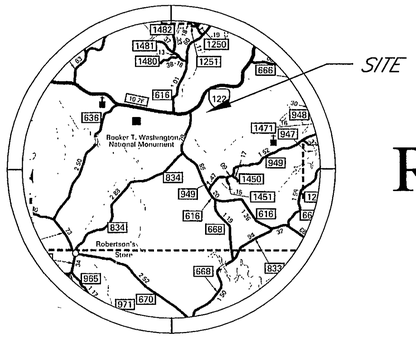
MOUNTAIN VIEW VILLAGE

ROAD AND UTILITY CONSTRUCTION PLANS

with Erosion and Sediment Control Measures

GILLS CREEK MAGISTERIAL DISTRICT

FRANKLIN COUNTY, VIRGINIA



LOCATION MAP:

DATE: FEBRUARY 15, 2006

COMMONWEALTH OF VIRGINIA
RODNEY DEAN STONE
No. 032080
02/15/06
PROFESSIONAL ENGINEER

ENGINEER:
STONE ENGINEERING, INC.
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ROCKY MOUNT, VIRGINIA 24151
(540) 483-0078

DEVELOPER:
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(540) 493-6004

SURVEYOR:
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(540) 489-3590

EROSION AND SEDIMENT CONTROL DEVICE LEGEND:

- (CE) CONSTRUCTION ENTRANCE
- (CRS) CONSTRUCTION ROAD STABILIZATION
- (SF) SILT FENCE
- (CIP) CULVERT INLET PROTECTION
- (OP) OUTLET PROTECTION
- (PS) PERMANENT SEEDING
- (ST) SEDIMENT TRAP
- (SB) SEDIMENT BASIN

SEQUENCE OF CONSTRUCTION

Before any grading the following erosion control techniques must be installed in this order:
1) Construction Entrance
2) Silt Fence
These measures must be kept in place during construction until all disturbed areas have been stabilized. After stabilization the silt fence can be removed.

ROAD CONSTRUCTION NOTES

QUALITY CONTROL:

Streets to be graded, paved and all structural components erected in accordance with the most current Virginia Department of Transportation Road and Bridge Specifications and Road Design Standards. All materials used shall be tested in accordance with standard policies. The developer must contact the office of the Resident Engineer prior to beginning any construction at which time an inspection and Testing Procedure Policy will be drawn. The developer will produce test reports from approved independent laboratories at the developer's expense.

The pavement designs shown are based on a subgrade rating of CBR10 or greater. The subgrade soil is to be tested by an independent laboratory and the results submitted to the Virginia Department of Transportation prior to pavement construction. Should the subgrade CBR values be less than CBR10, additional base material will be required in accordance with departmental specifications.

The subgrade must be approved by the Virginia Department of Transportation prior to placement of the base. Base must be approved by the Virginia Department of Transportation for depth, template and compaction before surface is applied.

UTILITIES:

Permits will be required for all utilities within street right-of-way prior to acceptance into the secondary highway system.

Any easements granted to a utility company for placement of power, telephone, etc. must be released prior to acceptance.

EROSION CONTROL AND LANDSCAPING

Care must be taken during construction to prevent erosion, dust and mud from damaging adjacent property, clogging ditches, tracking public streets and otherwise creating a public or private nuisance to surrounding areas.

The entire construction area back of curbs and/or pavement to be backfilled and seeded together with ditches and channels at the earliest possible time after final grading.

Drainage easements must be defined by excavated ditches or channels for their full length to well defined existing natural watercourses.

This road will be reviewed during construction for the need of paved gutters. If erosion is encountered in any drainage easement, it will be the responsibility of the developer to sod, riprap, grout, pave, or do whatever is necessary to correct the problem.

All vegetation and overburden to be removed from shoulder to shoulder prior to the conditioning (cutting and/or preparation) of the subgrade.

GENERAL:

Standard guardrail with safety end sections may be required on fills as deemed necessary by the VDOT engineer. After completion of rough grading operations, the office of the Resident Engineer, Virginia Department of Transportation, shall be notified so that a field review may be made of the proposed locations.

Field review will be made during construction to determine the need and limits of paved gutter and/or ditch stabilization treatments, to determine the need and limits of additional drainage easements. All drainage easements must be cut and made to function as a natural watercourse. Any erosion problems encountered in an easement must be corrected by whatever means necessary prior to subdivision acceptance.

Contractor shall obtain entrance permit to the existing Virginia Department of Transportation right-of-way from Resident Engineer prior to road construction.

An inspector will not be furnished except for periodic progress inspection, the above mentioned field reviews and checking of required stone depths. The developer will be required to post a surety to guarantee the road free of defects for one year after acceptance by the Department of Transportation.

The streets must be properly maintained until acceptance. At such time as all requirements have been met for acceptance, another inspection will be made to determine if the street has been properly maintained.

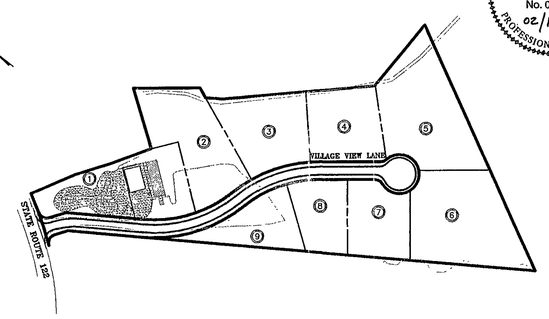
In order to meet public service requirements, all streets must serve a minimum of three occupied dwellings prior to acceptance.

CONSTRUCTION NOTES:

1. An Erosion and Sediment Control Plan has been approved and is hereby made part of these plans. The contractor is responsible for obtaining and adhering to the provisions therein, which shall include inspection and repairs, if necessary, periodically and after every erodible rainfall.

2. An approved Erosion and Sediment Control Plan may be amended by the plan approving authority if on-site inspection indicates that the approved control measures are not effective in controlling erosion and sedimentation, or if, because of changed circumstances, the approved plan cannot be carried out.

3. All erosion and sediment control practices shall be in accordance with the "Virginia Erosion and Sediment Control Handbook, Third Edition, 1992." (VESCH).



LEGEND

- ROAD CENTERLINE
- EDGE OF PAVEMENT
- DITCHLINE
- PROPERTY LINE/R.O.W.
- EASEMENT
- EXISTING 2' CONTOUR
- EXISTING 10' CONTOUR
- CULVERT PIPE
- DF DRAINFIELD
- DE DRAINAGE EASEMENT
- X CULVERT STRUCTURE NUMBER
- FLOW ARROW
- X LOT NUMBER
- X X SILT FENCE
- DISTURBED AREA
- EXISTING R/W

0 100' 200' 400' 600' 800'
GRAPHIC SCALE 1" = 200'

SHEET INDEX:

NOTES:

1. All construction methods and materials must be in accordance with current VDOT Road and Bridge specifications.

2. All roadside ditches shown as paved on plans are to be paved in accordance with the standard typical section as shown on plans unless otherwise directed by the resident engineer in writing. Any additional paving of the ditches, other than those shown on the road plans, will be determined prior to acceptance of the roads into the VDOT secondary road system.

3. Clearing and grubbing shall be completed within the rights-of-way as indicated on the layout plan.

4. All vegetation and overburden to be removed from shoulder to shoulder prior to the condition of the subgrade.

5. Excess excavation to be disposed of as directed by the Engineer.

6. Actual copies of the CBR report are to be submitted prior to the acceptance of the roads into the secondary system. If the CBR values are less than 10, the developer will be required to submit for approval, his proposed method of correction. One CBR test per street will be submitted; otherwise, a CBR test will be required when the type of subgrade material changes.

7. The subgrade must be approved by VDOT prior to placement of base.

8. Base must be approved by VDOT for depth, template and compaction before surface is applied.

9. Contractor shall obtain entrance permit to tie to existing VDOT right-of-way from Resident Engineer prior to road construction.

10. All utilities to be in place prior to laying base material and shall be encased. The developer is to utilize the PUE (public utility easement) for the placement of parallel power, telephone, water and sewer facilities.

11. Field review will be made during construction to determine the need and limits of guard rail, determine the need and limits of paved gutter and/or ditch stabilization treatments, to determine the need and limits of additional drainage easements. All drainage easements must be cut and made to flow to a natural watercourse. Any erosion problems encountered in an easement must be corrected by whatever means necessary prior to subdivision acceptance. The field review will also determine the extent of outfall ditches and associated easements, the need of additional outfall ditches and easements, and the dimensions of same.

12. An inspector will not be furnished except for periodic progress inspection, the above mentioned field reviews and checking for required stone depths. The developer will be required to post a surety to guarantee the road free of defects for one year after acceptance by the Department of Transportation.

13. The streets must be properly maintained until acceptance. At such time as all requirements have been met for acceptance, another inspection will be made to determine if the street has been properly maintained.

14. Any easement granted to a utility company for placement of power or telephone must be released prior to acceptance.

15. In order to meet public service requirements, all streets must serve a minimum of three dwellings prior to acceptance.

16. A minimum pavement radius of 25 feet is required at all street intersections.

17. A temporary gravel construction entrance will be required at intersections of subdivision streets and public streets and highways.

18. Contractor shall verify location and elevation of all underground utilities shown on the plans in areas of construction prior to starting work. Contact engineer immediately if location or elevation is different from that shown on the plan. If there appears to be a conflict and upon discovery of any utility not shown on the plan, call MISS UTILITY of Central Virginia @ 1-800-552-7001.

19. All entrance pipes for private entrances will be of minimum dimensions 24"x15" unless a review by departmental representatives determines otherwise. Concrete or corrugated metal pipe is recommended.

20. Cul-de-sac must be a minimum paved radius of 45', right-of-way of 55' radius. Desired cul-de-sac radius for the right-of-way is 60'.

21. In cases where construction of streets is completed prior to departmental approval of plans for construction, sufficient deviation of actual street construction and planned construction require submittal of as-builts.

22. On sectional developments, the department requires submittal of an overall development scheme to determine traffic generation figures and flows.

23. Unless discussed and approved by VDOT's engineers, all cross pipes will have a minimum diameter of 18".

MINIMUM STANDARDS FOR CONTROLLING EROSION AND SEDIMENT

MS-1 Stabilization of Denuded Areas
Permanent or temporary soil stabilization shall be applied to denuded areas within seven days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to denuded areas that nay not be at final grade but will remain dormant for longer than 30 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year.

MS-2 Stabilization of Soil Stockpiles
During construction of the project, soil stockpiles and borrow areas shall be stabilized or protected with sediment trapping measures. The applicant is responsible for the temporary protection and permanent stabilization of all soil stockpiles on site as well as borrow areas and soil intentionally transported from the project site.

MS-3 Permanent Vegetation
A permanent vegetative cover shall be established on denuded areas not otherwise permanently stabilized. Permanent vegetation shall not be considered established until a ground cover is achieved that, is uniform, mature enough to survive and will inhibit erosion.

MS-4 Timing and Stabilization of Sediment Trapping Measures
Sediment basins and traps, perimeter dikes, sediment barriers and other measures intended to trap sediment shall be constructed as a first step in any land-disturbing activity and shall be made functional before upslope land disturbance takes place.

MS-5 Stabilization of Earthen Structures
Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation.

MS-6 Sediment Basins
Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin.
A. The minimum storage capacity of a sediment trap shall be 134 cubic yards per acre of drainage area and the trap shall only control drainage areas less than three acres.
B. Surface runoff from disturbed areas that is comprised of flow from drainage areas greater than or equal to three acres shall be controlled by a sediment basin. The minimum storage capacity of a sediment basin shall be 134 cubic yards per acre of drainage area. The outfall system shall, at a minimum, maintain the structural integrity of the basin during a twenty-five year storm of 24-hour duration. Runoff coefficients used in runoff calculations shall correspond to a bare earth condition or those conditions expected to exist while the sediment basin is utilized.

MS-7 Cut and Fill Slopes
Cut and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be eroding excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected.

MS-8 Concentrated Runoff Flow Down Cut or Fill Slopes
Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure.

MS-9 Water Seeps From a Slope Face
Whenever water seeps from a slope face, adequate drainage or other protection shall be provided.

MS-10 Storm Sewer Inlet Protection
All storm sewer inlets that are made operable during construction shall be protected so that sediment-laden water cannot enter the conveyance system without first being filtered or otherwise treated to remove sediment.

MS-11 Stabilization of Outlets
Before newly constructed stormwater conveyance channels or pipes are made operational, adequate outlet protection and any required temporary or permanent channel lining shall be installed in both the conveyance channel and receiving channel.

MS-12 Work in Live Watercourses
When work in a live watercourse is performed, precautions shall be taken to minimize encroachment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodible material shall be used for the construction of causeways and cofferdams. Earthen fill may be used for these structures if armored by nonerodible cover materials.

MS-13 Crossing a Live Watercourse
When a live watercourse must be crossed by construction vehicles more than twice in any six-month period, a temporary vehicular stream crossing constructed of nonerodible material shall be provided.

MS-14 Applicable Regulations
All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met.

MS-15 Stabilization of Bed and Banks
The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed.

MS-16 Underground Utility Construction
Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
A. No more than 500 linear feet of trench may be opened at one time.
B. Excavated material shall be placed on the uphill side of trenches.
C. Effluent from dewatering operations shall be filtered or passed through an approved sediment trapping device, or both, and discharged in a manner that does not adversely affect flowing streams or off-site property.
D. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization.
E. Restabilization shall be accomplished in accordance with these regulations.
F. Applicable safety regulations shall be complied with.

MS-17 Construction Access Routes

Where construction vehicle access routes intersect paved or public roads, provisions shall be made to minimize the transport of sediment by vehicular tracking onto the paved surface. Where sediment is transported onto a paved or public road surface, the road surface shall be cleaned thoroughly at the end of each day. Sediment shall be removed from the roads by shoveling or sweeping and transported to a sediment control disposal area. Street washing shall be allowed only after sediment is removed in this manner. This provision shall apply to individual development lots as well as to larger land-disturbing activities.

MS-18 Temporary Erosion & Sediment Control Measure Removal
All temporary erosion and sediment control measures shall be removed within 30 days after final site stabilization or after the temporary measures are no longer needed, unless otherwise authorized by the local program authority. Trapped sediment and the disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion and sedimentation.

MS-19 Protection of Downstream Properties and Waterways
Properties and waterways downstream from development sites shall be protected from sediment deposition, erosion and damage due to increases in volume, velocity and peak flow rate of stormwater runoff for the stated frequency storm of 24-hour duration. Contractor shall be responsible for obtaining a copy of the approved Erosion and Sediment control Plan and adhere to same. The Virginia Erosion and Sediment Control Handbook shall be used in addition to the approved narrative and plan.