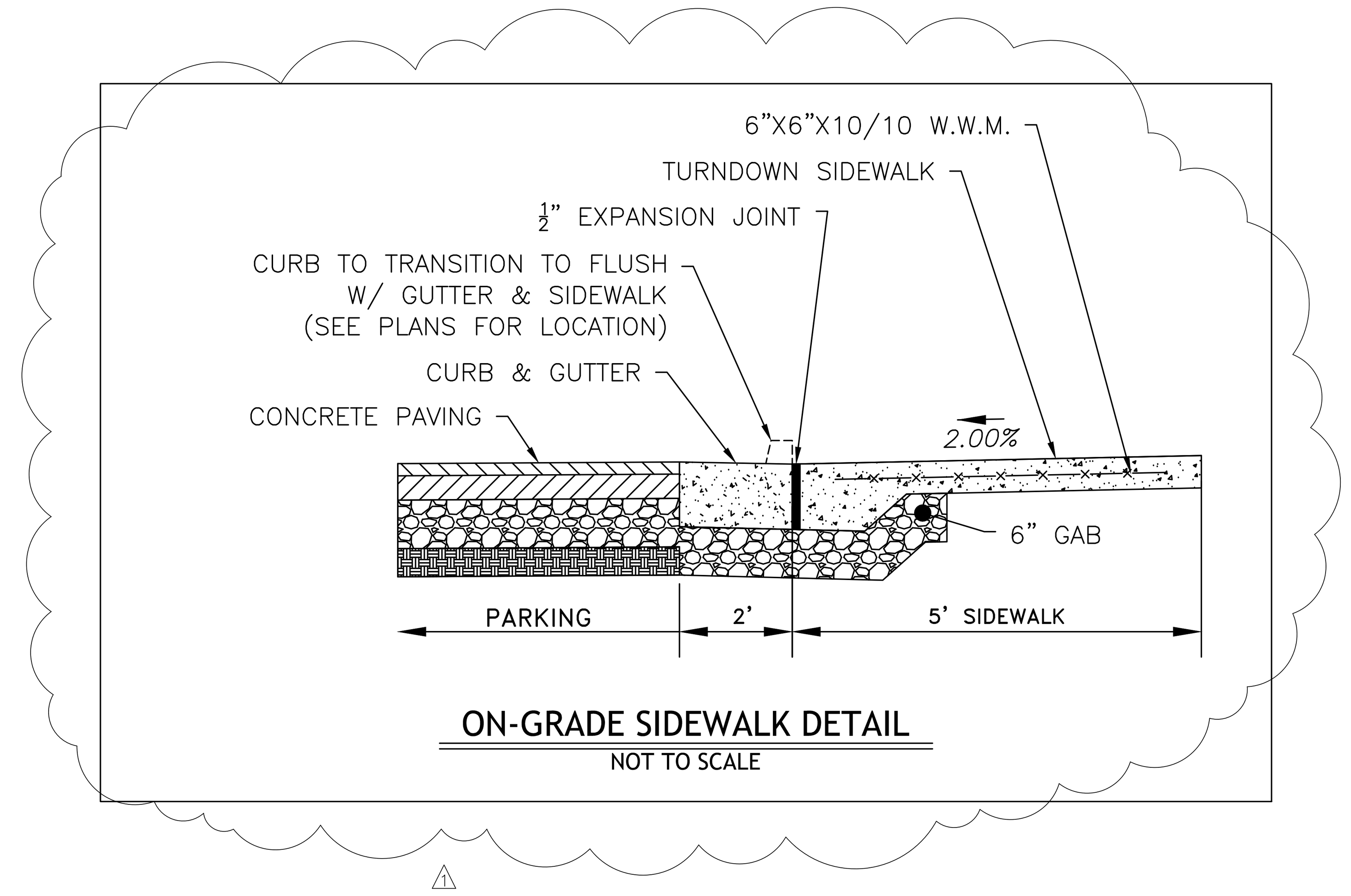


CROSS–SECTION VIEW

DUMPSTER PAD DETAIL

N.T.S.

NOTE:
CONTRACTOR TO SUBMIT SHOP DRAWINGS OF FINAL DUMPSTER DESIGN TO PAULDING COUNTY PARK & RECREATION DEPARTMENT AND PROJECT ENGINEER, FOR APPROVAL, PRIOR TO ANY CONSTRUCTION.



ON-GRADE SIDEWALK DETAIL

NOT TO SCALE

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

CROY ENGINEERING
Engineers Planners Surveyors
200 NORTH COBB PARKWAY, BLDG. 400, SUITE 413
MARIETTA, GA 30062
PHONE: (770) 971–5407 FAX: (770) 971–0620

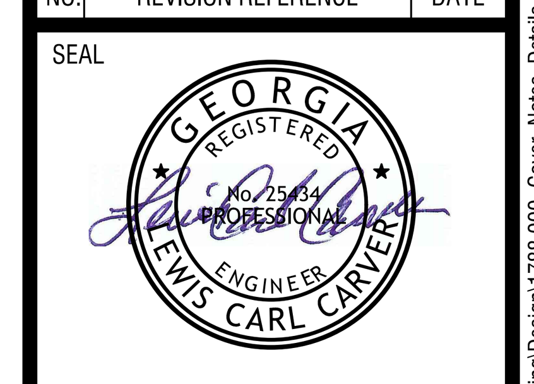
FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL



SHEET TITLE
CONSTRUCTION DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
N.T.S.	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-1001

Plot Scale: 1"=#', Drawing Rotation: ###°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:52 AM
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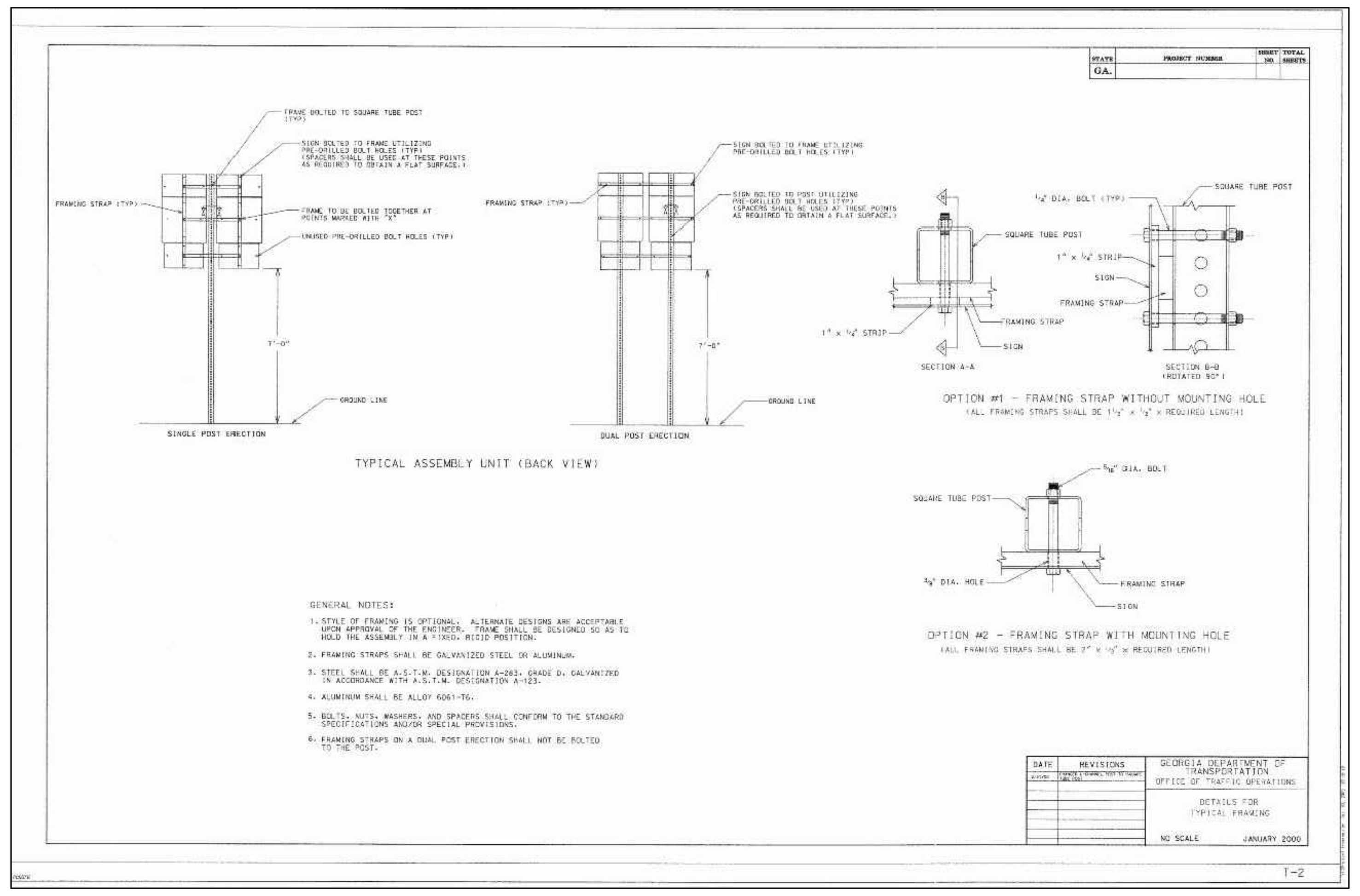
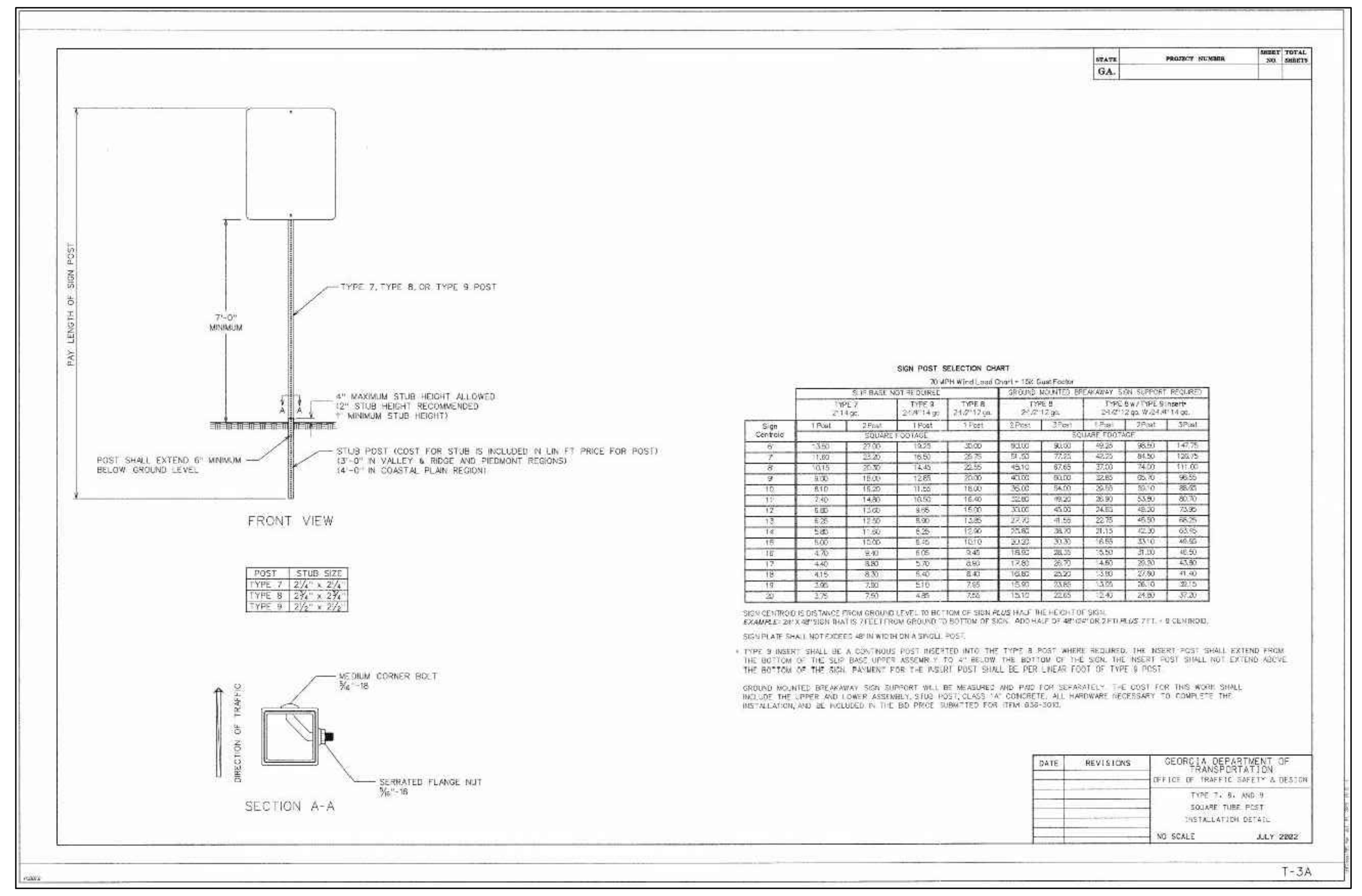
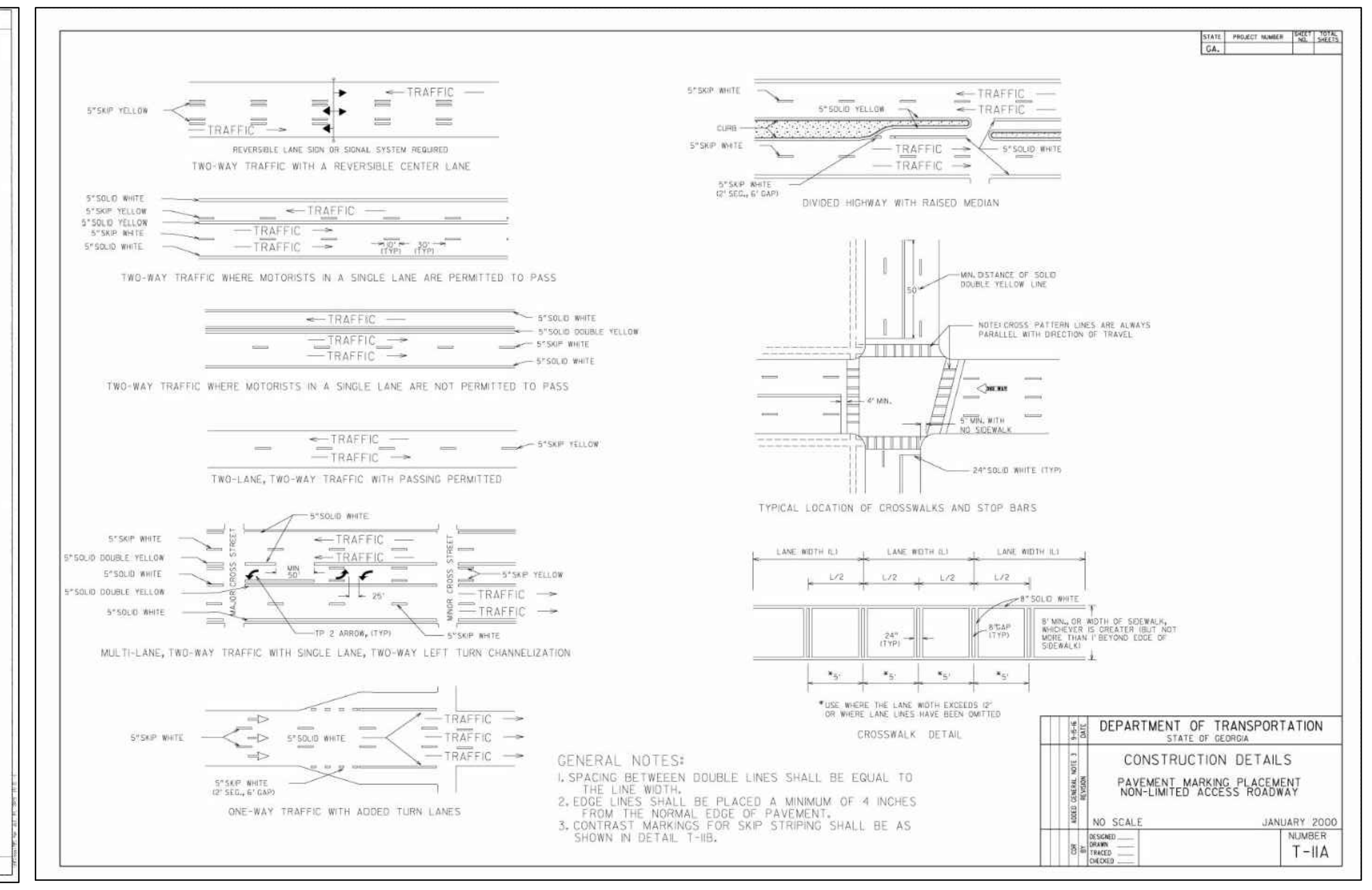
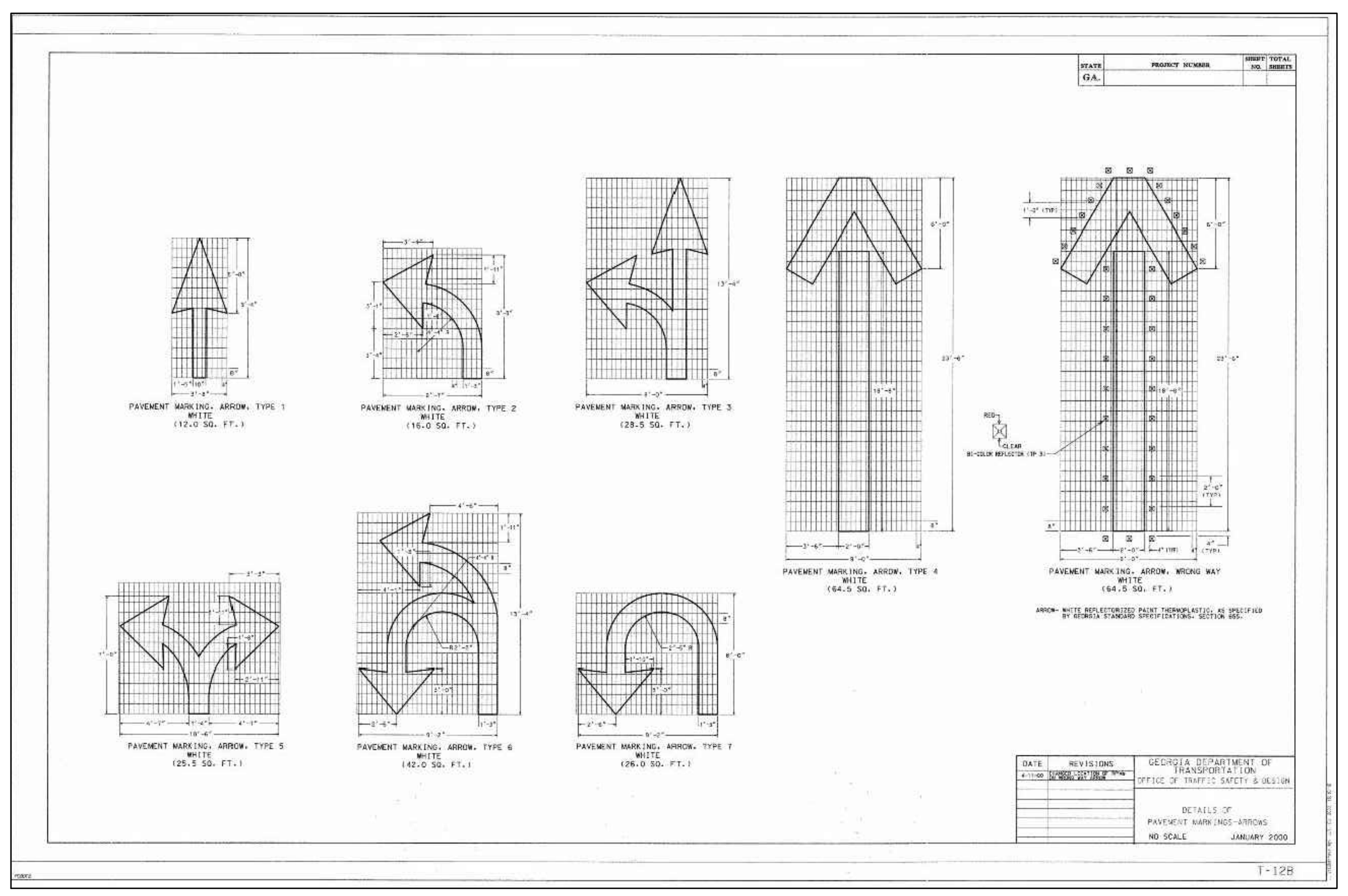
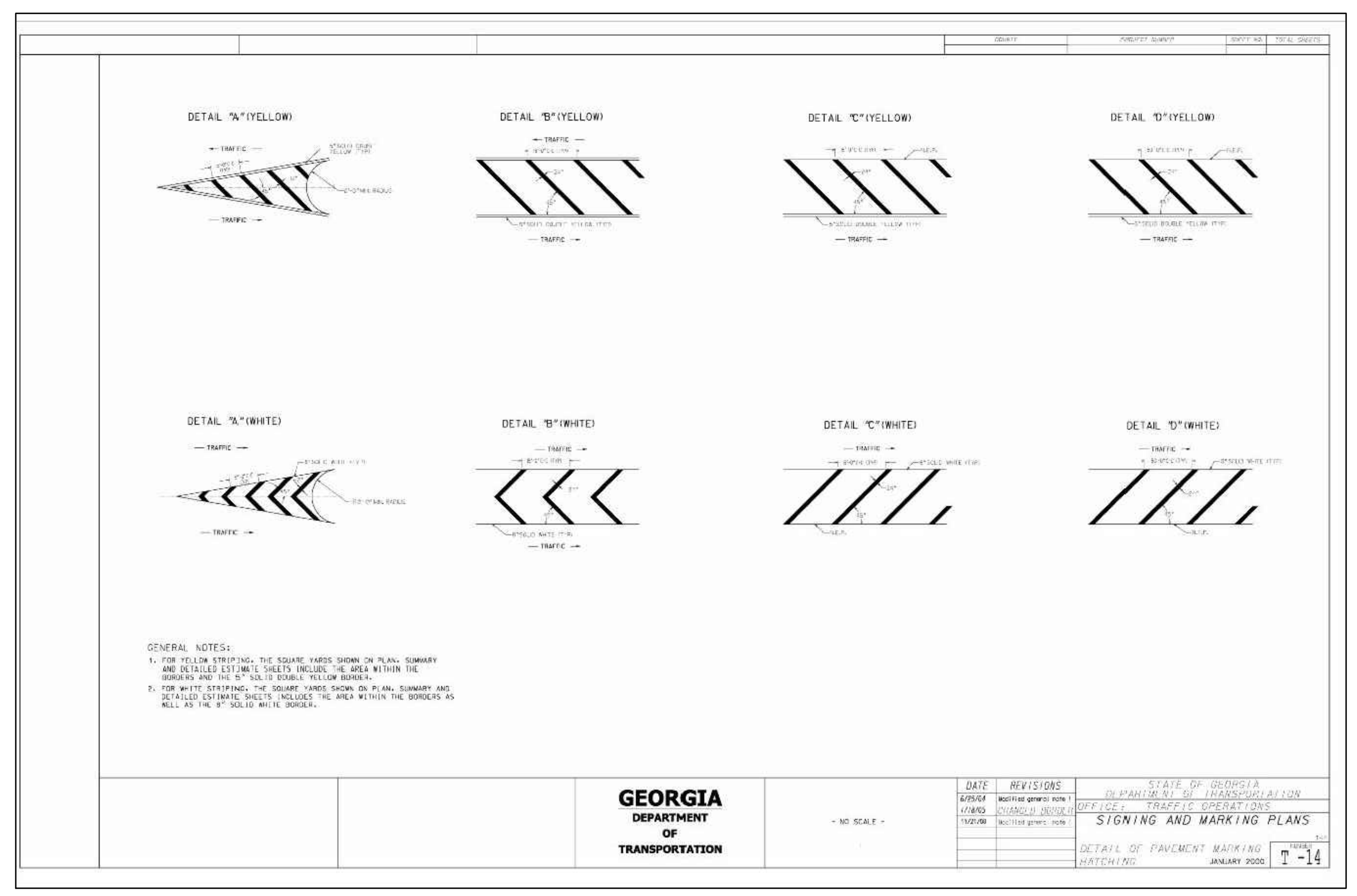
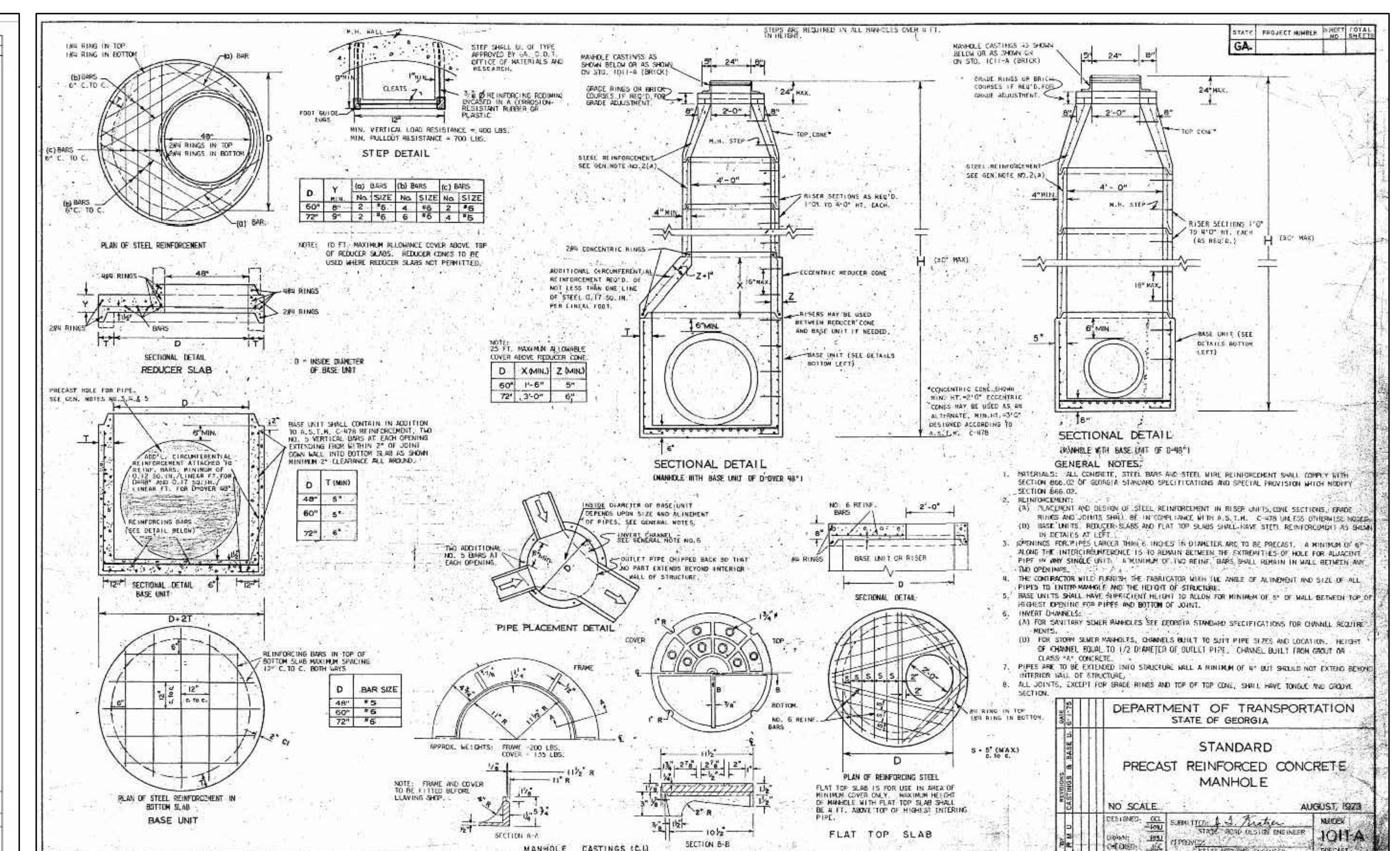


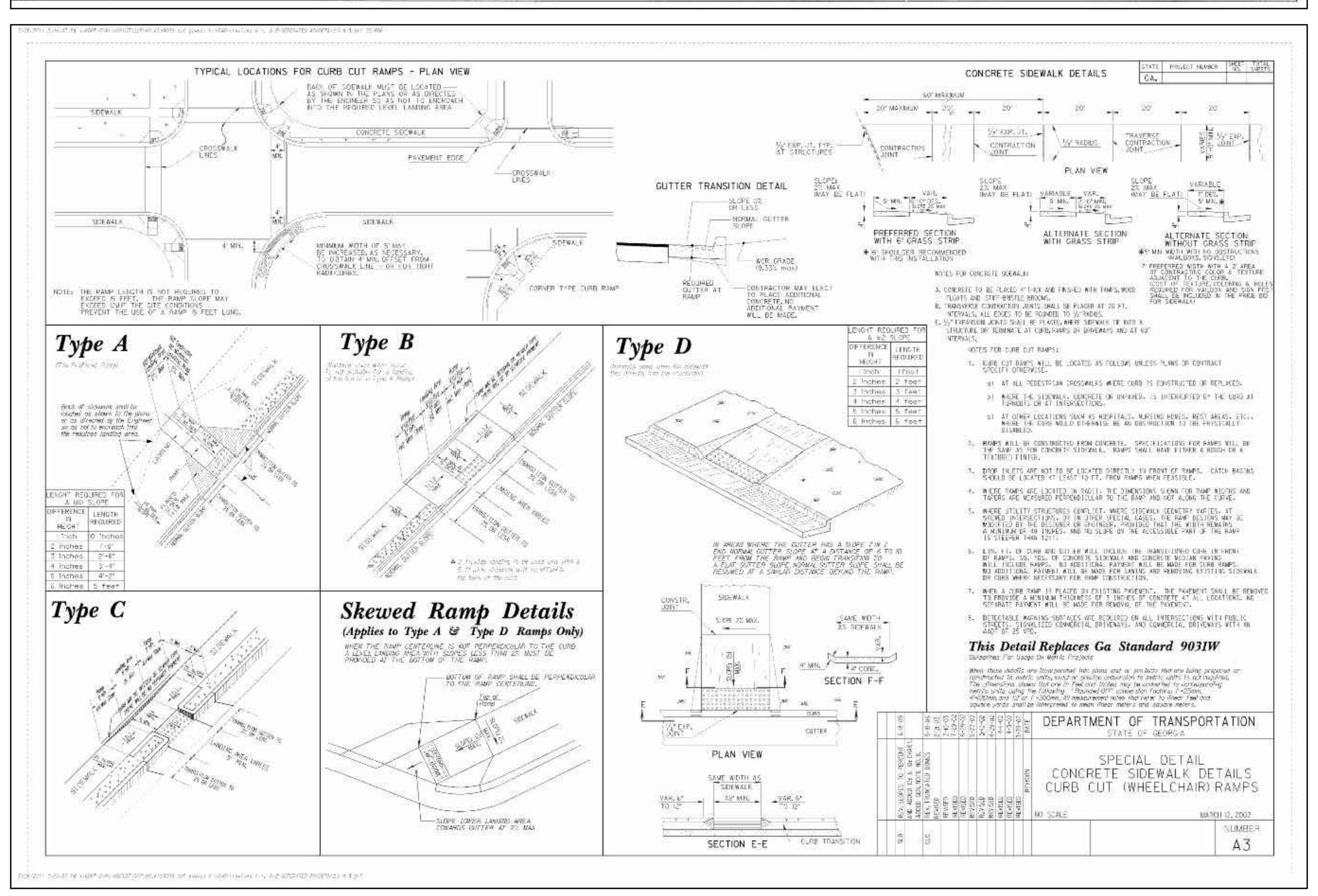


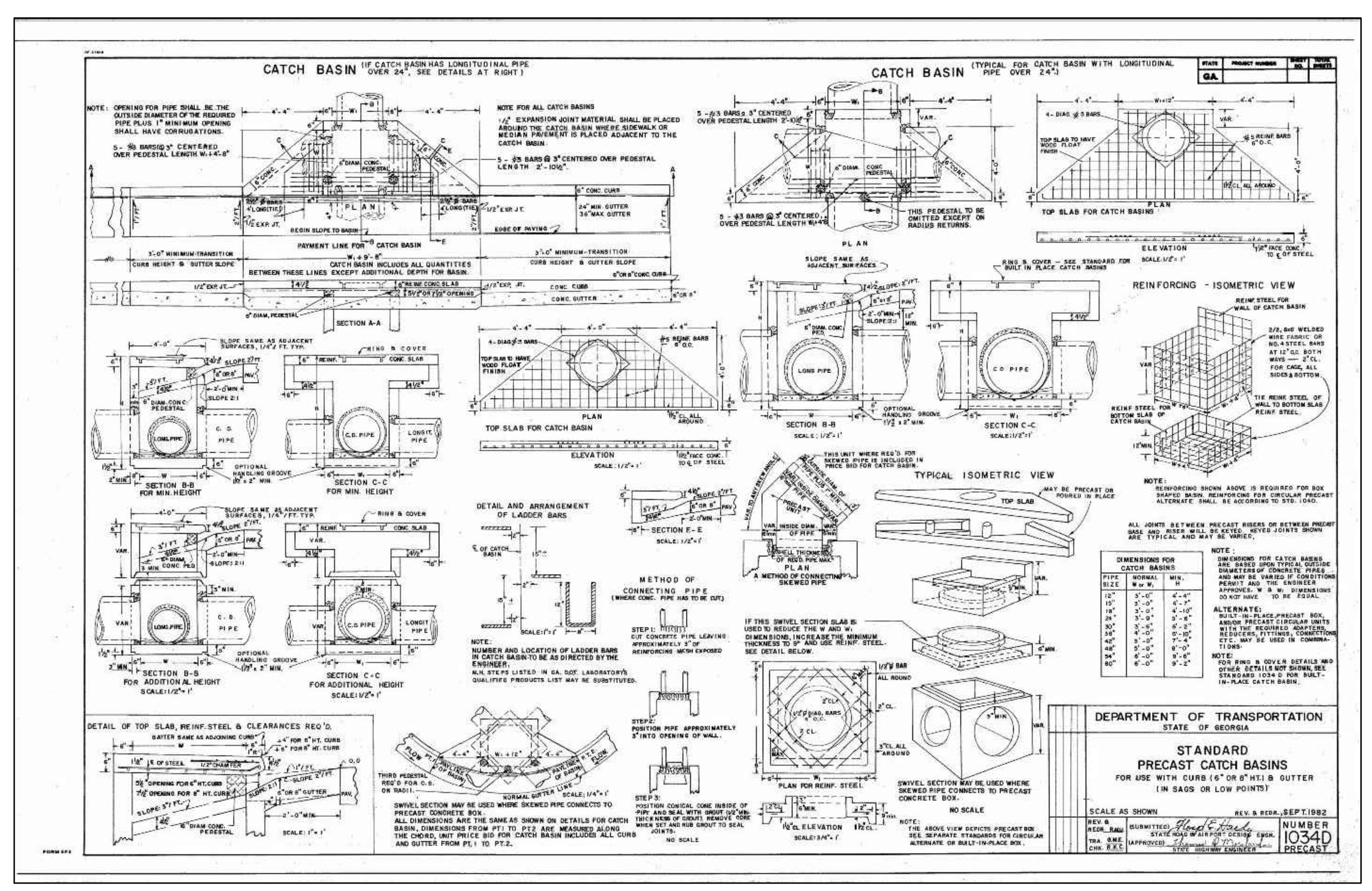


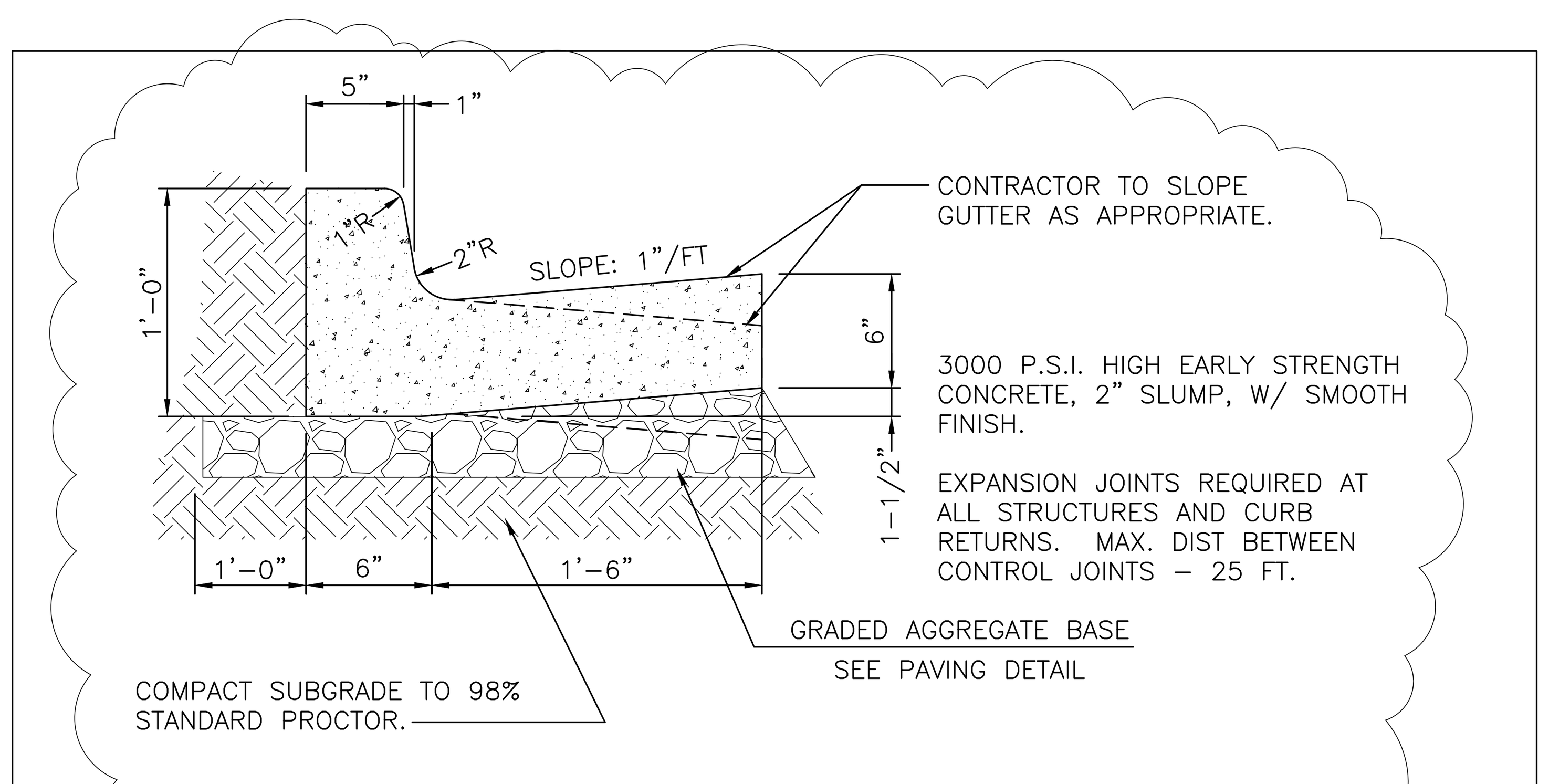












24" CONCRETE CURB & GUTTER

SCALE: N.T.S.

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

CROY ENGINEERING
Engineers Planners Surveyors
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
1	ADDENDUM 1	05/29/2018

SEAL

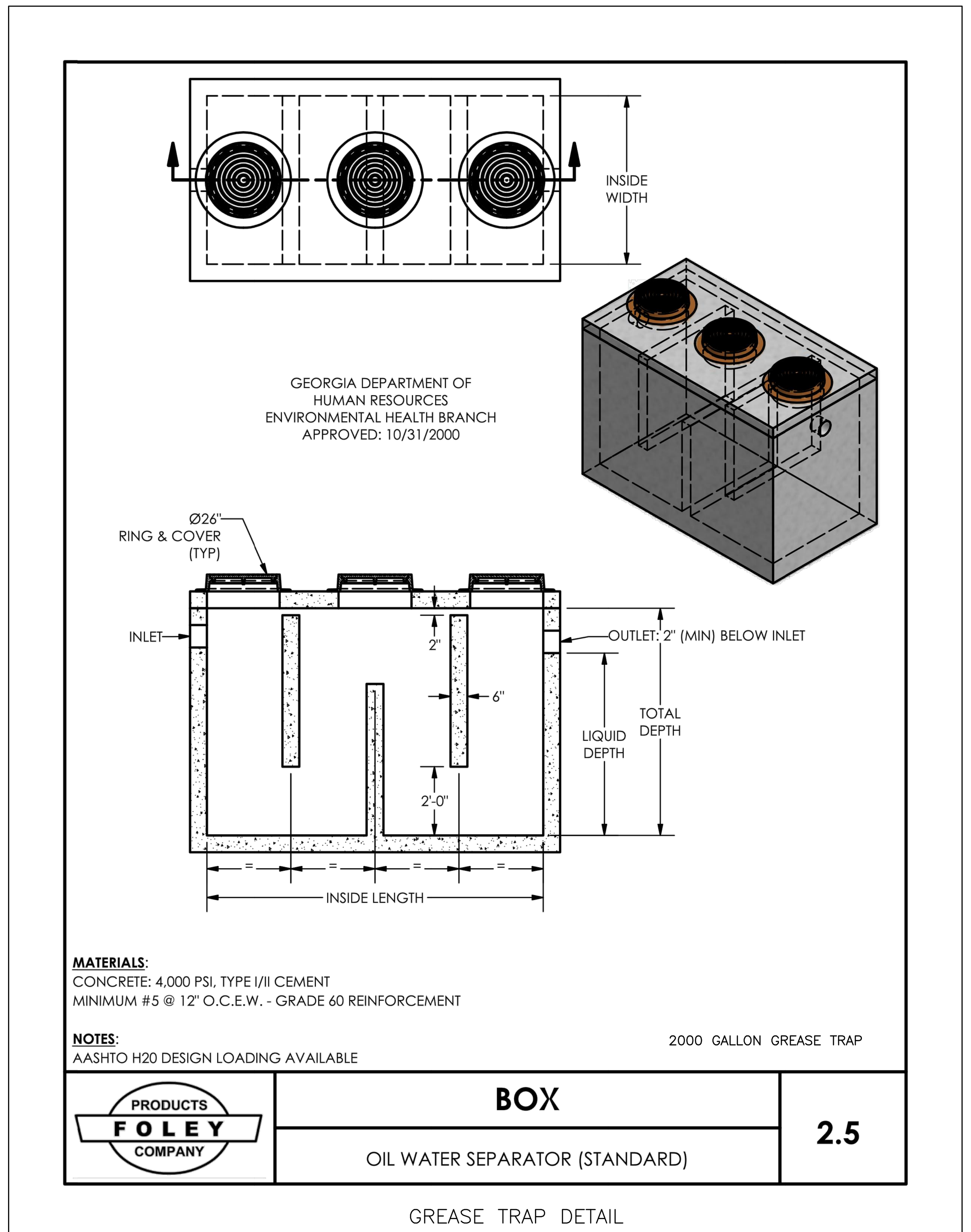
GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARVER

SHEET TITLE
CONSTRUCTION DETAILS

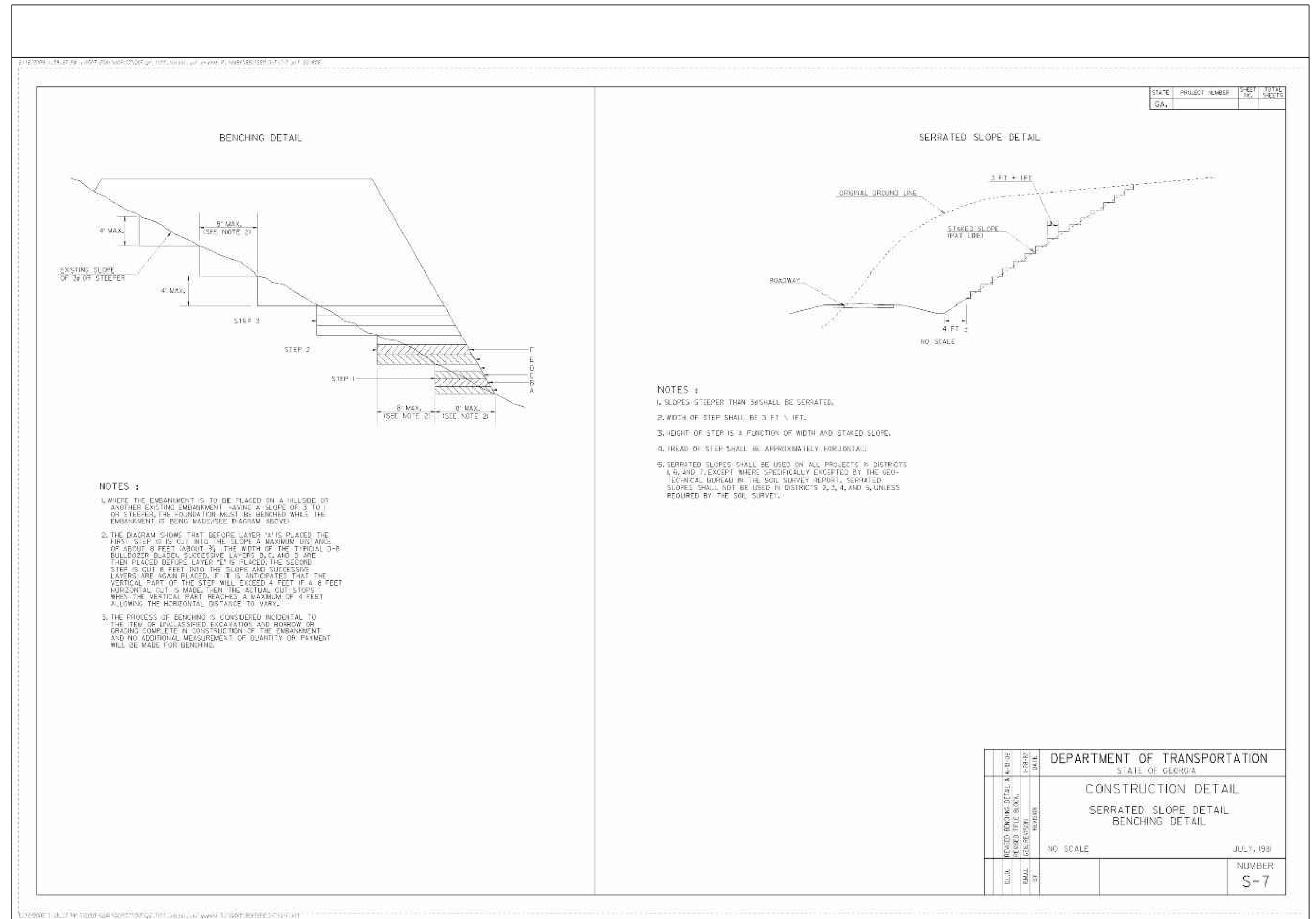
DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
N.T.S.	04/30/2018

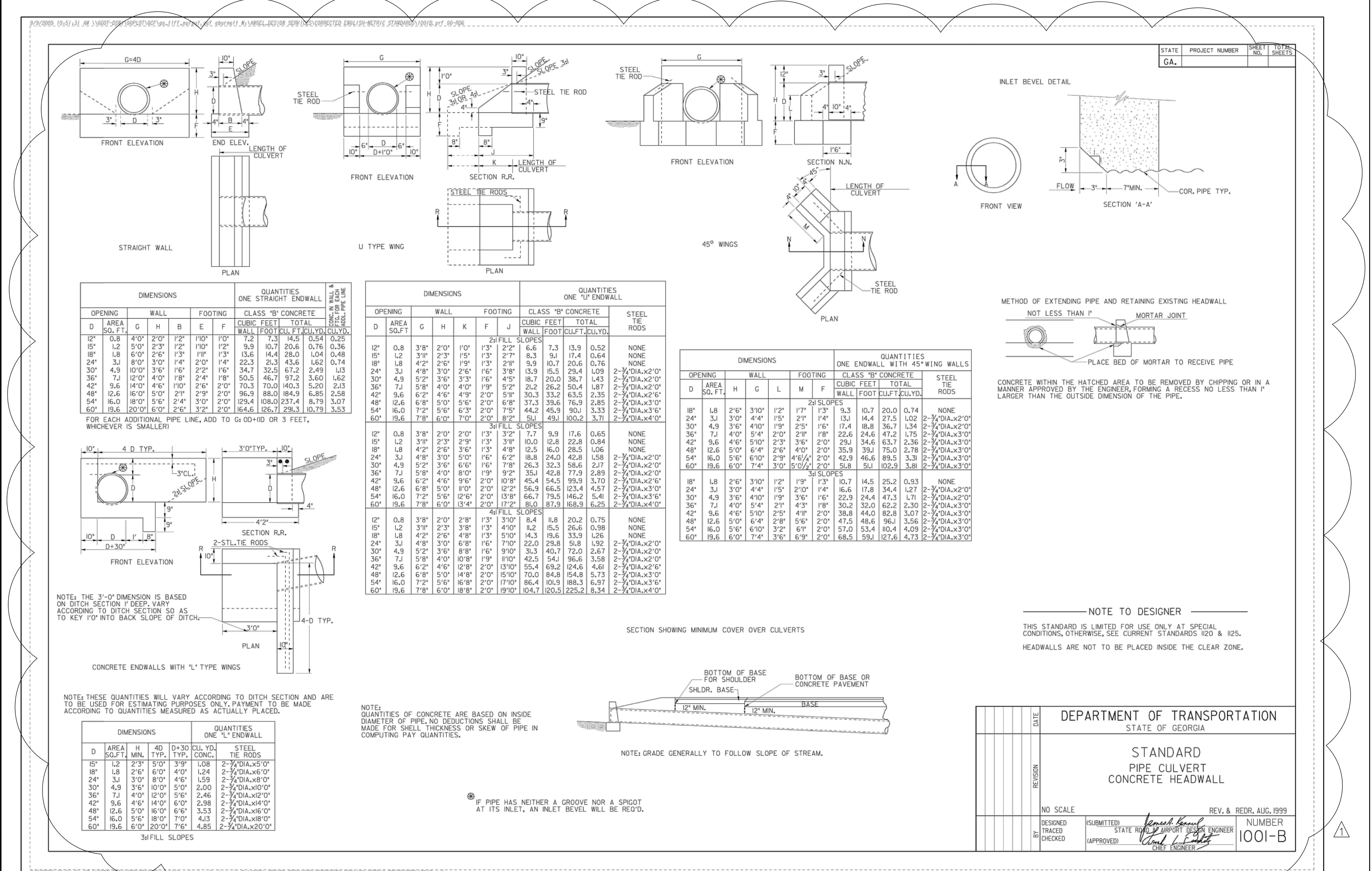
PROJECT NUMBER 1788.000

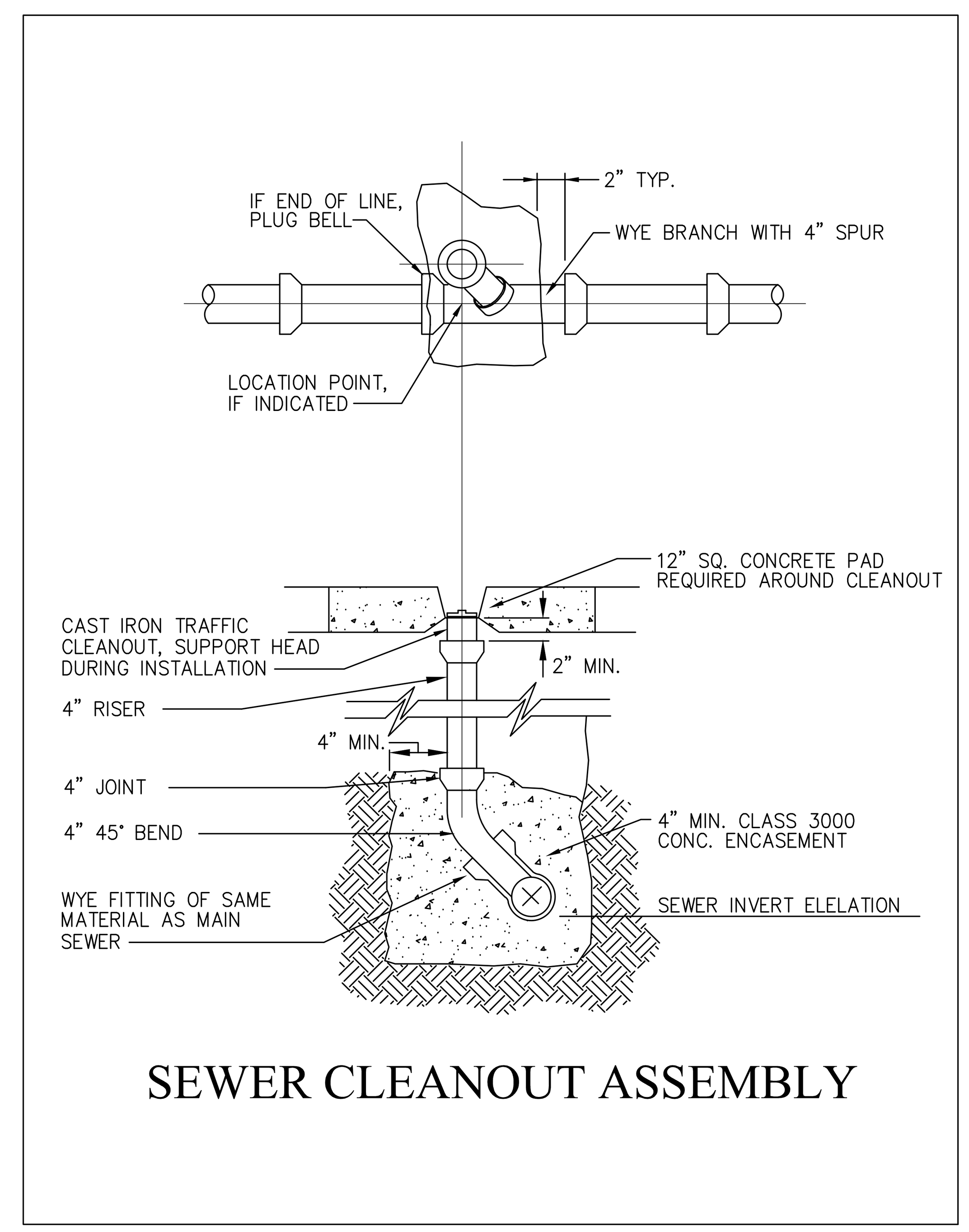
DRAWING NUMBER C-1002



GREASE TRAP DETAIL







SEWER CLEANOUT ASSEMBLY

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

CROY ENGINEERING
Engineers Planners Surveyors
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
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

SHEET TITLE
CONSTRUCTION DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
N.T.S.	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
C-1003

Plot Scale: 1"=#', Drawing Rotation: ###°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:52 AM
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EROSION, SEDIMENTATION, & POLLUTION CONTROL PLANS FOR

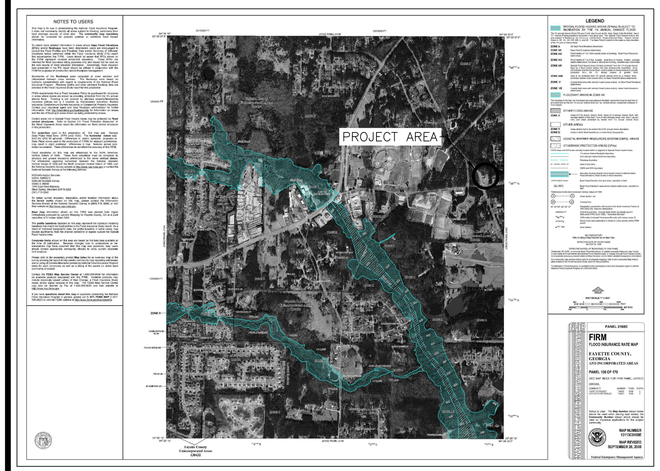
FIRE STATION NO. 4

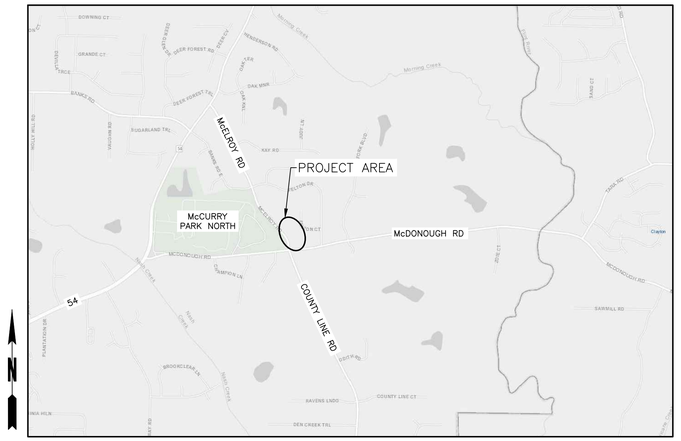
FAYETTE COUNTY, GEORGIA

CROY ENGINEERING PROJECT NO. 1788.000

JUNE 2018 ⚠

SHEET INDEX		
SHEET	DRAWING NAME	SHEET NAME
19	ER-000	EROSION CONTROL COVER
20	ER-100	EROSION CONTROL NOTES
21	ER-200	EROSION CONTROL PLAN – INITIAL PHASE
22	ER-300	EROSION CONTROL PLAN – INTERMEDIATE PHASE
23	ER-400	EROSION CONTROL PLAN – FINAL PHASE
24-25	ER-500-501	EROSION CONTROL DETAILS





LOCATION MAP N.T.S.

TOTAL SITE AREA: 3.13 AC
TOTAL DISTURBED AREA: 2.31 AC ⚠

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.

Lewis Carl Carver 05/29/2018

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

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

OWNER:
FAYETTE COUNTY FIRE DEPARTMENT
140 STONEWALL AVENUE
FAYETTEVILLE, GA 30214
TEL: 770-305-5414

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

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 EPD 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 INSPECTION IS TO OCCUR WITHIN SEVEN (7) DAYS AFTER THE PLAN HAS BEEN IMPLEMENTED. 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 PERMITTEE WITHIN SEVEN (7) DAYS AND THE PERMITEE MUST CORRECT ALL DEFICIENCIES WITHIN TWO (2) BUSINESS DAYS OF RECEIPT OF THE INSPECTION REPORT FROM THE DESIGN PROFESSIONAL UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED.

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN CHECKLIST
STAND ALONE CONSTRUCTION PROJECTS

SWCD:___Towaliga - Region 4_____
Project Name:___Fire Station No. 4_____ Address:___278 McElroy Road_____
City/County:__Fayette County, Georgia_____ Date on Plans:___4/30/2018_____
Name&email of person filling out checklist:__Scott McNally_____

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
ER-000	Y	1 The applicable Erosion, Sedimentation and Pollution Control Plan Checklist established by the Commission as of January 1 of the year in which the land-disturbing activity was permitted. (The completed Checklist must be submitted with the ES&PC Plan or the Plan will not be reviewed)
ALL	Y	2 Level II certification number issued by the Commission, signature and seal of the certified design professional. (Signature, seal and Level II number must be on each sheet pertaining to ES&PC plan or the Plan will not be reviewed)
N/A	N/A	3 Limits of disturbance shall be no greater than 50 acres at any one time without prior written authorization from the EPD District Office. If EPD approves the request to disturb 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.* (A copy of the written approval by EPD must be attached to the plan for the plan to be reviewed.)
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 permittee.
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 exit 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 system of BMPs and sampling to meet permit 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 to inspect the installation of the initial sediment storage requirements and perimeter control BMPs within 7 days after installation."*
ER-100	Y	15 Clearly note the statement that "Non-exempt activities shall not be conducted within the 25 or 50-foot undisturbed stream buffers as measured from the point of wrested vegetation or within 25-feet of the coastal marshland buffer as measured from the Jurisdictional Determination Line without first acquiring the necessary variances and permits."
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/revisions to the ES&PC Plan which have a significant effect on BMPs with a hydraulic component must be certified by the design professional."*
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."*
ER-100	Y	19 Clearly note statement that "The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities."
ER-100	Y	20 Clearly note statement that "Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source."
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, or within 1 linear mile upstream of and within the same watershed as, any portion of an Biota Impaired Stream Segment must comply with Part III C of the Permit. Include the completed Appendix 1 listing all the BMPs that will be used for those areas of the site which discharge to the Impaired Stream Segment.*
N/A	N/A	23 If a TMDL Implementation Plan for sediment has been finalized for the Impaired Stream Segment (identified in item 22 above) at least six months prior to submittal of NOI, the ES&PC Plan must address any site-specific conditions or requirements included in the TMDL Implementation Plan.*
ER-100	Y	24 BMPs for concrete washdown of tools, concrete mixer chutes, hoppers and the rear of the vehicles. Washout of the drum at the construction site is prohibited.*
ER-100	Y	25 Provide BMPs for the remediation of all 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 storm water discharges.*
ER-100	Y	28 Description and chart or timeline of the intended sequence of major activities which disturb soils for the major portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).
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 rationale for NTU values at all outfall sampling points where applicable.*
ER-200	Y	34 Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*
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 control BMPs, intermediate grading and drainage BMPs, and final BMPs are the same, the plan may combine all of the BMPs into a single phase.*
ALL	Y	36 Graphic scale and North arrow.
ER-200-400	Y	37 Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:

Map Scale	Ground Slope	Contour Intervals, ft
1 inch = 100ft or larger scale	Flat:0 - 2%	0.5 or 1
	Rolling:2 - 8%	1 or 2
	Steep:8% +	2.5 or 10

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 EPD or the Georgia Soil and Water Conservation Commission). Please refer to the Alternative BMP Guidance Document found at www.gswcc.org.
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 Delineation of the applicable 25-foot or 50-foot undisturbed buffers adjacent to state waters and any additional buffers required by the Local Issuing Authority. Clearly note and delineate all areas of impact.
N/A	N/A	41 Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
ER-200	Y	42 Delineation and acreage of contributing drainage basins on the project site.
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 or peak discharge flow of the site prior to and after construction activities are completed.
ER-300	Y	45 Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
ER-100-200	Y	46 Soil series for the project site and their delineation.
ER-200-400	Y	47 The limits of disturbance for each phase of construction.
ER-300	Y	48 Provide a minimum of 67 cubic yards of sediment storage per acre drained using a temporary sediment basin, retrofitted detention pond, and/or excavated inlet sediment traps for each common drainage location. Sediment storage volume must be in place prior to and during all land disturbance activities until final stabilization of the site has been achieved. A written justification explaining the decision to use equivalent controls when a sediment basin is not attainable must be included in the plan for each common drainage location in which a sediment basin is not provided. A written justification as to why 67 cubic yards of storage is not attainable must also be given. Worksheets from the Manual included for structural BMPs and all calculations used by the storage design professional to obtain the required sediment when using equivalent controls. When discharging from sediment basins and impoundments, permitees are required to utilize outlet structures that withdraw water from the surface, unless infeasible. If outlet structures that withdraw water from the surface are not feasible, a written justification explaining this decision must be included in the plan.
ER-200-400	Y	49 Location of Best Management Practices that are consistent with and no less stringent than the Manual for Erosion and Sediment Control in Georgia. Use uniform coding symbols from the Manual, Chapter 6, with legend.
ER-500	Y	50 Provide detailed drawings for all structural practices. Specifications must, at a minimum, meet the guidelines set forth in the Manual for Erosion and Sediment Control in Georgia.
ER-501	Y	51 Provide vegetative plan, noting all temporary and permanent vegetative practices. Include species, planting dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time of the year that seeding will take place and for the appropriate geographic region of Georgia.

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

Effective January 1, 2018

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

Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:52 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARVER

GSWCC CERT #2973

SHEET TITLE
EROSION CONTROL COVER

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
AS SHOWN	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-000

SHEET 19 of 25

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

ESPCP GENERAL NOTES

STATEMENTS FROM 2015 GSWCC CHECKLIST:

14. THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS TO INSPECT THE INSTALLATION OF THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMP'S WITHIN 7 DAYS AFTER INSTALLATION.

15. 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.

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

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

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

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

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

GENERAL NOTES

1. PROJECT LOCATED IN FAYETTE COUNTY, GEORGIA
2. TOTAL SITE AREA = 3.13 AC.
3. TOTAL DISTURBED AREA = 2.31 AC.
   PRIMARY PERMITTEE DISTURBED AREA = 2.31 AC.
   SECONDARY PERMITTEE DISTURBED AREA = N/A
4. 24 HOUR LOCAL CONTACT INFORMATION:
   NAME: DAVID SCARBROUGH
   PHONE: 770-305-5414
5. THE NATURE OF CONSTRUCTION ACTIVITY IS SITE DESIGN FOR PROPOSED FIRE STATION.
6. THE RECEIVING WATERS FROM THIS CONSTRUCTION PLAN IS AN UNNAMED INTERMITTENT TRIBUTARY TO MORNING CREEK WHICH IS A PART OF THE GREATER FLINT WATERSHED BASIN.
7. THE PRE-CONSTRUCTION SITE SCS CURVE NUMBER = 78 AND THE POST-CONSTRUCTION SITE SCS CURVE NUMBER = 78.
8. PRIMARY OR TERTIARY PERMITTEE SHALL NOTIFY DESIGN PROFESSIONAL ON DAY OF THE INITIAL SEDIMENT STORAGE AND PERIMETER CONTROL BMP INSTALLATION.
9. THIS ES&PC PLAN EMPLOYS SEVERAL PRACTICES THAT ARE USED TO REDUCE THE POLLUTANTS IN STORM WATER DISCHARGES. SEVERAL EROSION CONTROL BMP'S ARE USED TO REDUCE THE AMOUNT OF SEDIMENT RUNNING OFF SITE, INCLUDING SILT FENCE, ROCK FILTER DAMS, CHECK DAMS, DIVERSIONS, SURFACE SKIMMER, 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

EPD GENERAL PERMIT GAR 100001 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

ALL TEMPORARY AND PERMANENT VEGETATIVE PRACTICES INCLUDING PLANT SPECIES, PLANTING DATES, SEEDING FERTILIZER, LIME 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 PONDS. PROVIDE INTERMEDIATE OR FINAL STABILIZATION FOR AREAS DISTRUBED 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 PLACE PAVEMENT FOR FINAL STABILIZATION.

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

PRODUCT SPECIFIC PRACTICES

1. 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 LINER 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 IS REQUIRED BY LOCAL AND STATE REGULATIONS.
2. PAINT/FINISHES/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.
3. CONCRETE TRUCK WASHING – NO CONCRETE TRUCKS WILL BE ALLOWED TO WASHOUT OR DISCHARGE SURPLUS CONCRETE OR DRUM WASH WATER ONSITE.
4. FERTILIZER/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 GSWCC MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA. ANY STORAGE OF THESE MATERIALS WILL BE UNDER ROOF IN SEALED CONTAINERS.
5. 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

1. LOCAL, STATE AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP WILL BE CLEARLY POSTED AND PROCEDURES WILL BE AVAILABLE TO SITE PERSONNEL.
2. MATERIAL AND EQUIPMENT NECESSARY FOR SPILL CLEANUP WILL BE KEPT IN THE MATERIAL STORAGE AREAS. TYPICAL MATERIALS AND EQUIPMENT INCLUDES, BUT IS NOT LIMITED TO, BROOMS, DUSTPANS, MOPS, RAGS, GLOVES, GOGGLES, CAT LITTER, SAND, SAWDUST AND PROPERLY LABELED PLASTIC AND METAL WASTE CONTAINERS.
3. SPILL PREVENTION PRACTICES AND PROCEDURES WILL BE REVIEWED AFTER A SPILL AND ADJUSTED AS NECESSARY TO PREVENT FUTURE SPILLS.
4. ALL SPILLS WILL BE CLEANED UP IMMEDIATELY UPON DISCOVERY. ALL SPILLS WILL BE REPORTED AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS.
5. 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.
6. FOR SPILLS OF AN UNKNOWN AMOUNT, THE NATIONAL RESPONSE CENTER WILL BE CONTACTED WITHIN 24 HOURS AT 1-800-426-2675.
7. FOR SPILLS GREATER THAN 25 GALLONS AND NO SURFACE WATER IMPACTS OCCUR, THE GEORGIA EPD WILL BE CONTACTED WITHIN 24 HOURS.
8. FOR SPILLS LESS THAT 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 1320 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.

SEQUENCE OF LAND DISTURBANCE ACTIVITIES

START JUNE 2018
STOP JUNE 2019

ANTICIPATED CONSTRUCTION ACTIVITY SCHEDULE

CONSTRUCTION ACTIVITY	MONTH 1	MONTH 2	MONTH 3	MONTH 4	MONTH 5	MONTH 6	MONTH 7	MONTH 8	MONTH 9	MONTH 10	MONTH 11	MONTH 12
INSTALL CONSTRUCTION EXIT	X											
INSTALL SEDIMENT CONTROLS	X	X										
MAINTAIN EROSION CONTROL DEVICES	X	X	X	X	X	X	X	X	X	X	X	X
CLEARING AND GRADING		X	X	X	X	X	X	X	X			
INSTALL & MAINTAIN TEMPORARY VEGETATION & MULCH	X	X	X	X	X	X	X	X	X	X	X	X
PERM. LANDSCAPING & STABILIZE Ds3				X	X	X	X	X	X	X	X	X
CLEANUP SITE & REMOVE TEMPORARY BMP's											X	X

1

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 SEGMENT.

ADDITIONAL NOTES FOR 2013 STORMWATER NPDES PERMITS FOR CONSTRUCTION ACTIVITIES

1. THE PROJECT WILL DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES TO MORNING CREEK, WHICH IS NOT AN IMPAIRED STREAM SEGMENT, IDENTIFIED AS "NOT SUPPORTING" ITS DESIGNATED USE(S) FOR CRITERIA VIOLATIONS OF "BIO F" (IMPAIRED FISH COMMUNITY) AND/OR "BIO M" (IMPAIRED MACROINVERTEBRATE COMMUNITY), WITH CATEGORY 4A, 4B OR 5 WHERE THE POTENTIAL CAUSE IS EITHER "NP" (NONPOINT SOURCE) OR "UR" (URBAN RUNOFF) AS SHOWN ON GEORGIA'S 2012 OR SUBSEQUENT "305(B)/303(D) LIST DOCUMENT (FINAL) AT THE TIME OF NOI SUBMITTAL.

THE FOLLOWING SUPPLEMENTAL BMPS ARE SELECTED FOR DISCHARGE TO THE IMPAIRED STREAM FROM THE LIST BELOW:

NONE, NO IMPAIRED STREAM IMPACTED

2. A TMDL PLAN FOR SEDIMENT DOES NOT APPLY TO THE RECEIVING WATERS.
3. LAND DISTURBANCE SHALL NOT EXCEED 50 ACRES AT ANY TIME WITHOUT AUTHORIZATION OF THE GEORGIA EPD. SHOULD PRIMARY PERMITTEE WISH TO EXCEED THE 50-ACRE LIMIT, PRIMARY PERMITTEE SHALL OBTAIN AUTHORIZATION FROM THE GEORGIA EPD.
4. RETENTION OF RECORDS
   THE FOLLOWING RECORDS MUST BE RETAINED AT THE SITE OR BE READILY AVAILABLE AT DESIGNATED ALTERNATIVE LOCATION:
   - COPY OF NOTICE OF INTENT AND PROOF OF SUBMITTAL.
   - COPY OF ES&PC PLAN
   - DESIGN PROFESSIONAL INSPECTION REPORT
   - SAMPLING INFORMATION, RESULTS AND REPORTS
   - SITE INSPECTION REPORTS, (DAILY, WEEKLY & MONTHLY)
   - VIOLATION SUMMARY REPORTS
   - RAINFALL DATA
5. PRIMARY PERMITTEE MAY SUBMIT A NOTICE OF TERMINATION (NOT) ONLY AFTER ALL CONSTRUCTION ACTIVITIES HAVE CEASED 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 GAR100001 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 SHOULDERS, FOR A WASH/PIT AREA. THE PIT SHALL BE LARGE ENOUGH TO STORE ALL 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 DOWN A STORM DRAIN. ESTABLISH A WASH-DOWN WATER 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 INTO 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 FILL 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 / BALED STRAW. 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

ALL PERMANENT, POST-CONSTRUCTION BMPS ARE SHOWN IN THE CONSTRUCTION PLANS AND IN THE ESPCP 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, LOCATE WASTE COLLECTION AREAS, DUMPSTERS, TRASH CANS AND PORTABLE TOILETS AT LEAST 50 FEET AWAY FROM STREETS, GUTTERS, BUFFERED STREAMS AND STORM DRAINS. SECONDARY CONTAINMENT SHALL BE PROVIDED 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 III.A.2 OF THE NPDES GAR100001 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 MEASURES FOR THE NON-STORM WATER COMPONENT(S) OF THE DISCHARGE. 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 GAR100001 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 CONTINUE UNTIL THE NOTICE OF TERMINATION (NOT) IS SUBMITTED. FAILURE TO PERFORM INSPECTIONS AS REQUIRED BY THE ESPCP AND THE NPDES PERMIT SHALL RESULT IN THE CESSATION OF ALL CONSTRUCTION ACTIVITIES WITH THE EXCEPTION OF TRAFFIC CONTROL AND EROSION CONTROL. CONTINUED FAILURE TO PERFORM INSPECTIONS SHALL RESULT IN NON-REFUNDABLE DEDUCTIONS AS SPECIFIED IN THE CONTRACT DOCUMENTS.

PRIMARY PERMITTEE'S RECORD OF CONSTRUCTION ACTIVITIES

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 IV.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 IV.d.4.a.(1)(a)); ♦ INSPECT CONSTRUCTION SITE ENTRANCES AND EXITS FOR OFF-SITE SEDIMENT TRACKING (PART IV.d.4.a.(1)(b)); ♦ MEASURE RAINFALL ONCE EACH 24 HOUR PERIOD (PART IV.d.4.a.(1)(c))	**DAILY** WHEN CONSTRUCTION OCCURS, UNTIL NOTICE OF TERMINATION IS SUBMITTED TO GEORGIA EPD.
♦ INSPECT ALL DISTURBED AREAS OF PRIMARY PERMITTEE'S CONSTRUCTION SITE THAT HAVE NOT UNDERGONE FINAL STABILIZATION, FOR PROPER OPERATION OF BMPs (PART IV.d.4.a.(2)(a)); ♦ INSPECT ALL AREAS WHERE PRIMARY PERMITTEE STORES MATERIALS THAT ARE EXPOSED TO PRECIPITATION AND THAT HAVE NOT UNDERGONE FINAL STABILIZATION, FOR PROPER OPERATION OF BMPs (PART IV.d.4.a.(2)(b)); ♦ 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 IV.d.4.a.(2)(c))	**AT LEAST ONCE EVERY 14 CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF EACH RAINFALL OF 1/2" OR GREATER** UNTIL FINAL STABILIZATION AND NOTICE OF TERMINATION IS SUBMITTED TO GEORGIA EPD.
AREAS UNDER FINAL STABILIZATION AND ACCESSIBLE DISCHARGE POINTS FOR EVIDENCE OF EROSION, POTENTIAL DISCHARGE OF POLLUTANTS, AND EFFECTIVENESS OF BMPs (PART IV.d.4.a.(3))	**AT LEAST ONCE PER MONTH** UNTIL NOTICE OF TERMINATION IS RECEIVED BY GEORGIA EPD.
PREPARE AN INSPECTION REPORT FOLLOWING EACH INSPECTION EVENT AND KEEP A COPY ON SITE (PART IV.d.4.a.(5))	**FOLLOWING EACH INSPECTION** UNTIL THE NOT IS SUBMITTED TO GEORGIA EPD.
REVISE PLAN AND IMPLEMENT MODIFICATIONS WHEN INSPECTIONS INDICATE THAT BMPs ARE NOT EFFECTIVE (PART IV.d.3.a.(4))	**WITHIN 7 CALENDAR DAYS** FOLLOWING EACH INSPECTION.

SEDIMENT STORAGE

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

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 STORMWATER DOES NOT BYPASS THE INLET. THE CONTRACTOR MAY SUBMIT ALTERNATE TEMPORARY CONTAINMENT BERM DESIGNS TO THE DESIGN PROFESSIONAL FOR APPROVAL.

SOIL SERIES INFORMATION

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

SOILS SERIES TABLE

CECIL SANDY LOAM	CeB	2 TO 6 PERCENT SLOPES
CECIL SANDY CLAM LOAM	CfC2	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 EPD.

1. SAMPLE CONTAINERS SHOULD BE LABELED PRIOR TO COLLECTING THE SAMPLES.
2. SAMPLES SHOULD BE WELL MIXED BEFORE TRANSFERRING TO A SECONDARY CONTAINER.
3. LARGE MOUTH, CLEAN AND RINSED GLASS OR PLASTIC JARS SHOULD BE USED FOR COLLECTING SAMPLES. THE JARS SHOULD BE CLEANED THOROUGHLY TO AVOID CONTAMINATION.
4. MANUAL, AUTOMATIC OR RISING STAGE SAMPLING MAY BE UTILIZED. SAMPLES REQUIRED BY THIS PERMIT SHOULD BE ANALYZED IMMEDIATELY, BUT IN NO CASE LATER THAN 48 HOURS AFTER COLLECTION. HOWEVER, SAMPLES FROM AUTOMATIC SAMPLERS MUST BE COLLECTED NO LATER THAN THE NEXT BUSINESS DAY AFTER THEIR ACCUMULATION, UNLESS FLOW THROUGH AUTOMATED ANALYSIS IS UTILIZED. IF AUTOMATIC SAMPLING IS UTILIZED AND THE AUTOMATIC SAMPLER IS NOT ACTIVATED DURING THE QUALIFYING EVENT, THE PERMITTEE MUST UTILIZE MANUAL SAMPLING OR RISING STAGE SAMPLING DURING THE NEXT QUALIFYING EVENT. DILUTION OF SAMPLES IS NOT REQUIRED. SAMPLES MAY BE ANALYZED DIRECTLY WITH A PROPERLY CALIBRATED TURBIDMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.
5. SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

SAMPLING POINTS

1. 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 IV.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:
   a. 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 DISCHARGES NOT ASSOCIATED WITH THE PERMITTED ACTIVITY. WHERE APPROPRIATE, SEVERAL UPSTREAM SAMPLES FROM ACROSS THE RECEIVING WATER(S) MAY NEED TO BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES USED FOR THE UPSTREAM TURBIDITY VALUE.
   b. THE DOWNSTREAM SAMPLE FOR EACH RECEIVING WATER(S) MUST BE TAKEN DOWNSTREAM OF THE CONFLUENCE OF THE LAST 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.
   c. IDEALLY THE SAMPLES SHOULD BE TAKEN FROM THE HORIZONTAL AND VERTICAL CENTER OF THE RECEIVING WATER(S) OR THE STORM OUTFALL CHANNEL(S).
   d. CARE SHOULD BE TAKEN TO AVOID STIRRING THE BOTTOM SEDIMENTS IN THE RECEIVING WATER(S) OR IN THE OUTFALL STORM WATER CHANNEL.
   e. THE SAMPLING CONTAINER SHOULD BE HELD SO THAT THE OPENING FACES UPSTREAM.
   f. THE SAMPLES SHOULD BE KEPT FREE FROM FLOATING DEBRIS.
   g. PERMITTEES DO NOT HAVE TO SAMPLE SHEETFLOW THAT FLOWS ONTO UNDISTURBED NATURAL AREAS OR AREAS STABILIZED BY THE PROJECT. FOR PURPOSES OF THIS SECTION, STABILIZED SHALL MEAN, FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS 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.
   h. ALL SAMPLING PURSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER STORM WATER RUNOFF FROM THE CONSTRUCTION SITE IS IN COMPLIANCE WITH THE STANDARD SET FORTH IN PARTS III.D.3. OR III.D.4., WHICHEVER IS APPLICABLE.
2. 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 PREPARING THE PLAN 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. A WRITTEN JUSTIFICATION AND DETAILED ANALYSIS SHALL BE PREPARED BY THE DESIGN PROFESSIONAL JUSTIFYING SUCH PROPOSED 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 SPECIFIED SAMPLED AND UN-SAMPLED RECEIVING WATER AND SHALL CONTAIN A DETAILED COMPARISON AND DISCUSSION OF EACH SUCH RECEIVING WATER IN THE FOLLOWING AREAS:
   a. SITE LAND DISTURBANCES AND CHARACTERISTICS;
   b. RECEIVING WATER WATERSHED SIZES AND CHARACTERISTICS; AND
   c. SITE AND WATERSHED RUNOFF CHARACTERISTICS UTILIZING THE METHODS IN APPENDIX A-1 (UNITED STATES DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICES'S TR-55, URBAN HYDROLOGY FOR SMALL WATERSHEDS) 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 SAMPLED RECEIVING WATER WILL BE REPRESENTATIVE OF THE INCREASES IN THE TURBIDITY OF A SPECIFIC IDENTIFIED UN-SAMPLED RECEIVING WATERS.
3. FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, WHEN THE PERMITTEE 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 COVER SHEET.
4. FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, IF 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 LATTER RECEIVING WATER UNTIL SELECTION OF AN ALTERNATIVE REPRESENTATIVE RECEIVING WATER.
5. FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, IF AT ANY TIME DURING THE LIFE OF THE PROJECT A RECEIVING WATER IS DETERMINED NOT TO BE REPRESENTED AS CERTIFIED IN THE PLAN, THE PERMITTEE SHALL SAMPLE THAT RECEIVING WATER UNTIL A NOTICE OF TERMINATION IS SUBMITTED OR UNTIL THE APPLICABLE PHASE IS STABILIZED IN ACCORDANCE WITH THIS PERMIT.
6. FOR INFRASTRUCTURE CONSTRUCTION PROJECTS, MONITORING OBLIGATIONS SHALL CEASE FOR ANY PHASE OF THE PROJECT THAT HAS BEEN STABILIZED IN ACCORDANCE WITH PART IV.D.6.C.(1).(G).

OUTFALL SAMPLING

1. MANUAL SAMPLING – GRAB SAMPLES WILL BE TAKEN AT THE APPROPRIATE TIME AS STATED IN PART IV.D. 5. D. OF THE PERMIT. SAMPLING WILL OCCUR AT THE DESIGNATED REPRESENTATIVE OUTFALL. THE SAMPLE WILL BE TAKEN IN THE CENTER OF THE OUTFALL CHANNEL. A LARGE MOUTH, CLEAN, GLASS OR PLASTIC JAR/BOTTLE, LABELED WITH PROJECT NUMBER AND LOCATION WILL BE USED TO COLLECT THE SAMPLE. THE SAMPLE CONTAINER WILL BE HELD SUCH THAT THE OPENING FACES UPSTREAM. ONCE THE SAMPLE JAR/BOTTLE IS FULL AND CAPPED, IT WILL BE TRANSPORTED TO THE LOCATION WHERE THE TURBIDITY TESTING WILL BE CONDUCTED. SAMPLES MAY BE ANALYZED AT THE SITE WITH PROPERLY CALIBRATED PORTABLE TURBIDIMETERS. ALL TURBIDITY TESTS WILL BE CONDUCTED IMMEDIATELY BUT IN NO CASE, LATER THAN 48 HOURS AFTER THE TIME THE SAMPLE WAS OBTAINED.
2. AUTOMATIC SAMPLING – GRAB SAMPLES WILL BE TAKEN AT THE APPROPRIATE TIMES AS SPECIFIED IN PART IV.D. 5. D. OF THE PERMIT. AUTOMATIC SAMPLING CAN BE ACCOMPLISHED BY USING A SAMPLING DEVICE SIMILAR TO THE ISCO MODEL 3700 OR 6700. THE PROBE FOR THE AUTOMATIC SAMPLER WILL BE PLACED IN THE CENTER OF THE CHANNEL. SAMPLES WILL REMAIN IN THE AUTOMATIC SAMPLER UNTIL THE NEXT BUSINESS DAY, WHEN THEY WILL BE COLLECTED AND TESTED.
3. TESTING – ALL TURBIDITY TESTS SHALL BE DONE IN ACCORDANCE WITH 40 CFR PART 136 (UNLESS OTHER TEST PROCEDURES HAVE BEEN APPROVED); THE QUIDANCE DOCUMENT TITLED "NPDES STORM WATER SAMPLING GUIDANCE DOCUMENT, EPA 833-B-92-001" AND GUIDANCE DOCUMENTS THAT MAY BE PREPARED BY THE EPD. TURBIDITY RESULTS WILL BE RECORDED AND REPORTED TO EPD AND THE LIA, IF APPLICABLE, IN ACCORDANCE WITH PART IV.E OF THE PERMIT.

RECEIVING WATER SAMPLING

1. MANUAL SAMPLING – SAMPLES WILL BE TAKEN AT THE APPROPRIATE TIME AS STATED IN PART IV.D. 5. D. OF THE PERMIT. SAMPLING WILL BEGIN AT THE DESIGNATED REPRESENTATIVE RECEIVING WATER AT THE DOWNSTREAM LOCATION FIRST. THE SAMPLE WILL BE TAKEN AS FAR DOWNSTREAM (WITHIN THE PROJECT LIMITS ONSITE) OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE POINT, AND UPSTREAM OF ANY ADDITIONAL DISCHARGES NOT ASSOCIATED WITH THE PROJECT. THE SAMPLE WILL BE TAKEN IN THE CENTER OF THE RECEIVING WATER AT A POINT WHERE MIXING OF THE RECEIVING WATERS AND THE PROJECT OUTFALL HAS OCCURRED AND PRODUCED A HOMOGENOUS SAMPLE. ON RECEIVING WATERS WHERE ACCESS TO THE CENTER OF THE RECEIVING WATERS IS NOT PRACTICAL, SEVERAL SAMPLES FROM ACROSS THE RECEIVING WATERS WILL BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES WILL BE USED FOR THE UPSTREAM VALUE. A LARGE MOUTH, CLEAN, GLASS OR PLASTIC JAR/BOTTLE, LABELED WITH PROJECT NUMBER AND LOCATION WILL BE USED TO COLLECT THE SAMPLE. THE SAMPLE CONTAINER WILL BE HELD SUCH THAT THE OPENING FACES UPSTREAM. ONCE THE SAMPLE JAR/BOTTLE IS FULL AND CAPPED, IT WILL BE TRANSPORTED TO THE LOCATION WHERE THE TURBIDITY TESTING WILL BE CONDUCTED. SAMPLES MAY BE ANALYZED AT THE SITE WITH PROPERLY CALIBRATED PORTABLE TURBIDIMETERS. ALL TURBIDITY TESTS WILL BE CONDUCTED IMMEDIATELY BUT IN NO CASE, LATER THAN 48 HOURS AFTER THE TIME THE SAMPLE WAS OBTAINED.
2. UPSTREAM SAMPLES WILL BE TAKEN AFTER DOWNSTREAM SAMPLES HAVE BEEN ACQUIRED. THE SAMPLE WILL BE TAKEN IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE FROM THE PROJECT (WITHIN THE PROJECT LIMITS ONSITE). THE SAMPLE WILL BE TAKEN IN THE CENTER OF THE RECEIVING WATER. ON RECEIVING WATERS WHERE ACCESS TO THE CENTER OF THE RECEIVING WATERS IS NOT PRACTICAL, SEVERAL SAMPLES FROM ACROSS THE RECEIVING WATERS WILL BE TAKEN AND THE ARITHMETIC AVERAGE OF THE TURBIDITY OF THESE SAMPLES WILL BE USED FOR THE UPSTREAM VALUE. A LARGE MOUTH, CLEAN, GLASS OR PLASTIC JAR, LABELED WITH PROJECT NUMBER AND LOCATION WILL BE USED TO COLLECT THE SAMPLE. THE SAMPLE CONTAINER WILL BE HELD SUCH THAT THE OPENING FACES UPSTREAM. ONCE THE SAMPLE JAR/BOTTLE IS FULL AND CAPPED, IT WILL BE TRANSPORTED TO THE LOCATION WHERE THE TURBIDITY TESTING WILL BE CONDUCTED. ALL TURBIDITY TESTS WILL BE CONDUCTED IMMEDIATELY BUT IN NO CASE, LATER THAN 48 HOURS AFTER THE TIME THE SAMPLE WAS OBTAINED.
3. AUTOMATIC SAMPLING – SAMPLES WILL BE TAKEN AT THE APPROPRIATE TIMES AS SPECIFIED IN PART IV.D.5.D. OF THE PERMIT. AUTOMATIC SAMPLING CAN BE ACCOMPLISHED AT BOTH UPSTREAM AND DOWNSTREAM SIMULTANEOUSLY BY USING A SAMPLING DEVICE SIMILAR TO THE ISCO MODEL 3700 OR 6700. THESE DEVICES CAN BE TRIGGERED BY FLOW METERS OR RAIN GAGES TO OBTAIN THE REQUIRED SAMPLES. THIS DETERMINATION WILL BE MADE ON A PROJECT BY PROJECT BASIS. THE PROBE FOR THE AUTOMATIC SAMPLER WILL BE PLACED IN THE CENTER OF THE RECEIVING WATER AT A POINT AS FAR DOWNSTREAM OF THE CONFLUENCE OF THE LAST STORM WATER DISCHARGE POINT AND UPSTREAM OF ANY ADDITIONAL DISCHARGES NOT ASSOCIATED WITH THE PROJECT. SAMPLES WILL REMAIN IN THE AUTOMATIC SAMPLER UNTIL THE NEXT BUSINESS DAY, WHEN THEY WILL BE COLLECTED AND TESTED.
4. THE PROBE FOR UPSTREAM SAMPLING WILL BE POSITIONED IMMEDIATELY UPSTREAM OF THE CONFLUENCE OF THE FIRST STORM WATER DISCHARGE POINT FROM THE PROJECT. THE PROBE WILL BE PLACED IN THE CENTER OF THE RECEIVING WATER. SAMPLES WILL REMAIN IN THE AUTOMATIC SAMPLER UNTIL THE NEXT BUSINESS DAY, WHEN THEY WILL BE COLLECTED AND TESTED.

SAMPLING FREQUENCY

1. THE PRIMARY PERMITTEE MUST SAMPLE IN ACCORDANCE WITH THE PLAN AT LEAST ONCE FOR EACH RAINFALL EVENT DESCRIBED BELOW. FOR A QUALIFYING EVENT, THE PERMITTEE SHALL SAMPLE AT THE BEGINNING OF ANY STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN FORTY-FIVE (45) MINUTES OR AS SOON AS POSSIBLE.
2. HOWEVER, WHERE MANUAL AND AUTOMATIC SAMPLING ARE IMPOSSIBLE (AS DEFINED IN THIS PERMIT), OR ARE BEYOND THE PERMITTEE'S CONTROL, THE PERMITTEE SHALL TAKE SAMPLES AS SOON AS POSSIBLE, BUT IN NO CASE MORE THAN TWELVE (12) HOURS AFTER THE BEGINNING OF THE STORM WATER DISCHARGE.
3. SAMPLING BY THE PERMITTEE SHALL OCCUR FOR THE FOLLOWING QUALIFYING EVENTS:
   a. FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORM WATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT. AFTER ALL CLEARING AND GRUBBING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO COMPLETION OF MASS GRADING OPERATIONS, IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE REPRESENTATIVE SAMPLING LOCATION;
   b. IN ADDITION TO (A) ABOVE, FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL, THE FIRST RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH WITH A STORM WATER DISCHARGE THAT OCCURS DURING NORMAL BUSINESS HOURS AS DEFINED IN THIS PERMIT EITHER 90 DAYS AFTER THE FIRST SAMPLING EVENT OR AFTER ALL MASS GRADING OPERATIONS HAVE BEEN COMPLETED, BUT PRIOR TO THE SUBMITTAL OF A NOT, IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE REPRESENTATIVE SAMPLING LOCATION, WHICHEVER COMES FIRST;
   c. AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPS IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTION SHALL BE DEFINED AND IMPLEMENTED WITHIN TWO (2) BUSINESS DAYS, AND TURBIDITY SAMPLES SHALL BE TAKEN FROM DISCHARGES FROM THAT AREA OF THE SITE FOR EACH SUBSEQUENT RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH DURING NORMAL BUSINESS HOURS* UNTIL THE SELECTED TURBIDITY STANDARD IS ATTAINED, OR UNTIL POST-STORM EVENT INSPECTIONS DETERMINE THAT BMPS ARE PROPERLY DESIGNED, INSTALLED AND MAINTAINED;
   d. WHERE SAMPLING PURSUANT TO (A), (B) OR (C) ABOVE IS REQUIRED BUT NOT POSSIBLE (OR NOT REQUIRED BECAUSE THERE WAS NO DISCHARGE), THE PERMITTEE, IN ACCORDANCE WITH PART IV.D.4.A.(6), MUST INCLUDE A WRITTEN JUSTIFICATION IN THE INSPECTION REPORT OF WHY SAMPLING WAS NOT PERFORMED. PROVIDING THIS JUSTIFICATION DOES NOT RELIEVE THE PERMITTEE OF ANY SUBSEQUENT SAMPLING OBLIGATIONS UNDER (A), (B) OR (C) ABOVE; AND
   e. EXISTING CONSTRUCTION ACTIVITIES, I.E., THOSE THAT ARE OCCURRING ON OR BEFORE THE EFFECTIVE DATE OF THIS PERMIT, THAT HAVE MET THE SAMPLING REQUIRED BY (A) ABOVE SHALL SAMPLE IN ACCORDANCE WITH (B). THOSE EXISTING CONSTRUCTION ACTIVITIES THAT HAVE MET THE SAMPLING REQUIRED BY (B) ABOVE SHALL NOT BE REQUIRED TO CONDUCT ADDITIONAL SAMPLING OTHER THAN AS REQUIRED BY (C) ABOVE.

   *NOTE THAT THE PERMITTEE MAY CHOOSE TO MEET THE REQUIREMENTS OF (A) AND (B) ABOVE BY COLLECTING TURBIDITY SAMPLES FROM ANY RAIN EVENT THAT REACHES OR EXCEEDS 0.5 INCH AND ALLOWS FOR SAMPLING AT ANY TIME OF THE DAY OR WEEK.

MONITORING SITE DATA

MONITORING SITE ID	INFLOW/ OUTFLOW	TOTAL SITE AREA (AC)	DRAINAGE AREA (AC)	DRAINAGE AREA (SQ MI)	STREAM TYPE (WARM/COLD)	NTU LIMIT
A	OUT	1.70	1.70	0.003	WARM	75*

* SEE "APPENDIX B" RATIONALE FOR OUTFALL SAMPLING POINTS IN NPDES PERMIT NO. GAR100001.

REPORTING

1. THE APPLICABLE PERMITTEES ARE REQUIRED TO SUBMIT THE SAMPLING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. BY THE FIFTEENTH DAY OF THE MONTH FOLLOWING THE REPORTING PERIOD. REPORTING PERIODS ARE MONTHS DURING WHICH SAMPLES ARE TAKEN IN ACCORDANCE WITH THIS PERMIT. SAMPLING RESULTS SHALL BE IN A CLEARLY LEGIBLE FORMAT. UPON WRITTEN NOTIFICATION, EPD MAY REQUIRE THE APPLICABLE PERMITTEE TO SUBMIT THE SAMPLING RESULTS ON A MORE FREQUENT BASIS. SAMPLING AND ANALYSIS OF ANY STORM WATER DISCHARGE(S) OR THE RECEIVING WATER(S) BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED IN A SIMILAR MANNER TO THE EPD. THE SAMPLING REPORTS MUST BE SIGNED IN ACCORDANCE WITH PART V.G.2. SAMPLING REPORTS MUST BE SUBMITTED TO EPD UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI.
2. ALL SAMPLING REPORTS SHALL INCLUDE THE FOLLOWING INFORMATION:
   a. THE RAINFALL AMOUNT, DATE, EXACT PLACE AND TIME OF SAMPLING OR MEASUREMENTS;
   b. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE SAMPLING AND MEASUREMENTS;
   c. THE DATE(S) ANALYSES WERE PERFORMED;
   d. THE TIME(S) ANALYSES WERE INITIATED;
   e. THE NAME(S) OF THE CERTIFIED PERSONNEL WHO PERFORMED THE ANALYSES;
   f. REFERENCES AND WRITTEN PROCEDURES, WHEN AVAILABLE, FOR THE ANALYTICAL TECHNIQUES OR METHODS USED;
   g. THE RESULTS OF SUCH ANALYSES, INCLUDING THE BENCH SHEETS, INSTRUMENT READOUTS, COMPUTER DISKS OR TAPES, ETC., USED TO DETERMINE THESE RESULTS;
   h. RESULTS WHICH EXCEED 1000 NTU SHALL BE REPORTED AS "EXCEEDS 1000 NTU;" AND
   i. CERTIFICATION STATEMENT THAT SAMPLING WAS CONDUCTED AS PER THE PLAN
3. ALL WRITTEN CORRESPONDENCE REQUIRED BY THIS PERMIT SHALL BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL (OR SIMILAR SERVICE) TO THE APPROPRIATE DISTRICT OFFICE OF THE EPD ACCORDING TO THE SCHEDULE IN APPENDIX A OF THIS PERMIT. THE PERMITTEE SHALL RETAIN A COPY OF THE PROOF OF SUBMITTAL AT THE CONSTRUCTION SITE OR THE PROOF OF SUBMITTAL SHALL BE READILY AVAILABLE AT A DESIGNATED LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT IS SUBMITTED IN ACCORDANCE WITH PART VI. IF AN ELECTRONIC SUBMITTAL IS PROVIDED BY EPD THEN THE WRITTEN CORRESPONDENCE MAY BE SUBMITTED ELECTRONICALLY; IF REQUIRED, A PAPER COPY MUST ALSO BE SUBMITTED BY RETURN RECEIPT CERTIFIED MAIL OR SIMILAR SERVICE.

RETENTION OF RECORDS

1. THE PRIMARY PERMITTEE SHALL RETAIN THE FOLLOWING RECORDS AT THE CONSTRUCTION SITE OR THE RECORDS SHALL BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION FROM COMMENCEMENT OF CONSTRUCTION UNTIL SUCH TIME AS A NOT SUBMITTED IN ACCORDANCE WITH PART VI:
   a. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
   b. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;
   c. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THIS PERMIT;
   d. A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;
   e. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.A. OF THIS PERMIT;
   f. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND
   g. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.A.(2) OF THIS PERMIT.
2. COPIES OF ALL NOTICES OF INTENT, NOTICES OF TERMINATION, INSPECTION REPORTS, SAMPLING REPORTS (INCLUDING ALL CALIBRATION AND MAINTENANCE RECORDS AND ALL ORIGINAL STRIP CHART RECORDINGS FOR CONTINUOUS MONITORING INSTRUMENTATION), OR OTHER REPORTS REQUESTED BY THE EPD, EROSION, SEDIMENTATION AND POLLUTION CONTROL PLANS, RECORDS OF ALL DATA USED TO COMPLETE THE NOTICE OF INTENT TO BE COVERED BY THIS PERMIT AND ALL OTHER RECORDS REQUIRED BY THIS PERMIT SHALL BE RETAINED BY THE PERMITTEE WHO EITHER PRODUCED OR USED IT FOR A PERIOD OF AT LEAST THREE YEARS FROM THE DATE THAT THE NOT IS SUBMITTED IN ACCORDANCE WITH PART VI OF THIS PERMIT. THESE RECORDS MUST BE MAINTAINED AT THE PERMITTEE'S PRIMARY PLACE OF BUSINESS OR AT A DESIGNATED ALTERNATIVE LOCATION ONCE THE CONSTRUCTION ACTIVITY HAS CEASED AT THE PERMITTED SITE. THIS PERIOD MAY BE EXTENDED BY REQUEST OF THE EPD AT ANY TIME UPON WRITTEN NOTIFICATION TO THE PERMITTEE.

PRIMARY PERMITTEE'S RECORD OF CONSTRUCTION ACTIVITIES

(TABLE TO BE COMPLETED BY PERMITTEE)

ACTIVITY	WORK AREA	START DATE	STOP DATE
INSTALL INITIAL BMPs			
SEVENTH-DAY INSPECTION			
CLEARING AND GRUBBING			
MASS GRADING (PONDS AND ROADS)			
PAVING			
UTILITIES			

BUFFER VARIANCE

THIS PROJECT DOES NOT REQUIRE A BUFFER VARIANCE PER THE LIA (FAYETTE COUNTY).

PROJECT NARRATIVE

THIS PROJECT CONSISTS OF THE CONSTRUCTION OF A FIRE STATION, PARKING AREAS, UTILITY CONNECTIONS AND RELOCATION OF DETENTION POND.

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

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL
GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARVER

GSWCC CERT #2973

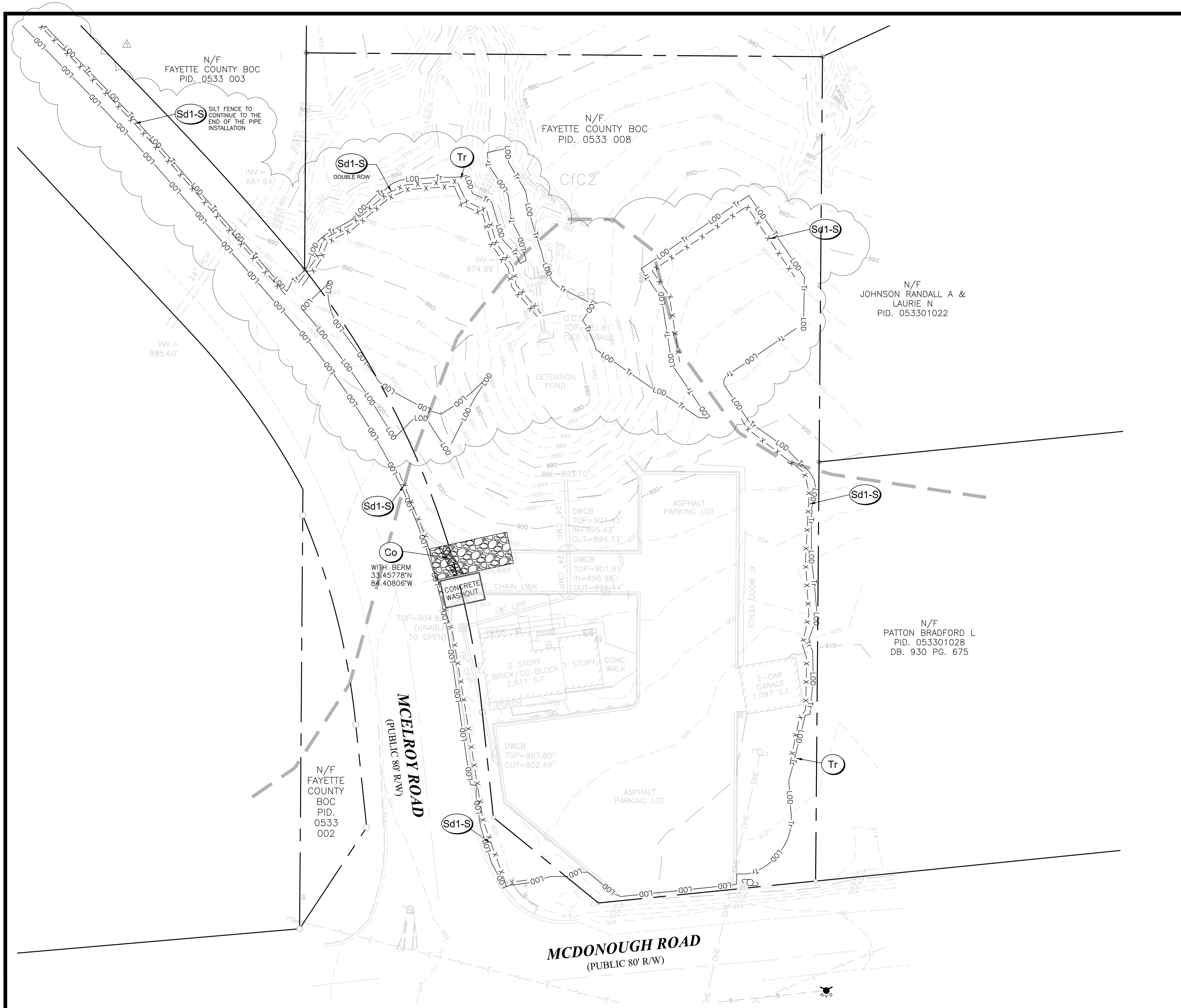
SHEET TITLE
EROSION CONTROL NOTES

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
N/A	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-100

Plot Scale: 1"=##', Drawing Rotation: ###°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:52 AM
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Cover_Notes_Details.dwg



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.gaswcc.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.

INITIAL PHASE NARRATIVE:

THE INITIAL PHASE EROSION, SEDIMENT AND POLLUTION CONTROL PLAN IMPLEMENTS THE INSTALLATION OF ORANGE BARRIER FENCE AROUND THE PERIMETER OF THE LIMITS OF DISTURBANCE AND SILT FENCE AROUND THE PERIMETER AS SHOWN IN THE PLANS PRIOR TO CLEARING AND GRUBBING AND PRIOR TO DEMOLITION OPERATIONS. NO GRADING OPERATIONS SHALL BE ALLOWED IN THIS PHASE. IMPLEMENTATION AND MAINTENANCE OF ALL BMPs SHALL BE ACCORDING TO THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA. DETAILS FOR THE BMPs PROPOSED ARE INCLUDED ON SHEETS ER–500–501.

STRUCTURAL BMP LEGEND

Co	CONSTRUCTION EXIT
Sd1-S	SILT FENCE–TYPE SENSITIVE
Sd1-S DOUBLE ROW	SILT FENCE–TYPE SENSITIVE (DOUBLE ROW)
Tr	TREE PROTECTION

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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SCALE IN FEET (30 0 30 60 90)

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Engineers Planners Surveyors
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
1	ADDENDUM 1	05/29/2018

SEAL
GSWCC CERT #2973

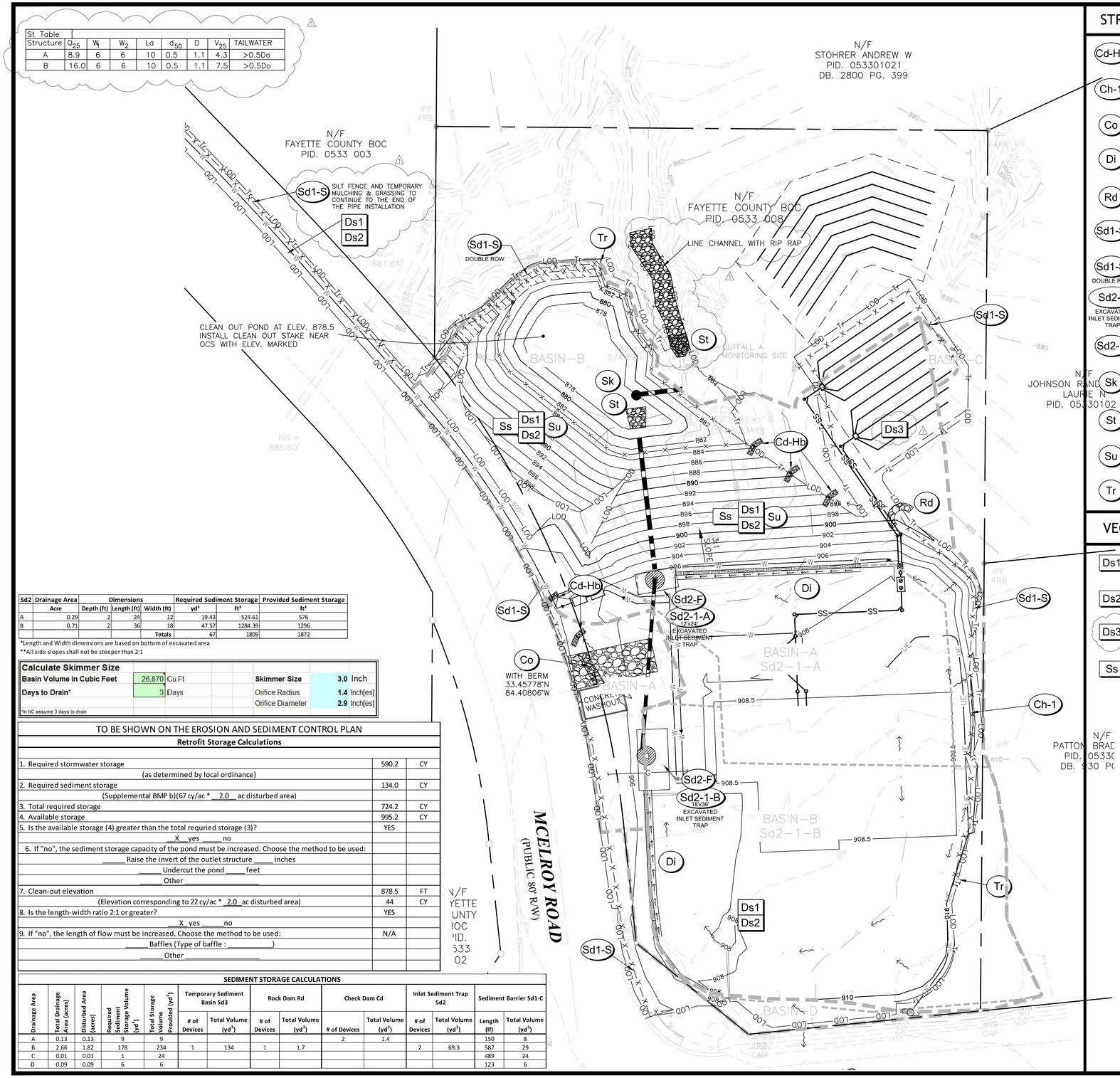
SHEET TITLE
EROSION CONTROL PLAN - INITIAL PHASE

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

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-200

St Table Structure	Q_{25}	W_1	W_2	La	d_{50}	D	V_{25}	TAILWATER
A	8.9	6	6	10	0.5	1.1	4.3	>0.5Do
B	16.0	6	6	10	0.5	1.1	7.5	>0.5Do



Sd2	Drainage Area	Dimensions			Required Sediment Storage		Provided Sediment Storage
	Acre	Depth (ft)	Length (ft)	Width (ft)	yd^3	ft^3	ft^3
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	590.2	CY
(as determined by local ordinance)		
2. Required sediment storage	134.0	CY
(Supplemental BMP b)(67 cy/ac * 2.0 ac disturbed area)		
3. Total required storage	724.2	CY
4. Available storage	995.2	CY
5. Is the available storage (4) greater than the total requried storage (3)?	YES	
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	878.5	FT
(Elevation corresponding to 22 cy/ac * 2.0 ac disturbed area)	44	CY
8. Is the length-width ratio 2:1 or greater?	YES	
X yes ____ no		
9. If "no", the length of flow must be increased. Choose the method to be used:	N/A	
____ Baffles (Type of baffle : ____)		
____ Other ____		

SEDIMENT STORAGE CALCULATIONS

Drainage Area	Total Drainage Area (acres)	Disturbed Area (acres)	Required Sediment Storage Volume (yd^3)	Total Storage Volume Provided (yd^3)	Temporary Sediment Basin Sd3		Rock Dam Rd		Check Dam Cd		Inlet Sediment Trap Sd2		Sediment Barrier Sd1-C	
					# of Devices	Total Volume (yd^3)	# of Devices	Total Volume (yd^3)	# of Devices	Total Volume (yd^3)	# of Devices	Total Volume (yd^3)	Length (lf)	Total Volume (yd^3)
A	0.13	0.13	9	9					2	1.4			150	8
B	2.66	1.82	178	234	1	134	1	1.7			2	69.3	587	29
C	0.01	0.01	1	24									489	24
D	0.09	0.09	6	6									123	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 DOUBLE ROW	SILT FENCE–TYPE SENSITIVE (DOUBLE ROW)
Sd2-1 EXCAVATED INLET SEDIMENT TRAP	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)
Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)
Ss	SLOPE STABILIZATION HYDROSEED & MULCH

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.

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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.gaswcc.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 OCCURING, 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.

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

Plot Scale: 1" = 30' Drawing Rotation: 0.0° Plot Style: Design.ctb Plotted By: Scott McNally on 5/29/2018, 8:52 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARPENTER

GSWCC CERT #2973

SHEET TITLE
EROSION CONTROL PLAN - INTERMEDIATE PHASE

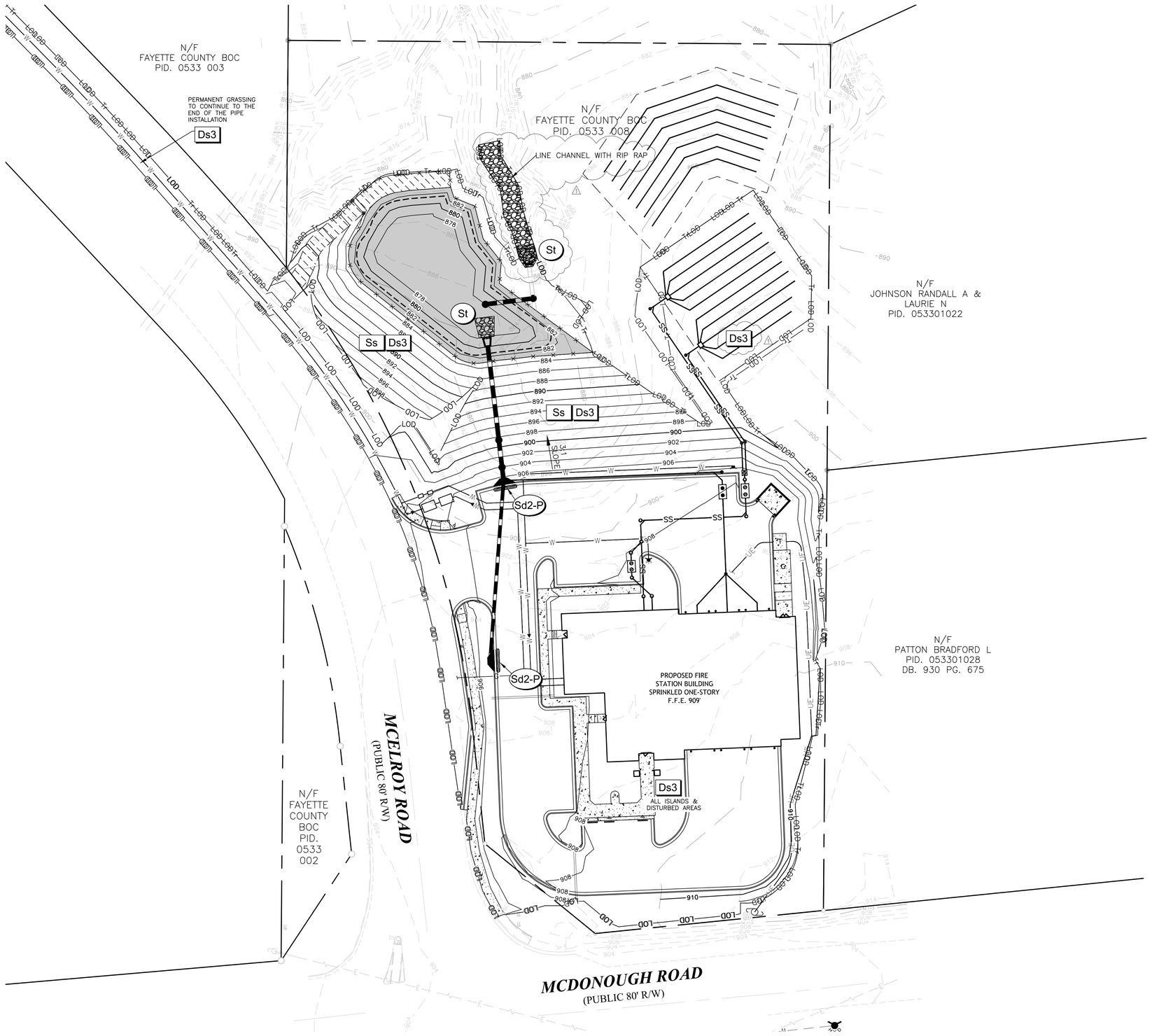
DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
1"=30'	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-300

SHEET 22 of 25

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



EROSION CONTROL NOTES

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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

Sd2-P	CURB INLET PROTECTION "PIGS IN A BLANKET"
St	STORM DRAIN OUTLET PROTECTION

VEGETATIVE BMP LEGEND

Ds3	DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION)
Ss	SLOPE STABILIZATION HYDROSEED & MULCH

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

Plot Scale: 1"=##' Drawing Rotation: 0.0° Plot Style: Design.ctb Plotted By: Scott McNally on 5/29/2018, 8:52 AM

FIRE STATION NO. 4

DESIGN PHASE

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

NO.	REVISION REFERENCE	DATE
1	ADDENDUM 1	05/29/2018

SEAL

GEORGIA REGISTERED No. 25434 PROFESSIONAL ENGINEER LEWIS CARL CARPER

GSWCC CERT #2973

SHEET TITLE
EROSION CONTROL PLAN - FINAL PHASE

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

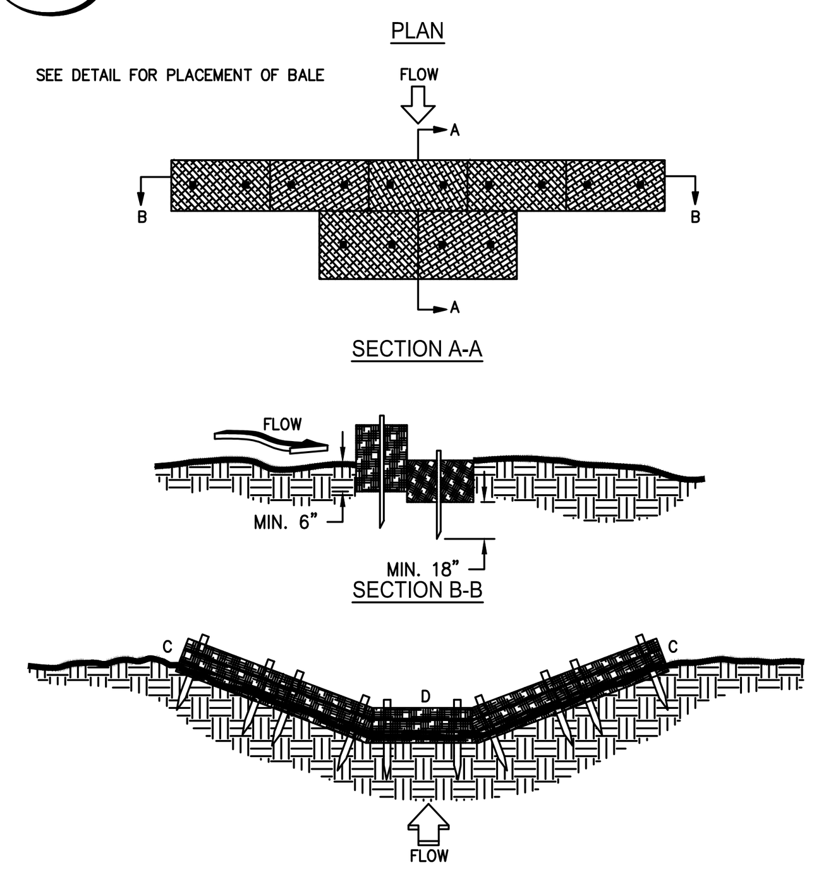
PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-400

SHEET 23 of 25

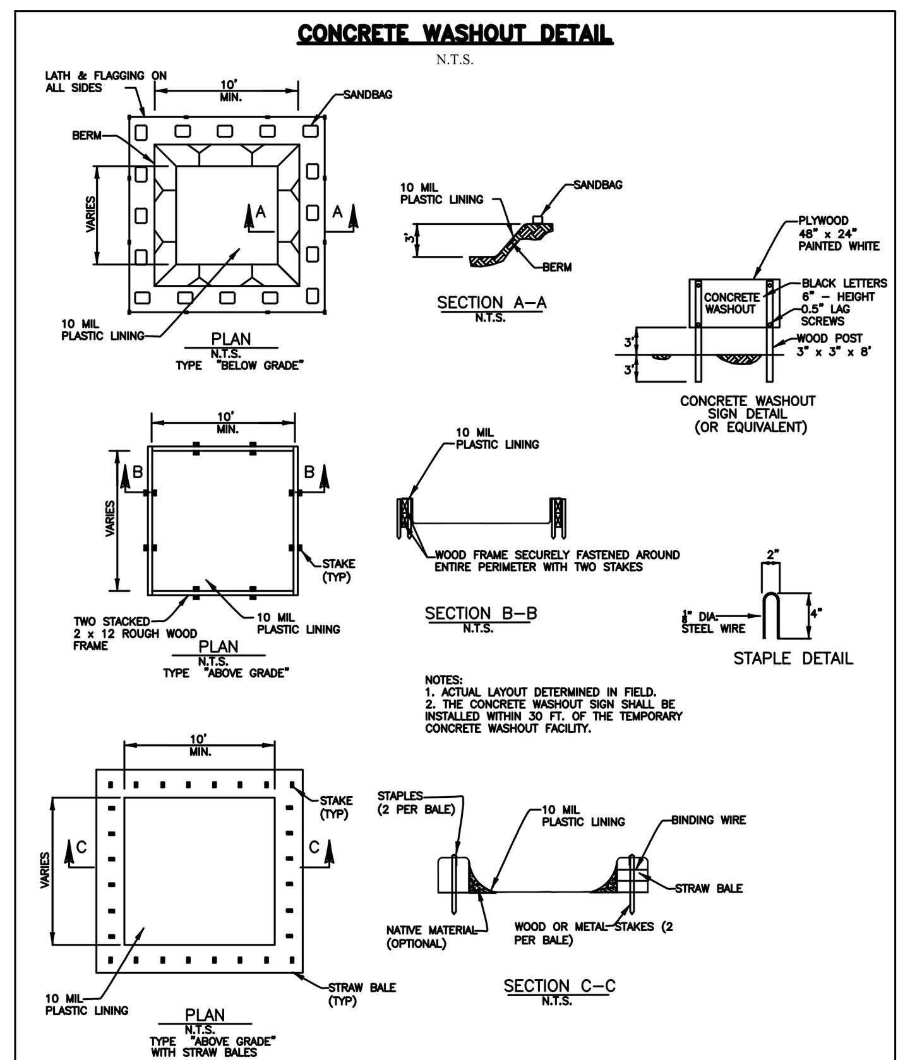
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Erosion.dwg

(Cd-Hb) TYPICAL STRAW BALE CHECK DAM



NOTES:
1. BALES SHOULD BE BOUND WITH WIRE OR NYLON STRING AND SHOULD BE PLACED IN ROWS WITH BALE ENDS TIGHTLY ABUTTING THE ADJACENT BALES.
2. REMOVE #4 REBAR AFTER STRAW BALES ARE NO LONGER IN PLACE.
3. POINT C OF SECTION B-B SHOULD ALWAYS BE HIGHER THAN POINT D.

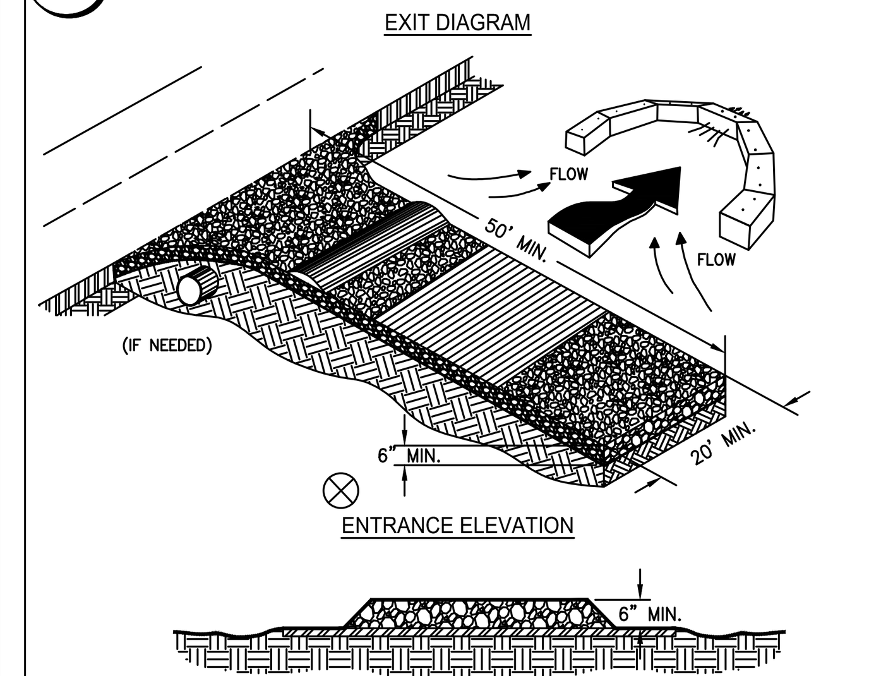
CONCRETE WASHOUT DETAIL



CONTRACTOR TO COORDINATE WITH OWNER REGARDING LOCATION.

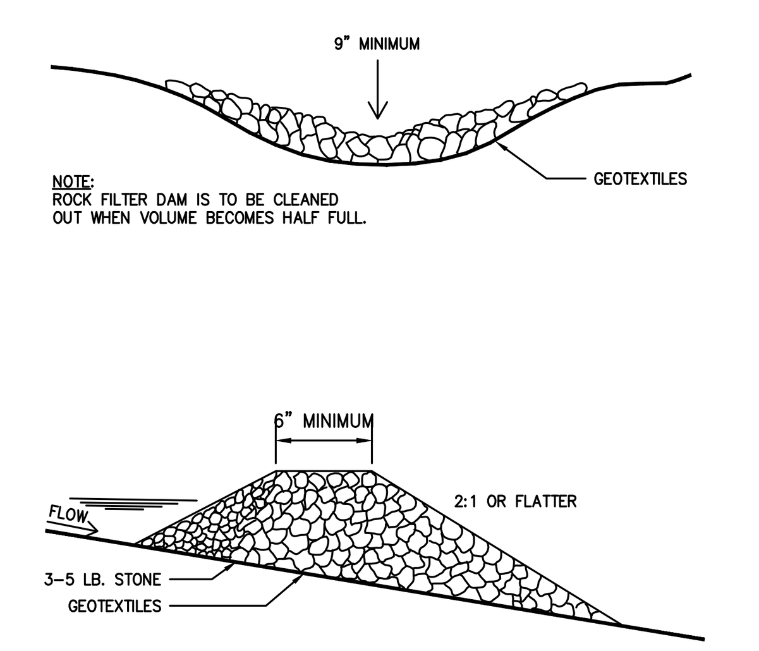
(Co) CRUSHED STONE CONSTRUCTION EXIT

EXIT DIAGRAM



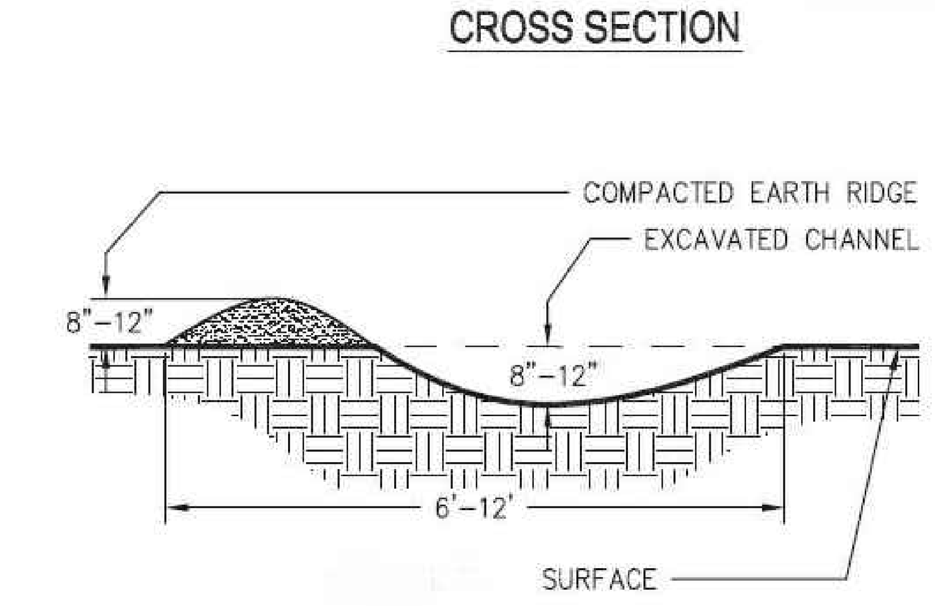
NOTES:
1. AVOID LOCATING ON STEEP SLOPES OR AT CURVES ON PUBLIC ROADS.
2. REMOVE ALL VEGETATION AND OTHER UNSUITABLE MATERIAL FROM THE FOUNDATION AREA, GRADE, AND CROWN FOR POSITIVE DRAINAGE.
3. AGGREGATE SIZE SHALL BE IN ACCORDANCE WITH NATIONAL STONE ASSOCIATION R-2 (1.5"-3.5" STONE).
4. GRAVEL PAD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

(Rd) ROCK FILTER DAM

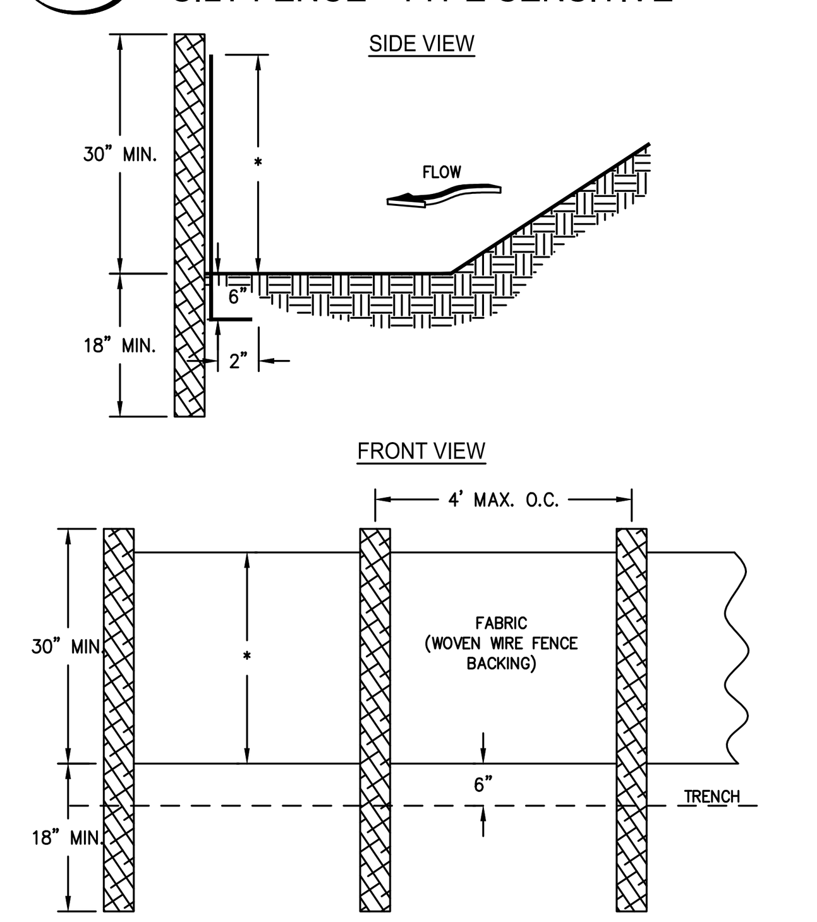


TYPICAL DIVERSION

CROSS SECTION



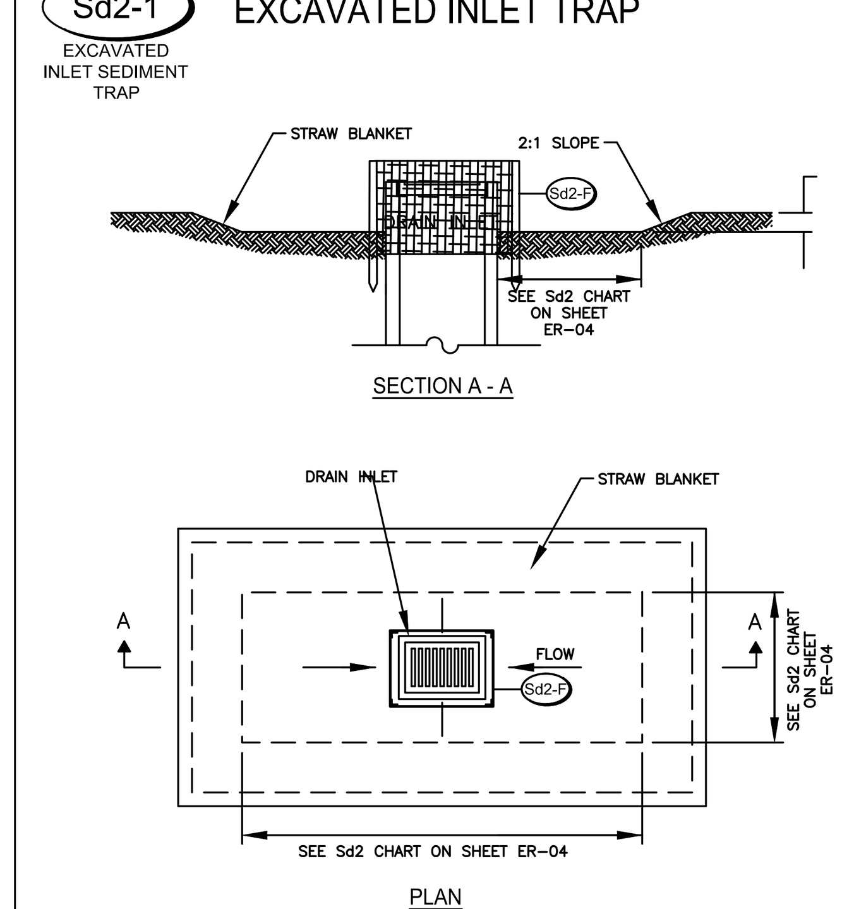
(Sd1-S) SILT FENCE - TYPE SENSITIVE



NOTES:
1. USE STEEL OR WOOD POSTS OR AS SPECIFIED BY THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.
2. HEIGHT (*) IS TO BE SHOWN ON THE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN.

(Sd2-1) EXCAVATED INLET TRAP

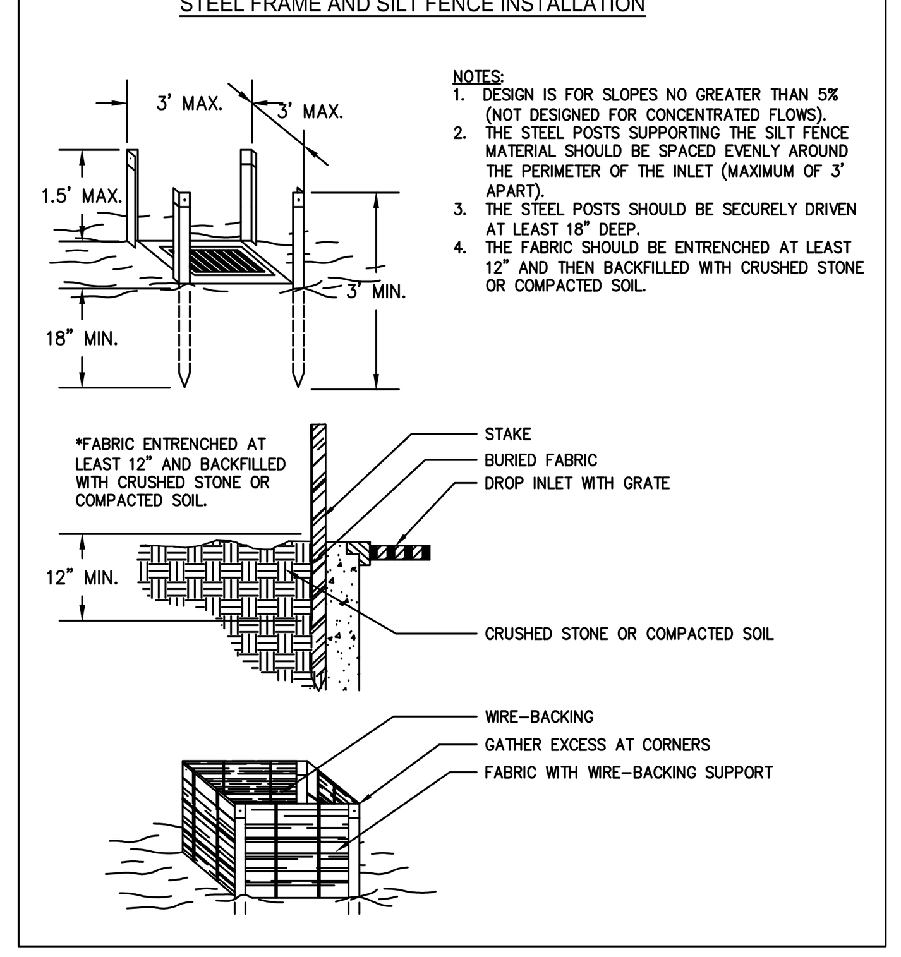
EXCAVATED INLET SEDIMENT TRAP



NOTES:
1. SEE Sd2 CHART ON ER-04 FOR TRAP DIMENSIONS.
2. A RECTANGULAR SHAPE WITH 2:1 LENGTH TO WIDTH RATION IS RECOMMENDED.
3. SEDIMENT TRAP SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE-HALF THE HEIGHT OF THE TRAP

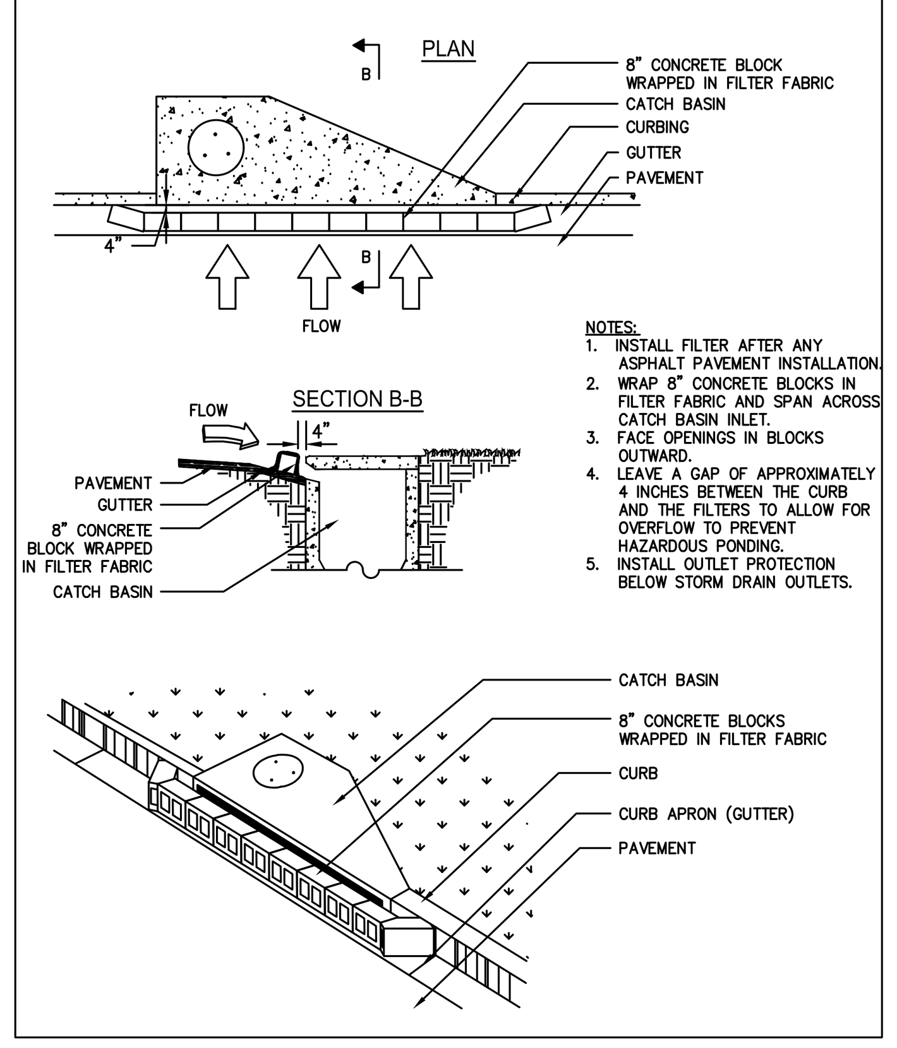
(Sd2-F) FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION

STEEL FRAME AND SILT FENCE INSTALLATION



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

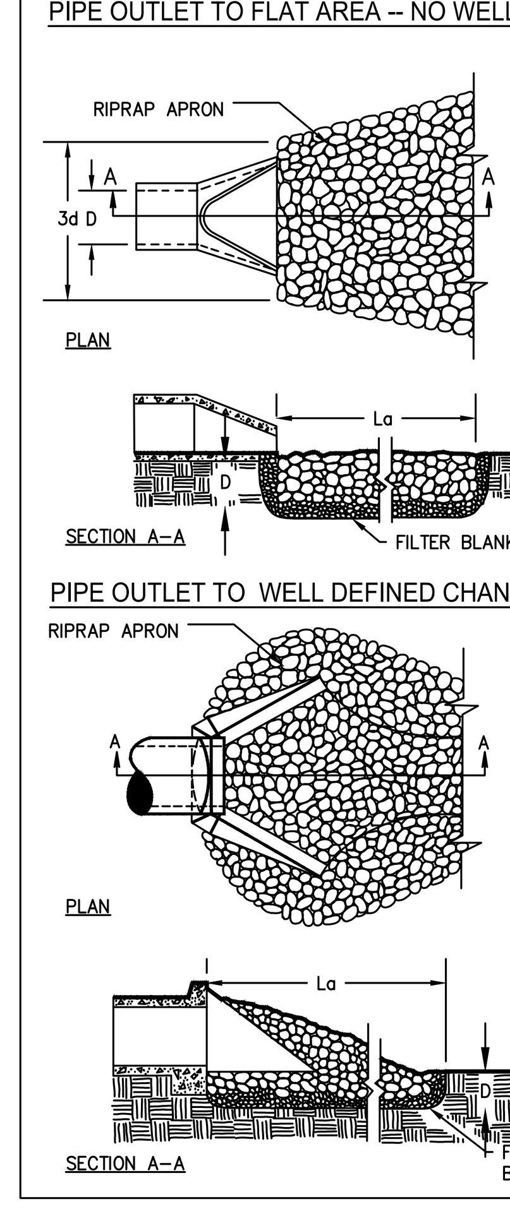
(Sd2-P) CURB INLET FILTER "PIGS IN BLANKET"



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

(St) RIPRAP OUTLET PROTECTION

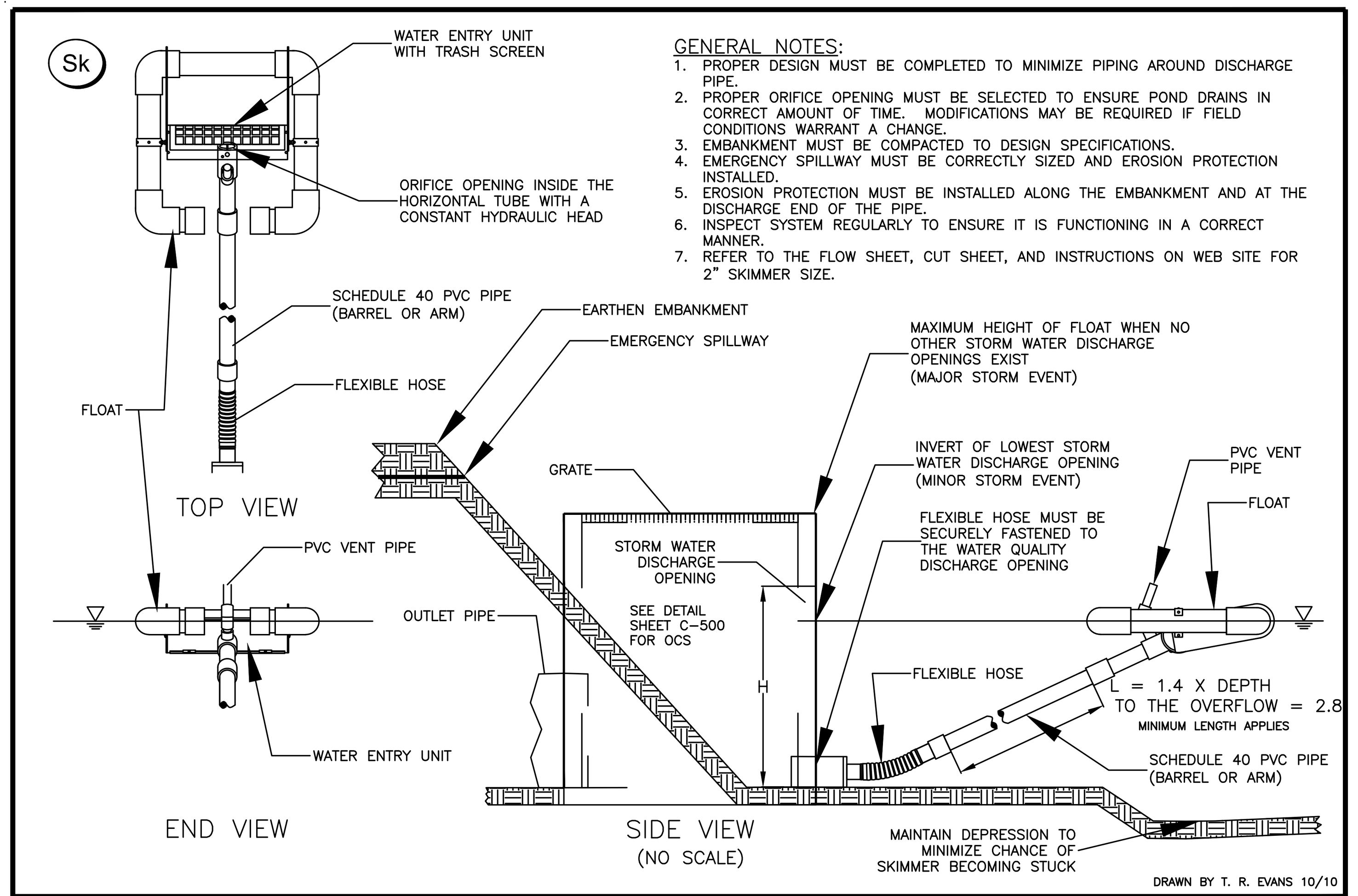
PIPE OUTLET TO FLAT AREA -- NO WELL DEFINED CHANNEL



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

(Sk) FAIRCLOTH SKIMMER® DISCHARGE SYSTEM WITH OUTLET STRUCTURE (OR APPROVED EQUAL)

GENERAL NOTES:
1. PROPER DESIGN MUST BE COMPLETED TO MINIMIZE PIPING AROUND DISCHARGE PIPE.
2. PROPER ORIFICE OPENING MUST BE SELECTED TO ENSURE POND DRAINS IN CORRECT AMOUNT OF TIME. MODIFICATIONS MAY BE REQUIRED IF FIELD CONDITIONS WARRANT A CHANGE.
3. EMBANKMENT MUST BE COMPACTED TO DESIGN SPECIFICATIONS.
4. EMERGENCY SPILLWAY MUST BE CORRECTLY SIZED AND EROSION PROTECTION INSTALLED.
5. EROSION PROTECTION MUST BE INSTALLED ALONG THE EMBANKMENT AND AT THE DISCHARGE END OF THE PIPE.
6. INSPECT SYSTEM REGULARLY TO ENSURE IT IS FUNCTIONING IN A CORRECT MANNER.
7. REFER TO THE FLOW SHEET, CUT SHEET, AND INSTRUCTIONS ON WEB SITE FOR 2" SKIMMER SIZE.



J. W. FAIRCLOTH & SON INC.
WWW.FAIRCLOTHSKIMMER.COM
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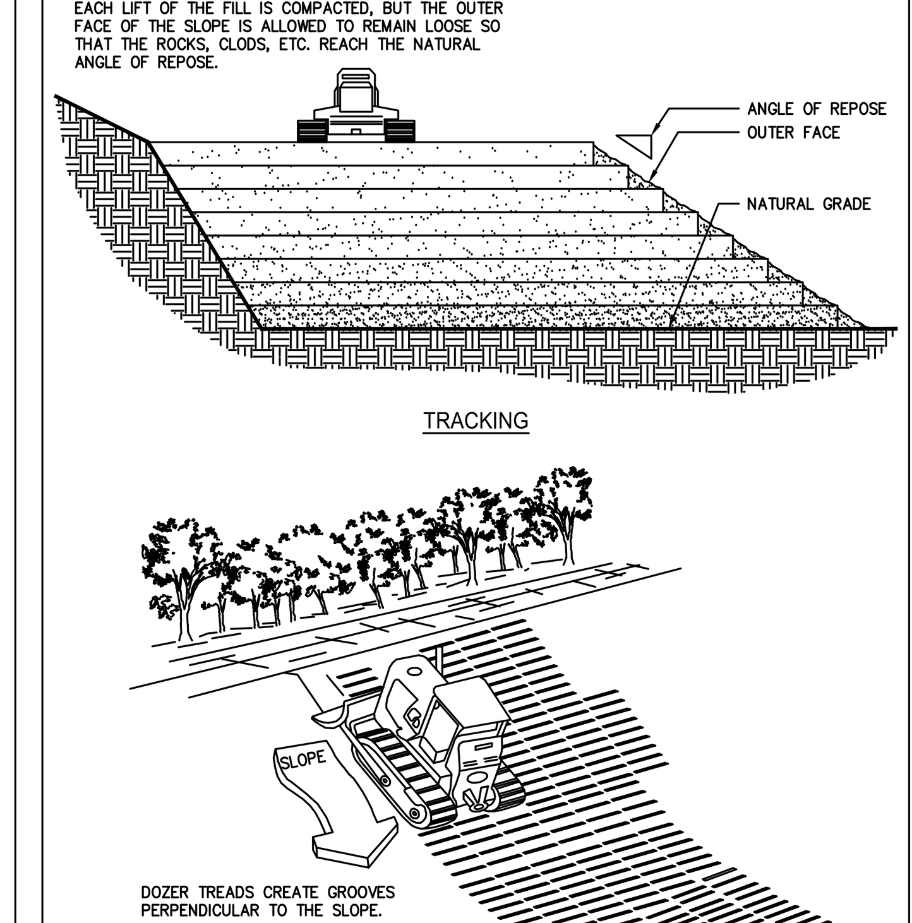
(Su) FILL SLOPE TREATMENT

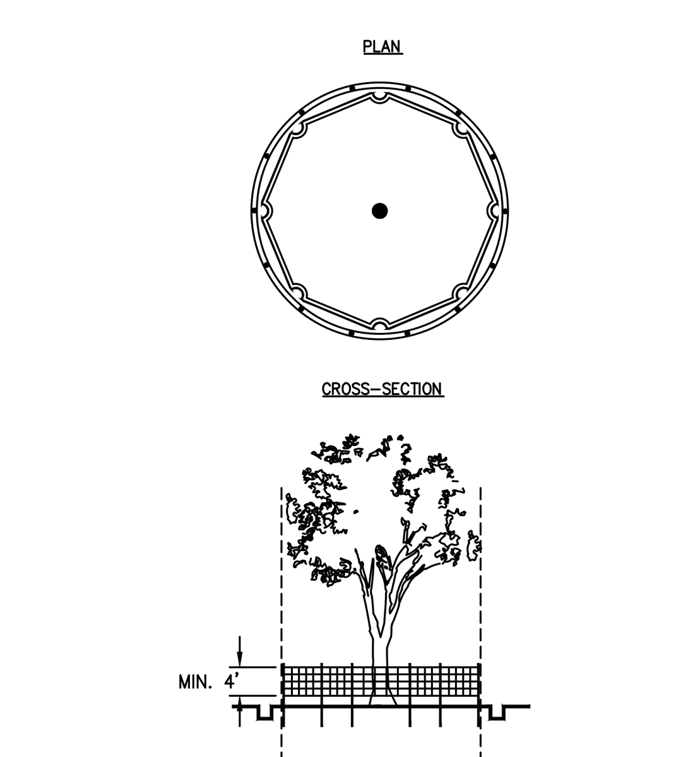
EACH LIFT OF THE FILL IS COMPACTED, BUT THE OUTER FACE OF THE SLOPE IS ALLOWED TO REMAIN LOOSE SO THAT THE ROCKS, CLODS, ETC. REACH THE NATURAL ANGLE OF REPOSE.



DOZER TREADS CREATE GROOVES PERPENDICULAR TO THE SLOPE.

(Tr) TREE PROTECTION

"SNOW" FENCE



NOTES:
1. USE TRENCHER (I.E. DITCH WHICH) TO CUT A 4"-5" W X 18" D TRENCH ALONG DRIP LINE (LIMIT OF CLEARING) AND BACKFILL WITH SAND AND LIGHTLY COMPACT.
2. SPACE STAKES AT INTERVALS SUFFICIENT TO MAINTAIN ALL FENCING OUT OF DRIP LINE OR AS SHOWN BY ENGINEER (SET STAKES NO GREATER THAN 6 FEET ON CENTER-REBAR IS NOT TO BE USED FOR STAKES).
3. MAINTAIN FENCE BY REPAIRING AND/OR REPLACING DAMAGED FENCE. DO NOT REMOVE FENCING PRIOR TO LANDSCAPING OPERATIONS.
4. DO NOT STORE OR STACK MATERIALS, EQUIPMENT, OR VEHICLES WITHIN FENCED AREA.
5. FENCE SHALL BE ORANGE VINYL "SNOW FENCE" 4' HIGH MINIMUM.

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

CROY ENGINEERING
Engineers Planners Surveyors
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
GEORGIA REGISTERED ENGINEERS LEWIS CARL CARVE[R]
GSWCC CERT #2973

SHEET TITLE
EROSION CONTROL DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
AS SHOWN	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-500

Plot Scale: 1"=##', Drawing Rotation: ###°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:53 AM
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Cover_Notes_Details.dwg

Ds1 DISTURBED AREA STABILIZATION (WITH MULCHING ONLY)

N.T.S.

SPECIFICATIONS

Mulching Without Seeding
This standard applied to grades or cleared areas where seedings 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. This 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.

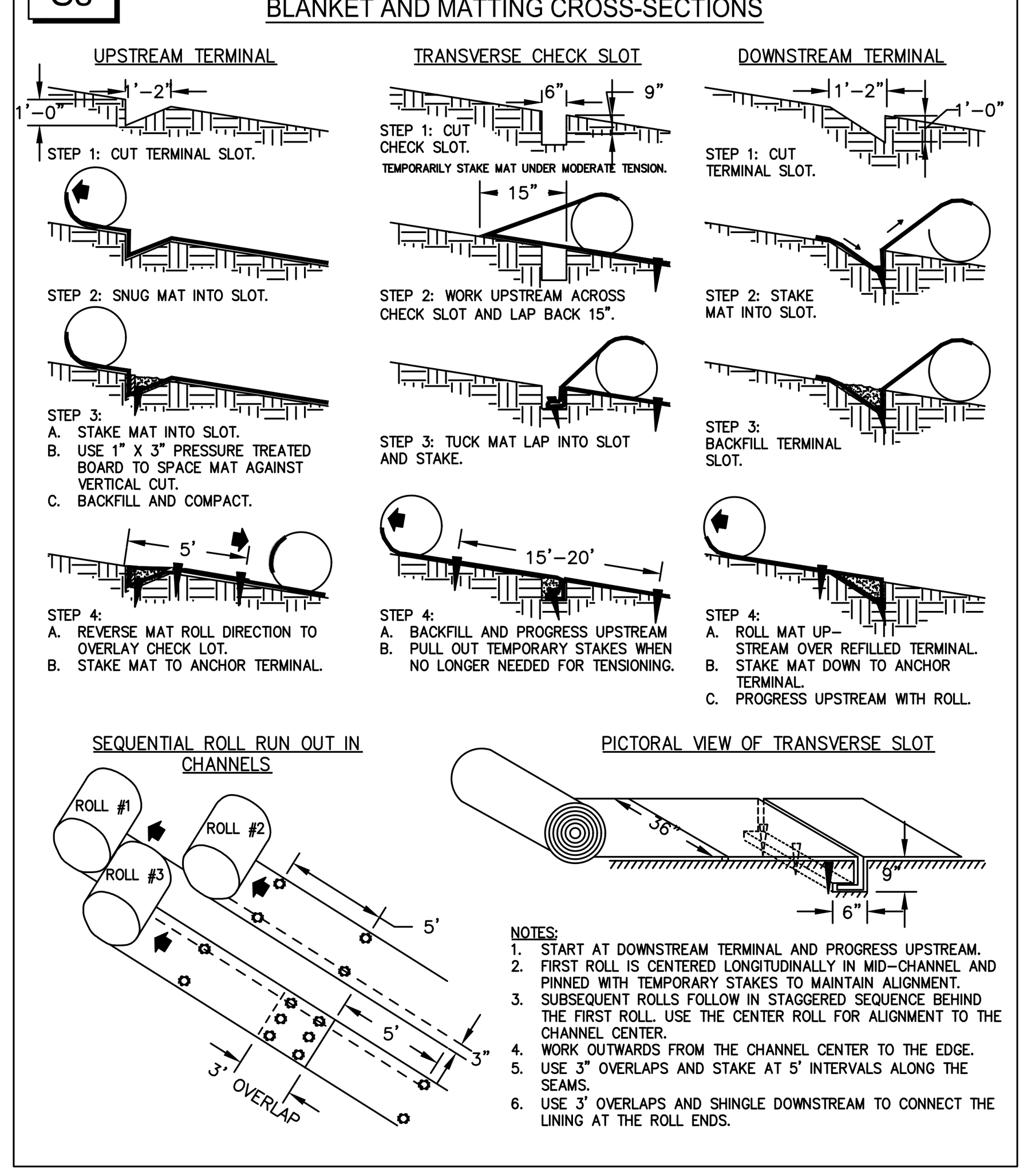
Applying Mulch
When mulch is used without seeding, mulch shall be applied to provide full coverage of the exposed area.
1. *Dry straw or hay mulch* and *wood chips* shall be applied uniformly by hand or by mechanical equipment.
2. If the area will eventually be covered with perennial vegetation, 20-30 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 'packer 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.**

   Straw or hay mulch spread with special blower-type equipment may be anchored. Tackifiers, binders and hydraulic mulch with tackifier specifically designed for taking straw can be substituted for emulsified asphalt. Please refer to specification **Tackifiers and binders**. Plastic mesh or netting with mesh no larger than one inch by one inch shall be installed according to manufacturer's specifications.
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)

Ss



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, dikes, 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 PER ACRE	BROADCAST RATES PER 1000 SQ. FT.	PLANTING DATES FOR SOUTHERN PIEDMONT REGION (J F M A M J J A S O N D)	REMARKS
BARLEY (Horduem vulgare) alone / in mixture	144 lbs. / 24 lbs.	3.3 lbs. / 0.6 lb.		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.		200,000 seed per pound. May volunteer for several years. Use inoculant EL.
LOVEGRASS, WEEPING (Horduem vulgare) alone / in mixture	4 lbs. / 2 lbs.	0.1 lb. / 0.05 lb.		1,500,000 seed per pound. May last for several years. Mix with Sericea lespedeza.
MILLET, BROWNTOP (Panicum fascicalatum) alone / in mixture	40 lbs. / 10 lbs.	0.9 lb. / 0.2 lb.		137,000 seed per pound. Quick dense cover. Will provide too much competition in mixtures if seeded at high rates.
MILLET, PEARL (Pennesetum glaucum) alone	50 lbs.	1.1 lb.		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.		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.		18,000 seed per pound. Quick cover. Drought tolerant and winterhardy.
RYEGRASS, ANNUAL (Lolium temulentum) alone	40 lbs.	0.9 lb.		227,000 seed per pound. Dense cover. Very competitive and is not to be used in mixtures.
SUDANGRASS (Sorghum Sudanese) alone	60 lbs.	1.4 lb.		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.		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:
Broadcast Plantings
1. Tillage, at a minimum, shall adequately loosen the soil to a depth of 4 to 6 inches; alleviate 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.

Individual Plants
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.

Innoculants
All legume seed shall be inoculated with appropriate nitrogen-fixing bacteria. the innoculant 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 bond the innoculant to the seed. for conventional seeding, use twice the amount of innoculant recommended by the manufacturer. For hydraulic seeding, four times the amount of innoculant 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 (innoculated 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 culti-packer-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 tips 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 3/4:1 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 block sod, mulch is not required.
7. Bituminous treated roving may be applied on planted areas, slopes, in ditches or dry water- ways to prevent erosion. Bituminous 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 agitated in water. The fibers shall contain a dye to allow visual metering 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 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 "packer 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
2. 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.
3. 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 2021.0 testing. Refer to **Tackifiers-Tac**
4. 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.
5. 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
Grain 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 rates 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 frost to ensure that the seeds are mature. mow between November and march.

Bermudagrass, 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 Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. ----- 30 lbs./ac.
2. Cool season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	0-50 lbs./ac. ----- -----
3. Ground covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1300 lbs./ac. 1300 lbs./ac. 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 Maintenance	0-10-10 0-10-10	700 lbs./ac. 700 lbs./ac.	-----
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac.
7. Warm season grasses	First Second Maintenance	6-12-12 6-12-12 10-10-10	1500 lbs./ac. 800 lbs./ac. 400 lbs./ac.	50-100 lbs./ac. 50-100 lbs./ac. 30 lbs./ac.
8. Warm season grasses and legumes	First Second Maintenance	6-12-12 0-10-10 0-10-10	1500 lbs./ac. 1000 lbs./ac. 400 lbs./ac.	50 lbs./ac.

PLANT, PLANTING RATES, AND PLANTING DATES FOR PERMANENT COVER

SPECIES	BROADCAST RATES PER ACRE	BROADCAST RATES PER 1000 SQ. FT.	PLANTING DATES FOR SOUTHERN PIEDMONT REGION (J F M A M J J A S O N D)	REMARKS
BAHIA, PENSACOLA (Paspalum notatum) alone or w/ temp. cover / with other perennials	60 lbs. / 30 lbs.	1.4 lb. / 0.7 lb.		166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and lawns. Mis with Sericea lespedeza or weeping lovegrass.
BAHIA, WILMINGTON (Paspalum notatum) alone or w/ temp. cover / with other perennials	60 lbs. / 30 lbs.	1.4 lb. / 0.7 lb.		
BERMUDA, COMMON (Cynodon dactylon) alone / with other perennials	10 lbs. / 6 lbs.	0.2 lb. / 0.1 lb.		1,787,000 seed per pound. Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.
BERMUDA, COMMON (Cynodon dactylon) with temporary cover / with other perennials	10 lbs. / 6 lbs.	0.2 lb. / 0.1 lb.		Plant with winter annuals. Plant with tall fescue.
BERMUDA SPRIGS (Cynodon dactylon) Coastal, Common, or Tift 44	40 cu. ft.	0.9 cu. ft.		A cubic foot contains approximately 650 sprigs. A bushel contains 1.25 cubic feet or approximately 800 sprigs.
CENTIPEDE (Eremochloa ophiuroides)	Block sod only			Drought tolerant. Full sun or partial shade. Effective adjacent to concrete and in concentrated flow areas. Irrigation is needed until fully established. Do not plant near pastures. Winterhardy as far north as Athens and Atlanta.
CROWNVETECH (Coronilla varia) with winter annuals or cool season grasses	15 lbs.	0.3 lb.		100,000 seed per pound. Dense growth. Drought tolerant and fire resistant. Attractive rose, pink, and white blossoms spring to late fall. Mix with 30 pounds of Tall fescue or 15 pounds or rye. Inoculate seed with M inoculant.
FESCUE, TALL (Festuca arundinacea) alone / with other perennials	50 lbs. / 30 lbs.	1.1 lb. / 0.7 lb.		227,000 seed per pound. Use alone only on better sites. Not for droughty soils. Mix with perennial lespedezas or crownvetch. Apply topdressing in spring following fall plantings. Not for heavy use areas or 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.		350,000 seed per pound. Widely adapted. Low maintenance. Mix with weeping lovegrass, common bermuda, bahia, or tall fescue. Takes 2 to 3 years to become fully established. Excellent on roadbanks. Inoculate 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.		300,000 seed per pound. Height of growth is 18 to 24 inches. Advantageous in urban areas. Spreading-type growth has bronze coloration. Mix with Weeping lovegrass, Common bermuda, bahia, tall fescue or winter annuals. Do not mix with Sericea lespedeza. Slow to develop solid stands. Inoculate seed with EL inoculate.
LESPEDEZA, SHRUB (Lespedeza bicolor) (Lespedeza thumbergii) plants	3' x 3'			Provide wildlife food and cover.
LOVEGRASS, WEEPING (Eragrostis curvula) alone / with other perennials	4 lbs. / 2 lbs.	0.1 lb. / 0.05 lb.		1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea lespedeza on roadbanks.
PANICGRASS, ATLANTIC COASTAL (Panicum amarum var. amarulum)	20 lbs.	0.5 lb.		Grows well on coastal sand dunes, borrow areas, and gravel pits. Provides winter cover for wildlife. Mix with Sericea lespedeza except on sand dunes.
REED CANARY GRASS (Phalaris arundinacea) alone / with other perennials	50 lbs. / 30 lbs.	1.1 lbs. / 0.7 lb.		Grows similar to tall fescue.
SUNFLOWER, 'AZTEC' MAXIMILLIAM (Helianthus maximiliani)	10 lbs.	0.2 lb.		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
Albelia	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.
Bearberry Cotoneaster	Cotoneaster dammeri	2-4 in.	5 ft.	White flowers, red fruit. Sun. Evergreen.
Ground Cover Cotoneaster	Cotoneaster salicifoluis '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	Parthenocissue quinquefolia	low	3 ft.	Red in fall. Vine. Deciduous. Native to Georgia.
Daylilly	Hemerocallis spp.	2-3 ft.	2 ft.	Many flower colors. Full sun. Very Hardy.
English Ivy	Hedera helix	low	3 ft.	Shade only. Climbs.
Compacta Holly	Ilex crenata 'Compacta'	3-4 ft.	5 ft.	Sun, semi-shade.
Chinese Holly	Ilex cornuta 'Rotunda'	3-4 ft.	5 ft.	Very durable. Sun, semi-shade.
Dwarf Burford Holly	Ilex burfordii 'Nana'	5-8 ft.	8 ft.	
Dwarf Yaupon Holly	Ilex vomitoria 'Nana'	3-4 ft.	5 ft.	Very durable, sun, semi-shade.
Repandens Holly	Ilex crenata '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 andora.
Blue Chip Juniper	Juniperus horizontalis 'Blue Chip'	8-10 in.	4 ft.	
Blue Rug Juniper	Juniperus horizontalis 'Wiltonii'	4-6 in.	3 ft.	Very low. Sun.
Parsons Juniper	Juniperus davurica 'Expansa' (Squamata Parsoni)	18-24 in.	5 ft.	One of the best, good winter cover.
Pfitzer Juniper	Juniperus chinensis 'Pfitzerana'	6-8 ft.	6 ft.	Needs room.
Prince of Wales Juniper	Juniperus horizontalis '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 good.
Liriope	Liriope muscari	8-10 in.	3 ft.	
Creeping Liriope	Liriope spicata	10-12 in.	1 ft.	Spreads by runners.
Big Leaf Periwinkle	Vinca major	12-15 in.	4 ft.	Lilac 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 weuchuriana	2 ft.	5 ft.	Rampant grower.
St. Johnswort	Hypericum calycenum	8-12 in.	3 ft.	Semi-shade.
Anthony Waterer Spirea	Spirea bumalda	3-4 ft.	5 ft.	Sun.
Thunberg Spirea	Spirea thinbergii	3-4 ft.	5 ft.	Sun.

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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

GEORGIA REGISTERED PROFESSIONAL ENGINEER LEWIS CARL CARVER

GSWCC CERT #2973

SHEET TITLE
EROSION CONTROL DETAILS

DRAWN BY	CHECKED BY
SMM	LCC
SCALE	ISSUE DATE
AS SHOWN	04/30/2018

PROJECT NUMBER
1788.000

DRAWING NUMBER
ER-501

Plot Scale: 1"=##', Drawing Rotation: ###°, Plot Style: Design.ctb, Plotted By: Scott McNally on 5/29/2018, 8:53 AM
Drawing Location: P:\1788 K. A. Oldham Design\1788.000 Fire Station No. 4\Engineering\Design\1788.000_Cover_Notes_Details.dwg