STATEMENT OF COMPLIANCE WITH VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS – 9VAC25-840-40 – MINIMUM STANDARDS (MS)

THE LAND-DISTURBING ACTIVITIES OF THIS PROJECT MUST COMPLY WITH THE 19 "MINIMUM STANDARDS"(MS) SPECIFIED IN SECTION 4VAC50-30-40 OF THE REGULATIONS (VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS) THAT ARE APPLICABLE TO THE PROJECT. THIS SECTION PROVIDES A RECITATION OF THE FULL TEXT OF THE 19 MINIMUM STANDARDS AND FOLLOWS WITH A "METHOD OF COMPLIANCE" WITH EACH MINIMUM STANDARD. THESE EROSION AND SEDIMENT CONTROL PLANS WERE PREPARED IN A MANNER TO ENSURE COMPLIANCE WITH THE MINIMUM STANDARDS.

THE CONTRACTOR AND THE CERTIFIED RESPONSIBLE LAND DISTURBER (RLD) SHALL PERFORM THE WORK OF THE PROJECT IN THE MANNER STATED AND IN A MANNER AND SEQUENCE SUCH THAT THE INTENT AND REQUIREMENTS OF THE MINIMUM STANDARDS ARE MET. REFER TO THE STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL INFORMATION.

MS-1: PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS 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 DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.

METHOD OF COMPLIANCE – PERMANENT SEEDING (PS) AND TEMPORARY SEEDING (TS) MEASURES ARE SHOWN AND SPECIFIED ON THE EROSION AND SEDIMENT CONTROL PLANS (SHEETS C4 & C5) AND SPECIFIED ON THE NARRATIVES AND DETAILS. CONTRACTOR SHALL REFER TO THE NARRATIVE AND DETAILS FOR SEEDING REQUIREMENTS AND SCHEDULES.

MS-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.

METHOD OF COMPLIANCE – IT IS ANTICIPATED THAT TOPSOIL, EXCESS EXCAVATION MATERIAL, AND/OR UN-SUITABLE MATERIAL WILL NOT BE FOUND ON THE PROJECT SITE AND WILL NOT NEED TO BE STOCKPILED. IF TOPSOIL, EXCESS EXCAVATION, OR UN-SUITABLE MATERIAL IS ENCOUNTERED IT SHALL BE STOCKPILED FOR LATER USE OR REMOVED FROM THE SITE. IF STOCKPILE IT SHALL BE PLACED AT A LOCATION DETERMINED "IN THE FIELD" AND SHALL BE PROTECTED FROM EROSION BY APPLICATION OF TEMPORARY STABILIZATION MEASURES. IF REMOVED FROM THE SITE IT SHALL BE DISPOSED OF IN A LEGAL MANNER AND AT A SITE THAT IS DULY PERMITTED FOR LAND DISTURBANCE ACTIVITIES.

MS-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.

METHOD OF COMPLIANCE – PERMANENT SEEDING (PS), ALONG WITH TOPSOILING (TO), AND MULCHING (MU) MEASURES ARE SHOWN AND SPECIFIED ON THE E&SC PLAN (SHEET C4 AND C5) AND DETAIL SHEETS AS WELL AS THE NARRATIVE AND SEQUENCE OF WORK.

MS-4: SEDIMENT BASINS AND SEDIMENT 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.

METHOD OF COMPLIANCE – THESE PERIMETER SEDIMENT TRAPPING MEASURES ARE SHOWN ON THE E&SC PLAN SHEETS (SHEETS C4 & C5) AND ARE SPECIFIED TO BE INSTALLED PRIOR TO MAJOR LAND DISTURBANCE ACTIVITIES. REFER TO THE GENERAL NOTES, NARRATIVE, AND SEQUENCE OF WORK FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

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

METHOD OF COMPLIANCE – THESE STABILIZATION MEASURES ARE SHOWN ON THE E&SC PLAN SHEET AND ARE SPECIFIED TO BE INSTALLED IMMEDIATELY AFTER THE INSTALLATION OF THE MEASURE. REFER TO THE GENERAL NOTES, NARRATIVE, AND SEQUENCE OF WORK FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

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 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.

METHOD OF COMPLIANCE: NO SEDIMENT TRAPS ARE PROPOSED.

MS-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.

METHOD OF COMPLIANCE: NO NEW CUT OR FILL SLOPES OR EXISTING SLOPES TO BE DENUDED GREATER THAN 6 FEET IN HEIGHT ARE ANTICIPATED. WHERE HIGH FILL SLOPE ARE TO BE CONSTRUCTED, SILT FENCE AND DIVERSIONS DIKES ARE SPECIFIED ALONG THE TOP OF THE SLOPE AND TOPSOIL, PERMANENT SEEDING AND BLANKET MATTING IS SPECIFIED FOR PERMANENT STABILIZATION.

MS-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.

METHOD OF COMPLIANCE – NO NEW CUT OR FILL SLOPES GREATER THAN 6 FEET IN HEIGHT AND EXISTING DENUDED STEEP SLOPES THAT ARE TO BE DISTURBED ARE ANTICIPATED IN THIS PLAN. WHERE HIGH FILL SLOPE ARE TO BE CONSTRUCTED, SILT FENCE AND DIVERSIONS DIKES ARE SPECIFIED ALONG THE TOP OF THE SLOPE AND TOPSOIL, PERMANENT SEEDING AND BLANKET MATTING IS SPECIFIED FOR PERMANENT STABILIZATION.

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

METHOD OF COMPLIANCE – BASED ON A REVIEW OF AVAILABLE SUBSURFACE INVESTIGATION REPORTS, PUBLIC DATA, AND KNOWLEDGE OF THE GROUNDWATER CONDITIONS AT THE SITE, THIS CONDITION IS NOT ANTICIPATED DURING THIS PROJECT. IF ENCOUNTERED DURING CONSTRUCTION IT WILL BE ADDRESSED WITH PLAN REVISION.

MS-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.

METHOD OF COMPLIANCE – INLET PROTECTION (IP) DEVICES ARE SPECIFIED AND SHOWN ON THE E&SC PLAN SHEETS AND IN THE NARRATIVE. THE GENERAL WORK SEQUENCE SPECIFIES THE TIMING FOR INSTALLATION OF THESE MEASURES.

MS-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.

METHOD OF COMPLIANCE – THE NEW STORMWATER CONVEYANCE SYSTEM(S) DISCHARGES DIRECTLY IN NEW RECEIVING CHANNELS. WHERE REQUIRED, OUTLET PROTECTION (OP) MEASURES ARE SPECIFIED AND DETAILED ON THE E&SC PLAN SHEETS. THE TIMING OF INSTALLING LININGS AND OUTLET PROTECTIONS IS SPECIFIED IN THE NARRATIVE AND SEQUENCE OF WORK.

MS-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.

METHOD OF COMPLIANCE – NOT APPLICABLE. NO WORK IS PROPOSED IN A LIVE WATERCOURSE.

MS-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.

METHOD OF COMPLIANCE – NOT APPLICABLE. WORK DOES NOT INVOLVE THE CROSSING OF A LIVE WATERCOURSE.

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

METHOD OF COMPLIANCE – NOT APPLICABLE. WORK DOES NOT INVOLVE WORKING IN OR CROSSING OF A LIVE WATERCOURSE.

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

METHOD OF COMPLIANCE – NOT APPLICABLE. WORK DOES NOT INVOLVE WORKING IN OR CROSSING OF 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 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 THIS CHAPTER.

F. APPLICABLE SAFETY REQUIREMENTS SHALL BE COMPLIED WITH.

METHOD OF COMPLIANCE – SPECIFIC REQUIREMENTS TO ADDRESS THIS MINIMUM STANDARD ARE INCORPORATED IN TO AND IDENTIFIED IN THE SEQUENCE OF WORK AND THE E&SC NARRATIVE.

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 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.

METHOD OF COMPLIANCE – THE E&SC PLAN SHEETS INDICATE THE LOCATION OF THE PROPOSED CONSTRUCTION ENTRANCE (CE) AND THE SEQUENCE OF INSTALLATION IS SPECIFIED IN THE NARRATIVE AND GENERAL SEQUENCE OF WORK. ALL CONSTRUCTION VEHICLES SHALL ENTER AND LEAVE THE SITE AT THE SPECIFIED LOCATION. THE E&SC PLAN AND NARRATIVES ALSO PROVIDES THAT THE EXISTING ON-SITE PAVEMENT MAY SERVE AS THE CONSTRUCTION ENTRANCE (CE).

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 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.

METHOD OF COMPLIANCE – REFER TO NARRATIVE AND WORK SEQUENCE ON THE E&SC PLAN SHEETS AND THE GENERAL NOTES FOR STATED REQUIREMENTS REGARDING THE PROVISIONS OF REMOVAL OF E&SC MEASURES.

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. STREAM RESTORATION AND RELOCATION PROJECTS THAT INCORPORATE NATURAL CHANNEL DESIGN CONCEPTS ARE NOT MAN-MADE CHANNELS AND SHALL BE EXEMPT FROM ANY FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS FOR NATURAL OR MAN-MADE CHANNELS:

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.
(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 CHANNELS 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, THE BED, OR THE BANKS; OR
(2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES;
(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 MEASURES 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 CONDITION 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 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.

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 MANAGEMENT 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 OR MAN-MADE CHANNELS IF THE PRACTICES ARE DESIGNED TO (I) DETAIN THE WATER QUALITY VOLUME AND TO RELEASE IT OVER 48 HOURS; (II) DETAIN AND RELEASE OVER A 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 A 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 § 62.1-44.15:54 OR 62.1-44.15:65 OF THE ACT.

M. FOR PLANS APPROVED ON AND AFTER JULY 1, 2014, THE FLOW RATE CAPACITY AND VELOCITY REQUIREMENTS OF §62.1-44.15:52 A OF THE ACT AND THIS SUBSECTION SHALL BE SATISFIED BY COMPLIANCE WITH WATER QUANTITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§62.1-44.15:24 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDANT REGULATIONS, UNLESS SUCH LAND-DISTURBING ACTIVITIES ARE IN ACCORDANCE WITH 9VAC25-870-48 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS.

N. COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF SUBDIVISION 19 OF THIS SUBSECTION.

METHOD OF COMPLIANCE: THIS PROJECT SATISFIES THE REQUIREMENTS OF MS-19 BY DEMONSTRATING COMPLIANCE WITH THE WATER QUANTITY MINIMUM STANDARDS SET OUT IN 9VAC25-870-66 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) REGULATIONS. SPECIFICALLY THE PROJECT COMPLIES WITH THE REQUIREMENTS OF 9VAC25-870-66 B.1. & 4. (CHANNEL PROTECTION) AND 9VAC25-870-66 C.2.B & 3. (FLOOD PROTECTION). THE DEVELOPMENT PLAN INCORPORATES DETENTION TO MEET THESE REQUIREMENTS. REFER TO THE STORMWATER MANAGEMENT PLAN AND COMPUTATION FOR ADDITIONAL INFORMATION. REFER TO THE STORMWATER MANAGEMENT PLAN AND COMPUTATION FOR ADDITIONAL INFORMATION.

END OF STATEMENT OF COMPLIANCE WITH VIRGINIA EROSION AND SEDIMENT CONTROL REGULATIONS – 9VAC25-840-40 – MINIMUM

EROSION & SEDIMENT CONTROL NARRATIVE

1. PROJECT DESCRIPTION:

1.1 THE PURPOSE OF THIS PROJECT IS TO PERFORM CLEARING AND GRADING, STORM DRAINAGE INSTALLATION, UTILITY CONSTRUCTION (WATER AND SEWER SERVICES), PAVING, AND OTHER SITE DEVELOPMENT CONSTRUCTION REQUIRED FOR THE NEW AUTOMATED CAR WASH FACILITY AND SUPPORTING PARKING AREAS AND SITE FEATURES.

1.2 THE PROJECT SITE AREA IS A TRACT OF LAND LOCATED ON RUTGERS STREET, NW IN THE CITY OF ROANOKE, VIRGINIA. THE PRIMARY DEVELOPMENT SITE IS IDENTIFIED AS A PART OF TAX PARCEL NUMBERS 6660108138-2-4 AND THE DEVELOPMENT SITE CONSISTS OF +/- 1.52 ACRES.

1.3 THE TOTAL AREA OF PROPOSED LAND DISTURBANCE IS +/- 1.69 ACRES AND IS SHOWN ON THE E&SC PLANS.

1.4 TO MINIMIZE THE POTENTIAL FOR SILT-LADEN RUNOFF LEAVING THE SITE, EROSION AND SEDIMENT CONTROL (E&SC) MEASURES SHALL BE PROVIDED AS SHOWN AND SPECIFIED ON THESE EROSION & SEDIMENT CONTROL PLANS, AS OUTLINED IN THE SEQUENCE OF WORK, AND THIS E&SC NARRATIVE. THE E&SC MEASURES SHALL BE INSTALLED IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS FOUND IN THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK", LATEST EDITION.

2. EXISTING SITE CONDITIONS:

2.1 LAND COVER: THE EXISTING PROJECT SITE AREA IS GENERALLY COMPRISED OF PREVIOUSLY DEVELOPED / GRADED LAND THAT IS GENERALLY CLEAR OF TREES AND OTHER VEGETATION. WHILE THE SITE WAS PREVIOUSLY DEVELOPED/GRADED, IT IS CURRENTLY VOID OF A BUILDING/STRUCTURE. THE MAJORITY OF THE PROJECT SITE IS COVERED WITH A GOOD STAND OF NATIVE GRASS.

2.2 SLOPES/TOPOGRAPHY: THE EXISTING TOPOGRAPHY IS SHOWN AT 1-FOOT CONTOUR INTERVAL ON THESE E&SC PLANS AND THE SITE DEVELOPMENT PLANS. THE TOPOGRAPHY OF THE MAIN DEVELOPMENT SITE IS DEFINED BY A HIGH POINT/AREA (ELEVATION 1131) LOCATED IN THE NORTHERN CORNER OF THE SITE NEAREST TO RUTGERS STREET WITH SLOPES TOWARD THE SOUTH FROM ELEVATION 1131 TO ELEVATION 1126/1127. THE RESULTING SLOPE ACROSS THIS AREA OF THE SITE IS AVERAGE +/- 1.4-PERCENT. A SLIGHT RISE/SLOPE IS LOCATED ALONG THE WESTERN PERIMETER OF THE DEVELOPMENT AREA WITH A HIGH POINT OF ELEVATION 1137 (NORTHWESTERN CORNER) SLOPING DOWN TO ELEVATION 1130 (SOUTHWESTERN CORNER). THIS RISE/SLOPE DIRECTS ANY STORMWATER RUN-OFF TO THE SOUTH CORNER OF THE PROJECT SITE.

2.3 DRAINAGE FEATURES: THE PROPOSED DEVELOPMENT SITE IS BOUND ON THE NORTH, EAST, AND SOUTH BY ADJOINING DEVELOPED AREAS. CURB & CURB/GUTTER BORDER THESE ADJOINING SITES AND INTERCEPT/CONTROL ALL RUN-OFF FROM THOSE AREAS AND DISCHARGE THE RUN-OFF AYWAY FROM THE PROJECT SITE. THE RUN-OFF FROM THE EXISTING SITE AREA SHEET FLOWS/DRAINS FROM THE NORTH TO THE SOUTH AND DISCHARGES INTO A GRASSED AREA AT THE SOUTH/SOUTHWEST CORNER OF THE SITE WHERE IT IS EITHER COLLECTED INTO THE ADJOINING PARKING LOT OR CONTINUES TO SHEET FLOW TO THE SOUTH AND WEST WHERE IT IS COLLECTED BY AN INTERSECTION ACCESS ROAD FROM HERSHBERGER ROAD TO LOWES HOME IMPROVEMENT STORE.

2.4 JURISDICTIONAL WATERS / WETLANDS: NO FEATURES ON THE PROJECT SITE ARE CONSIDERED JURISDICTIONAL WATERS/WATER OF THE UNITES STATES (WOTUS). THE WORK OF THE PROJECT DOES NOT IMPACT KNOWN JURISDICTIONAL WATERS/WATER OF THE UNITES STATES (WOTUS).

3. ADJACENT PROPERTY:

3.1 THE PROJECT SITE IS BORDERED ON THE NORTH BY AN EXISTING ACCESS ROAD TO THE LOWE'S HOME IMPROVEMENT STORE, ON THE EAST BY RUTGERS STREET, AND ON THE SOUTH/SOUTHEAST BY THE ADJOINING CURB/PARKING AREA OF THE EXISTING K&W CAFETERIA. IN EACH CASE THE EDGE OF THE ACCESS ROAD/ROADWAY/PARKING IS FORMED BY A CURB/CURB & GUTTER ALONG THE PERIMETER OF THE SITE. SINCE THE RUN-OFF FROM THESE AREAS IS CONTROLLED/COLLECTED BY THE ADJOINING STORM DRAINAGE SYSTEM AND SINCE THESE ADJOINING AREAS ARE UP-SLOPE OF THE PROJECT SITE, THERE IS NO-TO-LITTLE POTENTIAL FOR IMPACTS (DOWNSTREAM SEDIMENTATION) FROM THE SITE ONTO OR FROM THESE ADJOINING PROPERTIES.

3.2 THE PROJECT SITE IS BORDERED ON THE SOUTH BY A PORTION OF THE DEVELOPED K&W CAFETERIA. THIS ADJOINING SITE IS DOWNSLOPE OF THE PROJECT SITE AND RUN-OFF FROM THE PROJECT SITE EXITS AT THIS LOCATION BY SHEET-FLOW AND DRAINS ONTO THE ADJOINING STORM DRAINAGE SYSTEM. BASED ON THIS ANALYSIS, THERE IS MODERATE-TO-HIGH POTENTIAL FOR IMPACTS DUE TO DOWNSTREAM SEDIMENTATION ON THE PROPERTY TO THE SOUTH. WITH REGARD TO EROSION AND DOWNSTREAM SEDIMENTATION, THE SOUTHERN PERIMETER SHOULD RECEIVE THE MOST FOCUS.

3.4 OFF-SITE DISPOSAL/BORROW AREAS:

3.4.1 WHERE ENCOUNTERED, TOPSOIL STRIPPED FROM THE PROJECT SITE SHALL BE STOCKPILED AT THE LOCATION DESIGNATED ON THE PLANS AND RE-USED TO THE MAXIMUM EXTENT PRACTICABLE OR HAULED OFF SITE AND DISPOSED IN A LEGAL AND PROPER MANNER.

3.4.2 THE EARTHWORK ANALYSIS OF THIS PROJECT GENERALLY INDICATES THAT THE PROJECT WILL BALANCE OR THERE WILL BE A NET EXPORT OF MATERIAL (THAT IS THE AMOUNT OF EXPECTED EXCAVATION EXCEEDS THE AMOUNT OF FILL / EMBANKMENT).

3.4.3 SHOULD IT BECOME NECESSARY TO REMOVE SOIL MATERIAL FROM THE PROJECT SITE AND DISPOSE OF IT AT AN OFF-SITE LOCATION, THE CONTRACTOR SHALL PROVIDE DOCUMENTATION THAT THE DISPOSAL SITE IS CURRENTLY PERMITTED WITH A VALID LAND DISTURBANCE PERMIT AND ANY OTHER PERMIT REQUIRED TO LEGALLY DISPOSE OF SOIL MATERIALS AND/OR PERFORM LAND DISTURBANCES. PRIOR TO REMOVAL OF SOIL MATERIALS FROM THE PROJECT SITE THE CONTRACTOR SHALL PROVIDE THE LOCATION OF THE DISPOSAL SITE AND EVIDENCE OF A VALID LAND-DISTURBING PERMIT FOR THE DISPOSAL SITE.

4. SOILS:

4.1 A DETAILED SUBSURFACE EXPLORATION AND GEOTECHNICAL ENGINEERING EVALUATION WAS NOT PERFORMED FOR THIS PORTION OF THE PROJECT. THE SOILS THAT ARE CURRENTLY IN-PLACE ARE NATIVE IN-SITU SOILS AND SOILS PLACED FROM PRIOR DEVELOPMENT ACTIVITIES.

4.2 PER THE USDA WEB SOIL SURVEY (WSS), THE SOIL TYPES WITHIN THE PROJECT LIMITS ARE: UDORTHENTS-URBAN LAND COMPLEX AND URBAN LAND. A GENERAL DESCRIPTION OF THE SOIL CHARACTERISTICS FOR THESE SOILS ARE: LAND WHERE MORE THAN 80 PERCENT OF THE SURFACE IS COVERED BY ASPHALT, CONCRETE, BUILDINGS, OR OTHER IMPERVIOUS SURFACES. EXAMPLES OF THESE AREAS INCLUDE PARKING LOTS, SHOPPING CENTERS, BUSINESS CENTERS, AND INDUSTRIAL PARKS. UDORTHENTS ARE IN AREAS WHERE THE NATURAL SOILS HAVE BEEN DISTURBED BY GRADING, EXCAVATING, OR FILLING. IN MANY AREAS, SEVERAL FEET OF MISCELLANEOUS FILL HAS BEEN PLACED OVER STREAMS, POORLY DRAINED SOILS, OR FLOOD PLAINS. THESE AREAS NOW CONTAIN ROADS, BUILDINGS, OR OTHER STRUCTURES. EROSION POTENTIAL IS LOW TO MODERATE.

5. CRITICAL EROSION AREAS:

5.1 STEEP SLOPES – DENUDED SLOPES AND PROPOSED FILL SLOPES POSE A HIGH POTENTIAL FOR EROSION. ALL NEWLY DENUDED OR NEWLY CONSTRUCTED SLOPES BETWEEN 2H:1V AND 3H:1V ON THE PROJECT SITE ARE CONSIDERED "HIGH EROSION AREAS." THESE SLOPES SHOULD BE GRADED TO THEIR FINAL CONDITION AS QUICKLY AS POSSIBLE AND IMMEDIATELY STABILIZED IN ACCORDANCE WITH THE PROVISIONS OF THE PLANS AND NARRATIVES. ALL SLOPES IN EXCESS OF 3H:1V ARE TO BE FURTHER STABILIZED WITH SOIL STABILIZATION BLANKET AND MATTINGS.

6. EROSION AND SEDIMENT CONTROL MEASURES:

6.1 UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS (STD. AND SPEC.) OF THE LATEST EDITION OF THE "VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK." MEASURES SPECIFICALLY IDENTIFIED ON THESE PLANS ARE LISTED BELOW.

6.2 CONSTRUCTION ENTRANCE (CE) AND CONSTRUCTION ROAD STABILIZATION (RCS): A CONSTRUCTION ENTRANCE IS PROVIDED AS SHOWN ON THE E&SC PLAN. THE CONTRACTOR SHALL ENSURE VEHICLES LEAVING THE WORK AREA ARE FREE OF EXCESS MUD, DIRT, AND DUST. VEHICLE WASH-DOWN PROVISIONS SHALL BE ADDED IF REQUIRED BY E&SC INSPECTOR. THE CONSTRUCTION ROAD STABILIZATION (CRS) CONSISTS OF THE TEMPORARY STABILIZATION OF ACCESS ROADS, AND ON-SITE PARKING AREAS WITH STONE IMMEDIATELY AFTER GRADING. THE PURPOSE OF THE CRS IS TO REDUCE THE EROSION OF TEMPORARY ROADBEDS BY CONSTRUCTION TRAFFIC DURING WET WEATHER AND REDUCE THE EROSION AND SUBSEQUENT RE-GRADING OF PERMANENT ROADBEDS BETWEEN THE TIME OF INITIAL GRADING AND FINAL STABILIZATION.

6.3 SILT FENCE (SF): SILT FENCE SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND IN CONFORMANCE WITH STD. AND SPEC. 3.05 – IT WILL INTERCEPT SILT LADEN RUNOFF BEFORE IT EXITS THE SITE. SILT FENCE INSTALLATION SHALL BE COORDINATED WITH AND INSPECTED BY THE EROSION AND SEDIMENT CONTROL INSPECTOR OR REPRESENTATIVE. IN SOME STEEPER AREAS OF THE PROJECT SITE "SUPER SILT FENCE," WHICH USES WIRE BACKING TO HANDLE HIGHER VELOCITIES AND FLOWS, MAY BE SPECIFIED.

6.4 STORM DRAIN INLET PROTECTION (IP): SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND IN CONFORMANCE WITH STD. AND SPEC. 3.07. INLET PROTECTIONS ARE PROVIDED IN ORDER TO FILTER RUNOFF BEFORE IT ENTERS THE STORM DRAINAGE SYSTEM.

6.5 OUTLET PROTECTION (OP): SHALL BE INSTALLED AS SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND IN CONFORMANCE WITH STD. AND SPEC. 3.18. OUTLET PROTECTION IS AN ENERGY DISSIPATING DEVICE WHICH PROTECTS THE OUTLET AND REDUCES DOWNSTREAM EROSION BY REDUCING THE VELOCITY OF CONCENTRATED STORMWATER FLOWS.
6.6 TOPSOILING (TO): SHALL BE APPLIED TO ALL DISTURBED AREAS WHICH ARE TO RECEIVE PERMANENT SEEDING AS INDICATED ON THE EROSION AND SEDIMENT CONTROL PLAN AND SHALL BE APPLIED IN ACCORDANCE WITH THE STD. AND SPEC. 3.30. TOPSOILING PROVIDES A METHOD FOR PRESERVING AND RE-USING THE SURFACE LAYER OF SOIL, OFTEN ENRICHED IN ORGANIC MATTER, IN ORDER TO OBTAIN A MORE DESIRABLE PLANTING AND GROWTH MEDIUM.

6.7 TEMPORARY SEEDING / STABILIZATION (TS): SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE AND SHALL CONFORM TO STD. AND SPEC. 3.31. ADDITIONALLY, TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS IN CONFORMANCE WITH STD. AND SPEC. 3.31.

6.8 PERMANENT SEEDING (PS): ALL DISTURBED AREAS BROUGHT TO FINAL GRADE THAT ARE NOT BUILT UPON (BUILDING, PAVEMENT, WALKS, ETC.) OR THAT ARE NOT LANDSCAPED SHALL BE SEEDED IN CONFORMANCE WITH STD. AND SPEC. 3.32. PERMANENT STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE.

6.9 SOIL STABILIZATION MATTING (B/M): SHALL BE VDOT STANDARD TYPE "TREATMENT 1" AND SHALL BE INSTALLED IN THE LOCATION SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND SHALL CONFORM TO STD. AND SPEC. 3.36. MATTING CAUSES SOIL/SEDIMENT TO DROP OUT OF STORMWATER AND FORMS AN EROSION RESISTANT VEGETATIVE COVER IN CHANNELS AND ON STEEP SLOPES.

6.10 RIP-RAP/CHECK DAM (RR/CD): SHALL BE INSTALLED IN THE LOCATION SHOWN ON THE EROSION AND SEDIMENT CONTROL PLAN AND SHALL CONFORM TO STD. AND SPEC. 3.19 AND 3.20. THESE MEASURES ARE USED TOGETHER TO PROTECT THE SOIL FROM THE EROSIVE FORCES OF CONCENTRATED RUNOFF, TO SLOW THE VELOCITY OF CONCENTRATED RUNOFF WHILE ENHANCING THE POTENTIAL FOR INFILTRATION, AND AN AID IN THE SEDIMENT TRAPPING STRATEGY FOR A CONSTRUCTION SITE.

7. MANAGEMENT STRATEGY AND SEQUENCE OF CONSTRUCTION:

7.1 CONSTRUCTION SHALL BE SEQUENCED SO LAND DISTURBING AND GRADING OPERATIONS CAN BEGIN AND END AS QUICKLY AS POSSIBLE. REFER TO THE MORE SPECIFIC "GENERAL SEQUENCE OF WORK" SHOWN ON SHEET C4 & C5 FOR ADDITIONAL INFORMATION.

7.2 THE LIMITS OF LAND DISTURBANCE SHALL BE CLEARLY MARKED PRIOR TO START OF WORK.

7.3 SEDIMENT TRAPPING AND PERIMETER MEASURES SHALL BE INSTALLED AS THE FIRST STEP IN THE GRADING OPERATION AND SHALL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.

7.4 TEMPORARY SEEDING (TS) OR OTHER STABILIZATION MEASURES SHALL BE PLACED IMMEDIATELY FOLLOWING GRADING.

7.5 THE PROJECT SUPERINTENDENT OR THE RESPONSIBLE LAND DISTURBER (RLD) SHALL BE DIRECTLY RESPONSIBLE TO ENSURE THE MEASURES SPECIFIED HEREIN ARE INSTALLED AND MAINTAINED AND THE SEQUENCE OF WORK IS FOLLOWED.

7.6 AFTER PERFORMANCE OF THE WORK OF THE PROJECT AND UPON ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY E&SC MEASURES WILL BE CLEANED UP AND REMOVED.

8. PERMANENT STABILIZATION / REMOVAL OF MEASURES:

8.1 AFTER THE INSTALLED EROSION AND SEDIMENTATION CONTROL DEVICES ARE FOUND TO BE FUNCTIONAL, THE CONTRACTOR SHALL IMMEDIATELY PROCEED WITH CLEARING, GRUBBING, AND PRELIMINARY GRADING OPERATIONS. PERMANENT OR TEMPORARY STABILIZATION SHALL BE APPLIED TO DENUDED AREAS 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 DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN FOURTEEN (14) DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE (1) YEAR.

8.2 FOLLOWING THE COMPLETION OF DEVELOPMENT AND STABILIZATION OF ALL AREAS, AND IT HAS BEEN DETERMINED THAT EROSION OR SEDIMENTATION IS NO LONGER OCCURRING ON THE SITE OR AT ITS BOUNDARIES, AND DRAINAGE FLOWS ARE FUNCTIONING ACCORDING TO DESIGN, THE CONTRACTOR MAY THEN BEGIN TO REMOVE THE TEMPORARY EROSION AND SEDIMENT CONTROL DEVICES. THIS WORK SHALL BE DONE IN A CAREFUL, NEAT, AND ORGANIZED MANNER.

8.3 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 SHALL BE CAREFULLY REMOVED OR UNIFORMLY SPREAD OVER THE AREA AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.

9. INSPECTION & MAINTENANCE REQUIREMENTS:

9.1 THE CONTRACTOR IS RESPONSIBLE FOR ADHERING TO ALL MAINTENANCE REQUIREMENTS OF THE EROSION AND SEDIMENT CONTROL MEASURES AS OUTLINED IN THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK.

9.2 ALL EROSION AND SEDIMENT MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE ITEMS LISTED BELOW WILL BE CHECKED IN ACCORDANCE WITH THE REQUIREMENTS FOR EACH PARTICULAR ITEM.

9.3 STD & SPEC 3.02 – TEMPORARY STONE CONSTRUCTION ENTRANCE (CE) – THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAY. THIS WILL REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT 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 MATERIALS DROPPED, WASHED, OR TRACKED ONTO ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.

9.4 STD & SPEC 3.05 – SILT FENCE (SF): SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY. CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING. SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH A DEPTH OF 6-INCHES. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.

9.5 STD & SPEC 3.07 – STORM DRAIN INLET PROTECTION (IP) – THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN 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. STRUCTURES SHALL BE REMOVED AND THE AREA STABILIZED WHEN THE REMAINING DRAINAGE AREA HAS BEEN PROPERLY STABILIZED.

9.6 STD & SPEC 3.32 – PERMANENT SEEDING (PS) – IN GENERAL, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL IT HAS BEEN MAINTAINED FOR ONE FULL YEAR AFTER PLANTING. IRRIGATION – NEW SEEDING SHOULD BE SUPPLIED WITH ADEQUATE MOISTURE. SUPPLY WATER AS NEEDED, ESPECIALLY LATE IN THE SEASON, IN ABNORMALLY HOT OR DRY WEATHER, OR ON ADVERSE SITES. WATER APPLICATION RATES SHOULD BE CONTROLLED TO PREVENT EXCESSIVE RUNOFF. RE-SEEDING – INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RESEEDINGS WITHIN THE SAME SEASON, IF POSSIBLE. IF VEGETATIVE COVER IS INADEQUATE TO PREVENT RILL EROSION, OVER-SEED AND FERTILIZE IN ACCORDANCE WITH SOIL TEST RESULTS. IF A STAND HAS LESS THAN 40% COVER, RE-EVALUATE CHOICE OF PLANT MATERIALS AND QUANTITIES OF LIME AND FERTILIZER. THE SOIL MUST BE TESTED TO DETERMINE IF ACIDITY OR NUTRIENT IMBALANCES ARE RESPONSIBLE. RE-ESTABLISH THE STAND FOLLOWING SEEDBED PREPARATION AND SEEDING RECOMMENDATIONS. FERTILIZATION – COOL SEASON GRASSES SHOULD BEGIN TO BE FERTILIZED 90 DAYS AFTER PLANTING TO ENSURE PROPER STAND AND DENSITY. WARM SEASON FERTILIZATION SHOULD BEGIN AT 30 DAYS AFTER PLANTING. APPLY MAINTENANCE LEVELS OF FERTILIZER AS DETERMINED BY SOIL TEST. IN THE ABSENCE OF A SOIL TEST, FERTILIZATION SHOULD BE AS INDICATED ON THE SEED SCHEDULE.

10. STORMWATER MANAGEMENT:

10.1 STORMWATER RUN-OFF FROM THE DEVELOPED PROJECT SITE (SPECIFICALLY CONCENTRATED FLOWS) WILL BE COLLECTED BY NEW STORM DRAINAGE INLETS, CURB SLOTS AND FLUMES, OR OTHER DEVICES, CONVEYED BY PIPE OR CHANNEL, AND DISCHARGED INTO THE NEWLY CONSTRUCTED STORMWATER MANAGEMENT BASINS. DISCHARGE FROM THE BASINS SHALL OCCUR IN A NON-EROSIVE MANNER INTO THE EXISTING RECEIVING CHANNEL ADJOINING THE SITE. OTHER AREAS OF THE PROJECT SITE DISCHARGE IN NON-CONCENTRATED FLOW OR IN SHEET FLOW TO THE PERIMETER OF THE SITE AND ARE COLLECTED BY NEW OR EXISTING DRAINAGE CHANNELS.

10.2 WATER QUALITY: THE "TOTAL POLLUTANT LOAD (TP) REDUCTION REQUIRED" FOR THE WORK OF THIS PROJECT IS 1.57 LBS./YEAR AS DETERMINED BY THE DEQ "VIRGINIA RUNOFF REDUCTION METHOD RE-DEVELOPMENT COMPLIANCE SPREADSHEET – VERSION 3.0." SEE SECTION 3-2 OF THE SWM CALCULATIONS FOR THE VRRM WORKSHEETS. METHOD OF PROVIDING TOTAL POLLUTANT LOAD (TP) REDUCTION: THE TP REDUCTION IS BEING PROVIDED BY THE PURCHASING OF NUTRIENT CREDITS.

END OF EROSION & SEDIMENT CONTROL NARRATIVE

City of Roanoke
Planning, Building, & Development
COMPREHENSIVE DEVELOPMENT PLAN
APPROVED
by Ken Richardson
04/30/2019

REV.	DATE	BY

PROPOSED CONSTRUCTION PLANS
ULTIMATE SHINE CAR WASH
RUTGERS STREET N.W., ROANOKE, VA
MS-19 COMPLIANCE STATEMENT & NARRATIVE

HIGHLANDS ENGINEERING, LLC
4132 Bristol Highway, Suite 2 ~ Johnson City, TN 37601
Phone: (423) 926-2007 E-mail: highlandseng@gmail.com

COMMONWEALTH OF VIRGINIA
JONATHAN B. LEWIS
Lic. No. 042917
02/20/19
PROFESSIONAL ENGINEER
SEAL WILL BE RED ON ORIGINALS ONLY

DRAWN BY: CAS
CHECKED BY: JBL
DATE: 02-20-19
SCALE: 1"=30'
DRAWING NAME: WILD ROANOKE 07
SHEET NUMBER: C6 OF 16 SHEETS

\\Fs\projects\WILD CONSTRUCTION\ULTIMATE SHINE ROANOKE\Project Drawings\Current\WILD ROANOKE 07.dwg, EC3, 2/20/2019 10:13:47 AM, Owner, 1:1