







EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION
THIS PROJECT IS LOCATED ALONG A CLOSED PORTION OF SYCAMORE AVENUE NE IN THE CITY OF ROANOKE AND CONSISTS OF THE CONSTRUCTION OF A NEW CITY OF ROANOKE PUBLIC WORKS POLE BARN. TOTAL DISTURBED AREA IS APPROXIMATELY 0.09 ACRES (4,000 SF.)

EXISTING SITE CONDITIONS
THE SITE IS PART OF AN EXISTING CITY OF ROANOKE PUBLIC WORKS FACILITY.

ADJACENT AREAS
THIS SITE IS BORDERED BY AN EXISTING CITY OF ROANOKE PUBLIC WORKS FACILITY TO THE NORTH, A CLOSED PORTION OF SYCAMORE AVENUE NE TO THE SOUTH, AND EXISTING GRAVEL PARKING LOTS TO THE EAST AND WEST.

OFFSITE AREAS
NO OFFSITE AREAS ARE COVERED WITH THIS PLAN SET. IF MATERIALS ARE TO BE WASTED OFFSITE THE LOCATION MUST BE PROVIDED TO THE CITY OF ROANOKE. A SEPARATE EROSION & SEDIMENT CONTROL PLAN MAY BE REQUIRED.

SOILS
SOILS INFORMATION IS BASED ON AN INSPECTION OF THE NRCS WEB SOIL SURVEY OF ROANOKE COUNTY AND THE CITIES OF ROANOKE AND SALEM, VIRGINIA, AND HAS NOT BEEN FIELD VERIFIED. THE ONSITE SOILS FALL INTO THE FOLLOWING CATEGORIES:

URBAN LAND, (53) HAS SLOPES 0 TO 30% WITH DEPTH TO RESTRICTIVE FEATURES AT 10". THESE AREAS ARE PRIMARILY URBAN FILL AREAS.

CRITICAL AREAS
THE CONTRACTOR SHALL TAKE SPECIAL CARE TO INSURE THAT EXISTING DOWNSTREAM STORM DRAINS ARE PROTECTED. INSURE THAT ALL ESC MEASURES ARE STABILIZED AND FUNCTIONING TO MINIMIZE THE POTENTIAL FOR ANY SEDIMENT LEAVING THE SITE.

MINIMUM STANDARDS
REFER TO DCR MINIMUM STANDARDS.

EROSION AND SEDIMENT CONTROL MEASURES

SILT FENCE (3.02) - SILT FENCE WILL BE INSTALLED AT THE LOWER ENDS OF THE PROJECT SITE TO INTERCEPT SEDIMENT LADEN RUN-OFF PRIOR TO EXITING THE SITE.

ALL DITCHES, SWALES, AND NATURAL WATERCOURSES DOWNSTREAM OF THIS PROJECT SHALL BE FIELD INSPECTED DURING AND AFTER CONSTRUCTION BY THE RLD TO ENSURE COMPLIANCE WITH DCR'S MS-19. IF EROSION OR SCOUR IS OCCURRING THE DEVELOPER SHALL BE RESPONSIBLE FOR ALL CORRECTIVE MEASURES.

EROSION AND SEDIMENT CONTROL MEASURES SHALL BE MAINTAINED UNTIL AFTER ALL DISTURBED AREAS HAVE BEEN PERMANENTLY STABILIZED AND THEN TEMPORARY MEASURES PROPERLY REMOVED.

ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEED AS REQUIRED TO ACHIEVE A GOOD STAND OF GRASS.

PERMANENT STABILIZATION

ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING (3.32) IMMEDIATELY FOLLOWING FINISH GRADING.

STORMWATER MANAGEMENT CONSIDERATION:

THE DISTURBED AREA IS LESS THAN 10,000 SF. THEREFORE STORMWATER MANAGEMENT FOR WATER QUALITY AND QUANTITY IS NOT REQUIRED.

MAINTENANCE

ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. A LOG OF DATES AND INSPECTIONS SHALL BE KEPT. ANY DEFICIENCIES THAT ARE FOUND SHALL BE CORRECTED IMMEDIATELY. IN PARTICULAR:

- 1. THE SILT FENCE WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE SEDIMENT BUILDUP REACHES THE MIDWAY POINT OF THE SILT FENCE.
2. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND OF GRASS IS MAINTAINED. AREAS SHALL BE FERTILIZED AND RESEED AS REQUIRED TO ACHIEVE A GOOD STAND OF GRASS.

CONTRACTOR SHALL PAY PARTICULAR ATTENTION TO THE FOLLOWING MINIMUM STANDARDS:

- 1. Permanent or temporary soil stabilization shall be applied to denuded areas within 7 days after final grade is reached on any portion of the site. Temporary soil stabilization shall be applied within 7 days to denuded areas that may not be at final grade but will remain dormant for longer than 14 days. Permanent stabilization shall be applied to areas that are to be left dormant for more than one year. NOT APPLICABLE. NO PERMANENT SEEDING IS ASSOCIATED WITH THIS PROJECT.
2. During construction of the project, soil stock piles 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. ANY ONSITE SOIL STOCKPILES SHALL HAVE SILT FENCE ALONG THE DOWNHILL PERIMETER. ALSO, A TEMPORARY SEED MIX IS TO BE APPLIED OVER THE SOIL STOCKPILE TO REMAIN AS-IS FOR LONGER THAN 30 DAYS.
3. 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. SEE MINIMUM STANDARD 1.
4. 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 upstate land disturbance takes place. INSTALL SILT FENCE AS SHOWN ON THE PLAN.
5. Stabilization measures shall be applied to earthen structures such as dams, dikes and diversions immediately after installation. NOT APPLICABLE. NO DIVERSION DICES ARE PROPOSED WITH THIS PLAN.
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.
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 25-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. NOT APPLICABLE. NO SEDIMENT TRAP IS PROPOSED WITH THIS PLAN.
7. 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. NOT APPLICABLE. NO CUT OR FILL SLOPES ARE ASSOCIATED WITH THIS PROJECT.
8. Concentrated runoff shall not flow down cut or fill slopes unless contained within an adequate temporary or permanent channel, flume or slope drain structure. NOT APPLICABLE. NO CUT OR FILL SLOPES ARE ASSOCIATED WITH THIS PROJECT.
9. Whenever water seeps from a slope face, adequate drainage or other protection shall be provided. NOT APPLICABLE. SEEPAGE THROUGH SLOPES IS NOT ANTICIPATED TO BE ENCOUNTERED ON THIS PROJECT.
10. 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. NOT APPLICABLE. NO INLETS ARE PROPOSED WITH THIS PLAN.
11. 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. NOT APPLICABLE. NO CONVEYANCE CHANNELS ARE ASSOCIATED WITH THIS PROJECT.
12. 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. NOT APPLICABLE. NO LIVE WATERCOURSES EXIST WITHIN OR ADJACENT TO THIS PROJECT.
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. NOT APPLICABLE. NO LIVE WATERCOURSES EXIST WITHIN OR ADJACENT TO THIS PROJECT.
14. All applicable federal, state and local regulations pertaining to working in or crossing live watercourses shall be met. NOT APPLICABLE. NO LIVE WATERCOURSES EXIST WITHIN OR ADJACENT TO THIS PROJECT.
15. The bed and banks of a watercourse shall be stabilized immediately after work in the watercourse is completed. NOT APPLICABLE. NO LIVE WATERCOURSES EXIST WITHIN OR ADJACENT TO THIS PROJECT.
16. 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. Restoration shall be accomplished in accordance with these regulations.
f. Applicable safety regulations shall be compiled with.
FOLLOW ABOVE STANDARDS FOR LINEAR TRENCH INSTALLATIONS.
17. 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. FOLLOW ABOVE REQUIREMENTS TO MINIMIZE TRANSPORT OF SEDIMENT TO ADJACENT PAVED SURFACES AND TO KEEP THOSE SURFACES CLEAR.
18. 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 VESCP 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. REMOVE TEMPORARY MEASURES IN ACCORDANCE WITH ABOVE REQUIREMENTS AND APPROVAL OF THE CITY OF ROANOKE.

MINIMUM STANDARDS CONTINUED:

- 19. 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 in accordance with the following standards and criteria:
a. Concentrated stormwater runoff leaving a development site shall be discharged directly into an adequate natural or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analyses at the outfall of the pipe or pipe system shall be performed.
b. Adequacy of all channels and pipes shall be verified in the following manner:
(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
(2) (a) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks; and
(b) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of a two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks; and
(c) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
c. If existing natural receiving channels or previously constructed man-made channels or pipes are not adequate, the applicant shall:
(1) Improve the channel to a condition where a ten-year storm will not overtop the banks and a two-year storm will not cause erosion to the channel bed or banks; or
(2) Improve the pipe or pipe system to a condition where the ten-year storm is contained within the appurtenances; or
(3) Develop a site design that will not cause the pre-development peak runoff rate from a two-year storm to increase when runoff outfalls into a natural channel or will not cause the pre-development peak runoff rate from a ten-year storm to increase when runoff outfalls into a man-made channel; or
(4) Provide a combination of channel improvement, stormwater detention or other measure which is satisfactory to the VESCP authority to prevent downstream erosion.
d. The applicant shall provide evidence of permission to make the improvements.
e. All hydrologic analyses shall be based on the existing watershed characteristics and the ultimate development of the subject project.
f. If the applicant chooses an option that includes stormwater detention, he shall obtain approval from the VESCP 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.
g. Outfall from a detention facility shall be discharged to a receiving channel, and energy dissipator shall be placed at the outfall of all detention facilities as necessary to provide a stabilized transition from the facility to the receiving channel.
h. All on-site channels must be verified to be adequate.
i. Increased volumes of sheet flows that may cause erosion or sedimentation on adjacent property shall be diverted to a stable outlet, adequate channel, pipe or pipe system, or to a detention facility.
j. In applying these stormwater runoff criteria, individual lots or parcels in a residential, commercial or industrial development shall not be considered to be separate development projects. Instead, the development, as a whole, shall be considered to be a single development project. Hydrologic parameters that reflect the ultimate development condition shall be used in all engineering calculations.
k. All measures used to protect properties and waterways shall be employed in a manner which minimizes impacts on the physical, chemical and biological integrity of rivers, streams and other waters of the state.
l. Any plan approved prior to July 1, 2014, that provides for stormwater management that addresses any flow rate capacity and velocity requirements for natural or man-made channels shall satisfy the flow rate capacity and velocity requirements for natural and man-made channels if the practices are designed to:
(i) detain the water quality volumes and release it over 48 hours;
(ii) detain and release over 24-hour period the expected rainfall resulting from the one year, 24-hour storm and;
(iii) reduce the allowable peak flow rate resulting from the 1.5, 2, and 10-year, 24-hour storms to a level that is less than or equal to the peak flow rate from the site assuming it was in good forested condition, achieved through multiplication of the forested peak flow rate by a reduction factor that is equal to the runoff volume from the site when it was in a good forested condition divided by the runoff volume from the site in its proposed condition, and shall be exempt from any flow rate capacity and velocity requirements for natural or man-made channels as defined in any regulations promulgated pursuant to 10.1-562 or 10.1-570 of the Act.
m. For plans approved on and after July 1, 2014, the flow rate capacity and velocity requirements of 10.1-561 A of the Act and this subsection shall be satisfied by compliance with water quantity requirements in the Stormwater Management Act (10.1-603.2 et seq. of the Code of Virginia) and attendant regulations, unless such land-disturbing activities are in accordance with 4VAC50-60-48 of the Virginia Stormwater Management Program (VSMPP) Permit Regulations. Compliance with the water quantity minimum standards set out in 4VAC50-60-66 of the Virginia Stormwater Management Program (VSMPP) Permit Regulations shall be deemed to satisfy the requirements of Minimum Standard 19. THE DISTURBED AREA IS LESS THAN 10,000 SF. THEREFORE STORMWATER MANAGEMENT FOR WATER QUALITY AND QUANTITY IS NOT REQUIRED.
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GENERAL EROSION AND SEDIMENT CONTROL NOTES, ROANOKE CITY, VIRGINIA

ES-1: UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00 EROSION AND SEDIMENT CONTROL REGULATIONS.
ES-2: THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE ONSITE PRECONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

ES-3: ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.

ES-4: A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND NARRATIVE, AS WELL AS A COPY OF THE LAND DISTURBING PERMIT, SHALL BE MAINTAINED ON THE SITE AT ALL TIMES. THE EROSION AND SEDIMENT CONTROL ADMINISTRATOR WILL DELIVER THESE MATERIALS AT THE ONSITE PRECONSTRUCTION CONFERENCE.

ES-5: PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS), THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE PLAN APPROVING AUTHORITY.

ES-6: THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.
ES-7: ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING THE LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.

ES-8: DURING DEWATERING OPERATION, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

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 IMMEDIATELY.

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EROSION & SEDIMENT CONTROL NOTES AND DETAILS

CITY OF ROANOKE SYCAMORE AVENUE N.E. PUBLIC WORKS POLE BARN PREPARED FOR CITY OF ROANOKE - ENGINEERING DEPT. CITY OF ROANOKE, VIRGINIA

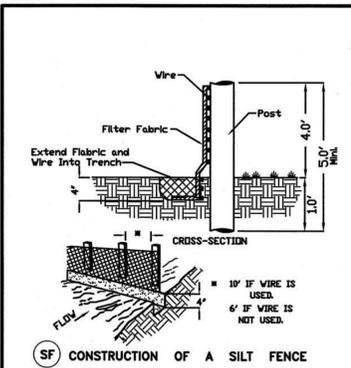


Table with columns for REVISIONS (NO., DATE, DESCRIPTION) and a table for DATE (May 6, 2016), SCALE (NONE), COMMISSION NO. (16-006), and SHEET (4 OF 4).