DEBELLE STREET & ATLANTA AREA SCHOOL FOR THE DEAF STORM IMPROVEMENTS

18-067-01-015 & 18-067-01-016 890 N INDIAN CREEK DR CLARKSTON GA, 20021 ZONING - NC-1 **CITY OF CLARKSTON** CITY MANAGER ROBIN GOMEZ

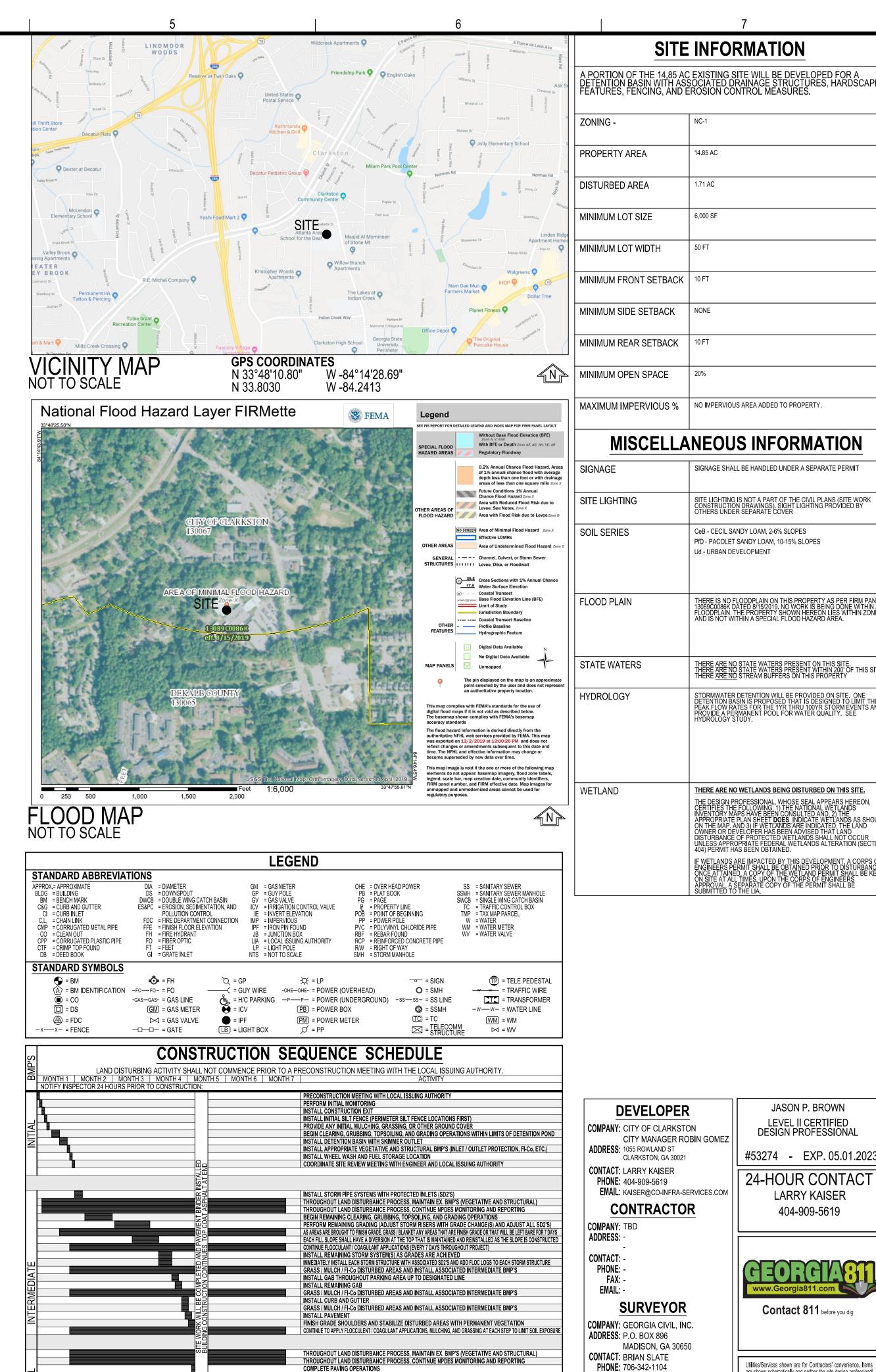
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	BID SCHEDULE					
	Category	GDOT Pay Item	Estimate Quantity	Linit	Estimated Cost per Unit	Estimated Subtotal
	TRAFFIC CONTROL					
	Traffic Control	150-0001	1	ls		
	TOTAL					
	DEMOLITION AND REMOVAL					
	Removal of Curb	610-0400	130	lf		
	Relocate Water Meter	670-9725	1	ea		
	Relocate Water Valve Tree Removal	670-9720	1	ea		
	Remove FES	610-2900 610-6155	1	ls ea		
	Remove Concrete Headwall	610-5828	3	ea		
	Remove Grate Inlet	610-6015	1	ea		
	Remove Asphalt	610-2585	25	sy		
	Remove Gravel	610-3695	107	sf		
	Remove Chainlink Fence	610-0200	162	lf		
	Remove 18" RCP	610-0959	6	lf		
	Undercut Excavation TOTAL	210-0250	120	су		
	SITE WORK	004 4500		·		
D	Clearing and Grubbing Grading Complete	201-1500	1	ls		
	Remove Excess Soil (approx. 5,000 cy. *contractor	210-0100	I	ls		
	responsible for quantity take off)		1	ls		
	24" Curb and Gutter Type 2	441-6012	403	lf		
	Junction Box	668-5000	5	ea		
	Concrete Headwall	668-0811	1	ea		
	Pedestal Top Inlet (per detail)	668-9900	1	ea		
	Double Wing Catch Basin 30" RCP	668-1100	3	ea		
	15" RCP	550-1301 550-1151	176 24	lf If		
	36" HDPE	550-1362	24	lf		
	24" HDPE	550-1242	108	lf		
	4" PVC Pipe	670-5042	17	lf		
	6' Tall Black Vinyl Coated Chainlink Fence	643-1452	790	lf		
	8' Wide Black Vinyl Coated Gate	643-8030	2	ea		
	OCS per Detail	668-9800	1	ea		
	Mill existing Asphalt Concrete variable depth Compact Asphalt Millings	432-5010 999-1400	462 1	sy Is		
	19mm Asphalt Base @ 2" thick	402-3190	10.4	tn		
	12.5mm Asphalt Overlay (variable depth)	402-3130	11.8	tn		
	Yellow Thermoplastic Solid Striping	653-1502	1,370	lf		
	24" Thermoplastic White Stripe (Stop Bar)	653-1704	10	lf		
	TOTAL					
	EROSION CONTROL					
	Category	GDOT Pay Item	Estimated Quantity	llnit	Estimated Cost per Unit	Estimated Subtotal
	Co - Construction Exit	163-0300	1	ea		
	Portable Sanitation		1	ea		
Е	Trash Recepticle		1	ls		
	St Outlet Protection Rip Rap	603-2181	2,021	sy		
	Sd2-P Inlet Sediment Trap Sd2-F Inlet Sediment Trap	163-0550 163-0550	3	ea ea		
	Maintenance of Inlet Sediment Trap	165-0105	1	ea		
	Tr - Tree Protection Fencing	702-7501	890	lf		
	Ss Slope Stabilization Matting	716-2000	676	sy		
	Fr - Filter Ring	163-0542	1	ea		
	Sk - Skimmer (Faircloth)	161-1000	1	ls		
	NPDES Sampling Point	167-1000	1	ea		
	Seeding and Site Stabilization TOTAL	700-6910	<u> </u>	ls		
			ESTIMATED GRAND TOT	AL		
	* Contractor is responsible for running quantity takeoffs. Th	e above quantites are for esti	mation purposes only.			

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ETENTION BASIN WITH ASS EATURES, FENCING, AND E	SOCIATED D EROSION CO	RAINAGE STRUCTURES, HARDSCAPE NTROL MEASURES.
DNING -	NC-1	
ROPERTY AREA	14.85 AC	
STURBED AREA	1.71 AC	
NIMUM LOT SIZE	6,000 SF	
NIMUM LOT WIDTH	50 FT	
NIMUM FRONT SETBACK	10 FT	
NIMUM SIDE SETBACK	NONE	
NIMUM REAR SETBACK	10 FT	
NIMUM OPEN SPACE	20%	
AXIMUM IMPERVIOUS %	NO IMPERVIOU	IS AREA ADDED TO PROPERTY.
MISCELLA	NEOU	S INFORMATION
GNAGE	SIGNAGE SHAI	L BE HANDLED UNDER A SEPARATE PERMIT
TE LIGHTING	SITE LIGHTING CONSTRUCTIO OTHERS UNDE	IS NOT A PART OF THE CIVIL PLANS (SITE WORK IN DRAWINGS). SIGHT LIGHTING PROVIDED BY R SEPARATE COVER
DIL SERIES	PfD - PACOLET	NDY LOAM, 2-6% SLOPES SANDY LOAM, 10-15% SLOPES
	Ud - URBAN DE	VELOPMENT
OOD PLAIN	THERE IS NO F 13089C0086K E FLOODPLAIN,	LOODPLAIN ON THIS PROPERTY AS PER FIRM PANEL ATED 8/15/2019. NO WORK IS BEING DONE WITHIN A THE PROPERTY SHOWN HEREON LIES WITHIN ZONE X ITHIN A SPECIAL FLOOD HAZARD AREA.
	AND IS NOT W	II NIN A SPECIAL FLOOD NAZAKU AKEA.
TATE WATERS	THERE ARE NO THERE ARE NO THERE ARE NO	O STATE WATERS PRESENT ON THIS SITE. D STATE WATERS PRESENT WITHIN 200' OF THIS SITE O STREAM BUFFERS ON THIS PROPERTY
/DROLOGY	I PEAK FLOW RA	DETENTION WILL BE PROVIDED ON SITE. ONE SIN IS PROPOSED THAT IS DESIGNED TO LIMIT THE ATES FOR THE 1YR THRU 100YR STORM EVENTS AND RMANENT POOL FOR WATER OILMI ITY SEE
	HYDROLOGY S	RMANENT POOL FOR WATER QUALITY. SEE TUDY.
ETLAND		D WETLANDS BEING DISTURBED ON THIS SITE. ROFESSIONAL, WHOSE SEAL APPEARS HEREON, E FOLLOWING: 1) THE NATIONAL WETLANDS
	INVENTORY M APPROPRIATE ON THE MAP. / OWNER OR DE DISTURBANCE	ROFESSIONAL, WHOSE SEAL APPEARS HEREON, 5 FOLLOWING: 1) THE NATIONAL WETLANDS APS HAVE BEEN CONSULTED AND, 2) THE PLAN SHEET DOES INDICATE WETLANDS AS SHOWN NND 3) IF WETLANDS ARE INDICATED, THE LAND VELOPER HAS BEEN ADVISED THAT LAND OF PROTECTED WETLANDS SHALL NOT OCCUR OPRIATE FEDERAL WETLANDS ALTERATION (SECTION AS BEEN OBTAINED.
	ON SITE AT AL APPROVAL, A S SUBMITTED TO	ARE IMPACTED BY THIS DEVELOPMENT, A CORPS OF FRMIT SHALL BE OBTAINED PRIOR TO DISTURBANCE. D. A COPY OF THE WETLAND PERMIT SHALL BE KEPT L TIMES. UPON THE CORPS OF ENGINEERS SEPARATE COPY OF THE PERMIT SHALL BE THE LIA.
DEVELOPER COMPANY: CITY OF CLARKSTO	- DN	JASON P. BROWN LEVEL II CERTIFIED DESIGN PROFESSIONAL
CITY MANAGER RC ADDRESS: 1055 ROWLAND ST CLARKSTON, GA 30021		#53274 - EXP. 05.01.2023
CONTACT: LARRY KAISER PHONE: 404-909-5619 EMAIL: KAISER@CO-INFRA-SE	ERVICES.COM	24-HOUR CONTACT LARRY KAISER
CONTRACTO	R	404-909-5619
ADDRESS: - CONTACT: -		
PHONE: - FAX: - EMAIL: -		GEORGIA81 www.Georgia811.com
SURVEYOR		Contact 811 before you dig
ADDRESS: P.O. BOX 896 MADISON, GA 3065 CONTACT: BRIAN SLATE		
PHONE: 706-342-1104 FAX: 706-342-1105 EMAIL: BSLATE@GEORGIACIVI		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
SITE DESIGNE	R	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
COMPANY: GEORGIA CIVIL, INC	c.	and protected). Contractor shall notify the site design professional

SITE INFORMATION





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COVER SHEET

Sheet Numbe CV-1.

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.

MADISON, GA 30650

ADDRESS: P.O. BOX 896

PHONE: 706-342-1104

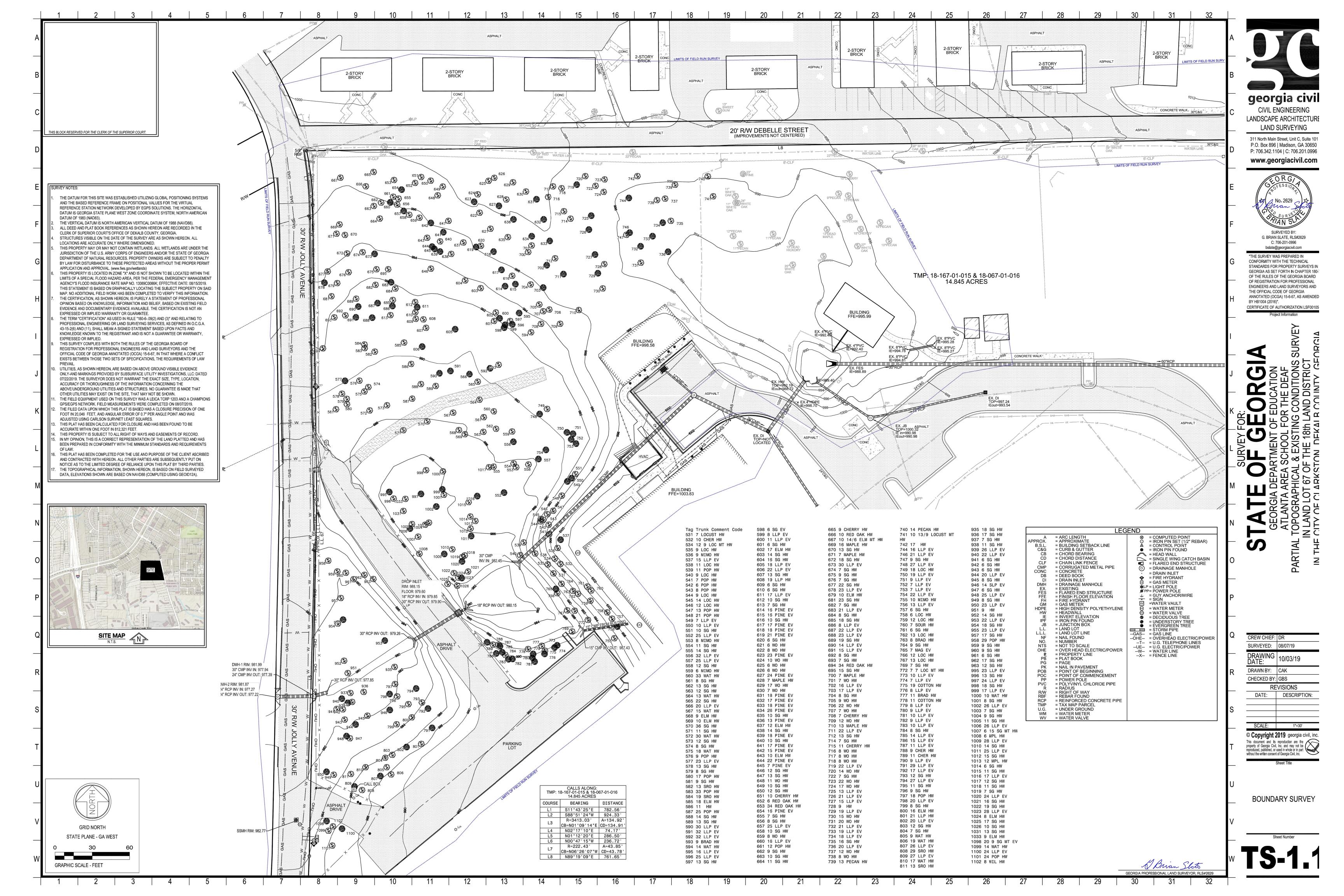
COORDINATE SITE REVIEW MEETING WITH ENGINEER AND/OR LOCAL ISSUING AUTHORITY INSPECTOR

REMOVE ANY TEMPORARY BMP PRACTICES ONCE SITE STABILIZATION IS ACHIEVED AND SIGNED OFF BY ENGINEER

CLEAN SILT FROM ALL STORM SYSTEMS (DISTRIBUTE ON SITE AND STABILIZE)

COORDINATE SITE REVIEW MEETING WITH ENGINEER FOR FINAL SITE APPROVAL

ACHIEVE FINAL SITE STABILIZATION



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GENERAL NOTES

ALL UTILITY INSTALLATION SHALL BE IN ACCORDANCE WITH CITY OF CLARKSTON WATER AND SEWER STANDARDS AND SPECIFICATIONS. CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND REVIEWING SAID STANDARDS AND SPECIFICATIONS.

NOTIFY CITY OF CLARKSTON 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. 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 CONSTRUCTION SHALL MEET OR EXCEED CITY OF CLARKSTON MINIMUM STANDARDS AND SPECIFICATIONS.
- CONTRACTOR SHALL ADHERE TO NORMAL WORKING HOURS AS PER CITY OF CLARKSTON ORDINANCES. CONSTRUCTION OUTSIDE OF NORMAL WORKING HOURS, MAY BE ALLOWED UPON
- PRIOR APPROVAL BY CITY OF CLARKSTON 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 ADDREDULATION 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 SONS AND PROPERTY; THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIF AND HOLD CITY OF CLARKSTON 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. THE CONTRACTOR SHALL BE RESPONSIBLE AND SHALL TAKE NECESSARY PRECAUTIONS TO PREVENT PUBLIC TRESPASS ONTO AREAS WHERE IMPOUNDED WATER CREATES A HAZARDOUS
- 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 ANSPORTATION UTILITY ENCROACHMENT PERMIT) ARE OBTAINED FROM GEORGIA DEPARTMENT OF TRANSPORTATIÓN AND ON SITE.
- 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.
- 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,
- 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.
- 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:

- THE CONTRACTOR SHALL INSPECT ALL STRUCTURES, FACILITIES, AND AREAS SLATED FOR DEMOLITION TO GAIN A FULL UNDERSTANDING OF THE WORK REQUIRED. THE CONTRACTOR SHALL ATEVER 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. THE CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION FROM THE OWNER TO DEMOLISH ANY STRUCTURE ON THE SITE BEFORE PROCEEDING WITH WORK. ALL WORK PERFORMED ON THE SITE SHALL ADHERE TO ALL (OSHA) OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION SAFETY STANDARDS.
- 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 DEVINIET FOR DEVICED TO START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE MATERIALS DAMAGED DUE TO HIS WORK OR DEVINIET FOR DEVICED TO START OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS TO REPAIR OR REPLACE MATERIALS DAMAGED DUE TO HIS WORK OR AILURE TO PROTECT THROUGHOUT THE DURATION OF HIS CONTRACT
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH ALL APPROPRIATE UTILITY OWNERS, OPERATORS AND USERS PRIOR TO DISCONNECTION AND DEMOLITION. ALL WORK HALL 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.
- THE CONTRACTOR SHALL NOTIFY THE OWNER IMMEDIATELY AND STOP ALL WORK IN AREAS WHERE HAZARDOUS MATERIALS ARE DISCOVERED. WHEN REQUIRED, THE CONTRACTOR SHAL 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. 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.
- THE CONTRACTOR SHALL PROVIDE WHAT EVER SAFETY EQUIPMENT AND DEVICES ARE NECESSARY TO PROTECT THE ADJACENT PROPERTIES. STRUCTURES AND OTHER AREAS SLATED TO MAIN. 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 SETTLEMEN
- 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.
- 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.
- 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.
- HE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE UTILITY PROVIDER OF DAMAGE TO ANY ACTIVE UTILITY AND PROVIDE CORRECTIVE MEASURES AS DIRECTED BY THE UTILITY PROVIDER A 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 HE 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 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. 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.

STAKING REQUIREMENTS:

- 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.
- 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 PURPOSI
- CONTRACTOR SHALL STAKE BUILDING CORNERS AND HAVE APPROVAL FROM THE ARCHITECT AND/OR SITE DESIGN PROFESSIONAL BEFORE COMMENCING THE CONSTRUCTION OF ANY
- DIMENSIONS SHOWN ARE TO THE FACE OF CURB(S), UNLESS OTHERWISE NOTED. ANGLES ARE 90° (INCLUDING STREET CENTER-LINES) UNLESS NOTED OTHERWISE. CURB AND GUTTER RADII ARE 5.0 FT. UNLESS OTHERWISE NOTED.
- 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 EFERENCE MARKS WITHOUT THE PERMISSION OF CITY OF CLARKSTON, 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 TCITY OF CLARKSTON 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 CITY OF CLARKSTON. THE CONTRACTOR (UNLESS OTHERWISE INSTRUCTED BY THE OWNER) SHALL PROVIDE STAKING AND LAYOUT SERVICES, INCLUDING BUT NOT LIMITED TO, CENTERLINE STAKES, ADDITIONAL NES, 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. 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
- 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.

CLEAR AND GRUB REQUIREMENTS:

- 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 ARCHITEC 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.
- 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.

COMPACTION FOR UTILITY INSTALLATION:

- ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO CITY OF CLARKSTON ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT). THE FOLLOWING APPLIES TO STORMWATER, SANITARY SEWER, AND WATER:
- 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.
- 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.
- BACKFILL IN UNPAVED AREAS SHALL BE COMPACTED WITH MECHANICAL VIBRATING EQUIPMENT TO NINETY PERCENT (90%) AS DETERMINED BY THE MODIFIED PROCTOR TEST, BACKFILL ATERIAL FROM PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS

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GI	RADING / EARTHWORK REQUIREMENTS:	A٤	SPHALT PAVEMENT REQUIREMENTS:	S
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		ASPHALT SHALL BE THE TYPE(S) SPECIFIED ON THE DRAWINGS. REFER TO PAVING LEGEND AND PAVING DETAILS PROVIDED. ALL ASPHALT SHALL BE PRODUCED IN STATE APPROVED PLANTS WITH STATE APPROVED	E 1.
2.	PREVENT OVER AND UNDER REMOVAL. 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	2. 3.	ASPHALT SHALL ONLY BE PLACED WHEN THE OUTSIDE TEMPERATURE IS 45°F AND RISING. ASPHALT SHALL NEVER BE PLACED ON FROZEN MATERIAL, DURING ANY TYPE OF PRECIPITATION OR WHEN PRECEDING PRECIPITATION HAS SATURATED ANY PORTION OF THE SUBBASE AND/OR SUBGRADE. SURFACES ABUTTING THE NEW ASPHALT SHALL BE TACK COATED PRIOR TO PLACEMENT OF ASPHALT INCLUDING CURBS, GUTTER, EXISTING AND NEW STRUCTURES. TACK COAT SHALL BE APPLIED NEATLY TO MATCH THE LINES AND GRADES OF THE PROPOSED ABUTTING ASPHALT AT A RATE OF 0.05 TO 0.15 GALLONS PER SQUARE YARD.	Ζ.
3.	STAKING. 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.	ASPHALT SHALL BE PLACED IN LAYERS EQUAL TO THOSE SPECIFIED ON THE PLANS. THE THICKNESS OF EACH LAYER OR THE THICKNESS OF ALL LAYERS COMBINED SHALL NOT VARY MORE THAN 1/4 INC FOR THICKNESS OF 0 TO 4 INCHES AND 1/2 INCH FOR THICKNESS OF 4 INCHES OR GREATER, FROM THOSE SPECIFIED ON THE DRAWINGS. IF MORE THAN 60% OF TEST CORES SAMPLED FAIL TO EQUAL OR EXCEED THE REQUIRED DEPTH, THE PAVEMENT SHALL BE CONSIDERED FAILED AND BE SUBJECT TO REPAIRS, REPLACEMENT OR REASONABLE COMPENSATION OF WHICH THE CONTRACTOR SHALL BEAF ALL COSTS. THE ASPHALT SHALL ALSO BE TESTED FOR SMOOTHNESS BY LAYING A 16 FOOT STRAIGHT EDGE ON THE PAVEMENT AND VERIFYING THAT THERE ARE NO GAPS GREATER THAN 1/4 INCH IN AN DIPORTION.	:H २ .R NY
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.	PLACEMENT AND COMPACTION REQUIREMENTS SHALL BE THE SAME AS THOSE SPECIFIED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION. THE ROLLING SHALL BE DONE IN SUCH A MANNER THAT WILL MATCH JOINTS AND LEAVE A SMOOTH UNIFORM SURFACE, WHILE PROVIDING THE PROPER COMPACTION, WHICH SHALL BE 95% OF THE LABORATORY DENSITY.	
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.		WHEN MATCHING INTO EXISTING PAVEMENT ALL MATCH JOINTS SHALL BE SAW CUT TO PROVIDE A STRAIGHT SMOOTH JOINT. THE ASPHALT DEPTH AT THE MATCH POINT SHALL BE EQUAL TO THAT OF THE PROPOSED OR EXISTING WHICH EVER IS GREATER. PAVING EQUIPMENT SHALL BE OF GOOD CONDITION AND QUALITY. ASPHALT SHALL BE PLACED BY MECHANICAL EQUIPMENT EXCEPT IN SMALL AREAS THAT ARE INACCESSIBLE TO A PAVER. ASPHALT SHALL BE TRANSPORTED IN COVERED TRUCKS AND SCHEDULED IN SUCH A MANNER THAT SHALL MAINTAIN ASPHALT TEMPERATURE. ASPHALT SHALL BE REJECTED WHEN THE TEMPERATURES FALL BELOW 2500 DEGREES F OR THE MINIMUM TEMPERATURES SPECIFIED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, WHICHEVER IS HIGHER.	
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.	8.	THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS. IF NO REFERENCE IS MADE ON THE DRAWINGS OR DETAILS TO THE TYPE OF SUBBASE REQUIRED THE FOLLOWING SHALL BE USED. THE SOURCE OF THE MATERIAL SHALL BE ONE APPROVED FOR USE BY THE APPLICABLE STATE'S "DEPARTMENT OF TRANSPORTATION". THE MATERIAL SHALL BE A CRUSHI STONE CONFORMING TO ASSITT OM 147-65 (1980 OR LATEST REVISION) GRADE A GRAVEL OR OTHER MATERIALS CAN ONLY RE SUBSTITUTED FOR CRUSH STONE WHEN APPROVED IN WRITING BY THE	IED 4.
7.	FILLS SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES IN ALL AREAS.		OWNER AND ENGINEER. MATERIAL SUPPLIED FOR USE AS SUBBASE SHALL HAVE 100% PASSING THE 2 INCH SIEVE, 30% TO 65% PASSING THE 3/8 INCH SIEVE, 26% TO 55% PASSING THE NO. 4 SIEVE, 15% 40% PASSING THE NO. 40 SIEVE AND 2% TO 10% PASSING THE NO. 200 SIEVE. SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE SOILS REPORT. IF NOT STATED. THE COMPACTION REQUIREMENT SHALL BE 95%	
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.	10.	SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE SOILS REPORT. IF NOT STATED, THE COMPACTION REQUIREMENT SHALL BE 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR). FINAL GRADING OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS FOR THICKNESS OF 8 INCHES OR GREATER AND +/- ½ INCH FOR THICKNESS LESS THAN 8 INCHES.	
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.		THE CONTRACTOR WILL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADING AND COMPACTING AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER "EARTHWORK". THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER "EARTHWORK".	7. 8.
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.	13.	IF REQUIRED, STABILIZING FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "MODULUS (LOAD AT 10% ELONGATION) =115LB PER ASTM D1682-64", "GRAB TENSILE STRENGTH 200LB PER ASTM D 1682-64", "MULLEN BURST STRENGTH = 400PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 115LB PER ASTM D1117-80", "COEFFICIENT OF PERMEABILITY K CM/SEC = .015 PER ASTM D 4491-85", "WATER FLOW RATE GPM/SF= 60 PER ASTM D 4491-85". WHEN STABILIZATION FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES RECOMMENDATIONS.	9.
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.	14.	IF REQUIRED. FUTURE FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "GRAB TENSILE ELONGATION =50% PER ASTM D1682-64". "GRAB TENSILE STRENGTH 70LB PER ASTM D 1682-64". "MULLEN BURS STRENGTH = 200PSI PER ASTM D 3786-87". "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 35LB PER ASTM D1117-80". "COEFFICIENT OF PERMEABILITY K CM/SEC = .2 PER ASTM D 4491-85". "WATER FLO RATE GPM/SF = 180 PER ASTM D 4491-85". WHEN FILTER FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURES	10. ST DW 11.
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.		RATE OF MIST-100 PER ASTMID 4491-65. WHEN FILTER FARRIERS USED IT SHALL BE POLLED HIGH AND ALL WRINNLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANOFACTORES RECOMMENDATIONS. DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL COST TO THE CONTRACT.	S
13.	TEGNINGRAUCH STEAT THE TIME OF ALL FROOF ROLLING. 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	SE	EEDING & LANDSCAPING:	1.
14.	AN EFFORT TO PREVENT CAVE-INS. TRENCH EXCAVATIONS SHALL BE MADE UNIFORM AND STRAIGHT TO WIDTHS DETERMINED BY CITY OF CLARKSTON. IF NO GUIDELINES FROM CITY OF CLARKSTON EXIST, THE FOLLOWING SHALL BE		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.
	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		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. THE TOPSOIL SOLL 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, 0	
	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.		TO 100% PASSING THE % INCH SIEVE AND 20 TO 80% PASSING THE NO. 200 SIEVE. LIME OF TYPE RECOMMENDED FOR SOIL CONDITIONING SHALL BE USED TO TREAT ACIDIC SOILS.	
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.		LAWN FERTILIZER SHALL BE 55% NITROGEN, 10% PHOSPHORUS AND 10% POTASH WHERE 50% OF THE NITROGEN IS DERIVED FROM UREAFORM SOURCE. 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 PENNLAV	5. WN 6
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.		RED FESCUE", "20% BY WEIGHT, 85% PURITY, 80% GERMINATION OF COMMON KENTUCKY BLUEGRASS". 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 4 MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT.	
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.		MINIMUM OF 220 POUNDS PER ACRE. ALL OVER SPRAY AREAS SHALL BE PROPERLY CLEANED AND RESTORED AT NO EXPENSE TO THE CONTRACT. 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. PLAC 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.	
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.		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.	8.
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, DENDER OF DEVELOPMENTED BY GEOTECHNICAL ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM AREAS TO RECEIVE COMPACTED DISTURDED TO RECEIVE COMPACTED DISTURDANCE NOTED DEVELOPMENT OF DEDROCK, OR OPTIGED AND AND OTHER ORGANIC MATERIALS OR RUBBISH SHALL BE REMOVED FROM AREAS TO RECEIVE COMPACTED FILL, UNSUITABLE MATERIALS, SUCH AS TOPSOIL, WEATHERED BEDROCK, OR OPTIGED AS REQUIRED BY GEOTECHNICAL ENGINEER (AND ENGINEERING GEOLOGIST, WHERE EMPLOYED) FROM AREAS TO RECEIVE COMPACTED DEVELOPMENT OF DEDROCK, OR OPTIGED AS REQUIRED BY OR OPTIGED AND AND AND AND AND AND AND AND AND AN	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. 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.	9. 10.
20	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.	12.	DEFECTS AND DISEASE. 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 DRAWING 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	11. 3S)
	GRADED AREAS TO BE LANDSCAPED OR GRASSED SHALL BE BROUGHT TO THE ELEVATIONS SHOWN ON THE GRADING PLAN(S). CONTRACTOR SHALL VERIFY DIMENSIONS, GRADES AND BENCHMARK(S) BEFORE BEGINNING ANY WORK.	13.	WITH THE CENTER SLIGHTLY HIGHER TO PROMOTE DRAINAGE. USE A TOPSOIL BACKFILL MIX OF 4 PARTS TOPSOIL, TPART PEAT MOSS, 1/2 PART WELL ROTTED MANDRE, AND TO POUNDS 3-10-3 PLANTING FERTILIZER AND PROPERLY MIXED PER CUBIC YARD. BERM AROUND PLANTS TO FORM A BOWL SHAPE. WEED BARRIER MADE FROM FIBERGLASS AND ULTRA-VIOLET LIGHT RESISTANT SHALL BE PLACE UNDER ALL PLANTING BEDS PRIOR MULCHING.	^G 12.
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).	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.	13.
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 CITY OF CLARKSTON . 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		MULCH SHALL BE 50% SHREDDED BARK AND 50% WOOD CHIPS, 3/ 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. 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.	14.
	CONDITION, SUBJECT TO THE REVIEW AND APPROVAL OF CITY OF CLARKSTON AND/OR SITE DESIGN PROFESSIONAL. (NOTE: NO BLASTING SHALL OCCUR WITHOUT A VALID PERMIT ISSUED BY CITY OF CLARKSTON AND/OR SITE DESIGN PROFESSIONAL. (NOTE: NO BLASTING SHALL OCCUR WITHOUT A VALID PERMIT ISSUED BY CITY OF CLARKSTON AND THE OWNER HAS SIGNED OFF.)		FINAL ACCEPTANCE. FINAL ACCEPTANCE. FILITY REQUIREMENTS:	10.
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.	1.	ALL REQUIRED R/W ENCROACHMENT PERMITS SHALL BE SECURED, BEFORE PROCEEDING WITH WORK.	17.
	CONTOURS AND SPOT ELEVATIONS SHOWN ARE ONLY CONTROLS AND THE PROFILES THEY FORM SHALL BE SMOOTH AND CONTINUOUS (PARTICULARLY IN PARKING AREAS AND DRIVES). 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		THE CONTRACTOR SHALL NOTIFY EACH INDIVIDUAL UTILITY OWNER OF HIS/HER OPERATION PLAN IN THE AREA OF THE UTILITIES. PRIOR TO COMMENCING WORK, THE CONTRACTOR SHALL CONTACT THE UTILITY OWNERS AND REQUEST THAT THEY PROPERLY LOCATE THEIR RESPECTIVE UTILITY OWNER OF HIS/HER OPERATION SHALL BE GIVEN AT LEAST THREE (3) BUSINESS DAYS PRIOR TO COMMENCEMENT OF OPERATIONS AROUND THE UTILITY.	
	REPORT FOR FILLS OVER 1' DEEP.	3.	UNLESS OTHERWISE NOTED, UTILITY OWNERS ARE TO RESET, RELAY OR READJUST PUBLIC AND PRIVATE UTILITIES CONFLICTING WITH PROPOSED IMPROVEMENT, THE CONTRACTOR SHALL BE REQUIRE TO COOPERATE WITH THE OWNERS OF LOCAL UTILITIES IN THE ADJUSTMENT OF THEIR FACILITIES WHERE THEY INTERFERE WITH CONSTRUCTION. THE COSTS FOR THE WORK SHALL BE AT THE CONTRACTORS EXPENSE. CONTRACTOR SHALL COORDINATE THE REMOVAL AND/OR RELOCATION OF EXISTING GAS AND WATER METERS, VALVES, LINES, POWER, TELEPHONE, CABLE LINES, ETC. THAT SERVICE THE EXISTING BUILDINGS WITH THE APPROPRIATE UTILITY COMPANIES.	.D <u>W</u> 1.
28. 29.	ANALYTICAL COMPACTION RESULTS SHALL BE SUBMITTED TO CITY OF CLARKSTON ENGINEERING DEPARTMENT (OR SIMILAR DEPARTMENT) AND TO THE GEOTECHNICAL ENGINEER OF RECORD. ALL GRADING AND PIPE BED PREPARATION SHALL BE PERFORMED ACCORDING TO REQUIREMENTS SET FORTH BY THE GEOTECHNICAL ENGINEER OF RECORD.	4.	UTILITIES SHOWN ARE TO ASSIST THE CONTRACTOR IN LOCATING UTILITIES. ITEMS ARE SHOWN SCHEMATICALLY AND NEITHER THE ARCHITECT, SITE DESIGN PROFESSIONAL, NOR THE OWNER ASSUMES ANY RESPONSIBILITY FOR VARIANCES IN THEIR ACTUAL LOCATION. CONTRACTOR SHALL VERIFY LOCATION AND ELEVATION OF UTILITIES PRIOR TO EXCAVATION OR DEMOLITION. ADDITIONAL UTILITIES MAY NOT BE SHOWN ON THESE PLANS. IF THE CONTRACTOR DAMAGES ANY EXISTING UTILITIES DURING CONSTRUCTION WHETHER SHOWN OR NOT IN THE SITE WORK CONSTRUCTION DRAWINGS, HE/SF SHALL, AT HIS/HER EXPENSE, IMMEDIATELY REPLACE OR REPAIR THE UTILITIES TO THEIR ORIGINAL CONDITION AND QUALITY. AS APPROVED BY CITY OF CLARKSTON AND REPRESENTATIVE OF THE APPROPRIATE UTILITY COMPANY. CONTRACTOR SHALL NOTIFY UTILITY PROVIDER AND THE SITE DESIGN PROFESSIONAL OF RECORD PRIOR TO PROCEEDING.	3 2. HE
30. 31.	CONTRACTOR SHALL OBTAIN A COPY OF THE GEOTECHNICAL REPORT FROM THE OWNER AND FOLLOW ALL RECOMMENDATIONS OF THE REPORT WHEN PERFORMING SITE WORK. 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 CONTRACTOR TO A CONTRACT TO A CONTRACT OF THE DESTINGTION OF THE DESTINGT.	5.	THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITY PROVIDERS PRIOR TO SUBMITTING HIS/HER BID IN ORDER TO DETERMINE THE EXTENT TO WHICH UTILITY RELOCATIONS AND/OR ADJUSTMENT WILL AFFECT THE SCHEDULING OF WORK FOR THE PROJECT. SOME UTILITIES MAY NEED TO BE ADJUSTED CONCURRENTLY WITH THE CONTRACTORS OPERATIONS. WHILE SOME WORK MAY BE REQUIRED "AROUND" UTILITIES THAT REMAIN IN PLACE. THE CONTRACTOR SHALL RECEIVE NO ADDITIONAL COMPENSATION FOR ANY DELAYS OR INCONVENIENCE CAUSED B	
32.	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. 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		THE UTILITY ADJUSTMENTS. MATERIAL AND INSTALLATION SHALL BE IN COMPLIANCE WITH CITY OF CLARKSTON REQUIREMENTS. REFER TO ARCHITECTURAL AND M.E.P. PLANS FOR LOCATION OF WATER. SEWER AND GAS LINES WITHIN PROPOSED BUILDINGS. CONTRACTOR SHALL COORDINATE TIE-IN OF UTILITIES WITH	
33.	FULL DEPTH AND WIDTH OF THE TRENCH, CONFORMING TO THE COMPACTION, DENSITY COMPACTION METHOD AND MATERIALS AS SPECIFIED ABOVE. 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	8.	ARCHITECTURAL PLANS AND M.E.P. REPRESENTATIVE. EARTHWORK OPERATIONS SHALL COMPLY WITH REQUIREMENTS OF O.S.H.A. CONSTRUCTION STANDARDS, PART 1926, SUBPART P. EXCAVATIONS, TRENCHING, AND SHORING AND SUBPART O, MOTOR VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS, AND SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO THE SITE DESIGN PROFESSIONAL.	
PA	PIPE BEDDING TO GROUND SURFACE SHALL BE EXCAVATED FREE FROM LARGE STONES & OTHER DEBRIS.		VEHICLES, MECHANIZED EQUIPMENT, AND MARINE OPERATIONS, AND SHALL BE CONDUCTED IN A MANNER ACCEPTABLE TO THE STE DESIGN PROFESSIONAL. A MINIMUM HORIZONTAL SEPARATION OF 10' SHALL BE MAINTAINED BETWEEN WATER LINES AND SANITARY SEWERS. AN 18 INCH MINIMUM VERTICAL SEPARATION SHALL BE MAINTAINED AT CROSSINGS. WHEN CROSSING A WATERLINE OR SEWER LINE, PIPE JOINTS SHALL BE PLACED AS FAR AWAY AS POSSIBLE FROM THE OTHER PIPE.	j.
1.	THE TYPE OF SUBBASE REQUIRED FOR EACH USE SHALL BE CALLED OUT ON THE DRAWINGS. IF NO REFERENCE IS MADE ON THE DRAWINGS OR DETAILS TO THE TYPE OF SUBBASE REQUIRED THE FOLLOWING SHALL BE USED. THE SOURCE OF THE MATERIAL SHALL BE ONE OF APPROVED FOR USE BY THE GEORGIA DEPARTMENT OF TRANSPORTATION. THE MATERIAL SHALL BE A CRUSHED STONE	10.	PEDESTRIAN AND LOCAL VEHICULAR TRAFFIC SHALL BE MAINTAINED FOR UTILITY WORK WITHIN PUBLIC RIGHT-OF-WAYS. SAFETY DEVICES AND FLAG MEN SHALL BE PROVIDED BY THE CONTRACTOR AT HIS/HER EXPENSE. WRITTEN PERMISSION TO CLOSE THE CONSTRUCTION AREA TO TRAFFIC SHALL BE OBTAINED FROM THE APPROPRIATE GOVERNMENT AGENCY PRIOR TO THE CLOSING.	
	CONFORMING TO AASHTO M 147-65 (1980 OR LATEST REVISION), GRADE A. GRAVEL OR OTHER MATERIALS CAN ONLY BE SUBSTITUTED FOR CRUSH STONE WHEN APPROVED IN WRITING BY THE OWNER AND SITE DESIGN PROFESSIONAL. MATERIAL SUPPLIED FOR USE AS SUBBASE SHALL HAVE 100% PASSING THE 2 INCH SIEVE, 30% TO 65% PASSING THE 3/8 INCH SIEVE, 25% TO 55% PASSING THE NO.4 SIEVE, 15% TO 40% PASSING THE NO. 40 SIEVE AND 2% TO 10% PASSING THE NO. 200 SIEVE.		CONTRACTOR SHALL MEET LOCAL UTILITY COMPANY REGULATIONS IN ANY READJUSTMENT OR RELOCATION OF EXISTING SERVICES. WHEN CONSTRUCTION INVOLVES THE REMOVAL OF FENCE, POLES, SIDEWALKS, DRIVE, TEMPORARY OR FIXED STRUCTURES; THE CONTRACTOR AT HIS/HER EXPENSE SHALL PROVIDE FOR TEMPORARY SERVICE OR CONTAINMENT TO THE AFFECTED PROPERTY, AND SHAL REPLACE SUCH ITEMS WITH SIMILAR OR BETTER MATERIALS AS SOON AS PRACTICAL OR AS DIRECTED BY THE OWNER'S REPRESENTATIVE FOLLOWING UTILITY INSTALLATION.	ĹĹ
2.	SUBBASE SHALL BE PLACED IN LIFTS NOT TO EXCEED 6 INCHES AND COMPACTED TO THE REQUIREMENTS STATED IN THE GEOTECHNICAL REPORT. IF NOT STATED, THE COMPACTION REQUIREMENT SHALL BE 95% OF MAXIMUM DRY DENSITY PER ASTM D1557 (MODIFIED PROCTOR).		USE OF PRECAST INVERT MANHOLES IS ACCEPTABLE PROVIDED INVERTS ARE NOT FIELD MODIFIED. EXISTING PIPE CAN ONLY BE CUT IN THE PRESENCE OF CITY OF CLARKSTON REPRESENTATIVE(S). CUT-IN MANHOLE IS REQUIRED UNLESS DOGHOUSE MANHOLE IS SPECIFICALLY APPROVED BY CITY OF CLARKSTON PRIOR TO CONSTRUCTION.	۰F
3.	FINAL GRADING OF SUBBASE SHALL BE TO +/- 1 INCH OF THAT DESIGNATED ON THE DRAWINGS AND +/- 1 INCH OF THE REQUIRED THICKNESS OF 8 INCHES OR GREATER AND +/- 1/2 INCH FOR THICKNESS LESS THAN 8 INCHES.	14.	NO TREES OR PERMANENT STRUCTURES SHALL BE ALLOWED IN SANITARY SEWER EASEMENT, UNLESS OTHERWISE APPROVED BY CITY OF CLARKSTON .	
4.	THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS IN PREPARING THE SUBGRADE TO RECEIVE SUBBASE. THIS SHALL INCLUDE FINE GRADING AND COMPACTING AS NECESSARY TO MEET THE REQUIREMENTS STATED HERE AND UNDER "GRADING / EARTHWORK REQUIREMENTS".	15. 16.	SEWER MAINS AND LATERAL(S) SHALL HAVE TRACER WIRE INSTALLED TO THE STRUCTURE FOUNDATION, UNLESS OTHERWISE APPROVED BY CITY OF CLARKSTON . ALL UTILITIES, INCLUDING BUT NOT LIMITED TO WATER AND SANITARY SEWER UTILITIES AND STORM DRAIN FACILITIES SHALL BE INSTALLED AND THE TRENCHES BACKFILLED AND THOROUGHLY COMPACTED BEFORE ANY PAVEMENT OR BASE IS INSTALLED.	
5. 6.	THE AMOUNT OF TESTING REQUIRED TO VERIFY THE COMPACTION SHALL BE THE SAME AS STATED UNDER "GRADING / EARTHWORK REQUIREMENTS". IF REQUIRED, STABILIZING FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "MODULUS (LOAD AT 10% ELONGATION) = 115LB PER ASTM D1682-64", "GRAB TENSILE STRENGTH 200LB PER ASTM D 1682-64"," MULLEN BURST STRENGTH = 400PSI PER ASTM D 3786-87","TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 115LB PER ASTM D 1117-80","COEFFICIENT OF PERMEABILITY K (CM/SEC) = 0,015 PER ASTM D 4491-85","WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85","WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE FULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ASTM D 4491-85", "WATER FLOW RATE (GPM/SF)= 60 PER ASTM D 4491-85", WHEN STABILIZING FABRIC IS USED IT SHALL BE FULLED TIGHT AND ALL WRINKLES REMOVED. OVER ASTM D 4491-85", WHEN STABIL FOR	17.	AUTHORIZED PUBLIC UNDERGROUND UTILITIES SHALL BE LOCATED WITHIN THE RIGHT-OF-WAY OF A PUBLIC STREET OR WITHIN AN EASEMENT DESIGNATED FOR SUCH USE. WITHIN PUBLIC STREET RIGHT-OF-WAY, PLACEMENT OF THE VARIOUS AUTHORIZED UTILITIES (POWER, GAS, CABLE TV, WATER AND SEWER) SHALL CONFORM TO THE SPECIFIC LOCATIONS DESIGNATED FOR SUCH USE BY CITY OF CLARKSTON.	4.
7.	ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. IF REQUIRED, FILTER FABRIC SHALL MEET THE FOLLOWING REQUIREMENTS "GRAB TENSILE ELONGATION = 50% PER ASTM D1682-64", "GRAB TENSILE STRENGTH 70LB PER ASTM D 1682-64", "MULLEN BURST	18.	NO OTHER UNDERGROUND UTILITIES, SUCH AS PRIVATE LAWN SPRINKLER SYSTEMS, YARD LIGHTING, ETC., SHALL BE INSTALLED WITHIN A PUBLIC RIGHT-OF-WAY OR EASEMENT EXCEPT BY AUTHORIZATION OF CITY OF CLARKSTON. SUCH AUTHORIZATION, IF ISSUED, SHALL REQUIRE THE APPLICANT TO ASSUME ALL REPAIR COSTS OF THE APPLICANT'S FACILITIES SHOULD THEY BE DAMAGEN DURING THE COURSE OF INSTALLATION, MAINTENANCE OR REPAIR OF ANY OF THE PUBLIC UTILITIES AUTHORIZED TO OCCUPY SAID RIGHT-OF-WAY OR EASEMENT.	D
	STRENGTH = 200PSI PER ASTM D 3786-87", "TRAPEZOID TEAR STRENGTH WHEN APPLICABLE = 35 LB PER ASTM D 1117-80", "COEFFICIENT OF PERMEABILITY K (CM/SEC) = 0.2 PER ASTM D 4491-85", "WATER FLOW RATE (GPM/SF) = 180 PER ASTM D 4491-85". WHEN FILTER FABRIC IS USED IT SHALL BE PULLED TIGHT AND ALL WRINKLES REMOVED. OVERLAPS SHALL BE IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS.	19.	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 NO ADDITIONAL COST TO THE CONTRACT. IF UNDERSTOR SILVE ADDITIONAL DISCOVERED DURING CONSTRUCTION, CONTRACTOR SHALL REFER TO CITY OF CLARKSTON, FOR REMOVAL OR ABANDONMENT REQUIREMENTS. AT A MINIMUM	э. 6.

TRAFFIC SIGNAGE AND PAVEMENT MARKINGS:

8. OULD HAVE TOOLED OR CUT JOINTS TO 1/3 THE DEPTH IN SQUARES OR AS CLOSE TO SQUARE AS POSSIBLE NOT EXCEEDING 5FT X5FT.

BUILDING INSPECTOR AND FIRE DEPARTMEN

EPARTMENT OF TRANSPORTATION REQUIREMENTS.

INISH. BUT CONSISTENT THROUGH OUT THE PROJECT.

PAVEMENT MARKINGS SHALL BE THE TYPE, COLOR, SIZE AND LOCATIONS SHOWN ON THE PLANS. IF THE INFORMATION ON THE PLANS IS NOT COMPLETE AND AUTHORITY HAVING JURISDICTION DOES NOT HAVE REQUIREMENTS REGARDING THIS, USE THE FOLLOWING. PAINT SHALL BE SUPPLIED IN ACCORDANCE WITH AASHTO: M 248 LATEST ADDITION. COLORS SHALL BE AS FOLLOWS (YELLOW-PARKING STALLS, HANDICAP PARKING AND CHARACTERS, PARKING ISLANDS, TRAFFIC CONTROL LETTERING AND CHARACTERS AND FIRE LANES) (WHITE - STOP BARS, PEDESTRIAN CROSSINGS AND STOP

THE PAVEMENT SHALL BE CLEAN AND FREE OF DIRT, DUST, MOISTURE, OILS AND OTHER FOREIGN MATERIALS. ANY OLD PAVEMENT MARKINGS SHALL BE REMOVED UNLESS PAINTS ARE COMPATIBLE AND OVERLAY IDENTICALLY. THE SURFACE OF THE PAVEMENT PRIOR TO APPLICATION SHALL BE 45 DEGREES F AND RISING UNLESS MANUFACTURE'S RECOMMENDATIONS ARE GREATER. 3. THE SIGNAGE SHALL BE THE TYPE AND LOCATED PER THE DRAWINGS. THE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE LOCAL HIGHWAY, COUNTY HIGHWAY AND STATE DEPARTMENT OF TRANSPORTATION. IF LOCAL, COUNTY OR STATE CODES DO NOT EXIST USE AASHTO: M268.

4. POSTS. BRACKETS AND FRAMES SHALL BE STEEL PER ASTM A-36, A-242, A-441, A-572, A588, GRADE 50 AND HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123. ALL CUTTING, DRILLING OR OTHER POLE MODIFICATIONS SHALL BE PAINTED WITH GALVANIZING PAINT. ALL BOLTS, NUTS AND WASHERS SHALL BE STAINLESS STEEL. 5. POST HOLES SHALL BE A MINIMUM OF FOUR FEET DEEP AND 12 INCHES IN DIAMETER UNLESS POOR SOILS OR FROST CONDITIONS REQUIRE GREATER DEPTH. SIGN POSTS SHALL BE KEPT PLUMB, (

INCHES OFF BOTTOM AND CENTERED AS 3000 PSI CONCRETE IS PLACED AROUND THE POST. THE OVERALL SIGN AND POST SYSTEM SHOULD BE ABLE TO WITHSTAND 33 POUNDS PER SQUARE FOOT. 6. CONTRACTORS CAN PLACE SIGNS ON POSTS AFTER CONCRETE HAS CURED FOR SEVEN DAYS OR 3/ STRENGTH IS ACHIEVED.

ALL HANDICAP STRIPING AND SIGNAGE SHALL MEET THE AMERICANS WITH DISABILITIES ACT (ADA) REQUIREMENTS. FIRE LANE STRIPING AND SIGNAGE SHALL MEET THE REQUIREMENTS OF THE LOCAL

SITE CONCRETE - INCLUDING CURB, SIDEWALKS & GUTTERS:

THE DIMENSIONS SHALL BE THOSE SHOWN ON THE DRAWINGS. THE CONCRETE MIX SHALL BE 4000 PSLAT 28 DAYS MADE WITH TYPE J OR TYPE II CEMENT PER ASTM C 150 AND AGGREGATES MEETING STATE DEPARTMENT OF TRANSPORTATION REQUIREMENTS. SLUMP FOR SLIP FORMING SHALL BE 1 INCH +/- % INCH AND FOR FORMED CONCRETE THE SLUMP SHALL BE 3 INCH +/- 1 INCH. AIR ENTRAINMENT MIXTURE SHALL MEET THE REQUIREMENTS OF ASTM C 260 4% +/- 1 1% FOR SLIP FORM WORK AND 6% +/- 1 1% FOR FORMED AND PLACED CONCRETE. WATER REDUCING AGENT SHALL CONFORM TO ASTM C 494, TYPE A. CURING COMPOUNDS SHALL CONFORM TO ASTM C309, TYPE I, CLASS A MOISTURE LOSS OF NOT MORE THAN .055 GR/SQ CM WHEN APPLIED AT 200 SQ FT PER GALLON.

2. CURBS AND GUTTERS SHALL BE PLACED ON COMPACTED SUBBASE, CONSISTENT WITH THE PAVEMENT SUBBASE, AS SHOWN ON THE DRAWINGS. WHEN SUBBASE DETAILS ARE MISSING AND NO AGENCY HAS JURISDICTION USE THE FOLLOWING: CURBS AND GUTTERS SHALL BE PLACED ON A MINIMUM OF 6 INCHES OF GAB ON 98% STANDARD PROCTOR SUBGRADE. ALL FORMING, PLACEMENT, MATERIALS AND CURING SHALL CONFORM TO THE LATEST ADDITION OF ACI 318 "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE" AND ALL SIMILAR STATE

REINFORCING SHALL BE IN ACCORDANCE WITH THAT SPECIFIED ON THE DRAWINGS AND THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) "MANUAL OF STANDARD PRACTICES". REINFORCING

STEEL SHALL BE ASTM A 615, GRADE 60, DEFORMED. WELDED WIRE FABRIC SHALL BE ASTM A 185, WELDED WIRE STEEL FABRIC. SIDEWALKS AND GUTTERS SHALL HAVE A BROOM FINISH PERPENDICULAR TO FLOW WITH A PICTURE FRAME EDGE JOINT ALL THE WAY AROUND. CURBS SHALL HAVE A SMOOTH FINISH OR LIGHT RUB

EXPANSION JOINTS SHALL BE PLACED EVERY 40 FEET AND AT ADJOINING STRUCTURES SUCH AS WALLS, MANHOLES AND VAULTS. EXPANSION JOINT MATERIAL SHALL BE PREMOLDED, ½ INCH MATERIAL WITH ½ INCH CAP IN ACCORDANCE WITH ASTM D1751. AFTER CONCRETE HAS SET, THE CAP SHOULD BE REMOVED AND VOID FILLED WITH WATERPROOF JOINT FILLER. CURB AND GUTTER SHALL BE CUT OR JOINT MOTERIAL DITTOR SHALL BE CUT OR JOINT DITTOR SHALL BE CONCRETE HAS SET, THE CAP SHOULD BE REMOVED AND VOID FILLED WITH WATERPROOF JOINT FILLER. CURB AND GUTTER SHALL BE CUT OR JOINT DITTOR JOINT DITTOR SHALL BE CUT OR JOINT DITTOR SHALL DITTOR SHALL BE CUT OR JOINT DITTOR SHOULD DITTOR SHALL BE CUT OR JOINT DITTOR SHOULD AND SHOULD S

IF UNDERGROUND ABANDONED PIPES ARE DISCOVERED DURING CONSTRUCTION, CONTRACTOR SHALL REFER TO CITY OF CLARKSTON FOR REMOVAL OR ABANDONMENT REQUIREMENTS. AT A MINIMUM, CONTRACTOR SHALL REMOVE OR ADEQUATELY PLUG ABANDONED UNDERGROUND PIPES, OR A COMBINATION OF BOTH, IF THESE MEASURES ARE APPROVED BY CITY OF CLARKSTON.

CONTRACTOR SHALL SAWCUT ASPHALT ONLY IN SITUATIONS THAT DO NOT ALLOW FOR JACK AND BORE (CONTRACTOR SHALL OBTAIN NECESSARY PERMITS TO SAWCUT STREETS). CONTRACTOR MAY BE REQUIRED TO BACK TAP EXISTING WATER MAIN WITH DOMESTIC SERVICE TAP OR FIRE SERVICE TAP, IF SUFFICIENT CLEARANCE IS NOT AVAILABLE (SO THAT CURB AND GUTTER IS NOT DAMAGED). IF CURB AND GUTTER IS DAMAGED, CONTRACTOR SHALL REPLACE IT TO ORIGINAL CONDITION AT NO COST TO THE OWNER.

22. CONTRACTOR SHALL CONTACT CITY OF CLARKSTON WATER DEPARTMENT AND HAVE CITY OF CLARKSTON DEPARTMENT INSPECTOR PRESENT DURING TAPS.

ALL UTILITY MATERIALS, INSTALLATION, TESTING, AND PROCEDURES SHALL CONFORM TO THE STANDARDS AND SPECIFICATIONS SET FORTH BY THE LOCAL AUTHORITY HAVING JURISDICTION. IF THERE IS A DISCREPANCY BETWEEN STATED STANDARDS AND SPECIFICATIONS ON THESE PLANS AND THE STATED STANDARDS AND SPECIFICATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION. THE CONTRACTOR SHALL ADHERE TO THE STANDARDS AND SPECIFICATIONS OF THE LOCAL AUTHORITY HAVING JURISDICTION.

CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING. READING, UNDERSTANDING, AND ADHERING TO THE THE MANUAL OF STANDARDS FOR DESIGN AND CONSTRUCTION SPECIFICATIONS IF THIS DOCUMENT IS PROVIDED FOR AT THE AGENCY HAVING JURISDICTION.

SANITARY SEWER SYSTEM REQUIREMENTS:

ALL SANITARY SEWER MATERIALS, SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS. IF THE PLANS DO NOT LIST ALL INFORMATION OR ARE UNCLEAR, USE THE FOLLOWING:

. THE SANITARY SEWER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL (HAVING JURISDICTION) REQUIREMENTS.

- SANITARY PIPE AND FITTINGS SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 3034, SDR 35, WITH GASKETS PER ASTM D 3212, ELASTOMERIC SEAL. THE PIPE SHALL BE BED 6 INCHES BELOW AND UP HALF ITS DIAMETER WITH CLEAN STONE OF A UNIFORM MIX RANGING IN SIZE OF 1/4 TO 3/4 INCH. FORCEMAIN PIPE SHALL BE POLYVINYL CHLORIDE (PVC) PER ASTM D 2241, SDR 21 OR LOWER IF PRESSURES ARE HIGH IN SYSTEM WITH GASKETS PER ASTM D 3139, AND ELASTOMERIC SEAL. THE PIPE SHALL BE ENCLOSED IN A RUN OF CRUSH STONE GRAVEL MATERIAL WITH 100% PASSING THE 2" SIEVE AND 2 TO 10% PASSING THE 200 SIEVE.
- MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS, GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443 AND MORTARED WATER TIGHT WITH A WATERPROOF/PLUG MORTAR. THE INVERT SHALL BE MADE WITH CONCRETE OR 1/2 ROUND SECTION OF PIPE. PIPE JOINTS SHALL BE PRESS WEDGE OR CAST IN PLACE BOOT. BOTH SHALL HAVE ADDITIONAL VOIDS FILLED WITH WATERPROOF/PLUG MORTAR. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT. EXTERIOR MANHOLES SHALL BE COATED WITH A SEAL COAT ACCEPTABLE TO CITY OF CLARKSTON.
- CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT. CLEANOUTS SHALL BE NO MORE THAN 90 FEET APART ON LATERALS.
- MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "SANITARY" CAST INTO IT. THE MINIMUM SIZE SHALL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
- 3. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN.
- ALL TAPS TO MAIN LINES SHALL BE MADE WITH SADDLES WHEN THE TAP IS 1/2 THE DIAMETER OR LESS OF THE EXISTING PIPE BUT MADE WITH A SLEEVE WHEN THE TAP IS GREATER THAN 1/2 THE DIAMETER OR EQUAL TO THE EXISTING PIPE. IF CONNECTIONS ARE REQUIRED TO EQUAL SIZE PIPES OF 8 INCHES OR GREATER, A MANHOLE SHALL BE INSTALLED OVER THE CONNECTION POINT AND INVERTS FORMED, WHEN CONNECTING TO AN EXISTING MANHOLE, THE CONNECTING PIPE HOLE SHALL BE CORED AND A PRESS WEDGE INSTALLED. THE CONNECTION SHALL BE MORTARED UP WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE UNDERVISION WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE UNDERVISION WITH WATERPROOF/PLUG MORTAR. INSIDE THE EXISTING MANHOLE, THE EXISTING INVERT SHALL BE BROKE OUT IN A MANNER THAT PROTECTS FROM DEBRIS ENTERING THE LIVE SYSTEM, WHILE A NEW INVERT IS FORMED. SANITARY MANHOLES SHALL BE VISUALLY LAMPED AFTER BACKFILL TO VERIFY ALIGNMENT, CLEANLINESS, AND THERE IS NO DAMAGE TO THE SYSTEM. AFTER THE SYSTEM HAS BEEN BACKFILLED FOR 30 DAYS, THE SYSTEM SHALL BE RELAMPED AND TESTED WITH A MANDREL SIZED AT 95% OF THE INTENDED INSIDE DIAMETER.
- 7. GRAVITY SYSTEMS SHALL BE AIR TESTED BETWEEN MANHOLES TO 3.5 PSI FOR 5 MINUTES PER ASTM F 1417 FOR PLASTIC PIPES.
- MANHOLES SHALL BE TESTED SEPARATELY FOR LEAKAGE OR INFILTRATION USING ASTM C 969. THE ALLOWED LEAKAGE = 0.1 GALLONS / {(FEET OF DIAMTER)(FEET OF HEAD)(#OF HOURS)} AND THE TEST SHALL RUN FOR 24 HOURS.
- 9. WHEN NECESSARY TO VERIFY THE SYSTEM INTEGRITY, THE ENTIRE SYSTEM MAY BE TESTED FOR INFILTRATION AND EXFILTRATION USING ASTM C 969. THE SYSTEM SHALL BE BROKEN UP INTO SECTIONS WHEN NECESSARY TO CONSIDER GROUNDWATER DEPTH, LENGTH AND ELEVATION DIFFERENCES.
- 10. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACE THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT. AFTER ALL TESTING IS COMPLETE AND BEFORE THE SYSTEM IS TURNED OVER TO CITY OF CLARKSTON, THE SYSTEM SHALL BE CHECKED TO VERIFY IT IS CLEAN AND FREE OF DIRT, DEBRIS AND OTHER FOREIGN MATTER. THE CONTRACTOR SHALL CLEAN ANY SECTIONS REQUIRING SUCH AT NO ADDITIONAL COST TO THE CONTRACT.

STORM WATER SYSTEM:

- THE STORM WATER SYSTEM SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL REQUIREMENTS. THE LOCAL STORM WATER AUTHORITY FOR THIS PROJECT IS CITY OF CLARKSTON AND THE EROSION CONTROL AND RUN-OFF AUTHORITY IS CITY OF CLARKSTON. 2. STORM DESIGN INCLUDES MANY VARIABLES, SUCH AS PIPE ROUGHNESS COEFFICIENT, THAT CAN AFFECT THE ACTUAL FINAL RUN-OFF. IF NO ALTERNATIVE MATERIALS ARE LISTED ON THE UTILITY DRAWINGS NO SUBSTITUTIONS MAY BE MADE BY THE CONTRACTOR UNLESS FIRST REVIEWED AND ACCEPTED BY THE ENGINEER.
- 3. ALL STORM MATERIAL SIZES, TYPES AND SPECIFICS ARE LISTED ON THE DRAWINGS.
- WHENEVER CLEAN STONE IS USED FOR BEDDING, BACKFILL OR ENCASEMENT, FILTER FABRIC SHALL BE PLACED BETWEEN THE NATURAL AND BACKFILL SOILS TO PREVENT MIGRATION OF FINES INTO THE VOIDS, AS NECESSARY. ANTI-SEEP COLLARS SHALL ALSO BE INCORPORATED AT THE PROJECT LIMIT AND ALONG THE PIPE TO PREVENT WATER FLOW WITHIN THE STONE BEDDING OR ENCASEMENT. ANTI-SEEP COLLARS MAY NOT BE REQUIRED WHEN USING PERFORATED PIPE. ANTI-SEEP COLLARS SHALL ALSO BE INCORPORATED AT THE PROJECT LIMIT AND ALONG THE PIPE TO PREVENT WATER FLOW WITHIN THE STONE BEDDING OR ENCASEMENT. ANTI-SEEP COLLARS MAY NOT BE REQUIRED WHEN USING PERFORATED PIPE. ANTI-SEEP COLLARS SHALL BE INCORPORATED AT POND AND BASIN OUTLETS TO PREVENT WATER MIGRATION ALONG PIPE BEDDING OR ENCASEMENT MATERIAL.
- 5. END SECTIONS SHALL BE THE SAME MATERIAL AS THE PRECEDING PIPE AND APPROPRIATE COLLAR. MANHOLES SHALL BE PROVIDED PER ASTM C 478 WITH STEEL CORE POLYETHYLENE STEPS. THE MANHOLE SHALL BE SIZED TO A MINIMUM OF 2 FOOT GREATER THAN THE LARGEST DIAMETER PIPE ENTERING OR EXISTING. INCREASE SIZE OF MANHOLE IF, IN THE SAME HORIZONTAL PLANE, THERE ARE TWO AREAS WHERE THE AREA BETWEEN TWO PIPES IS LESS THAN 8 INCHES OR HALVE OR THE CIRCUMFERENCE IS SUPPORTED BY LESS THAN 1/2 OF THE DIAMETER OF THE MANHOLE. INVERTS SHALL BE SMOOTH CAST IN PLACE CONCRETE. UNLESS OTHERWISE INDICATED, COVER 4 INCH WEEPS WITH FILTER FABRIC. 2 INCH STONE SHALL BE PROVIDED AT THE CROWN OF PIPES AND AT SUBGRADE ELEVATION. GASKETS BETWEEN RISERS SHALL BE RUBBER PER ASTM C 443. ADJUSTMENT RINGS SHALL BE PRECAST CONCRETE 4000 PSI AND 5 TO 8% AIR ENTRAINMENT. VATION OF PENNLAWN 6.
 - INLETS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES. GRATES SHALL BE RETICULINE AND GALVANIZED PER ASTM A123. MINIMUM GRATE OPENING SIZE WILL BE 18" X 24" AND DESIGN FOR A MINIMUM OF H-20 LOADING.
 - MANHOLE FRAMES AND COVERS SHALL BE PER ASTM A 48, CLASS 30B, FULLY COATED WITH THE LETTERING "STORM" CAST INTO IT. THE MINIMUM SIZE WILL BE A 24 INCH INSIDE OPENING AND DESIGN FOR A MINIMUM OF H-20 LOADING.
 - 10. CLEANOUTS SHALL BE MADE OF THE SAME PIPE MATERIAL AS THE CARRIER PIPE. A CAST IRON FRAME AND COVER SHALL BE PROVIDED FOR ACCESS AT GRADE AND DESIGNED FOR H-20 LOADING. THE CLEANOUT SHALL BE ENCASED IN STONE OF THE SAME TYPE AS THE PIPE BEDDING FOR THE FULL DEPTH OF THE CLEANOUT. 11. RIP RAP SHALL BE PLACED AT THE END OF ALL OUTFALL STRUCTURES. UNLESS OTHERWISE NOTED, THE RIP RAP SHALL BE A CLEAN DURABLE STONE WITH AVERAGE WEIGHTS OF 100 POUNDS. THE RIP RAP SHALL BE PLACED ON 1 FOOT OF GRAVEL SUBBASE OR STABILIZING FABRIC.
 - 12. DRY WELLS SHALL MEET THE SAME REQUIREMENTS AS THOSE LISTED FOR MANHOLES WITH THE ADDITION OF OPENINGS OF APPROXIMATELY 15% OF THE RINGS INTERIOR SURFACE. THE OPENINGS SHALL BE 1 X 3 INCH SLOTS OR 1 INCH DIAMETER ON THE INSIDE SURFACE. DRY WELLS SHALL BE BACKFILLED WITH A MINIMUM OF 1 FOOT OF CLEAN STONE SIZED BETWEEN 3 AND 4 INCHES. OUTSIDE THE STONE THE ENTIRE STRUCTURE SHALL BE WRAPPED IN FILTER FABRIC TO PREVENT OUTSIDE SOILS FROM ENTERING THE STONE AND DRY WELL.
 - 13. UNLESS OTHERWISE NOTED, TRENCH DRAINS SHALL BE MADE WITH 4 INCH PERFORATED CORRUGATED POLYETHYLENE PIPE ENCASED IN CLEAN STONE SIZED BETWEEN 2 INCH AND ½ INCH AND THEN WRAPPED IN FILTER FABRIC. OUTSIDE DIMENSIONS OF THE TRENCH DRAIN WILL NOT BE LESS THAN 1 FOOT.
 - 14. ALL JOINTS BETWEEN PIPES AND PRECAST STRUCTURES SHALL BE MORTARED TIGHT.
 - 15. ALL PIPE SHALL BE PLACED IN ACCORDANCE WITH THE MANUFACTURES RECOMMENDATION AND TO THE LINES AND GRADES SHOWN ON THE DRAWINGS. CARE SHALL BE GIVEN DURING BACKFILL OPERATIONS NOT TO MOVE OR DAMAGE PIPE OR APPURTENANCES WHILE ACHIEVING THE APPROPRIATE COMPACTION REQUIREMENTS.
- 16. ALL SYSTEMS SHALL BE VISUALLY INSPECTED FOR ALIGNMENT AND WORKMANSHIP. ALL DEBRIS, DIRT OR OTHER FOREIGN OBJECTS SHALL BE REMOVED AND THE SYSTEM FLUSHED CLEAN. 17. ANY PIPES FOUND WITH DIAMETER DEFLECTIONS GREATER THAN 5% OF THE SPECIFIED PIPE DIAMETER WILL BE REPAIRED OR REPLACED. ANY ALIGNMENT DIFFERENTIALS GREATER THAN 5% OF THE DIAMETER OF THE PIPE WILL BE CORRECTED OR REPLACED. SHALL CONTACT THE YS PRIOR TO 18. ANY CLEANING, REPAIRS OR REPLACEMENT REQUIRED, DUE TO FAILURE OF TESTING OR POOR WORKMANSHIP, SHALL BE DONE BY THE CONTRACTOR AT NO ADDITIONAL EXPENSE TO THE CONTRACT

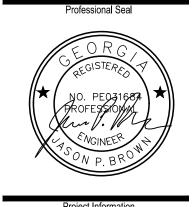
SHALL BE REQUIRED WATER SYSTEM AND SERVICES REQUIREMENTS:

- THE WATER SYSTEMS AND SERVICES SHALL BE SUPPLIED AND PLACED IN ACCORDANCE WITH ALL LOCAL, STATE, AND FEDERAL (HAVING JURISDICTION) REQUIREMENTS. 2. IF CITY OF CLARKSTON DOES NOT HAVE SPECIFIC REQUIREMENTS REGARDING MATERIALS AND PLACEMENT, THE FOLLOWING SHALL BE USED:
- ALL WATER PIPING. FITTINGS AND APPURTENANCES SHALL BE PLACED A MINIMUM OF 6 INCHES BELOW FROST LINE OR 5 FEET WHICH EVER IS GREATER. PIPE SIZES 4 INCHES AND UP L BE DUCTILE IRON OR POLYVINYL CHLORIDE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE DUCTILE IRON). PIPE SIZES BELOW 4 INCHES SHALL BE COPPER OR POLYETHYLENE AS INDICATED ON THE DRAWINGS (IF NOT SHOWN USE COPPER).
- THE MINIMUM SEPARATION BETWEEN WATER MAINS AND SERVICES AND SEWER MAINS AND LATERALS SHALL BE 18 INCHES MEASURED VERTICALLY FROM OUTSIDE TO OUTSIDE OF PIPES AT THE CROSSING, A STANDARD LENGTH OF WATER PIPE SHALL BE CENTERED AT THE CROSSING TO MAXIMIZE THE DISTANCE BETWEEN THE CROSSING AND THE NEAREST WATER MAIN OR SERVICE PIPE JOINT, WHEN THE WATER MAIN OR SERVICE RUNS UNDER THE SEWER LINE, A GRAVEL OR CRUSH STONE BACKFILL MEETING THE REQUIREMENTS OF SUBBASE SHALL BE PLACED AND COMPACTED AROUND THE WATER PIPE (UP TO HALF THE DIAMETER OF THE SEWER PIPE) TO PROVIDE ADEQUATE SUPPORT TO THE SEWER LINE, WATER MAINS AND SERVICES AND SEWER MAINS AND LATERALS RUNNING PARALLEL SHALL HAVE A MINIMUM HORIZONTAL SEPARATION OF 10 FEET MEASURED FROM OUTSIDE OF PIPE TO OUTSIDE OF PIPE. • DUCTILE IRON PIPE SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C151, (6 INCH DIAMETER AND GREATER SHALL BE CLASS 50) AND (SMALLER THAN 6" SHALL BE CLASS 51), DUCTILE IRON PIPE SHALL BE LINED WITH A CEMENT MORTAR AND SEAL COATED IN ACCORDANCE WITH AWWA C104. GASKETS SHALL BE PROVIDED IN ACCORDANCE WITH AWWA C111. FITTINGS SHALL BE DUCTILE IRON IN ACCORDANCE WITH AWWA C153 COMPACT FITTINGS WITH A PRESSURE RATING OF 350 PSI.
- STANDARD DUCTILE IRON OR CAST IRON FITTINGS SHALL BE SUPPLIED IN ACCORDANCE WITH AWWA C110 WITH A PRESSURE RATING OF 250 PSI. THE LINING AND GASKETS FOR THE
 FITTING SHALL MEET THE SAME REQUIREMENTS AS THE PIPE. PLASTIC WRAP PIPES IN ACCORDANCE WITH AWWA C105 AND TAR COAT ALL FITTING BOLTS WHEN EVER SOILS ARE
 PRIMARILY CLAY OR NOT PH BALANCED. SEE GEOTECHNICAL REPORT FOR SOILS TYPE AND RECOMMENDATIONS.
- PVC (POLYVINYL CHLORIDE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C900 FOR PIPE 4 INCHES OR GREATER AND ASTM D 1785, SCHEDULE 40, GASKETS PER ASTM F 477-ELASTOMERIC SEAL, SOLVENT CEMENT PER ASTM D 2564 FOR PIPES SMALLER THAN 4 INCHES. TEN GAUGE COPPER TRACE WIRE SHALL BE PLACED WITH ALL PIPE.
- THRUST RESTRAINTS SHALL BE USED AT ALL FITTINGS, PLUGS, AND APPURTENANCES THAT CAUSE A CHANGE IN DIRECTION, FLOW OR ARE SUBJECT TO THRUST OR HAMMERING BY
 WATER FLOW, THRUST RESTRAINTS INCLUDE CONCRETE THRUST BLOCKS (3000 PSI), ANCHORING JOINTS AND TIE RODS. CONCRETE THRUST BLOCKS SHALL BE USED UNLESS SPACE, ACCESS OR MAINTENANCE PROHIBIT THEIR USE.
- COPPER WATER PIPE SHALL BE SUPPLIED IN ACCORDANCE WITH ASTM B 88-TYPE K, SEAMLESS WITH FITTINGS PER AWWA C800.
- PE (POLYETHYLENE) PIPE SHALL BE FURNISHED IN ACCORDANCE WITH AWWA C9010 AND ASTM D2737.
- GATE VALVES SHALL BE NONRISING STEM, DOUBLE DISC, BRONZE DISC RESILIENT SEATED, CAST IRON OR DUCTILE IRON BODY AND BONNET IN ACCORDANCE WITH AWWA C509 AND
 PRESSURE RATED FOR 250 PSI. TEN GAUGE COPPER TRACER WIRE SHALL BE PLACED WITH ALL PIPES. VALVE BOX SHALL BE CAST IRON WITH A BASE COMPATIBLE WITH VALVE, 5 INCHES IN DIAMETER, SCREW TYPE EXTENSION AT TOP AND A COVER THAT READS "WATER".
- CURB STOPS SHALL HAVE A BRONZE BODY, GROUND KEY PLUG OR BALL WITH WIDE TEE HEAD. THE CURB STOP SHALL BE COMPATIBLE WITH ADJOINING PIPES. THE SERVICE BOX SHALL HAVE A TELESCOPING TOP SECTION WITH A LENGTH THAT PLACES THE ADJUSTMENT CENTERED WHEN BURIED TO THE APPROPRIATE DEPTH. THE SERVICE BOX SHALL BE OF A SIZE AND TYPE THAT IS COMPATIBLE WITH THE CURB STOP. THE COVER SHALL HAVE THE LETTERING "WATER".
- PUBLIC STREET SUCH USE BY CITY OF 3. ALL METERS, VAULTS AND BACKFLOW SHALL MEET THE REQUIREMENTS OF CITY OF CLARKSTON . FIRE HYDRANTS SHALL CONFORM TO THE REQUIREMENTS OF CITY OF CLARKSTON AND AWWA C502. DRAIN STONE SHALL HAVE 100% PASSING THE 1-1/2 INCH SIEVE, 90-100% PASSING THE 1 INCH SIEVE, 35-95% PASSING THE 1/2 INCH SIEVE AND 0-15% PASSING THE 1/4 INCH SIEVE. ALL HYDRANTS SHALL INCLUDE A GATE VALVE AND BOX LOCATED AT THE HYDRANT BRANCH TO SHUT OFF THE HYDRANT LINE.
 - DUCTILE IRON PIPE SHALL BE INSTALLED IN ACCORDANCE WITH AWWA C600 AND BE ENCASED IN SELECT BACKFILL WHICH MEANS NO STONE OR OTHER MATERIAL GREATER THAN 2 INCHES IN ANY DIRECTION.
 - PVC, PE AND COPPER PIPE SHALL BE PLACED PER MANUFACTURERS RECOMMENDATIONS AND EMBEDDED IN A 6 INCH SAND ENCASEMENT MEASURED FROM OUTSIDE SURFACE OF THE PIPE TO THE OUTSIDE OF SAND ENCASEMENT.
 - ALL BEDDING AND ENCASEMENTS SHALL BE COMPACTED WITH CARE TO ACHIEVE PROPER COMPACTION WITHOUT DAMAGING THE PIPE, FITTINGS OR APPURTENANCES.
 - ALL WATER MAIN FITTINGS AND VALVES SHALL BE TESTED FOR PRESSURE AND LEAKAGE IN ACCORDANCE WITH AWWA C600, TEST WATER SHALL BE POTABLE. TEST PRESSURE SHALL NOT BE LESS THAN 1.25 TIMES THE WORKING PRESSURE AT THE HIGHEST POINT AND 1.5 TIMES THE WORKING PRESSURE AT THE TESTING POINT. THE PRESSURE MAY NOT DROP MORE THAN 5 PSI DURING THE 2 HOUR TEST. LEAKAGE SHALL NOT EXCEED MORE THAN (L={SD(P)*0.5}/133,200) WHERE "L= ALLOWABLE LEAKAGE, IN GALLONS PER HOUR" " S= LENGTH OF PIPE TESTED, IN FEET" " D= NOMINAL DIAMETER OF PIPE, IN INCHES" "P=AVERAGE TEST PRESSURE DURING TEST, IN POUNDS PER SQUARE INCH (GAUGE) DURING THE SAME 2 HOUR DURATION.
 - ALL TAP AND/OR CONNECTION MATERIAL AND WORK SHALL BE DONE IN ACCORDANCE WITH AND COORDINATED WITH CITY OF CLARKSTON. WHEN THE AUTHORITY SO REQUIRES, THE TAPS AND/OR CONNECTIONS SHALL BE DONE BY THE AUTHORITY THEMSELVES AND PAID FOR BY THE CONTRACTOR.
 - 10. OTHER FITTING AND APPURTENANCES NOT PART OF THE MAIN LINE TESTING SHALL BE TESTED BY VISUAL INSPECTION FOR LEAKAGE UNDER NORMAL WORKING PRESSURES. 11. ALL MAIN LINES AND APPROPRIATE APPURTENANCES SHALL BE FLUSHED AND DISINFECTED IN ACCORDANCE WITH AWWA C651 AND THE REQUIREMENTS OF THE APPROPRIATE HEALTH DEPARTMENT.
 - 12. THE CONTRACTOR SHALL COORDINATE ALL TESTING AND DISINFECTING WITH CITY OF CLARKSTON . IF PROFESSIONAL ENGINEER CERTIFICATION IS REQUIRED, THE CONTRACTOR SHALL NOTIFY THE OWNER'S REPRESENTATIVE AT LEAST TEN DAYS PRIOR TO THE START OF WORK.
 - 13. FAILURE OF ANY TESTING SHALL REQUIRE THE CONTRACTOR TO REPAIR OR REPLACED THE FAILED SECTION AT NO ADDITIONAL EXPENSE TO THE CONTRACT

CONTRACTOR SHALL BE REQUIRED TO PROVIDE, AT HIS/HER COSTS, AS-BUILTS OF THE STORM LINES AND EXTENDED **DETENTION POND**

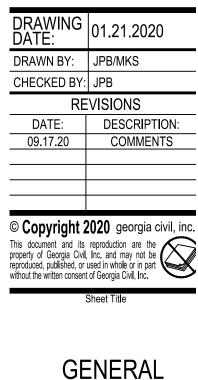


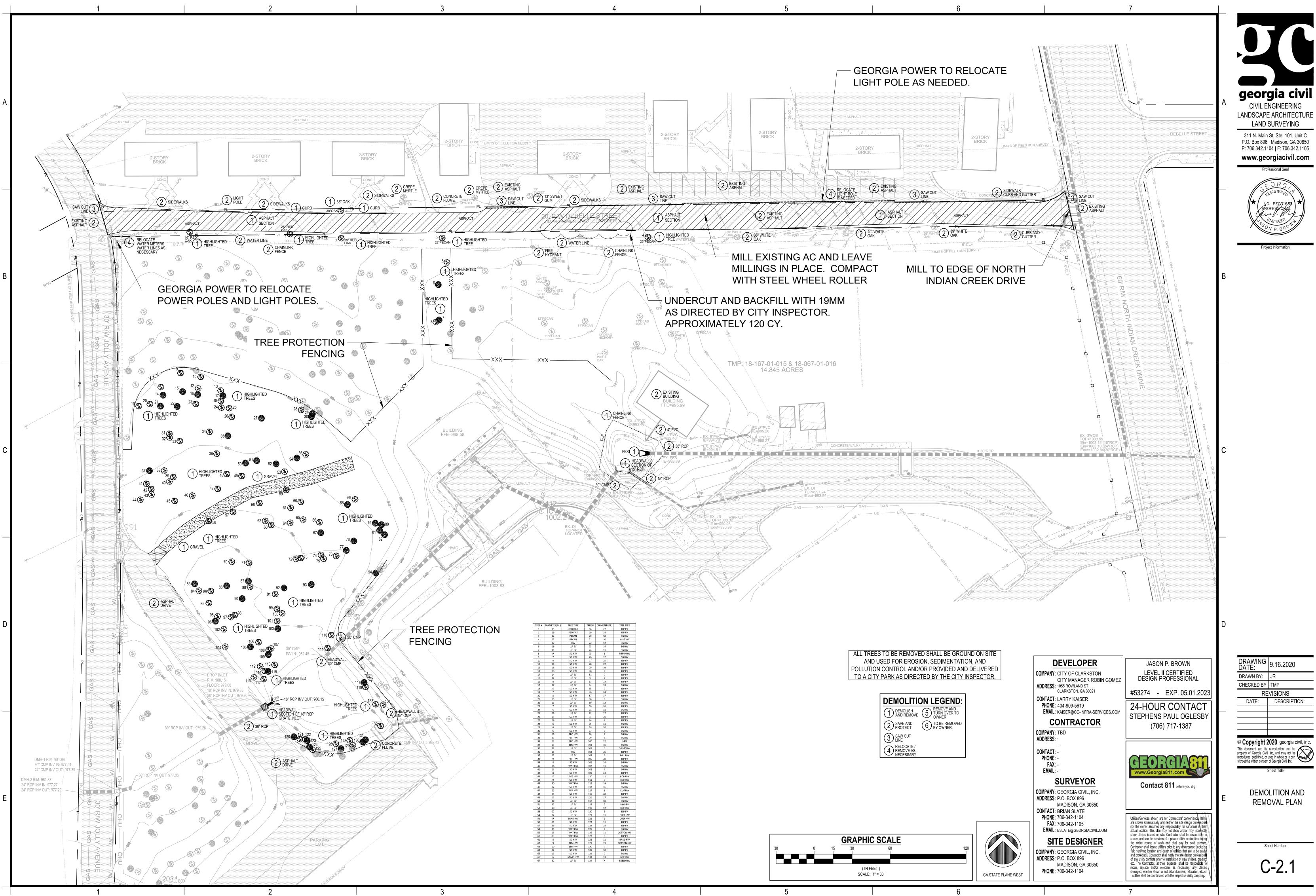
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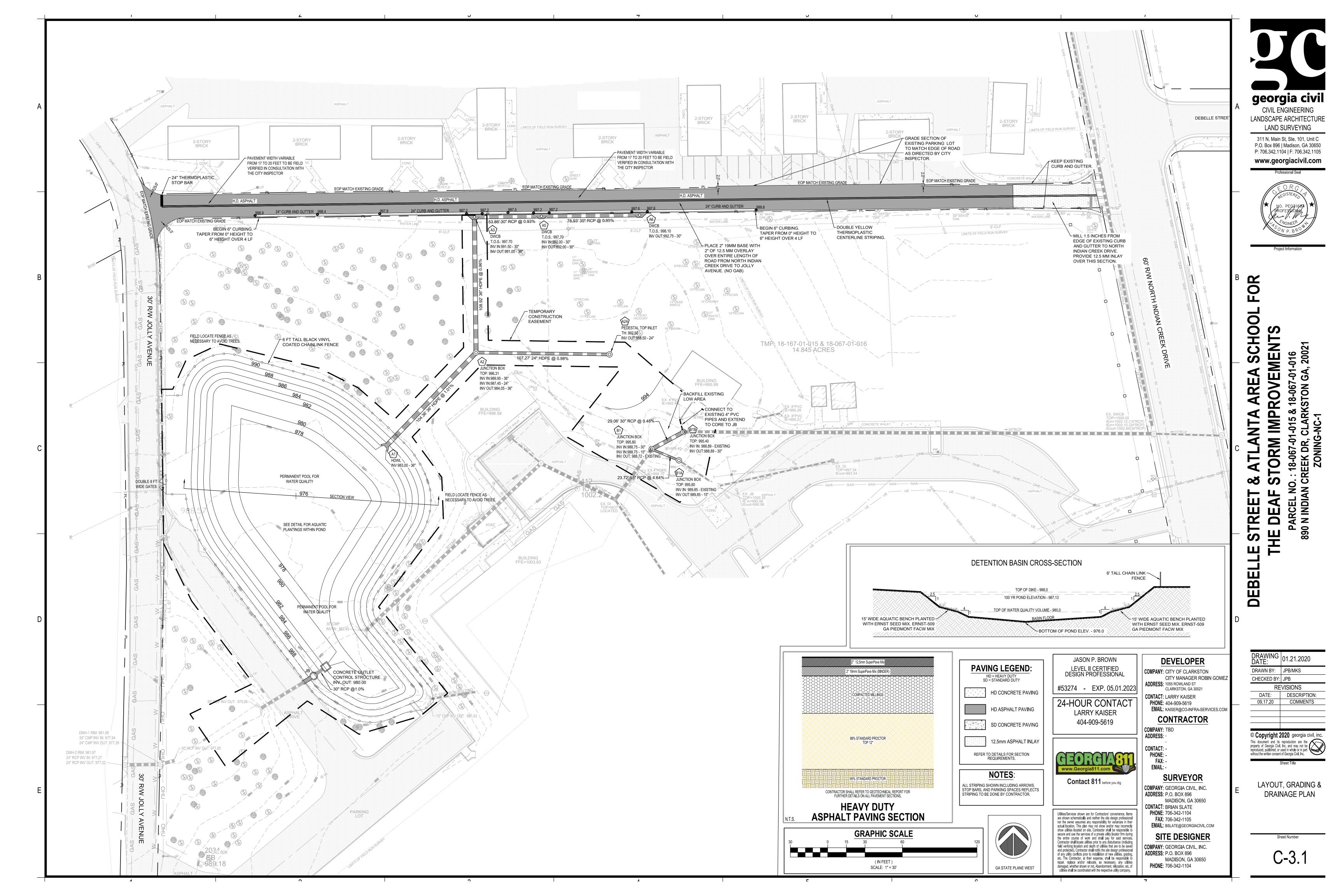


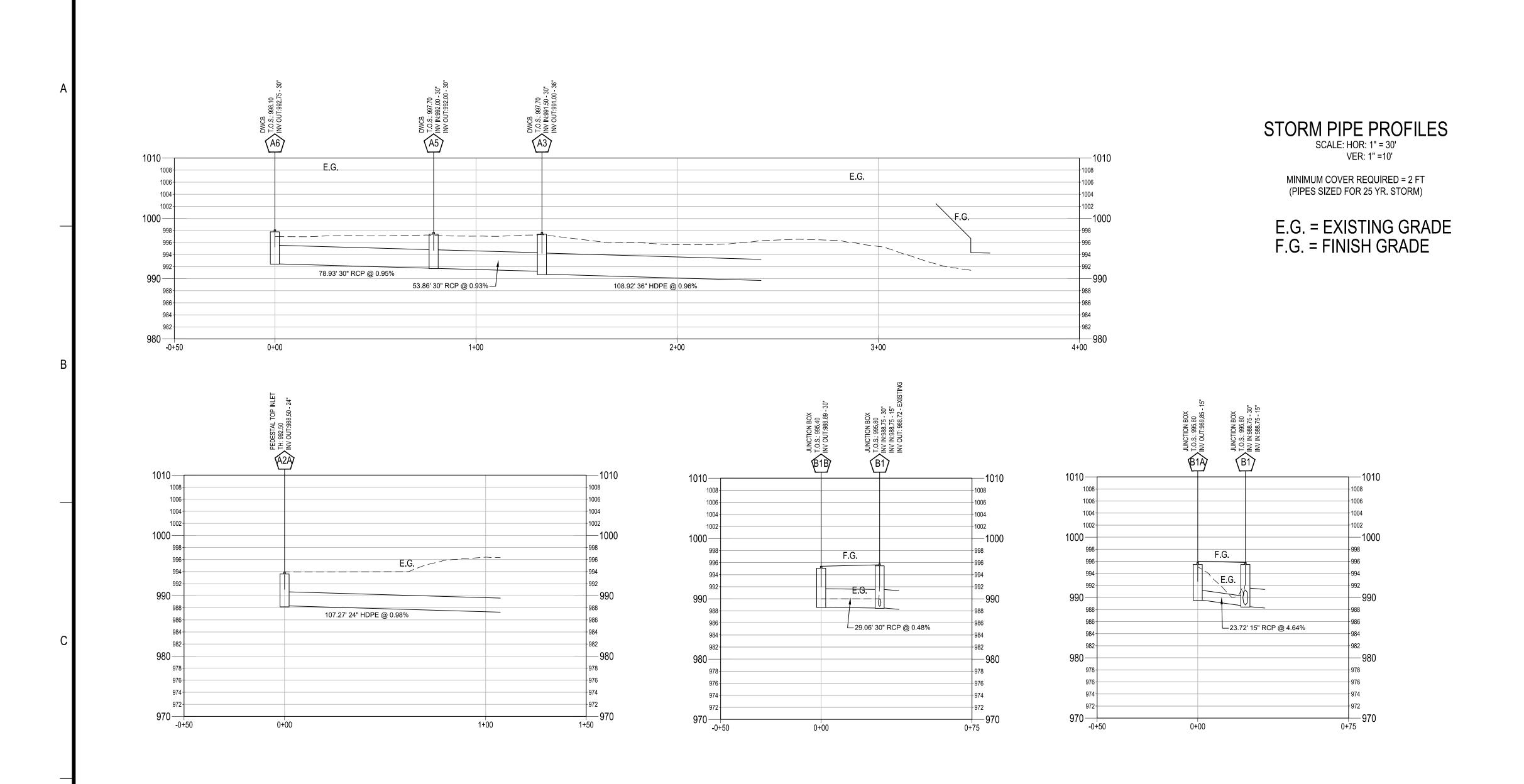
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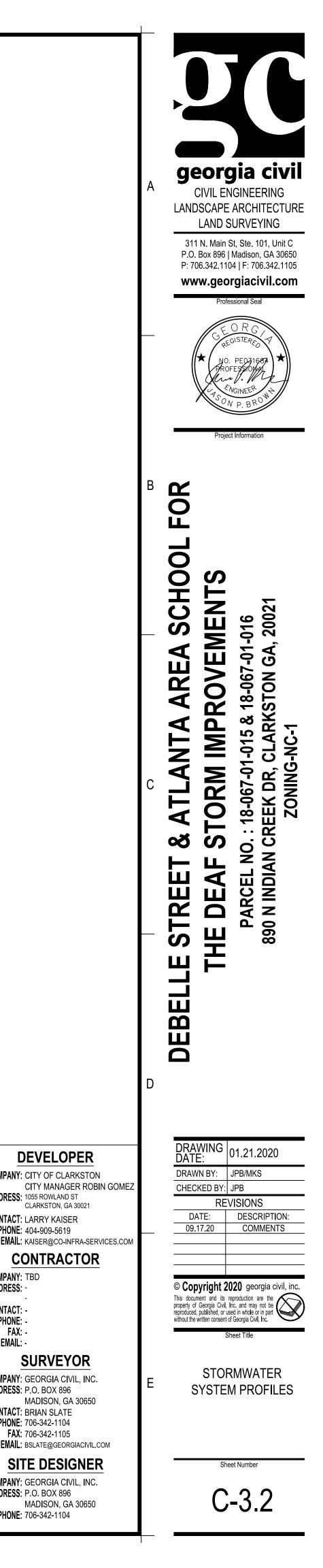


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Line	ToLine	LineLength	Incr.Area	TotalArea	RunoffCoeff.	IncrC x A	TotalC x A	InletTime	TimeConc	RnfalInt	TotalRunoff	AdnlFlow	TotalFlow	CapacFull	Veloc	PipeSize	PipeSlope	Inv ElevDn	Inv ElevUp	HGLDn	HGLUp	Grnd/RimDn	Grnd/RimUp	Line ID
		(ft)	(ac)	(ac)	(C)			(min)	(min)	(in/hr)	(cfs)	(cfs)	(cfs)	(cfs)	(ft/s)	(in)	(%)	(ft)	(ft)	(ft)	(ft)	(ft)	(ft)	
1	Outfall	105.125	0	11.28	0	0	7.27	5	6.1	7.9	57.59	0	57.59	72.21	10.32	36	1	983	984.05	985.03	986.51	986.75	996.2	A2-A1
2	1	108.918	4.41	9.5	0.7	3.09	6.65	5	5.5	8.1	53.89	0	53.89	43.62	10.98	30	0.96	990.45	991.5	992.95	994.55	996.2	997.25	A3-A2
3	2	53.856	1.49	5.09	0.7	1.04	3.56	5	5.3	8.2	29.04	0	29.04	42.81	5.92	30	0.93	991.5	992	997.36	997.6	997.25	997.25	A4-A3
4	3	78.933	3.6	3.6	0.7	2.52	2.52	5	5	8.2	20.78	0	20.78	43.31	4.23	30	0.95	992	992.75	997.87	998.04	997.25	997.25	A5-A4
5	1	107.27	1.78	1.78	0.35	0.62	0.62	5	5	8.2	5.14	0	5.14	24.24	5.26	24	0.98	987.45	988.5	988.08	989.3	996.2	992.25	A2A-A2

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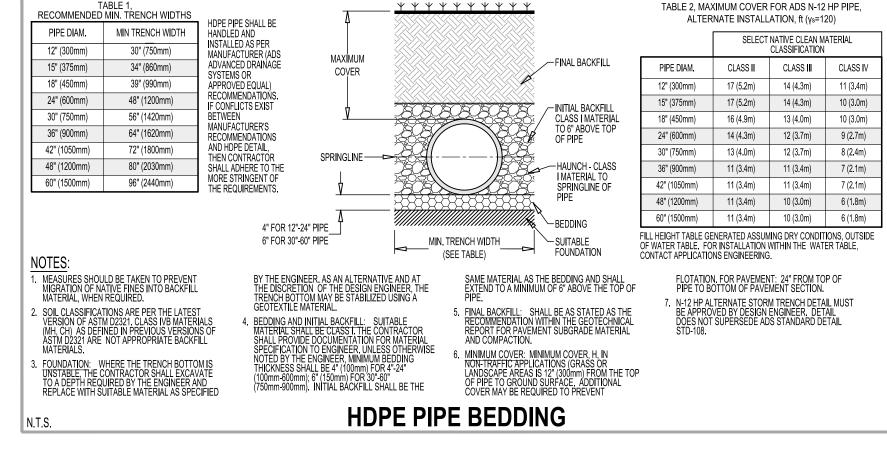
25 YR STORM PIPE CHART



LEVEL II CERTIFIED DESIGN PROFESSIONAL	COMPANY: CITY OF CLARK
DESIGN PROFESSIONAL	CITY MANAGER
#53274 - EXP. 05.01.2023	ADDRESS: 1055 ROWLAND ST
#55274 - EAP. 05.01.2025	CLARKSTON, GA 3
24-HOUR CONTACT	PHONE: 404-909-5619 EMAIL: KAISER@CO-INFF
LARRY KAISER	
404-909-5619	CONTRAC1
	COMPANY: TBD
	ADDRESS:
	-
	CONTACT: -
	PHONE: -
GEUNGIAO.	FAX: - EMAIL: -
www.Georgia811.com	LWAIL
Contact 811 before your dia	SURVEYO
Contact 811 before you dig	SURVEYO COMPANY: GEORGIA CIVIL
Contact 811 before you dig	
Contact 811 before you dig	COMPANY: GEORGIA CIVIL ADDRESS: P.O. BOX 896 MADISON, GA 3
	COMPANY: GEORGIA CIVIL ADDRESS: P.O. BOX 896 MADISON, GA 3 CONTACT: BRIAN SLATE
Utilities/Services shown are for Contractors' convenience, Items	COMPANY: GEORGIA CIVIL ADDRESS: P.O. BOX 896 MADISON, GA 3 CONTACT: BRIAN SLATE PHONE: 706-342-1104
Utilities/Services shown are for Contractors' convenience, Items are shown schematically and neither the site design professional nor the owner assumes any resonsibility for variances in their	COMPANY: GEORGIA CIVIL ADDRESS: P.O. BOX 896 MADISON, GA 3 CONTACT: BRIAN SLATE PHONE: 706-342-1104 FAX: 706-342-1105
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JASON P. BROWN

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	ASTM D2321 ⁽¹⁾		ASTM D2497 AASHTO AASHTO			ASTM D2321 ⁽¹⁾ (CSA B182.11)			TABLE		CORRUGATED STEEL - CORRUGATED A	ALUMINUM						· · ·
	(CSA B182.11) CLASS DESCRIPTION	NOTATION	ASTM D2467 M42 M145		1 1/2 IN. 3/8"	No. 4 NO. 200		COEFFICIENTS Cu Cc		PIPE MINIMUM DIAMETER TYPE COVER	· · ·	IN FEET ABOVE TOP OF PIPE	PIPE DIAMETER	PIPE DIAMETER	TYPE COVER I -I O	IR ROUND PIPE - SPIRAL RI MINIMUM THICKNESS OF STI HEIGHTO	EEL AND ALUMINUM FFILL (FEET) ABOVE TOP OF PIPE	·····	PIPE 80-90 DIAMETER
			ANGULAR CRUSHED		(40mm) (9.5mm)	(4.75mm) (0.075mm)				(INCHES) (INCHES) I - CONCRETE 12 12 0 12 STEEL I 12 0	I0 I0 I5 I5 - 20 20 - 25 25 - 3 I III IV V V V V V V V V V V V V V V 0 0.064 .064 <td< td=""><td></td><td>60 - 70 70 - 80 80 - 90 (INCHES) V V .064 .064 .064 12 075 075 075</td><td></td><td></td><td></td><td></td><td></td><td>I 2</td></td<>		60 - 70 70 - 80 80 - 90 (INCHES) V V .064 .064 .064 12 075 075 075						I 2
	I ⁽²⁾ CRUSHED ROCK, ANGULAR ³	^{K,} N/A	STONE OR ROCK, CRUSHED GRAVEL, 5, 56, 57 ⁽⁴⁾ 6, 67 ⁽⁴⁾ N/A		100% <25%	<15% <12%	NON PLASTIC	N/A		15 STEL 1 12 00 ALUM 1 12 00 ALUM 1 12 00	II III IV V V 4 .064 .064 .064 .064 50 .060 .060 .060 .075	5 .013 .013 .013 / V V V V 4 .064 .064 .064 .064 5 .075 .075 .075 .075	V V .064 .064 .064 I5 .075 .075 .105	8	STEELR 12 .064 ALUM R 12 .060	.064 .064 .064 .064 .060 .060 .060 .060	.064 .064 .064 .060 .075 .075	.064 .079 .079	I 8
			VOIDS WITH LITTLE OR NO FINES							IB STEEL 12 .0 ALUM 1 12 .0 CONCRETE 12 .0 STEEL 12 .0 STEEL 12 .0 STEEL 12 .0	III III V <td>4 .064 .064 .064 5 .075 .075 .075 .105 V V V V V 4 .064 .064 .064 .064</td> <td>V V 064 .064 .064 .08 .105 .105 .105 .105 .05 .02 .04 .04 .04 .05 .05 .05 .02 .02 .02 .02 .04 .04 .04 .04 .05 .05 .05 .05 .05 .02 .02 .02 .02 .04<td>24</td><td>STEEL R 12 .064 ALUM R 12 .060</td><td>.064 .064 .064 .064 ,060 .060 .060 .075 .064 .064 .064 .064</td><td>.064 .064 .079 .075 .1 05 .1 05</td><td>.079 .1 09 .1 09 .1 05</td><td>24</td></td>	4 .064 .064 .064 5 .075 .075 .075 .105 V V V V V 4 .064 .064 .064 .064	V V 064 .064 .064 .08 .105 .105 .105 .105 .05 .02 .04 .04 .04 .05 .05 .05 .02 .02 .02 .02 .04 .04 .04 .04 .05 .05 .05 .05 .05 .02 .02 .02 .02 .04 <td>24</td> <td>STEEL R 12 .064 ALUM R 12 .060</td> <td>.064 .064 .064 .064 ,060 .060 .060 .075 .064 .064 .064 .064</td> <td>.064 .064 .079 .075 .1 05 .1 05</td> <td>.079 .1 09 .1 09 .1 05</td> <td>24</td>	24	STEEL R 12 .064 ALUM R 12 .060	.064 .064 .064 .064 ,060 .060 .060 .075 .064 .064 .064 .064	.064 .064 .079 .075 .1 05 .1 05	.079 .1 09 .1 09 .1 05	24
A			WELL-GRADED GRAVEL, GRAVEL-SAND MIXTURES; 5, 6 LITTLE OR NO FINES			<50% of		>4 1 to 3		ALUM 12 0 ALUM 12 .0 CONCRETE 12 .0 30 STEEL 1 12 .0 ALUM 1 12 .0 .0	.004 .004 .004 .004 .00 .060 .060 .075 .075 I III IV V V .4 .064 .064 .064 .064 .55 .075 .075 .075 .075	064 .064 .064 .064 5 .075 .075 .075 .05 V V V V 4 .064 .064 .064 .079 5 .05 .05	.005 .015 .015 V V V .079 .109 .109		ALUM R 13 060 STEEL R 12 .064 ALUM R 18 .060	.060 .060 .075 .075 .064 .064 .064 .064 .060 .075 .075 .054	.105 .105 .105 .079 .079 .109 .105 .105 .135		36
	0.544		POORLY-GRADED GRAVELS, GRAVEL-SAND 56, 57, MIXTURES: LITTLE OR NO 67			"COARSE FRACTION"		4 <1 or >3		CONCRETE 12 0 CONCRETE 12 0 STEEL 1 12 .0 36 STEEL 2 12 .0	1 11 1V V V 14 .064 .064 .064 .064 15 105 .052 .053 .053	S .105 .105 .105 .105 V V V V V V 4 .064 .064 .079 .079 .079 5 .064 .064 .064 .079 .135 .135	V V .109 .109 .138 .079 .109 .109 36	42	STEEL R 1 2 .064 ALUM R 21 .075	.064 .064 .064 .079 .075 .075 .1 05 .1 05	.079 .1 09 .1 09 .1 05 .1 35 .1 35	.1 09	42
	CLEAN, COARSE-GRAINED SOILS		FINES WELL-GRADED SANDS,		100%	<5%	NON PLASTIC	>0 44-2	-	ALUM 2 12 .C ALUM 2 12 .C CONCRETE 12 STEEL 12 .O	30 .060 .060 .060 .060 101 11 1V V V 4 .064 .064 .064 .064	5 .075 .05 .05 .05 V V V V 4 .064 .064 .079 .09 4 .064 .064 .079 .09				.064 .064 .079 .079 .1 05 .1 05 .1 05			48
	II		GRAVELLY SANDS; LITTLE OR NO FINES A1, A3 POORLY-GRADED SANDS,	CG-14, MG-20		>50% of "COARSE FRACTION"		>6 1 to 3	-	ALUM I2 .0 ALUM I2 .0 CONCRETE I2 .0 STEFI I2 .0	5 .105 .135 .135 .164 60 .060 .060 .075 .075 11 11 1V V V 64 .064 .064 .064 .064		.105 .105 .155 .135 V V V 138 138 168	54	STEEL R 15 .064 ALUM R 24 .105	.064 .064 .079 .079 .1 05 .1 05 .1 05 .1 35	.1 09 .1 09 .1 35 .1 35		54
		SP ⁶	GRAVELLY SAND; LITTLE OR NO FINES					<6 <1 or >3	-	48 STEEL 2 12 ALUM 1 12 ALUM 2 12 CONCOPTE 12	34 .064 .	V V V V V 4 .064 .079 .109 .109 4 .064 .064 .079 .109 4 .064 .064 .079 .109 164	.164 .164	60		.079 .079 .109 J 05 J 05 J 05 J 35			60
_	COARSE-GRAINED SOILS, BODERLINE CLEAN TO W/FINES		SANDS AND GRAVELS WHICH ARE BORDERLINE BETWEEN CLEAN AND		100%	VARIES 5% TO 12%	NON PLASTIC	SAME AS FOR GW, GP, SW AND SP		54 STEEL 2 12 .C ALUM I 15 .J	79 .079 .079 .079 .079 64 .064 .064 .064 .064 5 .105 .135 .164 .164 50 .060 .050 .075 .075	9 .079 .079 .109 .138 4 .064 .079 .109 .109 1 .164 .05 .125 .125 .164	V V 138 .68 .138 .138 .168 54	66	STEELR 18 .079	.079 .079 .1 09 .1 09 .1 35 .1 35 .1 35 .1 35	.1 09 .1 09		66
		-5	WITH FINES SILTY GRAVELS, GRAVEL &				<4 OR		-	ALUM 2 15 .0 CONCRETE 12 .0 STEEL 2 .12 .0 ALUM 1 .15 .12	SU .060 .060 .075 .075 I III IV V V 9 .109 .109 .109 .109 .4 .064 .064 .064 .064 .5 .155 .164 .164 .164	5 .105 .135 .164 V V V V 0 .109 .109 .109 4 .079 .009 .109	.164 V V .168 .138 .168 .168 60	72		.1 09 .1 09 .1 09 .1 09 .1 35 .1 35 .1 35 .1 35			72
		GM	GRAVEL-SAND-SILT SAND WITH MIXTURES <10% FINES			<50% of "COARSE	<"A" LINE			ALUM 2 15 .0 CONCRETE 12	Image: 100 -	4 .164 .164 .164 .164 .164 .164 .164 .16	.100			.109 .109 .109			78
	COURSE-GRAINED SOILS WITH FINES		CLAYEY GRAVELS, GRAVEL-SAND-CLAY MIXTURES A-2-4.			FRACTION" 12% TO 50%	<7 & >"A" LINE			66 <u>STEEL 2</u> 12 .C. ALUM 1 18 .II ALUM 2 18 .C CONCRETE 12	04 .064 .064 .064 .064 4 .164 .164 .164 .164 75 .075 .105 .105 .135 1 III IV V V	4 .079 .109 .109 .138 4	V	84	STEELR 21 .1 09	eo i <u>eo i eo i eo i</u>			84
			SILTY SANDS, SAND-CLAY MIXTURES A-2-5, A-2-6, OR A-4 OR A-6			>50% of "COARSE	>4 OR <"A" LINE			STEEL I I2 I3 72 STEEL 2 I2 .0 ALUM 1 8 .1 ALUM 18 .0	3 .138 .138 .138 .138 4 .064 .064 .064 .079 4 .164 .164 .164 .164 /5 .075 .105 .105 .135	3 .138 .138 .138 .168 9 .109 .109 .138 .138 4	.168 72	90					90
		SC	CLAYEY SANDS, SOILS SAND-CLAY MIXTURES WITH MORE		100%	FRACTION"	>7 & >"A" LINE	N/A		78 STEEL 1 15 .0 ALUM 2 21 .0	III IV V V 8 .168 .168 .168 .168 4 .064 .064 .079 5 .075 .105 .105 .135	V V V V 168 .168 .168 .168 9 .109 .109 .138 .168 5 .164 .164 .164 .164		96					96
В			INORGANIC SILTS AND VERY FINE SANDS, ROCK ELOUR, SILTY OR CLAYEY ON #200			> 30%	<4 OR			CONCRETE 12 84 STEEL I 15 JI STEEL 2 15 0 ALUM 2 21 J	i III IV V V 8 .I68 .I68 .I68 .I68 4 .064 .064 .079 .079 5 .I05 .I35 .I35	V V V V .168 .168 .168 .168 9 .109 .109 .138 .168 5 .164 .164 .164 .164	84	1 08					08
	INORGANIC FINE-GRAINED		FLOUR, SILTY OR CLAYEY FINE SANDS, SILTS WITH SLIGHT PLASTICITY			(RETAINED)	<50			90 STEEL 2 18 .0 ALUM 2 24 .10	1 III 4 .064 .064 .079 .109 5 .105 .135 .135 .164	a 109 ,138 ,138 ,168	90	4					4
	SOILS		INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY; GRAVELLY, SANDY, OR			> 30% (RETAINED)	>7 & >"A" LINE				I III III '9 .079 .079 .079 5 .105 .135 .135 III III III '9 .079 .079 .109		96						
		5	SILTY CLAYS; LEAN CLAYS						-	ALUM 2 24 .I	3 .013 .103 .103 5 .164 .164 .103 11 111 .109 .109 .109 5 .164 .109 .109 .109			- <u>- 40</u>		3 /4" X 3 /4" X 7-1/2" PIRAL RIB PIPE ARE COMPUTED BASED U FURNISHED AS 3004+132 (<i>1</i> 5=20,000 PSI)			
		ML I	VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS, SILTS WITH				<4 or <"A" LINE			CONCRETE II4 STEEL 2 24 . ALUM 2 24 .	9 .109 .109 .109 .109 4 .164	3 ,138 ,168	114	Prif	A. ALL <u>MINIMUM COVER</u> VALUE B. ALL <u>HEIGHT OF FILL</u> VALUES	ES SHALL BE INCREASED BY I 5 PERCEN S SHALL BE DECREASED BY I 5 PERCEN	T. (EXAMPLE:12IN.BECOMES T. (EXAMPLE: 35-40FT.BECOME	I 3.8 IN.) ES 29.7-34.0 FT.)	1030d3. prf
_	IV ⁽⁵⁾ INORGANICS FINE-GRAINED SOILS	11	SLIGHT PLASTICITY WITH 30% OR LESS INORGANIC CLAYS OF LOW RETAINED		100%	100% < 30% (Retained)	<50	N/A		IMPER		3 .138 .168 NS TO THE RIGHT OF INE. CLASS V CONCRETE	120 TABLE NO.3-INFORMATION ONLY)	6ħ\103	MINIMUM COVER VALUES APPLY 1 RESPONSIBILITY OF THE CONTRA TRENCH CONSTRUCTION IS REQL		EEDED FOR CONSTRUCTION VE	HICLES MAY BE GREATER AN) IS THE
			TO MEDIUM PLASTICITY; GRAVELLY, SANDY, OR SILTY CLAYS; LEAN CLAYS				>7 & >"A" LINE			GEN. REV. NOTES 9-26-01 BACKF	ON THE LEFT SIDE OF PIPE REQUIRES	S IMPERFECT BACKFILL D DETAIL "A" OR "B" ON	COR. METAL THCKNESS EQUIVALENT GAGE 0.064 6 0.079 6 0.079 14 0.038 12 0.038 10 0.048 8	st andar a \En		TADIE NO 2 (DDE ADOUN		1	
		мн	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE N/A				<"A" LINE		PIPE GAUGE CHART		EL FOR ALUM I DENOTES CORRUGATION PI	PROFILE 2 2/3" X 1/2" ON PROFILE 3" X 1' (OR 5' X 1' FOR STEEL	PIPE ONLY)	NO SCALE BY TRACED CREWED TRACED CREWED CREWED CREWED TRACED CREWED	N DATE CORRUGATED ALL ABOVE THE TOP DIAMETER OF PIPE OF SPAN R OF PIPE OF SPAN R PHERY INCH INCH INCH	IADLE INU.2 UFIE'-ARCHI IMMUM THCKNESS IN INCHES OF CORFUGATED STEEL AND UMINUM IPPE-ARCHI INTERPE-ARCHIAND MAXMUM HEIGHTS OF FILL IN FEET OF THE PIPE-ARCH NOM_MIM, MIN, THCKNESS (INCHES) MIN, MIN, THCKNESS (INCHES) NISE COR, STEEL OC, COR, STEEL I3 OG4 IS IS	ах. нт. «LL 13		lar. gef dari
	INORGANIC FINE-GRAINED SOILS		SANDY OR SILTY SOILS, ELASTIC SILTS INORGANIC CLAYS OF		100%	100% >50%	>50	N/A	SPIRAL RIB (ALUMINIZED TYPE 2) PIPE 16 GAUGE 14 GAUGE 12 GAUGE		STEEL AND ALUMINUM PIPE SHALL BE L MUM COVER VALUES APPLY TO HS-20 LI	LOCK-SEAM OR WELDED-SEAM (HELICAL) CON LIVE LOAD MINIMUM COVER NEEDED FOR CON	STRUCTION.	L HEIGHT <u>E</u> (SUBANT (MPRO) (MPRO) (MPRO) (MPRO)	ARTMEI 24 28		15 12 14 10 15 9 		Лш ⁻ 0096еоо - г
		СН	HIGH PLASTICITY, FAT N/A CLAYS				>"A" LINE		PIPE DIAMETER PIPE DIAMETER PIPE DIAMETER 12" 33" 54" AND			ONDITIONS ON BOTH SIDES OF HEAVY LINE. SE		SHEET :	& STATEOF 30 35 MENUT 36 42 MENUT 36 40	15 .054 .050 18 18 .054 .060 18 20 .054 .060 18 24 .054 .075 18 29 .064 .075 18 29 .064 .075 18 31 .079 105 18 33 .079 .085 18 36 .079 .105 18 36 .079 .105 18	9 9 7 7 7 12 7		0 11 12 0 0
	V ⁽⁷⁾	OL (ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY				<50 <4 OR <"A" LINE		15" 36" LARGER 18" 39" 21" 42"	METAL	CIFICATIONS AND THIS STANDARD. BLE VALUES FOR ALUMINUM CORRUGATED	CONCRETE PIPE REQUIRES IMPERFECT BACKFI	COMPUTED BASED UPON	3 OF 3 IPIRAL RII IPIPE ARCI IPIPE IPIPE ARCI IPIPE ARC	42 46 TRANSI 48 57 GEORGIA 54 64	35 .079 .079 .105 18 38 .029	7 12 7 7 12 7 7 7		410 ATE PROJECT
С	ORGANIC SOILS OR HIGHLY ORGANIC SOILS	OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC		100%	100% >50%		N/A	24" 48" 27" 30"		RNISHED AS 3004-H32 (fy=20,000 PSI), TI LOWS:	YIELD STRENGTH, fy=24,000 PSI. IF ALUMINUI THE TABLE NO. I ALLOWABLE FILL HEIGHTS SH BE INCREASED BY 15 PERCENT. (EXAMPLE: 12	HALL BE ADJUSTED AS		CULVE	JO JO ³ JO ³ JO ³ IS IS 41 .079 .355 IS IS IS 41 .079 .155 IS IS IS 43 .009 .155 IS IS IS 46 .079 .155 IS IS IS 47 .138 .079 IS IS IS 51 .079 .164 IS IS IS 52 .468 .079 IS IS IS 53 .368 .079 IS IS IS	12 7 7 12 7 15		T NUMBER S
			SILTS PEAT AND OTHER HIGH ORGANIC SOILS N/A				>50 <"A" LINE]	ASTM D2321			BE DECREASED BY IS PERCENT. (EXAMPLE: 35		PIPE . 2001 JMBER JMBER J 3 0 D) 3 0 D	RTS I 77 83 78 67 84 95 90 103 103	57	8 NOTE FOR TABLE NO. 2. 14 ALTERNATE SPAN-RISE COMBINATIONS F 12 EQUAL PERIPHENY TO THAT SHOWN, MAINED 12 EQUAL PERIPHENY TO THAT SHOWN, MAINED 11 LISTED IN AASHTO SPECIFICATION,	OR PIPE-ARCHES, HAVING Y BE SUBSTITUED IF	HET STORE
			2.11 / BNQ 2560 FOR MORE COMPLETE SOIL DESCRIF						CLASS DESCRIPTION I II	577 ⁷				77/5					
		ALL INCLUDE A R CES SHALL BE FF			/ DIOZ.II. WHEN SPE	CIFTING CLASSTWATERIAL F	OR INFILTRATION STST		CRUSHED ROCK CLEAN COARSE-GRAINED ANGULAR COARSE-GRAINED SOILS W/FINES SOILS										
	5. CLASS IV MATERIA 6. UNIFORM FINE SAN	ALS REQUIRE A G ANDS (SP) WITH M	GEOTECHNICAL EVALUATION PRIOR TO USE AND SH MORE THAN 50% PASSING A 100 SIEVE BEHAVE LIKE BE PERMITTED AS BEDDING AND BACKFILL MATERIA	SILTS AND SHO					INORGANIC COARSE-GRAINED SOILS, SOILS	Г	PLPE CURVED ALIGNMENT US	SING SECTIONS WITH DROPPED JOINTS	3			DÉTAILS (F CONCRETE JUNCTION B	X - CA	PROJECT NUMBER SHEET TOTAL NO. SHEETS
_				-					BORDERLINE CLEAN TO W/FINES		NOTE TO DESIGNER: A COST COMPARISON ESTIMATE SHALL BE MADE BEFORE		NOIES FOR FIRE CONTED ALLOS	e ''A'',	REINFORCED CONCRETE	. ΤΟΡ ~ Τμ-K4"	PRECAST OR BUILT IN PLACE		
								L			PIPE CURVED ALIGNMENT IS SPECIFIED:		2 PIPE WALL THICKNESS T, PIPE SECTION LENGTHS "L", AND DRI 10/2 PIPE JOINT 2/M" VARIES ACC TO PIPE PRODUCER AND IS BAS FEASIBILITY.	RÓING		T+1/4" REINF CONC, TOP N	HE 4 12 MIN #4 BARS AT 12 BOTH WAYS		
												±/2	CARDING THE RADIUS "R" AND THE NUMB DROPPED JOINT PIPE SECTION IS DETERMINED BY (1)A (2) AB MINOR MODIFICATIONS IN THE	"N" /E.		S	Ti 2/2,6x6 WE WIRE FABRIC ALL SIDES 8 (IF REG'DS) GEN. NOTE 5	BOTTOM	
												$\Delta = \frac{TAN \Delta \pm R}{N}$	R" ARE NORMALLY MADE SOT + % + + + WILL BE A WHOLE HUMBER 4 PIPE SECTIONS SHALL BE ORIE OF PIPE SECTIONS	AT'N"					
												A = DEFLECT	JOPPED JOINTS: JOINT IS AT RIGHT ANGLES I THEORETICAL CIRCULAR CUR THEORETICAL CIRCULAR CUR THE TOP OF SECTIONS ARE TO MARKED SO THAT THE DERLET COMMANY CONSIST	/E. IE ION				DLING S BLAN VIE (SHOWN WITHOUT RE	<u>1</u>
												+ PIPE WAI L = NORMAL PIPE SEC	LI THICKNESS (FT) 5. DETAILS ARE SHOWN FOR CON LENGTH OF PIPE. CURVED ALIGN MENTER PIPESMALL BAS RECOMMENDED ANNEATING FT. J. 4	RETE R C.M. M THE	DIMENSIONS FOR BRICK OR REINE CONC. BOX	T ₂ = 5½ [*] _{FOR} w OR w ₁ TO 3'-0" T ₂ = θ [#] FOR w OR w ₁ OVER 3'-0"	TAILS OF BRICK		= 6" FOR CONCRETE
D													3 TY PICAL. THE ENGLEER. 6. PAYMENT PER LIN. FT. PIPE IN 91 PE SECTIONS WITH DROPPE JOINTS.		PIPE WMIN MIN MIN \$12E W.OR.W b H 13" 2'-0" I - 9" 2'-9" 18" 2'-3" 2'-1" 3'-1"	REINF CONC. TOP	NOTE 12" MIN.	FOR BRICK T= 8	(MAX. IQ FT. DEPTH)
											SECTION WITH DROPPED JOINT	[L ₂]			$\begin{array}{cccccccccccccccccccccccccccccccccccc$				T i 1
											PIPE ELBOW	SECTION (PRE-FABRICATED)			48" 3 ⁻ 2" 3 ⁻ 0" 6 ¹ -0"	H (
	RECOMMEND	TABLE 1, NDED MIN. TRENCH WI		* * * * * * *	¥	TABLE 2, MAXIMUM COVER FOR ALTERNATE INSTALLATIC					SPLI(JCĘ, SĘE DETAIL	NOTES FOR PIPE ELBOW: , PAYMENT: FOR LIN.FT. OF PIPE INCLUDES ELBOWS: 2. ELBOW ANGLE A. SHALL VARY ACCORDING TO NEED, BUT SHALL	BOLT, RING & WAS	5hen Delaits				
	PIPE DIAM. 12" (300mm)	m) 30" (750mm)	MIDTH HANDLED AND m) INSTALLED AS PER MANUFACTURER (ADS MANUFACTURER (ADS MAXIMUM		-FINAL BACKFILL	CLAS	E CLEAN MATERIAL SIFICATION					JOINT SHALL MATCH ADJOINING PIPE SECTIONS DESIGN SHOWN HERE AS TYPIC	NOT BE GREATER THAN 45°. THE CONTRACTOR SHALL INFORM		THARBADS TOPM TOPM TOPM TOPM TOPM TOPM TOPM TOPM	ER	VIEW	PLAN VIEW (SHOWN WITHOUT REC] ,Q ¹ 0, TOP)
_	15" (3/5mm) 18" (450mm) 24" (600mm)	m) 39" (990mm)	m) SYSTEMS OR COVER APPROVED EQUAL) RECOMMENDATIONS.			12" (300mm) 17 (5.2m) 1	ASS III CLASS IV (4.3m) 11 (3.4m) (4.3m) 10 (3.0m)				bin 17 to A (45"	ADD'L FILLER	30) EXPOSED FROM EACH SIDE OF CUT FOR (b)EXPOSED STEEL SHALL BE RODS REJOINED, FILLER RODS AT LEAST	NATE CONNECTION	THE BOLT OF BOLT BEFORE LEAVIN		30 LB. AS PHALT SAT PREFORMED FOAM	URATED FELT OR JOINT FILLER,	
	30" (750mm) 36" (900mm)	m) 56" (1420mm m) 64" (1620mm	m) BETWEEN QUICTURER'S MANUFACTURER'S RECOMMENDATIONS		CLASS I MATERIAL TO 6" ABOVE TOP OF PIPE	18" (450mm) 16 (4.9m) 1 24" (600mm) 14 (4.3m) 1	3 (4.0m) 10 (3.0m) 2 (3.7m) 9 (2.7m)			•		(NOTE 3b)	ADDED AS NEEDED FOR HANDLING	STEEL LIFTING BAR SHALL BE ABLE DVE UP & DOWN	BAR DETAIL	DETAILS OF CIRCULA (REINFORCING AND DESIGN SHALL C SHOWN, MATERIALS SHALL COMPLY	IR PRECASI JUNCIIO OMPLY WITH A.S.T.M. C-478 EXCEPT WITH GA. STD. SPECIFICATIONS FOR	and the second	
	42" (1050mm) 48" (1200mm) 60" (1500mm)	im) 80" (2030mm	Im) SHALL ADHERE TO THE MORE STRINGENT OF		HAUNCH - CLASS	36" (900mm) 11 (3.4m) 1					Min. PLAN VIEW	EPOXY	ENOUGH TO GAVE STRENGTH AT LEAST-IEDUAL TO REMOVED CONCRETE WITH INSIDE SMOOTHED OUT.	REINFCONC.	CIBCULAR REINF. TOP		N. TU	ADD'L #5 BARS	0 0 0 10 70 70 70 8 42 48 48 54 54 54 54 54 54 54 54 54 54 54 54 54
		<u>,</u> vv (∠ 11 011111			SPRINGLINE OF PIPE BEDDING	48" (1200mm) 11 (3.4m) 1	(3.4m) 7 (2.1m) (3.0m) 6 (1.8m) (3.0m) 6 (1.8m)				NOTE: SPLICE DETAIL Double cage f Similar for Si Reinforcing, Bu Splice All Arc	BUT WITH SINGLE	SHALL BE REQUIRED FOR C.M.ELBOW	LONG	2"x 3"x 14" OR 3"# x 14" WASHER:		Tr 51/2E 2-10 15" 1'=10" 2-10 18" 2'-2" 3-2 H 24" 2'-9" 3-9 - 36" 4'-0" 5-2 36" 4'-0" 5-2		
	NOTES:		4" FOR 12"-24" PIPE 6" FOR 30"-60" PIPE MIN	. TRENCH WIDTHC (SEE TABLE)		FILL HEIGHT TABLE GENERATED ASSUMING D OF WATER TABLE, FOR INSTALLATION WITHI CONTACT APPLICATIONS ENGINEERING.	RY CONDITIONS, OUTSIDE				APPLICABLE.	· · · · · · · · · · · · · · · · · · ·	CUATINGS REPAIRED AS REQ'D.				$\begin{array}{c} & 36^{\circ} & 4^{\circ} = 6^{\circ} & 5^{\circ} = 2 \\ & 42^{\circ} & 4^{\circ} = 7^{\circ} & 5^{\circ} = 2 \\ & 43^{\circ} & 5^{\circ} = 2^{\circ} & 6^{\circ} = 4 \\ & & 43^{\circ} & 5^{\circ} = 2^{\circ} & 6^{\circ} = 4 \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & & \\ & & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & & & \\ & &$	D' LACH SIDE	M D
	1. MEASURES S MIGRATION O MATERIAL, WI	SHOULD BE TAKEN TO PF I OF NATIVE FINES INTO B/ WHEN REQUIRED.	TRENCH BOTTOM MAY BE STABILIZED USING A	EXTEND TO A MIN PIPE.	AS THE BEDDING AND SHALL NIMUM OF 6" ABOVE THE TOP OF	FLOTATION, FOR PAVEMENT: 24 PIPE TO BOTTOM OF PAVEMENT 7. N-12 HP ALTERNATE STORM TR	SECTION.				JOINT DEPTH PLUS 8" MIN	n 🔪 , a na na mana anka a sanata na manaka ana an ana ana ana ana sa mana mana ma	FOR CONCRETE COLLARS: CONCRETE	COLLAR FOR JOINTI		REBARS 12" O.C. (SEE TABLE		L BE PRECAST T AND OUTLET A.S.T.M. C-478 REINF. P.I. AN SI	ECTION
E	2. SOIL CLASSI VERSION OF (MH, CH) AS I ASTM D2321 /	SIFICATIONS ARE PER THE OF ASTM D2321, CLASS IVB S DEFINED IN PREVIOUS V 1 ARE NOT APPROPRIATE	AB MATERIALS 4. BEDDING AND INITIAL BACKFILL: SUITABLE VERSIONS OF MATERIAL SHALL BE CLASS IT. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL	5. FINAL BACKFILL: RECOMMENDATIO REPORT FOR PAV AND COMPACTIO	SHALL BE AS STATED AS THE ON WITHIN THE GEOTECHNICAL VEMENT SUBGRADE MATERIAL DN.	 N-12 HP ALTERNATE STORM TR BE APPROVED BY DESIGN ENGI DOES NOT SUPERSEDE ADS ST/ STD-108. 	IEER. DETAIL NDARD DETAIL				(EACH SIDE)	B #4 BARS, EQUALLY SPACEO DO N CON	IN EFERS OF CONCRETE COLLARS NOT HAVE TO BE SMOOTH LINES. LARS! MAY BE FORMED AGAINST PACTED OR UNDISTURED SOLL LENSIONS ARE MINIMIUM. COLLAR	6"MIN FOR UNG PIPE, 8"MIN	COATED GALV, C.M. Otherwise L Around, 2" CL	SECTIONAL VIEW		PARTMENT OF TR	
		DN: WHERE THE TRENCH THE CONTRACTOR SHALL H REQUIRED BY THE ENGI VITH SUITABLE MATERIAL.	SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING	6. MINIMUM COVER:	XX: XX: MINIMUM COVER, H, IN PPLICATIONS (GRASS OR TAS IS 12" (300mm) FROM THE TC UND SURFACE, ADDITIONAL REQUIRED TO PREVENT	0						* MAX MUM JOINT GAP DIM OF 9 UNLESS LARGER 2, ALL	BE SQUARE, ROUND OR SHAPE MIN. 1, -		GENERAL I I. SPECIFIC SUPPLEM	NOTES: ATIONS: GEORGIA STANDARD, CURRENT EDITIO IENTS THERETO. ATED PIPES, PIPE JOINTS, ALIGNMENT, SIZES,	N G	STATE OF GI	EORGIA
	N.T.S.	VITH SUITABLE MATERIAL	(750mm-900mm): INITIAL BACKFILL SHALL BE THE HDPE PIF									TO RETAIN CONCRETE, THE S. PART	NGREYE ON LIN PLOS A		SHOWN A Location 3. Junct D	ATED PIPES, PIPE JOINTS, ALIGNMENT, SIZES, IS REPRESENTATIVE, ACTUAL REQUIREMENTS V N AS INDICATED'IN THE PLANS. No boxes do not have to be constructed s Imensions may vary according to pipe si	ARY PER	PRECAST OR BUIL JUNCTION PIPE COLLARS, P	ILT IN PLACE BOXES
	N.1.3.									a	S" MIN. FROM PIPE OUTSIDE ; S" MIN. FROM BELL (WHERE APPLICABLE)OUTSIDE	BY ANY MEANS APPROVED BY ANY MEANS APPROVED BY THE ENGINEER		4 #4 BARS, E	EQUALLY 4. ALL JUN PACED EYE BOLT 5. REINFOR	TIDENSIONS WAT VAN ACCOMMAND TO FIFE S Ction box tops shall be equipped with eit f & Ring (Shown) or a lifting gar (Alyerna CGING INS Required for all precast Junction Ching May be omitted for built in place com	HER AN ME).	& PIPE CURVED AI	
											PLAN SECTI	IÓN	PLAN O	SIDE SECTION	NOT OVE	CONS MAY BE OMITTED FOR BUILT IN PLACE CON R TO FT, DEEP AND NOT LARGER THAN 3 5 3, 0 FRM ITED IF DOWELED OR KEYED, ALL JUNCTION REINFORCED.	CONSTRUCTION DRW. RI DRW. RI TRA. GI CHK. RI	ALL IGUBANITTEDI HOLES HALL STATE ROAD & AIRPORT DE ME (APPROVED) HOL RUCO (C) STATE HIGHWAY	SIÉN ENGR. 9031U
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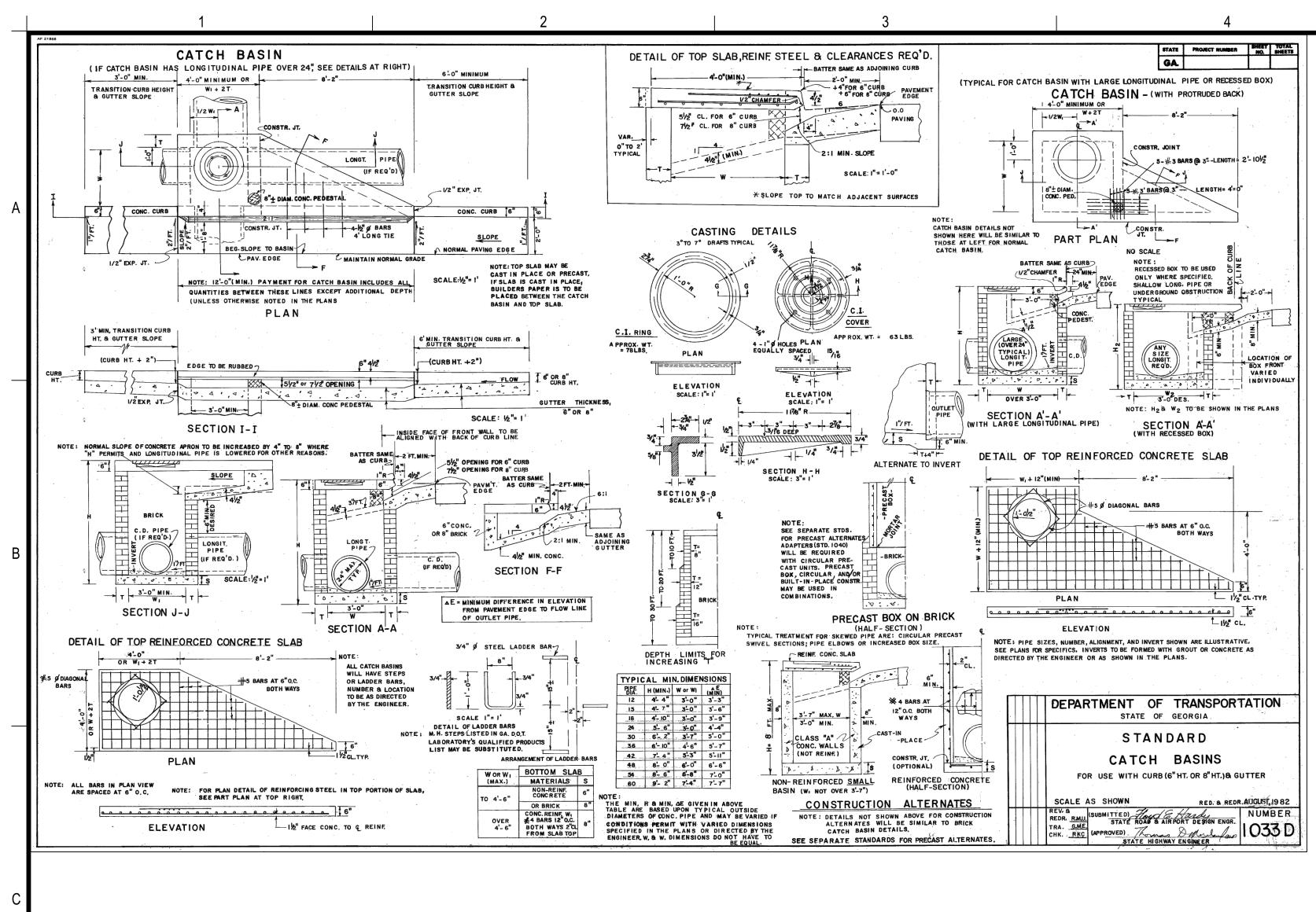
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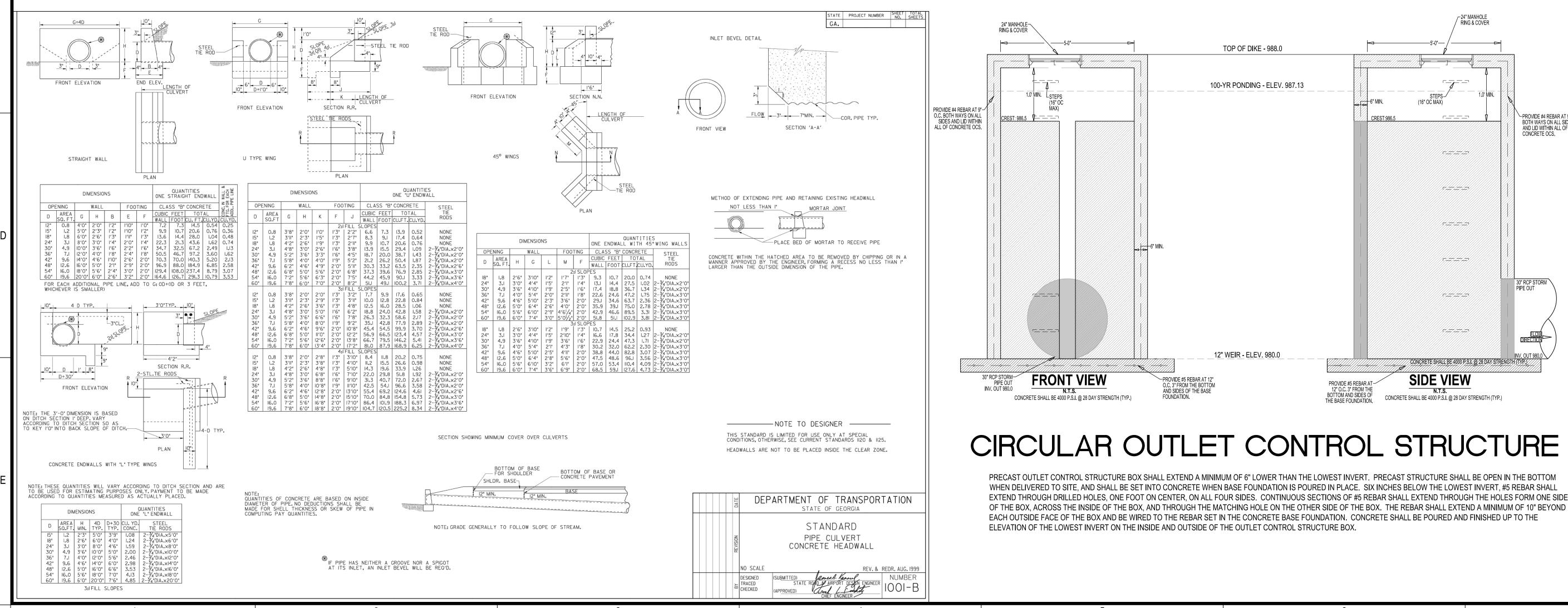
georgia civil CIVIL ENGINEERING LANDSCAPE ARCHITECTURE LAND SURVEYING 311 N. Main St, Ste. 101, Unit C P.O. Box 896 | Madison, GA 30650 P: 706.342.1104 | F: 706.342.1105 www.georgiacivil.com DEBELLE STREET & ATLANTA AREA SCHOOL FOR THE DEAF STORM IMPROVEMENTS PARCEL NO. : 18-067-01-015 & 18-067-01-016 890 N INDIAN CREEK DR, CLARKSTON GA, 20021 ZONING-NC-1 DRAWING DATE: 01.21.2020 DRAWN BY: JPB/MKS CHECKED BY: JPB REVISIONS DATE: DESCRIPTION: 09.17.20 COMMENTS © Copyright 2020 georgia civil, inc. This document and its reproduction are the property of Georgia Civil, Inc. and may not be reproduced, published, or used in whole or in part without the written consent of Georgia Civil, Inc.

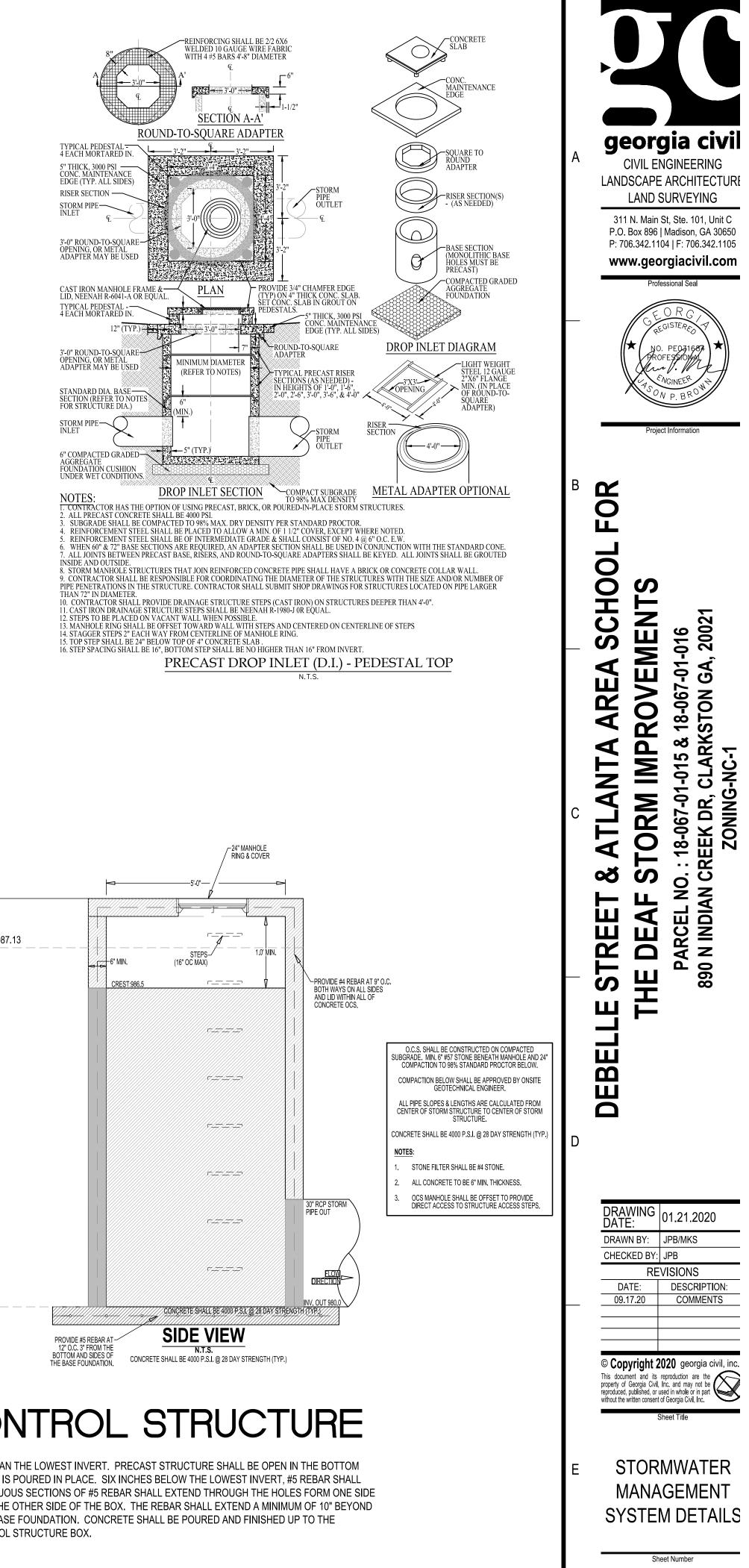
> STORMWATER MANAGEMENT SYSTEM DETAILS

> > Sheet Number C-3.3

6







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CONTACT INFORMATION:	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.	CONCRETE WASHOUT: Contractor shall install a concrete washdown. This area is only for the washdown of items such as tools, concrete mixer chutes, hoppers and the rear of the vehicles.	REQUIRED INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE:
1055 ROWLAND ST, CLARKSTON, GA 30021 LARRY KAISER KAISER@CO-INFRA-SERVICES.COM 404-909-5619	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.	WASHOUT OF THE DRUM AT THE CONSTRUCTION SITE IS PROHIBITED.	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 n be conducted until a Notice of Termination is submitted):
NATURE OF CONSTRUCTION ACTIVITY: PROJECT LOCATION: 18-067-01-015 & 18-067-01-016 PROJECT LOCATION: 18-067-01-015 & 18-067-01-016 PROJECT ADDRESS: 890 N INDIAN CREEK DR, CLARKSTON GA, 20021 PROJECT TYPE: STORM DRAINAGE IMPROVEMENTS IMPROVEMENTS TO BE MADE: NEW DETENTION BASIN, STORM STRUCTURES AND CONVEYANCE, FENCING AND FROSION CONTROL MEASURES	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 *Pollution prevention plan and practices *Spill control practices *Material management practices for spill prevention plans	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	 (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 AND RECORD RAINFALL WITHIN DISTURBED AREAS OF HTE SITE THAT HAVE NOT MET FINAL STABILIZATION ONCE EVERY 24 HOURS except any non-working Saturday, non-working Sunday and non-working Federal holiday. The data collected for the purpose of compliance with this permit shall be representative of the monitored activity. 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
FENCING AND EROSION CONTROL MEASURES. POST CN VALUE: /1 SITE ACREAGE: 14.85 AC PRE Q 25YR (CFS): 141 DISTURBED ACREAGE: 1.71 AC PRE Q 25YR (CFS): 141 STATE WATERS ON SITE: NO POST Q 25YR (CFS): 37 WETLANDS OR WATERS OF US ON SITE: NO XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	*Waste control practices *Wetland and state water protection practices *Monitoring plans and practices *Reporting practices	by a Section 404 permit. BMP'S FOR PETROLEUM SPILLS AND LEAKS:	 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); (c) structural control measures. Erosion and sediment control measures identified in the Plan applicable to the primary permittee's shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's site shall be observed to ensure that they are opticable to the primary permittee's permittee's site shall be observed to ensure that they are opticable to the primary permittee's permittee's site shall be observed to ensure that they are opticable to the primary permittee's permit
ent vialate Dr Vialate Dr Woods viewers viewer	POLLUTION REDUCTION PRACTICES FOR STORM WATER DISCHARGES: STABILIZATION (VEGETATIVE) MEASURES:	 Fix any leaks immediately, maintain and clean equipment regularly Designate areas for equipment maintenance and fueling that are located on level ground and away from any water sources. Park and service equipment on top of tarps to insure any spills or leaks do not get into the ground. Store all fluids and containers in a leak-proof, locked container to insure safe storage. Collect and remove all leftover lubricants, containers, and trash, especially tires, batteries, pieces or parts of equipment, and all fluid containers. 	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 wate 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 P 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 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 evider 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 oper 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 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
Dore Way Dore Way Anthony Dr. Frunchene DI Frunchene D	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	 Maintain a spill-containment and clean up kit. At a minimum, a kit for petroleum products should include: A leak proof container to catch leaking fluid. A shovel, rake, and other hand tools to create dirt berms. Absorbent pads, adsorbent substances such as cat litter or oil drying agents, that will absorb fluids before soaking into ground. Various hoses, plugs, and clamps to control a hydraulic line break. A variety of locking "vise grips" pliers can be used in emergency. Large plastic bags to store any contaminated materials for disposal. 	(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 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 calendar days following each inspection.
Brock Dr Use ⁵⁵ Decatur Flats O	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 protect the soil autice former constrained and with permanent measures to protect the soil autice former constrained area former and the protect or the soil applicable for up to six months or until permanent vegetative cover can be installed. It should be coordinated with permanent measures to protect and with permanent measures to protect and the protect or the soil applicable for up to six months or until permanent vegetative cover can be installed.	7. Temporary fueling areas shall be installed and operated in compliance with Georgia E.P.D. regulations. CONSTRUCTION MATERIALS:	(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 fi 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 practic 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.
exter at Decatur Artesla Dr Decatur Pediatric Group Decatur Pediatri	(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.	Contractor shall at all times have all construction materials protected from rainfall. Contractor shall utilize tarps, plastic sheeting, roof cover, trailers or any other method to make sure all construction material is covered at all times during construction.	ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE SAMPLE
Vine Cir McLendon tary School y Cit Vine Cir Vine Cir V	(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	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,	 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 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 is discharged and
a Cit a Di a Di	can be used include mulches, vegetative cover, spray-on adhesives, mechanical manipulation of existing soil surfaces, irrigation, barriers, chemicals, and stone surface covers. (FI-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,	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.	 (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 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 precision methodology for each sampling location;
Permanent Ink Praticing R.E. Michel Company Apartments The Lakes at Company The Lakes at Comp	 Problems in order to reaser the impact of rain directly of the soil, tap sedment from algocint and, form a root mark of stabilize and reinforce the soil of the steambark, provide wind reading, of the soil and the stabilize and reinforce the soil of the steambark, provide wind reading, of the soil and establish regetation 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 	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.	 (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 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.
Toble Grant ? Indian Creek Way Partner Dr VICINITY MAP GPS COORDINATES N 33°48'10.80" W -84°14'28.69"	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:	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:	 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 C 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 ma 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.
VICINITY IVAP NOT TO SCALE N 33°48'10.80" N 33.8030 W -84°14'28.69" W -84.2413 I certify under penalty of law that this plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my direct supervision.	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.	 (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. 	 (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. Ho 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 sa 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.
Signed: Date: 01.21.2020 SIGNATURE OF PLAN PREPARER AND DATE	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.	MEASURES INSTALLED DURING CONSTRUCTION PROCESS TO CONTROL POLLUTANTS IN STORM WATER THAT MAY REMAIN AFTER CONSTRUCTION IS COMPLETE.:	 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 purp 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:
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 Lanuary 1 of the user in which the land-disturbing activity was permitted provides for the sampling of the receiving water(s) or the campling of the storm water	(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.	1. FI-Co 4. Tac 7. Dn2 10. Lv 13. St 2. Sb 5. Ch 8. Ga 11. Rd 14. Wt 3. Ds3, Ds4 6. Di 9. Gr 12. Re	 (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 sampl 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 the site) but upstream of any other storm water discharge not associated with the permitted activity. Where appropriate, several downstream samples from the site) but upstream of any other storm water discharge not associated with the permitted activity. Where appropriate, several downstream samples from the steps of the storm water discharge of the turbidity of these samples used for the downstream to the site) but upstream of any other storm water discharge not associated with the permitted activity. Where appropriate, several downstream samples from 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.
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 <u>General NPDES Permit No. GAR</u> <u>100001</u> . <u>Signed:</u> <u>Date:</u> 01.21.2020 <u>Date:</u> 01.21.2020 <u>Date:</u> 01.21.2020 <u>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 <u>Georgia Civil Inc.</u> JASON P. BROWN Level II Certified Design Professional #52374- Exp. 5-1-2023</u>	(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.	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.	 (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.
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.	(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.	Contractor shall follow all local, state, and federal laws in handling all polluting products.	(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 dispose 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 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 perennial appropriate for the region).
Signed: Date: 01.21.2020 SIGNATURE OF PLAN PREPARER AND DATE	(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.	1. Fire fighting activities 5. Air conditioning condensation 2. Fire hydrant flushing 6. Springs 3. Potable water sources including 7. Uncontained Ground Water water line flushing 8. Foundation or footing drains where flows are not contaminated with process materials or pollutants.	 (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 which 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 begin 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.
STATE WATERS BUFFER STATEMENT: 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.	 (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. 	 Irrigation drainage 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. 	 (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 poss 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 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 drainag of the location selected as the sampling location:
NPDES Permit Part IV. (i). 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	 (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, 	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	(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 wate 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 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 design 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 area of the taken from discharges from that area of the taken from that area of taken from taken from that area of taken from taken from that area of taken from taken from taken from that area of taken from taken fr
measures are incorporated in the project plans and specifications and are implemented, or along any ephemeral stream, or where bulkheads and sewalls must be constructed to prevent the erosion of the shoreline on Lake Oconee and Lake Sinclair. (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 wit 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 steams" which	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	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	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 inspection 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 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
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 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. (iii). No construction activity shall be conducted within a 25 foot buffer along coastal marshlands, as measured horizontally from the coastal marshland-upland interface, as determined	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.	superintendent to properly train all personnel in the use of the SPCC plan.	 (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 req (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 time of the day or week.
in accordance with Part 4 of Article 4 of Chapter 5 of Title 12, the Coastal Marshlands Protection Act of 1970, and the rules and regulations promulgated thereunder, except where the Director determines 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 otherwise allowed by the Director pursuant to Code Section 12-2-8, or where an alteration within the buffer area has been authorized pursuant to Code Section 12-5-286, or for maintenance of any currently serviceable structure, landscaping, or hardscaping, including bridges, roads, parking lots, golf courses, golf cart paths, retaining walls, bulkheads, and patios, provided that adequate erosion control measures are incorporated into the project plans and specifications and such measures are fully implemented, or where a drainage structure or roadway structure is constructed or maintained, provided that adequate erosion control measures are fully implemented, or on the landward side of any currently serviceable shoreline stabilization structure, or for the maintenance of any manmade stormwater detention	(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	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.	RETENTION OF RECORDS: 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 such time as a NOT is submitted in accordance with Part VI: a. A copy of all Notices of Intent submitted to EPD:
basin, golf course pond, or impoundment that is located entirely within the property of a single individual, partnership, or corporation, provided that adequate erosion control measures are incorporated into the project plans and specifications and such measures are fully implemented. (iv). 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.	(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.	Sanitary sewer will be provided by Municipal Authority/Septic System at the completion of this Project. SPILL CLEANUP AND CONTROL PRACTICES:	 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;
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. BUFFER ENCROACHMENTS DESCRIPTION AND VARIANCE: NONE REQUIRED	 (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 	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 ess than 25 gallons and no surface water impacts, the Georgia EPD will be contacted within 24 hours. For spills less than 25 gallons of petroleum is stored onsite (this includes 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 in the includes in the spill will be cleaned up and local agencies will be contacted as required.	 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 per
GSWCC EROSION CONTROL NOTES:	INTENDED LAND DISTURBANCE CONSTRUCTION ACTIVITY SEQUENCE:	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.	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 accor 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 a permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.
 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. Waste materials shall not be discharged to waters of the State, except as authorized by a Section 404 permit. The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities. 	Initial Phase: Install Initial Perimeter Silt Fence, and Construction Entrance. Coordinate Site Review Meeting with Engineer and/or Local Issuing Authority Intermediate Phase: 	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	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 submitted to EPD using the electronic submitted service provided by EPD. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.
 The escape of sediment norm the site shall be prevented by the installation of erosion and sediment control measures and practices prior to land disturbing activities. 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. 	1. Install pipe systems with protected inlets. 2. Throughout Land Disturbance Process Maintain Existing BMP's (Vegetative and Structural Practices) 3. Throughout Land Disturbance Process Continue NPDES Monitoring and Reporting 4. Coordinate with Utility Companies on Utility/Sleeve Locations 5. Begin Clearing, Grubbing, Topsoiling, and Grading Operations 6. Install Topsoil pile and immediately grass/mulch and install surrounding silt fence.	necessary variances and permits. SOIL SERIES (PER NRCS MAPS SOILS ARE SHOWN AS):	 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;
6. Any disturbance left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding. ADDITIONAL EROSION CONTROL NOTES:	 7. 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. 8. Each fill slope shall have a diversion at the top that is maintained and reinstalled as the slope is constructed. 9. Start PAM applications and continue every 14 days throughout project. 10. Install Storm System as grades are achieved. 11. Immediately install each storm structure with associated Sd2's. Add floc logs to each storm structure. 	CeB - CECIL SANDY LOAM, 2-6% SLOPES PfD - PACOLET SANDY LOAM, 10-15% SLOPES Ud - URBAN DEVELOPMENT	 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;
 Maximum cut slopes are 2:1, 2 horizontal to 1 vertical, unless otherwise noted. Maximum fill slopes are 3:1, 3 horizontal to 1 vertical, unless otherwise noted. 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. 	 Grass / mulch disturbed areas and install intermediate BMPs. Install Sanitary Sewer Mains and Services. Grass / mulch disturbed areas and install associated Intermediate BMPs. Install Water System Grass / mulch disturbed areas and install associated Intermediate BMPs. Install Remaining Utilities (Power, Phone, Cable, Gas, Etc.) 		 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:
 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. Contractor shall notify design professional 48 hours before beginning each phase of construction. 	 Install GAB throughout parking area up to designated line. Install remaining GAB. Building construction. Grass / mulch disturbed areas and install intermediate BMPs. Install Curb & Gutter 	REFER TO SHEET C-1.1 FOR CONSTRUCTION REQUIREMENTS AND SPECIFICATIONS	Mountain District- Atlanta Satellite Georgia Environmental Protection Division 4244 International Parkway, Suite 114 Atlanta, GA 30354-3906 (404) 362-2671
 Contractor shall notify (Local Issuing Authority) inspectors 24 hours before beginning each phase of construction. 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. 	24. Grass / mulch disturbed areas and install intermediate BMPs. 25. Install pavement. 26. Finish Grade shoulders and stabilize disturbed areas with permanent vegetation. 27. Continue to apply PAM, Mulching, and Grassing at each step to limit soil exposure. Final Phase:		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.
 All buffers and tree save areas shall be clearly identified by flagging and/or fencing prior to commencement of any land disturbance activities. The installation of erosion and sedimentation control measures and practices shall occur prior to land disturbing activities and construction on the site and shall be maintained until permanent ground cover is established to 70% of 100% of the disturbed area. 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. 	1. Throughout Land Disturbance Process Maintain Existing BMP's (Vegetative and Structural Practices) 2. Throughout Land Disturbance Process Continue NPDES Monitoring and Reporting 3. Complete Paving Operations 4. Achieve Final Site Stabilization 5. Coordinate Site Review Meeting with Engineer and/or Local Issuing Authority Inspector 6. Clean silt from all storm systems. 7. Remove any temporary BMP practices once site stabilization is achieved and signed off by Engineer.		INITIAL INSPECTION AND REPORTING: 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 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 requireme 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 mai 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 day receipt of the inspection report from the design professional unless weather related site conditions are such that additional time is required.
 Maintenance of all soil erosion and sedimentation control measures and practices whether temporary or permanent shall be the responsibility of the contractor. The Owner shall be responsible for making sure the Contractor is property performing this maintenance. Any discrepancy within these plans shall be referred to the design professional by the contractor for clarification before proceeding with work. Sediment storage maintenance indicators must be installed in sediment storage structures, indicating the 1/3 full volume. 			"Design Professional" means a professional licensed by the state of GA in the field of: engineering, architecture, landscape architecture, forestry, geology, o surveying; or a person that is a certified professional in erosion and sediment control (CPESC) with a current certification by Envirocert International, Inc. De professionals shall practice in a manner that complies with applicable GA law governing professional licensure.
 Contractor shall provide temporary diversion berms and down drains on fill slopes to prevent erosion prior to stabilization. Contractor shall remove accumulated sediment from detention basin at end of construction when all disturbed areas have been fully stabilized. 			"Certified Personnel" means a person who has successfully completed the appropriate certification course approved by the State Soil and Water Conservatio Commission.
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REQUIRED INSPECTIONS AND RECORD KEEPING BY THE PRIMARY PERMITTEE: ES Permit Part IV.D.4. Inspections. 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.

ANALYTICAL METHODS TO BE USED TO COLLECT AND ANALYZE SAMPLES:

- (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.

RETENTION OF RECORDS:

- 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;

NPDES Permit Part IV.E. Reporting:

- 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 . B. 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

INITIAL INSPECTION AND REPORTING:

MINIMUM QUALIFICATIONS OF INSPECTORS:



P: 706.342.1104 | F: 706.342.1105 www.georgiacivil.com



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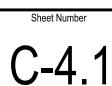
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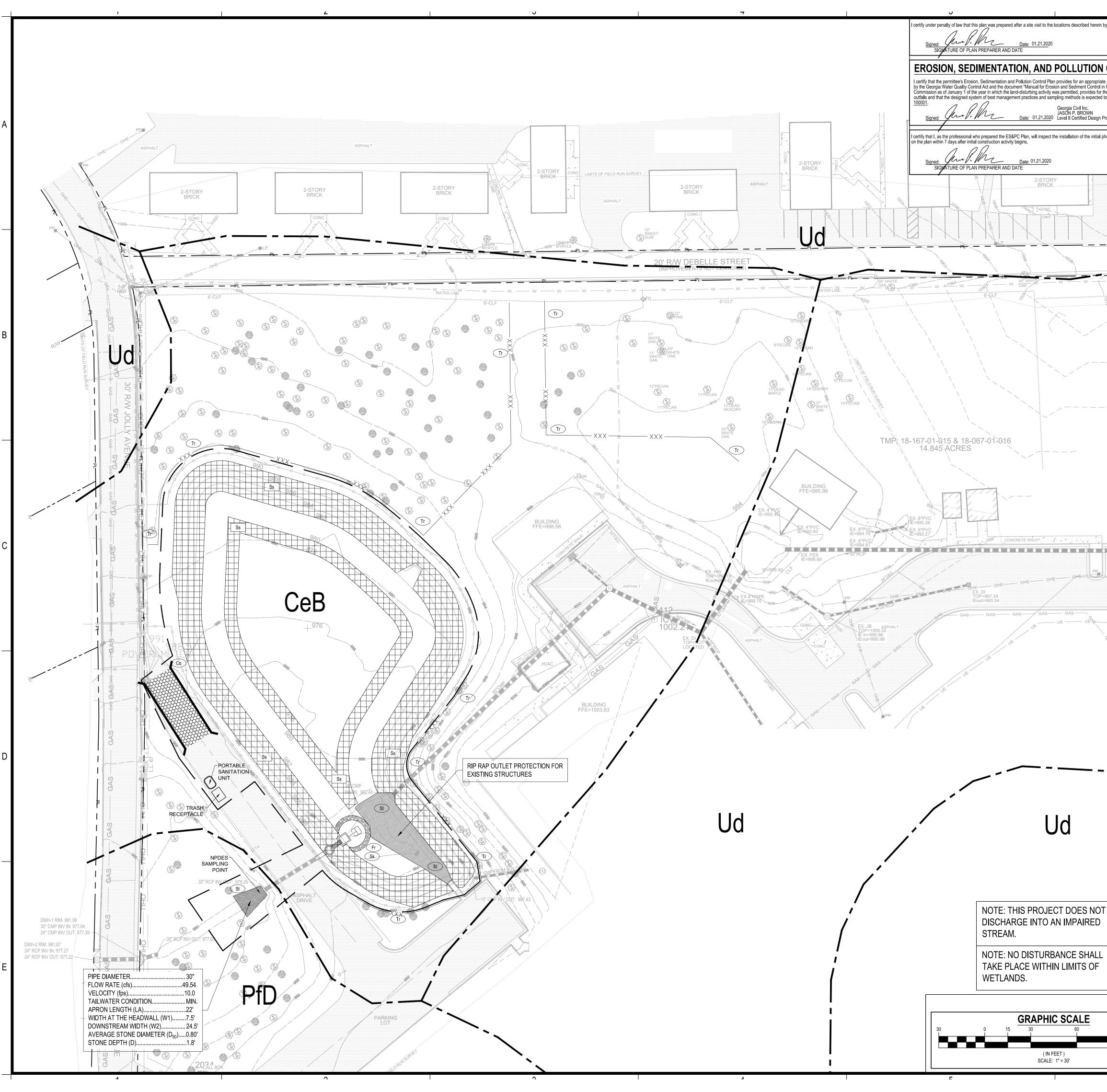
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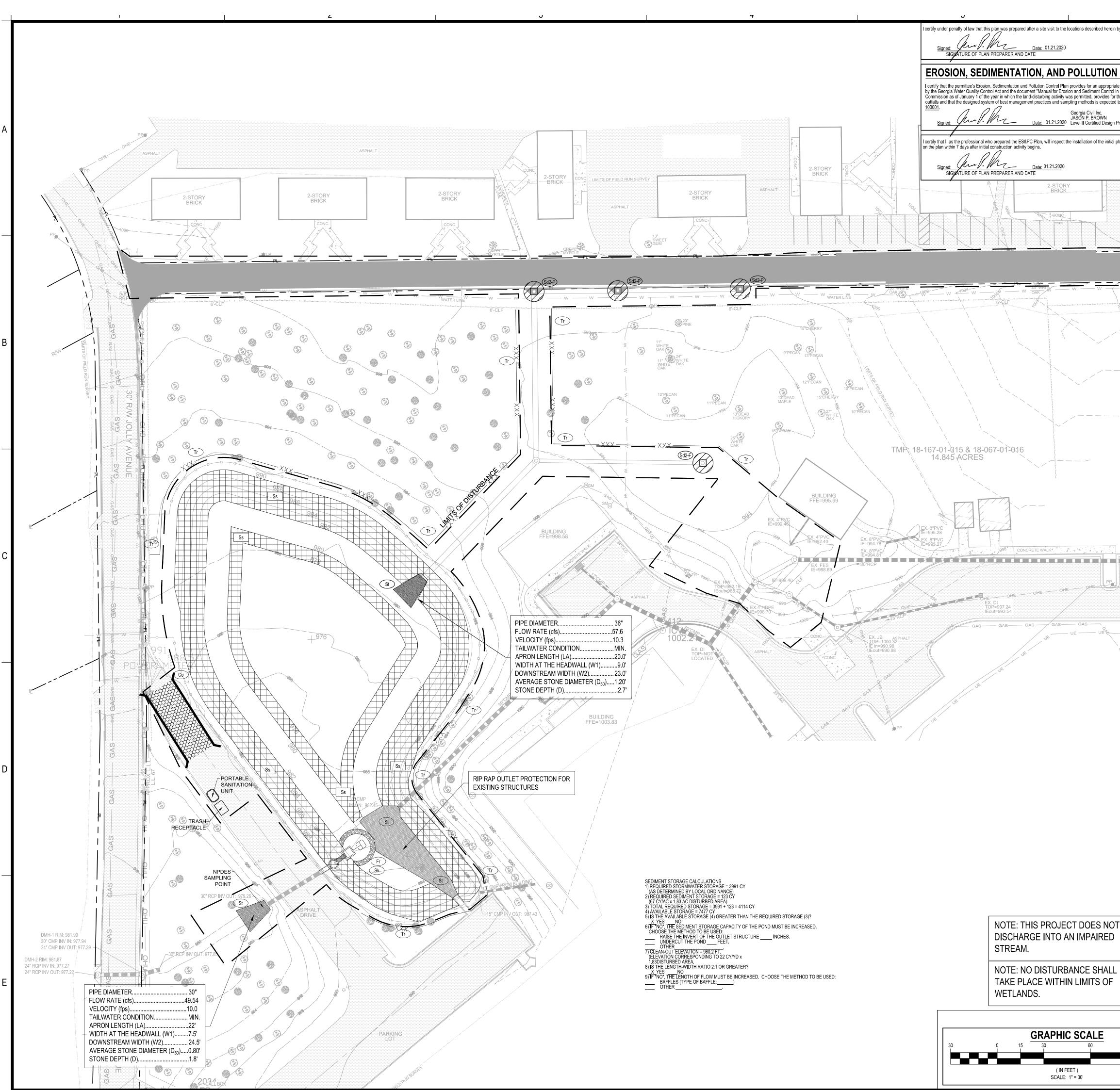
EROSION, **SEDIMENTATION** AND POLLUTION CONTROL NOTES



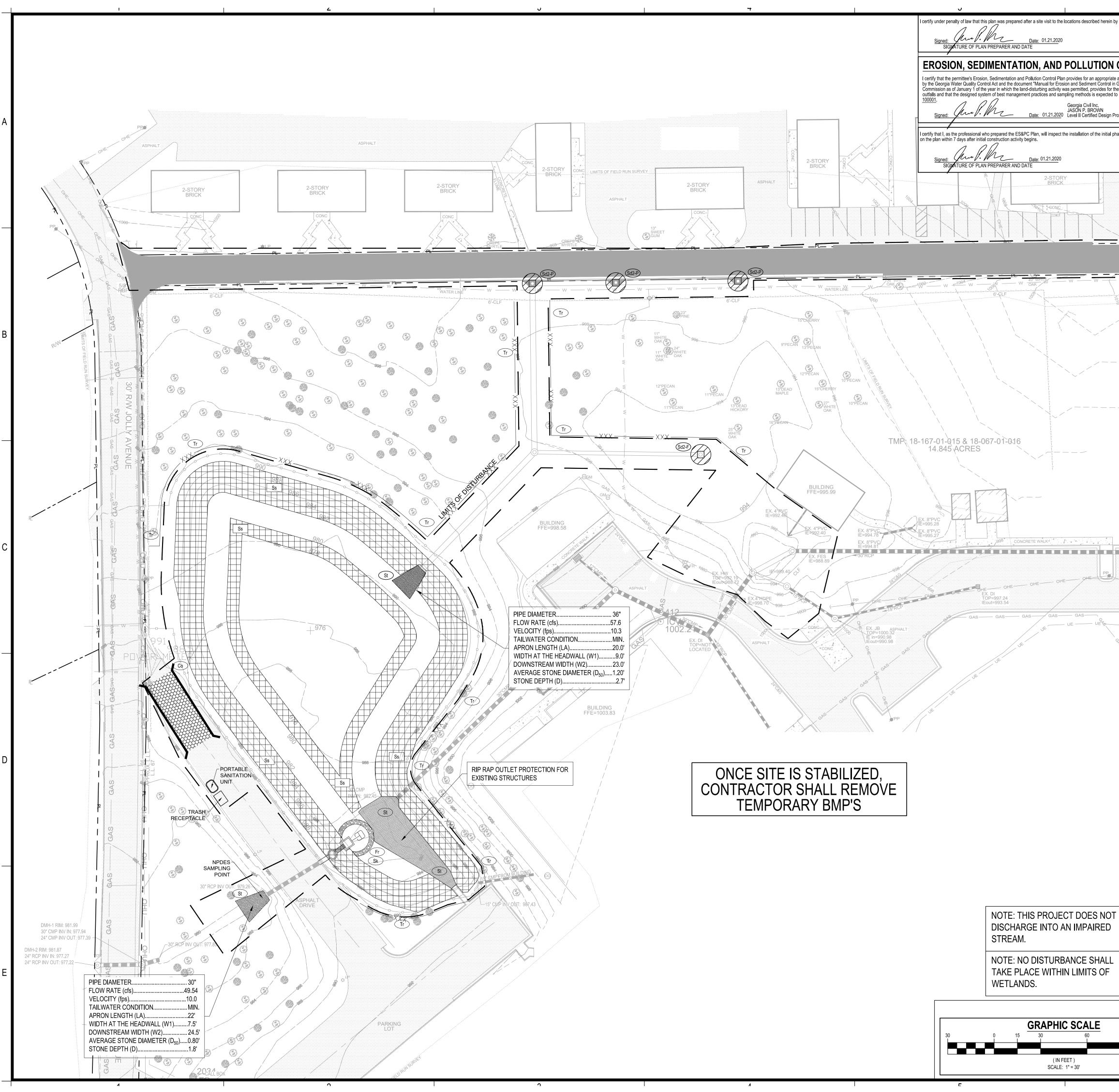




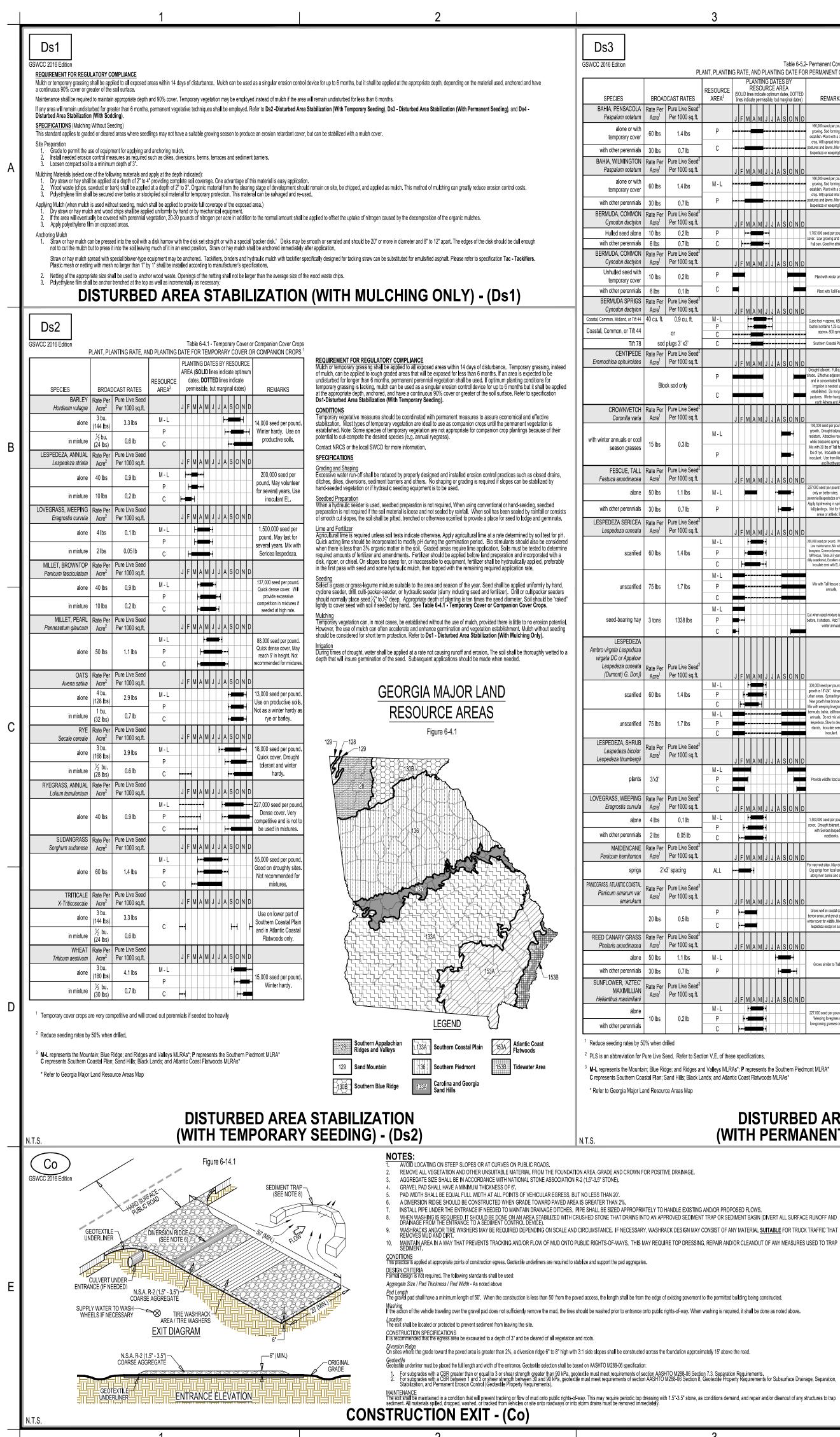
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		Dc-A	Stream Diversion Channel (Geotextile, Sod, or Polyethylene film) Stream Diversion Channel	Dc-A or	Sr-C	Temporary Stream Crossing (Culvert)	Gr.C	-	Professional S	
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		Lv	Structure Level Spreader		Cs	Coastal Dune Stabilization (w/ Vegetation) Disturbed Area	Cs	В	5	
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	_	Rt-P (Rt-Sg)	Retrofit (Perforated Half- Round Pipe w/ Stone Filter) Retrofit	Rt-P	Ds4	Disturbed Area Stabilization (w/ Sodding)	Ds4			~
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ASPHALT	Co Construction Exit		SpB	Seep Berm	D SpB		P.O. Box 896 N	ladison, GA 30650 F: 706.342.1105
	Cr Construction Road Stabilization	Cr	Sr-B	Temporary Stream Crossing (Bridge)	Gr-B			giacivil.com
	Dc-A (Geotextile, Sod, or Polyethylene film)	Dc-A or	Sr-C	Temporary Stream Crossing (Culvert)	Gr-C		Profess	ional Seal
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priate and comprehensive system of Best Management Practices (BMP's) required trol in Georgia" (Manual) published by the State Soil and Water Conservation s for the sampling of the receiving water(s) or the sampling of the storm water	Cd-Fs	Compost Filter Sock	+ (Ca-Fa) +	Sd2-G	Inlet Sediment Trap (Gravel Drop Inlet Protection)	6d219			
cted to meet the requirements contained in the <u>General NPDES Permit No. GAR</u>	Cd-Hb Cd-S	Straw-Bale Check Dams Stone Check		Sd2-P Sd2-S	Inlet Sediment Trap (Curb Inlet Protection) Inlet Sediment Trap (Sod Inlet Protection)				
ign Professional #52374 - Exp. 5-1-2023	Ch-1	Dams Channel Stabilization - Category 1 (Vegetated/Sod)	Cd-S	Sd3	(Sod Inlet Protection) Temporary Sediment Basin	★Indicate type	А		gia civil
itial phase of Erosion, Sedimentation, and Pollution Control approved BMP's shown	Ch-2	Channel Stabilization - Category 2 (Rip-Rap, TRM)	Rip-Rap*	Sd4	Temporary Sediment Trap	Sd4		LANDSCAPE	ARCHITECTURE
	Ch-3	Channel Stabilization - Category 3 (Concrete)	Ch-3	Sk	Floating Filter Surface Skimmer	Br Sk		311 N. Main S	St, Ste. 101, Unit C
ASPHALT LIMITS OF FIELD RU		Construction Exit Construction Road Stabilization		SpB Sr-B	Seep Berm Temporary Stream Crossing (Bridge)	SPB		P: 706.342.110	Madison, GA 30650 04 F: 706.342.1105
	Dc-A	Stream Diversion Channel (Geotextile, Sod, or Polyethylene film)	Dc-A	Sr-C	Temporary Stream Crossing (Culvert)	ST-C			rgiacivil.com
1012	Dc-B	Stream Diversion Channel (Geotextile alone) Stream Diversion Channel	or Dc-B or	St	Storm Drain Outlet Protection	St			ORG
PL CONCRETE WALK, 30°C&G ⁴	Dc-C Di	(Class I Rip-Rap and Geotextile)		Su Tc-F	Surface Roughening Tur <u>þid</u> ity Curtain	Su			GISTERED T
	Dr Dn1	Temporary Downdrain Structure			(Floáting) Turbidity Curtain (Staked)	- C-⊅ I Indicate type		PROI	FESSIONAL
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-x-x-x-x-x-x-x-x-x-x-x-x-x-x-x-x-x-x-x	Fr	Filter Ring	Fr	Wt	Vegetated Waterway or Stormwater Conveyance Channel			Projec	t Information
	Ga Gr	Gabion Grade Stabilization	Ga Carlor	VEG Bf	Buffer Zone	ASURES			
		Structure Level Spreader		Cs	Coastal Dune Stabilization (w/ Vegetation)	Cs	В	Ř	
	Rd	Rock Filter Dam	Rd	Ds1	Disturbed Area Stabilization (w/ Mulching Only) Disturbed Area	Ds1		F O	
	Re	Retaining Wall Retrofit	Re	Ds2	Stabilization (w/ Temporary Seeding) Disturbed Area	Ds2		Ľ	
	Rt-B Rt-P	(Slotted Board Dam w/ Stone or Filter Fabric) Retrofit (Perforated Half- Round Pine w/ Stone Filter)	Rt-B	Ds3 Ds4	Stabilization (w/ Permanent Vegetation) Disturbed Area Stabilization (w/ Sording)	Ds3 Ds4		S S	
	Rt-Sg	` Pipe w/ Stone Filter) Retrofit (Silt Control Gate)	Rt-Sg	Du	(w/ Sodding) Dust Control on Disturbed Areas	Du			51
	Sd1-BB	Sediment Barrier (Type = Brush Barrier) Sediment Barrier	Cd1-BB	FI-Co	Flocculants Coagulants Streambank Stabilization	FI-Co		SC E	016 2002
	Sd1-NS	(Type = Non- Sensitive Areas) Sediment Barrier (Type = Sensitive	x Coll-NS 28" (Soll-S) 28"	Sb Ss	(Using Permanent Vegetation) Slope Stabilization (Rolled Erosion	Sb Ss Ss		N N	-01- GA,
	(301-3) (5d1-C1)	Areas) Sediment Barrier (Type = Compost Filter Media Sock)	xxx 20 Sd1-Cf	Tac-1	Control Products (RECPs)) Tackifiers: Type I (Synthetic Polymers)	Tac-1		AREA SCI ROVEMEN	
	Sd2-B	Inlet Sediment Trap (Baffle Box)	Sd2I	Tac-2	Tackifiers: Type II (Organic Polymers)	Tac-2		A A R(s & 18-06 RKSTON -1
	Sd2-Bg	Inlet Sediment Trap (Block & Gravel Drop Inlet Protection) Inl <u>et</u> Sediment Trap		Tac-3	Tackifiers: Type III (Synthetic/ Organic Blends) Tackifiers: Type IV	Tac-3		NTA IMP	÷ A ∩
9	Sd2-E Sd2-F	(Excavated Inlet Sediment Trap) Inlet Sediment Trap (Filter Fabric w/		Tac-4	(Organic Tackifiers w/ Synthetic Fibers) Tackifiers: Type V	Tac-4			67-01-(DR, CI VING-N
		Supporting Frame)	It Indianta tuna		w/ Synthetic Fibers)	140.0			$\sim \sim =$
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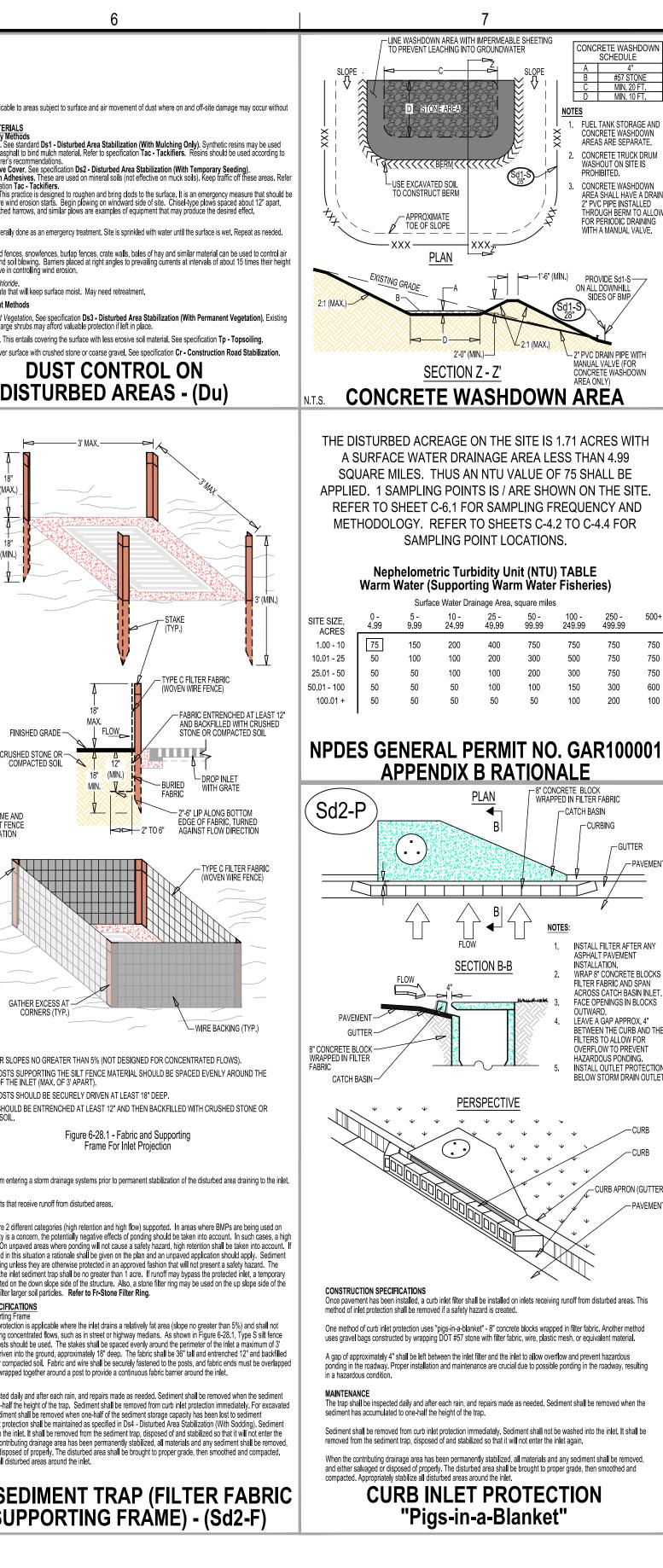


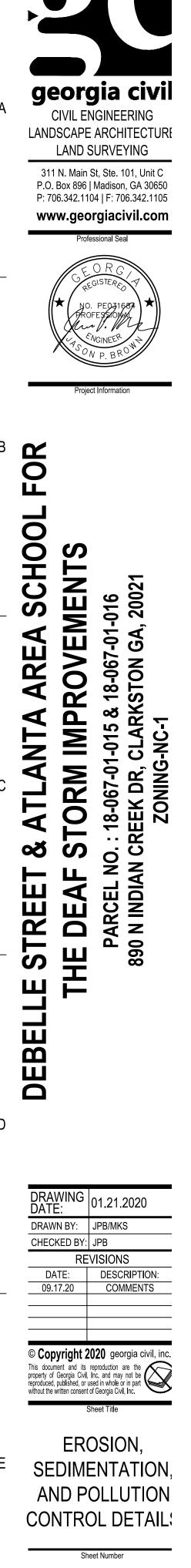
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	REQUIREMENT FOR REGULATORY COMPLIANCE This practice shall be applied immediately to rough graded areas that will be undisturbed for longer than 6 months. This practice or sodding shall be areas at final grade. Final Stabilization means that all soil disturbing activities at the site have been completed, and that for unpaved areas and area 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 th covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materia	e applied immediately to all as not covered by permanent le soil surface is uniformly
Table 6-5.2- Permanent Cover Crc ATE, AND PLANTING DATE FOR PERMANENT COVE PLANTING DATES BY	APPS areas), or equivalent permanent stabilization measures, /ER ¹ Table 6-5.1. Fertilizer Requirements Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that Permanent vegetation shall consist of, planted trees, shrubs, perennial vines; or a crop of perennial vegetation appropriate for the region, such that Permanent vegetation appropriate for the region, such that	GSWCC 2010 Edition
RESOURCE AREA JLID lines indicate optimum dates, DOTTED es indicate permissible, but marginal dates) REMARKS	1 Cod Season First 6-12-12 1500 lbs./ac. 50-100 lbs./ac. 1/2/	andard is satisfied and es shall not be removed. METHOD AND MATERIAL A. Temporary Meth
F M A M J J A S O N D	Grasses Second 6-12-12 1000 lbs./ac Grasses Maintenance 10-10-10 400 lbs./ac. 30 lbs./ac. 1/ 2. Cool Season First 6-12-12 1500 lbs./ac. 0-50 lbs./ac. 1/ 1. Use conventional planting methods where possible.	- Mulches . See st instead of asphalt manufacturer's rec
growing. Sod forming. Slow to establish. Plant with a companio cop. Will spread into Bermuda pastures and lawns. Mix with Sert lespedaz ar weeping lovegrass	Legumes Maintenance 0-10-10 400 lbs./ac 3. No-till planting is detective when planting is done tollowing a summer or winter annual cover crop. Serice a lespedeza planted no-till into stands of r defense 3. No-till planting is detective when planting is done tollowing a summer or winter annual cover crop. Serice a lespedeza planted no-till into stands of r 4. Block sod provides immediate cover. It is especially effective in controlling erosion adjacent to concrete flumes and other structures. Refer to Area Stabilization (With Sodding).	rve is an excellent procedure Sprav-on Adhes
F M A M J J A S O N D	4. Pine First 20-10-5 seeding placed in the 8. Wildlife plantings should be included in critical area plantings.	spring-toothed har <i>Irrigation.</i> This is generally de
coving, Sod forming, Slow to establish. Plant with a companio crop. Will spread into Bermuda crop. Will spread into Bermuda	And the cost of th	Barriers. Solid board fences currents and soil t
F M A M J J A S O N D	6. Temporary 6. Temporary cover crops First 10-10-10 500 lbs./ac. 30 lbs./ac. 30 lbs./ac. Shrubs and Small Trees seeded alone Seeded alone Seeded alone Shrubs and Small Trees Bayberry, Bicolor Lespedeza, Crabapple, Dogwood, Huckleberry or Native Blueberry, Mountain Laurel, Native Holly, Red Cedar, Red Mulberry, Su	are effective in co mac, Wax Myrtle, Wild Plum Calcium Chloride. Apply at rate that
A Construction of the second sec	7. Warm First 6-12-12 1500 Ibs./ac. 50-100 Ibs./ac. 2/b/ Season Second 6-12-12 800 Ibs./ac. 50-100 Ibs./ac. 2/b/ adds. Grasses Maintenance 10-10-10 400 Ibs./ac. 30 Ibs./ac. 30 Ibs./ac. Grasses, Legumes, Vines and Temporary Cover	Permanent Vegeta
F M A M J J A S O N D	8. Warm First 6-12-12 1500 lbs./ac. 50 lbs./ac./6/ Season Grasses & Second 0-10-10 1000 lbs./ac Provides herbaceous cover in dearings for a game bird brood-rearing habitat. Appropriate legumes such as vetches, clovers, and lespedezas mathematication of the second brood sec	rarv cover), and hauve
Plant with winter annuals. Plant with Tail Fescue	 Legumes Maintenance 0-10-10 400 lbs./ac Apply in spring following seeding. Apply i	plant establishment, When
FMAMJJASOND	or Apply will split applications. The preparation, seeding, mulching and maintenance of the vegetation. Concentrations of water that will cause excessive soil erosion shall be diverted and other treatment practices shall conform with the appropriate standards and specifications.	to a safe outlet. Diversions
Cubic foot = approx. 650 sprigs.	Age. A Table 6-5.3. Durable Shrubs and Ground Covers for Permanent Cover Ground covers include a wide range of low-growing plants planted together in considerable numbers to cover large areas of the landscape, Ground covers grow slower than grasses. Weeds	plied within 6 months of Agriculture. Lime spread by s fmough a 10-mesh sieve, ulic seeding equipment
Southern Coastal Plain only	are likely to compete, especially the first year. Maintenance is needed to insure survival. These ground covers will not be used unless proper maintenance is planned. Maintain much at 3" thickness until plans intrough a 100-mesh sieve. It is desirable to use dolomitic limestone is child be "final deguate covers" will not be used unless proper maintenance is planned. Maintain much at 3" thickness until plans provide adequate covers. Fall planning is encouraged because the need for constant watering is reduced and plans have time to establish new roots before hot weather.	e ground so that 95% of the Flatwoods MIRAs. (See rtilizer requirements for each
F M A M J J A S U N D Drought tolerant. Full sun or part shade. Effective adjacent to conc and in concentrated flow areas Irritations is needed until fully		(MAX)
established. Don to flant near pastures. Winter hardy as far at north Athens and Atlanta	Abelia grandiflora 3'4' 5' response provide form 2 might during 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 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 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 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 the mulch slurry or in combination with the soil during seedbed preparation. 2. Mix with the soil used to fill the holes, distribute 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 see	e in furrows, 3. Broadcast
F M A M J J A S O N D	Jessamine sempervirens low 3' thowers. Hardy, one of best Seeden control of the season of the year. Seed shall be applied uniformly by hand, cyclone seeder, drill, stress of the year seeders should normally place seed 1/4" to 1/2" deep. Appropriate depth of hydraylic seeder (slurry including seed and fertilizer). Drill or cultipacker seeders should normally place seed 1/4" to 1/2" deep. Appropriate depth of	culti-packer-seeder, or (MIN.)
g Grini, Dought bursten a dri un resistant. Attractive cose, pink ar white biossoms spring to late fat Mix with 30 lbs of Tall fescue or lbs of re, inoculate seed with h	Kand zfall. or 15 w h w h w h w h w h w h w h w h w h w h	e of mulch can often
inocularit. Use from North Atlant and Northward.	Cotoneaster dammeri 2 ¹²⁴ 5' Evergreen. Irrigation Ground Cover Cotoneaster 11.2' 5' White flowers, red fruit. Sun.	re germination of the seed.
F M A M J J A A S O N D 227,000 seed per pound. Use allo only on better sites. Mix with peremainal lespeddedza or Crowneel	Cotoneaster Salicifolius Repens Evergreen.	he NRCS before they are aar of planting, method of
Apply topdressing in spring follow fall plantings. Not for heavy use areas or athletic fields.	Inving use Virginia Creeper Parthenocissue Invinguatoria Species and easing status and be prevented and can be pre	Common Bernuca, rain Janted with another For example, common nt selection may also include
F M A M J J A S O N D	Dayling Hemerocallis spp. 2'-3' 2' Very hardy. Dayling Hemerocallis spp. 2'-3' 2' Very hardy. Brown Top Millet with Common Bermuda in mid-summer. Care should be taken in selecting companion crop species and seeding rates because an species for water, nutrients, and growing space. A high seeding rate of the companion crop may prevent the establishment of perennial species for water, nutrients, and growing space. A high seeding rate of the companion crop species chosen for permanent perennial species for water, nutrients, and growing space. A high seeding rate to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing perennial species due to its ability to out-compete desired species chosen for permanent per be used in any seeding mixtures containing per because due to its ability to out-compete desired species chosen for permanent per because due to its ability to out-compete desired species chosen for permanent per because due to its ability to out-compete desired species chosen for permanent per because due to its ability to out-compete desired species chosen for permanent per because due to its ability to out-compete desired species chosen for per because due to its ability to out-compete desir	ac A common mixing is inual crops will compete with species. Ryegrass shall not rennial cover.
Low maintenance, Mkw with Vegata I lowgrass. Common bemucha bahia, tall fescue, Takes 2-3 years to becom the stabilistic Excellent or read bar hocalized as set with E1 incularit.	bias of basis for the section of the	of seeds that are pure and will FINI ith the percent of germination; 10 pounds PLS and the bulk CRUSH
Mix with Tall fescue or winter annuals.	Repandens Holly liex crenata Repandens 2'-3' 5' Sun. Semi-shade. Seedbed Prevaration	Int 17.9 IDS/ACTE TO PTOVIDE 10 CON
	Andorra Uniperi horizontalis 'Plumosa 2-3 5 Excellent for siopes. Sun. Andorra Uniperis borizontalis in the solution of the conventional seeding is to be used, seedbed preparation will be done as follows:	
Cut when seed mixture is mature, before, it shatters. Add Tall fescue winter annuals.		INSTALLATION
	Blue Chip Juniper Juniperus horizontalis 'Blue Chip' 'Blue Chip'' 'Blue Chip'' 'Blue Chip'' 'Blue Chip'' 'Blue Chip'' 'Blue Chip'' 'Blue Chip''' 'Blue Chip''''''''''''''''''''''''''''''''''''	
FMAMJJASOND	Parsons Juniper Juniperus davurica Expansa Sigmanata parsoni 18"-24" 5' One of the best, good winter Conver	. (111.)
300,000 seed per pound. Height (growth is 18*24*. Advantageous urban areas. Spreading-type grow New growth has bronze coloration	Pfitzer Juniperus chinensis inoculated with appropriate nitrogen-fixing bacteria. The inoculant shall be a pure culture prepared specifically for the seed out in the seed shall be inoculated with appropriate nitrogen-fixing bacteria. The inoculant shall be a pure culture prepared specifically for the seed out in the seed shall be inoculated with appropriate nitrogen-fixing bacteria. The inoculant shall be a pure culture prepared specifically for the seed out in the seed shall be inoculated with appropriate nitrogen-fixing bacteria. The inoculant shall be a pure culture prepared specifically for the seed out in the seed shall be inoculant ecommended by the manufacturer. For hydraulic seeding, four times the amount of inoculant ecommended by the manufacturer shall be protected from the sum and high temperatures and shall be protected from the sum and high temperatures and shall be protected from the shall be protected from the seed inoculated the same day inoculated seed shall remain in the hydro	be used. All inoculated seed
Mix with weeping lovegrass.com bermud, hahia, latil secue or win amuals. Do not mix with Serice lespeteza. Sitvo to develop solit stants, includie seed with EL	mmon Juniper 'Prince of Wales' 8"-10" 4' Feathery appearance. <u>Planting</u> stid stid Sarrent Juniperus chinensis 1'2' 5' Full sun. Needs good Hydraulic Seeding Hydraulic Seeding	
	Shore Juniper Juniperus conferta 2'-3' 5' Emerald Sea or Blue Pacific Conventional Seeding Section will be done on a freshly prepared and firmed seedbed. For broadcast planting use a culti-packer-seeder, drill, rotary seeder, other merbe	anical seeder or hand
FMAMJJASOND	Liriope Liriope muscari 8"-10" 3' Creeping Liriope Liriope spicata 10"-12" 1' Spreads by runners. Big Leaf Periwinkle Vinca major 12"-15" 4' Lilac flowers in spring. Semi-shade, No-Till Seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with % to % of soil for small seed and %" to 1" for large cultipacker or other suitable equipment. No-Till Seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with % to % of soil for small seed and %" to 1" for large cultipacker or other suitable equipment. No-Till Seeding to distribute the seed uniformly over the area to be treated. Cover the seed lightly with % to % to % of soil for small seed and %" to 1" for large cultipacker or other suitable equipment.	
Provide wildlife food and cover.	ver. Common Vinca minor 5"-6" 4' Lavender-blue flowers in spring. Semi-shade. Individual Plants	
F M A M J J A S O N D	Cherokee Rose Rosa laevigata 2' 5' spaces. State flower. Memoria Rose Rosa weuchuriana 2' 5' Rampant grower. Memoria Rose Rosa weuchuriana 2' 5' Rampant grower.	and the plant shall be set in and the plant shall be set in 3. THE STEEL POSTS S PERIMETER OF THE 3. THE STEEL POSTS S
cover. Drought tolerant. Grows with Sericeal espedeza on roadbanks.	ns well St. Johnswort Hypencum calycenum 8"-12" 3' Semi-shade. Mulching material from the follo	a mulch, consider the 4. THE FABRIC SHOULD wing and apply as indicated: COMPACTED SOIL.
F M A M J J A S O N D For very wet sites. May dog chann	Anticipity Waterer Spirea burnalda 3'4' 5' Sun. Thunberg Spirea Spirea thunbergii 3'4' 5' Sun. Thunberg Spirea Spirea thunbergii 3'4' 5' Sun. Annets	
Dig sprigs from local sources, Us along river banks and shorelines	Table 6-5.4. Trees for Erosion Control	where ornamentals or other shall be applied within 24
F M A M J J A S O N D Grows well on coastal sand dunes		
borrow areas, and grave plits. Provide winter cover for wildlife. Mor with Seri lespedeza except on sand dunes.	Sericea Sericea Sericea Sandy Lakeland, Longleaf Pine (<i>Pinus</i> caeua) Troup newsitical An - L, P = 12/1 - 3/15 C = 12/1 -	now Divir is preferred. Off unpa
FMAMJJASOND	Borrow areas, graded areas, and spoil material Borrow areas, graded areas, and spoil material Borrow areas, graded areas, and spoil material Clay Cecit, Faceville Cecit, Cecit, Faceville Cecit,	s set straight may be used. to press the mulch into the
Grows similar to Tall fescue	material Clay Cecil, Faceville Virginia Pine (Pinus elliottii) Virginia Pine (Pinus 2 M-L, P= 12/1 - 3/1 C= 12/1 - 3/1	mulch is spread. Synthetic to tack straw should be CONSTRUCTION SPECIFICA
FMAMJJASOND	Streambanks Willows ⁴ (Salix spp.) 2' x 2' ALL Bedding Material	w areas. These materials w areas. These materials This method of inlet protectio apply to inlets receiving conc supported by steel posts sho
Image: Particular State 227,000 seed per pound. Mix will Weeping lovegrass or other low-growing grasses or legumes	er 1 Other trees and shrubs listed on Table 6-25.3 may be interplanted with the pines for improved mes. wildlife benefits	apart, and securely driven int with crushed store or compa a minimum of 18" or wrapped
	Trees Alone 4' x 4' 2,722 Wood waste 4' to 6" Trees in Combination w/ Irrigation	MAINTENANCE The trap shall be inspected dail has accumulated to one-half the
pecifications. P represents the Southern Piedmont MLRA*	grasses and/or other plants 6' x 6' 1,210 Irrigation will be applied at a rate that will not cause runoff. ³ M-L represents the Mountain: Blue Ridge; and Ridges and Valleys MLRAs ⁺ ; P represents the Southern Piedmont MLRA ⁺ C represents Southern Coastal Plan; Sand Hills; Black Lands; and Atlantic Coast Flatwoods MLRAs ⁺	inlet sediment traps, sediment s
Coast Flatwoods MLRAs*	 * Refer to Georgia Major Land Resource Areas Map * Fertilization of companion crop is ample for this species. * Fertilization of companion crop is ample for this species. 	inlet again. When the contributi and either salvaged or disposed Appropriately stabilize all distur
	Apply one ton of agricultural line every 4 to 6 years or as indicated by soil tests. Soil tests can be conducted to determine more accurate requirements, if d Use and Management 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 r Mow Sericea Lespedeza only after frost to ensure that the seeds are mature. Mow between November and March. Bermudagrass. Bahiagrass and Tall Fescue r Mow Sericea Lespedeza only after frost to ensure that the seeds are mature. Mow between November and March. Bermudagrass. Bahiagrass and Tall Fescue r Maintain at least 6" of top growth under any use and management. Moderate use of top growth is beneficial after establishment. Exclude traffic until plants are w	
	CASTABILIZATION VEGETATION - (DS3)	N.T.S. W/ SUF
	1. CLASS 1 RIP-RAP A. NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER GREATER THAN 12"; NO MORE THAN 50% OF	
ED FLOWS.	THE STONE SHALL HAVE A DIAMETER LESS THAN 10"; AND NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER OF LESS THAN 6". THE THICKNESS OF THE RIP-RAP LINER SHALL BE NO LESS THAN 12".	
INT BASIN (DIVERT ALL SURFACE RUNOFF AND MATERIAL SUITABLE FOR TRUCK TRAFFIC THAT	2. CLASS 2 RIP-RAP A. NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER GREATER THAN 16"; NO MORE THAN 50% OF THE STONE SHALL HAVE A DIAMETER LESS THAN 12"; AND NO MORE THAN 10% OF THE STONE SHALL HAVE	
CLEANOUT OF ANY MEASURES USED TO TRAP	A DIAMETER OF LESS THAN 6". THE THICKNESS OF THE RIP-RAP LINER SHALL BE NO LESS THAN 16".	
	A. NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER GREATER THAN 22"; NO MORE THAN 50% OF THE STONE SHALL HAVE A DIAMETER LESS THAN 16"; AND NO MORE THAN 10% OF THE STONE SHALL HAVE	
ding being constructed.	A DIAMETER OF LESS THAN 8". THE THICKNESS OF THE RIP-RAP LINER SHALL BE NO LESS THAN 22". 4. CLASS 4 RIP-RAP	
it shall be done as noted above.	A. NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER GREATER THAN 27"; NO MORE THAN 50% OF THE STONE SHALL HAVE A DIAMETER LESS THAN 22"; AND NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER OF LESS THAN 10". THE THICKNESS OF THE RIP-RAP LINER SHALL BE NO LESS THAN 27".	
	 5. CLASS 5 RIP-RAP A. NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER GREATER THAN 34": NO MORE THAN 50% OF 	
road.	A. NO MORE THAN 10% OF THE STORE SHALL HAVE A DIAMETER GREATER THAN 34", NO MORE THAN 50% OF THE STORE SHALL HAVE A DIAMETER LESS THAN 27"; AND NO MORE THAN 10% OF THE STONE SHALL HAVE A DIAMETER OF LESS THAN 16". THE THICKNESS OF THE RIP-RAP LINER SHALL BE NO LESS THAN 34".	
equirements. Requirements for Subsurface Drainage, Separation.		

RIP-RAP CLASSIFICATION SPECIFICATIONS





CONCRETE WASHDOW

FUEL TANK STORAGE AN

CONCRETE WASHDOWN AREAS ARE SEPARATE

CONCRETE TRUCK DRUN

NASHOUT ON SITE IS

CONCRETE WASHDOWN

AREA SHALL HAVE A DRA 2" PVC PIPE INSTALLED

THROUGH BERM TO ALLOV FOR PERIODIC DRAINING WITH A MANUAL VALVE

PROVIDE Sd1-S-

- 2" PVC DRAIN PIPE WITH

CONCRETE WASHDOWN AREA ONLY

750

-GUTTER

INSTALL FILTER AFTER ANY

WRAP 8" CONCRETE BLOCKS

FILTER FABRIC AND SPAN

ACROSS CATCH BASIN INLE

FACE OPENINGS IN BLOCKS

LEAVE A GAP APPROX. 4" BETWEEN THE CURB AND TH

FILTERS TO ALLOW FOR

OVERFLOW TO PREVENT

INSTALL OUTLET PROTECTIC

BELOW STORM DRAIN OUTL

- CURB APRON (GUTTE

HAZARDOUS PONDING.

ASPHALT PAVEMEN

INSTALLATION.

-PAVEME

MANUAL VALVE (FOF

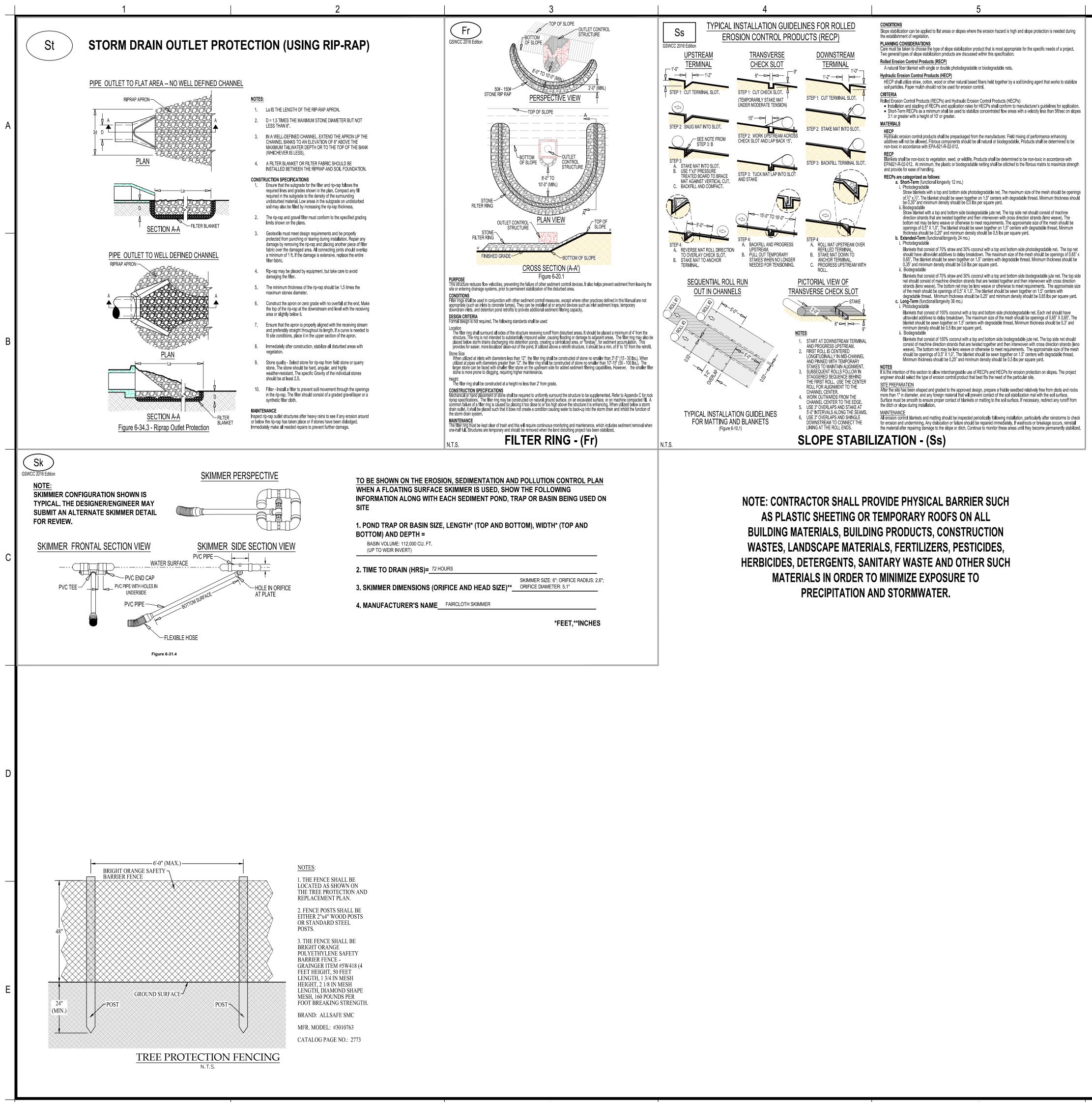
ON ALL DOWNHILL

PROHIBITED.

C MIN. 20 Fi D MIN. 10 FT.

NOTES

SCHEDULE



					7	
			STAN	DIMENTATION & POLI ND ALONE CONSTRUC	UTION CONTROL PLA	N CHECKLIST
Project Name:	_ Debelle	St [SWCD:		890 N Indian Creek Drive	
City/County: Name & email of pers	_ Clarkst on fillin			Date on P Miriah Sanders (miriah@g	lans: 12.5.19 jeorgiacivil.com)	
Plan Page #	Included Y/N	1		TO BE SHOWN ON E	S&PC PLAN	
C-4.6	Y	1		edimentation and Pollution C r in which the land-disturbin	Control Plan Checklist establi g activity was permitted.	shed by the Commission
C-4.1 thru C-4.4	Y	2			S&PC Plan or the Plan will i , signature and seal of the c	
		1	(Signature, seal and Level reviewed)	III number must be on each	sheet pertaining to ES&PC	plan or the Plan will not be
n/a	n/a	3		-	at any one time without pric	or written authorization from it any one time, the Plan must
			include at least 4 of the BM	/IPs listed in Appendix 1 of t	his checklist *	
C-4.2 thru C-4.4	Y	4			ied to the plan for the Plan to ntact responsible for erosion	, sedimentation and pollution controls.
CV-1.1;C-4.1 CV-1.1; C-4.2 thru C-4.4	Y				ne number of primary perm	itee.
CV-1.1;C-4.1	Y Y			reage of the projector phases of the construction exit for the		Longitude in decimal degrees.
ALL CV-1.1;C-4.1	Y				nade to the Plan including the	e entity who requested the revisions.
CV-1.1;C-4.1	Y Y		Description of the nature of Provide vicinity map showi		ding areas. Include designa	ation of specific phase, if necessary.
C-4.1	Y	11		-	ensitive adjacent areas inclu	iding streams, lakes,
C-4.1 thru C-4.4	Y	12	residential areas, wetlands, marshlands, etc. which may be affected. Design professional's certification statement and signature that the site was visited prior to development of the			
C-4.1 thru C-4.4	Y	13	ES&PC Plan as stated on Part IV page 19 of the permit. Design professional's certification statement and signature that the permittee's ES&PC Plan provides for an appropriate			
C-4.1 thru C-4.4		11	and comprehensive system of BMPs and sampling to meet permit requirements as stated on Part IV page 19 of the permit. Clearly note the statement that "The design professional who prepared the ES&PC Plan is to inspect the installation of the			
0-4.1 tillt 0-4.4	<u> </u>		initial sediment storage requirements and perimeter control BMPs within 7 days after installation."			
C-4.1	Y				shall not be conducted withir	n the 25 or 50-foot
		-		•	t of wrested vegetation or w Determination Line without fir	
n/a	n/a	16	variances and permits." Provide a description of an	ny buffer encroachments an	d indicate whether a buffer v	variance is required.
C-4.2 thru C-4.4	Y		Clearly note the statement	that "Amendments/revisions	to the ES&PC Plan which h	nave a significant effect on
C-4.1	Y	18			the design professional." *	
C-4.2 thru C-4.4	Y	10	authorized by a Section 40		om the site shall be prevente	ad by the installation of
		19	•	·	prior to land disturbing activ	
C-4.2 thru C-4.4	Y	20	•			s. If full implementation of the nd sediment control measures
C-4.2 thru C-4.4	Y	21	·	ontrol or treat the sediment s "Any disturbed area left exp	ource." oosed for a period greater th	nan 14 davs shall be
	,, <u>, , , , , , , , , , , , , , , , , ,</u>	1	stabilized with mulch or tem	nporary seeding."		
n/a	n/a	22	upstream of and within the	same watershed as, any po	ortion of an Biota Impaired S	egment, or within 1 linear mile Bream Segment must comply
				nit Include the completed A charge to the Impaired Strea		es that will be used for those
n/a	n/a	23			finalized for the Impaired St NOI, the ES&PC Plan must	
C-4.1	Y	24		included in the TMDL Imple		ar of the vehicles. Washout
	<u>ال_'</u>	²⁴	of the drum at the construct		chutes, hoppers and the re	
C-4.1	Y Y			ediation of all petroleum spill s that will be installed during	s and leaks. g the construction process to	control pollutants in storm
			water that will occur after o	construction operations have	e been completed. *	
C-4.6	Y Y				naterials and building product the pollutants in storm water	
CV-1.1;C-4.1	Y	29	Description and chart or timeline of the intended sequence of major activities which disturb soils for the major			
		1	portions of the site (i.e., initial perimeter and sediment storage BMPs, clearing and grubbing activities, excavation activities, utility activities, temporary and final stabilization).			
C-4.1	Y Y			·	ord keeping by the primary and reporting of sampling r	•
C-4.1	Y		·	r retention of records as pe		
C-4.1	Y Y				and analyze the samples fro oling points where applicable	
C-4.2 thru C-4.4	Y		Delineate all sampling loca	tions, perennial and intermit	tent streams and other wate	
C-4.1	Y	36	storm water is discharged. * 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 all of the BMPs into a singl		Ps, and final BMPs are the	same, the Plan may combine
C-4.2 thru C-4.4	Y	37	Graphic scale and North a			
C-4.2 thru C-4.4	Y	38	Existing and proposed con Map Scale	nbur lines with contour lines Ground Slope	drawn at an interval in acco Contour Intervals, ft	ordance with the following:
			1 inch = 100ftor larger scale	Flat 0 - 2% Rolling 2 - 8%	0.5 or 1 1 or 2	
n/a	n/a	39	Use of alternative BMPs w	Steep 8% + hose performance has beer	2,5 or 10 n documented to be equival] ent to or superior to
		1	conventional BMPs as cer	tified by a Design Professio	nal (unless disapproved by the Alternative BMP Guida	EPD or the Georgia Soil
n/a	n/a	10	www.gaswcc.org.		It BMP List. Please refer to A	
lina	11/4	40		ntrol in Georgia 2016 Editio		
n/a	n/a	41			rbed buffers adjacent to state ly note and delineate all are	·
n/a	n/a				ated on and within 200 feet (of the project site.
HYDRO HYDRO	Y Y		-	f contributing drainage basin and maps of drainage basing	ns on the project site. s for both the pre- and post-	developed conditions. *
C-4.1	Y	45		efficientor peak discharge f	low of the site prior to and a	fter construction activities are
C-4.3	Y	46	completed. Storm-drain pipe and weir	velocities with appropriate of	outlet protection to accommo	date discharges without
C-4.1 & C-4.2	Y	47	erosion. Identify/Delineate Soil series for the project si	e all storm water discharge p ite and their delineation.	points.	
C-4.2 thru C-4.4	Y			r each phase of constructior	۱.	
C-4.3 thru C-4.4	Y	49				a temporary sediment basin, drainage location. Sediment
					all land disturbance activities	
			sediment basin is not attain	nable must be included in the	e Plan for each common dra	
			also be given. Worksheet	ts from the Manual included	for structural BMPs and all	
			from sediment basins and i	mpoundments, permittees a		ructures that withdraw water
C-4.2 thru C-4.4	Υ	50	a written justification explair	ning this decision must be in		
	<u>n '</u>	1	Erosion and SedimentCor		m coding symbols from the N	
C-4.2 thru C-4.4	Y	51	-		-	mum, meet the guidelines set
C-4.4	Y	52		sion and Sediment Control ii oting all temporary and peri	n Georgia. manent vegetative practices	. Include species, planting

but within 200 ft of a perennial stream the * checklist items would be N/A.

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

dates and seeding, fertilizer, lime and mulching rates. Vegetative plan shall be site specific for appropriate time

Effective January 1, 2019







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