

EROSION & SEDIMENT NARRATIVE

PROJECT DESCRIPTION:
THIS PROPERTY IS LOCATED ON AN UNDEVELOPED PARCEL THAT IS PREVIOUSLY FORESTED. THIS PROPERTY IS LOCATED ON THE NORTH SIDE OF OLD FRANKLIN TURNPIKE. THE PROPERTY IS APPROXIMATELY 170 FEET EAST OF THE INTERSECTION OF SCHOOL BOARD ROAD IN FRANKLIN COUNTY, VIRGINIA. THE PURPOSE OF THIS PROJECT IS TO CONSTRUCT AN O'REILLY AUTO PARTS WAREHOUSE AND SERVICE CENTER. THE TOTAL DISTURBED AREA FOR THE CONSTRUCTION ACTIVITY IS ANTICIPATED TO BE APPROXIMATELY 1.0 ACRES. THERE IS AN EXISTING WATER DRAINING TO THIS POINT CONSISTS OF 1.04 ACRES OF DISTURBED AREA.

EXISTING SITE CONDITIONS:
THE EXISTING 1.79 ACRE SITE IS CURRENTLY AN UNDEVELOPED SITE THAT IS PREVIOUSLY FORESTED. THE ON-SITE SLOPE IS APPROXIMATELY 10% WITH THE STEEPEST SLOPES BEING ALONG THE SOUTHERN PROPERTY FRONTAGE. THERE IS ONE EXISTING POINT OF INTEREST ON THIS SITE. THE WATER DRAINING TO THIS POINT CONSISTS OF 1.04 ACRES OF DISTURBED AREA.

ADJACENT AREAS:
THE PROPERTY IS BOUNDARY TO THE SOUTH BY OLD FRANKLIN TURNPIKE, TO THE EAST BY A SINGLE FAMILY RESIDENTIAL HOME, TO THE NORTH BY WOODED AREAS AND COUNTY ROAD 600, AND TO THE WEST BY A SINGLE FAMILY RESIDENTIAL HOME.

OFF-SITE AREAS:
NO OFF-SITE AREAS REQUIRED FOR EXPORT OF MATERIALS ARE ANTICIPATED WITH THIS PROJECT. IF EXCAVATED MATERIAL IS GENERATED, IT SHALL BE DISPOSED OF IN A MANNER AND BY THE CONTRACTOR THAT COORDINATE THE HULL ROUTE WITH THE JURISDICTIONAL OFFICER. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE ALL OFF-SITE HAUL/BORROW AREAS ARE PROPERLY PERMITTED.

SOILS:
PER NCR'S INFORMATION, 85% OF THE SITE IS CLASSIFIED AS SOIL TYPE TB, CLAYEY SANDS LOESS TO CLIFFORD FINE SANDY LOESS. THIS TYPE OF SOIL IS MODERATELY WELL DRAINAGE. AN AS HYDROLOGIC SOIL CLASSIFICATION IS B.

CRITICAL AREAS:
NO CRITICAL AREAS SUCH AS CHANNELS, OR UNDERGROUND SPRINGS HAVE BEEN IDENTIFIED WITHIN THE PROPOSED LIMITS OF DISTURBANCE. THERE ARE NO PROPOSED WETLANDS ON THIS SITE. THE STORMWATER MANAGEMENT AND SEDIMENT CONTROL MEASURES SHALL BE DESIGNED TO PROTECT THESE AREAS FROM DISTURBANCE DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

EROSION AND SEDIMENT CONTROL MEASURES:
UNLESS OTHERWISE NOTED ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESH). THE MINIMUM STANDARDS OF THE VESH SHALL BE ADHERED TO UNLESS OTHERWISE INDICATED BY THE PLAN APPROVING AUTHORITY.

TEMPORARY CONSTRUCTION ENTRANCE - 3.02 - A TEMPORARY CONSTRUCTION ENTRANCE WITHOUT A WASH RACK SHALL BE INSTALLED. DRIVERS OF CONSTRUCTION VEHICLES WILL BE REQUIRED TO WASH THEIR WHEELS BEFORE EXISTING THE PROPERTY.

SILT FENCE - 3.05 - A PROTECTIVE BARRIER TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM DISTURBED AREAS DURING CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE.

STORM DRAIN INLET PROTECTION - 3.07 - ALL STORM SEWER INLETS SHALL BE PROTECTED WITH THE INSTALLATION OF VARIOUS KINDS OF SEDIMENT TRAPPING MEASURES.

TEMPORARY DIVERSION DIKE - 3.09 - A TEMPORARY DIKE OF COMPACTED SOIL CONSTRUCTED AT THE TOP OR BASE OF A SLOPING DISTURBED AREA.

TEMPORARY SEDIMENT TRAP - 3.13 - TEMPORARY SEDIMENT TRAPS WILL BE INSTALLED TO TRAP SEDIMENT FROM DISTURBED AREAS LONG ENOUGH TO ALLOW THE MAJORITY OF THE SEDIMENT TO SETTLE OUT.

OUTLET PROTECTION - 3.18 - STRUCTURALLY LINED APRONS OR OTHER ACCEPTABLE ENERGY DISSIPATING DEVICES PLACED AT THE OUTLETS OF PIPES OR PAVED CHANNEL SECTIONS.

PERMANENT SEEDING - 3.32 - ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEEDS TO REDUCE EROSION AND DECREASE SEDIMENT YIELD AREAS. IMPROVED WILDLIFE HABITAT, ENHANCED NATURAL BEAUTY AND TO PERMANENTLY STABILIZE DISTURBED AREAS IN A MANNER THAT IS NON-ERODIBLE, ADAPTABLE TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

SOIL STABILIZATION BLANKETS & MATTING - 3.36 - THE INSTALLATION OF A PROTECTIVE COVERING (BLANKET) OR SOIL STABILIZATION MAT ON A PREPARED PLANTING AREA OF A STEEP SLOPE, CHANNEL OR SHORELINE.

TREE PRESERVATION AND PROTECTION - 3.38 - PROTECTION OF DESIRABLE TREES FROM MECHANICAL AND OTHER INJURY DURING LAND DISTURBING AND CONSTRUCTION ACTIVITY.

SAFETY FENCE - 3.01 - THE MEASURE SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL AND REPAIRS MADE AS NEEDED. SAFETY FENCE SHALL BE CHECKED REGULARLY FOR WEATHER-RELATED OR OTHER NECESSARY REPAIRS. REPAIRS MUST BE MADE IMMEDIATELY AND CARE SHOULD BE TAKEN TO SECURE ALL ACCESS POINTS (GATES) AT THE END OF EACH WORKING DAY.

TEMPORARY STONE CONSTRUCTION ENTRANCE - 3.02 - THE MEASURE SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL AND REPAIRS MADE AS NEEDED. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OF FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE ON THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANUP OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIAL DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.

SILT FENCE - 3.05 - SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REPAIRS TO SILT FENCES SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCES RESULTING FROM END RUNS AND UNDERCUTTINGS. SHOULD THE FABRIC ON A SILT FENCE DISCOLORED OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED COMPLETELY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN THE LEVEL OF DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIERS. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRIVEN TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.

STORM DRAIN INLET PROTECTION - 3.07 - THE MEASURE SHALL BE INSPECTED WEEKLY AND AFTER EVERY RAINFALL AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS. THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN DEPTH OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. STRAP SURFACES SHALL BE REPAIRED AND THE AREA STABILIZED WITHIN THE REMAINING DRAINAGE AREA HAS BEEN PERMANENTLY STABILIZED.

TEMPORARY DIVERSION DIKE - 3.09 - THE MEASURE SHALL BE INSPECTED AFTER EVERY STORM AND REPAIRS MADE TO THE DIKE. FLOW CHANNEL OUTLET OR SEDIMENT TRAPPING FACILITY, AS NECESSARY, SHALL BE REPAIRED EVERY TWO WEEKS. WHETHER A STORM EVENT HAS OCCURRED OR NOT, THE DIVERSION DIKE SHALL BE REPAIRED IMMEDIATELY. DAMAGES CAUSED BY CONSTRUCTION TRAFFIC OR OTHER ACTIVITY MUST BE REPAIRED BEFORE THE END OF EACH WORKING DAY.

TEMPORARY SEDIMENT TRAP - 3.13 - SEDIMENT TRAPS SHALL BE REMOVED THE TRAP RESTORED TO ITS ORIGINAL DESIGN. THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE TRAP. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE. CAUSE SEDIMENTATION PROBLEMS AT OTHER STORM

EROSION AND SEDIMENT CONTROL MINIMUM STANDARDS (MS-19)

MS-1: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE CONSTRUCTED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO EXCAVATED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.

R-1: TEMPORARY SOIL STABILIZATION WILL BE APPLIED TO NEWLY GRADED AND DENUDED AREAS THAT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 7 DAYS. PERMANENT STABILIZATION WILL BE APPLIED WITHIN 14 DAYS TO DENUDED AREAS WHERE CONSTRUCTION ACTIVITY HAS PERMANENTLY STOPPED FOR LONGER THAN 14 DAYS.

MS-2: DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES AND BORROW AREAS SHALL BE IDENTIFIED AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.

R-2: ALL STOCKPILES WILL BE STABILIZED AND PROTECTED WITH SEDIMENT TRAPPING MEASURES.

MS-3: A PERMANENT VEGETATIVE COVER SHALL BE ESTABLISHED ON DENUDED AREAS NOT OTHERWISE 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.

R-3: PERMANENT VEGETATION WILL BE PROVIDED FOR ALL DENUDED AREAS.

MS-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 FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE COMMENCES.

R-4: SILT FENCE, A SEDIMENT TRAP, AND DIVERSION DIKES ARE PROPOSED ALONG DOWNWARD SLOPES IN DISTURBED AREAS AND WILL BE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE COMMENCES.

MS-5: STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES, AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.

R-5: STABILIZATION MEASURES SHALL BE APPLIED TO PROPOSED DIVERSION DIKES IMMEDIATELY AFTER INSTALLATION.

MS-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 (3) ACRES.

B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPOSED OF FLOW FROM DRAINAGE AREAS GREATER THAN ONE (1) ACRE TO THREE (3) 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.

R-6: ADEQUATE SIZING CALCULATIONS FOR THE PROPOSED TEMPORARY SEDIMENT TRAP CAN BE FOUND ON SHEET C3.3.

MS-7: CUT AND FILL SLOPES SHALL BE ASSIGNED AND CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. SLOPES THAT ARE FOUND TO BE BROOKING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

R-7: CUT AND FILL SLOPES WILL BE CONSTRUCTED IN A MANNER THAT WILL MINIMIZE EROSION. ANY SLOPES THAT ARE FOUND TO BE BROOKING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

MS-8: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.

R-8: CONCENTRATED RUN-OFF IS NOT EXPECTED DURING CONSTRUCTION. ANY CONCENTRATED RUN-OFF BEING CONTROLLED DURING CONSTRUCTION WILL BE CONTAINED WITHIN AN ADEQUATE CHANNEL, FLUME OR SLOPE DRAIN.

MS-9: WHENEVER WATER PASSES FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.

R-9: CONCENTRATED RUN-OFF SHALL BE CONTAINED WITHIN AN ADEQUATE CHANNEL, FLUME OR SLOPE DRAIN.

MS-10: TEMPORARY STRUCTURES THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN CONSTRUCTION MATERIALS ARE NOT WASHED INTO THE RECEIVING CHANNEL OR OTHERWISE TREATED TO REMOVE SEDIMENT.

R-10: STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SHALL BE PROTECTED SO THAT SEDIMENT-LADEN OVERFLOW CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.

MS-11: BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR PIPES ARE MADE OPERABLE, ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING SHALL BE INSTALLED IN BOTH THE CONVEYANCE CHANNEL AND RECEIVING CHANNEL.

R-11: STORMWATER CONVEYANCE CHANNELS WILL HAVE ADEQUATE LININGS AND OUTFALL TO PREVENT EROSION.

MS-12: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE EROSION. CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION.

R-12: NOT APPLICABLE. THE PROPOSED WORK DOES NOT CROSS A LIVE WATERCOURSE.

MS-13: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX (6) MONTH PERIOD, TEMPORARY VEHICULAR STREAM CROSSING STRUCTURES OF NON-ERODIBLE MATERIALS SHALL BE PROVIDED.

R-13: NOT APPLICABLE. THE PROPOSED WORK DOES NOT CROSS A LIVE WATERCOURSE.

MS-14: ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS RELATING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.

R-14: NOT APPLICABLE. THE PROPOSED WORK DOES NOT CROSS A LIVE WATERCOURSE.

MS-15: THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.

R-15: NOT APPLICABLE. THE PROPOSED WORK DOES NOT CROSS A LIVE WATERCOURSE.

MS-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 SHALL 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 OFFSITE PROPERTY.

D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.

E. RE-STABILIZATION WORK SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.

F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.

R-16: INSTALLATION OF PROPOSED UNDERGROUND UTILITY LINES SHALL FOLLOW THE ABOVE STANDARDS.

MS-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 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.

R-17: A PROPOSED CONSTRUCTION ENTRANCE/EXIT HAS BEEN PLACED TO MINIMIZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ON THE PAVED SURFACE. ANY AND ALL MATERIAL OR DEBRIS TRACKED ONTO A PUBLIC OR PRIVATE ROAD SURFACE WILL BE REMOVED THOROUGHLY AT THE END OF EACH DAY BY THE CONTRACTOR. SEDIMENT SHALL BE REMOVED FROM ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA.

MS-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 LOCAL PROGRAM AUTHORITY. TRAPPED SEDIMENT AND DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

R-18: TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED UPON APPROVAL OF THE COUNTY ENGINEER AND ANY AREA DISTURBED BY THE REMOVAL WILL BE IMMEDIATELY STABILIZED.

MS-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 DEVELOPMENT SITES SHALL BE DISCHARGED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE THE PIPE OR STORM SEWER SYSTEM IS DISCHARGED INTO A PIPE OR PIPE SYSTEM, DOWNSTREAM STABILITY ANALYSES AT THE POINT OF FALL OF THE PIPE OR PIPE SYSTEM SHALL BE PERFORMED.

B. ADEQUACY OF CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:

(1) THE APPLICANT SHALL DEMONSTRATE THAT THE TOTAL DRAINAGE AREA OF THE POINT OF ANALYSIS WILL BE ERODING EXCESSIVELY WITHIN ONE (1) YEAR OF PERMANENT STABILIZATION SHALL BE PROVIDED WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

(2) THE CHANNELS SHALL BE ANALYZED BY THE APPLICANT BY ONE (1) YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS AND BANKS WILL NOT BE ERODED.

(3) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN (10) YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS BY THE USE OF A TWO (2) YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; OR

(4) IMPROVE THE CHANNEL TO A CONDITION WHERE A TEN (10) YEAR STORM WILL NOT OVERTOP THE BANKS AND A TWO (2) YEAR STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR

(5) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN (10) YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR

(6) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO (2) YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN (10) YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN-MADE CHANNEL.

(7) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURE WHICH IS SATISFACTORY TO THE PLAN-APPROVING 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 WATERPHED 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 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.

G. OUTFALLS 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 STABLE TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.

H. ALL ON-SITE CHANNELS WILL BE VERIFIED TO BE ADEQUATE. INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERGED 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.

R-19: SEE STORMWATER MANAGEMENT NARRATIVE ON SHEET C3.5

EROSION CONTROL NOTES DURING WINTER CONSTRUCTION

1. WRITER CONSTRUCTION PERIOD: NOVEMBER 1 THROUGH APRIL 15.

2. WINTER EXCAVATION AND EARTHWORK SHALL BE DONE SUCH THAT NO MORE THAN 1 ACRE OF THE SITE IS WITHOUT STABILIZATION AT ANY ONE TIME.

3. EXPOSED AREA SHOULD BE LIMITED TO THAT WHICH CAN BE MULCHED IN ONE DAY PRIOR TO ANY SNOW EVENT.

4. CONTINUATION OF EARTHWORK OPERATION ON ADDITIONAL AREAS SHALL NOT BEGIN UNTIL THE EXPOSED SOIL SURFACE ON THE AREA BEING WORKED HAS BEEN STABILIZED SUCH THAT NO LARGER AREA OF THE SITE IS WITHOUT EROSION CONTROL PROTECTION AS LISTED IN ITEM 2 ABOVE.

5. AN AREA SHALL BE CONSIDERED TO HAVE BEEN STABILIZED WHEN EXPOSED SURFACES HAVE BEEN EITHER MULCHED WITH STRAW OR STRAW AT A RATE OF 100 LB PER 1,000 SQUARE FEET (WITH OR WITHOUT SEEDING) OR ONE OF THE FOLLOWING METHODS:

6. BETWEEN THE DATES OF OCTOBER 15 AND APRIL 15, LOAM OR SEED WILL NOT BE REQUIRED. DURING PERIODS OF ABOVE FREEZING TEMPERATURES, THE SLOPES SHALL BE FINE GRADED AND EITHER PROTECTED WITH MULCH OR TEMPORARILY SEEDED AND MULCHED UNTIL SUCH TIME AS THE FINAL TREATMENT CAN BE APPLIED. IF THE DATE IS AFTER NOVEMBER 1ST AND IF THE EXPOSED AREA HAS BEEN LOAMED, FINELY GRADED AND IS SMOOTH, THEN THE AREA MAY BE DORMANT SEEDING AT A RATE OF 200 - 300# HIGHER PER ACRE FOR PERMANENT SEED AND THEN MULCH OR IF CONSTRUCTION CONTINUES DURING FREEZING WEATHER, ALL EXPOSED AREAS SHOULD BE TEMPORARILY SEEDED AND THEN MULCH OR IF SURFACE TEMPORARILY PROTECTED FROM EROSION BY THE APPLICATION OF MULCH, SLOPES SHALL NOT BE LEFT UNSEEDING OVER THE WINTER OR ANY OTHER EXTENDED TIME OF WORK SUSPENSION UNLESS TREATED IN THE ABOVE MANNER UNTIL SUCH TIME AS WEATHER CONDITIONS ALLOW.

7. MULCHING REQUIREMENTS:

10.1. BETWEEN THE DATES OF NOVEMBER 1ST AND APRIL 15TH ALL MULCH SHALL BE ANCHORED BY EITHER PEG LINE, MULCH NETTING OR WOOD CELLULOSE FIBER.

10.2. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL DRAINAGE AREAS OF SLOPES GREATER THAN 5% FOR SLOPES EXPOSED TO DIRECT WINDS AND FOR ALL OTHER SLOPES GREATER THAN 5%.

10.3. MULCH NETTING SHALL BE USED TO ANCHOR MULCH IN ALL AREAS WITH SLOPES GREATER THAN 15% AFTER OCTOBER 1ST WHEN THE APPLIES FOR ALL SLOPES GREATER THAN 5%.

10.4. AFTER NOVEMBER 1ST THE CONTRACTOR SHALL APPLY CORRECT SEEDING OR MULCH AND ANCHORING ON ALL BARE EARTH PRIOR TO THE END OF EACH WORKING DAY.

10.5. DURING THE WINTER CONSTRUCTION PERIOD ALL GRASS SHALL BE MOVED TO A SAFE LOCATION.

10.6. STOCKPILING OF MATERIAL (DIRT, WOOD, CONSTRUCTION MATERIAL, ETC.) MUST REMAIN COVERED AT ALL TIMES TO MINIMIZE ANY DUST PROBLEMS THAT OCCUR WITH STOCKPILING AND TO PROTECT THE MAXIMUM PROTECTION AGAINST EROSION.

10.7. EXISTING CATCH BASIN STRUCTURES SHALL BE PROTECTED UNTIL SUCH TIME AS THEY ARE REMOVED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

SOURCE: TABLE B-1, CHAPTER 6, VIRGINIA EROSION & SEDIMENT CONTROL HANDBOOK

E3-1. 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 4VA9C-30 EROSION AND SEDIMENT CONTROL REGULATIONS.

E3-2. THE PLAN APPROVING AUTHORITY MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENT OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION.

E3-3. ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING AND GRADING.

E3-4. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLANS SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.

E3-5. 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.

E3-6. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE PLAN APPROVING AUTHORITY.

E3-7. 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.

E3-8. DURING DEWATERING OPERATIONS, WATER WILL BE PUMPED INTO AN APPROVED FILTERING DEVICE.

E3-9. 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.

E3-10. SEEDING OPERATIONS SHALL BE INITIATED WITHIN 7 DAYS AFTER REACHING FINAL GRADE OR UPON SUSPENSION OF GRADING OPERATIONS FOR ANTICIPATED DURATION OF GREATER THAN 30 DAYS OR UPON COMPLETION OF GRADING OPERATIONS FOR A SPECIFIC AREA.

E3-11. PERMANENT VEGETATION SHALL NOT BE CONSIDERED ADEQUATELY STABILIZED UNTIL THE VEGETATION IS UNIFORM IN HEIGHT, THICK ENOUGH TO PREVENT EROSION AND MATURE ENOUGH TO SURVIVE.

E3-12. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PREVENTING SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOILS WHICH MAY PRESENT HEALTH HAZARDS, TRAFFIC SAFETY PROBLEMS, OR HARM ANIMAL OR PLANT LIFE.

EROSION & SEDIMENT CONTROL NOTES

1. ALL SEDIMENT AND EROSION CONTROL MEASURES SHALL BE DONE AS SET FORTH IN THE MOST CURRENT STATE SEDIMENT AND EROSION CONTROL MANUAL.

2. THOSE AREAS UNDERGOING ACTUAL CONSTRUCTION WILL BE LEFT IN AN UNTREATED OR UNVEGETATED CONDITION FOR A MINIMUM TIME. AREAS SHALL BE PERMANENTLY STABILIZED WITHIN 15 DAYS OF FINAL GRADING AND TEMPORARILY STABILIZED WITHIN 30 DAYS OF FINAL GRADING OF THE SOIL. IF THE DISTURBANCE IS WITHIN 100 FEET OF A STREAM OR POND, THE AREA SHALL BE STABILIZED WITHIN 14 DAYS OR PRIOR TO ANY STORM EVENT (THIS WOULD INCLUDE WETLANDS).

3. SEDIMENT BARRIERS (SILT FENCE, STRAW BARRIERS, ETC.) SHOULD BE INSTALLED PRIOR TO ANY SOIL DISTURBANCE FOLLOWING ANY SIGNIFICANT RAINFALL OR SNOW MELT OR UNDESIRABLE DUE TO SEDIMENT ACCUMULATION OR DECOMPOSITION. SEDIMENT DEPOSITS SHOULD BE REMOVED IMMEDIATELY AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE HALF THE HEIGHT OF THE BARRIER. SEDIMENT CONTROL DEVICES SHALL REMAIN IN PLACE AND BE MAINTAINED BY THE CONTRACTOR UNTIL THE AREAS UPLOPE ARE STABILIZED BY TURF.

4. INSTALL SILTATION BARRIER AT TOE OF SLOPE TO FILTER SILT FROM RUNOFF. SEE SILTATION BARRIER DETAILS FOR PROPER INSTALLATION. SILTATION BARRIER WILL REMAIN IN PLACE PER NOTE #5.

5. ALL EROSION CONTROL STRUCTURES WILL