

DATE: April 24, 2013

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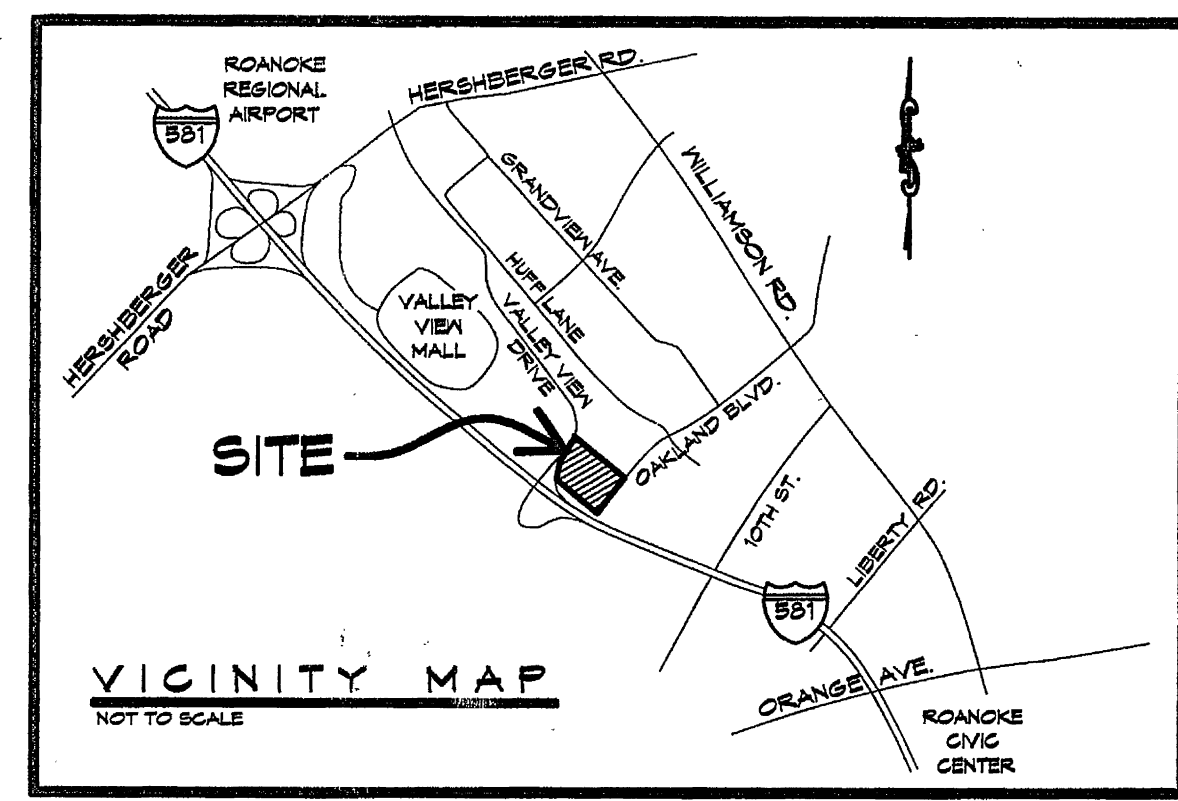
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**SITE COVER SHEET & NOTES**

SCHOOL PLAN NO.  
124-43-00-101

City of Roanoke  
Planning Building and Development  
DEVELOPMENT PLAN APPROVED  
Agent, Planning Commission  
Development Engineer  
Zoning Administrator  
Date: 6/11/13  
6/11/13  
6/11/13

COMMISSION No.  
12090  
SHEET  
SP-1  
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NOTICE: ALL LANDOWNERS, DEVELOPERS AND CONTRACTORS FAILURE TO COMPLY WITH CONSTRUCTION PROCEDURE REQUIREMENTS LISTED BELOW MAY RESULT IN THE COSTLY REMOVAL OF STRUCTURES, TIME DELAYS OR THE ISSUANCE OF A STOP WORK ORDER.

**CONSTRUCTION PROCEDURE REQUIREMENTS**

- RIGHT-OF-WAY EXCAVATION PERMIT - PRIOR TO THE COMMENCEMENT OF ANY DIGGING, ALTERATION OR CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY (STREETS, ALLEYS, PUBLIC EASEMENTS), A RIGHT-OF-WAY EXCAVATION PERMIT SHALL BE APPLIED FOR AND OBTAINED BY THE CONTRACTOR FROM THE CITY OF ROANOKE.
- LAND DISTURBANCE PERMIT - AN APPROVED EROSION AND SEDIMENT CONTROL PLAN FOR ANY BORROW/FILL SITES ASSOCIATED WITH THE PROJECT MUST BE SUBMITTED PRIOR TO THE ISSUANCE OF A LAND DISTURBANCE PERMIT.
- PLANS AND PERMITS - A COPY OF THE PLANS AS APPROVED BY THE CITY (SIGNED BY THE PROPER CITY OFFICIALS) AND ALL PERMITS ISSUED BY THE CITY SHALL BE AVAILABLE AT THE CONSTRUCTION SITE AT ALL TIMES OF ONGOING CONSTRUCTION.
- LOCATION OF UTILITIES - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES PRIOR TO THE COMMENCEMENT OF ANY CONSTRUCTION.
- CONSTRUCTION ENTRANCE - THE CONTRACTOR SHALL INSTALL AN ADEQUATE CONSTRUCTION ENTRANCE FOR ALL CONSTRUCTION RELATED EGRESS FROM THE SITE. SIZE AND COMPOSITION OF CONSTRUCTION ENTRANCE SHALL BE AS SHOWN ON THE PLANS.
- STREETS TO REMAIN CLEAN - IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO INSURE THAT THE PUBLIC STREET ADJACENT TO THE CONSTRUCTION ENTRANCE REMAINS FREE OF MUD, DIRT, DUST, AND/OR ANY TYPE OF CONSTRUCTION MATERIALS OR LITTER AT ALL TIMES.
- BARRICADES/DITCHES - THE CONTRACTOR SHALL MAINTAIN THE INTEGRITY OF ALL EXCAVATED DITCHES AND SHALL FURNISH AND ENSURE THAT ALL BARRICADES PROPER AND NECESSARY FOR THE SAFETY OF THE PUBLIC ARE IN PLACE.
- SEWER AND PAVEMENT REPLACEMENT - CONSTRUCTION OF SANITARY SEWERS AND THE REPLACEMENT OF PAVEMENT SHALL BE IN ACCORDANCE WITH APPROVED STANDARDS AND SPECIFICATIONS OF THE CITY OF ROANOKE AND THE WESTERN VIRGINIA WATER AUTHORITY.
- APPROVED PLANS/CONSTRUCTION CHANGES - ANY CHANGE OR VARIATION FROM CONSTRUCTION DESIGN AS SHOWN ON THE OFFICIALLY APPROVED PLANS SHALL BE APPROVED BY THE EROSION AND SEDIMENT CONTROL AGENT PRIOR TO SAID CHANGES OR VARIATION IN CONSTRUCTION BEING MADE.
- FINAL ACCEPTANCE/CITY - THE CONTRACTOR SHALL PREPARE AND SUBMIT ON BEHALF OF THE OWNER TO THE CITY OF ROANOKE'S PLANNING BUILDING AND DEVELOPMENT DEPARTMENT WITH A FIELD SURVEYED FINAL CORRECT SET OF AS-BUILT PLANS OF THE NEWLY CONSTRUCTED STORM DRAINS AND THE STORMWATER MANAGEMENT FACILITIES PRIOR TO FINAL ACCEPTANCE AND ISSUANCE OF A CERTIFICATE OF OCCUPANCY BY THE CITY. AS-BUILT PLANS SHALL BE PROVIDED IN THE STATE PLANE VIRGINIA SOUTH COORDINATE SYSTEM, NAD 1983, FIPS 4502 FEET, US SURVEY FEET, DATUM NA 83, IN THE FORM OF 1 PAPER COPY AND 1 DIGITAL AUTOCAD FILE.

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**SITE DATA:**

OWNER:	CITY OF ROANOKE	BUILDING USE GROUP:	E - EDUCATIONAL
MAILING ADDRESS:	ROANOKE CITY PUBLIC SCHOOLS 40 DOUGLASS AVENUE NW ROANOKE, VA 24012	BUILDING CONSTRUCTION TYPE:	EXIST.: 2B-NONCOMBUSTIBLE, UNPROTECTED PROP.: 2B-NONCOMBUSTIBLE, UNPROTECTED
PROPERTY ADDRESS:	2020 OAKLAND BLVD. NW ROANOKE, VA 24012	INPUT DIMENSIONAL REGULATIONS:	
TAX PARCEL:	2250102	MIN. LOT AREA:	REQUIRED: N/A PROVIDED: 16.0± AC.
L&L DESCRIPTION:	ACRESAGE OAKLAND	MAX. IMPERVIOUS SURFACE:	REQUIRED: 60% PROVIDED: 20%
PROPERTY AREA:	16.0± AC.	PARKING DATA:	
PROPERTY ZONING:	INPUD	EXISTING PROVIDED:	STANDARD SPACES: 61 SPACES HANDICAP SPACES: 3 SPACES TOTAL SPACES: 64 SPACES
INPUD ORDINANCE:	9498-021913	PROPOSED PROVIDED:	STANDARD SPACES: 72 SPACES HANDICAP SPACES: 3 SPACES TOTAL SPACES: 75 SPACES
FLOOD ZONE DATA:	FIRM PANEL: 51161G01629		
CURRENT USE:	ROUND HILL ELEMENTARY SCHOOL 30,050 +/- SF. 620 STUDENTS, K-5		
PROPOSED USE:	ROUND HILL ELEMENTARY SCHOOL 55,500 +/- SF. 620 STUDENTS, K-5		
DISTURBED AREA DUE TO CONSTRUCTION:	140,000 SF. (9.2 ac.)		

**GENERAL EROSION & SEDIMENT CONTROL NOTES**  
FROM VESCH THIRD EDITION 1992

- 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 4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
- E3-3** ALL EROSION AND SEDIMENT CONTROL MEASURES ARE TO BE PLACED PRIOR TO OR AS THE FIRST STEP IN CLEARING.
- E3-4** A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN 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 TO THE PLAN APPROVING AUTHORITY FOR APPROVAL.
- E3-6** THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO CONTROL 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** 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.

**MINIMUM STANDARDS**

- PERMANENT OR 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 7 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. THE LOCATION OF TEMPORARY AND PERMANENT SEEDING IS SHOWN ON THE EROSION CONTROL PLAN SHEETS AND SPECIFIED ON THE EROSION CONTROL DETAIL SHEET.
- 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. SOIL STOCKPILE AREAS ARE SHOWN ON THE EROSION CONTROL PLAN SHEET. NO OFF-SITE BORROW AREAS ARE SHOWN AS THE LOCATION OF THE BORROW AREAS ARE NOT KNOWN AT THIS TIME. THE CONTRACTOR IS INSTRUCTED TO CONTACT ROANOKE CITY IF AN OFF-SITE BORROW OR WASTE SITE IS REQUIRED. THE INTENT IS FOR NO SUITABLE SOIL TO LEAVE THE SITE AS IT WILL BE NEEDED FOR PHASE II.
- 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. ALL DISTURBED AREAS, NOT PERMANENTLY STABILIZED, SHALL RECEIVE PERMANENT SEEDING AS SHOWN ON THE EROSION CONTROL PLAN SHEET.
- 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 UP-SLOPE LAND DISTURBANCE TAKES PLACE. THE CONTRACTOR IS INSTRUCTED TO INSTALL CERTAIN MEASURES AS THE FIRST STEP IN THE CONSTRUCTION PROCESS. INLET PROTECTION IS SHOWN ON THE EROSION CONTROL PLAN SHEET & EXPLAINED IN THE E3S NARRATIVE.
- STABILIZATION MEASURES SHALL BE APPLIED TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION. ALL DENUDED AREAS, INCLUDING, BUT NOT LIMITED TO EARTHEN STRUCTURES, ARE TO RECEIVE SEEDING. SEDIMENT TRAPS AND SEDIMENT BASINS SHALL BE DESIGNED AND CONSTRUCTED BASED UPON THE TOTAL DRAINAGE AREA TO BE SERVED BY THE TRAP OR BASIN. NOT APPLICABLE AS NO SEDIMENT TRAPS OR BASINS ARE REQUIRED OR PROVIDED.
- 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. ALL CUT/FILL SLOPES ARE SPECIFIED AS 3:1 MINIMUM AND WILL RECEIVE PERMANENT SEEDING OR SOD, IMMEDIATELY AFTER CONSTRUCTION OF THE ITEM. IF THE EMBANKMENT IS ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION, CORRECTIVE SLOPE STABILIZING MEASURES ARE REQUIRED.
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE. IF CONCENTRATED RUNOFF CAUSES EROSION DOWN A CUT OR FILL SLOPE, THE CONCENTRATED FLOW IS TO BE CAPTURED AND CONTAINED IN A STORM SYSTEM OR ADEQUATE CHANNEL, AND THE SLOPE REPAIRED AND STABILIZED BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, ADEQUATE DRAINAGE OR OTHER PROTECTION SHALL BE PROVIDED. NOT APPLICABLE AS NO UNDERGROUND WATER HAS ENCOUNTERED DURING THE SITE TESTING BY FMR.
- 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. INLET PROTECTION AND OTHER MEASURES ARE SHOWN ON THE EROSION CONTROL PLAN SHEET.
- BEFORE NEWLY CONSTRUCTED STORMWATER CONVEYANCE CHANNELS OR LINES 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. THE ROCK CHECK DAM SPECIFIED WITHIN THE PLANS FOR OUTLET PROTECTION WILL BE MAINTAINED AND LEFT IN PLACE TO ACCOMMODATE THE NEW STORM SEWER SYSTEM UNTIL THE SITE HAS STABILIZED AND NO SEDIMENT IS BEING TRANSPORTED OFF-SITE.
- WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, PRECAUTIONS SHALL BE TAKEN TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION. NONERODIBLE MATERIAL SHALL BE USED FOR THE CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS. EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS. NOT APPLICABLE AS NO WORK IN A LIVE WATER COURSE IS NOT ANTICIPATED.
- WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, A TEMPORARY VEHICULAR STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL SHALL BE PROVIDED. NOT APPLICABLE AS NO WORK IN A LIVE WATER COURSE IS NOT ANTICIPATED.
- ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES SHALL BE MET. NOT APPLICABLE AS NO WORK IN A LIVE WATER COURSE IS NOT ANTICIPATED.
- THE BED AND BANKS OF A WATERCOURSE SHALL BE STABILIZED IMMEDIATELY AFTER WORK IN THE WATERCOURSE IS COMPLETED. NOT APPLICABLE.
- UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THE FOLLOWING STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA: THE CONTRACTOR IS INSTRUCTED TO FOLLOW ALL MS-14 REQUIREMENTS AS NOTED ON SHEET SP-5P-7.
  - NO MORE THAN 500 LINEAR FEET OF TRENCH MAY BE OPENED AT ONE TIME.
  - EXCAVATED MATERIAL SHALL BE PLACED ON THE UPHILL SIDE OF TRENCHES.
  - EFFLUENT FROM DEWATERING OPERATIONS SHALL BE FILTERED OR DISCHARGED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFF-SITE PROPERTY.
- 16.4. MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABILIZATION.
- 16.5. RE-STABILIZATION SHALL BE ACCOMPLISHED IN ACCORDANCE WITH THESE REGULATIONS.
- 16.6. APPLICABLE SAFETY REGULATIONS SHALL BE COMPLIED WITH.
17. WHERE CONVEYANCE VEHICLES 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 LOTS AS WELL AS TO LARGER LAND-DISTURBING ACTIVITIES. A CONSTRUCTION ENTRANCE IS SHOWN ON THE EROSION CONTROL PLAN SHEET BUT UNLESS UNSUITABLE SOILS OR ROCK IS ENCOUNTERED, NO SOIL IS ANTICIPATED TO LEAVE THE SITE.
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 THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES SHALL BE PERMANENTLY STABILIZED TO PREVENT FURTHER EROSION AND SEDIMENTATION. THE CONTRACTOR IS INSTRUCTED TO REMOVE ALL E3S ITEMS AS NOTED ABOVE.
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:
  - 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.
  - ADEQUACY OF ALL CHANNELS AND PIPES SHALL BE VERIFIED IN THE FOLLOWING MANNER:
    - 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.
    - (a) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TWO-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS NOR CAUSE EROSION OF CHANNEL BED OR BANKS; AND
    - (b) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAT STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS; AND
    - (c) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR STORM TO VERIFY THAT THE STORMWATER WILL BE CONTAINED WITHIN THE PIPE OR SYSTEM.
  - 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
    - IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
    - 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
    - PROVIDE A CONVEYANCE CHANNEL, IMPROVEMENTS, STORMWATER DETENTION OR OTHER MEASURES WHICH IS SATISFACTORY TO THE PLAN APPROVING AUTHORITY TO PREVENT DOWNSTREAM EROSION.
  - THE APPLICANT SHALL PROVIDE EVIDENCE OF PERMISSION TO MAKE THE IMPROVEMENTS.
  - (e) ALL HYDROLOGICAL ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT OF THE SUBJECT PROJECT.
  - 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.
  - 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.
  - ALL ON-SITE CHANNELS MUST BE VERIFIED TO BE ADEQUATE.
    - INCREASED VOLUMES OF SHEET FLOWS THAT MAY CAUSE EROSION OR SEDIMENTATION OF ADJACENT PROPERTY SHALL BE DIVERTED TO A STABLE OUTLET, ADEQUATE CHANNEL, PIPE OR PIPE SYSTEM, OR TO A DETENTION FACILITY.
    - 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.
    - 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.
- THE SITE IS DESIGNED TO ATTENUATE THE POST-DEVELOPMENT PEAK DISCHARGE RATES TO THE PRE-DEVELOPMENT RATES. THE PROPOSED PROJECT ALSO EMPLOYS BMP'S FOR WATER QUALITY AS WELL. POST-DEVELOPED STORMWATER QUALITY IS CONTROLLED BY THE USE OF A FILTERED BIORETENTION FILTRATION SYSTEM AND TWO BIOPOLYMER BASINS. THE POST-DEVELOPED STORMWATER QUALITY IS CONTROLLED BY RESTRICTING THE PEAK OUTFLOW OF THE 2-YEAR AND 10-YEAR POST DEVELOPED STORMS AND FILLING THAT RESTRICTED FLOW IN UNDERGROUND PIPES. THE PEAK OUTFLOW FROM THE 2- AND 10-YEAR POST DEVELOPED STORMS WILL BE LESS THAN OR EQUAL TO THEIR RESPECTIVE PRE-DEVELOPED PEAK RUNOFF RATES. STORMWATER FROM THE SITE EVENTUALLY ENTERS LICK RUN, THEN TINKER CREEK AND ULTIMATELY THE ROANOKE RIVER.