- VESCH STATE MINIMUM STANDARDS (1992 EDITION)

 An erosion and sediment control program adopted by a district or locality must be consistent with the following criteria, techniques and methods
- Permonent or temporary soil stabilization shall be applied to denuded areas within seven days ofter final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within seven days to deruded used but may not be at final grade but will remain domaint for longer than 30 days. Permanent substitutions shall be applied to once but due to be left domaint for more than one year.

DISTURBED AREAS WILL BE STABILIZED AS NOTED ON THESE PLANS. STABILIZED AREAS WILL BE INSPECTED WEEKLY AND AFTER SIGNIFICANT

- During constanction of the project, and stock joins and borne seen when the stabilised or protected with sections tropping measures. The applicant is responsible for the tempropary protection and personnel stabilisation of all stabilities and set all bornes over and sell tentionally throughout from the protection of STOCKPILES AND BORROW AREAS WILL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES, THIS PERTAINS TO STOCKPILES ON STEE AS WILL AS BORROW AREAS AND SOIL TRANSPORTED OFFSTIE.
- 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.
- STOCKPLES AND BORROW AREAS WILL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES. THIS PERTAINS TO STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL TRANSPORTED OFFSITE. 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 uptope land disturbance takes place. ALL SEDIMENT TRAPS, PERMETER DIKES, AND OTHER SEDIMENT TRAPPING MEASURES SHALL BE CONSTRUCTED PROPER TO ANY LAND DISTURBANCE LIPS,COPE.
- Stabilization measures shall be applied to earthen structures such as dame, dikes and diversions immediately after installation. ALL EARTHEN STRUCTURES SHALL B STABILIZED IMMEDIATELY AFTER INSTALLATION.
- 6. Sediment traps and sediment basins shall be designed and constructed based upon the total drainage area to be served by the trap or basin. N/A
- Journal of the Control of the Contro
- Out and fill slopes shall be designed and constructed in a manner that will minimize erosion. Slopes that are found to be ending excessively within one year of permanent stabilization shall be provided with additional slope stabilizing measures until the problem is corrected. CUT AND FILL SLOPES WILL BE STABILIZED IMMEDIATELY AFTER PROMISE OPERATIONS. AND SHALL BE PROVIDED WITH ADDITIONAL MEASURES IF EROSIONS OPERATIONS.
- Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure. NO CONCENTRATED RUNOFF SHALL BE ALLOWED TO FLOW DOWN GRADED SLOPES.
- Whenever water seeps from a slope face, adequate drainage or other protection shall be provided. IF WATER SEEPS FROM A SLOPE FACE, ADDITIONAL SLOPE AND DRAINAGE PROTECTION WILL BE ADDED.
- 10. All storm seem inities that one mode operable using construction shall be protected so that sediment-loden water connot enter the conveyance system without first being filtered or otherwise treded to remove sediment. ALL STORM SEWER STRUCTURES THAT WILL BE SUBJECT TO RUNOFF FROM THE PROJECT FARE WILL BE FORDETED WITH STRUCTURES THAT WILL BE SUBJECT TO RUNOFF FROM THE PROJECT FARE WILL BE FORDETED WITH STRUCTURES THAT WILL BE SUBJECT TO RUNOFF FROM THE PROJECT FARE WILL BE FORDETED WITH STRUCTURES THAT WILL BE SUBJECT TO RUNOFF FROM THE PROJECT FARE WILL BE SUBJECT FOR THE PROJECT FARE WILL BE SU
- 11. Before newly constructed stormwater conseyonce channels or pipes are made operational, adequate outset protection and any required temporary or permanent channel fining shall be instabled in both the conseyonce channel and receiving channel. ALL STORMWATER CONVEYANCE CHANNELS WILL BE PROPERLY SEEDED AND STABILIZED PROPER TO BERNO ANDEC OPERATIONS.
- 12. When work in a line watercourse is performed, precoulisins shall be taken to minimize encropartment, control sediment transport and stabilize the work area to the greatest extent possible during construction. Nonerodatic material shall be used for the construction of courseage and cofferdams. Earther fill may be used for their shanctures if removed by moreologic over materials. THERE WILL BE NO WORK PERFORMED IN A LUY WATRECOURSE DURING THAT SPRANCET.
- 13. 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. THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT.
- 14. All applicable federal, state and local chapters pertaining to working in or crossing live watercourses shall be met. THERE WILL BE NO WORK PERFORMED IN A LIME WATERCOURSE DURING THIS PROJECT.
- 15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed. THERE WILL BE NO WORK PERFORMED IN A LIVE WATERCOURSE DURING THIS PROJECT.
- 16. Underground utility lines shall be installed in accordance with the following standards in addition to other applicable criteria:
- 16.1. a. No more than 500 linear feet of trench may be opened at one time. N/A
- 16.2. b. Excovated material shall be placed on the uphill side of trenches. IV/S
 16.3. c. Effluent from desidening operations shall be filtered or possed through an approved sediment trapping device, or both, and discharged in a manner that does not observely offset. Toking starters or off-site property, IV/S
- 16.4. d. Material used for backfilling trenches shall be properly compacted in order to minimize erosion and promote stabilization. N/A
- 16.5. e. Restabilization shall be accomplished in accordance with this chapter. N/A
- 16.6. f. Applicable safety chapters shall be compiled with ALL UNDERGROUND UTILITY LINES TO BE INSTALLED WILL BE INSTALLED IN ACCORDANCE WITH THE ABOVE STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA.
- THE ABOVE STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA.

 These controlland velocities are used interest power or public mode, produce and the mode to minimize the transport of sediment by willcalar tracking onto the power surface. Where sediment is transported on a power or public mode, produce authors, the mode surface shall be deemed throughly at the end of each day. Sedimental be removed from the mode by their bring or seeking not interported to a demicrocated day sediment sorted disposition. Servel subring value to elevent or in termoved in this momer. This provision shall easy to individual development bet on well on to target non-disturbing publics. MULNISHE MILL BE USED TO MEDIT THE PUBLIC PRODUCE APPLICATE CONTROLL THE SERVE AND THE S
- 10. Properfies and selectings discontinues from development that will be protected from sederant deposition, resolve and dampe due to increase in volume, velocity and peak from rise of demonster mortal first the statell requestery after a 25-febra continue in accordance with the following bistories and continue in 25-febra continues in 25-febra conti
- 19.2. b. Adequacy of all channels and pipes shall be verified in the following manner: N/A
- (1) The applicant shall demonstrate that the total drainage area to the point of analysis within the channel is one hundred times greater than the contributing drainage area of the project in question; or III/A.
- 19.2.2.1. (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormmater will not overtop channel banks nor cause erosion of channel bed or banks. N/A
- usume bot or cores. M∆ 22.22. (a) Mily precisely constructed mon-mode channels shall be analysed by the use of a tem-year storm to verify that stormwater will not overtop its banks and by the use of a bus-year storm to demonstrate that stormwater will not cause enotion of channel bad or banks, and M∆ 19.22.X. (a) Piece and storm sever systems shall be analyzed by the use of a tem-year storm to verify that stormwater will be contained within the pipe or system. M∆
- 19.3. c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall: N/A
- 19.3.1. (1) Improve the channels to a condition where a ten-year storm will not overtap the banks and a two-year storm will not cause erosion to channel the bed or banks or N/A
- (2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; N/A
- 19.3.3. (3) Evelop a this ellips that will not cause the per-designment pack need free from a tow-per stem to increase when need notifies into a rotural cleared or all not cause the pre-designment pack need for the first cleared the pre-designment pack need from the first pack need for the
- 19.4. d. The applicant shall provide evidence of permission to make the improvements. N/A
- 19.5. e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development condition of the subject project. M/A
- 19.6. f. If the applicant chooses an option that includes starmwater detention, he 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. №/...
- 19.7. g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipators shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel. M/A
- necessary to provide a stabilized troation from the toolity to the recovery convent. W.A.

 18.9. I. Not miller charmed must be written to be obligated. The stable could be stable could be desired to a stable could, designed charmed, pipe or pipe systems or to a detection facility. M.O.

 19. In consideration of the destroation facility. M.O.

 19. In consideration of the destroation of the de

- ullimate development condition shall be used in all engineering calculations. IJ/L.

 18.11k. All measures used to protect properies and welversys with be employed in a manner witch minimizes impacts on the physical, chemical and biological integrity of rivers, stemam and other waters of the state. II/L.

 18.12.1. The flow ratio capacity and velocity requirements of \$10.1-561 A of the cast and this subsection shall be satisfied by compliant with water quantity requirements in the Stormwater Management Act (\$10.1-503.2 ET \$50. of the Code of Virginia) and attendant regulations, unless such inader disturbing activities or accordance with 4VXC50-00-01 of of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50. of the Code of Virginia) and attendant regulations, unless such inader disturbing activities are accordance with 4VXC50-00-01 of of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50. of the Code of Virginia) and attendant regulations, unless such inader disturbing activities or accordance with 4VXC50-00-01 of of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50. of the Code of Virginia) and attendant regulations, unless such inader disturbing activities or accordance with 4VXC50-00-01 of of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50. of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 ET \$50.0 of the Virginia Stormwater Management Act (\$10.1-503.2 of the Virginia Stormwater Management Act (\$10. Program (VSMP) perm regulations.
- Program (VSMP) perm regulations.

 19.13.m. Compliance with the water quantity minimum standards set out in 4VAC50-60-66 of the Virginia Stormwater Management Program (VSMP) permit regulations shall be deemed to satisfy the requirement so of minimum standard 19. THE 2-YEAR AND 10-YEAR POST DEVELOPMENT PEAK FLOW RATES HAVE BEEN DETAINED AND REDUCED ON SITE FOR CHANNEL FLOOD PROTECTION. ADDITIONALLY, THE DOWNSTREAM CHANNEL IS A LIVE STREET, GLADE CREEK, DOWN TO THE 1% POINT. AS SUCH, NO ADDITIONAL DOWNSTREAM CHANNEL ANALYSIS HAS BEEN PERFORMED.

TABLE 6-1 GENERAL EROSION AND SEDIMENT CONTROL NOTES

ES-1 Long obtaines indicated, all vegetative and structural erosion and sectional fundamental precision will be constructed on mentioned seconding to minimum standards and specifications of the Virginia Criston and Sediment Control Handbook and Virginia Regulations VR 625-02-00 Erosion and Sediment Control Regulations VR 625-02-00 Erosion and Sediment Control Regulations

- ES-2
 The plan approving authority must be notified one week prior to the preconstruction conference, one week prior to the commencement of the land disturbing activity, and one week prior to the final inspection.
- All erasion and sediment control measures are to be placed prior to or as the first step in clearing.
- LS-5 Prior to commencing land disturbing activities in areas other than indicated on these plans (including, but not limited to, off-site borrow or wate areas), the contractor shall submit a supplementary erosion control plan to the owner for review and approving authority.
- All disturbed areas are to drain to approved sediment control measures at all times during land disturbing activities and during site development until final stabilization is achieved.
- ES-9

 The contractor shall inspect all erosion control measures periodically and after each runoff-producing rainfall event. Any necessary repairs or cleanup to maintain the effectiveness of the erosion control devices shall be made

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

SHEET FLOW INSTALLATION

POINTS A SHOULD BE HIGHER THAN POINT B

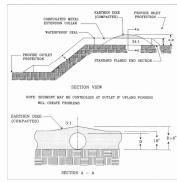
DRAINAGEWAY INSTALLATION

2. EXCAVATE A 4"X 4" TRENCH UPSLOPE ALONG THE LINE OF STAKES.

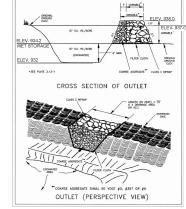
4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

1. SET THE STAKES.

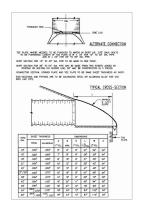
3. STAPLE FILTER MATERIAL TO STAKES AND EXTEND IT INTO THE TRENCH.



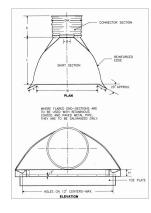
TEMPORARY SLOPE DRAIN



TEMPORARY SEDIMENT TRAP #3



FLARED END-SECTION (CONT.) NOT TO SCALE



FLARED END-SECTION



rawing C-2

EROSION & SEDIMENT CONTROL NOTES & DETAILS NORTH OF

DITH RVEVING 1

MERED SERING-SUR

ENGINE

MOUNTAIN BROOK VILLAS COMPREHENSIVE DEVELOPMENT PLAN ROANOKE, VIRGINIA

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Dr. 1 24153

1647 Millwood D Salem, Virginia

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