

EROSION AND SEDIMENT CONTROL NARRATIVE:

PRINCIPLES OF EROSION AND SEDIMENT CONTROL

The primary function of erosion and sediment controls is to absorb erosional energies and reduce runoff velocities that force the detachment and transport of soil and/or encourage the deposition of eroded soil particles before they reach any sensitive area.

KEEP LAND DISTURBANCE TO A MINIMUM

The more land that is in vegetative cover, the more surface water will infiltrate into the soil, thus minimizing stormwater runoff and potential erosion. Keeping land disturbance to a minimum not only involves minimizing the extent of exposure at any one time, but also the duration of exposure. Phasing, sequencing and construction scheduling are interrelated. Phasing divides a large project into distinct sections where construction work over a specific area occurs over distinct periods of time and each phase is not dependent upon a subsequent phase in order to be functional. A sequence is the order in which construction activities are to occur during any particular phase. A sequence should be developed on the premise of "first things first" and "last things last" with proper attention given to the inclusion of adequate erosion and sediment control measures. A construction schedule is a sequence with time lines applied to it and should address the potential overlap of actions in a sequence which may be in conflict with each other.

- Limit areas of clearing and grading. Protect natural vegetation from construction equipment with fencing, tree armoring, and retaining walls or tree wells.
- Route traffic patterns within the site to avoid existing or newly planted vegetation.
- Phase construction so that areas which are actively being developed at any one time are minimized and only that area under construction is exposed. Clear only those areas essential for construction.
- Sequence the construction of storm drainage systems so that they are operational as soon as possible during construction. Ensure all outlets are stable before outletting storm drainage flow into them.
- Schedule construction so that final grading and stabilization is completed as soon as possible.

SLOW THE FLOW

Detachment and transport of eroded soil must be kept to a minimum by absorbing and reducing the erosive energy of water. The erosive energy of water increases as the volume and velocity of runoff increases. The volume and velocity of runoff increases during development as a result of reduced infiltration rates caused by the removal of existing vegetation, removal of topsoil, compaction of soil and the construction of impervious surfaces.

- Use diversions, stone dikes, silt fences and similar measures to break flow lines and dissipate storm water energy.
- Avoid diverting one drainage system into another without calculating the potential for downstream flooding or erosion.

KEEP CLEAN RUNOFF SEPARATED

Clean runoff should be kept separated from sediment laden water and should not be directed over disturbed areas without additional controls. Additionally, prevent the mixing of clean off-site generated runoff with sediment laden runoff generated on-site until after adequate filtration of on-site waters has occurred.

- Segregate construction waters from clean water.
- Divert site runoff to keep it isolated from wetlands, watercourses and drainage ways that flow through or near the development until the sediment in that runoff is trapped or detained.

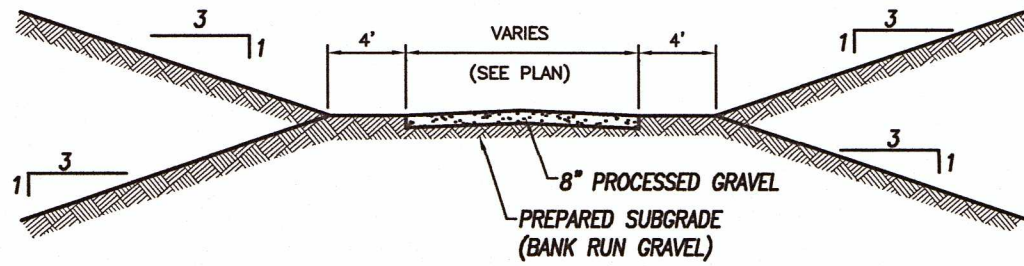
REDUCE ON SITE POTENTIAL INTERNALLY AND INSTALL PERIMETER CONTROLS

While it may seem less complicated to collect all waters to one point of discharge for treatment and just install a perimeter control, it can be more effective to apply internal controls to many small sub-drainage basins within the site. By reducing sediment loading from within the site, the chance of perimeter control failure and the potential off-site damage that it can cause is reduced. It is generally more expensive to correct off-site damage than it is to install proper internal controls.

- Control erosion and sedimentation in the smallest drainage area possible. It is easier to control erosion than to contend with sediment after it has been carried downstream and deposited in unwanted areas.
- Direct runoff from small disturbed areas to adjoining undisturbed vegetated areas to reduce the potential for concentrated flows and increase settlement and filtering of sediments.
- Concentrated runoff from development should be safely conveyed to stable outlets using rip rapped channels, waterways, diversions, storm drains or similar measures.
- Determine the need for sediment basins. Sediment basins are required on larger developments where major grading is planned and where it is impossible or impractical to control erosion at the source. Sediment basins are needed on large and small sites when sensitive areas such as wetlands, watercourses, and streets would be impacted by off-site sediment deposition. Do not locate sediment basins in wetlands or permanent or intermittent watercourses. Sediment basins should be located to intercept runoff prior to its entry into the wetland or watercourse.

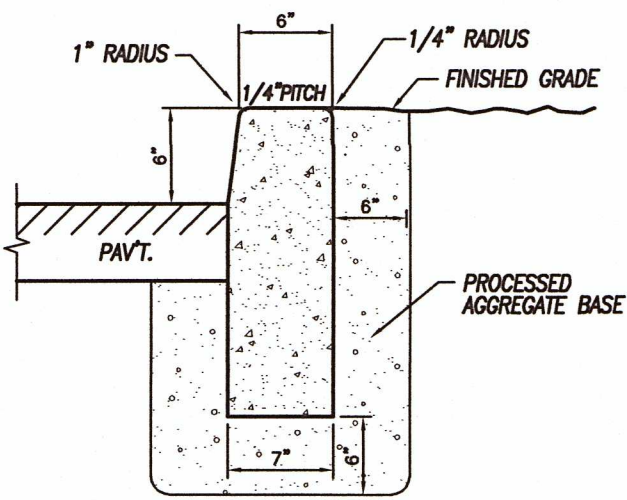
SEQUENCE OF OPERATIONS

- Flag limits of clearing and stake out centerline of proposed drive.
- Install erosion & sedimentation control devices as shown on the plans.
- Relocate existing sign and remove wood post and chain link fence along Maple Street within limit of proposed driveway entrance.
- Clear and grub where required. All stumps shall be removed from the site and disposed of at a permitted facility or location.
- Sawcut and remove existing curb.
- Remove topsoil and install anti-tracking construction entrance.
- Box out driveway and remove topsoil and subsoil from site.
- Place and compact bank run gravel for subgrade.
- Place and compact processed gravel for driveway surface.
- Install curbing at driveway entrance.
- Pave driveway apron to the limits shown on the plans.
- Install directional signage.
- Loam and seed disturbed areas beyond driveway limits.
- When all areas have been stabilized, remove and dispose of silt fence.



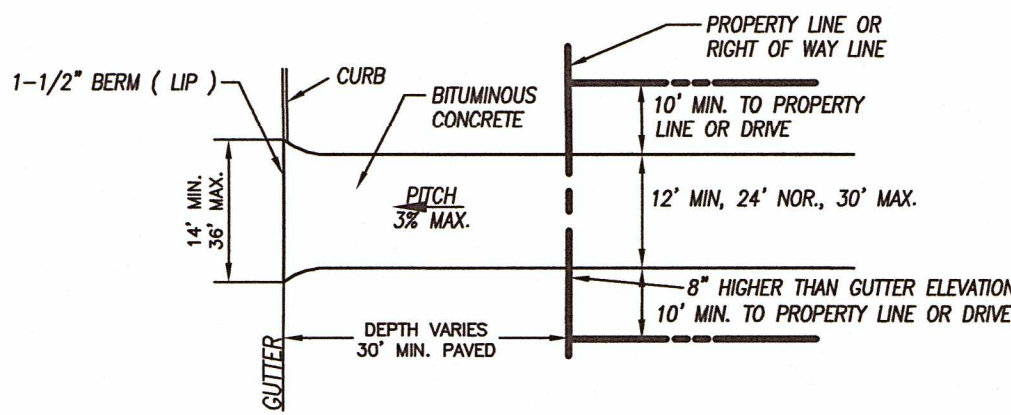
GRAVEL DRIVE DETAIL

NOT TO SCALE

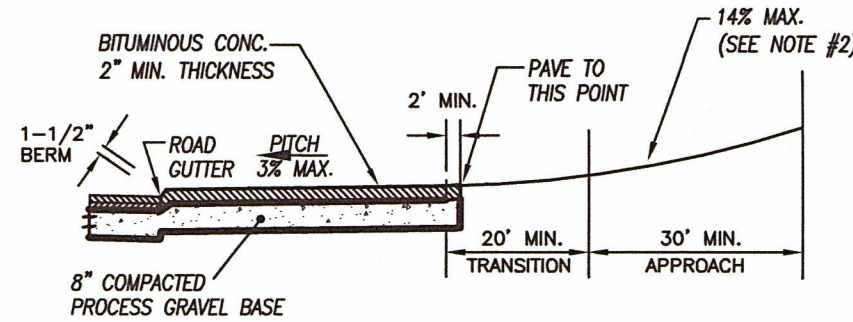


CONCRETE CURB DETAIL

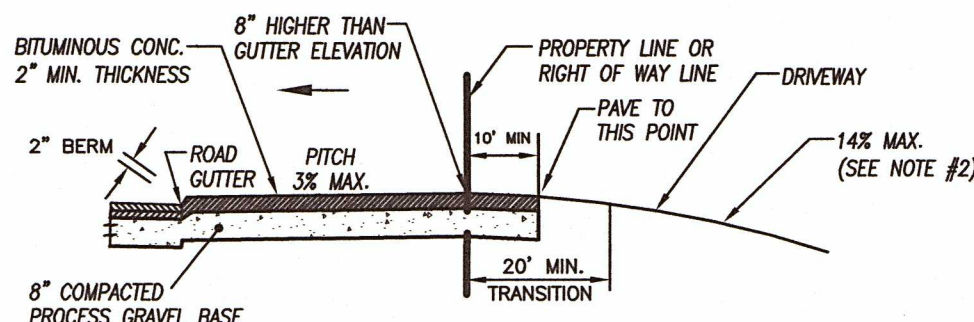
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PLAN VIEW



LAND ABOVE ROAD (SECTION)

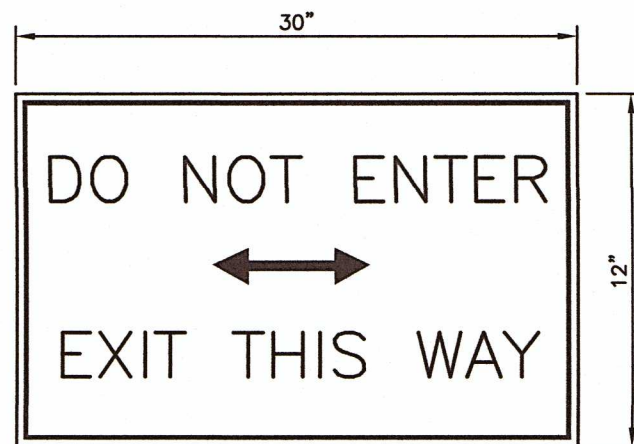


LAND BELOW ROAD (SECTION)

- THE ABOVE DETAIL IS ILLUSTRATIVE ONLY AND DOES NOT APPLY TO EVERY SITUATION. REVIEW YOUR DRIVEWAY PERMIT FOR YOUR SPECIFIC REQUIREMENTS.
- DRIVEWAYS IN EXCESS OF 10% GRADE, AND ALL COMMON (SHARED) DRIVEWAYS SHALL BE PAVED WITH BITUMINOUS CONCRETE.

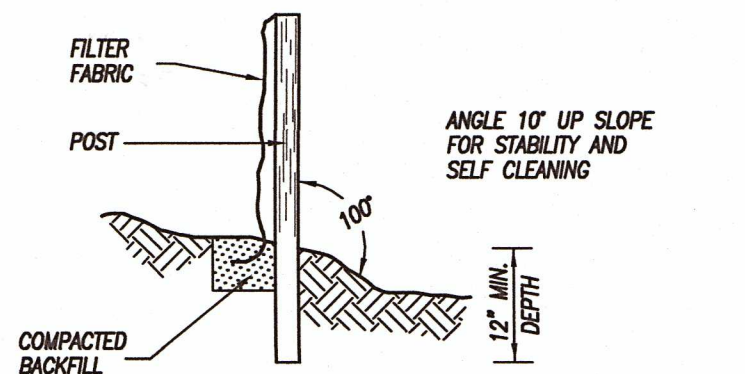
STANDARD DRIVE DETAIL

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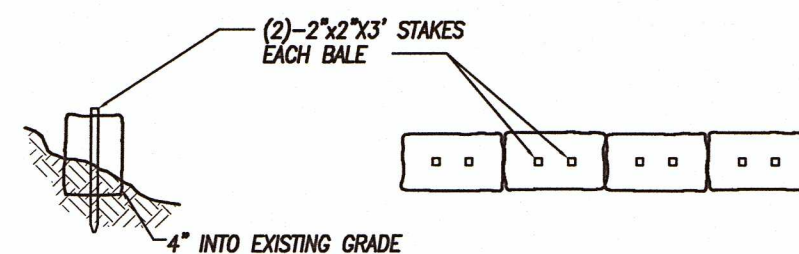
SIGN DETAIL

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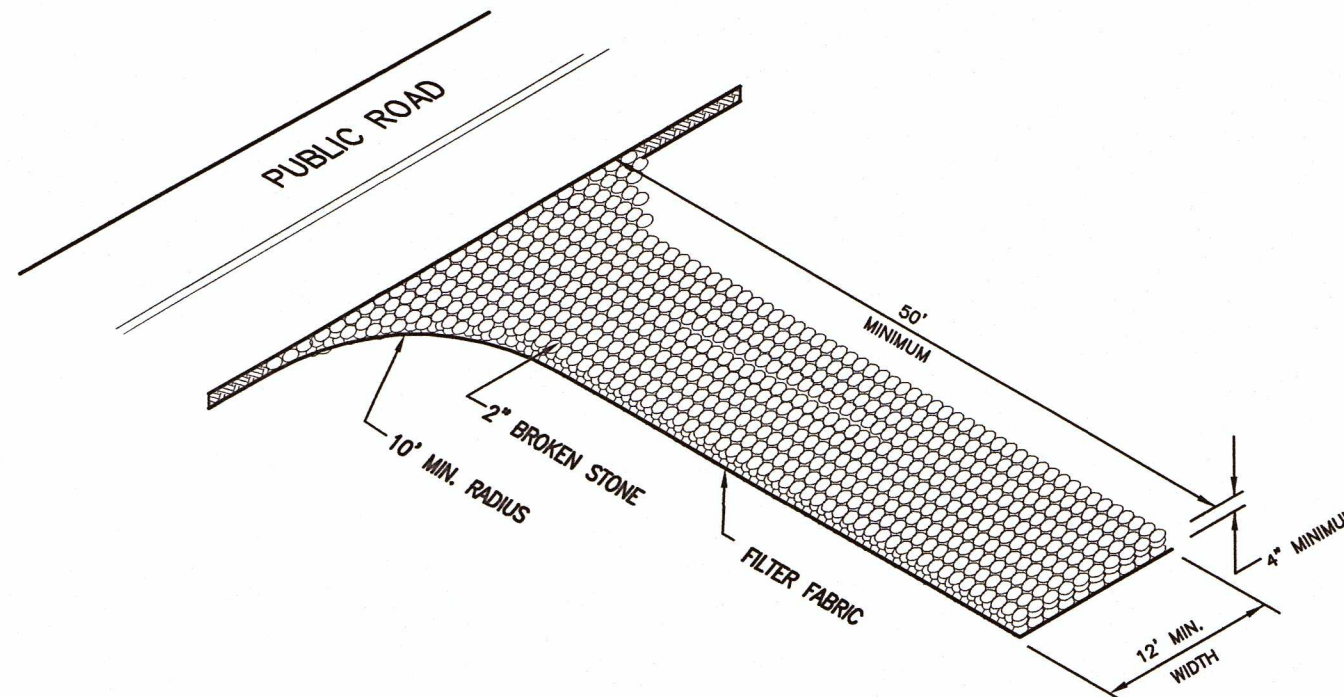
SILT FENCE

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HAYBALE BARRIER

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ANTI-TRACKING PAD

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DATE	DESCRIPTION
	REVISIONS

DETAIL SHEET

PREPARED FOR

ST. JOSEPH'S ROMAN CATHOLIC CHURCH

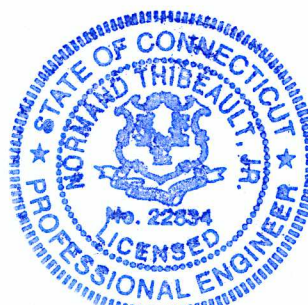
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Norman Thibault, Jr., P.E. 10/26/2021
DATE