Section A – Road Stabilization

March 2003

1.0 STANDARDS AND SPECIFICATIONS

FOR

STABILIZED CONSTRUCTION ENTRANCE

Definition

A stabilized layer of aggregate that is underlain with Geotextile Class SE[1]. Stabilized entrances are located at any point where traffic enters or leaves a construction site.

Purpose

Stabilized construction entrances reduce tracking of sediment onto streets or public rights-of-way and provide a stable area for entrance or exit from the construction site.

Conditions Where Practice Applies

1. Stabilized construction entrances shall be located at points of construction ingress and egress.

2. For single-family residences, the entrance should be located at the permanent driveway.

3. Stabilized construction entrances should not be used on existing pavement.

Design Criteria

1. Length - minimum of 50' (30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile Class SE shall be placed over the existing ground prior to placing stone. The plan approval authority may not require geotextile fabric for single-family residences.

4. Stone - crushed aggregate (2" to 3")[2], or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

[1] Refer to Table 44 (located on page L-53-1)
[2] Refer to Table 45 (located on page L-53-2)

5. A mountable berm is required on all SCEs not located at a high spot.

6. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped under the entrance to maintain positive drainage. Pipe installed under the construction entrance shall be protected with a mountable berm. The pipe shall be sized according to the drainage, with the min. diameter being 6". A pipe will not be necessary when the SCE is located at a high spot.

7. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

8. Where the stabilized construction entrance creates an opening in perimeter silt fence, the silt fence shall be securely tied into the mountable berm at its centerline to provide a continuous barrier.

Maintenance

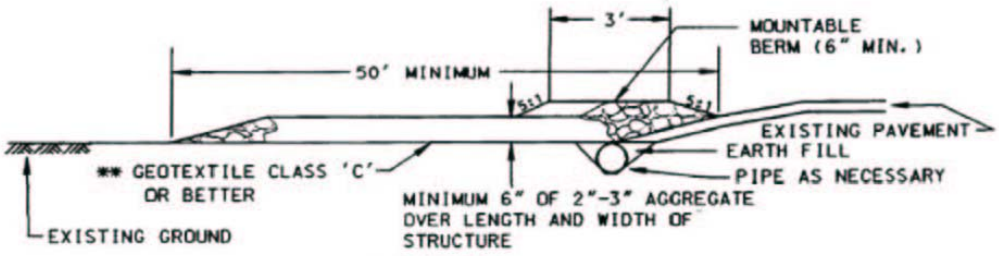
The entrance shall be maintained in a condition which will minimize tracking of sediment onto public rights-of-way. This may require adding stone or other repairs as conditions demand. All sediment spilled, dropped, or tracked onto public rights-of-way must be removed immediately by vacuum sweeping, scraping, or sweeping.

When necessary, wheels shall be cleaned or washed to remove sediment prior to entrance onto public rights-of-way. When washing is required, it shall be done on an area stabilized with stone and which drains into an approved sediment-trapping device. Daily inspection and maintenance is required.

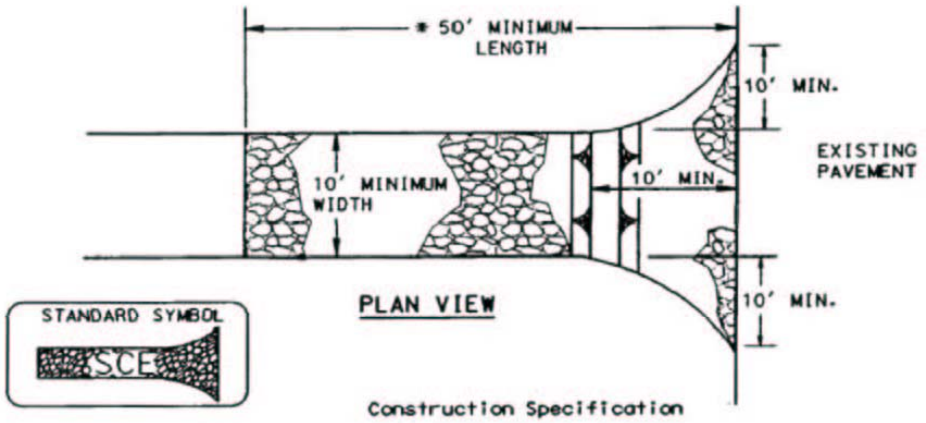
Removal

After construction is complete and the site is stabilized, the stabilized construction entrance will be removed and the area stabilized unless it will be used as an underlayment for a driveway.

DETAIL 1 - STABILIZED CONSTRUCTION ENTRANCE



PROFILE



PLAN VIEW

Construction Specification

1. Length - minimum of 50' (*30' for single residence lot).

2. Width - 10' minimum, should be flared at the existing road to provide a turning radius.

3. Geotextile fabric (filter cloth) shall be placed over the existing ground prior to placing stone. **The plan approval authority may not require single family residences to use geotextile.

4. Stone - crushed aggregate (2" to 3") or reclaimed or recycled concrete equivalent shall be placed at least 6" deep over the length and width of the entrance.

5. Surface Water - all surface water flowing to or diverted toward construction entrances shall be piped through the entrance, maintaining positive drainage. Pipe installed through the stabilized construction entrance shall be protected with a mountable berm with 5:1 slopes and a minimum of 6" of stone over the pipe. Pipe has to be sized according to the drainage. When the SCE is located at a high spot and has no drainage to convey a pipe will not be necessary. Pipe should be sized according to the amount of runoff to be conveyed. A 6" minimum will be required.

6. Location - A stabilized construction entrance shall be located at every point where construction traffic enters or leaves a construction site. Vehicles leaving the site must travel over the entire length of the stabilized construction entrance.

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2.0 STANDARDS AND SPECIFICATIONS

FOR

STABILIZED CONSTRUCTION ENTRANCE WITH WASH RACK

Definition

A stabilized layer of aggregate, that is underlain with Geotextile Class SE[3] and enhanced by the use of a wash rack. Stabilized entrances are located at any point where traffic enters or leaves a construction site.

Purpose

Stabilized construction entrances reduce tracking of sediment onto streets or public rights-of-way and provide a stable area for entrance or exit from the construction site.

Conditions Where Practice Applies

Stabilized construction entrances with wash racks should be considered wherever soil and/or traffic conditions on site require washing the construction vehicle wheels prior to exiting the site to avoid excessive tracking of mud onto a highway.

Specifications

Stabilized construction entrances with wash racks should be constructed to the minimum length, width, and thickness dimensions shown on Standard Construction Detail 2. A metal wash rack is an acceptable alternative to the reinforced concrete one shown.

Approaches to the wash rack should be lined with crushed aggregate (2" – 3")[4] rock a minimum of 25' on both sides.

The wash rack should discharge to a sediment removal facility, such as a vegetated filter strip or into a channel leading to a sediment removal device, such as a sediment trap or tank.

Stabilized construction entrances with wash racks should be maintained to the specified dimensions by adding rock when necessary at the end of each workday. A stockpile of rock material should be maintained on site for this purpose.

Sediment deposited on paved roadways shall be removed and returned to the construction site. **NOTE: Washing the roadway or sweeping the deposits into roadway ditches,**

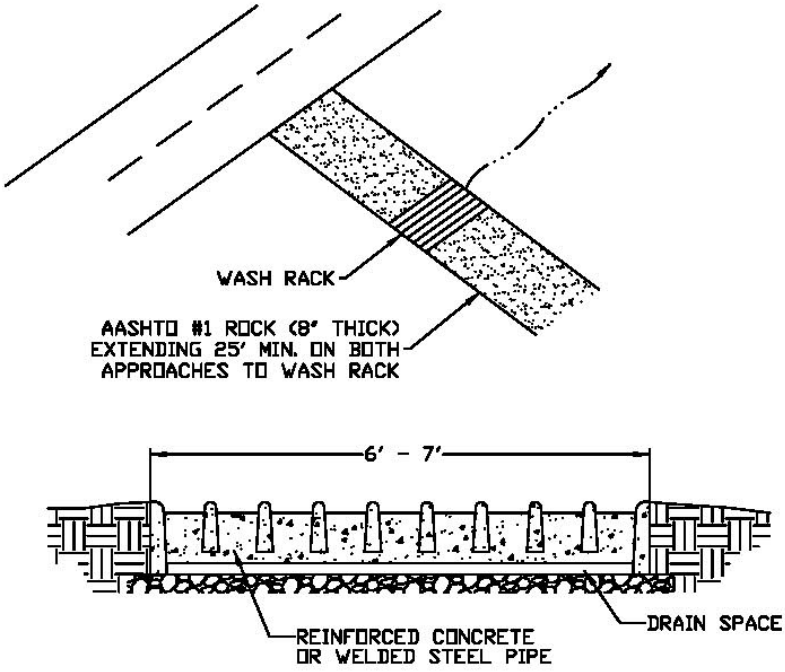
[3] Refer to Table 44 (located on page L-53-1)
[4] Refer to Table 45 (located on page L-53-2)

sewers, culverts, or other drainage ways is not acceptable unless a sediment filter bed is installed in the ditch or catch basin.

Damaged wash racks should be repaired as necessary to maintain their effectiveness.

A stabilized construction entrance without a wash rack is shown on Standard Construction Detail 1.

DETAIL 2 - ROCK CONSTRUCTION ENTRANCE WITH WASH RACK



MAINTENANCE: Rock Construction Entrance thickness shall be constantly maintained to the specified dimensions by adding rock. A stockpile of rock material shall be maintained on site for this purpose. Drain space under wash rack shall be kept open at all times. Damage to the wash rack shall be repaired prior to futher use of the rack. At the end of each construction day, all sediment deposited on paved roadways shall be removed and returned to the construction site.

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3.0 STANDARDS AND SPECIFICATIONS

FOR

CONSTRUCTION ROAD STABILIZATION

Definition

The temporary stabilization of access roads, haul roads, temporary construction parking areas and other onsite vehicle transportation routes with stone immediately after grading.

Purposes

1. To reduce the erosion of temporary roadbeds by construction traffic during wet weather.

2. To reduce the erosion and subsequent regrading of permanent roadbeds between the time of initial grading and final stabilization.

Conditions Where Practice Applies

Wherever stone-base roads or parking areas are constructed, whether permanent or temporary, for use by construction traffic.

Planning Considerations

Areas which are graded for construction vehicle transport and parking purposes are especially susceptible to erosion. The exposed soil surface is continually disturbed, leaving no opportunity for vegetative stabilization. Such areas also tend to collect and transport runoff waters along their surfaces. During wet weather, they often become muddy quagmires which generate significant quantities of sediment that may pollute nearby streams or be transported off site on the wheels of construction vehicles. Dirt roads can become so unstable during wet weather that they are virtually unusable.

Permanent roads and parking areas should be paved as soon as possible after grading. However, it is understandable that weather conditions or the potential for damage may not make paving feasible in the early phases of the development project. As an alternative, the early application of stone may solve potential erosion and stability problems and eliminate later regrading costs. Some of the stone will also probably remain in place for use as part of the final base course in the construction of the road.

Specifications

Temporary Access Roads and Parking Areas

1. Temporary roads shall follow the contour of the natural terrain to the extent possible. Slopes should not exceed 10 percent.

2. Temporary parking areas should be located on naturally flat areas to minimize grading. Grades should be sufficient to provide drainage without causing erosion.

3. Roadbeds shall be at least 14 feet wide for one-way traffic and 20 feet wide for two-way traffic.

4. All cuts and fills shall be 2:1 or flatter to the extent possible.

5. a) Drainage ditches shall be provided as needed and shall be designed and constructed in accordance with 36.0 Grassed Waterways or

   b) a temporary storm drain system shall be installed to channel water to an approved location.

6. The roadbed or parking surface shall be cleared of all vegetation, roots and other objectionable material.

7. A 6-inch course of (2" to 3")[5] Coarse Aggregate shall be applied immediately after grading or the completion of utility installation within the right-of-way. Filter fabric may be applied to the roadbed for additional stability.

Permanent Roads and Parking Areas

Permanent roads and parking areas shall be designed and constructed in accordance with applicable DDOT criteria.

Vegetation

All roadside ditches, cuts, fills and disturbed areas adjacent to parking areas and roads shall be stabilized with appropriate temporary or permanent vegetation according to the applicable standards and specifications contained in this handbook.

Maintenance

Both temporary and permanent roads and parking areas may require periodic top dressing with new gravel. Seeded areas adjacent to the roads and parking areas should be checked periodically to ensure that a vigorous stand of vegetation is maintained. Roadside ditches

[5] Refer to table 45 (located on page L-53-2)

and other drainage structures should be checked after a storm event regularly to ensure that they do not become clogged with silt or other debris.