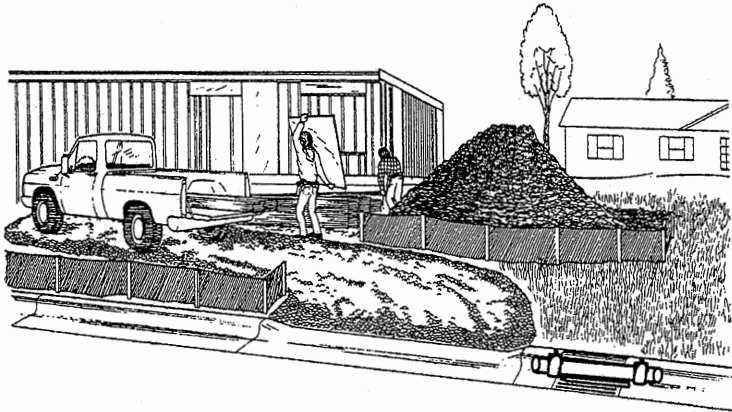


EROSION & SEDIMENTATION CONTROL FOR CONSTRUCTION SITES



By controlling erosion and sedimentation, Orlando builders keep our streets and waterways clean.

Erosion Is a Costly Problem

Eroding construction sites are a leading cause of water quality problems in Florida. For every acre under construction, about 1 ½ dump truck loads of soil wash into the stormwater system and into a nearby lake unless builders use proper erosion control measures.

Controlling Erosion Can Be Easy

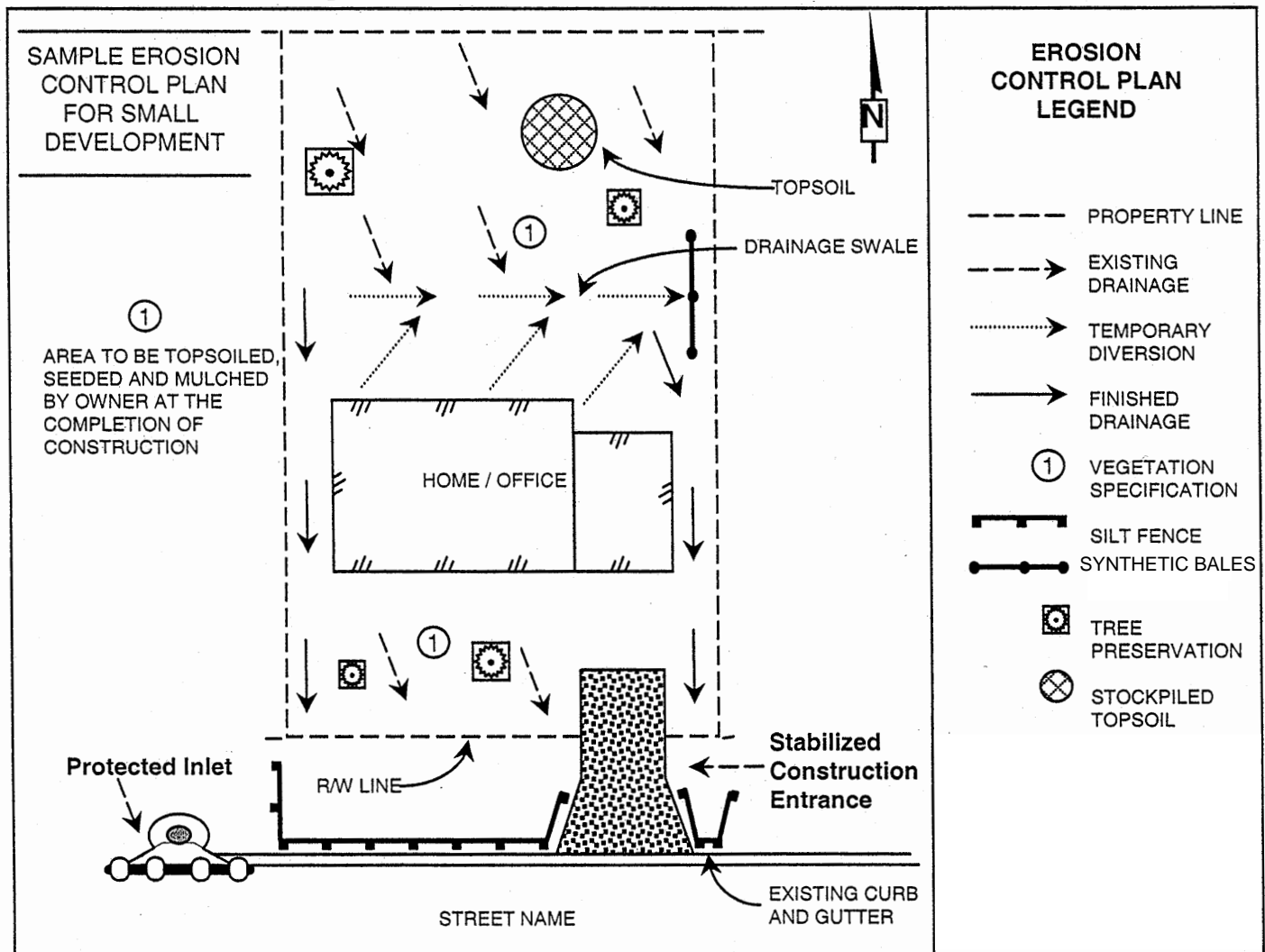
Erosion control is important and necessary for all development sites. The materials needed are easy to find and relatively inexpensive - silt fencing, synthetic bales, stakes, inlet protection, and grass seed. Putting these materials to use is a straightforward process. Maintenance to those Best Management Practices (BMP's) is key to staying in compliance.

This fact sheet includes shows step-by-step instructions that can be used by builders. Additional controls will be needed for sites that are adjacent to lakes, wetlands, and streams, have steep slopes, receive runoff from adjacent land, or are larger than one acre.

When areas are stabilized and not endanger of eroding, the temporary erosion control measures can be removed. BMP's should not be left on finished sites.

For more information on erosion and sediment control issues and how you can help save our lakes, please contact the City of Orlando Streets and Stormwater Hotline at 407-246-2370.

Ways to help keep Orlando "The City Beautiful"



Under the Stormwater Utility Code, Section 31.19, the City prohibits the discharge of pollutants (including sediment and construction debris) into lakes, stormwater drains, or any part of the stormwater conveyance system (ex. streets, gutters, alleyways, ditches, canals, parking lots, and retention/detention ponds, etc.). For more information about erosion and sediment control, refer to the Florida Development Manual: A Guide to Sound Land and Water Management, and the FDEP Erosion, Sediment, and Stormwater Inspector Manual. Violators may be subject to civil penalties, citations, pollution abatement costs, and/or action by the City of Orlando Code Board.

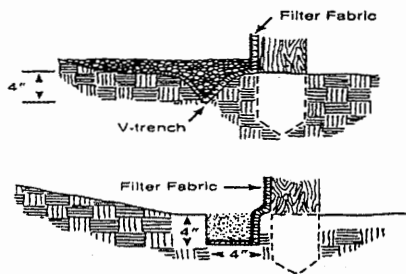
COMMONLY USED EROSION CONTROL MEASURES

PERIMETER CONTROLS

- Examples may include trenched-in silt fence, trenched-in synthetic bales, berms, sod buffers, waddles, turbidity barrier, etc.
- Install within 24 hours of land disturbance.
- Ensure that perimeter controls are installed properly (trenched-in, no gaps, appropriate BMP for conditions) and maintained until area is stabilized.
- Special attention to perimeter controls needs to be taken along sensitive and critical areas such as wetlands, waterbodies, stormwater systems, roads, adjacent parcels, etc.
- Inspect, repair, replace, and remove accumulated sediments weekly and after ½ inch rain event.

Silt Fences

Figure 3—Cross Sections of Trenches for Silt Fences



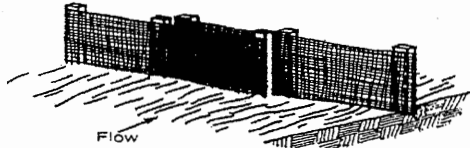
Source: North Carolina Erosion and Sediment Control Planning and Design Manual, 1988.

Figure 4—How to Install a Silt Fence

1. Excavate a 4" x 4" trench along the contour.



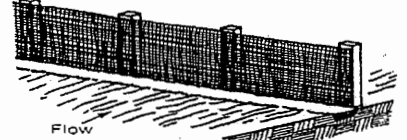
3. When joints are necessary, overlap ends for the distance between two stakes.



2. Stake the silt fence on downslope side of trench. Extend 8" of fabric into the trench.



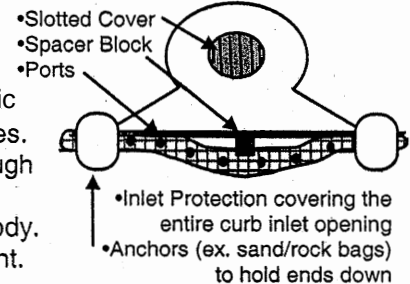
4. Backfill and compact the excavated soil.



STORMWATER SYSTEM PROTECTION

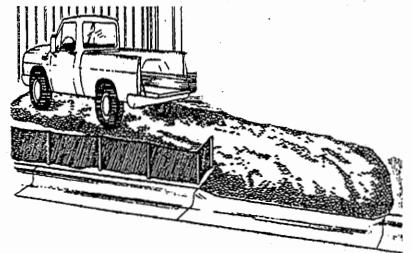
- Examples of stormwater systems may include stormwater inlets and grates, ditches, swales, retention/detention ponds, canals, lakes, etc.
- Method of protecting on-site and off-site stormwater systems include properly installed synthetic bales, silt fence fabric, filter fabric, sock-covered perforated pipe, or other inlet protection devices.
- In problem flood-prone areas (such as streets), ensure that floodwaters can be alleviated through ports and bypasses.
- Floating turbidity curtain may need to be installed for added protection to the receiving waterbody.
- Inspect, repair, replace, and remove accumulated sediments weekly and after ½ inch rain event.

Prevent Flooding when using Inlet Protection:



OFFSITE TRACKING

- Prevent offsite tracking of sediment onto streets by stabilizing the site entrance.
- Examples include at least 50 foot of gravel with geo-fabric underlay, tire wash area, etc.
- At the end of each workday, remove sediment by sweeping and scraping up soil tracked onto the street. Frequent sweeping of street and curb line will prevent sediment accumulation.
- Sediment in the streets and curbs can become major safety and environmental hazards for your site. Sediment can impede traffic, cause flooding, and degrade lakes.



SOIL STOCKPILES

- Locate away from any down-slope street, driveway, stream, lake, wetland, ditch, or drainageway.
- If stockpiles are located near a perimeter, cover stockpiles with plastic sheeting.
- Add perimeter controls at the toe of stockpile.
- Wet down exposed soil with a light spray or sprinkler to keep dust and erosion at a minimum.

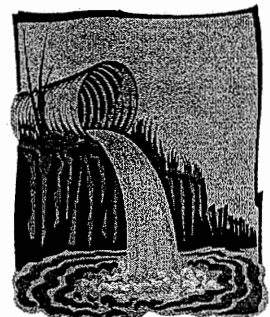


STABILIZE AREAS

- Wherever possible, preserve existing trees, shrubs, and other vegetation to minimize exposed areas.
- Stabilize exposed areas immediately. Do not wait till end of project.
- Stabilization can be achieved with sod, seeding, mulch, erosion control blankets, etc. Hard armor (ex. rip-rap, netting, concrete, rock, etc.) may be more appropriate in channels, flumes, steep slopes, swift moving water, etc.
- Revegetate exposed areas with seed, sod, or mulch as soon as possible.
- To prevent root damage to existing trees, do not grade, place soil stockpiles, or park near trees marked for preservation.
- Mulch may need to be anchored down by disking, crimping, or nets. Sod may need to be anchored down with staples – especially on side slopes.
- Seed and sod must be watered and maintained to establish effective cover per City Engineering Standards Manual specs.

DEWATERING OPERATIONS

- Dewatering a site to install underground utilities will require a permit through the Water Management District (St Johns River WMD 407-659-4800 or South Florida WMD 407-858-6100).
- Dewatering methods include well-points, sock filters, sump pumps, etc.
- Directing the water offsite will require the discharge to meet FDEP Surface Water Quality Classifications (62-302.530). The water will need to be tested for pollutants.
- Turbidity levels on the discharge water shall not exceed 29 N.T.U.'s above the receiving waterbody. This can be achieved through well-point and sock filter methods, velocity controls, armored spillways, sediment basins, use of chemical clarifiers, etc.
- Floating turbidity curtains should be installed in the receiving waterbody. Curtain must extend to bottom of waterbody and attached to sides of bank.



MAINTENANCE TO BMP's

- Inspect BMP's at least daily and after ½ inch rain event.
- Remove sediment and repair spots of erosion immediately.
- If site is subject to NPDES permitting (1+ acres disturbed), keep a weekly log of erosion control efforts.

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