

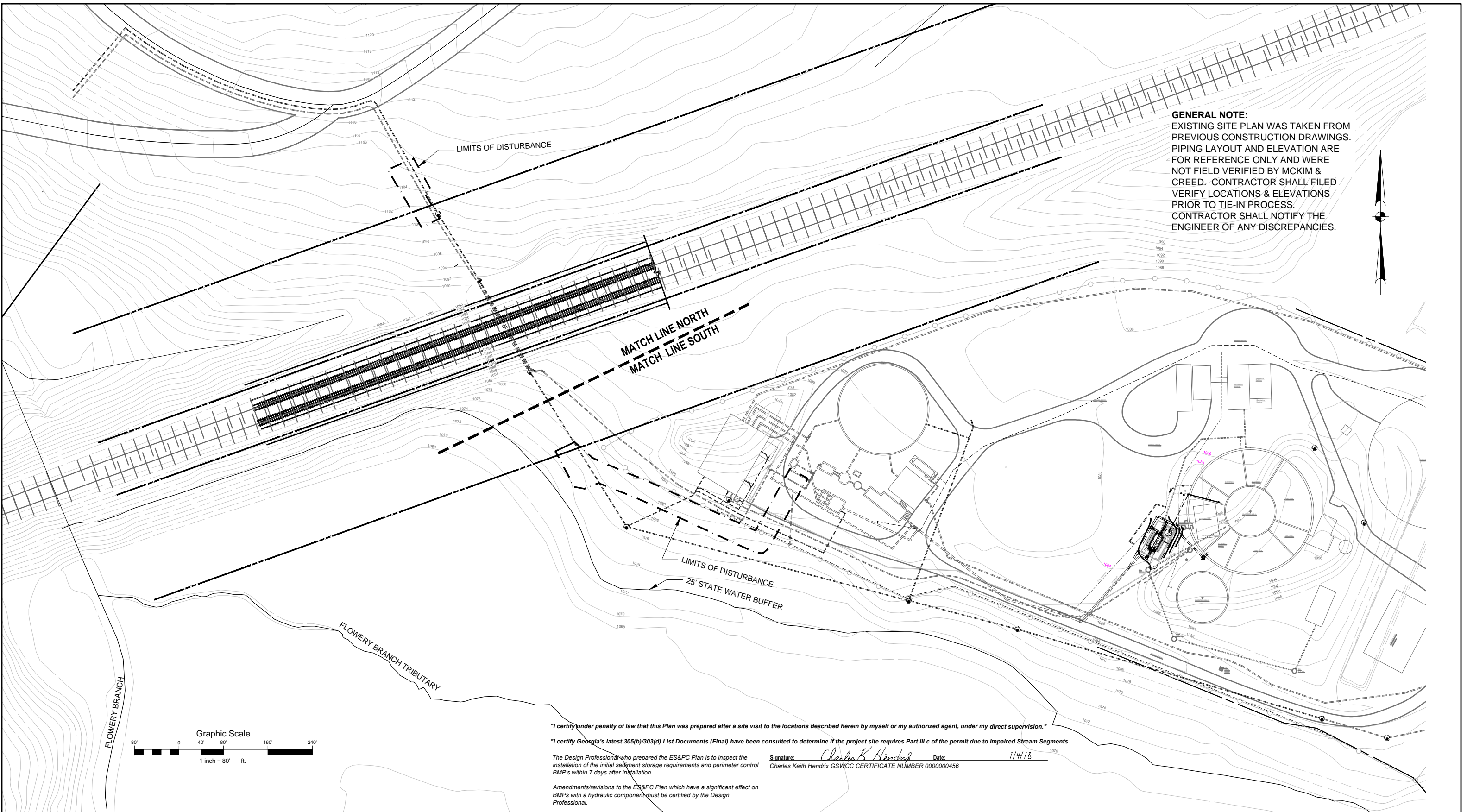
Date: January 15, 2018
Owner: City of Flowery Branch, Georgia
Project: WWTP Effluent Discharge F.M. Replacement
Project No.: 06414-0012

ADDENDUM NUMBER ONE

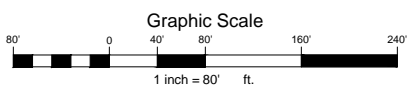
1. The following Addendum hereby amends and/or modifies the Contract Documents and any previous addenda as indicated and as issued by McKim & Creed. All Bidders are subject to the provisions of this Addendum. Bidders shall acknowledge receipt of this Addendum on the Bid Form.
2. Change all references for the bid date to: **Tuesday, February 27, 2018, 1:00 PM, local time.**
3. Change all references for the non-mandatory Pre-Bid Conference to: **Tuesday, February 13, 2018, 1:00 PM, local time.**
4. **Replace drawings EC-1, EC-2, EC-3, EC-4, and EC-5 with the attached drawings EC-0, EC-1, EC-2, EC-3, EC-4, and EC-5 with a revision date of 1/4/18 and revised note: per EC appendix 1 requirements in the revision box.**

End of Addendum Number One

Keith Hendrix, PE
McKim & Creed



GENERAL NOTE:
 EXISTING SITE PLAN WAS TAKEN FROM PREVIOUS CONSTRUCTION DRAWINGS. PIPING LAYOUT AND ELEVATION ARE FOR REFERENCE ONLY AND WERE NOT FIELD VERIFIED BY MCKIM & CREED. CONTRACTOR SHALL FILE VERIFY LOCATIONS & ELEVATIONS PRIOR TO TIE-IN PROCESS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.



"I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my direct supervision."

"I certify Georgia's latest 305(b)/303(d) List Documents (Final) have been consulted to determine if the project site requires Part III.c of the permit due to Impaired Stream Segments."

The Design Professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.

Signature: Charles K. Hendrix Date: 1/4/18
 Charles Keith Hendrix GSWCC CERTIFICATE NUMBER 0000000456

Amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with a hydraulic component must be certified by the Design Professional.

REVNO	DESCRIPTIONS	DATE
02	Revised per EC Appendix 1 Requirements	1/4/18
01	Revised per Norfolk Southern Review Comments	12/14/17
REVISIONS		

Half-Size Drawing

If this bar is not 1" then indicated scale of drawing has been adjusted, change accordingly



MCKIM & CREED
 365 Northridge Road, Suite 200
 Atlanta, Georgia 30350
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 www.mckimcreed.com

City of Flowery Branch
 Hall County, Georgia

**WWTP EFFLUENT DISCHARGE
 FORCE MAIN REPLACEMENT**

**ENLARGED
 EXISTING SITE AND PIPING PLAN
 SOUTH**

DATE: JANUARY 2018	SCALE: AS NOTED	M&C FILE NUMBER: EC-0
M&C PROJ. # 06414-0012	HORIZONTAL: AS NOTED	DRAWING NUMBER: EC-0
DRAWN: PY & CKH	VERTICAL: NA	
DESIGNED: PY & CKH		
CHECKED: SRH		
PROJ. MGR.: CKH		
STATUS: BID SET		REVISION:

EROSION, SEDIMENTATION & POLLUTION CONTROL PLAN (ESPCP)

General Note: All measures outlined in this plan are to be in accordance with the "Manual for Erosion and Sediment Control in Georgia," latest edition.

Project Name: WWTP Effluent Discharge Force Main Replacement
 Location: Hall County, Georgia
 District 8; Land Lots 117

GPS: Latitude N 34.1794°, Longitude E 83.9314°

- A. **Narrative Notes and Other Information**
 Project Description: This project consists of replacement of portion of the existing "outfall" force main with approximately 550-ft of new 16-inch HDPE force main including associated fittings and 255 ft. of 20-inch protective steel casing under Norfolk-Southern railroad track.
- B. **Owner Information:**
 Flowery Branch WPCP
 Contact: Jimmy Dean
 678-776-1074 & 770-967-2151
- C. **24-hour Local Erosion and Sedimentation Control Contact:**
 Jimmy Dean
 678-776-1074 & 770-967-2151
- D. **Total Project Area: 7.72 AC; Disturbed Acreage: 0.14 AC, 1.81% of site.**
- E. **The escape of sediment from the site shall be prevented by the installation of erosion and sediment control measures and practices prior to, or concurrent with, land disturbing activities.**
- F. **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.**
- G. **Any disturbed area left exposed for a period greater than 14 days shall be stabilized with mulch or temporary seeding.**
- H. **Any construction activity which discharges storm water into an impaired stream segment, or within 1 linear mile upstream or within the same watershed as, any portion of a biota impaired stream segment must comply with part iii.c. of the permit, include the completed appendix 1 listing all BMPs that will be used for those areas of the site which discharge to the impaired stream segment. (See EC-04)**
- I. **Runoff coefficient or peak discharge flow of the site prior to and after construction.**

Basin	Area (Acres)	Pre-"CN"	Post-"CN"	25-Year Runoff (cfs)
Outfall Improvements	0.14	63.4	64.0	N/A

**THIS IS A LINEAR PROJECT AND SITE WILL BE RETURNED TO THE ORIGINAL OR BETTER CONDITIONS THAN ORIGINAL (ALL DISTURBED AREAS WILL BE SOD)
 TOTAL SITE IS 7.72 Ac and is bordered by Norfolk Railroad, Atlanta Hwy and Flowery Branch Tributary. TOTAL EXISTING DRAINAGE AREA IS 18.4 Ac.**

The NPDES permit requires that storm water runoff from a site not increase the turbidity of receiving streams by 25 NTU (Nephelometric Turbidity Unit) or more when monitoring upstream and downstream locations. See sheet EC-02 for Monitoring Point Location

- J. **Upstream Conditions**
 Upstream conditions are urban areas with paved roads, grassed yards and tree lines.
 - K. **Downstream Conditions**
 Downstream conditions are urban areas with paved roads, grassed yards and tree lines. Post-construction will be identical to pre-construction conditions with grassed areas re-grassed and paved areas re-paved.
 - L. **Name of Receiving Waters**
A: Lake Lanier; B: Flowery Branch
- Extent of Wetlands Acreage
 (0) Acres Total / No Impact (No soil disturbance proposed in delineated wetlands areas)
- M. **Site Map:** See Sheet EC-2.
 N. **Monitoring Points:** N/A
 O. **Primary Permittee:** City of Flowery Branch, GA.
 5517 Main Street
 P.O. Box 757
 Flowery Branch, GA. 30542

P. **Detention pond or sediment basin/storage will be installed and functioning before any major grading or impervious surfaces are constructed.**

Q. **Site Characteristics:** The following table describes existing soil characteristics

Symbol	Soil Name	Depth	Erodibility	Permeability	Texture	HSG	pH
PuD2	Pacolet	>80"	Medium to rapid runoff	0.60 - 2.0	Fine, kaolinitic Typic Kanhapludults	B	4.5 - 6.5

Soils information was taken from the U.S. Department of Agriculture - Natural Resource Conservation Service Soil Survey Map for Hall County, Georgia. Refer to soils map for more information.

- II. **Pollution Controls**
- A. **Cut and Fill**
 - 1. Operations shall be kept to a minimum, phase if possible.
 - 2. Shall not endanger adjoining properties.
 - 3. Fills shall not encroach upon natural watercourses. Channels shall be constructed in a manner so as to not adversely affect other property owners.
 - 4. Minimize damage from surface water to the cut face of excavations or the sloping surfaces of fills.
- B. **State Water Banks**
 - 1. **Non-Exempt activities shall not be conducted within twenty-five (25) feet of the banks of any State waters, as measured from the point where vegetation has been wrested by normal stream flow or wave action, except when approved by the Director for alternate buffer requirements.**
 - 2. Non-Exempt activities shall not be conducted within fifty (50) horizontal feet, as measured from the point where vegetation has been wrested by normal stream flow or wave action, of the banks of any State waters classified as "trout stream" flow unless approved by the Director for alternate buffer requirements.
 - 3. The Owner is responsible for obtaining any stream buffer variances from EPD.
- C. **Stabilization Practices**
 - 1. Vehicle areas - Fill in rill eroded areas when found.
 - 2. Temporary Mulching - When an area will be left open more than 14 days with no construction.
 - 3. Sod stabilization - Used in higher velocity channel flows.
 - 4. Permanent vegetation - This is to be established once final grade is achieved.
 - 5. Surface roughening: Texturing of soil surfaces to reduce sheet flow and improve surface water impoundment.
 - 6. Sediment Basins - Shall be inspected to insure stable side slopes.
- D. **Structural controls to be used - See ES&PC Plan: Sheets EC-03**

- E. **Other Controls**
 - 1. **Off-site vehicle tracking**
 A stabilized construction entrance will be provided to help reduce vehicle tracking of sediments. The paved streets adjacent to the site will be swept and scraped regularly to remove any excess mud, dirt, or rock tracked from the construction area. A source of fresh water for washing sediment from trucks, especially during periods of wet weather, may be provided in order to minimize the amount of street sweeping and scraping required. Any wastewater resulting from this operation will be directed into a sediment trap.
 - 2. **Waste materials**
 All trash and construction debris from the site will be hauled to an approved landfill. No construction waste material will be buried on-site or discharged to waters of the State except as authorized by a section 404 permit. All personnel will receive instructions regarding the correct procedure for waste disposal. Notices describing these practices will be posted in the construction office. The site superintendent will be responsible for seeing that these procedures are followed. Employee waste and other loose materials will be collected so as to prevent the release of "floatables" during runoff events. Documentation that compliance during and after construction activities must be kept with all retained documents.
 - 3. **Hazardous waste**
 No hazardous waste is expected to be generated or encountered in this project. In the event that hazardous waste is encountered, all hazardous waste materials will be disposed of in the manner specified by local or state regulation or by the manufacturer. The site superintendent will be responsible for seeing that these practices are followed. Documentation that compliance during and after construction activities must be kept with all retained documents.
 - 4. **Sanitary waste**
 The Contractor shall provide portable sanitary units as required. A licensed sanitary waste management contractor will regularly collect all sanitary waste from the portable units. Documentation that compliance during and after construction activities must be kept with all retained documents.
 - 5. **Grading equipment**
 Grading Equipment shall cross-flowing streams by the means of bridges or culverts, except when such methods are not feasible, provided in any case that such crossings should be kept to a minimum.

III. **Materials and Safety**
 Note: This section is provided for informational purposes only. All Material Safety and Spill Prevention Control Contingency (SPCC) plans are to be in accordance with policies and procedures already in place.

- A. **Significant Materials Expected at Site Inventory:**
 - Lime - Concrete mix
 - Lumber - Paints
 - Fertilizers - Steel pipe
 - Ductile iron, PVC & HDPE pipe - Diesel fuel and lubricating oils
 - Steel reinforcing bars and related materials
- B. **Spill Prevention and Response Procedures**
 Spill prevention and response includes "Good Housekeeping" as well as specific practices for certain products and established procedures for responding to spills which do occur.
- C. **Practices for Products, "Good Housekeeping"**
 - 1. **Materials - An effort will be made to store only enough material required to do the job.**
 - 2. **Storage - All materials stored on-site will be stored in a neat, orderly manner in their appropriate containers and stored in a covered area. If storage in a covered area is not possible the materials will be covered with polyethylene or polypropylene sheeting to protect them from the elements.**
 - 3. **Mixing - Substances will not be mixed with one another unless recommended by the manufacturer.**
 - 4. **Labeling - Products will be kept in their original containers with the original manufacturer's label affixed to each container.**
 - 5. **Disposal - Whenever possible, all of a product will be used before disposing of the container. Manufacturer recommendations for proper use and disposal will be followed.**
 - 6. **Inspections - The site superintendent will inspect the site regularly to ensure proper use and disposal of materials on-site.**
 - 7. **Spill materials - Any excavated earth that will not be used for fill material and all demolished pavement will be hauled off site immediately and disposed of properly.**

- D. **Specific Product Practices**
 - 1. **Petroleum Products - All on-site vehicles will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. If petroleum products will be present at the site, they will be stored in tightly sealed containers, which are clearly labeled. Any asphalt substances used on-site will be applied according to the manufacturer recommendations.**
 - 2. **Concrete Trucks - Concrete trucks will not be allowed to wash out or discharge surplus concrete or drum wash water at the site.**
 - 3. **Paints - All containers will be tightly sealed and stored when not required for use. Excess paint will not be poured into the storm sewer system but will be properly disposed of according to manufacturer instructions or State and local regulations.**
 - 4. **Fertilizers - Fertilizers used will be applied only in the minimum amounts recommended by the manufacturer. Once applied, fertilizer will be worked into the soil to limit exposure to storm water. The fertilizer will be stored in a covered area and any partially used bags will be transferred to a sealable plastic bin to avoid spills.**
- E. **Spill Control and Response Practices**
 The site superintendent will designate a spill prevention and response team. In addition, the following practices will be followed for spill cleanup.
 - 1. **Information - Manufacturers recommended methods for spill cleanup will be clearly posted, and site personnel will be made aware of the procedures and the location of the information and cleanup supplies.**
 - 2. **Equipment - Materials and equipment necessary for spill cleanup will be present on the site at all times. Equipment and materials will include but not be limited to brooms, shovels, rags, gloves, goggles, absorbent materials (sand, sawdust, etc.) and plastic or metal trash containers specifically for this purpose. The materials and equipment necessary for spill cleanup will be dependent upon the nature and quantity of the material stored on-site.**
 - 3. **Response - All spills will be cleaned up immediately upon discovery.**
 - 4. **Safety - The spill area will be kept well ventilated, and personnel will wear appropriate protective clothing to prevent injury from contact with a hazardous substance.**
 - 5. **Reporting - Spills of toxic or hazardous material (if present on site) will be reported to the appropriate state or local government agency, regardless of the size.**
 - 6. **Record keeping - The spill prevention plan will be modified to include measures to prevent this type of spill from recurring as well as improved methods for cleaning up future spills should they occur. A description of each spill, what caused it, and the cleanup measures used will be maintained with the plan.**

IV. **NPDES Permit Information**
 The following information shall comply with the NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM GENERAL PERMIT TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITY INTO THE WATERS OF THE STATE OF GEORGIA.

Specifically the NPDES General Permit No. GAR100002, Authorization To Discharge Under The National Pollutant Discharge Elimination System Storm Water Discharges Associated With Construction Activity For Infrastructure Projects, further referred to as the general permit or the permit.

- Deadlines for Notification (to be filed by Primary Permittee)**
- 1. **Owners or Operators or both who intend to obtain coverage under this general permit for storm water discharges from a construction site (where construction activities begin after issuance of this permit), shall submit a Notice of Intent (NOI) in accordance with the requirements of this Part at least fourteen (14) days prior to the commencement of construction activities.**
 - 2. **Omitted**

See General Permit No. GAR 100002 for further deadlines and exemptions

The Notice of Intent Shall be Submitted by the following procedure (to be filed by Primary Permittee)
 NOIs are to be submitted by return receipt certified mail (or similar service) to both the appropriate District office of the EPD and to the local Issuing Authority in jurisdictions authorized to issue a Land Disturbance Activity permit for the permittee's construction site pursuant to O.C.G.A. 12-7-1, et seq. If an electronic submittal service is provided by EPD then the NOI may be submitted electronically so long as a paper copy is also submitted by return receipt or similar service.

Applicable Fees (to be paid by Primary Permittee)
 Any applicable fees shall be submitted by the Primary Permittee in accordance with Rules and Regulations for Water Quality Control (Rules) promulgated by the Board of Natural Resources. By submitting an NOI for coverage under this permit the primary permittee agrees to pay any fees required, now or in the future, by such Rules authorized under O.C.G.A. Section 12-5-23(a)(5)(A), which allows the Board of Natural Resources to establish a fee system. Fees may be assessed on land disturbing activity proposed to occur on or after the effective date of this permit and shall be paid in accordance with such Rules.

- Stormwater Sampling Shall be Conducted (to be completed by Primary Permittee)**
 This permit requires the monitoring of nephelometric turbidity in receiving water(s) or outfalls in accordance with this permit.
- 1. **Receiving waters**
 - a. The downstream sample - upstream sample ≤ 10 NTUs for Trout Streams
 - b. The downstream sample - upstream sample ≤ 25 NTUs for Warm Water Streams
 - 2. **Outfalls**
 - a. Turbidity of storm water outfalls shall not exceed the values determined from Appendix B of the NPDES Permit.

- Sampling Requirements**
Sampling Type
 All sampling shall be collected by "grab samples" and the analysis of these samples must be conducted in accordance with methodology and test procedures established by 40 CFR Part 136 (unless other test procedures have been approved); the guidance document titled "NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001" and guidance documents that may be prepared by the EPD.
- (1). **Sample containers should be labeled prior to collecting the samples.**
 - (2). **Samples should be well mixed before transferring to a secondary container.**
 - (3). **Large mouth, well cleaned and rinsed glass or plastic jars should be used for collecting samples. The jars should be cleaned thoroughly to avoid contamination.**
 - (4). **Manual, automatic or rising stage sampling may be utilized. Samples required by this permit should be analyzed immediately, but in no case later than 48 hours after collection. However, samples from automatic samplers must be collected no later than the next business day after their accumulation, unless flow through automated analysis is utilized. If automatic sampling is utilized and the automatic sampler is not activated during the qualifying event, the permittee must utilize manual sampling or rising stage sampling during the next qualifying event. Dilution of samples is not required. Samples may be analyzed directly with a properly calibrated turbidimeter. Samples are not required to be cooled.**
 - (5). **Sampling and analysis of the receiving water(s) or outfalls beyond the minimum frequency stated in this permit must be reported to EPD as specified in Part IV.E.**

- Stormwater Sampling Points**
 For construction activities the primary permittee must sample all perennial and intermittent streams and other water bodies shown on the USGS topographic map and all other filed verified perennial and intermittent streams and other water bodies, or all outfall into such streams and other water bodies, or a combination thereof. However, provided for in an in accordance with Part IV.D.6.c.(2), of this permit, primary permittees on an infrastructure construction project may sample the representative perennial and intermittent streams, other water bodies or outfalls, or a combination thereof. Samples taken for the purpose of compliance with this permit shall be representative of the monitored activity and representative of the water quality of the receiving water(s) and/or the storm water outfalls using the following minimum guidelines:
- (a). **The upstream sample for each receiving water(s) must be taken immediately upstream of the confluence of the farthest storm water discharge from the permitted activity (i.e., the discharge farthest upstream at the site) but downstream of any other storm water discharges not associated with the permitted activity. Where appropriate, several upstream samples from across the receiving water(s) may need to be taken and the arithmetic average of the turbidity of these samples used from the upstream turbidity value.**
 - (b). **The downstream sample for each receiving water(s) must be taken downstream of the confluence of the last storm water discharge from the permitted activity (i.e., the discharge farthest downstream at the site) but upstream of any other storm water discharge not associated with the permitted activity. Where appropriate, several downstream samples from across the receiving waters) may need to be taken and the arithmetic average of the turbidity of these samples used for the downstream turbidity value.**
 - (c). **Ideally the samples should be taken from the horizontal and vertical center of the receiving water(s) or the storm water outfall channel(s).**
 - (d). **Care should be taken to avoid stirring the bottom sediments in the receiving water(s) or in the outfall storm water channel.**
 - (e). **The sampling container should be held so that the opening faces upstream.**
 - (f). **The samples should be kept free from floating debris.**
 - (g). **Permittees do not have to sample sheetflow that flow onto undisturbed natural areas or areas stabilized by the project. For purposes of this section, stabilized shall mean, for unpaved areas and areas not covered by permanent structures, 100% of the soil surface is uniformly covered in permanent vegetation with a density of 70% or greater, or landscaped according to the Plan (uniformly covered with landscaping materials in planned landscaped areas), or equivalent permanent stabilization measures as defined in the Manual (excluding a crop of annual vegetation and a seeding of target crop perennials appropriate for the region). For infrastructure construction projects on land used for agricultural or silvicultural purposes, final stabilization may be accomplished by stabilizing the disturbed land from its agricultural or silvicultural use.**
 - (h). **All sampling pursuant to this permit must be done in such a way (including generally accepted sampling methods, locations, timing, and frequency) as to accurately reflect whether storm water runoff from the construction site is in compliance with the standard set forth in Parts III.D.3. or III.D.4., whichever is applicable.**

- Sampling Frequency**
- (1). **The primary permittee must sample in accordance with the Plan at least once for each rainfall event described below. For a qualifying event, the permittee shall sample at the beginning of any storm water discharge to a monitored receiving water and/or from a monitored outfall location within forty-five (45) minutes or as soon as possible.**
 - (2). **However, where manual and automatic sampling are impossible (as defined in this permit), or are beyond the permittee's control, the permittee shall take samples as soon as possible, but in no case more than twelve (12) hours after the beginning of the storm water discharge.**
 - (3). **Sampling by the permittee shall occur for the following events:**
 - (a). **For each area of the site that discharges to a receiving or from an outfall, the first rain event that reached or exceed 0.5 inch with a storm water discharge that occurs during normal business hours as defined in the is permit.**
 - (b). **In addition to (a) above, for each area of the site that discharges to a receiving water or from an outfall, the first rain event that reaches or exceeds 0.5 inch with a storm water discharge that occurs during normal business hours as defined in the is permit either 90 days after the first sampling event or after all mass grading operations have been completed, but prior to submittal of a NOT, in the drainage area of the location selected as the representative sampling location, whichever comes first;**
 - (c). **At the time of sampling performed pursuant to (a) and (b) above, if BMPs in any area of the site are not properly designed, installed and maintained, corrective action shall be defined and implemented within (2) business days, and turbidity samples shall be taken from discharges from that area of the site for each subsequent rain event that reaches or exceeds 0.5 inch during normal business hours* until the selected turbidity standard is attained, or until post-storm event inspections determine that BMPs are properly designed, installed and maintained;**
 - (d). **Where sampling pursuant to (a), (b), or (c) above is required but not possible (or not required because there was no discharge), the permittee, in accordance with Part IV.D.4.a.(6), must include a written justification in the inspection report of why sampling was not performed. Providing this justification does not relieve the permittee of any subsequent sampling obligations under (s), (b), or (c) above; and**
 - (e). **Existing construction activities, i.e., those that are occurring on or before the effective date of this permit, that have met the sampling required by (a) above shall sample in accordance with (b). Those existing construction activities that have met the sampling required by (b) above shall not be required to conduct additional sampling other than as required by (c) above.**

*Note that the Permittee may choose to meet the requirements of (a) and (b) above by collecting turbidity samples from any rain event that reaches or exceeds 0.5 inch and allows for sampling at any time of the day or week.

- Reporting**
- 1. **The applicable permittees are required to submit 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) to the receiving water(s) beyond the minimum frequency stated in this permit must be reported in a similar manner to EPD. The sampling reports must be signed in accordance with Part V.G.2. Sampling reports must be submitted to EPD until such time as a NOT is submitted in accordance with Part VI.**
 - 2. **All sampling reports shall include the following information:**
 - a. **The rainfall amount, date, exact place and time of sampling or measurements;**
 - b. **The name(s) of the certified personnel who performed the sampling and measurements;**
 - c. **The date(s) analyses were performed;**
 - d. **The time(s) analyses were initiated;**
 - e. **The name(s) of the certified personnel 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; and**
 - h. **Results which exceed 1000 NTU shall be reported as "exceeds 1000 NTU;" and**
 - i. **Certification statement that sampling was conducted as per the Plan.**
 - 3. **All written correspondence required by this permit shall be submitted by return receipt certified mail (or similar service) to the appropriate District Office of the EPD according to the schedule in Appendix A of this permit. The permittee shall retain a copy of proof of submittal at the construction site or the proof of submittal shall be readily available at a designated location from commencement of construction until such time as a NOT is submitted in accordance with Part VI. If an electronic submittal is provided by EPD then the written correspondence may be submitted electronically; if required, a paper copy must also be submitted by return receipt certified mail or similar service.**

- Retention of Records.**
- 1. **The primary permittee shall retain the following records at the construction site or the records shall be readily available at the designated alternate location from commencement of construction until such time as a NOT is submitted in accordance with Part VIA copy of all Notices of Intent submitted to EPD.**
 - a. **A copy of the Erosion, Sedimentation and Pollution Control Plan required by the permit;**
 - b. **The design professional's report of the results of the inspection conducted in accordance with Part IV.A.5 of this permit;**
 - c. **A copy of all sampling information, results, and reports required by this permit;**
 - d. **A copy of all inspection reports generated in accordance with Part IV.D.4.a. of this permit;**
 - e. **A copy of all violation summaries and violation summary reports generated in accordance with Part III.D.2. of this permit; and**
 - f. **Daily rainfall information collected in accordance with Part IV..4.a(2), of this permit.**
 - 2. **Copies of all Notices of Intent, Notices of Termination, inspection reports, sampling reports (including all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation), or other reports requested by the EPD, Erosion, Sedimentation and Pollution Control Plans, records of all data used to complete the Notice of Intent to be covered by this permit and all other records required by this permit shall be retained by the permittee who either produced or used it for a period of at least three years from the date that the NOT is submitted in accordance with Part VI of this permit. These records must be maintained at the permittee's primary place of business or at a designated alternative location once the construction activity have ceased at the permitted site. This period may be extended by request of the EPD at any time upon written notification to the permittee.**

"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."

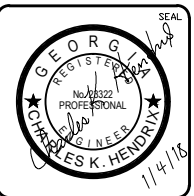
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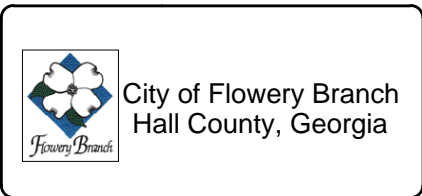
Signature: Charles K Hendrix Date: 11/4/18
 Charles Keith Hendrix GSWCC CERTIFICATE NUMBER 0000000456

Amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with a hydraulic component must be certified by the Design Professional.

REVNO	DESCRIPTIONS	DATE
02	Revised per EC Appendix 1 Requirements	11/4/18
01	Revised per Norfolk Southern Review Comments	12/14/17
REVISIONS		



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WWTP EFFLUENT DISCHARGE FORCE MAIN REPLACEMENT

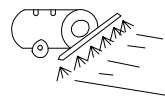
ES & PC PLAN GENERAL NOTES

DATE: JANUARY 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: EC-1
M&C PROJ. # 06414-0012	DRAWN: PY & CKH	DRAWING NUMBER: EC-1
DESIGNED: PY & CKH	CHECKED: SRH	REVISION: BID SET
PROJ. MGR.: CKH	VERTICAL: NA	

MATERIAL	QUANTITY
DRY STRAW OR HAY	2" - 4" DEPTH
WOOD WASTE (SAWDUST, BARK, CHIPS)	2" - 3" DEPTH
CUTBACK ASPHALT (SLOW CURING)	1200 GAL. PER ACRE (1/4 GAL. PER SQ. YD.)
POLYETHYLENE FILM	COMPLETELY COVERING EXPOSED AREA, TRENCHED IN AT OUTER EDGES.
GEOTEXTILES, JUTE MATTING, NETTING, ETC.	SEE MANUFACTURER'S RECOMMENDATION.

STRAW OR HAY MULCH SHALL BE ANCHORED IMMEDIATELY AFTER APPLICATION. MULCH MAY BE ANCHORED BY MECHANICALLY PRESSING INTO SURFACE. IF SPREAD WITH BLOWER EQUIPMENT, MULCH SHALL BE ANCHORED WITH EMULSIFIED ASPHALT (GRADE AE-5 OR SS-1)-100 GAL. ASPHALT + 100 GAL. WATER PER TON OF MULCH. NETTING SHALL BE USED TO ANCHOR WOOD WASTE AND CHIPS. POLYETHYLENE SHALL BE TRENCHED IN AT EDGES.

Ds1 DISTURBED AREA STABILIZATION (MULCHING)



- Mulch disturbed areas and tackify with Curasol or Terratac
- Stabilize disturbed areas with temporary or permanent vegetation
- Irrigate disturbed areas until surface is wet
- Cover surfaces with crushed stone or gravel

Du Dust Control on Disturbed Areas

THE VEGETATIVE PLAN SHALL ESTABLISH TEMPORARY VEGETATION COVER WITH FAST GROWING SEEDLINGS FOR SEASONAL PROTECTION OF DISTURBED AREAS. TEMPORARY GRASSING AND MULCH SHALL BE APPLIED TO ALL EXPOSED AREAS WITHIN 14 DAYS OF DISTURBANCE AND SHALL BE COORDINATED WITH PERMANENT MEASURES TO ASSURE EFFECTIVE STABILIZATION.

CONVENTIONAL SEEDING EQUIPMENT

GRADE SHAPE AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED AND FIRMED. SEEDING WILL BE DONE WITH CULTIPACKER-SEEDER, DRILL ROTARY SEEDER OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESHLY PREPARED SEEDBED AND COVERED LIGHTLY. WITHIN 24 HOURS AFTER SEEDING, STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

- A. AGRICULTURAL LIMESTONE 4000 LBS./ACRE
- B. FERTILIZER, 5-10-15 1,500 LBS./ACRE
- C. MULCH, STRAW OR HAY 3,000 LBS./ACRE

SEED SPECIES	APPLICATION RATE (LBS./ACRE)	PLANTING DATES
HULLED BERMUDA GRASS+	10	4/1 - 10/15
RYE GRASS+	30	
FESCUE+	35	
DUTCH WHITE CLOVER	15	

SEED SPECIES	APPLICATION RATE (LBS./ACRE)	PLANTING DATES
UNHULLED BERMUDA GRASS+	10	10/16 - 4/1
RYE GRASS+	30	
FESCUE+	35	
DUTCH WHITE CLOVER	5	

- D. APPLY TOP DRESSING WHEN PLANTS ARE 2 TO 4 INCHES TALL. FERTILIZER - AMMONIUM NITRATE 33.5% 300 LBS./ACRE
- E. SECOND YEAR FERTILIZER (5-10-15 OR EQUIVALENT) 800 LBS./ACRE

TEMPORARY GRASSING MUST CONFORM TO THE PLANTS, PLANTING RATES AND PLANTING DATES FOR TEMPORARY Ds2 GRASSING AS OUTLINED IN "THE MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA, LATEST EDITION". TEMPORARY COVER SEEDLINGS MAY BE CHANGED IF APPROVED BY THE ENGINEER; EFFECTIVE JANUARY 1, 2012.

Ds2 DISTURBED AREA STABILIZATION (WITH TEMPORARY SEEDING)

THE VEGETATIVE PLAN SHALL ESTABLISH PERMANENT VEGETATION COVER WITH FAST GROWING SEEDLINGS FOR FINAL STABILIZATION OF DISTURBED AREAS. FINAL STABILIZATION MEANS THAT ALL SOIL DISTURBING ACTIVITIES HAVE BEEN COMPLETED.

CONVENTIONAL SEEDING EQUIPMENT

GRADE SHAPE AND SMOOTH WHERE NEEDED TO PROVIDE FOR SAFE EQUIPMENT OPERATION AT SEEDING TIME AND FOR MAINTENANCE PURPOSES. THE LIME AND FERTILIZER IN DRY FORM WILL BE SPREAD UNIFORMLY OVER THE AREA IMMEDIATELY BEFORE SEEDBED PREPARATION. A SEEDBED WILL BE PREPARED BY SCARIFYING TO A DEPTH OF 1 TO 4 INCHES AS DETERMINED ON SITE. THE SEEDBED MUST BE WELL PULVERIZED, SMOOTHED AND FIRMED. SEEDING WILL BE DONE WITH CULTIPACKER-SEEDER, DRILL ROTARY SEEDER OR OTHER MECHANICAL OR HAND SEEDER. SEED WILL BE DISTRIBUTED UNIFORMLY OVER A FRESHLY PREPARED SEEDBED AND COVERED LIGHTLY. WITHIN 24 HOURS AFTER SEEDING, STRAW OR HAY MULCH WILL BE SPREAD UNIFORMLY OVER THE AREA LEAVING ABOUT 25 PERCENT OF THE GROUND SURFACE EXPOSED. MULCH WILL BE SPREAD WITH BLOWER-TYPE MULCH EQUIPMENT OR BY HAND AND ANCHORED IMMEDIATELY AFTER IT IS SPREAD. A DISK HARROW WITH THE DISK SET STRAIGHT OR A SPECIAL PACKER DISK MAY BE USED TO PRESS THE MULCH INTO THE SOIL. THE PER ACRE APPLICATION RATES ARE AS FOLLOWS:

- A. AGRICULTURAL LIMESTONE 4000 LBS./ACRE
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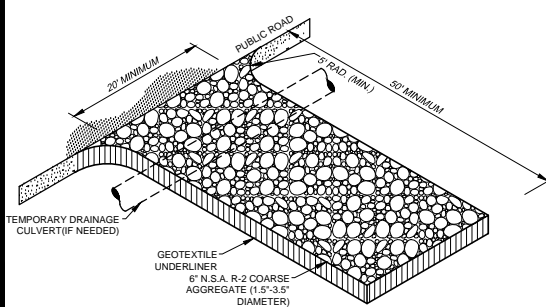
SEED SPECIES	APPLICATION RATE (LBS./ACRE)	PLANTING DATES
HULLED BERMUDA GRASS+	10	4/1 - 10/15
FESCUE+	35	
DUTCH WHITE CLOVER	15	

SEED SPECIES	APPLICATION RATE (LBS./ACRE)	PLANTING DATES
UNHULLED BERMUDA GRASS+	10	10/16 - 4/1
FESCUE+	35	
DUTCH WHITE CLOVER	5	

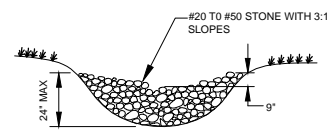
- D. APPLY TOP DRESSING WHEN PLANTS ARE 2 TO 4 INCHES TALL. FERTILIZER - AMMONIUM NITRATE 33.5% 300 LBS./ACRE
- E. SECOND YEAR FERTILIZER (5-10-15 OR EQUIVALENT) 800 LBS./ACRE

PERMANENT GRASSING MUST CONFORM TO THE PLANTS, PLANTING RATES AND PLANTING DATES FOR PERMANENT Ds3 GRASSING AS OUTLINED IN "THE MANUAL FOR EROSION AND SEDIMENTATION CONTROL IN GEORGIA, LATEST EDITION". TEMPORARY COVER SEEDLINGS MAY BE CHANGED IF APPROVED BY THE ENGINEER; EFFECTIVE JANUARY 1, 2012.

Ds3 DISTURBED AREA STABILIZATION (WITH PERMANENT SEEDING)

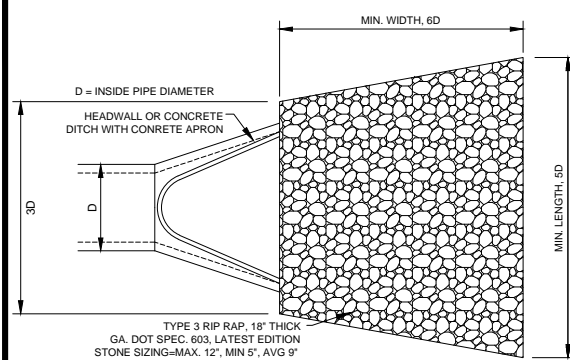


Co CONSTRUCTION EXIT



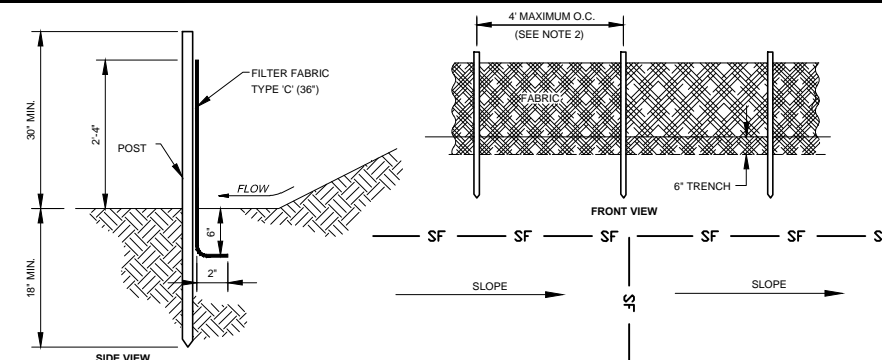
- NOTES:
- SEDIMENT SHALL BE REMOVED WHEN IT REACHES 1/2 THE HEIGHT OF THE DAM.
 - CHECK DAMS SHALL BE PLACED SO THAT THE BOTTOM OF THE UPSTREAM DAM AND THE TOP OF THE DOWNSTREAM DAM ARE AT AN EQUAL ELEVATION.

Cd CHECK DAM DETAIL



- NOTES:
- IN WELL DEFINED CHANNELS EXTEND RIP-RAP UP THE CHANNEL BANKS TO AN ELEVATION OF 6" ABOVE THE MAXIMUM TAILWATER DEPTH OR TO THE TOP OF THE BANK, WHICHEVER IS LESS.
 - A FILTER FABRIC SHALL BE INSTALLED BETWEEN THE STONE AND SOIL FOUNDATION.

St STORM DRAIN OUTLET PROTECTION



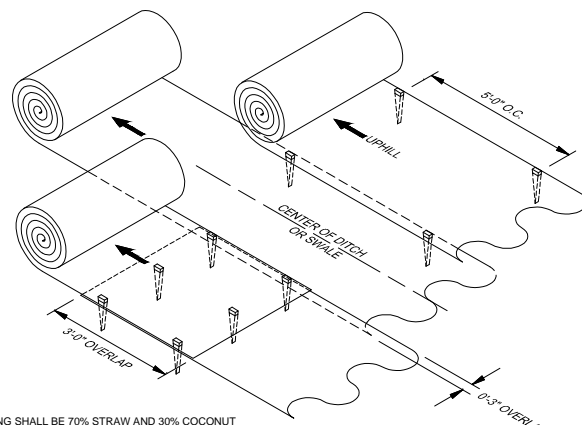
- NOTES:
- SILT FENCE INSTALLATION AND MATERIALS SHALL MEET THE MINIMUM REQUIREMENTS OF SECTION 171 OF THE GA. D.O.T. SPECIFICATION (LATEST EDITION).
 - TYPE 'C' REQUIRES WOVEN WIRE SUPPORT WITH A MAXIMUM SPACING OF 4" AND STEEL POSTS.
 - MINIMUM POST LENGTH SHALL BE: 4' MIN. STEEL FOR TYPE 'C' FENCE

Sd1-C SEDIMENT BARRIER - SILT FENCE - TYPE C

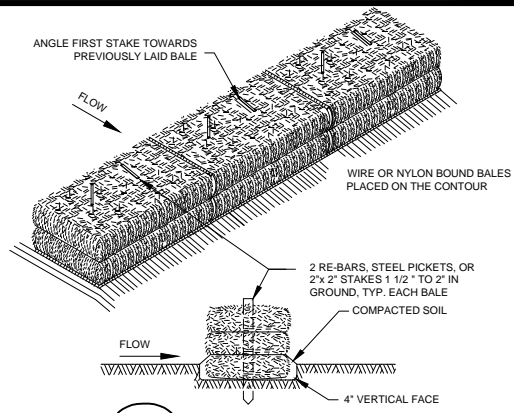
CRITERIA FOR SILT FENCE PLACEMENT

LAND SLOPE PERCENT	MAXIMUM SLOPE LENGTH ABOVE FENCE FEET
less than 2	100
2 to 5	75
5 to 10	50
10 to 20	25
greater than 20*	15

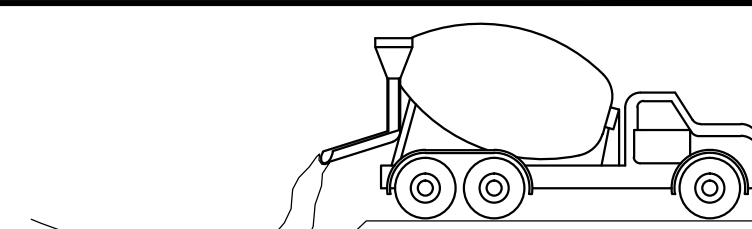
* IN AREAS WHERE THE SLOPE IS GREATER THAN 20%, A FLAT AREA LENGTH OF 10 FEET BETWEEN THE TOE OF THE SLOPE TO THE FENCE SHOULD BE PROVIDED.



Mb MATTING



Sd1-H SEDIMENT BARRIER HAY BALES



- ENGINEER WILL DESIGNATE WASH DOWN AREA AND EXCAVATE PIT LARGE ENOUGH TO CONTAIN WASH DOWN WATER. THIS MUST BE AWAY FROM STORM DRAINS AND WATERWAYS.
- CONTRACTOR WILL ADVISE CONCRETE TRUCK DRIVERS OF THE DESIGNATED WASH-OUT AREAS BEFORE THEY START THE JOB.
- DRIVERS WILL WASH DOWN CHUTE, HOPPER, AND REAR OF VEHICLE ONLY - **DO NOT** WASH OUT DRUM
- CONTRACTOR WILL ENSURE THAT ALL WASH DOWN WATER STAYS IN DESIGNATED AREA.
- CONTRACTOR WILL DISPOSE OF SETTLED, HARDENED CONCRETE IN GARBAGE WITH OTHER CONSTRUCTION DEBRIS.
- CONTRACTOR WILL NEVER DISPOSE OF WASH DOWN WATER IN STREETS, STORM DRAINS, OR STREAMS.

CTW CONCRETE TRUCK WASHDOWN

REV. NO.	DESCRIPTIONS	DATE
02	Revised per EC Appendix 1 Requirements	11/4/18
01	Revised per Norfolk Southern Review Comments	12/14/17

Half-Size Drawing

If this bar is not 1" then indicated scale of drawing has been adjusted, change accordingly

MCKIM & CREED
 365 Northridge Road, Suite 200
 Atlanta, Georgia 30350
 Phone: (678)990-2469, Fax: (678)990-2469
 www.mckimcreed.com

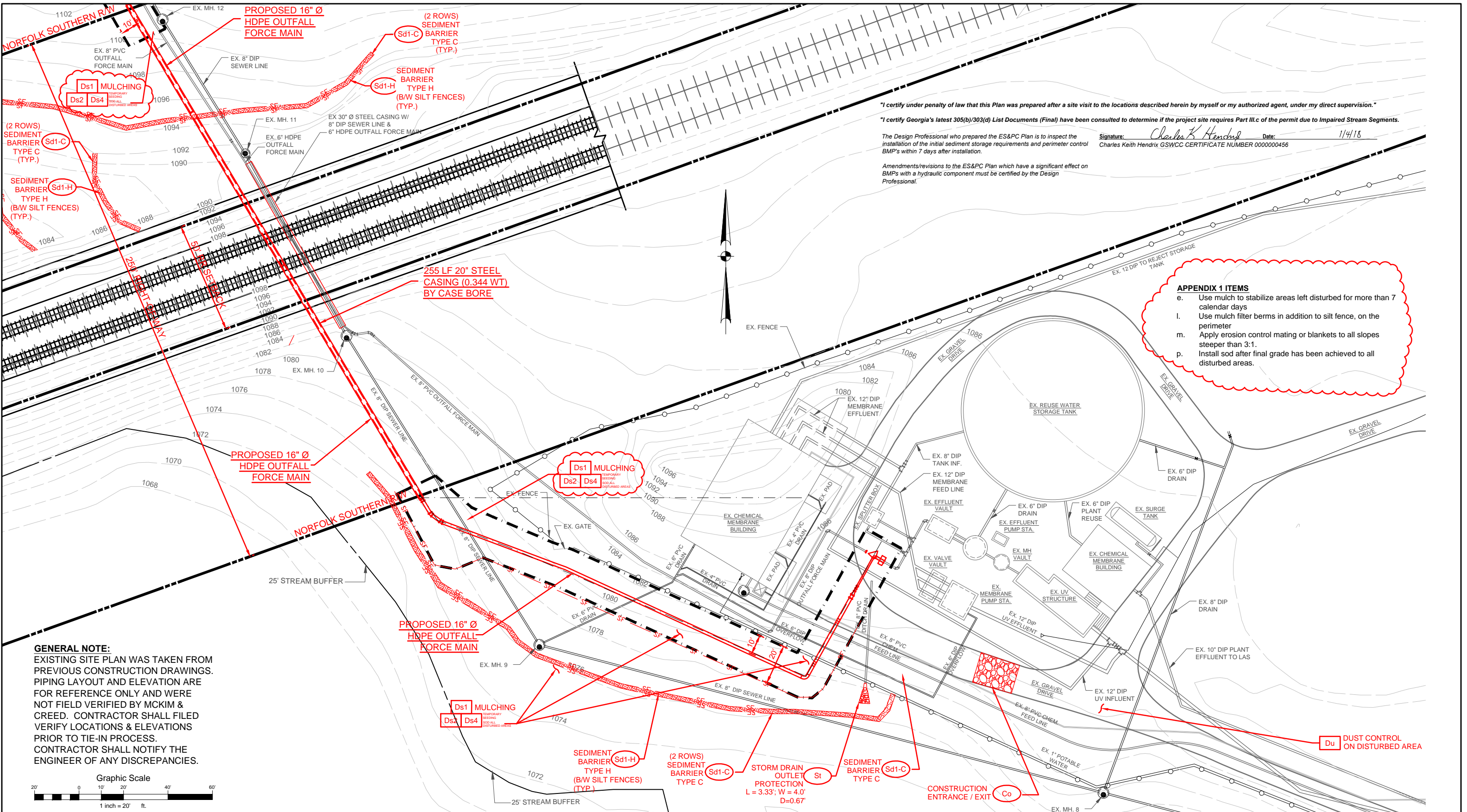
City of Flowery Branch
 Hall County, Georgia

WWTP EFFLUENT DISCHARGE FORCE MAIN REPLACEMENT

ES & PC PLAN

STRUCTURAL CONTROL DETAILS

DATE: JANUARY 2018	SCALE: HORIZONTAL AS NOTED	M&C FILE NUMBER: EC-3
MCE PROJ. # 06414-0012	DRAWN: PY & CKH	CHECKED: SRH
DESIGNED: PY & CKH	PROJ. MGR.: CKH	REVISION: BID SET



"I certify under penalty of law that this Plan was prepared after a site visit to the locations described herein by myself or my authorized agent, under my direct supervision."

"I certify Georgia's latest 305(b)(3)(d) List Documents (Final) have been consulted to determine if the project site requires Part III.c of the permit due to Impaired Stream Segments."

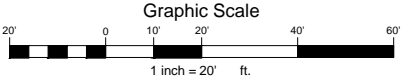
The Design Professional who prepared the ES&PC Plan is to inspect the installation of the initial sediment storage requirements and perimeter control BMP's within 7 days after installation.

Amendments/revisions to the ES&PC Plan which have a significant effect on BMP's with a hydraulic component must be certified by the Design Professional.

Signature: Charles K. Hendrix Date: 11/4/18
 Charles Keith Hendrix, GSWCC CERTIFICATE NUMBER 000000456

- APPENDIX 1 ITEMS**
- e. Use mulch to stabilize areas left disturbed for more than 7 calendar days
 - i. Use mulch filter berms in addition to silt fence, on the perimeter
 - m. Apply erosion control matting or blankets to all slopes steeper than 3:1.
 - p. Install sod after final grade has been achieved to all disturbed areas.

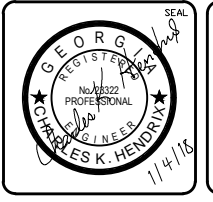
GENERAL NOTE:
 EXISTING SITE PLAN WAS TAKEN FROM PREVIOUS CONSTRUCTION DRAWINGS. PIPING LAYOUT AND ELEVATION ARE FOR REFERENCE ONLY AND WERE NOT FIELD VERIFIED BY MCKIM & CREED. CONTRACTOR SHALL FILED VERIFY LOCATIONS & ELEVATIONS PRIOR TO TIE-IN PROCESS. CONTRACTOR SHALL NOTIFY THE ENGINEER OF ANY DISCREPANCIES.



REV. NO.	DESCRIPTIONS / REVISIONS	DATE
02	Revised per EC Appendix 1 Requirements	11/4/18
01	Revised per Norfolk Southern Review Comments	12/14/17

Half-Size Drawing

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City of Flowery Branch
 Hall County, Georgia

WWT EFFLUENT DISCHARGE FORCE MAIN REPLACEMENT

PROPOSED EROSION CONTROL PLAN SOUTH

DATE: JANUARY 2018	SCALE: HORIZONTAL: AS NOTED	M&C FILE NUMBER: EC-5
M&C PROJ. #: 06414-0012	DRAWN: PY & CKH	DRAWING NUMBER: EC-5
DESIGNED: PY & CKH	CHECKED: SRH	VERTICAL: NA
PROJ. MGR.: CKH	STATUS: BID SET	REVISION:

GENERAL NOTE:
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"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."

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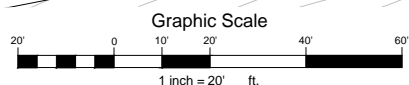
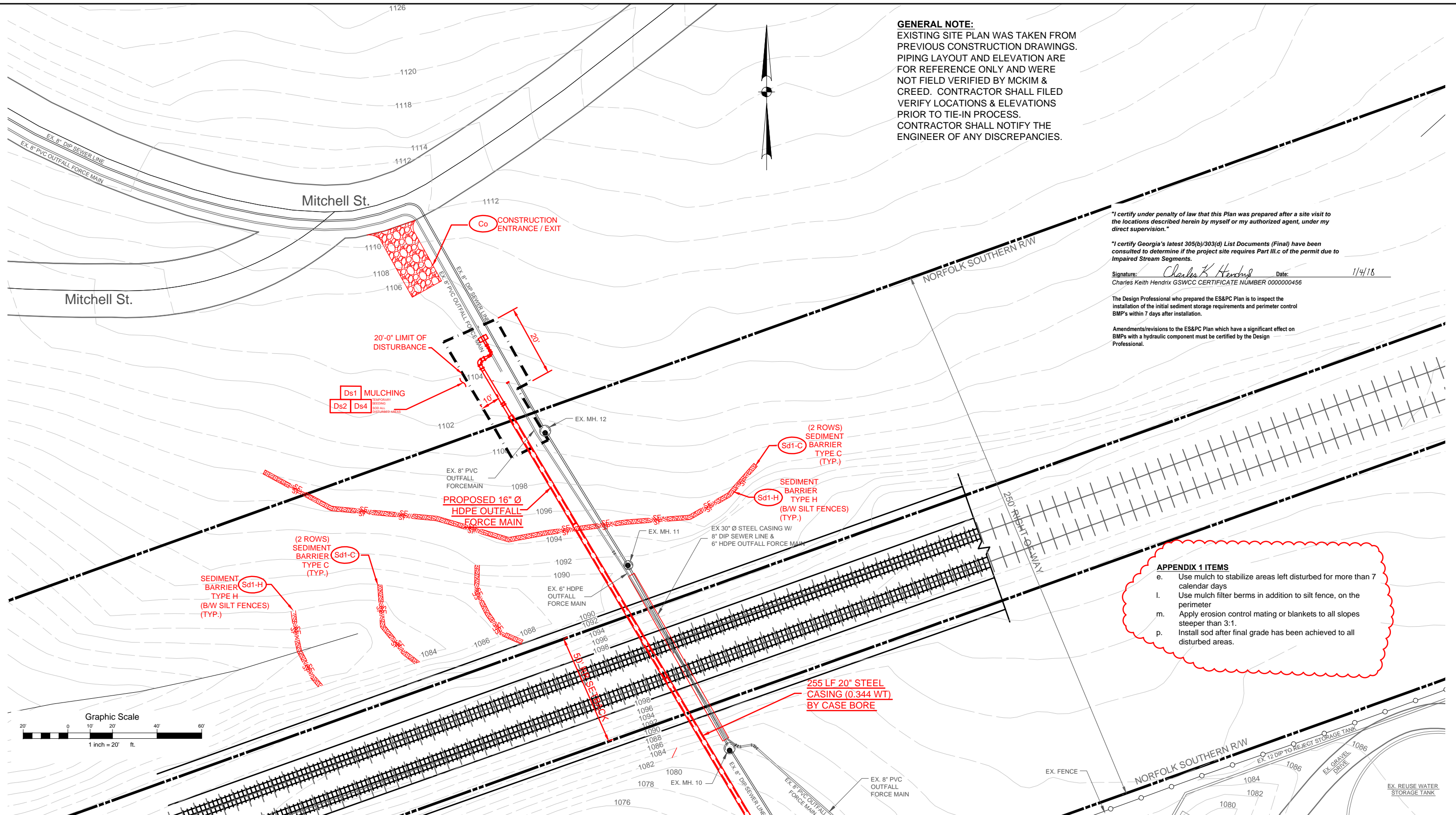
Signature: Charles K. Hendrix Date: 1/4/18
 Charles Keith Hendrix GSWCC CERTIFICATE NUMBER 0000000456

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APPENDIX 1 ITEMS

- e. Use mulch to stabilize areas left disturbed for more than 7 calendar days
- l. Use mulch filter berms in addition to silt fence, on the perimeter
- m. Apply erosion control matting or blankets to all slopes steeper than 3:1.
- p. Install sod after final grade has been achieved to all disturbed areas.



REVNO	DESCRIPTIONS	DATE
02	Revised per EC Appendix 1 Requirements	1/4/18
01	Revised per Norfolk Southern Review Comments	12/14/17
REVISIONS		

Half-Size Drawing

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City of Flowery Branch
 Hall County, Georgia

WWTP EFFLUENT DISCHARGE FORCE MAIN REPLACEMENT

PROPOSED EROSION CONTROL PLAN NORTH

DATE: JANUARY 2018	SCALE: AS NOTED	M&C FILE NUMBER: EC-6
M&C PROJ. # 06414-0012	HORIZONTAL: AS NOTED	DRAWING NUMBER: EC-6
DRAWN: PY & CKH	VERTICAL: NA	
DESIGNED: PY & CKH		
CHECKED: SRH		
PROJ. MGR.: CKH		
STATUS: BID SET	REVISION:	