TIERED SKIMMER BASIN WITH BAFFLES:

Description

Provide a tiered skimmer basin to remove sediment from construction site runoff at locations shown in the erosion control plans. See the Tiered Skimmer Basin Detail sheet provided in the erosion control plans. Tiered Skimmer Basins shall be installed in areas where topography creates a large elevation difference between the inlet and outlet of a single skimmer basin. Work includes constructing sediment basins, installation of coir fiber baffles, installation of temporary slope drain pipe, furnishing, installation and cleanout of skimmer, providing and placing stone pad on bottom of basin underneath skimmer device, providing and placing geotextile spillway liners, providing coir fiber mat stabilization for the skimmer outlet, disposing of excess materials, removing temporary slope drain pipe, coir fiber baffles, geotextile liner and skimmer device, backfilling basin area with suitable material and providing proper drainage when basin area is abandoned.

Materials

<table>
<thead>
<tr>
<th>Item</th>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stone for Erosion Control, Class B</td>
<td>1042</td>
</tr>
<tr>
<td>Geotextile for Soil Stabilization, Type 4</td>
<td>1056</td>
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<tr>
<td>Fertilizer for Temporary Seeding</td>
<td>1060-2</td>
</tr>
<tr>
<td>Seed for Temporary Seeding</td>
<td>1060-4</td>
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<tr>
<td>Seeding and Mulching</td>
<td>1060-4</td>
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<tr>
<td>Matting for Erosion Control</td>
<td>1060-8</td>
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<tr>
<td>Staples</td>
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<tr>
<td>Coir Fiber Mat</td>
<td>1060-14</td>
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<tr>
<td>Temporary Slope Drain</td>
<td>1622-2</td>
</tr>
<tr>
<td>Coir Fiber Baffle</td>
<td>1640</td>
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</tbody>
</table>

Provide appropriately sized and approved skimmer device.

Provide Schedule 40 PVC pipe with a length of 6 ft. to attach to the skimmer and the coupling connection to serve as the arm pipe. For skimmer sizes of 2.5 in. and smaller, the arm pipe diameter shall be 1.5 inches. For skimmer sizes of 3 in. and larger, refer to manufacturer recommendation.

Provide 4” diameter Schedule 40 PVC pipe to attach to coupling connection of skimmer to serve as the barrel pipe through the earthen dam.

Anchors: Staples, stakes, or reinforcement bars shall be used as anchors.

Wooden Stakes:

Provide hardwood stakes 12"- 24" long with a 2” x 2” nominal square cross section. One end of the stake must be sharpened or beveled to facilitate driving through the coir fiber
mat and down into the underlying soil. The other end of the stake needs to have a 1"- 2"
long head at the top with a 1"- 2" notch following to catch and secure the coir fiber mat.

**Steel Reinforcement Bars:**

Provide uncoated #10 steel reinforcement bars 24” nominal length. The bars shall have a
4” diameter bend at one end with a 4” straight section at the tip to catch and secure the
coir fiber mat.

**Staples:**

Provide staples made of 0.125” diameter new steel wire formed into a u shape not less
than 12" in length with a throat of 1” in width.

**Construction Methods**

Excavate basins according to the erosion control plans with basin surface free of obstructions,
debris, and pockets of low-density material. Install temporary slope drain pipe and construct the
primary spillways according to the Tiered Skimmer Basin Detail sheet in the erosion control
plans. Construct the coir fiber baffles according to Roadway Standard Drawings No. 1640.01
and Section 1640 of the Standard Specifications. Multiple upper basins, or Modified Silt Basins
Type ‘B’ as labeled on the detail, may be required based on site conditions and as directed.

Install skimmer device according to manufacturer recommendations. Install 4” Schedule 40
PVC pipe into dam on the lower side of basin 1 ft. from the bottom of the basin and according to
the detail, and extend the pipe so the basin will drain. Attach a 6 ft. arm pipe to the coupling
connection and skimmer according to manufacturer recommendations. The coupling shall be
rigid and non-buoyant and not exceed a diameter of 4” and 12” in length. Attach the rope
included with the skimmer to the tee between the vent socket and the tube inlet, and the other
end to a wooden stake or metal post. Clean out skimmer device when it becomes clogged with
sediment and/or debris and is unable to float at the top of water in skimmer basin. Take
appropriate measures to avoid ice accumulation in the skimmer device. Construct a stone pad of
Class B stone directly underneath the skimmer device at bottom of basin. The pad shall be a
minimum of 12” in height, and shall have a minimum cross sectional area of 4 ft. by 4 ft.

Line primary spillways with geotextile unrolled in the direction of flow and lay smoothly but
loosely on soil surface without creases. Bury edges of geotextile in a trench at least 5” deep and
tamp firmly. If geotextile for primary spillways is not one continuous piece of material, make
horizontal overlaps a minimum of 18” with upstream geotextile overlapping the downstream
geotextile. Secure geotextile with eleven gauge wire staples shaped into a u shape with a length
of not less than 12” and a throat not less than 1” in width. Place staples along outer edges and
throughout the geotextile a maximum of 3 ft. horizontally and vertically. Geotextile shall be
placed to the bottom and across the entire width of the basin according to the Tiered Skimmer
Basin with Baffles detail.
At the skimmer outlet, provide a smooth soil surface free from stones, clods, or debris that will prevent contact of the coir fiber matting with the soil. Unroll the matting and apply without stretching such that it will lie smoothly but loosely on the soil surface. Wooden stakes, reinforcement bars, or staples may be used as anchors in accordance with the details in the plans and as directed. Place anchors across the matting at the ends approximately 1 ft. apart. Place anchors along the outer edges and down the center of the matting 3 ft. apart. Place sealant inside basin around barrel pipe on top of geotextile with a minimum width of 6 in.

All bare side slope sections of the skimmer basin shall be seeded with a temporary or permanent seed mix as directed and in accordance with Articles 1620-3, 1620-4, 1620-5, 1660-4, 1660-5 and 1660-7 of the Standard Specifications. Straw or excelsior matting shall be installed on all bare side slope sections immediately upon the completion of seeding and in accordance with Article 1631-3 of the Standard Specifications.

**Measurement and Payment**

*Silt Excavation* will be measured and paid for in accordance with Article 1630-4 of the Standard Specifications, as calculated from the typical section throughout the length of the basin as shown on the final approved plans.

*Geotextile for Soil Stabilization* will be measured and paid for in accordance with Article 270-4 of the Standard Specifications.

*Coir Fiber Baffles* will be measured and paid for in accordance with Article 1640-4 of the Standard Specifications.

"Skimmer" will be measured in units of each. "Skimmer" will be measured and paid for as the maximum number of each size skimmer acceptably installed and in use at any one time during the life of the project. Barrel and arm pipe, cleanout, relocation and reinstallation of "Skimmer" is considered incidental to the measurement of the quantity of "Skimmer" and no separate payment will be made. No separate payment shall be made if "Skimmer", barrel and/or arm pipe(s) are damaged by ice accumulation.

*Coir Fiber Mat* will be measured and paid for as the actual number of square yards measured along the surface of the ground over which coir fiber mat is installed and accepted.

*Temporary Slope Drain* will be measured and paid for in accordance with Article 1622-4 of the Standard Specifications.

*Stone for Erosion Control, Class* will be measured and paid for in accordance with Article 1610-4 of the Standard Specifications.

*Seeding and Mulching* will be measured and paid for in accordance with Article 1660-8 of the Standard Specifications.
Seed for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the Standard Specifications.

Fertilizer for Temporary Seeding will be measured and paid for in accordance with Article 1620-6 of the Standard Specifications.

Matting for Erosion Control will be measured and paid for in accordance with Article 1631-4 of the Standard Specifications.

No measurement will be made for other items or for over excavation or stockpiling.

Payment will be made under:

<table>
<thead>
<tr>
<th>Pay Item</th>
<th>Pay Unit</th>
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<tbody>
<tr>
<td>&quot; Skimmer</td>
<td>Each</td>
</tr>
<tr>
<td>Coir Fiber Mat</td>
<td>Square Yard</td>
</tr>
</tbody>
</table>