







ZONE "X": AREAS OF 500-YEAR FLOOD; AREAS OF 100-YEAR FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN 1 SQUARE MILE; AND AREAS PROTECTED BY LEVEES FROM THE 100-YEAR FLOOD.

GRASS LINED CHANNEL PHYSICAL DESCRIPTION: Trapezoidal or parabolic stormwater conveyance channel lined with vegetation, designed to direct runoff and reduce the flow velocity of concentrated runoff. Channels should outlet into sediment traps, detention/retention basins, or other stable outlets. In areas with seasonally high water tables or seepage problems, subsurface drains are included under the channel. Grassed channels have a limited ability to control runoff from large storms and are often used in combination with other BMPs, such as subsurface drains and riprap stabilization. WHERE BMP IS TO BE INSTALLED: Used in areas where erosion-resistant conveyances are needed, including areas with highly erodible soils and moderately steep channel slopes - less than 5%. Channels should only be installed where space is available for a relatively large cross section. Channels should not make sharp, unnatural changes in direction or grade of flow. Type of Flow: Concentrated flow Flow Properties: Maximum velocity of 5 fps WHEN BMP IS TO BE INSTALLED: Immediately after clearing, prior to upstream grading activities. INSTALLATION/CONSTRUCTION PROCEDURES: ✓ Excavate and shape channel to required section ✓ Install subsurface drain, if needed ✓ Install erosion resistant lining, such as rip-rap or sod, at concentrated inflow points ✓ Prepare and fertilize soil ✓ Install sod, seed with protection such as erosion control blankets or turf reinforcement mats, or hydroseeding ✓ Sod should be perpendicular to flow, with a brick-like joint pattern. Stake, staple and/or net corners and centers of sod ✓ Install lathe or post at each end of channel, and at 20 foot intervals. Mark maximum allowable sediment depth at 6 ✓ Water immediately after installation - enough to soak 4 inches into soil without causing runoff. ✓ Water sod daily for 3 weeks - enough to soak 4 inches into soil without causing runoff
 ✓ Inspect at least every two weeks and after every storm for the duration of construction or 6 months, whichever is longer
 ✓ Remove any blockage and or debris from channel, channel outlet or road crossings ✓ Reposition areas of sod that have moved ✓ Remove sediment accumulation once sediment reaches 6" in depth, as indicated on the monitoring posts – replace vegetation if necessary ✓ Repair any eroded areas, revegetate, and stabilize as needed
 ✓ Do not mow until 3 inches of new growth occurs. During the first 4 months do not mow more than 1/3 the grass height SITE CONDITIONS FOR REMOVAL: Temporary channels can be removed after permanent storm sewer system is operational.

NOT TO SCALE

GRASS LINED SWALE

INFORMATION

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INTERIM GRASS

LINED SWALE

LINED SWALE

NOTES:

1. SILTATION CONTROL TO BE INSTALLED PRIOR TO ANY GRADING ACTIVITIES.

2. TEMPORARY SILTATION BASINS TO BE INSTALLED AND MAINTAINED DURING ENTIRE CONSTRUCTION OF ALL THREE BUILDINGS.

3. TEMPORARY BASIN AT CI 1 TO BE REMOVED ONCE BLDG. 3 PARKING IS READY FOR INSTALLATION. GRASS SWALE TO BE MAINTAINED AND FLOW INTO CI 1 UNTIL ALL CONSTRUCTION IS COMPLETE.

4. SILT TO BE REMOVED FROM TEMPORARY BASINS AND



