

EROSION & SEDIMENT CONTROL NARRATIVE

PROJECT DESCRIPTION

The purpose of this project is to construct a 63 lot single family subdivision. This proposed subdivision will include 63 lots with an average lot size of 10,000 SF. There will be approximately 2000 LF of new roadway having a typical pavement width of 30 feet. The total acreage of Kingston Estates is 22 acres.

EXISTING SITE CONDITIONS

The proposed site development is located East of Vinton in the Vinton Magisterial District of Roanoke County, Virginia. The existing site consists of 22 acres of open, rolling pasture.

ADJACENT AREAS

The site is bordered on the north by undeveloped land. It is bordered on the east and south by the Blue Ridge Parkway, and to the west by the existing Stonebridge Acres Subdivision, south.

SOILS

Soils found at this site are common to the area. None of these soils have high erosion tendencies.

CRITICAL EROSION AREAS

The potential critical erosion areas are:
1. The outlet of all culverts.

EROSION AND SEDIMENT CONTROL MEASURES

Unless otherwise indicated, all vegetative and structural erosion and sediment control practices shall be constructed and maintained according to minimum standards and specifications of the handbook. The minimum standards of the VESCR shall be adhered to unless otherwise waived or approved by a variance.

STRUCTURAL PRACTICES

- Temporary Construction Entrance (Section 3.02)
One temporary construction entrance will be installed. Vehicles will be washed to limit tracking onto public roads. Should tracking occur the road will be immediately cleaned. Temporary straw bale barriers will be placed and entrenched and anchored as indicated on the site plan.
- Straw Bale Barrier (Section 3.04)
- Silt Fence (Section 3.05)
Temporary silt fences will be installed as indicated on the site plan.
- Outlet Protection (Section 3.18)
Outlet protection will be placed at all discharge points from controlled flow to open flow. All outlet protection will be permanently designed and installed.
- Surface Roughening (Section 3.29)
Surface roughening will be employed on existing slopes exceeding 2:1.
- Temporary Seeding (Section 3.31)
Temporary seeding will be placed on all disturbed areas that will not be brought to final grade within thirty (30) days. Temporary seeding will aid in the reduction of dust and sediment. Temporary seeding will be Annual Ryegrass (100 #/ac), Feb 16 - April 30, German Millet (60 #/ac), May 1 - Aug. 31.
- Permanent Seeding (Section 3.32)
After final grading permanent seeding will be employed to reduce erosion and sediment yield.

Seeding Specifications:

Permanent seeding will be Kentucky Bluegrass, blended to contain 4 or more varieties, with no one variety exceeding 30%. The seeding will be applied at 140 lb. per acre. On slopes 2:1 or greater a mixture of Crown Vetch (50%), Perennial Ryegrass (40%), and Redtop (10%) will be used.

All seeding, with required associated practices, will be in accordance with all applicable sections of the Virginia Erosion and Sediment Control

- Dust Control (Section 3.39)
If arid conditions prevail dust control practices will be employed as required.
- Construction Road Stabilization (Section 3.03)
All roads and parking areas on the site shall be stabilized with gravel immediately after grading. Traffic is prohibited from entering drainage swales or streams unless absolutely necessary.
- Temporary Sediment Basin (Section 3.14)
- Riprap (Section 3.19)
Riprap shall be placed at the outlet of all pipes in accordance with VDOT standard EC-2 as indicated on the plans. Riprap along the ditches shall be VDOT Class 1 riprap installed over a six inch filter fabric, consisting of #57 stone.

12. Check Dams (Section 3.20)

MANAGEMENT

- Construction should be sequenced so that grading operations can begin and end as quickly as possible.
- Erosion and Sediment control devices shall be installed as the first step of construction.
- Areas which are not to be disturbed shall be clearly marked by flags, signs, etc.
- The grading contractor shall be responsible for the installation and maintenance of all erosion and sediment control practices. Inspections are to be made periodically and after every significant rainfall.
- After achieving adequate stabilization, the temporary E&S controls will be cleaned up and removed, and the sediment basins will be cleaned out and converted to permanent stormwater management basins.

PERMANENT STABILIZATION

All areas disturbed by construction shall be stabilized with permanent seeding immediately following finish grading. Seeding shall be done with Kentucky 31 Tall Fescue according to Std. & Spec. 3.32, PERMANENT SEEDING, of the handbook. Erosion control blankets will be installed over fill slopes which have been brought to final grade and have been seeded to protect the slopes from rill and gully erosion and to allow seed to germinate properly. Mulch (straw or fiber) will be used on relatively flat areas. In all seeding operations, seed, fertilizer and lime will be applied prior to mulching.

MAINTENANCE OF DETENTION FACILITIES

The applicant shall obtain approval from the locality of a plan for maintenance of the detention facilities. The plan shall set forth the maintenance requirements of the facility and the person responsible for performing the maintenance.

STORMWATER MANAGEMENT

Calculation of runoff before and after development indicates that there will be a net increase in peak runoff as a result of project development. Consequently, stormwater management basins have been designed to detain and release the runoff at the 10-year post development to 2 year pre-development rate & 25 year post development to 10 year pre-development.

Pre-development rates:

Q2	21.47cfs
Q10	29.90cfs
Q25	35.27cfs
Q100	43.70cfs

Post-development rates:

Q10	37.42cfs
Q25	45.35cfs
Q100	59.51cfs

MAINTENANCE

In general, all erosion and sediment control measures will be checked daily and after each significant rainfall. Any items not found in accordance with the Virginia Erosion and Sediment Control Handbook will be immediately replaced and/or repaired. The following items will be checked in particular:

- The sediment basin will be cleaned out when the level of sediment buildup reaches the cleanout point indicated on the riser pipe.
- The gravel outlets will be checked regularly for sediment buildup which will prevent drainage. If the gravel is clogged by sediment, it shall be removed and cleaned or replaced.
- The silt fence barrier will be checked regularly for undermining or deterioration of the fabric. Sediment shall be removed when the level of sediment deposition reaches half way to the top of the barrier.
- The seeded areas will be checked regularly to ensure that a good stand is maintained. Areas should be fertilized and re-seeded as needed.

GENERAL

The erosion and sediment control measures shown on the construction plans are the minimum measures required. Due to construction phasing and other considerations all measures can not be shown. The owner, through his contractor, will employ whatever measures which may be required to assure that sediment laden runoff does not leave the site.

All materials and measures employed for erosion and sediment control will be in accordance with the Virginia Erosion and Sediment Control Handbook, latest edition.

If, during construction, additional Erosion and Sediment Control measures are deemed necessary, they shall be installed as directed by the Owner, Engineer or County agent.

This project is to be constructed consistent with the 1992 Virginia Erosion And Sediment Control Regulations.

The storm water management pond shall serve as the temporary sediment control pond during construction. After construction is complete, the dewatering structure shall be removed and the end wall and orifice plate installed per the plans.

The location of all off-site areas and borrow areas associated with the construction project will be provided to Roanoke County Community Development. An Erosion Control plan or measures may be required for these areas.

