# JUDICIAL DRIVE TRAIL CONNECTION

CITY OF FAIRFAX, VIRGINIA

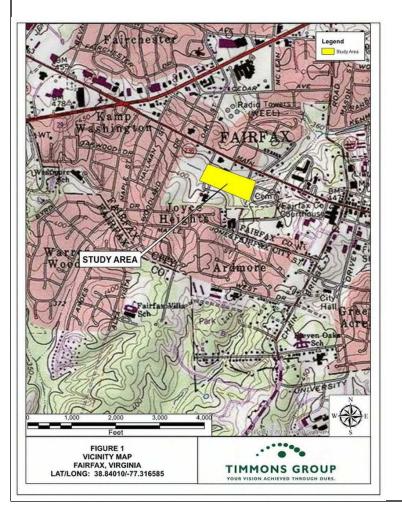
# CITY CONTRACT # 14009-2014-TIM

# NOTICE REQUIRED

CONTRACTORS SI IALL NOTIFY OPERATORS WI IO MAINTAIN UNDERGROUND UTILITY LINES IN THE AREA OF PROPOSED EXCAVATION AND OR BLASTING AT LEAST TWO (2) WORKING DAYS, BUT NOT MORE THAN TEN (10) WORKING DAYS, PRIOR TO COMMENCEMENT OF EXCAVATION OR DEMOLITION, NAMES AND TELEPHONE NUMBERS OF THE OPERATORS OF UNDERGROUND UTILITY LINES APPEAR BELOW. THESE NUMBERS SHALL ALSO BE USED TO SERVE IN AN EMERGENCY CONDITION

# Fairfax County Dept of Utilities Dominion Power MISS UTILITY Verizon Communications **1-800-552-7001** Washington Gas Mason LD **EMERGENCY**

Non Emergency No.: (703) 993-8370



# SCALE: 1" = 50'

# OWNER: CITY OF FAIRFAX, VIRGINIA

10455 ARMSTRONG ST FAIRFAX VA 22031 **CATHY SALGADO** 

**ENGINEER: TIMMONS GROUP** 

20110 ASHBROOK PLACE, SUITE 100 ASHBURN, VIRGINIA 20147 CASEY KIGHT, LA PHONE: (703) 554-6710

THE JUDICIAL DRIVE TRAIL IS A PUBLIC PROJECT LOCATED IN AND COORDINATED BY THE CITY OF FAIRFAX. IT IS PROPOSED TO BE CONSTRUCTED ALONG THE SOUTHERN SIZE OF AGGCTING CREEK AND RUN EASTWEST BETWEEN JUDICIAL DRIVE AND PRESSYTEMAN WAY, THE GRY INTERIOS TO CONNECT THE PROPOSED JUDICIAL DRIVE TRAIL TO EXISTING PORTIONS OF THE TRAIL. THAT ALREADY EXIST. THE TSAIL IS PROPOSED TO BE DESIGNED IN ACCORDANCE WITH THE VOOT SHARED JISE PATH DESIGN STANDARDS AND SPECIFICATIONS.

STARTING PRESSYTERIAN WAY THE VOOT SHARED USE HATHI WILL TRAVEL APPROXIMATELY 516 FEET EAST ACROSS PARCELS 57 102 124, OWNED BY ONE CAPITAL FARTNERS. LLC. TO PARCEL 57 (1021/22, OWNED BY FAIRFAX NURSING & REHAB CENTER LLC. THE CITY THE CITY HAS ACCURED A 10 TRAIL EASE VENTION BOTH OF THESE PROPERTIES.

THE PROPOSED GEORGE SNYDER TRAIL WILL BE DESIGNED IN ACCORDANCE WITH THE FOLLOWING VIDOT SHARED USE PATH DETAILS

- VERTICAL CLEARANCE G'AMMILIUM TO THE ROTTOM OF ANY SIGN OR OVERHANGING MEGETATION
   RESIGN SPEED 16 MPH MINIMULI
   HORIZONTAL ALIGNMENT 2% CROSS SLOPE & SUPERFLEMATION SLOPE MAXIMULI (ADA REQ.)
- % CROSS SLOPE & SUPERELEVATION SLOPE VAKIVUM (ANA REQUIREMENT) 601 RADIUS VINIMUM
- HORIZONTAL SURVE
   GRADE
   SIGHT DISTANCE 6% SLOPE MAXIMUM
  VARIES BASEDION GRADE, DESIGN SPEED AND ASCENDING DESCENDING TRENDS(TABLES A-94 & A-94)
- STOPPING DISTANCE VARIES BASED ON GRADE, DESIGN SPEED AND ASCENDING/DESCENDING TRENDS(TABLES A 5-10 &
- SHARED USE FATH WIDT-
- SHOULDER GRADE 6.1 MAXIMUM 3' VINIMUM (FROM SHARED USE PATH EDGE) LATERAL CLEARANCE
- 5 VINIMUM (FROM SHARED USE PATH EDGE) 5 VINIMUM (FROM SHARED USE PATH EDGE)
- PHYSICAL DARRIERS IMPLEMENTATION (FENCE, HANDRAIL)
- SLOPES 2:1 OR STEEPER, WITH A CROP OF 4 TECH OR GREATER
  SLOPES 3:1 OR STEEPER, WITH A CROP OF 3 TECH OR GREATER
  SLOPES 3:1 OR STEEPER, ADJACENT TO A PARALLEL WATER WAZARD OR OTHER ORMOUS HAZARD.
- SIGNAGE AND MARKING IN ACCORDANCE WITH VUTGO DETAILS AND SPECIFICATIONS FOR SHARED USE PATHS
- PAVEMENTS FUNDERS (SIARRED USE PATT) DE TAULASSA\*\*

  TOP COAT ASSENTIA SASSABLE SASSABLE SAS & -220, RSSQ. MARE YARDS)

  RAGE MATERIAL & AGGREGATE RASE MATERIAL (TVPE\*, CR.11, NJ.N.RER.21A.OR.215)
  - REGULAR FILL VATERIAL OR NATIVE SOIL

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09.22.2017 SEE PLAN

# CITY OF FAIRFAX NOTES:

- 1. A STREET OPENING PERMIT IS REQUIRED FOR ANY WORK IN A CITY RIGHT-OF-WAY OR EASEMENT. THE PERMIT CAN BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT, FOR INFORMATION, CALL 703.385.7930 OR 703.385.7810.

  2. ALL SIDEWALKS, CURBS, GUITERS, DRIVEWAYS, STREETS, STORM PIPES, WATER LINES, SANITARY SEWER, ENDWALLS AND RIP-RAPS MUST BE INSPECTED BY THE CITY. ALL WORK IN THE CITY STREETS MILL BE PERFORMED.

  MONDAY-FRIDAY BETWEEN THE HOURS OF 9.00 A.M. AND 3:00 P.M. NO WORK IS TO BE PERFORMED ON WEEKENDS OR HOLIDAYS UNLESS PRE-APPROVED BY THE DIRECTOR OF PUBLIC
- 3, INSPECTIONS PERFORMED BY THE FACILITIES INSPECTOR WILL REQUIRE A FOUR-HOUR NOTICE

#### GENERAL STANDARDS

- 1. THE PUBLIC WORKS DIRECTOR MUST BE NOTIFIED ONE WEEK PRIOR TO PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO COMMENCEMENT OF LAND DISTURBING ACTIVITY AND ONE WEEK PRIOR TO FINAL INSPECTION. THE SITE PLAN COORDINATIOR IN COMMUNITY DEVELOPMENT AND PLANNING (703-385-7820) MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION OFFICERE WEEK.

  2. A PRECONSTRUCTION MEETING WILL BE REQUIRED THREE DAYS PRIOR TO ANY CONSTRUCTION.
- CONTRACTORS WILL NOTIFY THE PUBLIC WORKS DEPARTMENT OR FACILITIES INSPECTOR FOR ALL WORK DONE ON SITE AND OFF SITE ONE DAY PRIOR TO STARTING.

- WORK DONE ON SITE AND OFF SITE ONE DAY PRICE TO STARTING.

  THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS FOR PARKING CONSTRUCTION EQUIPMENT AND PROVIDE EMPLOYEE PARKING ON SITE.

  4. ALL CONSTRUCTION SHALL CONFORM TO THE LATEST CITY OF FAIRFAX STANDARDS, VIRGINIA DEPARTMENT OF TRANSPORTATION AND THE WRIGINIA SEDIMENT & EROSION CONTROL CURRENT SPECIFICATIONS, EXCEPT AS SHOWN OR ALTERED BY THESE PLANS.

  TRAFFIC SIGNS FOUND TO BE IN THE WAY AT CONSTRUCTION SITES SHALL BE REMOVED OR RELOCATED ONLY BY PERSONNEL IN THE SIGN & SIGNAL CREW OF THE PUBLIC WORKS DEPARTMENT AT THE CONTRACTOR'S REQUEST. ANY CONTRACTOR FOUND RESPONSIBLE FOR MOVING CITY PROPERTY WITHOUT PERMISSION WILL RECEIVE A SUMMONS.
- MOVING CLIT PROPERTY WITHOUT PERMISSION WILL RELEVE A SUMMONS.

  A LL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS SET FORTH IN THE LATEST VERSION OF THE VIRGINIA STORMWAITER MANAGEMENT HANDBOOK, VIRGINIA DEPARTMENT OF TRANSPORTATION RODA AND BRIDGE STANDARDS, AND THE COFICE-OHICAL REPORT.

  7. PRIVATE FIRE MAINS REQUIRE A PERMIT FROM THE OFFICE OF CODE ADMINISTRATION, PERMIT APPLICATION MUST INCLUDE DETAILS OF INSTALLATION AS SPECIFIED IN NFPA-24. AN APPROVED SITE PLAN IS NOT A FERMIT TO INSTALL FIRE MAINS.
- AS-BUILT PLAN MUST BE SUBMITTED WITHIN 30 DAYS AFTER COMPLETION OF ALL
- B. AN AS-BUILT PLAN MUST BE SUBMITTED WITHIN 30 DAYS AFTER COMPLETION OF ALL CONSTRUCTION.

  9. TEMPORARY STRUCTURES, CONSTRUCTION TRAILERS AND DEMOLITION REQUIRE PERMITS FROM THE OFFICE OF CODE ADMINISTRATION PRIOR TO START OF WORK OR INSTALLATION.
- OFFICE OF CODE ADMINISTRATION PRIOR TO START OF WORK OR INSTALLATION.

  10. ADEQUATE EMERGENCY VEHICLE ACCESS SHALL BE MAINTAINED AT ALL TIMES. A HARD SURFACED, ALL— WEATHER ROADWAY SHALL BE PROVIDED TO WITHIN 50 FEET OF ALL STRUCTURES AND ANY LOCATION WHERE COMBUSTIBLE MATERIALS ARE STORED.

  1. CITY ORDINANCE PERMITS CONSTRUCTION NOISE, INCLUDING EXCAVATION, BETWEEN THE HOURS OF 7:00 AM AND 6:00 PM ON WEEKDAYS AND 8:30 AM AND 5:00 PM ON SATURDAYS ONLY. IT
- SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO ENSURE THAT ALL CONTRACTORS AND SUBCONTRACTORS COMPLY WITH THIS ORDINANCE.
- THE DEVELOPER SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH CITY CODE SECTIONS LIMITING GROWTH OF GRASS AND WEEDS TO SIX INCHES IN HEIGHT.

## **ENVIRONMENTAL**

- 1. ALL EROSION SILTATION CONTROL TO BE INSTALLED PRIOR TO STARTING PROJECT TO CONFORM TO THE CURRENT VIRGINIA EROSION AND SEDIMENT CONTROL MANUAL.
- 2. THE CONTRACTOR SHALL PROVIDE ADEQUATE MEANS OF CLEANING MUD FROM TRUCKS AND/OR OTHER EQUIPMENT PRIOR TO ENTERING THE CITY OF FAIRFAX RIGHTS-OF-MAY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CLEAN STREETS AND ALLAY DUST AND TO TAKE WHATEVER MEASURES NECESSARY TO ENSURE THAT THE ROAD IS MAINTAINED IN A CLEAN AND DUST-FREE CONDITION AT ALL TIMES.
- IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PERFORM THE WORK IN SUCH A MANNER TO PREVENT THE WASHING OF ANY TOPSOIL, SILT, OR DEBRIS ONTO ADJACENT PROPERTIES.
- 4. IF THE PRESENCE OF ASSESTOS IS SUSPECTED IN THE SOIL, THE CONTRACTOR MUST CONTACT THE AIR POLUTION CONTROL DIVISION OF THE FAIRFAX COUNTY HEALTH DEPARTMENT AT THE AIR POLUTION.
- 703.246.2300.

  5. ONSITE STORAGE OF FUEL SHALL BE LIMITED TO DIESEL FUEL TANKS NOT OVER 660 CALLONS CAPACITY, TANKS SHALL BE OF A LISTED TYPE AND SHALL BE PROVIDED WITH APPROVED SECONDARY CONTINNENT, IMPACT PROTECTION AND PLACARDING. A MINIMUM 2A-40PG FIRE EXTINGUISHER SHALL BE PROVIDED IN THE WIGNITY OF THE REFUELING AREA. A PERMIT FOR COMBUSTRIBLE LIQUID STORAGE SHALL BE OBTAINED FROM THE OFFICE OF CODE ADMINISTRATION, 703.385.7830. FUEL SHALL NOT BE PLACED IN ONSITE STORAGE TANKS UNTIL THE INSTALLATION LAS SEEN INSCREPTED AND ROPE PLACED IN ONSITE STORAGE TANKS UNTIL THE INSTALLATION HAS BEEN INSPECTED AND APPROVED.
- ORSITE REPAIR OF VEHICLES AND EQUIPMENT SHALL BE LIMITED TO REPLACEMENT OF DAMAGED BELTS. HOSES AND TIRES. ANY SPILL OF FUEL, OIL, HYDRAULIC FLUID OR ANTI-FREEZE GREATER THAN ONE GALLON MUST BE REPORTED TO THE OFFICE OF CODE ADMINISTRATION AT 385–7830. ALL SPILLS MUST BE CLEANED UP PROMPTLY AND IN AN APPROVED MANNER.
- 7. THE OWNER SHALL BE RESPONSIBLE FOR ENSURING COMPLIANCE WITH CITY CODE SECTIONS REGARDING HEALTH AND SAFETY MENACES, INCLUDING ACCUMULATIONS OF WATER, STORAGE OF MATERIAL, CONSTRUCTION DEBRIS AND SECURITY OF THE SITE.
- THE LINK TO THE ASBESTOS INFORMATION AND MAP ON THE FAIRFAX COUNTY WEBSITE HTTP: //WWW.FAIRFAXCOUNTY.GOV/HD/ASB/
- PRIOR TO THE START OF ANY STE GRADING WORK, THE DEVELOPER OR DWNER SHALL PROVIDE THE CITY OF FARFAX PUBLIC WORKS FACILITIES INSPECTOR WITH DOCUMENTATION THAT VISUAL BETWEEN ALL OF FARFAX PUBLIC WORKS FACILITIES INSPECTOR WITH DOCUMENTATION THAT A VSMP PERMIT HAS BEEN
- A VAMP FERMIN FAS DEEN STANDARD OF CONSERVATION AND RECREATION. THE VSMP PERMIT REQUIRES THAT A STORMWATER POLLUTION PREVENTION PLAN (SWPPP) BE KEPT AT THE CONSTRUCTION SITE AT ALL TIMES.

# DEPARTMENT OF UTILITIES STANDARD NOTES

- ALL WATER MAINS AND SANITARY SEWERS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT CITY OF FAIRFAX STANDARDS AND SPECIFICATIONS.
- 2. EASEMENTS FOR ALL SANITARY AND WATER MAINS SHALL BE 10' UNLESS OTHERWISE NOTED,
- 3. SANITARY SEWERS AND WATER MAINS SHALL MAINTAIN A MINIMUM OF 15' HORIZONTAL SEPARATION FROM PROPOSED OR EMSTING BUILDINGS. A NO LANDSCAPING OR OTHER UTILITIES (I.E. GAS, PHONE, CABLE, ETC.) ARE PERMITTED IN THE WATER AND SEMER EASSMENTS, EXCEPT AT GROSSINGS.
- 5. CONTRACTOR SHALL REQUEST PRE-CONSTRUCTION MEETING AND INSPECTION BY THE CITY OF FAIRFAX DEPARTMENT OF PUBLIC WORKS (703.385.7810) THREE DAYS PRIOR TO COMMENCING CONSTRUCTION OF ANY WATER AND SEWER MAINS. 6. A PERMIT FOR INSTALLATION OF SANITARY SEWERS, FIRE HYDRANTS AND WATER MAINS SHALL BE
- OBTAINED FROM THE DEPARTMENT OF PUBLIC WORKS. PRIOR TO ANY WATER MAIN INSTALLATION, ALL REQUIRED SANITARY SEWERS, INCLUDING LATERALS, AND STORM SEWERS MUST BE INSTALLED AND BACKFILLED TO 95% COMPACTION.
- 8. WATER AND SEWER LATERALS NOT WITHIN AN EASEMENT REQUIRE PLUMBING PERMITS AND INSPECTIONS FROM THE OFFICE OF CODE ADMINISTRATION. THE INCLUSION OF THESE ITEMS DOES NOT CONSTITUTE A PERMIT.
- FINAL APPROVAL FROM THE CITY OF FAIRFAX DEPARTMENT OF UTILITIES IS CONTINGENT UPON RECEIPT BY THE DEPARTMENT OF PLANS SHOWING THE LOCATION OF ALL PROPOSED UTILITIES, ALL PROPOSED UTILITIES ARE TO BE LOCATED OUT OF THE WATER OR SEWER EASEMENTS, EXCEPT FOR CROSSINGS.

#### VDOT STANDARD CONSTRUCTION NOTES

- 1. ALL WORK ON THIS PROJECT SHALL CONFORM TO THE CURRENT EDITIONS OF AND LATEST REVISIONS TO THE VIRGINIA DEPARTMENT OF TRANSPORTATION (VODT ROAD AND BRIDGE SPECIFICATIONS AND STANDARDS, THE VIRGINIA EROSON AND SEDIMENT CONTROL REGULATIONS, CITY OF FAIRFAX DESIGN/CONSTRUCTION STANDARDS, AND ANY OTHER APPLICABLE STATE, FEDERAL OR LOCAL REGULATIONS. IN CASE OF A DISCREPANCY OR CONFLICT BETWEEN THE STANDARDS OR SPECIFICATIONS AND REGULATIONS. THE MOST STRINGENT SHALL GOVERN.

  2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST US DEPARTMENT OF LABOR,
- 2. ALL CONSTRUCTION SHALL COMPLY WITH THE LATEST US DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA), AND VIRGINIA OCCUPATIONAL SAFETY & HEALTH (VOSH) RULES AND REGULATIONS.

  3. WHEN WORKING WITHIN VOOT RIGHT-OF-WAY, ALL TRAFFIC CONTROL, WHETHER PERMANENT OR TEMPORARY, SHALL BE IN ACCORDANCE WITH CURRENT EDITION OF VDOT'S WORK AREA PROTECTION MANUAL. FURTHERMORE, ALL TRAFFIC CONTROL FLAGGERS MUST BE CERTIFIED IN ACCORDANCE WITH SECTION 105.14(c) OF THE VDOT ROAD AND BRIDGE SPECIFICATIONS.
- VDOT ROAD AND BRIDGE SPECIFICATIONS.

  4. THE DEVELOPER SHALL BE RESPONSIBLE FOR RELOCATING, AT HIS EXPENSE, ANY AND ALL UTILITES, INCLUDING TRAFFIC SIGNAL POLES, JUNCTION BOXES, CONTROLLERS, ETC., OWNED BY VDOT OR PRIVATE/PUBLIC UTILITY COMPANIES. IT IS THE SOLE RESPONSIBILITY OF THE DEVELOPER TO LOCATE AND IDENTIFY UTILITY FACILITIES OR ITEMS THAT MAY BE IN CONFLICT WITH THE PROPOSED CONSTRUCTION ACTIVITY, APPROVAL OF THESE PLANS DOES NOT INDEMNIFY THE DEVELOPER FROM HIS RESPONSIBILITY.
- 5. DESIGN FEATURES RELATING TO FIELD CONSTRUCTION, REGULATIONS, AND CONTROL DESIGN FEATURES RELATING TO FIELD CONSTRUCTION, REGULATIONS, AND CONTROL
  OR SAFETY OF TRAFFIC MAY BE SUBLECT TO CHANGE AS DEEMED NECESSARY BY
  VDOT. ANY ADDITIONAL EXPENSE INCURRED AS A RESULT OF ANY FIELD REVISIONS
  SHALL THE THE RESPONSIBILITY OF THE DEVELOPER.
   PRIOR TO INITIATION OF WORK, THE CONTRACTOR SHALL BE RESPONSIBLE FOR
  ACQUIRING ALL NECESSARY VDOT OR LOCAL LAND USE PERMITS FOR ANY WORK
  WITHIN RIGHT OF WAY.
- A PRE-CONSTRUCTION CONFERENCE SHALL BE ARRANGED AND HELD BY THE ENGINEER AND/OR DEVELOPER WITH THE ATTENDANCE OF THE CONTRACTOR, VARIOUS CITY AGENCIES, UTILITY COMPANIES AND VDOT (IF REQUIRED) PRIOR TO
- INITIATION OF WORK.

  B. THE CONTRACTOR SHALL NOTIFY THE COUNTY OFFICE WHEN WORK IS TO BEGIN OR CEASE FOR ANY UNDETERMINED LENGTH OF TIME. VOOT OR COUNTY INSPECTORS REQUIRES AND SHALL RECEIVE 48 HRS ADVANCE NOTICE PRIOR TO ANY REQUIRED OR REQUESTED INSPECTION.

  9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING ADEQUATE ACCESS TO THE PROJECT FROM THE ADJACENT PUBLIC ROADWAY VIA A CONSTRUCTION ENTRANCE HAT IS CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH SECTION 3.02 OF THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), FURTHERMORE, ACCESS TO OTHER PROPERTIES AFFECTED BY THIS PROJECT SHALL BE MAINTAINED THROUGH CONSTRUCTION. THE DEVELOPER SHALL HAVE, WITHIN THE LIMITS OF THE PROJECT, AN EMPLOYEE CERTIFIED BY THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION (VOPE) IN E&S CONTROL WING SHALL INSPECTION CONSERVATION AND RECREATION (VDCR) IN EAS CONTROL WHO SHALL INSPECTION EROSION AND SILTATION CONTROL DEVICES AND MEASURES ON A CONTINUOUS BASIS FOR PROPER INSTALLATION AND OPERATION. DEFICIENCIES SHALL BE PROMPTLY
- 10. CONTRACTOR SHALL ENSURE ADEQUATE DRAINAGE IS ACHIEVED AND MAINTAINED ON THE SITE DURING AND AT THE END OF CONSTRUCTION.

  11. ALL WATER AND SEWER LINES WITHIN EXISTING OR PROPOSED VDDT RIGHT—OF—WAY

- 11. ALL WATER AND SEWER LINES WITHIN EXISTING OR PROPOSED VDOT RIGHT—OF—WAY SHALL HAVE A MINIMUM THIRTY SIX (36) INCHES COVER AND WHEN POSSIBLE SHALL BE INSTALLED UNDER ROADWAY DRAINAGE FACILITIES AT CONFLICT POINTS.

  12. ANY UNUSUAL SUBSUBFACE CONDITIONS (e.g., UNSUITABLE SOLS, SPRINGS, SINKHOLES, VOIDS, CAVES, ETC.) ENCOUNTERED DURING THE COURSE OF CONSTRUCTION SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE ENGINEER AND VOOT. WORK SHALL CEASE IN THAT VICINITY UNTIL AND ADEQUATE DESIGN CAN BE DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.

  13. ALL FILL AREAS, BORROW MATERIAL AND UNDERCUT AREAS SHALL BE INSPECTED AND APPROVED BY A VDOT REPRESENTATIVE PRIOR TO PLACEMENT AND FILL WHERE COR TESTING IS REQUIRED, A VDOT REPRESENTATIVE SHALL BE PRESENT TO INSURE THE SAMPLE OBTAINED IS REPRESENTATIVE OF THE LOCATION. WHEN SOIL SAMPLES ARE SUBMITTED TO PRIVATE LABORATORIES FOR TESTING, THE SAMPLES SHALL BE CLEARLY IDENTIFIED AND LABELED AS BELDONING TO A PROLECT TO BE ACCEPTED BY VDOT AND THAT TESTING SHALL BE PERFORMED IN ACCORDANCE WITH ALL APPLICABLE VDOT STANDARDS AND PROCEDURES.
- 14. ALL ROADWAY FILL, BASE, SUBGRADE MATERIAL, AND BACKFILL IN UTILITY /STDRM ALL ROADWAY FILL, BASE, SUBGRADE MATERIAL, AND BACKFILL IN VILLITY 5 TORM SEWER TRENCHES SHALL BE COMPACTED IN SIX (6) INCH LIFTS TO 95% OF THEORETICAL MAXIMUM DENSITY AS DETERMINED BY AASHTO T-99 METHOD A, WITHIN PLUS OR MINUS 2% OF OPTIMUM MOISTURE FOR THE FULL WOTH OF ANY DEDICATED STREET RICHT-OF-WAY. AT THE DIRECTION OF VDOT, DENSITY TESTS SHALL BE PERFORMED BY A QUALIFIED INDEPENDENT AGENCY IN ACCORDANCE WITH VDOT ROAD AND BRIDGE SPECIFICATIONS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO VDOT DAILY, UNLESS SPECIFIED OTHERWISE.
- 15. VDOT STANDARD CD AND UD UNDERDRAINS SHALL BE INSTALLED WHERE INDICATED
- ON THESE PLANS AND/OR AS SPECIFED BY VIDOT.

  16. THE INSTALLATION OF ANY ENTRANCES AND MAILBOXES WITHIN ANY DEDICATED STREET RIGHT-OF-WAY SHALL MEET THE VDOT MINIMUM DESIGN STANDARDS AND IS THE RESPONSIBILITY OF THE DEVELOPER.
- 17. PRIOR TO VDDT ACCEPTANCE OF ANY STREETS, ALL REQUIRED STREET SIGNAGE AND/OR PAVEMENT MARKINGS SHALL BE INSTALLED BY THE DEVELOPER OR, AT VDOT'S DISCRETION, BY VDOT ON AN ACCOUNT RECEIVABLE BASIS FOLLOWING THE
- 18. THE DEVELOPER SHALL PROVIDE THE VDOT RESIDENCY OFFICE WITH A LIST OF ALL THE DEVELOPER SHALL PROVIDE HE VOID RESIDENCE OFFICE WITH A USE OF ALL MATERIAL SOURCES PRIOR TO THE START OF CONSTRUCTION. COPIES OF ALL INVOICES FOR MATERIALS UTILIZED WITHIN ANY DEDICATED STREET RIGHT-OF-WAYS MUST BE PROVIDED TO THE LOCAL VOOT RESIDENCY OFFICE PRIOR TO ACCEPTANCE OF THE WORK. UNIT AND TOTAL PRICES MAY B ONSCURED
- 19. AGGREGATE BASE AND SUBBASE MATERIALS SHALL BE PLACED ON SUBGRADE BY MEANS OF A MECHANICAL SPREABER. DENSITY WILL BE DETERMINED USING THE DENSITY CONTROL STRIP IN ACCORDANCE WITH SECTION 304 OF THE ROAD AS BRIDGE SPECIFICATIONS AND VITH—10. A CERTIFIED COMPACTION TECHNICIAN SHALL PERFORM THESE TESTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO VOOT DAILY, UNLESS SPECIFIED CHIERWISE. IN ADDITION TO CHECKING STORD DEPTHS, A VOOT REPRESENTATIVE SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY BE PRESENT DURING THE CONSTRUCTION AND TESTING OF THE DENSITY CONTROL
- 20. ASPHALT CONCRETE PAVEMENTS SHALL BE PLACED IN ACCORDANCE WITH SECTION ASPHALL LOWINGETE PAVEMENTS SHALL BE PLACED IN ACCOMPANCE WITH SECTION 315 OF THE ROAD AND BRIDGE SPECIFICATIONS. DENSITY SHALL BE DETERMINED USING THE DENSITY CONTROL STRIP AND VTM-76. A CERTIFIED COMPACTION TECHNICIAN SHALL PERFORM THESE TESTS. CERTIFIED COPIES OF TEST REPORTS SHALL BE SUBMITTED TO VDOT DAILY, UNLESS SPECIFIED OTHERWISE. IN ADDITION TO CHECKING STONE DEPTHS, A VDOT REPRESENTATIVE SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO BE PRESENT DURING THE CONSTRUCTION AND TESTING OF THE DENSITY CONTROL STRIP.
- 21. IN ACCORDANCE WITH SECTION 302.3, THE FOUNDATIONS FOR PIPE CULVERTS THIRTY SIX (36) INCHES AND LARGER SHALL BE EXPLORED BELOW THE BOTTOM OF THE EXCAVATION TO DETERMINE THE TYPE AND CONDITION OF THE FOUNDATION. THE CONTRACTOR SHALL REPORT FINDINGS OF FOUNDATION EXPLORATION TO THE CONTRACTOR SHALL REPORT INDINGS OF FOUNDATION EXPLORATION TO THE
  ENGINEER AND WOOT FOR APPROVAL PRIOR TO PLACING PIPE. FOUNDATION DESIGNS
  SHALL COMPLY WITH VDOT ROAD AND BRIDGE STANDARD FB-1. WHERE SOFT,
  YIELDING, OR OTHERWISE UNSUITABLE FOUNDATION IS ENCOUNTERED. THE
  FOUNDATION DESIGN AND/OR NEED FOR FOUNDATION STABILIZATION SHALL BE
  DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.
- DEFINATION BY THE ENGINEER AND APPROVED BY VDOT.

  22. THE FOUNDATIONS FOR ALL BOX CULVERTS SHALL BE INVESTIGATED BY MEANS OF EXPLORATORY BORINGS ADVANCED BELOW PROPOSED FOUNDATION ELEVATION TO DETERMINE THE TYPE AND CONDITION OF THE FOUNDATION. THE CONTRACTOR SHALL SUBMIT COPIES OF BOREHOLE LOGS AND REPORT FINDINGS OF FOUNDATION EXPLORATION TO THE ENGINEER AND VDOT FOR APPROVAL PRIOR TO CONSTRUCTING

- BOX FOUNDATION DESIGNS SHALL COMPLY WITH VDOT ROAD AND BRIDGE STANDARD PB-1. CONTRARY TO THE STANDARD, WHERE ROCK IS ENCOUNTERED AND CAST—IN-PLACE BOX IS PROPOSED, THE THICKNESS OF BEDDING SHALL BE S (6) INCHES. WHERE SOFT, YELDING, OR OTHERWISE UNSUITABLE FOUNDATION IS ENCOUNTERED, THE FOUNDATION DESIGN AND/OR NEED FOR FOUNDATION STABILIZATION SHALL BE DETERMINED BY THE ENGINEER AND APPROVED BY VDOT.
- 23. APPROVAL OF THESE PLANS SHALL EXPIRE THREE (3) YEARS FROM THE DATE OF THE APPROVAL LETTER. 24 VDDT STANDARD CG-12 CURB RAMPS SHALL BE INSTALLED WHERE INDICATED ON
- THESE PLANS AND/OR AS SPECIFIED BY VDOT.
- 25. VDDT STANDARD GUARDRAIL SHALL BE INSTALLED WHERE WARRANTED AND/OR AS PROPOSED ON THESE PLANS IN ACCORDANCE WITH VDDT'S INSTALLATION CRITERIA. FINAL APPROVAL OF THE GUARDRAIL LAYOUT TO BE GIVEN BY VDDT AFTER GRADING IS MOSTLY COMPLETE.

## ADDITIONAL VDOT CONSTRUCTION NOTES

- METHODS AND MATERIALS USED SHALL CONFORM TO CURRENT CITY AND VDOT STANDARDS AND SPECIFICATIONS.
- STANDARDS AND SPECIFICATIONS.

  ALL UTILITIES, INCLUDING ALL POLES, ARE TO BE RELOCATED AT THE CONTRACTORS EXPENSE. COORDINATION IS THE RESPONSIBILITY OF THE CONTRACTOR.

  DEEN CUTTING OF PAVED OR SURFACE TREATED ROADS IS NOT PERMITTED. ALL UTILITIES WHICH WILL BE PLACED UNDER EXISTING STREETS ARE TO BE BORED OR JACKED. ANY EXCEPTIONS, DUE TO EXTENUATING CIRCUMSTANCES, ARE TO BE ADDRESSED AT THE PERMIT STAGE.
- ADDRESSED AT THE PERMIT STAGE.

  4. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING ROADS AND UTILITIES WHICH OCCUR AS A RESULT OF PROJECT CONSTRUCTION WITHIN OR CONTIGUOUS TO THE EXISTING RIGHT OF WAY.

  5. A SMOOTH GRADE SHALL BE MAINTAINED FROM THE CENTERLINE OF THE EXISTING ROAD TO PROPOSED EDGE OF PAVEMENT TO PRECLUDE THE FORMING OF FALSE GUTTERS AND /OR THE PONDING OF ANY WATER IN THE ROADWAY.
- STANDARD GUARDRAILS AND/OR HANDRAILS SHALL BE INSTALLED AT HAZARDOUS LOCATIONS AS DESIGNATED DURING FIELD REVIEW BY CITY INSPECTOR OR VDOT. 7. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL. THE CONTRACTOR
- 7. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRAFFIC CONTROL. THE CONTRACTOR
  SHALL SUBMIT A SIGNING, STREIPING AND/OR SIGNAUZATION PLAN TO THE VOOT
  LAND DEVELOPMENT SECTION A MINIMUM OF THIRTY DAYS PRIOR TO PERMIT
  APPLICATION. THE DEVELOPER SHALL NOT COMMENCE CONSTRUCTION OF ANY
  PAVEMENT COURSE WITHOUT AN APPROVED STRIPING PLAN.

  8. CBR TEST SHALL BE PERFORMED PRIOR TO DETERMINATION OF FINAL SUBGRADE
- CBR IEST SHALL BE PERFORMED PRIOR TO DETERMINATION DE FINAL SUBGRADE ELEVATION, SUBGRADE DEPTH IS BASED ON A CBR VALUE OF SIX (6) UNLESS DTHERWISE NOTED, SDILS TEST OF SUBGRADE MUST BE SUBMITTED FOR ACTUAL DETERMINATION OF REQUIRED SUBBASE THICKNESS PRIOR TO CONSTRUCTION. ALL SUBGRADE TO BE COMPACTED TO 95% DENSITY AT 2% OF OPTIMUM MOISTURE CONTENT PER AASHTO—T99 METHOD. PAVEMENT DESIGN FOR A PUBLIC ROAD BASED ON THE ACTUAL CBR VALUES SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO INSTILLATION.
- 9. A 4" (MIN.) LAYER OF STONE IS REQUIRED BENEATH CURB AND GUTTER.
  10. ADDITIONAL DITCH LININGS OR SILTATION AND EROSION CONTROL MEASURES SHALL
  BE PROVIDED, AT THE OWNER'S EXPENSE, AS DETERMINED NECESSARY BY VDOT AND OR DOR DURING FIFTH REVIEW
- 11. OVERLAY OF EXISTING PAVEMENT SHALL BE MINIMUM OF 1.5" DEPTH; ANY COSTS ASSOCIATED WITH PAVEMENT DVERLAY, OR THE MILLING OF EXISTING PAVEMENT TO DBTAIN REQUIRED DEPTH, SHALL BE ASSUMED BY THE CONTRACTOR.
- 12. OWNER IS RESPONSIBLE FOR DESIGN AND CONSTRUCTION OF ANY TRAFFIC SIGNAL INSTALLATION OR MODIFICATION WHICH WILL BE NECESSARY AS A RESULT OF DEVELOPMENT OF THIS SITE.

  13. ALL RIGHT OF WAY DEDICATED TO PUBLIC USE SHALL BE CLEAR AND
- UNENCUMBERED.
- UNENCUMBERED.

  14. THE OWNER SHALL OBTAIN A PERMIT FOR ALL SIDEWALKS WITHIN THE RIGHT OF WAY THAT DO NOT QUALIFY FOR VDOT MAINTENANCE.

  15. TRAFFIC CONTROL DEVICES OR ADVISORY SIGNS, SUCH AS MULTIWAY STOPS, SPEED LIMITS, DEAF CHILD, CHILDREN AT PLAY, ETC., SHALL NOT BE INSTALLED UNLESS SPECIFICALLY SHOWN ON THESE PLANS OR A VDOT APPROVED REVISION. SHOULD UNAPPROVED SIGNS BE NOTED AT THE TIME OF VDOT INSPECTION, THE ROAD ACCEPTANCE PROCESS SHALL BE TERMINATED IMMEDIATELY AND NOT RECOMMENDED UNTIL A DETERMINATION IS MADE REGARDING THE APPROVAL OF ANY ADDITIONAL SIGNS. IMMEDIATE REMOVAL OF SUCH SIGNS SHALL NOT NEGATE FOR THE SUBMISSION OF A REVISION
- 16. LANDSCAPING AND IRRIGATION SYSTEMS SHALL NOT BE INSTALLED WITHIN THE PUBLIC RIGHT OF WAY EXCEPT AS SHOWN ON THESE PLANS OR A VDOT APPROVED

# STORM SEWER CONSTRUCTION NOTES

- ALL CONSTRUCTION AND MATERIALS SHALL CONFORM WHERE APPLICABLE TO THE CURRENT VIRGINIA DEPARTMENT OF TRANSPORTATION ROAD AND BRIDGE
- ALL CONCRETE SHALL BE CLASS A3 IF CAST IN PLACE, CLASS A4 IF PRECAST. MANHOLES AND DROP INLETS SHALL BE CONSTRUCTED FROM INVERT TO TOP AS
  - A. MANHOLES TO EIGHT FEET DEEP.BLOCK CONSTRUCTION MINIMUM EIGHT INCH
  - POURED IN PLACE CONCRETE MINIMUM EIGHT INCH WALLS AND NONREINFORCED.
  - PRECAST MINIMUM EIGHT INCH WALLS IN CONJUNCTION WITH PRECAST THROAT AND PRECAST BASE SLAB. ■ PRECAST
  - B. MANHOLES OVER EIGHT FEET DEEP.
  - PRECAST
  - . POURED IN PLACE REINFORCED CONCRETE.
- POURED IN PLACE KEINFORCED COUNCE IE.
   SPECIAL DESIGN, I.E., BENDS, PRECAST TEES, PRECAST BOXES, WYES.

  4. DROP INLETS AND CURB INLETS SHALL HAVE STEPS. THE MAXIMUM DIMENSION FROM FINISH GRADE TO THE FIRST STEP IN THE INLET SHALL HOT EXCEED THREE FEET.

  5. UNLESS STATED ON THE APPROVED PLANS, SYMMETRICAL CHANNELS SHALL BE PERFORMED IN THE INVERT OF ALL STRUCTURES ACCORDING TO VIDOT STANDARDS IS—I TO PREVENT STANDING OR PONDING OF WATER.

  6. IF BLOCK CONSTRUCTION IS USED, THE INSIDE AND OUTSIDE WALLS, AS THEY ARE LAID. SHALL BE DISCREPED WITH MORE TABLE AND OUTSIDE WALLS, AS THEY ARE
- LAID SHALL RE PLASTERED WITH MORTAR A MINIMUM OF 1/2" THICK
- LAND, SHALL BE MLASIEMED WITH MUNIAK A MINIMUM OF  $1/2^{\circ}$  THICK. ALL PRECAST DROP INLETS, CURB INLETS AND MANHOLES SHALL CONFORM TO ASTM C-478.
- 8. VDOT INLETS, WHERE PIPE SIZE IS LARGER THAN 48 INCHES I.D., REQUIRE A SPECIAL DESIGN. IN CASE OF SPECIAL DESIGN INLETS THAT DEVIATE FROM THE STANDARD, THE PRECAST MANUFACTURER OR DESIGN ENGINEER MUST SUBMIT FIVE COPIES OF DETAIL DRAWINGS TO YOUT FOR PROPER APPROVAL.
- DELIGIE DINAMINOS IN YOUT FOR PROPER APPROVAL.

  THE OPENING IN PRECAST STORM SEWER STRUCTURES FOR ALL SIZE PIPE SHALL BE A MINIMUM OF FOUR INCHES AND A MAXIMUM OF SIX INCHES LARGER THAN THE OUTSIDE DIAMETER OF THE PIPE.
- 10. THE "H" DIMENSIONS SHOWN ON THE STANDARDS AND SPECIFIED ON THE PLANS WILL BE MEASURED FROM THE INVERT OF OUTFALL PIPE TO THE TOP OF THE STRUCTURE.
- 11. TWO (2) INCH DEEP HOLES SHALL BE PROVIDED IN ENDWALL WHERE DIRECTED BY THE INSPECTOR
- 12. ALL PIPES ARE MEASURED FROM CENTER OF STRUCTURE TO CENTER OF STRUCTURE. 13. ALL FILL BENEATH SEWER PIPES AND WATERLINES IS TO BE CONTROLLED FILL OR

- BETTER. CONTROLLED FILLS MUST BE COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO T99 OR ASTM d-698. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. CONTROLLED FILLS SHALL BE COMPACTED IN EIGHT-INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY. BEGINNING FROM THE EXISTING GROUND SURFACE, ÚNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS FNGINFFR
- ALL FILL BENEATH MANHOLES IS TO BE SELECT FILL. SELECT FILL MATERIAL SHALL CONSIST OF #67 OR #78 STONE AND MUST BE COMPACTED TO 100% DENSITY AS DETERMINED BY AASHTO 199 OR ASTM d-698. DENSITY MUST BE VERIFIED BY A QUALIFIED SOILS ENGINEER. SELECT FILLS SHALL BE COMPACTED IN EIGHT-INCH LIFTS (LOOSE THICKNESS) TO THE SPECIFIED DENSITY, BEGINNING FROM THE EXISTING GROUND SURFACE, UNLESS OTHERWISE APPROVED IN WRITING BY A QUALIFIED SOILS

### MATERIAL NOTES:

- ALL CONCRETE PIPE SHALL BE CLASS III OR AS NOTED ON THE PLANS, REFER TO VDOT SPECIFICATIONS, REFER TO VDOT STD. PB-1 FOR BEDDING DETAILS.
- 2. ALL WATERLINES LARGER THAN 4" SHALL BE DIP CLASS 52 OR AS REQUIRED BY FARIFAX WATER
- FARIFAX WATER.

  3. ALL WATER SERVICE PIPE LESS THAN 4" FOR CONNECTION FROM THE MAIN TO THE METER SHALL BE TYPE "K" COOPER OR AS REQUIRED PER FIARFAX WATER.

  4. ALL MANHOLES SHALL BE OF WATER TIGHT CONSTRUCTION AND TESTED IN PLACE PER VIRGOINA WATERWORKS REGULATIONS 12 VAC 5-590-1150. 132C, PAGE 146, DATED NOVEMBER 15, 1995.

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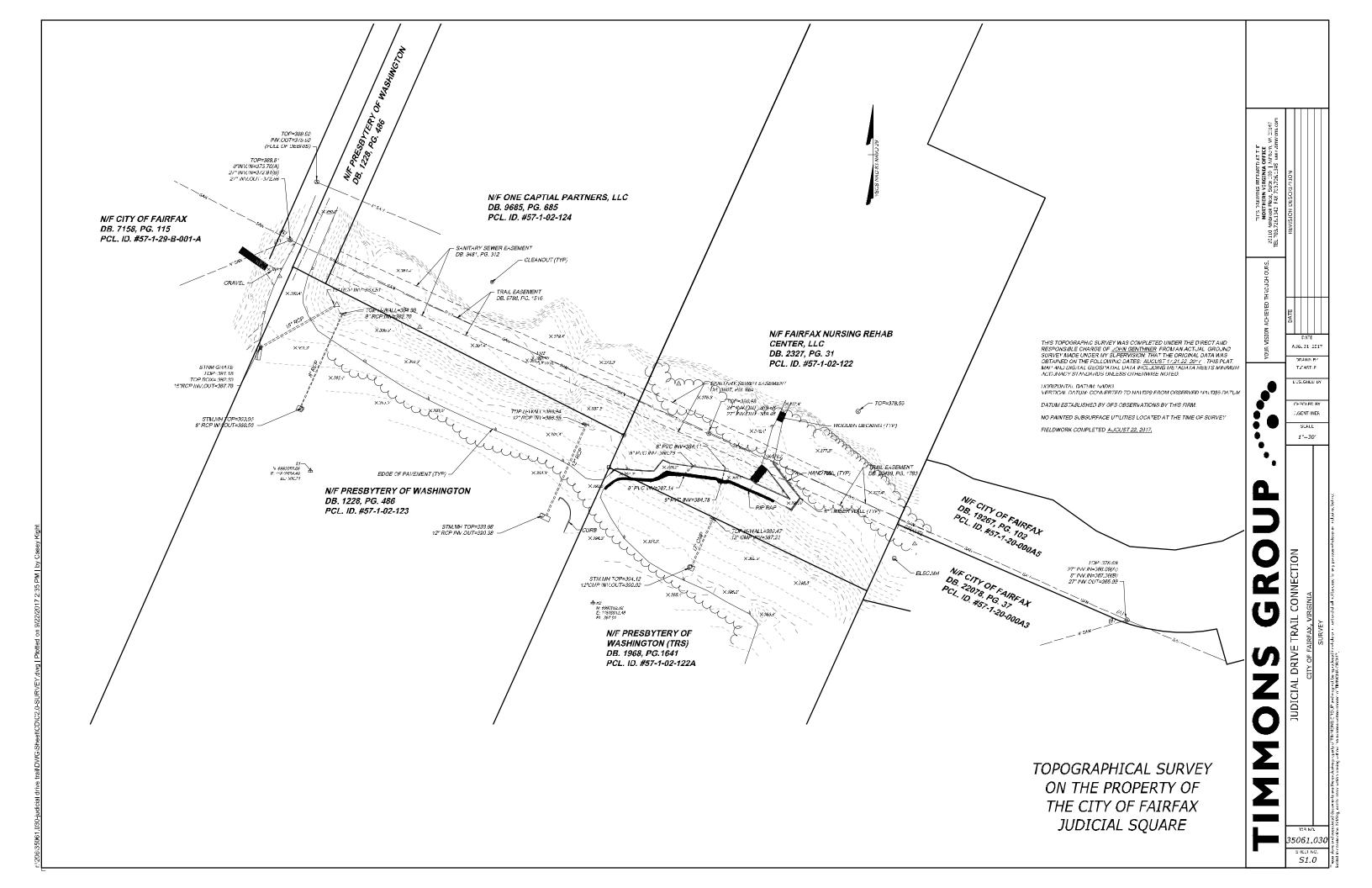
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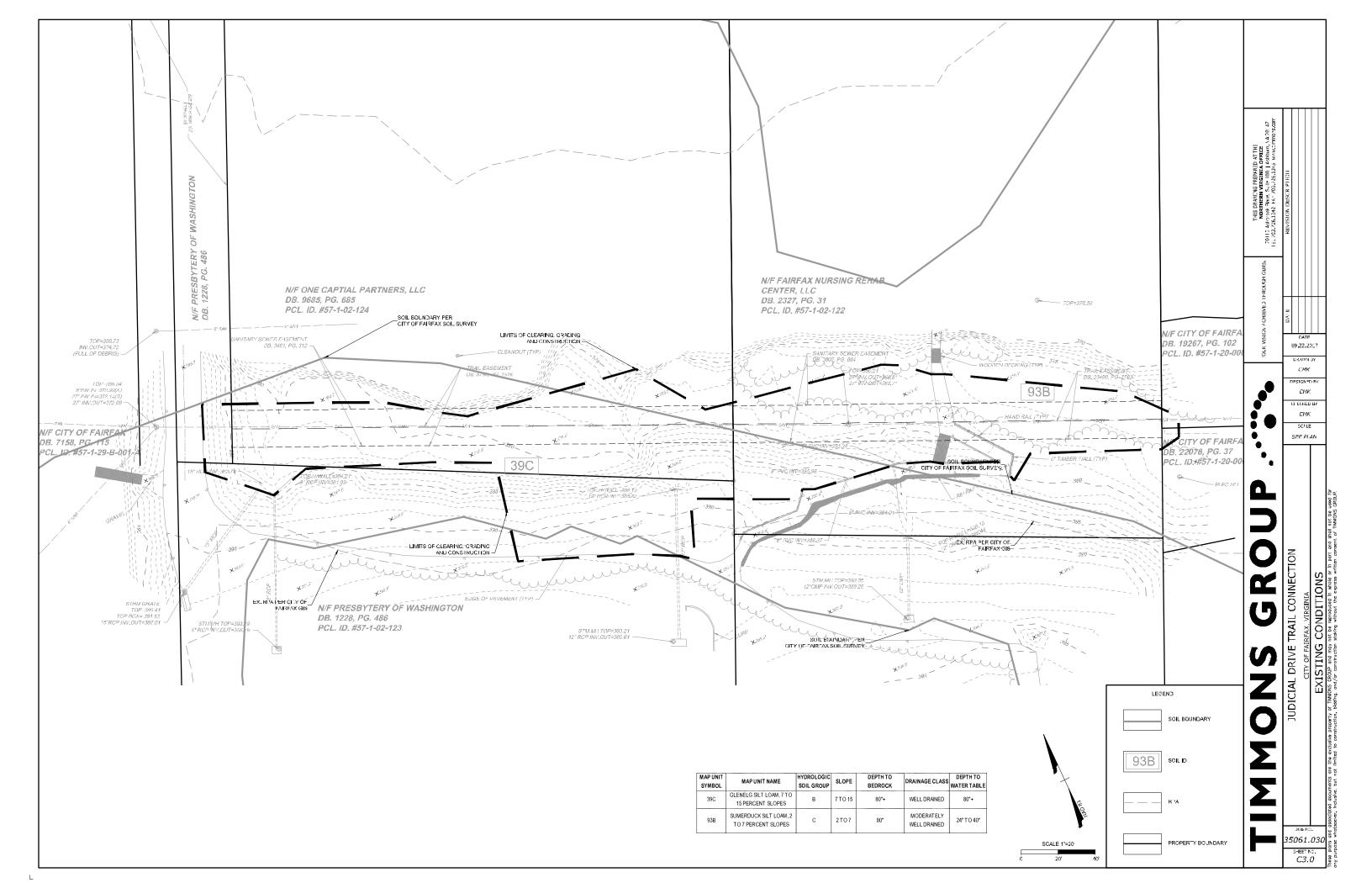
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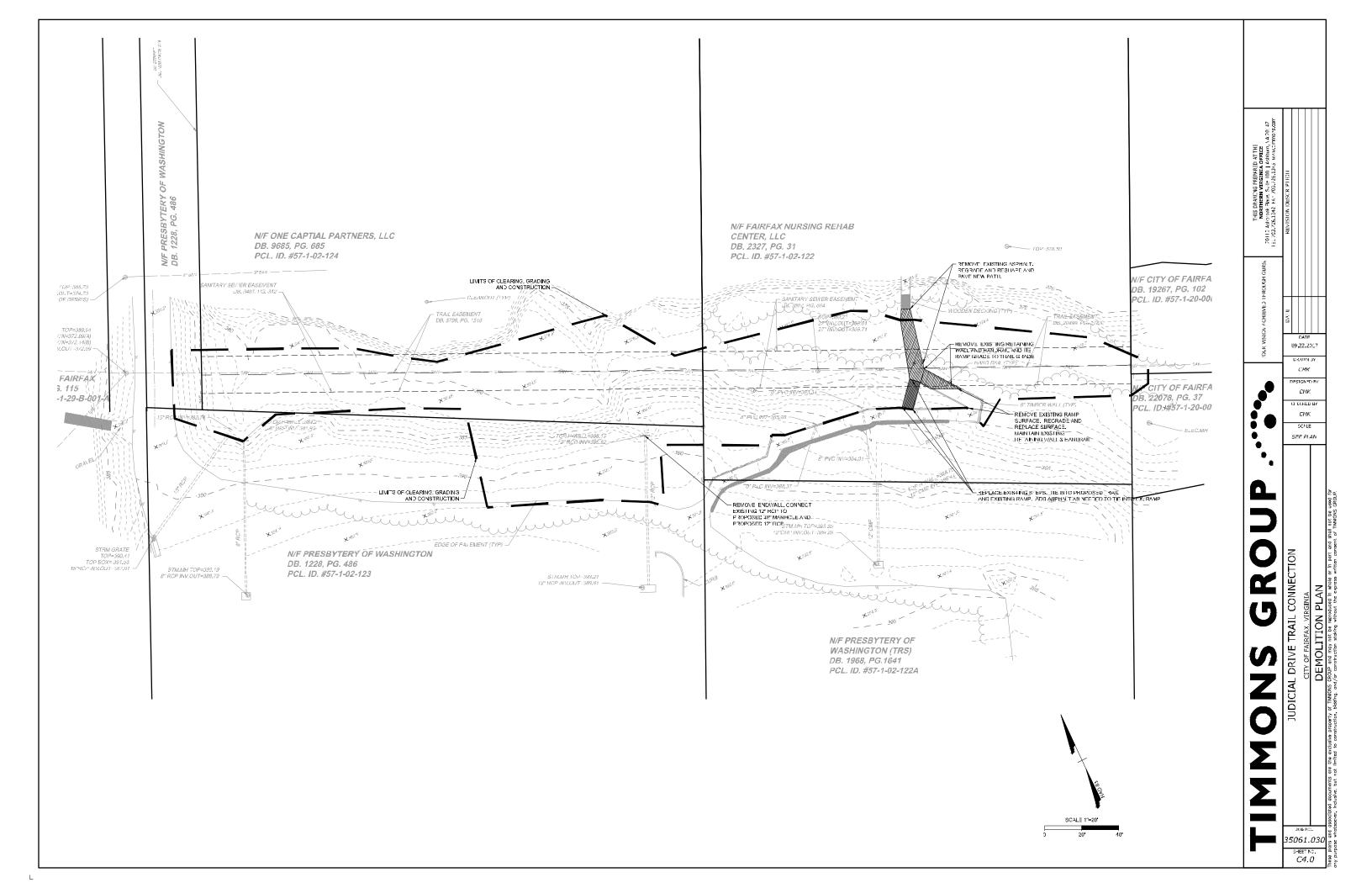
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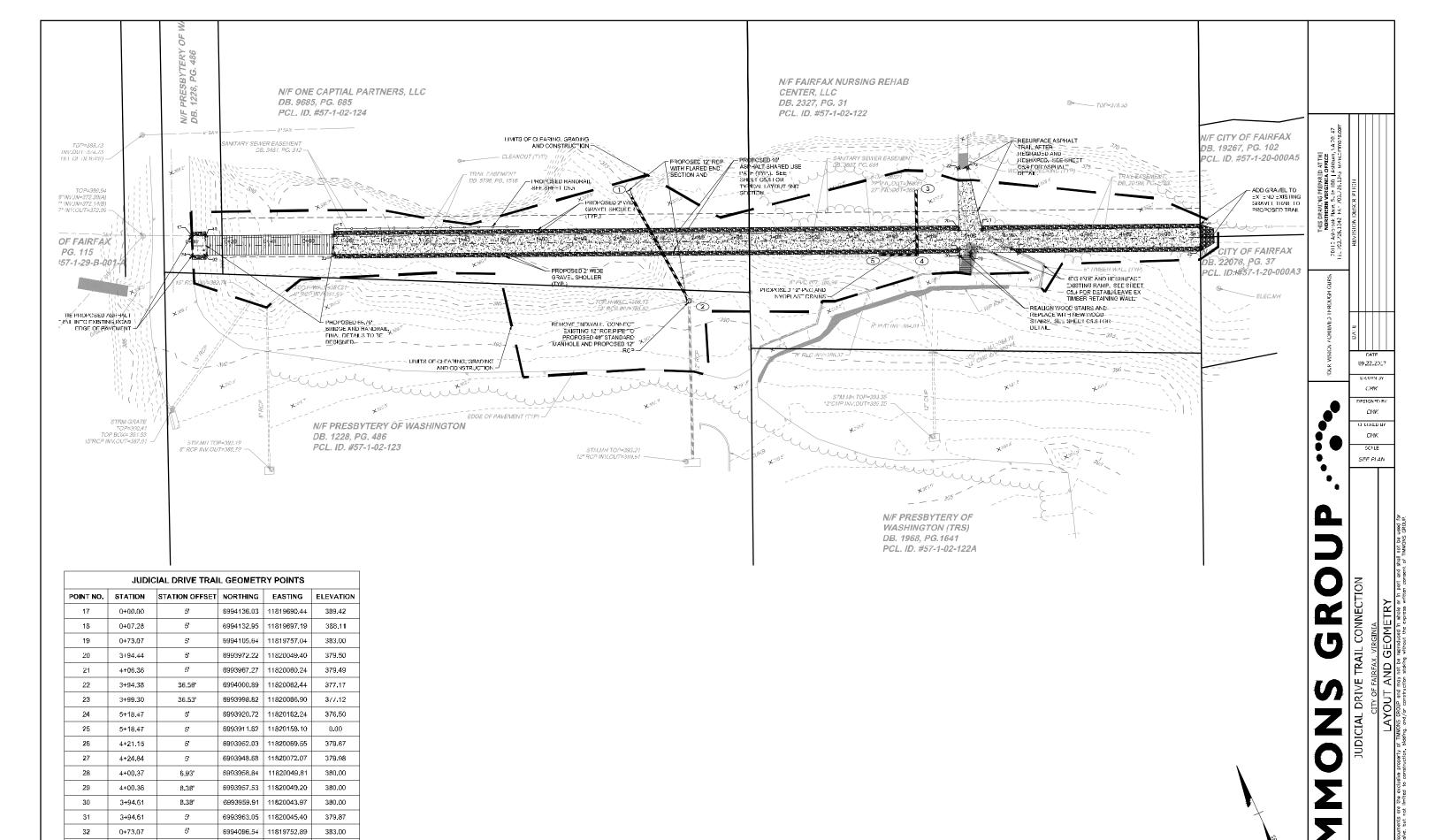
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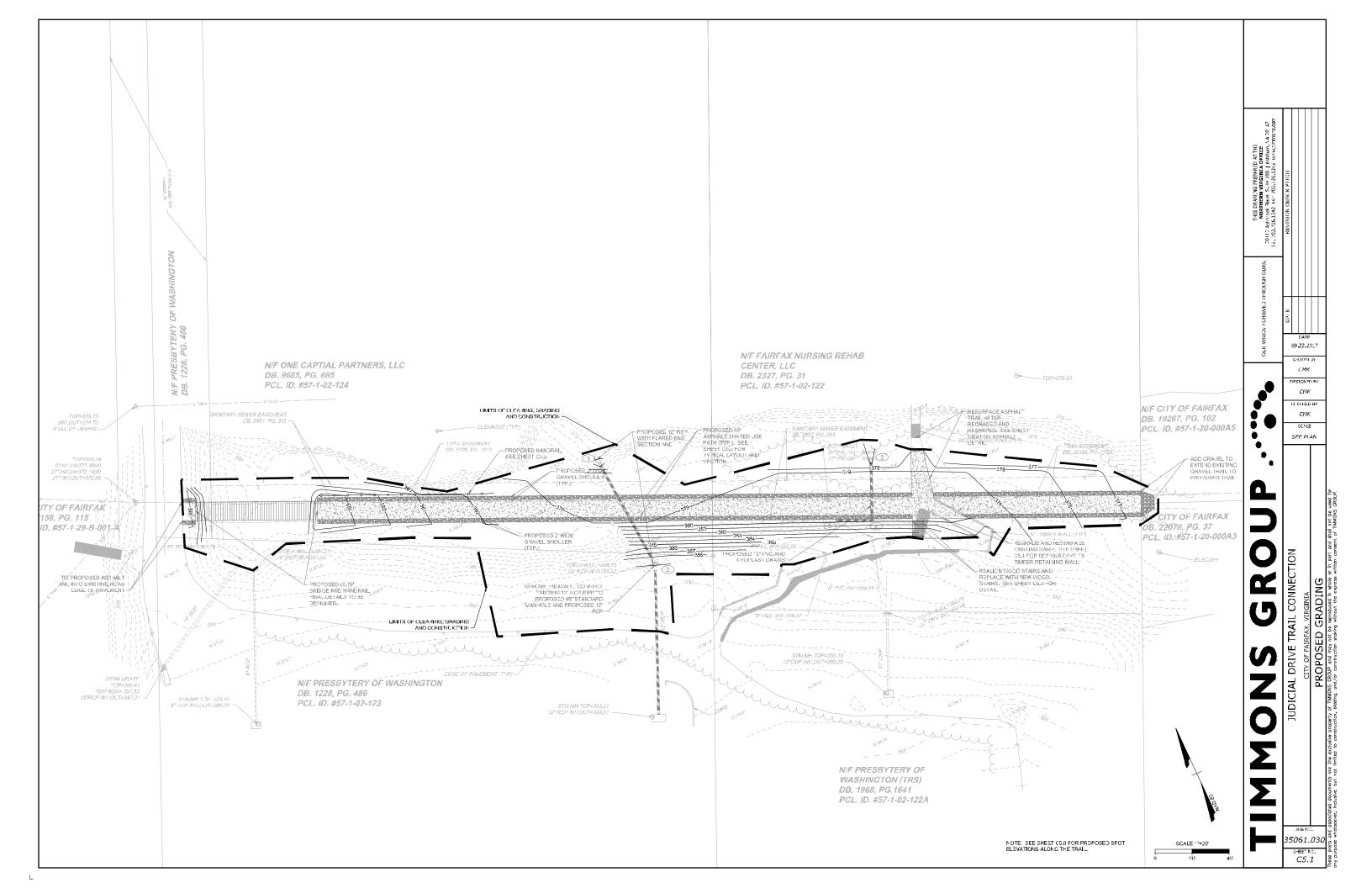
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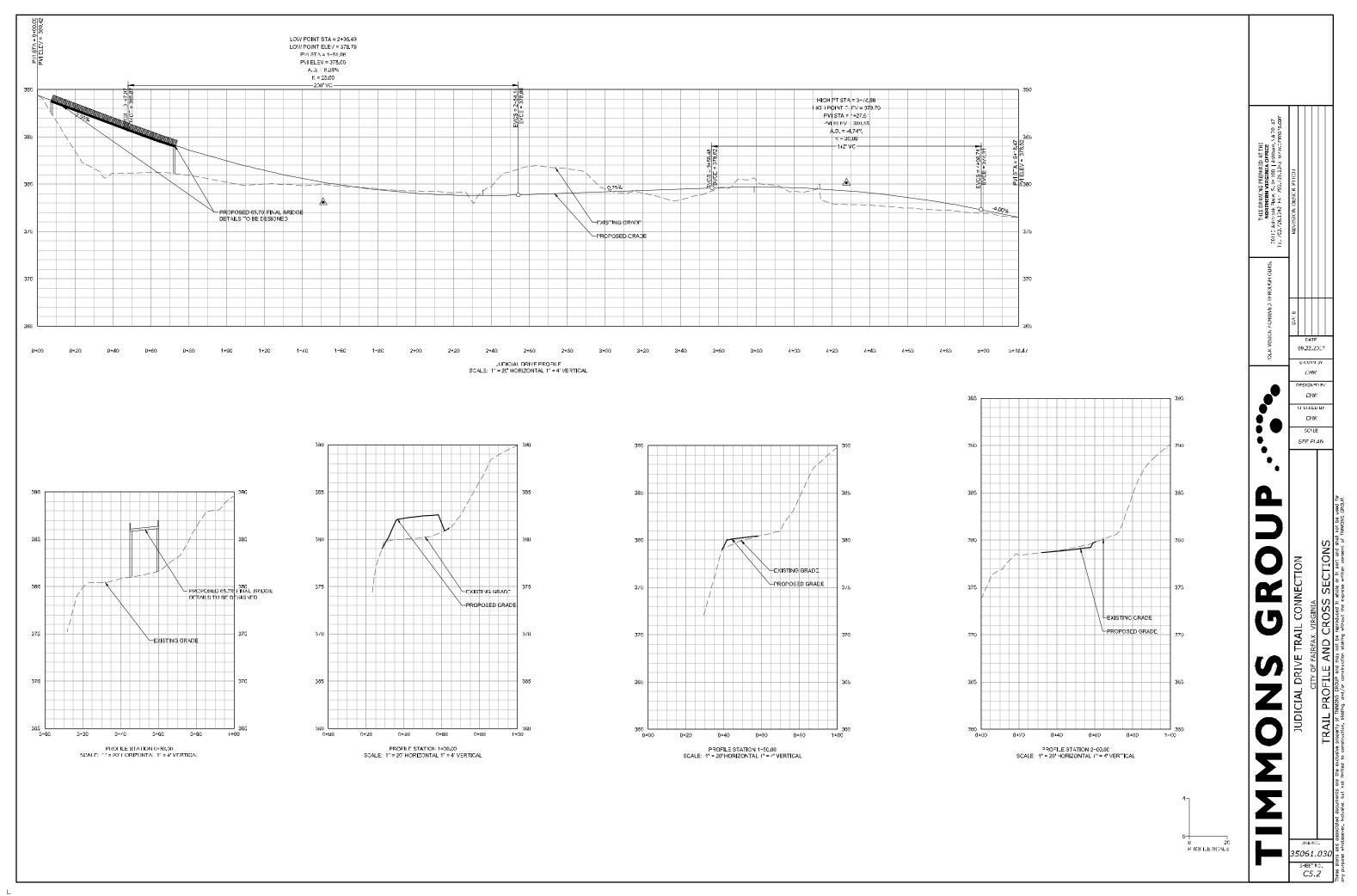
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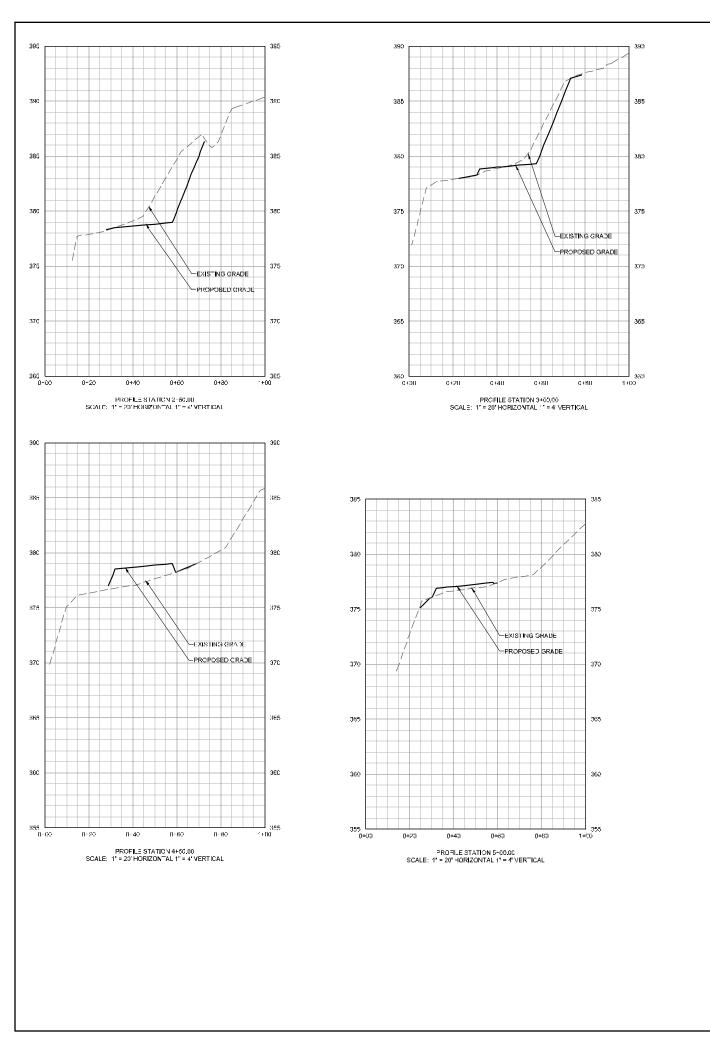
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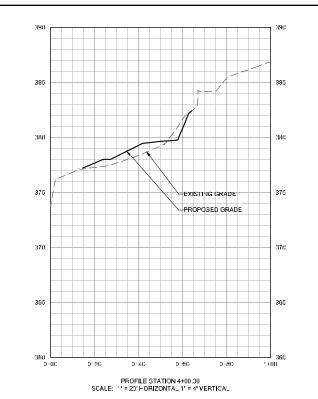
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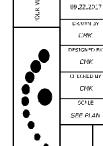
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PROFILE STATION 3+50:00 SCALE: 1" = 20 HORIZONTAL 1" = 4" VERTICAL

-EXISTING CRADE

PROPOSED GRADE





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Typical section with roadway sign and shared use path sign. For roodway signs 30° in width or less,use 7' minimum mounting height.
For roodway signs greater than 30°,use 8' minimum mounting height.

#### FIGURE A-5-4 SHARED USE PATHS

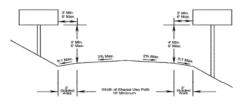
#### · Width and Horizontal Clearance

The paved width and the operating width required for a shared use path are primary design considerations. The minimum paved width for a two-directional shared use path is 10 feet. See Figure A-5-5. However in rare instances, a reduced width of 8 feet may be used. This reduced width may be used only where the following conditions prevail;

- Bicycle traffic is expected to be low, even on peak days or during peak hours. Pedestrian use of the facility is not expected to be more than occasional.
- (3) There will be good horizontal and vertical alignment providing safe and frequent passing opportunities, and
- (4) During normal maintenance activities the path will not be subjected to maintenance vehicle loading conditions that would cause pavement edge damage.

Under certain conditions it may be necessary or desirable to increase the width of a shared use path to 11 feet, or even 14 feet, due to substantial use by bicycles, joggers, skaters and pedestrians, use by large maintenance vehicles, and steep grades.

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#### FIGURE A-5-5 CROSS SECTION OF TWO-WAY SHARED USE PATH

The minimum width of a one-directional shared use path is 6 feet. A one-way path would rarely be designed and only in a special situation. It should be recognized that one-way paths often would be used as two-way facilities unless effective measures are taken to assure one-way operation. Without such enforcement, it should be assumed that shared use paths would be used as two-way facilities by both pedestrians and bicyclists and designed accordingly.

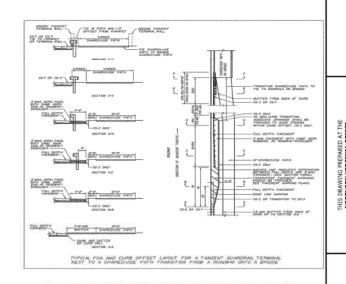
adjacent to both sides of the path. A minimum 3 foot clearance shall be maintained from the edge of the path to signs, trees, poles, walls, fences, railing, guardrail, or other lateral obstructions. Where the path is adjacent to parallel water hazard, other obvious hazard or downward slope equal to or steeper than 3:1, a minimum 5 foot wide separation from the edge of the path pavement to the top of slope is required. When the separation from the edge of the shared use path to the top of the slope is less than 5 feet, a physical barrier such as railing (HR-1, Type III) or chain link fence is required in the following

- . Slopes 2:1 or steeper, with a drop of 4 feet or greater
- Slopes 3:1 or steeper, with a drop of 6 feet or greater
- . Slopes 3:1 or steeper, adjacent to a parallel water hazard or other obvious hazard

See FIGURE A-5-6 PHYSICAL BARRIER FOR SHARED-USE PATH

Note: When the separation from the edge of the shared use path to the top of the slope is 5 feet or greater situations may dictate a physical barrier, such as the height of embankment or conditions at the bottom (i.e. – water greater than 2 feet deep).

When a shared use path is constructed adjacent to a retaining wall or a structure with a drop-off 1' or more, a railing or chain link fence 54 inches high is required.



#### FIGURE A-5-9 SHARED USE PATH TRANSITION FROM ROADWAY ONTO BRIDGE FOR DESIGN SPEEDS >45 MPH\*

#### AASHTO APPROVED INTERSTATE BICYCLE ROUTES

VDOT provides signing along the designated AASHTO approved Interstate Bicycle Route Figure A-5-10 shows the corridors for Interstate Bicycle Routes 1 and 76 and the counting the routes pass through. The individual county maps provide detailed location information. County maps are to be checked by the plan designer to determine if their project is on a designated Interstate Bicycle Route. All proposed projects involving major construction or redevelopment along designated Interstate Bicycle Routes are to provide the necessar design features to facilitate bicycle travel in accordance with the parameters established these guidelines.

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When physical barrier, railing (HR-1, Type III)\* or chain link fence are required. See Road and Bridge Standards for details.

FIGURE A-5-6.1 SHARED USE PATH PAVEMENT STRUCTURE

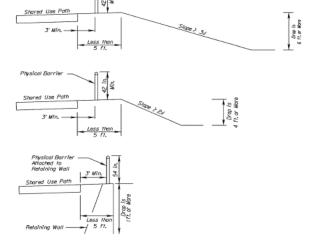
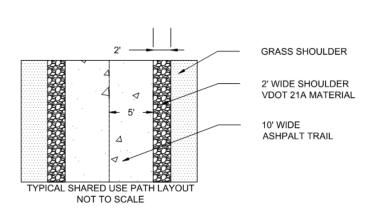
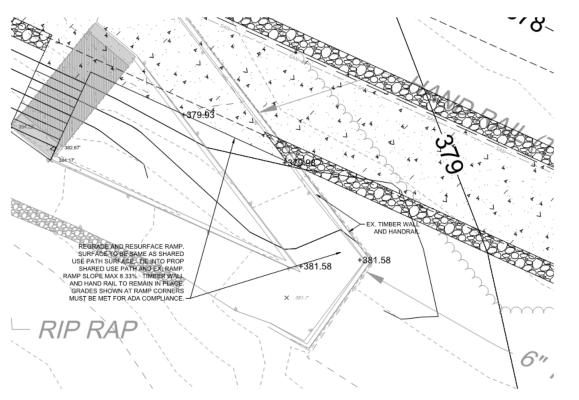


FIGURE A-5-6 PHYSICAL BARRIER FOR SHARED-USE PATH

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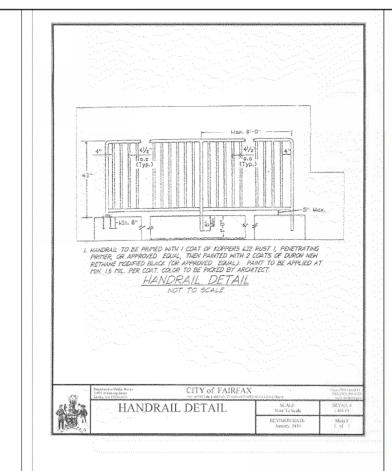
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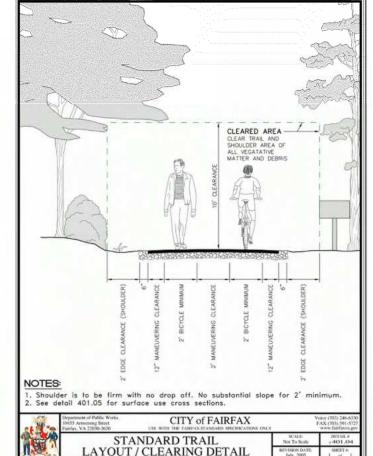


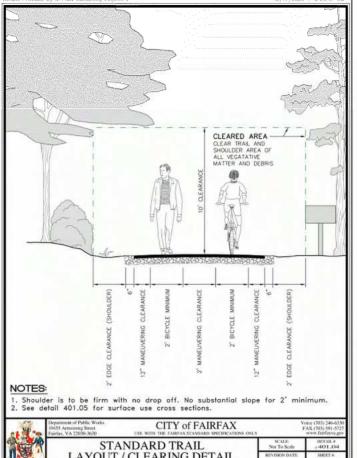


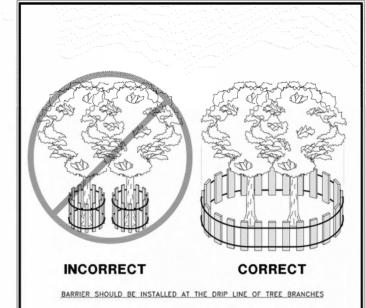
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DISABLED ACCESSIBILITY RAMP DETAIL





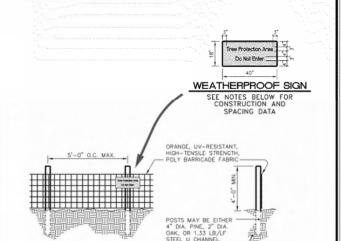






1. In spite of precautions, some damage to trees may occur.





#### NOTES:

NOTES:

SUBGRADE

- NOTES:

  1. Install tree protection fence and signage prior to calling for the initial on site inspection by the city inspector.

  2. Warning signs to be made of durable, weatherproof material.

  3. Letters are to be 3" high minimum, clearly legible and spaced as detailed.

  4. Signs are to be placed no greater than 200' on center.

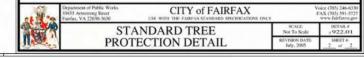
  5. Place a sign at each end of linear tree protection areas and 200' on center thereafter

  6. For tree protection areas less than 200' in perimeter, provide no less than one sign per protected area.

  7. Attach signs securely to fence posts and fabric.

  8. Maintain tree protection fence throughout duration of project.

  9. Additional signs may be required by City of Fairfax inspections based on actual field conditions.



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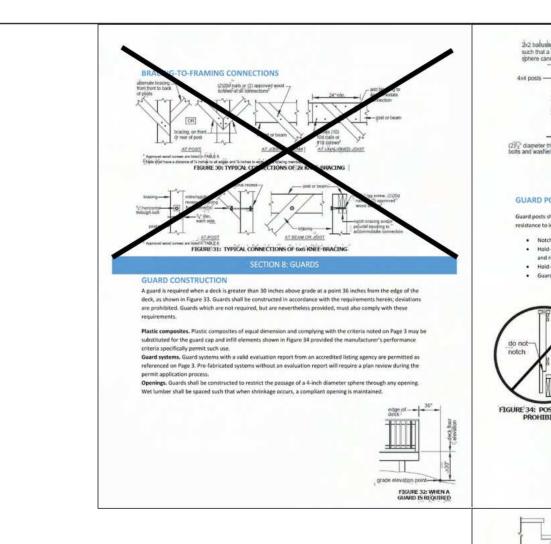
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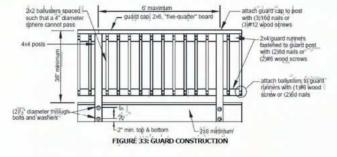
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#### GUARD POST CONNECTION

Guard posts shall be attached to the deck structure in accordance with the requirements below in order to ensure

- · Notching guard posts, as shown in Figure 35, is prohibited
- Hold-down anchors, as shown in Figures 37 and 38, shall be used to attach the guard post to the end joist and rim joist, respectively.
- . Hold-down anchors shall have a minimum capacity of 1,800 pounds.
- . Guards may be attached to either side of the rim joist.

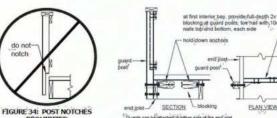
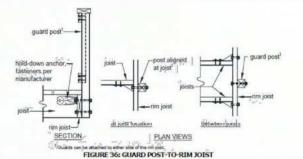


FIGURE 35: GUARD POST-TO-END JOIST



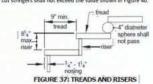
## STAIR GEOMETRY

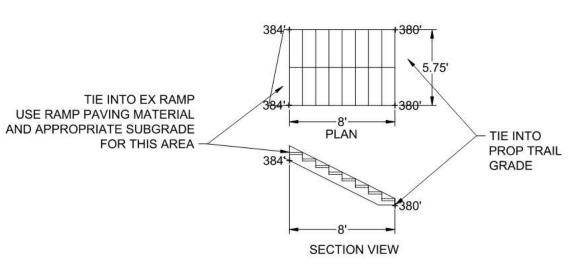
- The minimum width of a stairway is 36 inches.
- Stair geometry and opening limitations shall meet the requirements shown nosing dimensions shall not deviate at each step by more than 3/8 inches.

- . If the total vertical height of a stairway exceeds 12 feet, then an intermediate landing is required and must be constructed as a free-standing deck.
- Stair landings may be constructed with 4x4 posts with heights no greater than 8 feet.
   Landing widths shall be equal to the total width(s) of the stairway(s) served.

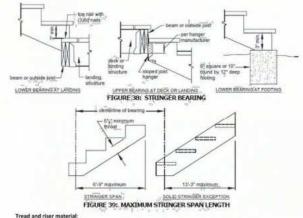
#### STAIR CONSTRUCTION

- Stringers shall be sawn or solid 2x12s complying with the tread and riser geometry requi
- Stringers shall be spaced at a maximum of 18 inches on center.
   Stringers shall bear on footings and attach to the deck or landing per Figure 39.
- Stringer span length is measured using the horizontally projected distance between the bearing at each
  end and shall no exceed the dimensions shown in Figure 40.
   SOLID STRINGER EXCEPTION: Solid stringers of stairways with a width equal to 36 inches shall be
- permitted to have a span as shown in Figure 40. . Throat size of cut stringers shall not exceed the value shown in Figure 40.

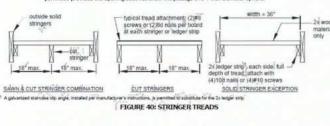




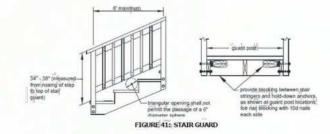
# STAIR DETAILS



- . Tread material shall be equivalent to the decking specified on Page 4 and attached in accordance with Figure 41. The span of plastic composites shall be per manufacturer and in some cases may be less than 18 inches specified in Figure 41.
- Stairs constructed using the solid stringer exception shall have treads constructed of 2x wood material only; see Figure 41.
- permitted provided the opening does not allow the passage of a 4-inch diameter sphere.

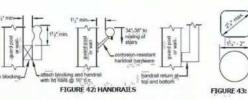


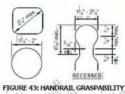
Stair guards. Stair guards are required when the total rise of the stair is greater than 30 inches at a point 36 inches from the edge of the stair. Stair guards shall be constructed in accordance with Section 8 and Figure 42.



- . Stairs with four or more risers shall have a handrail on one side at a height between 34 to 38 inches above the nosing of the step.
- . Handrails shall be attached to a stair guard or exterior wall acting as a barrier as shown in Figure 43. Handrail and connecting hardware material shall be decay and corrosion resista
- . Handrails shall have a smooth surface with no sharp corners and shall be graspable. Receded sections may
- be shaped from a 2x6 or five-quarter board as shown in Figure 44.

  Handralis shall run continuously from a point directly over the lowest riser to a point directly over the
- highest riser and shall return to the guard or wall at each end.
- Handrails may be interrupted by guard posts at a turn in the stair only. Handrails installed in lieu of window safety glazing, as required on Page 5, shall be supported at
- appropriate intervals to ensure that when a 50-pound load is applied, the rail does not deflect into the





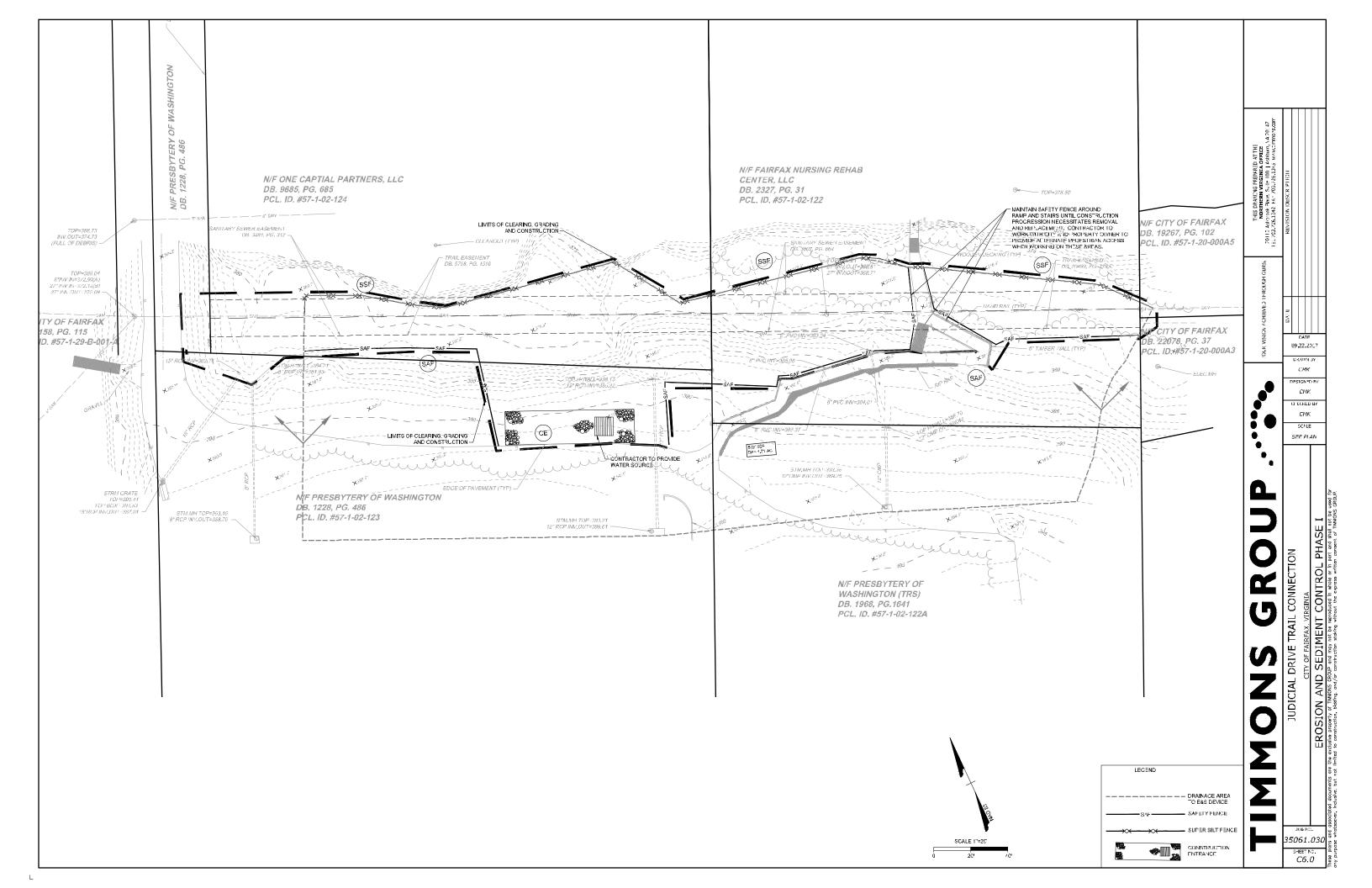
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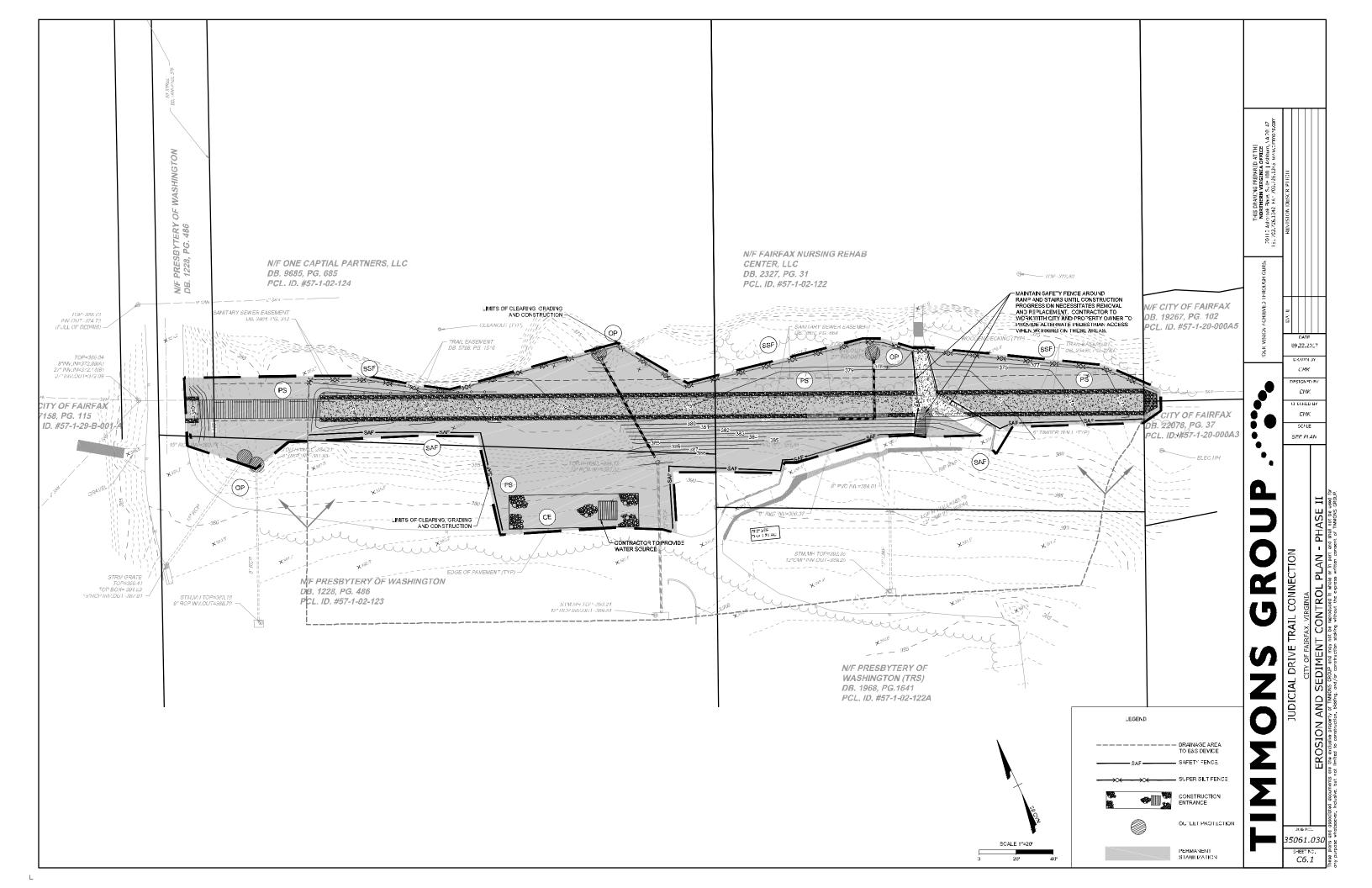
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#### EROSION AND SEDIMENT CONTROL NARRATIVE

#### PROJECT DESCRIPTION

THE CITY OF FAIRFAX PROPOSES TO CONSTRUCT A SHARED USE PATH AND ALL ASSOCIATED NECESSARY DRAINAGE ALONG ACCOTING CREEK IN THE CITY OF FAIRFAX TO CONNECT SEVERAL EXISTING TRAILS. PORTIONS OF THE PROPOSED PROJECT SITE ARE LOCATED IN THE 100-YEAR FLOXOPLAIN, AND THE PROJECT INCLUDES CONSTRUCTION OF SEVERAL BRIDGE STREAM CROSSINGS. THE TOTAL DISTURBED AREA FOR THE PROJECT IS APPROXIMATELY 0.62 ACRES.

#### EXISTING SITE CONDITIONS

THE SITE IS LOCATED IN A FORESTED AREA WITH MATURE TREES, PARALLEL TO ACCOTINK CREEK, AND PORTIONS OF THE SITE ARE LOCATION IN THE OUT-YEAR FLOODY-LAN. THE ENTIRE SITE DRAINS TO ACCOTINK CREEK.

#### ADJACENT PROPERTY

THE SITE IS LOCATED WEST OF JUDICIAL DRIVE AND EAST OF PRESBYTERIAN WAY IN THE CITY OF FAIRFAX. THE SITE IS ADJACENT TO COMMERCIAL PROPERTIES.

#### OFFSITE AREAS

NO OFF-SITE LAND DISTURBING ACTIVITIES ARE PROPOSED TO OCCUR DURING OR ASSOCIATED WITH CONSTRUCTION ACTIVITIES. THE SITE HAS BEEN GRADED TO MINIMIZE THE IMPORT/EXPORT OF DIRT MATERIAL HEREFORE, THE NEED FOR OFF-SITE BORROW/STOCKPILES IS NOT INTERFERE, THE NEED FOR OFF-SITE BORROW/STOCKPILES IS NOT ANTICIPATED FOR THIS PROJECT. SHOULD OFFSITE BORROW/STOCKPILE AREAS BE REQUIRED TO IMPORT/EXPORT MATERIAL FOR THIS PROJECT, THE OFFSITE AREA MUST HAVE A CURRENT APPROVED E&S PLAN AND PERMIT PRIOR TO CONSTRUCTION. PROOF OF APPROVED E&S PLAN AND PERMIT MUST BE PROVIDED TO THE CITY OF FAIRFAX PRIOR TO IMPORT/EXPORT OF

REFER TO THE GEOTECHNICAL REPORT, PREPARED BY OTHERS, FOR THE SOILS MAP AND SOILS SUMMARY.

EARLY ESTABLISHMENT AND PROPER MAINTENANCE OF PERIMETER CONTROLS MILL PROVIDE SEDMENTATION CONTROL. STABILIZE AND MAINTAIN DITCHES AND FILL SLOPES THROUGHOUT CONSTRUCTION ACTIVITIES TO CONTROL EROSONS. SLT FENCE, SUPER SLIT FENCE, SEDMENT TRAPS, INLET PROTECTION, OUTFALL PROTECTION, STONE CONSTRUCTION ENTRANCES WITH WASH RACKS, TEMPORARY SEEDING, AND DUST CONTROL WILL BE UTILIZED TO CONTROL SEDIMENTATION BOTH ON THE SITE AND DOWNSTREAM OF THE SITE IN ACCOTINK CREEK.

#### EROSION AND SEDIMENT CONTROL MEASURES

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE MINIMUM STANDARDS OF THE VESCH (VESCH). THE MINIMUM STANDARDS OF THE VESCH SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE BY LOCAL AUTHORITIES HAVING JURISDICTION.

#### STRUCTURAL PRACTICES

 $\frac{\text{SAFETY FENCE }-3.01.}{\text{FORMIDABLE BARRIER TO UNDESIRED SITE ACCESS WHILE ALLOWING FOR THE CONTINUATION OF NECESSARY CONSTRUCTION OPERATIONS.}$ 

TEMPORARY STONE CONSTRUCTION ENTRANCE - 3.02, A TEMPORARY STONE CONSTRUCTION ENTRANCE SHALL BE INSTALLED AT THE LOCATION INDICATED ON THE PLAN AND IN ACCORDANCE WITH THE STANDARD DETAIL. IT IS IMPERATIVE THIS MEASURE IS MAINTAINED THROUGHOUT CONSTRUCTION AT POINTS OF VEHICULAR INGRESS AND EGRESS ON THE PROJECT SITE

SLT FENCE/SUPER SLT FENCE — 3.05. SILT FENCE AND SUPER SILT FENCE SEDIMENT BARRIERS SHALL BE INSTALLED DOWNSLOPE OF THE DISTURBED AREAS DURING CONSTRUCTION OPERATIONS TO INTERCEPT AND DETAIN SMALL AMOUNTS OF SEDIMENT FROM SEDIMENT-LADEN SHEET FLOW. SLIT FENCE AND SUPER SILT FENCE ALSO SERVE TO DECREASE THE VELOCITY OF SHEET FLOW.

STORM DRAIN INLET PROTECTION - 3.07. STONE FILTERS SHALL BE PLACED AT ALL EXISTING AND PROPOSED STORM DRAIN INLETS TO PREVENT SEDIMENT FROM ENTERING STORM DRAINAGE SYSTEMS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREAS AS INDICATED ON THE PLAN AND IN ACCORDANCE WITH

QUILET PROTECTION — 3.18. STRUCTURALLY LINED APRONS OR OTHER ACCEPTABLE ENERGY DISSIPATING DEVICES SHALL BE INSTALLED AT THE LOCATIONS SHOWN ON THE PLANS AND IN ACCORDANCE WITH THE STANDARD DETAIL TO MINIMIZE THE POTENTIAL FOR SCOUR AND DOMISTIFEAM EROSION BY REDUCING THE VELOCITY AND ENERGY OF CONCENTRATED STORMWATER FLOWS.

PERMANENT STABILIZATION - 3,37, PERMANENT SEEDING ON THE ENTIRE SITE.

#### VEGETATIVE PRACTICES

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T<u>OPSOIUNG (TEMPORARY STOCKPILE) - 3.30,</u> TOPSOIL SHALL BE STRIPPED FROM AREAS TO BE GRADED AND STOCKPILED FOR LATER SPREADING. STOCKPILES SHALL BE LOCATED ON SITE AND SHALL BE STABILIZED WITH TEMPORARY SILT FENCE AND VEGETATION

TEMPORARY SEEDING — 3.31. ALL DENUDED AREAS WHICH WILL BE LEFT DORMANT FOR MORE THAN 30 DAYS SHALL BE SEEDED WITH FAST GERMINATING TEMPORARY VEGETATION IMMEDIATELY FOLLOWING GRADING OF TARGET AREA.

DUST CONTROL — 3.39 DUST CONTROL MEASURES SHALL BE IMPLEMENTED TO REDUCE SURFACE AND AIR MOVEMENT OF DUST FROM EXPOSED SOIL SURFACES DURING LAND DISTURBING, DEMOLITION, AND CONSTRUCTION

#### MANAGEMENT STRATEGIES

- PROVIDE SEDIMENT TRAPPING MEASURES AS A FIRST STEP IN GRADING AND SEED AND MULCH IMMEDIATELY FOLLOWING INSTALLATION.
- PROVIDE TEMPORARY SEEDING OR OTHER STABILIZATION IMMEDIATELY AFTER
- ISOLATE TRENCHING FOR UTILITIES AND DRAINAGE FROM DOWNSTREAM CONVEYANCES IN ORDER TO MINIMIZE PERIMETER CONTROLS.
- 4. ALL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE MAINTAINED UNTIL THEY ARE NO LONGER REQUIRED TO COMPLY WITH THE CONTRACT DOCUMENTS OR STATE LAW.

ALL NON-PAYED AREAS DISTURBED BY CONSTRUCTION SHALL BE STABILIZED WITH PERMANENT SEEDING IMMEDIATELY FOLLOWING FINAL GRADING. SEEDING SHALL BE IN ACCORDANCE WITH \$TD. & SPEC. 3.32, PERMANENT SEEDING, SEED TYPE SHALL BE AS SPECIFIED FOR "MINIMUM CARE LAWNS" AND "GENERAL SLOPES" IN THE VESCH. MULCH (STRAW OR FIBER) SHALL BE USED ON ALL SEEDED SURFACES. IN ALL SEEDING OPERATIONS, SEED, FERTILIZER, AND LIME SHALL BE APPLIED PRIOR TO MULCHING, APPROXIMATELY B ACRES OF PERMANENT SEEDING IS REQUIRED FOR THIS SITE.

#### STORMWATER RUNOFF CONSIDERATIONS

THIS SITE IS DESIGNED TO MINIC NATURAL DRAINAGE DIVIDES: THE ENTIRE SITE DRAINS TO ACCOTINK CREEK. THE PROPOSED SITE WILL UTILIZE SHEET FLOW TO A CONSERVATION EASEMENT, A STORMWATER CHANNEL, AND FOUR MICRO-BIORETENTION FACILITIES TO TREAT THE INCREASE IN VOLUME, FLOW RATE, AND POLLUTANTS DUE TO THE INCREASED IMPERVIOUS AREA AND MANAGED TURF ON THE SITE.

MAINTENANCE (SEE "MINIMUM STANDARDS" FOR ADDITIONAL INFORMATION). ALL EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CHECKED DAILY AND AFTER EACH RUN-OFF PRODUCING RAINFALL. THE FOLLOWING ITEMS SHALL BE CHECKED IN PARTICULAR:

CHECK THE SILT/SUPERSILT FENCE AFTER EVERY STORM EVENT TO ENSURE EFFECTIVE OPERATION AND REMOVE SEDIMENT WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

CHECK THE SILT FENCE BARRIER FOR UNDERMINING OR DETERIORATION OF THE FABRIC. REMOVE SEDIMENT WHEN THE LEVEL OF SEDIMENT DEPOSITION REACHES HALF WAY TO THE TOP OF THE BARRIER.

CHECK THE SEEDING AREAS TO ENSURE THAT A STAND OF GRASS IS MAINTAINED. FERTILIZE AND RESEED AS NEEDED.

- GENERAL EROSION AND SEDIMENT CONTROL NOTES

  ES-1: UNLESS OTHERWISE INDICATED, CONSTRUCT AND MANITAIN ALL VEGETATIVE
  AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES ACCORDING
  TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE WIRDINIA EROSION AND
  SEDIMENT CONTROL HANDBOOK AND VIRGINIA REGULATIONS VR 625-02-00
  EROSION AND SEDIMENT CONTROL REGULATIONS.
- ES-2: THE ENTITY HAVING JURISDICTION WILL MAKE A CONTINUING REVIEW AND EVALUATION OF THE METHODS AND EFFECTIVENESS OF THE EROSION CONTROL PLAN.
- PLACE ALL EROSION AND SEDIMENT CONTROL MEASURES PRIOR TO OR AS THE FIRST STEP IN CLEARING, GRADING, OR LAND DISTURBANCE.
- A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK SHALL BE MAINTAINED, ON THE SITE AT ALL TIMES.
- PRIOR TO COMMENCING LAND-DISTURBING ACTIVITIES IN AREAS OTHER THAN INDICATED ON THESE PLANS (INCLUDING, BUT NOT LIMITED TO, OFFSITE BORROW OR WASTE AREA), SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE ARCHITECT/ENGINEER FOR REVIEW AND ACCEPTANCE.
- PROVIDE ADDITIONAL EROSION CONTROL MEASURES NECESSARY TO PREVENT EROSION AND SEDIMENTATION AS DETERMINED BY THE CITY OF FAIRFAX DR
- ALL DISTURBED AREAS SHALL DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND-DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT.
- ES-8: DURING DEWATERING OPERATIONS, PUMP WATER INTO AN APPROVED FILTERING
- INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. MAKE ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES IMMEDIATELY.
- A VIRIGINIA STORMWATER MANAGEMENT PROGRAM (VSMP) PERMIT FOR THE DISCHARGE OF STORMWATER MANAGEMENT FROM CONSTRUCTION ACTIVITIES IS NOT REQUIRED FOR THIS PROJECT.
- ES-11: APPLY PERMANENT SOIL STABILIZATION TO DENUBED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE, APPLY TEMPERARY SOIL STABILIZATION WITHIN SEVEN DAYS TO DENUBED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 14 DAYS, APPLY PERMANENT STABILIZATION TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- ES-12: STABILIZE OR PROTECT TEMPORARY SOIL STOCKPILES WITH SEDIMENT TRAPPING MEASURES
  (SUCH AS SILT FENCE), PROVIDE TEMPORARY PROTECTION AND PERMANENT STABILIZATION
  OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL TRANSPORTED FROM THE PROJECT
- ES-13: ESTABLISH A PERMANENT VEGETATIVE COVER ON DENUDED AREAS NOT OTHERWISE PERMANENTLY STABILIZED, PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IN THE OPINION OF THE ARCHITECT/ENGINEER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT
- FS-14: CONSTRUCT CONSTRUCTION ENTRANCE, TREE PROTECTION. SUPER SILT FENCE, INLET COORDINATION SEDIMENT BARRERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND MAKE THESE MEASURES FUNCTIONAL BEFORE UPS.OPE LAND DISTURBING ACT TAKES PLACE.
- ES-15: APPLY STABILIZATION MEASURES TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION,
- ES-16: CONTROL SURFACE RUNOFF FROM DISTURBED AREAS COMPRISED OF FLOW FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND- DISTURBING ACTIVITY. THE OUTENLL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE
- ES-17: CONSTRUCT CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION. PROVIDE SLOPES THAT ARE FOUND TO BE ERODING EXCESSIVELY WITHIN ONE YEAR OF PERMANENT STABILIZATION WITH ADDITIONAL SLOPE STABILIZING MEASURES UNTIL THE PROBLEM IS CORRECTED.

#### GENERAL EROSION AND SEDIMENT CONTROL NOTES (continued)

- ES-18: CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- ES-19: MHENEVER WATER SEEPS FROM A SLOPE FACE, PROVIDE ADEQUATE DRAINAGE OR OTHER PROTECTION.
- ES-20: ND E&S PHASE I CONTROLS SHALL BE REMOVED WITHOUT THE PRIOR APPROVAL OF THE DEQ FIELD MANAGER.
- ES-21: PROTECT ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SO THAT SEDIMENT-LADEN WATER CANNOT ENTER THE CUNSINUCIUM SU THAT SEDMENT-LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- ES-22: BEFORE STORMWATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, PROVIDE ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING IN BOTH THE CONVEYANCE CHANNEL AND THE RECEIVING CHANNEL.
- ES-23: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, TAKE PRECAUTIONS TO MINIMIZE WHEN WORK IN A USE WATERCOURSE IS PERFOUNDED, TAKE PRECOGNING OF WINNING EDUCATION OF THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION, PROVIDE NONERODIBLE MATERIAL FOR THE CONSTRUCTION OF CAUSTEMAYS AND COFFERDAMS, EARTHEN FILM MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS.
- ES-24: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, PROVIDE A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERGODIBLE MATERIAL. MEET ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES.
- $\mbox{ES-25:}$  Stabilize the Bed and Banks of a Watercourse immediately following after work in the Watercourse is completed.

#### MINIMUM STANDARDS (PHASE I)

- M STANDARUS (PHASE 1).
  APPLY PERMANENT SOIL STABILIZATION TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. APPLY TEMPORARY SOIL STABILIZATION WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT MUL. REMAIN DORMANT (UNDISTURBED) FOR LONGER THAN 14 DAYS, APPLY PERMANENT STABILIZATION TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR.
- MS-2: STABILIZE OR PROTECT TEMPORARY SOIL STOCKPILES WITH SEDIMENT TRAPPING MEASURES (SUCH AS SILT FENCE), PROVIDE TEMPORARY PROTECTION AND PERMANENT STABILIZATION OF ALL SOIL STOCKPILES ON SITE AS WELL AS SOIL TRANSPORTED FROM THE PROJECT
- ESTABLISH A PERMANENT VEGETATIVE COVER ON DENILIDED AREAS NOT DIHERWISE PERMANENTLY STABILIZED, PERMANENT VEGETATION SHALL NOT BE CONSIDERED ESTABLISHED UNTIL A GROUND COVER IS ACHIEVED THAT IN THE OPINION OF THE ARCHITECT/ENGINEER, IS UNIFORM, MATURE ENOUGH TO SURVIVE AND WILL INHIBIT
- CONSTRUCT CONSTRUCTION ENTRANCE, STREAM CONVEYANCE CHANNEL, TREE PROTECTION, SUPER SILT FENCE, CHECK DAMS, CULVERT INLET PROTECTION, PERIMETER DIKES, SEDIMENT BARRIERS, AND OTHER MEASURES INTENDED TO TRAP SEDIMENT AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND MAKE THESE MEASURES FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE OR TIMBERING TAKES PLACE,
- APPLY STABILIZATION MEASURES TO EARTHEN STRUCTURES SUCH AS DAMS, DIKES AND DIVERSIONS IMMEDIATELY AFTER INSTALLATION.
- CONTROL SURFACE RUNOFF FROM DISTURBED AREAS THAT IS COMPRISED OF FLOW MS-6: FROM DRAINAGE AREAS GREATER THAN OR EQUAL TO THREE ACRES TO ACCOMMODATE THE ANTICIPATED SEDIMENT LOADING FROM THE LAND-DISTURBING ACTIVITY. THE OUTFALL DEVICE OR SYSTEM DESIGN SHALL TAKE INTO ACCOUNT THE TOTAL DRAINAGE AREA FLOWING THROUGH THE DISTURBED AREA TO BE SERVED BY THE BASIN.
- CONSTRUCT CUT AND FILL SLOPES IN A MANNER THAT WILL MINIMIZE EROSION, PROVIDE SLOPES THAT ARE FOUND TO BE ERODING SLOSESSIVELY WITHIN ONE YEAR OF FERMANENT STABILIZATION WITH ADDITIONAL SLOPE STABILIZATION MEASURES UNTIL THE PROBLEM IS
- CONCENTRATED RUNOFF SHALL NOT FLOW DOWN CUT OR FILL SLOPES UNLESS CONTAINED WITHIN AN ADEQUATE TEMPORARY OR PERMANENT CHANNEL, FLUME OR SLOPE DRAIN STRUCTURE.
- WHENEVER WATER SEEPS FROM A SLOPE FACE, PROVIDE ADEQUATE DRAINAGE OR OTHER
- MS-9A: NO E&S PHASE I CONTROLS SHALL BE REMOVED WITHOUT THE PRIOR APPROVAL OF THE DEO FIELD MANAGER.

#### MINIMUM STANDARDS (PHASE II)

- PROTECT ALL STORM SEWER INLETS THAT ARE MADE OPERABLE DURING CONSTRUCTION SO THAT SEDIMENT—LADEN WATER CANNOT ENTER THE CONVEYANCE SYSTEM WITHOUT FIRST BEING FILTERED OR OTHERWISE TREATED TO REMOVE SEDIMENT.
- BEFORE STORMMATER CONVEYANCE CHANNELS ARE MADE OPERATIONAL, PROVIDE ADEQUATE OUTLET PROTECTION AND ANY REQUIRED TEMPORARY OR PERMANENT CHANNEL LINING IN BOTH THE CONVEYANCE CHANNEL AND THE RECEIVING CHANNEL.
- MS—12: WHEN WORK IN A LIVE WATERCOURSE IS PERFORMED, TAKE PRECAUTIONS TO MINIMIZE ENCROACHMENT, CONTROL SEDIMENT TRANSPORT AND STABILIZE THE WORK AREA TO THE GREATEST EXTENT POSSIBLE DURING CONSTRUCTION OF CAUSEWAYS AND COFFERDAMS, EARTHEN FILL MAY BE USED FOR THESE STRUCTURES IF ARMORED BY NONERODIBLE COVER MATERIALS
- MS-13: WHEN A LIVE WATERCOURSE MUST BE CROSSED BY CONSTRUCTION VEHICLES MORE THAN TWICE IN ANY SIX-MONTH PERIOD, PROVIDE A TEMPORARY STREAM CROSSING CONSTRUCTED OF NONERODIBLE MATERIAL.
- MS-14: MEET ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS PERTAINING TO WORKING IN OR CROSSING LIVE WATERCOURSES. MS-15: STABILIZE THE BED AND BANKS OF A WATERCOURSE IMMEDIATELY FOLLOWING AFTER WORK
- MS-16: UNDERGROUND UTILITY LINES SHALL BE INSTALLED IN ACCORDANCE WITH THESE STANDARDS IN ADDITION TO OTHER APPLICABLE CRITERIA:

IN THE WATERCOURSE IS COMPLETED.

- OPEN NO MORE THAN 500 LINEAR FEET OF TRENCH AT ONE TIME. PLACE EXCAVATED MATERIAL ON THE UPHILL SIDE OF TRENCHES. FILTER EFFLUENT FROM DEWATERING OPERATIONS OR PASS THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGE IN A MANNER THAT DOES NOT ADVERSELY AFFECT FLOWING STREAMS OR OFFSITE
- MATERIAL USED FOR BACKFILLING TRENCHES SHALL BE PROPERLY COMPACTED IN ORDER TO MINIMIZE EROSION AND PROMOTE STABIUZATION.
- ACCOMPLISH RESTABILIZATION IN ACCORDANCE WITH THESE REGULATIONS. COMPLY WITH ALL APPLICABLE SAFETY REGULATIONS.

#### MINIMUM STANDARDS (continued)

- MINIMUM DIANUARUS (CONTINUED)

  MS—17: WHERE CONSTRUCTION VEHICLE ACCESS ROUTES INTERSECT PAVED PUBLIC ROADS, MAKE PROVISIONS TO MINIMUZE THE TRANSPORT OF SEDIMENT BY VEHICULAR TRACKING ONTO THE PAVED SURFACE. WHERE SEDIMENT IS TRANSPORTED ONTO A PUBLIC ROAD SURFACE, CLEAN THE ROAD THOROUGHLY AT THE END OF FACH DAY, REMOVE SEDIMENT FROM THE ROADS BY SHOVELING OR SWEEPING AND TRANSPORT TO A SEDIMENT CONTROL INSPOSAL AREA. STREET WASHING SHALL BE ALLOWED ONLY AFTER SEDIMENT IS REMOVED IN THIS MANNER.
- MS—18: REMOVE ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES. WITHIN 30 DAYS AFTER FINAL SITE STABILIZATION BUT ONLY AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, AND ONLY AFTER AUTHORIZED BY THE DEQ FIELD MANAGER. PERMANENILY. STABILIZE TRAPPED SEDIMENT AND THE DISTURBED SOIL AREAS RESULTING FROM THE DISPOSITION OF TEMPORARY MEASURES TO PREVENT FURTHER. EROSION AND SEDIMENTATION.
- 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
  - CONCENTRATED STORMWATER RUNOFF LEAVING A DEVELOPMENT SITE SHALL BE CONCENTRATED STORMMATER RUNDET LEAVING A BEYELDMENT SIE SHALL SHESHARED DIRECTLY INTO AN ADEQUATE NATURAL OR MAN—MADE RECEIVING CHANNEL, PIPE OR STORM SEMER SYSTEM, FOR THOSE SITES WHERE RUNDET IS ADSCHARED 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
  - (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
  - (2) NATURAL CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR FREQUENCY STORM TO VERIFY THAT STORMWATER WILL NOT OVERTOP CHANNEL BANKS AND TWO-YEAR VELOCITY TO VERIFY NO EROSION OF CHANNEL BED OR BANKS.
  - (3) ALL PREVIOUSLY CONSTRUCTED MAN-MADE CHANNELS SHALL BE ANALYZED BY THE USE OF A TEN-YEAR FREQUENCY STORM TO VERIFY THAIR STORWMATER WILL NOT OVERTOP ITS BANKS AND BY THE USE OF A TWO-YEAR STORM TO DEMONSTRATE THAIR STORMWATER WILL NOT CAUSE EROSION OF CHANNEL BED OR BANKS.
  - (4) PIPES AND STORM SEWER SYSTEMS SHALL BE ANALYZED BY THE USE OF A IEN-YEAR FREQUENCY STORM TO VERIFY THAT 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:
  - (1) IMPROVE THE CHANNELS TO A CONDITION WHERE A TEN-YEAR FREQUENCY STORM WILL NOT OVERTOP THE BANKS AND A TWO-YEAR FREQUENCY STORM WILL NOT CAUSE EROSION TO THE CHANNEL BED OR BANKS; OR
  - (2) IMPROVE THE PIPE OR PIPE SYSTEM TO A CONDITION WHERE THE TEN-YEAR FREQUENCY STORM IS CONTAINED WITHIN THE APPURTENANCES; OR
  - (3) DEVELOP A SITE DESIGN THAT WILL NOT CAUSE THE PRE-DEVELOPMENT PEAK RUNOFF RATE FROM A TWO—YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A NATURAL CHANNEL OR MILL NOT CAUSE THE PRE—DEVELOPMENT FEAR RUNOFF RATE FROM A TEN-YEAR STORM TO INCREASE WHEN RUNOFF OUTFALLS INTO A MAN—MADE
  - (4) PROVIDE A COMBINATION OF CHANNEL IMPROVEMENT, STORMWATER DETENTION/RETENTION 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 HYDROLOGIC ANALYSES SHALL BE BASED ON THE EXISTING WATERSHED CHARACTERISTICS AND THE ULTIMATE DEVELOPMENT CONDITION OF THE SUBJECT
  - f. IF THE APPLICANT CHOOSES AN OPTION THAT INCLUDES STORMWATER DETENTION,
    RETENTION, HE SHALL OBTAIN APPROVAL FROM THE LOCALITY OF A PLAN FOR
    MAINTENANCE OF THE DETENTION FACULITIES. THE PLAN SHALL SET FORTH THE
    MAINTENANCE REQUIREMENTS OF THE FACILITY AND THE PERSON RESPONSIBLE FOR PERFORMING THE MAINTENANCE
  - 9. 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 OFFICIAL CHANNET.
  - h. ALL ON-SITE 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, ADEQUATE CHANNEL OR 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. HAVENOLOGIC PARAMETERS THAT REFLECT THE ULTIMATE DEVELOPMENT CONDITION SHALL BE USED IN ALL ENGINEERING CALCULATIONS.
  - k. ALL MEASURES USED TO PROTECT THE PROPERTIES AND WATERWAYS SHALL BE EMPLOYED IN A MANNER WHICH MINIMIZES IMPACTS ON THE PHYSICAL, CHEMICAL AND BIDOGICAL INTEGRITY OF RIVERS, STREAMS AND OTHER WATERS OF THE STATE.

THIS DRAWING PREPARED NORTHERN VIRGINIA O 20110 Ashoroak Blane, Suite 100 | Act 126, 1342 | FAY 703, 726, 1345 09.22.2017 DRAWN 3Y СМК

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NOTES AND I CONNECT

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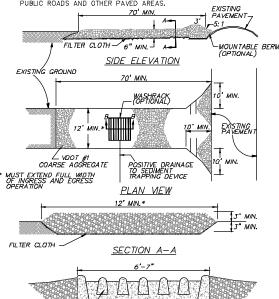
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## TEMPORARY STONE CE CONSTRUCTION ENTRANCE

VIRGINIA EROSION & SEDIMENT CONTROL 3.02:

A STONE PAD, LOCATED AT POINTS OF VEHICULAR INGRESS AND EGRESS ON A CONSTRUCTION SITE, TO REDUCE THE SOIL TRANSPORTED ONTO PUBLIC ROADS AND OTHER PAVED AREAS.



#### (CE) STONE CONSTRUCTION ENTRANCE (3.02-1)

CONSTRUCTION SPECIFICATIONS:

THE AREA OF THE ENTRANCE MUST BE EXCAVATED A MINIMUM OF 3 INCHES AND MUST BE CLEARED OF ALL VEGETATION, ROOTS, AND OTHER OBJECTIONABLE, MATERIAL, THE FILTER FABRIC UNDERLINER MILL THEN BE PLACED THE FULL WIDTH AND LENGTH OF THE ENTRANCE.

\_DRAIN SPACE

FOLLOWING THE INSTALLATION OF THE FILTER CLOTH, THE STONE SHALL BE PLACED TO THE SPECIFIED DIMENSIONS. IF WASH RACKS ARE USED, THEY SHOULD BE INSTALLED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS. ANY DRAINAGE FACILITIES REQUIRED BECAUSE OF WASHING SHOULD BE CONSTRUCTED ACCORDING TO SPECIFICATIONS. CONVEYANCE OF SURFACE WATER UNDER ENTRANCE, THROUGH CULVERTS, SHALL BE PROVIDED AS REQUIRED. IF SUCH CONVEYANCE IS IMPOSSIBLE, THE CONSTRUCTION OF A "MOUNTABLE" BERM WITH 5:1 SLOPES SHALL BE PERMITTED.

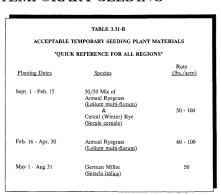
THE FILTER CLOTH UTILIZED SHALL BE A WOVEN OR NONWOVEN FABRIC CONSISTING ONLY OF CONTINUOUS CHAIN POLYMERIC FILAMENTS OR YARNS OF POLYESTER. THE FABRIC SHALL BE INERT TO COMMONLY ENCOUNTERED CHEMICALS AND HYDROCARBONS, BE MILDEW AND ROT RESISTANT, AND CONFORM TO THE PHYSICAL PROPERTIES NOTED IN TABLE 3.02-A.

#### MAINTENANCE:

REINFORCED CONCRETE-

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 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.

# TEMPORARY SEEDING



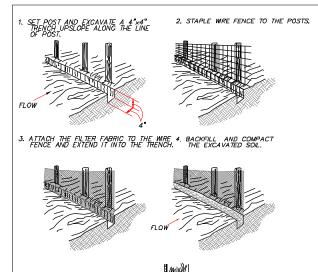
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#### SILT FENCE/SUPER SILT FENCE SF

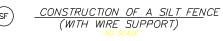
#### VIRGINIA EROSION & SEDIMENT CONTROL 3.05:

A TEMPORARY SEDIMENT BARRIER CONSTRUCTED OF POSTS, FILTER FABRIC AND, IN SOME CASES, A WIRE SUPPORT FENCE, PLACED ACROSS OR AT THE TOE OF A SLOPE OR IN A MINOR DRAINAGE WAY TO INTERCEPT AND DETAIN SEDIMENT AND DECREASE FLOW VELOCITIES FROM DRAINAGE RAEAS OF LIMITED SIZE: APPLICABLE WHERE SHEET AND RULL EROSION OR SMALL CONCENTRATED FLOWS MAY BE A PROBLEM. MAXIMUM FEFERTIME LIFE OF E. MONTHS EFFECTIVE LIFE OF 6 MONTHS.

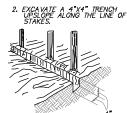




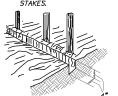
#### EXTENSION OF FABRIC AND WIRE INTO THE TRENCH

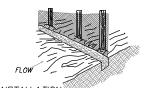


(3.05-1)



1. SET THE STAKES.





4. BACKFILL AND COMPACT THE EXCAVATED SOIL.

SHEET FLOW INSTALLATION (PERSPECTIVE VIEW)

POINTS A SHOULD BE HIGHER THAN POINT B. DRAINAGEWAY INSTALLATION (FRONT ELEVATION) CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT) NO SCALE

3.05-2

# SILT FENCE/SUPER SILT FENCE (continued)

#### CONSTRUCTION SPECIFICATIONS:

1. SYNTHETIC FILTER FABRIC SHALL BE A PERVIOUS SHEET OF PROPYLENE, NYLON, POLYESTER OR ETHYLENE YARN AND SHALL BE CERTIFIED BY THE MANUFACTURER OR SUPPLIER AS CONFORMING TO THE REQUIREMENTS NOTED IN TABLE 3.05-B.

- 2. SYNTHETIC FILTER FABRIC SHALL CONTAIN ULTRAVIOLET RAY INHBITORS AND STABILIZERS TO PROVIDE A MINIMUM OF SIX MONTHS OF EXPECTED USABLE CONSTRUCTION LIFE AT A TEMPERATURE RANGE OF O'F TO 120'F.
- 3. IF WOODEN STAKES ARE UTILIZED FOR SILT FENCE CONSTRUCTION, THEY MUST HAVE A DIAMETER OF 2 INCHES WHEN OAK IS USED AND 4 INCHES WHEN PINE IS USED. WOODEN STAKES MUST HAVE A MINIMUM
- IF STEEL POSTS (STANDARD "U" OR "T" SECTION) ARE UTILIZED FOR IT FENCE CONSTRUCTION, THEY MUST HAVE A MINIMUM WEIGHT OF 33 POUNDS PER LINEAR FOOT AND SHALL HAVE A MINIMUM LENGTH 5 FEET.
- 5. WRE FENCE REINFORCEMENT FOR SILT FENCES USING STANDARD-STRENGTH FILTER CLOTH SHALL BE A MINIMUM OF 14 GAUGE MODIFIED HAVE A MAXIMUM MESH SPACING OF 6 INCHES.
- 1. SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
- 2. 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
- 4. SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY DNE—HALF THE HEIGHT OF THE BARRIER.
- 5. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDED.



# SAFETY FENCE

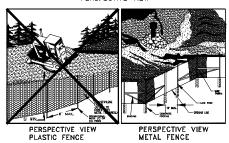
#### VIRGINIA EROSION & SEDIMENT CONTROL 3.01:

A PROTECTIVE BARRIER INSTALLED TO PROHIBIT UNDESIRABLE USE OF AN EROSION CONTROL MEASURE.

# SAFETY FENCE



PERSPECTIVE VIEW



SOURCE: CONVIED PLASTICS
VOOT ROAD AND BRIDGE STANDARDS

# EROSION CONTROL SEQUENCE PHASE I

- A PRE-CONSTRUCTION CONFERENCE IS MANDATORY BEFORE ANY WORK IS DONE AT THE SITE. AFTER RECEIT OF THE LAND DISTURBING PERMIT ARRANGE A MEETING WITH OWNER, ENGINEER, AND, CITY OF FARRAX INSPECTOR. 72 HOURS NOTICE IS REQUIRED, ONE WEEK IS PREFERRED.
- 2. PERIMETER SEDIMENT TRAPPING MEASURES MUST BE INSTALLED PRICE TO ANY LAND DISTURBING ACTIVITIES.
- INSTALL NECESSARY PERIMETER E&S CONTROLS TO PERFORM CRADING REQUIRED TO CONSTRUCT ACCESS ONTO SITE
- INSTALL CONSTRUCTION ENTRANCE WITH WASH RACK. CONTRACTOR TO SUPPLY WATER SOURCE FOR WASH RACK.
- 5. CLEAR AND GRUB IN ORDER TO INSTALL THE PHASE I E&S CONTROLS (SF AND
- 6. CLEAR AND STRIP SITE, TEMPORARILY STOCK PILE TOPSOIL (IF ANY) ON SITE.
- 7. ONCE THE ES CONTROLS ARE IN PLACE, CONTRACTOR MAY COMMENCE PHASE II.

# EROSION CONTROL SEQUENCE

- PHASE I MEASURES SHALL BE MAINTAINED OR REPLACED AS AREAS ARE GRADED AND STABILIZED. PERMISSION TO REMOVE ANY E&S CONTROLS SHALL BE OBTAINED BY THE CONTRACTOR FROM THE CITY OF FAIRFAX E&S INSPECTOR.
- COMPLETE SITE WORK CONSTRUCTION, INCLUDING GRADING, STORM SEWER AND UNDERDRAINS, COLVERTS, AND MULTI-USE TRAIL. TEMPORARY SEED ALL DISTURBED AREAS WHICH WILL NOT BE BROUGHT TO FINAL GRADE FOR A PERIOD OF MORE THAN 14 DAYS.
- COMPLETE FINE GRADING, PLACEMENT OF SLOPE EROSION CONTROL BLANKET,
- CONSTRUCT FINAL PAVEMENT AND TRAIL CONSTRUCTION. INSTALL SIGNAGE.
- STABILIZE ANY REMAINING PROBLEM AREAS ON SITE.
- REMOVE CONTRACTOR STAGING AREAS AND RE-ESTABLISH STAND OF GRASS.
- DO NOT REMOVE EROSION CONTROL MEASURES UNTIL ALL CONTRIBUTING AREAS HAVE BEEN PERMANENTLY STABILIZED.
- THE CITY OF FAIRFAX E&S INSPECTOR HAS THE AUTHORITY TO ADD OR DELETE E&S CONTROL DEVICES IN THE FIELD AS THE SITE CONDITIONS WARRANT. NO E&S CONTROL DEVICE SHALL BE REMOVED WITHOUT PRIOR APPROVAL OF THE CITY OF FAIRFAX E&S INSPECTOR.

#### CONSTRUCTION SPECIFICATIONS:

1. SAFETY FENCES MUST BE INSTALLED PRIOR TO THE E & S MEASURE BECOMING ACCESSIBLE.

- 2. THE POLYETHYLENE WEB OF THE PLASTIC SAFETY FENCE SHALL BE SECURED TO A CONVENTIONAL METAL "T" OR "U" POST DRIVEN INTO THE GROUND TO A MINIMUM DEPTH OF 18 INCHES; POSTS THE STACTURE OF A MINIMUM DEPTH OF 18 INCHES; POSTS SHOULD BE SPACED AT 6-FOOT CENTERS. SEE "PERSPECTIVE" WEW IN PLATE 3.01-1.
- 3. THE METAL SAFETY FENCE SHALL BE INSTALLED AS PER THE FOLLOWING PROCEDURE:
- A. LINE POSTS SHALL BE PLACED AT INTERVALS OF 10 FEET MEASURED FROM CENTER TO CENTER OF ADJACENT POSTS. IN DETERMINING THE POST SPACING, MEASUREMENT WILL BE MADE PARALLEL WITH THE GROUND SURFACE. SEE "PERSPECTIVE" VIEW IN
- B. POSTS WILL BE SET IN CONCRETE BLOCKS.
- C. ALL CORNER POSTS, END POSTS, GATE POSTS, AND PULL POSTS SHALL BE EMBEDDED, BRACED, AND TRUSSED AS SHOWN IN THE "STANDARD FENCE CHAIN LINK" DETAIL FOUND IN THE LATEST VERSION OF THE VDOT ROAD AND BRIDGE STANDARDS.
- FENCING FABRIC SHALL NOT BE STRETCHED UNTIL AT LEAST 4 DAYS AFTER THE POSTS ARE GROUTED INTO WALLS OR 14 DAYS AFTER THE POSTS ARE SET INTO CONCRETE.
- E. THE FABRIC SHALL BE STRETCHED TAUT AND SECURELY FASTENED, BY MEANS OF TIE CLIPS, TO THE POSTS AT INTERVALS NOT EXCEEDING 15 INCHES AND TO THE TOP RAILS OR TENSION WIRES AT INTERVALS NOT EXCEEDING 2 FEET. CARE SHALL BE TAKEN TO EQUALIZE THE TENSION ON EACH SIDE OF EACH POST. 1. APPLICABLE WARNING SIGNS NOTING HAZARDOUS CONDITIONS MUST BE INSTALLED IMMEDIATELY UPONINSTALLATION OF SI FETY FENCE

## MAINTENANCE:

- SAFETY FENCE SHALL BE CHECKED REGULARLY FOR WEATHER-RELATED OR OTHER DAMAGE, ANY NECESSARY REPAIRS MUST BE MADE IMMEDIATELY.
- 2. 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.

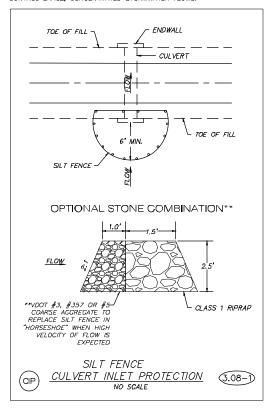
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#### VIRGINIA EROSION & SEDIMENT CONTROL 3.08:

THE INSTALLATION OF VARIOUS KINDS OF SEDIMENT TRAPPING MEASURES AT THE INLET TO STORM SEWER CULVERTS PRIOR TO PERMANENT STABILIZATION OF THE DISTURBED AREA; LIMITED TO DRAINAGE AREAS NOT EXCEEDING ONE ACRE, AND NOT INTENDED TO CONTROL LARGE, CONCENTRATED STORMWATER FLOWS.



#### CONSTRUCTION SPECIFICATIONS:

- 1. THE HEIGHT OF THE SILT FENCE (IN FRONT OF THE CULVERT OPENING) SHALL BE A MINIMUM OF 26 INCHES AND SHALL NOT EXCEED
- 2. EXTRA STRENGTH FILTER FABRIC WITH A MAXIMUM SPACING OF STAKES OF 3 FEET SHALL BE USED TO CONSTRUCT THE MEASURE.
- 3. THE PLACEMENT OF SILT FENCE SHOULD BE APPROXIMATELY 6 FEET FROM THE CULVERT IN THE DIRECTION OF INCOMING FLOW, CREATING A "HORSESHOE" SHAPE AS SHOWN IN PLATE 3.08-1.
- 4. IF SILT FENCE CANNOT BE INSTALLED PROPERLY OR THE FLOW AND/OR VELOCITY OF FLOW TO THE CULVERT PROTECTION IS EXCESSIVE AND MAY BREACH THE STRUCTURE, THE STONE COMBINATION NOTED IN PLATE 3.08-1 SHOULD BE UTILIZED.

#### MAINTENANCE:

- 1. THE STRUCTURE SHALL BE INSPECTED AFTER EACH RAIN AND REPAIRS MADE AS NEEDED.
- AGGREGATE SHALL BE REPLACED OR CLEANED WHEN INSPECTION REVEALS THAT CLOGGED VOIDS ARE CAUSING PONDING PROBLEMS WHICH INTERFERE WITH ON-SITE CONSTRUCTION.
- 3. SEDIMENT SHALL BE REMOVED AND THE IMPOUNDMENT RESTORED TO 3. SEUMENT STALL BE NEWVELF AND HE MY WOUNDEN RESTORED TO ONE-HALF THE DESIGN DEPTH. REMOVED SEDIMENT SHALL BE DEPOSITED IN A SUITABLE AREA AND IN SUCH A MANNER THAT IT WILL NOT ERODE AND CAUSE SEDIMENTATION PROBLEMS.
- 4. TEMPORARY STRUCTURES SHALL BE REMOVED WHEN THEY HAVE SERVED THEIR USEFUL PURPOSE, BUT NOT BEFORE THE UPSLOPE AREA HAS BEEN PERMANENTLY SEEDED.

PS

# PERMANENT SEEDING

#### VIRGINIA EROSION & SEDIMENT CONTROL 3.32:

ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER BY PLANTING SEED ON ROUGH-GRADED AREAS THAT WILL NOT BE BROUGHT TO FINAL GRADE FOR A YEAR OR MORE OR WHERE PERMANENT, LONG-LIVED VEGETATIVE COVER IS NEEDED ON FINE-GRADED AREAS.

#### CONSTRUCTION SPECIFICATIONS:

#### SELECTION OF PLANT MATERIALS:

- 1. SELECTION OF PLANT MATERIALS IS BASED ON CLIMATE, TOPOGRAPHY, SOILS, LAND USE, AND PLANTING SEASON. TO DETERMINE WHICH PLANT MATERIALS ARE BEST ADAPTED TO A SPECIFIC SITE, USE TABLES 3.32-A AND 3.32-B WHICH DESCRIBE PLANT CHARACTERISTICS AND LIST RECOMMENDED VARIETIES.
- 2. APPROPRIATE SEEDING MIXTURES FOR VARIOUS SITE CONDITIONS IN VIRGINIA ARE GIVEN IN TABLES 3.32—C. 3.32—D AND 3.32—E. THESE MIXTURES ARE DESIGNED FOR GENERAL USE, AND ARE KNOWN TO PERFORM WELL ON THE SITES DESCRIBED. CHECK TABLES 3.32—A AND 3.32—B FOR RECOMMENDED VARIETIES.
- 3. A MORE EXTENSIVE DESCRIPTION OF PLAN MATERIALS (GRASSES AND LEGUMES), THEIR USAGE AND PICTORIAL REPRESENTATION CAN BE FOUND IN APPENDIX 3.32-C.
- 4. WHEN USING SOME VARIETIES OF TURFBRASSES, THE VIRGINIA CROP IMPROVEMENT ASSOCIATION (VCIA) RECOMMENDED TURFGRASS MIXTURES MAY ALSO BE USED. CONSUMER PROTECTION PROGRAMS HAVE BEEN DEVISED TO IDENTIFY QUALITY SEED OF THE VARIETIES RECOMMENDED BY THE VIRGINIA COOPERATIVE EXTENSION SERVICE. THESE WILL BEAR A LABEL INDICATING THAT THEY ARE APPROVED BY THE ASSOCIATION. MIXTURES MAY BE DESIGNED FOR A SPECIFIC PHYSIOGRAPHIC REGION OR BASED ON INTENDED USE. SPECIAL CONSIDERATION IS GIVEN TO PLANT CHARACTERISTICS, PERFORMANCE, ETC.

#### SEEDBED REQUIREMENTS:

VEGETATION SHOULD NOT BE ESTABLISHED ON SLOPES THAT ARE UNSUITABLE DUE TO INAPPROPRIATE SOIL TEXTURE, POOR INTERNAL STRUCTURE OR INTERNAL DRAINAGE, VOLUME OF OVERLAND FLOW, OR EXCESSIVE STEEPNESS, UNTIL MEASURES HAVE BEEN TAKEN TO CORRECT THESE PROBLEMS.

TO MAINTAIN A GOOD STAND OF VEGETATION, THE SOIL MUST MEET CERTAIN MINIMUM REQUIREMENTS AS A GROWTH MEDIUM. THE EXISTING SOIL MUST HAVE THESE CHARACTERISTICS:

- ENOUGH FINE-GRAINED MATERIAL TO MAINTAIN ADEQUATE MOISTURE AND
- SUFFICIENT PORE SPACE TO PERMIT ROOT PENETRATION, A BULK DENSITY OF 1 TO 1.5 INDICATES THAT SUFFICIENT PORE SPACE IS PRESENT. A FINE GRANULAR OR CRUMB-LIKE STRUCTURE IS ALSO FAVORABLE.
- 3. SUFFICIENT DEPTH OF SOIL TO PROVIDE AN ADEQUATE ROOT ZONE. THE DEPTH TO ROCK OR IMPERMEABLE LAYERS SUCH AS HARDPANS SHALL BE 12 INCHES OR MORE, EXCEPT ON SLOPES STEEPER THAN 2:1 WHERE THE ADDITION OF SOIL IS NOT FEASIBLE.
- 4. A FAVORABLE PH RANCE FOR PLANT CROWTH, IF THE SOIL IS SO ACIDIC THAT A PH RANCE OF 6.0-7.0 CANNOT BE ATTAINED BY ADDITION OF PH-MODIFYNIC MATERIALS, THEN THE SOIL IS CONSIDERED AN UNSUITABLE ENVIRONMENT FOR PLANT ROOTS AND FURTHER SOIL MODIFICATION WOULD BE
- 5. FREEDOM FROM TOXIC AMOUNTS OF MATERIALS HARMFUL TO PLANT GROWTH
- 6. FREEDOM FROM EXCESSIVE QUANTITIES OF ROOTS, BRANCHES, LARGE STONES, LARGE CLODS OF EARTH, OR TRASH OF ANY KIND. CLODS AND STONES MAY BE LEFT ON SLOPES STEEPER THAN 3:1 IF THEY DO NOT SIGNIFICANTLY IMPEDE GOOD SEED SOIL CONTACT.

IF ANY OF THE ABOVE CRITERIA CANNOT BE MET, I.E., IF THE EXISTING SOIL IS TOO COARSE, DENSE, SHALLOW, ACIDIC, OR CONTAMINATED TO FOSTER VECETATION, THEN TOPSOIL SHALL BE APPLIED IN ACCORDANCE WITH TOPSOILING,

NECESSARY STRUCTURAL FROSION AND SEDIMENT CONTROL PRACTICES WILL BE INSTALLED PRIOR TO SEEDING. GRADING WILL BE CARRIED OUT ACCORDING TO

SURFACES WILL BE ROUGHENED IN ACCORDANCE WITH SURFACE ROUGHENING, STD.

- IN ORDER TO MODIFY THE TEXTURE, STRUCTURE, OR DRAINAGE CHARACTERISTICS OF A SOIL, THE FOLLOWING MATERIALS MAY BE ADDED TO THE SOIL:
- 1. PEAT IS A VERY COSTLY CONDITIONER, BUT WORKS WELL. IF ADDED, IT SHAI BE SPHAGNUM MOSS PEAT, HYPNUM MOSS PEAT, REED-SEDGE PEAT OR PEAT HUMUS, FROM FRESH-WATER SOURCES. PEAT SHALL BE SHREDDED AND CONDITIONED IN STORAGE PILES FOR AT LEAST SIX MONTHS AFTER EXCAVATION.
- SAND SHALL BE CLEAN AND FREE OF TOXIC MATERIALS. SAND MODIFICATION IS INEFFECTIVE UNLESS YOU ARE ADDING 80 TO 90% SAND ON A VOLUME BASIS. THIS IS EXTREMELY DIFFICULT TO DO ON-SITE. IF THIS PRACTICE IS CONSIDERED, CONSULT A PROFESSIONAL AUTHORITY TO ENSURE THAT IT IS DONE PROPERLY.
- 3. VERMICULITE SHALL BE HORTICULTURAL GRADE AND FREE OF TOXIC SUBSTANCES. IT IS AN IMPRACTICAL MODIFIER FOR LARGER ACREAGE DUE TO
- 4. RAW MANURE IS MORE COMMONLY USED IN AGRICULTURAL APPLICATIONS. HOWEVER, WHEN STORED PROPERLY AND ALLOWED TO COMPOST, IT WILL STABILIZE NITROGEN AND OTHER NUTRIENTS. MANURE, IN ITS COMPOSED FORM, IS A VIABLE SOIL CONDITIONER; HOWEVER, ITS USE SHOULD BE BASED ON SITE-SPECIFIC RECOMMENDATIONS OFFERED BY A PROFESSIONAL IN THIS FIELD
- 5. THOROUGHLY ROTTED SAWDUST SHALL HAVE 6 POUNDS OF NITROGEN ADDED TO EACH CUBIC YARD AND SHALL BE FREE OF STONES, STICKS, AND TOXIC
- 6. THE USE OF TREATED SEWAGE SLUDGE HAS BENEFITED FROM CONTINUING ADVANCEMENTS IN ITS APPLICATIONS IN THE AGRICULTURAL COMMUNITY. WHEN COMPOSTED, IT OFFERS AND ALTERNATIVE SOIL AMENDMENT. LIMITATIONS INCLUDE A POTENTIALLY UNDESIRABLE PH (BECAUSE OF LIME ADDED DURING THE TREATMENT PROCESS) AND THE POSSIBLE PRESENCE OF HEAVY METALS.
  PRACTICE SHOULD BE THOROUGHLY EVALUATED BY A PROFESSIONAL AND
  IN ACCORDANCE WITH ANY LOCAL, STATE, AND FEDERAL REGULATIONS.
  LIME AND FERTILIZER

LIME AND FERTILIZER NEEDS SHOULD BE DETERMINED BY SOIL TESTS. SOILS TESTS MAY BE PERFORMED BY THE COOPERATIVE EXTENSION SERVICE SOIL TESTING LABORATORY AT VPI&SU, OR BY A REPUTABLE COMMERCIAL LABORATORY. INFORMATION CONCERNING THE STATE SOIL TESTING LABORATORY SAVAILABLE FROM COUNTY EXTENSION AGENTS. REFERENCE APPENDIX 3.32-D FOR LIMING APPLICATIONS (IN LBS.) NEEDED TO CORRECT UNDESIRABLE PH FOR VARIOUS SOIL TYPES.

#### CONSTRUCTION SPECIFICATIONS (CONTINUED):

UNDER UNUSUAL CONDITIONS WHERE IT IS NOT POSSIBLE TO OBTAIN A SOIL TEST, THE FOLLOWING SOIL AMENDMENTS WILL BE APPLIED:

COASTAL PLAIN; 2 TONS/ACRE PULVERIZED AGRICULTURAL GRADE LIMESTONE (90 LBS./100D FT2).

PIEDMONT AND APPALACHIAN REGION: 2 TONS/ACRE PULVERIZED AGRICULTURAL GRADE LIMESTONE (90 LBS./100 FT2).
NOTE: AN AGRICULTURAL GRADE OF LIMESTONE SHOULD ALWAYS BE USED.

MIXED GRASSES AND LEGUMES: 1000 LBS./ACRE 10-20-10 OR EQUIVALENT NUTRIENTS (23 LBS./1000 FT2).

LEGUME STANDS ONLY: 1000 LBS./ACRE 5-20-10 (23 LBS./1000 FT2) IS PREFERRED, HOWEVER, 1000 LBS/ACRE OF 10-20-10 OR EQUIVALENT MAY

GRASS STANDS ONLY: 1000 LBS./ACRE 10-20-10 OR EQUIVALENT NUTRIENTS, (23 LBS/1000 FT2).

OTHER FERTILIZER FORMULATIONS, INCLUDING SLOW-RELEASE SOURCES OF NITROGEN (PREFERRED FROM A WATER QUALITY STANDPOINT), MAY BE USED PROVIDED THEY CAN SUPPLY THE SAME AMOUNTS AND PROPORTIONS OF PLANT NUTRIENTS,

INCORPORATION — LIME AND FERTILIZER SHALL BE INCORPORATED INTO THE TOP 4-6 INCHES OF THE SOIL BY DISCING OR OTHER MEANS WHENEVER POSSIBLE. FOR EROSION CONTROL, WHEN APPLYING LIME AND FERTILIZER WITH A HYDROSEEDER, APPLY TO A ROUGH, LOOSE SURFACE

- CERTIFIED SEED WILL BE USED FOR ALL PERMANENT SEEDING WHENEVER POSSIBLE. CERTIFIED SEED IS INSPECTED BY THE VIRGINIA CROP IMPROVEMENT ASSOCIATION OR THE CERTIFYING AGENCY IN OTHER STATES. THE SEED MUST MEET PUBLISHED STATE STANDARDS AND BEAR AN OFFICIAL "CERTIFIED SEED" LABEL (SEE APPENDIX 3.32-A).
- 2. LEGUME SEED SHOULD BE INOCULATED WITH THE INOCULANT APPROPRIATE TO THE SPECIES. SEED OF THE LESPEDEZAS, THE CLOVERS AND CROWNVETCH SHOULD BE SCARFIED TO PROMOTE UNIFORM GERMINATION.
- 3. APPLY SEED UNIFORMLY WITH A BROADCAST SEEDER, DRILL, CULTIPACK SEEDER, OR HYDROSEEDER ON A FIRM, FRIABLE SEEDBED. SEEDING DEPTH SHOULD BE % TO % INCH.
- 4. TO AVOID POOR GERMINATION RATES AS A RESULT OF SEED DAMAGE DURING HYDROSEEDING, IT IS RECOMMENDED THAT IF A MACHINERY BREAKDOWN OF 30 MINUTES TO 2 HOURS OCCURS, 50% MORE SEED BE ADDED TO THE TANK, BASED ON THE PROPORTION OF THE SULRRY REMAINING IN THE TANK. BEYOND 2 HOURS, A FULL RATE OF NEW SEED MAY BE NECESSARY.

OFTEN HYDROSEEDING CONTRACTORS PREFER NOT TO APPLY LIME IN THEIR RIGS AS IT IS ABRASIVE. IN INACCESSIBLE AREAS, LIME MAY HAVE TO BE APPLIED SEPARATELY IN PALLETIZED OR LIQUID FORM. SURFACE ROUGHENING IS PARTICULARLY IMPORTANT WHEN HYDROSEEDING, AS A ROUGHENED SLOPE WILL PROVIDE SOME NATURAL COVERAGE OF LIME, FERTILIZER AND SEED.

LEGUME INOCULANTS SHOULD BE APPLIED AT FIVE TIMES THE RECOMMENDED RATE WHEN INOCULANT IS INCLUDED IN THE HYDROSEEDER SLURRY

ALL PERMANENT SEEDING MUST BE MULCHED IMMEDIATELY UPON COMPLETION OF SEED APPLICATION. REFER TO MULCHING, STD. & SPEC. 3.35.

#### MAINTENANCE OF NEW SEEDINGS:

IN GENERAL, A STAND OF VEGETATION CANNOT BE DETERMINED TO BE FULLY ESTABLISHED UNTIL IT HAS BEEN MAINTAINED FOR ONE FULL YEAR AFTER

IRRIGATION: NEW SEEDINGS SHOULD BE SUPPLIED WITH ADEQUATE MOISTURE IRRIGATION: NEW SEEDINGS SHOULD BE SUPPLIED WITH ADEQUATE MOISTOWER.

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 RUNDEF, INADEQUATE

AMOUNTS OF WATER MAY BE MORE HARMFUL THAN NO WATER.

RE-SEEDING: INSPECT SEEDED AREAS FOR FAILURE AND MAKE NECESSARY REPAIRS AND RE-SEEDINGS 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.
- B. 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

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 FOLLOWS

4 LBS. NITROGEN (N) 1 LB. PHOSPHORUS (P)

> PER 1000 FT2 PER YEAR 2 LBS POTASH (K)

SEVENTY—FIVE PERCENT OF THE TOTAL REQUIREMENTS SHOULD BE APPLIED BETWEEN SEPTEMBER 1 AND DECEMBER 31ST. THE BALANCE SHOULD BE APPLIED DURING THE REMAINDER OF THE YEAR. MORE THAN 1 LBS OF SOLUBLE NITROGEN PER 1000 FT2 SHOULD NOT BE APPLIED AT ANY ONE TIME.

#### WARM SEASON GRASSES

APPLY 4-5 LBS, NITROGEN (N) BETWEEN MAY 1 AND AUGUST 15TH PER 1000 FTZ PER YEAR. PHOSPHORUS (P) AND POTASH (K) SHOULD ONLY BE APPLIED ACCORDING TO SOIL TEST.

NOTE: THE USE OF SLOW-RELEASE FERTILIZER FORMULATIONS FOR MAINTENANCE OF TURF IS ENCOURAGED TO REDUCE THE NUMBER OF APPLICATIONS AND THE IMPACT ON GROUNDWATER.

#### TABLE 3.32-D SITE SPECIFIC SEEDING MIXTURES FOR PIEDMONT AREA Per Acre Minimum Care Lawn - Commercial or Residentia Kentucky 31 or Turf-Type Tall Fescue Improved Perennial Ryegrass 0-5% Kentucky Bluegrass 200-250 lbs High-Maintenance Lawn 100% - Kentucky 31 or Turf-Type Tall Fescue General Slope (3:1 or less) 128 lbs Red Top Grass Seasonal Nurse Crop ' Low-Maintenance Slope (Steeper than 3:1) Red Top Grass Seasonal Nurse Crop \* Use seasonal nurse crop in accordance with seeding dates as stated below February 16th through April . . . May 1st through August 15th . . August 16th through Octobe Annual Rye November through February 15th . . . Winter Rye Substitute Sericea Jespedeza for Crownyetch east of Farmyille, Va. (Ma Substitute Settica respected for Chowneteri east of Familying, As (was) through September use hulled Sericea, all other periods, use unfulled Sericea). If Flatpea is used in lieu of Crownetch, increase rate to 30 lbs/acre. All legume seed must be properly inoculated. Weeping Lowegrass may be added to any slope or low-maintenance mix during warmer seeding periods; add 10-20 lbs/acre in



# DUST CONTROL

3.32

VIRGINIA EROSION & SEDIMENT CONTROL 3.39:

PS PERMANENT SEEDING

REDUCING SURFACE AND AIR MOVEMENT OF DUST DURING LAND DISTURBANCE, DEMOLITION OR CONSTRUCTION ACTIVITIES IN AREAS SUBJECT TO DUST PROBLEMS IN ORDER TO PREVENT SOIL LOSS AND REDUCE THE PRESENCE OF POTENTIALLY HARMFUL AIRBORNE SUBSTANCE.

#### CONSTRUCTION SPECIFICATIONS:

## TEMPORARY MEASURES

- VEGETATIVE COVER IN AREAS SUBJECT TO LITTLE OR NO CONSTRUCTION TRAFFIC, A VEGETATIVELY STABILIZED SURFACE WILL REDUCE DUST EMISSIONS (SEE TEMPORARY SEEDING, STD. & SPEC. 3.31).
- MULCH WHEN PROPERLY APPLIED, MULCH OFFERS A FAST, EFFECTIVE MEANS OF CONTROLLING DUST. NOT RECOMMENDED FOR AREAS WITHIN HEAVY TRAFFIC PATHWAYS. BINDERS OR TACKIFIERS SHOULD BE USED TO TACK ORGANIC MULCHES (SEE MULCHING, STD. & SPEC. 3.35).
- TILLAGE THIS PRACTICE IS DESIGNED TO ROUGHEN AND BRING CLODS 3. IILLAGE — THIS PRACTICE IS DESIGNED TO ROUGHEN AND BERING CLODS. TO THE SUBFACE, IT IS AN EMERGENCY MEASURE WHICH SHOULD BE USED BEFORE WIND EROSION STARTS, BEGIN PLOWING ON WINDWARD SIDE OF SITE. CHISEL—TYPE PLOWS SPACED ABOUT 12 INCHES APART, SPRING—TOOTHED HARROWS, AND SIMILAR PLOWS ARE EXAMPLES OF EQUIPMENT WHICH MAY PRODUCE THE DESIRED EFFECT.
- 4. IRRICATION THIS IS THE MOST COMMONLY USED DUST CONTROL PRACTICE. SITE IS SPRINKLED WITH WATER UNTIL THE SURFACE IS WET. REPEAT AS NEEDED. IT OFFERS FAST PROTECTION FOR HAUL ROADS AND OTHER HEAVY TRAFFIC ROUTES.
- SPRAY-ON ADHESIVES TREMENDOUS PROGRESS HAS BEEN MADE IN 5. SPRAY-ON AUHESIVES - IREMENDIOUS PROGRESS HAS BEEN MADE IN RECENT YEARS IN THE DEVELOPMENT OF PRODUCTS OF THIS TYPE. MOST ARE EFFECTIVE ON "MINERAL" SOILS AND ARE INEFFECTIVE ON "MUCK" SOILS. THESE COHERICS ARE DERIVED FROM A VARIETY OF COMPOUNDS, BOTH ORGANIC AND SYNTHETIC BASED. MANY OF THE ADHESIVES WILL WITHSTAND HEAVY TRAFFIC LOADS. THE ORGANICS INCLUDE DERIVATIVES FROM PINE TAR AND VEGETABLE GUM; SYNTHETICS MAY BE ACRYLIC OR PETROLEUM BASED.
- 3. STONE STONE CAN BE USED TO STABILIZE ROADS OR OTHER AREAS DURING CONSTRUCTION USING CRUSHED STONE OR COARSE GRAVEL (SEE CONSTRUCTION ROAD STABILIZATION, STD. & SPEC. 3.3).
- BARRIERS A BOARD FENCE, WIND FENCE, SEDIMENT FENCE, OR 7. BANNERS - A BOARD TUNC, WIND FINCE, SCHMENT FENCE, SCHMENT FENCE, MAND BLOMING SOIL. SIMILAR BARRIERS PERPENDICULAR TO PREVAILING AIR CURRENTS AT INTERVALS OF ABOUT 15 TIMES THE BARRIER HEIGHT, WHERE DUST IS A KNOWN PROBLEM, EXISTING WINDBREAK VEGETATION SHOULD BE PRESERVED.
- 8. CALCIUM CHLORIDE THIS CHEMICAL MAY BE APPLIED BY MECHANICAL SPREADER AS LOOSE, DRY GRANULES OR FLAKES AT A RATE THAT KEEPS THE SURFACE MOIST BUT NOT SO HIGH AS TO CAUSE WATER POLLUTION OR PLANT DAMAGE, APPLICATION RATES SHOULD BE STRICTLY IN ACCORDANCE WITH SUPPLIERS' SPECIFIED RATES.

PERMANENT VEGETATION - THE APPLICATION OF PERMANENT SEEDING (SEE STD. & SPEC. 3.32) AND SAVING EXISTING TREES AND LARGE SHRUBS CAN HELP REDUCE SOIL AND AIR MOVEMENT FROM CONSTRUCTION SITES.

2. STONE - CRUSHED STONE OR COARSE GRAVEL CAN BE USED AS A PERMANENT COVER WHICH WILL PROVIDE CONTROL OF SOIL EMISSIONS

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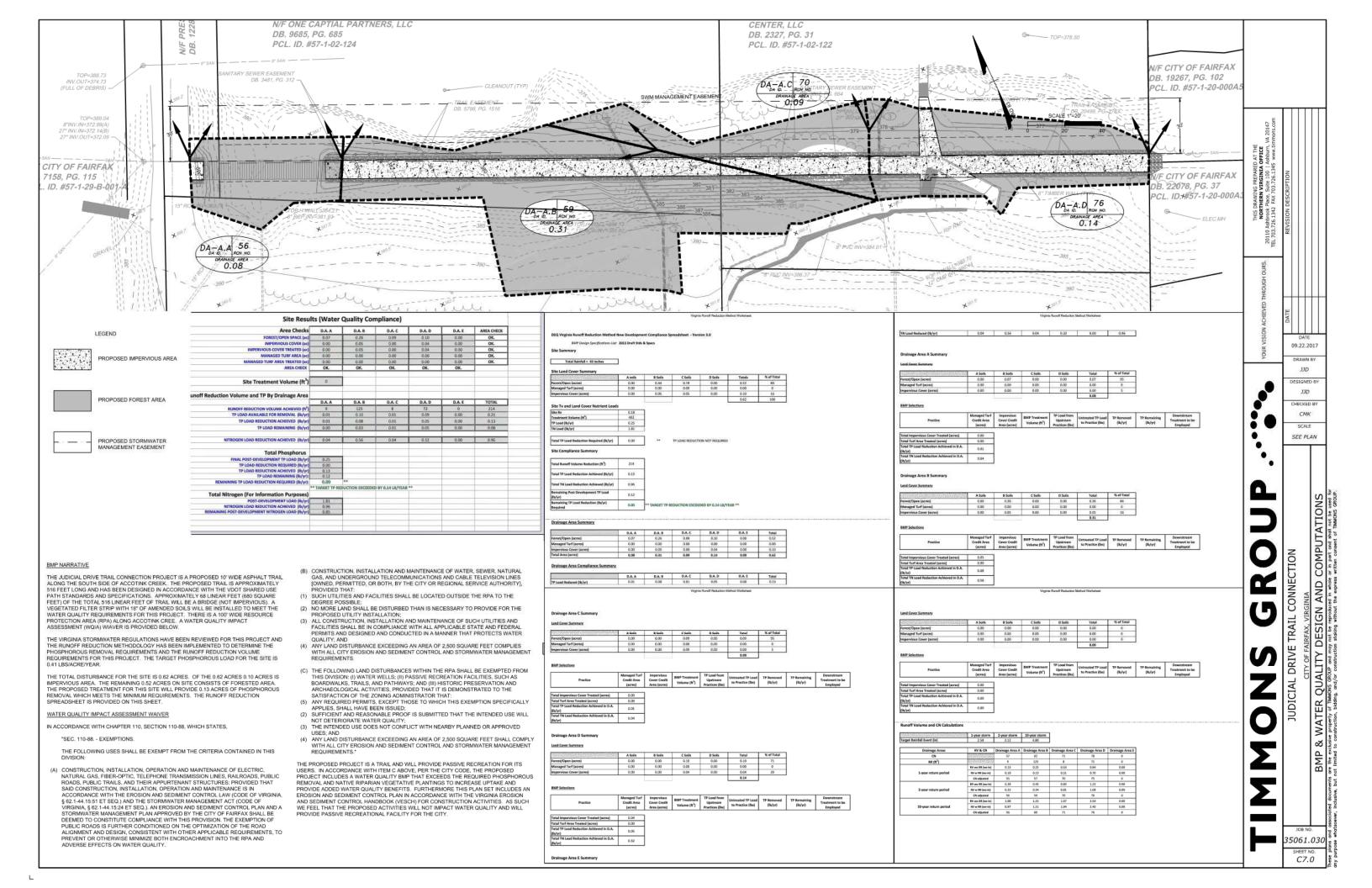
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#### VEGETATED FILTER STRIP NOTES

#### VEGETATED FILTER STRIP (DESIGN SPECIFICATION No. 2)

VEGETATED FILTER STRIPS ARE BEST SUITED TO TREAT RUNOFF FROM SMALL SEGMENTS OF IMPERVIOUS COVER (USUALLY LESS THAN 5,000 SQ. FT. ) ADJACENT TO ROAD SHOULDERS, SMALL PARKING LOTS AND ROOFTOPS, VEGETATED FILTER STRIPS MAY ALSO BE USED AS PRETREATMENT FOR ANOTHER STORMWATER PRACTICE SUCH AS A DRY SWALE, BIORETENTION, OR INFILTRATION AREAS. IF SUFFICIENT PERVIOUS AREA IS AVAILABLE AT THE SITE, LARGER AREAS OF IMPERVIOUS COVER CAN BE TREATED BY VEGETATED FILTER STRIPS, USING AN ENGINEERED LEVEL SPREADER TO RECREATE SHEET FLOW. VEGETATED FILTER STRIPS ARE ALSO WELL SUITED TO TREAT RUNOFF FROM TURF-INTENSIVE LAND USES. SUCH AS THE MANAGED TURF AREAS OF SPORTS FIELDS, GOLF COURSES, AND PARKLAND,

CONSERVED OPEN SPACE AND VEGETATED FILTER STRIPS CAN BE USED IN A VARIETY OF SITUATIONS; HOWEVER THERE ARE SEVERAL CONSTRAINTS TO THEIR USE:

- FILTER SLOPES AND WIDTHS. MAXIMUM SLOPES FOR CONSERVED OPEN SPACE AND VEGETATED FILTER STRIPS ARE 6% AND 8% RESPECTIVELY, IN ORDER TO MAINTAIN SHEET FLOW THROUGH THE PRACTICE, IN ADDITION, THE OVERALL CONTRIBUTING DRAINAGE AREA MUST LIKEWISE BE RELATIVELY FLAT TO ENSURE SHEET FLOW DRAINING INTO THE FILTER WHERE THIS IS NOT POSSIBLE ALTERNATIVE MEASURES. SUCH AS AN ENGINEERED LEVEL SPREADER, CAN BE USED, MINIMUM WIDTHS (FLOW PATH) FOR CONSERVED OPEN SPACE AND VEGETATED FILTER STRIPS ARE DEPENDENT ON SLOPE, AS SPECIFIED IN TABLE 2.2 ABOVE.
- SOILS. VEGETATED FILTER STRIPS ARE APPROPRIATE FOR ALL SOIL TYPES, EXCEPT FILL SOILS. THE RUNOFF REDUCTION RATE, HOWEVER, IS DEPENDENT ON THE UNDERLYING HYDROLOGIC SOIL GROUPS (SEE TABLE

2.1 ABOVE) AND WHETHER SOILS RECEIVE COMPOST AMENDMENTS.

- CONTRIBUTING FLOW PATH TO FILTER. VEGETATED FILTER STRIPS ARE USED TO TREAT VERY SMALL DRAINAGE AREAS OF A FEW ACRES OR LESS. THE LIMITING DESIGN FACTOR IS THE LENGTH OF FLOW DIRECTED TO THE FILTER. AS A RULE. FLOW TENDS TO CONCENTRATE AFTER 75 FEET OF FLOW LENGTH FOR IMPERVIOUS SURFACES, AND 150 FEET FOR PERVIOUS SURFACES (CLAYTOR, 1996). WHEN FLOW CONCENTRATES, IT MOVES TOO RAPIDLY TO BE EFFECTIVELY TREATED BY A VEGETATED FILTER STRIP, UNLESS AN ENGINEERED LEVEL SPREADER IS USED. WHEN THE EXISTING FLOW AT A SITE IS CONCENTRATED, A VEGETATED SWALE SHOULD BE USED INSTEAD OF A VEGETATED FILTER STRIP (LANTIN AND BARRETT, 2005).
- HOTSPOT LAND USES. VEGETATED FILTER STRIPS SHOULD NOT RECEIVE HOTSPOT RUNOFF, SINCE THE INFILTRATED RUNOFF COULD CAUSE GROUNDWATER CONTAMINATION.
- TURF-INTENSIVE LAND USES. BOTH CONSERVED OPEN SPACE AND VEGETATED FILTER STRIPS ARE APPROPRIATE TO TREAT MANAGED TURE AND THE ACTIVELY-USED AREAS OF SPORTS FIELDS. GOLF COURSES, PARKLAND, AND OTHER TURF-INTENSIVE LAND USES.
- PROXIMITY OF UNDERGROUND UTILITIES. UNDERGROUND PIPES AND CONDUITS THAT CROSS THE VEGETATED FILTER STRIP ARE

#### COMPOST SOIL AMENDMENTS

COMPOST SOIL AMENDMENTS WILL ENHANCE THE RUNOFF REDUCTION CAPABILITY OF A VEGETATED FILTER STRIP WHEN LOCATED ON HYDROLOGIC SOIL GROUPS B. C. AND D. SUBJECT TO THE FOLLOWING DESIGN REQUIREMENTS:

- THE COMPOST AMENDMENTS SHOULD EXTEND OVER THE FULL LENGTH AND WIDTH OF THE FILTER STRIP.
- THE AMOUNT OF APPROVED COMPOST MATERIAL AND THE DEPTH TO WHICH IT MUST BE INCORPORATED IS OUTLINED IN STORMWATER DESIGN SPECIFICATION NO. 4.
- THE AMENDED AREA WILL BE RAKED TO ACHIEVE THE MOST LEVEL SLOPE POSSIBLE WITHOUT USING HEAVY CONSTRUCTION EQUIPMENT, AND IT WILL BE STABILIZED RAPIDLY WITH PERENNIAL GRASS AND/OR HERBACEOUS SPECIES.
- IF SLOPES EXCEED 3%, A PROTECTIVE BIODEGRADABLE FABRIC OR MATTING (E.G., EC-2) SHOULD BE INSTALLED TO STABILIZE THE SITE PRIOR TO RUNOFF DISCHARGE
- . COMPOST AMENDMENTS SHOULD NOT BE INCORPORATED UNTIL THE GRAVEL DIAPHRAGM AND/OR ENGINEERED LEVEL SPREADER ARE INSTALLED (SEE SECTION 6.3).
- THE LOCAL PLAN APPROVAL AUTHORITY MAY WAIVE THE REQUIREMENT FOR COMPOST AMENDMENTS ON HSG-B SOILS IN ORDER TO RECEIVE CREDIT AS A FILTER STRIP IF (1) THE DESIGNER CAN PROVIDE VERIFICATION OF THE ADEQUACY OF THE ON-SITE SOIL TYPE, TEXTURE, AND PROFILE TO FUNCTION AS A FILTER STRIP, AND (2) THE AREA DESIGNATED FOR THE FILTER STRIP WILL NOT BE DISTURBED DURING CONSTRUCTION.

#### PLANTING AND VEGETATION MANAGEMENT

VEGETATED FILTER STRIPS. VEGETATED FILTER STRIPS SHOULD BE PLANTED AT SUCH A DENSITY TO ACHIEVE A 90% GRASS/HERBACFOUS COVER AFTER THE SECOND GROWING SEASON. FILTER STRIPS SHOULD BE SEEDED, NOT SODDED, SEEDING ESTABLISHES DEEPER ROOTS. AND SOD MAY HAVE MUCK SOIL THAT IS NOT CONDUCIVE TO INEIL TRATION (WISCONSIN DNR. 2007), THE FILTER STRIP VEGETATION MAY CONSIST OF TURF GRASSES, MEADOW GRASSES, OTHER HERBACEOUS PLANTS, SHRUBS, AND TREES, AS LONG AS THE PRIMARY GOAL OF AT LEAST 90% COVERAGE WITH GRASSES AND/OR OTHER HERBACEOUS PLANTS IS ACHIEVED. DESIGNERS SHOULD CHOOSE VEGETATION THAT STABILIZES THE SOIL AND IS SALT TOLERANT. VEGETATION AT THE TOE OF THE FILTER, WHERE TEMPORARY PONDING MAY OCCUR BEHIND THE PERMEABLE BERM, SHOULD BE ABLE TO WITHSTAND BOTH WET AND DRY PERIODS. THE PLANTING AREAS CAN BE DIVIDED INTO ZONES TO ACCOUNT FOR DIFFERENCES IN INUNDATION AND SLOPE

#### CONSTRUCTION SEQUENCE FOR VEGETATED FILTER STRIPS

VEGETATED FILTER STRIPS CAN BE WITHIN THE LIMITS OF DISTURBANCE DURING CONSTRUCTION. THE FOLLOWING PROCEDURES SHOULD BE FOLLOWED DURING CONSTRUCTION:

- BEFORE SITE WORK BEGINS, VEGETATED FILTER STRIP BOUNDARIES SHOULD BE CLEARLY MARKED.
- ONLY VEHICULAR TRAFFIC USED FOR FILTER STRIP CONSTRUCTION SHOULD BE ALLOWED WITHIN 10 FEET OF THE FILTER STRIP BOUNDARY (CITY OF PORTLAND, 2004).
- IF EXISTING TOPSOIL IS STRIPPED DURING GRADING, IT SHALL BE STOCKPILED FOR LATER USE.
- CONSTRUCTION RUNOFF SHOULD BE DIRECTED AWAY FROM THE PROPOSED FILTER STRIP SITE, USING PERIMETER SILT FENCE, OR, PREFERABLY, A DIVERSION DIKE.
- CONSTRUCTION OF THE GRAVEL DIAPHRAGM OR ENGINEERED LEVEL SPREADER SHALL NOT COMMENCE UNTIL THE CONTRIBUTING DRAINAGE AREA HAS BEEN STABILIZED AND PERIMETER E&S CONTROLS HAVE BEEN REMOVED AND CLEANED OUT.
- VEGETATED FILTER STRIPS REQUIRE LIGHT GRADING TO ACHIEVE DESIRED ELEVATIONS AND SLOPES. THIS SHOULD BE DONE WITH TRACKED VEHICLES TO PREVENT COMPACTION. TOPSOIL AND OR COMPOST AMENDMENTS SHOULD BE INCORPORATED EVENLY ACROSS THE FILTER STRIP AREA, STABILIZED WITH SEED, AND PROTECTED BY BIODEGRADABLE EROSION CONTROL MATTING OR
- STORMWATER SHOULD NOT BE DIVERTED INTO THE FILTER STRIP UNTIL THE TURE COVER IS DENSE AND WELL ESTABLISHED.

#### CONSTRUCTION INSPECTION

CONSTRUCTION INSPECTION IS CRITICAL TO OBTAIN ADEQUATE SPOT ELEVATIONS, TO ENSURE THE GRAVEL DIAPHRAGM OR ELS IS COMPLETELY LEVEL, ON THE SAME CONTOUR, AND CONSTRUCTED TO THE CORRECT DESIGN ELEVATION. AS-BUILT SURVEYS SHOULD BE REQUIRED TO ENSURE COMPLIANCE WITH DESIGN STANDARDS. INSPECTORS SHOULD EVALUATE THE PERFORMANCE OF THE FILTER STRIP AFTER THE FIRST BIG STORM TO LOOK FOR EVIDENCE OF GULLIES, OUTFLANKING, UNDERCUTTING OR SPARSE VEGETATIVE COVER. SPOT REPAIRS SHOULD BE MADE, AS NEEDED.

#### MAINTENANCE INSPECTIONS

ANNUAL INSPECTIONS ARE USED TO TRIGGER MAINTENANCE OPERATIONS SUCH AS SEDIMENT REMOVAL, SPOT RE- VEGETATION AND LEVEL SPREADER REPAIR. IDEALLY, INSPECTIONS SHOULD BE CONDUCTED IN THE NON-GROWING SEASON WHEN IT EASIER TO SEE THE FLOW PATH, EXAMPLE MAINTENANCE INSPECTION CHECKLISTS FOR SHEET FLOW TO A FILTER STRIP OR CONSERVED OPEN SPACE AREAS. CAN BE ACCESSED IN APPENDIX C OF CHAPTER 9 OF THE VIRGINIA STORMWATER MANAGEMENT HANDBOOK.

MAINTENANCE CHECKLISTS) INSPECTORS SHOULD CHECK TO ENSURE

- FLOWS THROUGH THE FILTER STRIP DO NOT SHORT-CIRCUIT THE OVERFLOW CONTROL SECTION:
- DEBRIS AND SEDIMENT DOES NOT BUILD UP AT THE TOP OF THE FILTER STRIP:
- FOOT OR VEHICULAR TRAFFIC DOES NOT COMPROMISE THE GRAVEL DIAPHRAGM:
- SCOUR AND EROSION DO NOT OCCUR WITHIN THE FILTER STRIP! SEDIMENTS ARE CLEANED OUT OF LEVEL SPREADER FOREBAYS AND. FLOW SPLITTERS; AND
- VEGETATIVE DENSITY EXCEEDS A 90% COVER IN THE BOUNDARY ZONE OR GRASS FILTER.

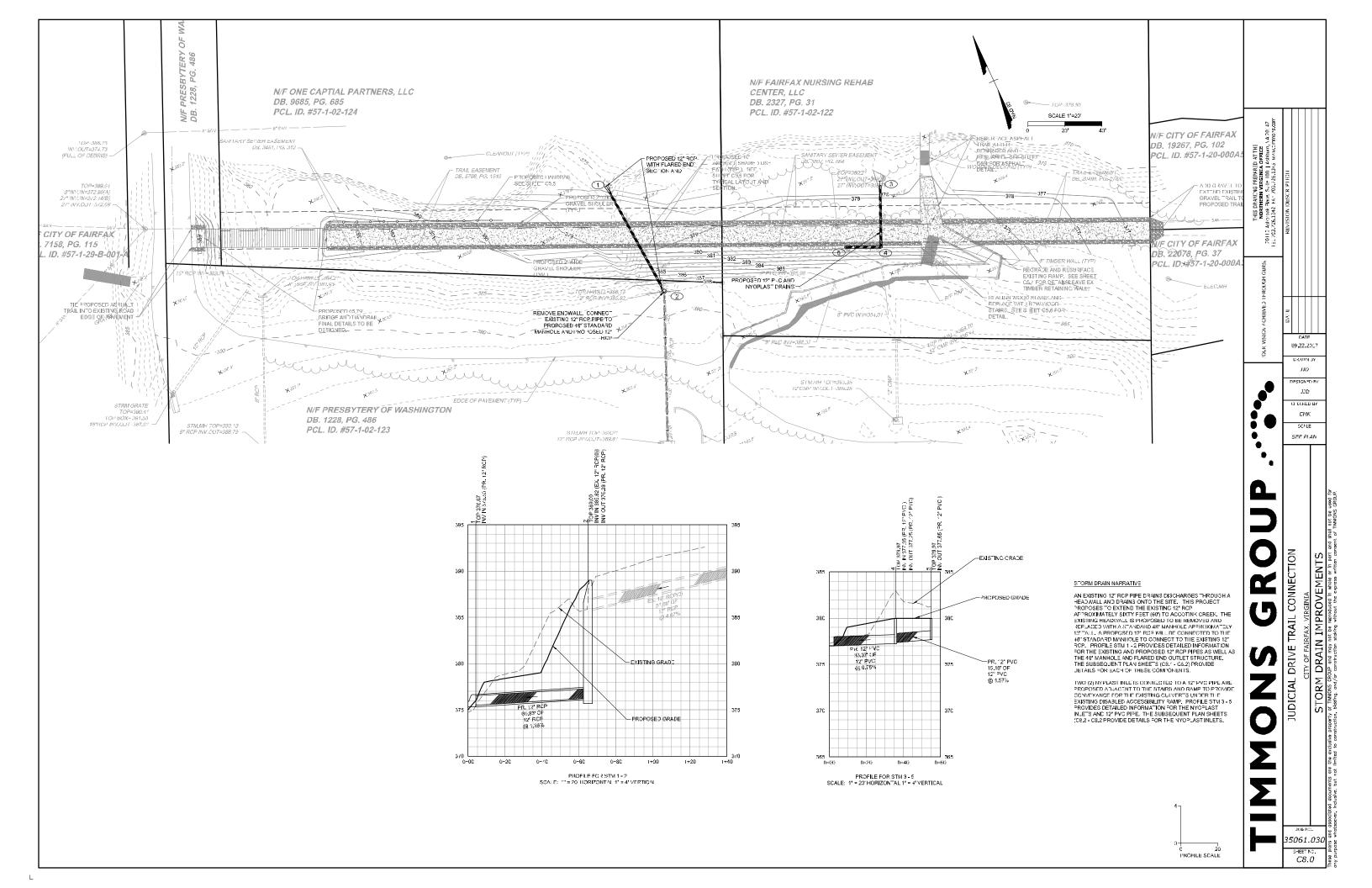
#### ONGOING MAINTENANCE

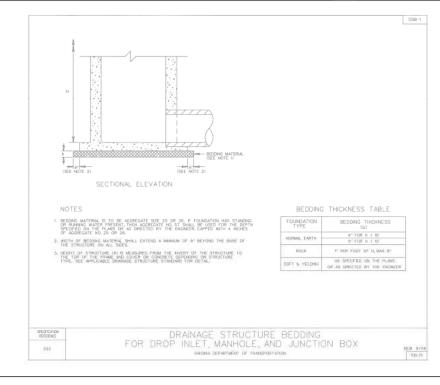
ONCE ESTABLISHED, VEGETATED FILTER STRIPS HAVE MINIMAL MAINTENANCE NEEDS OUTSIDE OF THE SPRING CLEAN UP. REGULAR MOWING REPAIR OF CHECK DAMS AND OTHER MEASURES TO MAINTAIN THE HYDRAULIC EFFICIENCY OF THE STRIP AND A DENSE HEALTHY GRASS COVER, VEGETATED FILTER STRIPS THAT CONSIST OF GRASS/TURF COVER SHOULD BE MOWED AT LEAST TWICE A YEAR TO PREVENT WOODY GROWTH.

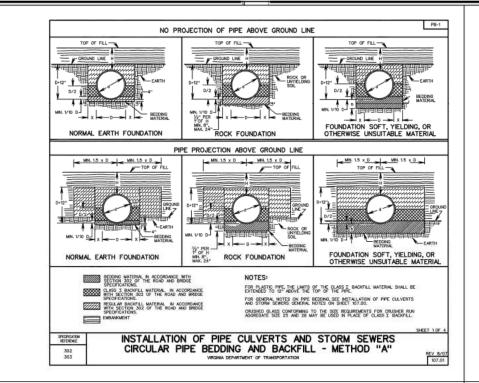
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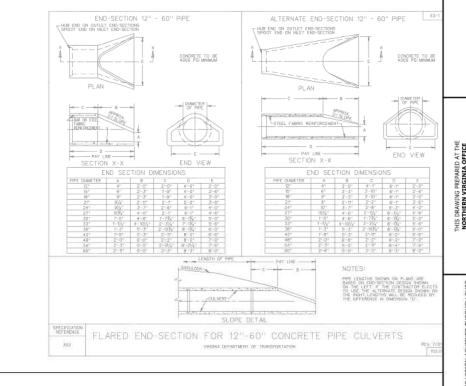
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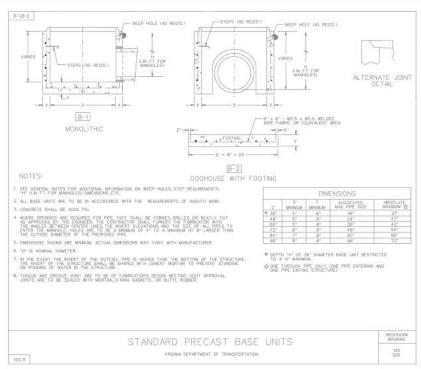
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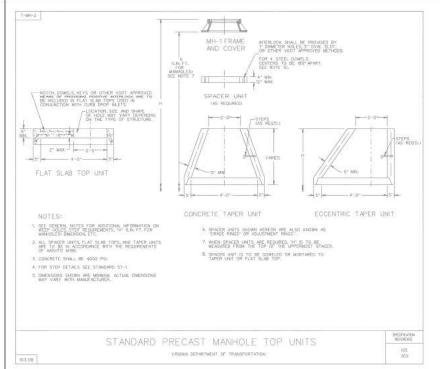


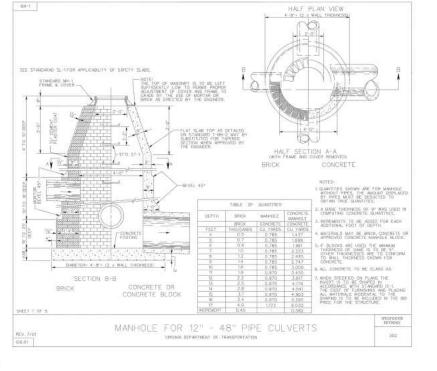












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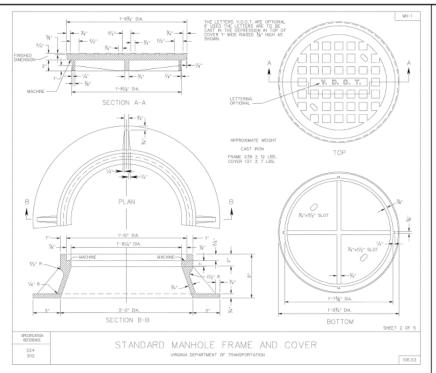
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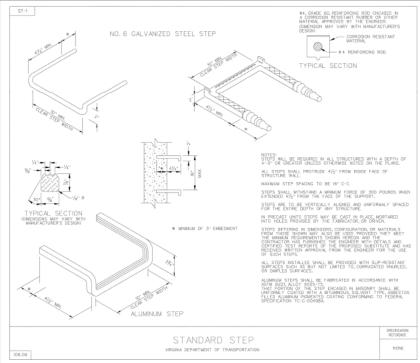
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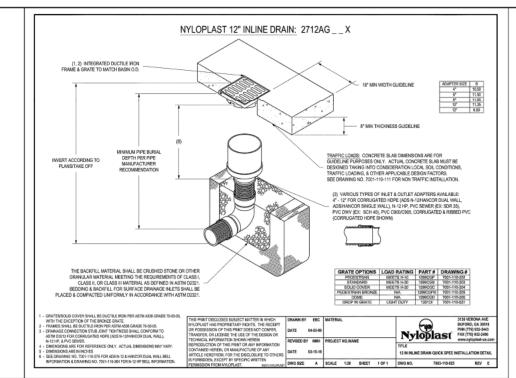
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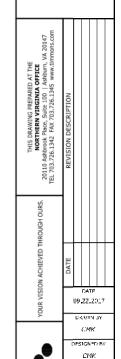
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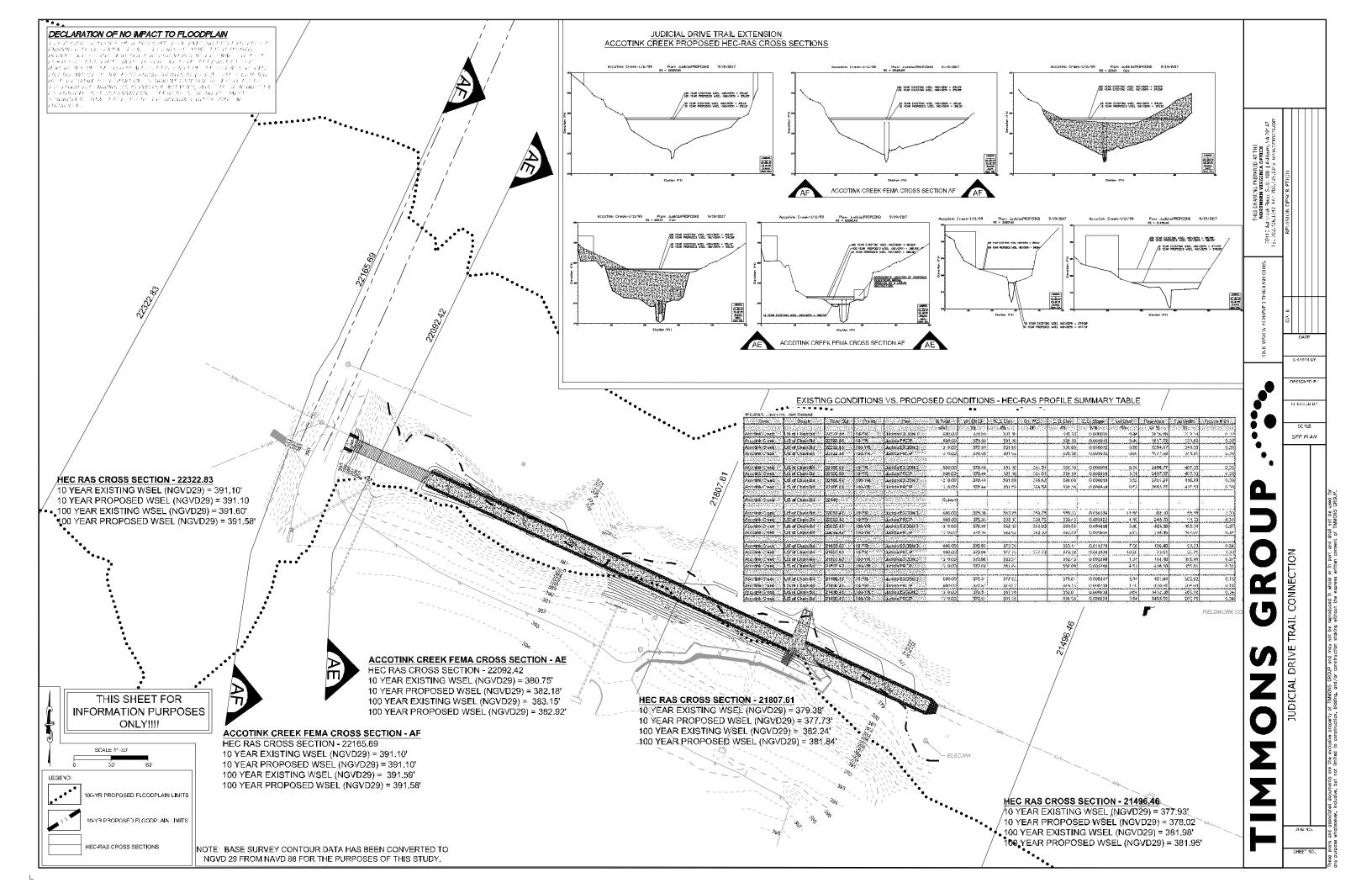
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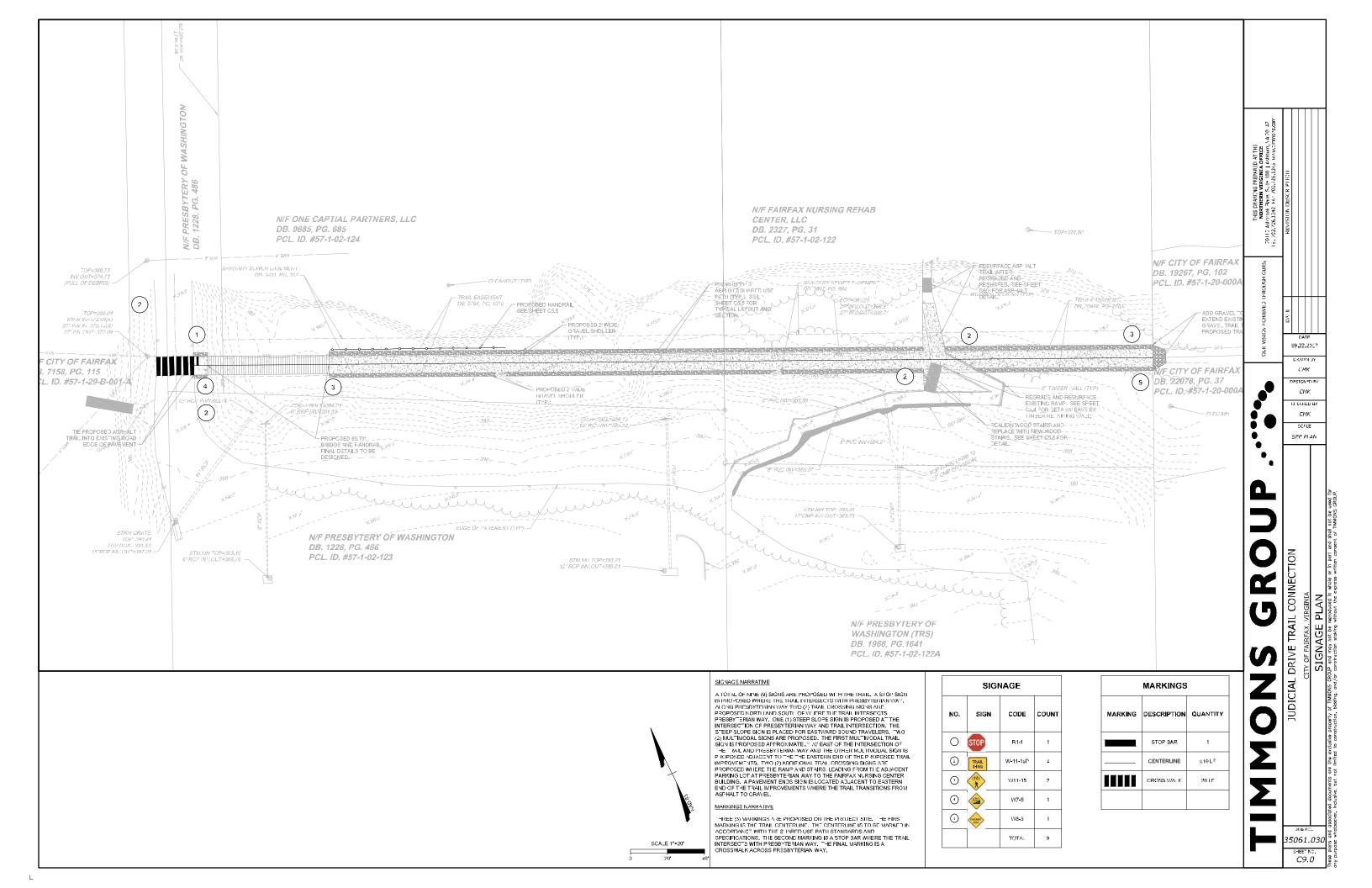
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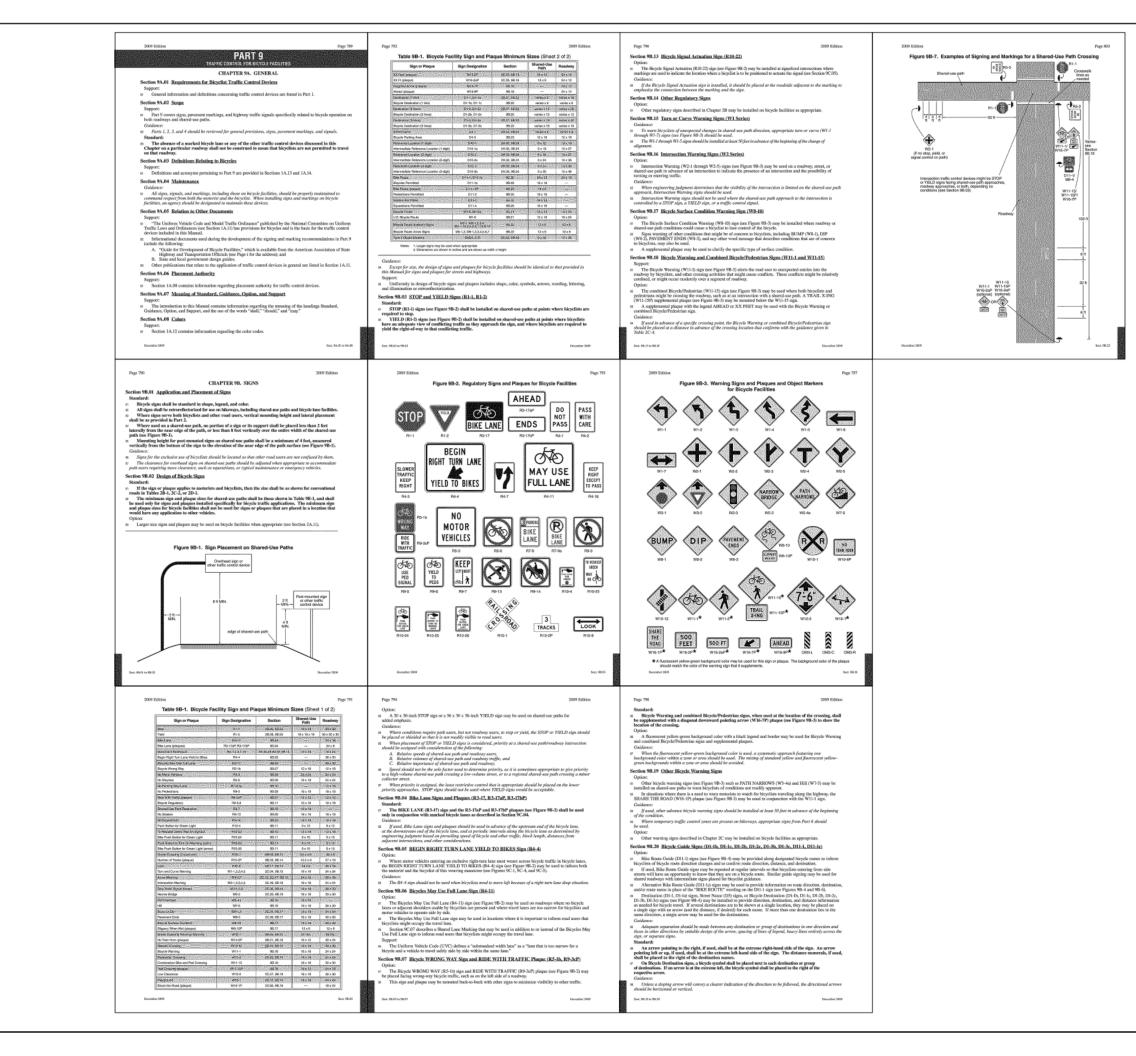
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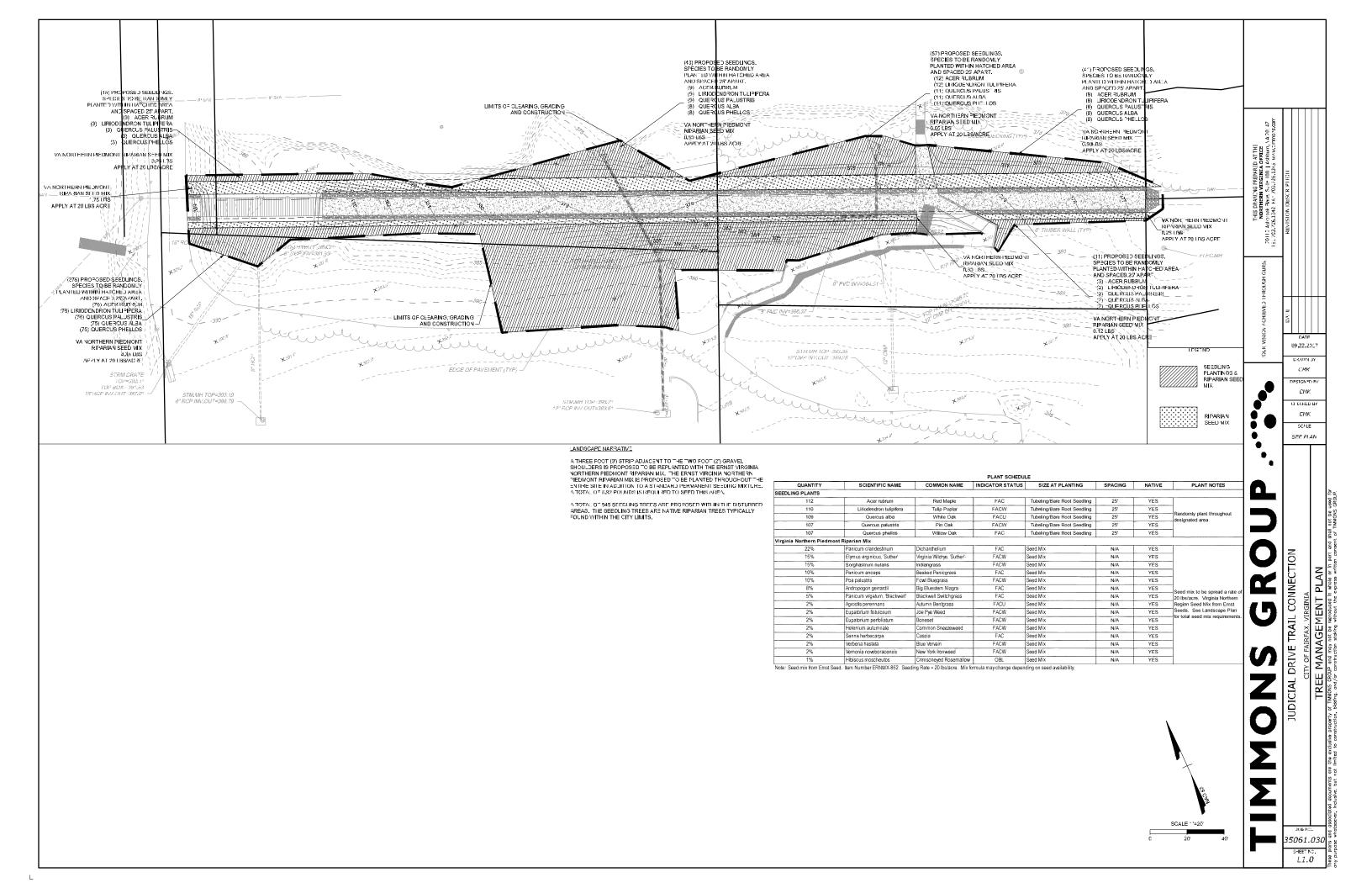
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#### FAIRFAX COUNTY PUBLIC FACILITIES MANUAL



Soak roots in water 3 to 6 hours prior to planting. Do not allow roots to dry out before planting.



Remove grass from a 3 ft circle and turn up soil. Dig a planting hole 8 in wider than the diameter of the seedling roots in center of circle.



nursery depth. Do not bend roots on sides or bottom of excavated soil around roots.



Remove air pockets from backfill soil. Soil should be firm but not tightly packed. Construct waterholding basin around planting hole and water thoroughly



Place a 2 in deep layer of mulch in a 3 ft diameter circle around trees Mulch should not touch the tree trunk.



During dry weather, water

trations provided by The National Arbor Foundation

Ref. Sec. 12-0705.5F Rev. 2-02, 2011 Repri PLATE NO. STD. NO.

General

- Landscape Specifications: Landscape specifications shall be as autlined below. Any item or procedure not mentioned below shall be as specified in the Landscape specification guidelines published by the landscape Contractors Association (latest edition).
- Plant Materials: The landscape Contractor shall furnish and install and/or dig, ball, burlap, and transplant all af the plant materials called far an the drawings and/or listed in the plant schedule.

Plant Names: Plant names used in the plant schedule shall be identified in accordance with Hortus Third, by L.H. Bailey, 1976.
Plant Standards: All plan materials shall be equal to ar better than the

- requirements of the "American Standard for Nursery Stock," latest edition, as published by the American Association of Nurseryman (hereinafter referred to as AAN standards). All plants shall be typical of their species and variety, as Ann standards. All plants shall be typical of their species and variety, shall have a normal habit of growth, and shall be first quality, sound, vigorous, well branched, and with healthy, well—furnished root systems. They shall be free of disease, insect pests, and mechanical injuries.
- (A) All plants shall be nursery grown and shall have been grown under the same climatic conditions as the location of the subject project for at least two years before planting. Neither heeled—in plant, nor plants from cold storage will be accepted.
- (B) Collected plants or transplanted trees may be called for by the landscape architect and used, provided, however, that locations and soil conditions will permit proper balling.

Materials for Planting:

- (A) Stakes for buying trees shall be sound oak or other approved hardwood. Three stakes spread 120—degrees apart shall be used near tree. See
- (8) Wrapping materials for tree trunks: Clean burlap of 8-oz. weight cut in 8-inch to 10-inch wide strips of water resistant paper or tape for this purpose. Twine for tying shall be medium jute twine.
- (C) Tree Guys: Provide wire ties and guys of 2-strand, twisted, pliable galvanized steel wire not lighter than 12-gauge with zinc coated turnbuckles. Provide w-ply garden hose not less than 0.5-inch hose size, cut to lengths to protect tree trunks from damage by wires.
- (D) Mulching: Mulch shall consist of double shredded hardwood mulch. Planting Schedule: A professional horticulturist/nurseryman shall be consulted to determine the proper time, based on plant species and weather conditions, to move and install particular plant materials to minimize stress to the plant. Planting of deciduous material may be continued during the winter months provided there is no frost on the ground and frost-free soil planting mixtures are used.

CITY of FAIRFAX PLANTING NOTES DETAIL

Planting Execution Excavation of Plant Pits

- (A) Circular Pits, with vertical sides shall be excavated for all plants. The diameter of the holes shall be 12-inches greater than the diameter of the ball for trees, or 1.5 times the diameter of shrubs, balls, and container stock pots.
- (8) The depth of pits for all plants shall be 6-inches deeper than the ball or container depth.
- (C) Obstructions encauntered in excavated ar planted areas shall be removed or plants relocated as approved.
- (D) Plants shall be planted plumb, at the same grade as in the nursery (in relation to finished grade), tamp topsoil under and around base of ba to fill all voids. Remove all burlap, ropes, and wires from sides and tips of balls, but do not remove burlap from under ball. Thoroughly water when hole is two-thirds full of topsoil. After watering, 3" of mulch shall be applied over a 4" earth berm to create a shallow watering basin around the tree.
- (E) All shrubs to be planted in conformance with deciduous shrub planting detail 901.04.

- III. Staking, Guying and Wrapping

  1. Each tree or evergreen shall be immediately staked or guyed.

  (A) Deciduous tree 2-2.5" caliper or larger and all evergreen trees shall be staked and guyed with three 2" x 2" x 6" hardwood staked per tree, spread 120-degrees apart. All hardwood stakes are to be driven no less than two feat helpw inclining arade and at ten feet from the tree. A than two feet below planting grade and at ten feet from the tree. A double strand of 12-gauge galvanized wire shall be twisted and threaded through 0.5-inch garden hose to protect the tree trunk and secured to the hardwood stake.
  - (B) The 12—gauge galvanized wire shall be placed at a 45-degree angle from the tree to the stake. See deciduous tree with typical guying planting detail.
- Wrap all deciduous trees. Wrapping shall extend from ground line to second branch. Overlap tree wrap by 50 percent.

IV. Plant Pruning, Edging, and Mulching

- Pruning shall be by experienced landscape contractors. Remove broken or damaged branches and roots. Cut back and thin deciduous material to retain two—thirds of the initial branches. Cut back evergreens to give compact uniform appearance. Damaged or pruned tree leaders shall be cause for rejection.
- If foliage is present on deciduous plant material, they shall be sprayed with an anti-desiccant, which slows down the transpiration process, through reducing the danger of dehydration.

  The areas around isolated plants shall be edged and cultivated to the full
- diameter of the pit.
- After cultivation, all plant materials shall be mulched with a three-inch layer
  of double shredded mulch over the entire area of the bed or saucer.

CITY of FAIRFAX PLANTING NOTES DETAIL

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generously once every 7 to 10 days during the first year

PLANTING TREE SEEDLINGS

8-12