

SEDIMENT STORAGE

The following table summarizes the required and available sediment storage for every outfall on this project. The Contractor shall provide and maintain the storage volumes for the BMP's specified in this table. No sediment basin will be implemented. Silt fence can be used along the project perimeter and along both edges of the 4' ditch bottoms in conjunction with check dams to provide the total storage volume calculations. A sediment basin would require additional land disturbance, and thus negate its positive affect.

Outfall ID	Outfall Type	Total Drainage area (acres)	Disturbed area (acres)	Required Sediment storage Volume (cy)	Total Storage volume provided (cy)	Silt Fence		Check Dam (cy each)		Inlet Sediment Traps (cy each)	
						Linear Ft	Total Volume (cy)	* of Devices	Total Volume	* of Devices	Total Volume
*1	Ditch Outfall	23	18	154	161	1465	161	N/A	Ditch too Shallow	N/A	N/A
*2	Ditch Outfall	17	17	114	178	1270	178	N/A	Ditch too Shallow	N/A	N/A
*3	Structure 1 Outfall	40	48	2680	1517	4075	1398	25	119	N/A	N/A
*4	Structure 4 Outfall	16	40	1072	1189	6850	1025	51	164	N/A	N/A
*5	Structure 5 Outfall	14	29	938	954	4875	654	36	300	N/A	N/A
*6	Sheelflow	0.48	0.48	32	108	400	108	N/A	Fill Section	N/A	N/A
*7	Sheelflow	0.47	0.47	32	102	400	102	N/A	Fill Section	N/A	N/A
*8	Structure 2&3 Outfall	25	0.94	164	76	450	76	N/A	Fill Section	N/A	N/A
*9	Structure 6 Outfall	24	15	1608	813	4762	720	25	93	N/A	N/A

For project outfalls that require more sediment storage volume than that provided for by the use of check dams/silt fencing, the following treatment will be used to mitigate the need to have the required 67 Cy/acre of storage for these locations: 1. To reduce the overall erosion potential, erosion control mats have been utilized on all 4:1 slopes. 2. To add additional storage capacity, J-hooks have been added but their storage capacity has not been quantified. 3. Silt control gates have been placed at the inlets of applicable pipes.

Note: Sheelflow outfall storage is provided by silt fencing.

In order to prevent runoff from bypassing inlet sediment traps, a temporary berm shall be installed on the downstream side of all inlet sediment traps that are not located in a low point or an excavated sump. Temporary berms, when necessary, shall be a minimum of 18" high and constructed in a manner that ensures stormwater does not bypass the inlet. The contractor may submit alternate temporary containment berm designs to the Project Engineer for approval.

DISCHARGES INTO, OR WITHIN ONE LINEAR MILE UPSTREAM OF AND WITHIN THE SAME WATERSHED AS, ANY PORTION OF A BIOTA IMPAIRED STREAM SEGMENT.

All outfalls are either located further than 1 linear mile upstream or outside of the watershed of an Impaired Stream Segment that has been listed for criteria violated, "Bio F" (Impaired Fish Community) and/or "Bio M" (Impaired Macro Invertebrate Community), within Category 4a, 4b or 5, and the potential cause is either "NP" (nonpoint source) or "UR" (urban runoff).

STREAM BUFFER ENCROACHMENT

Stream Buffers are not impacted by this project.

The contractor is not authorized to enter into stream buffers.

Name (name or number of feature)	Location of Buffered Streams and State Waters **			Stream Type (Warm/Cold Water) *	Buffer Impacted (Yes/No)	Buffer Variance Required?
	Alignment	Begin Sta (L or RT)	End Sta (L or RT)			
Mann Branch Stream #2	SR 67	12+64.55 RT	13+94.50 LT	Warm	No	No
Construction of the new roadway and/or placement of a cross drain pipe will not take place within the buffer.						

* Warm water streams have a 25-foot minimum buffer as measured from the wretted vegetation. Cold Water streams have a 50-foot buffer as measured from the wretted vegetation.

** Locations are approximate. A detailed location of stream buffers and authorized work areas are shown on the individual BMP sheets.

In accordance with Section 107.23 of the Standard Specifications, construction waste or debris, from bridge construction or demolition, shall be prevented from being allowed to fall or be placed into wetlands, streams, rivers or lakes. In addition, excavation, dewatering, and cleaning of cofferdams shall be performed in such a manner as to prevent siltation. Further, operations required within rivers or streams, i.e. jetting or spudding, shall be performed within silt containment areas, cofferdams, silt fence, sediment barriers or other devices to minimize migration of silt. Perform construction in rivers and streams in accordance with Special Provision Section 161.3.05.G.

MONITORING GENERAL NOTES:

Representative sampling may be utilized on this project. The characteristics of the individual watersheds along the project corridor have been carefully evaluated and compared on the basis of drainage characteristics, watershed size, land disturbance and earth work. After evaluation of these items as presented in the projects drainage area maps, hydrology and hydraulic studies, construction plans and erosion sedimentation and pollution control plans, it has been determined that the increase in turbidity at the specified locations will be representative of the increase in turbidity for all waters leaving the site. Approved primary and alternate representative monitoring sites are identified in the table:

Monitoring Site	Primary or Alternate site	Location (Sta. and side)	Name of Receiving water.	Applicable constr. stage for monitoring	Sampling Type (Outfall or Receiving Water)	Drainage Area (For the receiving water)	Disturbed Area	Warm or Cold water Stream	Appendix B NTU value (Outfall Monitoring Only)	Allowable NTU Increase (For Receiving Water)	Location Description
1	Primary	CR927 26+00.00 33' Lt.	Tributary of Mann Branch	Stage Ia*	Outfall	56 ac	23.64 AC	N/A	50	N/A	CR 927 Ditch Outfall
2	Primary	CR 927 26+00.00 32.3' Rt.	Tributary of Mann Branch	Stage Ia*	Outfall	56 ac	23.64 AC	N/A	50	N/A	CR 927 Ditch Outfall
3	Primary	SR 67 25+67.00 40' Lt.	Tributary of Mann Branch	Stage Ib & Ic	Outfall	56 ac	23.64 AC	N/A	50	N/A	SR 67 Ditch Outfall
4	Primary	SR 67 25+26.00 65' Rt.	Tributary of Mann Branch	Stage Ib & Ic	Outfall	56 ac	23.64 AC	N/A	50	N/A	SR 67 Ditch Outfall

*New ditches are not constructed until stage Ib. Testing during stage Ia should be conducted at the outfall of existing ditches.

The primary sites specified should be used as the initial sampling locations. Alternate sampling sites may be used if additional sampling is required and/or if the primary sampling site is no longer located within the active phase of construction.

(According to the EPD, additional monitoring sites may be required depending on significant changes in typical sections)

MONITORING SAMPLING METHODS & PROCEDURES

See Special Provision 167 and other contract documents for Monitoring Sampling Methods and Procedures.

READY MIX CHUTE WASH-DOWN

The washing of ready-mix concrete drums and dump truck bodies used in the delivery of portland cement concrete is prohibited on this site. In accordance with standard Specification 107 - Legal Regulations and Responsibility to the Public, only the discharge "chute" utilized in portland cement concrete delivery may be rinsed free of fresh concrete remains. The Contractor shall excavate a pit outside of State water buffers, at least 25 feet from any storm drain and outside of the travel way, including shoulders, for a wash/pit area. The pit shall be large enough to store all wash-down water without overtopping the pit. Immediately after the wash-down operations are completed and after the wash-down water has soaked into the ground, the pit shall be filled in, and the ground above shall be graded to match the elevation of the surrounding areas smoothed out. Alternate wash down plans must be approved by the Project Engineer.

Wash-down plans describe procedures that prevent wash down water from entering streams and rivers. Never dispose of wash-down water down a storm drain. Establish a wash-down water pit location that includes the following: (1) the pit is located away from a storm drain, stream or river, (2) the pit is accessible to the vehicle being used for wash-down, (3) the pit has enough volume for wash-down water, and (4) make sure you have permission to use the area for wash-down. On some sites, you may not have permission or access to a location which allows for a wash-down pit. In those cases, the Contractor may have to wash-down into a wheelbarrow or other container and carry the container for transport to a proper disposal site. For additional information, refer to the Georgia Small Business Environmental Assistance Program's "A Guide for Ready Mix Chute/Hopper Wash-down".

ALTERNATIVE BMPs:

Alternative BMPs are not used on this project. Silt Gates are used on this project as additional BMPs at pipe inlets and are not being used in place of or as a substitute for other conventional BMPs. Temporary check dams are used in ditches to provide interim stabilization and flow velocity reduction. The stability of the site is maintained with other conventional BMPs as shown on the plans. This ESPCP would be fully compliant with permit requirements if the silt gates were removed and as a result are not considered alternative BMPs when used on this project. The silt gates help to prevent pipe clogging during construction that can result from the ingestion of sediments and other large debris like rip rap, sand bags, roadway debris and other construction materials that when combined with sediments easily clog roadway drainage pipes.

STORMWATER OUTLET PROTECTION:

Outfall ID	Pipe Diameter	Q (25) cfs	Velocity fps	Tailwater Condition	La ft	W ft	3Do ft	d50 in	D in
3	42"	85	8.8	Maximum	30	15.5	10.5	4.8	10.8
4	30"	34	7.0	Minimum	11	13.5	7.5	4.8	10.8
5	30"	21.5	4.4	Minimum	9	11.5	7.5	3	6.75
8 *	18" (2) 30"	54	5.5	Maximum	24	16	15	3.6	8
9	42"	51.5	5.5	Maximum	24	13.1	10.5	4.2	9.45

* Outfall 8 is the outfall for multiple pipes; one 18" storm drain pipe and double 30" side drain pipes. A combined Q25 was used, and the worse case scenario was chosen to size the rip rap apron for this outfall.

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