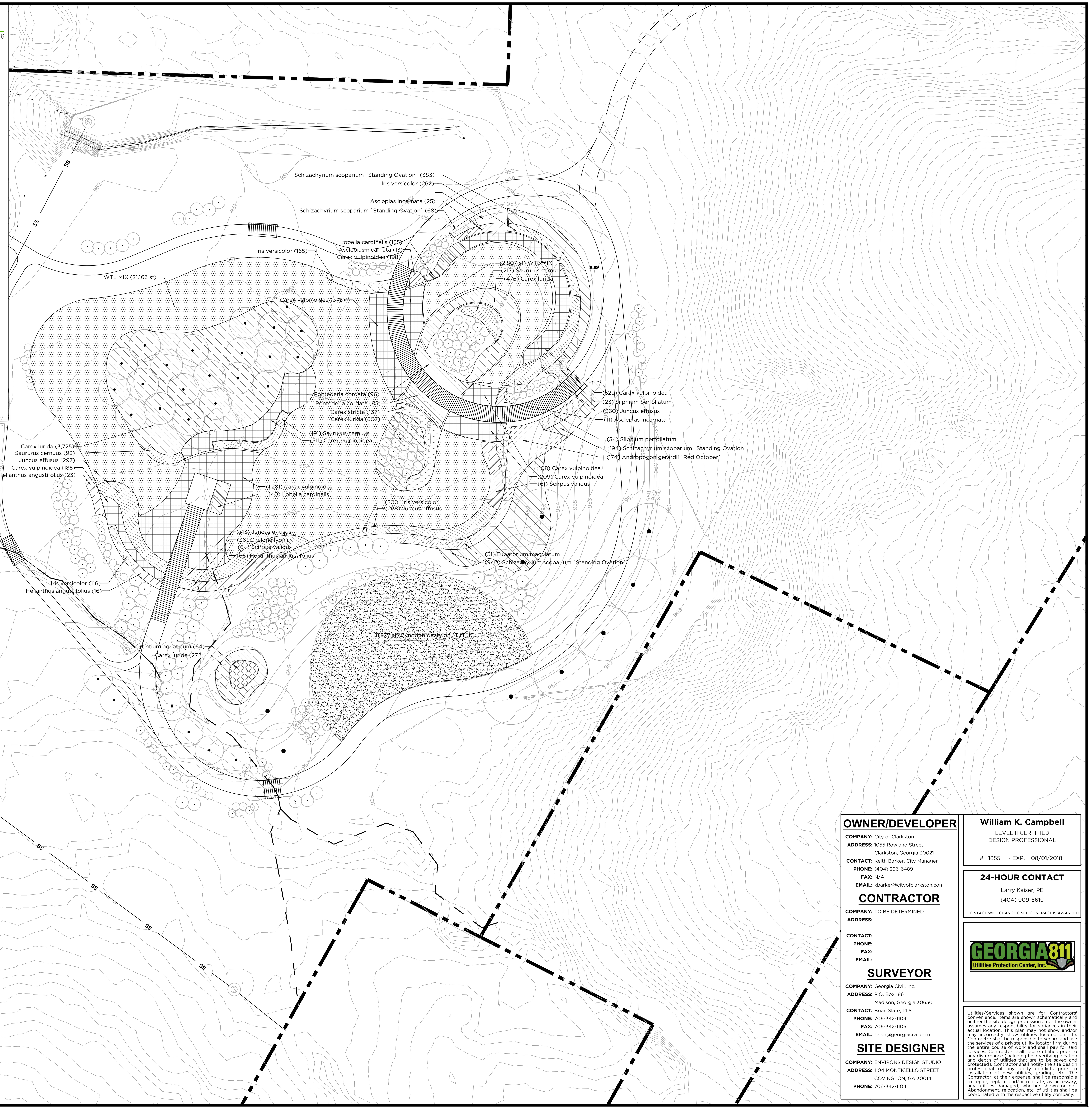
PLANT SCHEDULE

2017–09–22 11:46

INUNDATED □ONE	□TY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
CAR ST	137	Care□s□r□□a / T□ss□□□Sed□e	LP32	24" □.□.
ORO A□U	64	Or□□□□m a□□a□□□m / G□de□□□□	LP32	24" □.□.
PON COR	181	P□□□eder□a □□rda□a / P□□□ere□Weed	4"□□□	24" □.□.
SAU CER	479	Sa□r□r□s □er□□□□s / L□□ard□s Ta□□	4"□□□	15" □.□.
MESIC □ONE	**□TY**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**SPACING**
AND RE5	174	A□dr□□□□□□□ □erard□□□Red O□□□□er□/ B□□ B□□e S□em - Red Fa□□	4"□□□	30" □.□.
EUP JOE	51	E□□a□□r□□m ma□□□a□□m / J□e Pye Weed	LP32	30" □.□.
SCH ST3	1,561	S□□□□a□□yr□□m s□□□□ar□□m □S□a□d□□□ O□a□□□□□/ L□□□e B□□es□em Grass	4"□□□	18" □.□.
SIL CUP	57	S□□□□□m □er□□□a□□m / C□□ P□a□□	LP32	30" □.□.
SATURATED □ONE	**□TY**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**SPACING**
ASC INC	49	As□□e□□as □□□ar□a□a / S□am□ M□□□□eed	1 GAL	30" □.□.
CAR LUR	4,976	Care□ □□r□da / L□r□d Sed□e	LP32	18" □.□.
CAR VUL	3,343	Care□ □□□□□□□dea / Br□□□ □F□□ Sed□e	LP32	18" □.□.
CHE PIN	35	C□e□□□e □y□□□□/ P□□□T□r□e□ead	LP32	18" □.□.
HEL ANG	104	He□□a□□□□s a□□□□s□□□□□s / S□am□ S□□□□□□er	LP32	30" □.□.
IRI VE2	737	Ir□s □ers□□□□r / B□□e F□a□	4"□□□	14" □.□.
JUN EF2	1,131	J□□□□s e□□s□s / S□□□R□s□	LP32	18" □.□.
LOB CAR	290	L□□e□a □ard□□a□s / Card□□a□F□□□er	4"□□□	14" □.□.
SCI VAL	125	S□□r□□s □a□□d□s / Grea□B□□r□s□	LP32	30" □.□.
SOD/SEED	**□TY**	**BOTANICAL NAME / COMMON NAME**	**CONT**	**SPACING**
CYN T22	8,577 s□	Cy□□□d□□ da□□y□□□ □T□T□□□/ Dr□□□□□T□□era□□Berm□da Grass	S□d	
WTL MIX	23,971 s□	WTL MIX / We□□a□d Seed M□□	Seeded a□25□□s/A□re	

15% Carex cherokeensis / Cherokee Sedge
20% Carex lurida / Lurid Sedge
15% Carex crinita / Fringe Sedge
25% Carex vulpinoidea / Fox Sedge
15% Juncus tenuis / Path Rush
10% Lobelia cardinalis



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
SCALE: 1" = 30'

OWNER/DEVELOPER

COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR

COMPANY: TO BE DETERMINED
ADDRESS:
CONTACT:
PHONE:
FAX:
EMAIL:

SURVEYOR

COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: 706-342-1104
FAX: 706-342-1105
EMAIL: brian@georgiacivil.com

SITE DESIGNER

COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL
1855 - EXP. 08/01/2018

24-HOUR CONTACT
Larry Kaiser, PE
(404) 909-5619
CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA 811
Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

Environs
LANDSCAPE ARCHITECTURE
& ECOLOGICAL PLANNING
113 West Jefferson Street, Suite A
P.O. Box 896 | Madison, GA 30650
P: 706.342.1104 | F: 706.342.1105
www.environsla.com

professional seal

GEORGIA REGISTERED No. 1220 PROFESSIONAL KENT CAMPBELL

project information

FRIENDSHIP FOREST PARK

WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS

NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

sheet title

LANDSCAPE PLAN:

FORBS AND SEEDING

sheet number

L-5.1

SCHEDULE OF VALUES
FRIENDSHIP FOREST WILDLIFE SANCTUARY - HARDSCAPE PLAN
9/15/2017
Hayes|James Project No: 17-030-PR

NO	ITEM	UNITS	QUANTITY	UNIT COST	TOTAL
	SITE WORK				
1	MOBILIZATION	LS	1		
2	SITE DEMOLITION	LS	1		
3	EARTHWORK	CY	1276		
4	DIRT HAUL OFF	CY	1020		
5	LIGHT DUTY ASPHALT (PARKING LOT & NEW 10' TRAIL)	SY	1,316		
6	PARKING LOT STRIPING	LS	1		
7	PARKING LOT & PAVILION CONCRETE SIDEWALKS/PICNIC TABLE PAD/	SY	250		
	BIKE RACK PAD				
8	EX. CONC. SIDEWALK WIDENING - EXCAVATION OF 2.5' SECTION &	SY	500		
	INSTALLATION OF 4" ASPHALT BASE				
9	EX. CONC. SIDEWALK WIDENING - TACK COAT	SY	1000		
10	EX. CONC. SIDEWALK WIDENING - 2" ASPHALT TOPPING	SY	1000		
11	WHEEL STOP	EA	21		
12	6' MULCH PATH	SF	800		
13	CLEARING AND GRUBBING	AC	4.5		
	DRAINAGE				
14	18" CMP	LF	139		
15	JUNCTION BOX	EA	1		
16	CLEANOUT	EA	1		
17	SLOTTED PIPE SECTION	LF	35		
18	GRATE INLET	EA	1		
19	4' CONCRETE FLUME	SY	65		
	WATER				
20	1 1/2" PVC WATER LINE	LF	145		
21	1 1/2" GATE VALVES	EA	3		
22	DCV/BFP VAULT	EA	1		
23	EX. CONNECTION AT PAVILION	LS	1		
24	MISC. APPURTENANCES	LS	1		
	SANITARY SEWER				
25	CLEANOUT	EA	5		
26	SEWER LATERAL RECONNECTION	EA	1		
27	4" PVC PIPE	LF	125		
28	MIC. APPURTENANCES	LS	1		
	SEPTIC SYSTEM				
29	SEPTIC TANK	LS	1		
30	SEPTIC FIELD	LS	1		
	LANDSCAPING				
31	TREES & SHRUBS	LS	1		
32	SOD	LS	1		
	EROSION CONTROL				
33	CONSTRUCTION ENTRANCE	EA	2		
34	SD-1 SILT FENCE TYPE 'S'	LF	2925		
35	PIGS IN A BLANKET	EA	1		
36	TEMPORARY GRASSING	AC	1.5		
37	PERMANENT GRASSING	AC	0.5		
	SITE ELEMENTS				
38	PARKING LOT RESTROOM BLDG	LS	1		
39	PAVILION W/ RESTROOM & AMPHITHEATER	LS	1		
40	PARKING LOT LIGHTING	LS	1		
41	PEDESTRIAN TRAIL LIGHTING	LS	1		
42	WOODEN BRIDGE	LS	1		
43	VIEWING PLATFORMS	SF	800		
44	BOARDWALKS	SF	2000		
45	WOODEN RAILINGS	LF	525		
46	BIKE RACK ONLY (EXCLUDE CONC. PAD)	EA	1		
47	PICNIC TABLE ONLY (EXCLUDE CONCRETE PAD)	EA	1		
48	INTERPRETIVE SIGNAGE WITH FRAME/STANDS	EA	10		
49	ENTRANCE SIGN	EA	1		
50	INFORMATIONAL KIOSK (INCLUDE 12" REINFORCED CONC. PAD)	EA	1		
51	SCALLOPED WOODEN PICKET FENCE	LF	180		
52	6' CHAINLINK FENCE	LF	390		
53	ENTRANCE GATE	EA	1		
54	GRANITE VENEER SEAT WALL	SFF	180		
55	GRANITE VENEER SITE WALL	SFF	700		
56	EX. GRANITE CURB RELOCATION/PLACEMENT/INSTALLATION	SY	25		
				TOTAL	

Contractor is responsible for submitting pricing for all items shown within the contract documents, regardless of what it listed within the schedule of values.

Bid No.
Schedule of Bid Items
FRIENDSHIP FOREST WETLAND ENHANCEMENT - City of Clarkston

Pay Item	Description	Spec. Ref.	Quanity	Units	Unit Cost	Extended Cost
1	Erosion and Sediment Control and NPDES Monitoring	31 25 00	1	LS	Lump Sum	
2	Temporary Silt Fence	31 25 00		LF		0.00
3	Rock Filter Dam	31 25 00		EA		
4	Rock Outlet Control Structure	35 42 50		EA		0.00
5	Mass Earthwork	31 00 00		CY		0.00
6	Finished Wetland Grading	31 00 00		SF		0.00
7	Rock Cross Vane	35 42 40		EA		0.00
8	Soil Preparation and Permanent Grass/Forb Seed and Sod	32 92 00		AC		0.00
9	Tree/Shrub Planting	32 92 23		EA		0.00
10	Surveying Control (construction staking & as-built):	01 32 33	1	LS	Lump Sum	
11	Mobilization	-----	1	LS	Lump Sum	
12	Performance Bond Not to Exceed 2% of Bid Subtotal Amount)	-----	1	LS	Lump Sum	
					Bid Subtotal	**0.00**
9-b	Herbaceous Planting (Plugs and Containers) Spring 2018	32 92 24		LS	Lump Sum	
					Bid Total	**0.00**

Sheet List Table

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS
4145 SHACKLEFORD ROAD
SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
FAX: (770) 923-4202

CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	ISSUE By	App.	Date

GEORGIA REGISTERED NO. 27275 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

BID SET - SHEET INDEX & SCHEDULE OF VALUES

Sheet Number

C-000.1

SITE DEVELOPMENT PLANS
FOR
FRIENDSHIP FOREST WILDLIFE SANCTUARY

4380 E. PONCE DE LEON AVE. CLARKSTON, GA 30021
LAND LOT 119 / 18 DISTRICT / PARCEL ID 1811901 005, 018, 040 & 042
CITY OF CLARKSTON, DEKALB COUNTY

PARK RENOVATIONS

FLOODPLAIN NOTE
THERE IS FLOODPLAIN ON THIS PROPERTY FROM A WATER COURSE WITH A DRAINAGE AREA EXCEEDING 100 ACRES.

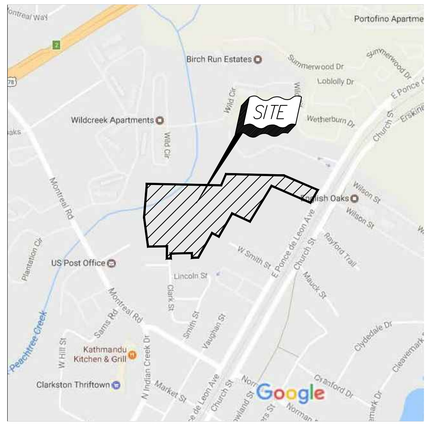
WETLAND NOTE
THERE ARE NO WETLANDS ON THIS SITE.

STORM WATER MANAGEMENT NOTE
STORM WATER MANAGEMENT FOR THIS PROJECT IS PROVIDED ON-SITE.

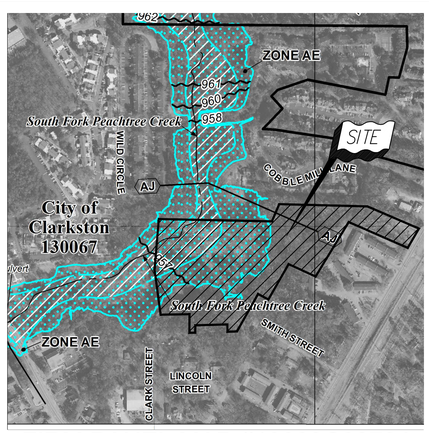
STATE WATERS BUFFER NOTE
THERE ARE STATE WATERS BUFFERS ON OR WITHIN 200 FEET OF THIS PROPERTY.

WETLAND CERTIFICATE
WETLAND CERTIFICATION: THE DESIGN PROFESSIONAL, WHOSE SEAL APPEARS HEREON, CERTIFIES THE FOLLOWING: 1) THE NATIONAL WETLAND INVENTORY MAPS HAVE BEEN CONSULTED; AND, 2) THE APPROPRIATE PLAN SHEET DOES NOT INDICATE AREAS OF U.S. ARMY CORPS OF ENGINEERS JURISDICTIONAL WETLANDS AS SHOWN ON THE MAPS; AND 3) IF WETLANDS ARE INDICATED, THE LAND OWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS THE APPROPRIATE FEDERAL WETLANDS ALTERATION (SECTION 404) PERMIT HAS BEEN OBTAINED.

APPROVAL OF THESE PLANS DOES NOT CONSTITUTE APPROVAL BY **CITY OF CLARKSTON** OF ANY LAND DISTURBING ACTIVITIES WITHIN WETLAND AREAS. IT IS THE RESPONSIBILITY OF THE PROPERTY OWNER TO CONTACT THE APPROPRIATE REGULATORY AGENCY FOR APPROVAL OF ANY WETLAND AREA DISTURBANCE



VICINITY MAP
SCALE:= N.T.S.



FIRM PANEL MAP #13089C0078J
DATED: MAY 16, 2013
SCALE: N.T.S.

OWNER
CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
CONTACT: KEITH BARKER
CITY MANAGER
404-296-6489

CITY PROJECT ENGINEER
CONTACT: LAWRENCE KAISER
(404) 909-5619

24 HOUR CONTACT FOR EROSION CONTROL
LAWRENCE KAISER, P.E.
(404) 909-5619

TOTAL AREA = 18.34 ACRES
DISTURBED AREA = 6.0 ACRES
(INCLUDES WETLAND DESIGN, BY OTHERS, DIST. AREA = 3.15 AC)

ZONING - NR-CD & NR-1

SITE VISIT CERTIFICATION

I CERTIFY THAT PRIOR TO THE DESIGN OF EROSION CONTROL PLANS I OR A REPRESENTATIVE UNDER MY SUPERVISION VISITED THE SITE.

Stephen Mark Bond 07/19/17

STEPHEN MARK BOND — DATE
GA #23275
LEVEL II CERTIFIED DESIGN PROFESSIONAL
#0000011367

PROJECT DESCRIPTION

THE EXISTING PROPERTY IS AN EXISTING PARK CONSISTING OF: A GRAVEL PARKING LOT, ASPHALT DRIVEWAY, A PAVILION/RESTROOM BUILDING AND SEVERAL CONCRETE TRAILS AND BRIDGES. THE EXISTING SITE IS SURROUNDED BY RESIDENTIAL AND MULT-FAMILY PROPERTY.

THE PROPOSED PROJECT WILL BE A RENOVATION OF THE EXISTING PARK, CONSISTING OF: AN ASPHALT PARKING LOT AND RESTROOM BUILDING NEAR E. PONCE DE LEON, REDUCING THE WIDTH OF THE EXISTING ASPHALT DRIVEWAY WIDTH, REMOVING THE ASPHALT CUL-DE-SAC, REPLACING THE EXISTING PAVILION/RESTROOM BUILDING WITH A NEW PAVILION/RESTROOM BUILDING, REPLACING SEVERAL BRIDGES, AND ADDING MULCH WALKING TRAILS, BOARDWALKS AND OBSERVATION PLATFORMS.

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

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

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

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

Stephen Mark Bond
GEORGIA REGISTERED NO. 23275 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS
4145 SHACKLEFORD ROAD, SUITE 300, NORCROSS, GEORGIA 30093
TEL: (770) 923-1600, FAX: (770) 923-4202
CONTACT: KEITH E. HIGHTOWER
HJA PROJECT NO.: 17-030-PR

REVISIONS

NO.	DESCRIPTION	DATE
1	BID SET	09-15-17
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
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-	-	-
-	-	-

Sheet List Table

FRIENDSHIP FOREST WILDLIFE SANCTUARY - 17-030-PR

HAYES, JAMES & ASSOCIATES, INC.

LEGEND

PROPOSED	DESCRIPTION	EXISTING
	DOUBLE WING CATCH BASIN	
	SINGLE WING CATCH BASIN	
	HOODED CATCH BASIN	
	GRATE INLET / DROP INLET	
	FLARED END SECTION	
	HEADWALL	
	OUTLET CONTROL STRUCTURE	
S	SANITARY SEWER MANHOLE	S
	STORM SEWER MANHOLE	
	WEIR INLET	
	YARD INLET	
	DIRECTIONAL ARROWS (FOR INFORMATION ONLY TO INDICATE TRAFFIC FLOW)	
	DIRECTIONAL ARROWS ON PAVEMENT	
	CLEANOUT	
E	ELECTRIC MANHOLE	E
E	ELECTRIC BOX	E
CATV	CABLE TV BOX	CATV
T	TELEPHONE MANHOLE	T
	LIGHT POLE	
	POWER POLE	
	POWER POLE WITH LIGHT	
	POWER POLE WITH GUY WIRE	
P	POWER LINE	P
T	TELEPHONE LINE	T
CATV	CABLE TELEVISION LINE	CATV
G	NATURAL GAS LINE	G
	VALVE	
W	WATER LINE (POTABLE)	W
NPW NPW	WATER LINE (NON-POTABLE)	NPW NPW
RW	REUSE WATER LINE	RW
	METER	
	WATER PIPE REDUCER	
	FIRE HYDRANT	
	PLUGGED STUB	
W	WELL	W
	MONITORING WELL	
	AIR VENT	
SS	SANITARY SEWER PIPE	SS
FM	SANITARY SEWER FORCEMAIN	FM
	STORM DRAINAGE PIPE	
	PROPERTY LINE	
	PARCEL LINE	
	RIGHT OF WAY LINE	
	SETBACK LINE	
	CREEK	
	ACCESS EASEMENT	
X X X	FENCE	X X X
000	CONTOUR LINE WITH ELEVATION	000
+XXX.xx	SPOT ELEVATION	+XXX.xx
	FLOW ARROW	
	TREE LINE	
	SIGNIFICANT TREES	
	GUARD RAIL	
XX	LOT NUMBER	XX
XX	PARCEL NUMBER	XX
XX	NUMBER OF PARKING SPACE NUMBER	XX
	SIGN w/POST	
	DOUBLE SIGN w/POST	
	BOLLARD	
	WHEEL STOP	
	HANDICAP PARKING	
	SATELLITE DISH	
XX	ROCK BORE LOCATION	XX
	PROPERTY CORNER	
	GIS BENCHMARK	
	TRAVERSE POINT	
	RIGHT OF WAY MONUMENT	
	IRON PIN FOUND	
	IRON PIN SET	
	WETLAND AREA	
	LAND LOT LINE	
LL XXX	LAND LOT NUMBER	LL XXX

GENERAL CONSTRUCTION NOTES

1. ALL CONSTRUCTION SHALL CONFORM TO BOTH PLANS AND SPECIFICATIONS FOR THIS PROJECT. ALL ITEMS NECESSARY FOR A COMPLETE AND WORKABLE JOB SHALL BE FURNISHED AND INSTALLED.
2. ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BUILDING, CENTER OF COLUMN, EDGE OF PAVEMENT, CENTERLINE OF PIPE, OR CENTER OF STRUCTURE UNLESS OTHERWISE NOTED.
3. EQUIPMENT AND MATERIALS SHALL BE STORED IN AREAS DESIGNATED BY THE OWNER. CONSTRUCTION AND STORAGE AREAS SHALL BE KEPT NEAT AND CLEAN. TREE SAVE AREAS SHALL NOT BE USED FOR STORAGE OR PARKING.
4. THE CONTRACTOR SHALL FIELD VERIFY THE ELEVATIONS OF ALL TIE-IN POINTS FOR THE INSTALLATION OF UTILITIES, CURB & GUTTER, AND PAVEMENT PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY IF DIFFERENT THAN AS SHOWN ON PLANS.
5. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES BETWEEN THE PLANS AND FIELD CONDITIONS IMMEDIATELY UPON DISCOVERY.
6. ALL WORK WILL COMPLY WITH APPLICABLE STATE AND LOCAL CODES, SPECIFICATIONS AND REQUIREMENTS. ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE. CONTRACTOR SHALL VERIFY THAT ALL NECESSARY PERMITS AND APPROVALS ARE OBTAINED PRIOR TO CONSTRUCTION.
7. DEVIATIONS FROM THESE PLANS, NOTES AND SPECIFICATIONS WITHOUT PRIOR WRITTEN CONSENT OF THE OWNER, HIS REPRESENTATIVE OR THE ENGINEER MAY RESULT IN THE WORK BEING UNACCEPTABLE BY THE OWNER, AND REDONE TO MEET THE PLANS, NOTES AND SPECIFICATIONS.
8. THE CONTRACTOR IS RESPONSIBLE FOR ALL SITE SAFETY AS WELL AS THE WAYS, MEANS AND METHODS OF CONSTRUCTION.
9. CONTRACTOR SHALL COORDINATE CONSTRUCTION TRAFFIC AND GENERAL PUBLIC TRAFFIC ROUTING WITH OWNER AND APPROPRIATE REGULATING AGENCY PRIOR TO CONSTRUCTION.
10. CONTRACTOR SHALL NOT WILLINGLY PROCEED WITH CONSTRUCTION IN A PARTICULAR AREA WHEN IT IS OBVIOUS THAT UNKNOWN OBSTRUCTION AND/OR DIFFERENCES FROM EXISTING CONDITIONS THAT MAY NOT HAVE BEEN KNOWN DURING DESIGN. SUCH CONDITIONS SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL ASSUME FULL RESPONSIBILITY FOR ALL NECESSARY REVISIONS DUE TO FAILURE TO GIVE SUCH NOTIFICATION.
11. CITY/COUNTY/STATE INSPECTORS MAY REQUIRE CHANGES TO THE DRAWINGS AND/OR SPECIFICATIONS BASED ON THEIR INSPECTION. CONTRACTOR SHALL BRING ANY REQUIRED CHANGES TO THE ENGINEERS ATTENTION IMMEDIATELY.
12. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES AROUND THE WORK AND SHALL PROVIDE PROTECTION AGAINST WATER DAMAGE AND SOIL EROSION.
13. ALL WORK SHALL BE PERFORMED AND FINISHED IN A WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER, AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
14. ALL MATERIAL SHALL BE NEW- NO USED OR SALVAGED MATERIALS.
15. ALL BUFFERS AND TREE SAVE AREAS SHALL BE CLEARLY IDENTIFIED WITH FLAGGING AND/OR FENCING PRIOR TO COMMENCEMENT OF ANY LAND DISTURBANCE ACTIVITIES.
16. LANDSCAPING IS A HIGH PRIORITY. PROPER PROTECTION OF EXISTING LANDSCAPING, FENCES, PROPERTY CORNERS AND/OR D.O.T. CONCRETE RIGHT-OF-WAY MONUMENTS SHALL BE PROVIDED. WHERE DAMAGE OCCURS, REPLACEMENT TO EXISTING CONDITION IS REQUIRED. ALL LANDSCAPING REPLACEMENT IS SUBJECT TO APPROVAL FROM FORSYTH COUNTY AND THE ENGINEER.
17. CONTRACTOR SHALL IMMEDIATELY INFORM THE ENGINEER OF ANY DISCREPANCIES OR ERRORS HE DISCOVERS IN THE PLANS.
18. CONTRACTOR SHALL PROVIDE RECORD DRAWINGS AS REQUIRED IN THE GENERAL CONDITIONS.
19. THIS PLAT IS NOT FOR RECORDING.
20. UTILITY LOCATIONS ARE SHOWN TO THE BEST KNOWLEDGE OF THE ENGINEER. CONTRACTOR IS SOLELY RESPONSIBLY FOR FIELD VERIFICATION OF ALL UTILITIES AND WILL NOT BE ENTITLED TO ANY EXTRA COMPENSATION ON ACCOUNT OF INACCURACY OR INCOMPLETENESS OF SUCH INFORMATION.
21. MAXIMUM CUT OF FILL SLOPES ARE 2 HORIZONTAL TO 1 VERTICAL.
22. UTILITY COORDINATION SHALL BE INCLUDED IN THE PROJECT SCHEDULE AND IS THE EXPLICIT RESPONSIBILITY OF THE CONTRACTOR TO ASSURE THAT THE PROJECT SCHEDULE INCLUDES THE NECESSARY RELOCATIONS. THE CONTRACTOR WILL NOT BE PAID ADDITIONALLY FOR THIS COORDINATION. THE CONTRACTOR SHOULD SEEK ASSISTANCE FROM ALL UTILITY COMPANIES TO LOCATE AND PROTECT THEIR FACILITIES.
23. CONTRACTOR SHALL TAKE ALL NECESSARY MEASURES AND PRECAUTIONS TO ASSURE THAT EXISTING SEWER LINES, FORCE MAIN LINES, AND WATER LINES REMAIN FUNCTIONAL AND UNDISTURBED.
24. ALL WORK SHALL BE PERFORMED AND FINISHED IN A WORKMANLIKE MANNER TO THE ENTIRE SATISFACTION OF THE OWNER AND IN ACCORDANCE WITH THE BEST RECOGNIZED TRADE PRACTICES.
25. CONTRACTOR IS RESPONSIBLE FOR ADDITIONAL STAGING AND/OR STORAGE REQUIRED OUTSIDE OF THE EASEMENTS PROVIDED BY OWNER. CONTRACTOR TO ALSO LOCATE STAGING AREAS AND EQUIPMENT MAINTENANCE AREAS (PARTICULARLY FOR OIL CHANGES) AT LEAST 200 FEET FROM STREAM BANKS TO MINIMIZE THE POTENTIAL FOR WASH WATER, PETROLEUM PRODUCTS, OR OTHER CONTAMINANTS FROM CONSTRUCTION EQUIPMENT ENTERING THE STREAMS.
26. A LEVEL III SOIL INVESTIGATION REPORT ENTITLED SOIL REPORT FINAL, FRIENDSHIP FOREST PARK", BY KENDALL & ASSOCIATES, DATED 05-30-17.

ABBREVIATIONS

AE -ACCESS EASEMENT
A.K.A. -ALSO KNOWN AS
APPROX -APPROXIMATE
ARV -AIR RELEASE VALVE
B&D -BEARING AND DISTANCE
BC -BACK OF CURB
BCCMP -BITUMINOUS COATED CMP
BLDG -BUILDING
B/L -BUILDING LINE
BM -BENCHMARK
CB -CATCH BASIN
C & G -CURB & GUTTER
℄ -CENTERLINE
CMF -CONCRETE MONUMENT FOUND
CMP -CORRUGATED METAL PIPE
CMS -CONCRETE MONUMENT SET
CO -CLEANOUT
CONC -CONCRETE
D.B. -DEED BOOK
DE -DRAINAGE EASEMENT
DI -DROP INLET
DIA -DIAMETER
DIP -DUCTILE IRON PIPE
DS -DOWN SPOUT
DWCB -DOUBLE WING CATCH BASIN
EG -EXISTING GRADE
ELEV -ELEVATION
EOP -EDGE OF PAVEMENT
ESMT -EASEMENT
ETB -ELECTRIC TRANSFORMER BOX
EX. -EXISTING
FDC -FIRE DEPARTMENT CONNECTION
FFE -FINISHED FLOOR ELEVATION
FG -FINISH GRADE
FH -FIRE HYDRANT
F.I.R.M. -FEDERAL INSURANCE RATE MAP
FM -SEWER FORCE MAIN
FOC -FACE OF CURB
FP - FLOOD PLAIN
FT -FOOT/FEET
G -GAS
GI - GRATE INLET
GM -GAS METER
GMD -GEORGIA MILITIA DISTRICT
G.P.S. -GLOBAL POSITIONING SYSTEM
GV -GATE VALVE
HC -HANDICAP
HDPE -HIGH DENSITY POLYETHYLENE
HGL -HYDRAULIC GRADE LINE
H.L.P. -HOUSE LOCATION PLAN REQUIRED
HP -HIGH POINT
HW -HEADWALL
ID -INSIDE DIAMETER
IE -INVERT ELEVATION
IN -INCH
IPF -IRON PIN FOUND
IPS -IRON PIN SET
IRR -IRRIGATION LINE
JB -JUNCTION BOX
JT -JOINT
LF -LINEAR FOOT/FEET
LLL -LAND LOT LINE
LOD -LIMITS OF DISTURBANCE
L.P. -LIGHT POLE
MAX -MAXIMUM
MH -MANHOLE
MIN -MINIMUM
MISC -MISCELLANEOUS
MON -MONUMENT
MSL -MEAN SEA LEVEL
MT -MARKED TREE
N/F - NOW OR FORMERLY
NTS -NOT TO SCALE
NO. -NUMBER
NPW - NON-POTABALE WATER
OCS -OUTLET CONTROL STRUCTURE
OD -OUTSIDE DIAMETER
P.B. -PLAT BOOK
PC -POINT OF CURVATURE
PG. -PAGE
PL -PROPERTY LINE
P.O.B. -POINT OF BEGINNING
P.O.C -POINT OF COMMENCEMENT
PROP -PROPOSED
PT -POINT OF TANGENCY
PVMT -PAVEMENT
PVC -POLYVINYL CHLORIDE PIPE
R -RADIUS
RCP -REINFORCED CONCRETE PIPE
R.D.P. -RESIDENTIAL DRAINAGE PLAN REQUIRED
REV -REVISED OR REVISION
RW - REUSE WATER
R/W -RIGHT OF WAY
SD -STORM DRAIN
SS -SANITARY SEWER
SSE -SANITARY SEWER EASEMENT
ST - STORM SEWER LINE
STA - STATION NUMBER
SW -SIDEWALK
SWCB-SINGLE WINGED CATCH BASIN
T -TELEPHONE
TC -TOP OF CURB ELEVATION
TOB -TOP OF BANK
TPF -TREE PROTECTION FENCING
T.P.O.B. -TRUE POINT OF BEGINNING
U -UNDERGROUND
VCP -VITRIFIED CLAY PIPE
W -WATER
WI -WEIR INLET
WM -WATER METER
WV -WATER VALVE
YI - YARD INLET

SITE CLEARING & SITE DEMOLITION NOTES

1. CONTRACTOR SHALL CLEARLY MARK AND MAINTAIN PROPERTY CORNER MONUMENTS AND BENCHMARKS AND WILL BE RESPONSIBLE FOR THE COST OF REPLACING THEM IF DISTURBED OR DESTROYED.
2. THE CONTRACTOR SHALL HAVE THE LIMITS OF CLEARING AND DEMOLITION AND ALL BUFFERS STAKED WITH FLAGGING STRUNG BETWEEN ANGLE POINTS TO ENSURE THE PROPER LOCATION OF THE TREE SAVE FENCE AND PROPOSED IMPROVEMENTS PRIOR TO CLEARING AND DEMOLITION.
3. CONTRACTOR SHALL PROTECT ALL ADJACENT LANDS FROM DAMAGE DURING CLEARING & DEMOLITION WORK. ANY OFF-SITE AREAS DISTURBED SHALL BE RETURNED TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION AT NO ADDITIONAL COST TO THE OWNER.
4. NO CLEARING OR DEMOLITION MATERIALS SHALL BE DISPOSED OF ON-SITE. ALL DEBRIS SHALL BE HAULED OFF-SITE TO DISPOSAL AREAS APPROVED BY THE STATE OF GEORGIA FOR THE HANDLING OF CLEARING & DEMOLITION MATERIALS.
5. ALL VEGETATION (UNLESS OTHERWISE NOTED), ROOT SYSTEMS, TOPSOIL, REFUSE, OTHER DELETERIOUS MATERIAL, EXISTING PAVEMENTS, CURBS, ORGANICS AND UNSUITABLE BEARING SOILS SHALL BE STRIPPED FROM THE SURFACE WITHIN THE CONSTRUCTION LIMITS AND DISPOSED OF OFFSITE TO A DISPOSAL AREA APPROVED BY THE STATE OF GEORGIA FOR THE HANDLING OF CLEARING & DEMOLITION MATERIALS.
6. CLEAN TOP SOIL MAY BE STOCKPILED IN AN AREA APPROVED BY THE ENGINEER AND REUSED LATER IN THE TOP 4" OF LANDSCAPED AREAS ONLY. EXCESS TOPSOIL SHALL BE DISPOSED OF OFFSITE.
7. ALL STRUCTURES NOT IDENTIFIED FOR DEMOLITION SHALL BE PROTECTED FROM DAMAGE DURING ALL PHASES OF CONSTRUCTION. ANY STRUCTURES THAT ARE TO REMAIN THAT ARE DAMAGED SHALL BE REPAIRED BY THE CONTRACTOR TO A CONDITION EQUAL TO OR BETTER THAN THE EXISTING CONDITION AT NO ADDITIONAL COST TO THE OWNER.
8. CONSTRUCTION ENTRANCE, SILT FENCE AND ANY OTHER REQUIRED EROSION CONTROL DEVICE SHALL BE IN PLACE PRIOR TO CLEARING & DEMOLITION OPERATIONS.
9. DISCONNECT AND SEAL OFF ABANDONED UTILITIES AND UTILITIES TO BE REMOVED PRIOR TO START OF DEMOLITION. UTILITIES SHALL BE DISCONNECTED BELOW EXISTING GRADE OR OUTSIDE OF CONTRACT LIMITS BY THE APPLICABLE UTILITY OWNER. ALL COSTS FOR THIS WORK SHALL BE BORNE BY THE CONTRACTOR.
10. ALL STRUCTURES TO BE DEMOLISHED SHALL BE COMPLETELY REMOVED ABOVE AND BELOW GRADE. ABANDONED SERVICE LINES TO THE STRUCTURES SHALL ALSO BE REMOVED.
11. CONTRACTOR TO PROVIDE ALL NECESSARY BARRICADES, SUFFICIENT LIGHTS, SIGNS AND OTHER TRAFFIC CONTROL MEASURES AS MAY BE NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC THROUGHOUT CLEARING, DEMOLITION AND CONSTRUCTION IN COMPLIANCE WITH THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" CURRENT EDITION, THE GEORGIA D.O.T. SPECIFICATIONS SECTION 150 AND ANY RULES AND REGULATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION OVER THIS PROJECT.
12. THE EXISTING TREES SHOWN ON THESE PLANS MAY ONLY BE THE MINIMAL AMOUNT SURVEYED AS REQUIRED FOR PERMITTING. THE SITE MAY HAVE ADDITIONAL TREES BEYOND THAT WHICH IS SHOWN. THE CONTRACTOR SHALL VISIT THE SITE BEFORE MAKING HIS BID TO INVESTIGATE THE AMOUNT OF EXISTING TREES THAT WILL NEED TO BE REMOVED WITHIN THE LIMITS OF CLEARING.

UTILITY NOTES

1. ALL IMPROVEMENTS TO CONFORM WITH CITY OF CLARKSTON/DEKALB COUNTY CONSTRUCTION STANDARDS AND SPECIFICATIONS (LATEST EDITION). THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPLICABLE UTILITY AND OBTAINING THE APPLICABLE SPECIFICATIONS.
2. CONTRACTOR TO NOTIFY CITY OF CLARKSTON/DEKALB COUNTY INSPECTOR DEPARTMENT 24 HOURS PRIOR TO BEGINNING EVERY PHASE OF CONSTRUCTION.
3. ALL WORK SHALL COMPLY WITH APPLICABLE STATE, FEDERAL, AND LOCAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY THE CONTRACTOR AT HIS EXPENSE UNLESS PREVIOUSLY OBTAINED BY THE OWNER.
4. ALL WORK PERFORMED ON CITY/COUNTY RIGHT-OF-WAYS SHALL BE IN STRICT CONFORMANCE WITH APPLICABLE CITY OF CLARKSTON/DEKALB COUNTY STANDARDS & SPECIFICATIONS.
5. ANY WORK IMPACTING TRAFFIC FLOW OR SAFETY SHALL BE DONE IN ACCORDANCE WITH AND APPROVED BY CITY OF CLARKSTON/DEKALB COUNTY ENGINEERING DEPARTMENT AND GEORGIA D.O.T.
6. ALL MATERIAL SHALL BE NEW UNLESS USED OR SALVAGED MATERIALS ARE APPROVED BY THE OWNER IN WRITING.
7. RIP-RAP SHALL BE PLACED AT ALL STORM DRAIN HEADWALLS AND CONSIST OF 50 POUND STONES.
8. ALL DISTURBED AREAS TO BE RETURNED TO EXISTING GRADE AS SOON AS CONSTRUCTION PHASES PERMIT.
9. THERE WILL BE NO DISPOSAL OF DEBRIS ONSITE, ALL CONSTRUCTION DEBRIS SHALL BE REMOVED AND DISPOSED OF PROPERLY BY THE CONTRACTOR.
10. CONTRACTOR IS RESPONSIBLE FOR MAINTENANCE OF ALL INFRASTRUCTURE FOR A ONE YEAR PERIOD FOLLOWING FINAL ACCEPTANCE OF THE PROJECT BY CITY OF CLARKSTON/DEKALB COUNTY.
11. CONTRACTOR TO NOTIFY UTILITY PROTECTION AGENCY 72 HOURS PRIOR TO START OF WORK. PHONE: 811
12. ALL PERMANENT SANITARY SEWER EASEMENTS SHOULD BE DRIVABLE WITH NO CROSS SLOPES OVER 14%.
13. CONSTRUCTION DEBRIS, LIQUID CONCRETE, OLD RIP-RAP, OLD SUPPORT MATERIALS, AND OTHER LITTER IN STREAMS OR IN AREAS OF POTENTIAL MIGRATION INTO THE STREAM IS PROHIBITED.
14. NO BURY PITS ALLOWED WITHIN SANITARY SEWER EASEMENTS.
15. NO FENCES, STRUCTURES, OR OTHER OBSTRUCTIONS ALLOWED WITHIN SANITARY SEWER EASEMENTS UNLESS OTHERWISE SHOWN IN DRAWINGS
16. LIMITS OF CLEARING SHALL BE WITHIN THE TEMPORARY CONSTRUCTION EASEMENTS DELINEATED ON THESE PLANS.
17. ALL MANHOLES SHALL USE CAST IN BOLT DOWN RING, COVER AND GASKET.
18. ALL PIPE BEDDING SHALL BE TYPE III UNLESS OTHERWISE NOTED IN THE DRAWING.
19. THE CITY OF CLARKSTON/DEKALB COUNTY MAY HAVE AN APPROVED CONTRACTOR LIST FOR INSTALLATION AND/OR MANUFACTURER OF UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE COUNTY TO OBTAIN THE APPLICABLE LIST.
20. THE FRIENDSHIP FOREST WILDLIFE SANCTUARY WILL BE CLODED TO THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR WILL BE REQUIRED TO POST "PARK CLOSED" SIGNS AT BOTH ENTRANCES INTO THE PARK; TWO SIGNS POSTED AT THE EAST PONCE DE LEON ENTRANCE AND ONE SIGN POSTED AT THE CLARK STREET ENTRANCE

REFERENCES

1. TOPOGRAPHIC INFORMATION BASED ON A TOPOGRAPHIC SURVEY FOR THE CITY OF CLARKSTON. DATED 04-17-17 AND PREPARED BY HAYES, JAMES & ASSOCIATES, 4145 SHACKLEFORD ROAD, SUITE 300, NORCROSS, GA 30093, (770) 923-1600.
2. HAYES JAMES & ASSOCIATES WAS REQUESTED, BY THE CITY OF CLARKSTON, TO FIND FIELD LOCATE A LIMITED NUMBER OF PINS. BOUNDARY INFORMATION IS APPROXIMATE AND BASED ON FIELD LOCATION OF SEVERAL PROPERTY PINS BY HAYES, JAMES & ASSOCIATES, IN ORDER TO TIE INTO SITE HORIZONTALLY. NO CERTIFIED BOUNDARY SURVEY WAS REQUESTED.
3. THIS PROPERTY DOES LIE WITHIN A FLOOD HAZARD ZONE AE AS IDENTIFIED ON A F.I.R.M. COMMUNITY PANEL NO. 13089C0078 J DATED 05-16-13 AS PUBLISHED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY - FEDERAL HAZARD INSURANCE ADMINISTRATION.
4. THIS SITE DOES NOT CONTAIN WETLANDS PER NATIONAL INVENTORY MAPPING.
5. A 50' UNDISTURBED VEGETATIVE BUFFER AND 75' IMPERVIOUS SETBACK WILL BE MAINTAINED ADJACENT TO STATE WATERS, INCLUDING WETLANDS (FROM TOP OF BANK TO OR EDGE OF WATER).
6. SITE CONTAINS STATE WATERS WHICH ARE SUBJECT TO A 25-FOOT STATE WATERS BUFFER AND A 50-FOOT UNDISTURBED COUNTY BUFFER FROM TOP OF BANK OR EDGE OF WATER.

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

NOTE:
1. NOTIFY CITY OF CLARKSTON/DEKALB COUNTY INSPECTOR 24 HOURS BEFORE THE BEGINNING PHASE OF CONSTRUCTION.

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS
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NORCROSS, GEORGIA 30093
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FAX: (770) 923-4202

CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	ISSUE By App.	Date

STEPHEN MARK BOND — GEORGIA REGISTERED — NO. 23775 — PROFESSIONAL ENGINEER

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

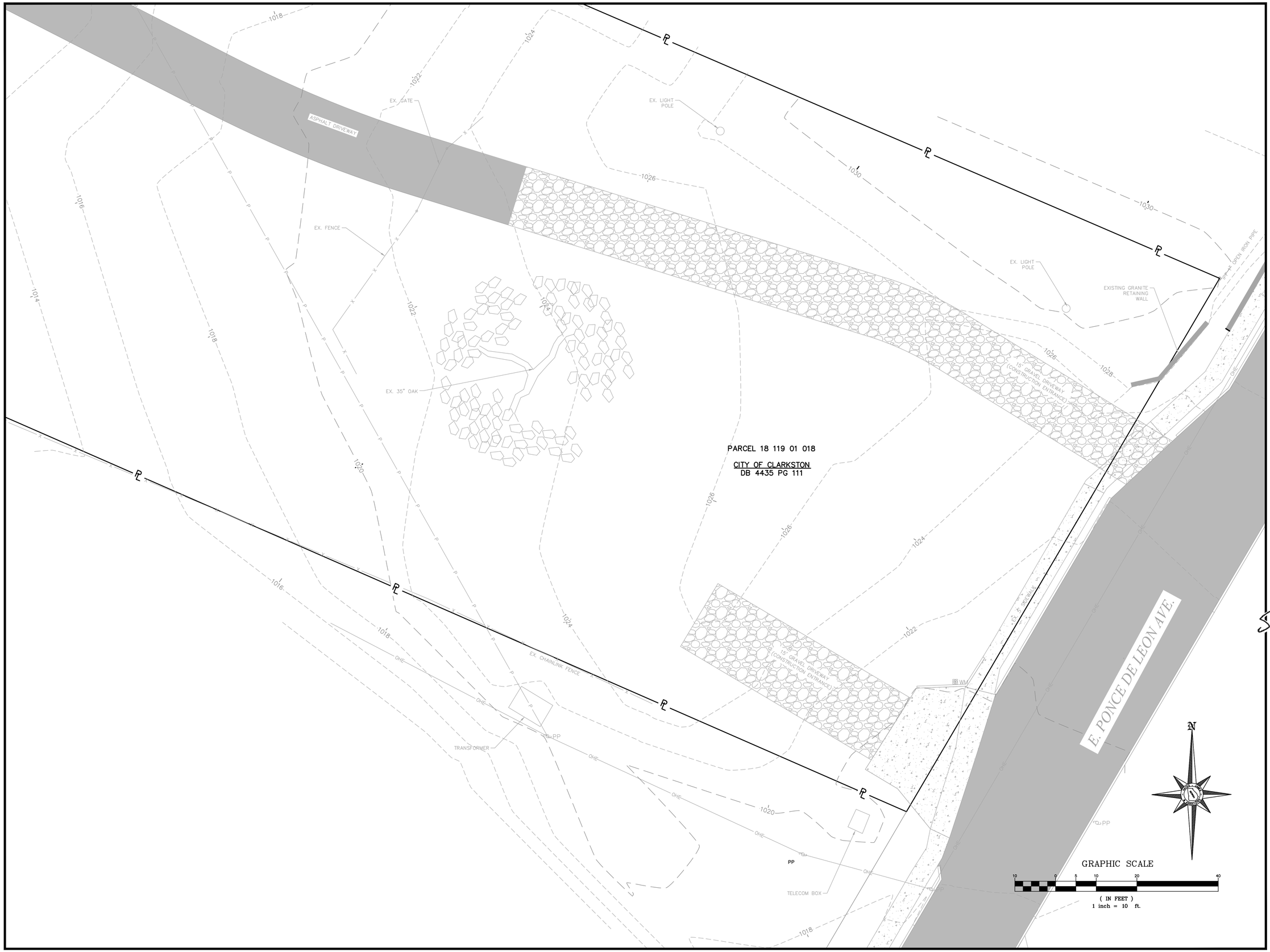
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

GENERAL NOTES & LEGEND

Sheet Number

C-01



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No.	ISSUE Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 27475 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

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County	DEKALB

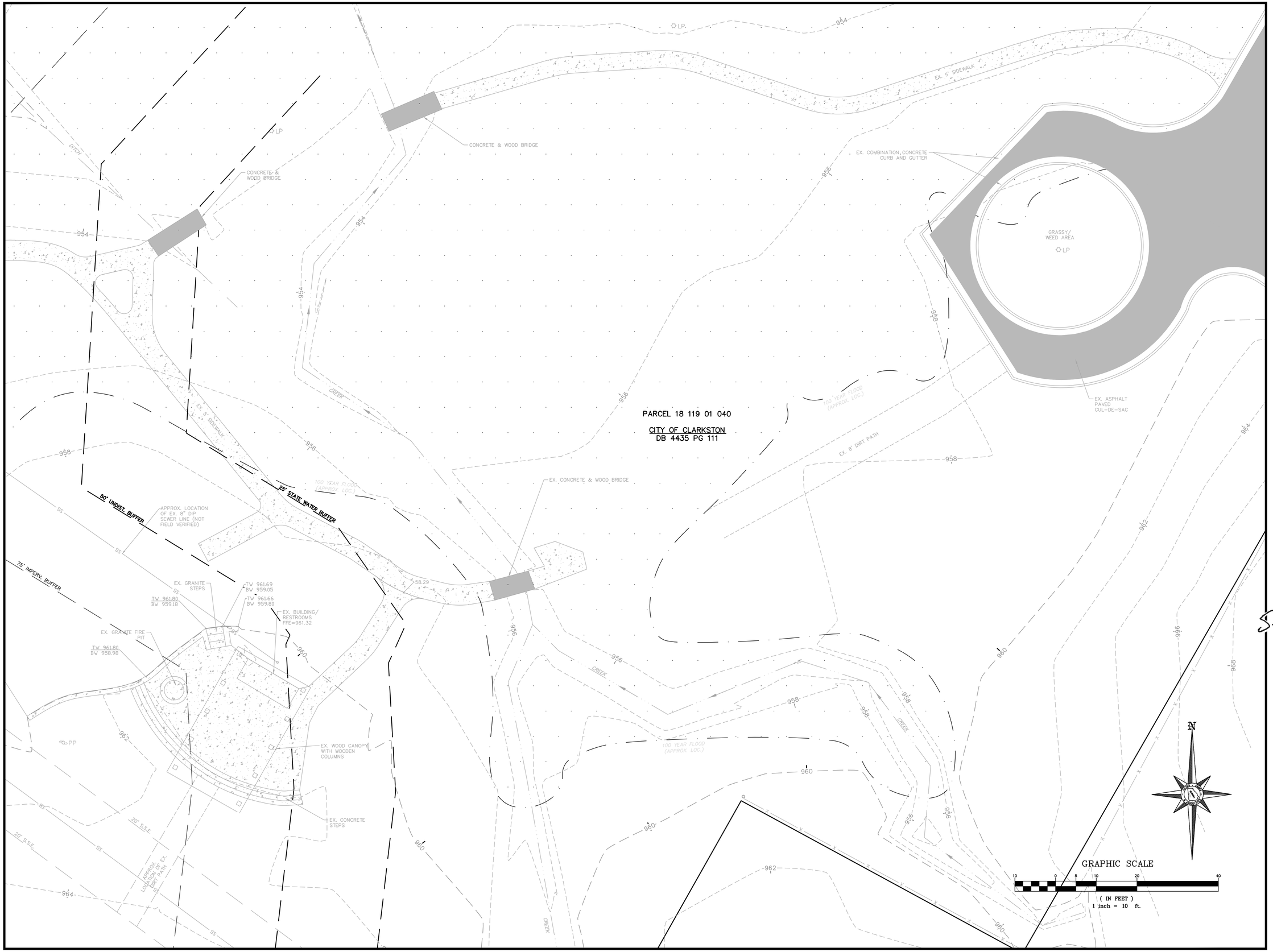
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PARKING LOT - EXISTING CONDITIONS

Sheet Number

C-02



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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PAVILION AREA - EXISTING CONDITIONS

Sheet Number

C-03

ESPC NOTE

CONTRACTOR SHALL INSTALL ALL APPLICABLE EROSION, SEDIMENT, & POLLUTION CONTROL MEASURES AS SHOWN ON THE INITIAL ESPC PLAN PRIOR TO SITE CLEARING AND DEMOLITION OPERATIONS.

GENERAL DEMO NOTE

CONTRACTOR TO REMOVE ALL ABOVEGROUND VEGETATION AND UTILITIES AS NEEDED. CONTRACTOR TO COORDINATE ALL UTILITY RELOCATION OR REMOVAL WITH APPROPRIATE UTILITY COMPANY.

DEMOLITION NOTES:

1. THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. IT IS THE CONTRACTORS RESPONSIBILITY TO PROVIDE MEANS AND METHODS OF RELOCATING EXISTING UTILITIES ON THE DEMOLITION PLAN IN A MANOR THAT MAINTAINS SERVICE TO THE PARK.
3. CONTRACTOR TO MEET WITH CITY/ENGINEER ON SITE PRIOR TO START OF CONSTRUCTION TO IDENTIFY TREES/VEGETATION TO REMAIN ALONG NORTHERN PROPERTY LINE.

DEMOLITION LEGEND

FENCE TO BE REMOVED.....

ASPHALT TO BE REMOVED.....

GRAVEL TO BE REMOVED.....

UTILITIES TO BE REMOVED.....

TREE TO BE REMOVED.....

NOTE:
THERE MAY BE ADDITIONAL TREES NOT SHOWN ON THIS SURVEY WITHIN THE LIMITS OF DISTURBANCE THAT NEED TO BE REMOVED. THE CONTRACTOR SHALL MEET WITH CITY/ENGINEER ON SITE PRIOR TO DETERMINE THE SCOPE OF TREE REMOVAL.

GENERAL SITE CLEARING NOTE

CONTRACTOR MUST VISIT THE SITE, PRIOR TO BID SUBMITTAL, TO DETERMINE SCOPE OF CLEARING IN ADDITION TO THE 35" OAK.

SAW CUT EXISTING EDGE

ASPHALT DRIVEWAY 10' STRIP TO REMAIN

5' STRIP OF EXISTING ASPHALT DRIVEWAY TO BE REMOVED (AS DIRECTED BY OWNER)

EX. GATE TO BE REMOVED (AS DIRECTED BY OWNER)

PORTION OF ASPHALT DRIVE TO BE REMOVED

EX. LIGHT POLE TO BE REMOVED

EX. FENCE TO BE REMOVED

EXISTING OVERHEAD POWER LINE AND LIGHT POLES TO BE REMOVED

EXISTING GRAVEL TO BE REMOVED

EX. LIGHT POLE TO BE REMOVED

EXISTING GRANITE RETAINING WALL TO BE REMOVED

EX. 35" OAK TO BE REMOVED

PARCEL 18 119 01 018

CITY OF CLARKSTON
DB 4435 PG 111

EXISTING GRAVEL TO BE REMOVED

EX. CHAINLINK FENCE

TRANSFORMER

E. PONCE DE LEON AVE.

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

Know what's below. Call before you dig.

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ISSUE

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Checked By:	SMB
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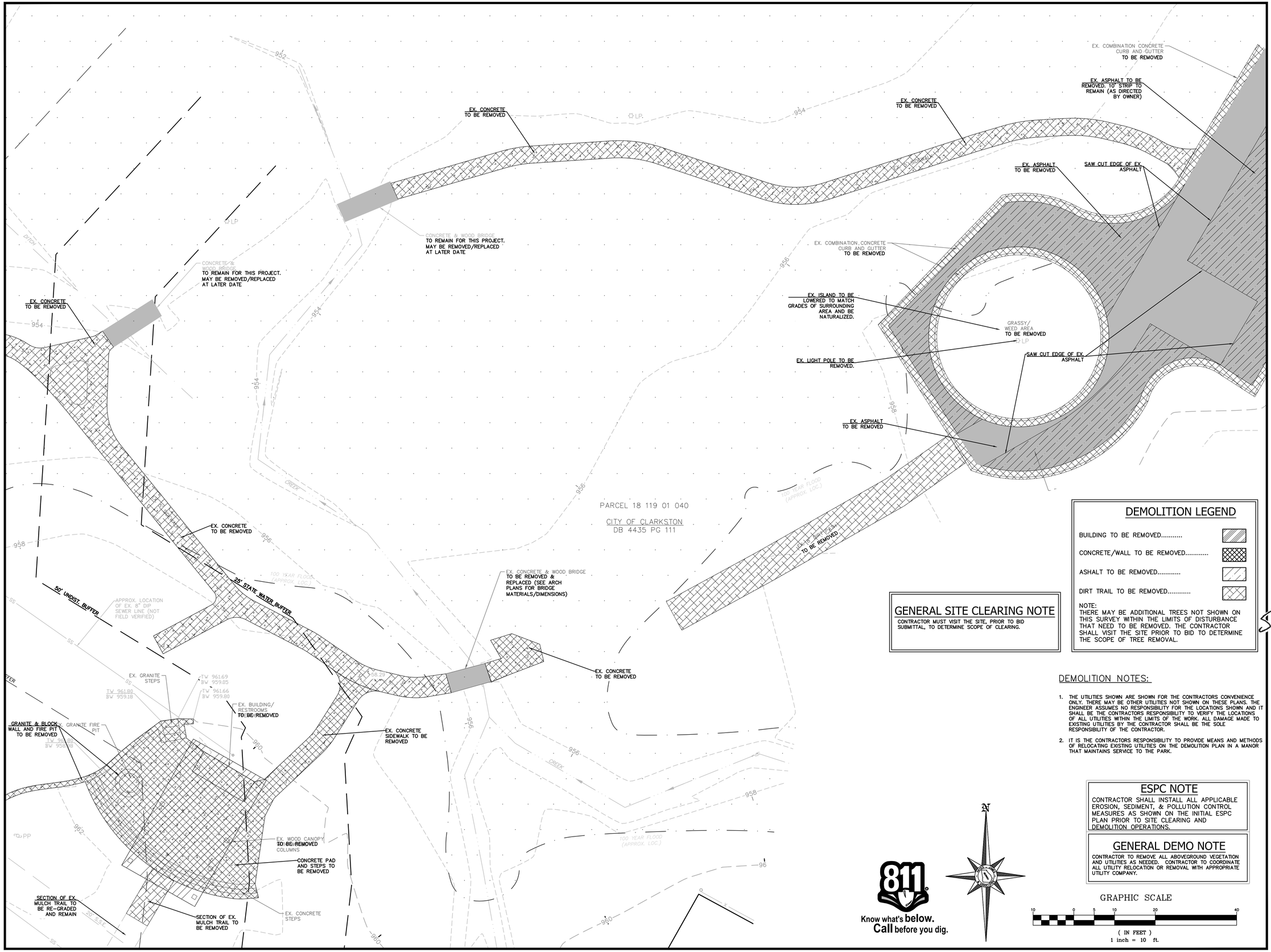
Sheet Title

PARKING LOT - DEMOLITION PLAN

Sheet Number

C-04



GENERAL SITE CLEARING NOTE

CONTRACTOR MUST VISIT THE SITE, PRIOR TO BID SUBMITTAL, TO DETERMINE SCOPE OF CLEARING.

DEMOLITION LEGEND

- BUILDING TO BE REMOVED.....
- CONCRETE/WALL TO BE REMOVED.....
- ASHALT TO BE REMOVED.....
- DIRT TRAIL TO BE REMOVED.....

NOTE:
THERE MAY BE ADDITIONAL TREES NOT SHOWN ON THIS SURVEY WITHIN THE LIMITS OF DISTURBANCE THAT NEED TO BE REMOVED. THE CONTRACTOR SHALL VISIT THE SITE PRIOR TO BID TO DETERMINE THE SCOPE OF TREE REMOVAL.

DEMOLITION NOTES:

1. THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE MAY BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
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ESPC NOTE

CONTRACTOR SHALL INSTALL ALL APPLICABLE EROSION, SEDIMENT, & POLLUTION CONTROL MEASURES AS SHOWN ON THE INITIAL ESPC PLAN PRIOR TO SITE CLEARING AND DEMOLITION OPERATIONS.

GENERAL DEMO NOTE

CONTRACTOR TO REMOVE ALL ABOVEGROUND VEGETATION AND UTILITIES AS NEEDED. CONTRACTOR TO COORDINATE ALL UTILITY RELOCATION OR REMOVAL WITH APPROPRIATE UTILITY COMPANY.

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

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

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No.	ISSUE Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 23775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

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County	DEKALB

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Drawn By:	KEH
Checked By:	SMB
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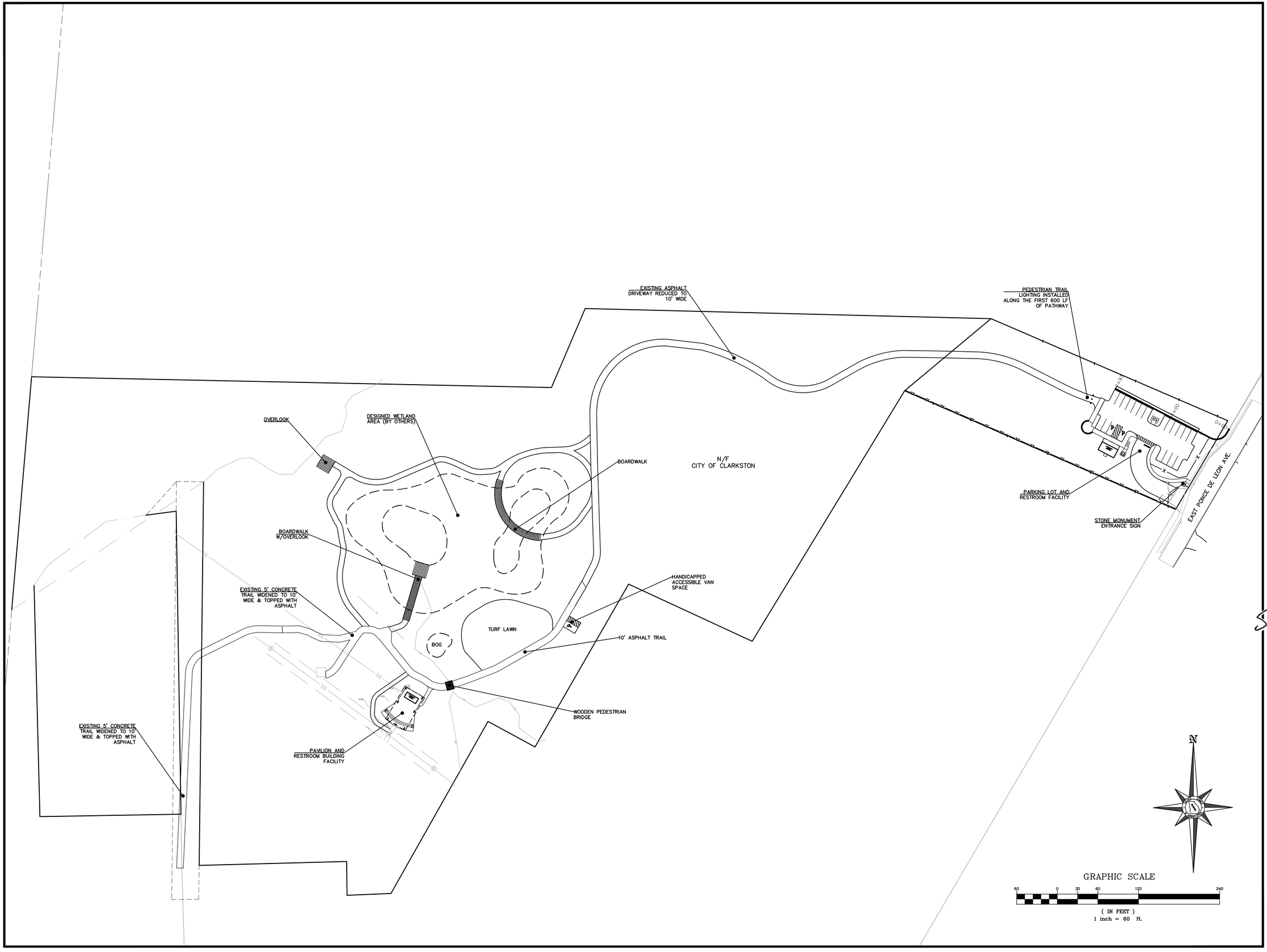
Sheet Title

PAVILION AREA - DEMOLITION PLAN

Sheet Number

C-05



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No.	Description	By	Appr.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 27275 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

OVERALL SITE PLAN

Sheet Number

C-06

TRASH RECEPTACLE WITH DOME LID

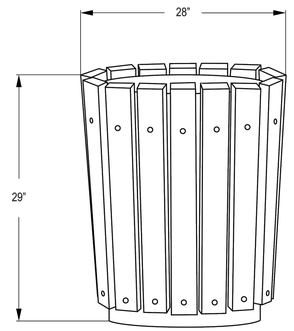
COLOR – GRAY, WITH PLASTIC LINER AND PERMANENT MOUNT KIT

BELSON OUTDOORS
A PLAYCORE Company

111 North River Road
North Aurora, IL 60542
Phone: (800) 323-5664
Fax: (630) 897-0573
sales@belson.com

Model # P-32 — **Dimension Sheet**

Recycled Plastic Waste Container



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TRASH RECEPTACLE DIMENSIONS

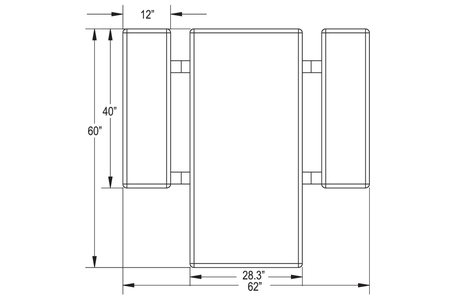
N.T.S.

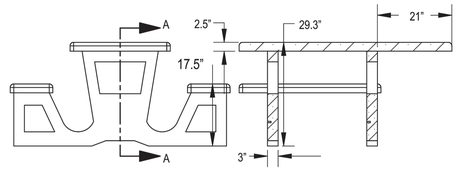
BELSON OUTDOORS
A PLAYCORE Company

111 North River Road
North Aurora, IL 60542
Phone: (800) 323-5664
Fax: (630) 897-0573
sales@belson.com

Model # CRT5H — **Dimension Sheet**

Concrete Picnic Tables





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ADA CONCRETE PICNIC TABLE

COLOR/FINISH – SMOOTH DOVE GRAY

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BELSON OUTDOORS
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111 North River Road
North Aurora, IL 60542
Phone: (800) 323-5664
Fax: (630) 897-0573
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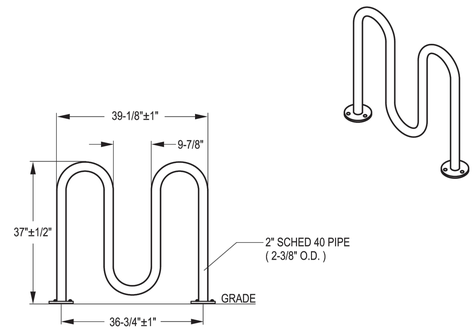
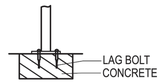
Model # H36-5-G-SF — **Dimension Sheet**

HEAVY-DUTY CHALLENGER | 3 LOOPS 5 BIKES



ELEVATION VIEW



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METAL LOOP BIKE RACK

COLOR/FINISH – SMOOTH DOVE GRAY

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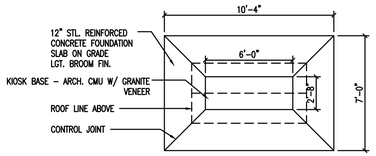
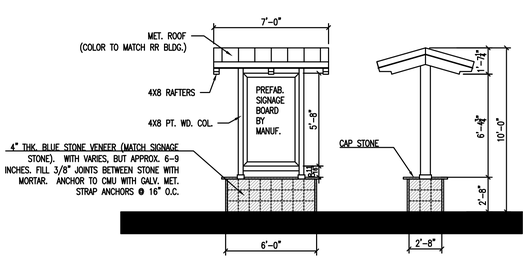


KIOSK – PLAN

N.T.S.

NOTE: ALL LUMBER IS ROUGH CUT AND PRESSURE TREATED PINE.



KIOSK – ELEV.

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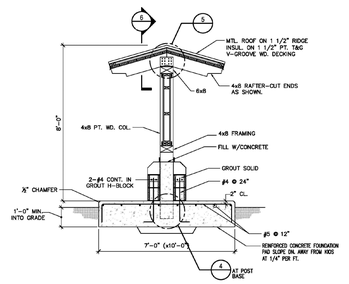

KIOSK – SECTION

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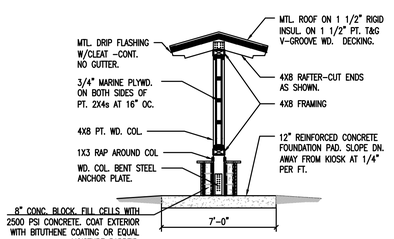

KIOSK – SECTION

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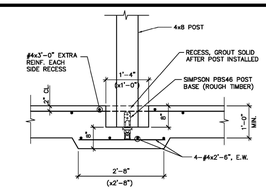

SECTION #4

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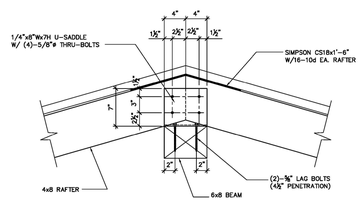

SECTION #5

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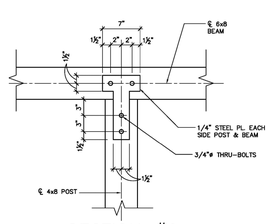

SECTION #6

N.T.S.

Hayes | James
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SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
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CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	Date	By	App.
1	BID SET	09-15-17	KEH	SMB

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOYD

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Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

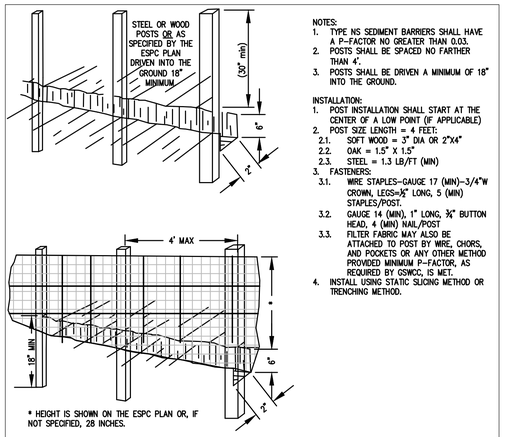
Sheet Title

SITE FURNISHINGS DETAILS

Sheet Number

C-25

keith e. hightower, asla 9/13/2017 8:21 AM normal.ctb i:\projects\17030e-friendship forest park\dwg\production\17030dt.dwg



NOTES:
1. TYPE NS SEDIMENT BARRIERS SHALL HAVE A P-FACTOR NO GREATER THAN 0.03.
2. POSTS SHALL BE SPACED NO FARTHER THAN 4'.
3. POSTS SHALL BE DRIVEN A MINIMUM OF 18" INTO THE GROUND.

INSTALLATION:
1. POST INSTALLATION SHALL START AT THE CENTER OF A LOW POINT (IF APPLICABLE)
2. POST SIZE LENGTH = 4 FEET:
   - 2.1. SOFT WOOD = 3" DIA OR 2"X4"
   - 2.2. OAK = 1.5" X 1.5"
   - 2.3. STEEL = 1.3 LB/FT (MIN)
3. FASTENERS:
   - 3.1. WIRE STAPLES–GAUGE 17 (MIN)–3/4"W CROWN, LEGS=½" LONG, 5 (MIN) STAPLES/POST.
   - 3.2. GAUGE 14 (MIN), 1" LONG, ¾" BUTTON HEAD, 4 (MIN) NAIL/POST
   - 3.3. FILTER FABRIC MAY ALSO BE ATTACHED TO POST BY WIRE, CHORS, AND POCKETS OR ANY OTHER METHOD PROVIDED MINIMUM P-FACTOR, AS REQUIRED BY GSWCC, IS MET.
4. INSTALL USING STATIC SLICING METHOD OR TRENCHING METHOD.

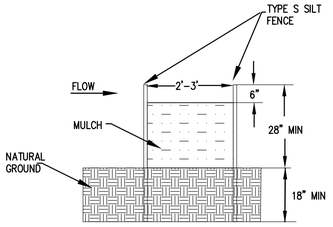
* HEIGHT IS SHOWN ON THE ESPC PLAN OR, IF NOT SPECIFIED, 28 INCHES.

SILT FENCE SECTION

MAINTENANCE REQUIREMENTS:

SEDIMENT SHALL BE REMOVED ONCE IT HAS ACCUMULATED TO ONE-HALF THE ORIGINAL HEIGHT OF THE BARRIER. FILTER FABRIC SHALL BE REPLACED WHENEVER IT HAS DETERIORATED TO SUCH AN EXTENT THAT THE EFFECTIVENESS OF THE FABRIC IS REDUCED (APPROXIMATELY 6 MONTHS) OR THE HEIGHT OF THE PRODUCT IS NOT MAINTAINING 80% OF ITS PROPERLY INSTALLED HEIGHT. TEMPORARY SEDIMENT BARRIERS SHALL REMAIN IN PLACE UNTIL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED. ALL SEDIMENT ACCUMULATED AT THE BARRIER SHALL BE REMOVED AND PROPERLY DISPOSED OF BEFORE THE BARRIER IS REMOVED.

Sd1–S SEDIMENT BARRIER – SENSITIVE AREAS
2014



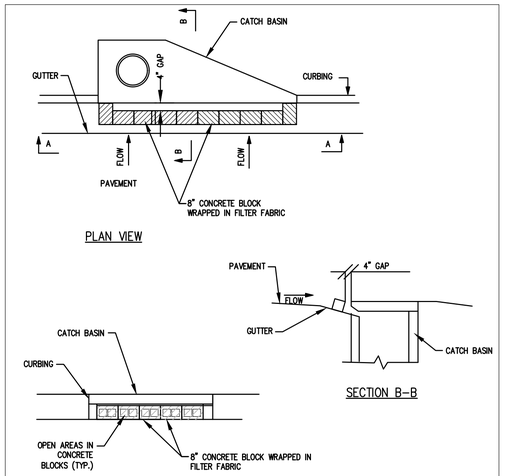
FILTER BERM ALONG PERIMETER FENCING AND SLOTTED PIPE OUTFALL FROM PARKING LOT

DESIGN CRITERIA

MULCH–100% WOOD CHIPS

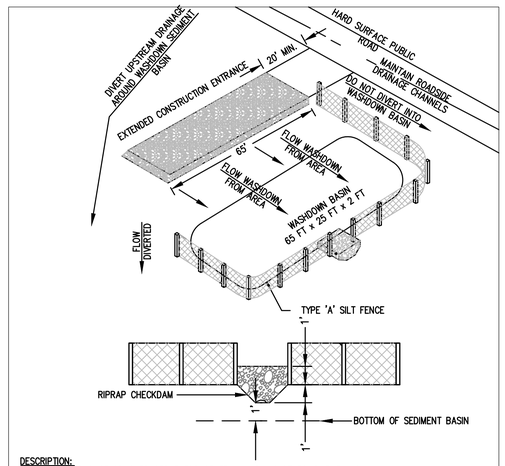
CONSTRUCTION–CONSTRUCT 1 ½' HIGH X 3' WIDE BERM AT THE LOCATIONS SHOWN ON THE PLANS.

MAINTENANCE–ROUTINELY INSPECT AND MAINTAIN FILTER BERM IN A FUNCTIONAL CONDITION AT ALL TIMES. CORRECT DEFICIENCIES IMMEDIATELY. INSTALL ADDITIONAL FILTER BERM MATERIAL AS DIRECTED. REMOVE SEDIMENT AFTER IT HAS REACHED ¼ OF THE HEIGHT OF THE BERM. DISPERSE FILTER BERM PRIOR TO SUBMITTING N.O.T



CONSTRUCTION SPECIFICATIONS:
1. ONCE PAVEMENT HAS BEEN INSTALLED, A CURB INLET FILTER SHALL BE INSTALLED ON INLETS RECEIVING RUNOFF FROM DISTURBED AREAS.
2. THIS METHOD OF INLET PROTECTION SHALL BE REMOVED IF A SAFETY HAZARD IS CREATED.
3. ONE METHOD OF CURB INLET PROTECTION USES "PIGS–IN–A–BLANKET" – 8" CONCRETE BLOCKS WRAPPED IN FILTER FABRIC.
4. THE OTHER USES GRAVEL BAGS CONSTRUCTED BY WRAPPING DOT #57 STONE WITH FILTER FABRIC, WIRE, PLASTIC MESH, OR EQUIVALENT MATERIAL.
5. A GAP OF APPROXIMATELY 4 INCHES SHALL BE LEFT BETWEEN THE INLET FILTER AND THE INLET TO ALLOW FOR OVERFLOW AND PREVENT HAZARDOUS PONDING IN THE ROADWAY.
6. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE HEIGHT OF THE TRAP.
7. SEDIMENT SHALL BE REMOVED FROM CURB INLET PROTECTION IMMEDIATELY.
8. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP, DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET AGAIN.
9. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY.

Sd2–P INLET SEDIMENT TRAP
N.T.S.



DESCRIPTION:
A STABILIZED PAD OF CRUSHED STONE FOR GENERAL WASHING OF EQUIPMENT AND CONSTRUCTION VEHICLES AND A SEDIMENT BASIN TO CAPTURE THE WASH DOWN RUN OFF.

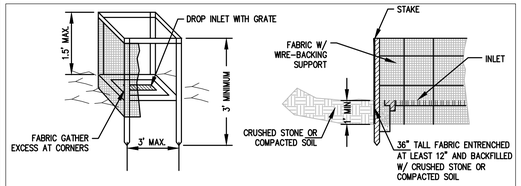
APPLICATION:
AT ANY SITE WHERE REGULAR WASHING OF VEHICLES AND EQUIPMENT WILL OCCUR. MAY ALSO BE USED AS A FILLING POINT FOR WATER TRUCKS LIMITING EROSION CAUSED BY OVERFLOW OR SPILLAGE OF WATER.

INSTALLATION/APPLICATION CRITERIA:
- INSTALL CONSTRUCTION ENTRANCE (SEE CONSTRUCTION ENTRANCE DETAIL) AND EXTEND LENGTH AS SHOWN.
- INSTALL TYPE A SILT FENCE DOWN GRADE OF CONSTRUCTION ENTRANCE (SEE SILT FENCE DETAIL)
- EXCAVATE WASHDOWN BASIN BETWEEN SILT FENCE AND CONSTRUCTION ENTRANCE. ENSURE ALL RUNOFF FROM WASH DOWN AREA IS CHANNELED TOWARD SEDIMENT BASIN.

LIMITATIONS
CANNOT BE USED FOR WASHING EQUIPMENT OR VEHICLES THAT MAY CAUSE CONTAMINATION'S OF RUNOFF SUCH AS FERTILIZER EQUIPMENT OR PETROLEUM VEHICLES

MAINTENANCE
- INSPECT DAILY FOR SEDIMENT BUILD UP. EXCAVATE AND DISPOSE OF CONCRETE & SEDIMENT PROPERLY WHEN 1/3 OF ORIGINAL VOLUME IS FILLED WITH SEDIMENT AND/OR DEBRIS.
- INSPECT ADJACENT AREA FOR SEDIMENT DEPOSITS AND INSTALL ADDITIONAL CONTROLS AS NECESSARY.
- REPAIR AREA AS REQUIRED TO MAINTAIN CONTROL IN GOOD WORKING CONDITION.
- EXPAND STABILIZED AREA AS REQUIRED TO ACCOMMODATE ACTIVITIES.
- MAINTAIN SILT FENCE AS OUTLINED IN SILT FENCE SPECIFICATIONS AND DETAILS.
- DIVERT UPSTREAM DRAINAGE AREA AROUND TEMPORARY WASHDOWN AREA.
- REMOVE TEMPORARY WASHDOWN AREA AND BRING AREA TO FINAL GRADE AS SHOWN ON THE GRADING PLAN WHEN CEMENT TRUCK AND VEHICLE WASHDOWN AREA IS NO LONGER NECESSARY.

TEMPORARY CEMENT TRUCK AND VEHICLE WASH DOWN AREA
N.T.S.



1. THIS 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 (MAX OF 3' APART)
3. THE STEEL POSTS SHOULD BE SECURELY DRIVEN AT LEAST 18" DEEP.
4. THE FABRIC SHALL BE ENTRENCHED 12 INCHES AND BACKFILLED WITH CRUSHED STONE OR COMPACTED SOIL.

MAINTENANCE

THE TRAP SHALL BE INSPECTED DAILY AND AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT HAS ACCUMULATED TO ONE–HALF THE HEIGHT OF THE TRAP. SEDIMENT SHALL NOT BE WASHED INTO THE INLET. IT SHALL BE REMOVED FROM THE SEDIMENT TRAP AND DISPOSED OF AND STABILIZED SO THAT IT WILL NOT ENTER THE INLET, AGAIN. WHEN THE CONTRIBUTING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED, ALL MATERIALS AND ANY SEDIMENT SHALL BE REMOVED, AND EITHER SALVAGED OR DISPOSED OF PROPERLY. THE DISTURBED AREA SHALL BE BROUGHT TO PROPER GRADE, THEN SMOOTHED AND COMPACTED. APPROPRIATELY STABILIZE ALL DISTURBED AREAS AROUND THE INLET.

Sd2–F FABRIC AND SUPPORTING FRAME FOR INLET PROTECTION
2014

DEFINITION

A PERMANENT VEGETATIVE COVER USING SODS ON HIGHLY ERODIBLE OR CRITICALLY ERODED LANDS.

CONDITIONS

THIS APPLICATION IS APPROPRIATE FOR AREAS WHICH REQUIRE IMMEDIATE VEGETATIVE COVERS, DROP INLETS, GRASS SWALES, AND WATERWAYS WITH INTERMITTENT FLOW.

PLANNING CONSIDERATIONS

SODDING CAN INITIALLY BE MORE COSTLY THAN SEEDING, BUT THE ADVANTAGES JUSTIFY THE INCREASED INITIAL COSTS.

1. IMMEDIATE EROSION CONTROL, GREEN SURFACE, AND QUICK USE.
2. REDUCED FAILURE AS COMPARED TO SEED AS WELL AS THE LACK OF WEEDS
3. CAN BE ESTABLISHED NEARLY YEAR–ROUND.

SODDING IS PREFERABLE TO SEED IN WATERWAYS AND SWALES BECAUSE OF THE IMMEDIATE PROTECTION OF THE CHANNEL AFTER APPLICATION. SODDING MUST BE STAKED IN CONCENTRATED FLOW AREAS (SEE FIGURE 6–6.1) CONSIDER USING SOD FRAMED AROUND DROP INLETS TO REDUCE SEDIMENTS AND MAINTAINING THE GRADE.

CONSTRUCTION SPECIFICATIONS INSTALLATION

SOIL PREPARATION

BRING SOIL SURFACE TO FINAL GRADE. CLEAR SURFACE OF TRASH, WOODY DEBRIS, STONES AND CLODS LARGER THAN 1". APPLY SOD TO SOIL SURFACES ONLY AND NOT FROZEN SURFACES, OR GRAVEL TYPE SOILS.TOPSOIL PROPERLY APPLIED WILL HELP GUARANTEE A STAND. DON'T USE TOPSOIL RECENTLY TREATED WITH HERBICIDES OR SOIL STERILANTS. MIX FERTILIZER INTO SOIL SURFACE. FERTILIZE BASED ON SOIL TESTS OR TABLE 6–6.1.

INSTALLATION

LAY SOD WITH TIGHT JOINTS AND IN STRAIGHT LINES. DON'T OVERLAP JOINTS. STAGGER JOINTS AND DO NOT STRETCH SOD (SEE FIGURE 6–6.2) ON SLOPES STEEPER THAN 3:1, SOD SHOULD BE ANCHORED WITH PINS OR OTHER APPROVED METHODS. INSTALLED SOD SHOULD BE ROLLED OR TAMPED TO PROVIDE GOOD CONTACT BETWEEN SOD AND SOIL. IRRIGATE SOD AND SOIL TO A DEPTH OF 4" IMMEDIATELY AFTER INSTALLATION. SOD SHOULD NOT BE CUT OR SPREAD IN EXTREMELY WET OR DRY WEATHER. IRRIGATION SHOULD BE USED TO SUPPLEMENT RAINFALL FOR A MINIMUM OF 2–3 WEEKS.

MATERIALS

SOD SELECTED SHOULD BE CERTIFIED. SOD GROWN IN THE GENERAL AREA OF THE PROJECT IS DESIRABLE.

1. SOD SHOULD BE MACHINE CUT AND CONTAIN 3/4" (+ OR – 1/4 ") OF SOIL, NOT INCLUDING SHOOTS OR THATCH.
2. SOD SHOULD BE CUT TO THE DESIRED SIZE WITHIN + OR –5% TORN OR UNEVEN PADS SHOULD BE REJECTED.
3. SOD SHOULD BE CUT AND INSTALLED WITHIN 36 HOURS OF DIGGING.
4. AVOID PLANTING WHEN SUBJECT TO FROST HEAVE OR HOT WEATHER IF IRRIGATION IS NOT AVAILABLE
5. THE SOD TYPE SHOULD BE SHOWN ON THE PLANS OR INSTALLED ACCORDING TO TABLE 6–6.2. SEE FIGURE 6–4.1 FOR YOUR RESOURCE AREA.

MAINTENANCE

RE–SOD AREAS WHERE AN ADEQUATE STAND OF SOD IS NOT OBTAINED. NEW SOD SHOULD BE MOWED SPARINGLY. GRASS HEIGHT SHOULD NOT BE CUT LESS THAN 2"–3" OR AS SPECIFIED (SEE FIGURE 6–6.2). APPLY ONE TON OF AGRICULTURAL LIME AS INDICATED BY SOIL TESTS SEE EVERY 3–4 YEARS. FERTILIZE GRASSES IN ACCORDANCE WITH SOIL TESTS OR TABLE 6–6.3

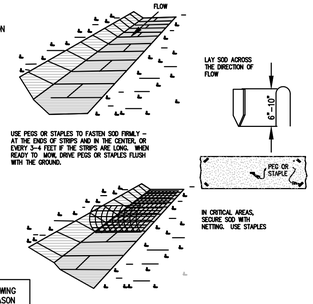
FERTILIZER REQUIREMENTS FOR SOD

TYPES OF SPECIES	PLANTING YEAR	FERTILIZER (N–P–K)	RATE (lbs./acre)	NITROGEN TOP DRESSING RATE (lbs./acre)
COOL SEASON GRASSES	FIRST	6–12–12	1500	50–100
	SECOND	6–12–12	1000	—
	MAINTENANCE	10–10–10	400	30
WARM SEASON GRASSES	FIRST	6–12–12	1500	50–100
	SECOND	6–12–12	800	50–100
	MAINTENANCE	10–10–10	400	30

FERTILIZER REQUIREMENTS FOR SOIL SURFACE APPLICATION

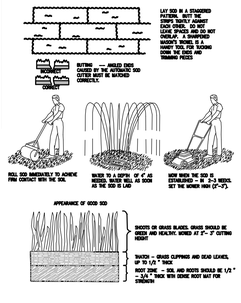
FERTILIZER TYPE	FERTILIZER RATE (lbs/acre)	FERTILIZER RATE (lbs/sq. ft)	SEASON
10–10–10	1000	.025	FALL

AGRICULTURAL LIME SHOULD BE APPLIED BASED ON SOIL TESTS OR AT A RATE OF 1 TO 2 TONS PER ACRE.



SOD PLANTING REQUIREMENTS

GRASS	VARIETIES	RESOURCE AREA	GROWING SEASON
BERMUDAGRASS	COMMON TIFWAY TIFGREEN TIFLAWN	M–L,P,C P,C P,C P,C	WARM WEATHER
BAHIAGRASS	PENSACOLA	P,C	WARM WEATHER
CENTIPEDE	–	P,C	WARM WEATHER
ST. AUGUSTINE	COMMON BITTERBLUE RALEIGH	C	WARM WEATHER
ZOYSIA	EMERALD MYER	P,C	WARM WEATHER
TALL FESCUE	KENTUCKY	M–L,P	COOL WEATHER



Ds–4 DISTURBED AREA STABILIZATION W/ SODDING
N.T.S.

DEFINITION

CONTROLLING SURFACE AND AIR MOVEMENT OF DUST ON CONSTRUCTION SITES, ROADS, AND DEMOLITION SITES.

PURPOSE

–TO PREVENT SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES
–TO REDUCE THE PRESENCE OF AIRBORNE SUBSTANCES WHICH MAY BE HARMFUL OR INJURIOUS TO HUMAN HEALTH, WELFARE, OR SAFETY, OR TO ANIMALS OR PLANT LIFE.

CONDITIONS

THIS PRACTICE IS APPLICABLE TO AREAS SUBJECT TO SURFACE AND AIR MOVEMENT OF DUST WHERE ON AND OFF–SITE DAMAGE MAY OCCUR WITHOUT TREATMENT.

METHODS AND MATERIALS

PERMANENT METHODS:

PERMANENT VEGETATION SEE STANDARD Ds3 – DISTURBED AREA STABILIZATION (WITH PERMANENT VEGETATION) EXISTING TREES AND LARGE SHRUBS MAY AFFORD VALUABLE PROTECTION IF LEFT IN PLACE.

TOPSOILING THIS ENTAILS COVERING THE SURFACE WITH LESS EROSIVE SOIL MATERIAL. SEE STANDARD Tp–TOPSOILING.

STONE COVER SURFACE WITH CRUSHED STONE OR COARSE GRAVEL. SEE STANDARD Cr–CONSTRUCTION ROAD STABILIZATION.

TEMPORARY METHODS:

MULCHES SEE STANDARD Ds1 – DISTURBED AREA STABILIZATION (WITH MULCHING ONLY). SYNTHETIC RESINS MAY BE USED INSTEAD OF ASPHALT TO BIND MULCH MATERIAL. REFER TO STANDARD Tac–TACKIFIERS. RESINS SUCH AS CURASOL OR TERRATACK SHOULD BE USED ACCORDING TO MANUFACTURER'S RECOMMENDATIONS.

VEGETATIVE COVER SEE STANDARD Ds2 – DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING).

SPRAY–ON ADHESIVES THESE ARE USED ON MINERAL SOILS (NOT EFFECTIVE ON MUCK SOILS). KEEP TRAFFIC OFF THESE AREAS. REFER TO STANDARD Tac.

TILLAGE THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS TO THE SURFACE. IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS. BEGIN PLOWING ON WINDWARD SIDE OF THE SITE. CHISEL–TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.

IRRIGATION THIS IS GENERALLY DONE AS AN EMERGENCY TREATMENT. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED.

BARRIERS SOLID BOARD FENCES, SNOWFENCES, BURLAP FENCES, CRATE WALLS, BALES OF HAY AND SIMILAR MATERIAL CAN BE USED TO CONTROL AIR CURRENTS AND SOIL BLOWING. BARRIERS PLACED AT RIGHT ANGLES TO PREVAILING CURRENTS AT INTERVALS OF ABOUT 15 TIMES THEIR HEIGHT ARE EFFECTIVE IN CONTROLLING WIND EROSION.

CALCIUM CHLORIDE APPLY AT A RATE THAT WILL KEEP SURFACE MOIST. MAY NEED RETREATMENT.

ROAD STABILIZATION.

Du DUST CONTROL ON DISTURBED AREAS
2014

Hayes | James
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SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
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1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	Date	By	App.
1	BID SET	09-15-17	KEH	SMB

GEORGIA REGISTERED NO. 27175 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

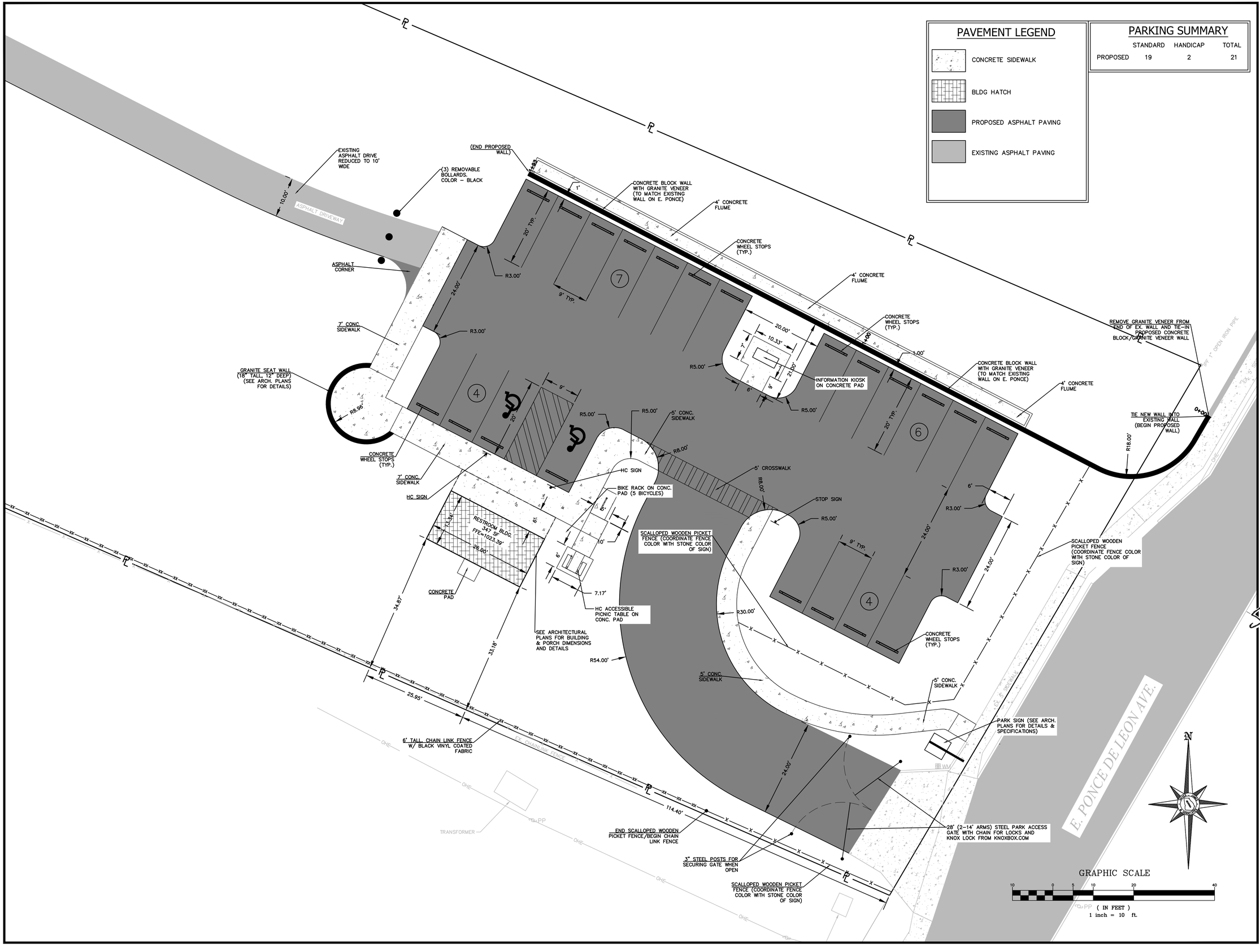
Project Location	
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

EROSION CONTROL DETAILS

Sheet Number

C-22



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No.	Description	By	Appr.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PARKING LOT - SITE PLAN

Sheet Number

C-07

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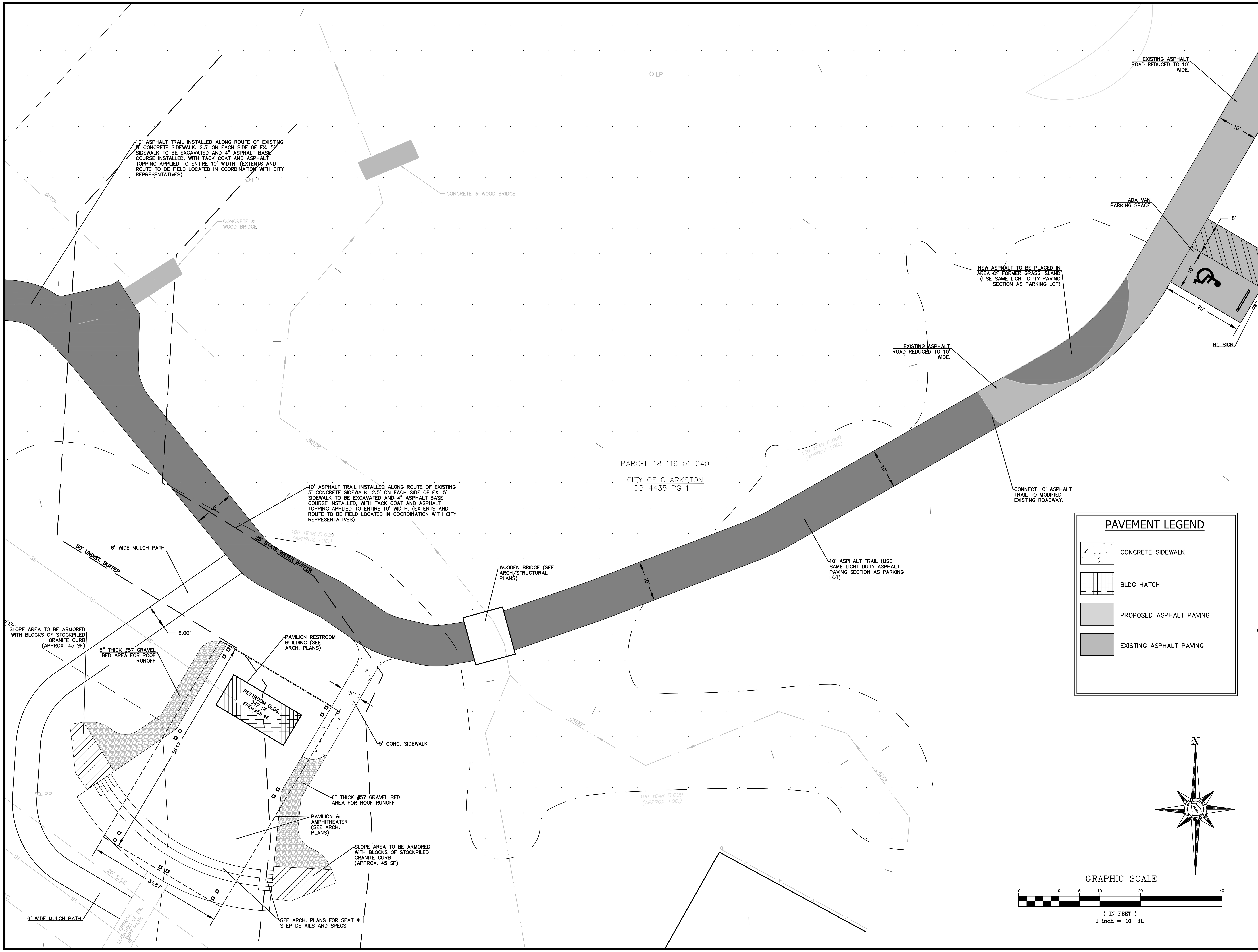
normal.ctb

9/14/2017 5:10 PM

keith e. hightower, asla



EXISTING ASPHALT ROAD REDUCED TO 10' WIDE.
10'
ADA VAN PARKING SPACE
8'
10'
20'
HC SIGN
NEW ASPHALT TO BE PLACED IN AREA OF FORMER GRASS ISLAND (USE SAME LIGHT DUTY PAVING SECTION AS PARKING LOT)
EXISTING ASPHALT ROAD REDUCED TO 10' WIDE.
CONNECT 10' ASPHALT TRAIL TO MODIFIED EXISTING ROADWAY.
10' ASPHALT TRAIL INSTALLED ALONG ROUTE OF EXISTING 5' CONCRETE SIDEWALK. 2.5' ON EACH SIDE OF EX. 5' SIDEWALK TO BE EXCAVATED AND 4" ASPHALT BASE COURSE INSTALLED, WITH TACK COAT AND ASPHALT TOPPING APPLIED TO ENTIRE 10' WIDTH. (EXTENTS AND ROUTE TO BE FIELD LOCATED IN COORDINATION WITH CITY REPRESENTATIVES)
CONCRETE & WOOD BRIDGE
CONCRETE & WOOD BRIDGE
DITCH
CREEK
PARCEL 18 119 01 040
CITY OF CLARKSTON
DB 4435 PG 111
100 YEAR FLOOD (APPROX. LOC.)
10'
10'
10'
10' ASPHALT TRAIL (USE SAME LIGHT DUTY ASPHALT PAVING SECTION AS PARKING LOT)
WOODEN BRIDGE (SEE ARCH/STRUCTURAL PLANS)
10' ASPHALT TRAIL INSTALLED ALONG ROUTE OF EXISTING 5' CONCRETE SIDEWALK. 2.5' ON EACH SIDE OF EX. 5' SIDEWALK TO BE EXCAVATED AND 4" ASPHALT BASE COURSE INSTALLED, WITH TACK COAT AND ASPHALT TOPPING APPLIED TO ENTIRE 10' WIDTH. (EXTENTS AND ROUTE TO BE FIELD LOCATED IN COORDINATION WITH CITY REPRESENTATIVES)
25' STATE WATER BUFFER
50' UNDIST. BUFFER
6' WIDE MULCH PATH
6.00'
SLOPE AREA TO BE ARMORED WITH BLOCKS OF STOCKPILED GRANITE CURB (APPROX. 45 SF)
6" THICK #57 GRAVEL BED AREA FOR ROOF RUNOFF
PAVILION RESTROOM BUILDING (SEE ARCH. PLANS)
RESTROOM BLDG. 347 SF FFE=959.46
5' CONC. SIDEWALK
5'
56.17'
6" THICK #57 GRAVEL BED AREA FOR ROOF RUNOFF
PAVILION & AMPHITHEATER (SEE ARCH. PLANS)
SLOPE AREA TO BE ARMORED WITH BLOCKS OF STOCKPILED GRANITE CURB (APPROX. 45 SF)
33.67'
20' S.S.E.
6' WIDE MULCH PATH
SEE ARCH. PLANS FOR SEAT & STEP DETAILS AND SPECS.
SS
PAVEMENT LEGEND
CONCRETE SIDEWALK
BLDG HATCH
PROPOSED ASPHALT PAVING
EXISTING ASPHALT PAVING
N
GRAPHIC SCALE
10 0 5 10 20 40
(IN FEET)
1 inch = 10 ft.

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ISSUE

No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED PROFESSIONAL ENGINEER NO. 27175 STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

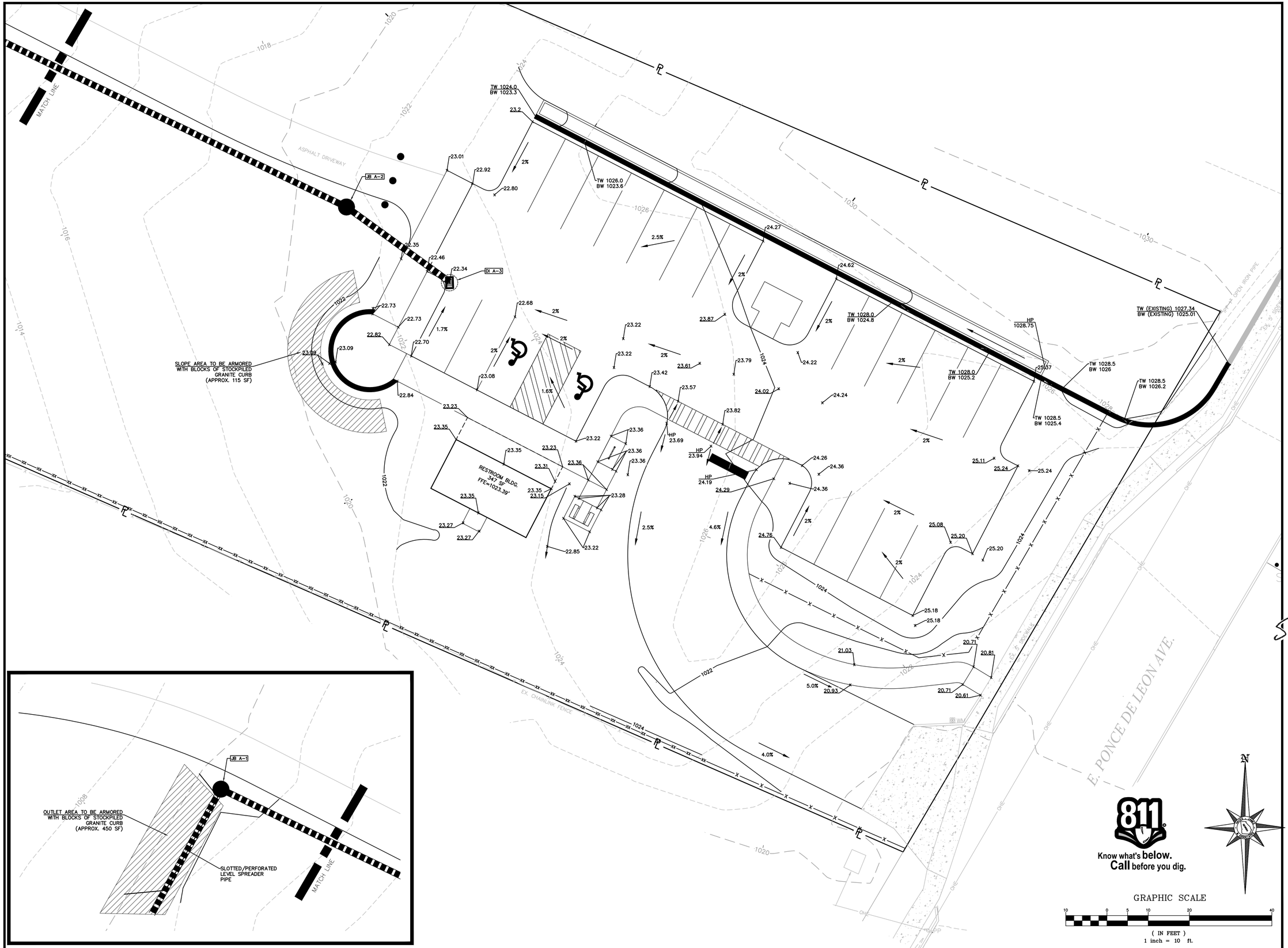
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PAVILION AREA - SITE PLAN

Sheet Number

C-08



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

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

Hayes | James
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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 27375 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

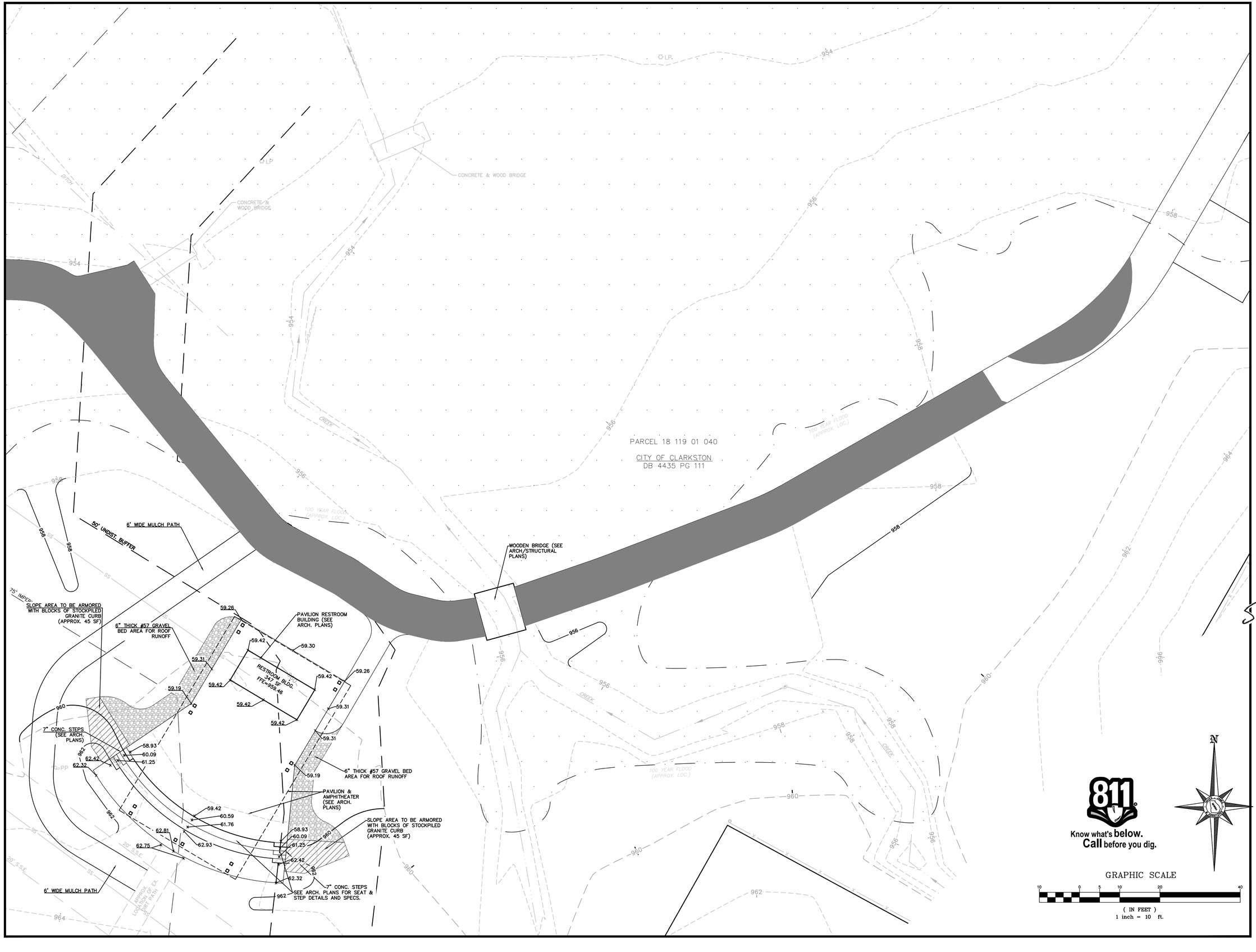
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PARKING LOT - GRADING PLAN

Sheet Number

C-09



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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

STEPHEN MARK BOND — GEORGIA REGISTERED NO. 27275 PROFESSIONAL ENGINEER

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PAVILION AREA - GRADING PLAN

Sheet Number

C-10

CONTINUE PEDESTRIAN LIGHTING FOR 600 TOTAL FEET

PEDESTRIAN LIGHT POLE – TYPICAL SPACING AND ALTERNATING PATTERN FOR 600' OF PATHWAY (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

PEDESTRIAN LIGHT POLE – TYPICAL SPACING AND ALTERNATING PATTERN FOR 600' OF PATHWAY (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

MATCH LINE

A2

PACOLET
2-6%

SOIL LINE

PEDESTRIAN LIGHT POLE – TYPICAL SPACING AND ALTERNATING PATTERN FOR 600' OF PATHWAY (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

SERVICE FEED TO TRAIL LIGHTING (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

150 LF TOTAL RESERVE FIELD 4" PIPE @ 9' O.C.

150 LF TOTAL PRIMARY FIELD 4" PIPE @ 9' O.C.

A1

CONVENTIONAL GRAVEL AND PIPE ABSORPTION SYSTEM

DISTRIBUTION BOX

CLEAN OUT

4" PVC SEWER LATERAL

ASPHALT DRIVEWAY

PARKING LOT LIGHT POLE (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

SHUT-OFF VALVE IN METER BOX (SEE MEP PLANS FOR DETAILS AND/OR SPECS)

SERVICE FEED TO BUILDING (REFER TO ELECTRICAL PLANS FOR DESIGN)

SEE MEP PLANS FOR WATER LATERAL TIE-IN LOCATION AT BUILDING

RESTROOM BLDG. 347 SF FFE=1023.39'

DCV/BFP BOX

1 1/2" PVC WATER PIPE

SEE MEP PLANS FOR SEWER LATERAL TIE-IN LOCATION AT BUILDING

CLEAN OUT ELEV. ±1020.85

CLEAN OUT

1000 GAL. SEPTIC TANK

PROPOSED TRANSFORMER PAD (SEE ELEC. PLANS FOR SIZE & SPECIFICATIONS)

PARKING LOT LIGHT POLE (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

SERVICE FEED TO PARKING LOT LIGHTS (REFER TO ELECTRICAL PLANS FOR DESIGN)

PARKING LOT LIGHT POLE (SEE ELECTRICAL PLANS FOR DETAILS AND/OR SPECS)

1 1/2" GATE VALVE

TIE INTO EXISTING WATER METER

EXISTING WATER METER (SERVICE SIZE UNKNOWN)

EX. CHAINLINK FENCE

TRANSFORMER

POWER SERVICE FEED TO CONNECT TO EXISTING TRANSFORMER OR POWER POLE (CONTRACTOR TO VERIFY)

SEE SEPTIC DETAILS SHEET FOR SOIL TEST AND CONSTRUCTION DETAIL FOR SEPTIC TANK AND ABSORPTION FIELD.

LIGHTING DESIGN BY OTHERS - SEE ELECTRICAL PLANS FOR LIGHTING SPECIFICATIONS

SEPTIC TANK & DRAINAGE FIELD CALCS

21 PARKING SPACES AND ONE RESTROOM FACILITY
ASSUME 50 PEOPLE WILL USE THE TRAILS IN ONE DAY

TOTAL SEWAGE FLOW =
50 PEOPLE * 5GPD = 250 GPD TOTAL

TRENCH WIDTH = 3'
TRENCH BOTTOM DEPTH = 36"
SLOPE GRADIENT = 0-6%
PERCOLATION RATE = 45MPI
DRAIN FIELD LENGTH =TOTAL GALLONS PER DAY X PERCOLATION COEFFICIENT ÷ TRENCH WIDTH, OR;
250 X 1.342 ÷ 3 = 111.8 LF, USE 150 LF

SEPTIC TANK SIZE = 1000 GALLONS

ABSORPTION LINE SHALL BE GRAVEL AND PIPE SYSTEM, INSTALLED BY THE DISTRIBUTION BOX METHOD WITH EQUAL LENGTH LINE PARALLEL TO THE CONTOUR.

ABSORPTION TRENCH TO BE NO DEEPER THAN 60".

SANITARY SEWER NOTES:

1. SANITARY SEWER LINES SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO BACKFILLING.
2. ALL SEWER PIPE CONSTRUCTION MUST CONFORM TO DEKALB COUNTY STANDARDS AND SPECIFICATIONS.
3. NOTIFY INSPECTOR 24 HOURS PRIOR TO CONSTRUCTION.
4. COMPACTION OF BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO 90% OF THE PROCTER DENSITY. BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER DEBRIS AND SHALL BE PLACED AT OR NEAR OPTIMUM MOISTURE. CORRECTION OF ANY TRENCH WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
5. AS-BUILTS AND RECORD DRAWINGS ARE REQUIRED PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY.

CONDITIONS FOR PVC (SEWER):

1. FITTINGS FOR LATERAL CONNECTIONS SHALL BE 45° WYES AND BENDS. PROVIDE PVC PIPE STOPPERS FOR EACH LATERAL. PROVIDE SPECIAL WATER-TIGHT CONNECTIONS AT MANHOLES AND TRANSITIONS TO DUCTILE IRON PIPE AS RECOMMENDED BY THE PIPE MANUFACTURER.

WATER NOTES:

1. THE LOCATION OF THE DOMESTIC LINE MUST BE COORDINATED W/THE BUILDING PLUMBING PLAN PRIOR TO INSTALLATION.
2. NOTIFY DEKALB COUNTY/CITY OF CLARKSTON 48 HOURS PRIOR TO START OF EACH PHASE OF CONSTRUCTION.

GENERAL UTILITY NOTES:

1. THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE COULD BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
2. ALL WORK AND MATERIALS SHALL COMPLY WITH DEKALB COUNTY/CITY OF CLARKSTON REGULATIONS AND CODES AND O.S.H.A. STANDARDS. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE APPLICABLE UTILITY AND OBTAINING THE APPLICABLE SPECIFICATIONS.
3. DEKALB COUNTY/CITY OF CLARKSTON MAY HAVE AN APPROVED CONTRACTOR AND/OR MANUFACTURER LIST FOR INSTALLATION OF UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE COUNTY TO OBTAIN THE APPLICABLE LIST.

N

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)
1 inch = 10 ft.

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

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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

STATE OF GEORGIA REGISTERED NO. 23475 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

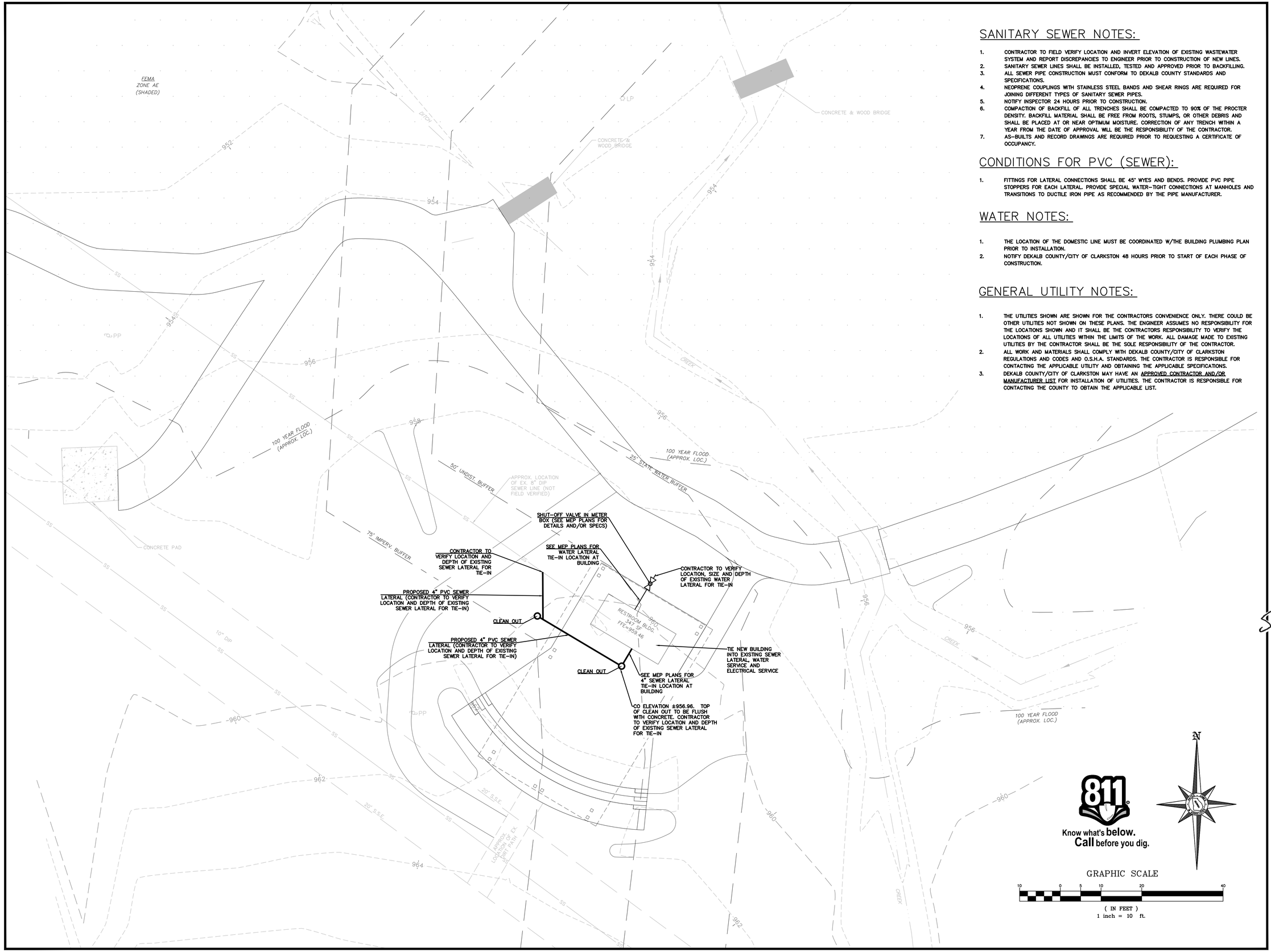
Project Location	
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PARKING LOT - UTILITY PLAN

Sheet Number

C-11



SANITARY SEWER NOTES:

1. CONTRACTOR TO FIELD VERIFY LOCATION AND INVERT ELEVATION OF EXISTING WASTEWATER SYSTEM AND REPORT DISCREPANCIES TO ENGINEER PRIOR TO CONSTRUCTION OF NEW LINES.
2. SANITARY SEWER LINES SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO BACKFILLING.
3. ALL SEWER PIPE CONSTRUCTION MUST CONFORM TO DEKALB COUNTY STANDARDS AND SPECIFICATIONS.
4. NEOPRENE COUPLINGS WITH STAINLESS STEEL BANDS AND SHEAR RINGS ARE REQUIRED FOR JOINING DIFFERENT TYPES OF SANITARY SEWER PIPES.
5. NOTIFY INSPECTOR 24 HOURS PRIOR TO CONSTRUCTION.
6. COMPACTION OF BACKFILL OF ALL TRENCHES SHALL BE COMPACTED TO 90% OF THE PROCTER DENSITY. BACKFILL MATERIAL SHALL BE FREE FROM ROOTS, STUMPS, OR OTHER DEBRIS AND SHALL BE PLACED AT OR NEAR OPTIMUM MOISTURE. CORRECTION OF ANY TRENCH WITHIN A YEAR FROM THE DATE OF APPROVAL WILL BE THE RESPONSIBILITY OF THE CONTRACTOR.
7. AS-BUILTS AND RECORD DRAWINGS ARE REQUIRED PRIOR TO REQUESTING A CERTIFICATE OF OCCUPANCY.

CONDITIONS FOR PVC (SEWER):

1. FITTINGS FOR LATERAL CONNECTIONS SHALL BE 45° WYES AND BENDS. PROVIDE PVC PIPE STOPPERS FOR EACH LATERAL. PROVIDE SPECIAL WATER-TIGHT CONNECTIONS AT MANHOLES AND TRANSITIONS TO DUCTILE IRON PIPE AS RECOMMENDED BY THE PIPE MANUFACTURER.

WATER NOTES:

1. THE LOCATION OF THE DOMESTIC LINE MUST BE COORDINATED W/THE BUILDING PLUMBING PLAN PRIOR TO INSTALLATION.
2. NOTIFY DEKALB COUNTY/CITY OF CLARKSTON 48 HOURS PRIOR TO START OF EACH PHASE OF CONSTRUCTION.

GENERAL UTILITY NOTES:

1. THE UTILITIES SHOWN ARE SHOWN FOR THE CONTRACTORS CONVENIENCE ONLY. THERE COULD BE OTHER UTILITIES NOT SHOWN ON THESE PLANS. THE ENGINEER ASSUMES NO RESPONSIBILITY FOR THE LOCATIONS SHOWN AND IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO VERIFY THE LOCATIONS OF ALL UTILITIES WITHIN THE LIMITS OF THE WORK. ALL DAMAGE MADE TO EXISTING UTILITIES BY THE CONTRACTOR SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
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3. DEKALB COUNTY/CITY OF CLARKSTON MAY HAVE AN APPROVED CONTRACTOR AND/OR MANUFACTURER LIST FOR INSTALLATION OF UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE COUNTY TO OBTAIN THE APPLICABLE LIST.

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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

GEORGIA REGISTERED NO. 23175 PROFESSIONAL ENGINEER STEPHEN MARK BOND

Stephen Mark Bond

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
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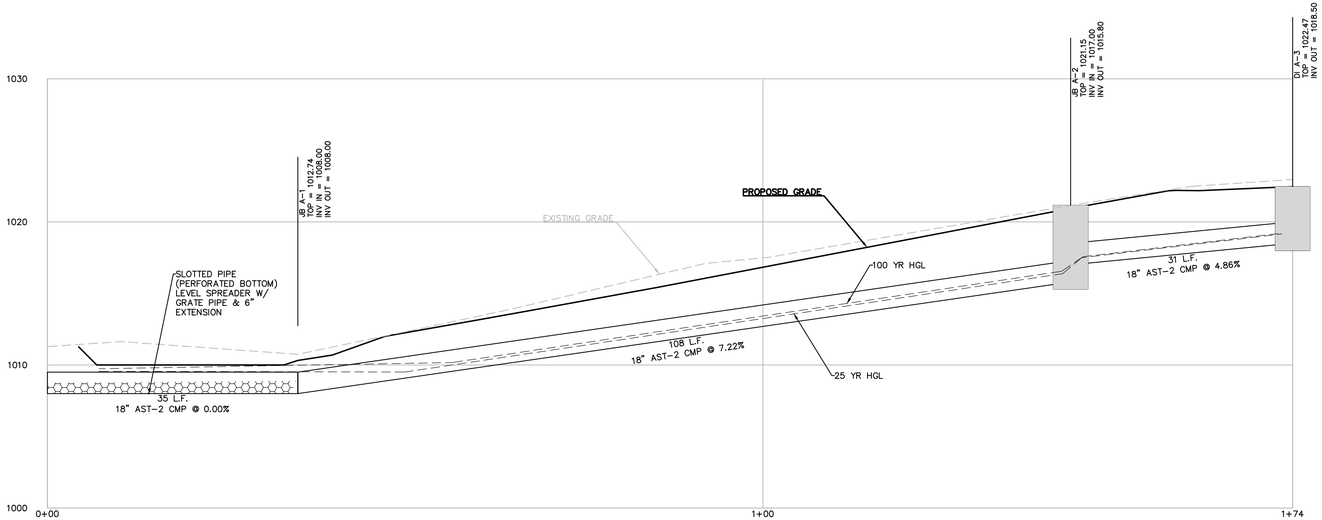
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PAVILION - UTILITY PLAN

Sheet Number

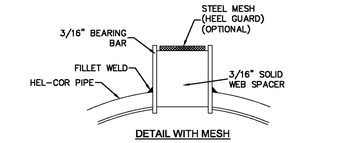
C-12



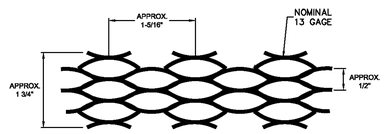
PROFILE OF STORM LINE 'Storm A'
VERT. SCALE 1"=10'
HORZ. SCALE 1"=20'

LineNo.	InletID	C (C)	Inlet Area (ac)	TotalArea (ac)	IncrQ (cfs)	Q25 (cfs)	Slope (%)	Size (in)	V25 (ft/s)	Length (ft)	iSys (in/hr)	TYPE
1	A-1	0	0	0.3	0	1.96	0	18	1.02	35	8.27	CMP
2	A-2	0	0	0.3	0	1.96	7.22	18	2.3	108.006	8.27	CMP
3	A-3	0.79	0.3	0.3	1.96	1.96	4.86	18	4.35	30.851	8.27	CMP

* RCP OR HDPE MAY BE SUBSTITUTED FOR CMP EXCEPT FOR THE SLOTTED DRAIN



STRAIGHT GALVANIZED GRATE



SLOTTED DRAIN MESH DETAIL

NOTE:
ALL DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES

CONTECH® CONSTRUCTION PRODUCTS INC.
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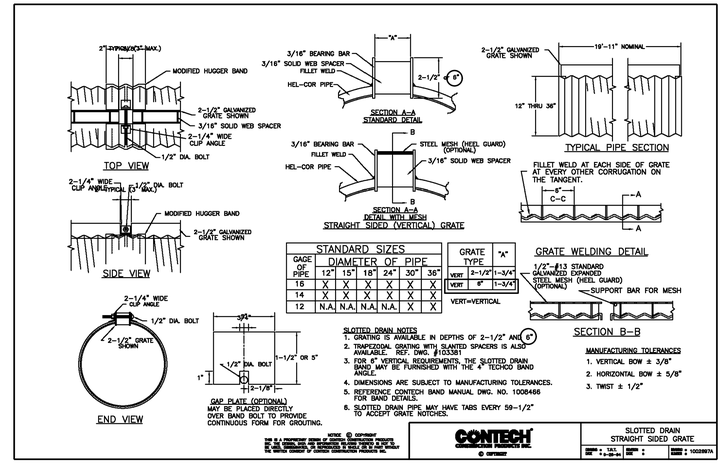
SLOTTED DRAIN MESH DETAIL

DRAWN BY: F.B.	REV. BY: D.E.N.	SCALE: N/A
DATE: 9-4-91	DATE: 2-19-96	1008567B



STANDARD SIZES

GAGE OF PIPE	DIAMETER OF PIPE 12"	15"	18"	24"	30"	36"
16	X	X	X	X	X	X
14	X	X	X	X	X	X
12	N.A.	N.A.	N.A.	N.A.	X	X

GRATE TYPE	"A"	
VERT	2-1/2"	1-3/4"
VERT	6"	1-3/4"

VERT=VERTICAL

SLOTTED DRAIN NOTES
1. GRATING IS AVAILABLE IN DEPTHS OF 2-1/2" AND 6"
2. TRAPEZOIDAL GRATING W/ SLANTED SPACERS IS ALSO AVAILABLE. REF. DWG. #103381
3. FOR 6" VERTICAL REQUIREMENTS, THE SLOTTED DRAIN BAND MAY BE FURNISHED WITH THE 4" TECHCO BAND ANGLE.
4. DIMENSIONS ARE SUBJECT TO MANUFACTURING TOLERANCES.
5. REFERENCE CONTECH BAND MANUAL DWG. NO. 1008486 FOR BAND DETAILS.
6. SLOTTED DRAIN PIPE MAY HAVE TABS EVERY 59-1/2" TO ACCEPT GRATE NOTCHES.

MANUFACTURING TOLERANCES
1. VERTICAL BOW ± 3/8"
2. HORIZONTAL BOW ± 5/8"
3. TWIST ± 1/2"

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SLOTTED DRAIN STRAIGHT SIDED GRATE

NOTE: SEE SHEET 'STORM DETAILS' FOR REMAINING STORM WATER-RELATED DETAILS

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CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	By	Appr.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

Stephen Mark Bond
REGISTERED PROFESSIONAL ENGINEER
STEPHEN MARK BOND
GEORGIA
NO. 24775

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB

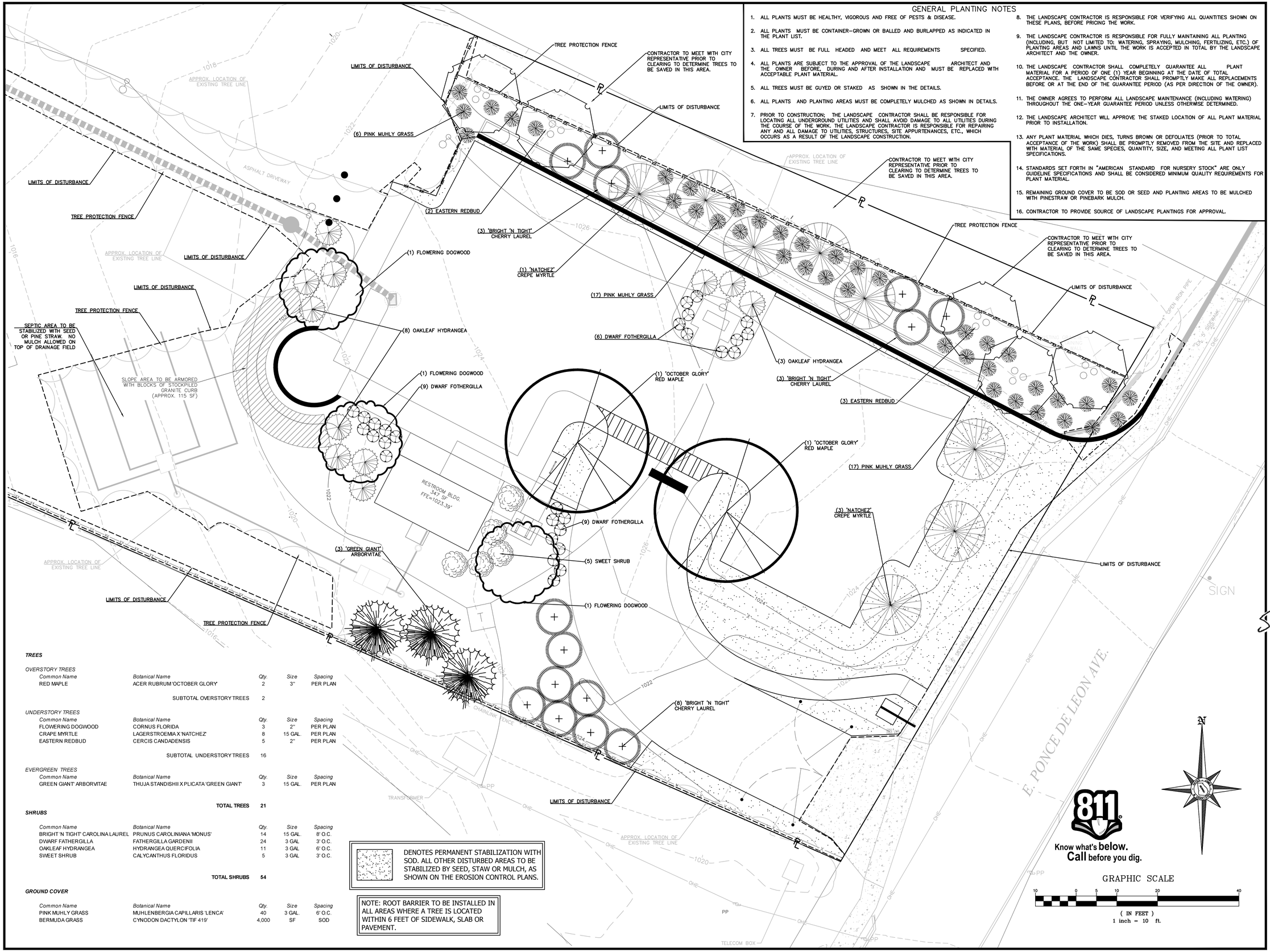
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

PIPE PROFILES

Sheet Number

C-13



GENERAL PLANTING NOTES

1. ALL PLANTS MUST BE HEALTHY, VIGOROUS AND FREE OF PESTS & DISEASE.
2. ALL PLANTS MUST BE CONTAINER-GROWN OR BALLED AND BURLAPPED AS INDICATED IN THE PLANT LIST.
3. ALL TREES MUST BE FULL HEADED AND MEET ALL REQUIREMENTS SPECIFIED.
4. ALL PLANTS ARE SUBJECT TO THE APPROVAL OF THE LANDSCAPE ARCHITECT AND THE OWNER BEFORE, DURING AND AFTER INSTALLATION AND MUST BE REPLACED WITH ACCEPTABLE PLANT MATERIAL.
5. ALL TREES MUST BE GUYED OR STAKED AS SHOWN IN THE DETAILS.
6. ALL PLANTS AND PLANTING AREAS MUST BE COMPLETELY MULCHED AS SHOWN IN DETAILS.
7. PRIOR TO CONSTRUCTION; THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES AND SHALL AVOID DAMAGE TO ALL UTILITIES DURING THE COURSE OF THE WORK. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY AND ALL DAMAGE TO UTILITIES, STRUCTURES, SITE APPURTENANCES, ETC., WHICH OCCURS AS A RESULT OF THE LANDSCAPE CONSTRUCTION.
8. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ALL QUANTITIES SHOWN ON THESE PLANS, BEFORE PRICING THE WORK.
9. THE LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR FULLY MAINTAINING ALL PLANTING (INCLUDING, BUT NOT LIMITED TO: WATERING, SPRAYING, MULCHING, FERTILIZING, ETC.) OF PLANTING AREAS AND LAWNS UNTIL THE WORK IS ACCEPTED IN TOTAL BY THE LANDSCAPE ARCHITECT AND THE OWNER.
10. THE LANDSCAPE CONTRACTOR SHALL COMPLETELY GUARANTEE ALL PLANT MATERIAL FOR A PERIOD OF ONE (1) YEAR BEGINNING AT THE DATE OF TOTAL ACCEPTANCE. THE LANDSCAPE CONTRACTOR SHALL PROMPTLY MAKE ALL REPLACEMENTS BEFORE OR AT THE END OF THE GUARANTEE PERIOD (AS PER DIRECTION OF THE OWNER).
11. THE OWNER AGREES TO PERFORM ALL LANDSCAPE MAINTENANCE ((INCLUDING WATERING) THROUGHOUT THE ONE-YEAR GUARANTEE PERIOD UNLESS OTHERWISE DETERMINED.
12. THE LANDSCAPE ARCHITECT WILL APPROVE THE STAKED LOCATION OF ALL PLANT MATERIAL PRIOR TO INSTALLATION.
13. ANY PLANT MATERIAL WHICH DIES, TURNS BROWN OR DEFOLIATES (PRIOR TO TOTAL ACCEPTANCE OF THE WORK) SHALL BE PROMPTLY REMOVED FROM THE SITE AND REPLACED WITH MATERIAL OF THE SAME SPECIES, QUANTITY, SIZE, AND MEETING ALL PLANT LIST SPECIFICATIONS.
14. STANDARDS SET FORTH IN "AMERICAN STANDARD FOR NURSERY STOCK" ARE ONLY GUIDELINE SPECIFICATIONS AND SHALL BE CONSIDERED MINIMUM QUALITY REQUIREMENTS FOR PLANT MATERIAL.
15. REMAINING GROUND COVER TO BE SOD OR SEED AND PLANTING AREAS TO BE MULCHED WITH PINESTRAW OR PINEBARK MULCH.
16. CONTRACTOR TO PROVIDE SOURCE OF LANDSCAPE PLANTINGS FOR APPROVAL.

TREES

OVERSTORY TREES

Common Name	Botanical Name	Qty.	Size	Spacing
RED MAPLE	ACER RUBRUM 'OCTOBER GLORY'	2	3"	PER PLAN
	SUBTOTAL OVERSTORY TREES	2		

UNDERSTORY TREES

Common Name	Botanical Name	Qty.	Size	Spacing
FLOWERING DOGWOOD	CORNUS FLORIDA	3	2"	PER PLAN
CRAPE MYRTLE	LAGERSTROEMIA X 'NATCHEZ'	8	15 GAL.	PER PLAN
EASTERN REDBUD	CERCIS CANDADENSIS	5	2"	PER PLAN
	SUBTOTAL UNDERSTORY TREES	16		

EVERGREEN TREES

Common Name	Botanical Name	Qty.	Size	Spacing
GREEN GIANT' ARBORVITAE	THUJA STANDISHII X PLICATA 'GREEN GIANT'	3	15 GAL.	PER PLAN
	TOTAL TREES	**21**		

SHRUBS

Common Name	Botanical Name	Qty.	Size	Spacing
BRIGHT 'N TIGHT' CAROLINA LAUREL	PRUNUS CAROLINIANA 'MONUS'	14	15 GAL.	8' O.C.
DWARF FATHERGILLA	FATHERGILLA GARDENII	24	3 GAL.	3' O.C.
OAKLEAF HYDRANGEA	HYDRANGEA QUERCIFOLIA	11	3 GAL.	6' O.C.
SWEET SHRUB	CALYCANTHUS FLORIDUS	5	3 GAL.	3' O.C.
	TOTAL SHRUBS	**54**		

GROUND COVER

Common Name	Botanical Name	Qty.	Size	Spacing
PINK MUHLY GRASS	MUHLENBERGIA CAPILLARIS 'LENCA'	40	3 GAL.	6' O.C.
BERMUDA GRASS	CYNODON DACTYLON 'TIF 419'	4,000	SF	SOD

DENOTES PERMANENT STABILIZATION WITH SOD. ALL OTHER DISTURBED AREAS TO BE STABILIZED BY SEED, STAW OR MULCH, AS SHOWN ON THE EROSION CONTROL PLANS.

NOTE: ROOT BARRIER TO BE INSTALLED IN ALL AREAS WHERE A TREE IS LOCATED WITHIN 6 FEET OF SIDEWALK, SLAB OR PAVEMENT.

Know what's **below.** **Call** before you dig. 811

GRAPHIC SCALE

10 0 5 10 20 40

(IN FEET)

1 inch = 10 ft.

Hayes | James

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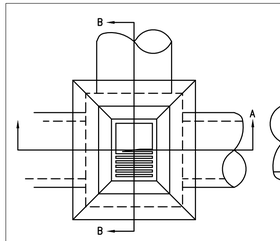
Sheet Title

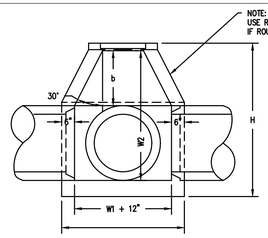
PARKING LOT - LANDSCAPE PLAN

Sheet Number

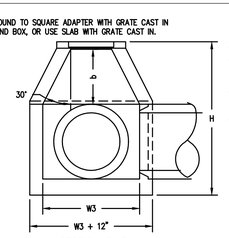
C-14



CAN BE BRICK OR PRECAST BOX.



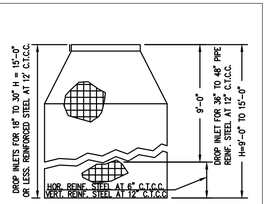
SECTION A–A



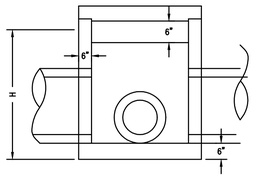
SECTION B–B

TYPE A

DI – GRATE INLET



IN ALL DROP INLETS 1/2" ∅ BAR REINFORCING STEEL TO BE PLACED NOT MORE THAN 12" C TO C AND COVERED NOT LESS THAN 2".



1/2" ∅ BARS AT 12" CENTER TO CENTER

NOTES:

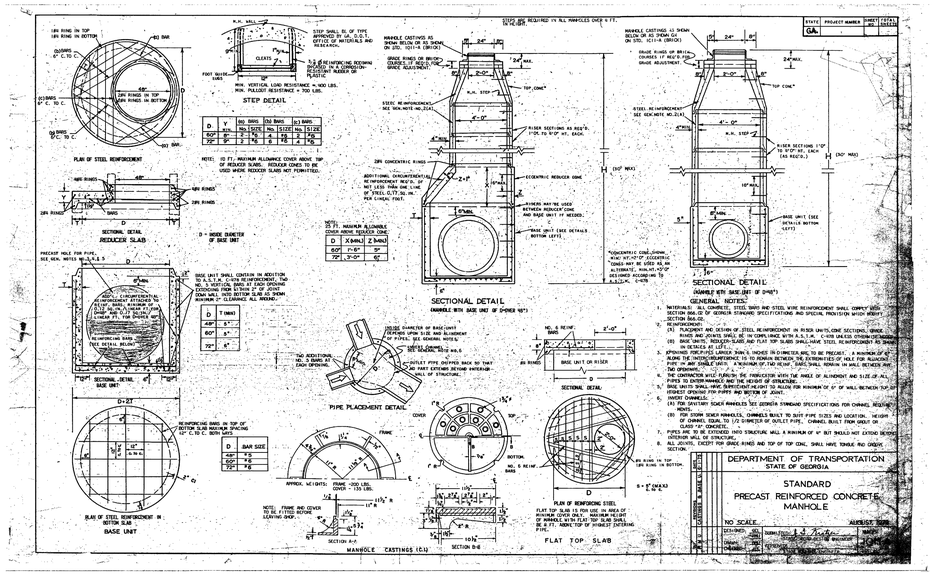
1. BRICK INVERTS REQUIRED AT ALL JUNCTION BOXES & DROP INLETS RAISE BOTTOM OF BOX TO OUTFLOW PIPE INVERT. MATCH DIFFERENT SIZE PIPES AT CROWNS.
2. MAXIMUM VERTICAL DEPTH FOR DROP INLET H = 15'-0"

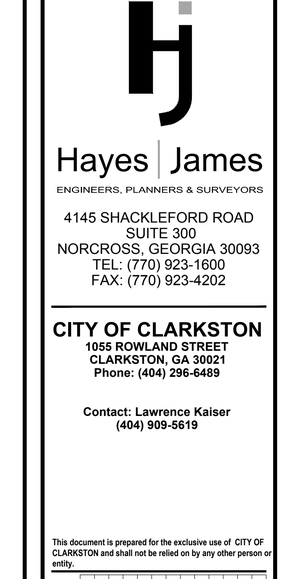
TYPE A						TYPE B		
	MIN.–W2	W3	a	b	MIN.–H	NORMAL W. OR W1	MIN. b	MIN. H
2'–0"	2'–6 1/2"	2'–7"	0'–3 1/2"	0'–6"	3'–3"	2'–0"	2'–7 1/2"	3'–9 1/2"
2'–0"	2'–9 1/2"	2'–7"	0'–3 1/2"	0'–6"	3'–6"	2'–3"	2'–10"	4'–0"
2'–6"	4'–1/2"	3'–3"	0'–7 1/2"	1'–1"	4'–9"	3'–0"	3'–6"	4'–10"
3'–4"	5'–1 1/2"	3'–11"	0'–11 1/2"	1'–6"	5'–10"	3'–6 1/2"	4'–2 1/2"	5'–4 1/2"
3'–10"	6'–1 1/2"	4'–5"	1'–2 1/2"	2'–1 1/4"	6'–10"	4'–2"	4'–10"	6'–0"
4'–5"	7'–2 1/2"	5'–0"	1'–6"	2'–7 1/2"	7'–11"	4'–8 1/2"	5'–4 1/2"	6'–6 1/2"
5'–0"	8'–3 1/2"	5'–7"	1'–9 1/2"	3'– 1 1/4"	9'–0"	5'–3 1/2"	5'–11 1/2"	7'–1 1/2"
5'–7"	9'–4 1/2"	6'–2"	2'–1"	3'–7 1/4"	10'–1"	5'–10"	6'–6"	7'–6"
6'–2"	10'–6 1/2"	6'–9"	2'–4 1/2"	4'–1 1/2"	11'–2"	6'–4 1/2"	7'–0 1/2"	8'–2 1/2"
6'–9"	11'–6 1/2"	7'–4"	2'–6"	4'–7 1/2"	12'–3"	6'–11"	7'–7"	8'–9"
7'–4"	12'–7 1/2"	7'–11"	2'–11 1/2"	5'–1 1/4"	13'–4"	7'–6 1/2"	8'–1 1/2"	9'–3"

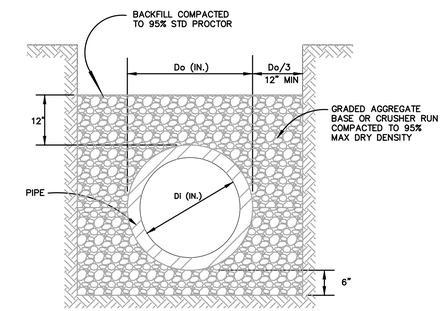
CONCRETE D.I.

TYPE A						TYPE B		
D	W1	MIN.–W2	W3	a	b	MIN.–H	NORMAL W. OR W1	MIN. b	MIN. H
15"	2'–2"	2'–11"	2'–9"	0'–4 1/2"	0'–6"	3'–9 1/2"	2'–0"	2'–7 1/2"	3'–7 1/2"
18"	2'–2"	3'–2 1/2"	2'–9"	0'–4 1/2"	0'–6"	4'–1"	2'–0"	2'–10"	3'–10"
24"	2'–8"	3'–8"	3'–3"	0'–7 1/2"	1'–1 1/4"	4'–9"	3'–0"	3'–6"	4'–6"
30"	3'–7 1/4"	4'–0"	3'–10"	1'–0"	1'–9"	5'–10"	3'–6 1/2"	4'–2 1/2"	5'–10"
36"	4'–2"	6'–0 1/2"	4'–5"	1'–4 1/2"	2'–1 1/4"	6'–11"	4'–2"	4'–10"	5'–10"
42"	4'–5"	7'–1 3/4"	5'–0"	1'–6"	2'–7 1/4"	8'–0 1/4"	4'–8 1/2"	5'–4 1/2"	6'–11 1/2"
48"	5'–0"	8'–2 3/4"	5'–7"	1'–9 1/2"	3'– 1 1/4"	9'–1 1/4"	5'–3 1/2"	5'–11 1/2"	6'–11 1/2"
54"	5'–7"	9'–4"	6'–2"	2'–1"	3'–7 1/2"	10'–2 1/2"	5'–10"	6'–6"	7'–6"
60"	6'–2"	10'–5"	6'–9"	2'–4 1/2"	4'–1 1/2"	11'–3 1/4"	6'–4 1/2"	7'–0 1/2"	8'–0 1/2"
66"	6'–9"	11'–6"	7'–4"	2'–6"	4'–7 1/2"	12'–4 1/2"	6'–11"	7'–7"	8'–7"
72"	7'–4"	12'–7"	7'–11"	2'–11 1/2"	5'–2"	13'–6 1/2"	7'–6 1/2"	8'–1 1/2"	9'–1 1/2"*

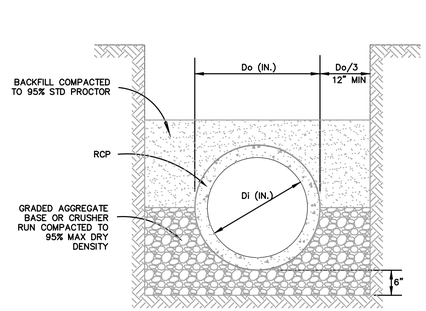
BRICK D.I.







HDPE



REINFORCED CONCRETE & CORRUGATED ALUMINIZED PIPE

NOTES

INSTALLATION:

RCP, CORRUGATED ALUM. ALLOY PIPE, CORRUGATED ALUMINUM COATED STEEL PIPE AND SMOOTH INTERIOR CORRUGATED POLYETHYLENE PIPE SHALL BE INSTALLED IN ACCORDANCE WITH SECTION 550 OF THE GDOT STANDARD SPECIFICATIONS, CONSTRUCTION OF ROADS AND BRIDGES. PRIOR TO APPROVAL THE COUNTY MAY REQUIRE THE SUBMITTAL OF CERTIFICATION FROM A MANDREL TESTING AGENCY INDICATING THAT ALL INSTALLED PIPE DOES NOT EXCEED 5% DEFLECTION. IF VIDEO SURVEILLANCE INDICATES PROBLEMS, THE PIPE SHALL BE REMOVED AND REPLACED BEFORE APPROVAL.

BEDDING:

ALL PIPE SHALL BE PLACED ON STABLE EARTH OR FINE GRANULAR FOUNDATION, THE CHARACTERISTICS OF WHICH WOULD BE EXPECTED TO PROVIDE LONG–TERM STABILITY. IN ALL LIVE STREAM PIPE INSTALLATIONS, IN AREAS OF LOW BEARING SOLID OR NON–UNIFORM FOUNDATIONS,WHERE ROCK IS ENCOUNTERED OR OTHER LOCATIONS WHERE CONDITIONS WARRANT, A MINIMUM OF 6" OF CRUSHED STONE BEDDING IS REQUIRED (MAXIMUM SIZE STON SHALL BE ¾") GEOTEXTILES OR GEOGRIDS MAY ALSO BE REQUIRED BY THE COUNTY IN PROBLEM AREAS.

BACKFILL:

BACKFILL ON ALL PIPE INSTALLATIONS SHALL BE TYPE I OR TYPE II AS SPECIFIED IN SECTION 812.01 AND 812.02 RESPECTIVELY IN GDOT STANDARD SPECIFICATIONS. THESE MATERIALS SHALL BE PLACED IN LAYERS OF NOT MORE THAN 6" LOOSE. COMPACTION OF THESE MATERIALS SHALL BE ACCOMPLISHED BY HAND TAMPING OR MACHINE TAMPING. REQUIRED LEVELS ARE AS FOLLOWS:

BACKFILL WITHIN ALL STREET RIGHT–OF–WAYS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY USING THE AASHTO METHOD T–99. THE TOP 12" SHALL BE COMPACTED TO 98% MAXIMUM DENSITY.

BACKFILL IN OTHER AREAS SHALL BE COMPACTED TO 95% MAXIMUM DENSITY USING THE AASHTO METHOD T–99.

PRIOR TO THE COMPLETION OF GRADING, A MINIMUM OF 4 FEET OF FILL SHOULD BE PROVIDED WHERE NEEDED TO ADEQUATELY PROTECT THE DRAINAGE STRUCTURE DURING THE LAND DEVELOPMENT PHASE.

REFER TO STANDARD CONSTRUCTION SPECIFICATIONS & SUBDIVISION REGULATIONS ROSWELL, GA
REV 2012 FOR ADDITIONAL INFORMATION

STANDARD PIPE BEDDING DETAILS

NOTE: SEE SHEET 'PIPE PROFILES' FOR SLOTTED PIPE OUTFALL DETAILS

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GEORGIA REGISTERED NO. 27475 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

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Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

STORM DETAILS

Sheet Number

C-26

I EROSION NOTES:

1. THE EXISTING LAND IS AN EXISTING CITY PASSIVE PARK WHICH IS WOODED WITH AN ASPHALT ROAD AND CUL-DE-SAC, SMALL PAVILION/RESTROOM BUILDING AND SEVERAL CONCRETE/MULCH TRAILS..
2. THE PROPOSED PROJECT WILL CONSIST OF ADDING AN ASPHALT PARKING LOT AND RESTROOM BUILDING AT THE E. PONCE DE LEON SIDE OF THE PARK; REDUCE THE EXISTING ASPHALT DRIVEWAY TO 10' WIDE, REMOVE THE EXISTING CUL-DE-SAC, REPLACE THE EXISTING PAVILION/RESTROOM BUILDING WITH LARGER STRUCTURES. SEVERAL OF THE CONCRETE TRAILS WILL BE WIDENED TO 10' AND CONVERTED TO ASPHALT. OTHER MULCH TRAILS WILL BE CONSTRUCTED AND ONE CONCRETE BRIDGE WILL BE REPLACED WITH A WOODEN BRIDGE.
3. PROPERTY OWNER: CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
4. TOTAL PARK ACREAGE = 18.34 ACRES
5. DISTURBED AREA = 6.0 ACRES TOTAL (PHASE 1 ONLY = 0.14 AC)
(HARDSCAPE PROJECT = 2.85 AC, WETLAND [BY OTHERS] = 3.15 AC)
6. THE ADJACENT PROPERTY IS ZONED NR-CD (NORTH, WEST & EAST), NC-2 & NR-3 (SOUTH & SOUTHEAST).
7. THE RECEIVING WATER IS SOUTH FORK PEACHTREE CREEK
8. A 25-FOOT UNDISTURBED STATE WATER BUFFER, 50-FOOT UNDISTURBED BUFFER AND A 75-FOOT IMPERVIOUS SETBACK IS TO MAINTAINED ADJACENT TO ALL STREAMS.
9. MAINTENANCE OF ALL SOIL EROSION AND SEDIMENTATION CONTROL MEASURES AND PRACTICES, WHETHER TEMPORARY OR PERMANENT, SHALL BE AT ALL TIMES THE RESPONSIBILITY OF THE CONTRACTOR.
10. ALL FILL SLOPES SHALL HAVE SILT FENCE PLACED AT THE SLOPE'S TOE.
11. CONCENTRATED FLOW AREAS AND ALL SLOPES GREATER THAN 2.5:1 WITH A HEIGHT OF 10 FEET OR GREATER SHALL BE STABILIZED WITH THE APPROPRIATE EROSION CONTROL MATTING OR BLANKET.
12. THERE ARE NO WETLANDS SHOWN ON THE NATIONAL WETLAND INVENTORY MAP WITHIN THE PROPOSED PROJECT. THERE ARE STATE WATERS WITHIN 200 FEET OF THE PROPOSED PROJECT.
13. SOLID WASTE DISPOSAL TO BE OFF-SITE AS DESCRIBED IN THE SOLID WASTE MANAGEMENT AFFIDAVIT. NOT DISCHARGE TO WATERS OF THE STATE EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.
14. THIS SITE DOES DISCHARGE WITHIN 1 MILE OF AN IMPAIRED STREAM.

II EROSION NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR THE FILING BOTH A NOTICE OF INTENT AND A NOTICE OF TERMINATION (NOI/NOT) WITH THE GEORGIA E.P.D.
2. SEDIMENT AND EROSION CONTROL MEASURES AND PRACTICES TO BE INSPECTED DAILY.
3. DISTURBED AREAS ARE TO BE GRASSED AS SOON AS CONSTRUCTION PHASES PERMIT.
4. INSPECTIONS BY QUALIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE AND THE ASSOCIATED RECORDS SHALL BE KEPT ON SITE IN COMPLIANCE WITH GAR. 100001.
5. STORAGE LOCATION AND DISPOSAL PROCEDURES FOR CONCRETE TRUCK OR MIXER WASH OUT: CONCRETE TRUCK WAS OUT LOCATION SHALL BE IN A TEMPORARY TRUCK WASH AREA LOCATED IN AN AREA DESIGNATED BY THE CONTRACTOR. WASH OUT SHALL BE CONTAINED WITHIN A PIT OR TRENCH WITH NO MATERIAL LEAVING THE SITE OR IMPACTING VEGETATED AREAS SHOWN TO BE SAVED ON THE TREE SAVE PLAN. DISPOSAL OF MATERIAL SHALL BE EITHER THE BREAKING OF MATERIAL INTO ACCEPTABLE PIECES AND PLACEMENT WITHIN UNCLASSIFIED FILL AREAS AS DIRECTED BY THE ONSITE GEOTECHNICAL ENGINEER.
6. PAINT AND/OR OTHER CHEMICALS SHALL BE STORED IN SECURED FACILITIES WITH RESTRICTED ACCESS TO EMPLOYEES ONLY. CLEAN UP AND DISPOSAL OF THIS MATERIAL SHALL BE IN ACCANCE WITH ALL RECOGNIZABLE LOCAL AND FEDERAL REQUIREMENTS. ALL DISPOSAL SHALL BE APPROVED OFF-SITE WASTE FACILITIES CLASSIFIED TO ACCEPT THAT MATERIAL.
7. EMERGENCY PROCEDURES FOR SPILL OR REPORTABLE QUALITY OF PETROLEUM PRODUCTS: ALL PETROLEUM PRODUCTS SHALL BE STORED AND USED IN AN AREAS THAT PROVIDES A SECONDARY CONTAINMENT FEATURE. TYPICALLY THIS WILL CONSIST OF AN EARTHEN BERM CONSTRUCTED AROUND 3 SIDES OF THE STORAGE AREA. EMERGENCY PROCEDURES FOR SPILLS SHALL BE KEPT IN THE CONSTRUCTION TRAILER INCLUDING EMERGENCY CONTACT NUMBERS. THE CONTRACTOR SHALL LOCATED STORAGE FACILITIES IN AREAS WITH THE LEAST FORESEEABLE IMPACT IF A CATASTROPHIC EVENT SHOULD OCCUR.
8. PORTAJOHNS SHALL BE LOCATED ONSITE AND USED DURING CONSTRUCTION.

III EROSION NOTES:

1. PRIOR TO ANY OTHER CONSTRUCTION, A STABILIZED CONSTRUCTION ENTRANCE SHALL BE CONSTRUCTED AT EACH ENTRY TO OR EXIT FROM THE SITE.
2. THE CONSTRUCTION EXIT SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH STONE, AS CONDITIONS DEMAND, AND REPAIR AND/OR CLEAN-OUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM THE VEHICLES ONTO PUBLIC ROADWAY OR INTO STORM DRAIN MUST BE REMOVED.
3. PRIOR TO COMMENCING LAND DISTURBANCE ACTIVITY, THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY AND ACCURATELY DEMARCATED WITH STAKES, RIBBONS, OR OTHER APPROPRIATE MEANS. THE LOCATION AND EXTENT OF ALL AUTHORIZED LAND DISTURBANCE SHALL OCCUR WITHIN THE APPROVED LIMITS INDICATED ON THE APPROVED PLANS.
4. IMMEDIATELY AFTER THE ESTABLISHMENT OF CONSTRUCTION ENTRANCES/EXISTS, ALL PERIMETER EROSION CONTROL DEVICES AND STORM WATER MANAGEMENT DEVICES SHALL BE INSTALLED PRIOR TO ANY OTHER CONSTRUCTION.
5. THE OWNER AGREES TO PROVIDE AND MAINTAIN OFF-STREET PARKING ON THE SUBJECT PROPERTY DURING THE ENTIRE CONSTRUCTION PERIOD.
6. THE CONTRACTOR SHALL FURNISH AND MAINTAIN ALL NECESSARY BARRICADES WHILE ROADWAY FRONTAGE IMPROVEMENTS ARE BEING MADE.
7. THE CONSTRUCTION OF THE SITE WILL INITIATE WITH THE INSTALLATION OF EROSION CONTROL MEASURES SUFFICIENT TO CONTROL SEDIMENT DEPOSITS AND EROSION. ALL SEDIMENT CONTROL WILL BE MAINTAINED UNTIL ALL UPSTREAM GROUND WITHIN THE CONSTRUCTION AREA HAS BEEN COMPLETELY STABILIZED WITH PERMANENT VEGETATION AND ALL ROADS/DRIVEWAYS HAVE BEEN PAVED.
8. FAILURE TO INSTALL, OPERATE OR MAINTAIN ALL THE EROSION CONTROL MEASURES WILL RESULT IN ALL CONSTRUCTION BEING STOPPED ON THE JOB SITE UNTIL SUCH MEASURES ARE CORRECTED BACK TO GEORGIA STANDARDS.
9. A COPY OF THE APPROVED LAND DISTURBANCE PLAN AND PERMIT SHALL BE PRESENT ON THE SITE WHENEVER LAND DISTURBANCE ACTIVITY IS IN PROGRESS.

CRITICAL AREAS:

1. EXISTING ROADS/SIDEWALKS
   - 1.1. A DOUBLE ROW OF SILT FENCE SHALL BE INSTALLED ALONG EXISTING EDGE OF PAVEMENT/SIDEWALK TO PREVENT SEDIMENT FROM ESCAPING.
   - 1.2. EXISTING INLETS SHALL BE PROTECTED W/ Sd2-F OR aD2-P AS SHOWN TO PREVENT CLOGGING OF EXISTING STORM PIPE. EXISTING PIPE SYSTEMS SHALL BE INSPECTED AND CLEANED AFTER EVERY RAINFALL.
2. THERE IS AN EXISTING STREAM ON THE WEST SIDE OF THE PARK. SILT FENCE WILL BE INSTALLED TO PROTECT THE STREAM FORM SILTATION.

DESCRIPTION OF MAJOR ACTIVITIES:

PHASE 1 EROSION CONTROL CONSISTS OF INITIAL PERIMETER CONTROLS, AND INSTALLATION OF SEDIMENT STORAGE BMPS.

PHASE 2 EROSION CONTROL CONSISTS OF MAINTENANCE OF THE PERIMETER CONTROLS AND SEDIMENT STORAGE BMPS INSTALLED IN PHASE 1. PHASE 2 ALSO INCLUDES CLEARING, GRADING AND EXCAVATION ACTIVITIES. STABILIZATION OF DISTURBED AREAS AND INSTALLATION OF BMPS TO PREVENT ESCAPE OF POLLUTANTS INTRODUCED BY CLEARING AND GRADING ACTIVITIES.

PHASE 3 EROSION CONTROL CONSISTS OF MAINTENANCE OF BMPS INSTALLED IN PHASES 1 & 2 AND FINAL STABILIZATION OF THE SITE AND REMOVAL OF ALL TEMPORARY EROSION CONTROL MEASURES ONCE THE SITE IS STABILIZED.

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

SWCD:_____

Project Name:__ Friendship Forest Wildlife Sancutary Address:_ 4380 E. Ponce de Leon Avenue

City/County:___ Clarkston/Dekalb Date on Plans:_____

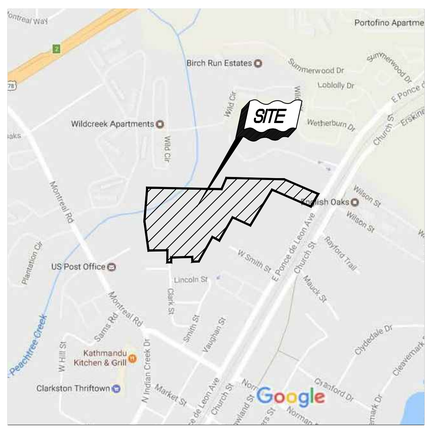
TO BE SHOWN ON ES&PC PLAN

Plan Page #	Included Y/N		
ATTCH	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)
15-18	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.)
15-18	Y	4	The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
15,19	Y	5	Provide the name, address and phone number of primary permittee.
15	Y	6	Note total and disturbed acreage of the project or phase under construction.
16,17	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.
15	Y	9	Description of the nature of construction activity.
15	Y	10	Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
15,19	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.
15-19	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.
19	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.*
16-18	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."*
16-18	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."
N/A	N/A	16	Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
16-18	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."*
16-18	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."*
16-18	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."
16-18	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."
16-18	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."
19	Y	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.*
19	Y	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.*
19	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.*
23	Y	25	Provide BMPs for the remediation of all petroleum spills and leaks.
19	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.*
19	Y	27	Description of the practices that will be used to reduce the pollutants in storm water discharges.*
15	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).
19	Y	29	Provide complete requirements of inspections and record keeping by the primary permittee.*
19	Y	30	Provide complete requirements of sampling frequency and reporting of sampling results.*
19	Y	31	Provide complete details for retention of records as per Part IV.F. of the permit.*
19	Y	32	Description of analytical methods to be used to collect and analyze the samples from each location.*
19	Y	33	Appendix B rationale for NTU values at all outfall sampling points where applicable.*
16-18	Y	34	Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*
16--18	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.*
16-18	Y	36	Graphic scale and North arrow.
16-18	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.gaswcc.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.*
16-18	Y	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
16-18	Y	41	Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
16	Y	42	Delineation and acreage of contributing drainage basins on the project site.
N/A	N/A	43	Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions.*
19	Y	44	An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
10,13	Y	45	Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
16	Y	46	Soil series for the project site and their delineation.
16-18	Y	47	The limits of disturbance for each phase of construction.
17	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 feasable, a written justification explaining this decision must be included in the plan.
16-18	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.
20-23	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.
20-23	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, 2017**



VICINITY MAP

SCALE:= N.T.S.

WARM WATER (SUPPORTING WARM WATER FISHERIES)

		SURFACE WATER DRAINAGE AREA, SQUARE MILES			
		0-4.99	5.0-9.99	10-24.99	25-49.99
	1.0-10	75	150	200	400
SITE SIZE (ACRES)	10.01-25	50	100	100	200
	25.01-50	50	50	100	100
	50.01-100	50	50	50	50

NOTE: NTU CHART TO BE USED IS WARM WATER.
ALL OUTLETS ON THIS SITE FALL UNDER THE SAME NTU VALUE. SITE SIZE IS 18± ACRES, SURFACE WATER DRAINAGE AREA IS 0-4.99 SMI. SEE NTU VALUE CIRCLED ABOVE

SAMPLE OUTFALLS:
STUDY PT #1 - WHERE S. FORK PEACHTREE CREEK ENTERS PROPERTY
STUDY PT #2 - WHERE S. FORK PEACHTREE CREEK LEAVES PROPERTY

SOIL CLASSIFICATION TABLE
AkA-ALTAVISTA FINE SANDY LOAM, 0-2% SLOPES
CuC-CECIL-URBAN LAND COMPLEX, 2-10% SLOPES
PfC-PACOLET SANDY LOAM, 2-6% SLOPES
PfD-PACOLET SANDY CLAY LOAM, 10-15% SLOPES

24 HOUR EMERGENCY CONTACT:
MR. LAWRENCE KAISER
(404) 909-5619

THIS SHEET IS FOR EROSION, SEDIMENT & POLLUTION CONTROL PURPOSES ONLY.

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

NON-EXEMPT ACTIVITIES SHALL NOT BE CONDUCTED WITHIN THE 25 OR 50 FOOT UNDISTURBED STREAM BUFFERS AS MEASURED FROM THE POINT OF WRESTED VEGETATION OR WITHIN 25-FEET OF THE COASTAL MARSHLAND BUFFER AS MEASURED FROM THE JURISDICTIONAL DETERMINATION LINE WITHOUT FIRST ACQUIRING THE NECESSARY VARIANCES AND PERMITS.

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

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REFER TO SHEETS C-20 TO C-23 FOR DETAILS AND NOTES

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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", 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 THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001.

Stephen Mark Bond
STEPHEN MARK BOND, P.E. GSWCC # 11367

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

Stephen Mark Bond
STEPHEN MARK BOND, P.E. GSWCC # 11367

I CERTIFY THAT THE GEORGIA'S 2008 GIS IMPAIRED STREAMS DATA HAS BEEN CONSULTED AND THE SITE DOES NOT LIE WITHIN 1 LINEAR MILE UPSTREAM OF AN IMPAIRED STREAM OR WITHIN THE SAME WATERSHED AS ANY PORTION OF AN BIOTA IMPAIRED STREAM SEGMENT.

Stephen Mark Bond
STEPHEN MARK BOND, P.E. GSWCC # 11367

ACTIVITY SCHEDULE

ACTIVITY	WEEK 1	WEEK 2	WEEK 3	WEEK 4	WEEK 5	WEEK 6	WEEK 7	WEEK 8	WEEK 9	WEEK 10	WEEK 11	WEEK 12	WEEK 13	WEEK 14	WEEK 15	WEEK 16	WEEK 17	WEEK 18	WEEK 19	WEEK 20	WEEK 21	WEEK 22	WEEK 23	WEEK 24	WEEK 25	WEEK 26	WEEK 27	WEEK 28
INSTALLATION OF EROSION CONTROL TREE SAVE/FENCING																												
CLEARING AND GRUBBING																												
GRADING ACTIVITIES																												
INSTALLATION OF SANITARY SEWER																												
INSTALLATION OF STORM SEWER																												
STABILIZATION OF SITE																												
INSTALLATION OF WATER																												
INSTALLATION OF PAVING																												
STABILIZATION OF SITE PERMANENT GRASSING																												
MAINTENANCE OF EROSION CONTROL																												
REMOVAL OF EROSION CONTROL AND CLEAN OUT STORM PIPES																												

TOTAL SITE AREA = 18.34 ACRES TOTAL DISTURBED AREA = 6 AC ±

SHOULD DISTURBED AREA EXCEED THE GAR 10000 PERMIT LIMITS, MONITORING SHALL APPLY TO THIS DEVELOPMENT.

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS
4145 SHACKLEFORD ROAD
SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
FAX: (770) 923-4202

CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	Date	By	Appr.
1	BID SET	09-15-17	KEH	SMB

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

Stephen Mark Bond

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

EROSION CONTROL NOTES

Sheet Number

C-15

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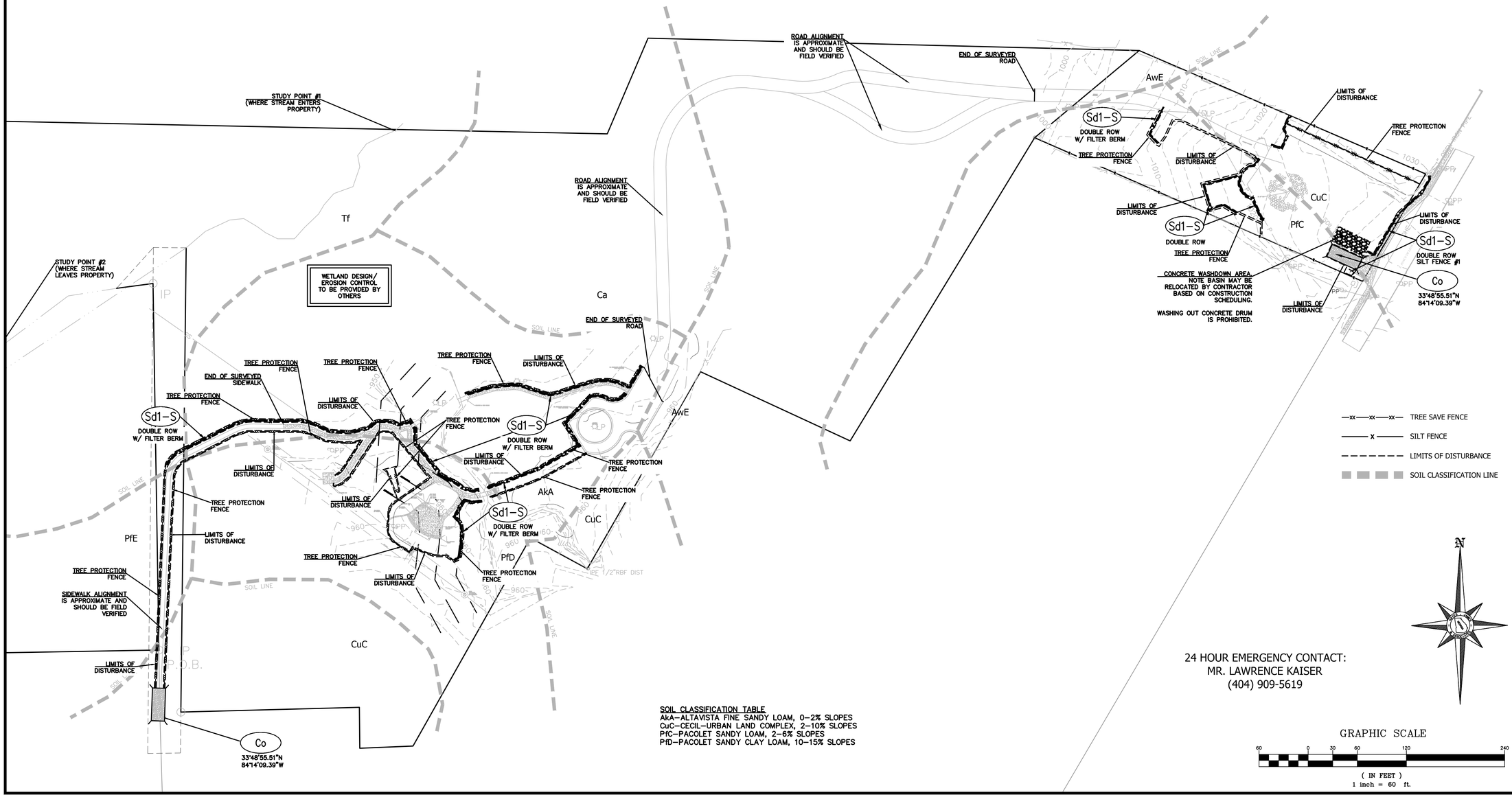

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CuC-CECIL-URBAN LAND COMPLEX, 2-10% SLOPES
PfC-PACOLET SANDY LOAM, 2-6% SLOPES
PfD-PACOLET SANDY CLAY LOAM, 10-15% SLOPES

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GRAPHIC SCALE
60 0 30 60 120 240
(IN FEET)
1 inch = 60 ft.

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ISSUE

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Stephen Mark Bond

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Land Lot	119
District-Section	18
County	DEKALB

Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

EROSION CONTROL PLAN - PHASE 1

Sheet Number

C-16

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", 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 THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001.

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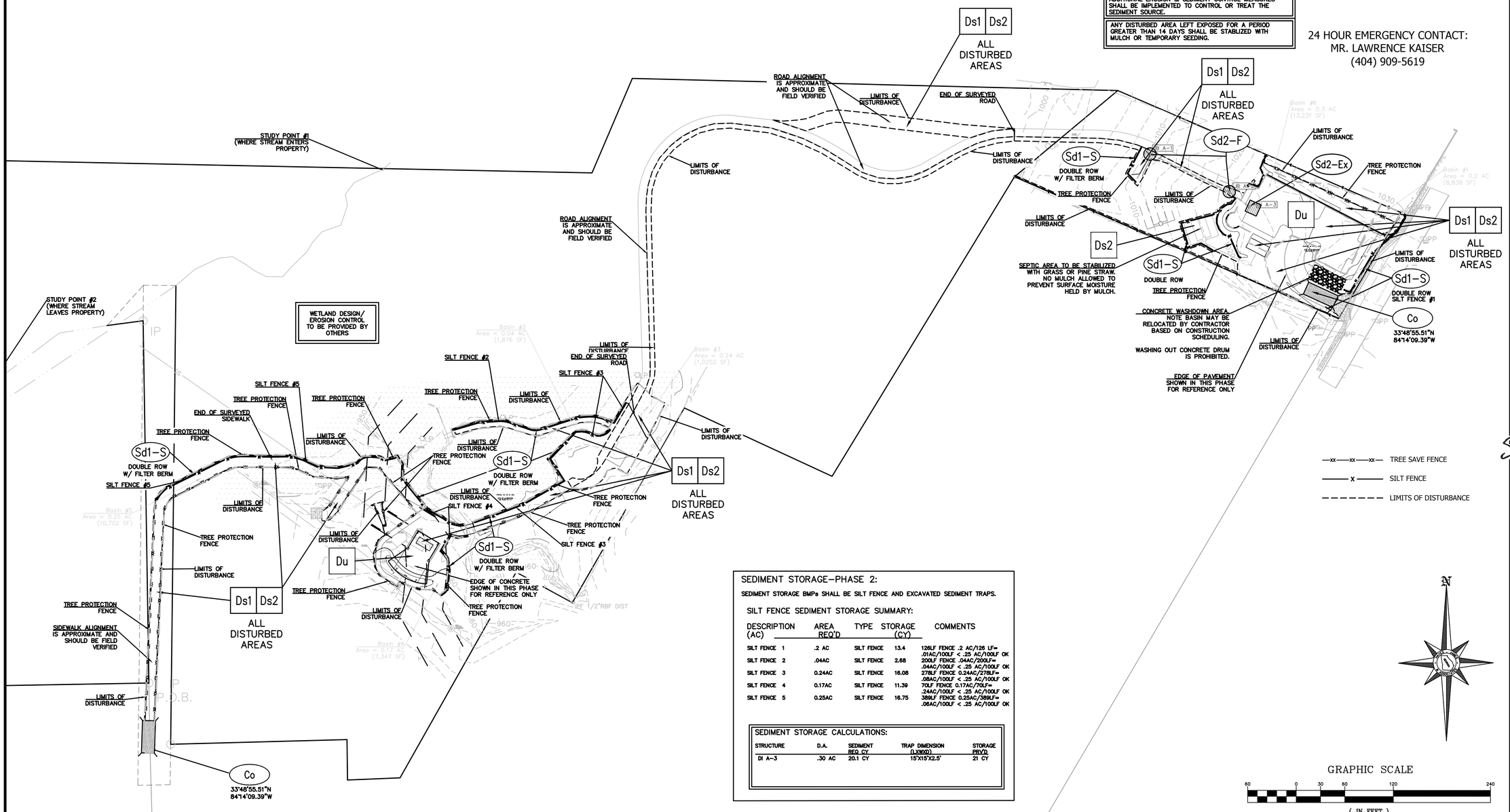
Stephen Mark Bond

STEPHEN MARK BOND, P.E. GSWCC # 11367

THIS SHEET IS FOR EROSION, SEDIMENT & POLLUTION CONTROL PURPOSES ONLY.	ADDITIONAL EROSION & SEDIMENT CONTROL MEASURES WILL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION
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.	NOTE: CONTRACTOR SHALL REFERENCE THE LATEST EDITION OF THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" FOR THE CONSTRUCTION, MAINTENANCE AND DISPOSAL OF ALL EROSION AND SEDIMENT CONTROL MEASURES.
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.	REFER TO SHEETS C-20 TO C-23 FOR DETAILS AND NOTES
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	UPON NOTIFICATION AND AUTHORIZATION OF THE OWNER, THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS RESPONSIBLE FOR INSPECTING THE INSTALLATION OF THE BMP'S WITHIN 7 DAYS AFTER INITIAL CONSTRUCTION ACTIVITIES BEGINS. THE FAILURE TO OBTAIN THE INSPECTION IS A VIOLATION OF THE NPDES PERMIT.
WASTE MATERIALS SHALL NOT BE DISCHARGED TO WATERS OF THE STATE, EXCEPT AS AUTHORIZED BY A SECTION 404 PERMIT.	
THE ESCAPE OF SEDIMENT FROM THE SITE SHALL BE PREVENTED BY THE INSTALLATION OF EROSION CONTROL MEASURES AND PRACTICES PRIOR TO, OR CONCURRENT WITH, LAND-DISTURBING ACTIVITIES.	
EROSION CONTROL MEASURES WILL BE MAINTAINED AT ALL TIMES. IF FULL IMPLEMENTATION OF APPROVED PLANS DOES NOT PROVIDE FOR EFFECTIVE EROSION CONTROL, ADDITIONAL EROSION & SEDIMENT CONTROL MEASURES SHALL BE IMPLEMENTED TO CONTROL OR TREAT THE SEDIMENT SOURCE.	
ANY DISTURBED AREA LEFT EXPOSED FOR A PERIOD GREATER THAN 14 DAYS SHALL BE STABLIZED WITH MULCH OR TEMPORARY SEEDING.	

24 HOUR EMERGENCY CONTACT:
MR. LAWRENCE KAISER
(404) 909-5619



—xx—xx—xx— TREE SAVE FENCE

—x— SILT FENCE

- - - - - - - LIMITS OF DISTURBANCE

SEDIMENT STORAGE-PHASE 2:

SEDIMENT STORAGE BMPs SHALL BE SILT FENCE AND EXCAVATED SEDIMENT TRAPS.

SILT FENCE SEDIMENT STORAGE SUMMARY:

DESCRIPTION	AREA (AC)	TYPE REQ'D	STORAGE (CY')	COMMENTS
SILT FENCE 1	.2 AC	SILT FENCE	13.4	126LF FENCE .2 AC/126 LF= .01AC/100LF < .25 AC/100LF OK
SILT FENCE 2	.04AC	SILT FENCE	2.68	200LF FENCE .04AC/200LF= .04AC/100LF < .25 AC/100LF OK
SILT FENCE 3	0.24AC	SILT FENCE	16.08	278LF FENCE 0.24AC/278LF= .08AC/100LF < .25 AC/100LF OK
SILT FENCE 4	0.17AC	SILT FENCE	11.39	70LF FENCE 0.17AC/70LF= .24AC/100LF < .25 AC/100LF OK
SILT FENCE 5	0.25AC	SILT FENCE	16.75	388LF FENCE 0.25AC/388LF= .06AC/100LF < .25 AC/100LF OK

SEDIMENT STORAGE CALCULATIONS:

STRUCTURE	D.A.	SEDIMENT REQ CY	TRAP DIMENSION (LXWXD)	STORAGE PRV'D
DI A-3	.30 AC	20.1 CY	15'X15'X2.5'	21 CY

N

GRAPHIC SCALE

60 0 30 60 120 240

(IN FEET)
1 inch = 60 ft.

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS
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SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
FAX: (770) 923-4202

CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	By	Appr.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

GEORGIA REGISTERED NO. 27475 PROFESSIONAL ENGINEER STEPHEN MARK BOND

Stephen Mark Bond

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

EROSION CONTROL PLAN - PHASE 2

Sheet Number

C-17

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", 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 THE DESIGNED SYSTEM OF BEST MANAGEMENT PRACTICES AND SAMPLING METHODS IS EXPECTED TO MEET THE REQUIREMENTS CONTAINED IN THE GENERAL NPDES PERMIT NO. GAR 100001.

STEPHEN MARK BOND, P.E. GSWCC # 11367

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

STEPHEN MARK BOND, P.E. GSWCC # 11367

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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	UPON NOTIFICATION AND AUTHORIZATION OF THE OWNER, THE DESIGN PROFESSIONAL WHO PREPARED THE ES&PC PLAN IS RESPONSIBLE FOR INSPECTING THE INSTALLATION OF THE BMP'S WITHIN 7 DAYS AFTER INITIAL CONSTRUCTION ACTIVITIES BEGINS. THE FAILURE TO OBTAIN THE INSPECTION IS A VIOLATION OF THE NPDES PERMIT.
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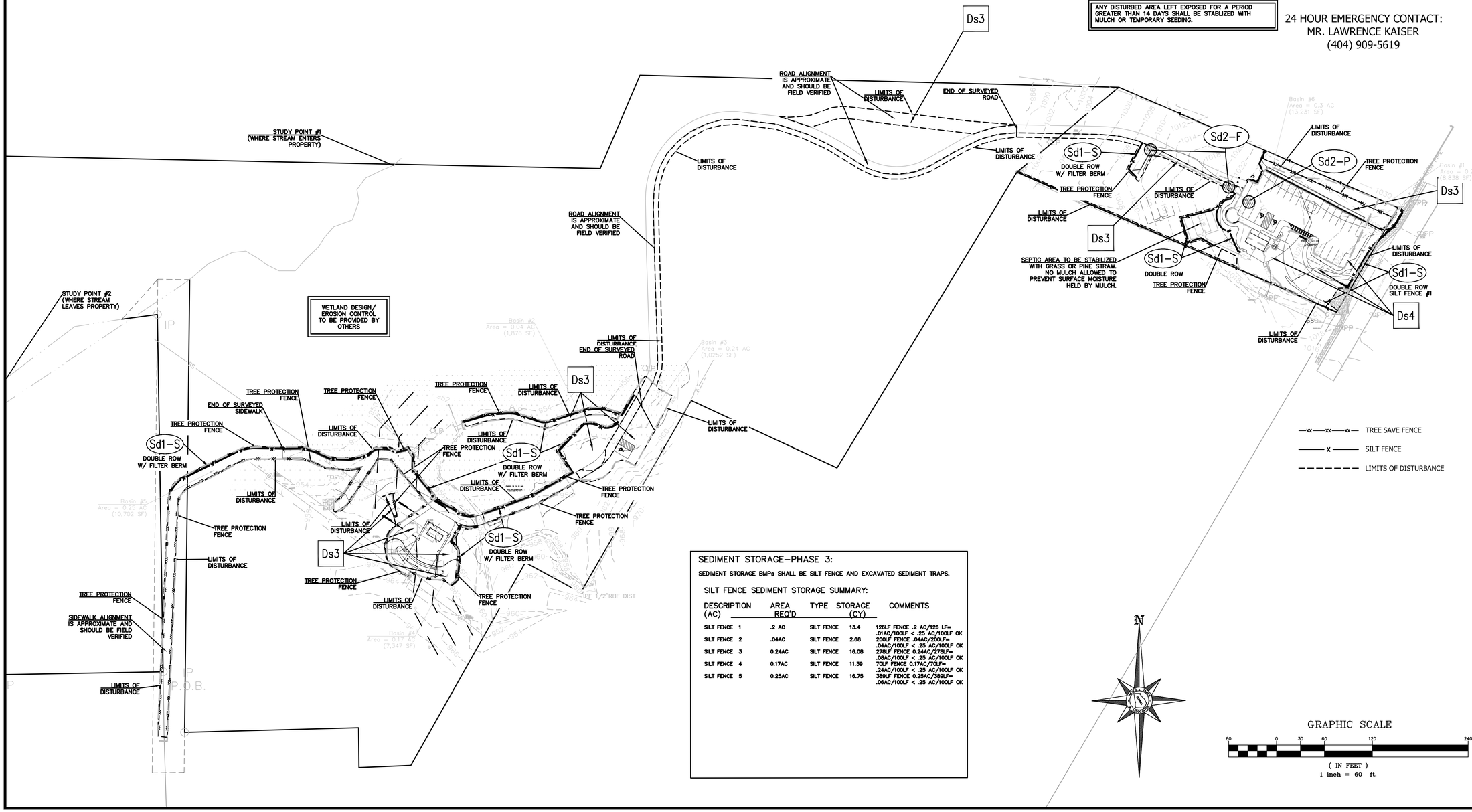

—xx—xx—xx— TREE SAVE FENCE

—— x —— SILT FENCE

– – – – – – – LIMITS OF DISTURBANCE

SEDIMENT STORAGE-PHASE 3:

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SILT FENCE SEDIMENT STORAGE SUMMARY:

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No.	Description	Date	By	Appr.
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GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

Stephen Mark Bond

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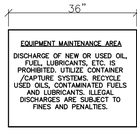
Sheet Title

EROSION CONTROL PLAN - PHASE 3

Sheet Number

C-18



NPDES PLAN FOR COMPLIANCE WITH STAND ALONE CONSTRUCTION GAR100001

PERMIT COVERAGE AREA: GAR100001 PART I.A

THIS PERMIT REGULATES POINT SOURCE DISCHARGES OF STORM WATER TO THE WATERS OF THE STATE OF GEORGIA FROM CONSTRUCTION ACTIVITIES, AS DEFINED IN THIS PERMIT.

DEFINITIONS:

ALL TERMS USED IN THIS PERMIT SHALL BE INTERPRETED IN ACCORDANCE WITH THE DEFINITIONS AS SET FORTH IN THE GEORGIA QUALITY CONTROL ACT (ACT) AND THE GEORGIA RULES AND REGULATIONS FOR WATER QUALITY CONTROL CHAPTER 391-3-6 (RULES), UNLESS OTHERWISE DEFINED IN THIS PERMIT: SEE GAR10001 PART I.B,

SITE DESCRIPTION

PROJECT NAME: FRIENDSHIP FOREST PARK RENOVATIONS	PROJECT ADDRESS: 4380 E. PONCE DE LEON AVENUE, CLARKSTON, GA 30021	OWNERS NAME: CITY OF CLARKSTON
OWNERS ADDRESS: 1055 ROWLAND STREET CLARKSTON, GA 30021	OWNER'S CONTACT: KEITH BARKER 404-296-6489	FACILITY'S CONTACT: **<SUPERINTENDENT>** **<SUPER'S PHONE #>**
OPERATOR'S NAME: **<CONTRACTOR'S NAME>**	OPERATOR'S ADDRESS: **<CONTRACTOR'S ADDRESS>**	LOCAL ISSUING AUTHORITY: CITY OF CLARKSTON 404-296-6489

GENERAL PURPOSE AND DESCRIPTION OF SOIL DISTURBING ACTIVITY

THE PROPOSED PROJECT WILL CONSIST OF ADDING AN ASPHALT PARKING LOT AND RESTROOM BUILDING AT THE E. PONCE DE LEON SIDE OF THE PARK, REDUCE THE EXISTING ASPHALT DRIVEWAY TO 10' WIDE, REMOVE THE EXISTING CUL-DE-SAC, REPLACE THE EXISTING PAVILION/RESTROOM BUILDING WITH LARGER STRUCTURES. SEVERAL OF THE CONCRETE TRAILS WILL BE WIDENED TO 10' AND CONVERTED TO ASPHALT. OTHER MULCH TRAILS WILL BE CONSTRUCTED AND ONE CONCRETE BRIDGE WILL BE REPLACED WITH A WOODEN BRIDGE. STORM WATER QUALITY AND CONTROL WILL BE PROVIDED ON-SITE BY OVERLAND FLOW INTO THE EXISTING LOWLAND/ PROPOSED WETLANDS AREAS. EROSION AND SEDIMENTATION CONTROL SUCH AS SILT FENCING, CHECK DAMS AND TEMPORARY AND PERMANENT SEEDING SHALL BE USED TO PREVENT SEDIMENT FROM LEAVING THE CONSTRUCTION SITE. STATE WATERS HAVE BEEN DELINEATED BY HAYES, JAMES & ASSOC. AND LOCATED WITH THE LOW LYING FLOOD PLAIN AREA. THE PRE CONSTRUCTION RUNOFF CURVE NUMBER IS .28. THE POST CONSTRUCTION RUNOFF CURVE NUMBER IS .24.

PARCEL AREA:	18.34 ACRES	START DATE:	12-01-17
DISTURBED AREA:	2.0 ACRES	COMPLETION DATE:	12-01-18
TYPE OF CONSTRUCTION:	PARK	GPS LOCATION OF Co:	N 33°48'55.51" W 84°14'09.39"

GAR100001 PART IV.B.2-3

THE PRIMARY PERMITTEE SHALL MAKE PLANS AVAILABLE UPON REQUEST TO THE EPD; TO DESIGNATED OFFICIALS OF THE LOCAL GOVERNMENT REVIEWING SOIL EROSION AND SEDIMENT CONTROL PLANS, GRADING PLANS, OR STORM WATER MANAGEMENT PLANS; OR IN THE CASE OF A STORM WATER DISCHARGE ASSOCIATED WITH CONSTRUCTION ACTIVITY WHICH DISCHARGES THROUGH A MUNICIPAL SEPARATE STORM SEWER SYSTEM WITH AN NPDES PERMIT, TO THE LOCAL GOVERNMENT OPERATING THE MUNICIPAL SEPARATE STORM SEWER SYSTEM.

EPD MAY NOTIFY THE PRIMARY PERMITTEE AT ANY TIME THAT THE PLAN DOES NOT MEET ONE OR MORE OF THE MINIMUM REQUIREMENTS OF THIS PART. WITHIN SEVEN (7) DAYS OF SUCH NOTIFICATION (OR AS OTHERWISE PROVIDED BY EPD), THE PRIMARY PERMITTEE SHALL MAKE THE REQUIRED CHANGES TO THE PLAN AND SHALL SUBMIT TO EPD EITHER THE AMENDED PLAN OR A WRITTEN CERTIFICATION THAT THE REQUESTED CHANGES HAVE BEEN MADE.

MANAGEMENT PRACTICES AND PERMIT VIOLATIONS

1. BEST MANAGEMENT PRACTICES, AS SET FORTH IN THE PERMIT, ARE REQUIRED FOR ALL CONSTRUCTION ACTIVITIES, AND MUST BE IMPLEMENTED IN ACCORDANCE WITH THE DESIGN SPECIFICATION CONTAINED IN THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBING ACTIVITY WAS PERMITTED TO PREVENT OR REDUCE THE POLLUTION OF WATERS OF GEORGIA. PROPER DESIGN, INSTALLATION, AND MAINTENANCE OF BEST MANAGEMENT PRACTICES SHALL CONSTITUTE A COMPLETE DEFENSE TO ANY ACTION BY THE DIRECTOR OR TO ANY ALLEGATION OF NON COMPLIANCE WITH PART III.D.3. AND PART III.D.4.

2. EXCEPT AS REQUIRED TO INSTALL THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS AS DESCRIBED IN PART IV.D.3., THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS MUST BE INSTALLED AND IMPLEMENTED PRIOR TO CONDUCTING ANY OTHER CONSTRUCTION ACTIVITIES (E.G., CLEARING, GRUBBING AND GRADING) WITHIN THE CONSTRUCTION SITE OR WHEN APPLICABLE, WITHIN PHASED SUB-PARTS OR SEGMENTS OF THE CONSTRUCTION SITE. FAILURE TO COMPLY SHALL CONSTITUTE A VIOLATION OF THIS PERMIT FOR EACH DAY ON WHICH CONSTRUCTION ACTIVITIES OCCUR. THE DESIGN PROFESSION WHO PREPARED THE PLAN MUST INSPECT THE INITIAL SEDIMENT STORAGE REQUIREMENTS AND PERIMETER CONTROL BMPS IN ACCORDANCE WITH PART IV.A.5. WITHIN SEVEN (7) DAYS AFTER INSTALLATION.

3. FAILURE TO PROPERLY DESIGN, INSTALL, OR MAINTAIN BEST MANAGEMENT PRACTICES SHALL CONSTITUTE A VIOLATION OF THIS PERMIT FOR EACH DAY ON WHICH SUCH FAILURE OCCURS. BMP MAINTENANCE AS A RESULT OF THE PERMITTEE'S ROUTINE INSPECTIONS SHALL NOT BE CONSIDERED A VIOLATION FOR THE PURPOSES OF THIS PARAGRAPH. IF DURING THE COURSE OF THE PERMITTEE'S ROUTINE INSPECTION BMP FAILURES ARE OBSERVED WHICH HAVE RESULTED IN SEDIMENT DEPOSITION INTO WATERS OF THE STATE, THE PERMITTEE SHALL CORRECT THE BMP FAILURES AND SHALL SUBMIT A SUMMARY OF THE VIOLATIONS TO EPD IN ACCORDANCE WITH PART V.A.2. OF THIS PERMIT.

4. A DISCHARGE OF STORM WATER RUNOFF FROM DISTURBED AREAS WHERE BEST MANAGEMENT PRACTICES HAVE NOT BEEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED SHALL CONSTITUTE A SEPARATE VIOLATION FOR EACH DAY ON WHICH SUCH DISCHARGE RESULTS IN THE TURBIDITY OF RECEIVING WATER(S) BEING INCREASED BY MORE THAN TEN (10) NEPHELOMETRIC TURBIDITY UNITS FOR WATERS CLASSIFIED AS TROUT STREAMS OR MORE THAN TWENTY-FIVE (25) NEPHELOMETRIC TURBIDITY UNITS FOR WATERS SUPPORTING WARM WATER FISHERIES, REGARDLESS OF A PERMITTEE'S CERTIFICATION UNDER PART II.B.1.I. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY HOMES WHICH ARE NOT PART OF A SUBDIVISION OR PLANNED COMMON DEVELOPMENT UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED.

5. WHEN THE PERMITTEE HAS ELECTED TO SAMPLE OUTFALL(S), THE DISCHARGE OF STORM WATER RUNOFF FROM DISTURBED AREAS WHERE BEST MANAGEMENT PRACTICES HAVE NOT BEEN PROPERLY DESIGNED, INSTALLED, AND MAINTAINED SHALL CONSTITUTE A SEPARATE VIOLATION FOR EACH DAY ON WHICH SUCH CONDITION RESULTS IN THE TURBIDITY OF THE DISCHARGE EXCEEDING THE VALUE SELECTED FROM APPENDIX B APPLICABLE TO THE CONSTRUCTION SITE. AS SET FORTH THEREIN, THE NEPHELOMETRIC TURBIDITY UNIT (NTU) VALUE SHALL BE SELECTED FROM APPENDIX B BASED ON THE SIZE OF THE CONSTRUCTION SITE, THE SURFACE WATER DRAINAGE AREA AND WHETHER THE RECEIVING WATER(S) SUPPORTS WARM WATER FISHERIES OR IS A TROUT STREAM AS INDICATED IN THE RULES AND REGULATIONS FOR WATER QUALITY CONTROL, CHAPTER 391-3-6 AT WWW.GAEPT.ORG.

INITIAL RECEIVING WATER NAME: SOUTH FORK PEACHTREE CREEK	RECEIVING WATER TYPE: WARM WATER FISHERIES STREAM	RUNOFF COEFFICIENTS: PRE: 0.28 POST: 0.24
SAMPLE TYPE: SAMPLING OF SOUTH FORK PEACHTREE CREEK	NTU VALUE: (36) 50	SURFACE WATER DRAINAGE AREA: < 1 SQ MILES

EROSION & SEDIMENT CONTROLS

THE CONTRACTOR SHALL INSTALL ALL INITIAL PERIMETER CONTROL BMP'S PRIOR TO SITE CLEARING AND GRUBBING AS SHOWN ON THE INITIAL EROSION, POLLUTION AND SEDIMENTATION CONTROL PLAN. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD WITHIN 7 DAYS AFTER THE INITIAL CONSTRUCTION ACTIVITIES COMMENCE TO INSPECT THE INSTALLATION OF THE INITIAL CONTROL MEASURES (BMPS) WHICH THE DESIGN PROFESSIONAL DESIGNED. AS REPORT NOTED IN ANY DEFICIENCIES WILL BE ISSUED TO THE PRIMARY PERMITTEE WITHIN 7 DAYS OF THE INSPECTION AND THE CONTRACTOR MUST CORRECT ALL DEFICIENCIES WITHIN 2 DAYS OF RECEIPT OF INSPECTION REPORT AND MUST BE REINSPECTED UNLESS WEATHER RELATED SITE CONDITIONS ARE SUCH THAT ADDITIONAL TIME IS REQUIRED. CONTRACTOR MUST NOTIFY AND EXPLAIN TO THE OWNER IF THERE ARE WEATHER RELATED DELAYS. NO FURTHER LAND DISTURBANCE ACTIVITY SHALL BE DONE WITHOUT PRIOR APPROVAL IN WRITING BY ENGINEER OR RECORD. INTERMEDIATE EROSION CONTROL MEASURES SHALL BE IMPLEMENTED DURING MASS CLEARING AND EARTHWORK PHASES AS SHOWN ON THE INTERMEDIATE EROSION, POLLUTION, AND SEDIMENTATION CONTROL PLAN. FINAL EROSION CONTROL MEASURES SHALL BE IMPLEMENTED AFTER MASS CLEARING, GRUBBING, EARTHWORK AND UTILITY CONSTRUCTION UNTIL THE SITE REACHES FINAL STABILIZATION AS SHOWN ON THE FINAL EROSION, POLLUTION AND SEDIMENTATION PLAN. ADDITIONAL EROSION CONTROLS MEASURES MAY BE REQUIRED DURING CONSTRUCTION ACTIVITY.

STABILIZATION PRACTICES

ALL STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, BUT IN NO CASE MORE THAN 7 DAYS AFTER THE CONSTRUCTION ACTIVITY IN THAT PORTION OF THE SITE HAS TEMPORARILY OR PERMANENTLY CEASED.

WHERE THE INITIATION OF STABILIZATION MEASURES BY THE 7TH DAY AFTER CONSTRUCTION ACTIVITY TEMPORARILY OR PERMANENTLY CEASE IS PRECLUDED BY SNOW COVER OR OTHER ADVERSE WEATHER CONDITIONS, STABILIZATION MEASURES SHALL BE INITIATED AS SOON AS PRACTICABLE.

WHERE CONSTRUCTION ACTIVITY WILL RESUME ON A PORTION OF THE SITE WITHIN 21 DAYS FROM WHEN ACTIVITIES CEASED, (E.G. THE TOTAL TIME PERIOD THAT CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED IS LESS THAT 21 DAYS) THEN STABILIZATION MEASURES DO NOT HAVE TO BE INITIATED ON THAT PORTION OF THE SITE BY THE 14TH DAY AFTER CONSTRUCTION ACTIVITY IS TEMPORARILY CEASED.

SEQUENCE OF MAJOR CONSTRUCTION ACTIVITY:

THE SEQUENCE OF MAJOR CONSTRUCTION ACTIVITIES ARE AS FOLLOWS.

1. INSTALLATION OF INITIAL PERIMETER EROSION, POLLUTION AND SEDIMENT CONTROL MEASURES AND THE CLEARING NECESSARY FOR THE INITIAL PERIMETER EROSION & SEDIMENT CONTROLS ONLY.
2. INSPECTION OF INITIAL MEASURES BY ENGINEER OF RECORD
3. MAKE ANY CORRECTIONS TO THE ESPC DEVICES AS NOTED BY INSPECTION IF NECESSARY
4. APPROVAL OF INITIAL EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN
5. CLEARING & GRUBBING
6. SAMPLING OF THE FIRST QUALIFIED RAIN EVENT AFTER MASS CLEARING & GRADING HAVE BEEN COMPLETED.
7. INSTALLATION OF INTERMEDIATE EROSION, POLLUTION AND SEDIMENTATION CONTROL MEASURES
8. MASS GRADING & UTILITY CONSTRUCTION
9. SAMPLING 90 DAYS AFTER FIRST SAMPLE OR COMPLETION OF MASS GRADING, WHICHEVER IS FIRST.
10. INSTALLATION OF GRAVEL SUBBASE FOR ROADS & PARKING LOTS
11. INSTALLATION OF WATER QUALITY MEASURES
12. INSTALLATION OF FINAL EROSION CONTROL MEASURES
13. FINE GRADING AND PAVING
14. FINAL GRASSING OF DISTURBED AREAS
15. STABILIZATION OF ALL DISTURBED AREAS
16. REMOVAL OF ALL EROSION CONTROL MEASURES.
17. FILE NOTICE OF TERMINATION
18. FINISH INTERIOR OF BUILDING.

STRUCTURAL PRACTICES

ALL STRUCTURAL PRACTICES SHALL BE INSTALLED PER THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBANCE ACTIVITY WAS PERMITTED. STRUCTURAL PRACTICES SHOULD BE PLACED ON UPLAND SOILS TO THE DEGREE ATTAINABLE.

SEDIMENT PONDS SHALL BE PLACED AT THE DOWN STREAM POINT OF ALL DRAINAGE AREAS AS TO PROVIDED SIXTY-SEVEN (67) CUBIC YARDS OF SEDIMENT STORAGE AND INSTALLED AS RECOMMENDED BY "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBANCE ACTIVITY WAS PERMITTED.

SILT FENCES AND SILT BARRIERS SHALL BE INSTALLED AS RECOMMENDED BY "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBANCE ACTIVITY WAS PERMITTED. ALL DISTURBED AREAS SHALL HAVE A SILT BARRIER AT THE DOWN STREAM AREAS.

DIVERSION DITCHES AND SHALL HAVE INLET SEDIMENT TRAPS INSTALLED THROUGHOUT THE SITE DURING MASS GRADING TO ENSURE ALL SEDIMENT IS ROUTED TO A SEDIMENT STORAGE AREA. DOWN DRAINS SHALL BE INSTALLED ON ALL CUT AND FILL SLOPES WHERE A CONCENTRATION OF STORM WATER COULD CAUSE EROSION DAMAGE. DIVERSION DITCHES AND DOWN DRAINS SHALL BE INSTALLED PER THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBANCE ACTIVITY WAS PERMITTED.

ALL EXISTING AND NEW INLETS SHALL BE INSTALLED PER THE "MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA" PUBLISHED BY THE STATE SOIL AND WATER CONSERVATION COMMISSION AS OF JANUARY 1 OF THE YEAR IN WHICH THE LAND-DISTURBANCE ACTIVITY WAS PERMITTED AT ALL INLETS THAT MAY IN RECEIVED ANY STORM WATER RUNOFF OF FROM ANY DISTURBED AREA.

IMPAIRED STREAMS

THIS PROJECT IS LOCATED WITHIN ONE (1) LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATER SHED AS, ANY PORTION OF AN IMPAIRED STREAM SEGMENT.

IN ORDER TO ENSURE THAT THE PERMITTEE'S DISCHARGE(S) DO NOT CAUSE OR CONTRIBUTE TO A VIOLATION OF STATE WATER QUALITY STANDARDS, THE PLAN MUST INCLUDE AT LEAST FOUR (4) OF THE FOLLOWING BEST MANAGEMENT PRACTICES (BMPS) FOR THOSE AREAS OF THE SITE WHICH DISCHARGE INTO OR WITHIN ONE (1) LINEAR MILE UPSTREAM AND WITHIN THE SAME WATERSHED AS THE IMPAIRED STREAM SEGMENT:

A. A LARGE SIGN (MINIMUM 4 FEET X 8 FEET) MUST BE ON THE SITE ON THE ACTUAL START DATE OF CONSTRUCTION VISIBLE FROM A PUBLIC ROADWAY IDENTIFYING THE CONSTRUCTION SITE, THE PERMITTEE(S), AND THE CONTACT PERSON(S) AND TELEPHONE NUMBER(S) UNTIL A N.O.T. HAS BEEN SUBMITTED.
B. USE MULCH TO STABILIZE ALL AREAS LEFT DISTURBED FOR MORE THAN SEVEN (7) CALENDAR DAYS IN ACCORDANCE WITH PART III.D.1. OF THIS PERMIT.
C. CONDUCT TURBIDITY SAMPLING AFTER EVERY RAIN EVENT OF 0.5 INCH OR GREATER WITHIN ANY 24 HOUR PERIOD, RECOGNIZING THE EXCEPTIONS SPECIFIED IN PART IV.D.6.d. OF THIS PERMIT..
D. USE MULCH FILTER BERMS, IN ADDITION TO A SILT FENCE, ON THE SITE PERIMETER WHEREVER CONSTRUCTION STORM WATER (INCLUDING SHEET FLOW) MAY BE DISCHARGED. MULCH FILTER BERMS CANNOT BE PLACED IN WATERWAYS OR AREAS OF CONCENTRATED FLOW.

STATE WATERS PROTECTION PRACTICES

1. STATE WATER BUFFER SHALL BE CLEARLY IDENTIFIED WITH SIGNAGE. SAID SIGNAGE SHALL READ AS FOLLOWS:

2. SIGNS SHALL BE PLACED EVERY FORTY (40) FEET ALONG THE OUTSIDE BOUNDARY PARALLEL WITH ANY STATE BUFFER IDENTIFIED ON THE SITE.
3. SIGNS SHALL BE A WEATHERPROOF AND BE MINIMUM 11" X 17" 7 MOUNTED ON 5FT HIGH SIGN POST. DO NOT POST SIGNS ON TREES
4. TREE SAVE TAPE SHALL BE INSTALLED BETWEEN SIGNS TO OUTLINE STREAM BUFFER

GAR 100001 PART IV. EROSION, SEDIMENT AND POLLUTION CONTROL PLAN

(i) EXCEPT AS PROVIDED IN PART IV.(iii) BELOW, NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A 25 FOOT BUFFER ALONG THE BANKS OF ALL STATE WATERS, AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION, EXCEPT WHERE THE DIRECTOR HAS DETERMINED TO ALLOW A VARIANCE THAT IS AT LEAST PROTECTIVE OF NATURAL RESOURCES AND THE ENVIRONMENT WITH PROVISIONS OF O.C.G.A. 12-7-6, OR WHERE A DRAINAGE STRUCTURE OR A ROADWAY DRAINAGE STRUCTURE MUST BE CONSTRUCTED, PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED IN THE PROJECT PLANS AND SPECIFICATIONS AND ARE IMPLEMENTED, OR ALONG ANY EPHEMERAL STREAM, OR WHERE BULKHEADS AND SEAWALLS MUST BE CONSTRUCTED TO PREVENT THE EROSION OF THE SHORELINE ON LAKE OCONEE AND LAKE SNCLAIR. THE BUFFER SHALL NOT APPLY TO THE ACTIVITIES SHOWN IN PART IV.(i).(1)-(8), PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED INTO THE PROJECT PLANS AND SPECIFICATIONS ARE IMPLEMENTED;

(ii) NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A 50 FOOT BUFFER, AS MEASURED HORIZONTALLY FROM THE POINT WHERE VEGETATION HAS BEEN WRESTED BY NORMAL STREAM FLOW OR WAVE ACTION, ALONG THE BANKS OF ANY STATE WATERS CLASSIFIED AS 'TROUT STREAMS' EXCEPT WHEN APPROVAL IS GRANTED BY THE DIRECTOR FOR ALTERNATE BUFFER REQUIREMENTS IN ACCORDANCE WITH THE PROVISIONS OF O.C.G.A. 12-7-6, OR WHERE A ROADWAY DRAINAGE STRUCTURE MUST BE CONSTRUCTED; PROVIDED, HOWEVER, THAT SMALL SPRINGS AND STREAMS CLASSIFIED AS 'TROUT STREAMS' WHICH DISCHARGE AN AVERAGE ANNUAL FLOW OF 25 GALLONS PER MINUTE OR LESS SHALL HAVE A 25 FOOT BUFFER OR THEY MAY BE PIPED, AT THE DISCRETION OF THE PERMITTEE, PURSUANT TO THE TERMS OF A RULE PROVIDING FOR A GENERAL VARIANCE PROMULGATED BY THE BOARD OF NATURAL RESOURCES INCLUDING NOTIFICATION OF SUCH TO EPD AND THE LOCAL ISSUING AUTHORITY OF THE LOCATION AND EXTENT OF THE PIPING AND PRESCRIBED METHODOLOGY FOR MINIMIZING THE IMPACT OF SUCH PIPING AND FOR MEASURING THE VOLUME OF WATER DISCHARGED BY THE STREAM. ANY SUCH PIPE MUST STOP SHORT OF DOWNSTREAM PERMITTEE'S PROPERTY, AND THE PERMITTEE MUST COMPLY WITH THE BUFFER REQUIREMENT FOR ANY ADJACENT TROUT STREAMS. THE BUFFER SHALL NOT APPLY TO THE ACTIVITIES SHOWN IN PART IV.(ii).(1)-(8), PROVIDED THAT ADEQUATE EROSION CONTROL MEASURES ARE INCORPORATED INTO THE PROJECT PLANS AND SPECIFICATIONS ARE IMPLEMENTED;

(iii) EXCEPT AS PROVIDED IV.(iv), NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A 25 FOOT BUFFER ALONG COASTAL MARSHLANDS, AS MEASURED HORIZONTALLY FROM THE COASTAL MARSHLAND-UPLAND INTERFACE, AS DETERMINED IN ACCORDANCE WITH PART 4 OF ARTICLE FOR OF CHAPTER 5 OF TITLE 12, THE "COASTAL MARSHLANDS PROTECTION ACT OF 1970," AND THE RULES AND REGULATIONS PROMULGATED THEREUNDER. FOR ADDITION RULES AND EXCEPTIONS, SEE PART IV.(iii) AND PART IV.(iii).(1)-(9);

(iv) EXCEPT AS PROVIDED ABOVE, FOR BUFFERS REQUIRED PURSUANT TO PART IV.(i). AND (ii) AND (iii), NO CONSTRUCTION ACTIVITIES SHALL BE CONDUCTED WITHIN A BUFFER AND A BUFFER SHALL REMAIN IN ITS NATURAL, UNDISTURBED, STATE OF VEGETATION UNTIL ALL LAND-DISTURBING ACTIVITIES ON THE CONSTRUCTION SITE ARE COMPLETED. DURING COVERAGE UNDER THIS PERMIT, A BUFFER CANNOT BE THINNED OR TRIMMED OF VEGETATION AND A PROTECTIVE VEGETATIVE COVER MUST REMAIN TO PROTECT WATER QUALITY AND AQUATIC HABITAT AND A NATURAL CANOPY MUST BE LEFT IN SUFFICIENT QUANTITY TO KEEP SHADE ON THE STREAM BED OR MARSH.

WETLAND PROTECTION PRACTICES

ANY DELINEATION AND/OR DISTURBANCE ARE SUBJECT TO U.S. CORPS OF ENGINEERS (U.S.A.C.E.) REGULATIONS. AND RESTRICTIONS. NO DISTURBANCE SHALL BE PERFORMED WITHOUT PRIOR PERMIT BY THE U.S.A.C.E.

STORM WATER CONTROLS

STORM WATER MANAGEMENT

THE CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF STORM WATER MANAGEMENT MEASURES PRIOR TO FINAL STABILIZATION OF THE SITE, AND ARE NOT RESPONSIBLE FOR MAINTENANCE AFTER STORM WATER DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY HAVE BEEN ELIMINATED FOR THE SITE.

STORM INLET PROTECTION (SD2-F AND SD2-P) WILL BE INSTALLED TO AT INLETS AND CLEANOUTS. GRANITE BLOCK WILL BE USED AS RIP-RAP TO CONTROL VELOCITY AT SLOTTED OUTLET PIPE. OVERLAND FLOW WILL PROVIDE WATER QUALITY AS THERE IS A LARGE EXPANSE OF AREA PRIOR TO ENTERING THE FLOOD PLAIN AND LOW AREAS.

STORM WATER RUNOFF QUALITY CONTROL

SILT FENCE AND MULCH FILTER BERMS WILL BE USED IN SENSITIVE AREAS AND ALONG THE PERIMETER OF THE PROJECT AREA. EXISTING GRANITE CURB BLOCKS WILL BE USED AS RIP-RAP AT THE SLOTTED PIPE OUTLET TO REDUCE OUTLET WATER VELOCITY.

STORM DRAIN INLET LABELS

STORM STRUCTURE TOPS SHALL BE STAMPED WITH "PROTECT OUR WATER QUALITY, NO DUMPING, STORM WATER ONLY". THE STENCILING SHALL BE PERFORMED AS THE INLET TOPS ARE POURED OR MOUNDED. WHERE APPLICABLE, USE LOCAL, CITY OR COUNTY STENCIL DETAIL.

OTHER CONTROLS

NOTHING IN THIS PERMIT RELIEVES A PERMITTEE FROM ANY OBLIGATION TO COMPLY WITH ALL APPLICABLE STATE AND LOCAL REGULATIONS OF WASTE DISPOSAL, SANITARY SEWER, SEPTIC AND PETROLEUM STORAGE SYSTEMS.

ALL PERMITTEES ARE REQUIRED TO MINIMIZE THE DISCHARGE OF POLLUTANTS FROM DEWATERING TRENCHES AND EXCAVATIONS. DISCHARGES ARE PROHIBITED UNLESS MANAGED BY APPROPRIATE CONTROLS.

RECYCLING AND REFUSE COLLECTION CONTAINERS

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

THE CONTRACTOR SHALL PROVIDE APPROPRIATE REFUSE COLLECTION CENTERS. SOLID REFUSE COLLECTION CENTERS SHALL BE MAINTAINED ON A WEEKLY BASIS AND TRANSFERRED TO AN OWNER-APPROVED RECYCLING AND REFUSE CENTER. THE CONTRACTOR SHALL ALSO PROVIDE APPROPRIATE REFUSE CONTAINERS FOR CONSTRUCTION DEBRIS. CONSTRUCTION DEBRIS SHALL BE RECYCLED WHEN POSSIBLE. THE CONTRACTOR SHALL ESTABLISH A CONSTRUCTION RECYCLING POLICY AND EDUCATE ALL PERSONAL OF SUCH POLICY.

ALL REFUSE MATERIALS SHALL BE COLLECTED AND STORED IN A SECURE LIDDED, METAL DUMPSTER. THE DUMPSTER SHALL BE COLLECTED BY A LICENSED SOLID WASTE MANAGEMENT COMPANY. THE DUMPSTER SHALL MEET ALL COUNTY AND STATE WASTE MANAGEMENT REGULATIONS AND ORDINANCES. THE DUMPSTER SHALL BE EMPTIED AS NECESSARY AND MATERIAL SHALL BE HAULED TO A STATE LICENSED REFUSE DISPOSAL AREA. NO CONSTRUCTION DEBRIS SHALL BE BURIED ON THE CONSTRUCTION SITE. ALL PERSONAL SHALL BE INFORMED AND INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR WASTE DISPOSAL BY THE CONTRACTOR . NOTICES STATING THESE PROCEDURES SHALL BE POSTED IN THE CONSTRUCTION OFFICE AND THE CONSTRUCTION SUPERINTENDENT SHALL BE RESPONSIBLE FOR INSURING THAT THESE PROCEDURES ARE ENFORCED.

HAZARDOUS WASTE

THE CONTRACTOR SHALL INSTALL AND MAINTAIN AN UPLAND AREA FOR STORAGE OF ALL HAZARDOUS AND PETROLEUM MATERIALS. THE AREA SHALL BE PROTECTED FROM STORM WATER RUNOFF LEAVING THE AREA AND DISCHARGING INTO AND NATURAL DRAINAGE WAY OR WATERWAY.

ALL HAZARDOUS WASTE MATERIALS SHALL BE DISPOSED OF IN A MANNER SPECIFIED BY STATE SOLID WASTE MANAGEMENT REGULATIONS. ALL PERSONAL SHALL BE INFORMED AND INSTRUCTED REGARDING THE CORRECT PROCEDURE FOR HAZARDOUS WASTE DISPOSAL BY THE CONTRACTOR. NOTICES STATING THE PROCEDURE SHALL POSTED IN THE CONSTRUCTION OFFICE & THE CONSTRUCTION SUPERINTENDENT SHALL BE RESPONSIBLE FOR INSURING THE PROCEDURES ARE ENFORCED.

OFF-SITE SEDIMENT

OFF-SITE VEHICLE TRACKING OF DIRT, SOILS, AND SEDIMENTS AND THE GENERATION OF DUST SHALL BE MINIMIZED OR ELIMINATED TO THE MAXIMUM EXTENT PRACTICAL.

SANITARY WASTE

1. ALL SANITARY WASTE SHALL BE COLLECTED FROM PORTABLE UNITS AS NECESSARY, BY A STATE LICENSED SANITARY WASTE MANAGEMENT CONTRACTOR OR AS REQUIRED BY LOCAL, STATE AND FEDERAL REGULATIONS
2. ALL PERMITTEES SHALL ENSURE AND DEMONSTRATE THAT THEIR PLAN IS IN COMPLIANCE WITH APPLICABLE STATE AND LOCAL WASTE DISPOSAL, SANITARY SEWER, OR SEPTIC SYSTEM REGULATIONS.

TEMPORARY FUELING TANK AREAS

TEMPORARY FUELING TANKS SHALL HAVE A GEORGIA E.P.D. APPROVED SECONDARY CONTAINMENT (LINER SYSTEM) BASIN TO PREVENT AND/OR MINIMIZE SITE CONTAMINATION. TEMPORARY FUELING TANK LOCATIONS SHALL BE LOCATED AWAY FROM DRAINAGE WAYS, DRAINAGE SYSTEMS AND STATE WATERS (STREAMS, SPRING HEADS, ETC.)

EQUIPMENT MAINTENANCE AREAS

EQUIPMENT MAINTENANCE AREAS SHALL BE CLEARLY IDENTIFIED WITH SIGNAGE. SAID SIGNAGE SHALL READ AS FOLLOWS:

SIGN SHALL BE WEATHERPROOF AND HAVE A MINIMUM SIZE OF 36" X 36" 7 MOUNTED ON 5 FT HIGH SIGN POST.

SPILL PREVENTION

SPILL RESPONSE PLAN

CONTRACTOR TO PROVIDE DOCUMENTATION OF SPILL RESPONSE EQUIPMENT AND PROCEDURES TO BE USED. GIVE STEP-BY-STEP INSTRUCTIONS FOR THE RESPONSES TO SPILLS AT THE PARTICULAR SITE. THIS SPILL RESPONSE PLAN CAN BE PRESENTED AS A PROCEDURAL HANDBOOK OR SIGN. EDUCATE SITE EMPLOYEES OF PROCEDURES.

SPILL RESPONSE PLAN SHALL CONTAIN AT MINIMUM;

- LIST OF INDIVIDUALS RESPONSIBLE FOR IMPLEMENTING THE PLAN.
- DEFINE SAFETY MEASURES TO BE TAKEN WITH EACH KIND OF WASTE OR CHEMICAL IN CASE OF SPILL.
- ALL MSDS SHEETS FOR ALL CHEMICALS STORED ON SITE.
- SPECIFY APPROPRIATE AUTHORITIES TO CONTACT SUCH AS POLICE AND FIRE DEPARTMENTS, HOSPITALS AND PUBLICLY OWNED TREATMENT WORKS FOR ASSISTANCE.

SPILL RESPONSE PHONE NUMBERS

IN THE EVENT OF A RELEASE OF PETROLEUM INTO STATE WATERS, THE FOLLOWING AGENCIES MUST BE NOTIFIED IMMEDIATELY, NO LATER THAN 24 HOURS AFTER THE OCCURENCE:

1. WSA ENGINEERING DEPARTMENT (770-949-7617) OR WSA INSPECTOR
2. GEORGIA EPD UST OFFICE 404-362-2687
3. NATIONAL RESPONSE CENTER 1-800-424-9346

KEEPING PLANS CURRENT

THE PRIMARY PERMITTEE(S) SHALL AMEND THEIR PLAN WHENEVER THERE IS A CHANGE IN DESIGN, CONSTRUCTION, OPERATION, OR MAINTENANCE, WHICH HAS A SIGNIFICANT EFFECT ON BMPS WITH A HYDRAULIC COMPONENT (I.E., THOSE BMPS WHERE THE DESIGN IS BASED UPON RAINFALL INTENSITY, DURATION AND RETURN FREQUENCY OF STORMS) OR IF THE PLAN PROVES TO BE INEFFECTIVE IN ELIMINATING OR SIGNIFICANTLY MINIMIZING POLLUTANTS FROM SOURCES IDENTIFIED UNDER PART IV.D.3. AMENDMENTS TO THE PLAN MUST BE CERTIFIED BY A DESIGN PROFESSIONAL AS PROVIDED IN THIS PERMIT.

PLAN CONTENT

THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REPRESENTS, AS A MINIMUM, BEST MANAGEMENT PRACTICES, INCLUDING SOUND CONSERVATION AND ENGINEERING PRACTICES TO PREVENT AND MINIMIZE EROSION AND RESULTANT SEDIMENTATION, WHICH ARE CONSISTENT WITH, AND NO LESS STRINGENT THAN, THOSE PRACTICES CONTAINED IN THE "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.

MATERIALS MANAGEMENT PRACTICES

THE FOLLOWING ARE THE MATERIALS MANAGEMENT PRACTICES THAT SHALL BE USED TO REDUCE THE RISK OF SPILLS AND OTHER ACCIDENTAL EXPOSURE OF MATERIALS AND SUBSTANCES TO STORM WATER RUNOFF.

GOOD HOUSEKEEPING

THE FOLLOWING GOOD HOUSEKEEPING PRACTICES SHALL BE IMPLEMENTED ON-SITE DURING THE CONSTRUCTION PROJECT:

1. AN EFFORT SHALL BE MADE TO STORE ONLY ENOUGH PRODUCT ON-SITE TO DO THE JOB.
2. ALL MATERIALS STORED ON-SITE SHALL BE STORED IN A NEAT AND ORDERLY MANNER IN THAT APPROPRIATE CONTAINERS CAN BE STORED UNDER A ROOF OR OTHER STRUCTURE TO AVOID RAINWATER WASHING OFF EXCESS MATERIAL
3. PRODUCTS SHALL BE KEPT IN ORIGINAL CONTAINERS WITH THE ORIGINAL MANUFACTURES'S LABELS.
4. SUBSTANCES SHALL NOT BE MIXED WITH ONE ANOTHER UNLESS RECOMMENDED BY THE MANUFACTURER.
5. WHENEVER POSSIBLE, ALL OF THE PRODUCT SHALL BE USED BEFORE DISPOSING OF THE CONTAINER.
6. MANUFACTURER'S RECOMMENDATIONS FOR PROPER USE AND DISPOSAL SHALL BE FOLLOWED.
7. THE SITE SUPERINTENDENT SHALL INSPECT THE SITE DAILY TO ENSURE PROPER STORAGE, USE AND DISPOSAL OF MATERIALS.

HAZARDOUS PRODUCTS

THE FOLLOWING PRACTICES SHALL BE FOLLOWED ON-SITE TO REDUCE THE RISKS ASSOCIATED WITH HAZARDOUS MATERIALS.

1. ORIGINAL LABELS AND MATERIALS SAFETY DATA SHALL BE MAINTAINED SINCE THEY CONTAIN IMPORTANT PRODUCT INFORMATION.
2. IF EXCESS PRODUCT MUST BE DISPOSED OF LOCAL, STATE AND FEDERAL RECOMMENDED METHODS FOR PROPER DISPOSAL SHALL BE FOLLOWED.

PROHIBITION ON NON-STORM WATER DISCHARGES

1. EXCEPT AS PROVIDED IN PART I.C.2. AND III.A.2., ALL DISCHARGES COVERED BY THIS PERMIT SHALL BE COMPOSED ENTIRELY OF STORM WATER.
2. THE FOLLOWING NON-STORM WATER DISCHARGES MAY BE AUTHORIZED BY THIS PERMIT PROVIDED THE NON-STORM WATER COMPONENT OF THE DISCHARGE IS EXPLICITLY LISTED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN AND IS IN COMPLIANCE WITH PART IV.D.7.; DISCHARGES FROM FIRE FIGHTING ACTIVITIES; FIRE HYDRANT FLUSHING; POTABLE WATER SOURCES INCLUDING WATER LINE FLUSHING; IRRIGATION DRAINAGE; AIR CONDITIONING CONDENSATE; SPRINGS; UNCONTAMINATED GROUND WATER; AND FOUNDATION OR FOOTING DRAINS WHERE FLOWS ARE NOT CONTAMINATED WITH PROCESS MATERIALS OR POLLUTANTS.
3. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF SOAPS OR SOLVENTS USED IN VEHICLE AND EQUIPMENT WASHING.
4. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF WASTEWATER FROM WASHOUT AND CLEANOUT OF STUCCO, PAINT, FORM RELEASE OILS, CURING COMPOUNDS AND OTHER CONSTRUCTION MATERIALS.

RELEASES IN EXCESS OF REPORTABLE QUANTITIES

1. THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL IN THE STORM WATER DISCHARGE(S) FROM A SITE SHALL BE PREVENTED. THIS PERMIT DOES NOT RELIEVE THE PERMITTEE OF THE REPORTING REQUIREMENTS OF GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR PART 117 AND 40 CFR PART 302. WHERE A RELEASE CONTAINING A HAZARDOUS SUBSTANCE IN AN AMOUNT EQUAL TO OR IN EXCESS OF A REPORTING QUANTITY ESTABLISHED UNDER EITHER GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR 117 OR 40 CFR 302 OCCURS DURING A 24 HOUR PERIOD, THE PERMITTEE IS REQUIRED TO NOTIFY EPD AT (404) 656-4863 OR (800) 241-4113 AND THE NATIONAL RESPONSE CENTER (NRC) AT (800) 424-8802 IN ACCORDANCE WITH THE REQUIREMENTS OF GEORGIA'S OIL OR HAZARDOUS MATERIAL SPILLS OR RELEASES ACT (O.C.G.A. §§12-14-2, ET SEQ.), 40 CFR 117 AND 40 CFR 302 AS SOON AS HE/SHE HAS KNOWLEDGE OF THE DISCHARGE.
2. THIS PERMIT DOES NOT AUTHORIZE THE DISCHARGE OF HAZARDOUS SUBSTANCES OR OIL RESULTING FROM AN ON-SITE SPILL.

PRODUCT SPECIFIC PRACTICES

THE FOLLOWING ARE THE PRODUCT SPECIFIC PRACTICES THAT SHALL BE FOLLOWED FOR PRODUCTS USED ON-SITE.

PETROLEUM PRODUCTS
ALL ON-SITE VEHICLES SHALL BE MONITORED FOR LEAKS AND RECEIVE REGULAR PREVENTATIVE MAINTENANCE TO REDUCE THE CHANCE OF SPILLAGE. PETROLEUM PRODUCTS SHALL BE STORED IN TIGHTLY SEALED CONTAINERS THAT SHALL BE CLEARLY LABELED AND STORED IN A CLEARLY IDENTIFIED AREA. ANY ASPHALT SUBSTANCES USED ON-SITE SHALL BE SPOILED ACCORDING TO THE MANUFACTURER'S RECOMMENDATIONS. ON-SITE STORAGE VESSELS MUST NOT EXCEED A CAPACITY OF 1320 GALLONS OF PETROLEUM UNLESS A SPILL PREVENTION CONTAINMENT AND COUNTERMEASURES PLAN HAS BEEN PREPARED BY A REGISTERED PROFESSIONAL ENGINEER AS REQUIRED BY THE OIL POLLUTION PREVENTION ACT.

FERTILIZERS
FERTILIZERS USED SHALL BE APPLIED IN THE MINIMUM COVERAGE RECOMMENDED BY THE MANUFACTURES. ANY FERTILIZERS THAT ARE TO BE STORED ON-SITE, SHALL BE STORED IN A PROTECTED SECURE ENCLOSURE.

PAINTS
ALL CONTAINERS SHALL BE TIGHTLY CLOSED AND STORED WHEN NOT REQUIRED FOR USE. EXCESS PAINT SHALL NOT BE DISCHARGED TO THE STORM SEWER SYSTEM BUT SHALL BE PROPERLY DISPOSED OF IN ACCORDANCE TO LOCAL, STATE AND FEDERAL REGULATIONS

PESTICIDES
STORAGE AREAS SHALL BE PROTECTED FROM THE ELEMENTS. WARNING SIGNS SHOULD BE PLACED IN AREAS RECENTLY SPRAYED OR TREATED. PERSONS MIXING AND APPLYING THESE CHEMICALS SHOULD WEAR SUITABLE PROTECTIVE CLOTHING IN ACCORDANCE WITH THE LAW.

SPILL CONTROL PRACTICES

IN ADDITION TO THE GOOD HOUSEKEEPING AND MATERIALS MANAGEMENT PRACTICES DESCRIBED IN THE PORTIONS OF THIS PLAN, THE FOLLOWING ARE THE SPILL CONTROL PRACTICES THAT SHALL BE FOLLOWED FOR SPILL CONTAINMENT AND CLEANUP.

1. LOCAL, STATE, FEDERAL AND MANUFACTURER'S RECOMMENDED METHODS FOR SPILL CLEANUP SHALL BE CLEARLY POSTED AND THE SITE PERSONAL SHALL BE MADE AWARE OF THE PROCEDURES AND THE LOCATION OF THE INFORMATION AND CLEANUP SUPPLIES.
2. MATERIALS AND SUPPLIES FOR SPILL CLEANUP SHALL BE KEPT IN THE MATERIALS STORAGE AREA ON-SITE.
3. ALL SPILLS SHALL BE CLEANED UP IMMEDIATELY UPON DISCOVERY.
4. THE SPILL AREA SHALL BE KEPT WELL VENTILATED AND PERSONNEL SHALL WEAR THE APPROPRIATE PROTECTIVE CLOTHING TO PREVENT INJURY FOR CONTACT WITH A HAZARDOUS MATERIALS.
5. SPILLS OF TANKS OR HAZARDOUS MATERIALS SHALL BE REPORTED TO THE APPROPRIATE LOCAL, STATE AND FEDERAL GOVERNMENT AGENCY, REGARDLESS OF SPILL SIZE.

PAM NOTE

POLYACRYLAMIDE - ANIONIC (PAM): CONTRACTOR SHALL APPLY PAM VIA HYDRAULIC (HYDROSEED) TYPE APPLICATION EVERY 14 CALENDAR DAYS AT THE RATE OF 7.5 LBS/ACRE UNTIL SITE IS FULLY STABILIZED. THE MAXIMUM APPLICATION OF PAM IN PURE FORM SHALL NOT EXCEED 2000 LBS

ALL TEMPORARY GRASSING SHALL BE HYDROSEEDED

PERMANENT GRASSING

CONTRACTOR SHALL BE RESPONSIBLE FOR GUARANTEEING A PERMANENT STAND OF BERMUDA GRASS. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL GRASS AREAS UNTIL SUBSTANTIAL COMPLETION. THIS SHALL INCLUDE WATERING, FERTILIZING, MOWING AND OVER SEEING FOR EROSION CONTROL PURPOSES TO ESTABLISH THE PERMANENT STAND OF BERMUDA. PERMANENT GRASSING SHALL BE HYDROSEEDED OR SOD.

SAMPLING REQUIREMENTS

THIS PERMIT REQUIRES THE MONITORING OF NEPHELOMETRIC TURBIDITY IN RECEIVING WATER(S) OR OUTFALLS IN ACCORDANCE WITH THIS PERMIT. THIS PARAGRAPH SHALL NOT APPLY TO ANY LAND DISTURBANCE ASSOCIATED WITH THE CONSTRUCTION OF SINGLE-FAMILY HOMES WHICH ARE NOT PART OF A SUBDIVISION OR PLANNED COMMON DEVELOPMENT UNLESS FIVE (5) ACRES OR MORE WILL BE DISTURBED. THE FOLLOWING PROCEDURES CONSTITUTE EPD'S GUIDELINES FOR SAMPLING TURBIDITY.

SAMPLE TYPE (CL 32)

ALL SAMPLING SHALL BE COLLECTED BY "GRAB SAMPLE" AND THE ANALYSIS OF THESE SAMPLES MUST BE CONDUCTED IN ACCORDANCE WITH METHODOLOGY & TEST PROCEDURES ESTABLISHED BY THE 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, WELL CLEANED 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 PERMITEE 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 TURBIDIMETER. SAMPLES ARE NOT REQUIRED TO BE COOLED.
5. SAMPLING AND ANALYSIS OF THE RECEIVING WATER(S) OR OUTFALLS BEYOND THE MINIMUM FREQUENCY STATED IN THIS PERMIT MUST BE REPORTED TO EPD AS SPECIFIED IN PART IV.E.

SEE PLANS FOR SAMPLING LOCATIONS

SAMPLING POINTS

1. FOR CONSTRUCTION ACTIVITIES THE PRIMARY PERMITTEE MUST SAMPLE ALL RECEIVING WATER(S), OR ALL OUTFALL(S), OR A COMBINATION OF RECEIVING WATER(S) AND OUTFALL(S). SAMPLES TAKEN FOR THE PURPOSE OF COMPLIANCE OF 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 WATER 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 AND AREAS LOCATED OUTSIDE THE WASTE DISPOSAL LIMITS OF A LANDFILL CELL THAT HAS BEEN CERTIFIED BY EPD FOR WASTE DISPOSAL, 100% OF THE SOIL SURFACE IS UNIFORMLY COVERED IN PERMANENT VEGETATION WITH A DENSITY OF 70% OR GREATER, OR LANDSCAPED ACCORDING TO THE PLAN (UNIFORMLY COVERED WITH LANDSCAPING MATERIALS IN PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES AS DEFINED IN THE MANUAL (EXCLUDING A CROP OR ANNUAL VEGETATION AND A SEEDING OF TARGET CROP PERENNIALS APPROPRIATE FOR THE REGION).

H. ALL SAMPLING PURSUANT TO THIS PERMIT MUST BE DONE IN SUCH A WAY (INCLUDING GENERALLY ACCEPTED SAMPLING METHODS, LOCATIONS, TIMING, AND FREQUENCY) AS TO ACCURATELY REFLECT WHETHER 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.

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 OR ANY STORM WATER DISCHARGE TO A MONITORED RECEIVING WATER AND/OR FROM A MONITORED OUTFALL LOCATION WITHIN FOURTY-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 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 SAMPLING LOCATION;
B. IN ADDITION TO (A) ABOVE, FOR EACH AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OF 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 SUBMITTAL OF A N.O.T., IN THE DRAINAGE AREA OF THE LOCATION SELECTED AS THE SAMPLING LOCATION, WHICHEVER COMES FIRST;
C. AT THE TIME OF SAMPLING PERFORMED PURSUANT TO (A) AND (B) ABOVE, IF BMPS IN ANY AREA OF THE SITE THAT DISCHARGES TO A RECEIVING WATER OR FROM AN OUTFALL ARE NOT PROPERLY DESIGNED, INSTALLED AND MAINTAINED, CORRECTIVE ACTIONS 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 OR 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.

MAINTENANCE AND INSPECTION PROCEDURES

PERMITTEE REQUIREMENTS.

(1). EACH DAY WHEN ANY TYPE OF CONSTRUCTION ACTIVITY HAS TAKEN PLACE AT A PRIMARY PERMITTEE'S SITE, CERTIFIED PERSONNEL PROVIDED BY THE PRIMARY PERMITTEE SHALL INSPECT: (A) ALL AREAS AT THE PRIMARY PERMITTEE'S SITE WHERE PETROLEUM PRODUCTS ARE STORED, USED, OR HANDLED FOR SPILLS AND LEAKS FROM VEHICLES AND EQUIPMENT AND (B) ALL LOCATIONS AT THE PRIMARY PERMITTEE'S SITE WHERE VEHICLES ENTER OR EXIT THE SITE FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

(2). MEASURE RAINFALL ONCE EVERY 24 HOURS EXCEPT ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY AND NON-WORKING FEDERAL HOLIDAY UNTIL A NOTICE OF TERMINATION IS SUBMITTED. MEASUREMENT OF RAINFALL MAY BE SUSPENDED IF ALL AREAS OF THE SITE HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION.

(3). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT THE FOLLOWING AT LEAST ONCE EVERY SEVEN (7) CALENDAR DAYS AND WITHIN 24 HOURS OF THE END OF A STORM THAT IS 0.5 INCHES RAINFALL OR GREATER (UNLESS SUCH STORM ENDS AFTER 5:00 PM ON ANY FRIDAY OR ON ANY NON-WORKING SATURDAY, NON-WORKING SUNDAY OR ANY NON-WORKING FEDERAL HOLIDAY IN WHICH CASE THE INSPECTION SHALL BE COMPLETED BY THE END OF THE NEXT BUSINESS DAY AND/OR WORKING DAY, WHICHEVER OCCURS FIRST): (A) DISTURBED AREAS OF THE PRIMARY PERMITTEE'S CONSTRUCTION SITE; (B) AREAS USED BY THE PRIMARY PERMITTEE FOR STORAGE OF MATERIALS THAT ARE EXPOSED TO PRECIPITATION; AND (C) STRUCTURAL CONTROL MEASURES. EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN APPLICABLE TO THE PRIMARY PERMITTEE'S SITE SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S). FOR AREAS OF A SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION, THE PERMITTEE MUST COMPLY WITH PART IV.D.4.A.(4). THESE INSPECTIONS MUST BE CONDUCTED UNTIL A NOTICE OF TERMINATION IS SUBMITTED.

(4). CERTIFIED PERSONNEL (PROVIDED BY THE PRIMARY PERMITTEE) SHALL INSPECT AT LEAST ONCE PER MONTH DURING THE TERM OF THIS PERMIT (I.E., UNTIL A NOTICE OF TERMINATION IS RECEIVED BY EPD) THE AREAS OF THE SITE THAT HAVE UNDERGONE FINAL STABILIZATION OR ESTABLISHED A CROP OF ANNUAL VEGETATION AND A SEEDING OF TARGET PERENNIALS APPROPRIATE FOR THE REGION. THESE AREAS SHALL BE INSPECTED FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM AND THE RECEIVING WATER(S). EROSION AND SEDIMENT CONTROL MEASURES IDENTIFIED IN THE PLAN SHALL BE OBSERVED TO ENSURE THAT THEY ARE OPERATING CORRECTLY. WHERE DISCHARGE LOCATIONS OR POINTS ARE ACCESSIBLE, THEY SHALL BE INSPECTED TO ASCERTAIN WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING SIGNIFICANT IMPACTS TO RECEIVING WATER(S).

(5). BASED ON THE RESULTS OF EACH INSPECTION, THE SITE DESCRIPTION AND THE POLLUTION PREVENTION AND CONTROL MEASURES IDENTIFIED IN THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, THE PLAN SHALL BE REVISED AS APPROPRIATE NOT LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION. IMPLEMENTATION OF SUCH CHANGES SHALL BE MADE AS SOON AS PRACTICAL BUT IN NO CASE LATER THAN SEVEN (7) CALENDAR DAYS FOLLOWING EACH INSPECTION.

(6). A REPORT OF EACH INSPECTION THAT INCLUDES THE NAME(S) OF CERTIFIED PERSONNEL MAKING EACH INSPECTION, THE DATE(S) OF EACH INSPECTION, CONSTRUCTION PHASE (I.E., INITIAL, INTERMEDIATE, OR FINAL), MAJOR OBSERVATIONS RELATING TO THE IMPLEMENTATION OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN, AND ACTIONS TAKEN IN ACCORDANCE WITH PART IV.D.4.A.(5). OF THE PERMIT SHALL BE MADE AND RETAINED AT THE SITE OR BE READILY AVAILABLE AT A DESIGNATED ALTERNATE LOCATION UNTIL THE ENTIRE SITE OR THAT PORTION OF A CONSTRUCTION PROJECT THAT HAS BEEN PHASED HAS UNDERGONE FINAL STABILIZATION AND A NOTICE OF TERMINATION IS SUBMITTED TO EPD. SUCH REPORTS SHALL BE READILY AVAILABLE BY END OF THE SECOND BUSINESS DAY AND/OR WORKING DAY AND SHALL IDENTIFY ALL INCIDENTS OF BEST MANAGEMENT PRACTICES THAT HAVE NOT BEEN PROPERLY INSTALLED AND/OR MAINTAINED AS DESCRIBED IN THE PLAN. WHERE THE REPORT DOES NOT IDENTIFY ANY INCIDENTS, THE INSPECTION REPORT SHALL CONTAIN A CERTIFICATION THAT THE BEST MANAGEMENT PRACTICES ARE IN COMPLIANCE WITH THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN. THE REPORT SHALL BE SIGNED IN ACCORDANCE WITH PART V.G.2 OF THIS PERMIT.

MAINTENANCE. THE PLAN SHALL INCLUDE A DESCRIPTION OF PROCEDURES TO ENSURE THE TIMELY MAINTENANCE OF VEGETATION, EROSION AND SEDEMENT CONTROL MEASURES AND OTHER PROTECTIVE MEASURES IDENTIFIED IN THE SITE PLAN.

NOTE: INSPECTOR MUST BE LEVEL IB CERTIFIED BY GSWCC.

REPORTING

1. THE APPLICABLE PERMITTEES ARE REQUIRED TO SUBMIT THE SAMPLING RESULTS TO THE EPD AT THE ADDRESS SHOWN IN PART II.C. MOUNTAIN DISTRICT-ATLANTA SATELLITE, GEORGIA ENVIRONMENTAL PROTECTION DIVISION 4244 INTERNATIONAL PARKWAY, SUITE 114 ATLANTA, GA 30354-3906 (404-362-2671) 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 N.O.T. 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 N.O.T. 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 N.O.T. IS SUBMITTED IN ACCORDANCE WITH PART VI:

A. A COPY OF ALL NOTICES OF INTENT SUBMITTED TO EPD;
B. A COPY OF THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN REQUIRED BY THIS PERMIT;
C. THE DESIGN PROFESSIONAL'S REPORT OF THE RESULTS OF THE INSPECTION CONDUCTED IN ACCORDANCE WITH PART IV.A.5. OF THIS PERMIT;
D. A COPY OF ALL SAMPLING INFORMATION, RESULTS, AND REPORTS REQUIRED BY THIS PERMIT;
E. A COPY OF ALL INSPECTION REPORTS GENERATED IN ACCORDANCE WITH PART IV.D.4.a. OF THIS PERMIT;
F. A COPY OF ALL VIOLATION SUMMARIES AND VIOLATION SUMMARY REPORTS GENERATED IN ACCORDANCE WITH PART III.D.2. OF THIS PERMIT; AND
G. DAILY RAINFALL INFORMATION COLLECTED IN ACCORDANCE WITH PART IV.D.4.a.(2) OF THIS PERMIT.

2. 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 N.O.T. 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.

CERTIFICATION

ENGINEER CERTIFICATION - per PART IV (PG 14 OF PERMIT)

"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. GAR 100001."

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

Stephen Mark Bond
STEPHEN MARK BOND GA #23275 LEVEL II # 11367

07-19-17
DATE

OWNER & OPERATOR CERTIFICATIONS - per PART V.G.2.d. (PG 30 OF PERMIT)

"BY SIGNING BELOW, I CERTIFY THAT TO THE BEST OF MY KNOWLEDGE AND BELIEF, THAT THE EROSION, SEDIMENTATION AND POLLUTION CONTROL PLAN (PLAN) WAS PREPARED BY A DESIGN PROFESSIONAL, AS DEFINED BY THIS PERMIT, THAT HAS COMPLETED THE APPROPRIATE CERTIFICATIONS COURSE APPROVED BY THE GEORGIA SOIL AND WATER CONSERVATION COMMISSION IN ACCORDANCE WITH THE PROVISIONS OF O.C.G.A 12-7-19 AND THAT I WILL ADHERE TO THE PLAN AND COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THIS PERMIT."

AND

"I CERTIFY UNDER PENALTY OF LAW THAT THIS REPORT AND ALL ATTACHMENTS WERE PREPARED UNDER MY DIRECTION OR SUPERVISION IN ACCORDANCE WITH A SYSTEM DESIGNED TO ASSURE THAT CERTIFIED 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."

OWNER'S PRINTED NAME: KEITH BARKER — TITLE: CITY MANAGER
SIGNATURE: Keith Barker — DATE: 9/13/17
OPERATOR'S PRINTED NAME: KEITH BARKER — TITLE: CITY MANAGER
SIGNATURE: Keith Barker — DATE: 9/13/17

SECONDARY PERMITTEE SIGNATURES

NO.	NAME OF CONTRACTOR	DATE

NO.	NAME OF CONTRACTOR	DATE

EACH SECONDARY PERMITTEE IS TO BE PROVIDED WITH A COPY OF THE PLAN OR PORTION OF THE PLAN APPLICABLE TO THEIR SITE PRIOR TO THE SECONDARY CONDUCTING ANY CONSTRUCTION ACTIVITY.

EACH SECONDARY SHALL SIGN THE PLAN OR THE PORTION OF THE PLAN THAT IS APPLICABLE TO THEIR SITE.

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS

4145 SHACKLEFORD ROAD
SUITE 300
NORCROSS, GEORGIA 30093
TEL: (770) 923-1600
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CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

ISSUE

No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

STEPHEN MARK BOND NO. 23275
Stephen Mark Bond

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location
Address 4380 E. PONCE DE LEON AVE.
City, State Zip CLARKSTON, GA 30021
Land Lot 119
District-Section 18
County DEKALB

Project No. 17-030-pr
Drawn By: KEH
Checked By: SMB
Initial Issue Date: 09-15-17

Sheet Title

EROSION, SEDIMENTATION & POLLUTION CONTROL NOTES

Sheet Number

THE PLANTING OF PERENNIAL VEGETATION SUCH AS TREES, SHRUBS, VINES, GRASSES, OR LEGUMES ON EXPOSED AREAS FOR FINAL PERMANENT STABILIZATION. PERMANENT PERENNIAL VEGETATION SHALL BE USED TO ACHIEVE FINAL STABILIZATION.

INSTRUCTIONS

THIS PRACTICE SHALL BE APPLIED IMMEDIATELY TO ROUGH GRADED AREAS THAT WILL BE UNDISTURBED FOR LONGER THAN SIX MONTHS. THIS PRACTICE OR SODDING SHALL BE APPLIED IMMEDIATELY TO ALL AREAS AT FINAL GRADE. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES AT THE SITE HAVE BEEN COMPLETED, AND THAT FOR UNPAVED AREAS AND AREAS NOT COVERED BY PERMANENT STRUCTURES, 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 LAND SCAPING MATERIALS IN A PLANNED LANDSCAPED AREAS), OR EQUIVALENT PERMANENT STABILIZATION MEASURES.

PERMANENT VEGETATION SHALL CONSIST OF: PLANTED TREES, SHRUBS, PERENNIAL VINES; A CROP OF PERENNIAL VEGETATION APPROPRIATE FOR THE REGION, SUCH THAT WITHIN THE GROWING SEASON A 70% COVERAGE BY PERENNIAL VEGETATION SHALL BE ACHIEVED.
FINAL STABILIZATION APPLIES TO EACH PHASE OF CONSTRUCTION. FOR LINEAR CONSTRUCTION PROJECTS ON LAND USED FOR AGRICULTURAL OR SILVICULTURAL PURPOSES, FINAL STABILIZATION MAY BE ACCOMPLISHED BY STABILIZING THE DISTURBED LAND FOR ITS AGRICULTURAL OR SILVICULTURAL USE. UNTIL THIS STANDARD IS SATISFIED AND PERMANENT CONTROL MEASURES AND FACILITIES ARE OPERATIONAL, INTERIM STABILIZATION MEASURES AND TEMPORARY EROSION AND SEDIMENTATION CONTROL MEASURES SHALL NOT BE REMOVED.

PLANNING CONSIDERATIONS

1. USE CONVENTIONAL PLANTING METHODS WHERE POSSIBLE.
2. WHEN MIXED PLANTINGS ARE DONE DURING MARGINAL PLANTING PERIODS, COMPANION CROPS SHALL BE USED.
3. NO-TILL PLANTING IS EFFECTIVE WHEN PLANTING IS DONE FOLLOWING A SUMMER OR WINTER ANNUAL COVER CROP. SERICEA LESPEDEZA PLANTED NO-TILL INTO STRANDS OF RYE IS AN EXCELLENT PROCEDURE.
4. BLOCK SOD PROVIDES IMMEDIATE COVER. IT IS ESPECIALLY EFFECTIVE IN CONTROLLING EROSION ADJACENT TO CONCRETE FLUMES AND OTHER STRUCTURES. REFER TO Ds-4 DISTURBED AREA STABILIZATION (WITH SODDING).
5. IRRIGATION SHOULD BE USED WHEN THE SOIL IS DRY OR WHEN SUMMER PLANTINGS ARE DONE.
6. LOW MAINTENANCE PLANTS, AS WELL AS NATIVES, SHOULD BE USED TO ENSURE LONG LASTING EROSION CONTROL.
7. MOWING SHOULD NOT BE PERFORMED DURING THE QUAIL NESTING SEASON (MAY TO SEPT.) WILDLIFE PLANTINGS SHOULD BE INCLUDED IN CRITICAL AREA PLANTINGS. SEE MANUAL FOR PLANT LIST.
8. WILDLIFE PLANTINGS SHOULD BE INCLUDED IN CRITICAL AREA PLANTINGS.

GRADING & SHAPING

GRADING AND SHAPING MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. VERTICAL BANKS SHALL BE SLOPED TO ENABLE PLANT ESTABLISHMENT. WHEN CONVENTIONAL SEEDING AND FERTILIZING ARE TO BE DONE, GRADE AND SHAPE WHERE FEASIBLE AND PRACTICAL SO THAT EQUIPMENT CAN BE USED SAFELY AND EFFICIENTLY DURING SEEDBED PREPARATION, SEEDING, MULCHING AND MAINTENANCE OF THE VEGETATION. CONCENTRATIONS OF WATER THAT WILL CAUSE EXCESSIVE SOIL EROSION SHALL BE DIVERTED TO A SAFE OUTLET. DIVERSIONS AND OTHER TREATMENT PRACTICES SHALL CONFORM WITH THE APPROPRIATE STANDARDS AND SPECIFICATIONS.

LIME AND FERTILIZER APPLICATION

WHEN HYDRAULIC SEEDING EQUIPMENT IS USED, THE INITIAL FERTILIZER SHALL BE MIXED WITH SEED, INNOCULANT (IF NEEDED), AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH AND APPLIED IN A SLURRY. THE INNOCULANT, IF NEEDED, SHALL BE MIXED WITH THE SEED PRIOR TO BEING PLACED INTO THE HYDRAULIC SEEDER. THE SLURRY MIXTURE WILL BE AGITATED DURING APPLICATION TO KEEP THE INGREDIENTS THOROUGHLY MIXED. THE MIXTURE WILL BE SPREAD UNIFORMLY OVER THE AREA WITHIN ONE HOUR AFTER BEING PLACED IN THE HYDROSEEDER.

FINELY GROUND LIMESTONE CAN BE APPLIED IN THE MULCH SLURRY OR IN COMBINATION WITH THE TOP DRESSING.

1. APPLY BEFORE LAND PREPARATION SO THAT IT WILL BE MIXED WITH THE SOIL DURING SEEDBED PREPARATION.
2. MIX WITH THE SOIL USED TO FILL THE HOLES, DISTRIBUTE IN FURROWS.
3. BROADCAST AFTER STEEP SURFACES ARE SCARIFIED, PITTED OR TRENCHED.
4. A FERTILIZER PELLET SHALL BE PLACED AT ROOT DEPTH IN THE CLOSING HOLE BESIDE EACH TREE SEEDLING.

LIME AND FERTILIZER RATES AND ANALYSIS

AGRICULTURAL LIME IS REQUIRED AT A RATE OF ONE TO TWO TONS PER ACRE UNLESS SOIL TESTS INDICATE OTHERWISE. GRADED AREAS REQUIRE LIME APPLICATION. IF LIME IS APPLIED WITHIN SIX MONTHS OF PLANTING PERMANENT PERENNIAL VEGETATION, ADDITIONAL LIME IS NOT REQUIRED. AGRICULTURAL LIME SHALL BE WITHIN THE SPECIFICATIONS OF THE GEORGIA DEPARTMENT OF AGRICULTURE.

LIME SPREAD BY CONVENTIONAL EQUIPMENT SHALL BE "GROUND LIMESTONE." GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 90% OF THE MATERIAL WILL PASS THROUGH A 10-MESH SIEVE, NOT LESS THAN 50% WILL PASS THROUGH A 50-MESH SIEVE AND NOT LESS THAN 25 PERCENT WILL PASS THROUGH A 100-MESH SIEVE.

AGRICULTURAL LIME SPREAD BY HYDRAULIC SEEDING EQUIPMENT SHALL BE "FINELY GROUND LIMESTONE." FINELY GROUND LIMESTONE IS CALCITIC OR DOLOMITIC LIMESTONE GROUND SO THAT 98% OF THE MATERIAL WILL PASS THROUGH A 20-MESH SIEVE AND NOT LESS THAN 70% WILL PASS THROUGH A 100-MESH SIEVE.

IT IS DESIRABLE TO USE DOLOMITIC LIMESTONE IN THE SAND HILLS, SOUTHERN COASTAL PLAIN AND ATLANTIC COAST FLATWOODS MLRA'S. (SEE MANUAL). AGRICULTURAL LIME IS GENERALLY NOT REQUIRED WHERE ONLY TREES ARE PLANTED. INITIAL FERTILIZATION, NITROGEN, TOPDRESSING, AND MAINTENANCE FERTILIZER REQUIREMENTS FOR EACH SPECIES OR COMBINATION OF SPECIES ARE LISTED IN TABLE 6-5.1.

PLANT SELECTION

REFER TO TABLES 6-4.1, 6-5.2, 6-5.3 AND 6-5.4 FOR APPROVED SPECIES. SPECIES NOT LISTED SHALL BE APPROVED BY THE STATE RESOURCE CONSERVATIONIST OF THE NATURAL RESOURCE CONSERVATION SERVICE BEFORE THEY ARE USED. PLANTS SHALL BE SELECTED ON THE BASIS OF SPECIES CHARACTERISTICS, SITE AND SOIL CONDITIONS, PLANNED USE AND MAINTENANCE OF THE AREA; TIME OF YEAR OF PLANTING, METHOD OF PLANTING; AND THE NEEDS AND DESIRES OF THE LAND USER. SOME PERENNIAL SPECIES ARE EASILY ESTABLISHED AND CAN BE PLANTED ALONE. EXAMPLES OF THESE ARE COMMON BERMUDA, TALL FESCUE AND WEEPING LOVEGRASS. OTHER PERENNIALS SUCH AS BAHIA GRASS AND SERICEA LESPEDEZA ARE SLOW TO BECOME ESTABLISHED AND SHOULD BE PLANTED WITH ANOTHER PERENNIAL SPECIES. THE ADDITIONAL SPECIES WILL PROVIDE QUICK COVER AND AMPLE SOIL PROTECTION UNTIL THE TARGET PERENNIAL SPECIES BECOME ESTABLISHED. FOR EXAMPLE COMMON SEEDING COMBINATIONS INCLUDE: WEEPING LOVEGRASS WITH SERICEA LESPEDEZA (SCARIFIED) AND TALL FESCUE WITH SERICEA LESPEDEZA (UNSCARIFIED).

PLANT SELECTION MAY ALSO INCLUDE ANNUAL COMPANION CROPS. ANNUAL COMPANION CROPS SHOULD BE USED ONLY WHEN THE PERENNIAL SPECIES ARE NOT PLANTED DURING THEIR OPTIMUM PLANTING PERIOD. A COMMON MIXTURE IS BROWN TOP MILLET WITH COMMON BERMUDA IN MID-SUMMER. CARE SHOULD BE TAKEN IN SELECTING COMPANION CROP SPECIES AND SEEDING RATES BECAUSE ANNUAL CROPS WILL COMPETE WITH PERENNIAL SPECIES FOR WATER, NUTRIENTS AND GROWING SPACE. A HIGH SEEDING RATE OF THE COMPANION CROP MAY PREVENT THE ESTABLISHMENT OF PERENNIAL SPECIES. RYEGRASS SHALL NOT BE USED IN ANY SEEDING MIXTURES CONTAINING PERENNIAL SPECIES DUE TO ITS ABILITY TO OUT-COMPETE DESIRED SPECIES CHOSEN FOR PERMANENT PERENNIAL COVER.

SEED QUALITY

THE TERM "PURE LIVE SEED" IS USED TO EXPRESS THE QUALITY OF SEED AND IS NOT SHOWN ON THE LABEL. PURE LIVE SEED, PLS, IS EXPRESSED AS A PERCENTAGE OF THE SEEDS THAT ARE PURE AND WILL GERMINATE. INFORMATION ON PERCENT GERMINATION AND PURITY CAN BE FOUND ON SEED TAGS. PLS IS DETERMINED BY MULTIPLYING THE PERCENT OF PURE SEED WITH THE PERCENT OF GERMINATION; I.E., PLS = % GERMINATION x % PURITY

THE PERCENT OF PLS HELPS YOU DETERMINE THE AMOUNT OF SEED YOU NEED. FOR EXAMPLE IF THE SEEDING RATE IS 10 POUNDS PLS AND THE BULK SEED IS 56% PLS,

$$\text{THE BULK SEEDING RATE IS: } \frac{\text{10 LBS. OF PLS / ACRE}}{\text{56\% PLS}} = \text{17.9 LBS / ACRE}$$

YOU WOULD NEED TO PLANT 17.9 LBS/ACRE TO PROVIDE 10 LBS/ACRE OF PURE LIVE SEED.

SEEDBED PREPARATION

SEEDBED PREPARATION MAY NOT BE REQUIRED WHERE HYDRAULIC SEEDING AND FERTILIZING EQUIPMENT IS TO BE USED. 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 IN. 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 IN. APART IN WHICH SEED MAY LODGE AND GERMINATE. HYDRAULIC SEEDING MAY ALSO BE USED.

INDIVIDUAL PLANTS

1. WHERE INDIVIDUAL PLANTS ARE TO BE SET, THE SOIL SHALL BE PREPARED BY EXCAVATING HOLES, OPENING FURROWS, OR DIBBLE PLANTING.
2. FOR NURSERY STOCK PLANTS, HOLES SHALL BE LARGE ENOUGH TO ACCOMMODATE ROOTS WITHOUT CROWDING.
3. 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 (INOCULATED IF NEEDED), FERTILIZER, AND WOOD CELLULOSE OR WOOD PULP FIBER MULCH WITH WATER AND APPLY IN A SLURRY UNIFORMLY OVER THE AREA TO BE TREATED. APPLY WITHIN ONE HOUR AFTER THE MIXTURE IS MADE.
CONVENTIONAL SEEDING: SEEDING WILL BE DONE ON A FRESHLY PREPARED AND FIRMED SEEDBED. FOR BROADCAST PLANTING, USE A CULTIPACKER-SEEDER, DRILL, ROTARY SEEDER, OTHER MECHANICAL SEEDER, OR HAND SEEDING TO DISTRIBUTE THE SEED UNIFORMLY OVER THE AREA TO BE TREATED. COVER THE SEED LIGHTLY WITH 1/8 TO 1/4 INCH OF SOIL FOR SMALL SEED AND 1/2 TO 1 INCH FOR LARGE SEED WHEN USING A CULTIPACKER OR OTHER SUITABLE EQUIPMENT.
NO-TILL SEEDING: NO-TILL SEEDING IS PERMISSIBLE INTO ANNUAL COVER CROPS WHEN PLANTING IS DONE FOLLOWING MATURITY OF THE COVER CROP OR IF THE TEMPORARY COVER STAND IS SPARSE ENOUGH TO ALLOW ADEQUATE GROWTH OF THE PERMANENT (PERENNIAL) SPECIES. NO TILL SEEDING SHALL BE DONE WITH APPROPRIATE NO-TILL SEEDING EQUIPMENT. THE SEED MUST BE UNIFORMLY DISTRIBUTED AND PLANTED AT THE PROPER DEPTH.
INDIVIDUAL PLANTS: SHRUBS, VINES AND SPRIGS MAY BE PLANTED WITH APPROPRIATE PLANTERS OR HAND TOOLS. PINE TREES SHALL BE PLANTED MANUALLY IN THE SUBSOIL FURROW. EACH PLANT SHALL BE SET IN A MANNER THAT WILL AVOID CROWDING THE ROOTS. NURSERY STOCK PLANTS SHALL BE PLANTED AT THE SAME DEPTH OR SLIGHTLY DEEPER THAN THEY GREW AT THE NURSERY. THE TOPS 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 HOE, 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. 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 TONES 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 THE 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 0.75:1 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 ON SLOPES, IN DITCHES OR DRY WATERWAYS 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 8 TO 12 INCHES APART. THE EDGES OF THE DISKS SHALL BE DULL ENOUGH TO PRESS THE MULCH INTO THE GROUND WITHOUT CUTTING IT, LEAVING MUCH OF IT IN AN ERECT POSITION. MULCH SHALL NOT BE PLOWED INTO THE SOIL.
2. SYNTHETIC TACKIFIERS,BINDERS OR HYDRAULIC MULCH SPECIFICALLY DESIGNED TO TACK STRAW, SHALL BE APPLIED IN CONJUNCTION 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 WHOULD BE VERIFIED NONTOXIC THROUGH EPA 2021.0 TESTING. REFER TO TACKIFIERS - TAC
3. RYE OR WHEAT CAN BE INCLUDED WITH FALL AND WINTER PLANTINGS TO STABILIZE THE MULCH. THEY SHALL BE APPLIED AT A RATE OF ONE-QUARTER TO ONE-HALF BUSHEL PER ACRE.
4. PLASTIC MESH OR NETTING WITH MESH NO LARGER THAN ONE INCH BY ONE INCH MAY BE NEEDED TO ANCHOR STRAW OR HAY MULCH ON UNSTABLE SOILS AND CONCENTRATED FLOW AREAS. THESE MATERIALS SHALL BE INSTALLED AND ANCHORED ACCORDING TO MANUFACTURER'S SPECIFICATIONS.

BEDDING MATERIAL: MULCH 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: 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.

		ANALYSIS OR EQUIVALENT N-P-K		N TOP DRESSING RATE
1. COOL SEASON GRASSES	FIRST	6-12-12	1500 LBS./AC.	50-100 LBS./AC. 1/ 2/
	SECOND	6-12-12	1000 LBS./AC.	--
	MAINTENANCE	10-10-10	400 LBS./AC.	30
2. COOL SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500 LBS./AC.	0-50 LBS./AC. 1/
	SECOND	0-10-10	1000 LBS./AC.	--
	MAINTENANCE	0-10-10	400 LBS./AC.	--
3. GROUND COVERS	FIRST	10-10-10	1300 LBS./AC. 3/	--
	SECOND	10-10-10	1300 LBS./AC. 3/	--
	MAINTENANCE	10-10-10	1100 LBS./AC.	--
4. PINE SEEDLINGS	FIRST	20-10-5	ONE 21-GRAM PELLET PER SEEDLING PLACED IN THE CLOSING HOLE	--
5. SHRUB LESPEDEZA	FIRST	0-10-10	700 LBS./AC.	--
	MAINTENANCE	0-10-10	700 LBS./AC. 4/	
6. TEMPORARY COVER CROPS SEEDED ALONE	FIRST	10-10-10	500 LBS./AC.	30 LBS./AC. 5/
7. WARM SEASON GRASSES	FIRST	6-12-12	1500 LBS./AC.	50-100 LBS./AC. 2/ 6/
	SECOND	6-12-12	800 LBS./AC.	50-100 LBS./AC. 2/
	MAINTENANCE	10-10-10	400 LBS./AC.	30 LBS./AC.
8. WARM SEASON GRASSES AND LEGUMES	FIRST	6-12-12	1500 LBS./AC.	50 LBS./AC. 6/
	SECOND	0-10-10	1000 LBS./AC.	
	MAINTENANCE	0-10-10	400 LBS./AC.	

1/ APPLY IN SPRING FOLLOWING SEEDING.
2/ APPLY IN SPLIT APPLICATIONS WHEN HIGH RATES ARE USED.
3/ APPLY IN 3 SPLIT APPLICATIONS.
4/ APPLY WHEN PLANTS ARE PRUNED.
5/ APPLY TO GRASS SPECIES ONLY.
6/ APPLY WHEN PLANTS GROW TO A HEIGHT OF 2 TO 4 INCHES.

USE AND MANAGEMENT:

MOW SERICEA LESPEDEZA ONLY AFTER FROST TO ENSURE THAT THE SEEDS ARE MATURE. MOW BETWEEN NOVEMBER AND MARCH.

BERMUDAGRASS, BAHIAGRASS 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.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/ PER ACRE	BROADCAST RATES 1/ - PLS 2/ PER 1000 sq. ft.	RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D	REMARKS
BAHIA, PENSACOLA (PASPALUM NOTATUM)			P C		166,000 SEED PER POUND. LOW GROWING. SOD FORMING. SLOW TO ESTABLISH. PLANT WITH A COMPANION CROP. WILL SPREAD INTO BERMUDA PASTURES AND LAWNS. MIX WITH SERICEA LESPEDEZA OR WEEPING LOVEGRASS.
ALONE OR WITH TEMPORARY COVER	60 LBS	1.4 LB			
WITH OTHER PERENNIALS	30 LBS	0.7 LB			
BAHIA, WILMINGTON (PASPALUM NOTATUM)			M-L P		SAME AS ABOVE
ALONE OR WITH TEMPORARY COVER	60 LBS	1.4 LB			
WITH OTHER PERENNIALS	30 LBS	0.7 LB			
BERMUDA, COMMON (CYNODON DACTYLON)			P C		1,787,000 SEED PER POUND. QUICK COVER. LOW GROWING AND SOD FORMING. FULL SUN. GOOD FOR ATHLETIC FIELDS.
ALONE	10 LBS	0.2 LB			
WITH OTHER PERENNIALS	6 LBS	0.1 LB			
BERMUDA, COMMON (CYNODON DACTYLON)			P C		PLANT WITH WINTER ANNUALS.
UNHULLED SEED					
WITH TEMPORARY COVER	10 LBS	0.2 LB			PLANT WITH TALL FESCUE.
WITH OTHER PERENNIALS	6 LBS	0.1 LB			
BERMUDA SPRIGS (CYNODON DACTYLON)	40 CU. FT OR SOD PLUGS 3' X 3'	0.9 CU. FT.	M-L		
COASTAL, COMMON, MIDLAND, OR TIFT 44					A CUBIC FOOT CONTAINS APPROXIMATELY 650 SPRIGS. A BUSHEL CONTAINS 1.25 CUBIC FEET OR APPROXIMATELY 800 SPRIGS.
COASTAL, COMMON, OR TIFT 44			P C		SAME AS ABOVE
TIFT 78			C		SOUTHERN COASTAL PLAIN ONLY.
CENTIPEDE (ERMOCHLOA OPHIUROIDES)	BLOCK SOD ONLY		P C		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.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/ PER ACRE	BROADCAST RATES 1/ - PLS 2/ PER 1000 sq. ft.	RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES, DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D	REMARKS
CROWNVETCH (CORONILLA VARIA)					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 OF RYE. INOCULATE SEED WITH M INNOCULANT. USE FROM NORTH ATLANTA AND NORTHWARD.
WITH WINTER ANNUALS OR COOL SEASON GRASSES	15 LBS	0.3 LB	M-L P		
FESCUE, TALL (FESTUCA ARUNDINACEA)					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.
ALONE	50 LBS.	1.1 LB.	M-L P		
WITH OTHER PERENNIALS	30 LBS.	0.7 LB.			
LESPEDEZA SERICEA (LESPEDEZA CUNEATA)					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 INNOCULANT.
SCARIFIED	60 LBS.	1.4 LB.	M-L P C		
UNSCARIFIED	75 LBS.	1.7 LB.	M-L P C		MIX WITH TALL FESCUE OR WINTER ANNUALS.
SEED-BEARING HAY	3 TONS	138 LBS.	M-L P C		CUT WHEN SEED IS MATURE, BUT BEFORE IT SHATTERS. ADD TALL FESCUE OR WINTER ANNUALS.

PLANTS, PLANTING RATES, AND PLANTING DATES

SPECIES	BROADCAST RATES 1/ - PLS 2/ PER ACRE	BROADCAST RATES 1/ - PLS 2/ PER 1000 SQ. FT.	RESOURCE AREA 3/	PLANTING DATES BY RESOURCE AREAS — PLANTING DATES (SOLID LINES INDICATE OPTIMUM DATES DOTTED LINES INDICATE PERMISSIBLE BUT MARGINAL DATES.) J F M A M J J A S O N D	REMARKS
LESPEDEZA AMBRO VIRGATA (LESPEDEZA VIRGATA DC) OR APPALOW (LESPEDEZA CUNEATA [DUMONT] G. DON)					300,000 SEED PER POUND. HEIGHT OF GROWTH IS 18 TO 24 INCHES. ADVANTAGEOUS IN URBAN AREAS. SPREADING-TYPE GROWTH. NEW 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. INNOCULATE SEED WITH EL INNOCULANT.
SCARIFIED	60 LBS	1.4 LB	M-L P C		
UNSCARIFIED	75 LBS	1.7 LB	M-L P C		
LESPEDEZA, SHRUB (LESPEDEZA BICOLOR) (LESPEDEZA THUMBERGII)			M-L P C		PROVIDE WILDLIFE FOOD AND COVER
PLANTS	3' X 3'				
LOVEGRASS, WEEPING (ERAGROSTIS CURVULA)			M-L P C		1,500,000 SEED PER POUND. QUICK COVER. DROUGHT TOLERANT. GROWS WELL WITH SERICEA LESPEDEZA ON ROADBANKS
ALONE	4 LBS	0.1 LB			
WITH OTHER PERENNIALS	2 LBS	0.05 LB			
MAIDENCANE (PANICUM HERMITOMON)					FOR VERY WET SITES. MAY CLOG CHANNELS. DIG SPRIGS FROM LOCAL SOURCES. USE ALONG RIVER BANKS AND SHORELINES.
SPRIGS	2' X 3' SPACING		ALL		
PANICGRASS, ATLANTIC COASTAL (PANICUM AMARUM VAR. AMARULUM)	20 LBS	0.5 LB	P C		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)					GROWS SIMILAR TO TALL FESCUE
ALONE	50 LBS	1.1 LB	M-L P		
WITH OTHER PERENNIALS	30 LBS	0.7 LB			
SUNFLOWER 'AZTEC' MAXIMILLIAN (HELIANTHUS MAXIMILIANI)	10 LBS	0.2 LB	M-L P C		227,000 SEED PER POUND. MIX WITH WEEPING LOVEGRASS OR OTHER LOW-GROWING GRASSES OR LEGUMES.

Ds-3 DISTURBED AREA STABILIZATION w/ PERMANENT VEGETATION

2014

keith e. hightower, asla
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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

Stephen Mark Bond
NO. 27175
GSWCC #11367
EXP. 05/25/18

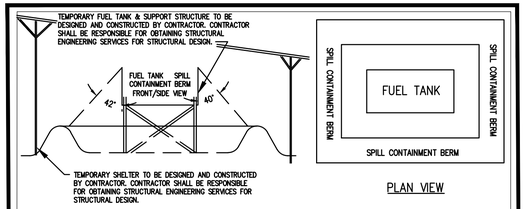
Project Title
Friendship Forest Wildlife Sanctuary

Project Location
Address: 4380 E. PONCE DE LEON AVE.
City, State Zip: CLARKSTON, GA 30021
Land Lot: 119
District-Section: 18
County: DEKALB

Project No.: 17-030-pr
Drawn By: KEH
Checked By: SMB
Initial Issue Date: 09-15-17

Sheet Title
EROSION CONTROL DETAILS

Sheet Number
C-21



PLAN VIEW

POLLUTION CONTROL BMP SPECIFICATIONS

ABOVE GROUND FUEL TANK NOTES:

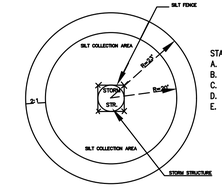
- VOLUME OF BERM CONTAINMENT SHALL BE 110% OF THE LARGEST CONTAINER
- LINE THE STORAGE AREA WITH A DOUBLE LAYER OF PLASTIC SHEETING OR SIMILAR MATERIAL
- CLEARLY LABEL ALL PRODUCTS
- KEEP TANKS OFF GROUND
- PROVIDE SHELTER OVER THE AREA
- PROVIDE FIRE EXTINGUISHER BETWEEN 40 FT. TO 50 FT. FROM TANK AND CLEARLY LABELED.
- PROPERLY AND SAFELY CLEAN UP AND DISPOSE OF FLAMMABLE OR COMBUSTIBLE LIQUIDS THAT HAVE BEEN LEAKED OR SPILLED IN ACCORDANCE WITH THE SPILL RESPONSE PLAN.
- FUEL TANKS MUST BE GREATER THAN 50 FEET AWAY FROM STORM DRAINS AND SURFACE WATER BODIES; 75 FEET FROM PRIVATE WELLS; AND, OUTSIDE SANITARY RADIUS OF PUBLIC WELLS (150 TO 400 FEET).
- SPILL RESPONSE INFORMATION POSTERS MUST BE POSTED IN CLEARLY VISIBLE LOCATIONS AT ALL OUTDOOR STORAGE AREAS.

CONTRACTOR SHALL UTILIZE THE FOLLOWING BEST MANAGEMENT PRACTICES:

- KEEP FLAMMABLE LIQUIDS IN CLOSED CONTAINERS WHEN NOT IN USE.
- ALL CONTAINERS IN OUTDOOR STORAGE AREAS MUST CLEARLY LABELED WITH THEIR CONTENTS. ALL CONTAINERS MUST BE KEPT OFF THE GROUND AND HAVE SECURELY FASTENED LIDS. DRIP PLAN MUST BE PLACED UNDER ALL SPIGOTS, VALVES, FILTERS AND PUMPS TO CATCH LEAKS.
- ALL LIQUID PETROLEUM PRODUCTS CONTAINERS THAT ARE 5 GALLONS OR LARGER IN CAPACITY MUST BE STORED INSIDE A BUILDING OR WITHIN A PROPER OUTDOOR STORAGE AREA.
- MINIMIZE THE USE OF ALL PETROLEUM PRODUCTS.
- WHENEVER POSSIBLE, KEEP SEPARATE AND RECYCLE DISCARDED OILS, DEGREASERS, SOLVENTS, ANTIFREEZE, AND BRAKE FLUIDS. MANY COMMUNITIES HAVE OIL RECYCLING CENTERS.
- USE PROPER RECEPTACLES TO DISPOSE OF CONTAMINATED WASTES THAT CANNOT BE RECYCLED IN CONFORMANCE WITH FEDERAL, STATE, AND/OR LOCAL REGULATIONS
- DO NOT DUMP PETROLEUM PRODUCT WASTE, PESTICIDES, FERTILIZERS, OR OTHER CHEMICALS INTO SEWERS, STORM DRAINS, OR OTHER DRAINAGE CHANNELS. THIS IS ILLEGAL AND COULD RESULT IN FINES OR JOB SHUTDOWN.
- PREVENT SPILLS OF PETROLEUM PRODUCTS FROM OCCURRING BY TAKING SPECIAL CARE WHEN HANDLING THESE PRODUCTS, KEEPING FACILITIES AND EQUIPMENT WELL MAINTAINED.
- SPILL PROOF CONTAINERS AND FUNNELS MUST BE USED WHEN MANUALLY TRANSFERRING FLUIDS FROM ONE CONTAINER TO ANOTHER.
- DEVELOP A SPILL RESPONSE PLAN IN CONFORMANCE WITH FEDERAL, STATE, AND/OR LOCAL REGULATIONS
- MAKE SURE THAT SOMEONE TRAINED IN SPILL RESPONSE IS PRESENT ON SITE ON CALL AT ALL TIMES.
- KEEP MATERIALS FOR CLEANING UP SPILLS ON SITE EASILY AVAILABLE.
- PERFORM MAINTENANCE OF VEHICLES OFFSITE WHENEVER POSSIBLE.
- LOCATE ON-SITE FUEL AND VEHICLE MAINTENANCE STAGING AREAS AWAY FROM ALL DRAINAGE COURSES.
- KEEP EQUIPMENT PROPERLY MAINTAINED TO PREVENT LEAKS.
- EDUCATE CONSTRUCTION WORKERS ABOUT PROPER MATERIALS HANDLING AND SPILL RESPONSE PROCEDURES. DISTRIBUTE OR POST INFORMATIONAL MATERIALS REGARDING CHEMICAL CONTROL.
- TO THE EXTENT THAT IT DOESN'T COMPROMISE CLEAN UP ACTIVITIES, SPILLS SHALL BE COVERED AND PROTECTED FROM STORM WATER RUN OFF DURING RAINFALL.
- SPILLS SHALL NOT BE BURIED OR WASHED WITH WATER.
- USED CLEAN UP MATERIALS, CONTAMINATED MATERIALS, AND RECOVERED SPILL MATERIALS THAT IS NO LONGER SUITABLE FOR INTENDED PURPOSES SHALL BE STORED AND DISPOSED OF IN CONFORMANCE WITH FEDERAL, STATE AND/OR LOCAL REGULATIONS.
- WATER USED FOR CLEANING AND DECONTAMINATION SHALL NOT BE ALLOWED TO ENTER STORM DRAINS OR WATERCOURSES AND SHALL BE COLLECTED AND DISPOSED OF IN ACCORDANCE WITH FEDERAL, STATE AND/OR LOCAL REGULATIONS.
- WHERE USED FOR CLEANING AND DECONTAMINATION, WATER OVERFLOW OR MINOR WATER SPILLAGE SHALL BE CONTAINED AND SHALL NOT BE ALLOWED TO DISCHARGE INTO DRAINAGE FACILITIES OR WATER COURSES.

ABOVE GROUND FUEL TANK STORAGE AREA
N.T.S.

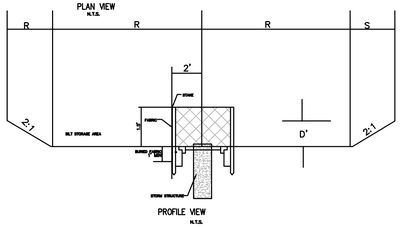
MODIFIED Sd2 SEDIMENT STORAGE BASIN



PLAN VIEW
N.T.S.

STANDARD VERSIONS:

A.	R=10'	D=1.5'	S=3'	STORAGE VOLUME=23cy
B.	R=15'	D=1.5'	S=3'	STORAGE VOLUME=47cy
C.	R=20'	D=1.5'	S=3'	STORAGE VOLUME=80cy
D.	R=15'	D=3'	S=6'	STORAGE VOLUME=115cy
E.	R=20'	D=3'	S=6'	STORAGE VOLUME=187cy



PROFILE VIEW
N.T.S.

1. FOR STAKES, USE 2x4 INCH WOOD WITH MIN. LENGTH OF 3 FEET.
2. SPACE STAKES EVENLY AROUND THE PERIMETER OF THE INLET A MAXIMUM OF 3 FEET APART, AND DRIVE SECURELY INTO THE GROUND, APPROXIMATELY 18 INCHES DEEP.
3. TO PROVIDE LATERAL STABILITY, FRAME 2x4 INCH WOOD STRIPS AROUND THE CREST OF THE OVERFLOW AREA AT A MAXIMUM OF 1.5 FEET ABOVE DROP INLET CREST.
4. PLACE THE BOTTOM 12 INCHES OF THE FABRIC IN A TRENCH AND BACKFILL WITH AT LEAST 4 INCHES OF CRUSHED STONE OR 12 INCHES COMPACTED SOIL.
5. FASTEN FABRIC SECURELY TO THE STAKES AND FRAME. JOINTS MUST BE OVERLAPPED TO THE NEXT STAKE.
6. THE TOP OF THE FRAME AND FABRIC MUST BE WELL BELOW THE GROUND ELEVATION DOWNSLOPE FROM THE DROP INLET TO KEEP RUNOFF FROM BYPASSING THE INLET. IT MAY BE NECESSARY TO BUILD A TEMPORARY DIKE ON THE DOWN SLOPE SIDE OF THE STRUCTURE TO PREVENT BYPASS FLOW. 6 UNDER CUT Sd2 1.5' x 10' dia. ON 2 SIDES & 1.5' x 15' ON UPSTREAM SIDE.
7. CONTRACTOR TO REMOVE ACCUMULATED SILT & MAINTAIN SILT FENCE IN ACCORDANCE TO BEST MANAGEMENT PRACTICES. SILT TO BE REMOVED WHEN STORAGE CAPACITY IS 1/3 FULL

SD2 EXCAVATED INLET SEDIMENT TRAP W/ TEMPORARY SILT STORAGE
N.T.S.

Surround Style Planting with Deeproot Universal Barriers

When selecting the Surround style planting application you will have the greatest success by following these simple steps as illustrated below:

A. Prepare the initial planting hole as illustrated below. This is based upon the combination of desired barrier diameter and depth. Consider if drainage devices or amendments are needed to correct any adverse soil or planting conditions in the backfill area.

B. Assemble the appropriate number of DeepRoot Universal Barrier panels. The vertical root deflecting ribs on the panel must face inward, toward the root ball. (This is very important, otherwise the roots will become girdled by traveling around the smooth walled surface)

C. Next place the barrier in the center of the planting hole, keeping in mind that the double top edge of the barrier should be positioned approximately 1/2" (13mm) above grade. This helps retard potential root overgrowth. Failing to position the top edge above grade can allow root overgrowth which can lead to uprooted hardscapes.

D. Backfill and compact with soil inside the barrier to the level where the bottom of the root ball will be when positioned correctly with the crown of the root ball approximately 1" (26mm) above grade.

E. Remove the tree from its container, or cut away the top portion of burlap and position in the center of the barrier. Complete the backfill of the soil. Distribute evenly to maintain the shape of the barrier and compact the backfill every 4"-6" (10cm-15cm). Roots will die quickly if left exposed to the elements so keep exposure of the roots to a minimum.

F. If staking or guying is required we recommend using the soft, safe and economical alternative to traditional wire and hose, ArborTie (see www.deeproot.com for details)

G. If the tree(s) will be subject to maintenance work such as lawn mowing or weed trimming we strongly recommend the installation of ArborGard+ Tree Trunk Protectors which are placed around the base of young trees to protect them from damage by weed trimmers, lawn mowers and small rodents. (See www.deeproot.com)

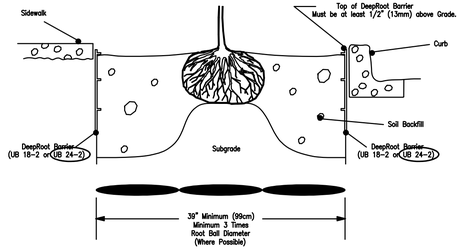
H. Water and follow proper tree maintenance practices.

Trees do require care and nurturing after planting. Consult with your local supplier for proper care procedures for the species you are planting. The planting instructions given here are by no means a comprehensive guide. Rather they are general guidelines to planting with DeepRoot Barriers and a survey of current planting methods. Conditions will vary however and it is recommended that an Arborist be consulted before planting.

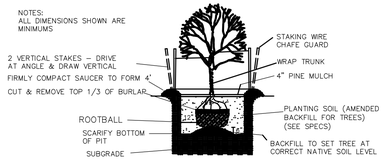
For additional information please visit our website at www.deeproot.com

For information regarding distributors please call: 1 800 ILV ROOT (458.7668). For help with drainage or other difficult installation questions please call DeepRoot Technical Support at: 1 800 ROOT TEK (766.8835).

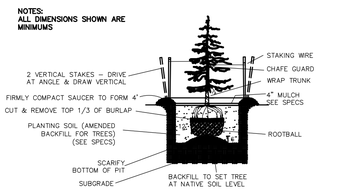
A Typical Surround Planting Installation Using DeepRoot Universal Barrier



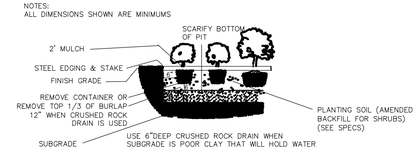
ROOT BARRIER DETAIL
N.T.S.



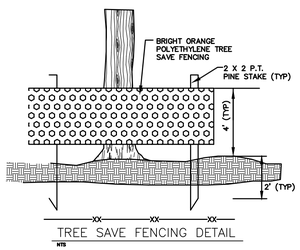
DECIDUOUS TREE PLANTING DETAIL
NOT TO SCALE



EVERGREEN TREE PLANTING DETAIL



SHRUB PLANTING DETAIL
NOT TO SCALE

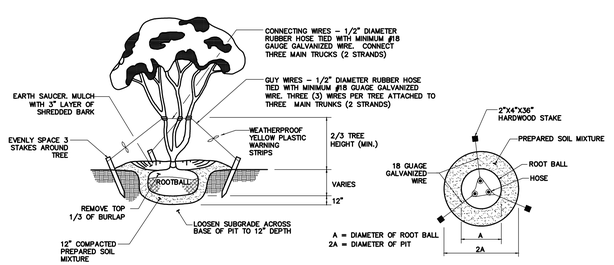


TREE SAVE FENCING DETAIL
NTS

NOTES:

1. FOR LOCATION OF TREE PROTECTION FENCE SEE CIVIL PLANS
2. FENCE TO BE LOCATED @ OR BEYOND DRIPLINE OF EXISTING TREES TO BE SAVED

SEQUENCE OF INSTALLATION:
ALL TREE PROTECTION DEVICES SHALL BE INSTALLED PRIOR TO OR CONCURRENT WITH CLEARING, GRUBBING OR GRADING. THE DEPARTMENT OF PLANNING AND DEVELOPMENT WILL INSPECT THE INSTALLATION OF TREE PROTECTION DEVICES. TREE PROTECTION MUST REMAIN IN FUNCTIONING CONDITIONS THROUGHOUT ALL PHASES OF DEVELOPMENT.



MULTI-TRUNK TREE PLANTING
NTS

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1055 ROWLAND STREET
CLARKSTON, GA 30021
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Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	ISSUE Date	By	Appr.
1	BID SET	09-15-17	KEH	SMB

STEPHEN MARK BOYD — GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

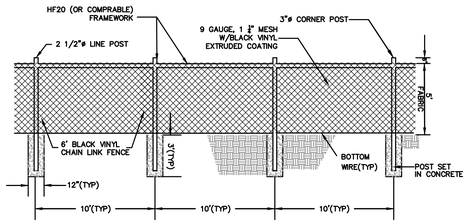
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

TREE SAVE & PLANTING DETAILS

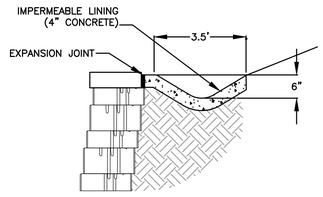
Sheet Number

C-23



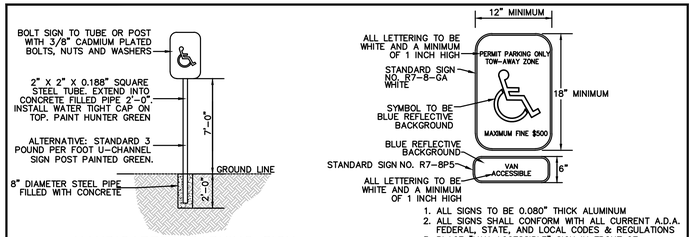
6' BLACK VINYL CHAIN LINK FENCE DETAIL

N.T.S.



SWALE AT TOP

SLOPE AT TOP OF WALL
SCALE: NONE



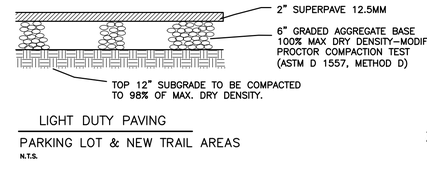
HANDICAPPED PARKING SIGN PLACEMENT DETAIL

N.T.S.

1. ALL SIGNS TO BE 0.080" THICK ALUMINUM
2. ALL SIGNS SHALL CONFORM WITH ALL CURRENT A.D.A. FEDERAL, STATE, AND LOCAL CODES & REGULATIONS
3. PLACE "VAN ACCESSIBLE" SIGN IN FRONT OF VAN ACCESSIBLE SPACES ONLY.

HANDICAPPED SIGN DETAIL

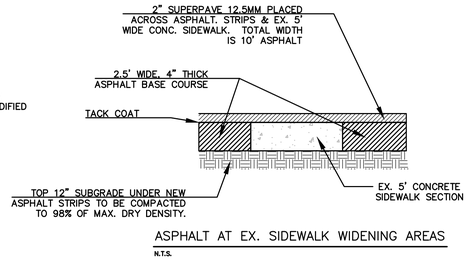
N.T.S.



LIGHT DUTY PAVING

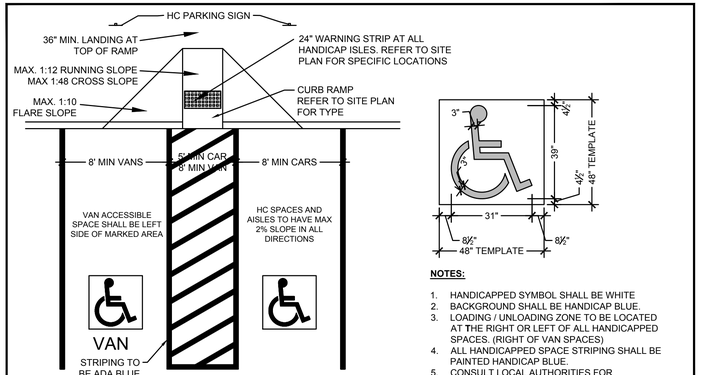
PARKING LOT & NEW TRAIL AREAS

N.T.S.



ASPHALT AT EX. SIDEWALK WIDENING AREAS

N.T.S.



ADA PARKING SPACE

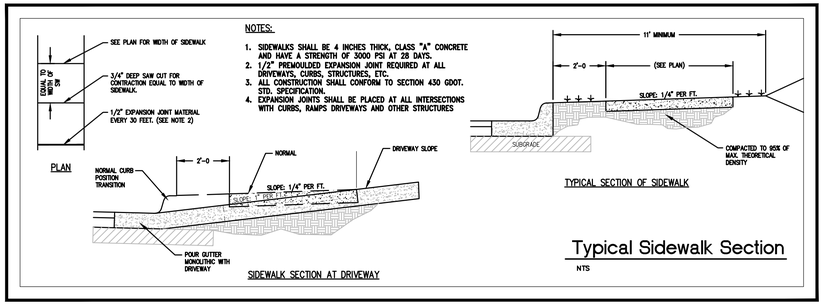
NTS

NOTES:

1. HANDICAPPED SYMBOL SHALL BE WHITE
2. BACKGROUND SHALL BE HANDICAP BLUE.
3. LOADING / UNLOADING ZONE TO BE LOCATED AT THE RIGHT OR LEFT OF ALL HANDICAPPED SPACES. (RIGHT OF VAN SPACES)
4. ALL HANDICAPPED SPACE STRIPING SHALL BE PAINTED HANDICAP BLUE.
5. CONSULT LOCAL AUTHORITIES FOR ADDITIONAL REQUIREMENTS.

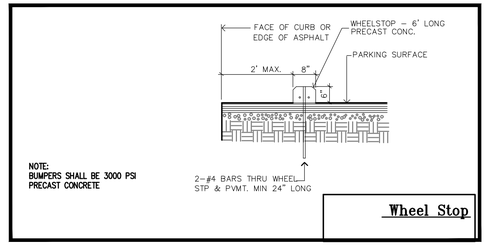
HC PARKING SYMBOL

NTS



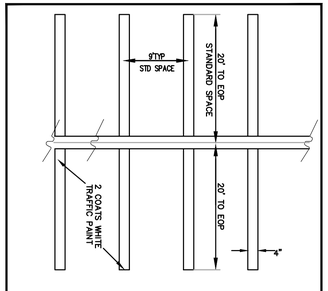
Typical Sidewalk Section

NTS



NOTE:
BUMPERS SHALL BE 3000 PSI PRECAST CONCRETE

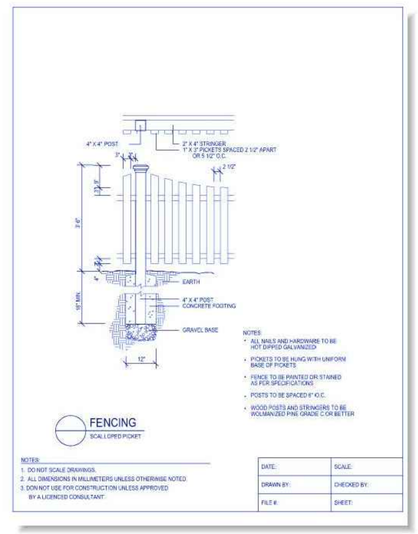
Wheel Stop



NOTE:
1. SEE SITE DEVELOPMENT PLAN FOR PARKING DIMENSIONS & LAYOUT

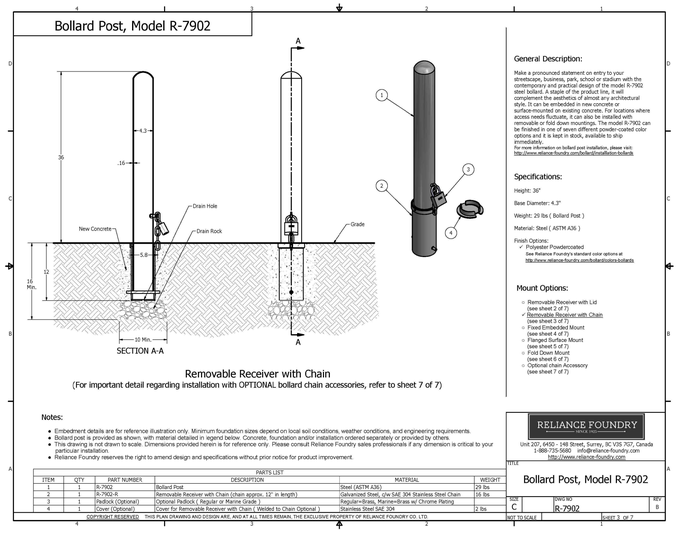
PAVEMENT STRIPING DETAIL

NTS



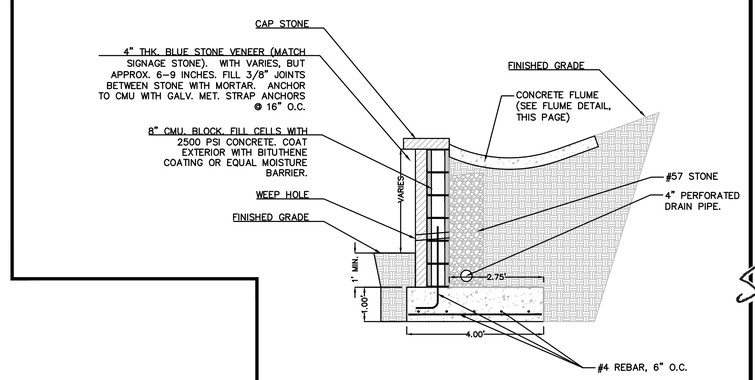
SCALLOPED WOODEN PICKET FENCE DETAIL

N.T.S.



REMOVABLE BOLLARD DETAIL

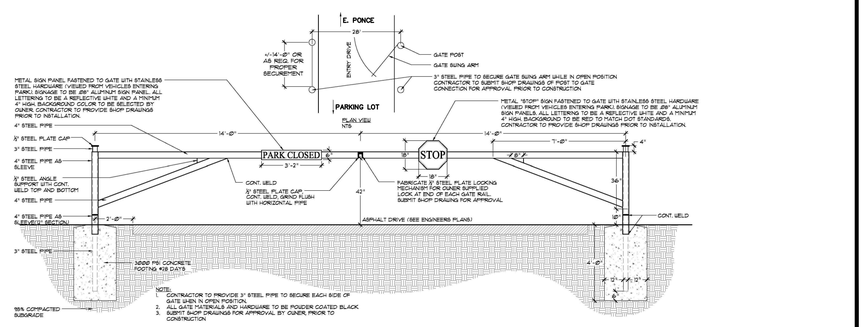
N.T.S. OR APPROVED EQUAL



PARKING LOT SITE WALL DETAIL

N.T.S.

* NOTE: "BLUE" GRANITE MUST BE "CLEAN" GRANITE FROM NORTH GEORGIA (MONROE) QUARRY & NOT FROM LITHONIA QUARRY.



PARK ENTRANCE GATE

NTS

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Contact: Lawrence Kaiser
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No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOLD

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

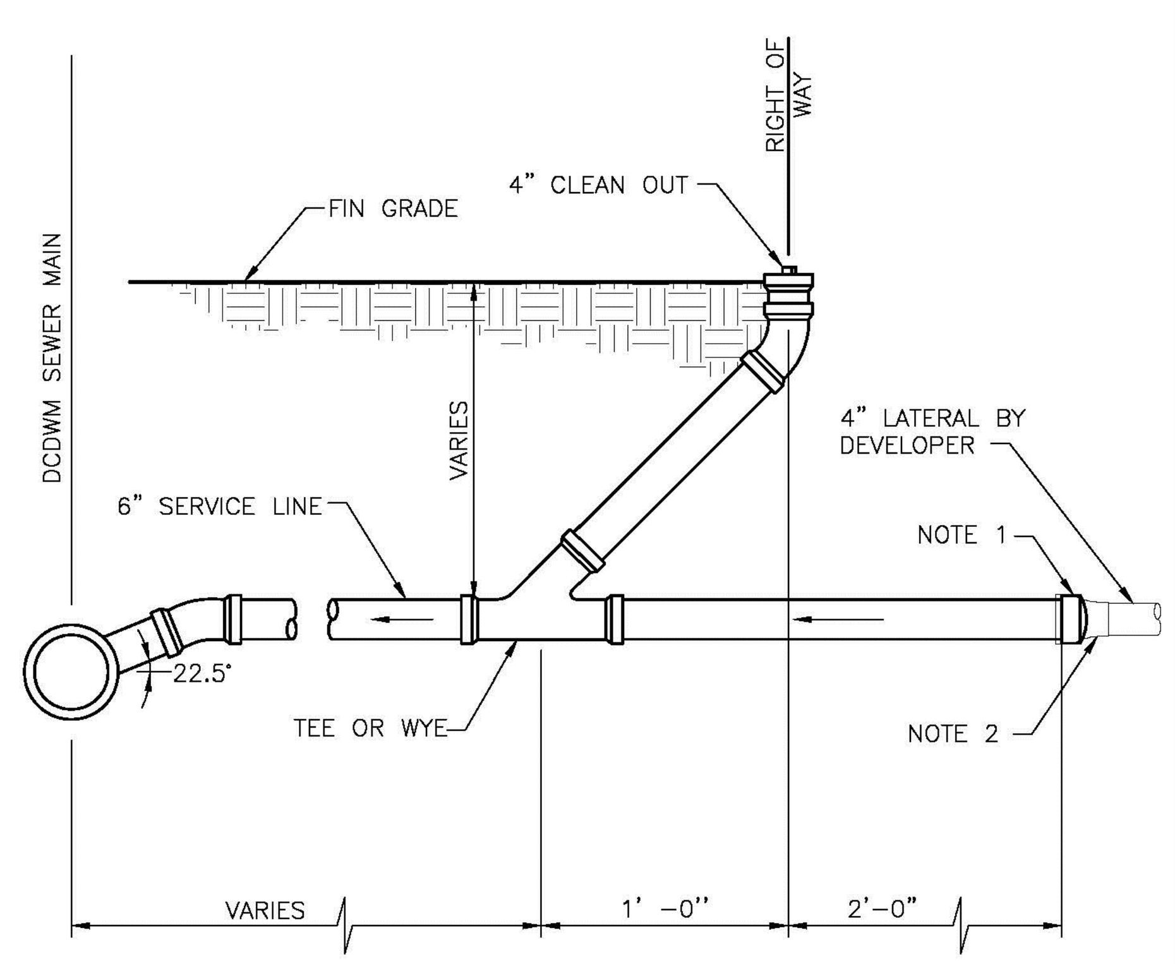
Project Location	
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

SITE DETAILS

Sheet Number

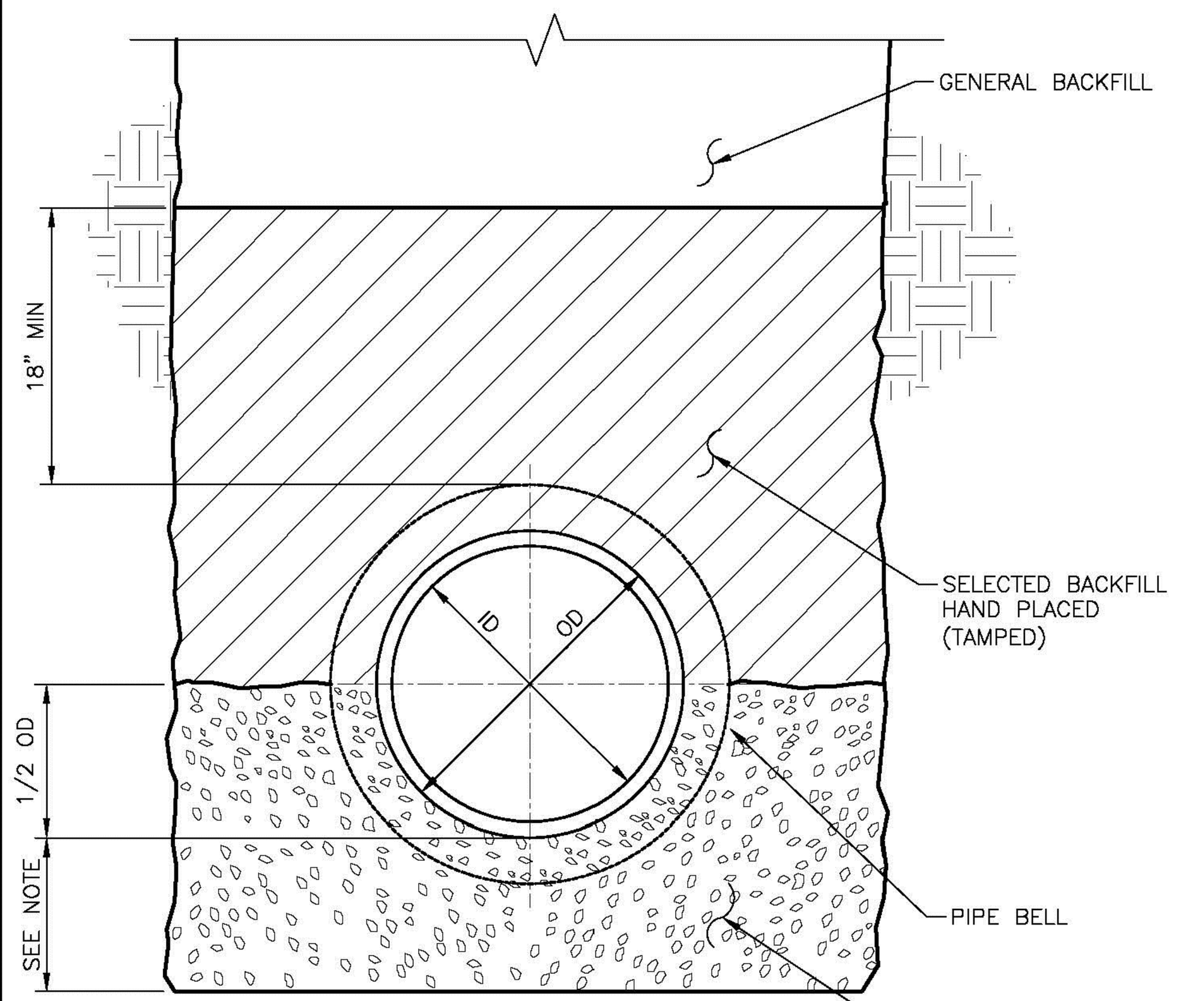
C-24



NOTES:

1. PLUG 6" SERVICE LINE IF SERVICE DOES NOT CONTINUE (HAND INSTALLED LOOSLY – NO SOLVENT)
2. CONNECT DEVELOPER'S 4" LATERAL TO 6" SERVICE LINE W/ 4" X 6" FERNCO COUPLING INCLUDING SST BANDS

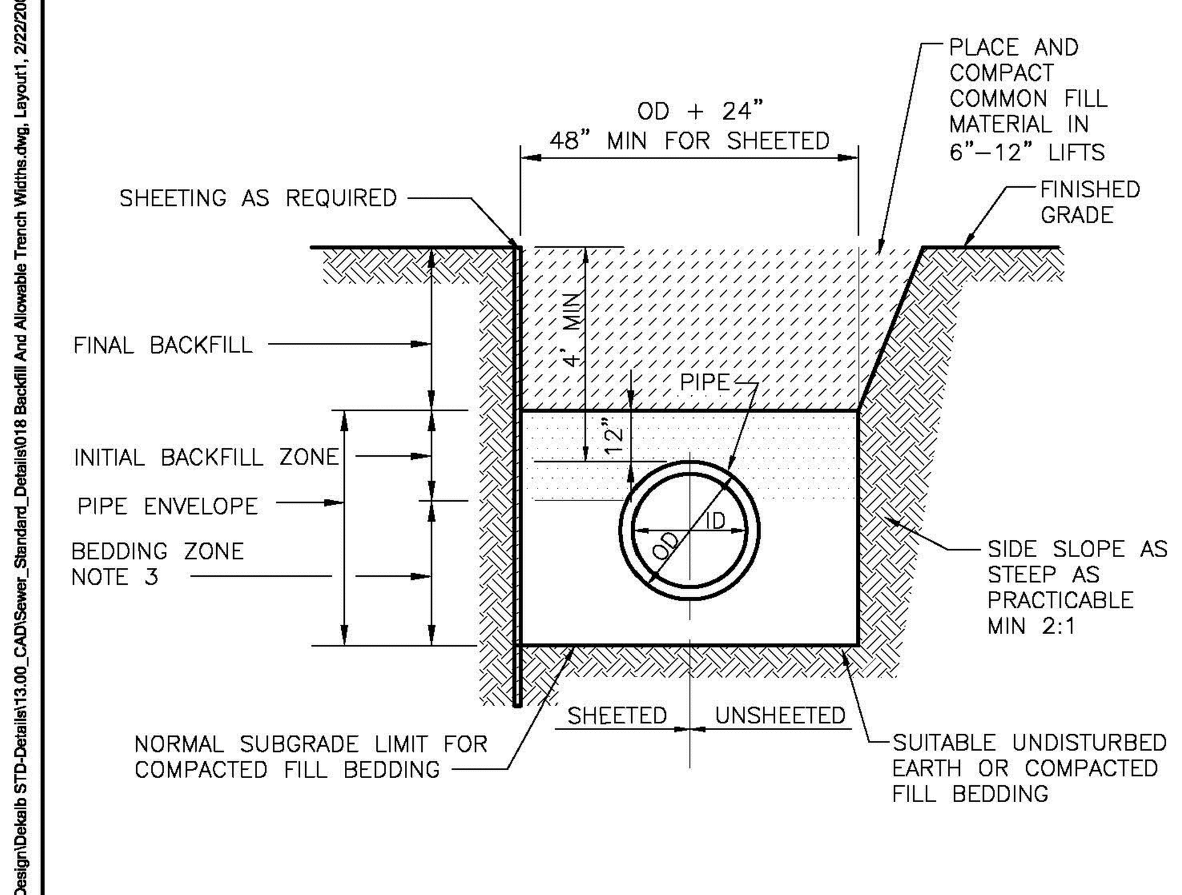
DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Typical Service Line and Clean Out Detail	
	NOT TO SCALE	DETAIL NO. S-011



NOTES:

1. BEDDING DEPTH BELOW PIPE:
   a.) PIPE DIAMETER UP TO 12":
      i.) EQUAL TO 1/2 TIMES THE OUTSIDE DIAMETER (OD)
      ii.) MINIMUM 4"
   b.) PIPE DIAMETER GREATER THAN 12":
      i.) EQUAL TO 1/4 TIMES THE OUSIDE DIAMETER (OD)
      ii.) MINIMUM 6"
   C.) MAXIMUM 12"

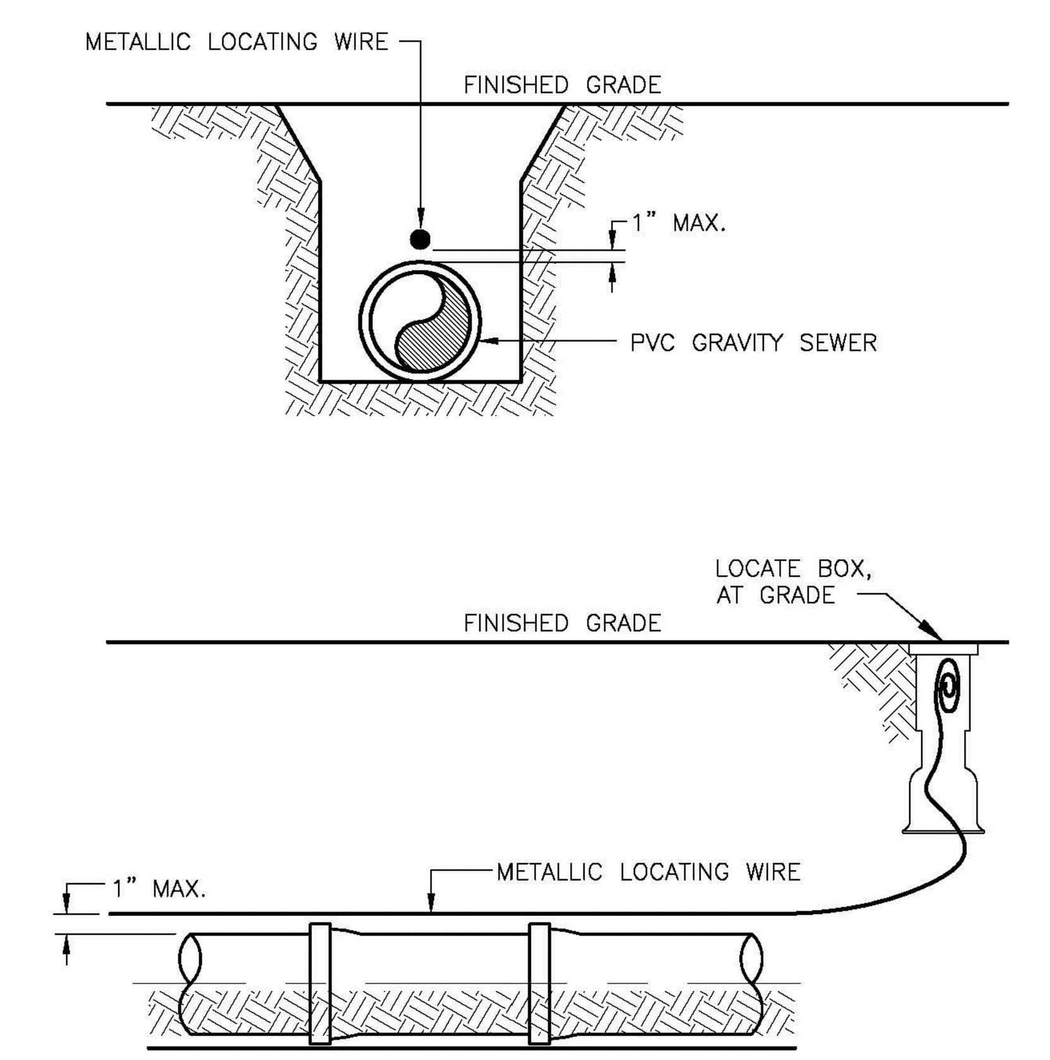
DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Class "B" Bedding	
	NOT TO SCALE	DETAIL NO. S-013



NOTES:

1. SEE DESIGN STANDARDS FOR ADDITIONAL BEDDING AND TRENCH BACKFILL REQUIREMENTS.
2. MINIMUM DEPTH OF COVER OVER GRAVITY SANITARY SEWER LINES SHALL BE 4'-0" AS MEASURED FROM TOP OF PAVEMENT TO TOP OF PIPE.
3. SEE STANDARD DETAILS S-012, S-013 AND S-014 FOR BEDDING REQUIREMENTS.
4. NO ROCK IN BACKFILL FOR FIRST 2'-0" ABOVE TOP OF PIPE.
5. BACKFILL TO BE NO. 57 STONE UNDER ROADWAYS AND PAVED AREAS.
6. BACKFILL SHALL NOT INCLUDE ROCK > 6 INCHES.

DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Backfill and Allowable Trench Widths Detail	
	NOT TO SCALE	DETAIL NO. S-018



NOTES:

1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (12 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR
2. THE CABLE SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE. LOCATING WIRE SHALL TERMINATE AT THE MANHOLE FRAME
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.

DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Tracer Wire Detail For PVC	
	NOT TO SCALE	DETAIL NO. S-025

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GEORGIA REGISTERED NO. 23775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

Stephen Mark Bond

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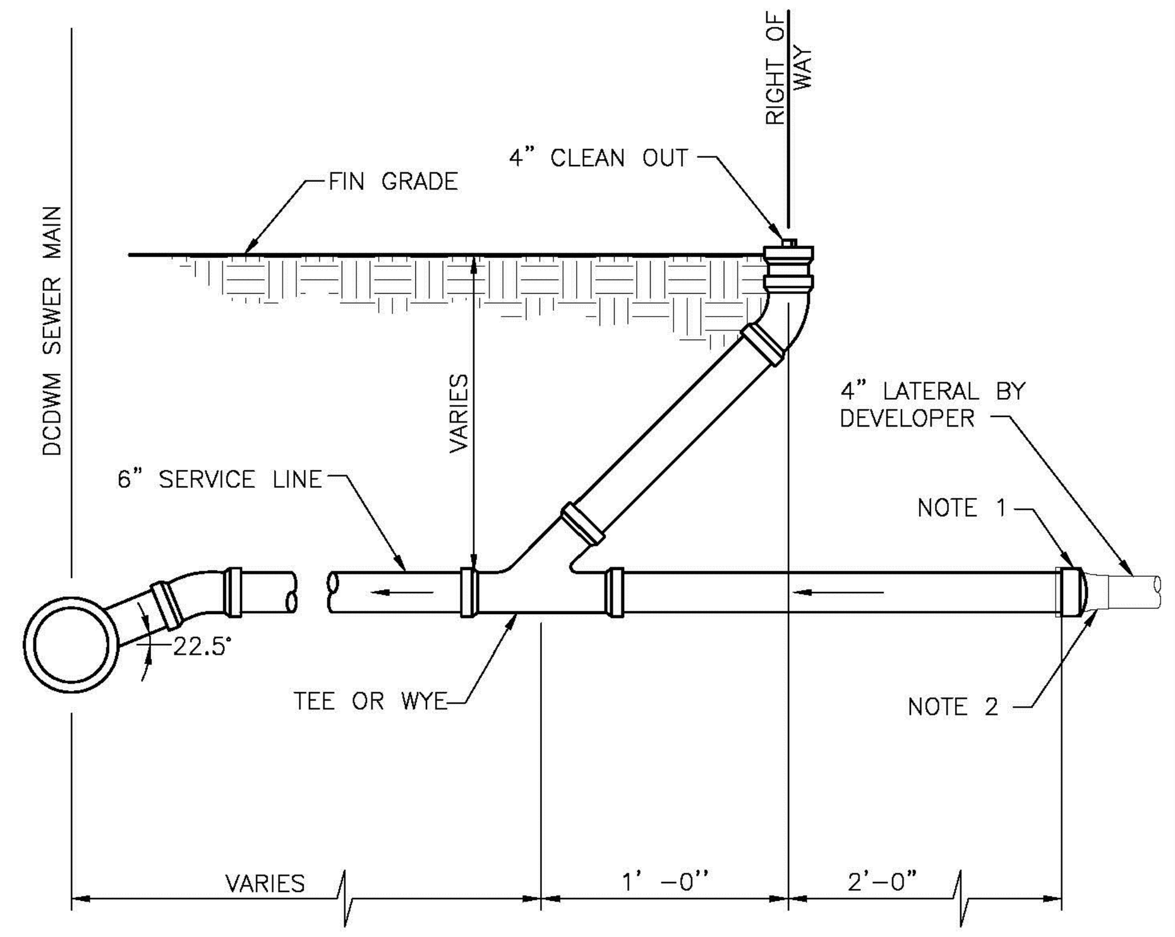
Sheet Title

SEWER DETAILS

Sheet Number

C-27

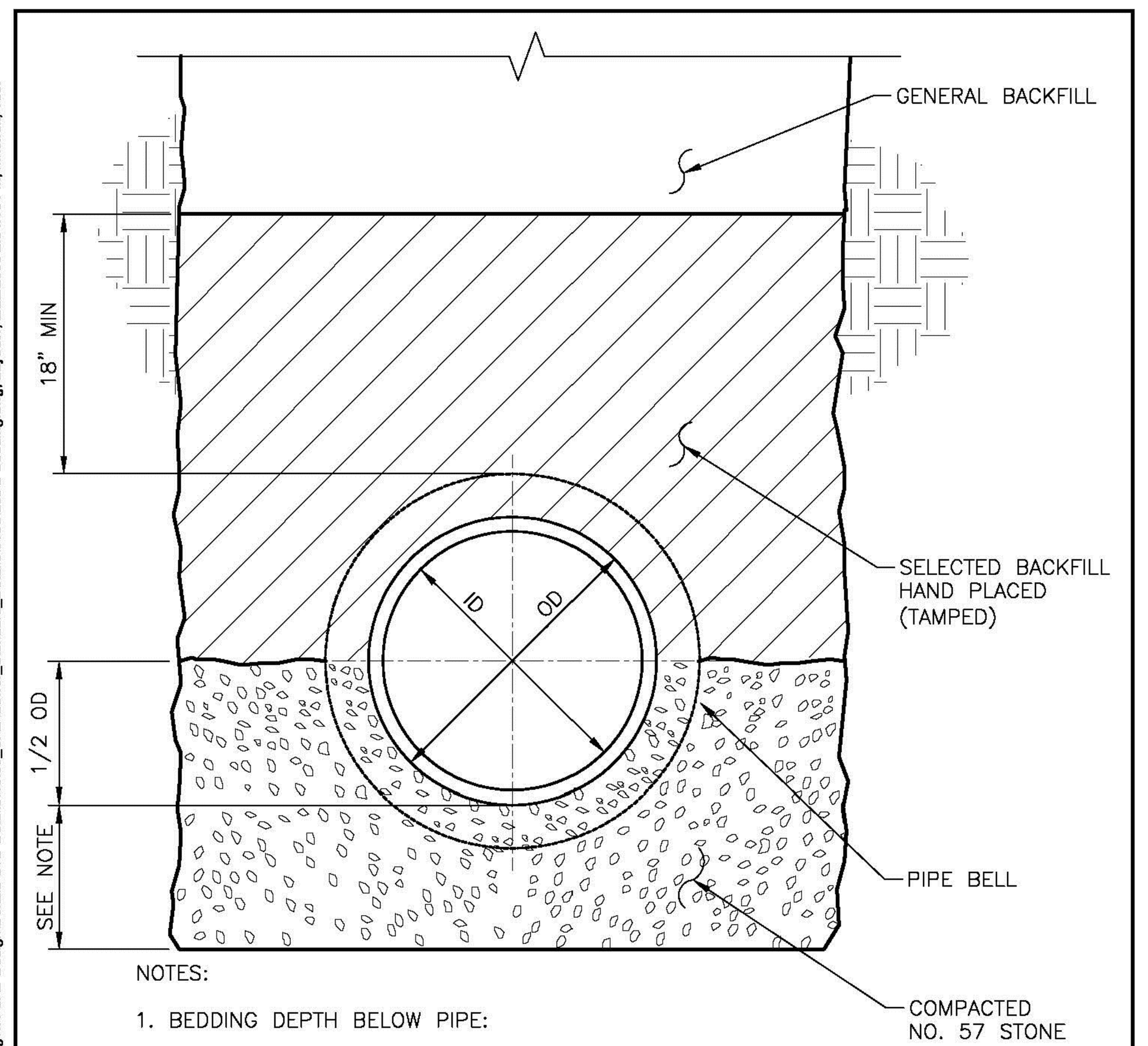
keith e. hightower, asla 9/13/2017 8:22 AM normal.ctb i:\oprojeng\17030e-friendship forest park\dwg\production\17030dt.dwg



NOTES:

1. PLUG 6" SERVICE LINE IF SERVICE DOES NOT CONTINUE (HAND INSTALLED LOOSLY – NO SOLVENT)
2. CONNECT DEVELOPER'S 4" LATERAL TO 6" SERVICE LINE W/ 4" X 6" FERNCO COUPLING INCLUDING SST BANDS

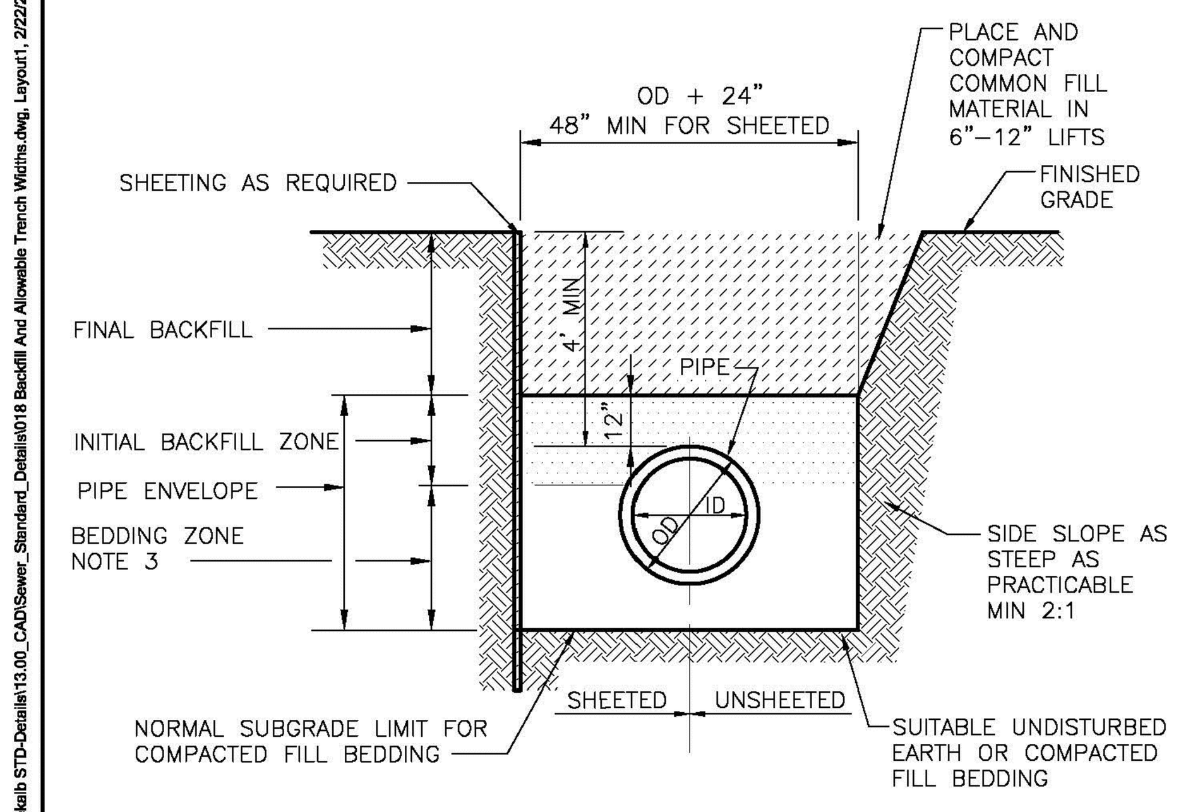
DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Typical Service Line and Clean Out Detail	
	NOT TO SCALE	DETAIL NO. S-011



NOTES:

1. BEDDING DEPTH BELOW PIPE:
   a.) PIPE DIAMETER UP TO 12":
      i.) EQUAL TO 1/2 TIMES THE OUTSIDE DIAMETER (OD)
      ii.) MINIMUM 4"
   b.) PIPE DIAMETER GREATER THAN 12":
      i.) EQUAL TO 1/4 TIMES THE OUSIDE DIAMETER (OD)
      ii.) MINIMUM 6"
   C.) MAXIMUM 12"

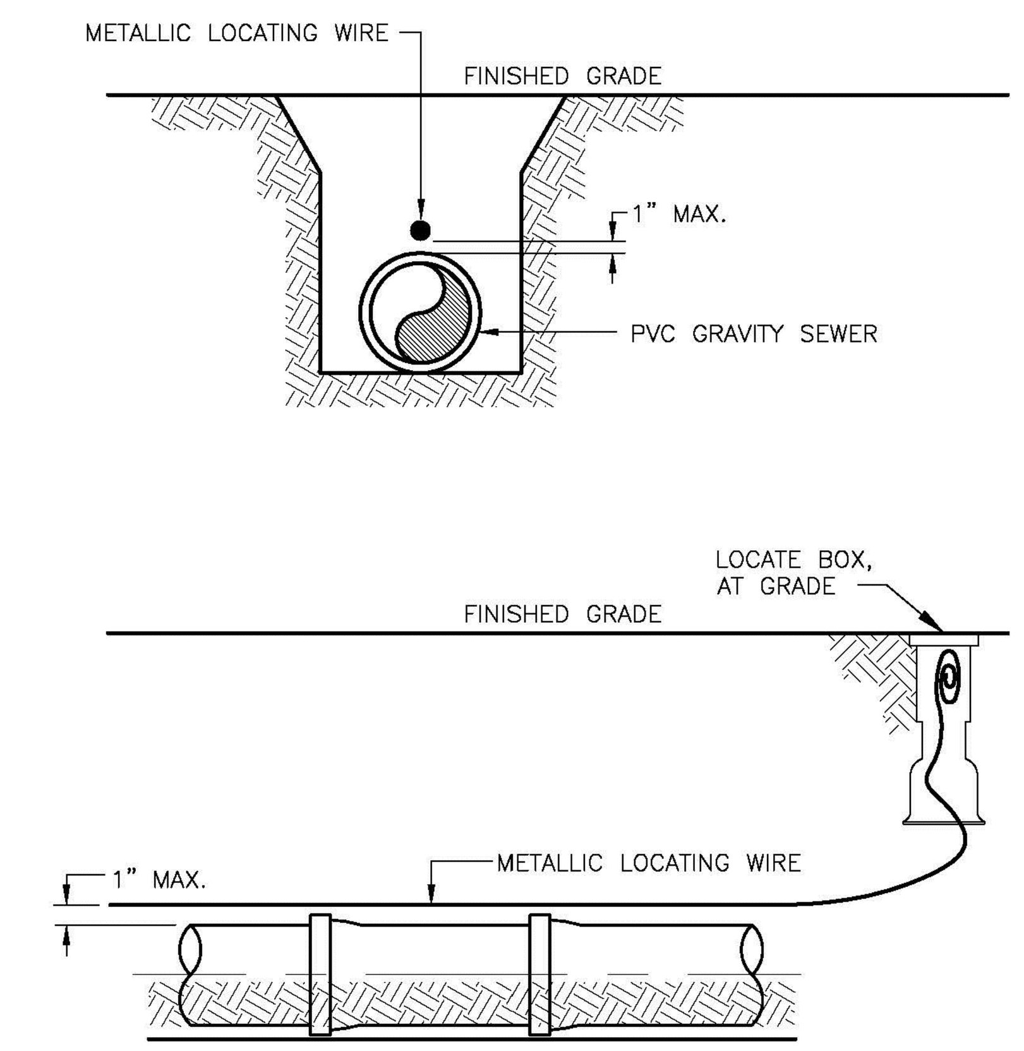
DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Class "B" Bedding	
	NOT TO SCALE	DETAIL NO. S-013



NOTES:

1. SEE DESIGN STANDARDS FOR ADDITIONAL BEDDING AND TRENCH BACKFILL REQUIREMENTS.
2. MINIMUM DEPTH OF COVER OVER GRAVITY SANITARY SEWER LINES SHALL BE 4'-0" AS MEASURED FROM TOP OF PAVEMENT TO TOP OF PIPE.
3. SEE STANDARD DETAILS S-012, S-013 AND S-014 FOR BEDDING REQUIREMENTS.
4. NO ROCK IN BACKFILL FOR FIRST 2'-0" ABOVE TOP OF PIPE.
5. BACKFILL TO BE NO. 57 STONE UNDER ROADWAYS AND PAVED AREAS.
6. BACKFILL SHALL NOT INCLUDE ROCK > 6 INCHES.

DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Backfill and Allowable Trench Widths Detail	
	NOT TO SCALE	DETAIL NO. S-018



NOTES:

1. PVC PIPE SHALL REQUIRE INSULATED METALLIC LOCATING WIRE (12 GAUGE COPPER) CAPABLE OF DETECTION BY A CABLE LOCATOR
2. THE CABLE SHALL BE BURIED DIRECTLY ABOVE THE CENTERLINE OF THE PIPE. LOCATING WIRE SHALL TERMINATE AT THE MANHOLE FRAME
3. USE DUCT TAPE AS NECESSARY TO HOLD WIRE DIRECTLY ON THE TOP OF THE PIPE.

DEKALB COUNTY, GA. Department of Watershed Management	STANDARD DETAILS	12/07
	Tracer Wire Detail For PVC	
	NOT TO SCALE	DETAIL NO. S-025

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CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	ISSUE Description	By KEH	App. SMB	Date
1	BID SET	KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 27175 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

SEWER DETAILS

Sheet Number

C-27

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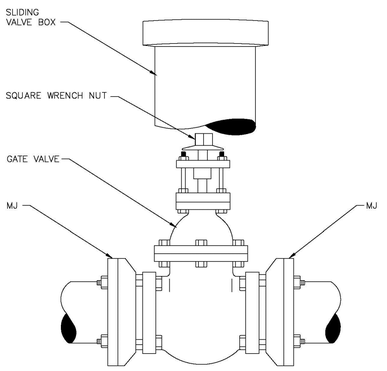

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Typical Gate Valve Installation

NOT TO SCALE

11/07

DETAIL NO. W-007

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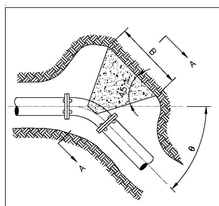
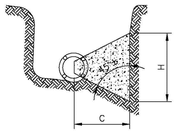


PLAN



SECTION A–A

FITTING θ	(IN)	B (FT)	H (FT)	C (FT)	VOL (YD^3)
11–1/4	6	0.9	0.8	0.45	0.010
	8	1.2	1.1	0.60	0.022
	10	1.5	1.3	0.75	0.041
	12	1.8	1.6	0.90	0.071
	16	2.3	2.2	1.15	0.149
22–1/2	6	1.3	1.1	0.65	0.023
	8	1.6	1.6	0.80	0.048
	10	2.1	1.9	1.05	0.097
	12	2.5	2.3	1.25	0.165
	16	3.3	3.0	1.65	0.362
45	6	1.7	1.6	0.85	0.050
	8	2.2	2.2	1.10	0.113
	10	2.8	2.7	1.40	0.222
	12	3.3	3.3	1.65	0.375
	16	4.5	4.3	2.25	0.887
90	6	2.3	2.2	1.15	0.118
	8	3.1	2.9	1.55	0.278
	10	3.8	3.7	1.90	0.530
	12	4.6	4.4	2.30	0.921
	16	6.1	5.9	3.05	2.142
TEES	6	2.1	1.8	1.00	0.073
	8	2.6	2.5	1.30	0.170
	10	3.2	3.1	1.60	0.319
	12	3.9	3.7	1.95	0.565
	16	5.1	5.0	2.55	1.303

NOTES:

1. DIMENSIONS OF THRUST BLOCKS WERE CALCULATED ASSUMING A STATIC PRESSURE OF 250 PSI AND A SOIL BEARING PRESSURE OF 2,000 PSF.
2. DIMENSIONS SHOWN CAN BE VARIED AS FIELD CONDITIONS DICTATE, BUT IT IS IMPORTANT THAT THE CORRECT VOLUME AS SHOWN IN TABLE BE USED AND THAT ALLOWABLE SOIL BEARING PRESSURE NOT BE EXCEEDED.

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Blocking Detail Horizontal Thrust

NOT TO SCALE

11/07

DETAIL NO. W-009

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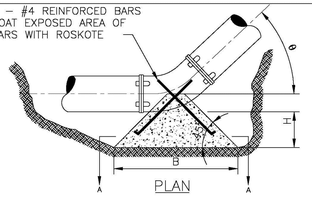
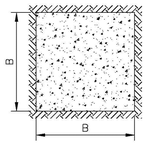


PLAN

FITTING θ	DIA (IN)	B (FT)	H (FT)	VOL (YD^3)
11–1/4	6	1.0	0.3	0.008
	8	1.2	0.4	0.012
	10	1.5	0.6	0.026
	12	1.9	0.8	0.055
	16	2.4	1.0	0.110
22–1/2	6	1.3	0.5	0.017
	8	1.7	0.7	0.039
	10	2.1	0.9	0.075
	12	2.5	1.1	0.129
	16	3.2	1.6	0.308
45	6	1.7	0.7	0.039
	8	2.2	0.9	0.083
	10	2.7	1.2	0.164
	12	3.3	1.5	0.305
	16	4.3	2.0	0.688



SECTION A–A

NOTE:

1. DIMENSIONS OF THRUST BLOCKS WERE CALCULATED ASSUMING A STATIC PRESSURE OF 250 PSI, A DEPTH OF COVER OF 4 FT., AND A SOIL BEARING PRESSURE OF 2,000 PSF.
2. DIMENSIONS SHOWN CAN BE VARIED AS FIELD CONDITIONS DICTATE, BUT IT IS IMPORTANT THAT THE CORRECT VOLUME AS SHOWN IN TABLE BE USED AND THAT ALLOWABLE SOIL BEARING PRESSURE NOT BE EXCEEDED.

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Blocking Detail Downward Thrust

NOT TO SCALE

11/07

DETAIL NO. W-010

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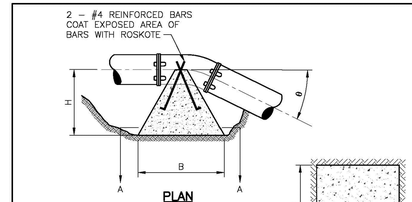
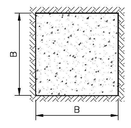


PLAN

FITTING θ	DIA (IN)	B (FT)	H (FT)	VOL (YD^3)
11–1/4	6	3.0	2.2	0.4
	8	3.5	2.4	0.6
	10	4.0	3.2	1.0
	12	4.5	3.5	1.4
	16	5.0	4.8	2.4
22–1/2	6	3.5	2.9	0.7
	8	4.0	3.9	1.2
	10	4.5	4.6	1.9
	12	5.5	4.8	2.7
	16	6.5	5.9	4.8
45	6	4.5	3.4	1.3
	8	5.0	4.6	2.2
	10	6.0	5.1	3.5
	12	6.5	6.2	5.0
	16	8.0	7.3	8.8



SECTION A–A

NOTES:

1. VOLUME WAS CALCULATED NEGLECTING WEIGHT OF FITTING, WATER, AND BACKFILL USING A STATIC PRESSURE OF 250 PSI.
2. DIMENSIONS OF BLOCK WERE CALCULATED ASSUMING A SOIL BEARING PRESSURE OF 2,000 POUNDS PER SQUARE FOOT.
3. DIMENSIONS SHOWN CAN BE VARIED AS FIELD CONDITIONS DICTATE, BUT IT IS IMPORTANT THAT THE CORRECT VOLUME AS SHOWN IN TABLE BE USED AND THAT ALLOWABLE SOIL BEARING PRESSURE NOT BE EXCEEDED.

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Blocking Detail Upward Thrust

NOT TO SCALE

11/07

DETAIL NO. W-011

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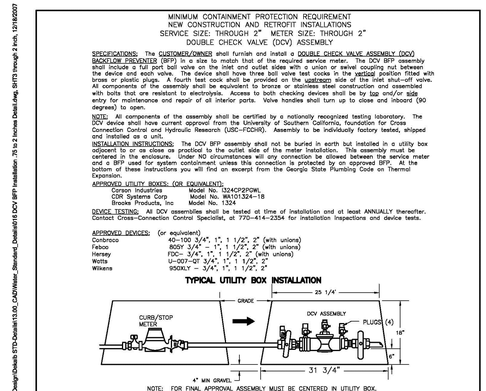

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

DCV BFP installation 3/4 Inch to 2 Inch

NOT TO SCALE

11/07

DETAIL NO. W-016

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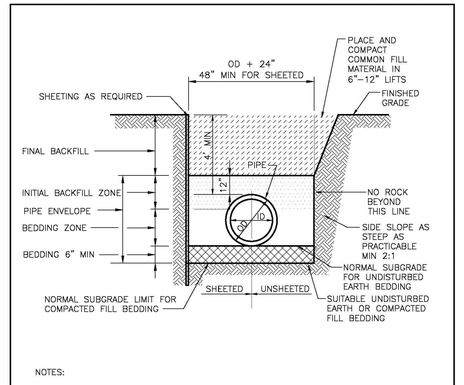

NOTES:

1. SEE DESIGN STANDARDS FOR ADDITIONAL BEDDING AND TRENCH BACKFILL REQUIREMENTS.
2. DEPTH OF COVER OVER WATER MAINS SHALL BE 4'–0" AS MEASURED FROM TOP OF PAVEMENT TO TOP OF PIPE.
3. MINIMUM 6" COMPACTED SOIL BETWEEN BOTTOM OF PIPE AND ROCK.
4. NO ROCK IN BACKFILL FOR FIRST 2'–0" ABOVE TOP OF PIPE.
5. BEDDING AND BACKFILL TO BE NO. 57 STONE UNDER ROADWAYS AND PAVED AREAS.
6. BEDDING TO BE GDOT TYPE II FOUNDATION BACKFILL.
7. BACKFILL TO BE FREE OF ORGANICS, OBJECTIONABLE MATERIAL AND STONES LARGER THAN 6" IN ITS LONGEST DIMENSION.

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Backfill and Allowable Trench Widths Detail

NOT TO SCALE

11/07

DETAIL NO. W-019

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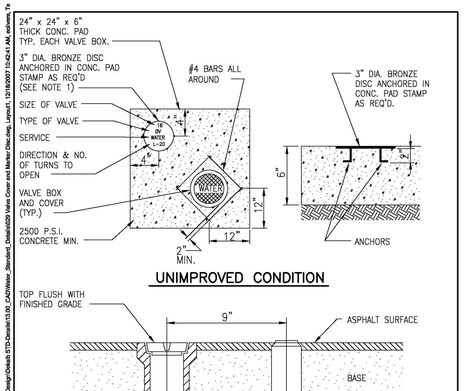

NOTES:

1. BRONZE IDENTIFICATION DISC SHALL BE REQUIRED FOR ALL VALVES 16" AND LARGER, OR AS REQUIRED BY DCDWM.
2. VALVE COLLAR DIMENSIONS MAY BE REDUCED TO 18" X 18" X 6" WHEN THE BRONZE IDENTIFICATION DISC IS NOT REQUIRED.

DEKALB COUNTY, GA. Department of Watershed Management

STANDARD DETAILS

Valve Cover and Marker Disc

NOT TO SCALE

11/07

DETAIL NO. W-029

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1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	By	App.	Date
1	BID SET	KEH	SMB	09-15-17

ISSUE

GEORGIA REGISTERED NO. 24775 PROFESSIONAL ENGINEER STEPHEN MARK BOLD

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

Project Location

Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

WATER DETAILS

Sheet Number

C-28

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KENDALL & ASSOCIATES, INC.
Soil and Ecological Consultants

SOIL INVESTIGATION REPORT

Report Date: 5/30/17 Inspection Date: 5/26/17 Level of Study: 3
Site Location: Friendship Forest Park, East Ponce de Leon Ave Job No. 17131.1
Client: Keith Hightower, Hayes, James & Associates Phone: 770-923-1600
County: Dekalb Land Lot: 119 District: 18th
Field Inspection By: Robert L. Kendall, DPH CSC
Boring Location Method: Spectra Precision Mobile Mapper 120 GPS from GIS-located reference point
Certified By: Robert L. Kendall, DPH CSC

Robert L. Kendall CERTIFIED SOIL CLASSIFIER STATE OF GEORGIA CERTIFICATION #124

SOIL INTERPRETIVE DATA

Soil Units	Slope (%)	Depth to Bedrock (in)	Depth to SHWT* (in)	Estimated Perc. (min/in)	Depth of Estimated Perc(in)	Optimum Trench Depth (in)	Soil Suit. Code
Pascolet	2-6	>72**	>72	45	24-60	36-48	A

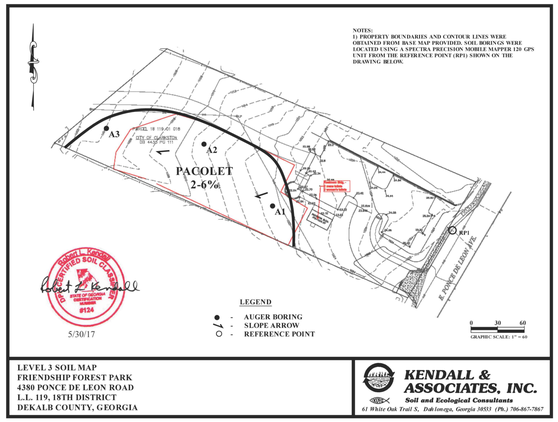
* Seasonal High Water Table
** Auger refusal on rock fragments, not bedrock

Note: Water seeped into Boring A1 but there was no evidence of a seasonal high water table based on soil colors. Storm water drainage from preceding rainfall event combined with thick mulch layer covering ground surface likely caused this condition. Storm water must be diverted from drain field area for proper function. Mulch contributes to rainfall infiltration and soil moisture retention which may negatively impact absorption field performance.

SOIL SUITABILITY LEGEND

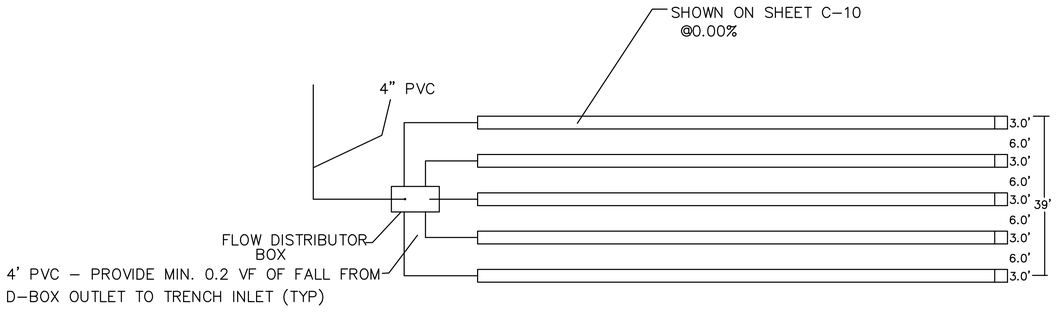
A Soils are typically suitable for conventional absorption field with proper design, installation and maintenance.

61 White Oak Trail South Dahlonega, Georgia, 30533 (770) 439-8824 (706) 867-7867



LEVEL 3 SOIL MAP
FRIENDSHIP FOREST PARK
4380 PONCE DE LEON ROAD
L.L. 119, 18TH DISTRICT
DEKALB COUNTY, GEORGIA

KENDALL & ASSOCIATES, INC.
Soil and Ecological Consultants
61 White Oak Trail S, Dahlonega, Georgia 30533 (Ph.) 706-867-7867



TYPICAL DRAINFIELD LAYOUT

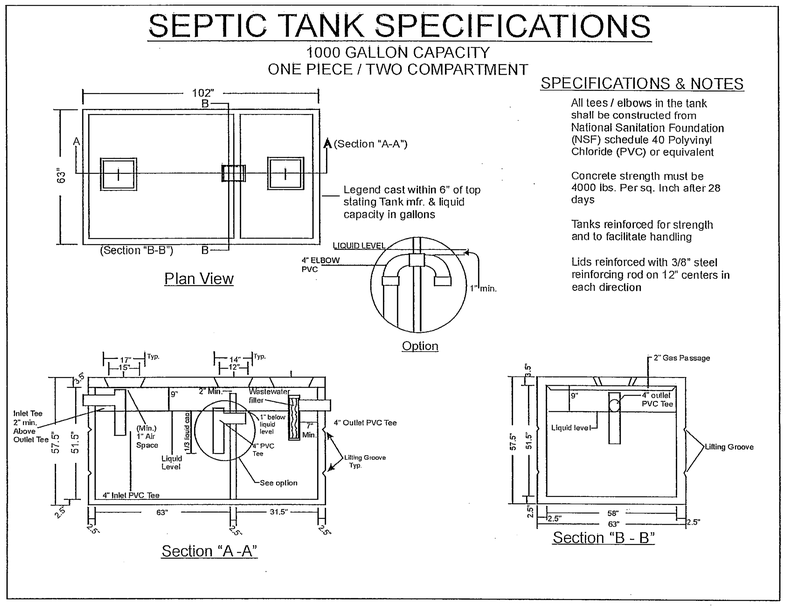
NTS

INSTALLATION SPECIFICATIONS

1. ALL PIPE SHALL BE SCHEDULE 40 UNLESS OTHERWISE NOTED.
2. SYSTEM SHALL BE FLUSHED AFTER INSTALLATION OF DISPOSAL FIELDS.
3. OWNER SHALL BE SUPPLIED WITH AN OWNER'S MANUAL.
4. NON-DOMESTIC WASTEWATER (E.G., RESTAURANT, FAST FOOD, ETC.) SHALL NOT BE COMMINGLED WITH DOMESTIC WATER (RESIDENTIAL HOUSEHOLD WASTEWATER) WITHOUT PRETREATMENT.
5. SEWAGE WATER AND POTABLE WATER SHALL BE SEPARATED BY A DOUBLE-CHECK BACKFLOW PREVENTER WHERE NECESSARY.
6. SEPTIC TANK SHALL HAVE A CAST IN 24' PVC RISER, TUF-TITE OR APPROVED EQUAL.
7. THE SITE PLAN AND DESIGN DATE ARE BASED UPON THE SOURCES LISTED BELOW:
   GEORGIA DEPARTMENT OF HUMAN RESOURCES, ENVIRONMENTAL HEALTH SECTION, MANUAL FOR ON-SITE SEWAGE MANAGEMENT SYSTEMS
   SOIL SURVEY INFORMATION PREPARED BY KENDALL AND ASSOCIATES, INC.
   TOPOGRAPHICAL AND LAYOUT INFORMATION PROVIDED BY HAYES, JAMES & ASSOCIATES.
   ON-SITE SEWAGE MANAGEMENT DETAILS AND CALCULATIONS PROVIDED BY HAYES, JAMES & ASSOCIATES.
8. ALL SEPTIC SYSTEM PRODUCTS AND MATERIALS MUST BE SUBMITTED AS SHOP DRAWINGS AND APPROVED PRIOR TO CONSTRUCTION.
9. RECOMMENDED TRENCH DEPTH IS 36-48 INCHES, PER KENDALL & ASSOCIATES, INC.

SEPTIC TANK SPECIFICATIONS

1000 GALLON CAPACITY
ONE PIECE / TWO COMPARTMENT



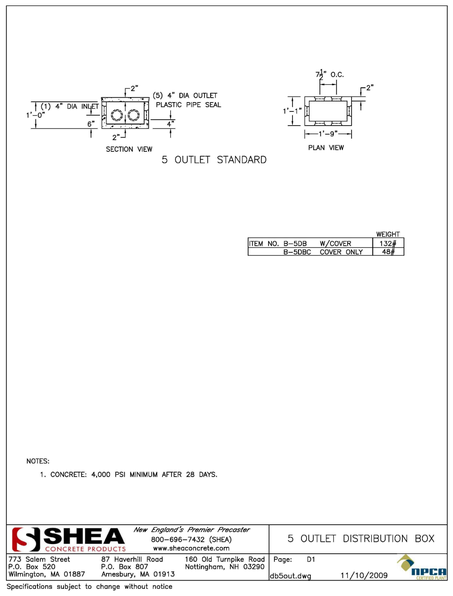
SPECIFICATIONS & NOTES

All tees / elbows in the tank shall be constructed from National Sanitation Foundation (NSF) schedule 40 Polyvinyl Chloride (PVC) or equivalent

Concrete strength must be 4000 lbs. Per sq. Inch after 28 days

Tanks reinforced for strength and to facilitate handling

Lids reinforced with 3/8" steel reinforcing rod on 12" centers in each direction



SHEA CONCRETE PRODUCTS — *New England's Premier Precaster* 800-696-7432 (SHEA) www.sheaconcrete.com

773 Salem Street, P.O. Box 520, Wilmington, MA 01887
87 Haverhill Road, P.O. Box 807, Amesbury, MA 01913
160 Old Turnpike Road, Nottingham, NH 03290

5 OUTLET DISTRIBUTION BOX

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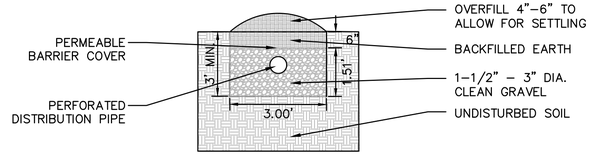
Specifications subject to change without notice



TYPICAL ABSORPTION TRENCH DETAIL

NOT TO SCALE

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CITY OF CLARKSTON
1055 ROWLAND STREET
CLARKSTON, GA 30021
Phone: (404) 296-6489

Contact: Lawrence Kaiser
(404) 909-5619

No.	Description	ISSUE	By	App.	Date
1	BID SET		KEH	SMB	09-15-17

GEORGIA REGISTERED NO. 23775 PROFESSIONAL ENGINEER STEPHEN MARK BOND

GSWCC #11367
EXP. 05/25/18

Project Title

Friendship Forest Wildlife Sanctuary

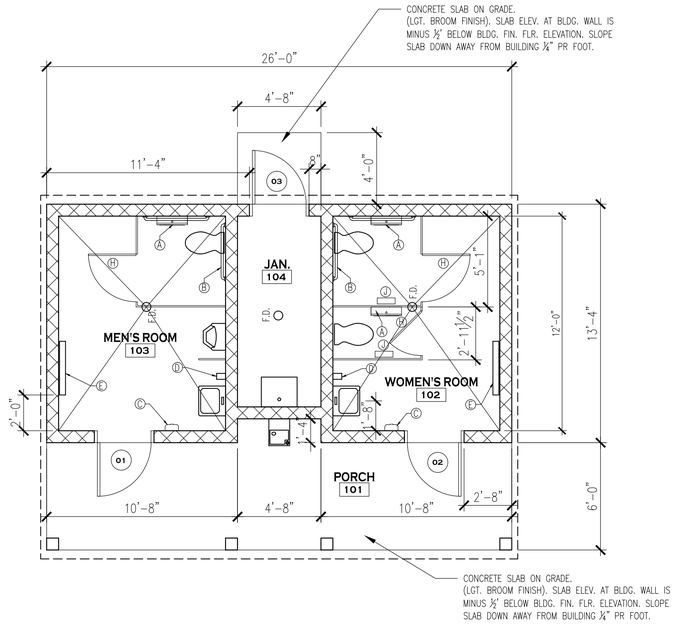
Project Location	
Address	4380 E. PONCE DE LEON AVE.
City, State Zip	CLARKSTON, GA 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17-030-pr
Drawn By:	KEH
Checked By:	SMB
Initial Issue Date:	09-15-17

Sheet Title

SEPTIC DETAILS

Sheet Number

C-29



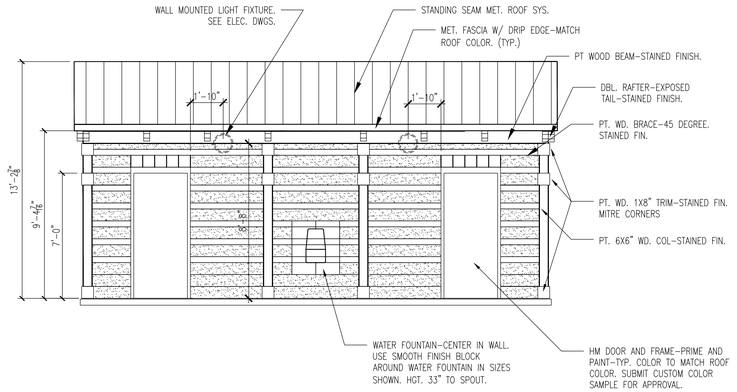
1 RESTROOM BUILDING PLAN (AT PARKING LOT)

SCALE: 1/4" = 1'

INTERIOR FINISH SCHEDULE (for both buildings)

ROOM	DESCRIPTION	FLOORS	WALLS	CEILING
	ENTRANCE TOILET BUILDING:			
101	PORCH	LHT. BROOM FINISH CONCRETE	N.A.	STAINED WOOD DECKING
102	WOMEN'S ROOM	KEY RESIN COMPANY KEY QUARTZ B-125 (COLOR -SABLE)	ARCH. CMU-APPLY GRAFFITTI SEALER-Prosoco Block Guard and graffitti control-test first.	STAINED WOOD DECKING
103	MEN'S ROOM	KEY RESIN COMPANY KEY QUARTZ B-125 (COLOR -SABLE)	ARCH. CMU-APPLY GRAFFITTI SEALER-Prosoco Block Guard and graffitti control-test first.	STAINED WOOD DECKING
104	JANITOR/PLUMBING CHASE	CONCRETE- APPLY CLEAR SEALER	N.A.	STAINED WOOD DECKING
	PAVILION TOILET BUILDING:			
201	MEN'S ROOM	KEY RESIN COMPANY KEY QUARTZ B-125 (COLOR -SABLE)	ARCH. CMU-APPLY GRAFFITTI SEALER-Prosoco Block Guard and graffitti control-test first.	STAINED WOOD DECKING
202	WOMEN'S ROOM	KEY RESIN COMPANY KEY QUARTZ B-125 (COLOR -SABLE)	ARCH. CMU-APPLY GRAFFITTI SEALER-Prosoco Block Guard and graffitti control-test first.	STAINED WOOD DECKING
203	JANITOR/PLUMBING CHASE	CONCRETE- APPLY CLEAR SEALER	N.A.	STAINED WOOD DECKING

NOTES:
1. TOILET PARTIONS ARE FLOOR MOUNTED OVERHEAD BRACED SOLID PLASTIC TYPE BY "ACCURATE". COLORS: MEN'S RM.=BLACK 9205 AND WOMEN'S RM.=MOSS 9233
2. FOR ANY ITEMS A COLOR HAS NOT BEEN DESIGNATED; CONSULT ARCHITECT FOR COLOR SELECTION. EQUIVALENT PRODUCTS MAY BE SUBMITTED FOR APPROVAL.



2 FRONT ENTRY ELEVATION

SCALE: 1/4" = 1'

EXTERIOR MATERIALS-FINISHES-NOTES:

MASONRY:

1. ALL STIPPLED AREAS ON THE ELEVATIONS INDICATE 8"X16"X8" SPLIT FACE CMU W/ INTEGRAL WATER REPELLANT MANUF. BY ADAMS: COLOR=4303.
2. ALL NON STIPPLED AREAS ON THE ELEVATIONS INDICATE STANDARD SMOOTH FACE ARCH. CMU WITH INTEGRAL WATER REPELLANT MANUF. BY ADAMS: COLOR 4306. THERE ARE BOTH 4" HIGH BY 16X8 CMU AS WELL AS 8X16X8 SMOOTH FACE. ALSO, ALL LINTEL BLOCK WHICH CAN BE CUT 8X8X8 OR 8X8X16 SLOTTED IS THIS COLOR AS WELL.
3. ALL HORIZONTAL MORTAR JOINTS ARE RECESSED ¼" ON BOTH SIDES OF ALL WALLS. ALL VERTICAL LINTEL BLOCK JOINTS ARE ALSO RECESSED.
4. PROVIDE CUSTOM MORTAR COLOR MATCHING CMU COLOR NO. 4303.
5. ALL CMU WALLS EXTEND UP TO ROOF STRUCTURE. SEAL TO ROOF STRUCTURE. CAULK COLOR TO MATCH MORTAR COLOR.
6. CONSTRUCT MOCK UP OF CMU WALL OF AREA APPROVED BY ARCHITECT FOR REVIEW AND APPROVAL OF CMU COLORS, FINISHES, MORTAR AND WORKMANSHIP. THIS MUST BE APPROVED PRIOR TO PROCEEDING WITH ALL MASONRY WORK.
7. NEATLY CUT BLOCK AT SLOPING WALLS AND AROUND RAFTER TAILS TO ENSURE ALIGNMENT OF JOINTS, PROPER SIZE OF JOINTS AND PROPER INSTALLATION.
8. DISCARD AND DO NOT USE ANY DEFECTIVE, CRACKED OR CHIPPED CMU UNITS.
9. FIRST COURSE OF CMU BELOW BUILDING FFE SHALL BE SPLIT FACE CMU MATCHING UNIT ABOVE. MOST OF THIS COURSE WILL BE BELOW GRADE. BLOCK COMPLETELY BELOW GRADE CAN BE SMOOTH FIN. ARCH BLOCK. NO STANDARD CMU.
10. COAT ALL CMU SURFACES INSIDE AND OUT WITH "PROSOCO" "SURE KLEAN - BLOK-GUARD AND GRAFFITI CONTROL".
11. SUBMIT SAMPLES OF GLASS BLOCK FOR APPROVAL. DO NOT COAT GLASS BLOCK WITH PROSOCO. PROTECT ALL GLASS BLOCK. ALL GLASS BLOCK SHALL BE 4" HIGH BY 8" WIDE BY 4" DEEP. OBSCURE NON VISIBLE PATTERNS ONLY.
12. DO NOT USE SCORED BLOCK OF ANY KIND. CUT TO 8X8X8 SIZE IF NECESSARY.

ROOFING:

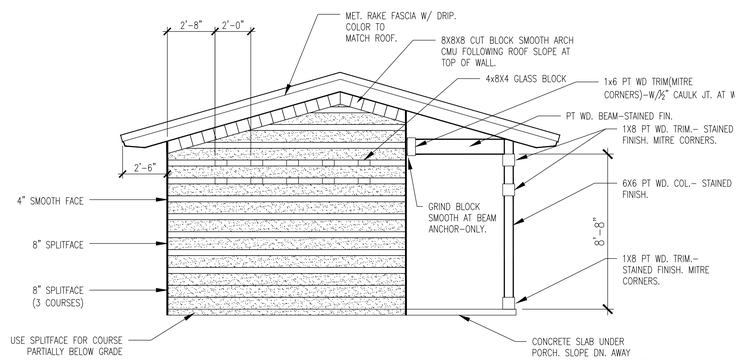
1. STANDING SEAM METAL ROOFING SYSTEM IS MANUF. BY BERRIDGE; USE "CEE LOK" SYSTEM.
2. ALL ROOF PENETRATIONS ARE TO BE PROPERLY FLASHED AND SEALED. ALL ITEMS, SEALANTS ETC. TO MATCH ROOF COLOR.
3. PROVIDE ALL MISC. METAL COPINGS, RIDGE CAPS, RAKE EAVE METAL, METAL DRIPS AND FASCIAS FOR COMPLETE ROOFING SYSTEM. ALL ITEMS TO MATCH ROOF COLOR.
4. GUTTERS AND DOWNSPOUTS ARE NOT INCLUDED.
5. ROOF COLOR IS: BERRIDGE "HEMLOCK GREEN"

WOOD TIMBER FRAMING:

1. ALL BLDG. WOOD MEMBERS & MESSAGE SIGNS ARE STAINED. USE SOLID STAIN COLOR. PROVIDE 2-COLOR SAMPLES ON SIM. PT. WOOD TO OWNER FOR FINAL SELECTION. COLORS ARE: SHERWIN WILLIAMS SW3004 SUMMERHOUSE BEIGE & SW3006 SAND CASTLE
2. SEE STRUCTURAL DWGS FOR SIZING AND CONNECTIONS. ALL EXPOSED STEEL CONNECTORS WILL BE PRIMED AND PAINTED. COLOR IS: "BLACK".
3. EXPOSED WD. RAFTER TAILS TO BE CUT, BEVELED AND TRIMMED AS SHOWN. SAND ALL ROOF EDGES AND CORNERS AS REQUIRED TO SMOOTH CONDITION.

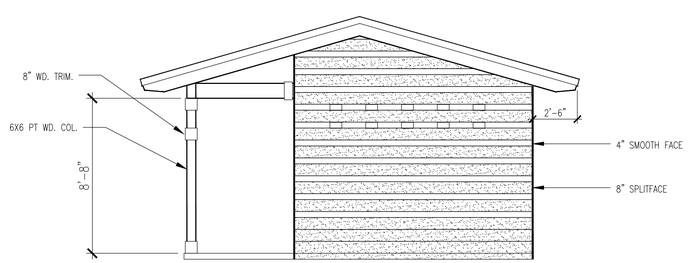
OPENINGS:

1. ALL DOORS ARE INSUL. HOLLOW METAL DOORS AND FRAMES. PRIME AND PAINT - COLOR TO MATCH ROOF COLOR. SUBMIT SAMPLE FOR APPROVAL. SEAL AROUND ALL DOORS. USE CAULK MATCHING CMU CAULK COLOR AND DO NOT APPLY TO METAL FRAMES.
2. METAL ROOF VENTS ETC. - MATCH ROOF COLOR. SEAL AROUND PERIMETER. SEALANT COLOR TO MATCH ROOF COLOR.



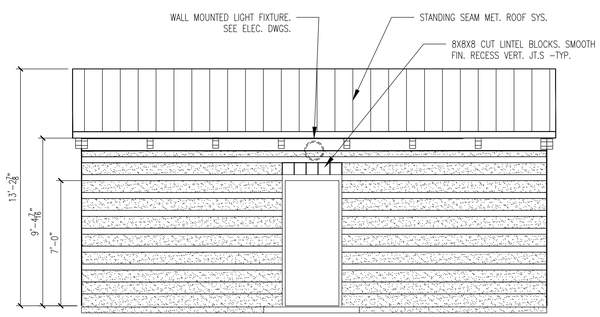
3 LEFT SIDE ELEVATION

SCALE: 1/4" = 1'



4 RIGHT SIDE ELEVATION

SCALE: 1/4" = 1'



5 REAR ELEVATION

SCALE: 1/4" = 1'

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##	##	##	##	##
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##	##	##	##	##
##	##	##	##	##
##	##	##	##	##

ISSUE

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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

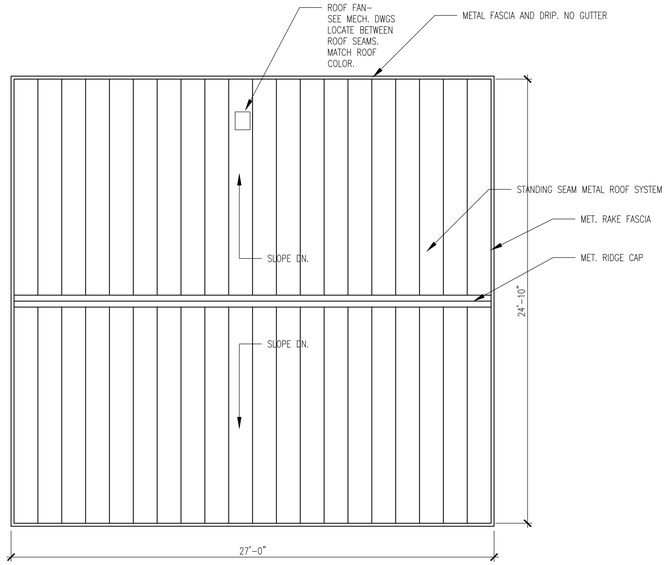
Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17030pr
Drawn By:	PCS
Checked By:	PCS
Initial Issue Date:	##########

Sheet Title

TOILET BUILDING PLANS AND ELEVATIONS

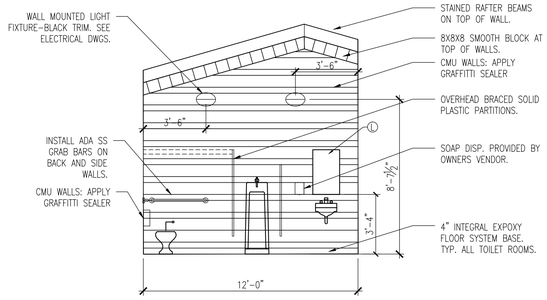
Sheet Number

A1.1



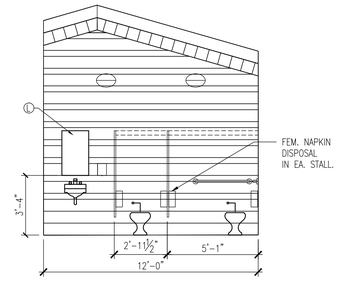
1 RESTROOM BUILDING ROOF PLAN

SCALE: 1/4" = 1'



3 INTERIOR ELEVATIONS- MEN'S RM.

SCALE: 1/4" = 1'



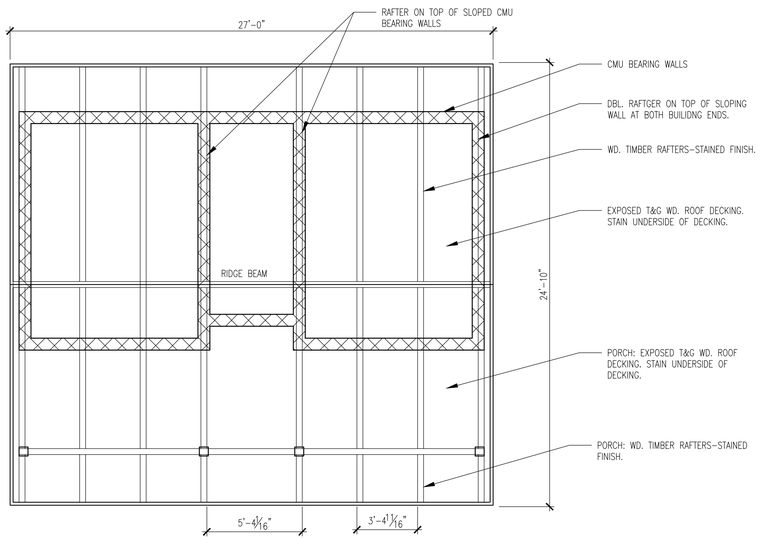
4 INTERIOR ELEVATIONS- WOMEN'S RM.

SCALE: 1/4" = 1'

NOTE: SEE FLOOR PLANS AND TOILET ELEVATIONS FOR LOCATION OF ACCESSORIES. THIS SCHEDULE IS APPLICABLE TO BOTH BUILDINGS.

TOILET ACCESSORY SCHEDULE

NO.	DESCRIPTION	REMARKS	MOUNTING HEIGHT	MANUFACTURER
A	SURFACE MOUNTED STAINLESS STL. JUMBO TOILET TISSUE DISPENSER	ONE PER TOILET COMPARTMENT	SEE SECTION DWG.	PROVIDED BY VENDOR-NIC
B	GRAB BARS- 36" AND 42" LONG	ONE 36" LONG BEHIND H/C TOILETS ONE 42" LONG TO SIDE OF H/C TOILETS	34" AFF TO CENTERLINE	BOBRICK B-6806
C	ELECTRIC HAND DRYER	ONE PER TOILET ROOM.	44" TO CONTROL.	EXCEL DRYER INC. STAINLESS STL. FIN.
D	HAND SOAP DISPENSOR- 800 ML.	WALL MOUNTED -ONE PER RESTROOM	54" AFF TO CENTERLINE	PROVIDED BY VENDOR-NIC
E	BABY CHANGING STATION	ONE PER TOILET ROOM (WHITE COLOR)	33" AFF TO TOP LIP OF SHELF	KOALA BEAR KB100-05
H	DOUBLE COAT HOOKS	ONE PER STALL-CENTER ON INSIDE OF DOOR	60" AFF TO CENTERLINE	BOBRICK B-7672
J	SURFACE MOUNTED FEMININE NAPKIN DISPOSAL CABINET	ONE IN EACH WOMEN'S TOILET COMPARTMENT	19" AFF TO CENTERLINE	BOBRICK B-270
L	STAINLESS STL. MIRROR 18X30 (FRAMELESS)	OVER ALL SINKS IN BOTH BUILDINGS	SEE ELEVATION DWG.	BOBRICK B-1556



1 RESTROOM BUILDING REFLECTED CEILING PLAN

SCALE: 1/4" = 1'

GENERAL NOTES:

1. SEE SHEET A1.1 FOR ROOF SYSTEM NOTES AND INTERIOR FINISHES.
2. USE ROOF SYSTEM MANUFACTURER DETAILS FOR ALL ROOF PENETRATIONS. ALL PENETRATING ITEMS TO BE PAINTED TO MATCH THE ROOF COLOR. SUBMIT CUSTOM MATCHING PAINT SAMPLES FOR APPROVAL.
3. ROOF ANCHORS SHOULD NOT PENETRATE TO WOOD ROOF DECK.
4. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
5. SEE STRUCTURAL DRAWINGS FOR CMU WALL REINFORCING DETAILS, ROOF FRAMING CONNECTION DETAILS ETC.
6. SEAL ALL GAPS AND PENETRATIONS.

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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	PCS
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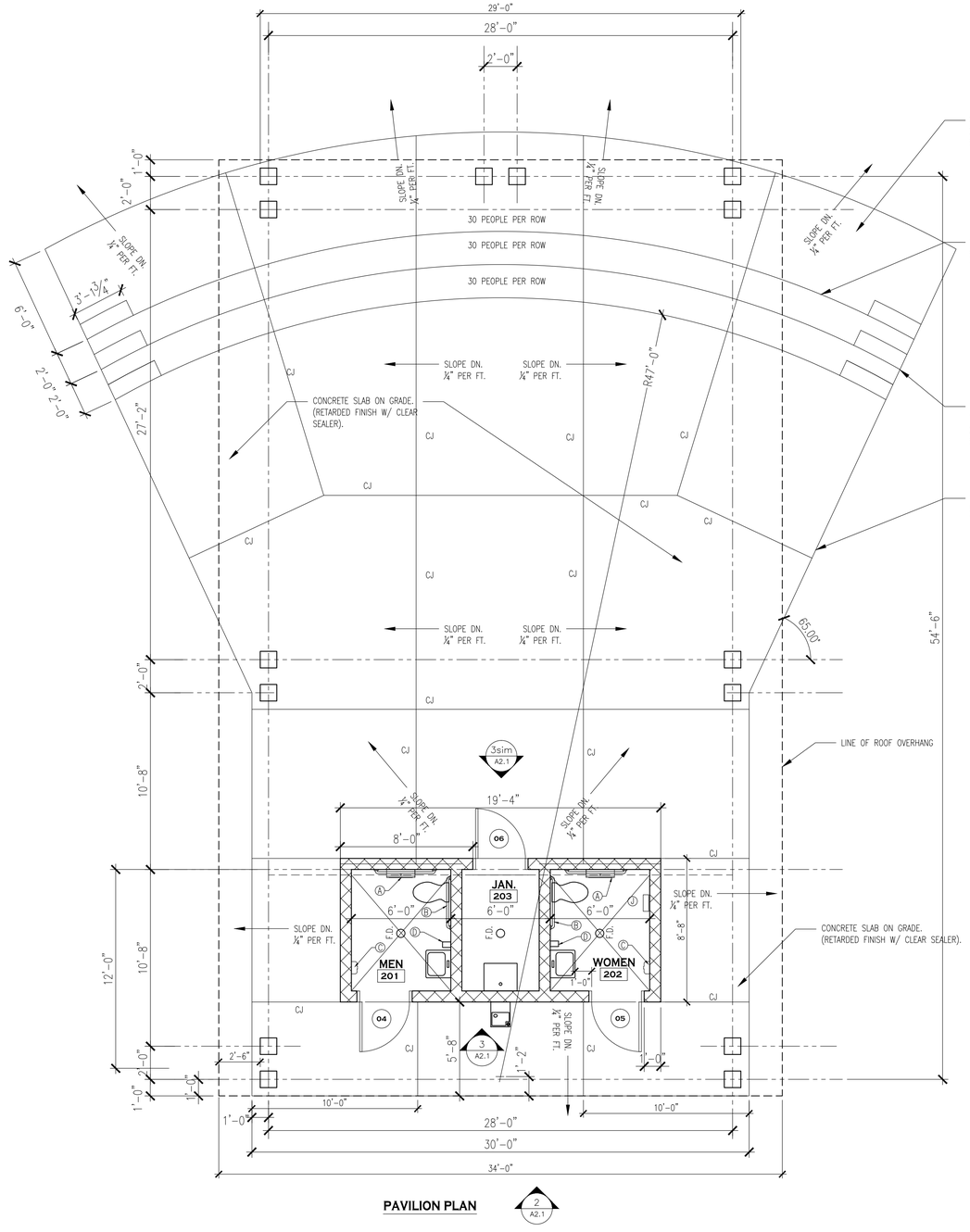
Sheet Title

TOILET BUILDING ROOF PLAN & R.C. PLAN

Sheet Number

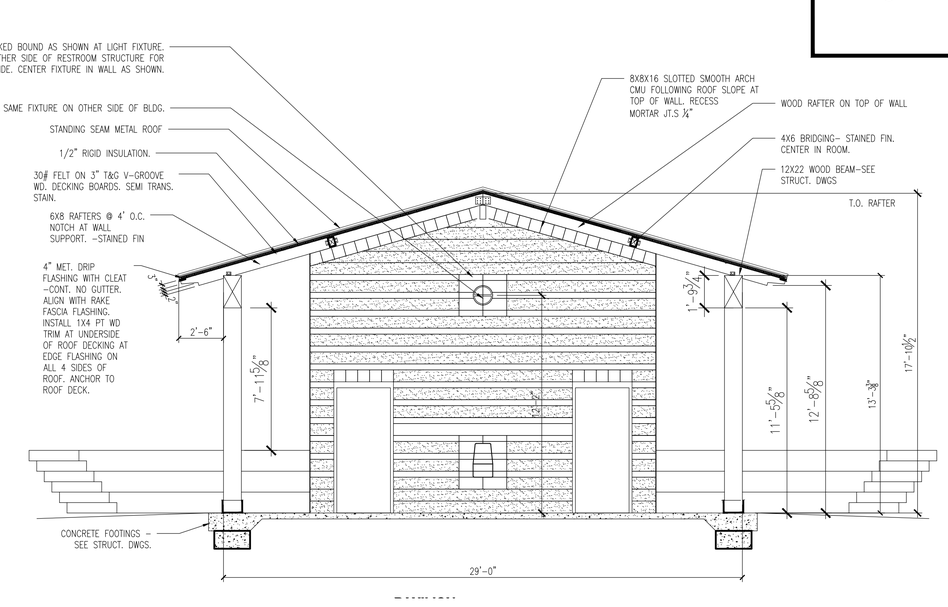
A1.2



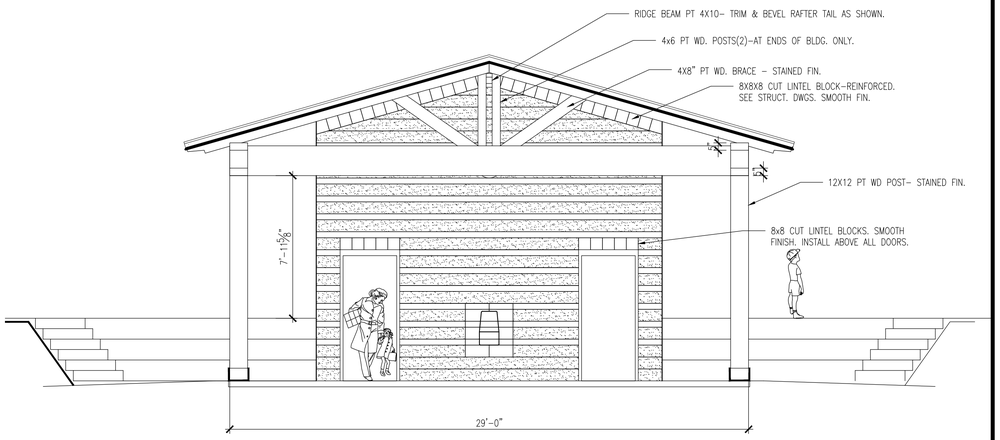
PAVILION PLAN

2 A2.1

1 PAVILION BUILDING PLAN
SCALE: 1/4" = 1'



3 FRONT SECTION/ELEVATION
SCALE: 1/4" = 1'



2 FRONT ENTRY/END ELEVATION
SCALE: 1/4" = 1'

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CERTIFICATE NO. 008925
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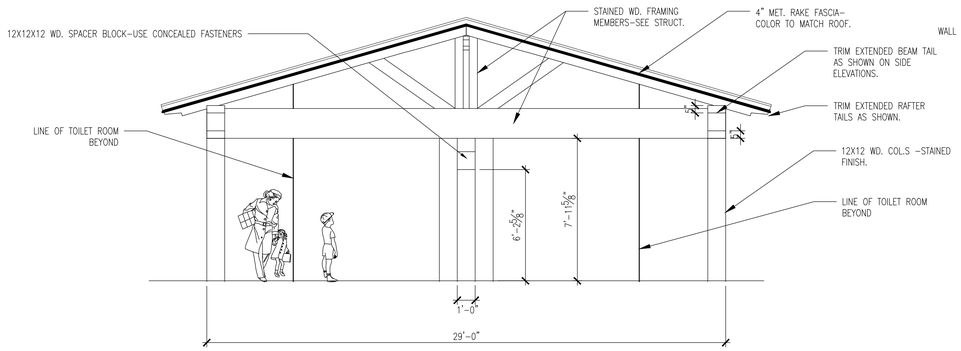
PAVILION BUILDING PLANS AND ELEVATIONS

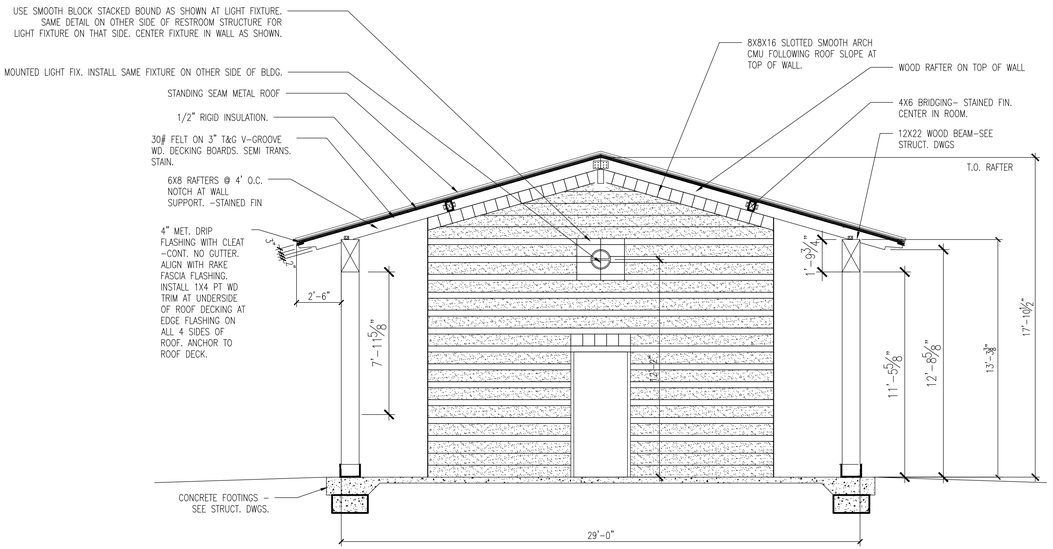
Sheet Number

A2.1



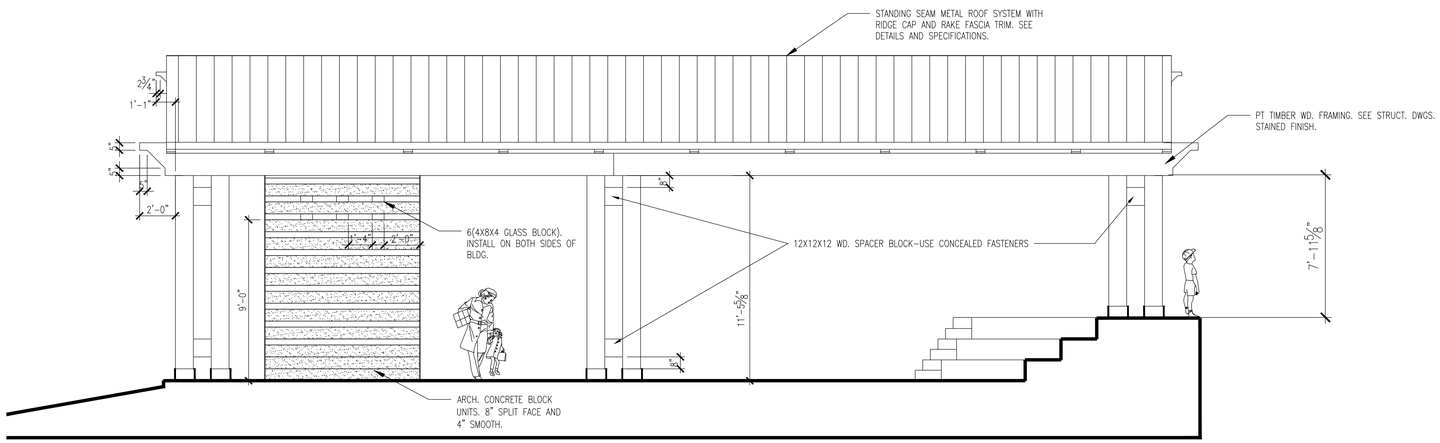
2 PAVILION REAR ELEVATION

SCALE: 1/4" = 1'



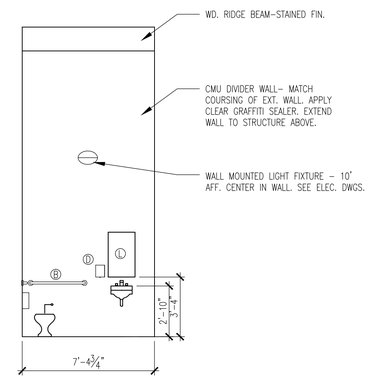
4 PAVILION RESTROOM REAR ELEVATION

SCALE: 1/4" = 1'



1 PAVILION RIGHT SIDE ELEVATION- (LEFT SIDE SIMILIAR)

SCALE: 1/4" = 1'



3 TOILET RM. INT. ELEVATION-MEN AND WOMEN'S

SCALE: 1/4" = 1'

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CITY OF CLARKSTON, GEORGIA

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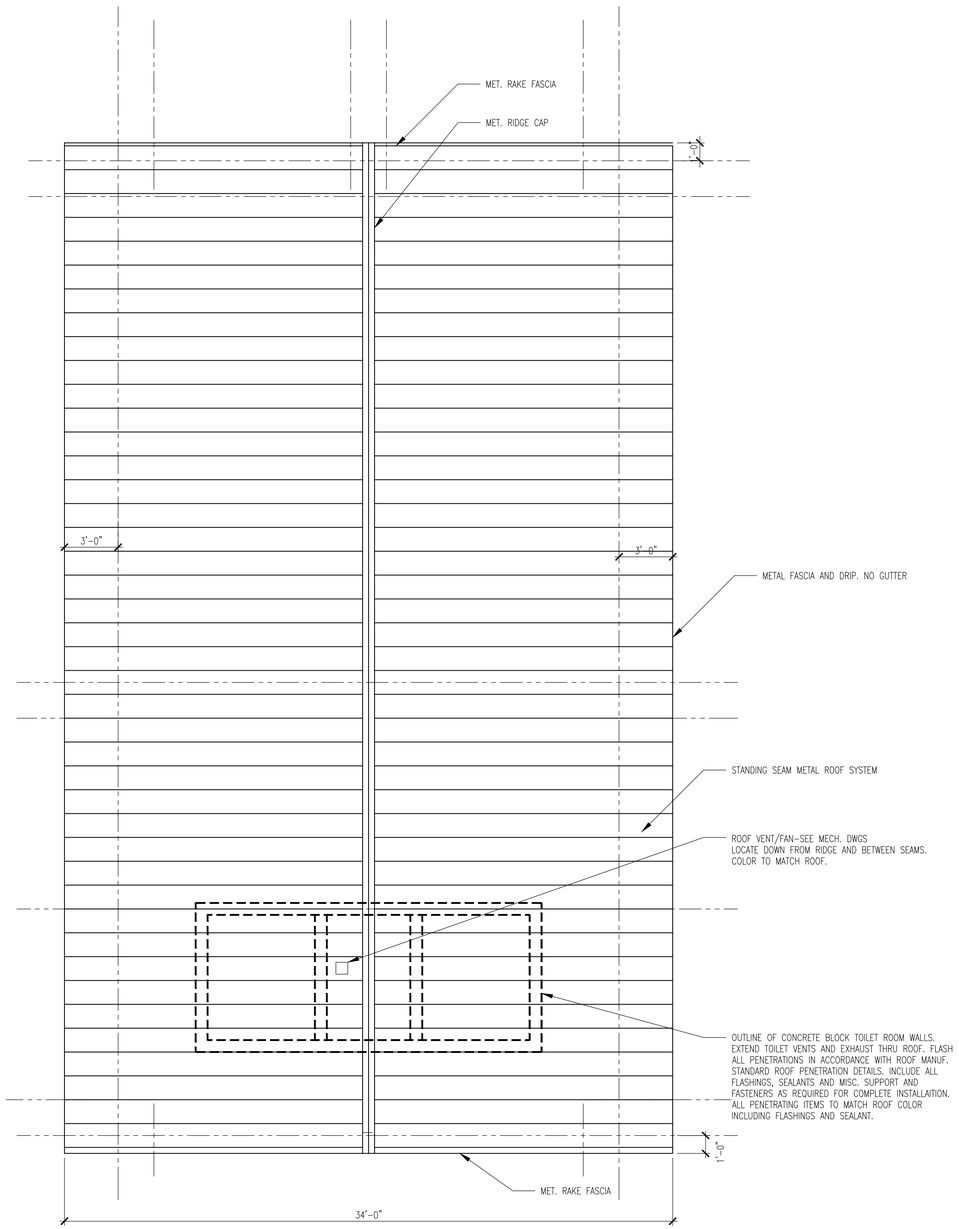
Sheet Title

PAVILION BUILDING ELEVATIONS

Sheet Number

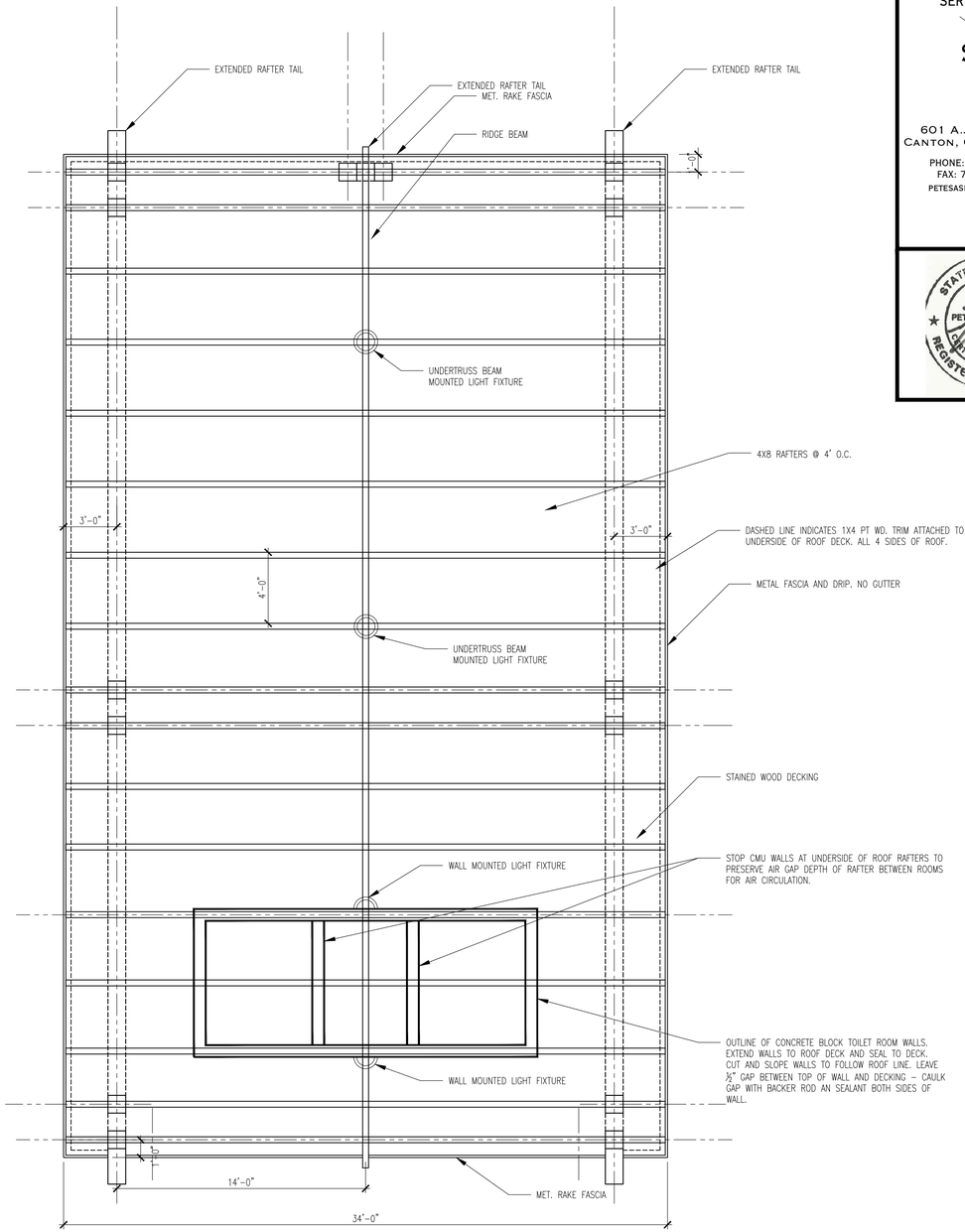
A2.2



NOTE: SEE SHEET A1.1 FOR ROOF SYSTEM BASIS OF DESIGN PRODUCT. SEE ALSO ROOF SPECIFICATIONS. SUBMIT COMPLETE SET OF SHOP DRAWINGS AND PRODUCT DATA FOR APPROVAL PRIOR TO INSTALL.

1 PAVILION ROOF PLAN

SCALE: 1/4" = 1'



NOTE: ALL EXPOSED WOOD MEMBERS AND DECKING ARE STAINED FINISH. DISCARD ANY DEFECTIVE, SPLIT, WARPED OR DAMAGED WOOD MEMBERS AND DECKING. ALL EXPOSED METAL CONNECTORS ARE BLACK.

2 PAVILION REFLECTED CEILING PLAN

SCALE: 1/4" = 1'

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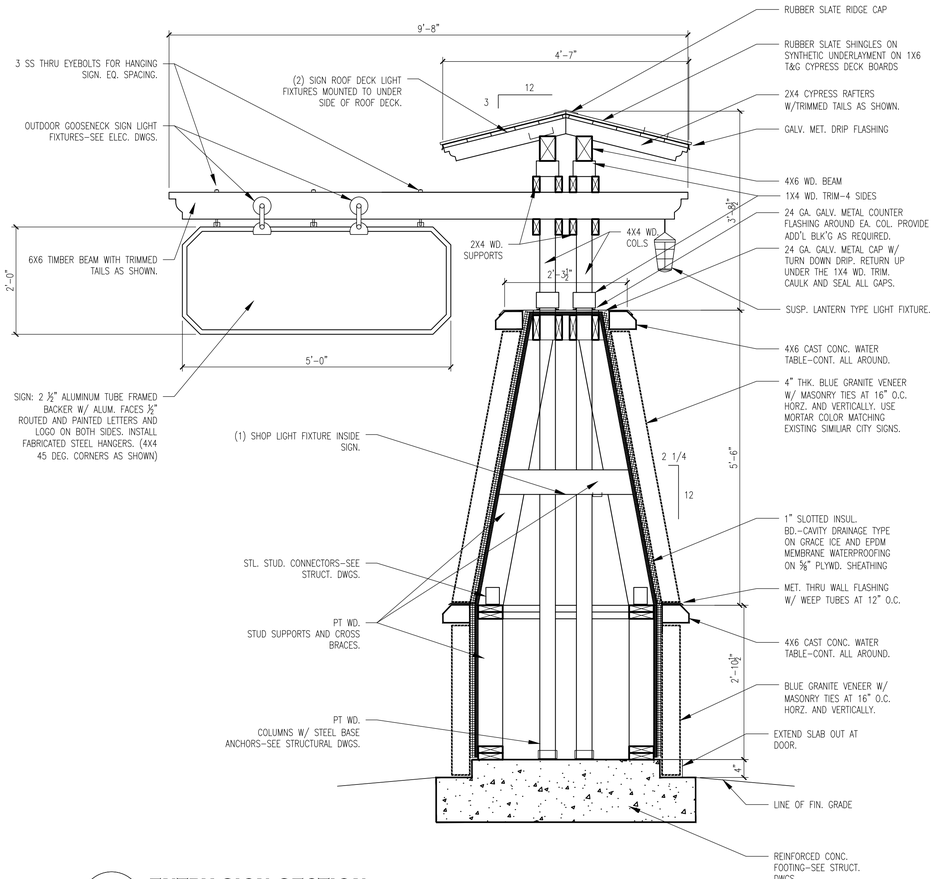
Sheet Title

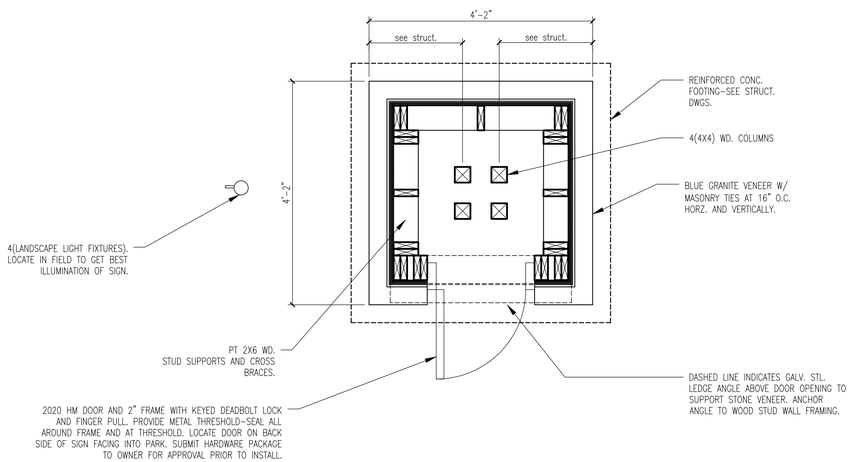
PAVILION BUILDING ROOF AND R.C. PLAN

Sheet Number

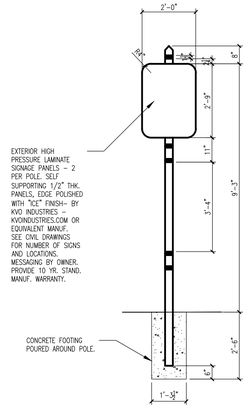
A2.3

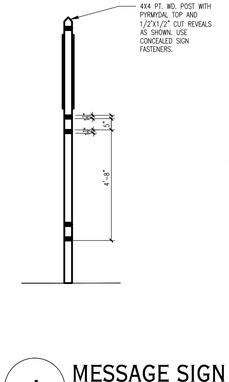


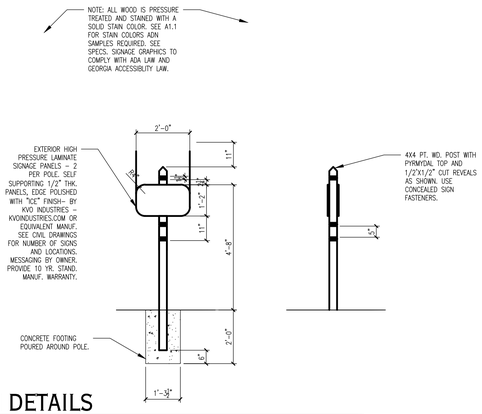
1 ENTRY SIGN SECTION
SCALE: 3/4" = 1'-0"



2 ENTRY SIGN PLAN
SCALE: 3/4" = 1'-0"







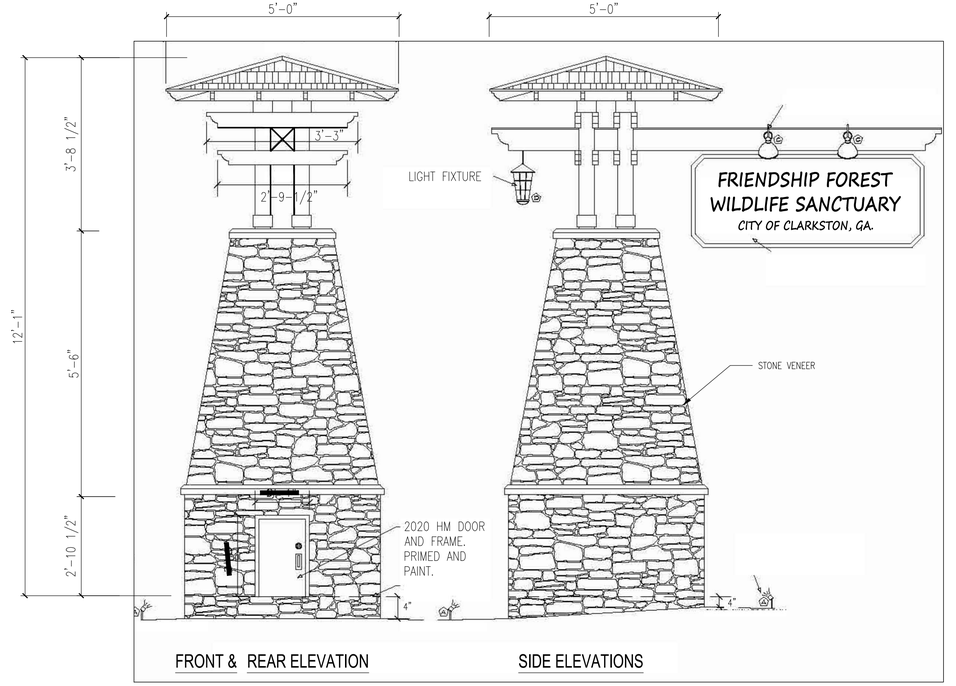
4 MESSAGE SIGN DETAILS
SCALE: 3/8" = 1'-0"

ENTRY SIGNAGE NOTES:

1. THIS SIGN DESIGN IS A SCALED DOWN VERSION OF THE CITY'S PROTOTYPICAL SIGN DESIGN. THIS DESIGN WAS MODIFIED TO APPROXIMATELY HALF SIZE WITH CHANGES IN FRAMING, FOUNDATION AND STRUCTURAL MEMBER SIZES AS SHOWN. MATCH STONE TYPE AND COLOR AS ON EXISTING CITY SIGNS OF SIMILIAR DESIGN. SUBMIT STONE SAMPLES FOR APPROVAL. MATCH EXISTING CAST STONE COLOR AND CONFIGURATION.
2. ALL EXPOSED WOOD IS CYPRESS. FINISH TO MATCH STANDARD SIGN DESIGN BUT NO LESS THAN APPLICATION OF CLEAR SEALER. SUBMIT STAIN SAMPLES TO OWNER FOR APPROVAL.
3. ALL CONCEALED WOOD IS PRESSURE TREATED PINE.
4. COUNTERSINK AND PLUG ALL FASTENERS. FINISH PLUG TO MATCH WD. MEMBER.
5. ALL FASTENERS ARE GALVANIZED STEEL OR STAINLESS STEEL.
6. ALL SHEET METAL CAPS AND FLASHINGS ARE GALVANIZED METAL (24 GA. MIN.) - FOLLOW SMACNA FOR PROPER FABRICATION AND CONFIGURATION. CONCEAL ALL CONNECTORS. NO EXPOSED FASTENERS.
7. LETTER TYPE AND SIGNAGE FONT SHALL MATCH EXISTING TYPICAL CITY SIGNS.
8. SUBMIT SIGN SHOP DWG. SHOWING FINAL MESSAGING FOR OWNER APPROVAL OF SIGN WORDING ALONG WITH ALL MATERIALS AND DETAILS.
9. CONCEAL ALL ELECTRICAL CONDUIT.
10. SEE CIVIL DRAWINGS FOR SIGN LOCATION AND FINISH GRADING AROUND SIGN.
11. COMPLY WITH ALL APPLICABLE BUILIDNG CODES AND SIGN ORDINANCES AND SIGN PERMIT REQUIREMENTS.

LIGHTING NOTES:

1. 4-GOOSE NECK SIGNAGE LIGHTS ARE: "BARN LIGHT ELECTRIC" - INCANDESCDENT, WALL/GOOSENEC, BRONZE FIN. WET LOCATION RATING.
2. 1-SIGN LANTERN LIGHT FIXTURE: "FEISS"-#P1468847 INCANDESCENT HANGING LANTERN-BRONZE FIN. WET LOCATION RATING.
3. 4-LANDSCAPE LIGHT FIXTURES: "KICHLER" #15742AZT LED, GROUND MOUNT- BRONZE FIN. WET LOCATION RATING.
4. 1-SHOP LIGHT INSIDE SIGN: "SUPER BRITE LEC" CEILING MOUNT TYPE, COLOR-WHITE - 2' LENGTH.
5. 2-SIGN ROOF DECK LIGHT FIXTURES: "KICHLER" 16795 9" OR EQUAL FIXTURE. COLOR BRONZE. WET LOCATION RATING.
6. LOCATE ELEC. PANEL INSIDE SIGN BASE. ACCESS THRU ACCESS DOOR SHOWN.
7. EQUIVALENT LIGHT FIXTURES MAY BE SUBMITTED FOR APPROVAL BY THE OWNER.



3 ENTRY SIGN ELEVATIONS
SCALE: NTS

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PETER C. SUTTON
CERTIFICATE NO. 20007
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Contact: KEITH BARKER
(770) 000-0000

No.	Description	By	App.	Date
1	CD PROGRESS SET	PS	##	06/09/17
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4	BID SET	PS	##	09/15/17
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##
##	##	##	##	##

ISSUE

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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17030pr
Drawn By:	PCS
Checked By:	PCS
Initial Issue Date:	##########

Sheet Title

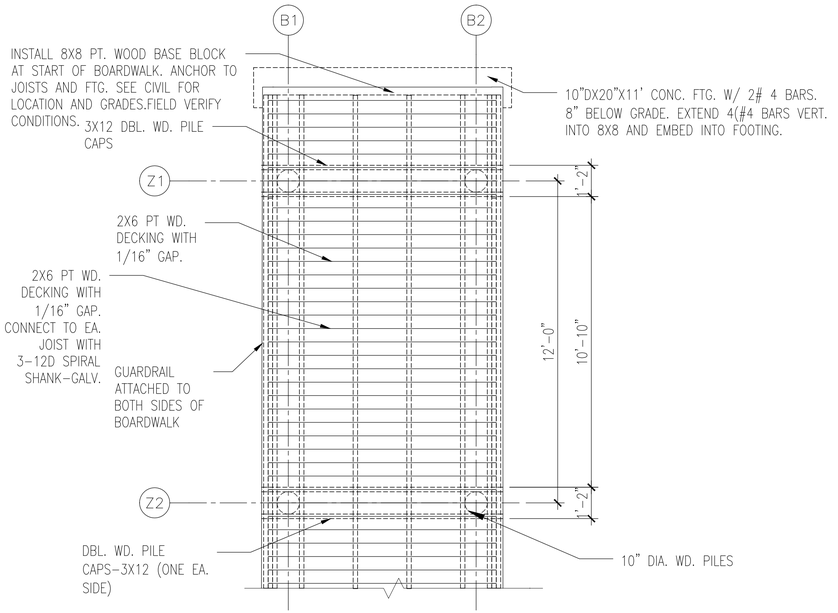
ENTRANCE MONUMENT SIGN

Sheet Number

A3.1

BOARDWALK NOTES:

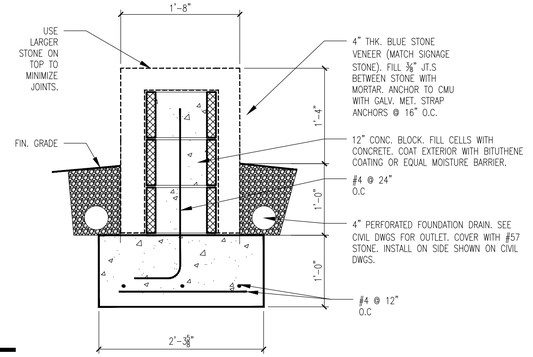
1. SEE CIVIL DRAWINGS FOR BORADWALK LOCATION ON SITE, LENGTH AND GRADING. ALSO GRADE ELEVATIONS AND OTHER SITE IMPROVEMENTS AROUND THE BOARDWALK.
2. DO NOT EXCEED SPANS SHOWN ON DRAWINGS. THESE ARE MAXIMUM SPANS.
3. CONSULT WITH OWNERS GEOTECH ENGINEER FOR ONSITE CONDITIONS.
4. ALL WOOD IS PRESSURE TREATED AND STAINED.
5. USE ONLY NON CORROSIVE METAL CONNECTORS.
6. COUNTERSINK ALL WALKING SURFACE AND TOP RAIL MOUNTED SCREWS AND CONNECTORS
7. SEE SHEET A4.2 AND ALTERNATES SECTION IN THE SPECIFICATIONS FOR ALTERNATE WOOD RAILING. THIS IS A REQUIRED BID ALTERNATE.



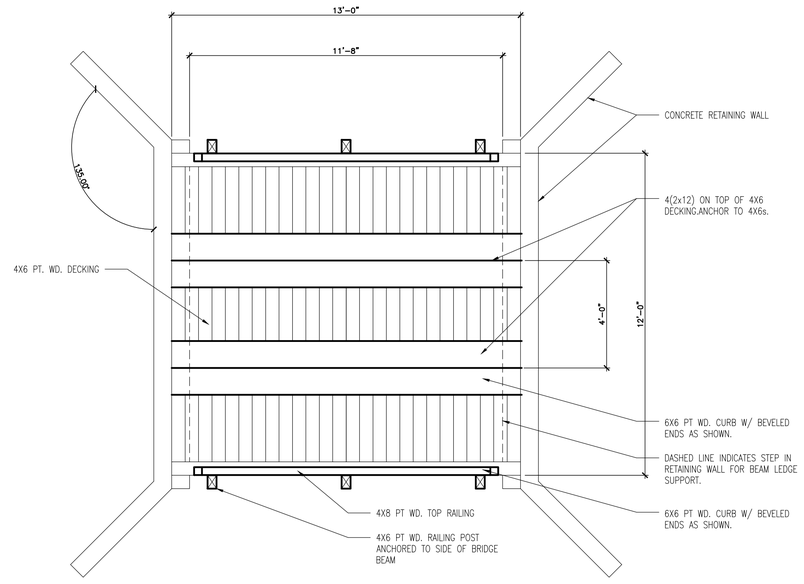
3 TYP. BOARDWALK PLAN
SCALE: 3/8" = 1'-0"

STONE SEAT NOTES:

1. CONSULT WITH OWNERS GEOTECH ENGINEER FOR ONSITE CONDITIONS.
2. USE STANDARD GREY CMU.
3. USE ONLY NON CORROSIVE METAL ANCHORS.
4. SEE CIVIL DRAWINGS FOR LOCATION AND LENGTH OF BENCH.
5. SEE CIVIL DRAWINGS FOR FINISH GRADES AT BENCH.
6. SEE CIVIL DRAWINGS FOR FOUNDATION DRAIN LOCATIONS AND OUTLETS.



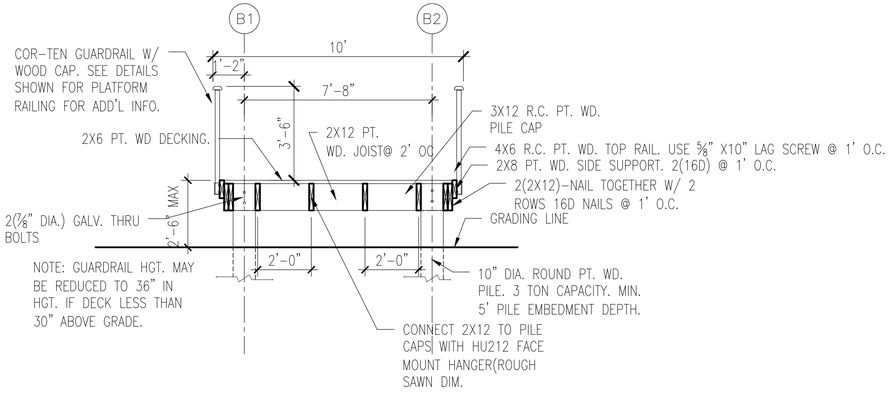
5 TYP. STONE SEAT SECTION
SCALE: 3/8" = 1'-0"



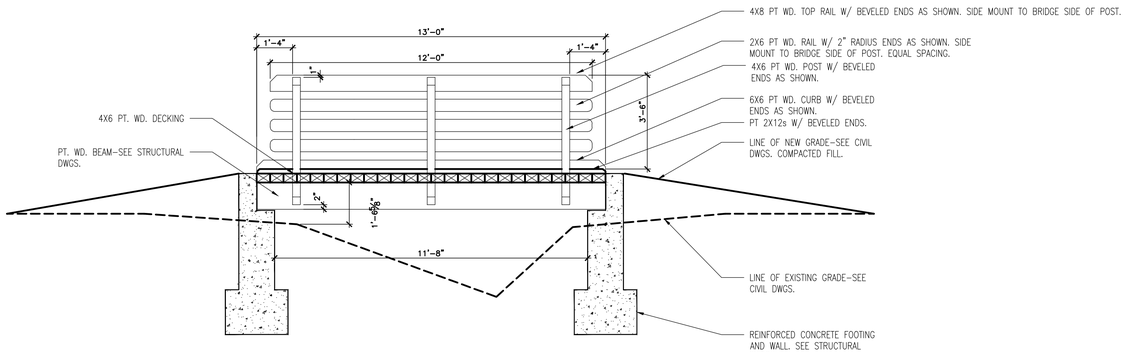
BRIDGE NOTES:

1. SEE STRUCTURAL DRAWINGS FOR ADDITIONAL REQUIREMENTS.
2. SEE CIVIL DRAWINGS FOR BRIDGE LOCATION ON SITE AND GRADING ELEVATIONS AND OHTER SITE IMPROVEMENTS AROUND THE BRIDGE.
3. ALL WOOD IS PRESSURE TREATED.
4. USE ONLY NON CORROSIVE METAL CONNECTORS. SEE STRUCT.
5. FIELD VERIFY CONDITIONS AND SPAN. CONSULT WITH ENGINEERS IF DIFFERENCES IN FIELD PRIOR TO PROCEEDING.

1 PAVILION BRIDGE PLAN-UTV VEHICLES ONLY
SCALE: 1/2" = 1'-0"



4 TYP. BOARDWALK SECTION
SCALE: 3/8" = 1'-0"



2 PAVILION BRIDGE SECTION
SCALE: 1/2" = 1'-0"

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District-Section	18
County	DEKALB

Project No.	17030pr
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Initial Issue Date:	##########

Sheet Title

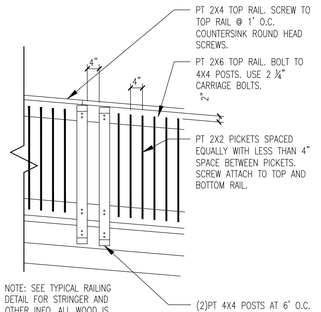
MISC. STRUCTURES

Sheet Number

A4.1

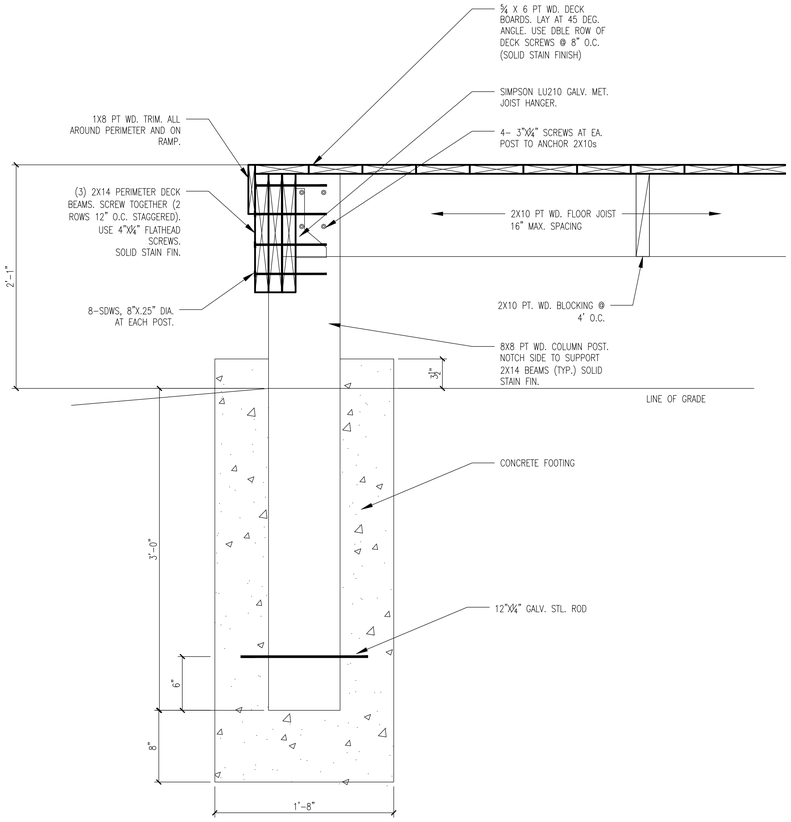
PLATFORM/DECK NOTES:

1. SEE STRUCTURAL DRAWINGS FOR GENERAL REQUIREMENTS.
2. SEE CIVIL DRAWINGS FOR PLATFORM/DECK LOCATIONS AND NUMBER OF.
3. ALL WOOD IS PRESSURE TREATED.
4. USE ONLY NON CORROSIVE METAL CONNECTORS. SEE STRUCT.

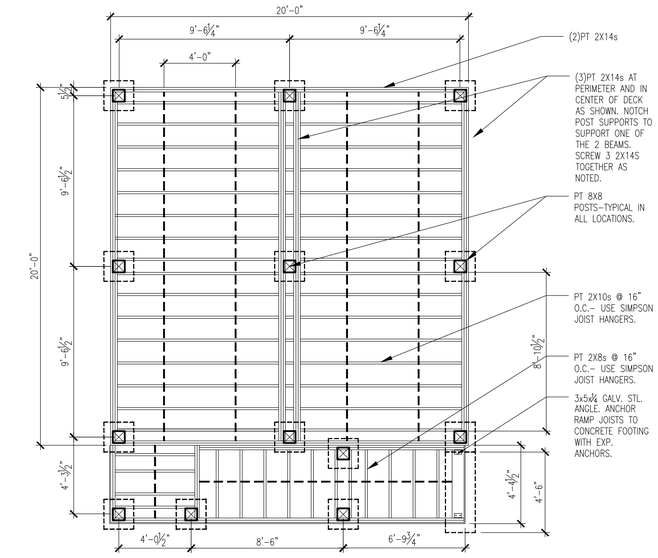


NOTE: SEE TYPICAL RAILING DETAIL FOR STRINGER AND OTHER INFO. ALL WOOD IS STAINED FINISH WITH SEALER. SEE ALTERNATES SECTION IN SPECIFICATIONS.

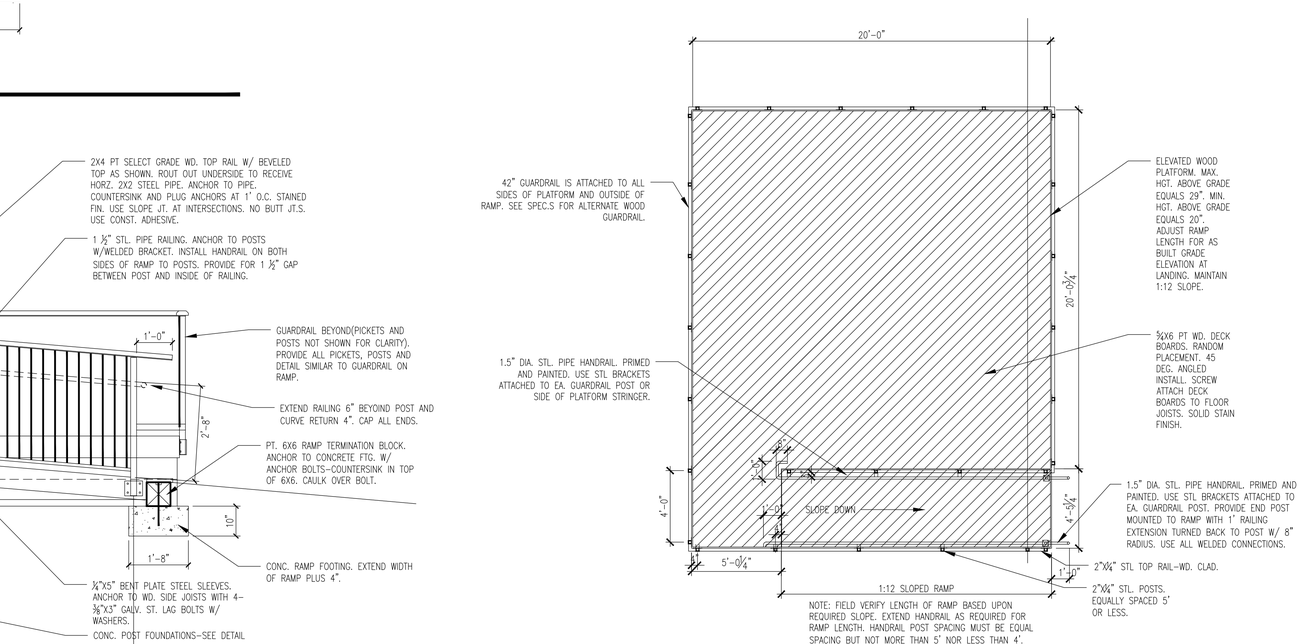
5 ALTERNATE RAILING
SCALE: 1/2" = 1'-0"



4 PLATFORM/DECK SECTION
SCALE: 1/4" = 1'-0"



1 PLATFORM/DECK FRAMING PLAN
SCALE: 1/4" = 1'-0"



3 RAMP ELEVATION
SCALE: 1/4" = 1'-0"

2 PLATFORM/DECK PLAN
SCALE: 1/4" = 1'-0"

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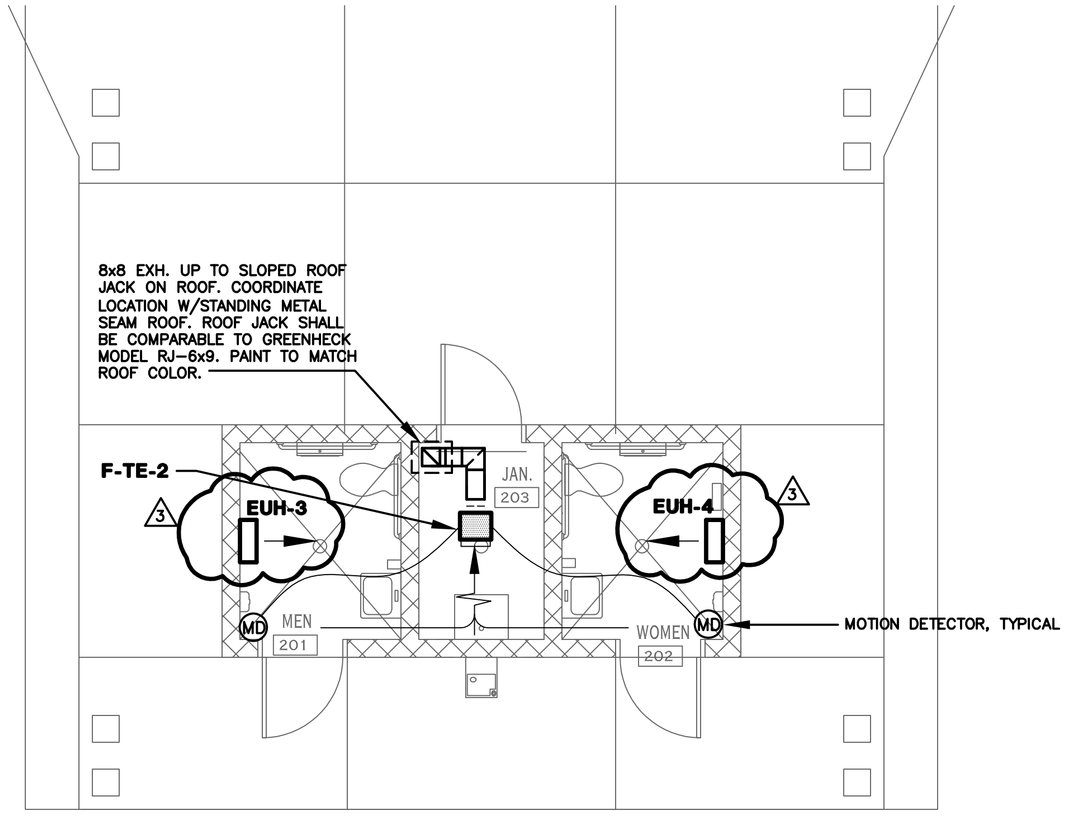
Sheet Title

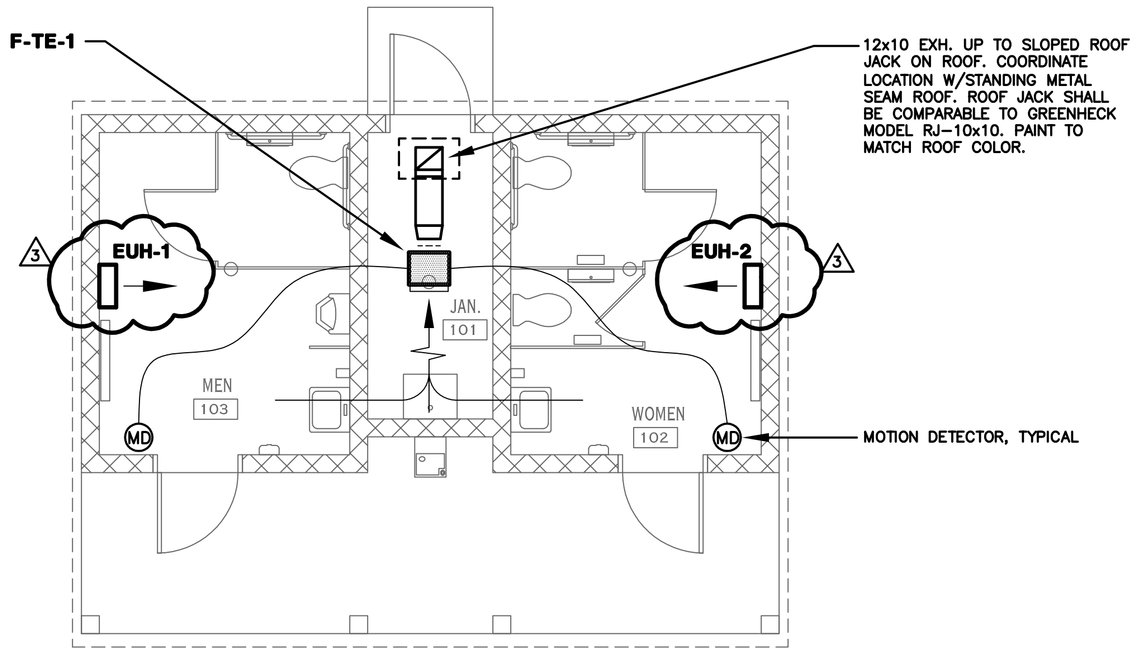
MISC. STRUCTURES

Sheet Number

A4.2



1 PAVILION BUILDING HVAC FLOOR PLAN
SCALE: 1/4" = 1'



2 TOILET BUILDING HVAC FLOOR PLAN
SCALE: 1/4" = 1'

FAN SCHEDULE

MARK	FAN DATA						SERVES	FAN TYPE	CONTROL	BASIS OF DESIGN
	CFM	E.S.P. IN.WC.	MAX SONES	HP/WATTS	RPM	DRIVE				
F-TE-1	600	0.2"	2.5	267 WATTS	1043	DIRECT	TOILETS	CABINET EXHAUST FAN	①	GREENHECK CSP-A710 ②
F-TE-2	225	0.2"	1.4	65 WATTS	931	DIRECT	TOILETS	CABINET EXHAUST FAN	①	GREENHECK CSP-A290 ②

① PROVIDE TWO (2) GREENHECK MODEL MDW WALL MOUTED MOTION DETECTORS, ONE FOR EACH TOILET ROOM. WIRE SO THAT EITHER DETECTOR WILL ACTIVATE THE FAN. TIMER SHALL BE ADJUSTABLE.

② PROVIDE VIBRATION ISOLATION, GALVANIZED HANGER RODS, FLEXIBLE CONNECTION AT FAN DISCHARGE AND ELECTRONIC SPEED CONTROL MOUNTED ON THE FAN.

ELECTRIC HEATER SCHEDULE

MARK	TYPE	KW	CFM	3	NOTES	MOUNTING HEIGHT	BASIS OF DESIGN
EUH-1,2	ELECTRIC UNIT HEATER	1.0	100		①	8'-0" AFF	MARKEL F30522TDWB
EUH-2,3	ELECTRIC UNIT HEATER	1.0	100		①	8'-0" AFF	MARKEL F30522TDWB

① PROVIDE WALL MOUNT BRACKET AND INTEGRAL ADJUSTABLE THERMOSTAT.

3

GEORGIA REGISTERED No. 18834 PROFESSIONAL ENGINEER JOHN E. MAYES

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1	100% Review Set		7-19-17
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3	Addendum #3		9-28-17

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Drawn By:	ASM
Checked By:	JEM
Initial Issue Date:	7-19-17

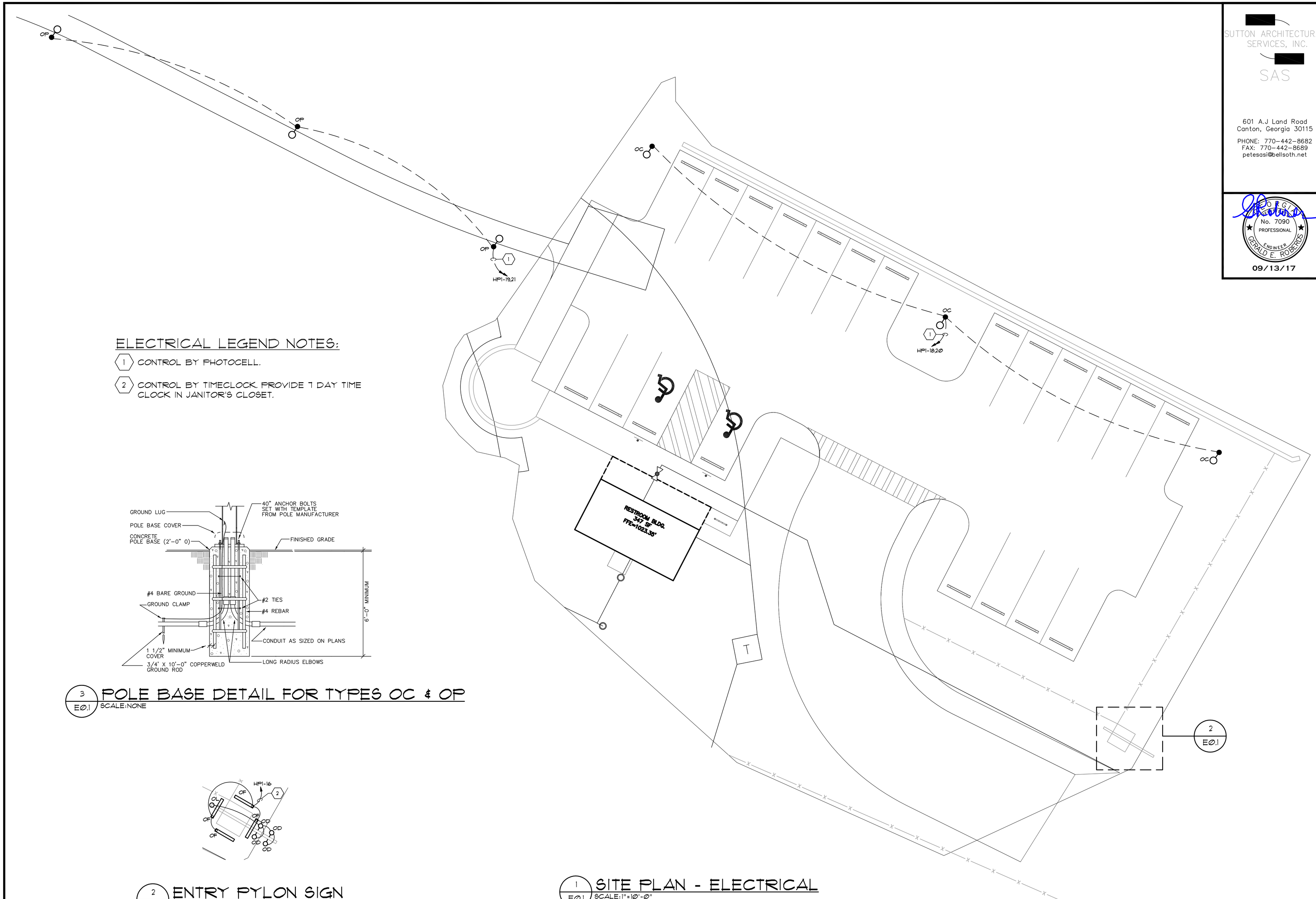
Sheet Title

TOILET HVAC PLANS AND SCHEDULES

Sheet Number

M1.1

BAA MECHANICAL ENGINEERS INC
500 Bishop Street Suite E-2 Atlanta, GA 30318 Ph: 404-355-0050 Fax: 404-355-1050



ELECTRICAL LEGEND NOTES:

1. CONTROL BY PHOTOCELL.
2. CONTROL BY TIMECLOCK. PROVIDE 7 DAY TIME CLOCK IN JANITOR'S CLOSET.

3 / E0.1 POLE BASE DETAIL FOR TYPES OC & OP
SCALE: NONE

2 / E0.1 ENTRY PYLON SIGN
SCALE: 1/4" = 1'-0"

1 / E0.1 SITE PLAN - ELECTRICAL
SCALE: 1" = 10'-0"

SUTTON ARCHITECTURAL SERVICES, INC.
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GEORGIA
No. 7090
PROFESSIONAL ENGINEER
GERALD E. ROBERDS
09/13/17

Hayes | James
ENGINEERS, PLANNERS & SURVEYORS

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Drawn By:	VJ
Checked By:	GER
Initial Issue Date:	##########

Sheet Title

SITE PLAN - ELECTRICAL

Sheet Number

E0.1

ROBERDS
CONSULTING ENGINEERS
455 EAST PACES FERRY ROAD, N.E.
SUITE 300
ATLANTA GEORGIA 30305
TELEPHONE (404) 237-8632
FACSIMILE (404) 237-4161

2017110 | GER

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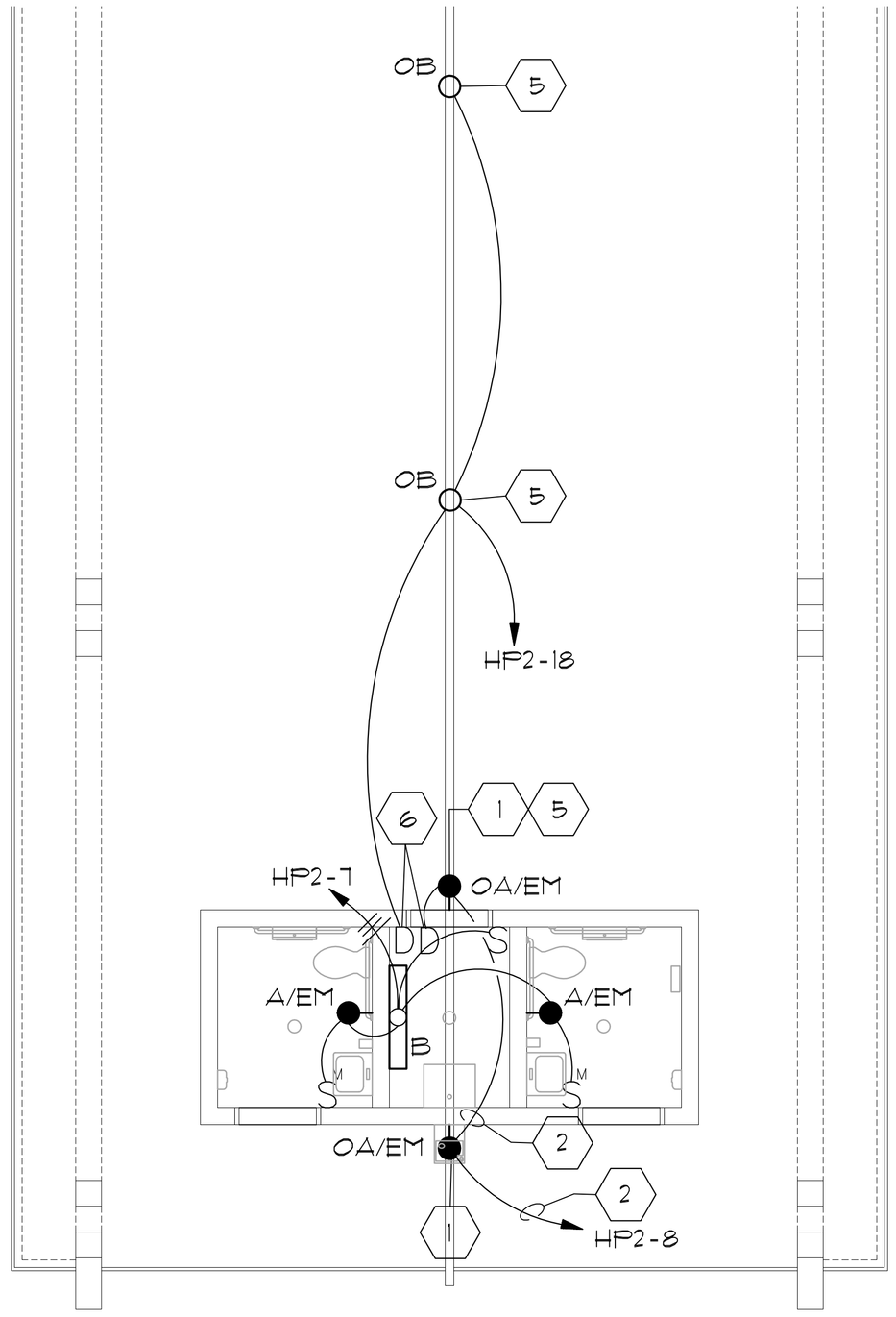
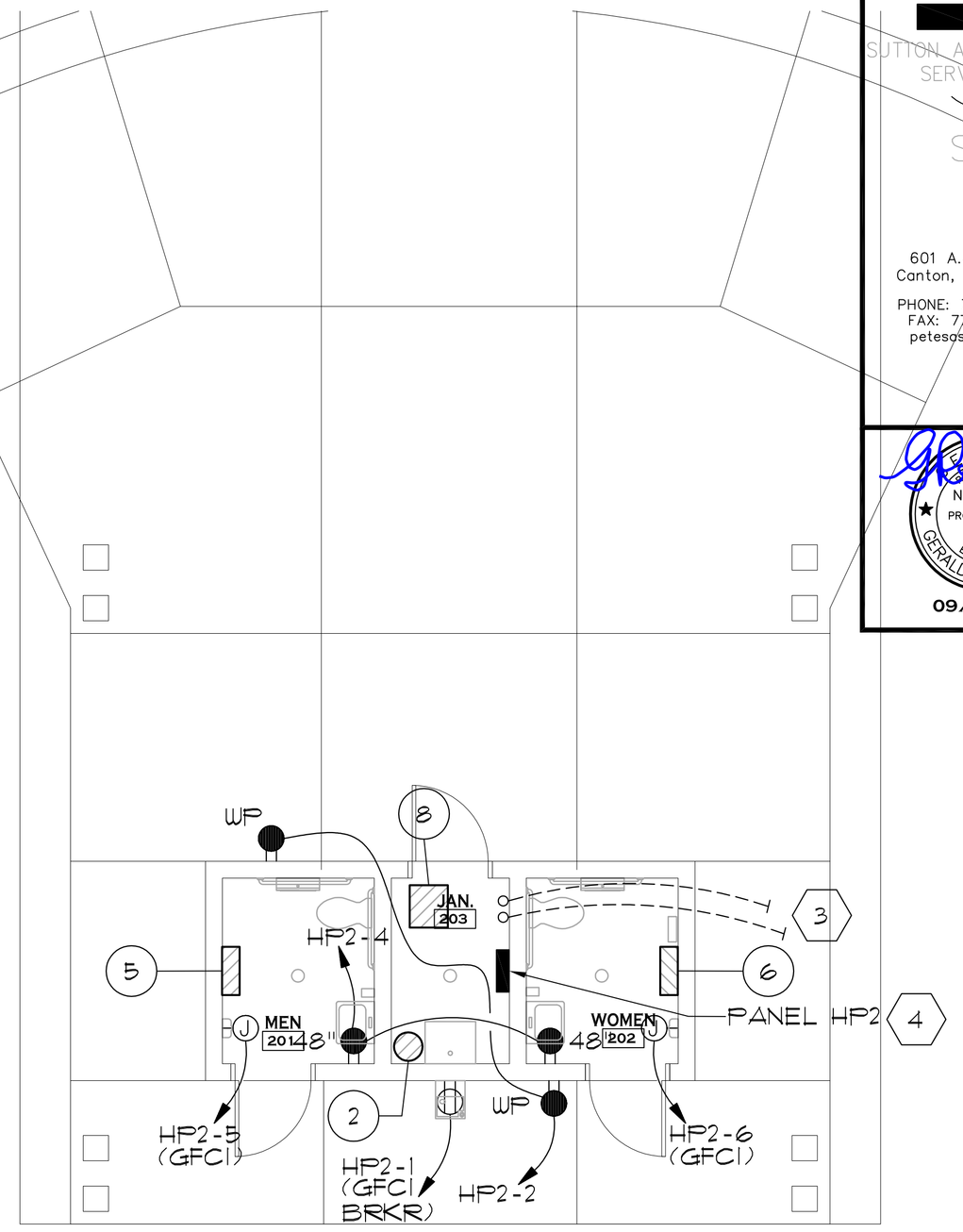


PAVILLION REFLECTED CEILING PLAN - LIGHTING

2 / E1.1 SCALE: 1/4"=1'-0"

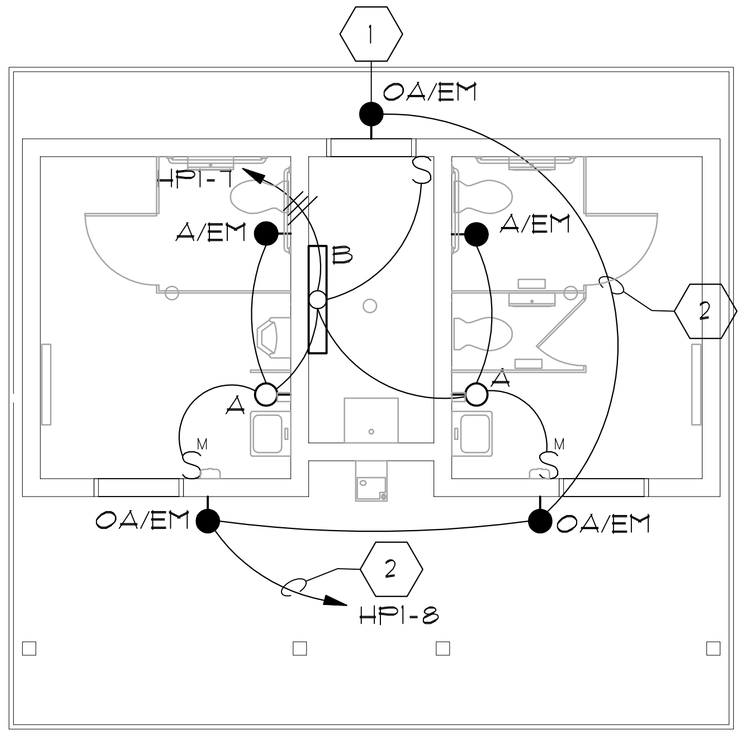
PAVILLION ELECTRICAL LEGEND NOTES:

1. CONCEAL ALL CONDUITS AND RECESS BOXES.
2. CONTROL OUTSIDE FIXTURES WITH PHOTOCELL.
3. TWO (2) 2" EMPTY CONDUITS FOR FUTURE USE. TERMINATE AT LOCATION DIRECTED BY OWNER. CAP CONDUIT UNDERGROUND 30" BELOW FINISHED GRADE AND MARK WITH STEEL REBAR BURIED 6" BELOW GRADE STUB UP IN JANITOR'S CLOSET WITH RIGID CONDUIT AND CAP 12" ABOVE FLOOR.
4. COORDINATE EXACT LOCATION OF PANELBOARD TO AVOID WATER/SANITARY PIPING.
5. PROVIDE 0-10 V DIMMING DRIVER FOR THIS FIXTURE.
6. 0-10 V DIMMER.



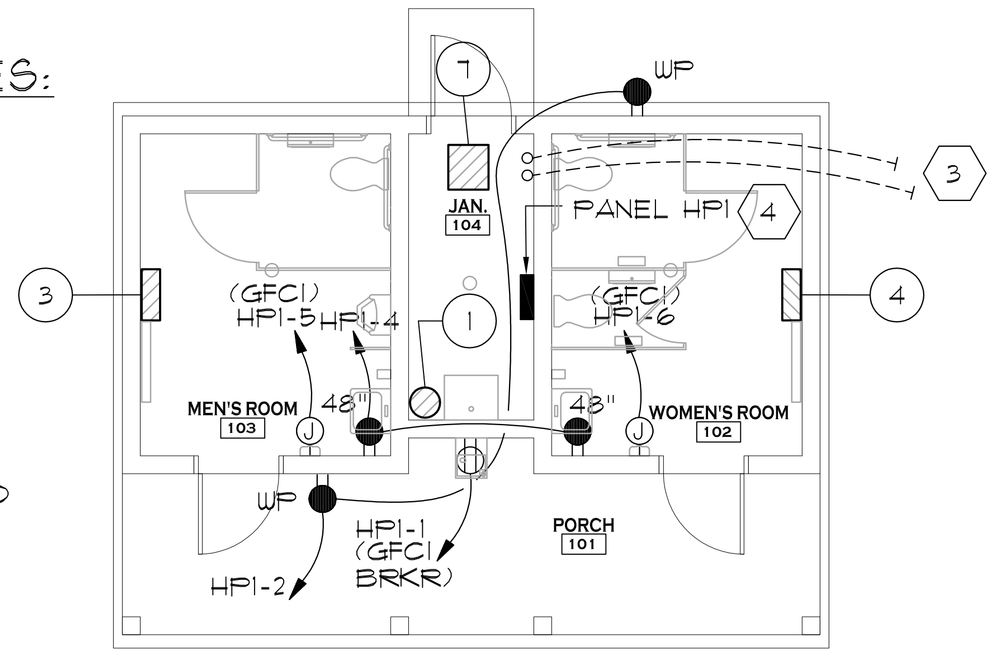
PAVILION FLOOR PLAN - ELECTRICAL

1 / E1.1 SCALE: 1/4"=1'-0"



RESTROOM ELECTRICAL LEGEND NOTES:

1. CONCEAL ALL CONDUITS AND RECESS BOXES.
2. CONTROL OUTSIDE FIXTURES WITH PHOTOCELL.
3. TWO (2) 2" EMPTY CONDUITS FOR FUTURE USE. TERMINATE AT LOCATION DIRECTED BY OWNER. CAP CONDUIT UNDERGROUND 30" BELOW FINISHED GRADE AND MARK WITH STEEL REBAR BURIED 6" BELOW GRADE STUB UP IN JANITOR'S CLOSET WITH RIGID CONDUIT AND CAP 12" ABOVE FLOOR.
4. COORDINATE EXACT LOCATION OF PANELBOARD TO AVOID WATER/SANITARY PIPING.



RESTROOM REFLECTED CEILING PLAN - LIGHTING

4 / E1.1 SCALE: 1/4"=1'-0"

RESTROOM FLOOR PLAN - ELECTRICAL

3 / E1.1 SCALE: 1/4"=1'-0"

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GEORGIA No. 7090 PROFESSIONAL ENGINEER GERALD E. ROBERDS

09/13/17

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(770) 000-0000

No.	Description	By	App.	Date
1	CD PROGRESS SET	PS	#	06/08/17
2	100% REVIEW SET		#	07/19/17
3	BID SET		#	09/15/17

ISSUE

PRELIMINARY
NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

FRIENDSHIP FOREST WILDLIFE SANCTURARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	VJ
Checked By:	GER
Initial Issue Date:	##########

Sheet Title

PAVILLION AND RESTROOM FLOOR PLAN - ELECTRICAL

Sheet Number

E1.1

ROBERDS
CONSULTING
ENGINEERS
455 EAST PACES FERRY ROAD, N.E.
SUITE: 300
ATLANTA GEORGIA 30305
TELEPHONE (404) 237-4632
FACSIMILE (404) 237-4161

2017110 | GER

c:\verrell c-drive\verrell\roberds project files\gerald\clarkston park\110 e11.dwg ---- 9/13/2017 4:58 PM spare

PANELBOARD HP1 SCHEDULE

VOLTAGE: 240/120 V | MAINS: 200A/2P MAIN BREAKER | MOUNTING: SURFACE | REMARKS:

BUS SIZE: 200 A | TOTAL LOAD: 12.51 KVA <3> | FAULT DUTY: 10000 A

NO	SERVES	NOTE	LOAD (KVA)	BREAKER TRIP	BREAKER P	PHASE A	PHASE B	BREAKER P	BREAKER TRIP	LOAD (KVA)	NOTE	SERVES	NO
1	EDF	1	1.2	20	1			1	20	0.4		EXTERIOR RCPT.	2
3	(GFCI BREAKER)		--	--	--			1	20	0.4		MEN RCPT.	4
5	ELEC. HAND DRYER	1	1.2	20	1			1	20	1.2	1	ELEC. HAND DRYER	6
7	JANITOR CLOSET LTG.		0.3	20	1			1	20	0.3		EXTERIOR LTG.	8
9	EUH		1.0	20	1			1	20	1.0		EUH	10
11	SPARE			20	1			1	20			SPARE	12
13	HWH-1		1.0	25	2				10	0.4		F-TE-1	14
15	---		1.0	--	--			1	20	0.4		EXTERIOR SIGN	16
17	LTG CNTRL PNL "LCP"		0.01	20	1			2	20	0.2		EXTERIOR POLE LIGHTS	18
19	EXTERIOR POLE LIGHTS		0.2	20	2			--	--	0.2		---	20
21	---		0.2	--	--			2	30	0.0		TVSS	22
23	SPARE			20	1			--	--	0.0		---	24
25	SPARE			20	1			1				SPACE	26
27	SPARE			20	1			1				SPACE	28
29	SPARE			20	1			1				SPACE	30

LOAD SUMMARY

CURRENT 43.79 A. <3>

LIGHTING	1.7 KVA	A/C	0.0 KVA
RECEPTACLE	2.0 KVA	HEATING	6.4 KVA <3>
MOTOR	0.4 KVA	MISC	0.01 KVA

NOTES:
1. GFCI BREAKER

PANELBOARD HP2 SCHEDULE

VOLTAGE: 240/120 V | MAINS: 200A/2P MAIN BREAKER | MOUNTING: SURFACE | REMARKS:

BUS SIZE: 200 A | TOTAL LOAD: 8.71 KVA <3> | FAULT DUTY: 10000 A

NO	SERVES	NOTE	LOAD (KVA)	BREAKER TRIP	BREAKER P	PHASE A	PHASE B	BREAKER P	BREAKER TRIP	LOAD (KVA)	NOTE	SERVES	NO
1	EDF	1	1.2	20	1			1	20	0.4		EXTERIOR RCPT.	2
3	(GFCI BREAKER)		--	--	--			1	20	0.4		MEN RCPT.	4
5	ELEC. HAND DRYER	1	1.2	20	1			1	20	1.2	1	ELEC. HAND DRYER	6
7	JANITOR CLOSET LTG.		0.3	20	1			1	20	0.3		EXTERIOR LTG.	8
9	EUH-3		1.0	20	1			1	20	1.0		EUH-4	10
11	SPARE			20	1			1	20			SPARE	12
13	HWH-1		1.0	25	2				10	0.4		F-TE	14
15	---		1.0	--	--			1	20	1.2		EXTERIOR SIGN	16
17	LTG CNTRL PNL "LCP"		0.01	20	1			1	20	0.2		EXTERIOR LTG.	18
19	SPARE			20	1			2	30	0.0		TVSS	20
21	SPARE			20	1			--	--	0.0		---	22
23	SPARE			20	1			1				SPACE	24
25	SPARE			20	1			1				SPACE	26
27	SPACE				1			1				SPACE	28
29	SPACE				1			1				SPACE	30

LOAD SUMMARY

CURRENT 36.29 A. <3>

LIGHTING	1.7 KVA	A/C	0.0 KVA
RECEPTACLE	2.0 KVA	HEATING	4.4 KVA <3>
MOTOR	0.4 KVA	MISC	0.01 KVA

NOTES:
1. GFCI BREAKER

SYMBOL LEGEND

MOUNTING HEIGHT IS FROM FINISHED FLOOR TO CENTERLINE OF DEVICE OR OUTLET.
HEIGHT MAY VARY TO COINCIDE WITH BUILDING CONSTRUCTION

SYMBOL	DESCRIPTION	MOUNTING HEIGHT
AFF	ABOVE FINISHED FLOOR	
WP	WEATHER PROOF	
GFI	GROUND FAULT CIRCUIT INTERRUPTER	
	CROSS HATCHING REPRESENTS GROUND, NEUTRAL AND HOT RESPECTIVELY, ARROW REPRESENTS HOME RUN	
	CONDUIT CONCEALED IN WALL OR ABOVE CEILING	
	CONDUIT CONCEALED IN SLAB-IN GROUND OR UNDERFLOOR	
	CONDUIT EXPOSED	
SD	CEILING MOUNTED SMOKE DETECTOR	
	WALL MOUNTED LIGHTING FIXTURE SEE SCHEDULE	AS NOTED
	DUPLEX RECEPTACLE OUTLET	18" A.F.F.
	GROUND FAULT CURRENT INTERRUPTER TYPE RECEPTACLE	
J	JUNCTION BOX WITH COVERPLATE WALL MOUNTED	
	PANELBOARD 240V/120V	
	DISCONNECT SWITCH - 30/3/30 SWITCH SIZE/ POLES/ FUSE SIZES	
S	S.P.S.T. LIGHTING SWITCH	48" A.F.F.
S_C	LIGHTING CONTROL - SWITCH / MOTION SENSOR	48" A.F.F.
D	0-10V DIMMER	48" A.F.F.

LIGHTING FIXTURE SCHEDULE

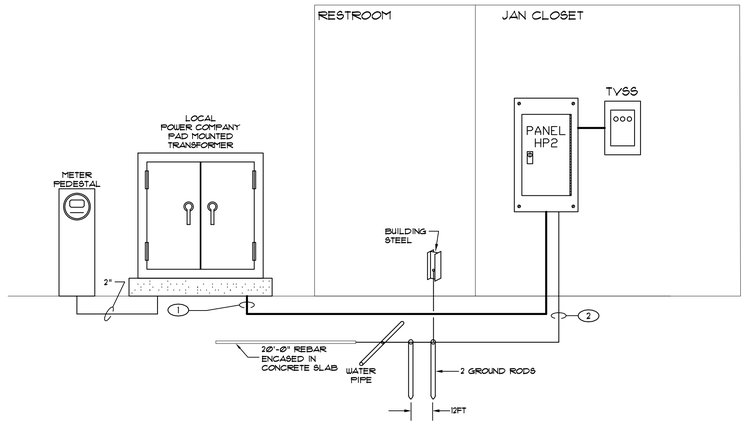
REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT NECESSARILY BE REFLECTED IN CATALOG NUMBER AND/OR DESCRIPTION IN THIS SCHEDULE. MATCH VOLTAGE OF FIXTURES TO CIRCUIT SERVING SAME.

MARK	DESCRIPTION	MOUNTING	LAMPS	VOLTAGE	REMARKS
/EM	PROVIDE BATTERY BACKUP				
A	WALL MOUNTED INTERIOR LIGHT KENAALL #1013HBL-FPP-MB-20L35K-120	COORDINATE MOUNTING WITH ARCHITECT	1 - 35W LED	120	SEE SHEET A2.1 ELEVATIONS FOR EXACT LOCATION
B	WALL MOUNTED STRIP LIGHT COLUMBIA #LCS435MLEUELL14	COORDINATE MOUNTING WITH ARCHITECT	1 - 53W LED	120	
OA	WALL MOUNTED EXTERIOR LIGHT KENAALL #1013BL-FPP-MB-20L35K-120	COORDINATE MOUNTING WITH ARCHITECT	1 - 20W LED	120	SEE SHEET A2.1 ELEVATIONS FOR EXACT LOCATION
OB	CEILING MOUNTED EXTERIOR LIGHT KENAALL #1013BL-FPP-MB-20L35K-120	CEILING MOUNTED	1 - 20W LED	120	COORDINATE LOCATION WITH ARCHITECT
OC	LED POLE MOUNTED LUMINAIRE LUMEC #DM850-SG-LM-1A-135W@0LED-4K-R-LE4F-22FT POLE	MOUNT ON 22'-0" POLE	1 - 135W LED	240	COLOR TO BE SELECTED BY ARCHITECT
OD	LED RLM SIGN LUMINAIRE TROY #SRA12LED18-*-3-L8A23	MOUNT ON SIGN	1 - 18W LED	120	
OF	LED LINEAR FLOOD LUMEC #DM850-SG-LM-1A-110W@4LED-4K-R-LE8S-AMB412	GROUND MOUNTED	1 - 74W LED	120	PROVIDE 8" X 8" X 30" CONCRETE SLAB FOR MOUNTING
OL	LED HANGING LANTERN TIMELESS DESIGN #1D4T-W/LED LAMP	HUNG FROM SIGN	1 - 13W LED	120	
OP	POST TOP LED LUMINAIRE LUMEC #DM850-SG-LM-1A-110W@4LED-4K-R-LE8S-AMB412	MOUNT ON 12'-0" POLE	1 - 135W LED	240	COLOR TO BE SELECTED BY ARCHITECT

MECHANICAL EQUIPMENT ELECTRICAL CONNECTION SCHEDULE

ITEM NO.	DESCRIPTION	EQUIPMENT CHARACTERISTICS VOLTS	PH	KW	HP	FLA	CIRCUIT	FEEDER	DISCONNECT SWITCH SIZE	P	FUSE	FEATURES	REMARKS
1	HWH-1	240	1	2.0			HP1-13,15	2#0 + 1#0GND - 1/2"C.	30	2			HWH-1 LOCATED ON SHELF
2	HWH-2	240	1	2.0			HP2-13,15	2#0 + 1#0GND - 1/2"C.	30	2			HWH-2 LOCATED ON SHELF
3	EUH-1	120	1	1.0			HP1-9	2#2 + 1#2GND -1/2"C.	20	1			
4	EUH-2	120	1	1.0			HP1-10	2#2 + 1#2GND -1/2"C.	20	1			
5	EUH-3	120	1	1.0			HP2-9	2#2 + 1#2GND -1/2"C.	20	1			
6	EUH-4	120	1	1.0			HP2-10	2#2 + 1#2GND -1/2"C.	20	1			
7	F-TE-1	120	1	0.4			HP1-14	2#2 + 1#2GND -1/2"C.	20	1			
8	F-TE-2	120	1	0.4			HP2-14	2#2 + 1#2GND -1/2"C.	20	1			

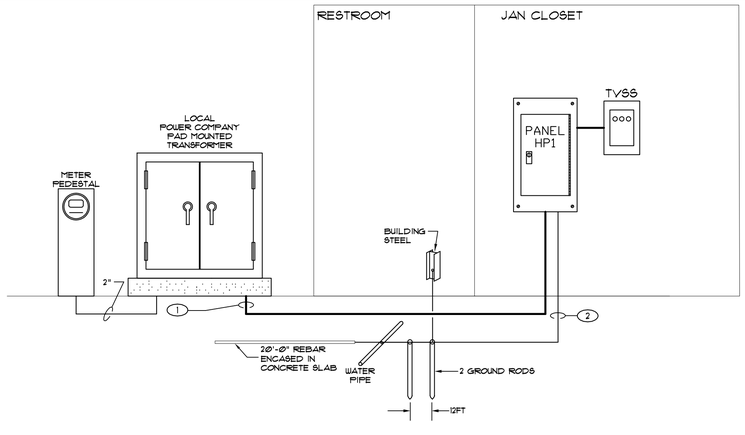
<3>



2 / E1.0 PAVILLION ELECTRICAL RISER DIAGRAM
SCALE:NONE

PAVILLION ELECTRICAL RISER NOTES:

1. 3#3/0 - 2"C.
2. 1#1/0 GND - 1"C.



1 / E1.0 RESTROOM ELECTRICAL RISER DIAGRAM
SCALE:NONE

RESTROOM ELECTRICAL RISER NOTES:

1. 3#3/0 - 2"C.
2. 1#1/0 GND - 1"C.

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No.	Description	By	App.	Date
1	CD PROGRESS SET	PS	##	06/08/17
2	100% REVIEW SET	##	##	07/19/17
3	BID SET	##	##	09/15/17
A	ADDENDUM #3	##	##	09/28/17

ISSUE

PRELIMINARY
NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	VJ
Checked By:	GER
Initial Issue Date:	##########

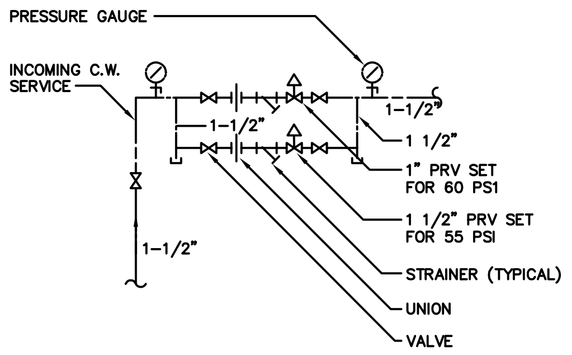
Sheet Title

ELECTRICAL RISER DIAGRAM AND SCHEDULES

Sheet Number

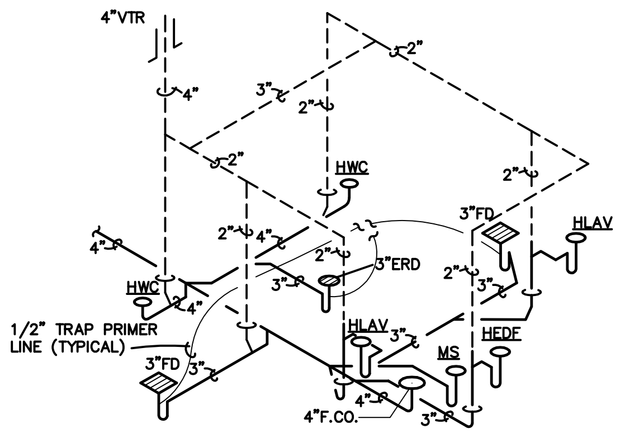
E1.0

PLUMBING FIXTURE SCHEDULE						
MARK	DESCRIPTION	CONNECTIONS			RIM HEIGHT	REMARKS
		CW	HW	S/W		
WC	WATER CLOSET–REGULAR FLUSH VALVE	1"	—	4"	15"	
HWC	WATER CLOSET–HANDICAPPED REGULAR FLUSH VALVE	1"	—	4"	18"	19" TO TOP OF SEAT
HUR	URINAL–HANDICAPPED REGULAR FLUSH VALVE	3/4"	—	2"	FLOOR OUTLET	
HLAV	LAVATORY–HANDICAPPED WALL HUNG	1/2"	1/2"	1–1/4"	34"	
HEDF	DRINKING FOUNTAIN WALL HUNG–HANDICAPPED	1/2"	—	1–1/4"	36" MAX SPOUT HEIGHT 27" TO BOT. OF APRON	
MS	MOP RECEPTOR–FLOOR MOUNTED	1/2"	1/2"	3"	8" MINIMUM	FAUCET 48" AFF

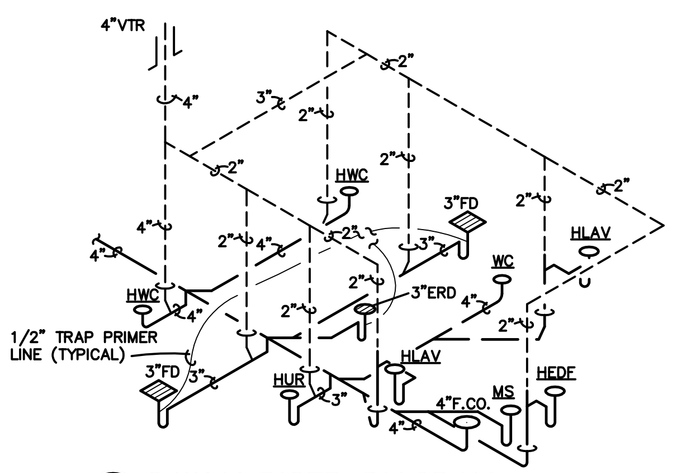


P.R.V. STATION
NO SCALE

NOTE: PRV'S TO BE WATTS 223SB OR APPROVED EQUAL.



1 S,W&V RISER DIAGRAM
NO SCALE

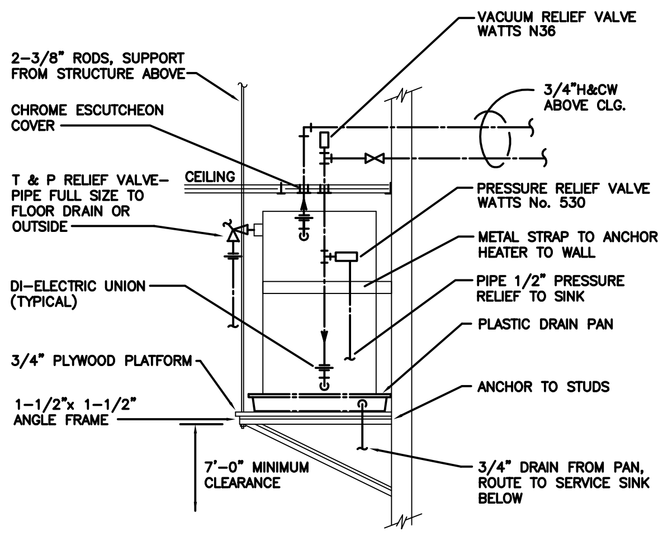


2 S,W&V RISER DIAGRAM
NO SCALE

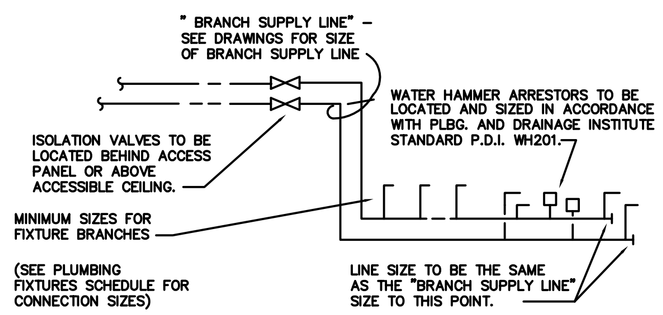
SYMBOLS & ABBREVIATIONS

RAIN WATER LEADER (DS) OR STORM
SOIL OR WASTE ABOVE FLOOR OR CEILING (S OR W)
SOIL OR WASTE BELOW FLOOR (S OR W)
VENT (V)
HOT WATER (HW)
COLD WATER (CW)
CIRCULATING HOT WATER (CHW)
G — GAS (G)

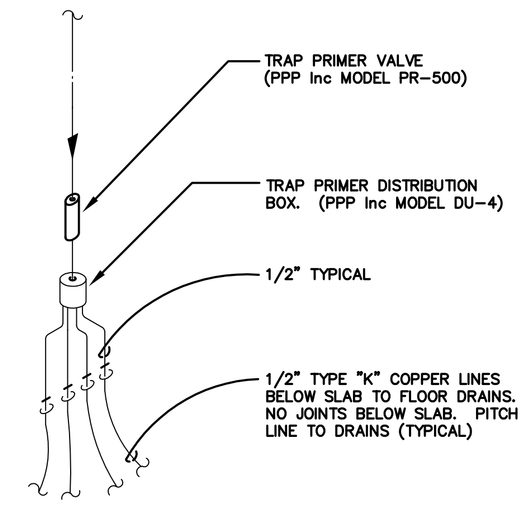
AD	AREA DRAIN
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AP	ACCESS PANEL
ARV	ACID RESISTANT VENT
ARW	ACID RESISTANT WASTE
BV	BALL VALVE
CHK.V.	CHECK VALVE
CI	CAST IRON
CLG.	CEILING
CO	CLEANOUT
CT	COUNTER TOP
DN	DOWN
F.CO.	FLOOR CLEANOUT
FD	FLOOR DRAIN
FS	FLOOR SINK
DD	DECK DRAIN
HEDF	HANDICAPPED DRINKING FOUNTAIN
EDF	ELECTRIC DRINKING FOUNTAIN
ERD	EQUIPMENT ROOM DRAIN
FA	FRESH AIR
FD	FLOOR DRAIN
GI	GALVANIZED IRON
GV	GATE VALVE
GL.V.	GLOBE VALVE
FFD	FUNNEL FLOOR DRAIN
FCV	FLOW CONTROL VALVE
HB	HOSE BIBB
HD	HUB DRAIN
HWH	HOT WATER HEATER
HUR	HANDICAPPED URINAL
INV	INVERT
LAV	LAVATORY
MH	MANHOLE
MS	MEMORY STOP
HLAV	HANDICAPPED LAVATORY
PRV	PRESSURE REDUCING VALVE
RD	ROOF DRAIN
RV	RELIEF VALVE
SD	SHOWER DRAIN
SH	SHOWER HEAD
SS	SERVICE SINK
T&P	TEMPERATURE & PRESSURE
UR	URINAL
VTR	VENT THRU ROOF
WC	WATER CLOSET
HWC	HANDICAPPED WATER CLOSET
WH	WALL HYDRANT (WATER)
YH	YARD HYDRANT (WATER)
WHA	WATER HAMMER ARRESTOR
Y.CO.	YARD CLEANOUT



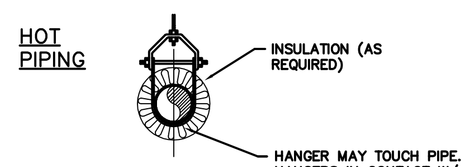
ELECTRIC WATER HEATER DETAIL (HWH–1)
NO SCALE

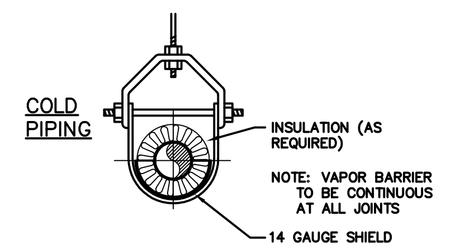


TYPICAL WATER PIPING DETAIL FOR TOILETS
NO SCALE



TRAP PRIMER PIPING DIAGRAM
NO SCALE





INSULATED PIPING PROTECTION DETAILS
NO SCALE

GEORGIA REGISTERED No. 18834 PROFESSIONAL ENGINEER JOHN E. MAYES

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No.	Description	By	App.	Date
ISSUE				
1	100% Review Set			7-19-17
2	Bid Set			9-15-17

PRELIMINARY
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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	MR
Checked By:	JP
Initial Issue Date:	7-19-17

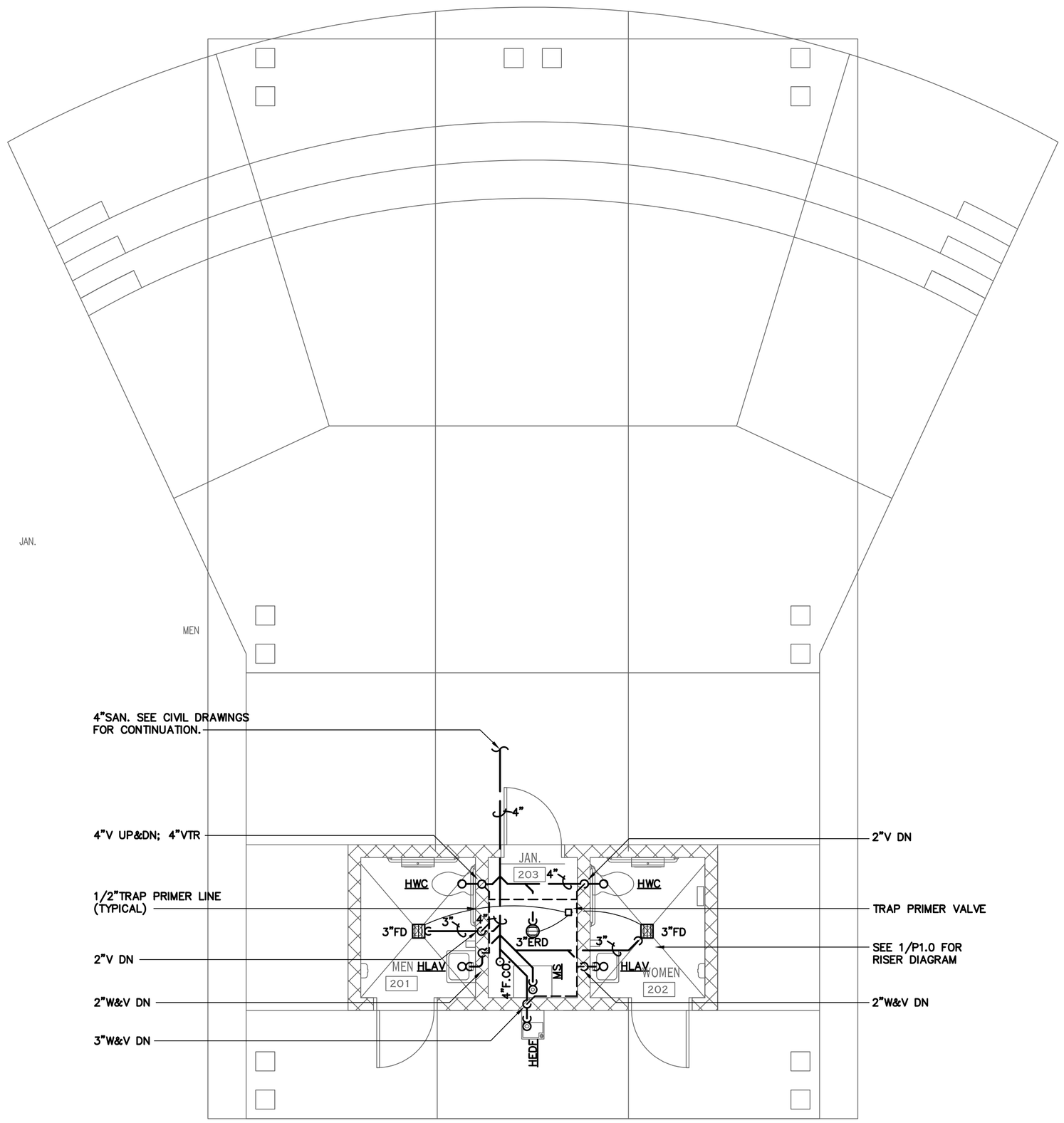
Sheet Title

PLUMBING LEGEND, SCHEDULE & DETAILS

Sheet Number

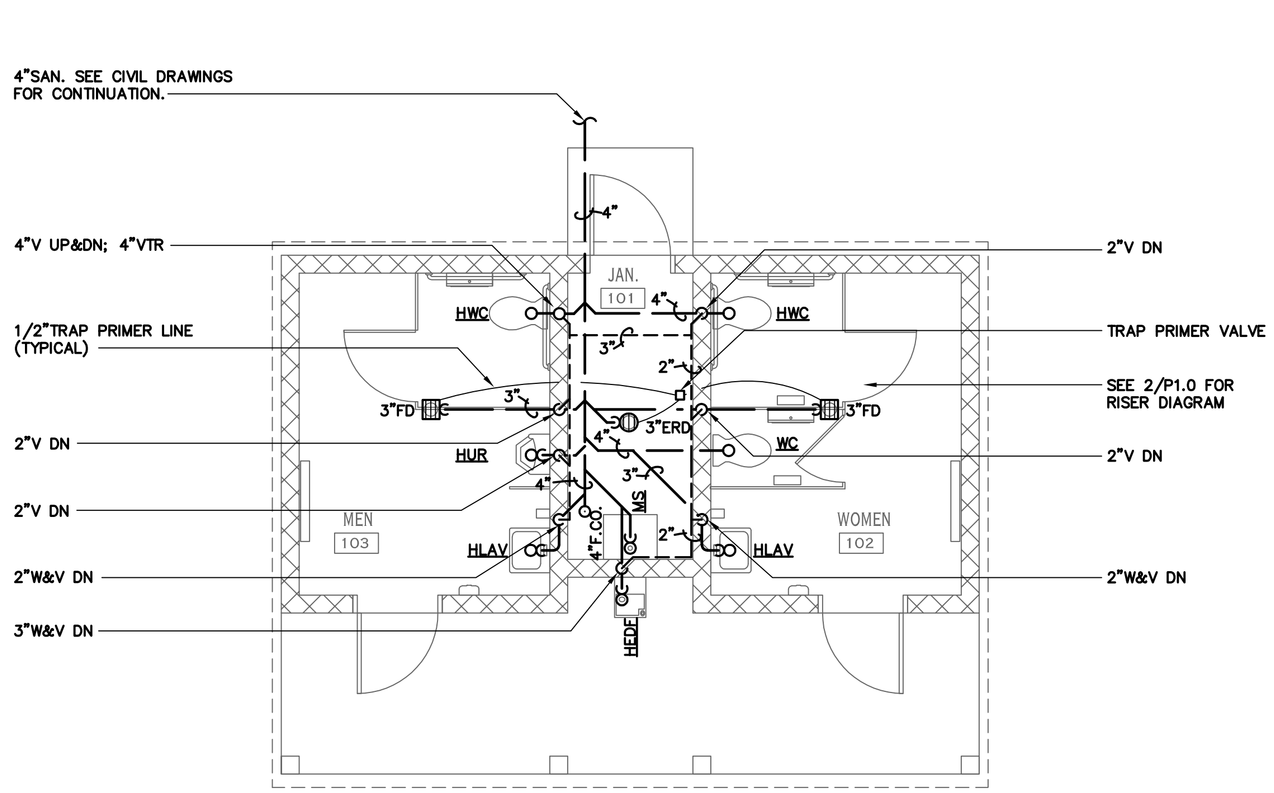
P1.0

BAA MECHANICAL ENGINEERS INC
500 Bishop Street Suite E-2 Atlanta, GA 30318 Ph: 404-355-0050 Fax: 404-355-1050



1 PAVILION BUILDING PLUMBING FLOOR PLAN

SCALE: 1/4" = 1' S, W&V PIPING



2 TOILET BUILDING PLUMBING FLOOR PLAN

SCALE: 1/4" = 1' S, W&V PIPING

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No.	ISSUE Description	By	App.	Date
1	100% Review Set			7-19-17
2	Bid Set			9-15-17

PRELIMINARY
NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

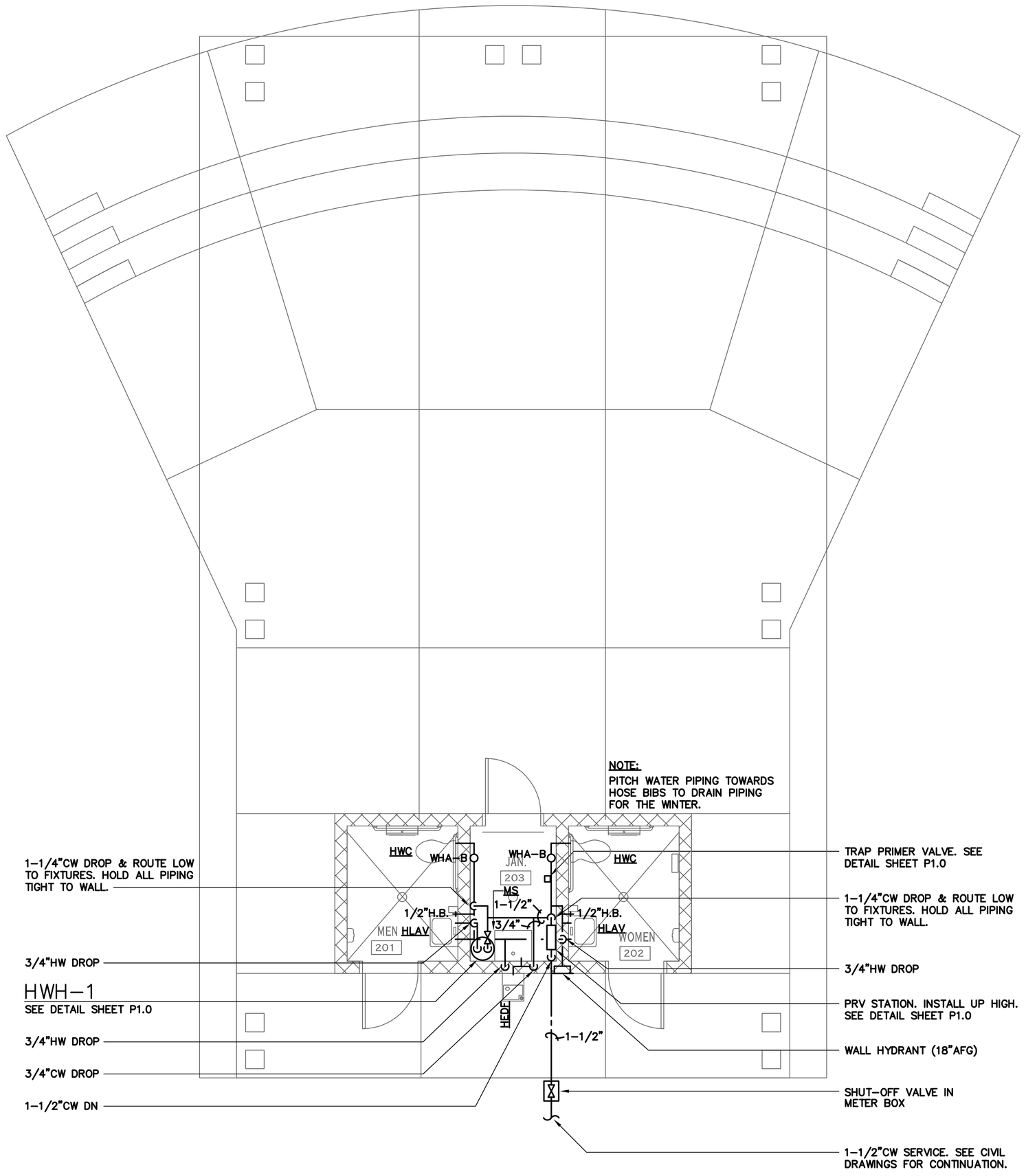
Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB
Project No.	17030pr
Drawn By:	MR
Checked By:	JP
Initial Issue Date:	7-19-17

Sheet Title

S,W&V PIPING PLANS

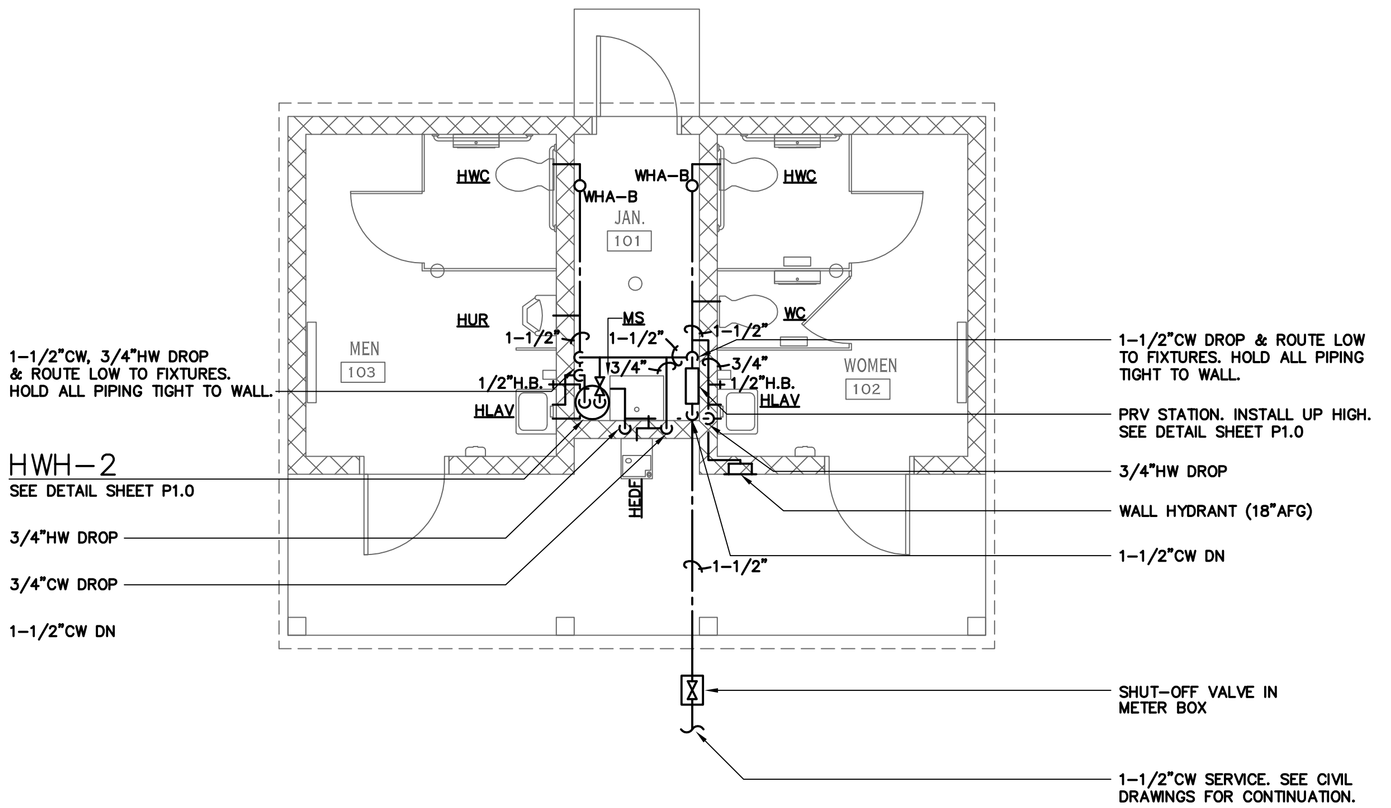
Sheet Number

P1.1



1 PAVILION BUILDING PLUMBING FLOOR PLAN

SCALE: 1/4" = 1' H & CW PIPING



2 TOILET BUILDING PLUMBING FLOOR PLAN

SCALE: 1/4" = 1' H & CW PIPING

GEORGIA REGISTERED No. 18834 PROFESSIONAL ENGINEER JOHN E. MAYES

SUTTON ARCHITECTURAL SERVICES, INC.

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Sheet Title

H&CW PIPING PLANS

Sheet Number

P1.2

BAA MECHANICAL ENGINEERS INC
500 Bishop Street Suite E-2 Atlanta, GA 30318 Ph: 404-355-0050 Fax: 404-355-1050

I. DESIGN

A. "INTERNATIONAL BUILDING CODE", 2012 EDITION AND "GEORGIA STATE AMENDMENTS TO THE INTERNATIONAL BUILDING CODE".

B. "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" (ACI 318–11).

C. "BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES" (ACI 530–11/ASCE 5–11/TMS 402–11). SPECIFICATION FOR MASONRY STRUCTURES (ACI 530.1–11/ASCE 6–11/TMS 602–11).

II. DESIGN LOADS

A. ROOF DEAD LOAD... 15 PSF
B. GROUND SNOW LOAD, Pg.................................... 5 PSF
C. ROOF LIVE LOAD.. 20 PSF
D. WOOD BRIDGE LIVE LOAD................................. 100 PSF
E. WIND LOAD

ACCORDING TO THE SECTION 1609 (IBC 2012), WIND LOADS DETERMINED WITH CHAPTERS 26 THROUGH 30 OF ASCE STANDARD (ASCE/SEI 7–10).

WIND LOADS PARAMETERS PER IBC 2012 & ASCE 7–10:

ULTIMATE WIND SPEED .... 115 mph (FIG.1609A – IBC 2012)
NOMINAL WIND SPEED .... 89 mph (T.1609.3.1 – IBC 2012)
RISK CATEGORY... II (TABLE 1604.5 – IBC 2012)
WIND EXPOSURE.. B (SECT. 1609.4.3 – IBC 2012)

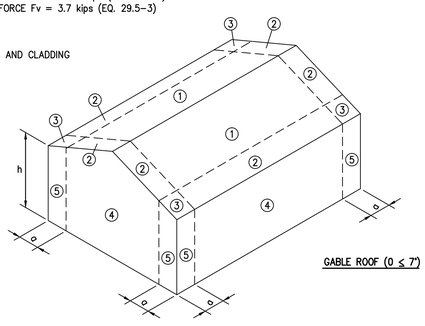
ANALYSIS PROCEDURE FOR WIND LOADS ON ENCLOSED AND PARTIALLY ENCLOSED BUILDINGS WITH ALL HEIGHTS METHOD PER CHAPTER 27 ASCE/SEI 7–10:

1. WIND DIRECTIONALITY FACTOR, Kd ....0.85 (TABLE 26.6–1 ASCE)
2. TOPOGRAPHIC FACTOR, Kzt ....1.00 (FIG. 26.8–1 ASCE)
3. GUST–EFFECT FACTOR, G .... 0.85 (OR SECTION 26.9 ASCE – SEE TABLE BELOW)

BUILDINGS	INTERNAL PRESSURE COEFFICIENT, GCpi (TABLE 26.11–1 ASCE)	GUST–EFFECT FACTOR PER SECTION 26.9 ASCE	VELOCITY PRESSURE COEFFICIENTS (TABLE 27.3–1 ASCE)		COEFFICIENTS AND PRESSURES	
			Kh	Kz	Qh	Qz
TOILET BUILDING	0.18 ±	0.871	0.61	0.61	17.42	17.42
PAVILION BUILDING	0.18 ±	0.871	0.61	0.61	17.42	17.42
PAVILION CANOPY	0.55 ±	0.871	0.6	0.61	20.09	20.09

* TOTAL FORCE F = 9.6 kips (EQ. 29.5–1)
TOTAL LATERAL FORCE Fh = 4.7 kips (EQ. 29.5–2)
TOTAL UPLIFT FORCE Fv = 3.7 kips (EQ. 29.5–3)

4. COMPONENTS AND CLADDING



GABLE ROOF (0 ≤ 7°)

COMPONENTS & CLADDING
(LOW–RISE BUILDINGS – SIMLIFIED METHOD – SECTION 30.5 ASCE 7–10)

PART OF BUILDING	ZONE	EFFECTIVE AREA, SF	NET DESIGN WIND PRESSURE (psf)		
			TOILET BUILDING	PAVILION BUILDING	
				BUILDING PART	CANOPY PART
ROOF	1	10	+21.8/–23.8	+21.8/–23.8	LOAD CASE "A"
		20	+21.2/–22.6	+21.2/–22.6	–24.4/–27.3
		50	+20.4/–21.0	+20.4/–21.0	LOAD CASE "B"
		100	+19.8/–19.8	+19.8/–19.8	+24.4/+27.3
	2	10	+21.8/–23.8	+21.8/–23.8	LOAD CASE "A"
		20	+21.2/–22.6	+21.2/–22.6	–24.4/–27.3
		50	+20.4/–21.0	+20.4/–21.0	LOAD CASE "B"
		100	+19.8/–19.8	+19.8/–19.8	+24.4/+27.3
	3	10	+21.8/–23.8	+21.8/–23.8	LOAD CASE "A"
		20	+21.2/–22.6	+21.2/–22.6	–24.4/–27.3
		50	+20.4/–21.0	+20.4/–21.0	LOAD CASE "B"
		100	+19.8/–19.8	+19.8/–19.8	+24.4/+27.3
WALL	4	10	+23.8/–25.8	+23.8/–25.8	N/A
		20	+22.7/–24.7	+22.7/–24.7	N/A
		50	+21.3/–23.3	+21.3/–23.3	N/A
		100	+20.2/–22.2	+20.2/–22.2	N/A
	5	10	+23.8/–31.9	+23.8/–31.9	N/A
		20	+22.7/–29.7	+22.7/–29.7	N/A
		50	+21.3/–26.9	+21.3/–26.9	N/A
		100	+20.2/–24.7	+20.2/–24.7	N/A
ROOF OVERHANG	2	10	–40.3	–40.3	–47.6
		20	–39.1	–39.1	
		50	–37.5	–37.5	
		100	–36.3	–36.3	
	3	10	–40.3	–40.3	–51.2
		20	–39.1	–39.1	
		50	–37.5	–37.5	
		100	–36.3	–36.3	
CORNER ZONE a, ft			3.6	3.0	
USE MINIMUM DESIGN WIND PRESSURE 16 psf – SECTION 30.2.2 ASCE 7–10					

5. AS THE BUILDING HAS BEEN DESIGN AS AN ENCLOSED STRUCTURE, COMPONENTS AND CLADDING DETAILED BY OTHERS, INCLUDING WALL COVERINGS, ROOF COVERINGS, EXTERIOR WINDOWS (FIXED AND OPERABLE), DOORS, OVERHEAD DOORS, ETC., AS APPLICABLE, SHALL BE DESIGNED BY OTHERS TO RESIST DESIGN WIND PRESSURES FOR THE BUILDING.

E. SEISMIC DESIGN DATA BY ZIP CODE 30021
1. OCCUPANCY CATEGORY II (I= 1.0)
2. MAPPED SPECTRAL RESPONSE ACCELERATIONS
   a.) Ss = 0.1864 g
   b.) S1 = 0.0901 g
3. DESIGN SPECTRAL RESPONSE ACCELERATIONS
   a.) SDS = 0.199
   b.) SD1 = 0.144
4. SITE CLASS D
5. SEISMIC DESIGN CATEGORY C

SEISMIC ANALYSIS PROCEDURE – EQUIVALENT LATERAL FORCE PROCEDURE – ASCE 7–10 SECTION 12.8

BUILDINGS	BASIC SEISMIC FORCE PROCEDURE RESISTING SYSTEM			
	LONGITUDINAL DIRECTION AND TRANSVERSE DIRECTION			BASE SHEAR
	R	Cd	Cs	V
TOILET BUILDING *	2.0	1.75	0.0994	10.4 kips
PAVILION BUILDING *	2.0	1.75	0.0994	14.6 kips

* – ORDINARY REINFORCED MASONRY SHEAR WALL

III. FOUNDATIONS

A. DESIGN WITH A SOIL BEARING CAPACITY OF 3,000 PSF (MIN.) IN ACCORDANCE WITH RECOMMENDATIONS OF SUBSURFACE EXPLORATION REPORT BY GEO–HIDRO ENGINEERS GROUP, INC. DATED MARCH 6, 2015.

RETAINING WALL (AS OCCURS) DESIGN PARAMETERS:
ACTIVE EARTH PRESSURE .... 33.0 PSF/FT
PASSIVE EARTH PRESSURE ....300 PSF/FT
AT REST EARTH PRESSURE (WALLS SUPPORTED AT TOP) .... 50.0 PSF/FT
COEFFICIENT OF SLIDING FRICTION BETWEEN FOUNDATION & SOIL............0.40
SOIL WEIGHT ....115...125 PCF

B. ANY FILL BELOW INTERIOR CONCRETE SLABS ON GRADE AND ANY FILL WITHIN 5'–0" OF THE BUILDING LIMIT SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE UPPER 12 INCHES SHALL BE COMPACTED TO 98% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.

C. ALL FOOTING EXCAVATIONS AND SLAB SUBGRADE SHALL BE INSPECTED BY A QUALIFIED GEOTECHNICAL ENGINEER TO VERIFY THAT THE REQUIRED BEARING CAPACITY AND/OR COMPACTION IS AVAILABLE. IF ANY PORTION OF THE FOOTING OR SLAB ON GRADE IS FOUND TO OCCUR IN AN UNSTABLE OR UNSUITABLE SOIL, THE ENGINEER SHALL BE NOTIFIED.

D. NO BACKFILL SHALL BE PLACED AGAINST CONCRETE WALLS UNTIL CONCRETE HAS ATTAINED FULL STRENGTH.

E. CONCRETE WALLS SHALL HAVE VERTICAL KEYED CONSTRUCTION OR TOOLED CONTROL JOINTS AT 20'–0" O.C. MAXIMUM, UNLESS NOTED OTHERWISE ON THE DRAWINGS. STOP HORIZONTAL REINFORCEMENT 2" CLEAR OF EACH SIDE OF CONSTRUCTION JOINTS. ALLOW ONLY 50% OF HORIZONTAL WALL REINFORCEMENT TO PASS THROUGH CONTROL JOINTS. CONTROL JOINTS ARE REQUIRED IN THE WALLS BUT NOT IN THE FOOTINGS SUPPORTING THE WALLS.

IV. MATERIALS

A. CONCRETE

1. CONCRETE, UNLESS NOTED OTHERWISE, SHALL BE NORMAL WEIGHT, WITH A MINIMUM 28 DAY COMPRESSIVE STRENGTH, f'c= 3,000 PSI. THE PROPOSED MATERIALS AND CONCRETE MIX DESIGN SHALL BE DOCUMENTED AND REVIEWED BY THE OWNER'S TESTING LABORATORY. IT IS THE CONTRACTOR'S RESPONSIBILITY FOR OBTAINING THE REQUIRED DESIGN STRENGTH. RESULTS OF CONCRETE TESTING SHALL BE AVAILABLE AT THE SITE.

2. USE OF CALCIUM CHLORIDE, CHLORIDE IONS, OR OTHER SALTS IN CONCRETE IS NOT ACCEPTABLE.

3. DO NOT PLACE PIPES OR DUCTS EXCEEDING ONE–THIRD THE CONCRETE SLAB OR WALL THICKNESS WITHIN THE SLAB OR WALL, UNLESS SPECIFICALLY INDICATED ON THE STRUCTURAL DRAWINGS.

4. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR LOCATION OF SLEEVES, ACCESSORIES, ETC. REFER TO ARCHITECTURAL DRAWINGS FOR MOLDS, GROOVES, ORNAMENTS, CLIPS OR GROUNDS REQUIRED TO BE ENCASED IN CONCRETE AND FOR LOCATION OF FLOOR FINISHES, SLOPES AND SLAB DEPRESSIONS.

5. CONCRETE WORK SHALL CONFORM TO ACI 318 AND CRSI STANDARDS.

6. DEFECTIVE AREAS IN CONCRETE INCLUDING, BUT NOT LIMITED TO, HONEY–COMBING, SPALLS, AND CRACKS WITH WIDTHS EXCEEDING 0.01 INCH SHALL BE REPAIRED. EXTENT OF DEFECTIVE AREA TO BE DETERMINED BY THE STRUCTURAL ENGINEER.

B. BAR REINFORCING STEEL

1. ALL BAR REINFORCING STEEL IN CONCRETE SHALL CONFORM TO ASTM A615, GRADE 60.

2. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185 AND HAVE MINIMUM SIDE AND END LAPS OF 8". PROVIDE IN FLAT SHEETS (ROLLS NOT PERMITTED).

3. DETAILING, FABRICATION AND PLACING OF REINFORCING STEEL SHALL BE IN ACCORDANCE WITH ACI 315–05, "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT". SUBMIT SHOP DRAWINGS FOR APPROVAL SHOWING ALL FABRICATION DIMENSIONS AND LOCATIONS FOR PLACING REINFORCING STEEL AND ACCESSORIES. WRITTEN DESCRIPTION OF REINFORCEMENT WITHOUT ADEQUATE SECTIONS ELEVATIONS AND DETAILS IS NOT ACCEPTABLE. DO NOT BEGIN FABRICATION UNTIL SHOP DRAWINGS ARE COMPLETED AND REVIEWED.

4. HORIZONTAL REINFORCEMENT IN FOOTINGS, TURNDOWN SLABS AND WALLS SHALL BE CONTINUOUS AROUND CORNERS.

5. TIE ALL REINFORCING STEEL AND EMBEDMENTS IN CONCRETE OR MASONRY SECURELY INTO PLACE PRIOR TO PLACING CONCRETE OR GROUT. PROVIDE SUFFICIENT SUPPORTS TO MAINTAIN THE POSITION OF REINFORCEMENT WITHIN SPECIFIED TOLERANCES DURING ALL CONSTRUCTION ACTIVITIES.

6. PROVIDE CONTINUOUS REINFORCEMENT WHEREVER POSSIBLE. STAGGER SPLICES WHERE POSSIBLE. ALL LAP SPLICE LENGTHS NOT SHOWN ON THE PLANS SHALL BE A CLASS B TENSION SPLICE, IN CONFORMANCE WITH ACI 318–05.

C. TIMBER

1 TIMBER DIMENSIONED LUMBER TO BE MINIMUM #2 SOUTHERN PINE EXCEPT MARKED SS (SELECT STRUCTURE), KD, 19% MAXIMUM MOISTURE CONTENT. SEE DRAWINGS FOR STUD AND PLATE MATERIALS.

2 ALL DIMENSIONED LUMBER SHALL BE PRESSURE TREATED FOR WATER PROOF PROTECTION.

3 ALL SILL PLATES TO BE #3 SOUTHERN PINE PRESSURE TREATED, MINIMUM AND PLATES ABOVE GROUND LEVEL SHALL BE #2 SOUTHERN PINE PT, MINIMUM.

4 PRESSURE TREATED (PT) TIMBER SHALL BE PRESSURE TREATED WITH ONE OF THE FOLLOWING:
   a. ACQ–D (CARBONATE) WITHOUT AMMONIA WITH ACTUAL RETENTION LEVELS LESS THAN 0.40 PCF.
   b. COPPER AZOLE (CA–B OR CBA–A) WITHOUT AMMONIA WITH ACTUAL RETENTION LEVELS LESS THAN 0.21 PCF.
   c. MICRONIZED COPPER QUAT (MCQ) WITH ACTUAL RETENTION LEVELS LESS THAN 0.40 PCF.

5 ALL METAL CONNECTORS, STRAPS, CLIPS, ANCHORS AND FASTENERS IN CONTACT WITH PRESSURE TREATED LUMBER SHALL BE COMPOSED OF STAINLESS STEEL (TYPE 303, 304, 305 OR 316) OR SHALL BE FINISHED AS FOLLOWS:
   a. SIMPSON ZMAX (G185 PER ASTM A653)
   b. HOT–DIPPED GALVANIZED PER ASTM A123 FOR CONNECTORS AND ASTM A153 FOR ANCHORS AND FASTENERS
   c. MECHANICALLY GALVANIZED ANCHORS AND FASTENERS PER ASTM B695 CLASS 55 OR GREATER
   d. SDS SCREWS TO HAVE DOUBLE BARRIER COATING
   e. WHEN USING STAINLESS STEEL CONNECTORS, USE STAINLESS STEEL FASTENERS
   f. WHEN USING ZMAX OR HOT DIP GALVANIZED CONNECTORS, USE FASTENERS GALVANIZED PER ASTM A153.
   g. ALL ANCHOR BOLTS, INCLUDING THOSE 1/2" Ø AND LARGER, IN CONTACT WITH PRESSURE TREATED LUMBER, ARE REQUIRED TO MEET THE REQUIREMENTS OF THIS NOTE.

6 ALL TIMBER FRAMING CONNECTIONS SHALL BE MADE WITH JOIST HANGERS, TIE DOWNS, FRAMING ANCHORS, POST CAPS, POST BASES, ETC., AND SHALL BE SIZED AND ATTACHED PER MANUFACTURER'S RECOMMENDATIONS. SEE GENERAL NOTE 5.

7 ALL TIMBER POST BASES SHALL BE ATTACHED TO THE SLAB AND FOUNDATION PER SIMPSON TITHEN HD–ANCHOR OR EQUAL.

8 MULTIPLE–PLY TIMBER AND BEAMS SHALL BE FASTENED TOGETHER AS FOLLOWS:
   a. (2) & (3)–2x AND (2) & (3)–2x + 1/2" PLYWOOD PLATE(S) BEAMS SHALL BE NAILED TOGETHER WITH 12d COMMON @ 8" O.C. AT TOP AND BOTTOM OF THE BEAM. PLYWOOD PLATES, WHERE REQUIRED, SHALL HAVE A DEPTH EQUAL TO THE DEPTH OF THE 2x BEAM.
   b. (2)–LVL BEAMS SHALL BE NAILED TOGETHER WITH 3 ROWS OF 16d COMMON @ 8" O.C.
   c. (4)–2x AND WIDER BEAMS AND (3)–LVL BEAMS SHALL BE BOLTED TOGETHER WITH 2 ROWS OF 1/2"Ø THROUGH BOLTS OR LAG BOLTS @ 12" O.C., 2" FROM THE TOP AND BOTTOM EDGES OF THE BEAMS. IF LAG BOLTS ARE USED, 5/16"Ø PILOT HOLES ARE REQUIRED.
   d. THE OTHER TYPES OF ASSEMBLIES LVL AND PSL BEAMS – SEE 15/S0–05.

9. MULTIPLE STUD OR SOLID WOOD COLUMNS SHALL BE CONTINUOUS FROM THE FRAMING LEVEL WHERE SHOWN TO THE FOUNDATION OR ELEVATED POST–TENSIONED SLAB . ADD BLOCKING IN ZONE OF FLOOR TRUSS EQUAL TO STUDS OR COLUMNS AS REQUIRED. EACH LAYER OF MULTIPLE STUDS SHALL BE NAILED TOGETHER WITH 2–10d COMMON @ 8" O.C. STAGGERED.

10 a) MATERIALS FOR MICROLLAM LAMINATED BEAMS (LVL) SHALL CONFORM TO THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND MATERIAL PROPERTIES:

E = 1.9 x 10^6	Fb* = 2600 psi
Ft = 1555 psi	Fc–parallel = 2510 psi
Fv = 285 psi	Fc–perpendicular = 750 psi

*FOR 12–INCH DEPTH: FOR ALL OTHER DEPTHS MULTIPLY BY (12/d)^(0.136)

b) MATERIALS FOR WOLMANIZED PARALLAM BEAMS (PSL – SERVICE LEVEL 2) SHALL CONFORM TO THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND MATERIAL PROPERTIES:

E = 1.46 x 10^6	Fb* = 1827 psi
Ft = 1397 psi	Fc–parallel = 2510 psi
Fv = 197 psi	Fc–perpendicular = 750 psi

*FOR 12–INCH DEPTH: FOR ALL OTHER DEPTHS MULTIPLY BY (12/d)^(0.111)

c) MATERIALS FOR PARALLAM LAMINATED BEAMS (PSL) SHALL CONFORM TO THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND MATERIAL PROPERTIES

E = 2.0 x 10^6 psi	Fb* = 2900 psi
Ft = 2025 psi	Fc–parallel = 2900 psi
Fv = 290 psi	Fc–perpendicular = 750 psi

*FOR 12–INCH DEPTH: FOR ALL OTHER DEPTHS MULTIPLY BY (12/d)^(0.111)

d) MATERIALS FOR TIMBERSTRAND AND RIM BOARD (LSL 1.3E) SHALL CONFORM TO THE FOLLOWING MINIMUM ALLOWABLE STRESSES AND MATERIAL PROPERTIES:

E = 1.3 x 10^6 psi	Fb* = 1700 psi
Ft = 1075 psi	Fc–parallel = 1400 psi
Fv = 400 psi	Fc–perpendicular = 680 psi

*FOR 12–INCH DEPTH: FOR ALL OTHER DEPTHS MULTIPLY BY (12/d)^(0.092)

11 IF WALL PANELS ARE USED, LET–IN WOOD OR METAL BRACES ARE NOT ALLOWED. ADJACENT EXTERIOR PANELS AND SHEAR WALL PANELS SHALL BE ATTACHED ALONG VERTICAL EDGES WITH 12d COMMON @ 6" O.C. MAXIMUM FROM ONE PANEL TO THE ADJACENT PANEL.

12 NAILING IS PER FASTENER SCHEDULE ON DRAWING S0.2, U.N.O.

D. MASONRY

1. HOLLOW UNITS...........................f'm = 1,500 PSI, FOR DESIGN

2. MORTAR.................................ASTM C270, TYPE M OR S

3. CONCRETE MASONRY WORK SHALL CONFORM TO ACI 530, BUILDING CODE REQUIREMENTS FOR MASONRY STRUCTURES AND ACI 530.1, SPECIFICATION FOR MASONRY STRUCTURES.

4. MASONRY WALLS SHALL HAVE HORIZONTAL JOINT REINFORCING CONFORMING TO ASTM A82, WITH (2)–9 GAGE OR HEAVIER WIRES, ZINC COATED, PLACED AT 16 INCHES ON CENTER (8 INCHES ON CENTER AT PARAPETS), UNLESS NOTED OTHERWISE. PROVIDE SPECIAL ACCESSORIES FOR CORNERS, INTERSECTIONS, ETC.

5. MASONRY SHALL CONFORM TO THE REQUIREMENTS OF ASTM SPECIFICATION C90 FOR HOLLOW LOAD BEARING CONCRETE MASONRY UNITS.

6. WALLS SHALL BE CONSTRUCTED USING A FULL BED OF MORTAR. VERTICAL REINFORCING SHALL BE GROUTED IN PLACE WITH 2000 PSI FINE GROUT CONFORMING TO ASTM C476 (GROUT SLUMP SHALL FALL BETWEEN 8 AND 11 INCHES). LAY BLOCK UP A MAXIMUM OF 4'–0" PRIOR TO FILLING CELLS WITH GROUT.

7. VERTICAL WALL REINFORCING SHALL BE LOCATED IN ALL WALL CORNERS, AT EACH SIDE OF MASONRY CONTROL AND EXPANSION JOINTS, AT SIDES OF WALL OPENINGS AND AT THE ENDS OF WALLS. MASONRY REINFORCING STEEL SHALL BE PLACED IN THE CENTER OF CMU CELLS, UNLESS NOTED OTHERWISE.

8. VERTICAL REINFORCING BARS IN MASONRY SHALL BE LAP SPLICED MINIMUM 48 BAR DIAMETERS.

E. COLD FORMED METAL FRAMING FOR JOISTS AND BEAMS SHALL BE "CSJ" TYPE, WITH 1 5/8 INCH WIDE FLANGES AND 1/2 INCH MINIMUM FLANGE RETURNS.

F. POST INSTALLED ANCHORS SHALL ONLY BE USED WHERE SPECIFIED ON THE DRAWINGS. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER OF RECORD PRIOR TO USING POST–INSTALLED ANCHORS FOR MISSING OR MISPLACED CAST–IN–PLACE ANCHORS. CARE SHALL BE GIVEN TO AVOID CONFLICTS WITH EXISTING REBAR. HOLES SHALL BE DRILLED AND CLEANED PER THE MANUFACTURER'S INSTRUCTIONS. ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTALLATION INSTRUCTIONS AT NOT LESS THAN MINIMUM EDGE DISTANCES AND/OR SPACINGS INDICATED IN THE MANUFACTURER'S LITERATURE. UNLESS SPECIFIED OTHERWISE, ANCHORS SHALL BE EMBEDDED IN THE APPROPRIATE SUBSTRATE WITH A MINIMUM EMBEDMENT OF 8 TIMES THE NOMINAL ANCHOR DIAMETER OR THE EMBEDMENT REQUIRED TO SUPPORT THE INTENDED LOAD.

V. MISCELLANEOUS

A. NO PROVISION OF ANY REFERENCED STANDARD SPECIFICATION, MANUAL OR CODE (WHETHER OR NOT SPECIFICALLY INCORPORATED BY REFERENCE IN THE CONTRACT DOCUMENTS) SHALL BE EFFECTIVE TO CHANGE THE DUTIES AND RESPONSIBILITIES OF THE OWNER, CONTRACTOR, ENGINEER, SUPPLIER OR ANY OF THEIR CONSULTANTS, AGENTS OR EMPLOYEES FROM THOSE SET FORTH IN THE CONTRACT DOCUMENTS. NOR SHALL IT BE EFFECTIVE TO ASSIGN TO THE STRUCTURAL ENGINEER OF RECORD ANY DUTY OR AUTHORITY TO SUPERVISE OR DIRECT THE FURNISHING OR PERFORMANCE OF THE WORK OR ANY DUTY OR AUTHORITY TO UNDERTAKE RESPONSIBILITIES CONTRARY TO THE PROVISIONS OF THE CONTRACT DOCUMENTS.

B. THE CONSTRUCTION DOCUMENTS CONSIST OF THE ENTIRE SET OF DRAWINGS AND SPECIFICATIONS OF ALL DISCIPLINES. STRUCTURAL CONTRACT DOCUMENTS INCLUDE, BUT ARE NOT LIMITED TO, THE STRUCTURAL DOCUMENTS (DRAWINGS AND SPECIFICATIONS), BUT DO NOT INCLUDE SHOP DRAWINGS, VENDOR DRAWINGS OR MATERIAL PREPARED AND SUBMITTED BY THE CONTRACTOR.

C. CONTRACT DOCUMENTS SHALL GOVERN IN THE EVENT OF A CONFLICT WITH THE CODE OF PRACTICE OR OTHER STANDARDS. WHERE A CONFLICT OCCURS WITHIN THE CONTRACT DOCUMENTS, THE STRICTEST REQUIREMENT SHALL GOVERN.

D. IT IS EXPECTED THAT THE GENERAL CONTRACTOR BE EXPERIENCED IN THE TYPE CONSTRUCTION REQUIRED FOR THIS PROJECT. THE CONTRACTOR SHALL COORDINATE THE STRUCTURAL DOCUMENTS WITH THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING AND CIVIL DOCUMENTS PRIOR TO ORDERING AND/OR FABRICATION OF ANY MATERIALS AND/OR THE CONSTRUCTION OF ANY ELEMENT. ARCHITECT/STRUCTURAL ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY OR OMISSION. FOR DIMENSIONS NOT SHOWN ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL DRAWINGS.

E. CONTRACTOR HAS SOLE RESPONSIBILITY TO COMPLY WITH ALL OSHA REGULATIONS.

F. CONTRACTOR SHALL VERIFY THE TYPE, SIZE, LOCATION AND NUMBER OF OPENINGS, SLEEVES, CONDUITS, EMBEDDED ITEMS, PIPES, ETC., BEFORE POURING CONCRETE OR STARTING WALL CONSTRUCTION.

G. UNLESS SHOWN ON THE PLANS, THE LOCATION OF CONSTRUCTION JOINTS ARE SUBJECT TO PRIOR APPROVAL BY THE ENGINEER. CONSTRUCTION JOINTS SHALL BE THOROUGHLY ROUGHENED BY MECHANICAL MEANS AND CLEANED.

H. THE STRUCTURAL DESIGN OF THE BUILDING IS BASED UPON THE FULL INTERACTION OF ALL ITS COMPONENT PARTS, WITH NO PROVISION MADE FOR CONDITIONS OCCURRING DURING CONSTRUCTION. THE STRUCTURE IS STABLE ONLY IN ITS COMPLETED FORM. THE CONTRACTOR SHALL PROVIDE ADEQUATE BRACING DURING CONSTRUCTION.

I. ALL CMU MASONRY AND CAVITIES BELOW SLAB ON GRADE SHALL BE FULLY GROUTED WITH CONCRETE. BACKFILL BOTH SIDES OF MASONRY WALLS AND REINFORCED CONCRETE WALLS IN 8 INCH LIFTS TO THE ELEVATION OF THE LOWER FINISHED GRADE BEFORE BACKFILLING TO THE HIGHER FINISHED GRADE.

J. CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS, DIMENSIONS AND ELEVATIONS, ABOVE AND BELOW GROUND, PRIOR TO ORDERING MATERIALS AND BEGINNING CONSTRUCTION. THE ENGINEER SHALL BE NOTIFIED OF ANY DISCREPANCY.

K. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF MECHANICAL UNITS, ELECTRICAL FIXTURES, MECHANICAL DUCTS, CEILING HANGER ASSEMBLIES, PLUMBING EQUIPMENT, ETC., WITH ALL TRADES EFFECTED AND EQUIPMENT PURCHASED BEFORE PROCEEDING WITH STRUCTURAL WORK. CONTRACTOR SHALL VERIFY THE STRUCTURALLY SUPPORTED MECHANICAL EQUIPMENT WEIGHTS, OPENING SIZES AND LOCATIONS IDENTIFIED ON THE STRUCTURAL DRAWINGS WITH ARCHITECTURAL AND MECHANICAL DRAWINGS. NOTIFY STRUCTURAL ENGINEER OF ANY CONFLICT AND/OR OMISSION. MODIFICATIONS OR CHANGES AS A RESULT OF THIS COORDINATION SHALL BE DETAILED, NOTED AND SUBMITTED IN SHOP DRAWINGS. SEE ARCHITECTURAL DRAWINGS FOR ANGLES, CLIPS, PLATES, ETC., AND OTHER MISCELLANEOUS ITEMS.

L. CONCRETE PROTECTION FOR REINFORCEMENT – THE FOLLOWING COVER SHALL BE PROVIDED FOR REINFORCEMENT:
1. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH....3"
2. CONCRETE EXPOSED TO EARTH OR WEATHER:
   a.) #6 THROUGH #18 BARS...................................2"
   b.) #5 BAR, W31 OR D31 WIRE AND SMALLER..............1 1/2"
3. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND:
   a.) SLABS, WALLS AND JOISTS, #11 BARS AND SMALLER.......3/4"
   b.) BEAMS AND COLUMNS, PRIMARY REINFORCING, TIES, STIRRUPS AND SPIRALS.............................1 1/2"

M. REINFORCING SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL CONFORMANCE WITH THE CONTRACT DOCUMENTS, AND ANY COMMENT SHOWN IS SUBJECT TO THE REQUIREMENTS OF THE CONTRACT DOCUMENTS. REVIEW OF THE SHOP DRAWINGS BY THE ENGINEER DOES NOT RELIEVE THE CONTRACTOR OF THE RESPONSIBILITY TO REVIEW AND CHECK THE SHOP DRAWINGS BEFORE SUBMITTAL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE SHOP DRAWINGS. THE RESPONSIBILITY FOR DIMENSIONS, QUANTITIES, COORDINATION AND COMPLIANCE WITH THE CONTRACT DOCUMENTS REMAINS WITH THE CONTRACTOR.

N. WHERE A SECTION OR DETAIL IS SHOWN FOR ONE CONDITION, IT SHALL APPLY FOR ALL LIKE OR SIMILAR CONDITIONS EVEN THOUGH NOT SPECIFICALLY MARKED ON THE PLANS.

O. ROOF SHEATHING SHALL CONSIST OF 19/32 (5/8) INCH THICK APA RATED TONGUE AND GROOVE WOOD STRUCTURAL PANELS WITH SPAN RATING OF 40/20 OR BETTER. PLY–CLIPS MAY BE UTILIZED BETWEEN ADJACENT WOOD STRUCTURAL PANELS AT EACH JOIST SPACING IN LIEU OF TONGUE AND GROOVE. ROOF SHEATHING SHALL BE APPLIED IN ACCORDANCE WITH IBC TABLE 2306.3.1 TO THE WOOD MEMBERS OF THE ROOF AND SHALL BE USED AS THE HORIZONTAL DIAPHRAGM TO RESIST LATERAL LOADINGS. ATTACH THE PANELS WITH 8d NAILS AT 6 INCHES ON CENTER AT THE PANEL EDGES AND WITH 8d NAILS AT 12 INCHES ON CENTER AT THE INTERIOR SUPPORTS OF THE PANEL. ORIENT THE LONG DIMENSION OF THE PANELS ACROSS THREE OR MORE SUPPORTS. EDGES NEED NOT BE BLOCKED, UNLESS NOTED OTHERWISE. ATTACH WOOD PANELS WITH 8d AT 6 INCHES ON CENTER AT BLOCKING ABOVE EXTERIOR WALLS AND AT THE FASCIA PIECE.

P. SHOP DRAWING SCOPE:
1. PREPARATION OF REQUIRED SHOP DRAWINGS.
2. CHECKING OF THE SHOP DRAWINGS BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTAL TO THE A/E, WITH PROPER SHOP DRAWING STAMP AFFIXED.
3. SUBMITTAL TO THE A/E FOR REVIEW, ALLOWING A MINIMUM OF FIVE (5) FULL WORKING DAYS IN THE ENGINEERS OFFICE FOR THIS REVIEW. LARGE SUBMITTALS WILL REQUIRE MORE THAN FIVE (5) DAYS.
4. REVISION TO SHOP DRAWINGS, AS NECESSARY, FOLLOWING A/E REVIEW. SEE GENERAL NOTES FOR ADDITIONAL INFORMATION.
5. RECHECKING OF REVISED SHOP DRAWINGS BY THE GENERAL CONTRACTOR.
6. RESUBMITTAL TO THE A/E, IF INDICATED ON THE ARCHITECT OR ENGINEER SHOP DRAWING STAMP.
7. REVIEW OF SHOP DRAWING SUBMITTALS SHALL NOT BE CONSTRUED AS AUTHORIZING ANY CHANGE IN THE CONTRACT SUM OR CONTRACT TIME. ANY COST FOR RE–DETAILING DUE TO SHOP DRAWING REVIEW COMMENTS SHALL BE BORNE BY THE CONTRACTOR.
8. COMPLETE SHOP DRAWINGS FOR CONSTRUCTION OF EACH BUILDING COMPONENT NOT DESIGNED BY THE DESIGN TEAM–OF–RECORD AND NOT SPECIFIED ON THE PROJECT CONSTRUCTION DOCUMENTS SHALL BE SEALED AND SIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF GEORGIA AND SHALL BE AVAILABLE AT THE JOB SITE DURING THE TIME OF INSPECTION.

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ISSUE

No.	Description	By	App.	Date
0	100% REVIEW SET	B+L	SP	07-19-2017
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BID SET
NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

FRIENDSHIP FOREST
WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title

GENERAL NOTES

Sheet Number

S0□1

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REQUIRED STRUCTURAL SPECIAL INSPECTIONS

ALL INSPECTIONS, TESTINGS AND VERIFICATIONS SHALL BE IN ACCORDANCE WITH IBC SECTION 1704,1704.4, 1708.5.1 AND 1704.7 AND AS FOLLOWS:

	FREQUENCY	
1. SOILS	CONTINUOUS	PERIODIC
A. VERIFY MATERIALS BELOW FOOTINGS ARE ADEQUATE TO ACHIEVE THE DESIGN BEARING CAPACITY		X
B. VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL		X
C. PERFORM CLASSIFICATION AND TESTING OF CONTROLLED FILL MATERIALS		X
D. VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF CONTROLLED FILL	X	
E. PRIOR TO PLACEMENT OF CONTROLLED FILL, OBSERVE SUBGRADE AND VERIFY THAT SITE HAS BEEN PREPARED PROPERLY		X
2. SPREAD FOOTINGS AND CONTINUOUS FOOTINGS		
A. INSPECT PLAN DIMENSIONS AND DEPTH		X
B. INSPECT QUANTITY AND SPACING OF BARS		X
C. INSPECT PROPER CLEARANCE TO BARS AT TOP AND BOTTOM IS PROVIDED		X
D. VERIFY PROPER LAPS ARE PROVIDED		X
E. INSPECT FOR PROPER DOWEL EMBEDMENT INTO FOOTING AND EXTENSION ABOVE FOOTING	X	
F. INSPECT FOR CORNER BARS, STEP BARS, DOWELS, ANCHOR BOLTS, OR EMBEDDED MATERIAL		X
G. VERIFY SOILS ENGINEER HAS APPROVED DESIGN BEARING CAPACITY	X	
H. VERIFY THAT ALL LOOSE MATERIAL IS REMOVED FROM BOTTOM OF FOOTING. NO SIDE FORMING IS PERMITTED		X
I. INSPECT BOLTS TO BE INSTALLED IN FOOTINGS PRIOR TO AND DURING CONCRETE PLACEMENT		X
J. CHECK EMBEDDED ITEMS		X
3. CONCRETE VERIFICATION AND INSPECTION		
A. INSPECTION OF REINFORCING STEEL AND PLACEMENT		X
B. VERIFYING USE OF REQUIRED DESIGN MIX		X
C. SAMPLING FRESH CONCRETE AND PERFORMING SLUMP, AIR CONTENT AND DETERMINING THE TEMPERATURE OF FRESH CONCRETE AT THE TIME OF MAKING SPECIMENS FOR STRENGTH TESTS	X	
D. INSPECTION OF CONCRETE PLACEMENT FOR PROPER APPLICATION TECHNIQUES	X	
E. INSPECTION FOR MAINTENANCE OF SPECIFIED CURING TEMPERATURE AND TECHNIQUES		X
F. VERIFICATION OF IN-SITU CONCRETE STRENGTH, PRIOR TO REMOVAL OF SHORES AND FORMS AS APPLICABLE		X
4. MASONRY CONSTRUCTION - LEVEL 1		
A. AS MASONRY CONSTRUCTION BEGINS, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: 1. PROPORTIONS OF SITE PREPARED MORTAR. 2. CONSTRUCTION OF MORTAR JOINTS. 3. LOCATION OF REINFORCEMENT AND CONNECTORS.		X
B. THE INSPECTION PROGRAM SHALL VERIFY: 1. SIZE AND LOCATION OF STRUCTURAL ELEMENTS. SPECIFIED SIZE, GRADE, & TYPE OF REINFORCEMENT. 2. TYPE SIZE AND LOCATION OF ANCHORS, INCLUDING OTHER DETAILS OF ANCHORAGE TO STRUCTURAL MEMBERS, FRAMES, OR OTHER CONSTRUCTION. 3. PROTECTION OF MASONRY DURING COLD WEATHER (BELOW 40°F) OR HOT WEATHER (ABOVE 90°F).		X X X
C. PRIOR TO GROUTING, THE FOLLOWING SHALL BE VERIFIED TO ENSURE COMPLIANCE: 1. GROUT SPACE IS CLEAN. 2. PLACEMENT OF REINFORCEMENT AND CONNECTORS. 3. PROPORTIONS OF SITE-PREPARED GROUT. 4. CONSTRUCTION OF MORTAR JOINTS.		X X X X
D. GROUT PLACEMENT SHALL BE VERIFIED TO ENSURE COMPLIANCE WITH CODE AND CONSTRUCTION DOCUMENT PROVISIONS	X	
E. PREPARATION OF ANY REQUIRED GROUT SPECIMENS, MORTAR SPECIMENS, AND/OR PRISMS SHALL BE OBSERVED	X	
F. COMPLIANCE WITH REQUIRED INSPECTION PROVISIONS OF THE CONSTRUCTION DOCUMENTS AND THE APPROVED SUBMITTALS SHALL BE VERIFIED		X
5. TIMBER AND WOOD FRAMING		
A. INSPECT SIZE AND SPACING OF MEMBERS		X
B. INSPECT ADEQUATE BEARING OF JOISTS AND LINTELS		X
C. INSPECT HARDWARE USED IN MEMBER CONNECTIONS		X
D. INSPECT WALL AND ROOF DIAPHRAGMS FOR REQUIRED BLOCKING AND NAILING PATTERNS	X	
6. SPECIAL CASES - EPOXY ANCHORS AND EXPANSION BOLTS		
A. INSPECT FOR ANCHOR TYPE, ANCHOR DIMENSIONS, HOLE DIMENSION, HOLE CLEANING PROCEDURES, ANCHOR SPACING, EDGE DISTANCES, ANCHOR EMBEDMENT AND TIGHTENING TORQUE.		X
B. VERIFY INITIAL INSTALLATION OF EACH ANCHOR TYPE AND SIZE BY CONSTRUCTION PERSONNEL ON SITE. SUBSEQUENT INSTALLATION OF THE SAME ANCHOR TYPE AND SIZE BY THE SAME CONSTRUCTION PERSONNEL SHALL BE PERMITTED TO BE PERFORMED IN THE ABCENCE OF THE SPECIAL INSPECTOR. ANY CHANGES IN THE ANCHOR PRODUCT BEING INSTALLED OR THE PERSONNEL PERFORMING THE INSPECTION SHALL REQUIRED AN INITIAL INSPECTION. FOR ONGOING INSTALLATIONS OVER AN EXTENDED PERIOD OF TIME, THE SPECIAL INSPECTOR SHALL MAKE REGULAR INSPECTIONS TO CONFIRM CORRECT HANDLING AND INSTALLATION.		X

NOTES:
1. REPORTS OF INSPECTIONS, VERIFICATIONS, AND/OR TESTINGS SHALL BE SUBMITTED EVERY TWO WEEKS OR LESS AS REQUIRED TO ALLOW FOR TIMELY REVIEW AND FIELD MODIFICATIONS IF ANY ARE REQUIRED.
2. INSPECTIONS DESIGNATED AS CONTINUOUS REQUIRE FULL TIME MONITORING OF THE WORK BY SPECIAL INSPECTOR.
3. INSPECTIONS DESIGNATED AS PERIODIC REQUIRE INTERMITTENT OBSERVATION DURING THE PERFORMANCE OF THE WORK AND A FINAL OBSERVATION UPON THE COMPLETION OF THE WORK BY A SPECIAL INSPECTOR.

TABLE 2304.9.1
FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]	LOCATION
1. Joist to sill or girder	3 - 8d common ($2^1/_2$" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
2. Bridging to joist	2 - 8d common ($2^1/_2$" × 0.131") 2 - 3" × 0.131" nails 2 - 3" 14 gage staples	toenail each end
3. 1" × 6" subfloor or less to each joist	2 - 8d common ($2^1/_2$" × 0.131")	face nail
4. Wider than 1" × 6" subfloor to each joist	3 - 8d common ($2^1/_2$" × 0.131")	face nail
5. 2" subfloor to joist or girder	2 - 16d common ($3^1/_2$" × 0.162")	blind and face nail
6. Sole plate to joist or blocking	16d ($3^1/_2$" × 0.135") at 16" o.c. 3" × 0.131" nails at 8" o.c. 3" 14 gage staples at 12" o.c.	typical face nail
Sole plate to joist or blocking at braced wall panel	3 - 16d ($3^1/_2$" × 0.135") at 16" o.c. 4 - 3" × 0.131" nails at 16" o.c. 4 - 3" 14 gage staples at 16" o.c.	braced wall panels
7. Top plate to stud	2 - 16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
8. Stud to sole plate	4 - 8d common ($2^1/_2$" × 0.131") 4 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
	2 - 16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	end nail
9. Double studs	16d ($3^1/_2$" × 0.135") at 24" o.c. 3" × 0.131" nail at 8" o.c. 3" 14 gage staple at 8" o.c.	face nail
10. Double top plates	16d ($3^1/_2$" × 0.135") at 16" o.c. 3" × 0.131" nail at 12" o.c. 3" 14 gage staple at 12" o.c.	typical face nail
Double top plates	8 - 16d common ($3^1/_2$" × 0.162") 12 - 3" × 0.131" nails 12 - 3" 14 gage staples	lap splice
11. Blocking between joists or rafters to top plate	3 - 8d common ($2^1/_2$" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
12. Rim joist to top plate	8d ($2^1/_2$" × 0.131") at 6" o.c. 3" × 0.131" nail at 6" o.c. 3" 14 gage staple at 6" o.c.	toenail
13. Top plates, laps and intersections	2 - 16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
14. Continuous header, two pieces	16d common ($3^1/_2$" × 0.162")	16" o.c. along edge
15. Ceiling joists to plate	3 - 8d common ($2^1/_2$" × 0.131") 5 - 3" × 0.131" nails 5 - 3" 14 gage staples	toenail
16. Continuous header to stud	4 - 8d common ($2^1/_2$" × 0.131")	toenail

(continued)

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TABLE 2304.9.1—continued
FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]	LOCATION
17. Ceiling joists, laps over partitions (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common ($3^1/_2$" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
18. Ceiling joists to parallel rafters (see Section 2308.10.4.1, Table 2308.10.4.1)	3 - 16d common ($3^1/_2$" × 0.162") minimum, Table 2308.10.4.1 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
19. Rafter to plate (see Section 2308.10.1, Table 2308.10.1)	3 - 8d common ($2^1/_2$" × 0.131") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
20. 1" diagonal brace to each stud and plate	2 - 8d common ($2^1/_2$" × 0.131") 2 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
21. 1" × 8" sheathing to each bearing	3 - 8d common ($2^1/_2$" × 0.131")	face nail
22. Wider than 1" × 8" sheathing to each bearing	3 - 8d common ($2^1/_2$" × 0.131")	face nail
23. Built-up corner studs	16d common ($3^1/_2$" × 0.162") 3" × 0.131" nails 3" 14 gage staples	24" o.c. 16" o.c. 16" o.c.
24. Built-up girder and beams	20d common (4" × 0.192") 32" o.c. 3" × 0.131" nail at 24" o.c. 3" 14 gage staple at 24" o.c.	face nail at top and bottom staggered on opposite sides
	2 - 20d common (4" × 0.192") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail at ends and at each splice
25. 2" planks	16d common ($3^1/_2$" × 0.162")	at each bearing
26. Collar tie to rafter	3 - 10d common (3" × 0.148") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail
27. Jack rafter to hip	3 - 10d common (3" × 0.148") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	toenail
	2 - 16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
28. Roof rafter to 2-by ridge beam	2 - 16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	toenail
	2 -16d common ($3^1/_2$" × 0.162") 3 - 3" × 0.131" nails 3 - 3" 14 gage staples	face nail
29. Joist to band joist	3 - 16d common ($3^1/_2$" × 0.162") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples	face nail

(continued)

TABLE 2304.9.1—continued
FASTENING SCHEDULE

CONNECTION	FASTENING[a, m]		LOCATION
30. Ledger strip	3 - 16d common ($3^1/_2$" × 0.162") 4 - 3" × 0.131" nails 4 - 3" 14 gage staples		face nail at each joist
31. Wood structural panels and particleboard[b] Subfloor, roof and wall sheathing (to framing)	$^1/_2$" and less	6d[e, l] $2^3/_8$" × 0.113" nail[n] $1^3/_4$"16 gage[o]	
	$^{19}/_{32}$" to $^3/_4$"	8d[c] or 6d[e] $2^3/_8$" × 0.113" nail[p] 2" 16 gage[o] 8d[c]	
	$^7/_8$" to 1" $1^1/_8$" to $1^1/_4$"	10d[d] or 8d[e]	
Single floor (combination subfloor-underlayment to framing)	$^3/_4$" and less $^7/_8$" to 1" $1^1/_8$" to $1^1/_4$"	6d[e] 8d[c] 10d[d] or 8d[e]	
32. Panel siding (to framing)	$^1/_2$" or less $^5/_8$"	6d[f] 8d[f]	
33. Fiberboard sheathing[g]	$^1/_2$"	No. 11 gage roofing nail[h] 6d common nail (2" × 0.113") No. 16 gage staple[i]	
	$^{25}/_{32}$"	No. 11 gage roofing nail[h] 8d common nail ($2^1/_2$" × 0.131") No. 16 gage staple[i]	
34. Interior paneling	$^1/_4$" $^3/_8$"	4d[j] 6d[k]	

For SI: 1 inch = 25.4 mm.
a. Common or box nails are permitted to be used except where otherwise stated.
b. Nails spaced at 6 inches on center at edges, 12 inches at intermediate supports except 6 inches at supports where spans are 48 inches or more. For nailing of wood structural panel and particleboard diaphragms and shear walls, refer to Section 2305. Nails for wall sheathing are permitted to be common, box or casing.
c. Common or deformed shank (6d - 2" × 0.113"; 8d - $2^1/_2$" × 0.131"; 10d - 3" × 0.148").
d. Common (6d - 2" × 0.113"; 8d - $2^1/_2$" × 0.131"; 10d - 3" × 0.148").
e. Deformed shank (6d - 2" × 0.113"; 8d - $2^1/_2$" × 0.131"; 10d - 3" × 0.148").
f. Corrosion-resistant siding (6d - $1^7/_8$" × 0.106"; 8d - $2^1/_8$" × 0.128") or casing (6d - 2" × 0.099"; 8d - $2^1/_2$" × 0.113") nail.
g. Fasteners spaced 3 inches on center at exterior edges and 6 inches on center at intermediate supports, when used as structural sheathing. Spacing shall be 6 inches on center on the edges and 12 inches on center at intermediate supports for nonstructural applications.
h. Corrosion-resistant roofing nails with $^7/_{16}$-inch-diameter head and $1^1/_2$-inch length for $^1/_2$-inch sheathing and $1^3/_4$-inch length for $^{25}/_{32}$-inch sheathing.
i. Corrosion-resistant staples with nominal $^7/_{16}$-inch crown or 1-inch crown and $1^1/_4$-inch length for $^1/_2$-inch sheathing and $1^1/_2$-inch length for $^{25}/_{32}$-inch sheathing. Panel supports at 16 inches (20 inches if strength axis in the long direction of the panel, unless otherwise marked).
j. Casing ($1^1/_4$" × 0.080") or finish ($1^1/_4$" × 0.072") nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
k. Panel supports at 24 inches. Casing or finish nails spaced 6 inches on panel edges, 12 inches at intermediate supports.
l. For roof sheathing applications, 8d nails ($2^1/_4$" × 0.113") are the minimum required for wood structural panels.
m. Staples shall have a minimum crown width of $^7/_{16}$ inch.
n. For roof sheathing applications, fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.
o. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports for subfloor and wall sheathing and 3 inches on center at edges, 6 inches at intermediate supports for roof sheathing.
p. Fasteners spaced 4 inches on center at edges, 8 inches at intermediate supports.

1 TYPICAL □OOD FRAMING FASTENERS, U□N□O□
SCALE: NONE

ABBREVIATIONS

A	ADD'L	Additional
	ALT	Alternate
	ARCH	Architectural, Architect
B	BM	Beam
	BT	Bent
	BOTT	Bottom
	B.O.	Bottom Of
	BLDG	Building
C	C.I.P.	Cast-In-Place
	CTR	Center
	CL	Clear
	CONC	Concrete
	CMU	Concrete Masonry Units
	COL	Column
	CONN	Connection
	CONSTR	Construction
	CONT	Continuous
	C.J.	Control Joint
D	DBA	Deformed Bar Anchor
	DET	Detail
	DWL	Dowel
	DWG	Drawing
E	EA	Each
	E.F.	Each Face
	E.W.	Each Way
	ELEC	Electrical
	EL.	Elevation
	ENGR	Engineer
	EXP	Expansion
	E.J.	Expansion Joint
	EXT	Exterior
F	F.F.	Far Face
	FL	Floor
	FTG	Footing
	FND	Foundation
G	G.C.	General Contractor
	GR	Ground, Grade
H	HK	Hook
	HORIZ	Horizontal
	HS	Headed Stud
I	I.F.	Inside Face
	INT.	Interior
J	JT	Joint
K	K	Kips
L	LVL	Level
	L.W.	Long Way
	LONGIT	Longitudinal
	LLH	Long Leg Horizontal
	LSH	Long Side Horizontal
	LSV	Long Side Vertical
M	MK	Mark
	MAS	Masonry
	MAX	Maximum
	MECH	Mechanical
	MIN	Minimum
	MISC	Miscellaneous
N	N.F.	Near Face
	N.S.	Near Side
O	OPG	Opening
	O.F.	Outside Face
P	P.E.B.	Pre-Engineered Building
	PL	Plate
	P.T.	Post-tensioned
	P.C.	Precast
R	REINF	Reinforcement, Reinforce
S	SCHED	Schedule
	SHT	Sheet
	S.W.	Short Way
	SIM.	Similar
	SL	Slab
	SMRF	Special Moment-Resistance Frame
	S.O.G.	Slab on Grade
	STD	Standard
	STIR	Stirrup
S	ST'L	Steel STR Straight
	STRUCT	Structural
	SUB	Subcontractor
	SYM	Symmetric
T	TEMP.	Temperature
	T	Top
	T.O. T/O	Top Of
	TYP.	Typical
U	U.N.O.	Unless Noted Otherwise
V	V.	VERT Vertical
W	W.W.F.	Welded Wire Fabric

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No.	Description	By	App.	Date
0	100% REVIEW SET	B4L	SP	07-19-2017

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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

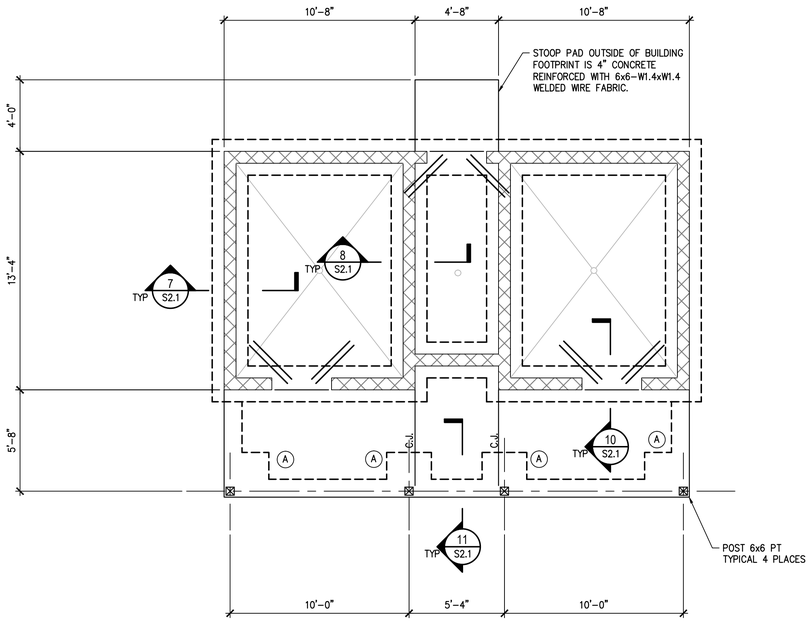
Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title

GENERAL NOTES

Sheet Number

S0□2

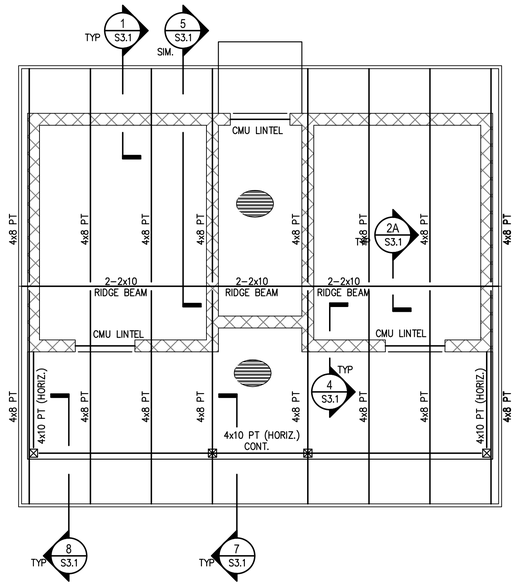


1 SLAB & FOUNDATION PLAN - TOILET BUILDING

SCALE: 1/4"=1'-0"

FOUNDATION NOTES:

1. ALL SLABS ARE 4" SLAB-ON-GRADE WITH 6x6-W2.1xW2.1 W.W.F. REINFORCEMENT W/ CONCRETE STRENGTH OF 3,000 psi. SLAB BASED ON THE 10 MIL, CLASS "B" (ASTM E1745), UNDER-SLAB VAPOR RETARDER ON GRADE.
2. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF CMU WALLS (HATCHED ON STRUCTURAL PLANS).
3. FOR FOUNDATION SECTIONS AND DETAILS SEE DRAWING S2.1.
4. C.J. :INDICATES CONTROL OR CONSTRUCTION JOINT IN SLAB ON GRADE - SEE DETAILS 5 & 6/S2.1.
5. \ OR // OR = :DENOTES 2#4 x 3'-0" @ 4" O.C. AT SLAB MID-DEPTH, TYP. AT RE-ENTRANT CORNERS - SEE DETAIL 3/S2.1.
6. VERIFY DIMENSIONS AND ELEVATIONS WITH ARCHITECTURAL AND CIVIL DWGS. REPORT ALL DISCREPANCIES TO ARCHITECT.
7. xxxxxxx :INDICATES INTERIOR AND EXTERIOR CMU WALL.
8. (A) : INDICATES THICKENED FOOTING - SEE 11/S2.1 FOR ADDITIONAL INFORMATION.
   (B) : INDICATES THICKENED FOOTING 4'-6" x 3'-0"x 12" - SEE 4/S3.2 FOR ADDITIONAL INFORMATION.



2 ROOF FRAMING PLAN -TOILET BUILDING

SCALE: 1/4"=1'-0"

ROOF NOTES:

1. PROVIDE 2x8 PT (CONT.) ON TOP OF CMU WALL. COORDINATE ELEVATION FOR T/CMU WALL WITH ARCH. DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF CMU WALLS (HATCHED ON STRUCTURAL PLANS).
3. SEE DRAWING S3.1 FOR ROOF FRAMING SECTIONS.
4. xxxxxxx :INDICATES CMU WALL.
5. :INDICATES 2x6 PT TONGUE & GROOVE ROOF DECKING WITH 4'-6" MAX ON SINGLE SPAN AND 5'-6" MAX. FOR CONTINUOUS SPAN (3 AT LEAST) 4'-0" MAX. FOR PAVILION BUILDING ACCORDING TO THE ROOF FRAMING CAPACITY.

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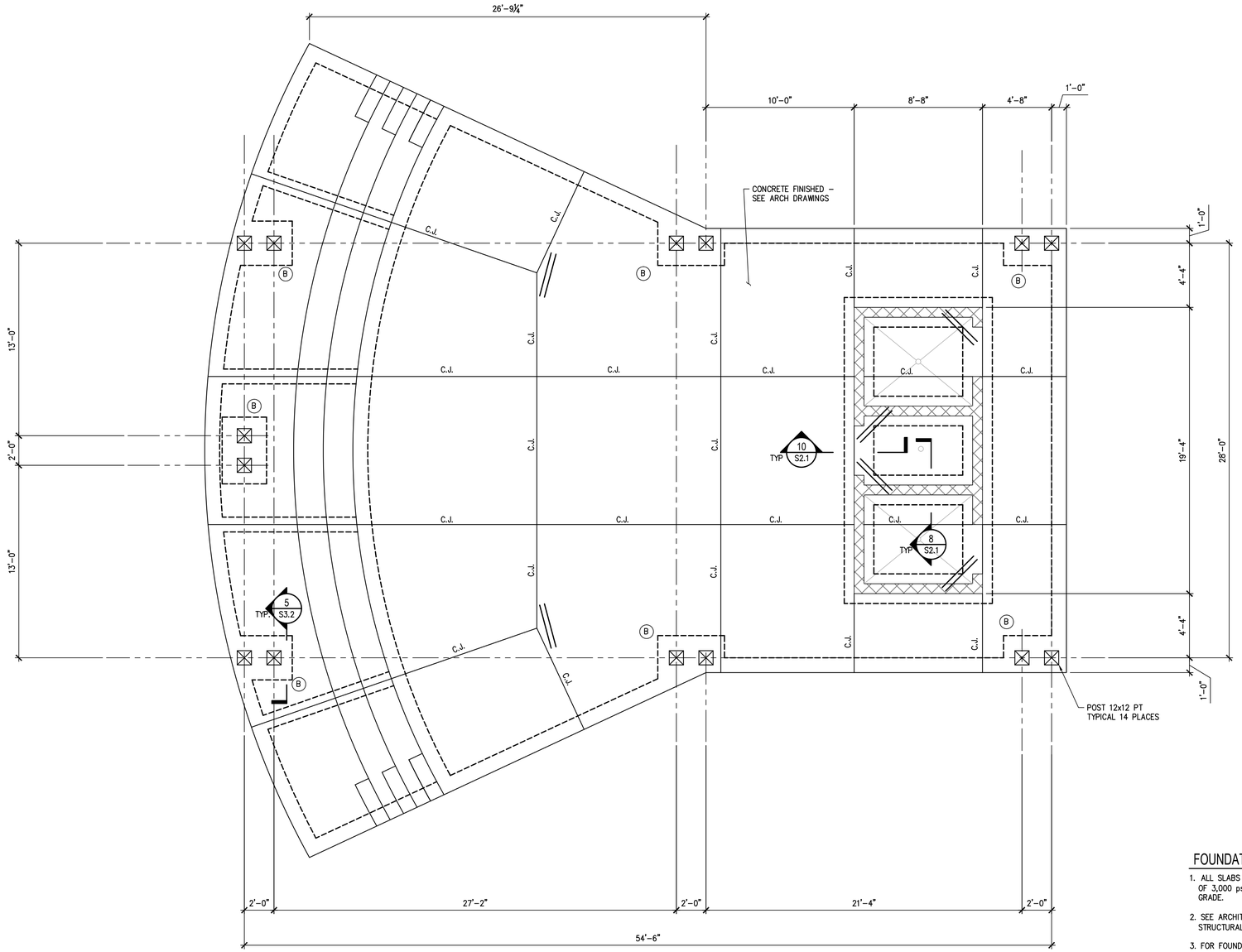
Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title
TOILET BUILDING.
SLAB & FOUNDATION, ROOF FRAMING PLANS

Sheet Number
S1.1



1 SLAB & FOUNDATION PLAN - PAVILION BUILDING
SCALE: 3/16"=1'-0"

FOUNDATION NOTES:

1. ALL SLABS ARE 4" SLAB-ON-GRADE WITH 6x6-W2.1xW2.1 W.W.F. REINFORCEMENT W/ CONCRETE STRENGTH OF 3,000 psi. SLAB BASED ON THE 10 MIL, CLASS "B" (ASTM E1745), UNDER-SLAB VAPOR RETARDER ON GRADE.
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   (B) : INDICATES THICKENED FOOTING 4'-6" x 3'-0"x 12" – SEE 4/S3.2 FOR ADDITIONAL INFORMATION.

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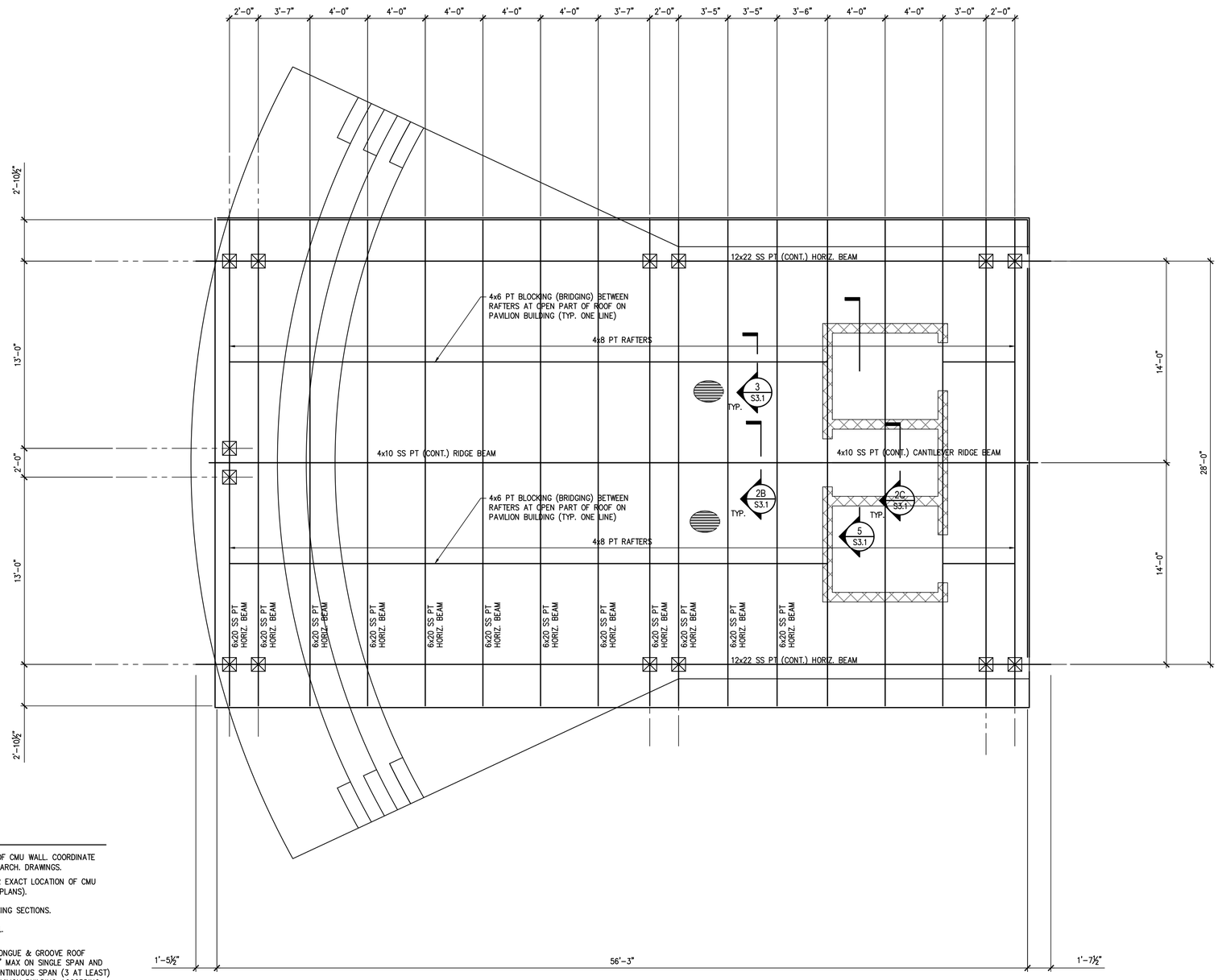
Sheet Title
PAVILION BUILDING.
SLAB & FOUNDATION PLAN

Sheet Number
S1.2



ROOF NOTES:

1. PROVIDE 2x8 PT (CONT.) ON TOP OF CMU WALL. COORDINATE ELEVATION FOR T/CMU WALL WITH ARCH. DRAWINGS.
2. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATION OF CMU WALLS (HATCHED ON STRUCTURAL PLANS).
3. SEE DRAWING S3.1 FOR ROOF FRAMING SECTIONS.
4. xxxxxxx :INDICATES CMU WALL.
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1 ROOF FRAMING PLAN - PAVILION BUILDING
SCALE: 1/4"=1'-0"

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Project No.	17030pr
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Sheet Title
PAVILION BUILDING.
ROOF FRAMING PLAN

Sheet Number
S1.3

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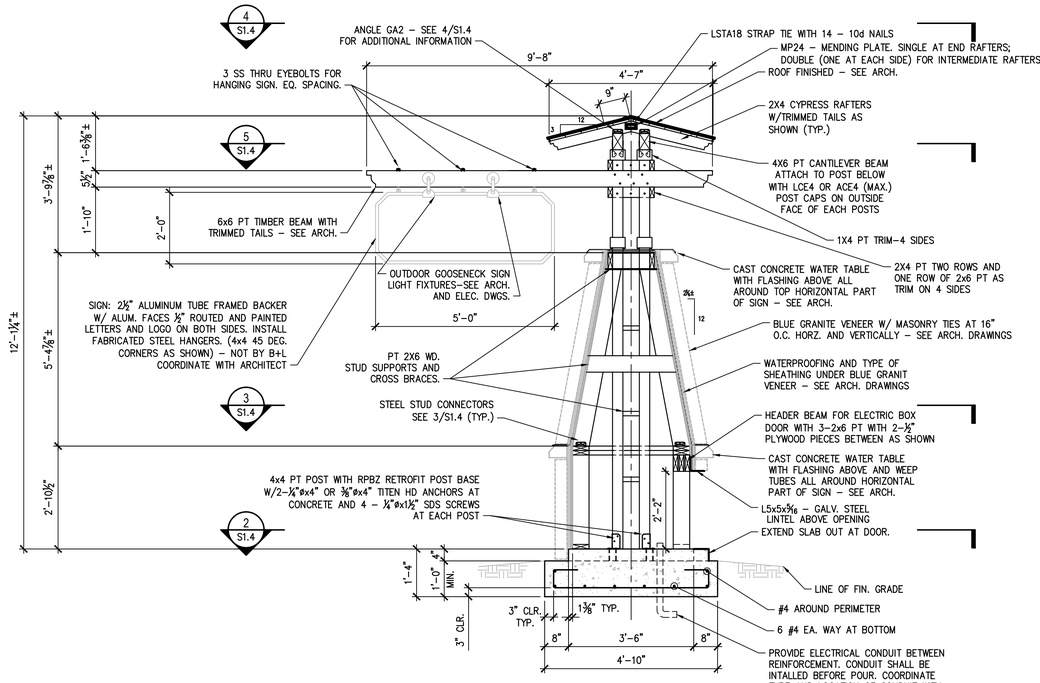
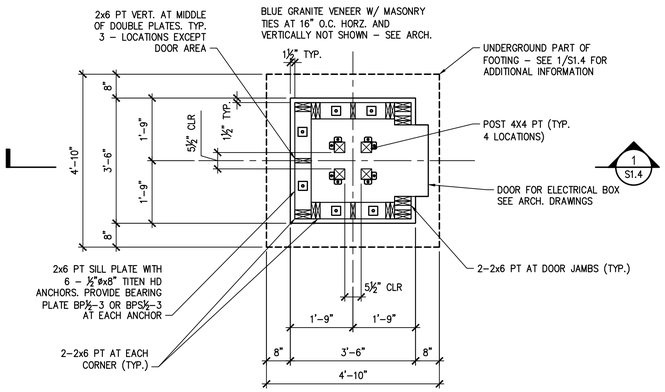
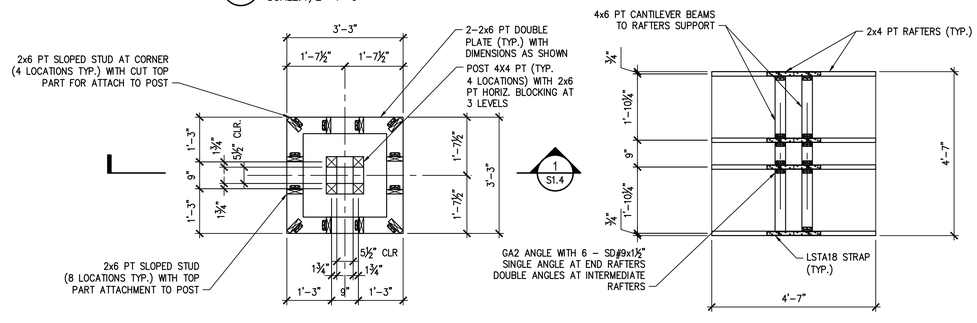


1 SIGN. SECTION
SCALE: 1/2"=1'–0"



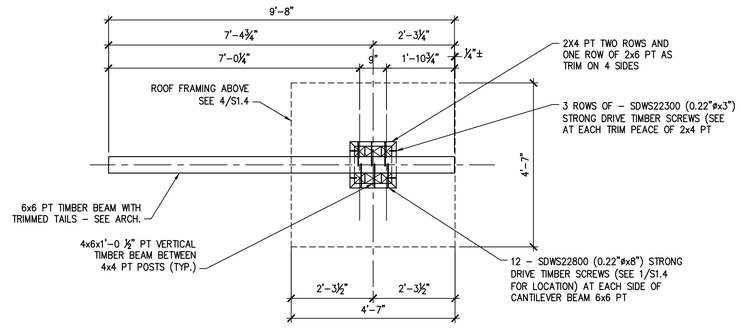
2 SIGN. FOUNDATION PLAN
SCALE: 1/2"=1'–0"



3 SIGN. INTERMEDIATE PLAN - SECTION
SCALE: 1/2"=1'–0"

BLUE GRANITE VENEER W/ MASONRY TIES AT 16" O.C. HORZ. AND VERTICALLY NOT SHOWN – SEE ARCH.

4 SIGN. PLAN - SECTION AT ROOF
SCALE: 1/2"=1'–0"



5 SIGN. PLAN - SECTION AT CANTILEVER BEAM
SCALE: 1/2"=1'–0"

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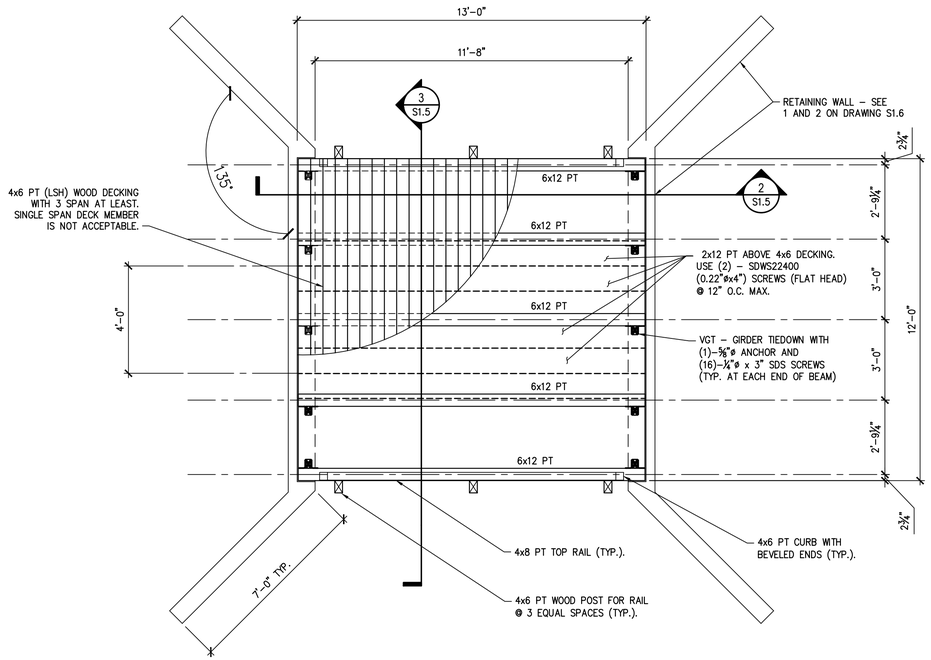
Sheet Title

SIGN.
SECTIONS AND DETAILS

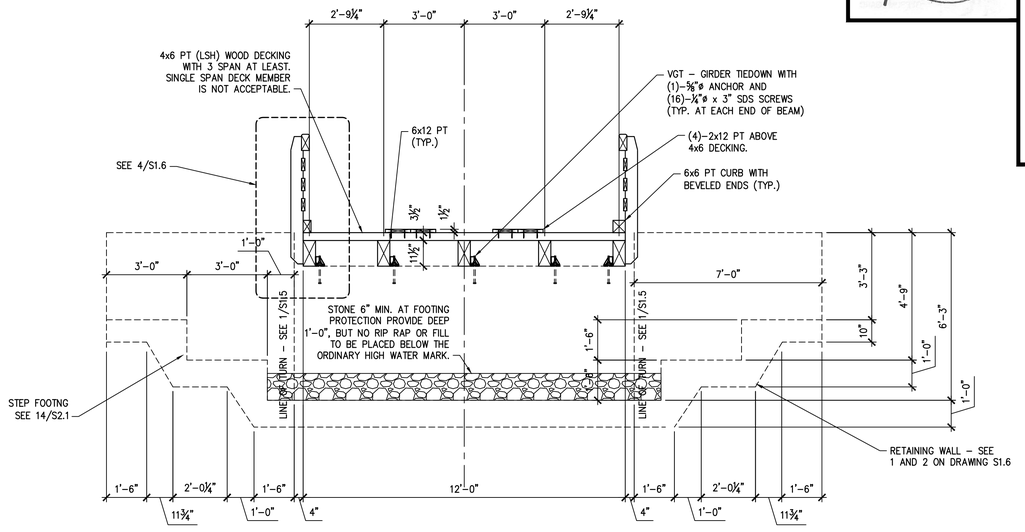
Sheet Number

S1.4



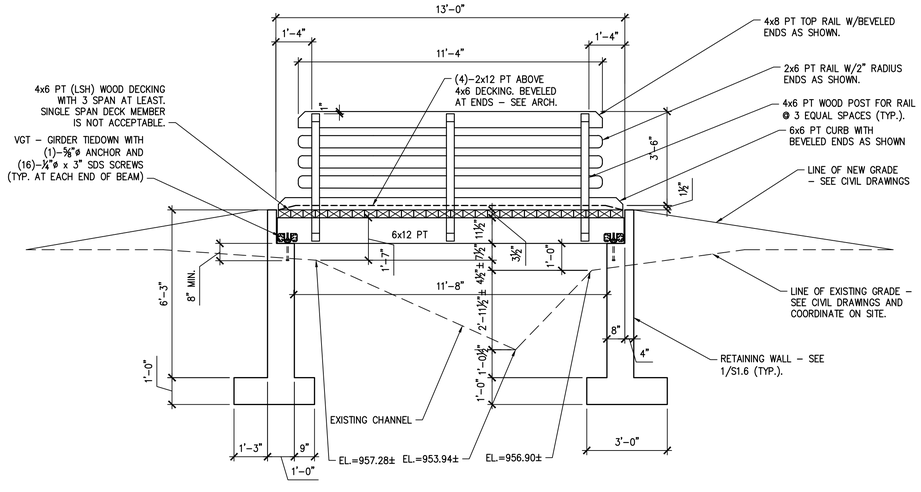
1 PEDESTRIAN/UTILITY VEHICLE BRIDGE. PLAN

SCALE: 3/8"=1'-0"



3 PEDESTRIAN/UTILITY VEHICLE BRIDGE. SECTION

SCALE: 3/8"=1'-0"



2 PEDESTRIAN/UTILITY VEHICLE BRIDGE. SECTION

SCALE: 3/8"=1'-0"

BRIDGE NOTES:

1. ALL WOOD MEMBERS ARE HEAVY PRESSURE–TREATED MATERIAL – SEE TABLE BELOW.
2. ALL HARDWARE, NAIL AND SCREWS ARE PER SIMPSON STRONG–TIE CO. PRODUCT GALVANIZED OR STAINLESS STEEL.
3. ALL CARRIAGE BOLTS ARE GALVANIZED OR STAINLESS STEEL.
4. ALL FASTENERS AT PUBLIC AREAS AND SURFACES ARE NOT STICK OUT FROM BRIDGE MEMBERS.
5. ALL WOOD AT PUBLIC AREA MUST HAVE A SMOOTH SURFACE.
6. LIVE LOAD FOR BRIDGE AT RECREATION AREA IS 100 psf
7. BRIDGE DESIGN FOR UTILITY VEHICLE WITH WEIGHT 3,300 lbs.

MATERIAL MINIMUM REQUIREMENTS FOR WOOD BRIDGE:

SPECIES AND COMERCIAL GRADE	BENDING	TENSION PARALLEL TO GRAIN	SHEAR PERPENDICULAR TO GRAIN	SHEAR PARALLEL TO GRAIN	COMPRESSION PERPENDICULAR TO GRAIN	COMPRESSION PARALLEL TO GRAIN	MODULUS OF ELASTICITY		STANDARD/GRADING RULES AGENCY
	Fb, psi	Ft, psi	$Fv_{\perp}$,psi	$Fv_{//}$,psi	$Fc_{\perp}$,psi	$Fc_{//}$,psi	E, ksi	Emin,ksi	
SOUTHERN PINE No.1 SR: 6x12 TREATED END BRIDGE BEAMS	1,350	900	165	N/A	375	825	1,500	550	SPIB
SOUTHERN PINE No. 2 DENSE SR: 6x12 TREATED INTERMEDIATE BEAMS *.	975	650	165	N/A	440	625	1,300	470	SPIB
SOUTHERN PINE PIECES: CONSTRUCTION GRADE, TREATED–4x4,4x6 & 4x8	875	500	N/A	175	565	1,600	1,400	510	SPIB
SOUTHERN PINE No. 2: TREATED DECK AND ALL OTHER 2x... MEMBERS	1,100	675	N/A	175	565	1,450	1,400	510	SPIB

NOTE * : TO AVOID A CONSTRUCTION MISTAKE USE ALL BEAMS 6x12 PT AS SHOWN FOR END BEAMS. DIFFERENT MATERIAL FOR BRIDGE BEAMS SHOWN FOR COST REDUCTION, IF APPLIED.

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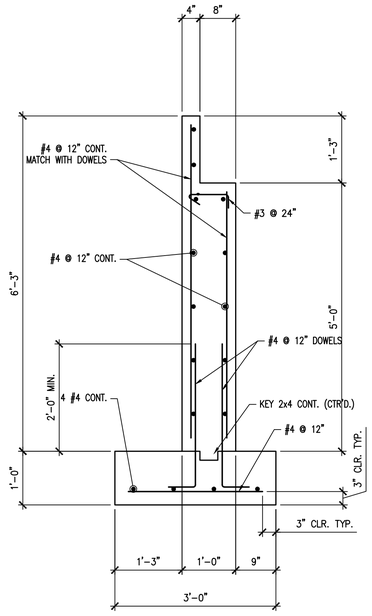
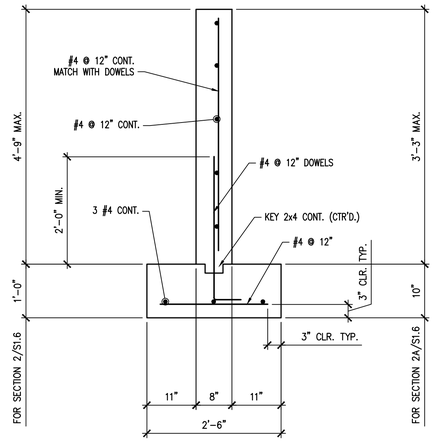
Sheet Title
BRIDGE
TYPICAL PLAN. PROFILE AND SECTIONS

Sheet Number
S1.5



1 SECTION FOR WALL AT BRIDGE SUPPORT

SCALE: 3/4"=1'-0"

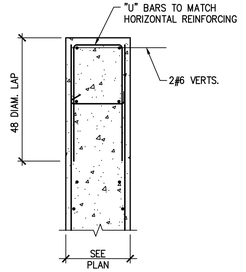


NOTES FOR SECTIONS 1, 2 AND 2A ON THIS SHEET:

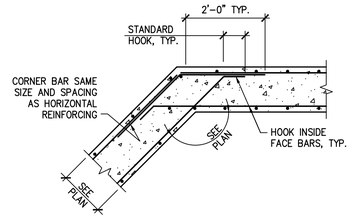
1. RETAINING WALLS WERE DESIGNED FOR SOIL BEARING CAPACITY 2,000 psf.
2. PROVIDE WATERPROOFING AT BOTH FACES OF STEM WALL. COORDINATE WITH ARCHITECT FOR ADDITIONAL INFORMATION.

2 2A SECTION FOR WALL AT BRIDGE WINGS

SCALE: 3/4"=1'-0"



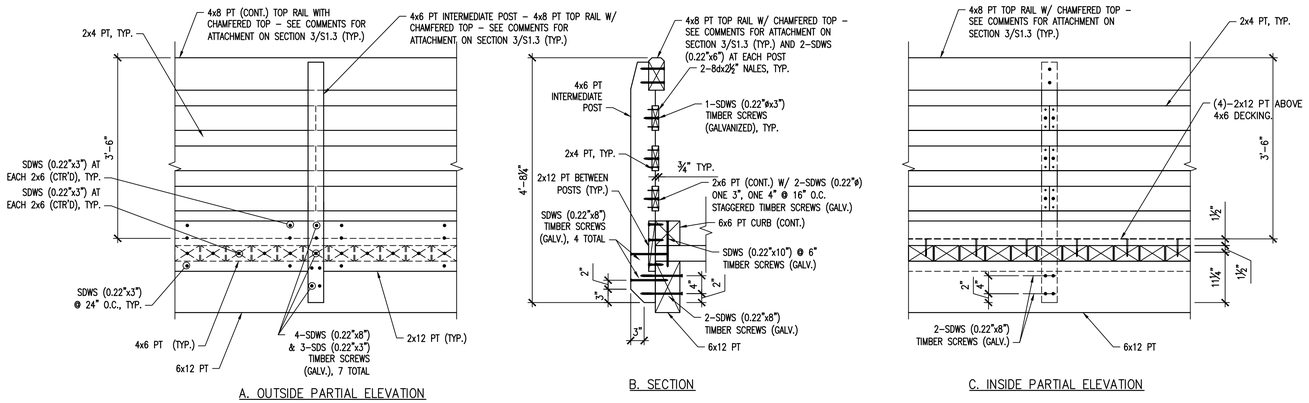
A - AT END OF WALL



B - AT ANGLE OF WALL

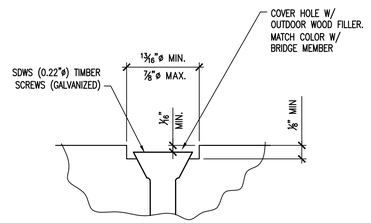
3 TYPICAL DETAILS FOR ADDITIONAL REINFORCEMENT ON C.I.P. WALLS

SCALE: NONE



4 HANDRAIL ELEVATION AND POST ATTACHMENT

SCALE: 3/4"=1'-0"



5 SCREWS AT PUBLIC AREAS AND SURFACES

SCALE: NONE

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District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title

BRIDGE
SECTIONS AND DETAILS

Sheet Number S1.6

JOB #17074
Browder + LeGuizamon and Associates, Inc. * Engineers
174 West Wieuca Road
Atlanta, Georgia 30342
Ph:(404) 851-9580
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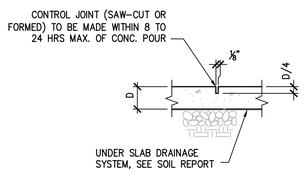
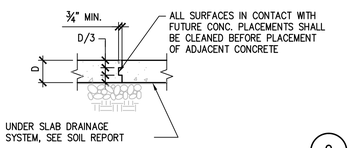
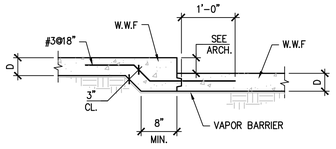


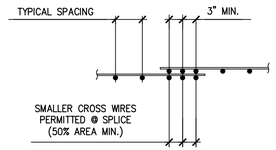
1 SLAB ON GRADE CONTROL JNT.
SCALE: NONE



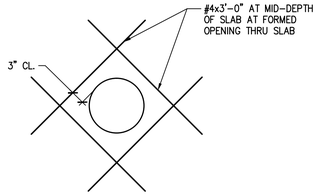
2 SLAB ON GRADE CONTSTRUCTION JNT.
SCALE: NONE



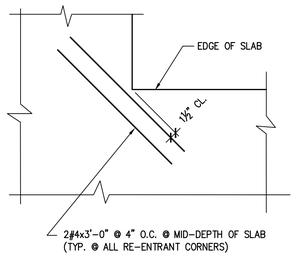
3 TYPICAL DETAIL AT SLAB DEPRESSION
SCALE: NONE



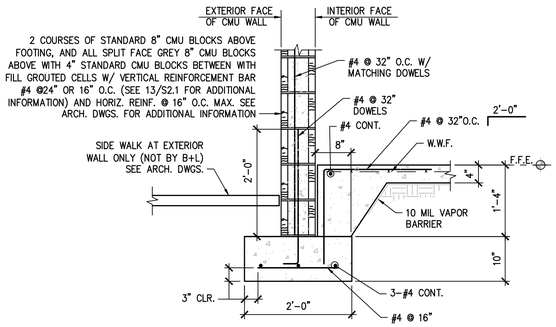
4 TYPICAL DETAIL OF W.W.F. SPLICE
SCALE: 3/4" = 1'-0"



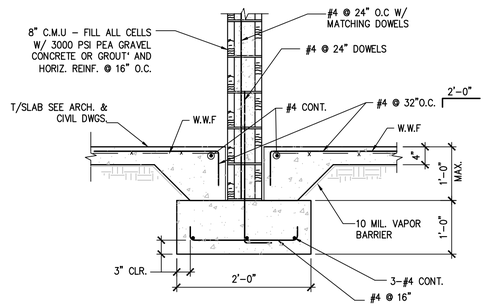
5 TYPICAL DETAIL AT SLAB PENETRATION
SCALE: NONE



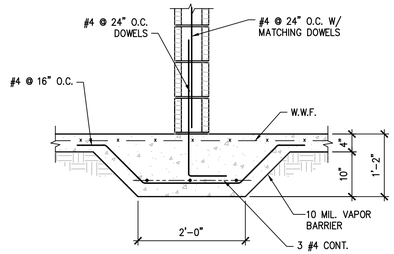
6 TYP. DETAIL AT SLAB RE-ENTRANT CORNER
SCALE: NONE



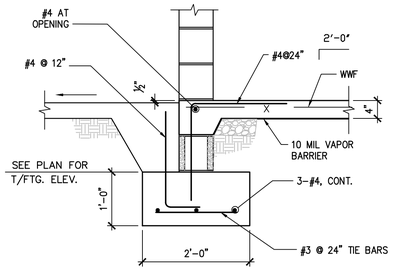
7 SECTION FOR EXTERIOR FOOTING AT SINGLE WALLS, U.N.O.
SCALE: 3/4"=1'-0"



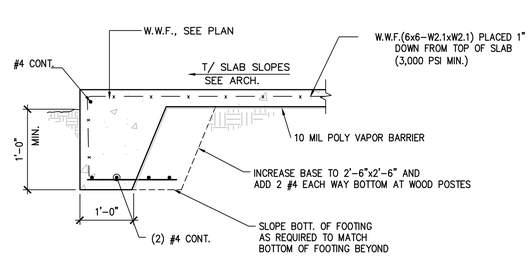
8 SECTION AT INTERIOR SINGLE WALLS
SCALE: 3/4"=1'-0"



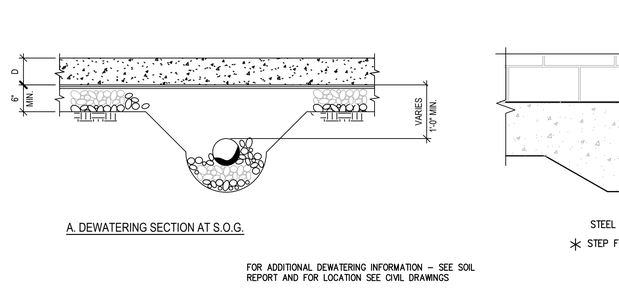
9 ALTERNATIVE OPTION FOR INTERIOR CMU WALL FOOTING
SCALE: 3/4" = 1'-0"



10 SECTION AT ENTRANCE
SCALE: 3/4"=1'-0"

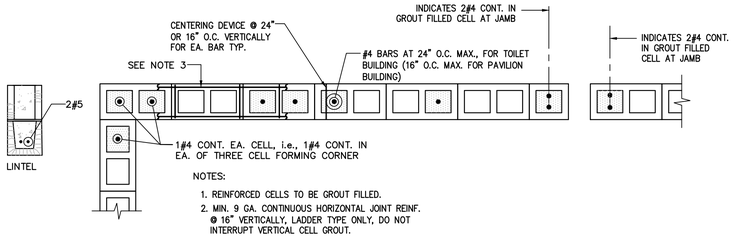


11 SECTION AT EXTERIOR PATIO
SCALE: 3/4"=1'-0"

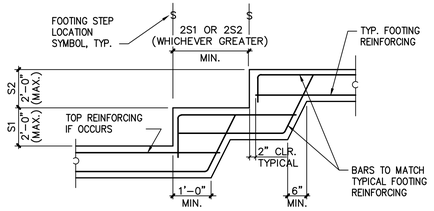


FOR ADDITIONAL DEWATERING INFORMATION – SEE SOIL REPORT AND FOR LOCATION SEE CIVIL DRAWINGS

12 DETAIL AT FOOTING WITH PIPES (IF OCCURS)
SCALE: NONE



13 TYP. REINFORCEMENT FOR CMU WALLS AS SHOWN ON PLANS
SCALE: NONE



14 STEP FOOTING DETAIL
SCALE: 3/4"=1'-0"

GEORGIA REGISTERED No. 18782 PROFESSIONAL ENGINEER MARTIN R. OGDEN

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Contact: KEITH BARKER
(770) 000-0000

No.	Description	ISSUE By App.	Date
0	100% REVIEW SET	B+L SP	07-19-2017

BID SET
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Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title

FOUNDATION SECTIONS AND DETAILS

Sheet Number

S2.1

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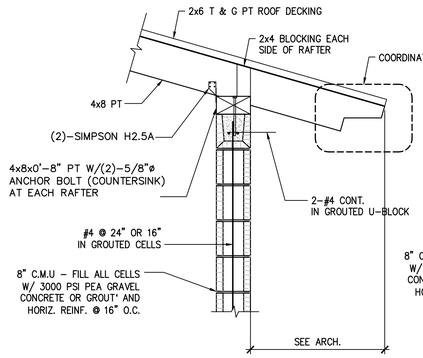
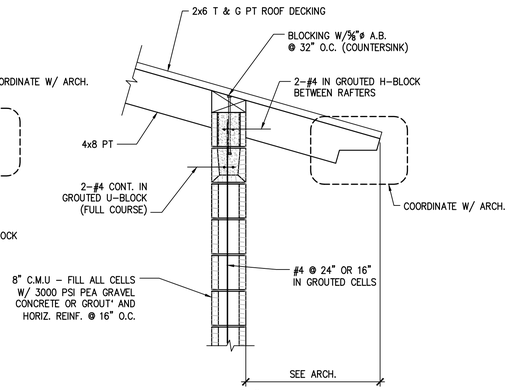
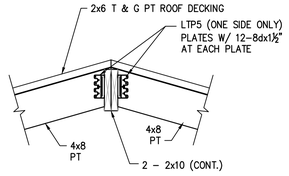
v. \2017\17074 clarkston park\structural\17074-s2.1.dwg 9/11/2017 1:47 PM arch.ctb simon ryskin



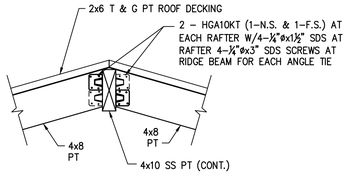
OPTION "A"



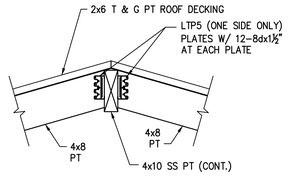
OPTION "B"



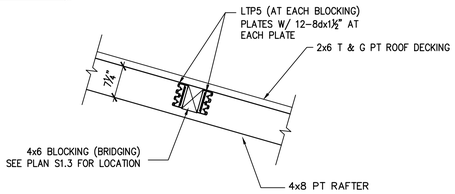
CONDITION "A" (AT TOILET BUILDING)



CONDITION "B" (AT OPEN PART OF PAVILION)



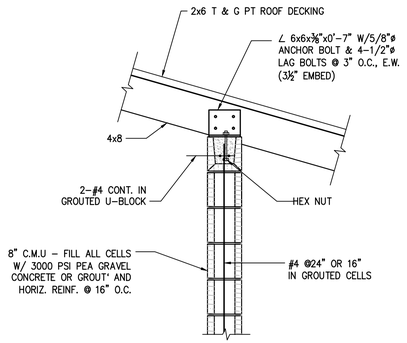
CONDITION "C" (AT PAVILION AREA ABOVE ROOMS)



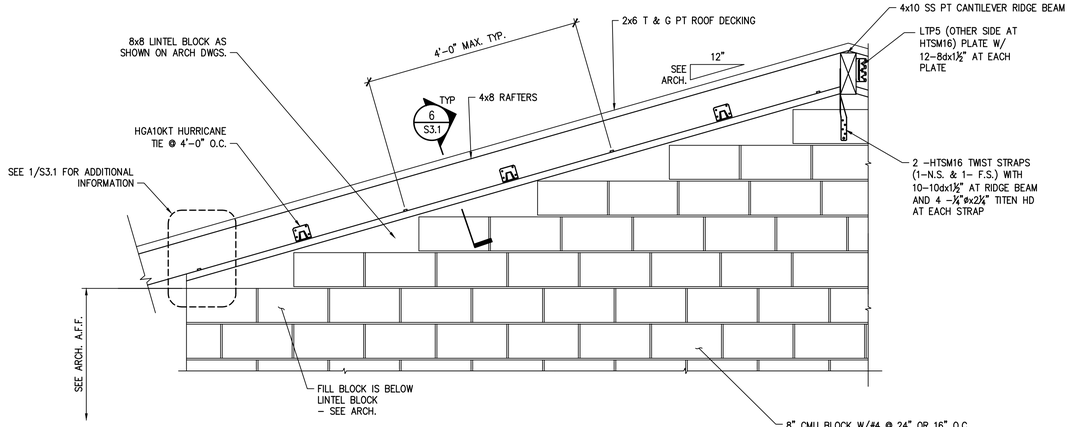
1 SECTION
SCALE: 3/4"=1'–0"

2 SECTION
SCALE: 3/4"=1'–0"

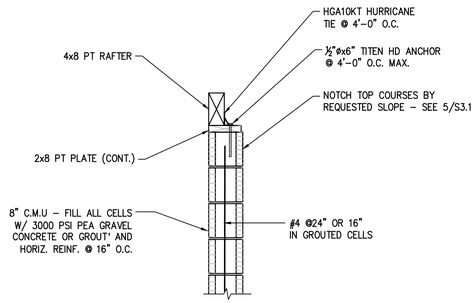
3 SECTION
SCALE: 3/4"=1'–0"



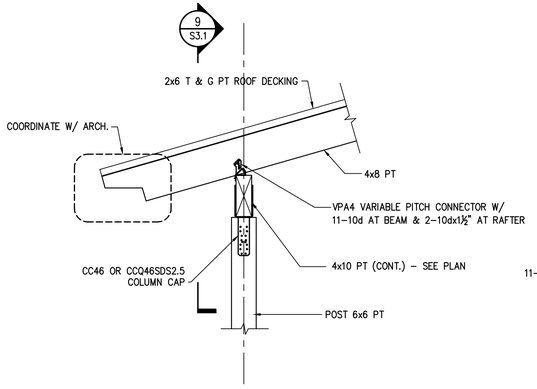
4 SECTION
SCALE: 3/4"=1'–0"



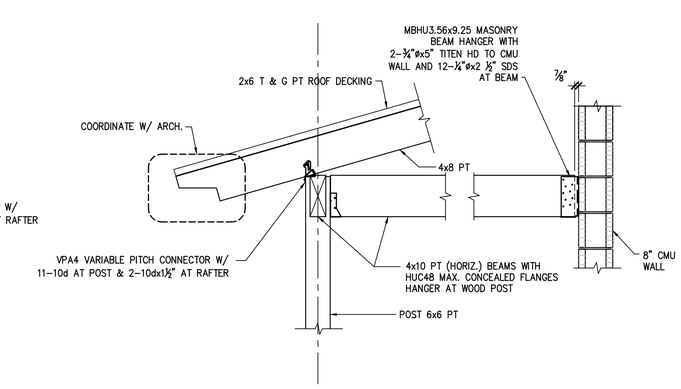
5 TYPICAL ELEVATION OF INTERIOR WALL
SCALE: 3/4"=1'–0"



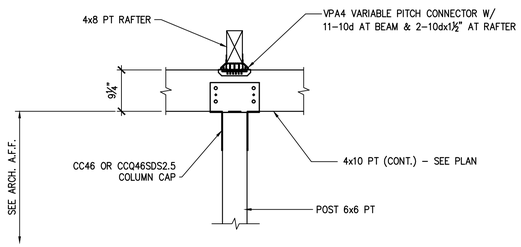
6 SECTION
SCALE: 3/4"=1'–0"



7 SECTION
SCALE: 3/4"=1'–0"



8 SECTION
SCALE: 3/4"=1'–0"



9 SECTION
SCALE: 3/4"=1'–0"

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CLARKSTON, GA 30021
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Contact: KEITH BARKER
(770) 000-0000

No.	Description	By App.	Date
0	100% REVIEW SET	SIR	07-19-2017

BID SET
NOT TO BE RELEASED FOR CONSTRUCTION

Project Title

FRIENDSHIP FOREST WILDLIFE SANCTUARY

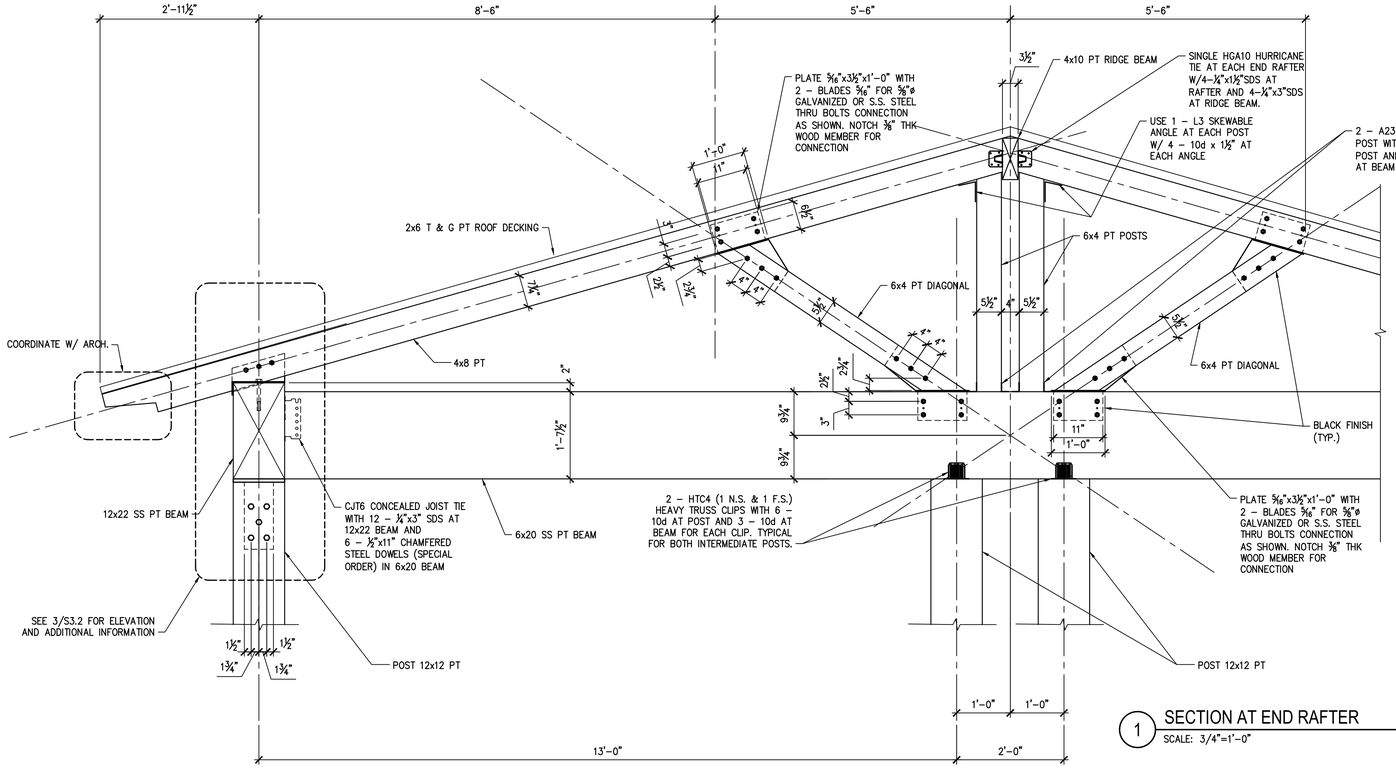
Project Location

Address	4380 E. PONCE DE LEON AVE
City, State Zip	CLARKSTON, GA. 30021
Land Lot	119
District-Section	18
County	DEKALB

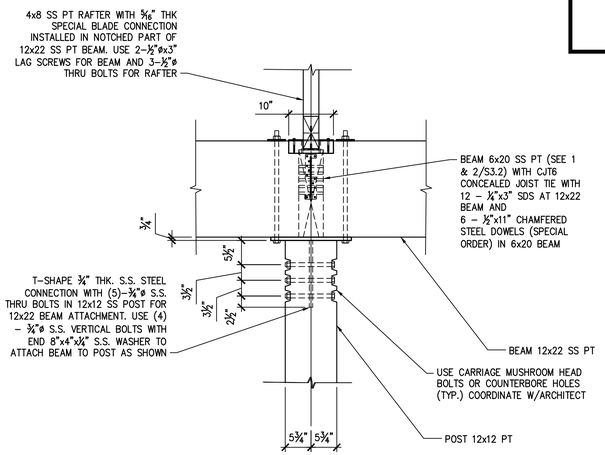
Project No.	17030pr
Drawn By:	OP
Checked By:	SIR
Initial Issue Date:	09-15-2017

Sheet Title
ROOF FRAMING SECTIONS AND DETAILS

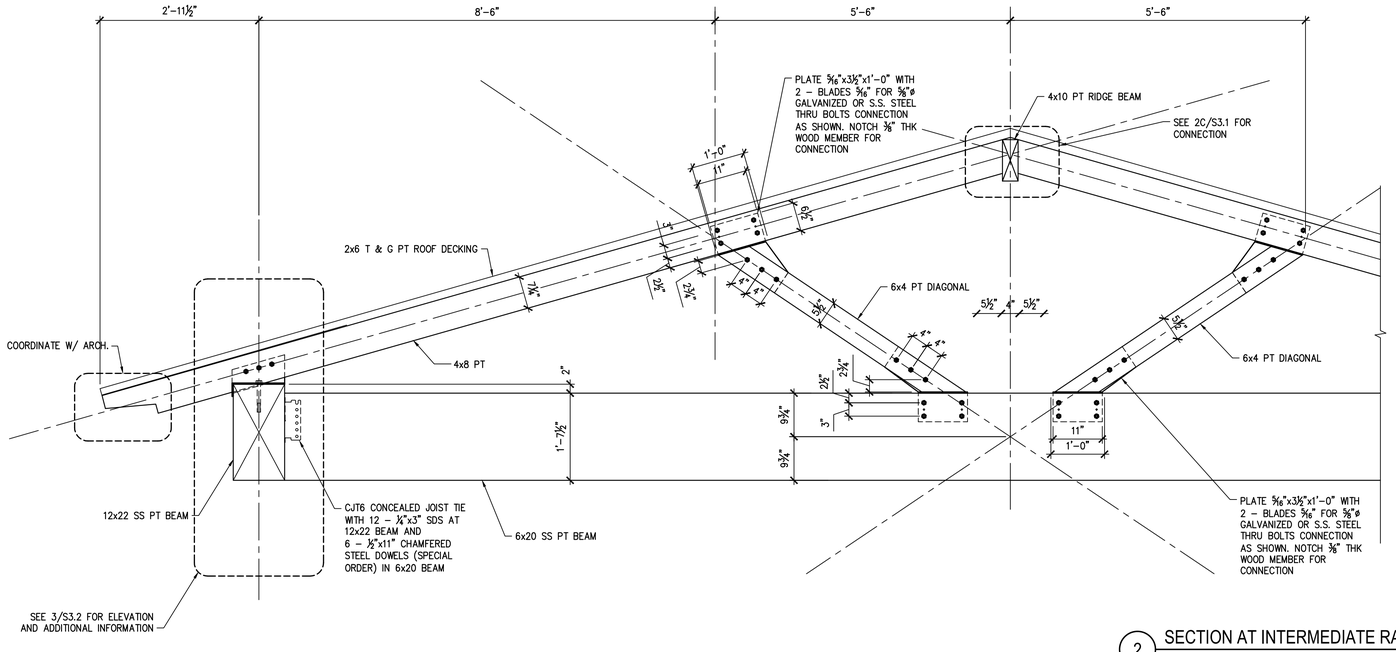
Sheet Number
S3.1



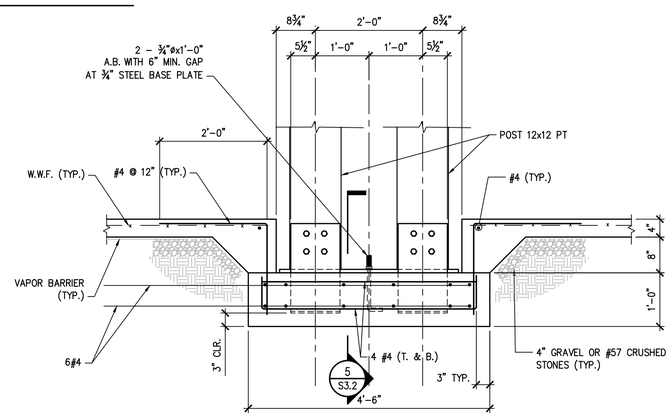
1 SECTION AT END RAFTER
SCALE: 3/4"=1'-0"



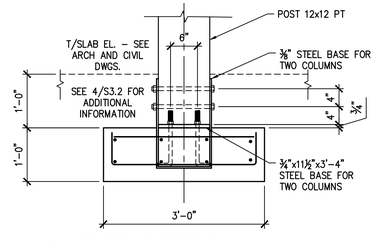
3 TYPICAL SECTION AT POST
SCALE: 3/4"=1'-0"



2 SECTION AT INTERMEDIATE RAFTERS
SCALE: 3/4"=1'-0"



4 FOOTING SECTION AT PAVILION
SCALE: 3/4"=1'-0"



5 FOOTING SECTION
SCALE: 3/4"=1'-0"

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Checked By:	SIR
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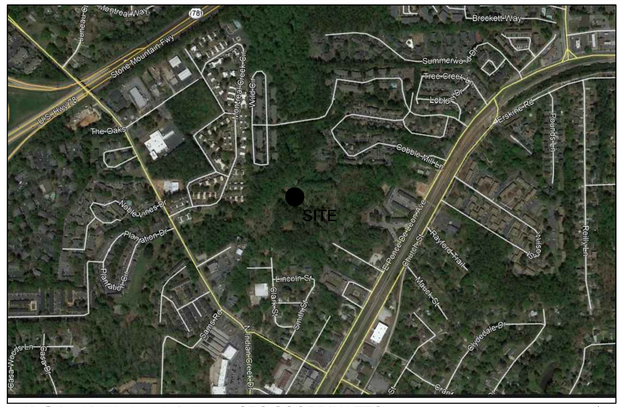
Sheet Title
ROOF FRAMING SECTIONS AND DETAILS

Sheet Number
S3.2

SITE WORK CONSTRUCTION DRAWINGS
FOR
FRIENDSHIP FOREST PARK
WETLAND AND TRAIL ENHANCEMENT PLAN

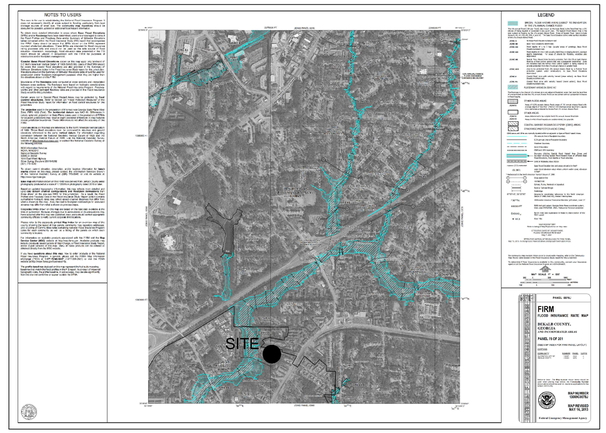
CITY OF CLARKSTON
4399 E PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY:

SHEET INDEX



VICINITY MAP
NOT TO SCALE

GPS COORDINATES
N 33°48'55.43" W 84°14'20.05"
N 33.815310 W -84.238926



FLOOD MAP
NOT TO SCALE

SITE INFORMATION

THE x.xx ACRES (AC) OF (DESCRIBE EXISTING SITE FEATURES) WILL BE DEVELOPED FOR A PUBLIC PARK. THIS WILL INCLUDE THE BUILDING, PARKING AREAS, STORM WATER INFRASTRUCTURE, WATER AND SEWER AND OTHER UTILITY INFRASTRUCTURE, AND LANDSCAPING.

TYPE	STATS	ADD. INFO.
ZONING AS PER CITY OF CLARKSTON ZONING	NEIGHBORHOOD RESIDENTIAL 1	
PROPERTY AREA	18.4 AC	801504 S.F.
DISTURBED AREA	3.94 AC	171723.45 S.F.

MISCELLANEOUS INFORMATION

SOIL SERIES	Ca - Cartecay silt loam, AkA - Altavista fine sandy loam, PfD - Pacolet sandy loam, Tf - Toccoa sandy loam AwE - Ashlar-Wedowee complex
FLOOD PLAIN	A PORTION OF THIS SITE LIES WITHIN A FEMA FLOOD HAZARD AREA. REFER TO FEMA MAP SHOWN, FIRM PANEL 13089C0078J; DATED 05/16/2013
STATE WATERS	THERE ARE STATE WATERS PRESENT ON THIS SITE. THERE ARE STATE WATERS WITHIN 200' OF THIS SITE. THERE ARE STREAM BUFFERS ON THIS PROPERTY.
HYDROLOGY	DRAINAGE AREA OF SF PEACHTREE CREEK IS 5.2 S.M.
WATERS OF THE U.S. (WOTUS)	**THERE ARE WOTUS BEING DISTURBED ON THIS SITE.** THE DESIGN PROFESSIONAL, WHOSE SEAL APPEARS HEREON, CERTIFIES THE FOLLOWING: 1) THE NATIONAL WETLAND INVENTORY MAPS HAVE BEEN CONSULTED; AND, 2) THE APPROPRIATE PLAN SHEET L-2.0 X DOES / ____ DOES NOT INDICATE WETLANDS AS SHOWN ON THE MAPS; AND, 3) IF WETLANDS ARE INDICATED, THE LAND OWNER OR DEVELOPER HAS BEEN ADVISED THAT LAND DISTURBANCE OF PROTECTED WETLANDS SHALL NOT OCCUR UNLESS APPROPRIATE FEDERAL WETLANDS ALTERATION ("SECTION 404") PERMIT HAS BEEN OBTAINED. IF WETLANDS ARE IMPACTED BY THIS DEVELOPMENT, A CORPS OF ENGINEER'S PERMIT SHALL BE OBTAINED PRIOR TO DISTURBANCE. ONCE ATTAINED, A COPY OF THE WETLAND PERMIT SHALL BE KEPT ON SITE AT ALL TIMES. UPON THE CORPS OF ENGINEER APPROVAL, A SEPARATE COPY OF THE PERMIT WILL BE SUBMITTED TO THE LIA.

LEGEND

STANDARD ABBREVIATIONS

APPROX.= APPROXIMATE
BLDG= BUILDING
BM = BENCH MARK
C&G = CURB AND GUTTER
CI = CURB INLET
C.L. = CHAIN LINK
CMP = CORRUGATED METAL PIPE
CO = CLEAN OUT
CPP = CORRUGATED PLASTIC PIPE
CTF = CRIMP TOP FOUND
DB = DEED BOOK
DIA = DIAMETER
DS = DOWNSPOUT
DWCB = DOUBLE WING CATCH BASIN
ES&PC = EROSION, SEDIMENTATION, AND POLLUTION CONTROL
FDC = FIRE DEPARTMENT CONNECTION
FFE = FINISH FLOOR ELEVATION
FH = FIRE HYDRANT
FO = FIBER OPTIC
FT = FEET
GI = GRATE INLET
GM = GAS METER
GP = GUY POLE
GV = GAS VALVE
ICV = IRRIGATION CONTROL VALVE
IE = INVERT ELEVATION
IMP = IMPERVIOUS
IPF = IRON PIN FOUND
JB = JUNCTION BOX
LIA = LOCAL ISSUING AUTHORITY
LP = LIGHT POLE
NTS = NOT TO SCALE
OHE = OVER HEAD POWER
PB = PLAT BOOK
PGL = PAGE
P = PROPERTY LINE
POB = POINT OF BEGINNING
PP = POWER POLE
PVC = POLYVINYL CHLORIDE PIPE
RBF = REBAR FOUND
RCP = REINFORCED CONCRETE PIPE
R/W = RIGHT OF WAY
SMH = STORM MANHOLE
SS = SANITARY SEWER
SSMH = SANITARY SEWER MANHOLE
SWCB = SINGLE WING CATCH BASIN
TC = TRAFFIC CONTROL BOX
TMP = TAX MAP PARCEL
W = WATER
WM = WATER METER
WV = WATER VALVE

STANDARD SYMBOLS

= BM
= BM IDENTIFICATION
= CO
= DS
= FDC
= FENCE
= FH
= FO
= GAS LINE
= GAS METER
= GAS VALVE
= GATE
= GP
= GUY WIRE
= H/C PARKING
= ICV
= IPF
= LIGHT BOX
= LP
= POWER (OVERHEAD)
= POWER (UNDERGROUND)
= POWER BOX
= POWER METER
= PP
= SIGN
= SMH
= SS LINE
= SSMH
= TC
= TELECOMM STRUCTURE
= TELE PEDESTAL
= TRAFFIC WIRE
= TRANSFORMER
= WATER LINE
= WM
= WV

CONSTRUCTION SEQUENCE SCHEDULE

LAND DISTURBING ACTIVITY SHALL NOT COMMENCE PRIOR TO A PRECONSTRUCTION MEETING WITH THE ENGINEERING DEPARTMENT.

OCT 2017 | NOV | DEC | JAN | FEB | MAR | APR 2018 | ACTIVITY

NOTIFY INSPECTOR 24 HOURS PRIOR TO CONSTRUCTION:

BMP'S	ACTIVITY
INITIAL	PERFORM INITIAL MONITORING
	INSTALL CONSTRUCTION EXIT
	INSTALL PERIMETER SILT FENCE
	INSTALL ANY INITIAL INTERIOR SILT FENCE
	INSTALL TOP SOIL PILE LOCATION SILT FENCE
	INSTALL WHEEL WASH AND FUEL STORAGE LOCATION
	COORDINATE SITE REVIEW MEETING WITH ENGINEER AND LOCAL ISSUING AUTHORITY
	CLEAR AND REMOVE EXISTING VEGETATION
	REMOVE AND STOCKPILE TOP SOIL
INTERMEDIATE	PERFORM WETLAND EXCAVATION
	INSTALL ROCK VANES
	FINALIZE WETLAND GRADES
	PROVIDE ANY MULCHING, OR OTHER GROUND COVER
	INSTALL GRASSING ON ALL EXPOSED SOILS
	MAINTENANCE OF EROSION AND SEDIMENT CONTROL MEASURES AND GRASSING
FINAL	INSTALL PERMANENT VEGETATION (SOD AND LANDSCAPING)
	SITE INSPECTION FOR STABILIZATION
	REMOVAL OF TEMPORARY EROSION CONTROL MEASURES

SITE WORK WILL BE COMPLETED AND PAVEMENT RINSED INSTALLED BEFORE CONSTRUCTION COVERED OVER BY A BUILDING OR PAVING

OWNER/DEVELOPER

COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR

COMPANY: TO BE DETERMINED
ADDRESS:
CONTACT:
PHONE:
FAX:
EMAIL:

SURVEYOR

COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: (706) 342-1104
FAX: (706) 342-1105
EMAIL: brian@georgiacivil.com

SITE DESIGNER

COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL

1855 - EXP. 08/01/2018

24-HOUR CONTACT
Larry Kaiser, PE
(404) 909-5619
CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA811
Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected) and immediately notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

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

SWCD: Upper Chattahoochee
Project Name: Friendship Forest Wetland Enhancement — **Address:** 4399 E Ponce De Leon Avenue
City/County: Clarkston / DeKalb — **Date on Plans:** September 15, 2017

Plan Page #	Included Y/N	TO BE SHOWN ON ES&PC PLAN
CV-1.0	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.
CV-1.0; L-1.0 thru 8.0	Y	2) Level II certification number issued by the Commission, signature and seal of the certified design professions
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.*
CV-1.0; L-1.0 thru 8.0	Y	4) The name and phone number of the 24-hour local contact responsible for erosion, sedimentation and pollution controls.
CV-1.0; L-1.0 thru 8.0	Y	5) Provide the name, address and phone number of primary permittee.
CV-1.0; L-5.0; L-8.0	Y	6) Note total and disturbed acreage of the project or phase under construction.
CV-1.0; L-5.0	Y	7) Provide GPS location of the construction exit for the site. Give the Latitude and Longitude in decimal degrees
all	Y	8) Initial date of Plan and dates of any revisions made to Plan including the entity who requested the revisions.
CV-1.0; L-5.0	Y	9) Description of the nature of construction activity.
CV-1.0; L-5.0	Y	10) Provide vicinity map showing site's relation to surrounding areas. Include designation of specific phase, if necessary.
CV-1.0; L-5.0	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.
L-5.0 thru L-5.3	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.
L-5.0 thru L-5.3	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.*
L-5.0 thru L-5.3	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."*
L-5.0	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."*
n/a	n/a	16) Provide a description of any buffer encroachments and indicate whether a buffer variance is required.
L-5.0	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."*
L-5.0	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."*
L-1.0; L-5.0	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."
L-1.0; L-5.0	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."
L-1.0; L-5.0	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."
L-5.0	Y / 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.*
L-5.0	Y / 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.*
L-5.0; L-8.0	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.*
L-5.0	Y	25) Provide BMPs for the remediation of all petroleum spills and leaks.
L-5.0	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.*
L-5.0	Y	27) Description of the practices that will be used to reduce the pollutants in storm water discharges.*
L-5.0	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).
L-5.0	Y	29) Provide complete requirements of inspections and record keeping by the primary permittee.*
L-5.0	Y	30) Provide complete requirements of sampling frequency and reporting of sampling results.*
L-5.0	Y	31) Provide complete details for retention of records as per Part IV.F. of the permit.*
L-5.0	Y	32) Description of analytical methods to be used to collect and analyze the samples from each location.*
L-8.0	Y	33) Appendix B rationale for NTU values at all outfall sampling points where applicable.*
L-5.0 thru L-5.3	Y	34) Delineate all sampling locations, perennial and intermittent streams and other water bodies into which storm water is discharged.*
L-5.0	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 plan sheets	Y	36) Graphic scale and North arrow.
L-1.0 thru L-5.3	Y	37) Existing and proposed contour lines with contour lines drawn at an interval in accordance with the following:
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.gaswcc.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.*
L-1.0 thru L-5.3	Y / 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.
L-1.0 thru L-5.3	Y / n/a	41) Delineation of on-site wetlands and all state waters located on and within 200 feet of the project site.
L-2.0	Y	42) Delineation and acreage of contributing drainage basins on the project site.
n/a	n/a	43) Provide hydrology study and maps of drainage basins for both the pre- and post-developed conditions.*
n/a	n/a	44) An estimate of the runoff coefficient or peak discharge flow of the site prior to and after construction activities are completed.
n/a	n/a	45) Storm-drain pipe and weir velocities with appropriate outlet protection to accommodate discharges without erosion. Identify/Delineate all storm water discharge points.
L-1.0 thru L-5.3	Y	46) Soil series for the project site and their delineation.
L-1.0 thru L-5.3	Y	47) The limits of disturbance for each phase of construction.
n/a	n/a	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 feasable, a written justification explaining this decision must be included in the plan.
L-5.0 thru L-5.3	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.
L-5.0 thru L-5.3; L-8.0	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.
L-5.0 thru L-5.3	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.

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

*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, 2017

Environs
LANDSCAPE ARCHITECTURE & ECOLOGICAL PLANNING
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P.O. Box 896 | Madison, GA 30650
P: 706.342.1104 | F: 706.342.1105
www.environsla.com

professional seal

GEORGIA REGISTERED No. 1220 PROFESSIONAL LANDSCAPE ARCHITECT KENT CAMPBELL II

project information

FRIENDSHIP FOREST PARK
WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS		
NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

sheet title
COVER SHEET

sheet number
CV-1.0

GENERAL NOTES:

1. ALL UTILITY INSTALLATION SHALL BE IN ACCORDANCE WITH THE LOCAL AUTHORITY HAVING JURISDICTION WATER AND SEWER STANDARDS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING SAID STANDARDS AND SPECIFICATIONS.
2. NOTIFY THE LOCAL AUTHORITY HAVING JURISDICTION INSPECTION 24 HRS BEFORE BEGINNING OF CONSTRUCTION.
3. CONTRACTOR SHALL THOROUGHLY REVIEW CONSTRUCTION PLANS AND BE FAMILIAR WITH EXISTING CONDITIONS BY SITE VISITATION, PRIOR TO FORMULATING BID.
4. CONTRACTOR SHALL VERIFY CONDITIONS AND DIMENSIONS BEFORE PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCY FOUND IN THIS SET SHALL BE REFERRED TO THE SITE DESIGN PROFESSIONAL BY THE CONTRACTOR FOR CLARIFICATION BEFORE PROCEEDING WITH THE WORK. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR DISCREPANCIES WHICH ARE NOT REPORTED.
5. CONSTRUCTION SHALL MEET OR EXCEED LOCAL AUTHORITY HAVING JURISDICTION MINIMUM STANDARDS AND SPECIFICATIONS.
6. CONTRACTOR SHALL ADHERE TO NORMAL WORKING HOURS AS PER THE LOCAL AUTHORITY HAVING JURISDICTION ORDINANCES. CONSTRUCTION OUTSIDE OF NORMAL WORKING HOURS, MAY BE ALLOWED UPON PRIOR APPROVAL BY THE LOCAL AUTHORITY HAVING JURISDICTION .
7. THE CONTRACTOR SHALL DESIGN, CONSTRUCT AND MAINTAIN ALL SAFETY DEVICES, INCLUDING SHORING, AND SHALL ADHERE TO FEDERAL, STATE, COUNTY AND LOCAL LAWS, ORDINANCES, AND REGULATIONS WHICH IN ANY MANNER AFFECT THE CONDUCT OF WORK, INCLUDING, BUT NOT LIMITED TO, INITIATING, MAINTAINING, AND SUPERVISING SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK (I.E. THE REQUIREMENTS OF APPLICABLE REGULATIONS OF THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA)). CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF PERSONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE LOCAL AUTHORITY HAVING JURISDICTION AND ITS AGENTS, THE OWNER AND THE SITE DESIGN PROFESSIONAL HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN THE CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
8. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS CONDITION.
9. DO NOT BREAK THESE DOCUMENTS INTO PARTS AND SUB-PARTS. THE SITE DESIGN PROFESSIONAL AND OWNER ASSUMES NO RESPONSIBILITY FOR THE SEPARATION OF THESE DOCUMENTS BY ANY ENTITY OF THE CONTRACTING INDUSTRY. EACH CONTRACTING ENTITY SHALL BE RESPONSIBLE FOR ALL OF THE WORK RELATED TO THEIR TRADES WHEREVER IT MAY BE SHOWN WITHIN THE CONTRACT DOCUMENT PACKAGES.
10. NO WORK SHALL BE PERFORMED WITHIN GEORGIA DEPARTMENT OF TRANSPORTATION RIGHT OF WAY (IF APPLICABLE) UNTIL PERMIT(S) (INCLUDING GEORGIA DEPARTMENT OF TRANSPORTATION UTILITY ENCROACHMENT PERMIT) ARE OBTAINED FROM GEORGIA DEPARTMENT OF TRANSPORTATION AND ON SITE.
11. BARRICADES, SUFFICIENT LIGHTS, TRAFFIC SAFETY SIGNS, AND OTHER TRAFFIC CONTROL MEASURES AS DEEMED NECESSARY FOR THE PROTECTION AND SAFETY OF THE PUBLIC SHALL BE PROVIDED AND MAINTAINED THROUGHOUT CONSTRUCTION ON ROADS ACCESSED BY THE GENERAL PUBLIC.
12. SIGNS (LOCATION, NUMBER, AND SIZE) ARE NOT APPROVED UNDER THIS DEVELOPMENT PERMIT. A SEPARATE PERMIT IS REQUIRED FOR EACH SIGN.
13. NO CERTIFICATE OF OCCUPANCY SHALL BE ISSUED UNTIL SITE IMPROVEMENTS ARE COMPLETE.
14. ACCESS TO BUILDINGS DURING CONSTRUCTION SHALL BE MAINTAINED AND OPEN TO EMERGENCY VEHICLES AT ALL TIMES, THROUGH THE USE OF EXISTING OR TEMPORARY ROADS, DRIVES, AND/OR WALKS.
15. SITE LIGHTING SHALL BE FULLY SHIELDED. SITE LIGHTING IS TO BE DESIGNED BY OTHERS.
16. ALL WORK SHALL COMPLY WITH APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES AND ALL NECESSARY LICENSES AND PERMITS SHALL BE OBTAINED BY CONTRACTOR.
17. CONTRACTOR IS RESPONSIBLE FOR QUANTITY TAKE OFFS AND ESTIMATING ALL QUANTITIES FOUND WITHIN THE SITE WORK CONSTRUCTION DRAWINGS. ANY QUANTITY TAKE OFFS OR ESTIMATES PROVIDED BY THE SITE DESIGN PROFESSIONAL ON THESE DOCUMENTS OR OTHERWISE SHALL BE VERIFIED BY THE CONTRACTOR BY PERFORMING HIS/HER OWN QUANTITY TAKE OFF AND/OR ESTIMATE. ANY COST FOR ANY DISCREPANCY IN QUANTITY TAKE OFF OR ESTIMATE PROVIDED BY SITE DESIGN PROFESSIONAL AND REQUIRED CONSTRUCTION QUANTITIES SHALL BE SOLELY THE RESPONSIBILITY OF THE CONTRACTOR AT NO ADDITIONAL COST TO THE SITE DESIGN PROFESSIONAL AND/OR OWNER AND/OR OWNER'S REPRESENTATIVE.

DEMOLITION REQUIREMENTS:

1. THE CONTRACTOR SHALL INSPECT ALL STRUCTURES, FACILITIES, AND AREAS SLATED FOR DEMOLITION TO GAIN A FULL UNDERSTANDING OF THE WORK REQUIRED. THE CONTRACTOR SHALL TAKE WHATEVER MEASURES NECESSARY TO PROTECT THE SAFETY OF THE PUBLIC, HIS/HER EMPLOYEES AND AGENTS DURING THE INSPECTION AND SUBSEQUENT WORK. THE OWNER, CLIENT AND SITE DESIGN PROFESSIONAL ARE NOT RESPONSIBLE FOR THE CONDITION OF THE BUILDINGS, FACILITIES, OR OTHER AREAS SLATED FOR DEMOLITION.
2. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE OWNER TO DEMOLISH ANY STRUCTURE ON THE SITE BEFORE PROCEEDING WITH WORK.
3. ALL WORK PERFORMED ON THE SITE SHALL ADHERE TO ALL (OSHA) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION SAFETY STANDARDS.
4. ALL MATERIALS NOT SLATED FOR REUSE SHALL BE DISPOSED OF OFF SITE IN A LEGAL MANNER. THE CONTRACTOR MAY SALVAGE ALL MATERIALS NOT DESIGNATED BY THE OWNER TO BE SAVED. THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE AND STORE SAFELY ALL MATERIALS SLATED TO BE SAVED OR REUSED. THE CONTRACTOR SHALL DOCUMENT EXISTING CONDITIONS USING PHOTOGRAPHS PRIOR TO START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE MATERIALS DAMAGED DUE TO HIS WORK OR FAILURE TO PROTECT THROUGHOUT THE DURATION OF HIS CONTRACT.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL APPROPRIATE UTILITY OWNERS, OPERATORS AND USERS PRIOR TO DISCONNECTION AND DEMOLITION. ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION. ALL PLUGS, STOPS, AND CAPS SHALL BE PER AGENCIES REQUIREMENTS AND IF NONE EXIST THEN A 3000 PSI CONCRETE PLUG WITH A THICKNESS EQUAL TO THE DIAMETER OF THE PIPE SHALL BE USED.
6. THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP ALL WORK IN AREAS WHERE HAZARDOUS MATERIALS ARE DISCOVERED. WHEN REQUIRED, THE CONTRACTOR SHALL NOTIFY THE APPROPRIATE ENVIRONMENTAL AND HEALTH AGENCIES. THE CONTRACTOR SHALL FLAG OFF ALL ACCESS WITH SUFFICIENT FLAGGING THAT THERE IS AN APPARENT WARNING OF THE PRESENCE OF HAZARDOUS MATERIALS.
7. NO BURNING, EXPLOSIVES OR OTHER POTENTIALLY DANGEROUS METHODS OF DEMOLITION SHALL BE ALLOWED UNLESS WRITTEN PERMISSION IS GRANTED BY THE OWNER AND ALL APPROPRIATE PERMITS ARE GRANTED.
8. THE CONTRACTOR SHALL PROVIDE WHAT EVER SAFETY EQUIPMENT AND DEVICES ARE NECESSARY TO PROTECT THE ADJACENT PROPERTIES, STRUCTURES AND OTHER AREAS SLATED TO REMAIN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE ANY DAMAGE CAUSED BY HIS/HER WORK. THIS SHALL ALSO INCLUDE EROSION CONTROL, DUST CONTROL AND SETTLEMENT.
9. ALL AREAS SHALL BE BROUGHT BACK TO THEIR ORIGINAL GRADE OR THAT OF THE SURROUNDING AREA, WHICH EVER IS CLOSER TO THE FINAL GRADES OF THE PROJECT FOR THAT AREA. ALL TEMPORARY SLOPES SHALL NOT EXCEED 3 HORIZONTAL TO 1 VERTICAL. ALL AREAS REQUIRING FILL SHALL BE COMPACTED TO THE REQUIREMENTS OF THE AREA BUT IN NO CASE LESS THAN 90% OF MODIFIED PROCTOR (ASTM D 1557).
10. THE CONTRACTOR SHALL PROVIDE NECESSARY EROSION CONTROL MEASURES DURING THE DEMOLITION AND REMOVAL OF EXISTING SITE FEATURES.
11. THE CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDINGS AT ALL TIMES.
12. EXISTING BUILDINGS, APPURTENANCES, CANOPIES AND FOUNDATIONS ON THE PROPERTY SHALL BE PROTECTED UNLESS OTHERWISE NOTED.
13. THE CONTRACTOR SHALL MAINTAIN SAFE, CLEARLY MARKED PEDESTRIAN ACCESS ROUTES TO BUILDING ENTRANCES THROUGHOUT ALL PHASES OF CONSTRUCTION. ACCESS TO BUILDINGS SHALL BE MAINTAINED AT ALL TIMES.
14. SERVICES SHOWN ARE TO ASSIST CONTRACTOR IN LOCATING UTILITIES. ITEMS ARE SHOWN SCHEMATICALLY AND NEITHER THE ARCHITECT, SITE DESIGN PROFESSIONAL, NOR THE OWNER ASSUMES ANY RESPONSIBILITY FOR VARIANCES IN THE ACTUAL LOCATION OF THE EXISTING UTILITIES.
15. THE CONTRACTOR SHALL REPAIR OR REPLACE AS NECESSARY ANY UTILITIES DAMAGED, WHETHER SHOWN ON THESE PLANS OR NOT, AT NO ADDITIONAL COST TO THE CONTRACT.
16. EXISTING UTILITY APPURTENANCES (CLEAN OUTS, VALVE/METER BOXES AND/OR COVERS, MANHOLES, ETC.) LOCATED WITHIN THE LIMITS OF CONSTRUCTION SHALL BE RELOCATED AS NECESSARY OR ADJUSTED TO FINISHED GRADE AT THE EXPENSE OF THE CONTRACTOR.
17. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY PROVIDER OF DAMAGE TO ANY ACTIVE UTILITY AND PROVIDE CORRECTIVE MEASURES AS DIRECTED BY THE UTILITY PROVIDER AT NO ADDITIONAL COST TO THE CONTRACT.
18. EXISTING ITEMS TO REMAIN WITHIN THE PROJECT LIMITS SHALL BE RETAINED IN PLACE AND PROTECTED FROM DAMAGE DURING CONSTRUCTION, UNLESS OTHERWISE NOTED OR DIRECTED BY THE OWNER AND/OR THE OWNER'S REPRESENTATIVE.
19. ALL DISPOSAL SHALL COMPLY WITH ALL FEDERAL, STATE, AND LOCAL CODES.
20. THERE SHALL BE NO ON SITE BURIAL.
21. WORK DONE AHEAD OF SCHEDULE OR FOR TEMPORARY PROVISIONS SHALL HAVE EXISTING DISTURBED SURFACES PATCHED TO MATCH ORIGINAL CONDITIONS UNTIL NEW CONSTRUCTION REPLACES SUCH REPAIRS OR MODIFICATIONS.
22. PAVEMENT AREAS TO BE SAVED SHALL BE ABRASION SAW CUT PRIOR TO DEMOLITION. FAILURE TO PROVIDE A CLEAN EDGE MAY RESULT IN ADDITIONAL DEMOLITION AND NEW PAVEMENT INSTALLATION PAID FOR AND EXECUTED BY THE CONTRACTOR.
23. LIMITS OF CURB AND GUTTER DEMOLITION ARE SUBJECT TO THE NEAREST CONSTRUCTION JOINT. CURB AND GUTTER AND WALKS SHALL BE REPAIRED TO THE NEAREST CONSTRUCTION JOINT.
24. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER FOR THE REMOVAL OF EXISTING LANDSCAPE MATERIALS OR SITE FEATURES WHICH THE OWNER ELECTS TO RETAIN.
25. DEMOLITION WITHIN THE DRIP-LINE OF EXISTING SPECIMEN TREES SHALL BE ACCOMPLISHED UTILIZING MANUAL PROCEDURES WITHOUT DAMAGING THE ROOT SYSTEM OF THE TREE(S).
26. THE CONTRACTOR SHALL NOT CONSIDER DEMOLITION DESIGNATIONS AND NOTES TO BE ALL-INCLUSIVE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO INSPECT AND ASSESS EACH AREA AND TO PERFORM THE DEMOLITION AS REQUIRED TO ACCOMMODATE THE SCHEDULED NEW CONSTRUCTION.

CLEAR AND GRUB REQUIREMENTS:

1. THE CONTRACTOR SHALL REVIEW PLANS AND IDENTIFY AND SAFELY MARK ALL PLANTS AND TREES TO BE SAVED. THE CONTRACTOR SHALL PROTECT ALL PLANTS AND TREES TO BE SAVED THROUGH OUT THE CONTRACT. THIS SHALL INCLUDE PROHIBITING ANY WORK WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT. THIS INCLUDES NOT PARKING ANY EQUIPMENT OR HAVING ANY STORAGE AREAS WITHIN THE DRIP LINE OF THE TREE EXCEPT UNDER THE SUPERVISION OF A LICENSED LANDSCAPE ARCHITECT.
2. ALL AREAS TO BE CLEARED AND GRUBBED SHALL BE SURVEYED IN THE FIELD TO ESTABLISH THE APPROPRIATE LIMITS OF WORK.
3. THE CONTRACTOR SHALL TAKE WHAT EVER MEASURES NECESSARY TO LOCATE AND PROTECT EXISTING UTILITIES, STRUCTURES, AND OTHER FACILITIES TO REMAIN.
4. ALL TREES, SHRUBS, STUMPS, ROOTS AND OTHER DEBRIS SHALL BE REMOVED FROM SITE AND DISPOSED OF IN A LEGAL MANNER.
5. NO BURNING SHALL BE ALLOWED ON THE SITE.

GRADING / EARTHWORK REQUIREMENTS:

1. PRIOR TO STARTING ANY CUTS OR FILLS, THE CONTRACTOR SHALL STRIP AND STOCKPILE ALL TOPSOIL. STRIPPING OF TOPSOIL CAN ONLY COMMENCE AFTER THE CLEAR AND GRUB OPERATIONS ARE COMPLETE IN THAT AREA. TOPSOIL SHALL BE STOCKPILED IN AREAS DESIGNATED ON THE PLANS OR APPROVED WITH THE OWNER'S REPRESENTATIVE. THE CONTRACTOR SHALL REVIEW THE SOILS REPORTS, BORING LOGS AND WHEN NECESSARY HIS OWN FIELD VERIFICATION SO AS TO BE FAMILIAR WITH THE DEPTH OF TOPSOIL. THE CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO PREVENT OVER AND UNDER REMOVAL.
2. UNLESS OTHERWISE NOTED, THE GRADES SHOWN ON THE PLANS ARE FINISHED GRADES. THEREFORE, PAVEMENT, FLOORS, SUBBASE AND OTHER IMPROVEMENTS MUST BE SUBTRACTED TO CALCULATE SUBGRADE ELEVATIONS. THE CONTRACTOR SHALL COORDINATE THE STAKING OF THE SITE GRADING WITH THE SURVEYOR AND ENGINEER OF RECORD BEFORE PROCEEDING WITH CONSTRUCTION STAKING.
3. THE CONTRACTOR SHALL MAINTAIN A SURVEY GRID OF NOT LESS THAN 100' X 100' OR OTHER MEANS ACCEPTABLE TO THE OWNER'S REPRESENTATIVE THAT SHALL INDICATE LOCATION AND AMOUNT OF CUT OR FILLS REMAINING. AT SUBGRADE THIS GRID SHALL BE 50' X 50' WITH LOCATION AND FINAL GRADE MARKED CLEARLY OR SURVEY SHALL BE COMPLETED DEMONSTRATING THAT THE SUBGRADE IS +/- 0.1 FEET OF REQUIRED SUBGRADE.
4. UNLESS OTHERWISE NOTED ON THE DRAWINGS OR IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL RETAIN AND PAY ALL COST FOR SOIL COMPACTION TESTING TO BE PERFORMED BY AN INDEPENDENT TESTING LABORATORY. FOR EACH LIFT PLACED, COMPACTION TESTING SHALL BE DONE EVERY 2000 SQUARE FEET. IN TRENCHES, COMPACTION TESTING SHALL BE DONE EVERY OTHER LIFT WITH AT LEAST 1 TEST FOR EVERY 100 LINEAR FEET.
5. COMPACTION REQUIREMENTS SHALL BE THOSE OUTLINED IN THE GEOTECHNICAL EVALUATION. IF THE GEOTECHNICAL EVALUATION IS NOT CLEAR OR DOES NOT GIVE REQUIREMENTS THE FOLLOWING SHALL BE USED. UNDER AND TO 20 FEET OUTSIDE THE BUILDING ENVELOPE THE SOILS SHALL BE COMPACTED TO A MINIMUM OF 95% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). ALL LANDSCAPE AND LAWN AREAS SHALL BE COMPACTED TO 90% MAXIMUM DRY DENSITY PER ASTM D 1557 (MODIFIED PROCTOR). THE TESTING LAB SHALL TEST SOILS IN ACCORDANCE ASTM D 2922 (NUCLEAR METHOD) WITH PROCTORS FOR EACH SOIL TYPE.
6. UNLESS OTHERWISE NOTED IN THE GEOTECHNICAL REPORT OR ON THE DRAWINGS, THE ON SITE MATERIAL SHALL BE USED TO MAKE FILLS. ALL MATERIAL TO BE USED FOR FILL SHALL BE FREE OF ORGANICS, FROZEN MATERIALS, CONTAMINATED MATERIALS, DEBRIS AND ANY ROCKS LARGER THAN 4 INCHES. FOR FILL PLACEMENT WITHIN 1 FOOT OF SUBGRADE, NO ROCK SHALL BE GREATER THAN 2 INCHES IN DIAMETER. THE CONTRACTOR SHALL BEAR ALL COSTS ASSOCIATED WITH DRYING, SEGREGATING OR OTHER REQUIRED METHODS TO TREAT SOILS TO MEET COMPACTION AND OTHER REQUIREMENTS.
7. FILLS SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN ALL AREAS.
8. IF IMPORTED MATERIAL IS REQUIRED, THE SOURCE AND A RANDOM COMPOSITE SAMPLE SHALL BE REVIEWED BY THE TESTING LABORATORY PRIOR TO BEING BROUGHT TO SITE. THE TESTING LABORATORY SHALL TEST FOR PERCENT PASSING THE 200 SIEVE THAT DOES NOT EXCEED THE EXISTING ON SITE MATERIAL OR IN NO CASE GREATER THAN 35%. THEY SHALL ALSO VERIFY CONSISTENCY WITH EXISTING ON SITE MATERIALS AND ALL OTHER REQUIREMENTS. WAIVERS TO THESE REQUIREMENTS CAN ONLY BE GIVEN JOINTLY BY OWNER AND THE GEOTECHNICAL ENGINEER THAT PREPARED THE GEOTECHNICAL REPORT.
9. THE TESTING LAB MAY RESTRICT SOME ON SITE MATERIALS FROM BEING USED AS FILL IN BUILDING OR PAVEMENT AREAS WHEN IT IS THEIR OPINION THAT THE MATERIAL WILL NOT MEET REQUIREMENTS STATED HERE OR IN THE GEOTECHNICAL REPORT. IF SUCH CONDITIONS DO EXIST AND OTHER MATERIAL IS NOT AVAILABLE ON SITE, THE OWNER'S REPRESENTATIVE MUST AUTHORIZE IN WRITING THE USE OF IMPORT MATERIAL UNLESS THERE WILL BE NO ADDITION COST TO THE CONTRACT.
10. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PROTECT EARTHWORK OPERATIONS FROM WEATHER AND GROUND WATER INCLUDING KEEPING POSITIVE DRAINAGE, DIVERTING DRAINAGE, DEWATERING AND SEALING DISTURBED AREAS WITH A STEEL DRUM ROLLER PRIOR TO INCLEMENT WEATHER.
11. PRIOR PLACEMENT OF FILLS, IN AREAS WHERE THE FINAL DEPTH WILL BE LESS THAN 4 FEET, THE AREA SHALL BE PROOF ROLLED WITH A 10 TON ROLLER OR A LOADED 10 WHEEL DUMP TRUCK. SOFT AREAS SHALL BE SCARIFIED, DRIED AND RE-COMPACTED PRIOR TO FILL BEING PLACED. RETEST BY PROOF ROLL AS NECESSARY.
12. ALL FINAL SUBGRADE UNDER PROPOSED PAVEMENT, BUILDING OR OTHER STRUCTURE SHALL BE PROOF ROLLED AS DESCRIBED ABOVE FOR THE IDENTIFICATION OF SOFT AREAS. AREAS FOUND TO BE UNACCEPTABLE TO THE GEOTECHNICAL ENGINEER OR THE GEOTECHNICAL ENGINEER'S TECHNICIAN SHALL BE SCARIFIED, DRIED AND RECOMPACTED. RETEST BY PROOF ROLL AS NECESSARY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PROOF ROLLS WITH THE GEOTECHNICAL ENGINEER AND SHALL HAVE THE GEOTECHNICAL ENGINEER OR THE GEOTECHNICAL ENGINEER'S TECHNICIAN ON SITE AT THE TIME OF ALL PROOF ROLLING.
13. TRENCH EXCAVATION REQUIRING SHEETING, SHORING OR OTHER STABILIZING DEVICES SHALL BE DESIGNED BY A PROFESSIONAL ENGINEER AND MEET ALL O.S.H.A. REQUIREMENTS. ALL EXCAVATIONS SHALL MAINTAIN SAFE SIDE SLOPES IN ACCORDANCE WITH LOCAL, STATE, AND O.S.H.A. REQUIREMENTS. NO STOCKING OF MATERIAL CLOSE TO AN OPEN CUT OR STEEP SLOPE SHALL BE PERMITTED IN AN EFFORT TO PREVENT CAVE-INS.
14. TRENCH EXCAVATIONS SHALL BE MADE UNIFORM AND STRAIGHT TO WIDTHS DETERMINED BY THE LOCAL AUTHORITY HAVING JURISDICTION. IF NO GUIDELINES FROM THE LOCAL AUTHORITY HAVING JURISDICTION EXIST, THE FOLLOWING SHALL BE USED: (FOR PIPES 36 INCHES OR LESS THE TRENCH WIDTH SHALL BE THE DIAMETER PLUS 2 FEET), (FOR PIPES 36 INCHES OR GREATER THE WIDTH SHALL BE THE DIAMETER PLUS 3 FEET). ADDITIONAL WIDTH SHALL ONLY BE ALLOWED WHEN COMPACTION EQUIPMENT LIMITATIONS REQUIRE AND ONLY AFTER APPROVAL OF THE ENGINEER OF RECORD. NO MORE TRENCH SHALL BE OPEN IN ONE DAY THAN CAN BE PROPERLY BACKFILLED IN THAT SAME DAY TO MINIMIZE WEATHER AND SAFETY CONCERNS. WHEN BACKFILLING AROUND PIPES PROVIDE UNIFORM SUPPORT AT INVERT AND PROPER COMPACTION UNDER, ALONG AND OVER THE PIPE. CARE SHALL BE GIVEN WHILE BACKFILLING AROUND PIPES TO PREVENT DAMAGE TO THE PIPES INCLUDING: PLACING BACKFILL/BEDDING BY HAND, USING HAND OPERATED PLATE TAMPS OR JUMPING JACKS, AND OTHER LOAD RESTRICTIVE TECHNIQUES UNTIL FILLS ARE A MINIMUM OF 2 FEET OR MANUFACTURER'S RECOMMEND DEPTH, WHICH EVER IS GREATER, ABOVE THE TOP OF THE PIPE. COMPACTION REQUIREMENTS ARE NOT RELIEVED IN THESE AREAS AND SHALL REMAIN AS STATED ON THE DRAWINGS OR AS NOTED ABOVE.
15. IF ROCK IS ENCOUNTERED THAT WAS NOT INDICATED ON THE PLANS OR GEOTECHNICAL REPORT, THE AREA FOR REMOVAL SHALL BE MEASURED AND REVIEWED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROCK REMOVAL. ROCK WILL BE DEFINED AS THE NATURAL EARTH MATERIALS THAT CAN NOT BE REMOVED WITH A D9 DOZIER WITH A SINGLE TOOTH RIPPER.
16. WHERE ROCK IS ADJACENT TO A STRUCTURE OR UTILITY, THE ROCK SHALL BE REMOVED TO A MINIMUM OF 6 INCHES BELOW AND 1 TIMES THE DIAMETER, BUT NOT LESS THAN 1 FOOT OR GREATER THAN 3 FEET ON ANY SIDE.
17. NO EXPLOSIVES SHALL BE ALLOWED UNTIL ALL PERMITS ARE GRANTED AND THE OWNER HAS SIGNED OFF. PRE AND POST BLAST REPORTS SHALL BE KEPT AND RECORDED. ALL STRUCTURES WITHIN THE AREA OF THE BLAST SHALL RECEIVE A PRE-BLAST SURVEY. ALL BLASTING SHALL BE PERFORMED BY A LICENSED BLASTER.
18. UNLESS OTHERWISE NOTED ON THE DRAWINGS, THE CONTRACTOR SHALL REMOVE ALL EXCESS TOPSOIL, CUT MATERIAL OR WASTE MATERIAL FROM SITE AND DISPOSE OF IN A LEGAL MANNER.
19. NO FILL SHALL BE PLACED ON EXISTING GROUND WITHIN THE LIMITS OF DISTURBANCE UNTIL THE GROUND HAS BEEN CLEARED OF WEEDS, DEBRIS, TOPSOIL AND OTHER DELETERIOUS MATERIAL, SCARIFIED TO A MINIMUM DEPTH OF 6 INCHES OR TO A DEPTH RECOMMENDED BY THE GEOTECHNICAL REPORT AND INSPECTED BY THE GEOTECHNICAL ENGINEER PRIOR TO THE PLACING OF FILL. DELETERIOUS MATERIALS, I.E., LUMBER, LOGS, BRUSH, OR ANY OTHER ORGANIC MATERIALS OR RUBBISH SHALL BE REMOVED FROM AREAS TO RECEIVE COMPACTED FILL. UNSUITABLE MATERIALS, SUCH AS TOPSOIL, WEATHERED BEDROCK, ETC., SHALL BE REMOVED AS REQUIRED BY GEOTECHNICAL ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM AREAS TO RECEIVE COMPACTED FILL OR DRAINAGE STRUCTURE(S). CONSTRUCT FILL TO GRADES OR SUBGRADES AS SHOWN WITH SELECT FILL MATERIAL COMPACTED TO 95% STANDARD PROCTOR (UNLESS OTHERWISE NOTED). PLACE AND COMPACT IN 6 INCH LIFTS. ALL SOILS WITHIN 12 INCHES OF PAVEMENT SUBGRADE SHALL BE COMPACTED TO AT LEAST 98% OF THEIR STANDARD PROCTOR MAXIMUM DRY DENSITY.
20. GRADED AREAS TO BE LANDSCAPED OR GRASSED SHALL BE BROUGHT TO THE ELEVATIONS SHOWN ON THE GRADING PLAN(S).
21. CONTRACTOR SHALL VERIFY DIMENSIONS, GRADES AND BENCHMARK(S) BEFORE BEGINNING ANY WORK.
22. THERE SHALL BE NO DISTURBANCE BEYOND PROPERTY LINES, UNLESS WRITTEN PERMISSION FROM ADJACENT PROPERTY OWNERS IS OBTAINED. EXISTING GRADES ALONG PROPERTY LINES SHALL BE MAINTAINED (UNLESS OTHERWISE NOTED).
23. THE MAX. SLOPES FOR CUT OR FILL SHALL BE 2H:1V, UNLESS OTHERWISE NOTED ON THE PLANS AND EXCEPT EARTHEN DAM EMBANKMENTS SHALL BE 3H:1V AND AS NOTED BELOW. THE SLOPE OF CUT OR FILL SHALL BE UNIFORM THROUGHOUT FOR EACH SECTION OF CUT OR FILL EXCEPT WHEN BENCHING IS APPROVED BY THE LOCAL AUTHORITY HAVING JURISDICTION. WHEN A CUT IS MADE IN ROCK THAT REQUIRES BLASTING, THE SLOPE MAY BE STEEPER IF PRE-SPLITTING IS EMPLOYED AND UPON SUBMISSION OF A GEOTECHNICAL REPORT WHICH SUBSTANTIATES THE INTEGRITY OF THE ROCK IN THE STEEPER CONDITION, SUBJECT TO THE REVIEW AND APPROVAL OF THE LOCAL AUTHORITY HAVING JURISDICTION AND/OR SITE DESIGN PROFESSIONAL. (NOTE: NO BLASTING SHALL OCCUR WITHOUT A VALID PERMIT ISSUED BY THE LOCAL AUTHORITY HAVING JURISDICTION AND THE OWNER HAS SIGNED OFF.)
24. EMBANKMENTS SHALL BE PLACED IN UNIFORM LAYERS NOT TO EXCEED A COMPACTED THICKNESS OF 6 INCHES PER LAYER AND SHALL BE COMPACTED TO A DENSITY OF 98% OF THE MAX. LABORATORY DRY WEIGHT PER CUBIC FOOT AS DETERMINED BY AASHTO METHOD T-99 IN AREAS WHERE STRUCTURES, PARKING LOTS AND DRIVES, STREETS AND UTILITIES ARE TO BE PLACED ABOVE OR BELOW THESE SLOPES.
25. CONTOURS AND SPOT ELEVATIONS SHOWN ARE ONLY CONTROLS AND THE PROFILES THEY FORM SHALL BE SMOOTH AND CONTINUOUS (PARTICULARLY IN PARKING AREAS AND DRIVES).
26. GRADING SHALL BE PERFORMED UNDER THE SUPERVISION OF A GEOTECHNICAL ENGINEER WHO SHALL CERTIFY THAT FILL HAS BEEN PROPERLY PLACED AND WHO SHALL SUBMIT A FINAL COMPACTION REPORT FOR FILLS OVER 1' DEEP.
27. CONTRACTOR SHALL MAINTAIN POSITIVE DRAINAGE AWAY FROM BUILDING(S) AT ALL TIMES.
28. ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO THE LOCAL AUTHORITY HAVING JURISDICTION ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT) AND TO THE GEOTECHNICAL ENGINEER OF RECORD.
29. ALL GRADING AND PIPE BED PREPARATION SHALL BE PERFORMED ACCORDING TO REQUIREMENTS SET FORTH BY THE GEOTECHNICAL ENGINEER OF RECORD.
30. CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND FOLLOW ALL RECOMMENDATIONS OF THE REPORT WHEN PERFORMING SITE WORK.
31. AT A MINIMUM, FOR TRENCH CONSTRUCTION, BACKFILL UNDER PERMANENT CONCRETE OR BITUMINOUS PAVEMENT AND AS ELSEWHERE SPECIFIED OR INDICATED ON THE PLANS, TRENCHES SHALL BE APPROVED BANK-RUN SAND OR GRAVEL OR CRUSHED STONE FREE FROM LARGE STONES AND CONTAINING NOT MORE THAN TEN PERCENT (10%) BY WEIGHT OF LOAM OR CLAY. THIS BACKFILL SHALL BE COMPACTED TO ONE HUNDRED PERCENT (100%) AS DETERMINED BY THE MODIFIED PROCTOR TEST FROM PIPE BEDDING TO TWO (2) FEET BELOW TRENCH TOP. MECHANICAL VIBRATING EQUIPMENT SHALL BE USED TO ACHIEVE THE REQUIRED COMPACTION. PAVEMENT SHALL BE REPLACED IMMEDIATELY AFTER THE BACKFILLING IS COMPLETED.
32. BACKFILL UNDER GRAVEL OR CRUSHED STONE SURFACED ROADWAYS SHALL BE THE APPROVED SUITABLE EXCAVATED MATERIAL PLACED IN SIX (6) INCH LAYERS THOROUGHLY COMPACTED FOR THE FULL DEPTH AND WIDTH OF THE TRENCH, CONFORMING TO THE COMPACTION, DENSITY COMPACTION METHOD AND MATERIALS AS SPECIFIED ABOVE.
33. BACKFILL IN UNPAVED AREAS SHALL BE COMPACTED WITH MECHANICAL VIBRATING EQUIPMENT TO NINETY PERCENT (90%) AS DETERMINED BY THE MODIFIED PROCTOR TEST. BACKFILL MATERIAL FROM PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS.

SEEDING & LANDSCAPING:

1. TOPSOIL SHALL BE REMOVED FROM STOCKPILES AND SPREAD IN THE AREAS SHOWN ON THE PLANS. THE DEPTH OF TOPSOIL SHALL BE AS SHOWN ON THE PLANS. IF THE DEPTH OF TOPSOIL IS NOT GIVEN THE FOLLOWING SHALL BE USED: "A MINIMUM OF 4 INCHES IN LAWN AREAS" AND "A MINIMUM OF 12 INCHES IN LANDSCAPE PLANTING AREAS".
2. AFTER THE TOPSOIL IS IN PLACE IT SHALL BE FINE GRADED REMOVING ALL ROOTS, STICKS, STONES AND DEBRIS GREATER THAN 2 INCHES IN ANY DIMENSION. THE TOPSOIL SHALL BE FINE GRADED TO THE LINES AND GRADES SHOWN ON THE PLANS.
3. THE TOPSOIL SOIL SHALL HAVE A PH OF 5.5 TO 7.6 AND AN ORGANIC CONTENT OF 3 TO 20%. THE GRADATION OF THE TOPSOIL SHALL BE 100% PASSING 2" SIEVE, 85 TO 100% PASSING THE 1 INCH SIEVE, 65 TO 100% PASSING THE ¼ INCH SIEVE AND 20 TO 80% PASSING THE NO. 200 SIEVE.
4. LIME OF TYPE RECOMMENDED FOR SOIL CONDITIONING SHALL BE USED TO TREAT ACIDIC SOILS.
5. LAWN FERTILIZER SHALL BE 55% NITROGEN, 10% PHOSPHORUS AND 10% POTASH WHERE 50% OF THE NITROGEN IS DERIVED FROM UREAFORM SOURCE.
6. LAWN SEED (WHEN NOT GIVEN ON THE PLANS) SHALL BE "50% BY WEIGHT, 85% PURITY, 85% GERMINATION OF PENNFINE PERENNIAL RYE"; "30% BY WEIGHT, 97% PURITY, 85% GERMINATION OF PENNLAWN RED FESCUE"; "20% BY WEIGHT, 85% PURITY, 80% GERMINATION OF COMMON KENTUCKY BLUEGRASS".
7. WHEN PLACING BY HYDROSEEDING, APPLICATION FERTILIZER SHALL BE PLACED AT 80 POUNDS PER ACRE, HYDROMULCH AT 1,200 POUNDS PER ACRE, WATER AT 500 GALLONS PER ACRE AND SEED AT A MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT.
8. IF PLACING BY MECHANICAL MEANS, FERTILIZER SHALL BE PLACED AT 25 POUNDS PER 1,000 SQUARE FEET, SEED AT 5 POUNDS PER 1,000 SQUARE FEET, AND STRAW MULCH AT 2 TONS PER ACRE. PLACE FERTILIZER AND SEED, THEN LIGHTLY RAKE AND THE ROLL WITH 200 POUND ROLLER. MULCH THE AREA AND THEN WATER. STRAW MAY NEED TO BE SECURED TO PREVENT IT BLOWING AWAY.
9. WATER LAWN AREAS AS NEEDED TO PROMOTE GROWTH. THE CONTRACTOR WILL BE RESPONSIBLE TO WATER, RESEED OR WORK WHEN NECESSARY TO INSURE THE GROWTH OF THE LAWN UNTIL A COMPLETE AND UNIFORM STAND OF GRASS HAS GROWN AND BEEN CUT AT LEAST TWICE.
10. UNLESS OTHERWISE NOTED ON THE DRAWINGS, ALL AREAS NOT RECEIVING STRUCTURES, PAVEMENT, RIP RAP, LANDSCAPING OR OTHER IMPROVEMENTS OR FUTURE IMPROVEMENTS SHALL BE CONSIDERED LAWN AREAS AND RECEIVE TOPSOIL AND SEEDING PER DRAWINGS AND ABOVE STATED REQUIREMENTS.
11. PLANTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH THE PLANS AND ANSI 260.1 "AMERICAN STANDARD FOR NURSERY STOCK" IN GOOD HEALTH, VIGOROUS, AND FREE OF INSECTS, LARVAE, EGGS, DEFECTS AND DISEASE.
12. PLANTING BEDS SHALL BE PREPARED BY LOOSENING THE TOP 1 FOOT OF TOPSOIL. PLANTS SHALL BE LOCATED PER THE PLANS. THE HOLES SHALL BE EXCAVATED (PER THE DETAILS ON THE DRAWINGS) WITH THE CENTER SLIGHTLY HIGHER TO PROMOTE DRAINAGE. USE A TOPSOIL BACKFILL MIX OF 4 PARTS TOPSOIL, 1 PART PEAT MOSS, 1/2 PART WELL ROTTED MANURE, AND 10 POUNDS 5-10-5 PLANTING FERTILIZER AND PROPERLY MIXED PER CUBIC YARD. BERM AROUND PLANTS TO FORM A BOWL SHAPE.
13. WEED BARRIER MADE FROM FIBERGLASS AND ULTRA-VIOLET LIGHT RESISTANT SHALL BE PLACE UNDER ALL PLANTING BEDS PRIOR MULCHING.
14. ALL TREES AND SHRUBS SHALL BE STAKED AS DETAILED ON THE DRAWINGS. TREE WRAPPING WILL BE PROVIDED AT THE BASE OF ALL TREES AS DETAILED.
15. MULCH SHALL BE 50% SHREDDED BARK AND 50% WOOD CHIPS, ¾ TO 2 INCH IN SIZE, UNIFORMLY MIXED AND FREE OF ELM WOOD. MULCH SHALL BE PLACED UNIFORMLY OVER THE PLANTING BED ALLOWING NO WEED BARRIER TO BE SEEN.
16. ALL LANDSCAPING SHALL BE GUARANTEED FOR ONE YEAR AFTER FINAL ACCEPTANCE. ANY PLANTINGS IN NEED OF REPLACEMENT WILL BE GUARANTEED FROM THE TIME OF REPLACEMENT IF AFTER FINAL ACCEPTANCE.

COMPACTION:

1. ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO THE LOCAL AUTHORITY HAVING JURISDICTION ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT). THE FOLLOWING APPLIES TO STORMWATER, SANITARY SEWER, AND WATER:
   a. BACKFILL UNDER PERMANENT CONCRETE OR BITUMINOUS PAVEMENT, AND AS ELSEWHERE SPECIFIED OR INDICATED ON THE PLANS, SHALL BE APPROVED BANK-RUN SAND OR GRAVEL OR CRUSHED STONE FREE FROM LARGE STONES AND CONTAINING NOT MORE THAN TEN PERCENT (10%) BY WEIGHT OF LOAM OR CLAY. THIS BACKFILL SHALL BE COMPACTED TO ONE HUNDRED PERCENT (100%) AS DETERMINED BY THE MODIFIED PROCTOR TEST FROM PIPE BEDDING TO TWO (2) FEET BELOW TRENCH TOP. MECHANICAL VIBRATING EQUIPMENT SHALL BE USED TO ACHIEVE THE REQUIRED COMPACTION. PAVEMENT SHALL BE REPLACED IMMEDIATELY AFTER THE BACKFILLING IS COMPLETED.
   b. BACKFILL UNDER GRAVEL OR CRUSHED STONE SURFACED ROADWAYS SHALL BE THE APPROVED SUITABLE EXCAVATED MATERIAL PLACED IN SIX (6) INCH LAYERS THOROUGHLY COMPACTED FOR THE FULL DEPTH AND WIDTH OF THE TRENCH, CONFORMING TO THE COMPACTION, DENSITY COMPACTION METHOD AND MATERIALS AS SPECIFIED IN "2" ABOVE.
   c. BACKFILL IN UNPAVED AREAS SHALL BE COMPACTED WITH MECHANICAL VIBRATING EQUIPMENT TO NINETY PERCENT (90%) AS DETERMINED BY THE MODIFIED PROCTOR TEST. BACKFILL MATERIAL FROM PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS.

STAKING REQUIREMENTS:

1. SURVEYING WORK PERFORMED BY THE CONTRACTOR SHALL BE SUFFICIENT AND ACCURATE TO CONSTRUCT THE WORK IN ACCORDANCE WITH THE SITE WORK CONSTRUCTION DRAWINGS. LAYOUT AND STAKING WORK SHALL BE IN ACCORDANCE WITH GENERAL ACCEPTED SURVEYING PRACTICES AND PROVISIONS OF THE CONTRACT.
2. CONTRACTOR SHALL REFER TO ARCHITECTURAL PLANS FOR ACTUAL BUILDING DIMENSIONS. CONTRACTOR SHALL NOT STAKE BUILDING DIMENSIONS FROM THE BUILDING(S) SHOWN ON THE SITE WORK CONSTRUCTION DRAWINGS. REFERENCES IN THESE DOCUMENTS TO BUILDING SQUARE FOOTAGES ARE FOR OWNER'S PURPOSES ONLY. DO NOT RELY ON THESE NUMBERS FOR ANY OTHER PURPOSE.
3. CONTRACTOR SHALL STAKE BUILDING CORNERS AND HAVE APPROVAL FROM THE ARCHITECT AND/OR SITE DESIGN PROFESSIONAL BEFORE COMMENCING THE CONSTRUCTION OF ANY FOOTINGS.
4. DIMENSIONS SHOWN ARE TO THE FACE OF CURB(S), UNLESS OTHERWISE NOTED. ANGLES ARE 90° (INCLUDING STREET CENTER-LINES) UNLESS NOTED OTHERWISE.
5. CURB AND GUTTER RADII ARE 5.0 FT. UNLESS OTHERWISE NOTED.
6. THE CONTRACTOR IS RESPONSIBLE FOR THE PRESERVATION AND OR PERPETUATION OF EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS (AS APPLICABLE) WITHIN THE CONTRACTOR'S AREA OF WORK. THE CONTRACTOR SHALL NOT DISTURB OR REMOVE EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS WITHOUT THE PERMISSION OF THE LOCAL AUTHORITY HAVING JURISDICTION, AND CONTRACTOR SHALL BEAR THE EXPENSE OF RESETTING EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS WHICH MAY BE DISTURBED OR REMOVED WITH OR WITHOUT PERMISSION. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 15 WORKING DAYS NOTICE TO THE LOCAL AUTHORITY HAVING JURISDICTION PRIOR TO DISTURBANCE OR REMOVAL OF EXISTING RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS. THE CONTRACTOR SHALL UTILIZE THE SERVICES OF A GEORGIA LICENSED LAND SURVEYOR TO RESET DISTURBED OR REMOVED RIGHT-OF-WAY MONUMENTS, BENCHMARKS CONTROL POINTS AND REFERENCE MARKS OR PROVIDE WITNESS MONUMENTS, AND FILE THE REQUIRED DOCUMENTATION WITH THE LOCAL AUTHORITY HAVING JURISDICTION.
7. THE CONTRACTOR (UNLESS OTHERWISE INSTRUCTED BY THE OWNER) SHALL PROVIDE STAKING AND LAYOUT SERVICES, INCLUDING BUT NOT LIMITED TO, CENTERLINE STAKES, ADDITIONAL LINES, CONNECTIONS, RAMPS, SLOPE STAKES, GRADE STAKES, CONSTRUCTION BENCHMARKS AND REFERENCE STAKES LOCATING DRAINAGE, ROADWAY, AND UTILITIES NECESSARY FOR THE PROJECT. ALIGNMENT CONTROL ESTABLISHED BY THE CONTRACTOR SHALL BE REFERENCED, AND A COPY OF THE REFERENCES SHALL BE FURNISHED TO THE SITE DESIGN PROFESSIONAL.
8. THE CONTRACTOR SHALL VERIFY ALL INVERTS OF EXISTING STORM AND SANITARY SEWER TIE-INS AND ALL GRADES AT EXISTING PAVEMENT TIE-INS BEFORE PROCEEDING WITH ANY SITE WORK.
9. ALL CONTROL SHALL BE VERIFIED BEFORE PROCEEDING. SURVEYOR SHALL VERIFY INVERTS AT ALL GRAVITY STORM AND SEWER TIE IN POINTS BEFORE PROCEEDING. SURVEYOR SHALL VERIFY TIE POINT ELEVATIONS AT ALL ACCESS POINTS BEFORE PROCEEDING.

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professional seal

NO. 1220
KENT CAMPBELL

project information

FRIENDSHIP FOREST PARK

WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

	REVISIONS		
DATE OF FIRST ISSUE: 2017.09.15	**NO:**	**DATE:**	**DESCRIPTION:**
	1	2017.09.22	PLAN UPDATES
DRAWN BY: JWR	2		
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REVIEWED BY: KC	4		
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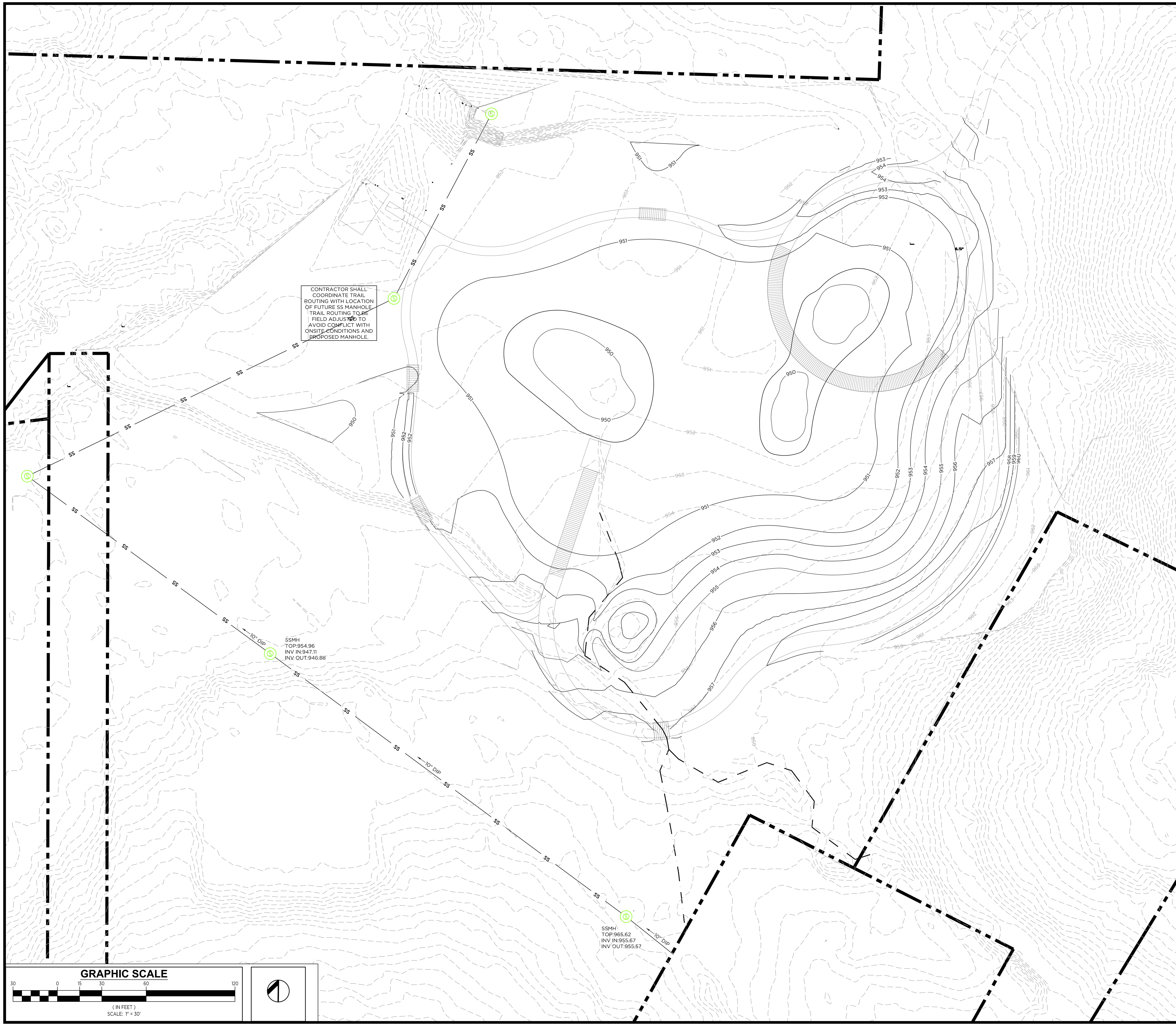

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GEORGIA REGISTERED NO. 1220 PROFESSIONAL KENT CAMPBELL

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CONTRACTOR
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ADDRESS:
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LEVEL II CERTIFIED
DESIGN PROFESSIONAL
1855 - EXP. 08/01/2018

24-HOUR CONTACT
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CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA811 Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

REVISIONS

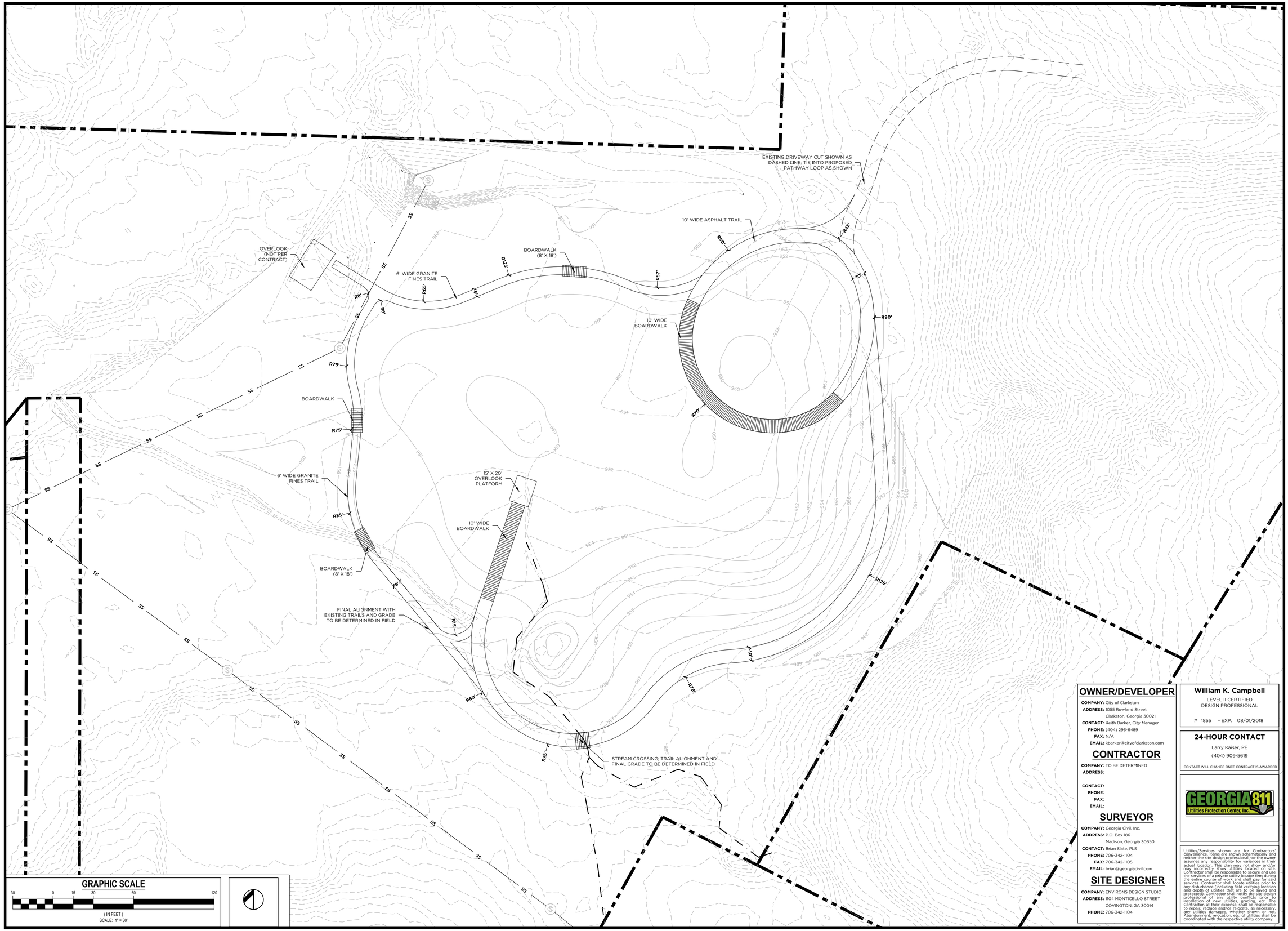
	NO:	DATE:	DESCRIPTION:
DATE OF FIRST ISSUE: 2017.09.15	1	2017.09.22	PLAN UPDATES
DRAWN BY: JWR	2		
	3		
REVIEWED BY: KC	4		
	5		

sheet title

GRADING PLAN

sheet number

L-2.0



OWNER/DEVELOPER

COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR

COMPANY: TO BE DETERMINED
ADDRESS:

CONTACT:
PHONE:
FAX:
EMAIL:

SURVEYOR

COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: 706-342-1104
FAX: 706-342-1105
EMAIL: brian@georgiacivil.com

SITE DESIGNER

COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL

1855 - EXP. 08/01/2018

24-HOUR CONTACT
Larry Kaiser, PE
(404) 909-5619
CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA 811 Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and/or protected) and notify the owner and site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

Environs
LANDSCAPE ARCHITECTURE & ECOLOGICAL PLANNING
113 West Jefferson Street, Suite A
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professional seal

GEORGIA REGISTERED NO. 1220 PROFESSIONAL LANDSCAPE ARCHITECT KENT CAMPBELL

project information

FRIENDSHIP FOREST PARK

WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS

NO:	DATE:	DESCRIPTION:
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DATE OF FIRST ISSUE: 2017.08.21
DRAWN BY: JWR
REVIEWED BY: KC

sheet title

LAYOUT AND STAKING

sheet number

L-3.0

STATE WATERS BUFFER STATEMENT:

NPDES Permit Part IV.

(i). Except as provided in Part IV. (iii). below, no construction activities shall be conducted within a 25 foot buffer along the banks of all state waters, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, except where the Director has determined to allow a variance that is at least as protective of natural resources and the environment in accordance with the provisions of O.C.G.A. 12-7-6, or where a drainage structure or a roadway drainage structure must be constructed, provided that adequate erosion control measures are incorporated in the project plans and specifications and are implemented, or along any ephemeral stream. The buffer shall not apply to the following land disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications are implemented: (1) stream crossings for water lines or (2) stream crossings for sewer lines;

(ii). No construction activities shall be conducted within a 50 foot buffer, as measured horizontally from the point where vegetation has been wrested by normal stream flow or wave action, along the banks of any state waters classified as 'trout streams' except when approval is granted by the Director for alternate buffer requirements in accordance with the provisions of O.C.G.A. 12-7-6, or where a roadway drainage structure must be constructed; provided, however, that small springs and streams classified as 'trout streams' which discharge an average annual flow of 25 gallons per minute or less shall have a 25 foot buffer or they may be piped, at the discretion of the permittee, pursuant to the terms of a rule providing for a general variance promulgated by the Board of Natural Resources including notification of such to EPD and the local issuing authority to the location and extent of the piping and prescribed methodology for minimizing the impact of such piping and for measuring the volume of water discharged by the stream. Any such pipe must stop short of the downstream permittee's property, and the permittee must comply with the buffer requirement for any adjacent trout streams. The buffer shall not apply to the following land disturbing activities, provided that they occur at an angle, as measured from the point of crossing, within 25 degrees of perpendicular to the stream; cause a width of disturbance of not more than 50 feet within the buffer; and adequate erosion control measures are incorporated into the project plans and specifications and are implemented: (1) stream crossings for water lines or (2) stream crossings for sewer lines; and

(iii). Except as provided above, for buffers required pursuant to Part IV. (i) and (ii), no construction activities shall be conducted within a buffer and a buffer shall remain in its natural, undisturbed, state of vegetation until all land disturbing activities on the construction site are completed. During coverage under this permit, a buffer cannot be thinned or trimmed of vegetation and a protective vegetative cover must remain to protect water quality and aquatic habitat and a natural canopy must be left in sufficient quantity to keep shade on the stream bed.

POLLUTION REDUCTION PRACTICES FOR STORM WATER DISCHARGES:

STABILIZATION (VEGETATIVE) MEASURES:

ALL STABILIZATION (VEGETATIVE) MEASURES SHALL BE IMPLEMENTED AS STATED IN THE MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA (LATEST EDITION).

(Bf) Buffer Zone - A strip of undisturbed, original vegetation; enhanced or restored existing vegetation; or re-establishment of vegetation surrounding disturbed areas or bordering streams, ponds, wetlands, lakes, or coastal water to provide a buffer zone for one or more of the following purposes: reduce storm runoff velocities, act as visual screen, reduce construction noise, improve aesthetics on disturbed land, filtering and infiltrating runoff, cooling rivers/streams by creating shade, provide food and cover for wildlife, flood protection, or protect channel banks from scour and erosion.

(Ds1) Disturbed Area Stabilization (with Mulching Only)- Applying plant residues or other suitable materials, produced on site if possible, to the soil surface in order to reduce runoff, conserve moisture, prevent surface compaction or crusting, control undesirable vegetation, modify soil temperature, or increase biological activity in the soil. This practice is applicable where stabilizing disturbed/denuded areas is not practical utilizing seeding or planting.

(Ds2) Disturbed Area Stabilization (with Temporary Seeding)- Establishing temporary vegetative cover with fast growing seedlings for seasonal protection on disturbed/denuded areas in order to reduce runoff and sediment damage of downstream resources, protect the soil surface from erosion, improve wildlife habitat, improve aesthetics, improve tilth, infiltration and aeration as well as organic matter for permanent plantings. This practice is applicable for up to six months or until permanent vegetative cover can be installed. It should be coordinated with permanent measures to assure economical and effective stabilization.

(Ds3) Disturbed Area Stabilization (with Permanent Vegetation)- Planting of perennial vegetation such as trees, shrubs, vines, or legumes on exposed areas for final permanent stabilization in order to protect the soil surface from erosion, reduce damage from sediment and runoff to downstream areas, improve wildlife habitat and visual resources, and improve aesthetics. It will apply on cut and fill slopes, earth spillways, borrow areas, spoil areas and severely eroded or gullied lands.

(Ds4) Disturbed Area Stabilization (with Sodding)- Establishing an immediate and permanent vegetative cover using sods in order to reduce runoff and erosion, improve aesthetics and land value, reduce dust and sediments, stabilize waterways and critical areas, filter sediments, nutrients, reduce downstream complaints, reduce likelihood of legal action, reduce likelihood of work stoppage due to legal action, and increase "good neighbor" benefits.

(Du) Dust Control on Disturbed Areas- Controlling surface and air movement of dust on construction sites, roads, and demolition sites in order to prevent surface and air movement of dust from exposed soil surfaces, reduce the presence of airborne substances which may be harmful or injurious to human health, welfare, or safety, or to animals or plant life. Methods and materials which can be used include mulches, vegetative cover, spray-on adhesives, mechanical manipulation of existing soil surfaces, irrigation, barriers, chemicals, and stone surface covers.

(Fl-Co) Flocculants and Coagulants- Formulated to assist in the solid/liquid separation of suspended particles (which are characteristically very small) in solution. The suspended stability of such particles (colloidal complex) is due to both their small size and the electrical charge between particles.

(Sb) Streambank Stabilization (Using Permanent Vegetation)- Using native plant materials to maintain and enhance streambanks, or to prevent, or restore and repair small streambank erosion problems in order to lessen the impact of rain directly on the soil, trap sediment from adjacent land, form a root mat to stabilize and reinforce the soil on the streambank, provide wildlife habitat, enhance stream appearance, and lower summertime water temps.

(Ss) Slope Stabilization- A protective covering used to prevent erosion and establish vegetation on steep slopes, shore lines, or channels in order to stabilize the soil and act as a rain drop impact dissipater while providing a microclimate which protects young vegetation and promotes its establishment.

(Tac) Tackifiers- Substances used to anchor soil, compost, seed, straw, hay or mulch by causing organic material to bind together and discourage it from drifting downslope. Tackifiers also conserve moisture; prevent surface compaction, increase soil infiltration, soil fertility, enhanced seed germination, increased soil cohesion, enhanced soil stabilization, reduced stormwater runoff turbidity and reduction in loss of topsoil.

STRUCTURAL PRACTICES:

ALL STRUCTURAL PRACTICES SHALL BE IMPLEMENTED AS STATED IN THE MANUAL FOR EROSION AND SEDIMENT CONTROL IN GEORGIA (LATEST EDITION).

(Cd) Check Dam- A small temporary barrier, grade control structure, or dam constructed across a swale or drainage ditch which drains five (5) acres or less (not to be used in a live stream) in order to reduce erosion by slowing the velocity of concentrated storm water flows.

(Ch) Channel Stabilization- Improving, constructing or stabilizing an open channel for water conveyance. Open channels are to be non-erosive, with no sediment deposition and able to provide adequate capacity for flood water, drainage, other water management practices, or any combination thereof.

(Co) Construction Exit- A stone stabilized pad located where traffic leaves a construction site to a public right-of-way, street, alley, sidewalk, parking, etc. (i.e. bare soil to paved area) in order to reduce/eliminate depositing construction area mud onto public rights-ofway by motor vehicles or by runoff.

(Cr) Construction Road Stabilization- Roads, parking areas, and other on-site transportation routes that are stabilized with coarse aggregate between the time of initial grading and final stabilization in order to provide a fixed route for construction traffic, reduce erosion, reduce subsequent re-grading of permanent roadbeds, and provide a stable base for paving.

(Dc) Stream Diversion Channel- A temporary channel that diverts a live stream and allows work "in the dry" while protecting streambed(s) from erosion. This diversion is used when in-stream work is unavoidable, as with linear projects such as utilities or roads that frequently cross and impact live streams and create a potential for excessive sediment loss by both the disturbance of the approach areas and by the work within the streambed and banks.

(Di) Diversion- An earth channel with a compacted supporting ridge on the lower side; constructed above, across, or below a slope to reduce slope lengths, break-up concentrations of runoff, intercept runoff, and move water to stable outlets at non-erosive velocities.

(Dn1) Temporary Downdrain Structure- A flexible conduit of heavy-duty plastic or other material used as a temporary structure to convey storm water down the face of a cut or fill slope without causing slope erosion and allowing the establishment of vegetation on the slope. Flexible downdrains are removed once the permanent water disposal system is installed.

(Dn2) Permanent Downdrain Structure- A permanent paved chute, pipe or sectional conduit of prefabricated material designed to safely conduct surface runoff from the top to the bottom of a slope thus minimizing erosion. Downdrain structures are to be used where concentrated water will cause excessive erosion of cut and fill slopes.

(Fr) Filter Ring- A temporary stone barrier used in conjunction with other sediment control measures and constructed at storm drain inlets and pond outlets, in order to reduce flow velocities, prevent failure of other sediment control devices, and prevent sediment from leaving the site or entering drainage systems, prior to permanent stabilization of the disturbed areas.

(Ga) Gabion- Large, multi-celled, wire mesh boxes, filled with rocks, which form flexible monolithic building blocks used in channel revetments, retaining walls, abutments, check dams, etc. to prevent erosion and sediment damage to a specific structure. When properly wired together, they can be used to stabilize steep or highly erosive slopes.

(Gr) Grade Stabilization Structure- Structures of concrete, rock masonry, steel, aluminum, treated wood, etc. that are installed to stabilize the grade in natural or artificial channels and to prevent the formation or advance of gullies and to reduce erosion and sediment pollution.

(Lv) Level Spreader- A storm flow outlet device structure constructed at zero grade across a slope where concentrated runoff may be intercepted and diverted at non-erosive sheet flow velocities onto undisturbed areas stabilized by existing vegetation.

(Rd) Rock Filter Dam- A permanent or temporary stone filter dam, which can be used in conjunction with a temporary sediment trap, installed across small streams, drainageways with a drainage area of 50 acres or less and outlets for sediment traps in order to serve as a sediment-filtering device and to reduce storm water flow velocities. This structure is not intended to substantially impound water and may require a US Army Corps of Engineers permit.

(Re) Retaining Wall- A constructed wall of concrete, masonry, reinforced concrete, cribbing, treated timbers, gabions, stone dry wall, rip-rap or other durable material in order to stabilize cut or fill slopes where maximum permissible slopes of earth are not obtainable without the use of the wall.

(Rt) Retrofitting- A device or structure, such as half round corrugated metal pipe or similar, placed in front of a permanent stormwater detention pond outlet or roadway drainage structure to serve as a temporary sediment filter, thus allowing permanent stormwater detention basin structures to function as temporary sediment retention basins for land-disturbing projects, and allow roadway drainage to be used for temporary sediment storage.

(Sd1) Sediment Barrier- A temporary structure constructed of silt fence, straw, hay bales, brush piles, mulch berms, compost filter sock, gravel or other filtering materials (typically supported by steel or wood posts), that are used to minimize and prevent sediment carried by sheet flow from leaving the site until final stabilization. Silt fence shall not be installed across streams, waterways, or other concentrated flow areas.

(Sd2) Inlet Sediment Trap- A temporary protective device formed at or around a storm drain inlet to trap sediment in runoff water from small, disturbed areas and prevent sediment from entering a storm drainage system prior to permanent stabilization of the disturbed area draining to the inlet. Clean out of these facilities is normally required after each heavy rainfall.

(Sd3) Temporary Sediment Basin- A basin created by construction of an embankment, barrier or dam containing a principal spillway pipe and an emergency spillway that are normally situated within natural drainageways and at the lowest point on a construction site. Structure size will vary depending on the size of the drainage area, soil type, volume of sediments to be trapped, rainfall pattern(s), structure location, etc. Permanent sediment basins are designed to fit into the overall plan of the completed development. Sd3's are designed to detain runoff waters and trap sediment from erodible areas in order to protect downstream properties.

(Sd4) Temporary Sediment Trap- A small temporary pond (with no pipe or riser) that drains a disturbed area so that sediment can settle out. Sd4's are designed to collect and store sediment from small tributary areas with no unusual drainage features that have been cleared and/or graded for construction.

(Sk) Floating Surface Skimmer- A buoyant device that drains surface water of sediment ponds, traps or basins and releases it at a controlled rate of flow. It "skims" the water surface where sediment concentrations are at a minimum instead of draining from the bottom where sediment concentrations are higher, and drains to a riser or the backside of a dam.

(SpB) Seep Berm- A linear control device constructed as a diversion (perpendicular to the direction of the runoff) to enhance dissipation and infiltration of runoff while using intermediate dikes to create multiple sedimentation chambers allowing smaller storms to seep out while diverting larger flows to a sediment storage area.

(Sr) Temporary Stream Crossing- A temporary structure installed across a flowing stream or watercourse for use by construction equipment without moving sediment into streams, damaging the streambed or channel, or causing flooding. The structure may consist of a pipe, bridge, or other suitable device permitting vehicular traffic to cross streams or watercourses.

(St) Storm Drain Outlet Protection- A paved or short section of rip-rap channel placed at the outlet of a storm drain system in order to reduce the velocity of water flows below storm drain outlets, and to prevent erosion from concentrated flow.

(Su) Surface Roughening- Providing a rough soil surface with horizontal depressions created by operating a tillage or other suitable implement on the contour, or by having slopes in a roughhead condition by not fine-grading them, in order to aid in establishment of vegetative cover with seed, to reduce runoff velocity and increase infiltration and to reduce erosion and provide for sediment trapping.

(Tc) Turbidity Curtain- A floating or staked barrier installed within the water in order to minimize turbidity and silt migration from work occurring within the water or as a supplement to perimeter control BMPs at the water's edge. Silt or turbidity is confined to the area within the boundary created by the installation, such that suspended particles drop out of the water column over time.

(Tp) Topsoiling- Stripping off the more fertile top soil, storing it, then spreading it over the disturbed area after completion of construction activities, in order to provide a suitable soil medium for vegetative growth on areas where other measures will not produce or maintain a desirable stand.

(Wt) Vegetated Waterway or Stormwater Conveyance Channel- Outlets for diversions, terraces, berms, or other structures. They may be natural or constructed, shaped to required dimensions, and paved or vegetated for disposal of storm water runoff. For waterways to be successful, it is essential that a protective cover of vegetation or other erosion protective measures be implemented.

GSWCC EROSION CONTROL NOTES:

1. The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, concurrent with, land disturbing activities.
2. 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.
3. Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding.
4. Any 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.

MEASURES INSTALLED DURING CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER THAT MAY REMAIN AFTER CONSTRUCTION IS COMPLETE.:

1. Fl-Co
2. Sb
3. Ds3, Ds4
4. Tac
5. Ch
6. Di
7. Dn2
8. Ga
9. Gr
10. Lv
11. Rd
12. Re
13. St
14. Wt

WASTE DISPOSAL, SANITARY SEWER, SEPTIC TANK REGULATIONS (ES&PC PLAN COMPLIANCE):

Construction Debris shall be recycled to the extent deemed practical by Owner/Contractor. All waste generated from the development of this site,including but not limited to, solid waste, liquid waste, chemical waste, construction waste, sanitary sewer discharge, septic tank and septic systems waste, shall be collected and disposed of in a manner that follows all local, state, and federal laws and regulations for collection and disposal of each type of waste. All required signage, notification, documentation, and training of personnel on correct handling of waste shall be done in a manner that follows all local, state, and federal laws and regulations. Owner/Contractor is responsible for obtaining the services (and facilities) of a licensed Waste Management Company in the state of Georgia to adequately and safely handle waste collection and disposal. Solid materials, including building materials, shall not be discharged to waters of the State, except as authorized by a Section 404 permit.

BMP'S FOR PETROLEUM SPILLS AND LEAKS:

1. Fix any leaks immediately, maintain and clean equipment regularly
2. Designate areas for equipment maintenance and fueling that are located on level ground and away from any water sources.
3. Park and service equipment on top of tarps to insure any spills or leaks do not get into the ground.
4. Store all fluids and containers in a leak-proof, locked container to insure safe storage.
5. Collect and remove all leftover lubricants, containers, and trash, especially tires, batteries, pieces or parts of equipment, and all fluid containers.
6. Maintain a spill-containment and clean up kit. At a minimum, a kit for petroleum products should include:
    a. A leak proof container to catch leaking fluid.
    b. A shovel, rake, and other hand tools to create dirt berms.
    c. Absorbent pads, adsorbent substances such as cat litter or oil drying agents, that will absorb fluids before soaking into ground.
    d. Various hoses, plugs, and clamps to control a hydraulic line break. A variety of locking "vise grips" pliers can be used in emergency.
    e. Large plastic bags to store any contaminated materials for disposal.
7. Temporary fueling areas shall be installed and operated in compliance with Georgia E.P.D. regulations.

POSSIBLE POLLUTANT SOURCES FOR THIS PROJECT:

Sediment Loss, Construction Debris, Petroleum Products, Concrete Products, Epoxies and Grouts, Fertilizers (Overuse), Tac applications (Overuse), Paint Products, Asphalt Products. Contractor shall maintain a clean working environment at all times and reduce and contain the pollution generated by these and other pollutants that are to be utilized for the construction of this project. Contractor shall follow all local, state, and federal laws in handling all polluting products.

NON-STORM WATER DISCHARGES ALLOWED UNDER PERMIT:

1. Fire fighting activities
2. Fire hydrant flushing
3. Potable water sources including water line flushing
4. Irrigation drainage
5. Air conditioning condensation
6. Springs
7. Uncontained Ground Water
8. Foundation or footing drains where flows are not contaminated with process materials or pollutants.

Each of these discharges shall be treated for storm water pollutants in BMPs applied on the site. Discharge from each of these shall be routed to a temporary sediment basin within the same drainage area.

PRODUCT SPECIFIC PRACTICES:

All pollutants from waste disposal practices, soil additives, remediation of spills and leaks of petroleum products, concrete truck washout, etc., should any of these occur, shall be controlled by the implementation of appropriate best management practices. the site shall be in compliance with all applicable state and local waste disposal, sanitary sewer or septic system regulations.

Petroleum Based Products - Containers for products such as fuels, lubricants, and tars shall 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 shall 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 includes collection in a suitable container and disposal as required by local and State regulations.

Paints/Finishes/Solvents - All products shall be stored in tightly sealed original containers when not in use. Excess product shall not be discharged to the storm water collection system. Excess product, materials used with these products, and product containers shall be disposed of according to manufacturer's specifications and recommendations.

Fertilizer/Herbicides - These products shall be applied at rates that do not exceed the manufacturer's specifications or above the guidelines set forth in the crop establishment or in the GSWCC Manual for Erosion and Sediment Control in Georgia. Any storage of these materials will be under roof in sealed containers.

Building Materials - No building or construction materials shall be buried or disposed of onsite. All such material shall be disposed of in proper waste disposal procedures.

Concrete Truck Washing - NO concrete trucks shall be allowed to wash out or discharge surplus concrete or drum wash water onsite. Concrete wash down of tools, concrete mixer chutes, hoppers and the rear of vehicles will only be allowed in a designated area provided for this purpose, as shown on the drawings. the following best management practices will be followed:

(1) Contain all wash water on soil, in a bowl shaped area created in the designated wash area to prevent the wash water from flowing from the washout area;

(2) Use the minimum amount of water to wash down the tools, concrete mixer chutes, hoppers and the rear of vehicles;

(3) Remove any concrete sediment from the area surrounding the washout area before it hardens; and

(4) Remove all concrete residue from the designated area once it has hardened.

NON-EXEMPT ACTIVITIES:

Where applicable, 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.

ANY REFERENCE TO PERMIT IS REFERRING TO NPDES PERMIT NO. GAR100001.

ANY REFERENCE TO ANY PART IS REFERRING TO A PART OF NPDES PERMIT NO. GAR100001.

This plan has been prepared to meet the requirements under the State of Georgia, Department of Natural Resources, Environmental Protection Division (EPD), General Permit No. GAR100001 for authorization to discharge under the National Pollutant Discharge Elimination System (NPDES), Stormwater Discharges Associated with Construction Activity for Stand Alone Construction Projects. Daily, weekly and monthly inspections as required by Permit No. GAR100001 shall be performed by certified personnel provided by the Contractor. Sampling requirements as required by Permit No. GAR100001 shall be performed by certified personnel provided by the Contractor.

Contractor shall make sure construction is in accordance with regulations of the NPDES Permit No. GAR100001. This includes but is not limited to:

*Site stabilization practices

*BMP maintenance and inspections

*Spill control practices

*Waste control practices

*Monitoring plans and practices

*Vegetative and structural erosion control practices

*Pollution prevention plan and practices

*Material management practices for spill prevention plans

*Wetland and state water protection practices

*Reporting practices

REQUIRED INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE:

NPDES Permit Part IV.D.4. Inspections.

a. Permittee requirements

(1). Each day when any type of construction activity has taken place at a primary permittee's site, certified personnel provided by the primary permittee shall inspect (these inspections must be conducted until a Notice of Termination is submitted):

(a) all areas at the primary permittee's site where petroleum products are stored, used, or handled for spills and leaks from vehicles and equipment;

(b) all locations at the primary permittee's site where vehicles enter or exit the site for evidence of off-site sediment tracking.

(2). Measure rainfall once every 24 hours except any non-working Saturday, non-working Sunday and non-working Federal holiday until a Notice of Termination is submitted. Measurement of rainfall may be suspended if all areas of the site have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region.

(3). Certified personnel (provided by primary permittee) shall inspect the following at least once every seven (7) calendar days and within 24 hours of the end of a storm that is 0.5 inches rainfall or greater (unless such storm ends after 5:00 PM on any Friday, any non-working Saturday, non-working Sunday or any non-working Federal holiday, in which case inspections shall be completed by the end of the next business day and/or working day, whichever occurs first):

(a) disturbed areas of the primary permittee's construction site (that have not undergone final stabilization);

(b) areas used by the primary permittee for storage of materials that are exposed to precipitation (that have not undergone final stabilization); and

(c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's site shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s). For areas of a site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region, the permittee must comply with Part IV.D .4.a.(4). These inspections must be conducted until a Notice of Termination is submitted.

(4). Certified personnel (provided by the primary permittee) shall inspect at least once per month during the term of this permit (i.e., until a Notice of Termination is received by EPD) the areas of the site that have undergone final stabilization or established a crop of annual vegetation and a seeding of target perennials appropriate for the region. These areas shall be inspected for evidence of, or the potential for, pollutants entering the drainage system and the receiving water(s). Erosion and sediment control measures identified in the Plan shall be observed to ensure that they are operating correctly. Where discharge locations or points are accessible, they shall be inspected to ascertain whether erosion control measures are effective in preventing significant impacts to receiving water(s).

(5). Based on the results of each inspection, the site description and the pollution prevention and control measures identified in the Erosion, Sedimentation and Pollution Control Plan, the Plan shall be revised as appropriate not later than seven (7) calendar days following each inspection. Implementation of such changes shall be made as soon as practical but in no case later than seven (7) calendar days following each inspection.

(6). A report of each inspection that includes the name(s) of certified personnel making each inspection, the date(s) of each inspection, construction phase (i.e., initial, intermediate or final), major observations relating to the implementation of the Erosion, Sedimentation and Pollution Control Plan, and actions taken in accordance with Part IV.D.4.a.(5). of the permit shall be made and retained at the site or be readily available at a designated alternate location until the entire site or that portion of a construction project that has been phased has undergone final stabilization and a Notice of Termination is submitted to EPD. Such reports shall be readily available by end of the second business day and/or working day and shall identify all incidents of best management practices that have not been properly installed and/or maintained as described in the Plan. Where the report does not identify any incidents, the inspection report shall contain a certification that the best management practices are in compliance with the Erosion, Sedimentation and Pollution Control Plan. The report shall be signed in accordance with Part V.G.2. of this permit.

ADDITIONAL EROSION CONTROL NOTES:

1. Maximum cut slopes are 2:1, 2 horizontal to 1 vertical, unless otherwise noted.
2. Maximum fill slopes are 3:1, 3 horizontal to 1 vertical, unless otherwise noted.
3. All buffers, tree save areas, and/or limits of disturbance shall be clearly marked in the field by the contractor by flagging or fencing and signage, prior to commencement of any land disturbance activities or clearing/grubbing activities. Buffers, tree save areas, and areas beyond limits of disturbance are to be left undisturbed in their natural state.
4. Contractor shall not disturb underground utilities while installing Erosion, Sedimentation and Pollution Control Practices. Contractor shall have all utilities field located before proceeding with any work.
5. Contractor shall notify design professional 48 hours before beginning each phase of construction.
6. Contractor shall notify City of Clarkston inspectors 24 hours before beginning each phase of construction.
7. Construction debris and/or waste shall not be buried or burned on site. All construction debris and/or waste shall be taken to a state approved landfill.
8. All buffers and tree save areas shall be clearly identified by flagging and/or fencing prior to commencement of any land disturbance activities.
9. The installation of erosion and sedimentation control measures and practices shall occur prior to or concurrent with land disturbing activities and construction on the site and shall be maintained until permanent ground cover is established to 90%.
10. All initial phase Erosion, Sedimentation and Pollution Control best management practices shall be installed prior to any grading.
11. All Erosion, Sedimentation and Pollution Control best management practices shall be inspected and repaired of damage daily. Any accumulated silt shall be removed and spread on site and controlled with temporary mulching and/or grassing.
12. Erosion, Sedimentation, and Pollution Control best management practices shall be maintained at all times. ADDITIONAL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE INSTALLED IF DEEMED NECESSARY BY ON-SITE INSPECTION OR AS REQUIRED BY ENGINEER OR LOCAL JURISDICTION INSPECTOR.
13. Maintenance of all soil erosion and sedimentation control measures and practices whether temporary or permanent shall be the responsibility of the contractor.
14. Any discrepancy within these plans shall be referred to the design professional by the contractor for clarification before proceeding with work.
15. Sediment storage maintenance indicators must be installed in sediment storage structures, indicating the 1/3 full volume.
16. Contractor shall provide temporary diversion berms and down drains on fill slopes to prevent erosion prior to stabilization.
17. Contractor shall remove accumulated sediment from detention basin at end of construction when all disturbed areas have been fully stabilized.

INITIAL INSPECTION AND REPORTING:

5. For stand alone projects that begin construction activity after the effective date of this permit, the primary permittee must retain the design professional who prepared the Erosion, Sedimentation and Pollution Control Plan, except when the primary permittee has requested in writing and EPD has agreed to an alternate design professional, to inspect the installation of the initial sediment storage requirements and perimeter control BMPs which the design professional designed within seven (7) days after installation. 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 permittee 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.

ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE SAMPLES:

NPDES Permit Part IV.D.6. Sampling Requirements.

a. Sampling Requirements shall include the following:

(1) A USGS topographic map, a topographic map or a drawing (referred to as a topographic map) that is a scale equal to or more detailed than a 1 :24000 map showing the location of the site or the stand alone construction;

(a) the location of all perennial and intermittent streams and other water bodies as shown on a USGS topographic map, and all other perennial and intermittent streams and other water bodies located during mandatory field verification, into which the storm water is discharged and

(b) the receiving water and/or outfall sampling locations. When the permittee has chosen to use a USGS topographic map and the receiving water(s) is not shown on the USGS topographic map, the location of the receiving water(s) must be hand-drawn on the USGS topographic map from where the stormwater(s) enters the receiving water(s) to the point where the receiving water(s) combines with the first blue line stream shown on the USGS topographic map;

(2). A written narrative of site specific analytical methods used to collect, handle and analyze the samples including quality control/quality assurance procedures. This narrative must include precise sampling methodology for each sampling location;

(3). When the permittee has determined that some or all outfalls will be sampled, a rationale must be included on the Plan for the NTU limit(s) selected from Appendix B. This rationale must include the size of the construction site, the calculation of the size of the surface water drainage area, and the type of receiving water(s) (i.e., trout stream or supporting warm water fisheries); and

(4). Any additional information EPD determines necessary to be part of the Plan. EPD will provide written notice to the permittee of the information necessary and the time line for submittal.

b. Sample Type. All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved); the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.

(1). Sample containers should be labeled prior to collecting the samples.

(2). Samples should be well mixed before transferring to a secondary container.

(3). Large mouth, well cleaned 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 turbidimeter. Samples are not required to be cooled.

(5). Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.

c. Sampling Points.

(1). For construction activities the primary permittee must sample all receiving water(s), or all outfall(s}, or a combination of receiving water(s) and outfall(s). Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the 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 water 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 and areas located outside the waste disposal limits of a landfill cell that has been certified by EPD for waste disposal, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region).

(h). All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether storm water runoff from the construction site is in compliance with the standard set forth in Parts 111.D.3. or 111.D.4, whichever is applicable.

d. Sampling Frequency.

(1). The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within in forty-five (45) minutes or as soon as possible.

(2). However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the 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 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 submittal of a NOT, in the drainage area of the location selected as the sampling location, whichever comes first;

(c). At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site that discharges to a receiving water or from an outfall are not properly designed, installed and maintained, corrective action shall be defined and implemented within two (2) business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained;

(d). Where sampling pursuant to (a), (b) or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (a), (b) or (c) above; and

(e). Existing construction activities, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.

*Note that the permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

SANITARY WASTES:

A minimum of one portable sanitary unit will be provided for every ten (10) workers on the site. All sanitary waste will be collected from the portable units a minimum of one time per week by a licensed portable facility provider in complete compliance with local and state regulations.

All sanitary waste units will be located in one area where the likelihood of the unit contributing storm water discharge is negligible. Additional containment BMP's must be implemented, such as gravel bags or specially designed plastic skid containers around the base to prevent wastes from contributing to storm water discharges. The location of sanitary waste units must be identified on the ES&PC Plan b the contractor once the locations have been determined.

Sanitary sewer will be provided by Municipal Authority/Septic System at the completion of this Project.

SPILL CLEANUP AND CONTROL PRACTICES:

Local, state and manufacturer's recommended methods for spill clean up will be clearly posted and procedures will be made available to site personnel. 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. Spill prevention practices and procedures will be reviewed after a spill and adjusted as necessary to prevent future spills. All spills will be cleaned up immediately upon discovery. All spills will be reported as required by local, state and federal regulations. For spills that impact surface water (leave a sheen on surface water), the National Response Center (NRC) will be contacted within 24 hours at 1-800-424-8802. For spills of an unknown amount, the NRC will be contacted within 24 hours at 1-800-424-8802. For spills greater than 25 gallons and no surface water impacts, the Georgia EPD will be contacted within 24 hours. For spills less than 25 gallons and no surface water impacts, 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 1,320 gallons of petroleum is stored onsite (this includes capacities of equipment) or if any one piece of equipment has capacity greater than 660 gallons. The contractor will need a spill prevention containment and countermeasures plan prepared by that licensed professional.

All pollutants from waste disposal practices, soil additives, remediation of spills and leaks of petroleum products, concrete truck washout, etc., should any of these occur, will be controlled by the implementation of appropriate best management practices. The site will be in compliance with all applicable state and local waste disposal, sanitary sewer or septic system regulations.

RETENTION OF RECORDS:

1. The primary permittee shall retain the following records at the construction site or the records shall be readily available at a designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VI:
    a. A copy of all Notices of Intent submitted to EPD;
    b. A copy of the Erosion, Sedimentation and Pollution Control Plan required by this permit;
    c. The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5. of this permit;
    d. A copy of all monitoring 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.(1)(c) of this permit.
2. Copies of all Notices of Intent, Notices of Termination, reports, plans, monitoring reports, monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, 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.

VICINITY MAP
NOT TO SCALE

GPS COORDINATES
N 33°48'55.43" W 84°14'20.05"
N 33.815310 W -84.238926

NPDES Permit Part IV.E. Reporting:

1. The applicable permittees are required to submit the sampling results to the EPD at the address shown in Part II.C. by the fifteenth day of the month following the reporting period. Reporting periods are months during which samples are taken in accordance with this permit. Sampling results shall be in a clearly legible format. Upon written notification, EPD may require the applicable permittee to submit the sampling results on a more frequent basis. Sampling and analysis of any 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:

Mountain District- Atlanta Satellite
Georgia Environmental Protection Division
4244 International Parkway, Suite 114
Atlanta, GA 30354-3906
(404) 362-2671

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.

CRITICAL AREAS AND ADDITIONAL MEASURES:

1. Critical Area: Install silt fence as shown to prevent sediment runoff

PRIMARY PERMITTEE CONTACT INFORMATION:

City of Clarkston
1055 Rowland Street
Clarkston, Georgia 30021
PH: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

INTENDED LAND DISTURBANCE CONSTRUCTION ACTIVITY SEQUENCE:

Initial Phase:
1. Install Initial Perimeter Silt Fence, and Construction Entrance.
2. Coordinate Site Review Meeting with Engineer and/or Local Issuing Authority

Intermediate Phase:
1. Throughout Land Disturbance Process Maintain Existing BMP's (Vegetative and Structural Practices)
2. Throughout Land Disturbance Process Continue NPDES Monitoring and Reporting
3. Coordinate with Utility Companies on Utility/Sleeve Locations
4. Begin Clearing, Grubbing, Topsoiling, and Grading Operations
5. Install Topsoil pile and immediately grass/mulch and install surrounding silt fence.
6. As areas are brought to finish grade, grass and blanket any areas that are finish grade or that will be left bare for 14 days.
7. Immediately install each storm structure with associated Sd2's. Add floc logs to each storm structure.
8. Grass / mulch disturbed areas and install intermediate BMPs.
9. Grass / mulch disturbed areas and install associated Intermediate BMPs.
10. Grass / mulch disturbed areas and install associated Intermediate BMPs.
11. Grass / mulch disturbed areas and install intermediate BMPs.
12. Grass / mulch disturbed areas and install intermediate BMPs.
13. Finish Grade and stabilize disturbed areas with permanent vegetation.

Final Phase:
1. Throughout Land Disturbance Process Maintain Existing BMP's (Vegetative and Structural Practices)
2. Throughout Land Disturbance Process Continue NPDES Monitoring and Reporting
3. Achieve Final Site Stabilization
4. Coordinate Site Review Meeting with Engineer and/or Local Issuing Authority Inspector
5. Remove any temporary BMP practices once site stabilization is achieved and signed off by Engineer.
6. Coordinate Site Review Meeting with Engineer for final site approval.

NATURE OF CONSTRUCTION ACTIVITY:

PROJECT LOCATION:	18-119-01-040
PROJECT ADDRESS:	4399 E PONCE DE LEON AVENUE; CLARKSTON, GA 30021
PROJECT TYPE:	WETLAND ENHANCEMENT WITH STREAM BANK IMPROVEMENTS
IMPROVEMENTS TO BE MADE:	WETLAND ENHANCEMENT WITH STREAM BANK IMPROVEMENTS
SITE ACREAGE:	18.4 ACRES
DISTURBED ACREAGE:	3.94 ACRES
STATE WATERS ON SITE:	YES
EPD BUFFER ENCROACH. PERMIT REQ'D	YES
STATE AND LOCAL BUFFERS ADHERED TO:	YES
WETLANDS OR WATERS OF US ON SITE:	YES
RECEIVING WATERS:	SOUTH FORK PEACHTREE CREEK

ESTIMATE OF RUNOFF COEFFICIENT OR PEAK DISCHARGE FLOW PRE AND POST DEVELOPMENT CONDITIONS:

PRE C VALUE:	79
POST C VALUE:	79
PRE Q 100YR (CFS):	447.75
POST Q 100YR (CFS):	447.75

EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN CERTIFICATION:

I certify that the permittee's Erosion, Sedimentation and Pollution Control Plan provides for an appropriate and comprehensive system of Best Management Practices (BMP's) 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. GAR 100001.

Signed: WKCampbell Date:09/15/2017

Environs Design Studio, LLC
WILLIAM K. CAMPBELL
Level II Certified Design Professional # 1855 - Exp. 08/01/2018

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."

Signed: ______________ Date:09/15/2017
SIGNATURE OF OWNER AND DATE

I, WILLIAM K. CAMPBELL, 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.

Signed: WKCampbell Date:09/15/2017
SIGNATURE OF PLAN PREPARER AND DATE

I certify that I, as the professional who prepared the ES&PC Plan, will inspect the installation of the initial phase of Erosion, Sedimentation, and Pollution Control approved BMP's shown on the plan within 7 days after initial construction activity begins.

Signed: WKCampbell Date:09/15/2017
SIGNATURE OF PLAN PREPARER AND DATE

SOIL SERIES (PER NRCS MAPS SOILS ARE SHOWN AS):

Ca - Cartecay silt loam, AkA - Altavista fine sandy loam
PfD - Pacolet sandy loam, Tf - Toccoa sandy loam
AwE - Ashlar-Wedowee complex

Maintenance of all soil erosion and sedimentation control measures and practices, whether temporary or permanent, shall be at all times the responsibility of the property owner.

REFER TO SHEETS L-1.0 AND L-8.0 FOR CONSTRUCTION REQUIREMENTS AND SPECIFICATIONS

MINIMUM QUALIFICATIONS OF INSPECTORS:

"Design Professional" means a professional licensed by the state of GA in the field of: engineering, architecture, landscape architecture, forestry, geology, or land surveying; or a person that is a certified professional in erosion and sediment control (CPESC) with a current certification by Envirocert International, Inc. Design professionals shall practice in a manner that complies with applicable GA law governing professional licensure.

"Certified Personnel" means a person who has successfully completed the appropriate certification course approved by the State Soil and Water Conservation Commission.

REVISIONS SHOWN ON ES&PC PLAN:

Any amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with hydraulic component must be certified by the design professional.

HAZARDOUS WASTES:

All hazardous waste materials will be disposed of in the manner specified by local, state, and/or federal regulations and by the manufacturer of such products. The job site superintendent, who will also be responsible for seeing that these practices are followed, will instruct site personnel in these practices. Material Safety Data Sheets (MSDS's) for each substance with hazardous properties that is used on the job site will be obtained and used for the proper management of potential wastes that may result from these products. An MSDS will be posted in the immediate area where such product is stored and/or used and another copy of each MSDS will be maintained in the ESPCP file at the job site construction trailer office. Each employee who must handle a substance with hazardous properties will be instructed on the use of MSDS sheets and the specific information in the applicable MSDS for the product he/she is using, particularly regarding spill control techniques.

The contractor will implement the Spill Prevention Control Countermeasures (SPCC) Plan found within this ESPCP and will train all personnel in the proper cleanup and handling of spilled materials. No spilled hazardous materials or hazardous waste will be allowed to come in contact with the stormwater discharges. If such contact occurs, the stormwater discharge will be contained on site until appropriate measures in compliance with state and federal regulations are taken to dispose of such contaminated stormwater. It shall be the responsibility of the job site superintendent to properly train all personnel in the use of the SPCC plan.

Environs
LANDSCAPE ARCHITECTURE
& ECOLOGICAL PLANNING

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www.environsla.com

professional seal

GEORGIA REGISTERED
NO. 1220
PROFESSIONAL
LANDSCAPE ARCHITECT
KENT CAMPBELL

project information

FRIENDSHIP FOREST PARK
WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

REVISIONS

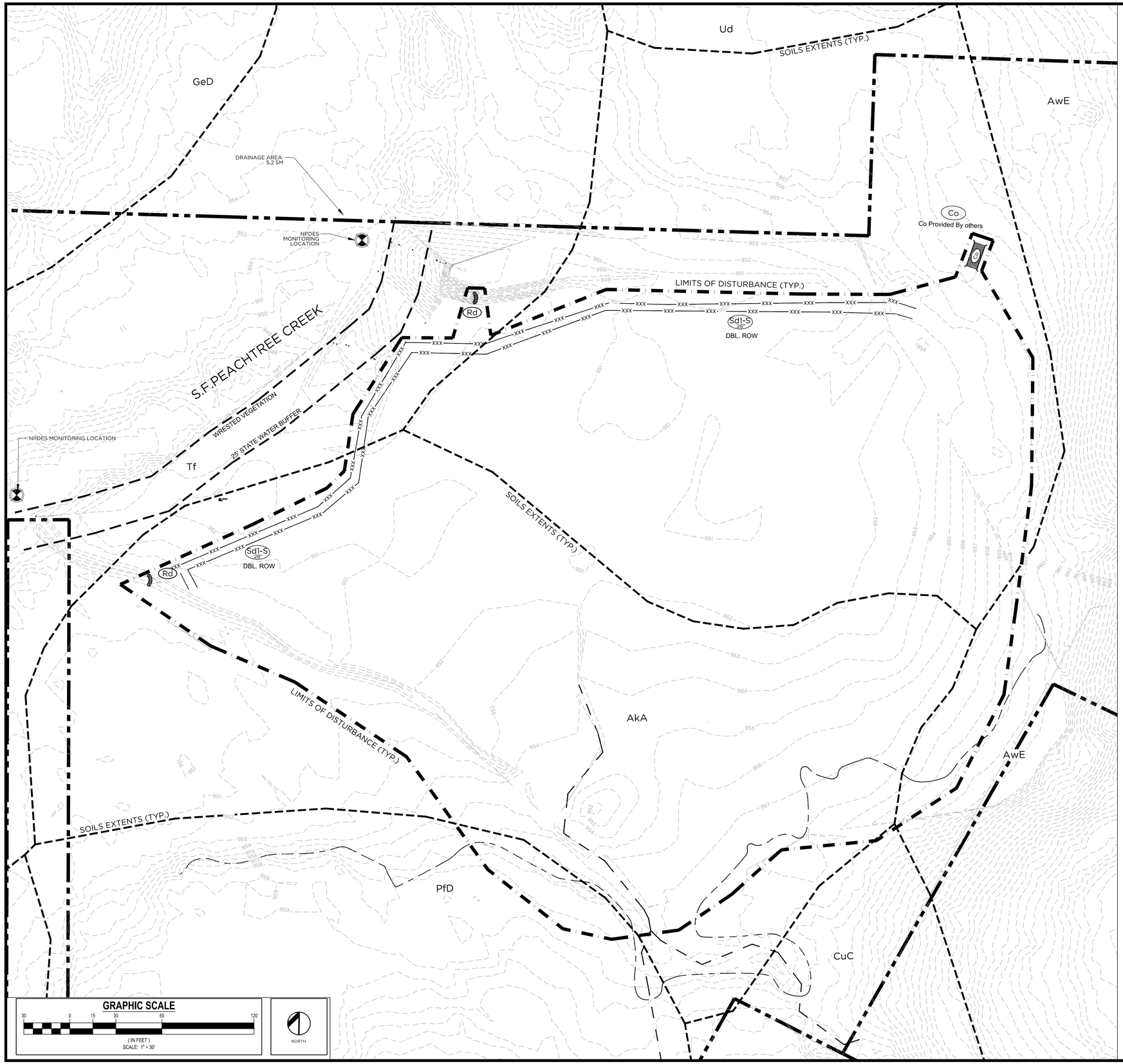
NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

sheet title

EROSION CONTROL NOTES

sheet number

L-4.0



GEORGIA UNIFORM CODING SYSTEM
SOIL EROSION & SEDIMENT CONTROL

STRUCTURAL PRACTICES

Code	Practice	Code	Practice
Cd-F	Compost Filter Sock	Gd2-A	Inlet Sediment Trap (Gravel Drop Inlet Protection)
Cd-HB	Straw-Bale Check Dams	Gd2-B	Inlet Sediment Trap (Curb Inlet Protection)
Cd-S	Stone Check Dams	Gd2-P	Inlet Sediment Trap (Sod Inlet Protection)
Ch-1	Channel Stabilization - Category 1 (Vegetated/Sod)	Sd3	Temporary Sediment Basin
Ch-2	Channel Stabilization - Category 2 (Rip-Rap, TRM)	Sd4	Temporary Sediment Trap
Ch-3	Channel Stabilization - Category 3 (Concrete)	Sk	Floating Filter Surface Skimmer
Co	Construction Exit	SpB	Seep Berm
Cr	Construction Road Stabilization	Sr-B	Temporary Stream Crossing (Bridge)
Dc-A	Stream Diversion Channel (Geotextile, Soil, or Polyethylene film)	Sr-C	Temporary Stream Crossing (Culvert)
Dc-B	Stream Diversion Channel (Geotextile alone)	St	Storm Drain Outlet Protection
Dc-C	Stream Diversion Channel (Class I Rip-Rap and Geotextile)	Su	Surface Roughening
Di	Diversion	Tc-F	Turbidity Curtain (Floating)
Dn1	Temporary Downdrain Structure	Tc-S	Turbidity Curtain (Staked)
Dn2	Permanent Downdrain Structure	Tp	Topsoiling
Fr	Filter Ring	Wt	Vegetated Waterway or Stormwater Conveyance Channel
Ga	Gabion		
Gr	Grade Stabilization Structure		
Lv	Level Spreader		
Rd	Rock Filter Dam		
Re	Retaining Wall		
Rt-B	Retrofit (Slotted Board Dam w/ Stone or Filter Fabric)		
Rt-P	Retrofit Perforated Half-Round Pipe w/ Stone Filter)		
St-So	Retrofit (Silt Control Gate)		
Sd-Bl	Sediment Barrier (Type = Brush Barrier)		
Sd-Ns	Sediment Barrier (Type = Non-Sensitive Areas)		
Sd1-S	Sediment Barrier (Type = Sensitive Areas)		
Sd1-C	Sediment Barrier (Type = Compost Filter Media Sock)		
Gd2-P	Inlet Sediment Trap (Baffle Box)		
Gd2-P	Inlet Sediment Trap (Block & Gravel Drop Inlet Protection)		
Gd2-P	Inlet Sediment Trap (Excavated Inlet Sediment Trap)		
Gd2-P	Inlet Sediment Trap (Filter Fabric w/ Supporting Frame)		

VEGETATIVE MEASURES

Code	Practice
Bf	Buffer Zone
Cs	Coastal Dune Stabilization (w/ Vegetation)
Ds1	Disturbed Area Stabilization (w/ Mulching Only)
Ds2	Disturbed Area Stabilization (w/ Temporary Seeding)
Ds3	Disturbed Area Stabilization (w/ Permanent Vegetation)
Ds4	Disturbed Area Stabilization (w/ Sodding)
Du	Dust Control on Disturbed Areas
Fl-Co	Flocculants Coagulants
Sb	Streambank Stabilization (Using Permanent Vegetation)
Ss	Slope Stabilization (Rolled Erosion Control Products (RECPS))
Tac-1	Tackifiers: Type I (Synthetic Polymers)
Tac-2	Tackifiers: Type II (Organic Polymers)
Tac-3	Tackifiers: Type III (Synthetic/ Organic Blends)
Tac-4	Tackifiers: Type IV (Organic Tackifiers w/ Synthetic Fibers)
Tac-5	Tackifiers: Type V (Synthetic/Organic Blends w/ Synthetic Fibers)

Indicate type

OWNER/DEVELOPER
COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Mr. Keith Barker
PHONE: 770-296-6489
FAX: 770-296-6480
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR
COMPANY: TO BE DETERMINED
ADDRESS: ADDRESS LINE 1
ADDRESS LINE 2
CONTACT: CONTACT NAME
PHONE: PH: NUMBER
FAX: FAX
EMAIL: CONTACT EMAIL

SURVEYOR
COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: 706-342-1104
FAX: 706-342-1105
EMAIL: brian@georgiacivil.com

SITE DESIGNER
COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

GSWCC EROSION CONTROL NOTES:
The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, concurrent with, land disturbing activities.

Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.

Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding.

Any 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.

Maintenance of all soil erosion and sedimentation control measures and practices, whether temporary or permanent, shall be at all times the responsibility of the property owner.

LIMITS OF DISTURBANCE: 3.94 ACRES

EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN CERTIFICATION:

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Signed: _____ Date: 09/13/2017
Environs Design Studio, LLC
WILLIAM K. CAMPBELL
Level II Certified Design Professional # 1855 - Exp. 08/01/2018

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."

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GEORGIA REGISTERED No. 1220 PROFESSIONAL KENT CAMPBELL LANDSCAPE ARCHITECT

project information

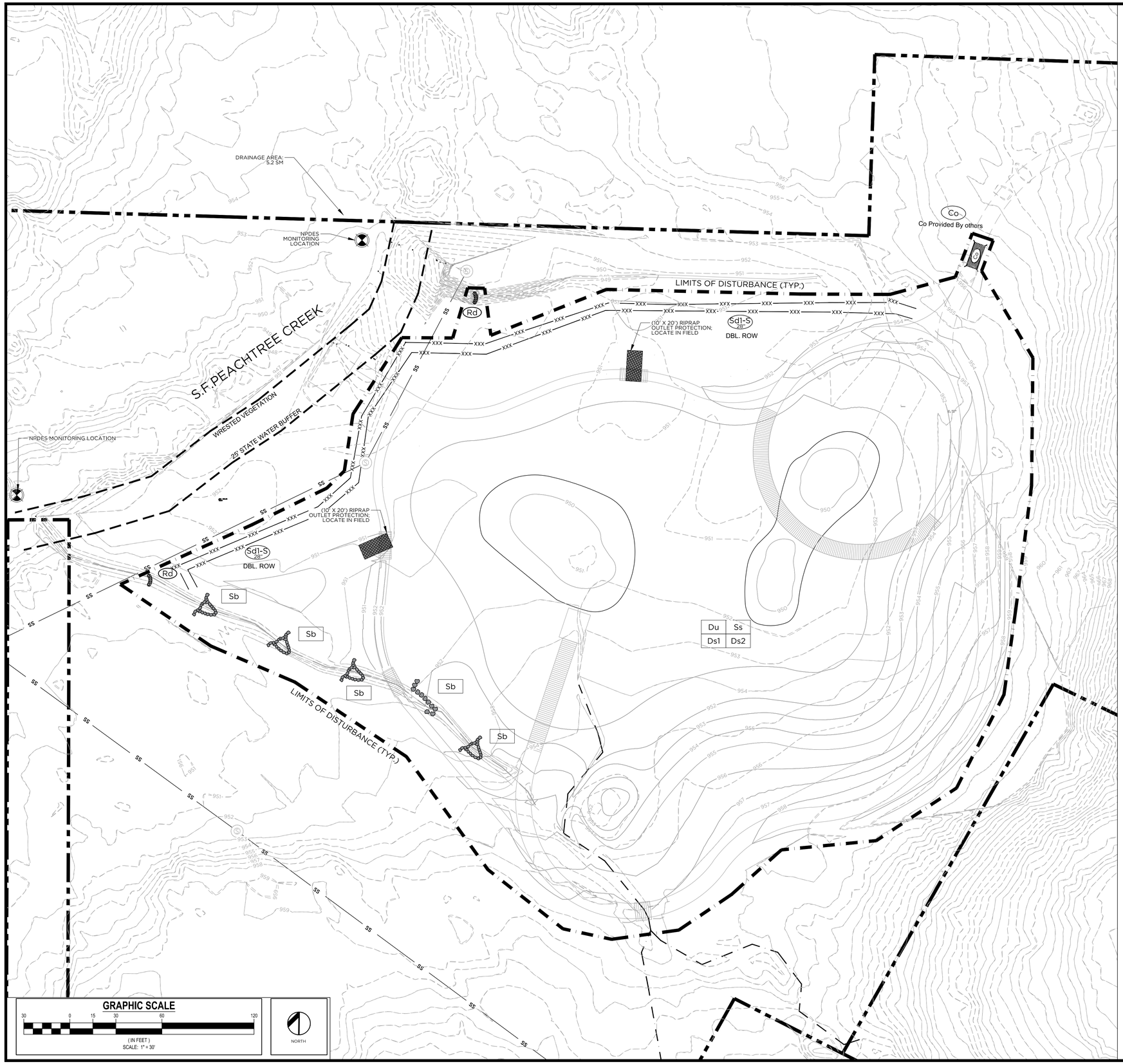
FRIENDSHIP FOREST PARK
WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS		
NO.	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

sheet title
CLEARING PHASE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN

sheet number
L-4.1



GEORGIA UNIFORM CODING SYSTEM
SOIL EROSION & SEDIMENT CONTROL

STRUCTURAL PRACTICES

Code	Practice	Symbol
Cd-F	Compost Filter Sock	Cd-F
Cd-HB	Straw-Bale Check Dams	Cd-HB
Cd-S	Stone Check Dams	Cd-S
Ch-1	Channel Stabilization - Category 1 (Vegetated/Sod)	Ch-1
Ch-2	Channel Stabilization - Category 2 (Rip-Rap, TRM)	Rip-Rap, TRM
Ch-3	Channel Stabilization - Category 3 (Concrete)	Ch-3
Co	Construction Exit	Co
Cr	Construction Road Stabilization	Cr
Dc-A	Stream Diversion Channel (Geotextile, Soil, or Polyethylene film)	Dc-A or Dc-B or Dc-C
Dc-B	Stream Diversion Channel (Geotextile alone)	
Dc-C	Stream Diversion Channel (Class I Rip-Rap and Geotextile)	
Di	Diversion	Di
Dn1	Temporary Downdrain Structure	Dn1
Dn2	Permanent Downdrain Structure	Dn2
Fr	Filter Ring	Fr
Ga	Gabion	Ga
Gr	Grade Stabilization Structure	Gr
Lv	Level Spreader	Lv
Rd	Rock Filter Dam	Rd
Re	Retaining Wall	Re
Rt-B	Retrofit (Slotted Board Dam w/ Stone or Filter Fabric)	Rt-B
Rt-P	Retrofit Perforated Half- Round Pipe w/ Stone Filter)	Rt-P
St-Sg	Retrofit (Silt Control Gate)	St-Sg
Sdl-Bl	Sediment Barrier (Type = Brush Barrier)	Sdl-Bl
Sdl-N3	Sediment Barrier (Type = Non-Sensitive Areas)	Sdl-N3
Sdl-S	Sediment Barrier (Type = Sensitive Areas)	Sdl-S
Sdl-Cl	Sediment Barrier (Type = Compost Filter Media Sock)	Sdl-Cl
Sd2-I	Inlet Sediment Trap (Baffle Box)	Sd2-I
Sd2-IB	Inlet Sediment Trap (Block & Gravel Drop Inlet Protection)	Sd2-IB
Sd2-I	Inlet Sediment Trap (Excavated Inlet Sediment Trap)	Sd2-I
Sd2-F	Inlet Sediment Trap (Filter Fabric w/ Supporting Frame)	Sd2-F
Sd2-A	Inlet Sediment Trap (Gravel Drop Inlet Protection)	Sd2-A
Sd2-B	Inlet Sediment Trap (Curb Inlet Protection)	Sd2-B
Sd2-S	Inlet Sediment Trap (Sod Inlet Protection)	Sd2-S
Sd3	Temporary Sediment Basin	Sd3
Sd4	Temporary Sediment Trap	Sd4
Sk	Floating Filter Surface Skimmer	Sk
SpB	Seep Berm	SpB
Sr-B	Temporary Stream Crossing (Bridge)	Sr-B
Sr-C	Temporary Stream Crossing (Culvert)	Sr-C
St	Storm Drain Outlet Protection	St
Su	Surface Roughening	Su
Tc-F	Turbidity Curtain (Floating)	Tc-F
Tc-S	Turbidity Curtain (Staked)	Tc-S
Tp	Topsoiling	Tp
Wt	Vegetated Waterway or Stormwater Conveyance Channel	Wt

VEGETATIVE MEASURES

Bf	Buffer Zone	Bf
Cs	Coastal Dune Stabilization (w/ Vegetation)	Cs
Ds1	Disturbed Area Stabilization (w/ Mulching Only)	Ds1
Ds2	Disturbed Area Stabilization (w/ Temporary Seeding)	Ds2
Ds3	Disturbed Area Stabilization (w/ Permanent Vegetation)	Ds3
Ds4	Disturbed Area Stabilization (w/ Sodding)	Ds4
Du	Dust Control on Disturbed Areas	Du
Fl-Co	Flocculants Coagulants	Fl-Co
Sb	Streambank Stabilization (Using Permanent Vegetation)	Sb
Ss	Slope Stabilization (Rolled Erosion Control Products (RECPS))	Ss
Tac-1	Tackifiers: Type I (Synthetic Polymers)	Tac-1
Tac-2	Tackifiers: Type II (Organic Polymers)	Tac-2
Tac-3	Tackifiers: Type III (Synthetic/ Organic Blends)	Tac-3
Tac-4	Tackifiers: Type IV (Organic Tackifiers w/ Synthetic Fibers)	Tac-4
Tac-5	Tackifiers: Type V (Synthetic/Organic Blends w/ Synthetic Fibers)	Tac-5

Indicate type

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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."

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LEVEL II CERTIFIED
DESIGN PROFESSIONAL

1855 - EXP. 08/01/2018

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COMPANY: City of Covington
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Mr. Keith Barker
PHONE: 770-296-6489
FAX: 770-296-6480
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR
COMPANY: TO BE DETERMINED
ADDRESS: ADDRESS LINE 1
ADDRESS LINE 2
CONTACT: CONTACT NAME
PHONE: PH: NUMBER
FAX: FAX
EMAIL: CONTACT EMAIL

SURVEYOR
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ADDRESS: P.O. Box 186
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CONTACT: Brian Slate, PLS
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SITE DESIGNER
COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

GSWCC EROSION CONTROL NOTES:

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Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.

Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding.

Any 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.

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LIMITS OF DISTURBANCE: 3.94 ACRES

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project information

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NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
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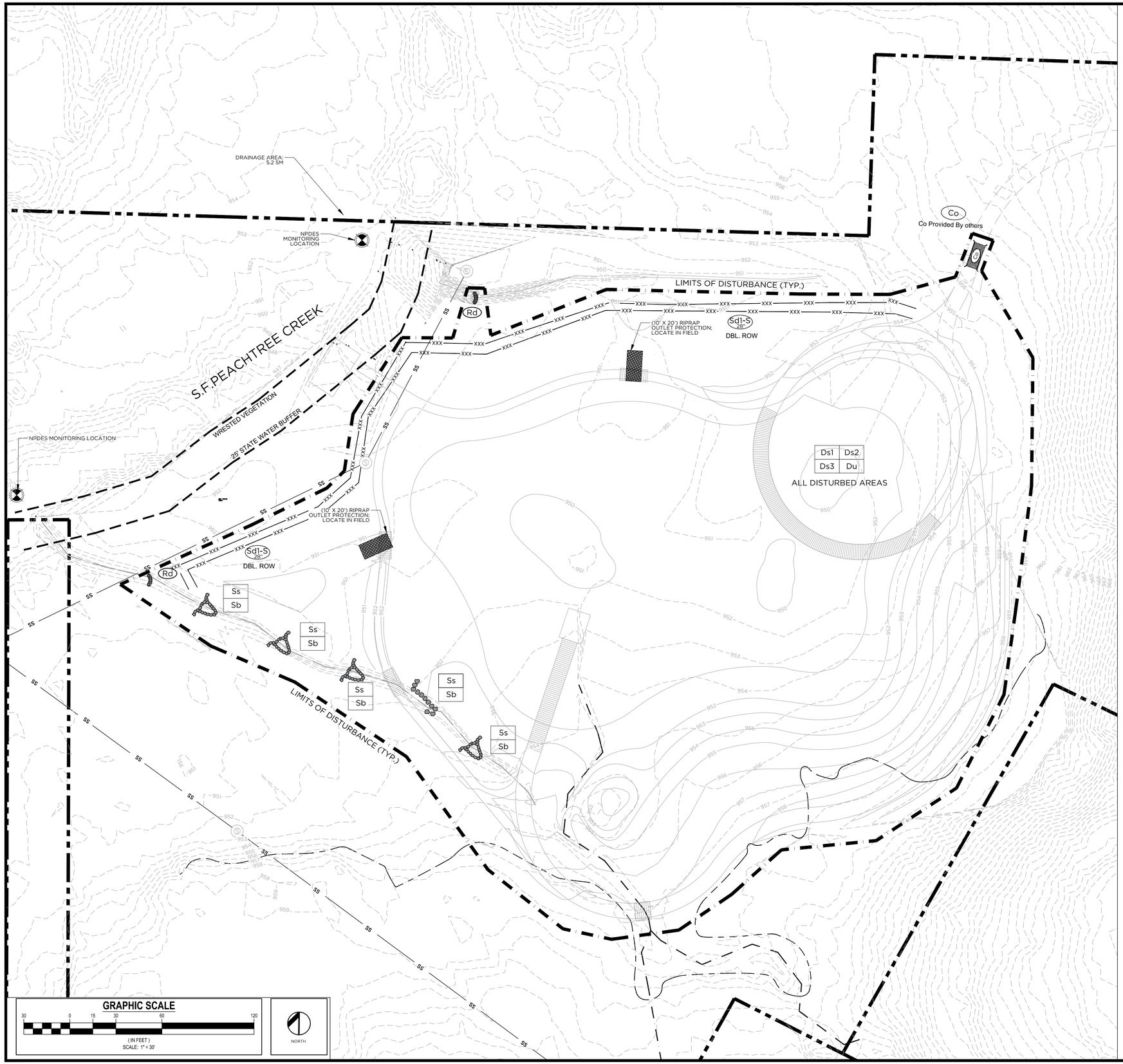
DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

sheet title

GRADING PHASE
EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN

sheet number

L-4.2



GEORGIA UNIFORM CODING SYSTEM
SOIL EROSION & SEDIMENT CONTROL

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Ch-2	Channel Stabilization - Category 2 (Rip-Rap, TRM)	Sd4	Temporary Sediment Trap
Ch-3	Channel Stabilization - Category 3 (Concrete)	Sk	Floating Filter Surface Skimmer
Co	Construction Exit	SpB	Seep Berm
Cr	Construction Road Stabilization	Sr-B	Temporary Stream Crossing (Bridge)
Dc-A	Stream Diversion Channel (Geotextile, Soil, or Polyethylene film)	Sr-C	Temporary Stream Crossing (Culvert)
Dc-B	Stream Diversion Channel (Geotextile alone)	St	Storm Drain Outlet Protection
Dc-C	Stream Diversion Channel (Class I Rip-Rap and Geotextile)	Su	Surface Roughening
Di	Diversion	Tc-F	Turbidity Curtain (Floating)
Dn1	Temporary Downdrain Structure	Tc-S	Turbidity Curtain (Staked)
Dn2	Permanent Downdrain Structure	Tp	Topsoiling
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Ga	Gabion		
Gr	Grade Stabilization Structure		
Lv	Level Spreader		
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Rt-Sg	Retrofit (Silt Control Gate)		
Sdl-Bf	Sediment Barrier (Type = Brush Barrier)		
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Sd2-P	Inlet Sediment Trap (Baffle Box)		
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DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

sheet title

FINAL PHASE EROSION, SEDIMENTATION, AND POLLUTION CONTROL PLAN

sheet number

L-4.3

PLANT SCHEDULE

2017-09-22 11:59

TREES	□TY	BOTANICAL NAME / COMMON NAME	CONT	CAL	SI□E
ASI SMA	13	As□m□a □ar□□□ra / Sma□□r□□ed Pa□□a□	3 GAL		
ASI TRI	6	As□m□a r□□□a / Pa□□a□	B & B	2" Ca□	6-8□H
MAG SWE	6	Ma□□□a □□r□□□a□a / S□ee□Bay	3" CAL.		
NYS A□U	21	Nyssa a□□a□□a / Wa□er T□□e□□	B & B	2" Ca□	4-6□H
□UE NUT	9	□□er□□s □□□a□□□□ NFTA□/ H□□□□□□ N□□a□Oa□	4.5" CAL.		

SHRUBS	□TY	BOTANICAL NAME / COMMON NAME	CONT
AES PA3	15	Aes□□□s □ar□□□ra / B□□e□r□s□B□□eye	7 □a□
CAL ATH	33	Ca□y□a□□□s □□rd□s /A□e□s□ / S□ee□S□r□□	3 □a□
CEP OCC	60	Ce□□a□a□□□s □□□de□□a□s / B□□□□□□s□	3 □a□
CLE RU4	6	C□e□ra a□□□□a □R□□y S□□e□ / R□□y S□□e C□e□ra	5 □a□
FOT AI2	26	F□□er□□a □arde□□□M□ A□y□ / D□ar□W□□a der	3 □a□
ILE INK	67	I□e□□a□ra □C□m□a□a□ / C□m□a□□I□□□erry	3 □a□
LIN BEN	36	L□dera □e□□□□ / S□□e□□s□	3 □a□
RHU ARO	24	R□□s ar□ma□□a / Fra□ra□□S□ma□	3 □a□
VAC BR3	5	Va□□□□m as□e□□Br□□□□e□□ / Br□□□□e□Ra□□□eye B□□e□erry	3 □a□
VAC TIF	12	Va□□□□m as□e□□T□□□e□ / T□□□e Ra□□□Eye B□□e□erry	3 □a□
VIB DEN	25	V□□r□□m de□a□m □Arr□□□□d□ / Arr□□□□d V□□r□□m	7 □a□

GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
SCALE: 1" = 30'

OWNER/DEVELOPER

COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
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CONTRACTOR

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Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: 706-342-1104
FAX: 706-342-1105
EMAIL: brian@georgiacivil.com

SITE DESIGNER

COMPANY: ENVIRONS DESIGN STUDIO
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COVINGTON, GA 30014
PHONE: 706-342-1104

William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL

1855 - EXP. 08/01/2018

24-HOUR CONTACT
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(404) 909-5619
CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA 811 Utilities Protection Center, Inc.

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professional seal

GEORGIA REGISTERED No. 1220 PROFESSIONAL LANDSCAPE ARCHITECT KENT CAMPBELL

project information

FRIENDSHIP FOREST PARK

WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS		
NO.	DATE:	DESCRIPTION:
1		
2		
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5		

DATE OF FIRST ISSUE: 2017.08.21
DRAWN BY: JAVR
REVIEWED BY: WKC

sheet title

LANDSCAPE PLAN:

TREE AND SHRUB

sheet number

L-5.0

PLANT SCHEDULE

2017-09-22 11:46

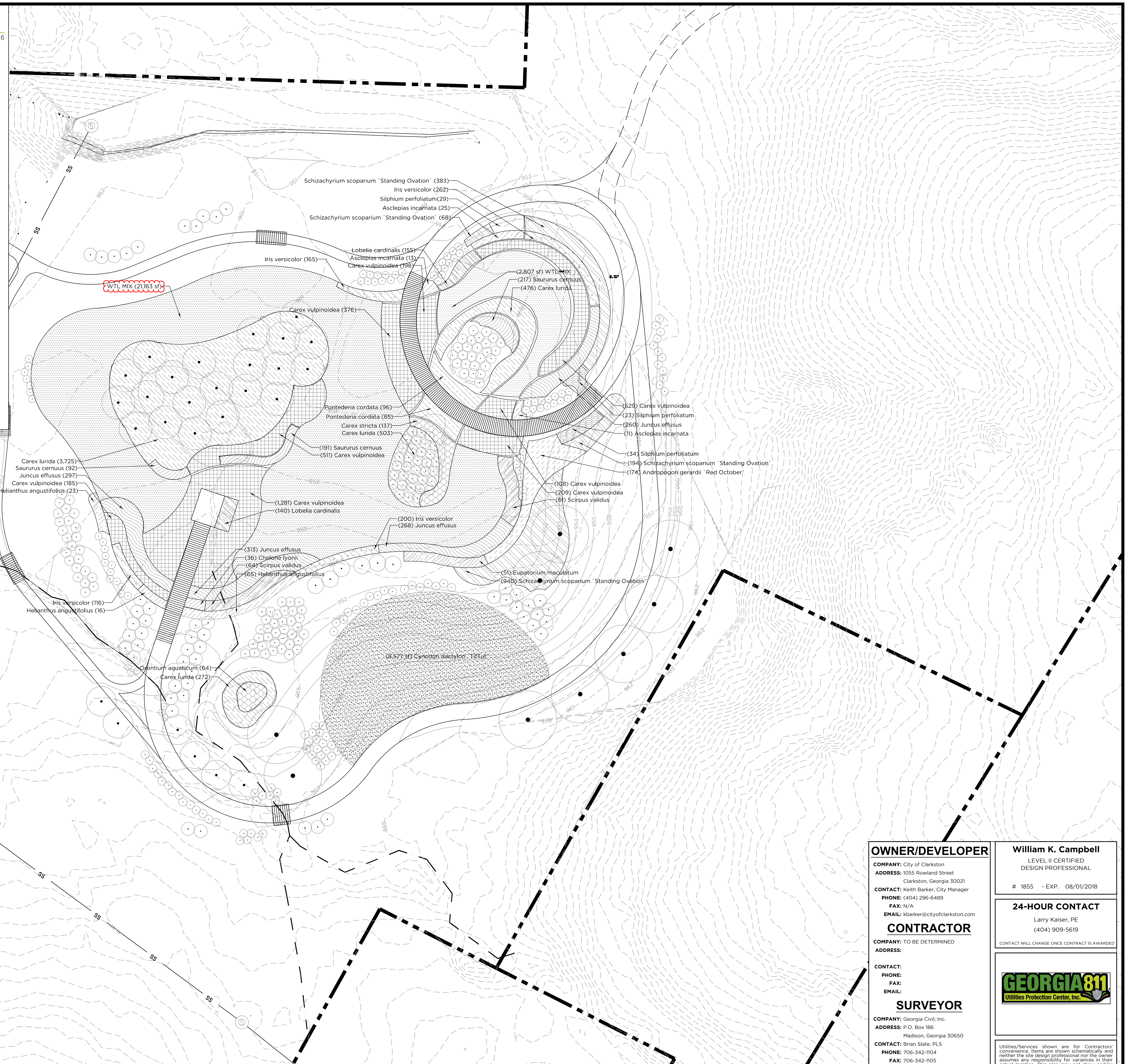
INUNDATED □ONE	□TY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
CAR ST	137	Care□s□r□□a / T□ss□□□Sed□e	LP32	24" □.□.
ORO A□U	64	Or□□□□m a□□a□□□m / G□de□□□□	LP32	24" □.□.
PON COR	181	P□□□eder□a □□rda□a / P□□□ere□Weed	4"□□□	24" □.□.
SAU CER	479	Sa□r□r□s □er□□□s / L□ard□s Ta□□	4"□□□	15" □.□.

MESIC □ONE	□TY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
AND RE5	174	A□dr□□□□□□□ □erard□□Red O□□□□er□/ B□□ B□□e S□em - Red Fa□□	4"□□□	30" □.□.
EUP JOE	51	E□□a□□r□m ma□□□a□m / J□e Pye Weed	LP32	30" □.□.
SCH ST3	1,561	S□□□a□□yr□m s□□□ar□m □S□a□d□□□O□a□□□□/ L□□□e B□□es□em Grass	4"□□□	18" □.□.
SIL CUP	57	S□□□□m □er□□□a□m / C□□ P□a□□	LP32	30" □.□.

SATURATED □ONE	□TY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
ASC INC	49	As□□e□□as □□□ar□a□a / S□am□ M□□□eed	1 GAL	30" □.□.
CAR LUR	4,976	Care□ □□r□da / L□r□d Sed□e	LP32	18" □.□.
CAR VUL	3,343	Care□ □□□□□□□dea / Br□□□ F□□ Sed□e	LP32	18" □.□.
CHE PIN	35	C□e□□□e □y□□□/ P□□□T□r□□e□ead	LP32	18" □.□.
HEL ANG	104	He□□a□□□□s a□□□□s□□□□□s / S□am□ S□□□□□er	LP32	30" □.□.
IRI VE2	737	Ir□s □ers□□□□r / B□□e F□a□	4"□□□	14" □.□.
JUN EF2	1,131	J□□□□s e□□s□s / S□□□R□s□	LP32	18" □.□.
LOB CAR	290	L□□e□a □ard□□a□s / Card□□a□F□□□er	4"□□□	14" □.□.
SCI VAL	125	S□□r□□s □a□d□s / Grea□B□□r□s□	LP32	30" □.□.

SOD/SEED	□TY	BOTANICAL NAME / COMMON NAME	CONT	SPACING
CYN T22	8,577 s□	Cy□□d□□ da□y□□□ □T□T□□□/ Dr□□□□□T□□era□□Berm□da Grass	S□d	
WTL MIX	23,971 s□	WTL MIX / We□□a□d Seed M□□	Seeded a□25□□s/A□re	

15% Carex cherokeensis / Cherokee Sedge
20% Carex lurida / Lurid Sedge
15% Carex crinita / Fringe Sedge
25% Carex vulpinoidea / Fox Sedge
15% Juncus tenuis / Path Rush
10% Lobelia cardinalis



GRAPHIC SCALE

30 0 15 30 60 120

(IN FEET)
SCALE: 1" = 30'

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COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
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FAX: N/A
EMAIL: kbarker@cityofclarkston.com

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DRAWN BY: JWR
REVIEWED BY: KC

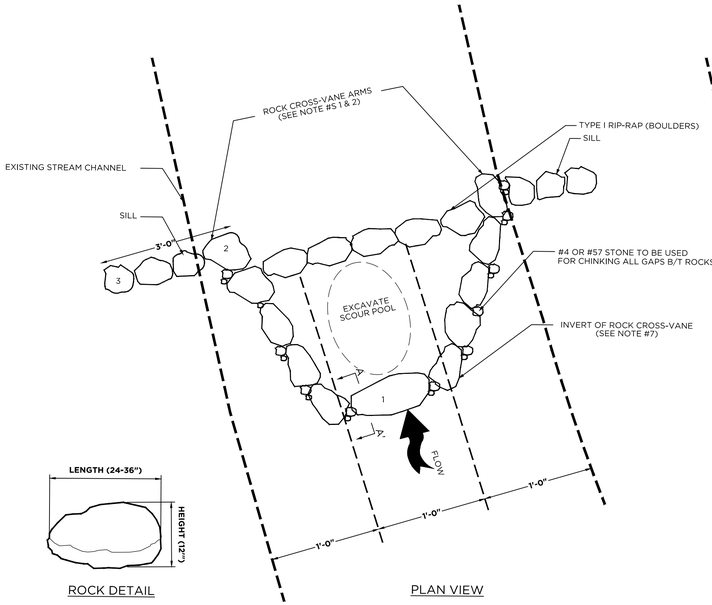
sheet title

LANDSCAPE PLAN:

FORBS AND SEEDING

sheet number

L-5.1

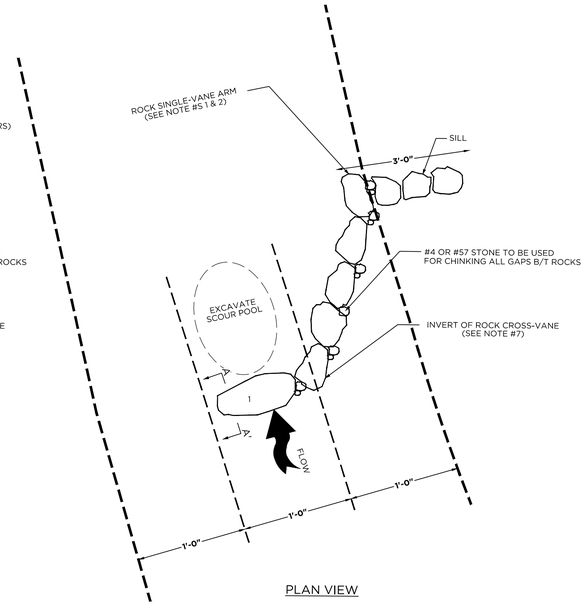


PLAN VIEW

ROCK DETAIL

4 TYPICAL CROSS-VANE DETAIL

L-7.0 SCALE: NTS



PLAN VIEW

5 TYPICAL SINGLE-VANE DETAIL

L-7.0 SCALE: NTS

ROCK CROSS-VANE AND SINGLE-VANE NOTES:

1) IMPORTED ROCK MEETING THE DIMENSIONS SPECIFIED IN THE DRAWING SHALL BE USED TO CONSTRUCT THE CROSS VANE.

2) ONE ROW OF ROCK SHALL BE INSTALLED IN A TRENCH EXCAVATED IN THE STREAMBED. CROSS-VANE AND SINGLE-VANE SHALL BE CONSTRUCTED SUCH THAT NO SPACE EXISTS BETWEEN ROCKS.

3) THE TRENCH SHALL BEGIN AT THE TOP OF THE BANK OF THE CONSTRUCTED CHANNEL. THE CONTRACTOR SHALL PLACE FOOTER ROCK IN THE TRENCH FIRST. THE HEADER ROCK SHOULD BE PLACED ABOVE AND SLIGHTLY UPSTREAM OF THE FOOTER ROCK AS INDICATED IN THE DRAWING. TYPE I RIP-RAP MAY BE USED TO LEVEL THE UPPER ROW OF LARGE ROCK.

4) BOTH VANE ARMS SHALL BE ORIENTED 20 TO 30 DEGREES FROM STREAM BANK AS MEASURED UPSTREAM FROM THE TANGENT LINE WHERE THE VANE INTERCEPTS THE BANK. REFER TO PLAN VIEW ON THIS DRAWING FOR A SCHEMATIC DIAGRAM.

5) EACH VANE ARM SHALL EXTEND INTO THE CHANNEL BED APPROXIMATELY 1/3 THE TOTAL WIDTH OF THE CHANNEL. REFER TO THE PLAN VIEW ON THIS DRAWING FOR A SCHEMATIC DIAGRAM.

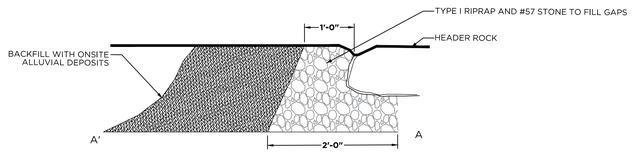
6) THE SLOPE OF THE VANE EXTENDING FROM WHERE THE VANE JOINS THE TOP OF THE BANK SHALL NOT EXCEED 7 PERCENT. REFER TO THE PROFILE VIEW ON THIS DRAWING FOR A SCHEMATIC DIAGRAM.

7) THE INVERT OF ROW OF SURFACE ROCKS SHALL BE SET AT THE EXISTING BED ELEVATION.

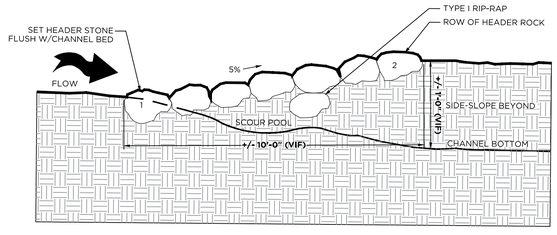
8) SILLS CONSTRUCTED AT TOP OF BANKS SHALL EXTEND APPROXIMATELY 3 FEET FROM EDGE OF CHANNEL.

9) ONCE THE ROCK HAS BEEN INSTALLED, THE UPSTREAM SIDE OF THE TRENCH SHOULD BE FILLED WITH CLASS A RIPRAP AS SPECIFIED IN THE DRAWINGS. BACKFILL WITH ALLUVIAL SEDIMENTSS TO FILL IN THE REMAINDER OF THE TRENCH.

10) A SMALL POOL SHALL BE EXCAVATED DIRECTLY DOWNSTREAM OF THE VANE ARMS, THE DEEPEST PORTION OF WHICH EXISTS JUST DOWNSTREAM OF WHERE THE VANE ARMS ARE KEYED INTO BANKS.



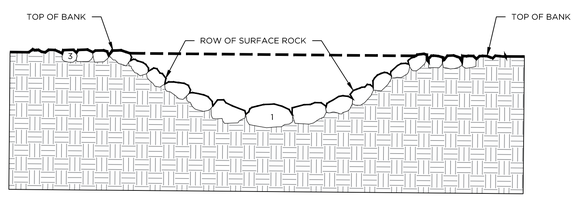
SECTION A-A'



PROFILE VIEW

1 TYPICAL CROSS-VANE DETAIL - PROFILE VIEW

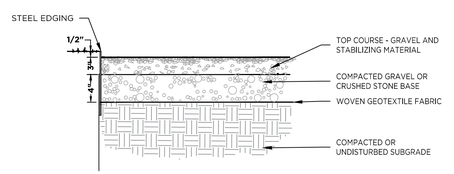
L-7.0 SCALE: NTS



CROSS-SECTION VIEW

2 TYPICAL CROSS-VANE DETAIL - CROSS-SECTION

L-7.0 SCALE: NTS



6 CRUSHED GRANITE FINES TRAIL (TYP.)

L-7.0 SCALE: NTS

OWNER/DEVELOPER

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Clarkston, Georgia 30021
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project information

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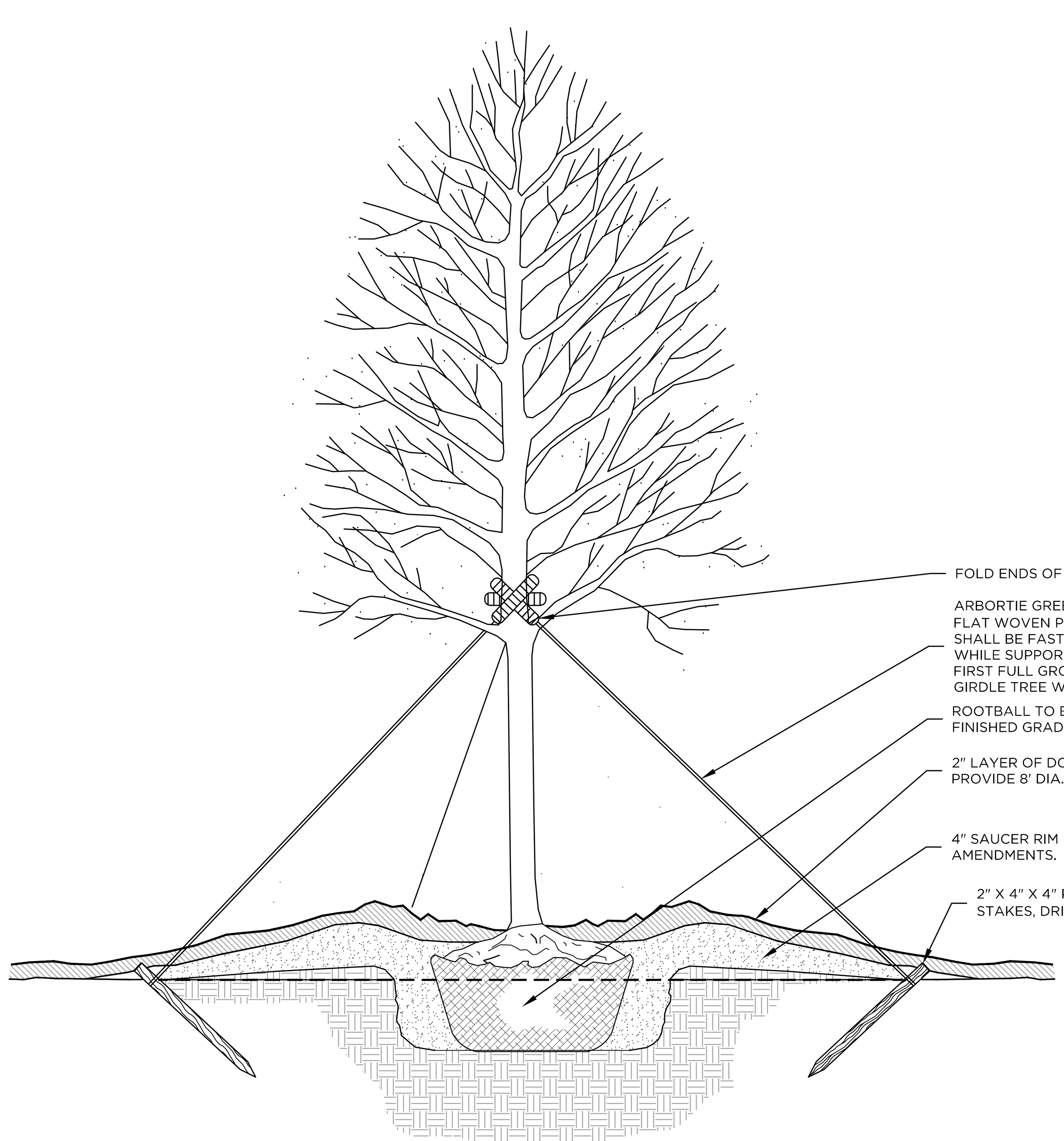
DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: WKC

sheet title

SITE WORK DETAILS

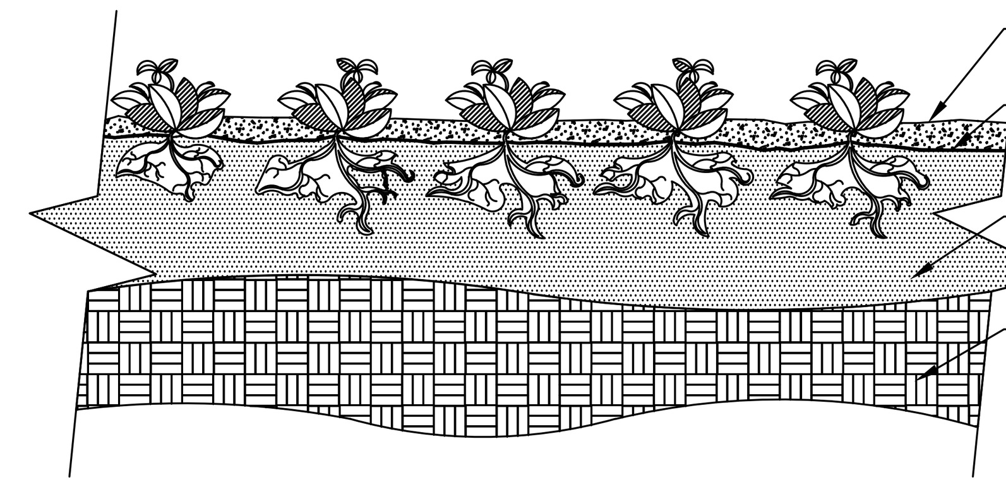
sheet number

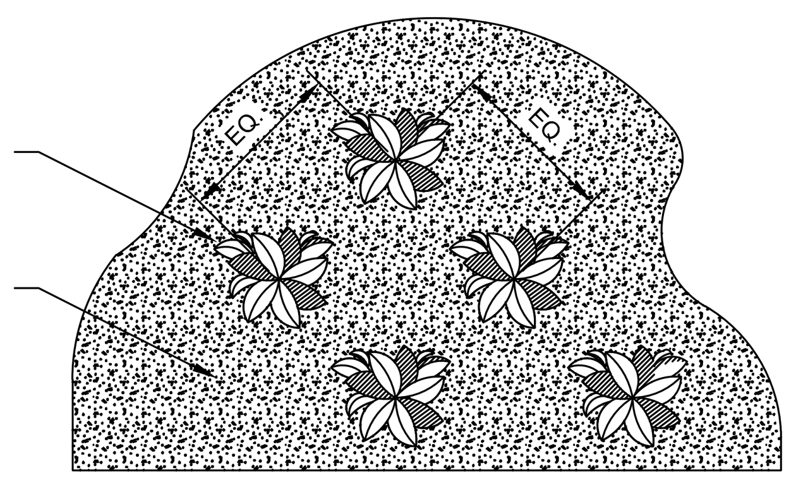
L-6.0



4 L-8.0 TYPICAL TREE PLANTING DETAIL - BALL AND BURLAP

SCALE: 3/4" = 1'-0"

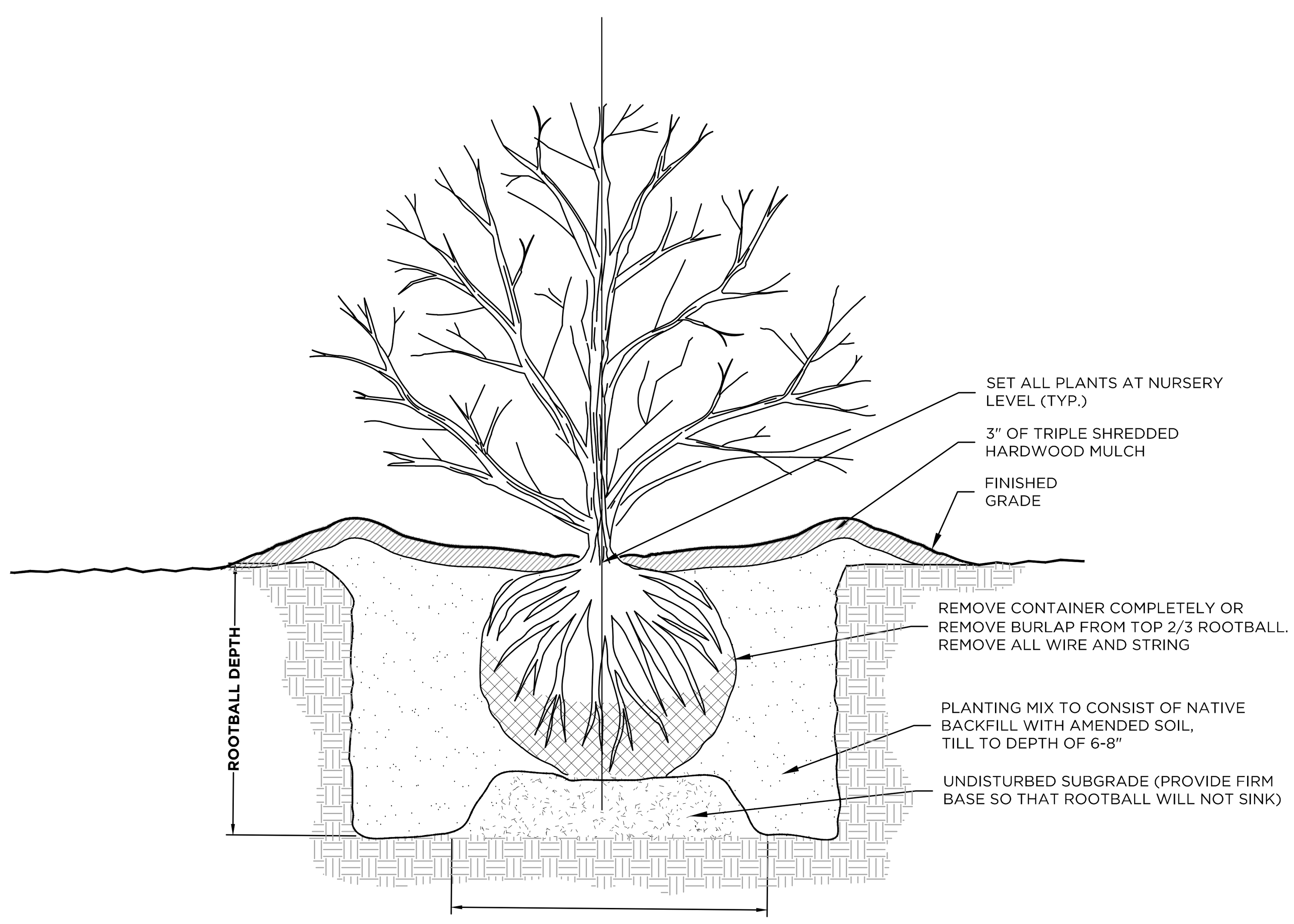




NOTES:
1- SEE PLANTING LEGEND FOR GROUNDCOVER SPECIES, SIZE, AND SPACING DIMENSION.
2- SMALL ROOTS (¼" OR LESS) THAT GROW AROUND, UP, OR DOWN THE ROOT BALL PERIPHERY ARE CONSIDERED A NORMAL CONDITION IN CONTAINER PRODUCTION AND ARE ACCEPTABLE HOWEVER THEY SHOULD BE ELIMINATED AT THE TIME OF PLANTING. ROOTS ON THE PERIPHERY CAN BE REMOVED AT THE TIME OF PLANTING.
3- SETTLE SOIL AROUND ROOT BALL OF EACH GROUNDCOVER PRIOR TO MULCHING.

4 L-8.0 TYPICAL PLANTING DETAIL - GROUNDCOVER AND PLUG

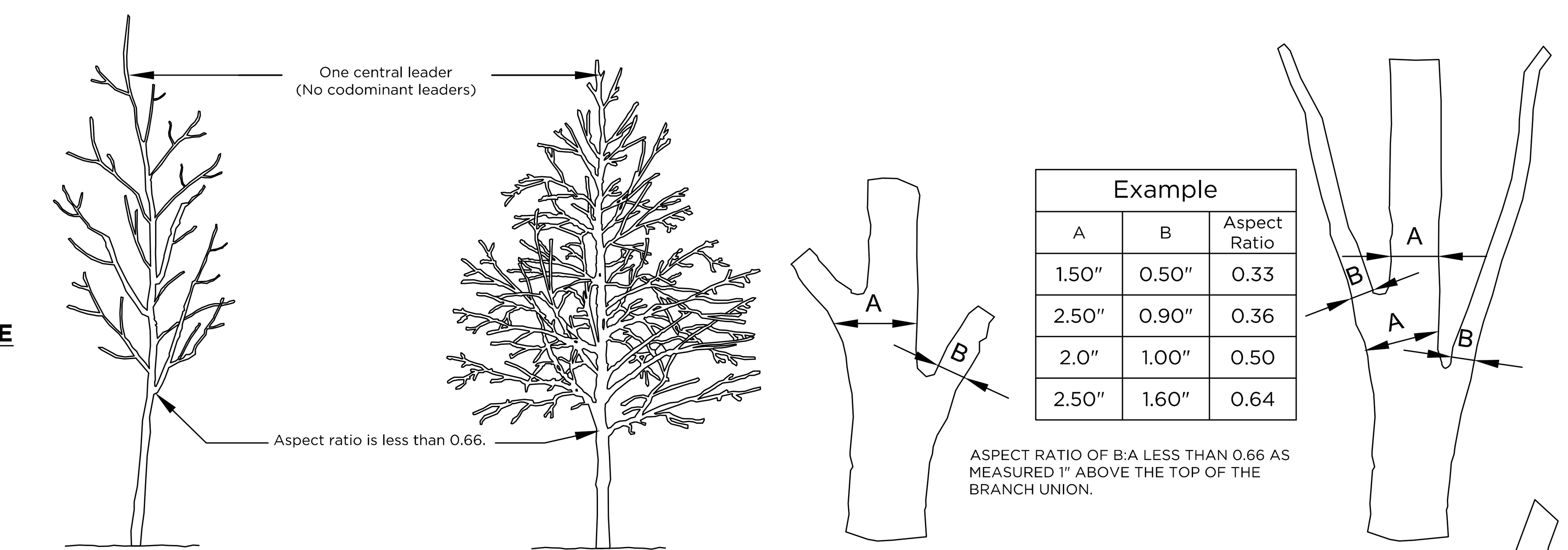
SCALE: 3/4" = 1'-0"



4 L-8.0 TYPICAL SHRUB PLANTING DETAIL - BALL AND BURLAP

SCALE: 3/4" = 1'-0"

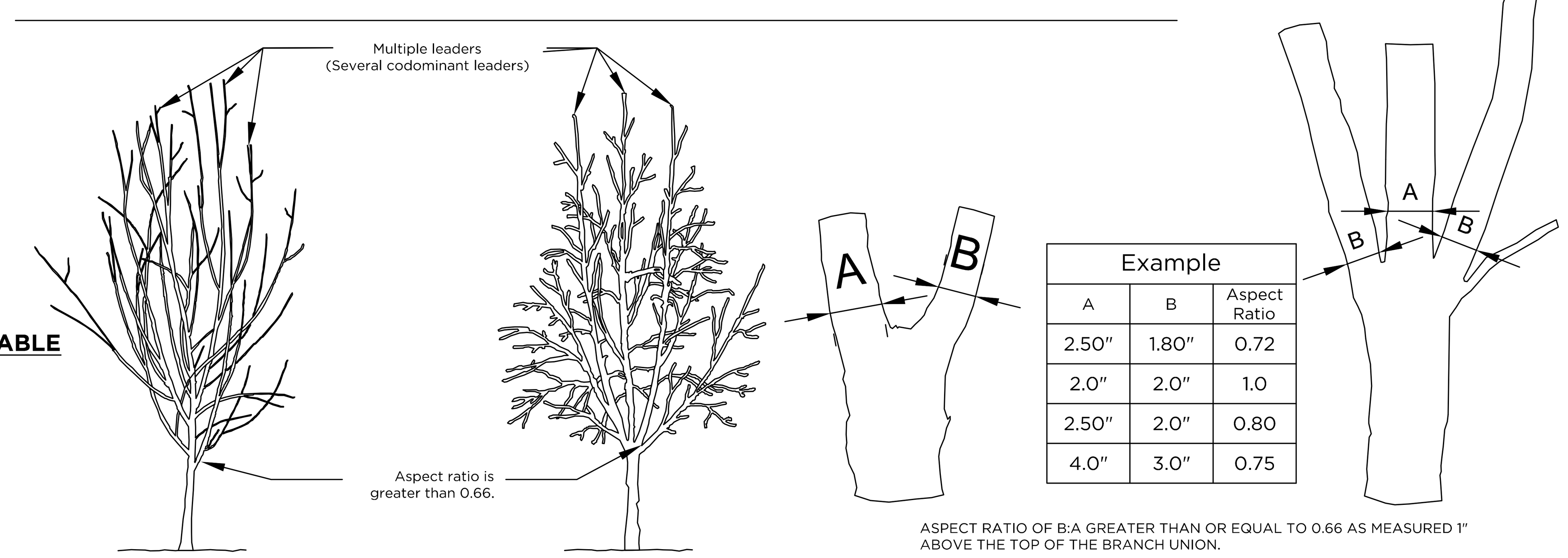
ACCEPTABLE



Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64

ASPECT RATIO OF B:A LESS THAN 0.66 AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.

REJECTABLE



Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75

ASPECT RATIO OF B:A GREATER THAN OR EQUAL TO 0.66 AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.

NOTES:
1- ASPECT RATIO SHALL BE LESS THAN 0.66 ON ALL BRANCH UNIONS. ASPECT RATIO IS THE DIAMETER OF BRANCH (B) DIVIDED BY THE DIAMETER OF THE TRUNK (A) AS MEASURED 1" ABOVE THE TOP OF THE BRANCH UNION.

2- ANY TREE NOT MEETING THE CROWN OBSERVATIONS DETAIL MAY BE REJECTED.

4 L-8.0 TYPICAL BRANCHING STRUCTURE GUIDELINES

SCALE: NTS

OWNER/DEVELOPER
COMPANY: City of Clarkston
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	3		
	4		
	5		

sheet title

LANDSCAPE DETAILS

sheet number

L-7.0

GENERAL PLANTING NOTES

1. **GENERAL**
   A. CONTRACTORS SHALL COORDINATE PLANTING WORK WITH OTHER CONTRACTORS BEFORE PERFORMING WORK ON THE SITE.
   B. CONTRACTOR SHALL VERIFY GRADES, DIMENSIONS, AND EXISTING CONDITIONS PRIOR TO WORK AND REPORT ANY DISCREPANCIES TO THE SITE DESIGN PROFESSIONAL. THE CONTRACTOR IS ADVISED OF THE UNDERGROUND UTILITIES AND SHALL LOCATE AND VERIFY EXISTING AND NEWLY INSTALLED UNDERGROUND UTILITIES PRIOR TO WORK AND SHALL IMMEDIATELY REPORT CONFLICTS TO THE SITE DESIGN PROFESSIONAL.
   C. CONTRACTOR SHALL BE RESPONSIBLE FOR HIS/HER OWN TAKEOFF QUANTITIES AND REPORT ANY DISCREPANCIES TO THE SITE DESIGN PROFESSIONAL. THE CONTRACTOR SHALL SUPPLY PLANT MATERIAL IN QUANTITIES SUFFICIENT TO COMPLETE THE PLANTING SHOWN ON THE DRAWING. QUANTITIES IN PLANT SCHEDULE ARE FOR REFERENCE ONLY.

2. **SELECTION:**
   A. ALL PLANT MATERIALS TO BE (GEORGIA #1) OR BETTER (GEORGIA FANCY) DEFINED AND SPECIFIED ACCORDING TO GRADES AND STANDARDS FOR NURSERY STOCK PUBLISHED BY THE DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES DIVISION OF PLANT INDUSTRY UTILIZING THE LATEST UPDATED EDITION.
   B. ALL PLANT MATERIAL SHALL MEET THE MINIMAL SIZE REQUIREMENT AS STATED ON THE PLANT LIST.
   C. THE LANDSCAPE ARCHITECT RESERVES THE RIGHT TO INSPECT AND REJECT PLANTS AT ANY TIME AND AT ANY LOCATION. LANDSCAPE ARCHITECT WILL DECIDE FINAL APPROVAL OF ALL PLANT MATERIAL DELIVERED TO THE PROJECT SITE.
   D. THE LANDSCAPE ARCHITECT MAY MAKE SELECTION OF PLANT MATERIAL PROCURED UNDER THIS PROJECT AT THE PLACE OF CULTIVATION BEFORE THE CONTRACTOR PURCHASES AND PREPARES FOR DELIVERY TO PROJECT SITE. THE CONTRACTOR IS TO RETAIN AND SUBMIT CERTIFICATION TAGS VERIFYING TYPE AND PURITY OF LANDSCAPE MATERIAL.
   E. ALL PLANTS SHALL BE OF SELECTED SPECIMEN QUALITY. UNLESS OTHERWISE NOTED, PLANTS SHALL BE EXCEPTIONALLY DENSE WITH A NATURALISTIC BRANCHING CHARACTER AS INSPECTED AND APPROVED BY THE LANDSCAPE ARCHITECT.
   F. LANDSCAPE CONTRACTOR SHALL REFER TO PLANTING AND PLANT LIST FOR MATERIAL PROCUREMENT. QUANTITY ESTIMATES ON THE PLANTING PLAN AND PLANT LIST ARE FOR REFERENCE ONLY.
   G. CONTRACTOR SHALL FURNISH ALL QUANTITIES NECESSARY TO COMPLETE THE PLANTING AREAS AS SHOWN ON THE DRAWING TO ACCEPTANCE AND SATISFACTION AT THE LANDSCAPE ARCHITECT.
   H. THE CONTRACTOR SHALL REPORT TO THE LANDSCAPE ARCHITECT SHOULD THERE BE CHANGES IN THE PLANTING AREAS ON SITE RESULTING IN SUBSTANTIAL DIFFERENCE IN QUANTITIES AND SPECIES REQUIRED.
   I. WARRANTY: ALL PLANTS SHALL BE WARRANTED TO REMAIN ALIVE AND HEALTHY AND IN VIGOROUSLY THRIVING CONDITION FOR PERIOD OF 1 YEAR FROM DATE OF FINAL ACCEPTANCE.

2. **NURSERY RECOMMENDATIONS:**
   BAKER ENVIRONMENTAL NURSERY
   949 MARSHALL CLARK ROAD
   HOSCHTON, GA 30548

   GROWILD, INC.
   7190 HILL HUGHES ROAD
   FAIRVIEW, TN 37062

   HOFFMAN NURSERY
   5520 BAHAMA ROAD
   ROUGEMONT, NC 27572

   NORTH CREEK NURSERIES
   388 NORTH CREEK RD
   LANDENBERG, PA 19350

   ROCKSPRING RESTORATIONS
   12 PACES WEST DRIVE, NW
   ATLANTA, GA 30327

   WOODLANDERS, INC
   128 COLLEGE AVE, SE
   AIKEN, SC 29801

3. **EXECUTION:**
   A. THE LANDSCAPE CONTRACTOR SHALL FURNISH ALL MATERIALS AND PERFORM ALL WORK IN ACCORDANCE WITH DRAWINGS, SPECIFICATIONS AND INSTRUCTIONS PROVIDED BY LANDSCAPE ARCHITECT.
   B. CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AS NECESSARY TO EXECUTE AND COMPLETE PROPOSED LANDSCAPE / IRRIGATION INSTALLATION IN A TIMELY MANNER COMPLYING WITH THE SCHEDULED COMPLETION DATE.
   C. WORKMANSHIP AND MATERIALS SHALL BE IN STRICT ACCORDANCE WITH THE INTENTIONS OF THE PRESCRIBED DRAWINGS. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE OF BEST QUALITY AND TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT.
   D. PLANTING PLANS INDICATE DIAGRAMMATIC LOCATION ONLY. SITE ADJUSTMENTS OF PLANTING DESIGN AND RELOCATION OF PLANT MATERIAL INSTALLED REQUIRE LANDSCAPE ARCHITECT APPROVAL SHALL BE DONE WITHOUT PENALTY OR ADDITIONAL COST TO OWNER.
   E. LANDSCAPE CONTRACTOR SHALL STAKE AND/OR MARK ALL TREE AND PLANT LOCATIONS AT SITE AND NOTIFY LANDSCAPE ARCHITECT FOR APPROVAL PRIOR TO PLANT INSTALLATION.
   F. UTILITIES: THE LANDSCAPE CONTRACTOR SHALL DETERMINE LOCATION OF ALL ABOVE GRADE AND UNDERGROUND UTILITIES PERFORM WORK THAT WILL AVOID DAMAGE TO UTILITIES. THE CONTRACTOR SHALL MAKE GOOD ALL DAMAGED UTILITIES AT NO COST TO OWNER.
   G. DRAINAGE: CONTRACTOR SHALL CONDUCT PERCOLATION TEST IN AREAS TO BE PLANTED: NOTIFY LANDSCAPE ARCHITECT OF ANY POOR DRAINAGE PROVIDE SUPPLEMENTAL PIT DRAINAGE AS REQUIRED TO ENSURE HEALTHY PLANT MATERIALS (SEE SPECIFICATIONS FOR DETAILS)
   IF DRAINAGE IS NOT SUFFICIENT NOTIFY LANDSCAPE ARCHITECT BEFORE INSTALLING THE PLANTS. OTHERWISE CONTRACTOR SHALL BE TOTALLY RESPONSIBLE FOR THE GUARANTEE AND LIVABILITY OF THE PLANT.

3. **GENERAL PLANTING:**
   A. THE CONTRACTOR'S FIELD SUPERVISOR SHALL ACCOMPANY LANDSCAPE ARCHITECT ON ALL PLANT TAGGING AND SITE VISITS.
   B. PLACE PLANTS UPRIGHT AND TURNED SO THAT THE MOST ATTRACTIVE SIDE VIEWED. PROVIDE 1" THICK LONG-FIBER MULCH SUCH AS WINTER HAY OR MARSH STRAW (MEASURED AFTER WATERING IN) AT ALL PLANTS AND PLANTING BEDS. **DO NOT** USE HAY AS IT CONTAINS A VARIETY OF PLANT MATTER AND SEEDS THAT CAN POTENTIALLY COMPOUND EFFORTS AT ERADICATING FOREIGN AND UNDESIRABLE SPECIES.
   C. ASSURE THAT SOIL MOISTURE IS WITHIN THE REQUIRED LEVELS PRIOR TO PLANTING. IRRIGATION, IF REQUIRED, SHALL BE APPLIED AT LEAST 12 HOURS PRIOR TO PLANTING TO AVOID PLANTING IN MUDDY SOILS.
   D. ASSURE THAT SOIL GRADES IN THE BEDS ARE SMOOTH AND AS SHOWN ON THE PLANS.
   E. PLANTS SHALL BE PLANTED IN EVEN, TRIANGULARLY SPACED ROWS, AT THE INTERVALS CALLED OUT FOR ON THE DRAWINGS, UNLESS OTHERWISE NOTED. THE FIRST ROW OF ANNUAL FLOWER PLANTS SHALL BE 6 INCHES FROM THE BED EDGE UNLESS OTHERWISE DIRECTED.
   F. DIG PLANTING HOLES SUFFICIENTLY LARGE ENOUGH TO INSERT THE ROOT SYSTEM WITHOUT DEFORMING THE SET THE TOP OF THE ROOT SYSTEM AT THE GRADE OF THE SOIL.
   G. SCHEDULE THE PLANTING TO OCCUR PRIOR TO APPLICATION OF THE MULCH. IF THE BED IS ALREADY MULCHED, PULL THE MULCH FROM AROUND THE HOLE AND PLANT INTO THE SOIL. PULL MULCH BACK SO IT IS NOT ON THE ROOT BALL SURFACE.
   H. PRESS SOIL TO BRING THE ROOT SYSTEM IN CONTACT WITH THE SOIL.
   I. SPREAD ANY EXCESS SOIL AROUND IN THE SPACES BETWEEN PLANTS.
   J. APPLY MULCH TO THE BED BEING SURE NOT TO COVER THE TOPS OF THE PLANTS WITH OR THE TOPS OF THE ROOT BALL WITH MULCH.
   K. WATER EACH PLANTING AREA AS SOON AS THE PLANTING IS COMPLETED. APPLY ADDITIONAL WATER TO KEEP THE SOIL MOISTURE AT THE REQUIRED LEVELS. DO NOT OVER WATER.
   L. TOPSOIL SHALL BE REMOVED FROM STOCKPILES AND SPREAD IN THE AREAS SHOWN ON THE PLANS. THE DEPTH OF TOPSOIL SHALL BE AS SHOWN ON THE PLANS. IF THE DEPTH OF THE TOPSOIL IS NOT GIVEN THE FOLLOWING SHALL BE USED: "A MINIMUM OF 4 INCHES IN LAWN AREAS" AND "A MINIMUM OF 12 INCHES IN LANDSCAPE PLANTING AREAS."
   M. AFTER THE TOPSOIL IS IN PLACE IT SHALL BE FINE GRADED REMOVING ALL ROOTS, STICKS, STONES AND DEBRIS GREATER THAN 2 INCHES IN ANY DIMENSION. THE TOPSOIL SHALL BE FINE GRADED TO THE LINES AND GRADES SHOWN ON THE PLANS.
   N. THE TOPSOIL SHALL HAVE A PH OF 5.5 TO 7.6 AND AN ORGANIC CONTENT OF 3 TO 20%. THE GRADATION OF THE TOPSOIL SHALL BE 100% PASSING 2 INCH SIEVE, 85 TO 100% PASSING THE 1 INCH SIEVE, 65 TO 100% PASSING THE 1/4 INCH SIEVE AND 20 TO 80% PASSING THE NO. 200 SIEVE.
   O. EXISTING PLANTS THAT ARE TO REMAIN AND BE PROTECTED (IF ANY), WHICH ARE INJURED OR DESTROYED DURING CONSTRUCTION, SHALL BE REPLACED BY THE CONTRACTOR WITH PLANTS OF EQUAL SIZE AND SPECIES, AT NO COST TO THE OWNER.
   P. EXISTING PLANT MATERIAL OR GRASSING WITH ADJACENT AREAS TO PROPOSED PLANT MATERIALS SHALL BE PRUNED, RELOCATED OR GRUBBED IN ORDER TO ACCOMMODATE PROPOSED PLANTINGS.
   Q. PLANT MATERIALS TO BE RELOCATED/GRUBBED OUT SHALL BE LEGALLY DISPOSED OF AT THE CONTRACTOR'S EXPENSE.

4. **TREE PLANTING:**
   A. REMOVE FIRST 8-10" OF WIRE BASKET FROM ROOTBALLS. IF REMOVAL WILL RESULT IN ROOTBALL INJURY, CUT AND REMOVE WIRES ONCE IN HOLE TO ALLOW FOR ROOT EXPANSION.
   B. MULCH SAUCERS TO BE 8' (MIN.) DIAMETER FOR ALL TREES NOT INCLUDED W/I A MULCH BED.
   C. STAKING AND GUYING DETAILS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY, THE CONTRACTOR IS RESPONSIBLE TO ADAPT STAKING AND GUYING METHOD ACCORDING TO SITE CONDITIONS.
   D. THE CONTRACTOR IS RESPONSIBLE FOR ADJUSTING THE STAKING AND GUYING PERIODICALLY AS NECESSARY OR AS INSTRUCTED BY LANDSCAPE ARCHITECT. THE CONTRACTOR SHALL MAINTAIN PLANT MATERIAL IN AN UPRIGHT POSITION AT ALL TIMES DURING THE CONTRACT PERIOD.
   E. STAKING AND GUYING OF TREES SHALL BE FOR THE PURPOSE OF ESTABLISHMENT ONLY. STAKING AND GUYING DETAILS ARE NOT DESIGNED OR ENGINEERED TO WITHSTAND STRONG WIND OR WINDSTORM CONDITIONS.
   F. IF CONTRACTOR SEES ANY SITUATION ON THE SITE WHERE A TREE IS TO BE STAKED WITH ARBORTIES, BUT IT APPEARS TO PRESENT A SAFETY HAZARD TO RESIDENCE OF THE PROPERTY, THEIR CHILDREN OR THEIR GUEST, THE TREE SHALL NOT BE STAKED AND LANDSCAPE ARCHITECT SHALL BE NOTIFIED.
   G. SPECIMEN TRANSPLANTED TREE PROTECTION IS THE OWNER'S RESPONSIBILITY.
   H. PROPER DAMAGE FROM ROOT PRUNING IS THE RESPONSIBILITY OF THE CONTRACTOR
   I. USE ARBORGUARD WEBBING TO SECURE PLANT. SPACE STAKES EQUALLY AT 120° ANGLES AROUND TREE.
   J. NYLON WEBBING SHOULD BE SECURED IN SUCH A WAY AS TO ALLOW SOME MOVEMENT OF TREE.
   K. PLANT TREE 2" ABOVE FINISHED GRADE IF MIXING SOIL TYPES, OTHERWISE PLANT AT FINISHED GRADE

5. **PRUNING AND MAINTENANCE:**
   A. PRUNING SHALL BE LIMITED TO THE MINIMUM NECESSARY TO REMOVE DEAD OR INJURED TWIGS AND BRANCHES AND TO COMPENSATE FOR THE LOSS OF ROOTS AS A RESULT OF TRANSPLANTING OPERATION AND TO MAINTAIN SAFETY IN VEHICULAR AREAS.
   B. PRUNING SHALL BE DONE IN SUCH A MANNER AS TO NOT CHANGE THE NATURAL HABIT OR SHAPE OF THE PLANT. ALL CUTS SHALL BE MADE FLUSH, LEAVING NO STUBS ACCORDING TO A.N.A STANDARDS.
   C. THE LANDSCAPE ARCHITECT SHALL BE THE SOLE PARTY TO APPROVE ALL APPROPRIATE PRUNING.
   D. MAINTENANCE WORK AS DESCRIBED IN THE SPECIFICATIONS SHALL BE PERFORMED TO THE SATISFACTION OF THE LANDSCAPE ARCHITECT AND UNTIL DATE OF THE FINAL ACCEPTANCE BY OWNER AND LANDSCAPE ARCHITECT.

6. **FERTILIZATION, IRRIGATION, AND MAINTENANCE:**
   A. LIME OF TYPE RECOMMENDED FOR SOIL CONDITIONING SHALL BE USED TO TREAT ACIDIC SOILS.
   B. LAWN FERTILIZER SHALL BE 55% NITROGEN, 10% PHOSPHOROUS AND 10% POTASH WHERE 50% OF THE NITROGEN IS DERIVED FROM THE UREAFORM SOURCE.
   C. WHEN PLACING BY HYDROSEEDING APPLICATION, FERTILIZER SHALL BE PLACED AT 80 POUNDS PER ACRE, HYDROMULCH AT 1,200 POUNDS PER ACRE, WATER AT 500 GALLONS PER ACRE AND SEED AT A MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT.
   D. IF PLACING BY MECHANICAL MEANS, FERTILIZER SHALL BE PLACED AT 25 POUNDS PER 1,000 SQUARE FEET, SEED AT 5 POUNDS PER 1,000 SQUARE FEET AND STRAW MULCH AT 2 TONS PER ACRE. PLACE FERTILIZER AND SEED, THEN LIGHTLY RAKE AND ROLL WITH 200 POUND ROLLER. MULCH THE AREA AND THEN WATER. STRAW MAY NEED TO BE SECURED TO SLOPE IF FROM BLOWING AWAY.
   E. WATER LAWN AREAS AS NEEDED TO PROMOTE GROWTH. THE CONTRACTOR WILL BE RESPONSIBLE TO WATER, RESEED OR WORK WHEN NECESSARY TO INSURE THE GROWTH OF THE LAWN UNTIL A COMPLETE AND UNIFORM STAND OF GRASS HAS GROWN AND BEEN CUT AT LEAST TWICE.
   F. CONTRACTOR IS FULLY RESPONSIBLE FOR MAINTENANCE, INCLUDING WATERING, WEEDING, SETTLING, PRUNING AND REPAIR WORK UNTIL THE DATE OF FINAL COMPLETION.
   G. IRRIGATION SHALL BE PROVIDED FOR NEW PLANT MATERIAL. IRRIGATION SHALL BE DESIGN BUILD AND AND PROVIDED BY THE CONTRACTOR.

MEADOW SITE PREPARATION AND PLANTING

32. **SITE PREPARATION:**
   A. PRIOR TO PLANTING, SITE SHALL BE INSPECTED FOR PROPER ELEVATION AND SUITABILITY OF SOILS.
   B. UNCULTIVATED AND CULTIVATED SITES WITH FEW OR NO NATIVES REQUIRE THE USE OF BROAD-SPECTRUM SYSTEMIC HERBICIDE GLYPHOSATE. THIS SHOULD BE APPLIED AS SOON AS THE SITE IS ACCESSIBLE. THE MOST COMMON GRASS-SPECIFIC HERBICIDES USED IN RESTORATION WORK ARE FLUAZIFOP (FUSILADE), SETHOXYDIM (POAST), AND CLETHODIM (ENVOY, SELECT 2EC, AND SECTION).
   C. SUGGESTED APPLICATION RATES ARE 2 QUARTS/ACRE IN COOL WEATHER AND I QUART/ACRE IN WARM WEATHER (1-2% GLYPHOSATE SOLUTION). TIMING OF THE APPLICATION IS CRUCIAL. IT IS DESIRABLE TO ELIMINATE WEEDS BEFORE THEY FLOWER.
   D. HARD TO KILL PERENNIAL FORBS CAN BE TREATED WITH A BROADLEAF HERBICIDE SUCH AS TRICLOPYR (GARLON).
   E. DISC (SEPT. TIL SOIL FREEZE UP)- IN GENERAL, WILDFLOWER SEEDS HAVE INCREASED GERMINATION RATES DURING THE SPRING AFTER A FALL PLANTING THAN WHEN PLANTED IN THE SPRING. FALL PLANTINGS TAKES ADVANTAGE OF COLD, MOIST WINTER CONDITIONS, BREAKING SEED DORMANCIES AND PROMOTING EARLIER GERMINATION AND FASTER SEEDLING ESTABLISHMENT THE FOLLOWING SPRING.
   F. DO NOT ADD LIME. LIME CAN BURN SEEDLINGS OR IMPACT GERMINATION RATES. MOST MEADOW SPECIES ARE ACCUSTOMED TO PH RANGES FROM 4.5 TO 8, AND ARE HIGHLY ADAPTIVE. FURTHERMORE, THESE SPECIES ARE USED TO GROWING IN DEPLETED SOILS
   G. AMENDMENTS ARE GENERALLY NOT NECESSARY, BUT MAY BE USED IF YOUNG PLANTS SHOW SIGNS OF STRESS (I.E. YELLOWING). IF FERTILIZER IS TO BE USED, STICK WITH ORGANIC MIXES ONLY AND AT A RATE NO GREATER THAN 5-5-5 OR 10-10-10.

2. **PLANTING:**
   A. PLANT MATERIAL SHOULD BE LIFTED AS CLOSE TO THE PLANTING DATE AS POSSIBLE. FURTHERMORE, PLANT MATERIALS SHALL NOT BE STORED BEYOND THE TIME LIMITS SPECIFIED BY THE SUPPLIER. PLANTS SHALL BE STORED PER THE SUPPLIER'S SPECIFICATIONS AND IN SUCH A MANNER AS TO PROTECT THEIR INTEGRITY AND VIABILITY. PLANTS LOST DURING STORAGE SHALL BE REPLACED WITH FRESH STOCK UNDER THE RESPONSIBILITY OF THE CONTRACTOR.
   B. IT IS RECOMMENDED THAT PLANTING COMMENCE IN THE FALL SEASON CONCURRENT WITH OR AFTER PROJECT CONSTRUCTION HAS TAKEN PLACE. FALL PLANTINGS ARE "DORMANT SEEDINGS" IN WHICH THE SEED OVER-WINTERS IN THE SOIL AND GERMINATES THE FOLLOWING SPRING.
   C. FALL (SEPT. TIL SOIL FREEZE UP)- IN GENERAL, WILDFLOWER SEEDS HAVE INCREASED GERMINATION RATES DURING THE SPRING AFTER A FALL PLANTING THAN WHEN PLANTED IN THE SPRING. FALL PLANTINGS TAKES ADVANTAGE OF COLD, MOIST WINTER CONDITIONS, BREAKING SEED DORMANCIES AND PROMOTING EARLIER GERMINATION AND FASTER SEEDLING ESTABLISHMENT THE FOLLOWING SPRING.
   D. SPRING (MARCH-MAY) - IN GENERAL, WARM SEASON GRASSES (GRASSES SUCH AS LITTLE BLUESTEM, BIG BLUESTEM, AND INDIANGRASS WHICH DO MOST OF THEIR GROWING DURING THE WARM SUMMER MONTHS) SHOW HIGHER GERMINATION RATES WHEN PLANTED IN LATE SPRING/EARLY SUMMER, COMPARED TO FALL SEEDINGS. SPRING PLANTING IS ALSO GENERALLY RECOMMENDED FOR PRAIRIE WILDFLOWER AND GRASS TRANSPLANTS TO AVOID "FROST HEAVING." TRANSPLANTING IN SPRING ALSO ALLOWS SUBSTANTIAL TIME FOR ROOT ESTABLISHMENT BEFORE THE COLD WINTER MONTHS.
   E. WHERE BARE SOIL IS A CONCERN AND WHERE THE SITE WILL REMAIN DISTURBED FOR AN EXTENDED PERIOD OF TIME, A SEASONAL COVER CROP IS RECOMMENDED.
   F. OPTIMAL TIME TO SOW NATIVE GRASS SPECIES IS IN THE FALL (SEPT. - NOV.). THIS WILL ALLOW STRATIFICATION (MOISTURE AND COLD SO SEED WILL IMBIBE WATER AND GERMINATE) REQUIREMENTS TO BE MET. MAY SPECIES OF ANNUALS AND SOME PERENNIALS DO NOT NEED LONG STRATIFICATION.
   G. BEST TO SEED BEFORE RAIN EVENT OR ENSURE SITE IS WELL IRRIGATED AFTER SEEDING (IRRIGATION GENERALLY NOT NEEDED A/F GERMINATION UNLESS RAIN EVENT HAS NOT OCCURRED W/I 2-3WKS). WATCH SEEDLINGS TO DETERMINE IF IRRIGATION IS NEEDED. SEED SHOULD HAVE GERMINATED AFTER TWO WEEKS.
   H. BROADCAST THE SEED AT A RATE OF 1LB./1,000S.F. OR 20LBS./ACRE. CRISS-CROSSING THE AREA IN A NORTH-SOUTH DIRECTION FOLLOWED BY AN EAST-WEST DIRECTION TO ENSURE A MORE EVEN DISTRIBUTION OF SEED. STAKING MAY BE NECESSARY TO DETERMINE EXTENT OF AREA TO BE SEEDED.
   I. USE ONLY REPUTABLE SEED SOURCES WITH PURE LIVE SEED, WHICH ACCOUNT FOR THE GERMINATION RATE OF INDIVIDUAL SPECIES. ADDITIONALLY, ALL GRASSES AND WILDFLOWERS SPECIFIED ARE TO BE NATIVE TO THE UPPER PIEDMONT REGION OF GEORGIA.
   J. LAY DOWN STRAW AFTER SEEDING. USE WHEAT STRAW ONLY SO AS TO MINIMIZE INTRODUCTION OF FOREIGN OR UNDESIRABLE SPECIES. **DO NOT** USE HAY AS IT CONTAINS A VARIETY OF PLANT MATTER AND SEEDS THAT CAN POTENTIALLY COMPOUND EFFORTS AT ERADICATING FOREIGN AND UNDESIRABLE SPECIES.

3. **SITE MAINTENANCE:**
   A. BEST TO NOT DISTURB SEEDLINGS DURING FIRST GROWING SEASON. IF MOWING IS DESIRED TO MAINTAIN "TIDY" APPEARANCE, MOW AT HEIGHT NO LOWER THAN 6-8." **NOTE:** HEAVY MACHINERY MAY DISTURB OR DAMAGE YOUNG SEEDLINGS. NATIVE MEADOW SEEDLINGS MAY ONLY GROW 1-2" IN THE FIRST GROWING SEASON AS MOST OF THE ENERGY IS BEING PUT INTO THE ROOT SYSTEM.

RIPARIAN RESTORATION AND PRESERVATION

1. **SITE PREPARATION:**
   A. PRIOR TO PLANTING, SITE SHALL BE INSPECTED FOR PROPER ELEVATION AND SUITABILITY OF SOILS.
   B. UNCULTIVATED AND CULTIVATED SITES WITH FEW OR NO NATIVES REQUIRE THE USE OF BROAD-SPECTRUM SYSTEMIC HERBICIDE GLYPHOSATE. THIS SHOULD BE APPLIED AS SOON AS THE SITE IS ACCESSIBLE. THE MOST COMMON GRASS-SPECIFIC HERBICIDES USED IN RESTORATION WORK ARE FLUAZIFOP (FUSILADE), SETHOXYDIM (POAST), AND CLETHODIM (ENVOY, SELECT 2EC, AND SECTION).
   C. SUGGESTED APPLICATION RATES ARE 2 QUARTS/ACRE IN COOL WEATHER AND I QUART/ACRE IN WARM WEATHER (1-2% GLYPHOSATE SOLUTION). TIMING OF THE APPLICATION IS CRUCIAL. IT IS DESIRABLE TO ELIMINATE WEEDS BEFORE THEY FLOWER.
   D. HARD TO KILL PERENNIAL FORBS CAN BE TREATED WITH A BROADLEAF HERBICIDE SUCH AS TRICLOPYR (GARLON).
   E. DISC (SEPT. TIL SOIL FREEZE UP)- IN GENERAL, WILDFLOWER SEEDS HAVE INCREASED GERMINATION RATES DURING THE SPRING AFTER A FALL PLANTING THAN WHEN PLANTED IN THE SPRING. FALL PLANTINGS TAKES ADVANTAGE OF COLD, MOIST WINTER CONDITIONS, BREAKING SEED DORMANCIES AND PROMOTING EARLIER GERMINATION AND FASTER SEEDLING ESTABLISHMENT THE FOLLOWING SPRING.
   F. DO NOT ADD LIME. LIME CAN BURN SEEDLINGS OR IMPACT GERMINATION RATES. MOST MEADOW SPECIES ARE ACCUSTOMED TO PH RANGES FROM 4.5 TO 8, AND ARE HIGHLY ADAPTIVE. FURTHERMORE, THESE SPECIES ARE USED TO GROWING IN DEPLETED SOILS
   G. AMENDMENTS ARE GENERALLY NOT NECESSARY, BUT MAY BE USED IF YOUNG PLANTS SHOW SIGNS OF STRESS (I.E. YELLOWING). IF FERTILIZER IS TO BE USED, STICK WITH ORGANIC MIXES ONLY AND AT A RATE NO GREATER THAN 5-5-5 OR 10-10-10.

2. **PLANTING:**
   A. PLANT MATERIAL SHOULD BE LIFTED AS CLOSE TO THE PLANTING DATE AS POSSIBLE. FURTHERMORE, PLANT MATERIALS SHALL NOT BE STORED BEYOND THE TIME LIMITS SPECIFIED BY THE SUPPLIER. PLANTS SHALL BE STORED PER THE SUPPLIER'S SPECIFICATIONS AND IN SUCH A MANNER AS TO PROTECT THEIR INTEGRITY AND VIABILITY. PLANTS LOST DURING STORAGE SHALL BE REPLACED WITH FRESH STOCK UNDER THE RESPONSIBILITY OF THE CONTRACTOR.
   B. IT IS RECOMMENDED THAT PLANTING COMMENCE IN THE FALL SEASON CONCURRENT WITH OR AFTER PROJECT CONSTRUCTION HAS TAKEN PLACE. FALL PLANTINGS ARE "DORMANT SEEDINGS" IN WHICH THE SEED OVER-WINTERS IN THE SOIL AND GERMINATES THE FOLLOWING SPRING.
   C. FALL (SEPT. TIL SOIL FREEZE UP)- IN GENERAL, WILDFLOWER SEEDS HAVE INCREASED GERMINATION RATES DURING THE SPRING AFTER A FALL PLANTING THAN WHEN PLANTED IN THE SPRING. FALL PLANTINGS TAKES ADVANTAGE OF COLD, MOIST WINTER CONDITIONS, BREAKING SEED DORMANCIES AND PROMOTING EARLIER GERMINATION AND FASTER SEEDLING ESTABLISHMENT THE FOLLOWING SPRING.
   D. SPRING (MARCH-MAY) - IN GENERAL, WARM SEASON GRASSES (GRASSES SUCH AS LITTLE BLUESTEM, BIG BLUESTEM, AND INDIANGRASS WHICH DO MOST OF THEIR GROWING DURING THE WARM SUMMER MONTHS) SHOW HIGHER GERMINATION RATES WHEN PLANTED IN LATE SPRING/EARLY SUMMER, COMPARED TO FALL SEEDINGS. SPRING PLANTING IS ALSO GENERALLY RECOMMENDED FOR PRAIRIE WILDFLOWER AND GRASS TRANSPLANTS TO AVOID "FROST HEAVING." TRANSPLANTING IN SPRING ALSO ALLOWS SUBSTANTIAL TIME FOR ROOT ESTABLISHMENT BEFORE THE COLD WINTER MONTHS.
   E. WHERE BARE SOIL IS A CONCERN AND WHERE THE SITE WILL REMAIN DISTURBED FOR AN EXTENDED PERIOD OF TIME, A SEASONAL COVER CROP IS RECOMMENDED.
   F. OPTIMAL TIME TO SOW NATIVE GRASS SPECIES IS IN THE FALL (SEPT. - NOV.). THIS WILL ALLOW STRATIFICATION (MOISTURE AND COLD SO SEED WILL IMBIBE WATER AND GERMINATE) REQUIREMENTS TO BE MET. MAY SPECIES OF ANNUALS AND SOME PERENNIALS DO NOT NEED LONG STRATIFICATION.
   G. BEST TO SEED BEFORE RAIN EVENT OR ENSURE SITE IS WELL IRRIGATED AFTER SEEDING (IRRIGATION GENERALLY NOT NEEDED A/F GERMINATION UNLESS RAIN EVENT HAS NOT OCCURRED W/I 2-3WKS). WATCH SEEDLINGS TO DETERMINE IF IRRIGATION IS NEEDED. SEED SHOULD HAVE GERMINATED AFTER TWO WEEKS.
   H. BROADCAST THE SEED AT A RATE OF 1LB./1,000S.F. OR 20LBS./ACRE. CRISS-CROSSING THE AREA IN A NORTH-SOUTH DIRECTION FOLLOWED BY AN EAST-WEST DIRECTION TO ENSURE A MORE EVEN DISTRIBUTION OF SEED. STAKING MAY BE NECESSARY TO DETERMINE EXTENT OF AREA TO BE SEEDED.
   I. USE ONLY REPUTABLE SEED SOURCES WITH PURE LIVE SEED, WHICH ACCOUNT FOR THE GERMINATION RATE OF INDIVIDUAL SPECIES. ADDITIONALLY, ALL GRASSES AND WILDFLOWERS SPECIFIED ARE TO BE NATIVE TO THE UPPER PIEDMONT REGION OF GEORGIA.
   J. LAY DOWN STRAW AFTER SEEDING. USE WHEAT STRAW ONLY SO AS TO MINIMIZE INTRODUCTION OF FOREIGN OR UNDESIRABLE SPECIES. **DO NOT** USE HAY AS IT CONTAINS A VARIETY OF PLANT MATTER AND SEEDS THAT CAN POTENTIALLY COMPOUND EFFORTS AT ERADICATING FOREIGN AND UNDESIRABLE SPECIES.

3. **SITE MAINTENANCE:**
   A. BEST TO NOT DISTURB SEEDLINGS DURING FIRST GROWING SEASON. IF MOWING IS DESIRED TO MAINTAIN "TIDY" APPEARANCE, MOW AT HEIGHT NO LOWER THAN 6-8." **NOTE:** HEAVY MACHINERY MAY DISTURB OR DAMAGE YOUNG SEEDLINGS. NATIVE MEADOW SEEDLINGS MAY ONLY GROW 1-2" IN THE FIRST GROWING SEASON AS MOST OF THE ENERGY IS BEING PUT INTO THE ROOT SYSTEM.

OWNER/DEVELOPER
COMPANY: City of Clarkston
ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR
COMPANY: TO BE DETERMINED
ADDRESS:

CONTACT:
PHONE:
FAX:
EMAIL:

SURVEYOR
COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
PHONE: (706) 342-1104
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EMAIL: brian@georgiacivil.com

SITE DESIGNER
COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
COVINGTON, GA 30014
PHONE: 706-342-1104

William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL
1855 - EXP. 08/01/2018

24-HOUR CONTACT
Larry Kaiser, PE
(404) 909-5619
CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA811 Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the information as to the location of utilities during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

Environs
LANDSCAPE ARCHITECTURE & ECOLOGICAL PLANNING
113 West Jefferson Street, Suite A
P.O. Box 896 | Madison, GA 30650
P: 706.342.1104 | F: 706.342.1105
www.environsla.com

professional seal

GEORGIA REGISTERED LANDSCAPE ARCHITECT No. 1220 PROFESSIONAL KEVIN CAMPBELL

project information

FRIENDSHIP FOREST PARK
WETLAND AND TRAIL ENHANCEMENT PLAN
4399 PONCE DE LEON AVE
CLARKSTON, GEORGIA 30021
DEKALB COUNTY

REVISIONS		
NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

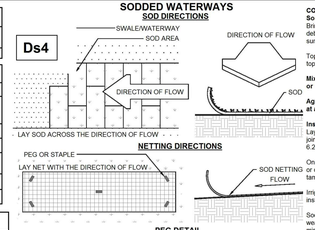
DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JAYR
REVIEWED BY: WC

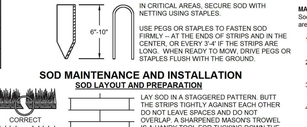
sheet title

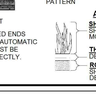
LANDSCAPE NOTES

sheet number

L-7.1







Ds2

Table 6-4.1 Temporary Cover or Companion Cover Crops

PLANT, PLANTING RATE, AND PLANTING DATE FOR TEMPORARY COVER OR COMPANION CROPS[1]

PLANTING DATES BY RESOURCE AREA: **SOLID** lines indicate optimum dates, **DOTTED** lines indicate permissible, but marginal dates (J F M A M J J A S O N D)

SPECIES	BROADCAST RATES: Rate Per Acre[2]	Pure Live Seed Per 1000 sqft	RESOURCE AREA[3]	REMARKS
BARLEY *Hordeum vulagre*				
alone	3 bu. (144 lbs.)	3.3 lbs.	M-L P C	14,000 seed per pound. Winter hardy. Use on productive soils.
in mixture	1/2 bu. (24 lbs.)	0.6 lb.		
LESPEDEZA, ANNUAL *Lespedeza striata*				
alone	40 lbs.	0.9 lb.	M-L P C	200,000 seed per pound. May volunteer for several years. Use inoculant EL.
in mixture	10 lbs.	0.2 lb.		
LOVEGRASS, WEEPING *Eragrostis curvula*				
alone	4 lbs.	0.1 lb.	M-L P C	200,000 seed per pound. May volunteer for several years. Use inoculant EL.
in mixture	2 lbs.	0.05 lb.		
MILLET, BROWNTOP *Panicum fasciculatum*				
alone	40 lbs.	0.9 lb.	M-L P C	137,000 seed per pound. Quick dense cover. Will provide excessive competition in mixtures if seeded at high rate.
in mixture	10 lbs.	0.2 lb.		
MILLET, PEARL *Pennesetum glaucum*				
alone	50 lbs.	1.1 lbs.	M-L P C	88,000 seed per pound. Quick dense cover. May reach 5' in height. Not recommended for mixtures.
OATS *Avena sativa*				
alone	4 bu. (128 lbs.)	2.9 lbs.	M-L P C	13,000 seed per pound. Use on productive soils. Not as winter hardy as rye or barley.
in mixture	1 bu. (32 lbs.)	0.7 lb.		
RYE *Secale cereale*				
alone	3 bu. (168 lbs.)	3.9 lbs.	M-L P C	13,000 seed per pound. Use on productive soils. Not as winter hardy as rye or barley.
in mixture	1/2 bu. (28 lbs.)	0.7 lb.		
RYEGRASS, ANNUAL *Lolium temulentum*				
alone	40 lbs.	0.9 lb.	M-L P C	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 lbs.	M-L P C	55,000 seed per pound. Good on droughty sites. Not recommended for mixtures.
TRITICALE *X-Triticosecale*				
alone	3 bu. (144 lbs.)	3.3 lbs.	C	Use on lower part of Southern Coastal Plain and in Atlantic Coastal Flatwoods only.
in mixture	1/2 bu. (24 lbs.)	0.6 lb.		
RYE *Secale cereale*				
alone	3 bu. (180 lbs.)	4.1 lbs.	M-L P C	15,000 seed per pound. Winter hardy.
in mixture	1/2 bu. (30 lbs.)	0.7 lb.		

[1] Temporary cover crops are very competitive and will crowd out perennials if seeded too heavily

[2] Reduce seeding rates by 50% when drilled

[3] M-L represents the Mountain; Blue Ridge; and Ridges and Valleys MLRA's
P represents the Southern Piedmont MLRA
C represents Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRA's

REQUIREMENT FOR REGULATORY COMPLIANCE
Mulch or temporary grassing shall be applied to all exposed areas within 14 days of disturbance. Temporary grassing, instead of mulch, can be applied to rough graded areas that will be exposed for less than six months. If an area is expected to be undisturbed for longer than six months, permanent perennial vegetation shall be used. If optimum planting conditions for temporary grassing is lacking, mulch can be used as a singular erosion control device for up to six months but it shall be applied at the appropriate depth, anchored, and have a continuous 90% cover or greater of the soil surface. Refer to specification **Ds1- Disturbed Area Stabilization (With Temporary Seeding).**

CONDITIONS
Temporary vegetative measures should be coordinated with permanent measures to assure economical and effective stabilization. Most types of temporary vegetation are ideal to use as companion crops until the permanent vegetation is established. Note: Some species of temporary vegetation are not appropriate for companion crop plantings because of their potential to out-compete the desired species (e.g. annual ryegrass). Contact NRCS or the local SWCD for more information.

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 a rate 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, culti-packer-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 6-4.1

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.

Ds1 MULCHING APPLICATION REQUIREMENTS

MATERIAL	RATE	DEPTH
STRAW OR HAY	2-1/2 TON PER ACRE	6″-10″
WOOD WASTE, CHIPS, SAWDUST, BARK	6-9 TON PER ACRE	2″-3″

DUST CONTROL ON DISTURBED AREAS

Du

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

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

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

METHOD AND MATERIALS

A. Temporary Methods

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

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

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

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

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

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

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

B. Permanent Methods

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

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

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

Ds3

Table 6-5.1 Fertilizer Requirements

TYPE OF SPECIES	YEAR	ANALYSIS OR EQUIVALENT N-P-K	RATE	N 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. **1/2/** -- 30
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. **1/** -- --
3. Ground covers	First Second Maintenance	10-10-10 10-10-10 10-10-10	1300 lbs./ac. **3/** 1300 lbs./ac. **3/** 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. **4/**	-- --
6. Temporary cover crops seeded alone	First	10-10-10	500 lbs./ac.	30 lbs./ac. **5/**
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. **2/6/** 50-100 lbs.ac. **2/** 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. **6/**

1/ Apply in spring following seeding.
2/ Apply in split applications when high rates are used
3/ Apply in 3 split applications
4/ Apply when plants are pruned
5/ Apply to grass species only.
6/ Apply when plants grow to a height of 2" to 4"

Table 6-5.2 Permanent Cover Crops

PLANT, PLANTING RATE, AND PLANTING DATE FOR PERMANENT COVER[1]

PLANTING DATES BY RESOURCE AREA: **SOLID** lines indicate optimum dates, **DOTTED** lines indicate permissible, but marginal dates (J F M A M J J A S O N D)

SPECIES	BROADCAST RATES: Rate Per Acre[2]	Pure Live Seed Per 1000 sqft	RESOURCE AREA[3]	REMARKS
BAHIA, PENSACOLA *Paspalum notatum*				
alone or with temporary cover	60 lbs.	1.4 lbs.	P	166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and lawns. Mix with *Sericea lespedeza* or weeping lovegrass.
with other perennials	30 lbs.	0.7 lb.	C	
BAHIA, WILMINGTON *Paspalum notatum*				
alone or with temporary cover	60 lbs.	1.4 lbs.	M-L	166,000 seed per pound. Low growing. Sod forming. Slow to establish. Plant with a companion crop. Will spread into bermuda pastures and lawns. Mix with *Sericea lespedeza* or weeping lovegrass.
with other perennials	30 lbs.	0.7 lb.	P	
BERMUDA, COMMON *Cynodon dactylon*				
Hulled seed				
alone	10 lbs.	0.2 lb.	P	1,787,000 seed per round. Quick cover. Low growing and sod forming. Full sun. Good for athletic fields.
with other perennials	6 lbs.	0.7 lb.	C	
BERMUDA, COMMON *Cynodon dactylon*				
Unhulled seed				
with temporary cover	10 lbs.	0.2 lb.	P	Plant with winter annuals.
with other perennials	6 lbs.	0.1 lb.	C	Plant with Tall Fescue.
BERMUDA SPRIGS *Cynodon dactylon*				
Coastal, Common, Midland, or Tift 44	40 cu ft	0.9 cu ft	M-L P	A cubic foot contains approx. 650 sprigs. A bushel contains 1.25 cubic feet or approx. 800 sprigs.
Coastal, Common, or Tift 44	or sod plugs 3'x3'		C	
Tift 78			C	Southern Coastal Plain only
CENTIPEDE *Eremochloa ophiuroides*				
	Block sod only		P C	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 as north Athens and Atlanta.
CROWNVETCH *Coronilla varia*				
with winter annuals or cool season grasses	15 lbs.	0.3 lb.	M-L P	100,000 seed per round. Dense growth. Drought tolerant and fire resistant. Attractive rose, pink and white blossoms spring to late fall. Mix with 30 lbs. of Tall Fescue or 15 lbs. of rye. Inoculate seed with M inoculant. Use from North Atlanta and Northward.
FESCUE, TALL *Festuca arundinacea*				
alone	50 lbs.	1.1 lbs.	M-L	227,000 seed per pound. Use alone only on better sites. Mix with perennial Lespedeza or Crownvetch. Apply top dressing in spring following fall plantings. Not for heavy use areas or athletic fields.
with other perennials	30 lbs.	0.7 lb.	P	
LESPEDEZA SERICEA *Lespedeza cuneata*				
scarified	60 lbs.	1.4 lbs.	M-L P C	350,000 seed per pound. Widely adapted. Low maintenance. Mix with Weeping Lovegrass, Common Bermuda, Bahia, or Tall Fescue. Takes 2-3 years to fully establish. Excellent on road banks. Inoculate seed with EL inoculant.
unscarified	75 lbs.	1.7 lbs.	M-L P C	Mix with Tall fescue or winter annuals.
seed-bearing hay	3 tons	1,338 lbs.	M-L P C	Cut when seed mixture is mature, but before, it shatters. Add Tall Fescue or winter annuals.
LESPEDEZA *Ambro virgata* *Lespedeza virgata DC* or *Appalow* *Lespedeza cuneata (Dumont) G. Don)*				
scarified	60 lbs.	1.4 lbs.	M-L P C	300,000 seed per pound. Height of growth is 18" to 24". Advantageous in urban areas. Spreading-type growth. New 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 inoculant.
unscarified	75 lbs.	1.7 lbs.	M-L P C	
LESPEDEZA, SHRUB *Lespedeza bicolor* *Lespedeza thumbergii*				
plants	3'x3'		M-L P C	Provide wildlife food and cover.
LOVEGRASS, WEEPING *Eragrostis curvula*				
alone	4 lbs.	0.1 lb.	M-L P	1,500,000 seed per pound. Quick cover. Drought tolerant. Grows well with Sericea lespedeza on roadbanks.
with other perennials	2 lbs.	0.05 lb.	C	
MAIDENCANE *Panicum hemitomon*				
sprigs	2'x3' spacing	ALL		For very wet sites. May clog channels. Dig sprigs from local sources. Use along river banks and shorelines.
PANICGRASS, ATLANTIC COASTAL *Panicum amarum var amarukum*				
	20 lbs.	0.5 lb.	P C	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	50 lbs.	1.1 lbs.	M-L	Grows similar to Tall fescue.
with other perennials	30 lbs.	0.7 lb.	P	
SUNFLOWER, 'AZTEC' MAXIMILLIAN *Helianthus maximiliani*				
	10 lbs.	0.2 lb.	M-L P C	227,000 seed per pound. Mix with Weeping lovegrass or other low-growing grasses or legumes

[1] Reduce seeding rates by 50% when drilled

[2] PLS is an abbreviation for Pure Live Seed. Refer to Section V.E. of these specifications.

[3] M-L represents the Mountain; Blue Ridge; and Ridges and Valleys MLRA's
P represents the Southern Piedmont MLRA
C represents the Southern Coastal Plain; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRA's

REQUIREMENT FOR REGULATORY COMPLIANCE
This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than six months. This practice or sodding shall be applied immediately to all areas at final grade. **Final Stabilization** means that all soil disturbing activities at the site have been completed, and that for unpaved areas and areas not covered by permanent structures and areas located outside the waste disposal limits of a landfill cell that has been certified by the GA EPD for waste disposal, 100% of the soil surface is 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.

Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that within the growing season a 70% coverage by perennial vegetation shall be achieved. Final stabilization applies to each phase of construction. For linear construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land for its agricultural or silvicultural use. Until this standard is satisfied and permanent control measures and facilities are operational, interim stabilization measures and temporary erosion and sedimentation control measures shall not be removed.

CONSTRUCTION SPECIFICATIONS
Grading and Shaping
Grading and shaping may not be required where hydraulic seeding and fertilizing equipment is to be used. Vertical banks shall be sloped to enable plant establishment.

When conventional seeding and fertilizing are to be done, grade and shape where feasible and practical, so that equipment can be used safely and efficiently during seedbed preparation, seeding, mulching and maintenance of the vegetation.

Concentrations of water that will cause excessive soil erosion shall be diverted to a safe outlet. Diversions and other treatment practices shall conform with the appropriate standards and specifications.

Lime and Fertilizer Rates and Analysis
Agricultural lime is required at the rate of one to two tons per acre unless soil tests indicate otherwise. Graded areas require lime application. If lime is applied within six months of planting permanent perennial vegetation, additional lime is not required. Agricultural lime shall be within the specifications of the Georgia Department of Agriculture.

Lime spread by conventional equipment shall be "ground limestone." Ground limestone is calcitic or dolomitic limestone ground so that 90% of the material will pass through a 10-mesh sieve, not less than 50% will pass through a 50-mesh sieve and not less than 25% will pass through a 100-mesh sieve.

Fast-acting lime spread by hydraulic seeding equipment should be "finely ground limestone" spanning from the 180 micron size to the 5 micron size. Finely ground limestone is calcitic or dolomitic limestone ground so that 95% of the material will pass through a 100-mesh sieve.

It is desirable to use dolomitic limestone in the Sand Hills, Southern Coastal Plain and Atlantic Coast Flatwoods MLRAs. (See Figure 6-4.1)

Agricultural lime is generally not required where only trees are planted.

Initial fertilization, nitrogen, topdressing, and maintenance fertilizer requirements for each species or combination of species are listed in Table 6-5.1.

Lime and Fertilizer Application
When *hydraulic seeding* equipment is used, the initial fertilizer shall be mixed with seed, inoculant (if needed), and wood cellulose or wood pulp fiber mulch and applied in a slurry.

The inoculant, if needed, shall be mixed with the seed prior to being placed into the hydraulic seeder. The slurry mixture will be agitated during application to keep the ingredients thoroughly mixed. The mixture will be spread uniformly over the area within one hour after being placed in the hydroseeder.

Finely ground limestone can be applied in the mulch slurry or in combination with the top dressing.

When *conventional planting* is to be done, lime and fertilizer shall be applied uniformly in one of the following ways:

1. Apply before land preparation so that it will be mixed with the soil during seedbed preparation.
2. Mix with soil used to fill holes, distribute in furrows.
3. Broadcast after steep surfaces are scarified, pitted or trenched.
4. A fertilizer pellet shall be placed at root depth in the closing hole beside each pine tree seedling.

Plant Selection
Refer to Tables 6-4.1, 6-5.2, 6-5.3 and 6-5.4 for approved species. Species not listed shall be approved by the State Resource Conservationist of the Natural Resources Conservation Service before they are used.

Plants shall be selected on the basis of species characteristics, site and soil conditions, planned use and maintenance of the area; time of year of planting, method of planting; and the needs and desires of the land user.

Some perennial species are easily established and can be planted alone. Examples of these are Common Bermuda, Tall Fescue, and Weeping Lovegrass. Other perennials, e.g. Bahia Grass and Sericea Lespedeza, are slow to become established and should be planted with another perennial species. The additional species will provide quick cover and ample soil protection until the target perennial species become established. E.g., Common seeding combinations: 1) Weeping Lovegrass with Sericea Lespedeza (scarified) and 2) Tall Fescue with Sericea Lespedeza (unscarified).

Plant selection may also include annual companion crops. Annual companion crops should be used only when the perennial species are not planted during their optimum planting period. A common mixture is Brown Top Millet with Common Bermuda in mid-summer. Care should be taken in selecting companion crop species and seeding rates because annual crops will compete with perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species.

Ryegrass shall not be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent perennial cover.

Seed Quality
The term "pure live seed" is used to express the quality of seed and is not shown on the label. Pure live seed, PLS, is expressed as a percentage of the seeds that are pure and will germinate. Information on percent germination and purity can be found on seed tags. PLS is determined by multiplying the percent of pure seed with the percent of germination; i.e., **(PLS = % germination x % purity)**

Seedbed Preparation
Seedbed prep 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"; 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" apart in which seed may lodge and germinate. Hydraulic seeding may also be used.

Individual Plants
1. Where indiv. plants are to be set, soil shall be prepared by excavating holes, opening furrows, or dibble planting.
2. For nursery stock plants, holes shall be large enough to accommodate roots without crowding.
3. Where pine seedlings are to be planted, subsoil under the row 36" deep on the contour four to six months prior to planting. Subsoiling should be done when the soil is dry, preferably in August or September.

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

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

All inoculated seed shall be protected from the sun and high temps and shall be planted the same day inoculated. No inoculated seed shall remain in the hydroseeder longer than 1 hour.

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

Conventional Seeding
Seeding will be done on a freshly prepared and firmed seedbed. For broadcast planting, use a 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" of soil for small seed and 1/2" to 1" 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. Seed must be uniformly distributed and planted at 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, 2" 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, 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 lbs. per acre. Dry straw or dry hay shall be applied (at the rate indicated above) after hydraulic seeding.
3. 1,000 lbs. of *wood cellulose* or *wood pulp fiber*, including 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/bark* shall be applied at a thickness of 3" for bedding purposes. Other suitable materials in sufficient qty. 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 waterways to prevent erosion. Bituminous treated roving shall be applied within 24 hours after an area has been planted. Application rates and materials must meet GADOT specs.

Wood cellulose/pulp fibers shall not contain germination or growth inhibiting factors. They shall be evenly dispersed when agitated in water. 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 soil surfaces.

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" or more in diameter and 8"-12" apart. The edges of the disks shall be dull enough to press the mulch into the ground without cutting it, leaving much of it in an erect position. Mulch shall not be plowed into the soil.
2. *Synthetic tackifiers, binders or hydraulic mulch specifically designed to tack straw,* shall be applied in conjunction with or immediately after 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 thru EPA 2021.0 testing. Refer to **Tackifiers-Tac.**
3. *Rye or wheat* can be included with Fall and Winter plantings to stabilize the mulch. They shall be applied at a rate of one-quarter to one-half bushel per acre.
4. *Plastic mesh or netting* with mesh no larger than 1" by 1" 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, Grass hay, Wood Waste	4" to 6"
Pine needles	3" to 5"

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. See Table 6-5.1 for recommended application rates.

Second Year and Maintenance Fertilization
See Table 6-5.1 for 2nd year and maintenance fertilizer rates.

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.

Bermuda grass, Bahia grass and Tall Fescue may be mowed as desired. Maintain at least 6" 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.

GSWCC EROSION CONTROL NOTES:

The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, concurrent with, land disturbing activities.

Erosion control measures will be maintained at all times. If full implementation of the approved plan does not provide for effective erosion control, additional erosion and sediment control measures shall be implemented to control or treat the sediment source.

Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding.

Any 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.

Maintenance of all soil erosion and sedimentation control measures and practices, whether temporary or permanent, shall be at all times the responsibility of the property owner.

DISTURBANCE:
3.94 ACRES (+/-)

GEORGIA811 Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

OWNER/DEVELOPER

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ADDRESS: 1055 Rowland Street
Clarkston, Georgia 30021
CONTACT: Keith Barker, City Manager
PHONE: (404) 296-6489
FAX: N/A
EMAIL: kbarker@cityofclarkston.com

CONTRACTOR

COMPANY: TO BE DETERMINED
ADDRESS:
CONTACT:
PHONE:
FAX:
EMAIL:

SURVEYOR

COMPANY: Georgia Civil, Inc.
ADDRESS: P.O. Box 186
Madison, Georgia 30650
CONTACT: Brian Slate, PLS
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SITE DESIGNER

COMPANY: ENVIRONS DESIGN STUDIO
ADDRESS: 1104 MONTICELLO STREET
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William K. Campbell
LEVEL II CERTIFIED
DESIGN PROFESSIONAL
1855 - EXP. 08/01/2018

24-HOUR CONTACT
Larry Kaiser, PE
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CONTACT WILL CHANGE ONCE CONTRACT IS AWARDED

GEORGIA811 Utilities Protection Center, Inc.

Utilities/Services shown are for Contractors' convenience. Items are shown schematically and neither the site design professional nor the owner assumes any responsibility for variances in their actual location. This plan may not show and/or may incorrectly show utilities located on site. Contractor shall be responsible to secure and use the services of a private utility locator firm during the entire course of work and shall pay for said services. Contractor shall locate utilities prior to any disturbance (including field verifying location and depth of utilities that are to be saved and protected). Contractor shall notify the site design professional of any utility conflicts prior to installation of new utilities, grading, etc. The Contractor, at their expense, shall be responsible to repair, replace and/or relocate, as necessary, any utilities damaged, whether shown or not. Abandonment, relocation, etc. of utilities shall be coordinated with the respective utility company.

GEORGIA UNIFORM CODING SYSTEM
SOIL EROSION & SEDIMENT CONTROL

STRUCTURAL PRACTICES: Code	Practice	Symbol	VEGETATIVE MEASURES: Code	Practice	Symbol
Sd1-S	Sediment Barrier (Type = Sensitive Areas)	Sd1-S 28"	Ds1	Disturbed Area Stabilization (w/ Mulching Only)	Ds1
			Ds2	Disturbed Area Stabilization (w/ Temporary Seeding)	Ds2
Sk	Floating Filter Surface Skimmer	Sk	Ds3	Disturbed Area Stabilization (w/ Permanent Vegetation)	Ds3
			Ds4	Disturbed Area Stabilization (w/ Sodding)	Ds4
St	Storm Drain Outlet Protection	St	Du	Dust Control on Disturbed Areas	Du
			Ss	Slope Stabilization (Rolled Erosion Control Products (RECPs))	Ss

CRUSHED STONE CONSTRUCTION EXIT

Co

Figure 6-14.1

CONSTRUCTION SPECIFICATIONS
It is recommended that the egress area be excavated to a depth of 3 inches and be cleared of all vegetation and roots.

Diversion Ridge
On sites where the grade toward the paved area is greater than 2%, a diversion ridge 6" to 8" high with 3:1 side slopes shall be constructed across the foundation approximately 15' above the road.

Geotextile
The geotextile underliner must be placed the full length and width of the entrance. Geotextile selection shall be based on AASHTO M288-98 specification:

1. For subgrades with a CBR greater than or equal to 3 or shear strength greater than 90 kPa, geotextile must meet requirements of section AASHTO M288-96 Section 7.3, *Separation Requirements*.

2. For subgrades with a CBR between 1 and 3 or sheer strength between 30 and 90 kPa, geotextile must meet requirements of section AASHTO M288-96 Section 7.4, *Stabilization Requirements*.

MAINTENANCE
The exit shall be maintained in a condition which will prevent tracking or flow of mud onto public rights-of-way. This may require periodic top dressing with 1.5-3.5 inch stone, as conditions demand, and repair and/or cleanout of any structures to trap sediment. All materials spilled, dropped, washed, or tracked from vehicles or site onto roadways or into storm drains must be removed immediately.

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 REMOVES 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.

SILT FENCE - TYPE SENSITIVE

Sd1-S

Figure 6-27.2

CONSTRUCTION SPECIFICATIONS
Sediment barriers being used as Type S shall have a support spacing of no greater than 4' on center, with each driven into the ground 18". Type S sediment barriers shall have a P-factor no greater than 0.030. For complete test procedures and approved products list please visit www.gaswcc.georgia.gov.

MAINTENANCE
Sediment shall be removed once it has accumulated to one- half the original height of the barrier. This is extremely important when selecting BMPs with a lower profile.

Sediment barriers shall be replaced whenever they have deteriorated to such an extent that the effectiveness of the product is reduced (approximately six months) or the height of the product is not maintaining 80% of its properly installed height.

Temporary sediment barriers shall remain in place until disturbed areas have been permanently stabilized. All sediment accumulated at the barrier shall be removed and properly disposed of before the barrier is removed.

Table 6-27.2 Post Size

Type	Min. Length	Type of Post	Size of Post
S	4'	Steel Oak	1.3lb./ft. min 2" x 2"

NOTES:
1. THE FABRIC AND WIRE SHOULD BE SECURELY FASTENED TO POSTS AND FABRIC ENDS MUST BE OVERLAPPED A MINIMUM OF 18" OR WRAPPED TOGETHER AROUND A POST TO PROVIDE A CONTINUOUS FABRIC BARRIER AROUND THE INLET.

FASTENERS FOR SILT FENCE

Figure 6-27.5

Table 6-27.3 Fasteners for Wood Posts

Type	Gauge	Crown	Legs	Staples/Post
Wire Staples	17 (min.)	3/4" wide	1/2" long	5 (min.)
Type	**Gauge**	**Length**	**Button Heads**	**Nail/Post**
Nails	14 (min.)	1"	3/4"	4 (min.)

Note: Filter Fabric may also be attached to post(s) by wires, chors, and pockets or any other method provided minimum P-factor, as required by GSWCC, is met.

Table 6-6.1 Fertilizer Requirements for Soil Surface Application

Fertilizer Type	Fertilizer Rate (lbs/acre)	Fertilizer Rate (lbs/sq ft)	Season
10-10-10	1,000	0.025	Fall

Table 6-6.2 Sod Planting Requirements

Grass	Varieties	Resource Area	Growing Season
Bermudagrass	Common Tifway Tifgreen Tiflawn	M-L, P, C P, C P, C P, C	warm weather
Bahiagrass	Pensacola	P, C	warm weather
Centipede	--	P, C	warm weather
St. Augustine	Common Bitterblue Raleigh	C	warm weather
Zoysia	Emerald Myer	P, C	warm weather
Tall Fescue	Kentucky	M-L, P	cool weather

Table 6-6.3 Fertilizer Requirements for Sod

Types of Species	Planting Year	Fertilizer (N-P-K)	Rate (lbs./acre)	Nitrogen Top Dressing Rate (lbs./acre)
cool season grasses	first second maintenance	6-12-12 6-12-12 10-10-10	1,500 1,000 400	50-100 -- 30
warm season grasses	first second maintenance	6-12-12 6-12-12 10-10-10	1,500 800 400	50-100 50-100 30

Ds4

SODDED WATERWAYS

PEG DETAIL

IN CRITICAL AREAS, SECURE SOD WITH NETTING USING STAPLES.

USE PEGS OR STAPLES TO FASTEN SOD FIRMLY -- AT THE ENDS OF STRIPS AND IN THE CENTER, OR EVERY 3'-4' IF THE STRIPS ARE LONG. WHEN READY TO MOW, DRIVE PEGS OR STAPLES FLUSH WITH THE GROUND.

SOD MAINTENANCE AND INSTALLATION

DIRECTIONS FOR INITIAL MAINTENANCE

STEP 1. ROLL SOD IMMEDIATELY TO ACHIEVE FIRM CONTACT WITH THE SOIL

STEP 2. WATER TO A DEPTH OF 4" AS NEEDED. WATER WELL AS SOON AS THE SOD IS LAID.

STEP 3. MOW WHEN THE SOD IS ESTABLISHED -- IN 2-3 WEEKS. SET THE MOWER HIGH (2"-3")

BUTTING: ANGLED ENDS CAUSED BY THE AUTOMATIC SOD CUTTER MUST BE MATCHED CORRECTLY.

SOD LAYOUT AND PREPARATION

LAY SOD IN A STAGGERED PATTERN. BUTT THE STRIPS TIGHTLY AGAINST EACH OTHER DO NOT LEAVE SPACES AND DO NOT OVERLAP. A SHARPENED MASON'S TROWEL IS A HANDY TOOL FOR TUCKING DOWN THE ENDS AND TRIMMING PIECES.

APPEARANCE OF GOOD SOD

SHOOTS OR GRASS BLADES: GRASS SHOULD BE GREEN AND HEALTHY, MOWED AT A 2"-3" CUTTING HEIGHT.

THATCH: GRASS CLIPPINGS AND DEAD LEAVES (UP TO 1/2" THICK).

ROOT ZONE: SOIL AND ROOTS. SHOULD BE 1/2" - 3/4" THICK WITH DENSE ROOT MAT FOR STRENGTH.

CONSTRUCTION SPECIFICATIONS
Soil Preparation
Bring soil surface to final grade. Clear surface of trash, woody debris, stones and clods larger than 1". Apply sod to soil surfaces only and not frozen surfaces, or gravel type soils.

Topsoil properly applied will help guarantee a stand. Don't use topsoil recently treated with herbicides or soil sterilants.

Mix fertilizer into soil surface. Fertilize based on soil tests or Table 6-6.1.

Agricultural lime should be applied based on soil tests or at a rate of 1 to 2 tons per acre.

Installation
Lay sod with tight joints and in straight lines. Don't overlap joints. Stagger joints and do not stretch sod (See Figure 6-6.2).

On slopes steeper than 3:1, sod should be anchored with pins or other approved methods. Installed sod should be rolled or tamped to provide good contact between sod and soil.

Irrigate sod and soil to a depth of 4" immediately after installation.

Sod should not be cut or spread in extremely wet or dry weather. Irrigation should be used to supplement rainfall for a minimum of 2-3 weeks.

MATERIALS
Sod selected should be certified. Sod grown in the general area of the project is desirable.

1. Sod should be machine cut and contain 3/4" (+ or -1/4") of soil, not including shoots or thatch.
2. Sod should be cut to the desired size within + or -5%. Torn or uneven pads should be rejected.
3. Sod should be cut and installed within 36 hours of digging.
4. Avoid planting when subject to frost heave or hot weather, if irrigation is not available.
5. The sod type should be shown on the plans or installed according to Table 6-6.2. See Figure 6-4.1 for your Resource Area.

MAINTENANCE
Re-sod areas where an adequate stand of sod is not obtained. New sod should be mowed sparingly. Grass height should not be cut less than 2"-3" or as specified (See Figure 6-6.2).

Apply one ton of agricultural lime as indicated by soil test or every 4-6 years. Fertilize grasses in accordance with soil tests or Table 6-6.3.

NOTE ADDITION OF DETAILS

1

LIVE STAKING
CROSS SECTION

NOTES:
ROOTED/LEAFED CONDITION OF THE LIVING PLANT MATERIAL IS NOT REPRESENTATIVE AT THE TIME OF INSTALLATION.

Sb

Live stakes are living, woody plant cuttings capable of rooted when inserted into the banks. These stakes, commonly willow species, can root and grow into shrubs that overtime will stabilize the streambank or shoreline and provide riparian habitat.

Figure 6-9.1 Illustration of a Live Stake

ROCK FILTER DAM

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

Rd

Figure 6-24.1

NOTE:
ROCK SIZE DETERMINED ACCORDING TO SPECIFICATIONS SET FORTH IN APPENDIX C.

CONSTRUCTION SPECIFICATIONS
Mechanical or hand placement will be required to insure that the rock dam extends completely across the channel and securely ties into both channel banks. The center of the dam must be no less than 9" lower than the lowest side, to serve as a type of weir. Gabions can be installed to serve as rock filter dams, but should follow recommended sizing and installation specifications. Refer to specification **Ga - Gabion**. See Figure 6-24.1

MAINTENANCE
Rock dams should be removed once disturbed areas have been stabilized. Periodic inspection and required maintenance must be provided. Sediment shall be removed when it reaches a depth of one-half of the original height of the dam.

SLOPE STABILIZATION
(ROLLED EROSION CONTROL PRODUCTS)
BLANKET AND MATTING CROSS-SECTIONS

Ss

Figure 6-10.1 - Typical Installation Guidelines for Matting and Blankets

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

Criteria
Rolled Erosion Control Products (RECPs) and Hydraulic Erosion Control Products (HECPs):

- Installation and stapling of RECPs and application rates for the HECPs shall conform to manufacturer's guidelines for application
- Products shall have a maximum C-factor (ASTM D6459) for the following slope grade:

Slope (H:V)	C-Factor (max.)
3:1 or greater	0.080

For complete test procedures and approved products list please visit www.gaswcc.georgia.gov.

Rolled Erosion Control Products (RECP)
A natural fiber blanket with single or double photodegradable or biodegradable nets. Blankets shall be nontoxic to vegetation, seed, or wildlife. Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012. At minimum, the plastic or biodegradable netting shall be stitched to the fibrous matrix to maximize strength and provide for ease of handling.

Hydraulic Erosion Control Products (HECP)
HECP shall utilize straw, cotton, wood or other natural based fibers held together by a soil binding agent which works to stabilize soil particles. Paper mulch should not be used for erosion control. Hydraulic erosion control products shall be prepackaged from the manufacturer. Field mixing of performance enhancing additives will not be allowed. Fibrous components should be all natural or biodegradable. Products shall be determined to be non-toxic in accordance with EPA-821-R-02-012.

Site Preparation
After the site has been shaped and graded to the approved design, prepare a friable seedbed relatively free from clods and rocks more than 1" in diameter, and any foreign material that will prevent contact of the soil stabilization mat with the soil surface. Surface must be smooth to ensure proper contact of blankets or matting to the soil surface. If necessary, redirect any runoff from the ditch or slope during installation.

MAINTENANCE
All erosion control blankets and matting should be inspected periodically following installation, particularly after rainstorms to check for erosion and undermining. Any dislocation or failure should be repaired immediately. If washouts or breakage occurs, reinstall the material after repairing damage to the slope or ditch. Continue to monitor these areas until they become permanently stabilized.

NPDES GENERAL PERMIT NO. GAR100001 - APPENDIX B RATIONALE:

THE DISTURBED ACREAGE ON THE SITE IS 3.94 ACRES WITH A SURFACE WATER DRAINAGE AREA LESS THAN 0.11 SQUARE MILES. THUS AN NTU VALUE OF 400 SHALL BE APPLIED. (3) SAMPLING POINTS ARE SHOWN ON THE SITE. REFER TO SHEET L-4.0 FOR SAMPLING FREQUENCY AND METHODOLOGY. REFER TO SHEETS L-4.0 TO L-4.3 FOR SAMPLING POINT LOCATIONS.

Nephelometric Turbidity Unit (NTU) TABLE
Warm Water (Supporting Warm Water Fisheries)

Surface Water Drainage Area, square miles

SITE SIZE, ACRES	0 - 4.99	5 - 9.99	10 - 24.99	25 - 49.99	50 - 99.99	100 - 249.99	250 - 499.99	500+
1.00 - 10	75	150	200	400	750	750	750	750
10.01 - 25	50	100	100	200	300	500	750	750
25.01 - 50	50	50	100	100	200	300	750	750
50.01 - 100	50	50	50	100	100	150	300	600
100.01 +	50	50	50	50	50	100	200	100

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DATE OF FIRST ISSUE: 2017.09.15
DRAWN BY: JWR
REVIEWED BY: KC

REVISIONS

NO:	DATE:	DESCRIPTION:
1	2017.09.22	PLAN UPDATES
2		
3		
4		
5		

sheet title

EROSION CONTROL DETAILS

sheet number

L-8.0