

EROSION CONTROL NARRATIVE

PROJECT DESCRIPTION

THIS PROJECT ZONED B-1 (GENERAL BUSINESS DISTRICT) IS FOR THE CONSTRUCTION OF AN APPROXIMATELY 6,049 SQUARE FEET WAWA THE SITE AREA IS APPROXIMATELY 1.65 ACRES AND WILL DISTURB APPROXIMATELY 1.48 ACRES. THE SITE LIES ON THE SOUTHEAST SIDE OF THE INTERSECTION OF SUDLEY ROAD (ROUTE 234) AND DAVIDSON PLACE. THIS NARRATIVE INCLUDES THE DESCRIPTION OF THE EROSION AND SEDIMENT CONTROLS AND MAINTENANCE CONTROL PROGRAMS PERTAINING TO THIS PLAN.

EXISTING SITE CONDITIONS

THE AREA OF DEVELOPMENT IS CURRENTLY A VACANT RESTAURANT CONSISTING OF GRASS, PAVEMENT, CONCRETE CURB AND GUTTER. THE EXISTING SITE HAS MODERATE TO STEEP SLOPES RANGING FROM APPROXIMATELY 0-7% IN PAVED AREAS TO APPROXIMATELY 1-62% IN THE GRASS AREA. THE SITE GENERALLY DRAINS FROM EAST TO WEST AND IS DRAINED VIA INLETS LOCATED TO THE NORTHWEST AND SOUTHWEST OF THE EXISTING DEVELOPMENT.

ADJACENT AREAS

THE PROJECT AREA IS SURROUNDED BY EXISTING PARKING LOTS, SUDLEY ROAD (ROUTE 234) AND DAVIDSON PLACE.

OFF-SITE AREAS

THERE ARE NO OFF-SITE IMPROVEMENTS.

SOILS

A SOILS MAP WITH SOIL TYPE DESCRIPTIONS AND DATA IS PROVIDED ON C-000.

CRITICAL AREAS

THERE ARE STEEP SLOPES IN THE EXISTING GRASSED LANDSCAPE AREA TO THE NORTH WEST OF THE EXISTING BUILDING.

EROSION CONTROL MEASURES

THE FOLLOWING EROSION CONTROL MEASURES AS SHOWN ON THE EROSION CONTROL PLAN SHEET(S) OF THE SITE PLAN WILL BE USED FOR THIS PROJECT.

3.01 SAFETY FENCE - A PROTECTIVE BARRIER TO PREVENT ACCESS TO THE SITE AND THE EROSION AND CONTROL MEASURES WILL BE PROVIDED AROUND THE SITE. THE PURPOSE OF THIS PRACTICE IS TO PROHIBIT THE UNDESIRABLE USE OF THE SITE OR AN EROSION CONTROL MEASURE BY THE PUBLIC. SAFETY FENCE SHALL BE CHECKED REGULARLY FOR WEATHER-RELATED OR OTHER DAMAGE. ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY. CARE SHOULD BE TAKEN TO SECURE ALL ACCESS POINTS (GATES) AT THE END OF EACH WORKING DAY. ALL LOCKING DEVICES MUST BE REPAIRED OR REPLACED AS NECESSARY.

3.02 TEMPORARY STONE CONSTRUCTION ENTRANCE - A STABILIZED STONE PAD WITH A FILTER FABRIC UNDERLINER WILL BE PROVIDED AT THE PRIMARY CONSTRUCTION ACCESS POINT. THE PURPOSE OF THIS PRACTICE IS TO REDUCE THE AMOUNT OF MUD TRANSPORTED ONTO PAVED PUBLIC ROADS BY MOTOR VEHICLES OR RUNOFF. THE ENTRANCE SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHTS-OF-WAY. THIS MAY 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. A WASH RACK WILL BE INCLUDED IN THE CONSTRUCTION ENTRANCE. THE SOURCE OF WATER FOR THE CONSTRUCTION ENTRANCE IS THE EXISTING FIRE HYDRANT LOCATED TO THE SOUTHEAST OF THE CONSTRUCTION ENTRANCE.

3.05 SILT FENCE - A TEMPORARY SEDIMENT BARRIER CONSISTING OF SYNTHETIC FILTER FABRIC STRETCHED ACROSS SUPPORTING POSTS WILL BE PROVIDED AROUND THE PERIMETER OF THE SITE. THE PURPOSE OF THIS PRACTICE IS TO INTERCEPT AND DETAIN SEDIMENT FROM CONSTRUCTION OPERATIONS IN ORDER TO PREVENT SEDIMENT FROM LEAVING THE SITE AND TO DECREASE VELOCITY OF SHEET FLOWS AND CHANNEL FLOWS. SILT FENCES ARE TO BE INSPECTED IMMEDIATELY AFTER RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. REPAIRS TO THE SILT FENCE SHOULD BE MADE IMMEDIATELY. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT AND MUST BE REMOVED WHEN THEY REACH HALF THE HEIGHT OF THE BARRIER. SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHOULD BE DRESSED TO CONFORM WITH EXISTING GRADE, PREPARED, AND SEEDED.

3.07 STORM DRAIN INLET PROTECTION - A SEDIMENT FILTER OR AN EXCAVATED IMPOUNDING AREA AROUND A STORM DRAIN DRAIN INLET OR CURB INLET WILL BE PROVIDED AT ALL INLET LOCATIONS WITHIN THE LIMITS OF DISTURBANCE. THE PURPOSE OF THIS PRACTICE IS TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA. 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.

3.31 TEMPORARY SEEDING - THE ESTABLISHMENT OF A TEMPORARY VEGETATIVE COVER ON DISTURBED AREAS BY SEEDING WITH APPROPRIATE RAPIDLY GROWING ANNUAL PLANTS WILL BE PROVIDED ON ALL DISTURBED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE WITHIN 30 DAYS. TEMPORARY SEEDING SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN LONGER THAN 30 DAYS AS PER MS-1. THE PURPOSE OF THIS PRACTICE IS TO PROVIDE PROTECTION TO BARE SOILS EXPOSED DURING CONSTRUCTION UNTIL PERMANENT VEGETATION OR OTHER EROSION CONTROL MEASURES CAN BE ESTABLISHED.

3.32 PERMANENT SEEDING - THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED WILL BE PROVIDED AS SHOWN ON THE LANDSCAPING PLAN. PERMANENT SEEDING SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED AS PER MS-1. THE PURPOSE OF THIS PRACTICE IS TO REDUCE EROSION AND DECREASE SEDIMENT YIELD FROM DISTURBED AREAS AND TO PERMANENTLY STABILIZE DISTURBED AREAS IN A MANNER THAT IS ECONOMICALLY ADAPTABLE TO SITE CONDITIONS, AND ALLOWS SELECTION OF THE MOST APPROPRIATE PLANT MATERIALS.

STOCKPILING - TOPSOIL SHALL BE STOCKPILED IN SUCH A MANNER THAT NATURAL DRAINAGE IS NOT OBSTRUCTED AND NO OFF-SITE SEDIMENT DAMAGE SHALL RESULT. STABILIZE OR PROTECT STOCKPILES IN ACCORDANCE WITH MINIMUM STANDARD #2. THE SIDE SLOPES OF THE STOCKPILE SHALL NOT EXCEED 2H:1V. PERIMETER CONTROLS MUST BE PLACED AROUND THE STOCKPILE IMMEDIATELY. SEEDING OF STOCKPILES SHALL BE COMPLETED WITHIN 7 DAYS OF THE FORMATION OF THE STOCKPILE, IN ACCORDANCE WITH STD. AND SPEC. 3.31 (TEMPORARY SEEDING). IF IT IS TO REMAIN DORMANT FOR LONGER THAN 30 DAYS (REFER TO MINIMUM STANDARD #1 AND #2).

PERMANENT STABILIZATION

PERMANENT STABILIZATION WILL BE ACHIEVED WITH SEEDING AS SHOWN ON THE LANDSCAPING AND PHASE II EROSION CONTROL PLAN SHEETS OF THIS PLAN FOR ALL VEGETATED AREAS. CONCRETE, PAVEMENT, AND OTHER IMPERVIOUS SURFACES WILL STABILIZE THE REMAINDER OF THE SITE.

STORMWATER MANAGEMENT

STORMWATER QUALITY IS MET USING WATER QUALITY CREDITS. SEE SHEET C-430 FOR CALCULATIONS AND MORE DETAILS.

DUE TO THE MINIMAL INCREASE IN IMPERVIOUS AREA, NO ADDITIONAL IMPROVEMENTS ARE PROPOSED TO MANAGE STORMWATER QUANTITY. THE EXISTING DRAINAGE AREA TO THE POND WAS ANALYZED TO DETERMINE THE IMPACT OF THE ADDITIONAL IMPERVIOUS AREA TO THE EXISTING POND. SEE SHEET C-420 AND C-421 FOR CALCULATIONS AND MORE DETAILS.

MAINTENANCE

BETWEEN THE TIME THE EROSION CONTROL PLAN IS IMPLEMENTED AND FINAL SITE STABILIZATION IS ACHIEVED, ALL DISTURBED AREAS AND EROSION CONTROLS MUST BE INSPECTED DAILY.

EXAMPLES OF PARTICULAR ITEMS TO BE EVALUATED DURING SITE INSPECTIONS ARE LISTED BELOW. THIS LIST IS NOT INTENDED TO BE COMPREHENSIVE. DURING EACH INSPECTION, EACH INSPECTOR MUST EVALUATE OVERALL EROSION CONTROL SYSTEM PERFORMANCE, AS WELL AS THE EFFECTIVENESS OF SYSTEM COMPONENTS. ADDITIONAL FACTORS SHOULD BE CONSIDERED AS APPROPRIATE TO THE CIRCUMSTANCES.

- LOCATIONS WHERE VEHICLES ENTER AND EXIT THE SITE MUST BE INSPECTED FOR EVIDENCE OF OFF-SITE SEDIMENT TRACKING. A STABILIZED CONSTRUCTION ENTRANCE WILL BE CONSTRUCTED WHERE VEHICLES ENTER AND EXIT. THIS ENTRANCE WILL BE MAINTAINED OR SUPPLEMENTED AS NECESSARY TO PREVENT SEDIMENT FROM LEAVING THE SITE ON VEHICLES. SEDIMENT TRACKED ONTO PUBLIC ROADWAYS MUST BE SHOVELLED OR SWEEPED FROM THE ROADWAY AND RE-DEPOSITED ON SITE IN A MANNER THAT MINIMIZES ITS OFFSITE RELEASE POTENTIAL.
SEDIMENT BARRIERS MUST BE INSPECTED DAILY, AND, IF NECESSARY, THEY MUST BE ENLARGED OR CLEANED IN ORDER TO PROVIDE ADDITIONAL CAPACITY. ALL MATERIAL EXCAVATED FROM BEHIND SEDIMENT BARRIERS SHALL BE STOCKPILED ON THE UP SLOPE SIDE OF THE BARRIER. ADDITIONAL SEDIMENT BARRIERS MUST BE CONSTRUCTED AS NEEDED.
INSPECTIONS WILL EVALUATE DISTURBED AREAS AND AREAS USED FOR STORING MATERIALS THAT ARE EXPOSED TO RAINFALL FOR EVIDENCE OF, OR THE POTENTIAL FOR, POLLUTANTS ENTERING THE DRAINAGE SYSTEM. IF NECESSARY, THE MATERIALS MUST BE COVERED OR ORIGINAL COVERS MUST BE REPAIRED OR SUPPLEMENTED. ALSO, PROTECTIVE BERMS MUST BE CONSTRUCTED, IF NEEDED, IN ORDER TO CONTAIN RUNOFF FROM MATERIAL STORAGE AREAS.
GRASSED AREAS WILL BE INSPECTED TO CONFIRM THAT A HEALTHY STAND OF GRASS IS MAINTAINED. THE SITE HAS ACHIEVED FINAL STABILIZATION WHEN TURF GRASS COVER PROVIDES PERMANENT STABILIZATION OF THE SOIL SURFACE EXCLUSIVE OF AREAS THAT HAVE BEEN PAVED OR COVERED BY BUILDINGS. PERMANENT STABILIZATION IS NOT CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT EROSION.
ALL DISCHARGE POINTS MUST BE INSPECTED TO DETERMINE WHETHER EROSION CONTROL MEASURES ARE EFFECTIVE IN PREVENTING IMPACTS TO RECEIVING WATERS.

BASED UPON THE RESULTS OF THE INSPECTIONS, EACH EROSION AND SEDIMENT CONTROL MEASURE SHALL BE REPAIRED AND/OR MAINTAINED IN ACCORDANCE WITH THE MAINTENANCE REQUIREMENTS SPECIFIED IN THE CORRESPONDING SECTION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. THE CONTRACTOR SHALL MAINTAIN A COPY OF THIS HANDBOOK ON SITE AT ALL TIMES DURING CONSTRUCTION.

MINIMUM STANDARDS (4VAC50-30-40)

AN EROSION AND SEDIMENT CONTROL PROGRAM ADOPTED BY A DISTRICT OR LOCALITY MUST BE CONSISTENT WITH THE FOLLOWING CRITERIA, TECHNIQUES AND METHODS:

- PERMANENT OF TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
2. DURING CONSTRUCTION OF THE PROJECT, SOIL STOCKPILES AND BORROW AREAS SHALL BE STABILIZED OR PROTECTED WITH SEDIMENT TRAPPING MEASURES. THE APPLICANT IS RESPONSIBLE FOR THE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS BORROW AREAS AND SOIL INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
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.
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 UPSLOPE LAND DISTURBANCE TAKES PLACE.
5. STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND TRENCHES 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.
A. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT TRAP SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA AND THE TRAP SHALL ONLY CONTROL DRAINAGE AREAS LESS THAN THREE ACRES.
B. SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES SHALL BE CONTROLLED BY A SEDIMENT BASIN. THE MINIMUM STORAGE CAPACITY OF A SEDIMENT BASIN SHALL BE 134 CUBIC YARDS PER ACRE OF DRAINAGE AREA. THE OUTFALL SYSTEM SHALL AT A MINIMUM MAINTAIN THE STRUCTURAL INTEGRITY OF THE BASIN DURING A TWENTY-FIVE YEAR STORM OF 24-HOUR DURATION. INTENTIONALLY TRANSPORTED FROM THE PROJECT SITE.
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.
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.
9. WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED.
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.
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.
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.
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.
14. ALL APPLICABLE FEDERAL, STATE, AND LOCAL REGULATIONS PERTAINING TO WORK IN OR CROSSING LIVE WATERCOURSES SHALL BE MET.
15. THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED.
16. UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

- 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 WILL NOT AFFECT FLOODING OR OFF-SITE PROPERTY.
D. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
E. REESTABLISHMENT SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
F. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
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 POINT OF ENTRY TO THE ROAD AND SWEEPING AND TRANSPORTED TO THE ROAD'S 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.
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 MEASURE SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
19. PROPERTIES AND WATERWAYS DOWNSTREAM FROM DEVELOPMENT SITES SHALL BE PROTECTED FROM SEDIMENT DEPOSITION, EROSION, AND DAMAGE DUE TO INCREASE IN VOLUME, VELOCITY AND PEAK FLOW RATE OF STORMWATER RUNOFF FOR THE STATED FREQUENCY STORM OF RETURN PERIOD, IN ACCORDANCE WITH THE FOLLOWING STANDARDS AND CRITERIA:

- CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE DISCHARGED DIRECTLY TO AN ADEQUATE NATURAL OR MAN-MADE RECEIVING CHANNEL, PIPE OR STORM SEWER SYSTEM. FOR THOSE SITES WHERE RUNOFF IS DISCHARGED TO 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 DISCHARGE WITHIN THE CHANNEL IS ONE HUNDRED TIMES GREATER THAN THE CONTRIBUTING DRAINAGE AREA OF THE PROJECT IN QUESTION.
OR
2. NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS OR CAUSE EROSION OF CHANNEL BEDS, BANKS, AND 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 THE USE OF A TEN-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS, AND 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 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
D. IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES, OR
E. DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO-YEAR STORM TO INCREASE WHEN RUNOFF FROM THE PLAN-APPROVED DEVELOPMENT TO THE POINT OF DISCHARGE WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF IS DISCHARGED INTO A MAN-MADE CHANNEL, OR
F. PROVIDE COMBINATION CHANNEL IMPROVEMENT, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN-APPROVED DEVELOPMENT.
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. IF THE APPLICANT CHANGES ANY CONDITION THAT INCLUDES STORMWATER DETENTION HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR THE MAINTENANCE OF THE CHANNELS. 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 RECEIVING CHANNELS AS NECESSARY TO PROVIDE A STABILIZED TRANSITION FROM THE FACILITY TO THE RECEIVING CHANNEL.
H. ALL CHANNELS MUST BE VERIFIED TO BE ADEQUATE.

- INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION ON ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, IDENTIFY CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
J. IDENTIFY AND PROTECT EXISTING CHANNELS, PIPES, AND OTHER STRUCTURES ON ADJACENT 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. MEASURES TO PROTECT EXISTING CHANNELS, PIPES, AND OTHER STRUCTURES 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 PEAK FLOW RATE RESULTING FROM THE 1, 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 § 10.1-582 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 QUALITY REQUIREMENTS IN THE STORMWATER MANAGEMENT ACT (§ 10.1-603.2 ET SEQ. OF THE CODE OF VIRGINIA) AND ATTENDING REGULATIONS, UNLESS SUCH REQUIREMENTS ARE IN ACCORDANCE WITH 4VAC50-30-40 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS.
N. COMPLIANCE WITH THE WATER QUALITY MINIMUM STANDARDS SET OUT IN 4VAC50-30-40 OF THE VIRGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT REGULATIONS SHALL BE DEEMED TO SATISFY THE REQUIREMENTS OF MINIMUM STANDARD 19.

GENERAL CONSTRUCTION SEQUENCE

- PRE-CONSTRUCTION MEETING REQUIRED.
2. COORDINATE REMOVAL OR RELOCATION OF UTILITY LINES WITH UTILITY PROVIDERS AND DEVELOPER.
3. INSTALL PERIMETER EROSION CONTROLS INCLUDING INLET PROTECTION, SILT FENCE, AND SAFETY FENCE. EXISTING ASPHALT TO BE USED FOR CONSTRUCTION ENTRANCE UNTIL THE PAVEMENT REQUIRES REMOVAL.
4. NOTIFY LOWES AND AVIATION INSTITUTE OF DAVIDSON PLACE CLOSURE TO PRIOR TO DEMOLITION ACTIVITIES.
5. SITE INSPECTOR APPROVAL REQUIRED FOR E&S MEASURES AFTER INSTALLATION AND PRIOR TO SITE CLEARING.
6. BEGIN DEMOLITION OF EXISTING PARKING FIELD ASPHALT AND CURBING WITHIN THE LIMITS OF THE WAWA SITE. DAVIDSON PLACE IS TO REMAIN OPERATIONAL TO THE SURROUNDING BUSINESSES DURING CONSTRUCTION OF THE WAWA. CLOSE DAVIDSON PLACE ONLY WHEN NECESSARY FOR PAVEMENT AND UTILITY WORK, IMMEDIATELY REOPEN FOR ACCESS.
7. BEGIN GRADING AND EARTHWORK OPERATIONS ON-SITE, AND START BUILDING CONSTRUCTION. PROVIDE TEMPORARY SEEDING FOR ALL DENUDED AREAS. INSTALL STORM DRAINAGE SYSTEM WITH INLET PROTECTION. THE TRENCH DRAIN IS TO BE PLUGGED AND UPON UPSTREAM STABILIZATION THE TRENCH TO BE CLEANED, TRENCH DRAIN TO BE REMOVED, THE PLUG, INSTALL FUEL TANKS AND UNDERGROUND UTILITIES, INCLUDING WATER AND SANITARY SEWER LINES. CONTRACTOR TO COORDINATE WITH PRINCE WILLIAM COUNTY SERVICE AUTHORITY INSPECTOR.
8. COMPLETE ROUGH GRADING OPERATIONS, INSTALL REMAINING CURBING, SIDEWALK, AND PLACE BASE STONE.
9. COMPLETE GRADING, PAWING, AND CURB AND GUTTER IMPROVEMENTS IN COORDINATION WITH PRINCE WILLIAM COUNTY, AND THE DEVELOPER, REPLACE CONCRETE SIDEWALK AND PEDESTRIAN RAMPS WHERE DISTURBED.
10. REPLACE EXISTING PAVEMENT TO LIMITS SHOWN ON SITE PLAN.
11. INSTALL IRRIGATION SYSTEM, SO, AND LANDSCAPING. PLACE PAVEMENT MARKINGS AND INSTALL SIGNAGE.
12. REMOVE ALL REMAINING TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES IN ACCORDANCE WITH THE LATEST EDITION OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK. DO NOT REMOVE EROSION CONTROL MEASURES UNTIL THE ENTIRE SITE HAS BEEN PERMANENTLY STABILIZED AND ADEQUATE VEGETATION HAS BEEN ESTABLISHED. REMOVAL OF ANY EROSION AND SEDIMENT CONTROL MEASURE SHALL NOT OCCUR UNTIL AUTHORIZED BY THE EROSION CONTROL INSPECTOR.

PRINCE WILLIAM COUNTY EROSION AND SEDIMENT CONTROL STANDARD NOTES

THE OWNER/DEVELOPER MUST NOTIFY THE DEPARTMENT OF PUBLIC WORKS AT 703-707-1111 AT LEAST 24 HOURS PRIOR TO THE START OF CONSTRUCTION IN ACCORDANCE WITH APPLICABLE COUNTY ORDINANCES AND POLICIES.

- THE OWNER/DEVELOPER GRANTS THE RIGHT-OF-ENTRY ON TO THIS PROPERTY TO THE DESIGNATED PRINCE WILLIAM COUNTY PERSONNEL FOR THE PURPOSE OF INSPECTION AND MAINTENANCE FOR THE PURPOSES WITH TITLE 10.01, CHAPTER 4, ARTICLE 4 OF THE CODE OF VIRGINIA, EROSION AND SEDIMENT CONTROL LAW AND THE DESIGN AND CONSTRUCTION STANDARDS MANUAL SECTION 750.04 (C).
2. ALL EROSION CONTROL MEASURES SHOWN ON THE APPROVED PLAN MUST BE IN PLACE AND INSPECTED AND APPROVED BY THE DEPARTMENT OF PUBLIC WORKS PRIOR TO CLEARING, STRIPPING OF TOPSOIL, OR GRADING.
3. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND PERMIT SHALL BE KEPT ON THE SITE AT ALL TIMES.
4. THE DEVELOPER/DEVELOPER'S REPRESENTATIVE IS RESPONSIBLE FOR THE INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY PRINCE WILLIAM COUNTY.
5. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURE AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL COMPLETE AND ADEQUATE STABILIZATION IS ACHIEVED.
6. WATER MUST BE PUMPED INTO AN APPROVED FILTERING DEVICE DURING DEWATERING OPERATIONS.
7. ALL EROSION AND SEDIMENT CONTROL PRACTICES MUST BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK AND THE VIRGINIA REGULATIONS VR 625-0-01, EROSION AND SEDIMENT CONTROL REGULATIONS, AND TO THE PRINCE WILLIAM DESIGN AND CONSTRUCTION STANDARDS MANUAL. THE DEVELOPER/DEVELOPER'S REPRESENTATIVE WILL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES AT ALL TIMES.
8. THE DEVELOPER/DEVELOPER'S REPRESENTATIVE SHALL INSPECT ALL EROSION AND SEDIMENT CONTROL MEASURES DAILY AND AFTER EACH SIGNIFICANT INFALL. THE FOLLOWING SYSTEMS WILL BE CHECKED IN REGULAR INTERVALS:
A. SEDIMENT BASINS WILL BE CLEANED OUT WHEN THE LEVEL OF SEDIMENT BUILDUP REACHES THE CHANNEL ELEVATION INDICATED ON THE RISER PIPE. SEDIMENT SHALL BE DISPOSED IN SUITABLE AREAS AND IN A MANNER THAT WILL NOT ERODE OR CAUSE SEDIMENTATION PROBLEMS. THE BASIN EMBANKMENT SHOULD BE CHECKED REGULARLY TO ENSURE THAT IT IS STRUCTURALLY SOUND AND HAS NOT BEEN DAMAGED BY EROSION OR CONSTRUCTION EQUIPMENT. EMERGENCY SPILLWAYS SHOULD BE CHECKED REGULARLY TO ENSURE THAT ITS LINING IS WELL ESTABLISHED AND EROSION RESISTANT.
B. SEDIMENT TRAPS WILL BE CHECKED REGULARLY FOR SEDIMENT CLEANOUT. SEDIMENT SHALL BE REMOVED AND THE TRAP RESTORED TO ITS ORIGINAL DIMENSIONS WHEN THE SEDIMENT HAS ACCUMULATED TO ONE HALF THE DESIGN VOLUME OF THE WET STORAGE. SEDIMENT REMOVED FROM THE TRAP SHALL BE DEPOSITED IN A SUITABLE AREA AND IN A MANNER THAT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
C. GRAVEL OUTLETS WILL BE CHECKED REGULARLY FOR SEDIMENT BUILDUP WHICH WILL PREVENT DRAINAGE. IF THE GRAVEL IS CLOGGED BY SEDIMENT, IT SHALL BE REMOVED AND CLEANED OR REPLACED.
D. SILT FENCE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETRIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.
E. SEEDED AREAS WILL BE CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND RESEEDED AS NEEDED.
F. STREAM DIVERSION AND STORM CONVEYANCE CHANNELS SHALL BE INSPECTED DAILY AND AFTER EACH RAIN TO ENSURE THEY'RE FUNCTIONING PROPERLY AND THAT THE INTEGRITY OF THE LININGS ARE NOT IMPAIRED. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL MEASURES SHALL BE MADE IMMEDIATELY AFTER THE INSPECTION.
9. SEDIMENT TRAPPING MEASURES WILL BE INSTALLED AS A FIRST STEP IN GRADING AND WILL BE SEEDED AND MULCHED IMMEDIATELY FOLLOWING INSTALLATION.
10. PERMANENT 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 (7) DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN UNDISTURBED FOR LONGER THAN FOURTEEN (14) DAYS. SEEDING AND SELECTION OF THE SEED MIXTURE SHALL BE IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK STANDARD AND SPECIFICATION 3.32. ROADS AND PARKING AREAS SHALL BE STABILIZED WITHIN SEVEN (7) DAYS AFTER FINAL GRADE IS REACHED.
11. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE REMOVED WITHIN 30 DAYS AFTER ADEQUATE SITE STABILIZATION AND AFTER THE TEMPORARY MEASURES ARE NO LONGER, AS AUTHORIZED BY THE PRINCE WILLIAM COUNTY INSPECTORS. TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES WILL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION.
12. WHEN SEDIMENT IS TRANSPORTED ONTO A PAVED ROAD SURFACE, THE ROAD WILL BE CLEANED THOROUGHLY AT THE END OF EACH DAY. SEDIMENT WILL BE REMOVED FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORTED TO A SEDIMENT CONTROL DISPOSAL AREA. STREET WASHING WILL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
13. AREAS WHICH ARE NOT TO BE DISTURBED WILL BE CLEARLY MARKED BY FLAGS, SIGNS, ETC.
14. RPA AND FLOOD PLAIN LIMITS SHALL BE CLEARLY MARKED IN THE FIELD BY FLAGS, SIGNS, ETC.
15. TREE SAVE AREAS SHALL BE CLEARLY MARKED IN THE FIELD BY ORANGE SAFETY FENCE, APPROPRIATE TREE PRESERVATION SIGNS (WATERPROOF) TO IDENTIFY TREE PRESERVATION AREAS SHALL BE LOCATED ON TREE PROTECTIONS FENCING (INCLUDES SUPER SILT FENCING) AND SHOULD ALTERNATE BETWEEN ENGLISH AND SPANISH EVERY 30 FEET.
16. ORANGE SAFETY FENCE MUST BE INSTALLED AROUND ALL SILT TRAPS AND SEDIMENT BASINS.

CHECKLIST FOR EROSION AND SEDIMENT CONTROL PLANS

Table with columns: PWC COMMENTS, DATE, REVISIONS, and NARRATIVE. Includes checklist items for Minimum Standards, Project description, Existing site conditions, Adjacent areas, Off-site areas, Soils, Critical areas, Erosion and sediment control measures, Permanent stabilization, Stormwater runoff considerations, Calculations, Vicinity map, Indicate north, Limits of clearing and grading, Existing contours, Final contours, Existing vegetation, Soils, Existing drainage patterns, Critical erosion areas, Site Development, Location of practices, Off-site areas, Detail drawings, and Maintenance.

Project information including: KHA PROJECT 110499001, DATE 02/06/2019, SCALE AS SHOWN, DESIGNED BY CAH, DRAWN BY CAH, CHECKED BY RSS, SHEET NUMBER C-140, SHEET 9 OF 40, and logos for Kimley-Horn and the Commonwealth of Virginia.