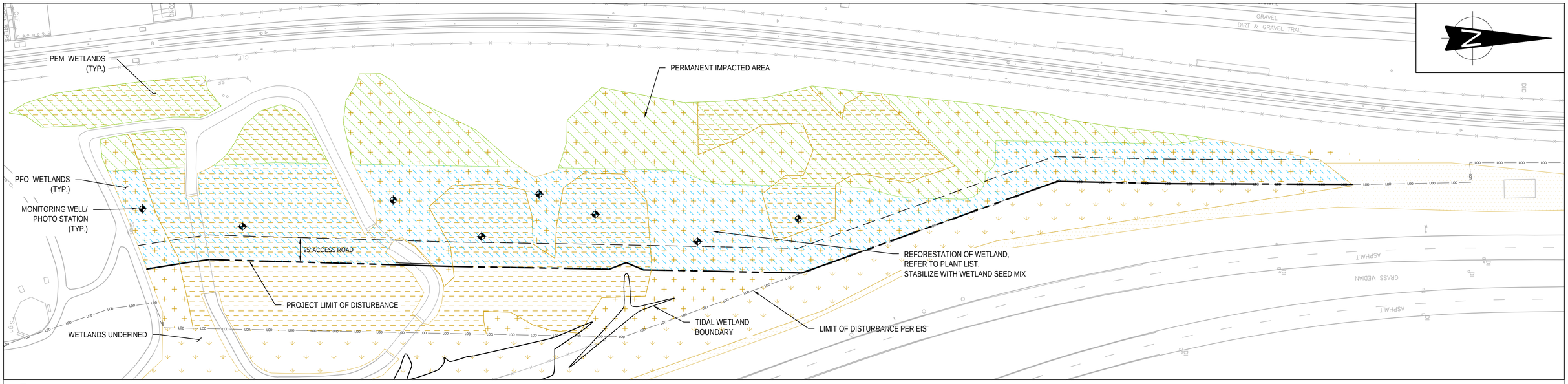
APPENDIX P

Compensatory Mitigation and Restoration



1 WETLANDS RESTORATION PLAN

1" = 50'

PROJECT NARRATIVE

GOALS AND OBJECTIVES - THE OVERALL GOAL OF THE WETLAND MITIGATION PROJECT IS TO RESTORE UNAVOIDABLE TEMPORARY IMPACTS TO WETLANDS ASSOCIATED WITH THE CONSTRUCTION OF THE NEW POTOMAC YARDS TRAIN STATION IN ALEXANDRIA, VIRGINIA. THE NEW TRAIN STATION WILL REQUIRE TEMPORARY DISTURBANCES BEYOND THE LIMITS OF THE PERMANENT IMPROVEMENTS FOR CONSTRUCTION STAGING AND ACCESS. HOWEVER, THE PROPOSED PROJECT LIMIT WILL NOT DISTURB TO THE MAXIMUM CONTRACT LIMIT OF DISTURBANCE. THE PROPOSED PROJECT LIMIT WILL RESULT IN APPROXIMATELY 2.01 ACRES OF TEMPORARY IMPACTS TO THE WETLANDS, WHICH WAS REDUCED BY 0.53 ACRES FROM THE ORIGINAL CONTRACT LIMIT OF DISTURBANCE.

RESTORATION PLAN - UPON COMPLETION OF CONSTRUCTION ACTIVITY, THE MATS USED TO FACILITATE ACCESS WILL BE REMOVED AND THE AREA WILL BE STABILIZED USING A WETLAND SEED MIX. THE PALUSTRINE FORESTED RESTORATION AREA WILL ALSO BE PLANTED WITH NATIVE WOODY SPECIES. THE PROPOSED SEED MIX AND PLANTINGS ARE PROVIDED IN THE PLANT MATERIALS LIST SHOWN ON THIS SHEET AND ARE BASED ON SPECIES OBSERVED IN SIMILAR TYPES OF WETLANDS LOCAL TO THE REGION. ALL GRADES WITHIN THE RESTORATION AREA WILL BE RESTORED TO ITS PRE-DEVELOPMENT GRADE.

GENERAL NOTES

1. EXISTING CONDITIONS INFORMATION, INCLUDING OVERALL WETLANDS BOUNDARY, IS BASED ON SURVEY PROVIDED BY WMATA FROM THE DSUP APPLICATION #2016-0004, PREPARED BY AECOM, REVISED THROUGH 3/31/16. PER THE DSUP APPLICATION #2016-0004, THE FOLLOWING INFORMATION APPLIES:
   a. HORIZONTAL DATUM IS WMATA LOW DISTORTION PROJECTION SYSTEM
   b. VERTICAL DATUM IS NORTH AMERICAN VERTICAL DATUM OF 1988, NAVD88
2. TIDAL WETLANDS BOUNDARY IS BASED ON A DELINEATION FROM STANTEC IN A PLAN TITLED "TIDAL WETLANDS", DATED 12/17/2018.
3. PEM AND PFO WETLAND INFORMATION PROVIDED BY STANTEC BASED ON DIGITIZATION OF MAPS PROVIDED IN THE KH-JPA AND WERE NOT SURVEY LOCATED
4. WETLANDS LOCATION
   A. LATITUDE: 38.833513
   B. LONGITUDE: -77.0462
   C. WATERSHED: POTOMAC RIVER

SHRUB AND TREE INSTALLATION
(BY CONTRACTOR - PYC)

1. ALL PLANT MATERIAL, UNLESS OTHERWISE SPECIFIED, SHALL BE UNIFORMLY BRANCHED AND HAVE A VIGOROUS ROOT SYSTEM. PLANT MATERIAL SHALL BE HEALTHY, VIGOROUS, AND FREE FROM DEFECTS, DECAY, DISEASES, INSECT PEST EGGS, AND ALL FORMS OF INFESTATION. ALL PLANT MATERIAL SHALL BE FRESH AND FREE FROM TRANSPLANT SHOCK OR VISIBLE WILT. PLANTS DEEMED UNHEALTHY WILL BE REJECTED.
2. ALL PLANT MATERIAL SHALL MEET THE MINIMUM SPECIFICATIONS AND STANDARDS DESCRIBED IN THE CURRENT ISSUE OF "THE AMERICAN STANDARD FOR NURSERY STOCK", PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN, 1250 I STREET, N.W., SUITE 500, WASHINGTON, D.C. 20005.
3. PLANTS NOT INSTALLED ON THE DAY OF ARRIVAL ON-SITE SHALL BE STORED AND PROTECTED BY THE CONTRACTOR. OUTSIDE STORAGE AREAS WILL BE SHADED AND PROTECTED FROM THE WIND AND SUN. PLANTS STORED ON-SITE SHALL BE PROTECTED FROM ANY DRYING AT ALL TIMES BY COVERING THE ROOTS WITH MOIST SAWDUST, WET BURLAP, WOOD CHIPS, SHREDDED BARK, PEAT MOSS, OR OTHER SIMILAR MULCHING MATERIAL.
4. NO SUBSTITUTIONS IN SIZE OR VARIETY OF PLANT MATERIAL SHALL OCCUR WITHOUT THE PRIOR APPROVAL OF THE ENGINEER OR LANDSCAPE ARCHITECT.
5. PLANTING SHALL OCCUR DURING STANDARD PLANTING WINDOWS PER THE CITY OF ALEXANDRIA UNLESS OTHERWISE APPROVED BY THE CITY OF ALEXANDRIA AND THE ENGINEER OR LANDSCAPE ARCHITECT.
6. DO NOT INSTALL THE FOLLOWING TREES BETWEEN SEPTEMBER 15 AND MARCH 15: QUERCUS (OAK), CORNUS (DOGWOOD), LIQUIDAMBAR (SWEETGUM), AND ALL CONIFERS AND EVERGREENS.
7. PLANT DECIDUOUS AND EVERGREEN PLANTS BETWEEN MARCH 15 AND JUNE 15 AND/OR SEPTEMBER 15 AND NOVEMBER 15.
8. PLANT PERENNIALS BETWEEN MARCH 15 AND JUNE 15 AND/OR SEPTEMBER 15 AND NOVEMBER 15.
9. DO NOT INSTALL PLANTINGS BETWEEN JUNE 15 AND SEPTEMBER 15 WITHOUT PRIOR WRITTEN APPROVAL BY THE CITY ARBORIST.
10. TREES WILL BE PLANTED BETWEEN MARCH 15 TO MAY 1 OR SEPTEMBER 15 TO NOVEMBER 15.
11. PERMANENT SEEDING WILL OCCUR BETWEEN AUGUST 15 AND JUNE 15.
12. NO PLANTING WILL OCCUR WHEN THE GROUND IS FROZEN.

CONCEPTUAL WETLAND PLANT LIST

TREES * (PFO – PALUSTRINE FORESTED) – 0.82 ACRES

BOTANICAL NAME	ENGLISH COMMON NAME	INDICATOR	SIZES	NOTES
Acer negundo	Boxelder Maple	FAC	1"-2" Cal.**	Exact Pallet will be determined by species availability at the time of planting but will be composed of trees native to the project site. Trees to be planted approximately 10' O.C at a rate sufficient to achieve 400 stems/acres after expected mortality of 2 years. Contractor may elect to plant more than the required plants to account for potential mortality.
Acer saccharinum	Silver Maple	FAC	1"-2" Cal.**	
Betula nigra	River Birch	FACW	1"-2" Cal.**	
Plantanus occidentails	American Sycamore	FACW	1"-2" Cal.**	
Populus deltoids	Eastern Cottonwood	FAC	1"-2" Cal.**	
Quercus bicolor	Swamp White Oak	FACW	1"-2" Cal.**	
Quercus palustris	Pin Oak	FACW	1"-2" Cal.**	
Quercus phellos	Willow Oak	FACW	1"-2" Cal.**	
Salix nigra	Black Willow	OBL	1"-2" Cal.**	
Ulmus Americana	American Elm "Valley Forge"	FAC	1"-2" Cal.**	

WETLAND STABILIZED SEED MIX * (PFO – PALUSTRINE FORESTED) – 0.82 ACRES

BOTANICAL NAME	ENGLISH COMMON NAME	INDICATOR	NOTES
Carex lurida	Shallow Sedge	OBL	Contractor shall hydroseed all disturbed area within the PFO Wetlands with the proposed mix at a rate of 30 lbs. per acre. Contractor shall apply green-dyed hydro-mulch at a rate of 1200 lbs. per acre or equivalent.
Carex stricta	Tussock Sedge	OBL	
Carex vulpinoidea	Fox Sedge	FACW	
Elymus riparius	Riverbank Wildrye	FACW	
Juncus effuses	Soft Rush	OBL	
Lobelia cardinalis	Cardinal Flower	FACW	
Osmunda cinnamomea	Cinnamon Fern	FACW	

WETLAND STABILIZED SEED MIX * (PEM – PALUSTRINE EMERGENT) – 0.82 ACRES

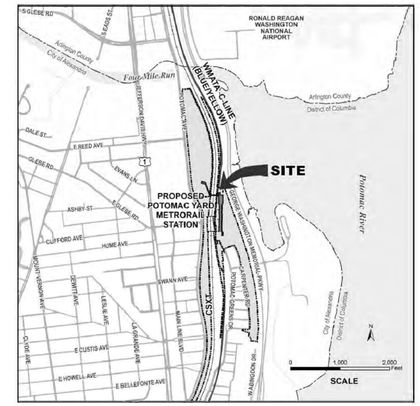
BOTANICAL NAME	ENGLISH COMMON NAME	INDICATOR	NOTES
Andropogon virginicus	Broomsedge	FAC	Contractor shall hydroseed all disturbed area within the PEM Wetlands with the proposed mix at a rate of 30 lbs. per acre. Contractor shall apply green-dyed hydro-mulch at a rate of 1200 lbs. per acre or equivalent.
Aster puniceus	Purple Aster	OBL	
Carex vulpinoidea	Fox Sedge	FACW	
Helenium autumnale	Common Sneezeweed	FACW	
Hibiscus moscheutos	Swamp Rosemallow	OBL	
Iris versicolor	Blueflag Iris	OBL	
Juncus effuses	Soft Rush	FACW	
Leersia oryzoides	Rice Cutgrass	OBL	
Panicum clandestinum	Deertongue	FACW	
Peltandra virginiaca	Arrow Arum	OBL	
Pontederia Cordata	Pickerelweed	OBL	
Zizania aquatica	Wild Rice	OBL	

*FINAL TREE SELECTION AND SEED MIX WILL BE FORMED AT THE TIME OF PLANTING AFTER CONSULTATION WITH THE SUPPLIER BUT WILL BE COMPOSED ON SPECIES NATIVE TO THE PROJECT SITE

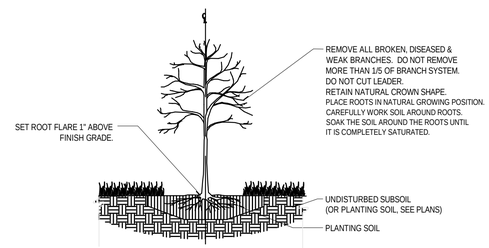
**SIZE OF TREES WILL BE BASED ON THE LANDSCAPE FINAL DESIGN IN CONFORMANCE WITH THE CITY OF ALEXANDRIA LANDSCAPING REQUIREMENTS.

LEGEND

- WETLANDS UNDEFINED (BEYOND PROJECT LIMIT LINE)
- PEM WETLANDS LIMITS
- PFO WETLANDS LIMIT
- APPROXIMATE WETLAND RESTORATION AREA TOTAL = 1.66 AC PFO = 0.82 AC PEM = 0.84 AC
- PERMANENT IMPACTED AREA
- PROJECT LIMIT LINE
- LOD — CONTRACT LIMIT OF DISTURBANCE
- TIDAL WETLAND BOUNDARY
- MONITORING WELL/PHOTO STATION



KEY PLAN



1) PLANTING HOLE SHALL BE OF SUFFICIENT SIZE AS NOT TO CRAMP THE ROOTS.
2) APPLY AGRIFORM FOREST STARTER TABLETS(10 GRAM) OR EQUIVALENT PRODUCT TO EACH PLANT AS PER MANUFACTURER'S DIRECTIONS ON LABEL AT TIME OF PLANTING.
3) PLANTING HOLE SHALL BE TAMPED WITH FOOT TO SECURE PLANT MATERIAL IN SOIL.
4) ENSURE ALL ROOTS ARE WITHIN PLANTING HOLE. ROOTS TO BE PLACED IN A MINIMUM OF 6" OF SOIL.
5) CONTRACTOR TO TIE 12"-18" STRIP OF SURVEYORS FLAGGING ONTO TOP OF EACH PLANT

1 DETAIL : TYPICAL TREE PLANTING

NTS

FILE PATH: \\GLOBAL.ARUP.COM\AMERICAS\JOBS\IN-Y\250000\254922-0004 INTERNAL PROJECT DATA\14-03 DRAWINGS\14-03-30 CIVIL\SKETCH\2019-01-31 WETLANDS PLAN

12/27/2018 12:26 PM

DESIGNED ____ DATE
DRAWN ____ DATE
CHECKED ____ DATE
APPROVED ____ DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF THE CHIEF ENGINEER, INFRASTRUCTURE

SUBMITTED ____ DATE

APPROVED ____ DIRECTOR DATE

POTOMAC YARD METRORAIL STATION
CIVIL
EAST SIDE
WETLANDS RESTORATION PLAN

M NO.	CONTRACT NO.	SCALE:	DRAWING NO.	SHEET NO.
	FQ16146	1"=60'		1 OF 1

EROSION AND SEDIMENT CONTROL NARRATIVE

I. PROJECT DESCRIPTION
THE CONSTRUCTION OF A NEW WMATA TRAIN STATION IN THE POTOMAC YARDS AREA OF ALEXANDRIA, VIRGINIA WILL RESULT IN PERMANENT IMPACTS TO THE WETLANDS AS WELL AS TEMPORARY IMPACTS DUE TO CONSTRUCTION STAGING AND ACCESS. TO RESTORE THE WETLANDS IN AREAS WHERE THERE ARE TEMPORARY IMPACTS THE PLAN DETAILS THE RESTORATION ACTIVITIES TO RE-ESTABLISH WETLANDS WITH APPROPRIATE VEGETATION.

II. EXISTING SITE CONDITIONS
THE PROJECT IS WITHIN THE POTOMAC RIVER DRAINAGE BASIN IN ALEXANDRIA, VIRGINIA. THE SITE IS SITUATED WEST OF THE GEORGE WASHINGTON MEMORIAL PARKWAY ALONG THE POTOMAC RIVER, NORTH OF THE POTOMAC GREENS DEVELOPMENT AND EAST OF THE EXISTING WMATA TRAIN TRACKS. THE IMMEDIATE WATERSHED IS CHARACTERIZED BY FORESTED WETLANDS, STONE BALLAST WITHIN THE TRAIN ROW'S AND MAINTAINED TURF.

III. ADJACENT PROPERTY
THE SITE IS BOUNDED BY CSX RAIL ROW, POTOMAC GREENS RESIDENTIAL DEVELOPMENT AND THE GEORGE WASHINGTON MEMORIAL PARKWAY ROW.

IV. OFF-SITE AREAS
THERE WILL BE OFF-SITE CONSTRUCTION STAGING AND ACCESS. OFF-SITE AREAS DISTURBED DURING CONSTRUCTION WILL BE OUTSIDE THE WETLAND BOUNDARY AND WILL BE REPLANTED PER THE CITY OF ALEXANDRIA REQUIREMENTS AT THE COMPLETION OF CONSTRUCTION.

V. CRITICAL AREAS
WITHIN THE WETLANDS, THERE ARE ISOLATED AREAS OF TIDAL WETLANDS BEYOND THE PROPOSED PROJECT LIMIT LINE. THERE IS NO PROPOSED DISTURBANCE OF THE TIDAL WETLANDS AREAS.

VI. SOIL
THE SOILS ONSITE WERE REVIEWED VIA THE USDA/NRCS WEB SOIL SURVEY. THE RESULTS SHOWED TWO SOIL TYPES WITHIN THE PROJECT AREA: GRIST MILL SANDY LOAM AND URBAN LAND. URBAN LAND IS CLOSELY BOUNDING THE EXISTING WMATA AND CSX TRAIN TRACKS, WHILE THE MAJORITY OF THE PROJECT IS CHARACTERIZED BY GRIST MILL SANDY LOAM.

VII. EROSION AND SEDIMENT CONTROL MEASURES
THE FOLLOWING EROSION AND SEDIMENT CONTROL MEASURES SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH, 1992). ALL SPECIFICATION NUMBERS LISTED BELOW REFER TO THE PRACTICES' PLATE NUMBER IN THE VESCH.

A. STRUCTURAL PRACTICES
1. TEMPORARY STONE CONSTRUCTION ENTRANCE - 3.02 - SHALL BE INSTALLED OFF OF THE EXISTING PAVED DRIVEWAY IF FIELD CONDITIONS WARRANT.
2. SILT FENCE AND SUPER SILT FENCE - 3.05
3. CONSTRUCTION ROAD STABILIZATION - 3.03 - SHALL BE INSTALLED OFF OF THE EXISTING PAVED DRIVEWAY IF FIELD CONDITIONS WARRANT. SOIL STABILIZATION BLANKETS AND MATTING - 3.36 IF FIELD CONDITIONS WARRANT.
4. TREES, SHRUBS, VINES & GROUND COVERS (PLANTING BALLED & BURLAPPED & CONTAINER GROWN TREES - 3.37

B. VEGETATIVE PRACTICES
1. TOPSOIL (STOCKPILE) - 3.30 - EXCAVATED TOPSOIL SHALL BE REAPPLIED TO STOCKPILE AREAS AFTER CONSTRUCTION TO PROVIDE A SUITABLE GROWTH MEDIUM FOR FINAL SITE STABILIZATION.
2. TEMPORARY SEEDING - 3.31 - RAPIDLY GROWING ANNUAL PLANTS SHALL BE SEEDED ON DISTURBED AREAS NOT YET BROUGHT TO FINAL GRADE IF FIELD CONDITIONS WARRANT. REFER TO SEEDING SCHEDULE.
3. PERMANENT SEEDING - 3.32 - THE ESTABLISHMENT OF PERENNIAL VEGETATIVE COVER ON DISTURBED AREAS BY PLANTING SEED. REFER TO SEEDING SCHEDULE
4. MULCHING - STD & SPEC. 3.35: MULCH SHALL BE APPLIED TO AREAS THAT REQUIRE TEMPORARY SEEDING AND IN DISTURBED AREAS NOT SPECIFICALLY STABILIZED WITH MATTING TO PREVENT EROSION BY PROTECTING THE SOIL SURFACE FROM RAINDROP IMPACT AND REDUCING THE VELOCITY OF OVERLAND FLOW. IN ADDITION, THE MULCH WILL FOSTER THE GROWTH OF VEGETATION BY INCREASING AVAILABLE MOISTURE AND PROVIDING INSULATION AGAINST EXTREME HEAT OR COLD. STRAW MULCH SHALL BE APPLIED AT 2 TONS/ACRE. MULCH MUST BE WEED FREE. NO CONTRACTOR MIXES (FESCUE, ETC.) WILL BE USED ON THIS PROJECT.

C. MANAGEMENT STRATEGIES
1. EROSION AND SEDIMENT CONTROL MEASURES SHALL BE INSTALLED, INSPECTED, AND APPROVED BY COUNTY STAFF PRIOR TO WORK PROGRESSING INTO NEW AND UNPROTECTED AREAS.
2. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE A FIRST STEP IN THE CONSTRUCTION, SHOULD IT BE WARRANTED OFF OF THE EXISTING PAVED ACCESS. TEMPORARY CONSTRUCTION ROAD WILL BE REMOVED AT THE COMPLETION OF CONSTRUCTION.
3. TEMPORARY SEEDING OR OTHER STABILIZATION WILL FOLLOW IMMEDIATELY AFTER GRADING IF FIELD CONDITIONS WARRANT.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INSTALLATION AND MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL PRACTICES.
5. AFTER ACHIEVING ADEQUATE STABILIZATION, THE TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES WILL BE CLEANED AND REMOVED. NO EROSION AND SEDIMENT CONTROL MEASURES CAN BE REMOVED WITHOUT APPROVAL OF THE VSMP AUTHORITY.
6. STOCKPILES OUTSIDE OF THE WETLANDS WILL BE MANAGED PER THE SWPPP.

D. PERMANENT STABILIZATION

ALL OF THE DISTURBED AREAS WILL BE STABILIZED WITH EROSION CONTROL MATTING (I.E. COIR), SEED, NATIVE GRASSES, AND LIVE PLANTINGS AS SHOWN IN THE PLANTING PALLETE THE LIVE WOODY PLANTINGS SHOULD ONLY BE INSTALLED DURING THE DORMANT SEASON.

VIII. STORMWATER MANAGEMENT
THE WETLANDS RESTORATION PLAN IS PART OF A PROJECT-WIDE DESIGN OF THE NEW WMATA TRAIN STATION. STORMWATER MANAGEMENT PRACTICES WILL BE INCORPORATED INTO THE PROJECT DESIGN TO SATISFY THE CRITERIA OF THE CITY OF ALEXANDRIA FOR STORMWATER QUANTITY AND QUALITY.

IX. MAINTENANCE
IN GENERAL, ALL EROSION AND SEDIMENT CONTROL MEASURES WILL BE CHECKED DAILY AND AFTER EACH SIGNIFICANT RAINFALL. THE FOLLOWING WILL BE CHECKED IN PARTICULAR:

1. THE CONSTRUCTION ENTRANCE, SHOULD ONE BE REQUIRED, SHALL BE MAINTAINED IN A CONDITION WHICH WILL PREVENT TRACKING OR FLOW OF MUD ONTO PUBLIC RIGHT-OF-WAYS. THIS MAY REQUIRE PERIODIC TOP DRESSING WITH ADDITIONAL STONE OR THE WASHING AND REWORKING OF EXISTING STONE AS CONDITIONS DEMAND AND REPAIR AND/OR CLEANOUT OF ANY STRUCTURES USED TO TRAP SEDIMENT. ALL MATERIALS SPILLED, DROPPED, WASHED, OR TRACKED FROM VEHICLES ONTO ROADWAYS OR INTO STORM DRAINS MUST BE REMOVED IMMEDIATELY. THE USE OF WATER TRUCKS TO REMOVE MATERIALS ON THE ROADWAYS WILL NOT BE PERMITTED UNDER ANY CIRCUMSTANCES.
2. SILT FENCE AND SUPER SILT FENCE BARRIERS SHALL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE FABRIC. SEDIMENT SHALL BE REMOVED WHEN THE LEVEL OF DEPOSITION REACHES HALF THE HEIGHT OF THE BARRIER. ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM TO THE EXISTING GRADE, PREPARED AND SEEDED.
3. PERMANENT STOCKPILE AREAS MUST BE STABILIZED AND CHECKED REGULARLY TO ENSURE THAT A GOOD STAND IS MAINTAINED.

GENERAL EROSION AND SEDIMENT CONTROL NOTES

1. AN EROSION AND SEDIMENT CONTROL PLAN MUST BE APPROVED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITY GREATER THAN 2,500 SQUARE FEET.
2. ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE CITY OF ALEXANDRIA AND VIRGINIA EROSION AND SEDIMENT CONTROL HANDBOOK (VESCH), VIRGINIA REGULATIONS §4VAC50-30 EROSION AND SEDIMENT CONTROL REGULATIONS.
3. AN EROSION AND SEDIMENT CONTROL PLAN IS INCLUDED WITH THESE FINAL PLANS FOR APPROVAL BY THE DIRECTOR, TRANSPORTATION AND ENVIRONMENTAL SERVICES FOR REFERENCE BY THE EROSION AND SEDIMENT CONTROL PERMIT.
4. A "CERTIFIED LAND DISTURBER" (CLD) SHALL BE NAMED IN A LETTER TO THE DIVISION CHIEF OF CONSTRUCTION AND INSPECTION (C&I), DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES PRIOR TO ANY LAND DISTURBING ACTIVITIES. IF THE CLD CHANGES DURING THE PROJECT, THAT CHANGE MUST BE NOTED IN A LETTER TO THE DIVISION CHIEF. A NOTE TO THIS EFFECT SHALL BE PLACED ON THE PHASE I EROSION AND SEDIMENT CONTROL SHEETS ON THE SITE PLAN.
5. THE DEPARTMENT OF TRANSPORTATION AND ENVIRONMENTAL SERVICES, CONSTRUCTION AND INSPECTION (C&I) DIVISION MUST BE NOTIFIED ONE WEEK PRIOR TO THE PRE-CONSTRUCTION CONFERENCE, ONE WEEK PRIOR TO THE COMMENCEMENTS OF LAND DISTURBING ACTIVITY, AND ONE WEEK PRIOR TO THE FINAL INSPECTION. THE RESPONSIBLE CERTIFIED LAND DISTURBER (CLD) SHALL ATTEND THE PRE-CONSTRUCTION MEETING.
6. SEDIMENT BASINS AND TRAPS, PERIMETER DIKES, SEDIMENT BARRIERS AND ALL OTHER EROSION AND SEDIMENT CONTROL MEASURES INTENDED TO CONTROL EROSION AND TRAP SEDIMENT SHALL BE CONSTRUCTED AS A FIRST STEP IN ANY LAND-DISTURBING ACTIVITY AND SHALL BE MADE FUNCTIONAL BEFORE UPSLOPE LAND DISTURBANCE TAKES PLACE.
7. CONSTRUCTION SHALL BE SEQUENCED SUCH THAT GRADING OPERATION CAN BEGIN AND END AS QUICKLY AS POSSIBLE. AREAS NOT TO BE DISTURBED MUST BE CLEARLY MARKED OR FLAGGED.
8. AN INSPECTION BY THE CITY OF ALEXANDRIA IS REQUIRED AFTER INITIAL INSTALLATION OF EROSION AND SEDIMENT CONTROL MEASURES AND BEFORE ANY CLEARING OR GRADING CAN BEGIN.
9. A COPY OF THE APPROVED EROSION AND SEDIMENT CONTROL PLAN SHALL BE MAINTAINED ON THE SITE AT ALL TIMES.
10. PRIOR TO COMMENCING LAND DISTURBING ACTIVITIES IN AREAS OTHER THAN THOSE INDICATED ON THESE PLANS INCLUDING, BUT NOT LIMITED TO, OFF-SITE BORROW OR WASTE AREAS, THE CONTRACTOR SHALL SUBMIT A SUPPLEMENTARY EROSION CONTROL PLAN TO THE OWNER FOR REVIEW AND APPROVAL BY THE CITY OF ALEXANDRIA.
11. THE DEVELOPER AND CONTRACTORS ARE TO KEEP DENUDED AREAS TO A MINIMUM. PERMANENT OR TEMPORARY SOIL STABILIZATION SHALL BE APPLIED TO DENUDED AREAS WITHIN SEVEN DAYS AFTER FINAL GRADE IS REACHED ON ANY PORTION OF THE SITE. TEMPORARY SOIL STABILIZATION SHALL BE APPLIED WITHIN SEVEN DAYS TO DENUDED AREAS THAT MAY NOT BE AT FINAL GRADE BUT WILL REMAIN DORMANT FOR LONGER THAN 30 DAYS. PERMANENT STABILIZATION SHALL BE APPLIED TO AREAS THAT ARE TO BE LEFT DORMANT FOR MORE THAN ONE YEAR. ANY STOCKPILED MATERAIL WHICH WILL REMAIN IN PLACE LONGER THAN 10 DAYS MUST BE SEEDED FOR TEMPORARY VEGETATION AND MULCHED WITH STRAW MULCH OR OTHERWISE STABILIZED.
12. ALL TEMPORARY EARTH BERMS, DIVERSIONS AND SEDIMENT CONTROL DAMS SHALL BE SEEDED AND MULCHED OR OTHERWISE STABILIZED AS SOON AS POSSIBLE BUT NO LATER THAN 48 HOURS AFTER GRADING.
13. ALL DISTURBED AREAS ARE TO DRAIN TO APPROVED SEDIMENT CONTROL MEASURES AT ALL TIMES DURING LAND DISTURBING ACTIVITIES AND DURING SITE DEVELOPMENT UNTIL FINAL STABILIZATION IS ACHIEVED.
14. DURING DEWATERING OPERATIONS, WATER SHALL BE PUMPED THROUGH AN APPROVED FILTERING DEVICE OR PASSED THROUGH AN APPROVED SEDIMENT TRAPPING DEVICE, OR BOTH, AND DISCHARGED IN A MANNER THAT DOES NOT ADVERSELY IMPACT FLOWING STREAMS OR OFF-SITE PROPERTY.
15. THE CONTRACTOR SHALL INSPECT ALL EROSION CONTROL MEASURES DAILY AND AFTER EACH RUNOFF-PRODUCING RAINFALL EVENT. ANY NECESSARY REPAIRS OR CLEANUP TO MAINTAIN THE EFFECTIVENESS OF THE EROSION CONTROL DEVICES SHALL BE MADE IMMEDIATELY.
16. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLATION OF ANY ADDITIONAL EROSION CONTROL MEASURES AS NECESSARY TO PREVENT EROSION AND SEDIMENTATION AND AS DETERMINED BY THE DIRECTOR OF TRANSPORTATION AND ENVIRONMENTAL (T&ES) CONTROL INSPECTOR.
17. ANY DENUDED SLOPES, EITHER DISTURBED OR CREATED BY THIS PLAN THAT EXCEED 2500 SQUARE FEET SHALL BE SODDED AND PEGGED FOR STABILITY AND EROSION CONTROL. AT THE COMPLETION OF THE PROJECT AND PRIOR TO THE RELEASE OF THE BOND, ALL DISTURBED AREAS SHALL BE STABILIZED PERMANENTLY AND ALL TEMPORARY EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED.
18. ALL VEHICLES SHALL BE CLEANED BEFORE ENTERING ONTO THE PUBLIC RIGHT-OF-WAY.
19. THE WASH WATER FROM THE CONSTRUCTION ENTRANCE SHALL BE FILTERED THROUGH THE PROVIDED SILT FENCE TO ENSURE THAT NO SEDIMENT LADEN RUNOFF IS ALLOWED TO RUNOFF ON TO THE ADJACENT PROPERTY OR THE PUBLIC RIGHT OF WAY.
20. INSTALL SILT FENCE AND TREE PROTECTION, WHERE APPLICABLE.
21. DUST CONTROL SHALL BE ACCOMPLISHED BY TEMPORARY VEGETATIVE COVER AND BY IRRIGATION AS NEEDED.

REGULATORY SUMMARY

RESTORATION MONITORING REQUIREMENTS

(BY APPLICANT - CITY OF ALEXANDRIA)

1. MONITORING ACTIVITIES SHALL OCCUR DURING THE GROWING SEASON, AND DURING THE 1ST, 2ND, 3RD, 4TH, 5TH, AND 7TH MONITORING YEAR, AND SHALL ADHERE TO THE FOLLOWING:
   A. THE 1ST MONITORING PERIOD SHALL BE THE 1ST GROWING SEASON AFTER THE COMPLETION OF GRADING AND PLANTING.
   B. IF ALL SUCCESS CRITERIA HAVE NOT BEEN MET IN ANY MONITORING YEAR, THEN A MONITORING REPORT SHALL BE REQUIRED FOR EACH CONSECUTIVE YEAR UNTIL TWO SEQUENTIAL ANNUAL REPORTS INDICATE THAT ALL CRITERIA HAVE BEEN SUCCESSFULLY SATISFIED. THIS SHALL BE REQUIRED REGARDLESS OF THE MONITORING YEAR; AND,
   C. THE MONITORING PERIOD SHALL BE EXTENDED FOR ADHERENCE TO ALL APPLICABLE SUCCESS CRITERIA DEFINED IN PART B, TO INCLUDE ADDITIONAL MONITORING YEARS IF ALL SUCCESS CRITERIA ARE NOT MET THE FINAL TWO MONITORING YEARS.
   D. FOR ANY YEAR IN WHICH PLANTING IS CONDUCTED, MONITORING OF VEGETATION SHALL TAKE PLACE AT LEAST 6 MONTHS FOLLOWING PLANTING.
2. AFTER THE WETLAND COMPENSATION SITE REACHES FINAL GRADE, BUT PRIOR TO PLANTING, THE PERMITTEE SHALL SUBMIT A POST-GRADING SURVEY TO DEQ. THE SURVEY SHALL BE CONDUCTED BY A LICENSED LAND SURVEYOR AND CERTIFIED BY A LICENSED SURVEYOR, LICENSED PROFESSIONAL ENGINEER, OR LICENSED LANDSCAPE ARCHITECT. THE SURVEY SHALL DOCUMENT SPOT ELEVATIONS (IN FEET ABOVE MEAN SEA LEVEL) THAT ARE WITHIN +/- 0.2 FEET (2.5 INCHES) OF THE ELEVATIONS INDICATED IN THE SITE CONSTRUCTION GRADING PLAN.
3. VISUAL OBSERVATIONS SHALL BE CONDUCTED AND DESCRIPTIONS PROVIDED WITH EACH MONITORING REPORT IN NARRATIVE FORM ALONG WITH DOCUMENTATION BY ONE OF THE FOLLOWING MEANS: (I) GROUND LEVEL PHOTOGRAPHS, TAKEN FACING NORTH, SOUTH, EAST AND WEST, FROM PHOTO-MONITORING STATIONS LOCATED IN THE VICINITY OF EACH VEGETATION MONITORING PLOT/TRANSECT AND MONITORING WELL. PERMANENT MARKERS FOR THE PHOTO-MONITORING STATIONS AT EACH MONITORING WELL SHALL BE ESTABLISHED TO ENSURE THAT THE SAME LOCATIONS (AND VIEW DIRECTIONS) ARE MONITORED IN EACH MONITORING PERIOD.
4. HYDROLOGY MONITORING SHALL BE CONDUCTED EACH MONITORING PERIOD DURING THE GROWING SEASON TO DEMONSTRATE ACHIEVEMENT OF THE HYDROLOGY PERFORMANCE CRITERION FOR EITHER 60 DAYS OF CONTINUOUS AUTOMATED MONITORING OR 8 CONSECUTIVE WEEKLY MEASUREMENTS. (ACTUAL MONITORING MAY BE OF LONGER DURATION, AS NEEDED, TO OBTAIN VERIFICATION OF WETLAND HYDROLOGY). FOR SURFACE SATURATION DRIVEN SYSTEMS LOCATED ON TOP OF A CLAYEY SUBSTRATE, SOIL SATURATION MEASUREMENT DEVICES MAY BE USED IN LIEU OF GROUNDWATER WELLS AND OTHER SECONDARY HYDROLOGY INDICATORS TO DETERMINE GROUNDWATER ELEVATIONS AND/OR HYDRO PERIOD IN THESE WETLANDS AREAS.
5. SOIL MORPHOLOGIC OBSERVATIONS SHALL BE CONDUCTED PRE- AND POST-CONSTRUCTION AND AT THE 3RD YEAR AND EACH MONITORING EVENT THEREAFTER. THE ASSESSMENT SHALL INCLUDE THE LOCATION OF SOIL SAMPLES, WHICH SHALL BE WITHIN 10 TO 30 FEET OF EACH MONITORING WELL, AND INCLUDE A COMPLETE SOIL PROFILE DOWN TO 18 INCHES AND OBSERVATIONS OF OVERALL SOIL CHARACTERISTICS INDICATIVE OF HYDRIC SOILS, INCLUDING BUT NOT LIMITED TO REDOX DEPLETIONS OR REDUCTION IN MATRIX CHROMA.
6. VEGETATIVE MONITORING PLOTS/TRANSECTS SHALL ASSESS A MINIMUM OF 10% OF THE MITIGATION SITE AND THERE SHALL BE AT LEAST ONE MONITORING PLOT/TRANSECT PER RESOURCE TYPE/ZONATION.
   A. TRANSECTS SHALL CROSS THE WETLAND OR BUFFER AREA WITH A WIDTH NOT LESS THAN 5 FEET FOR WOODY PLANTS AND 1 FOOT FOR HERBACEOUS SPECIES.
   B. APPROPRIATE METHODS SHALL BE USED TO RANDOMLY LOCATE VEGETATIVE MONITORING PLOTS/TRANSECTS WITHIN SAMPLE AREAS (TRANSECTS WITH RANDOM NUMBER GENERATORS, GIS RANDOMIZATION METHODS, ETC.).
   C. PLOTS/TRANSECTS SHALL BE RE-ESTABLISHED IN NEW RANDOM LOCATIONS EACH YEAR, UNLESS OTHERWISE AUTHORIZED BY DEQ STAFF.
7. THE FOLLOWING VEGETATION DATA SHALL BE COLLECTED ALONG EACH TRANSECT OR WITHIN EACH PLOT DURING MONITORING EVENTS, AS APPLICABLE BASED ON RESOURCE TYPE/ZONATION:
   A. IN MONITORING YEARS 1, 2, AND 3, NUMBER OF LIVING WOODY STEMS AND SPECIES COMPOSITION OF STEMS ≥ 12 INCHES.
   B. IN MONITORING YEARS 4 AND 5, NUMBER OF LIVING WOODY STEMS AND SPECIES COMPOSITION OF STEMS ≥ 24 INCHES.
   C. IN MONITORING YEAR 7, NUMBER OF STEMS AND SPECIES OF LIVING WOOD STEMS ≥ 36 INCHES.
   D. THE FOLLOWING PARAMETERS ARE TO BE CALCULATED BASED ON WOODY STEMS (AS APPLICABLE BASED ON RESOURCE TYPE/ZONATION) THAT MEET PRESCRIBED HEIGHT REQUIREMENTS WITHIN A GIVEN MONITORING YEAR:
      i. PERCENTAGE OF WOODY STEMS COMPRISED OF VOLUNTEERS;

RESTORATION MONITORING REQUIREMENTS, CONTINUED

ii. NUMBER OF STEMS, PERCENTAGE OF HERBACEOUS COVERAGE, AND THE SPECIES COMPOSITION OF FOR BOTH WOODY AND HERBACEOUS VEGETATION ACROSS ALL VEGETATIVE STRATA; THE PERCENTAGE DOMINANT FAC OR WETTER; AND AN INVENTORY OF ALL DOMINANT VEGETATION SPECIES FOR WOODY AND HERBACEOUS VEGETATION;
iii. NUMBER, SPECIES, AND PERCENT COVER OF INVASIVE PLANTS; AND,
iv. NUMBER OF DEAD STEMS TOTAL AND PER SPECIES, AND ESTIMATED SURVIVAL RATE TOTAL AND PER SPECIES (AS A PERCENTAGE) OF PLANTINGS.

REPORTING

1. REPORTS SHALL BE SUBMITTED TO THE DEQ BY DECEMBER 31ST; AND SHALL PROVIDE ALL MONITORING DATA AND NECESSARY ANALYSES DEMONSTRATING THE SITE'S PERFORMANCE IN MEETING THE DEFINED SUCCESS CRITERIA.
2. THE FIRST REPORT SHALL INCLUDE AN AS-BUILT SURVEY CONDUCTED BY A LICENSED SURVEYOR, FOR THE WETLAND COMPENSATION AREA INCLUDING THE ACREAGE AND SPOT ELEVATIONS THROUGHOUT THE COMPENSATION AREA.
3. EACH MONITORING REPORT SHALL INCLUDE:
   A. A GENERAL DESCRIPTION OF THE SITE, INCLUDING A SITE LOCATION MAP AND THE LOCATION OF PHOTO MONITORING STATIONS, VISUAL MARKERS, VEGETATION MONITORING PLOTS/TRANSECTS, SOIL SAMPLING POINTS, MONITORING WELLS, AND IF APPLICABLE, REFERENCE WETLANDS;
   B. THE NUMBER, SPECIES AND LOCATION AND ANY PLANTINGS DURING THE CURRENT MONITORING YEAR;
   C. A DETAILED NARRATIVE SUMMARIZING THE CONDITION OF THE COMPENSATION SITE;
   D. ANY MAINTENANCE ACTIVITIES THAT OCCURRED;
   E. RESULTS OF REQUIRED VEGETATION MONITORING;
   F. RESULTS OF HYDROLOGIC MONITORING;
   G. SOIL ASSESSMENT PROFILES AND OBSERVATIONS. DESCRIBE THE SOIL PROFILE, INCLUDING A TABLE WITH THE FOLLOWING FOR EACH SOIL PROFILE: DEPTH, COLOR, TEXTURE, HORIZON, MATRIX COLOR, REDOXIMORPHIC FEATURES, REDOX COLOR, AND REDOX FEATURE ABUNDANCE, AND FIELD INDICATORS OF HYDRIC SOIL.
   H. VISUAL ASSESSMENT OBSERVATIONS AND PHOTOGRAPHS; AND,
   I. ANALYSIS AND CONCLUSION AS TO THE WHETHER THE SITE IS MEETING THE DEFINED SUCCESS CRITERIA, AND MEETING THE GOALS AND OBJECTIVES OF THE PLAN.

SUCCESS CRITERIA

WETLAND VEGETATION WILL MEET ALL THE FOLLOWING CRITERIA, AS APPLICABLE BASED ON DEFINED END-RESOURCE TYPE:

NON-TIDAL FORESTED WETLANDS

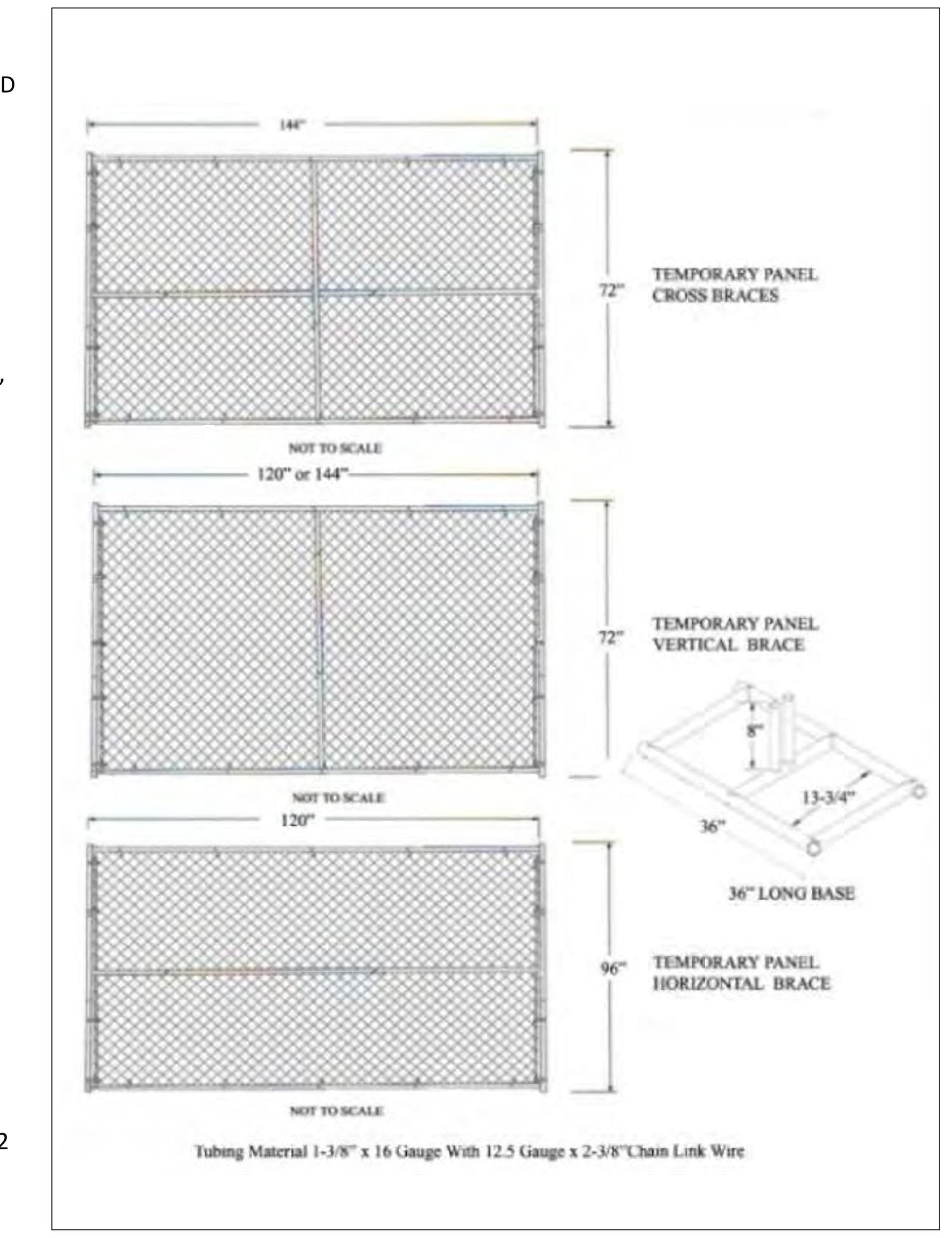
1. A DENSITY OF 400 WOODY LIVING STEMS PER ACRE GREATER THAN 12 INCHES IN HEIGHT IN MONITORING PERIODS 1, 2, AND 3 SHALL BE MAINTAINED.
2. A DENSITY OF 400 WOODY LIVING STEMS PER ACRE AND GREATER THAN 24 INCHES IN HEIGHT IN MONITORING YEARS 4 AND 5 SHALL BE MAINTAINED.
3. A DENSITY OF 400 WOODY LIVING STEMS PER ACRE AND GREATER THAN 36 INCHES IN HEIGHT MONITORING YEAR 7.
4. THE 400 WOODY STEMS SHALL BE COMPRISED OF ONLY NATIVE TREE AND SHRUB SPECIES, OF WHICH NOT LESS THAN 50% SHALL BE NATIVE TREE SPECIES.
5. ALL WOODY SPECIES CRITERIA SHALL BE ACHIEVED AT MINIMUM IN THE LAST TWO MONITORING YEARS WITHOUT SUPPLEMENTAL PLANTING. WOODY STEM COUNTS INCLUDE LIVING, VIGOROUS WOODY STEMS BOTH PLANTED AND VOLUNTEER.
6. NATIVE HERBACEOUS PLANT COVERAGE SHALL BE AT LEAST 60% BY THE END OF THE FIRST GROWING SEASON, AND AT LEAST 80% EACH MONITORING YEAR THEREAFTER. ANY SEEDS USED FOR PLANT ESTABLISHMENT SHOULD CONFORM TO THE VIRGINIA SEED LAW (SECTIONS 3.1-262 CODE OF VIRGINIA) AND VIRGINIA SEED REGULATIONS (2 VAC 5-290-10 ET SEQ) AND SHALL BE FREE OF TALL FESCUE, BERMUDA GRASS, AND OTHER ALLELOPATHIC TURF GRASS SPECIES, AS WELL AS PLANT SPECIES ON THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION'S INVASIVE ALIEN PLANT LIST.
7. NO MORE THAN 5% AERIAL COVER AND/OR CUMULATIVE AREAS LARGER THAN 0.25 ACRE IN SIZE DOMINATED BY INVASIVE SPECIES MAY BE PRESENT IN EACH CELL, FIELD, OR BLOCK. INVASIVE SPECIES ARE IDENTIFIED ON THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION'S INVASIVE ALIEN PLANT LIST.
8. WOODY STEMS MUST PRESENT WETLAND VEGETATION DOMINANCE, DEFINED AS A VEGETATION COMMUNITY WHERE MORE THAN 50% OF ALL DOMINANT SPECIES ARE FACULTATIVE ("FAC") OR WETTER USING "ROUTINE DELINEATION METHODS" AS DESCRIBED IN THE "CORPS OF ENGINEERS WETLAND DELINEATION METHOD," TECHNICAL REPORT 87-1 ("1987 MANUAL").
9. EMERGENT VEGETATION MUST PRESENT WETLAND VEGETATION DOMINANCE, DEFINED AS A VEGETATION COMMUNITY WHERE MORE THAN 50% OF ALL DOMINANT SPECIES ARE FACULTATIVE ("FAC") OR WETTER USING "ROUTINE DELINEATION METHODS" AS DESCRIBED IN THE "CORPS OF ENGINEERS WETLAND DELINEATION METHOD," TECHNICAL REPORT 87-1 ("1987 MANUAL").

NON-TIDAL EMERGENT WETLAND

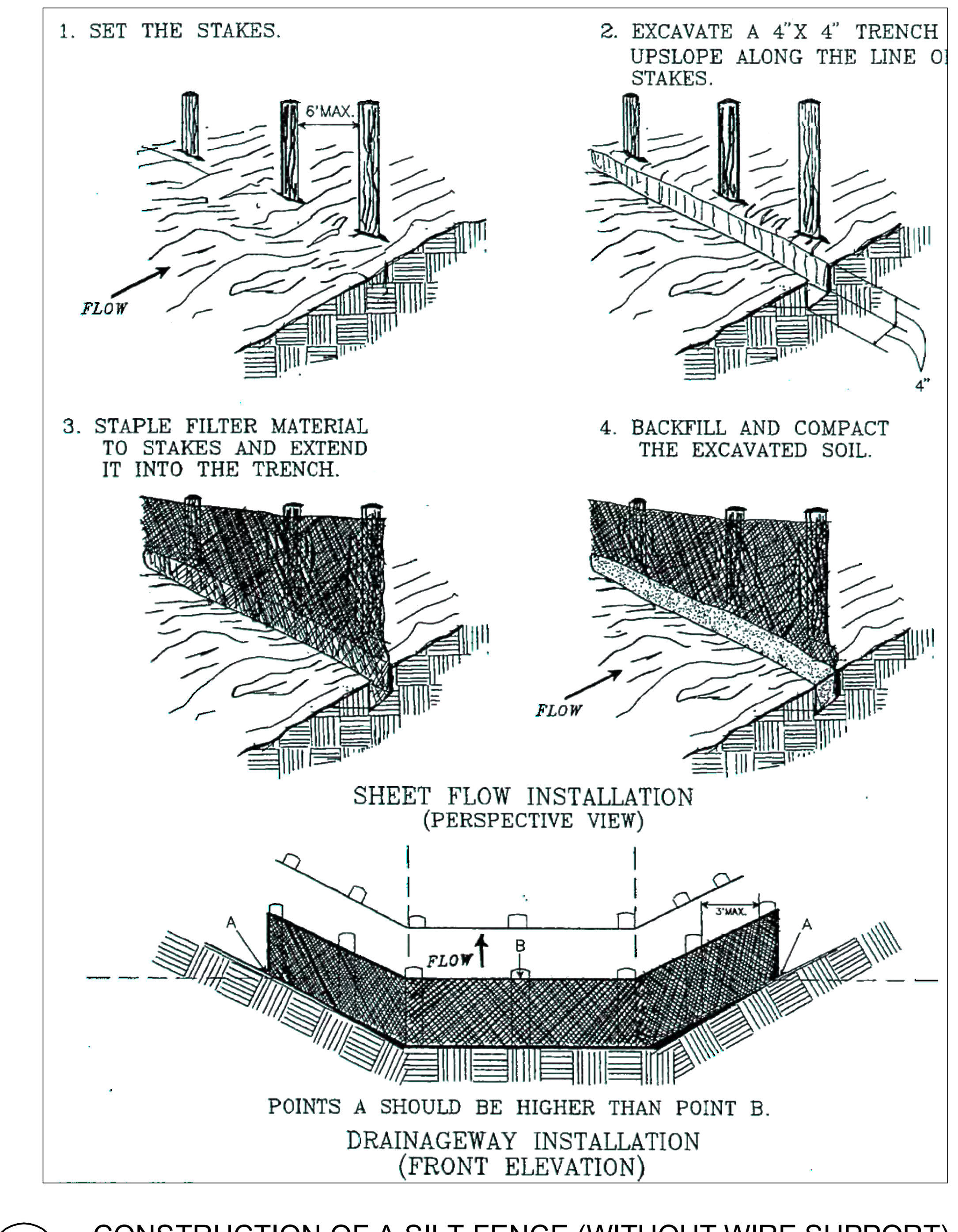
1. NATIVE NON-INVASIVE HERBACEOUS PLANT COVERAGE SHALL BE AT LEAST 60% BY THE END OF THE FIRST GROWING SEASON, AND AT LEAST 80% EACH MONITORING YEAR THEREAFTER. ANY SEEDS USED FOR PLANT ESTABLISHMENT SHOULD CONFORM TO THE VIRGINIA SEED LAW (SECTIONS 3.1-262 CODE OF VIRGINIA) AND VIRGINIA SEED REGULATIONS (2 VAC 5-290-10 ET SEQ) AND SHALL BE FREE OF TALL FESCUE, BERMUDA GRASS, AND OTHER ALLELOPATHIC TURF GRASS SPECIES, AS WELL AS PLANT SPECIES ON THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION'S INVASIVE ALIEN PLANT LIST.

SUCCESS CRITERIA, CONTINUED

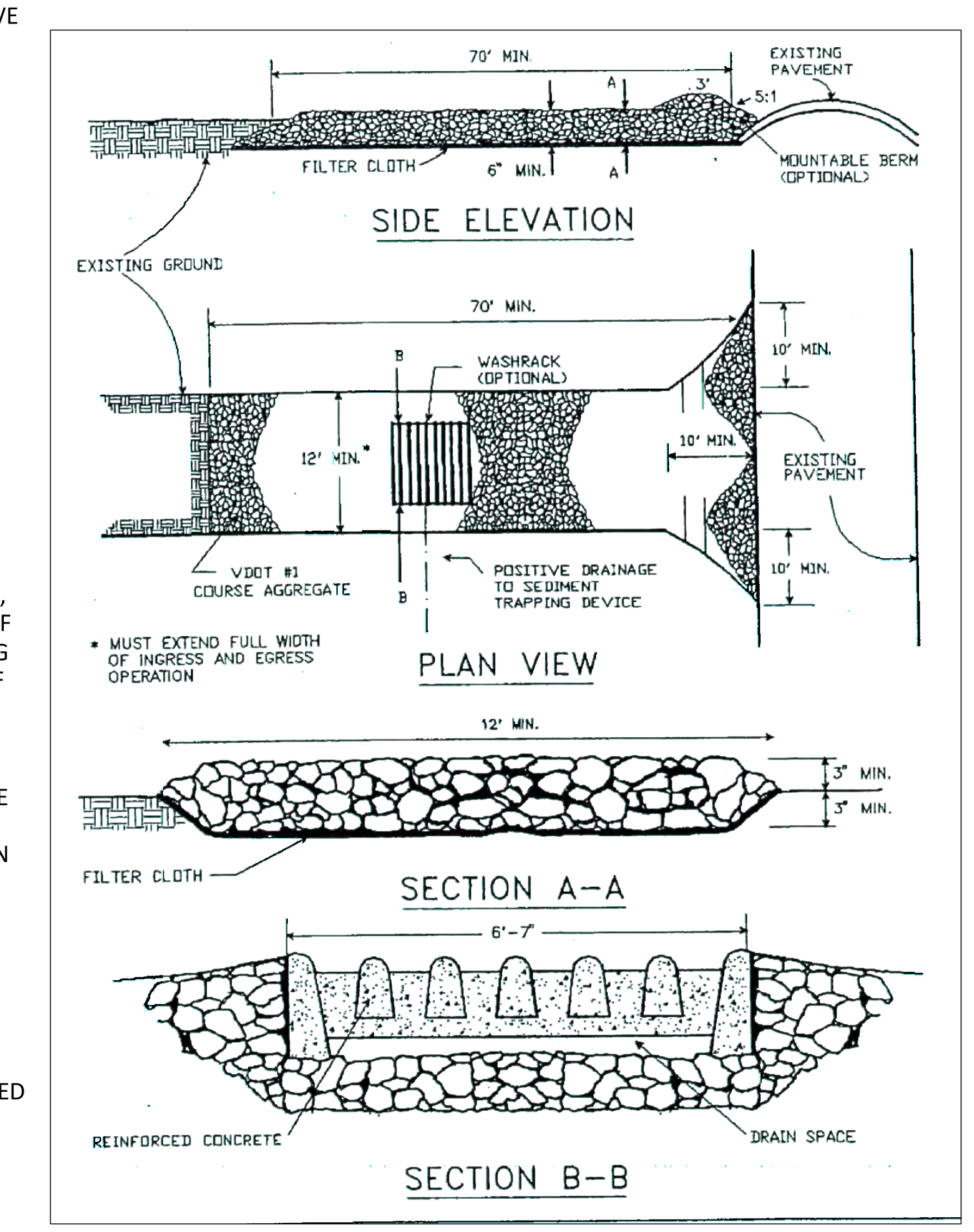
2. NO MORE THAN 5% AERIAL COVER AND/OR CUMULATIVE AREAS LARGER THAN 0.25 ACRE IN SIZE DOMINATED BY INVASIVE SPECIES MAY BE PRESENT IN EACH CELL, FIELD, OR BLOCK. INVASIVE SPECIES ARE IDENTIFIED ON THE VIRGINIA DEPARTMENT OF CONSERVATION AND RECREATION'S INVASIVE ALIEN PLANT LIST.
3. EMERGENT VEGETATION MUST PRESENT WETLAND VEGETATION DOMINANCE, DEFINED AS A VEGETATION COMMUNITY WHERE MORE THAN 50% OF ALL DOMINANT SPECIES ARE FACULTATIVE ("FAC") OR WETTER USING "ROUTINE DELINEATION METHODS" AS DESCRIBED IN THE "CORPS OF ENGINEERS WETLAND DELINEATION METHOD," TECHNICAL REPORT 87-1 ("1987 MANUAL").



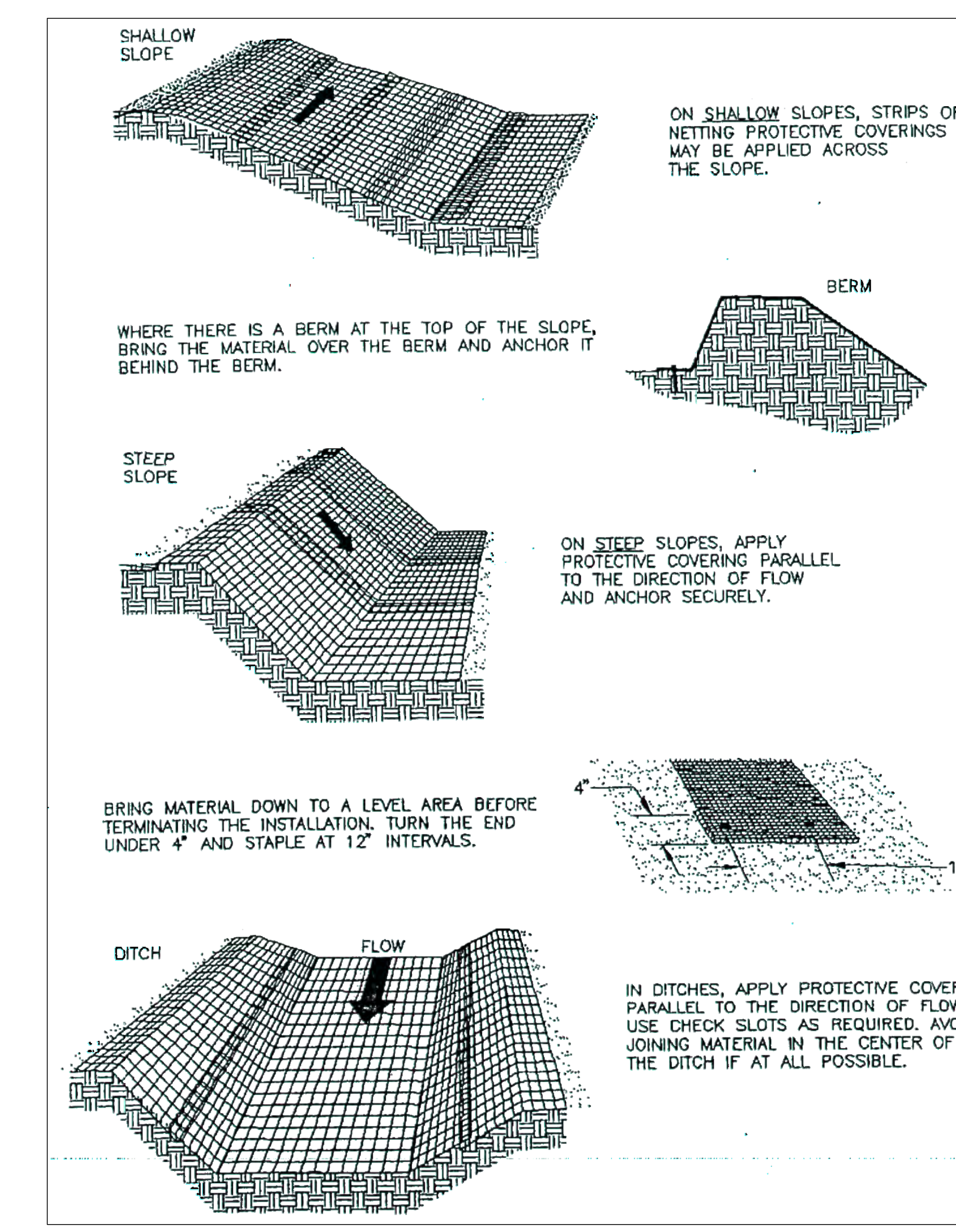
1 CONSTRUCTION FENCE
NTS



2 CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)
NTS



3 STONE CONSTRUCTION ENTRANCE
NTS



4 TYPICAL ORIENTATION OF TREATMENT (SOIL STABILIZATION BLANKET)
NTS

DESIGNED ____ DATE
DRAWN ____ DATE
CHECKED ____ DATE
APPROVED ____ DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF THE CHIEF ENGINEER, INFRASTRUCTURE

SUBMITTED ____ DATE
APPROVED ____ DIRECTOR ____ DATE

M NO.	CONTRACT NO.	SCALE:	DRAWING NO.	SHEET NO.
	FQ16146			

Buena Vista Wetland Mitigation Bank

November 27, 2018

Randy Burns, CPPB Purchasing Agent
Contracting Officer
City of Alexandria
100 N. Pitt Street, Suite 301
Alexandria, VA 22314

RE: Mitigation Credit Availability for the Potomac Yard Metrorail Station project located in the City of Alexendria, Virginia within HUC: 02070010

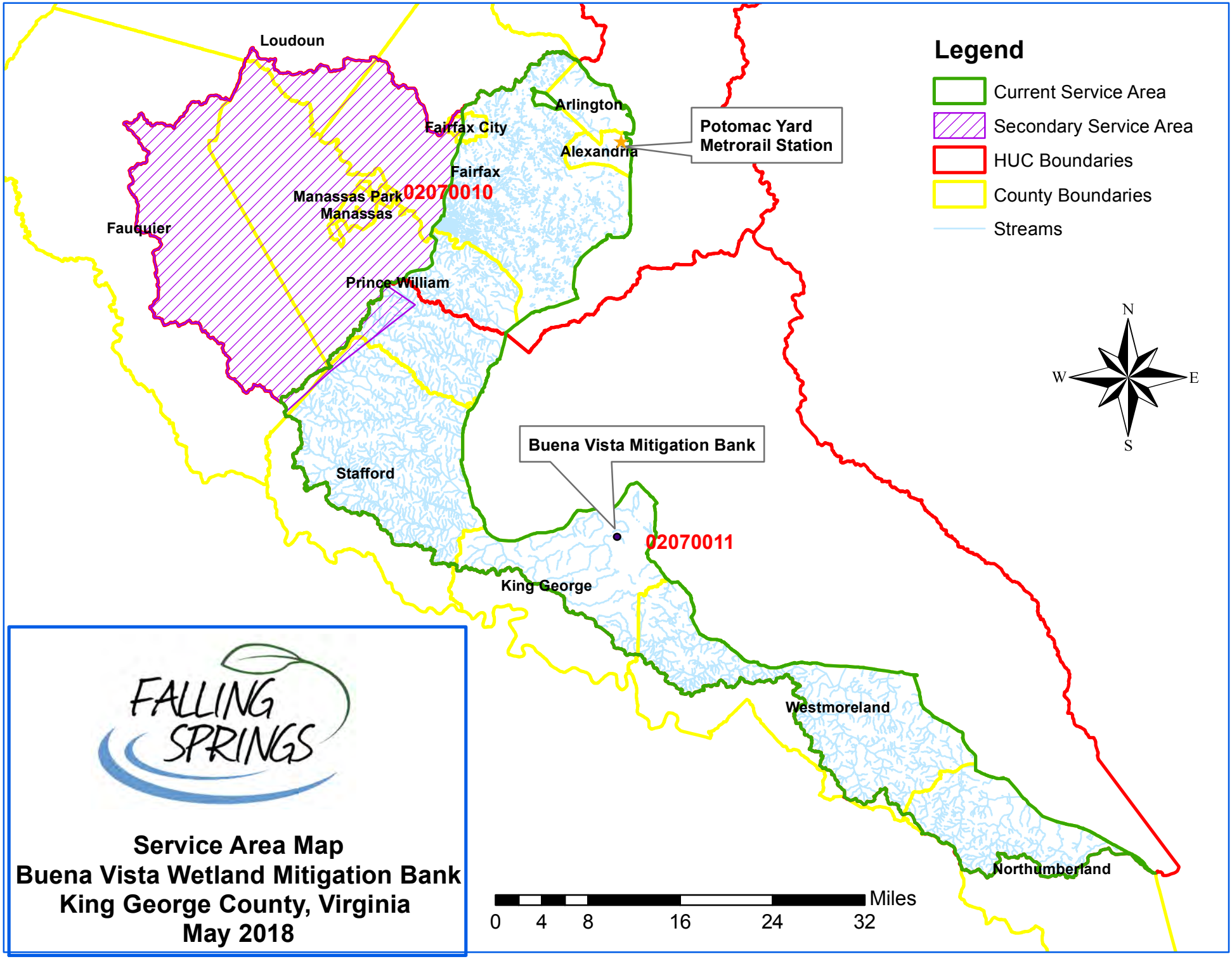
Dear Randy:

On behalf of Falling Springs LLC, I appreciate the opportunity to present this credit availability letter for your project. It is my understanding that your project, referenced above, requires 2.48 wetland credits from an approved mitigation bank to compensate for permanent impacts to wetlands in the lower Potomac Watershed and HUC 02070010. I am pleased to inform you that our bank, the Buena Vista Wetland Mitigation Bank, has Mitigation Bank Instrument ("MBI") approvals from the U.S. Army Corps of Engineers ("USACE") and the Virginia Department of Environmental Quality ("VDEQ") to compensate for wetland impacts in HUC 02070011 and HUC 02070010. Buena Vista has approximately 26.764 wetland credits immediately available as of the date of this letter to satisfy the mitigation requirements for this project.

Please let me know if there is anything else you may need to facilitate this transaction. I appreciate the opportunity and look forward to hearing from you soon.

Sincerely,

James R. Parker IV
Director
804-330-8092
jparker@fallingspringsllc.com



Service Area Map
Buena Vista Wetland Mitigation Bank
King George County, Virginia
May 2018

Buena Vista Credit Ledger Summary

Last Transaction: Sep 20, 2018

The credit totals shown on the ledger do NOT reflect any credit reservations or pending transactions. It is the responsibility of potential purchasers to contact the Sponsor and obtain written confirmation of credit availability.

Name	Available Credits	Withdrawn Credits	Released Credits	Potential Credits
Wetland				
Wetlands	26.764	38.746	65.51	132.6
Stream				
Riverine	0	3159	3159	3159

Credit Ledger

1 - 311 of 311

Type	Jurisdiction	Date	Permittee	Credits	Acres	Linear Feet	Permit	Credit Classification	Impact Huc	Impact Quantity	Comment
Wdr	Federal	09/20/2018	QTS Investment Properties Manassas, LLC	0.075	0.111		WP4-18-0918	Wetlands	02070010		
Wdr	Federal	09/17/2018	Pankaj Wadhwa	0.003	0.004		393-INF-003-1	Wetlands	02070010		Nutrient Offset: 7009 Ridgeway Dr
Wdr	Federal	09/04/2018	FAM Construction LLC	0.403	0.597		WP3-18-0823 & WP3-18-0854	Wetlands	02070010		
Wdr	Federal	08/31/2018	Sohail Cheema	0.006	0.009		1864-INF-003-3	Wetlands	02070010		Nutrient Offset: 5273 Canard St.
Wdr	Federal	08/22/2018	Merion Companies	0.004	0.006		006650-INF-012-1, 00650-INF-010-1	Wetlands	02070010		Nutrient Offset: Pimmit Hills Neighborhood - 2034, 2035 & 2036 Cherri Dr
Wdr	Federal	08/21/2018	Schwartz Enterprises, Inc.	0.003	0.004		421-INF-010-1.1 & 0421-INF-011-1.1	Wetlands	02070010		Nutrient Offset: 1734 & 1738 Fairview Ave
Wdr	Federal	08/20/2018	Brush Arbor Home Construction, LLC	0.001	0.001		9892-INF-006	Wetlands	02070011		Nutrient Offset: 8232 Robey Ave
Wdr	Federal	08/17/2018	Annie Jin	0.002	0.003		004800-INF-03-3	Wetlands	02070011		Nutrient Offset: 1722 Chateau Court
Wdr	Federal	08/16/2018	Milestone Tower Limited Partnership - IV	0.007	0.010		SPR2018-00400	Wetlands	02070010		Nutrient Offset: Gar-Field High School
Wdr	Federal	08/14/2018	Harwood Properties LLC	0.001	0.001		permit number requested, not received	Wetlands	02070010		Nutrient Offset: 17140 Hidden Lake
Wdr	Federal	08/08/2018	BRG Belmont Bay, LC	0.320	0.474		WP4-18-0942 USACE 17-SPGP-01	Wetlands	02070010		
Wdr	Federal	08/07/2018	Belmont Bay, L.C.	0.840	1.244		WP4-18-0942 USACE 17-SPGP-01	Wetlands	02070010		
Wdr	Federal	08/06/2018	Esmaeil Behim	0.002	0.003		005134-INF	Wetlands	02070010		Nutrient Offset - 7632 Lisle Ave.
Wdr	Federal	07/25/2018	Guinevere Meyer Trust	0.003	0.004		181970204	Wetlands	02070010		Nutrient Offset - 1124 Greenway Rd
Wdr	Federal	07/24/2018	Milestone Tower Limited Partnership - IV	0.001	0.001		SPR2018-00355	Wetlands	02070010		Nutrient Offset - Milestone/T-Mobile at Jefferson Plaza
Wdr	Federal	07/24/2018	Kul Homes and Investment, LLC	0.002	0.003		004285-INF-027-1	Wetlands	02070010		Nutrient Offset - 1607

									Wrightson Dr.
Wdr	Federal	07/02/2018	Grupo Saja LLC	0.003	0.004	005134-INF-169-1	Wetlands	02070010	Nutrient Offset - 2054 Arch Drive
Wdr	Federal	06/27/2018	Harbor Station Communities	0.080	0.118	NAO-2004-03304/04-0271	Wetlands	02070011	
Wdr	Federal	06/25/2018	Quantico Tenant Choice LLC	0.079	0.117	17152134	Wetlands	02070011	Nutrient Offset - Quantico Corporate Ctr Bldg F-2
Wdr	Federal	06/18/2018	Loudon County Public Schools	0.740	1.096	WP4-18-0104 & 17-SPG-01	Wetlands	02070010	
Init	Federal	06/13/2018		1.000	0.000		Riverine		To correct for a rounding error
Wdr	Federal	05/21/2018	Kul Homes and Investment LLC	0.003	0.004	0304-17-0098	Wetlands	02070010	Nutrient Offset - 1528 Wrightson Drive
Wdr	Federal	05/18/2018	Nam S. Chough	0.003	0.004	180680190	Wetlands	02070010	Nutrient Offset - 7310 Wayne Drive
Wdr	Federal	05/11/2018	Dongmin Gu	0.003	0.004	5134-INF-166-1	Wetlands	02070010	Nutrient Offset - 1928 Hileman Rd
Wdr	Federal	05/07/2018	Prince William County, Virginia	0.003	0.004	permit pending	Wetlands	02070010	Nutrient offset - Smoketown Road/Opitz Blvd PWC
Wdr	Federal	05/01/2018	Huseyin Tolga Eren	0.004	0.006	20171270	Wetlands	02070011	Nutrient Offset - 309 Kent St
Wdr	Federal	04/20/2018	Kul Homes and Investment LLC	0.003	0.004	24859-INF-021-1	Wetlands	02070011	Nutrient Offset - 6809 Lumsden Street
Wdr	Federal	04/18/2018	Vine Custom Homes LLC	0.003	0.004	permit number requested, not received	Wetlands	02070010	Nutrient offset - 207 W. Cameron
Wdr	Federal	04/18/2018	Merion Homes Pimmit LLC	0.001	0.001	003134-INF-164-1	Wetlands	02070011	Nutrient Offset - 1868 Griffith Road
Wdr	Federal	03/20/2018	Equity Trust Company - David Belcher II Trustee	0.004	0.006	permit number requested, not received	Wetlands	02070011	Nutrient offset - House 7 Arrowhead
Wdr	Federal	02/28/2018	Celebrity Homes LC	0.003	0.004	20171347	Wetlands	02070010	Nutrient Offset - 206 West Marshall St
Wdr	Federal	02/28/2018	Celebrity Homes LC	0.004	0.006	20171347	Wetlands	02070010	Nutrient Offset - 204 West Marshall St
Wdr	Federal	02/26/2018	Virginia Electric and Power Company	0.002	0.003	SPR-2017-00412	Wetlands	02070010	Nutrient Offset - Possum Point Power Station Storm Drain Replacement
Wdr	Federal	02/14/2018	Vulcan Construction Materials, LLC	1.830	2.710	NAO-2006-8375	Wetlands	02070010	
Wdr	Federal	02/12/2018	Romeros Custom Builders	0.002	0.003	173600192	Wetlands	02070010	Nutrient Offset - 6911 Lemon Road
Wdr	Federal	02/07/2018	Bluestone Homes LLC	0.004	0.006	20171339	Wetlands	02070010	Nutrient Offset - 517 Meridian Street
Wdr	Federal	02/07/2018	116 E Jefferson LP	0.010	0.015	20171003	Wetlands	02070010	Nutrient Offset - 116 E. Jefferson Street
Wdr	Federal	02/06/2018	Sakir Biber	0.003	0.004	173210223	Wetlands	02070010	Nutrient Offset - 8507 Redwood Drive

Wdr	Federal	02/03/2018	Ekana Homes Chesterfield LLC	0.002	0.003	015414-INF-017-1	Wetlands	02070010	Nutrient Offset - 6506 Chesterfield Ave
Wdr	Federal	01/30/2018	Gursharan Sidhu	0.001	0.001	652-INF-002-2	Wetlands	02070010	Nutrient Offset - 2754 Cedar Lane
Wdr	Federal	01/25/2018	Wei Wu	0.002	0.003	4800-INF-024-1	Wetlands	02070010	Nutrient Offset - 6528 Dryden Drive
Wdr	Federal	01/16/2018	Prabhu Kapaleeswaran and Aparna Krishnan	0.003	0.004	24580-INF-004-2	Wetlands	02070010	Nutrient Offset - 2550 Flint Hill Rd
Wdr	Federal	01/16/2018	Chaoying Liu	0.001	0.001	24968-INF-003-1	Wetlands	02070010	Nutrient Offset - 1235 Stoneham Ct
Wdr	Federal	01/16/2018	Oakview Street LLC	0.004	0.006	004342-inf-018-1	Wetlands	02070010	Nutrient Offset - 1445 Oakview Drive
Wdr	Federal	01/11/2018	Prince William County	0.020	0.000	NAO-2014-00555	Wetlands		
Wdr	Federal	12/28/2017	Harbor Station Communities, LLC	2.520	3.732	NWO-2004-03304/04-V0271-40	Wetlands	02070011	
Wdr	Federal	12/14/2017	Celebrity Homes LC	0.003	0.004	2017 1160	Wetlands	02070010	Nutrient Offset - 1108 Sycamore Street
Wdr	Federal	12/08/2017	Granville Estates	0.400	0.592	WP4-17-0323	Wetlands	02070011	
Wdr	Federal	12/04/2017	Northwest Properties, LLC	0.002	0.003	RN171564141	Wetlands	02070011	Nutrient Offset - 1123 Atlantic Ave
Wdr	Federal	11/28/2017	Foundation Homes	0.002	0.003	21B-158	Wetlands	02070011	Nutrient Offset - Lot 158, section 3 of Aquia Harbour
Wdr	Federal	11/02/2017	The Lars Borgwing and Mary Beth Borgwing Revocable Living Trust	0.007	0.010	001241-INF-002-2	Wetlands	02070010	Nutrient Offset - 6029 Orris Street
Wdr	Federal	10/19/2017	Celebrity Homes, LC	0.003	0.004	20170838	Wetlands	02070010	Nutrient Offset - 507 South Spring Street
Wdr	Federal	10/19/2017	Virginia Custom Homes LLC	0.004	0.006	025158-INF-007-1	Wetlands	02070010	Nutrient Offset - 6826 Rosemont Dr
Wdr	Federal	10/06/2017	Milestone Communications	0.004	0.006	SPR-2018-00043S01	Wetlands	02070010	Nutrient Offset - Milestone at Dumfries Substation
Wdr	Federal	10/06/2017	Milestone Communications	0.003	0.004	SPR-2018-00051	Wetlands	02070010	Nutrient Offset - Milestone at Freedom High
Wdr	Federal	10/06/2017	Milestone Communications	0.006	0.009	SPR-2018-00043S01	Wetlands	02070010	Nutrient Offset - Milestone at Veteran's Park
Wdr	Federal	10/04/2017	Ekana Homes Flinthill LLC	0.004	0.006	6904-INF-022-1	Wetlands	02070010	Nutrient Offset - 2525 Flint Hill Road
Wdr	Federal	09/29/2017	Prince William County	0.042	0.062	SPR-2017-00427	Wetlands	02070010	Nutrient Offset - Blackburn Road Pedestrian Improvements
Wdr	Federal	09/29/2017	The Lane Construction Corporation	0.023	0.034	NAO-2016-00264	Wetlands	02070010	

Wdr	Federal	09/12/2017	Jason Brown	0.006	0.009	20160826	Wetlands	02070010	Nutrient Offset - 1268 S. Washington St
Wdr	Federal	08/31/2017	Trophy Construction LLC	0.002	0.003	Fairfax R-17-1695	Wetlands	02070010	Nutrient offset - 6904 Rosemont Drive
Wdr	Federal	08/31/2017	Shirley Contracting Co.	0.600	0.889	NAO-2017-00237	Wetlands	02070011	
Wdr	Federal	08/31/2017	Dhananjaya Kumar	0.011	0.016	Fairfax	Wetlands	02070010	Nutrient offset - 6310 Bull Run Post Office
Wdr	Federal	08/17/2017	Lakeview Contracting Inc.	0.002	0.003	21-B-1680A Sec 6	Wetlands	02070011	Nutrient offset - 1680A Stern Cove
Wdr	Federal	08/11/2017	Prince William County, VA	0.003	0.004	SPR2016-00375R00504	Wetlands	02070010	Nutrient offset - Prince William County Sidewalk project
Wdr	Federal	08/06/2017	Saturn Partnership LLC	0.004	0.006	Fairfax 4340-INF-003-1	Wetlands	02070010	Nutrient offset - 6511 Topeka Rd
Wdr	Federal	07/25/2017	Celebrity Homes LC	0.002	0.003	Falls Church bldg	Wetlands	02070010	Nutrient Offset - 1304 Tracy Pl
Wdr	Federal	07/18/2017	Patrick Hon	0.005	0.007	RN17153599	Wetlands	02070011	Nutrient Offset - 27 Roger Wayne Dr.
Wdr	Federal	07/10/2017	Starbucks's Coffee Co.	0.001	0.001	SPR2017-00341501	Wetlands	02070010	Nutrient Offset - 13100 Worth Ave.
Wdr	Federal	06/30/2017	Sunshine Homes LLC	0.002	0.003	005134-INF-144-1	Wetlands	02070010	Nutrient Offset - 2003 Leonard Road
Wdr	Federal	06/30/2017	Superior Paving Corp.	0.120	0.178	SPR 2017-00278	Wetlands	02070010	Nutrient offset - Superior Paving Corp.
Wdr	Federal	06/29/2017	Corithian-WBCM, a Joint Venture	0.770	1.140	WP3-17-0322	Wetlands	02070011	
Wdr	Federal	06/28/2017	Cavaliers Properties LLC	0.003	0.004	WP3-17-0322	Wetlands	02070011	Nutrient offset - 6911 Strata St.
Wdr	Federal	06/12/2017	Jaoa Rodrigues	0.002	0.003	RN16150533	Wetlands	02070011	Nutrient offset 5 Pineview Dr.
Wdr	Federal	05/19/2017	Milestone Tower LP III	0.005	0.000	SPR2014-00315	Wetlands	2070010	Nutrient Offset - 9300 Signal View Dr.
Wdr	Federal	05/12/2017	Merion Homes Pimmit LLC	0.002		005134-INF-123-2	Wetlands	2070010	Nutrient Offset - 1926 Leonard Road
Wdr	Federal	04/26/2017	Richard Cook	0.007	0.000	00796-INF-00602	Wetlands	2070010	Nutrient Offset - 10718 Spruce St
Wdr	Federal	04/20/2017	Stafford County, VA	0.006	0.000	15150780	Wetlands	2070011	Nutrient Offset - Stafford Oaks Project
Wdr	Federal	04/17/2017	Foundation Homes	0.001	0.000	TM 21D-1-158	Wetlands	2070011	Nutrient Offset - Lot 158 Shadow Woods
Wdr	Federal	04/10/2017	Garafalo Homes LLC	0.001	0.000	RN17152194	Wetlands		Nutrient Offset - Lot 53 Aquia Harbour Section 3
Wdr	Federal	03/23/2017	Romeros Custom Builders LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 2210 Beacon Lane
Wdr	Federal	02/28/2017	Sandeep Shambu	0.002	0.000		Wetlands	2070010	Nutrient Offset - 7501

									Lisle Ave
Wdr	Federal	02/28/2017	Kul Homes and Investment LLC	0.004	0.000		Wetlands	2070010	Nutrient Offset - 6611 Tucker Ave.
Wdr	Federal	02/28/2017	Mitchell Homes Inc.	0.006	0.300		Wetlands	2070010	Nutrient Offset - Widewater Beach Block B Lot 125
Wdr	Federal	02/23/2017	Merion Homes Pimmit LLC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 7419 Bethune Dr. Street
Wdr	Federal	02/10/2017	Sharif Akand	0.004	0.000		Wetlands	2070010	Nutrient Offset - 2563 Rambling Rd
Wdr	Federal	02/07/2017	Celebrity Homes LC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 6950 Birch St.
Wdr	Federal	02/07/2017	Monica Borda	0.003	0.000		Wetlands	2070010	Nutrient Offset - 6447 Little River Tnpk
Wdr	Federal	01/31/2017	Schwartz Enterprises Inc.	0.005	0.000		Wetlands	2070010	Nutrient Offset - Oakspring Village Lots 11 & 12 - 3115 and 3119 Barbara Lane
Wdr	Federal	01/12/2017	Cailin & Courtney West	0.005	0.000		Wetlands	2070010	Nutrient Offset - 2015 Virginia Ave.
Wdr	Federal	12/20/2016	305 N. Lee St. LLC	0.004	0.000		Wetlands	2070010	Nutrient Offset - 305 N. Lee St.
Wdr	Federal	12/20/2016	Zimmerman Rentals LLC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 409 Rollins St.
Wdr	Federal	12/12/2016	Christopher Warin	0.004	0.000		Wetlands	2070010	Nutrient Offset - 6436 Tucker Ave.
Wdr	Federal	12/06/2016	JMWL Investments	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6801 Tennyson Dr.
Wdr	Federal	11/23/2016	Sharif Akand	0.003	0.000		Wetlands	2070010	Nutrient Offset - 369 Courthouse Rd.
Wdr	Federal	11/22/2016	Milestone LP III	0.003	0.000		Wetlands	2070010	Nutrient Offset - 13065 Chinn Park Dr.
Wdr	Federal	11/22/2016	Merion Homes Pimmit LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 1816 Peabody Dr.
Wdr	Federal	11/21/2016	Celebrity Homes LC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 2351 Brilyn Place
Wdr	Federal	11/17/2016	Above Water Properties	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6312 Lakeview Dr.
Wdr	Federal	11/15/2016	Charles & Kimberly Cates	0.005	0.000		Wetlands	2070010	Nutrient Offset - 301 N Lee St.
Wdr	Federal	11/14/2016	S&N Comm for Verizon	0.004	0.000		Wetlands	2070010	Nutrient Offset - Durga Place
Wdr	Federal	11/11/2016	Patricia & Andres Gonzalez	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6614 Ivy Hill Dr.
Wdr	Federal	11/07/2016	Khoi & Trang Ha	0.004	0.000		Wetlands	2070010	Nutrient Offset - 8938 Littleton St.
Wdr	Federal	11/03/2016	Welran Chan	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6603 Moly Dr.
Wdr	Federal	10/21/2016	Relux Homes	0.002	0.000		Wetlands	2070010	Nutrient

									Offset - 6828 Dean Dr.
Wdr	Federal	10/20/2016	Brush Arbot Home Construction LLC	0.003	0.000		Wetlands	2070011	Nutrient Offset - 3524 Slade Run Dr.
Wdr	Federal	10/12/2016	Tricord Inc.	0.030	0.000		Wetlands	2070011	
Wdr	Federal	10/12/2016	Route 606-Reston LLC	1.040	1.500		Wetlands	2070011	
Wdr	Federal	10/11/2016	Oakwood Homes of Ashland	0.003	0.000		Wetlands	2070011	Nutrient Offset - 15 Woodrow Dr.
Wdr	Federal	10/09/2016	Jinghai Zhang	0.001	0.000		Wetlands	2070010	Nutrient Offset - 507 Echols St.
Wdr	Federal	10/08/2016	Celebrity Homes Inc	0.003	0.000		Wetlands	2070010	Nutrient Offset - 308 Pennsylvania Ave.
Wdr	Federal	10/04/2016	Relux Homes	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6510 Tucker Ave
Wdr	Federal	09/29/2016	Prince William County Dept. of Transportation	0.900	1.300		Wetlands	2070011	
Wdr	Federal	09/27/2016	Weaver Construction	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6907 Strata St.
Wdr	Federal	09/27/2016	Midatlantic IRA, LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 12 Mallard Rd.
Wdr	Federal	09/21/2016	Farifax County Dept. of Public Works and Env. Services	2.160	3.200		Wetlands	2070010	
Wdr	Federal	09/14/2016	Doris Polydorou	0.003	0.000		Wetlands	2070010	Nutrient Offset - 6540 Chesterfield Ave.
Wdr	Federal	09/12/2016	Kamran and Kambiz Tavakkoli	0.002	0.000		Wetlands	2070010	Nutrient Offset - 7531 Lisle Ave.
Wdr	Federal	09/09/2016	Todd Woodrick	0.001	0.000		Wetlands	2070010	Nutrient Offset - 1601 East Ave.
Wdr	Federal	09/09/2016	Merion Homes	0.003	0.000		Wetlands	2070010	Nutrient Offset - 2007 Hileman Rd.
Wdr	Federal	09/06/2016	Relux Homes	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6517 Lumsden St.
Wdr	Federal	08/31/2016	Troy Welck	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6639 Fisher Ave.
Wdr	Federal	08/26/2016	Nash Stafford LLC	0.140	0.200		Wetlands	2070011	
Wdr	Federal	08/09/2016	Allen J. Withers	0.003	0.000		Wetlands	2070010	Nutrient Offset - 385 Widewater Rd.
Wdr	Federal	07/21/2016	Relux Homes	0.003	0.000		Wetlands	2070010	Nutrient Offset - 7004 Girard St.
Wdr	Federal	07/15/2016	Mark and Megan Kinnane	0.003	0.000		Wetlands	2070010	Nutrient Offset - 1905 Prout Place
Wdr	Federal	07/15/2016	Thack Kha	0.005	0.000		Wetlands	2070010	Nutrient Offset - 4307 Evergreen Lane
Wdr	Federal	06/29/2016	GTIS-HOV Leeland Station LLC	0.860	1.300		Wetlands	2070011	
Wdr	Federal	06/27/2016	Tricord Inc.	115.000		171.	Riverine	2070011	
Wdr	Federal	06/27/2016	Tricord Inc.	0.300	0.400		Wetlands	2070011	
Wdr	Federal	06/13/2016	Cottage Street Homes	0.003	0.000		Wetlands	2070010	Nutrient Offset - 506

								Anne St.
Wdr	Federal	06/10/2016	Jack Sava	0.003	0.000	Wetlands	2070010	Nutrient Offset - 2016 Rhode Island Ave.
Wdr	Federal	06/10/2016	Gary Ashton	0.002	0.000	Wetlands	2070010	Nutrient Offset - 5901 Upton St.
Wdr	Federal	06/10/2016	D. Papadouris & D. Sochleris	0.007	0.000	Wetlands	2070010	Nutrient Offset - 7855 Southdown Rd.
Wdr	Federal	06/06/2016	Everest Homes Inc.	0.002	0.000	Wetlands	2070010	Nutrient Offset - 1809 Anderson Rd.
Wdr	Federal	06/06/2016	Monica C. Borda	0.004	0.000	Wetlands	2070010	Nutrient Offset - Lot 36A Kathmoor Em St.
Wdr	Federal	05/27/2016	FDS Starbuck Realty, LLC	0.004	0.000	Wetlands	2070010	Nutrient Offset - 816 Park Ave.
Wdr	Federal	05/25/2016	Brush Arbor Home Construction	0.003	0.000	Wetlands	2070010	Nutrient Offset - 1527 Dahlia Court
Wdr	Federal	05/25/2016	500 Spring Street	0.003	0.000	Wetlands	2070010	Nutrient Offset - 607 Niblick Dr. SE
Wdr	Federal	05/23/2016	BFR Construction Company	0.001	0.000	Wetlands	2070010	Nutrient Offset - 710 Center St. South
Wdr	Federal	05/20/2016	Francisco & Andrea Rivas	0.005	0.000	Wetlands	2070010	Nutrient Offset - 2534 Babcock Rd.
Wdr	Federal	05/09/2016	42097 Braddock Rd LLC	0.008	0.000	Wetlands	2070010	Nutrient Offset - Braddock Road Childcare Center
Wdr	Federal	04/29/2016	Zimmerman Homes, LLC	0.002	0.000	Wetlands	2080010	Nutrient Offset - 6439 Overbrook St.
Wdr	Federal	04/22/2016	Merion Homes Pimmit, LLC	0.002	0.000	Wetlands	2080010	Nutrient Offset - 1937 Storm Dr.
Wdr	Federal	04/21/2016	Dan & Kristie Helfrich	0.004	0.000	Wetlands	2080010	Nutrient Offset - Salona Village Lot 38
Wdr	Federal	04/21/2016	Relux Homes	0.003	0.000	Wetlands	2080010	Nutrient Offset - 6501 Hitt Ave.
Wdr	Federal	03/31/2016	42097 Braddock Road, LLC	0.023	0.000	Wetlands	2070010	Nutrient Offset - Braddock Road Childcare Center
Wdr	Federal	03/31/2016	Freddie Afshar	0.003	0.000	Wetlands	2070010	Nutrient Offset - 6507 Chesterfield Ave.
Wdr	Federal	03/31/2016	Celebrity Homes, LLC	0.004	0.000	Wetlands	2070010	Nutrient Offset - 1017 Fowler St.
Wdr	Federal	03/29/2016	Loudon County, VA	0.013	0.000	Wetlands	2070010	Nutrient Offset - Rt. 1 Right Turn Lane at Garrisonville Rd.
Wdr	Federal	03/25/2016	The Drees Company	0.052	0.100	Wetlands	2070011	
Wdr	Federal	03/16/2016	Zimmerman Homes, LLC	0.003	0.000	Wetlands	2080010	Nutrient Offset - 123 W. Greenway
Wdr	Federal	03/16/2016	Brush Arbor	0.002	0.000	Wetlands	2070010	Nutrient

			Home Construction					Offset - 7401 Churchill Rd.
Wdr	Federal	03/11/2016	Jose David Aguilar	0.005	0.000	Wetlands	2070010	Nutrient Offset - 3534 Moncure Ave.
Wdr	Federal	03/03/2016	Stafford County, VA	0.080	0.100	Wetlands	2070010	Nutrient Offset - Kirkpatrick Fire and Rescue Station
Wdr	Federal	02/18/2016	Pejjai Chen Harinee	0.003	0.000	Wetlands	2070010	Nutrient Offset - 8216 Bucknell Dr.
Wdr	Federal	02/17/2016	Relux Homes	0.002	0.000	Wetlands	2070010	Nutrient Offset - 7010 Girard St.
Wdr	Federal	02/16/2016	Cottage Street Homes	0.004	0.000	Wetlands	2070010	Nutrient Offset - 335 Grove Ave.
Wdr	Federal	02/08/2016	Vienna Development Alliance, LLC	0.002	0.000	Wetlands	2070010	Nutrient Offset - 504 Hillcrest Dr. SW
Wdr	Federal	02/03/2016	Relux Homes	0.004	0.000	Wetlands	2070010	Nutrient Offset - 10713 Rosehaven St.
Wdr	Federal	02/02/2016	Sudhir Myore	0.002	0.000	Wetlands	2070010	Nutrient Offset - 109 Oakmont Ct.
Wdr	Federal	01/15/2016	Relux Homes Inc.	0.001	0.000	Wetlands	2070010	Nutrient Offset - 101 Patrick St.
Wdr	Federal	01/15/2016	Zimmerman Homes LLC	0.003	0.000	Wetlands	2070010	Nutrient Offset - 217 Greenway Blvd
Wdr	Federal	11/30/2015	Branch Highways, Inc.	0.027	0.000	Wetlands	2070010	Nutrient Offset - Garrisonville Rd.
Wdr	Federal	11/25/2015	kayvan Madani Nejad	0.002	0.000	Wetlands	2070010	Nutrient Offset - 1430 Waggaman Circle
Wdr	Federal	11/17/2015	Relux Homes	0.001	0.000	Wetlands	2070010	Nutrient Offset - 1419 Mayflower Dr.
Wdr	Federal	11/17/2015	Bobak & Claire Talebian	0.003	0.000	Wetlands	2070010	Nutrient Offset - 1401 Spring Vale
Wdr	Federal	11/13/2015	Brush Arbor Home Construction LLC	0.003	0.000	Wetlands	2070010	Nutrient Offset - 1600 Brookside Rd.
Wdr	Federal	11/05/2015	Tunc Aydogdu	0.003	0.000	Wetlands	2070010	Nutrient Offset - 6520 Montrose St.
Wdr	Federal	10/19/2015	RUPSHA 2013, LLC	0.002	0.000	Wetlands	2070010	Nutrient Offset - 6708 Lumsden St.
Wdr	Federal	10/16/2015	RUPSHA 2013 LLC	0.002	0.000	Wetlands	2070010	Nutrient Offset - 7202 Churchill Rd.
Wdr	Federal	10/06/2015	PepsiCo Americas Beverages	0.020	0.000	Wetlands	2070010	Nutrient Offset - PBS Fairfax Satellite Warehouse
Wdr	Federal	10/02/2015	Dream-It Homes LLC	0.002	0.000	Wetlands	2070010	Nutrient Offset - 7619 Lisle Ave.
Wdr	Federal	09/25/2015	Dennis Adams	0.004	0.000	Wetlands	2080010	Nutrient Offset - 2005 Rhode Island Ave.
Wdr	Federal	09/22/2015	RUPSHA 2013 LLC	0.002	0.000	Wetlands	2080010	Nutrient Offset - 1462

									Cedar Ave/
Wdr	Federal	09/14/2015	Luis Romero	0.004	0.000		Wetlands	2080010	Nutrient Offset - 7310 Hughes Ct.
Wdr	Federal	09/09/2015	Schwartz Enterprises Inc	0.005	0.000		Wetlands	2080010	Nutrient Offset - 2829 & 2831 Cleave Dr.
Wdr	Federal	08/31/2015	Salvatore Maniscalco	0.009	0.000	RN15141670, RN15141772	Wetlands	2070010	Nutrient Offset - Widewater Beach lots 122 & 127
Wdr	Federal	08/31/2015	Paul Anthony Russo	0.006	0.000		Wetlands	2070010	Nutrient Offset - 7828 Lee Ave
Wdr	Federal	08/31/2015	Brush Arbor Home Construction LLC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 1519 Crestwood Lane
Wdr	Federal	08/28/2015	HP Homes, Inc.	0.003	0.000		Wetlands	2070010	Nutrient Offset - 306 Pennsylvania Ave.
Wdr	Federal	08/06/2015	Jefferson Homes Inc.	0.001	0.000		Wetlands	2070010	Nutrient Offset - 108 Dogwood St.
Wdr	Federal	07/30/2015	Fadi Harake	0.003	0.000		Wetlands	2070010	Nutrient Offset - 2121 McKay St
Wdr	Federal	07/30/2015	Celebrity Homes LC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 315 Riley St
Wdr	Federal	07/27/2015	RUPSHA 2013, LLC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 7300 Idylwood Ct.
Wdr	Federal	07/24/2015	Colin Sandercock	0.004	0.000		Wetlands	2070010	Nutrient Offset - 7818 Crownhurst Ct.
Wdr	Federal	07/17/2015	Milestone Tower Limited Partnership II	0.002	0.000		Wetlands	2070010	Nutrient Offset - 4700 Franconia Rd - additional purchase 009492-MSP-004-1
Wdr	Federal	07/14/2015	Virginia Theological Seminary	0.001	0.000		Wetlands	2070010	Nutrient Offset - 3737 Seminary Rd.
Wdr	Federal	07/09/2015	Bo-Bud Acquisitions, LLC	0.001	0.000		Wetlands	2070010	Nutrient Offset - 6365 Dockser Terrace
Wdr	Federal	07/07/2015	Nasnani and Shrestha	0.002	0.000		Wetlands	2070010	Nutrient Offset - 1732 Pimmit Dr
Wdr	Federal	07/01/2015	Milestone Limited Partnership II	0.004	0.000		Wetlands	2070010	Nutrient Offset - 9901 Balls Ford Road
Wdr	Federal	06/26/2015	Moss Construction	0.001	0.000		Wetlands	2070010	Nutrient Offset - 11808 Lyrac Ct.
Wdr	Federal	06/24/2015	Milestone Tower Limited Partnership II	0.004	0.000		Wetlands	2070010	Nutrient Offset - 4700 Franconia Rd
Wdr	Federal	06/17/2015	Kenneth Ivey	0.003	0.000		Wetlands	2070010	Nutrient Offset - 405 Hine St. SE
Wdr	Federal	06/16/2015	BFR Construction Company	0.002	0.000		Wetlands	2070008	Nutrient Offset - 925 Circle
Wdr	Federal	06/15/2015	6202 Kellogg LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6202 Kellogg
Wdr	Federal	06/12/2015	Anthony Giordano	0.001	0.000		Wetlands	2070010	Nutrient Offset - 2036 Farragut

Wdr	Federal	06/10/2015	BFR Construction Company	0.001	0.000		Wetlands	2070008	Nutrient Offset - 101 Yeonas Way
Wdr	Federal	06/09/2015	Flavio Pereira	0.003	0.000		Wetlands	2070010	Nutrient Offset - 6413 Maplewood Dr
Wdr	Federal	06/08/2015	Rappahannock Regional Solid Waste Management Board	1.460	2.200	WP4-09-0644	Wetlands	2070011	
Rel	Federal	06/04/2015		0.760	1.100		Wetlands		amendment #3 for MBI for credit type change
Wdr	Federal	06/01/2015	Ruby Loutfi & Nima Mazhari	0.004	0.000		Wetlands	2070010	Nutrient Offset - 8241 Idlywood Rd
Wdr	Federal	05/28/2015	MHI-Tucker, LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset-6547 Tucker Ave
Wdr	Federal	05/28/2015	MHI-Clover, LLC	0.002	0.000		Wetlands	2070008	Nutrient Offset-1103 Clover Dr.
Wdr	Federal	05/18/2015	2014 Franklin, LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 2014 Franklin Ave.
Wdr	Federal	05/08/2015	Buchanan/Price, LC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 1226 Somerset Dr.
Wdr	Federal	05/07/2015	NVP, Inc.	0.003	0.000		Wetlands	2070010	Nutrient Offset-7900 Kent Rd.
Wdr	Federal	05/07/2015	NVP, Inc.	0.003	0.000		Wetlands	2070010	Nutrient Offset-7904 Kent Rd.
Wdr	Federal	05/06/2015	Daniel E. Reebel	0.005	0.000		Wetlands	2070010	Nutrient Offset - Widewater Beach Lot 128
Wdr	Federal	05/04/2015	Milestone Communication Mgmt III	0.002	0.000		Wetlands	2070010	Nutrient Offset - 3301 Peace Valley Lane
Wdr	Federal	04/28/2015	Jefferson Homes, Inc	0.002	0.000		Wetlands	2070010	Nutrient Offset - 449 Orchard St. NW
Wdr	Federal	04/28/2015	500 Spring St, LC	0.005	0.000		Wetlands	2070010	Nutrient Offset - 360 Windover
Wdr	Federal	04/28/2015	500 Spring St, LC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 331 West St
Wdr	Federal	04/21/2015	Brush Arbor Home Construction LLC	0.004	0.000		Wetlands	2070008	Nutrient Offset - 6144 Tompkins Dr
Wdr	Federal	04/17/2015	Milestone Tower Limited Partnership, III	0.003	0.000		Wetlands		Nutrient Offset - 14716 Minnieville Rd
Wdr	Federal	04/17/2015	Laurel Hill Investments LC	0.020	0.000		Wetlands	2070010	
Wdr	Federal	04/14/2015	Roger & Alessia McIntosh	0.003	0.000		Wetlands	2070010	Nutrient Offset - 10412 Miller Rd.
Rel	Federal	04/10/2015		92.000		137.	Riverine		
Rel	Federal	04/10/2015		5.660	8.400		Wetlands		ehld back 0.76 credits for upland preservation until streamline MBI and plan are modified for creit type change

Wdr	Federal	03/30/2015	Relux Homes Inc	0.002	0.000		Wetlands	2070010	Nutrient Offset - 6616 Tucker Ave
Wdr	Federal	03/26/2015	Schwartz Enterprises, Inc	0.004	0.000		Wetlands	2070010	Nutrient Offset - 4104 Doveville Lane
Wdr	Federal	03/17/2015	Buchanan/Price LC	0.004	0.000		Wetlands	2070010	Nutrient Offset - 6907 Pine Crest Ave
Wdr	Federal	03/17/2015	Walker Station, LC	0.005	0.000		Wetlands	2070010	Nutrient Offset - 9320 Mosby St
Wdr	Federal	03/17/2015	Celebrity Homes, LC	0.003	0.000		Wetlands	2070010	Nutrient Offset - 527 Greenwich St
Wdr	Federal	03/16/2015	LAH Richmond Ave LLC	0.006	0.000		Wetlands	2070010	Nutrient Offset - 8417 Richmond Ave
Wdr	Federal	03/04/2015	Prem K. Bhandari	0.003	0.000		Wetlands	2070010	Nutrient Offset - 8311 Colby St
Wdr	Federal	02/25/2015	Town of Colonial Beach VA	0.005	0.000		Wetlands	2070011	Nutrient Offset - Colonial Beach Project # 21204.01
Wdr	Federal	02/18/2015	Cottage Street Custom Homes	0.001	0.000		Wetlands	2070010	Nutrient Offset - 510 Anne St.
Wdr	Federal	02/13/2015	Milestone Communications Mgmt Inc, III	0.003	0.000		Wetlands	2070010	Nutrient Offset - 8236 Wellington Rd.
Wdr	Federal	02/10/2015	Columbia Ventures LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset - 2105 Pimmit Dr.
Wdr	Federal	02/10/2015	Milestone Communications Mgmt Inc, III	0.002	0.000		Wetlands	2070010	Nutrient Offset
Wdr	Federal	02/09/2015	Chaoying Liu & Yu-Kui Zhou	0.003	0.000		Wetlands	2070010	Nutrient Offset - 1302 Calder Rd.
Wdr	Federal	01/23/2015	S&H Associates of Staunton LLC	0.028	0.000		Wetlands	2070005	Nutrient Offset
Wdr	Federal	01/21/2015	Relux Homes Inc	0.003	0.000		Wetlands	2070010	Nutrient Offset
Wdr	Federal	01/13/2015	Milestone Communications Mgmt Inc, III	0.001	0.000		Wetlands	2070010	Nutrient Offset - 8236 Wellingston Rd
Wdr	Federal	01/12/2015	RUPSHA 2013 LLC	0.002	0.000	024835-INF-002-2	Wetlands	2070010	Nutrient Offset - 6923 Epsey Lane
Wdr	Federal	01/12/2015	RUPSHA 2013 LLC	0.002	0.000	025852-INF-002-1	Wetlands	2070010	Nutrient Offset - 6653 Old Chesterbrook Rd.
Wdr	Federal	01/06/2015	2214 N. Trinidad St. LLC	0.002	0.000	007784-INF-006-1.1	Wetlands	2070010	Nutrient Offset - 2214 N. Trinidad St.
Wdr	Federal	12/23/2014	RUPSHA 2013 LLC	0.002	0.000	025797-INF-001-2	Wetlands	2070011	Nutrient Offset
Wdr	Federal	12/22/2014	Jeffrey B. Price	0.002	0.000	024739-INF-003-1.1	Wetlands		Nutrient Offset
Wdr	Federal	12/19/2014	HP Homes Inc	0.004	0.000		Wetlands	2070010	Nutrient Offset
Wdr	Federal	12/15/2014	RUPSHA 2013 LLC	0.002	0.000		Wetlands	2070010	Nutrient Offset
Wdr	Federal	12/11/2014	Brush Arbor Home Construction LLC	0.003	0.000		Wetlands		Nutrient Offset
Wdr	Federal	12/09/2014	Gregory Scott Collier	0.002	0.000		Wetlands		Nutrient Offset

Wdr	Federal	12/05/2014	Celebrity Homes LC	0.003	0.000			Wetlands	2070010		Nutrient Offset
Wdr	Federal	11/26/2014	Branch Highways, Inc	0.197	0.300		VAR10-13-101291	Wetlands	2070005		Nutrient Offset
Wdr	Federal	11/26/2014	RUPSHA 2013 LLC	0.002	0.000		025795-INFC-000-AD	Wetlands	2070011		Nutrient Offset
Wdr	Federal	11/25/2014	HP Homes Inc	0.003	0.000			Wetlands			Nutrient Offset
Wdr	Federal	11/21/2014	American Infrastructure-VA,Inc	0.153	0.200		VAR-10-G217	Wetlands			Nutrient Offset
Wdr	Federal	11/19/2014	Collicello North LLC	0.093	0.100			Wetlands			Nutrient Offset
Wdr	Federal	11/18/2014	Hua Yuan Xu	0.001	0.000			Wetlands			
Wdr	Federal	11/05/2014	Forbes Development LLC	0.032	0.000		VAR108500	Wetlands			Nutrient Offset
Wdr	Federal	08/29/2014	CSX Transportation	1.990	2.900		10-1552	Wetlands	2070011		
Wdr	Federal	07/09/2014	University Center LLC	0.088	0.100			Wetlands	2070005		Nutrient Offset
Wdr	Federal	06/27/2014	Corman-Wagman	2.622	3.900		NAO-2013-00428	Wetlands	2070010		
Rel	Federal	05/05/2014		6.700	9.900			Wetlands			Phase I-Year 5 and Phase 3-Year 2 Monitoring Reports
Wdr	Federal	05/05/2014	SM Stafford LLC	0.070	0.100		WP3-13-1534	Wetlands	2070011		
Wdr	Federal	04/02/2014	VDMV	0.025	0.000			Wetlands			Nutrient Offset
Wdr	Federal	02/17/2014	Acacia Farms Fund 10-A LLC	38.000		57.		Riverine	2070011		
Wdr	Federal	02/07/2014	Shirley Contracting Company	0.014	0.000			Wetlands	2070011		Nutrient Offset
Wdr	Federal	01/15/2014	Brytmark at Moncure Valley LLC	228.000		340.	WP4-12-0351	Riverine	2070011		
Wdr	Federal	01/15/2014	Brytmark at Moncure Valley LLC	0.060	0.100		WP4-12-0351	Wetlands	2070011		
Wdr	Federal	12/26/2013	VDMV	0.060	0.100			Wetlands	2070011		Nutrient offset
Wdr	Federal	12/18/2013	The Glens	0.080	0.100		NAO-2004-03093	Wetlands	2070011		
Wdr	Federal	10/31/2013	VDOT I-95 Express Lanes	114.000		170.		Riverine	2070011		
Wdr	Federal	09/10/2013	Dominion Electric Power	7.870	11.700		NAO-2013-00104	Wetlands	2070011		
Wdr	Federal	07/29/2013	Stafford County	0.290	0.400			Wetlands	2070011		
Wdr	Federal	05/31/2013	I-95 Industrial Park	17.000		25.	WP4-08-0190	Riverine	2070011		
Wdr	Federal	03/28/2013	Newland Nash	1.900	2.800		97-1212-45	Wetlands	2070011		
Rel	Federal	11/15/2012		31.000		46.		Riverine			Following field review & 2012 Stream & Buffer monitoring report
Rel	Federal	11/15/2012		17.780	26.300			Wetlands			following review of 22012 Phase 2 & Phase 3 Wetland Monitoring Report
Wdr	Federal	11/15/2012	Uniwest Development	77.000		115.	WP4-09-0018	Riverine	2070010		
Wdr	Federal	09/26/2012	Prince William County	0.014	0.000		12-0640	Wetlands	2070010		
Rel	Federal	04/23/2012		7.610	11.300			Wetlands			2011 MMR
Rel	Federal	03/12/2012		466.000		694.		Riverine			2011 MMR
Wdr	Federal	01/24/2012	Virginia Railway Express	0.630	0.313			Wetlands	2070011	.313	WP4-10-1677

Wdr	Federal	01/23/2012	CM	13.350		13.		Riverine	2070011		Coan Mill GSA resolution
~~Wdr~~	~~Federal~~	~~09/26/2011~~	~~Walbridge~~	~~176.000~~		~~262.~~		~~Riverine~~			
Wdr	Federal	09/16/2011	The Highlands	1.210	1.800		WP4-03-1536	Wetlands			Consent Order
Wdr	Federal	06/30/2011		0.560	0.800		SPGP-2008-00817	Wetlands			
Wdr	Federal	12/28/2010		1.460	2.200			Wetlands			
Wdr	Federal	11/02/2010		78.000		116.		Riverine			
Rel	Federal	10/19/2010		189.000		282.		Riverine			2010 Monitoring report release
Wdr	Federal	10/19/2010		0.100	0.100		WP4-04-0537	Wetlands			
Rel	Federal	08/23/2010		78.000		116.		Riverine			
Wdr	Federal	06/30/2010		0.180	0.300		WP3-09-0636	Wetlands			
Wdr	Federal	06/07/2010	VDOT Bulk Sale (IFB # 111879)	1,529.000		2,278.	Contract # 000000000000031049	Riverine	2070011	1529	VDOT Bulk Sale
Wdr	Federal	05/05/2010		150.000		223.	WP4-10-0540, 07-SPGP-01	Riverine	2070010	123	
Wdr	Federal	04/13/2010		64.000		95.	WP 04-1404	Riverine	2070011		
Rel	Federal	03/04/2010		1,267.000		1,888.		Riverine			
Rel	Federal	03/04/2010		7.600	11.300			Wetlands			
Wdr	Federal	12/30/2009		0.440	0.700		WP4-08-0190	Wetlands	2070011		
Rel	Federal	06/28/2009		346.000		516.		Riverine			
Rel	Federal	06/28/2009		-0.500	-0.700			Wetlands			
Init	Federal	05/29/2009		737.000		0.		Riverine			Approved revisions to plan design resulted in additional potential stream credits
Wdr	Federal	04/28/2009	Hensel Phelps	0.240	0.400		WP3-09-0119, WP3-09-0119	Wetlands	2070011		
Wdr	Federal	04/08/2009	Hensel Phillips	156.000		232.	WP3-09-0119 & WP3-09-9062, WP3-09-0119 & WP3-09-9062	Riverine	2070011		
Wdr	Federal	03/24/2009	Aquia Overlook	0.110	0.200		WP4-04-1753, WP4-04-1753	Wetlands	2070011		
Wdr	Federal	03/02/2009	Duke Realty Construction	131.000		195.	WP4-09-0007, WP4-09-0007	Riverine	2070011		
Wdr	Federal	02/20/2009	FBI	78.650		117.	WP4-08-1861, WP4-08-1861	Riverine	2070011		
Wdr	Federal	10/30/2008	Hensel Phelps	1.600	2.400		WP4-08-1829, WP4-08-1829	Wetlands	2070011	1.6	
Wdr	Federal	10/30/2008	Hensel Phillips	194.000		289.	WP4-08-1829, WP4-08-1829	Riverine	2070011		
Rel	Federal	10/28/2008		690.000		1,028.		Riverine			
Rel	Federal	10/28/2008		19.900	29.500			Wetlands			
Init	Federal	05/06/2008		308.000		736.		Riverine			
Init	Federal	05/06/2008		211.000				Riverine			Adjustment Factor
Init	Federal	05/06/2008		4.200	64.200			Wetlands			
Init	Federal	05/06/2008		0.400	4.200			Wetlands			
Init	Federal	05/06/2008		431.000		3,911.		Riverine			Stream and Buffers
Init	Federal	05/06/2008		128.000	128.000			Wetlands			
Init	Federal	05/06/2008		1,471.000	53.000			Riverine			Rehabilitation

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MITIGATION
BANKING INSTRUMENT

Buena Vista Wetland Mitigation Bank
King George County, Virginia

Prepared for

Mr. John Marino
Buena Vista Wetland Mitigation Bank, LLC
113 North Fayette Street
Alexandria, Virginia 22314

Prepared by

Williamsburg Environmental Group, Inc.
7501 Boulders View Drive, Suite 205
Richmond, Virginia 23225
Phone: (804) 267-3474
Fax: (804) 267-3470

April 2008
(Based on March 27, 2008 Draft MBI)

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Executive Summary

This Banking Instrument, which describes the establishment, use, operation, and maintenance of Wetlands Bank (hereinafter, the "Bank") is an agreement (the "Agreement") made and entered into by and among Buena Vista Wetland Mitigation Bank, LLC (hereinafter, "Sponsor"), the U.S. Army Corps of Engineers ("Corps"), the U.S. Environmental Protection Agency ("EPA"), the U.S. Fish and Wildlife Service ("FWS"), the Virginia Department of Environmental Quality ("DEQ"), and the Virginia Marine Resources Commission ("VMRC").

I. PREAMBLE

A. **Purpose**: Whereas, the purpose of this Banking Instrument is to establish guidelines and responsibilities for the establishment, use, operation, and maintenance of the Bank. The Bank will be used for compensatory Mitigation for unavoidable impacts to waters of the United States including wetlands that result from activities authorized under Section 401 and 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:5 of the Code of Virginia provided such activities have met all applicable requirements and are authorized by the appropriate authority.

B. **Goals and Objectives**: Whereas, the Sponsor's goals and objectives for the Bank are to (1) protect existing natural resources within the Potomac River watershed; (2) enhance impaired or altered natural resources including wetland and stream channels; and (3) provide wetland and stream compensation credits for environmental impacts within the Geographic Service Area (GSA) as defined in Section V.A. and shown in Exhibit E.

C. **Location and Ownership of Parcel**: (1) Whereas, the Sponsor has acquired , or secured by easement or other sufficient property easement 251 acres of land in King George County, Virginia, as shown on the vicinity map (Exhibit A) and as depicted on a plan prepared by Williamsburg Environmental Group, dated November 2007, (Exhibit C). Said parcels are hereinafter referred to as the "Property." (2) The Sponsor may elect to acquire additional lands in the Potomac River watershed by proposing a Bank Development Plan for each new parcel as an amendment to this Banking Instrument. (3) The Sponsor will provide a legal description of the Property that includes a reference to the deed and Plat and a copy of the Plat depicting the limits of the proposed bank. The plat will show all easements, encumbrances, and liens.

The Sponsor is required to obtain a title search to show all liens, easements, rights of way, or other encumbrances as well as the history of property ownership that will affect rights to develop the Property as planned and to place deed restrictions on the Property.

D. **Project Description**: Whereas, in accordance with this Banking Instrument, the Sponsor will establish and/or maintain aquatic habitats and upland buffers in compliance with the provisions of this Banking Instrument and the Bank Development Plan (Exhibit C), and shall then maintain each phase of the Bank in such condition for ten (10) years. The bank sponsor shall be responsible for compliance with this Mitigation Banking Instrument and the Bank Development Plan until the Bank is closed in accordance with the Bank Closure Procedures or until all Credits are sold, whichever is later. The Bank area shall consist of a mixture of preserved non-tidal and tidal wetlands, created/restored non-tidal wetlands, preserved stream channels, enhanced stream channels, and the preservation and restoration of riparian buffers as described in Exhibit C.

E. **Baseline Conditions**: Whereas, the Bank area is currently dominated by active agricultural fields, with some areas of mixed hardwood forest, approximately 6.31 acres of existing wetlands, and 4,647 linear feet of existing stream channels. These features will be modifies so as to re-establish wetland conditions and/or functions, or to restore, enhance, or preserve an existing wetland or stream system on this site.

1. Wetlands

Wetlands on site were delineated by WEG during December 2006 using the Routine Determination Method, as outlined in the 1987 Corps of Engineers Wetland Delineation Manual. The U.S. Army Corps of Engineers confirmed the wetland boundaries by letter dated January 31, 2007.

Wetlands are tidal and non-tidal and may be classified further as, predominantly either emergent or forested, occurring in a variety of landscape situations as they drain toward Deep Creek. Generally, emergent communities have tidal influence and include scattered areas of scrub/shrub fringe as they transition to non-tidal wetlands. Vegetation in these emergent wetlands is typified by salt reed grass (*Spartina cynosuroides*), narrow-leaf cattail (*Typha angustifolia*), swamp rose mallow (*Hibiscus moscheutos*), climbing hempweed (*Mikania scandens*), and pennywort (*Hydrocotyle umbellate*). Forested wetlands are generally non-tidal and exist primarily in headwater drainages and along the fringe of the streams before the transition into tidal wetlands. Vegetation in forested wetland communities is typified by green ash (*Fraxinus pennsylvanica*), sweet gum (*Liquidambar styraciflua*), river birch (*Betula nigra*), red maple (*Acer rubrum*), spice bush (*Lindera benzoin*), lizard's tail (*Saururus cernuus*), false nettle (*Boehmeria cylindrica*), jewelweed (*Impatiens capensis*), wood reed grass (*Cinna arundinacea*), and greenbriar (*Smilax rotundifolia*),

2. Soils

According to the Soil Survey of Stafford and King George Counties, Virginia (1974), the landscape of the Bank area is comprised of deep, nearly level to moderately sloping soils. The soil survey indicates that the site is underlain primarily by Bladen loam, Pooler loam, and Caroline-Sassafras complex. The Bladen loam and Pooler loam soils are poorly drained and are on the National Hydric Soils List (NTCHS, 1995).

3. Hydrology

Numerous unnamed tributaries to Deep Creek and Williams Creek, tributaries of the Potomac River, traverse the Bank area. In general, the southern portion of the site drains to Deep Creek while the northern portion drains to Williams Creek. The site contains numerous side slope seeps that provide a significant source of hydrology. In addition, the soil survey indicates that the seasonal high water table reaches within 0 to 12 inches of the soil surface in the Bladen and Pooler series.

4. Existing Conditions within Mitigation Areas

The majority of the Bank area is comprised of prior converted (PC) cropland and active farm fields. The PC land contains numerous spring seeps emerging from the hill slope on the western end of the site that provide areas of wetland vegetation amongst the agricultural grasses. The active farm fields are routinely planted in corn or soybeans.

Approximately 4,830 LF of stream channel were confirmed on the Buena Vista property. Stream channels confirmed within 50-foot (approximate) power line easements were excluded from the

Bank limits: therefore, approximately 4,647 LF of stream channel are proposed for mitigation. Of the 4,647 LF, approximately 3,911 LF of channel will be preserved. These streams have varying characteristics but exhibit a stable dimension, pattern, and profile. The preservation portion of S1R1 has a relatively linear pattern but is a low energy system with stable streambanks and is not highly incised. It has a narrow band of trees along the streambanks and the remaining buffer is active farm field. Streams S1R2 & S2R1 are relatively sinuous with minor erosion on the streambanks with well developed floodplains within a steep, confined valley as they flow towards the wetlands associated with Deep Creek. The steep, confined valley provides a riparian buffer of variable widths. The remaining buffer is active farm field. Stream S3R1 is a low gradient system with excellent floodplain connection and little to no riparian buffer.

Stream enhancement will occur on 736 LF of stream in the lower portion of S1R1. This section exhibits significant bank erosion and incision. This degradation appears to be the result of the confined valley and lack of adequate floodplain development. It exhibits steep, eroding streambanks that have adversely affected instream habitat and function. Forested riparian buffers exist in widths varying from 20' to over 100' with active farm field comprising the remainder of the buffers.

F. **Establishment and Use of Credits**: Whereas, in accordance with the provisions of this Banking Instrument and upon satisfaction of the Success Criteria contained herein, Mitigation Credits determined in accordance with Exhibit D of this Banking Instrument will be available to be used as Mitigation in accordance with all applicable requirements for permits issued under Section 401 and 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act and Section 62.1-44.15:5 of the Code of Virginia. The number of Credits available will be determined based upon the final approved design and the resulting habitats planned for each phase of the Bank in accordance with the terms and conditions contained herein.

G. **Whereas**, as of the date of the Agreement and subject to execution of the Agreement by a duly authorized representative of the respective agencies described below, the Mitigation Banking Review Team (MBRT) consists of:

1. Corps, Chair, represented by Regena Bronson; and

2. EPA, represented by Charles Rhodes; and

3. FWS, represented by Kim Smith; and

4. DEQ, represented by Michelle Henicheck/Bettina Rayfield; and

5. VDGIF, represented by Amy Ewing; and

Each entity represented on the MBRT may replace its representative upon written notice to the MBRT chair, the other MBRT members, and the Sponsor.

H. **Disclaimer**: Whereas, this MBI does not in any manner affect statutory authorities and responsibilities of the signatory parties.

I. **Exhibits**: Whereas, the following Exhibits are incorporated by reference to this MBI:

1. Exhibit A: Vicinity Map;
2. Exhibit B: Location Map;
3. Exhibit C: Bank Development Plan;
4. Exhibit D: Crediting and Debiting Procedure for the Bank;
5. Exhibit E: Service Area Map;
6 Exhibit F: Restrictive Covenant; and
7. Exhibit G: Financial Assurance-Escrow Agreement;

NOW, THEREFORE, the parties hereto agree as to the following:

II. DEFINITIONS*

1. BANK SPONSOR – Any public or private entity responsible for establishing, and in most circumstances operating a Mitigation Bank.
2. BANK DEVELOPMENT PLAN – The overall plan governing establishment, Restoration, Creation, Enhancement, and/or Preservation of aquatic resources and associated upland buffers on the Bank Site.
3. BANKFULL EVENT – The storm event that corresponds with the stream stage at its incipient point of flooding. The bankfull discharge associated with the Bankfull Event is the flow that transports the majority of a stream's sediment load over time and thereby forms and maintains the channel dimension, pattern, and profile.
4. BUFFER – Those areas located adjacent to and landward of either the top of a stream bank or wetlands.
5. BUFFER ENHANCEMENT – Improvements to buffers areas including supplemental plantings.
6. BUFFER RESTORATION –Establishment of buffer areas where none were previously present. Buffer establishment includes planting native species and associated measures such as fencing, posting, and livestock exclusion.
7. BUFFER REESTABLISHMENT – Removal of invasive species in a buffer and then replanting with native species.
8. COMPENSATION – Actions taken which have the effect of substituting some form of aquatic resource for those lost or significantly disturbed due to a permitted development activity; generally aquatic resource Preservation, Restoration, or Creation.
9. CREATION – The establishment of an aquatic resource, such as a wetland where one did not formerly exist.
10. CREDIT – A unit of measure representing an accrual or attainment of aquatic resource function, condition, or other performance at a Mitigation Bank.
11. DEBIT – A unit of measure representing the reduction of credits at the Mitigation Bank corresponding to the impact at the project site.
12. ESCROW AGREEMENT- An agreement by which two parties assent to the deposit of a sum of money with a third party for conditional delivery under stipulated circumstances.
13. FINANCIAL ASSURANCES – A mechanism or instrument used to guarantee some aspect of the Bank. Financial Assurances may include an escrow account or other mechanism acceptable to the MBRT. There may be 3 different Financial Assurances associated with a Mitigation Bank: a) A mechanism to guarantee an advance release of

Mitigation Bank Credits; b) The Maintenance and Monitoring Fund; The Catastrophic Event and Long-Term Management Fund.

14. FUNCTIONS – The physical, chemical, and biological ecosystem processes of an aquatic resource without regard to their importance to society.
15. LEDGER – An accounting of Credits and Debits.
16. LONG-TERM STEWARD – The landowner or easement holder of the Bank lands charged with long-term maintenance and management responsibility. A Long-Term Steward may be designated once Success Criteria monitoring (typically monitoring for 10 years following completion of grading) has been completed. In some cases, the Sponsor may also be the Long-Term Steward.
17. MITIGATION – Sequentially avoiding impacts, minimizing impacts, and compensating for remaining impacts to aquatic resources.
18. MITIGATION BANK – A site or sites where aquatic resources are restored, created, enhanced, or in exceptional circumstances, preserved expressly for the purpose of providing compensatory Mitigation in advance of authorized impacts to similar resources.
19. MITIGATION BANK INSTRUMENT (MBI) - the legal document governing the establishment, operation, and use of a commercial mitigation bank, a single-client mitigation bank, or a single-user mitigation bank
20. MITIGATION BANK REVIEW TEAM (or MBRT) – An interagency group of federal, state, tribal, and/or local regulatory and resource agency representatives which participate in the development of a Banking instrument and oversee the establishment, use, and operation of a Mitigation Bank with the Corps serving as chair. For tidal wetland Mitigation Banks, the Corps and VMRC will serve as co-chairs.
21. MITIGATION SITE PLAN – A detailed portion of the Bank Development Plan that identifies specifically how aquatic resources and associated upland buffers will be restored, created, enhanced, or preserved on the Mitigation Bank.
22. MITIGATION PERFORMANCE – The outcome of applying success criteria to a mitigation site in terms of identified goals and objectives.
23. MONITORING YEAR 1 (ONE) – The end of the first complete growing season following completion of construction activities, including planting.
24. ORDINARY HIGH WATER MARK- that line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.
25. PRESERVATION – The protection of ecologically important aquatic resources in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation will include protection of upland areas adjacent to wetlands and/or riparian areas adjacent to stream channels or other aquatic resources as necessary to ensure protection and/or Enhancement of the aquatic ecosystem.
26. STREAM PRESERVATION –Protection of ecologically important streams in perpetuity through the implementation of appropriate legal and physical mechanisms. Preservation includes the protection of riparian areas adjacent to streams as necessary to ensure protection or enhancement of the overall stream. The stream system must be a high quality, relatively undisturbed system that requires little or no enhancement activities.

27. SUCCESS CRITERIA – The minimum standards required to meet the objectives for which the Bank was established.
28. STREAM ENHANCEMENT

    Stream Enhancement and Bank Stabilization – Enhancement activities include physical alterations to the channel that do not constitute Restoration but directly augment channel stability, water quality, and stream ecology in accordance with a reference condition, where appropriate. These activities may include in-stream and/or streambank activities, but fall short of restoring one or more of the geomorphic variables: dimension, pattern and profile. Included in Stream Enhancement are habitat structures, bio-remediation activities, streambank plantings (below top of bank), and creation of bankfull benches.

    Stream Enhancement with Structures - This activity includes structures that are specifically designed and result in grade control and/or bank stabilization. Accepted structures include, but are not limited to cross-vanes, j-hook vanes, native material revetments, W rock weirs, rock vortex weirs, log-vanes, constructed riffles, and step-pools. These structures may be created out of appropriate sized rock or logs, boulders or cobbles based on the size of the stream and the flow regime.

29. STREAM RESTORATION - Converting an unstable, altered, or degraded stream corridor, including adjacent riparian zone (buffers) and flood-prone areas, to its natural stable condition considering recent and future watershed conditions. This process should be based on a reference condition/reach for the stream valley type and includes restoring the appropriate geomorphic dimension (cross-section), pattern (sinuosity), and profile (channel slopes), as well as reestablishing the biological and chemical integrity, including transport of the water and sediment produced by the stream's watershed in order to achieve dynamic equilibrium.
30. WETLAND ENHANCEMENT – Activities conducted in existing wetlands, which increase one or more aquatic Functions.
31. WETLAND RESTORATION – Re-establishment of wetland characteristics or Function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.

* Derived from:

Federal Guidance for the Establishment, Use, and Operation of Mitigation Banks (FR V. 60 No. 228, November 28, 1995);

Guidelines for Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VA Admin. Code 20-390-10 et. seq.);

Cowardin, L.M. et al. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U. S. Fish and Wildlife Service, Office of Biological Services. Washington, D.C. FWS/OBS-79/31. 131 pp.

North Carolina Stream Mitigation Guidelines (April 2003)
http://www.saw.usace.army.mil/WETLANDS/Mitigation/stream_mitigation.html

Unified Stream Methodology (January 18, 2007)
http://www.deq.virginia.gov/wetlands/mitigate.html#usm

III. AUTHORITIES

The establishment, use, operation, and maintenance of the Bank is carried out in accordance with the following authorities:

A. Federal:

1. Clean Water Act (33 USC 1251 et seq.);
2. Rivers and Harbors Act (33 USC 403);
3. Fish and Wildlife Coordination Act (16 USC 661 et seq.);
4. Regulatory Programs of the Corps of Engineers, Final Rule (33 CFR Parts 320-332);
5. Guidelines for Specification of Disposal Sites for Dredged and Fill Material (40 CFR Part 230);
6. Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army concerning the Determination of Mitigation Under Clean Water Act, Section 404 (b)(1) Guidelines (February 6, 1990);
7. Federal Guidance for the Establishment, Use, Operation of Mitigation Banks (60 F.R. 58605 et seq. November 28, 1995); and
8. Regulatory Guidance Letter No. 02-02, U.S. Army Corps of Engineers, December 26, 2002
9. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005.
10. Regulatory Guidance Letter No. 06-03. U.S. Army Corps of Engineers, August 3, 2006.

B. Commonwealth of Virginia:

1. Sections 62.1-44.15:20-23 of the Code of Virginia.
2. Virginia Water Protection Permit Regulation (9 VAC 25-210); and
3. Guidelines for the Establishment, Use, and Operation of Tidal Wetland Mitigation Banks in Virginia (4 VAC 20-390-10 et seq.)

IV. ESTABLISHMENT OF THE BANK

A. **Scope of Work**: The Sponsor agrees to perform all necessary work, in accordance with the provisions of this Banking Instrument, to establish and maintain aquatic habitats and associated uplands buffers, as described in Exhibit C, until it is demonstrated to the satisfaction of the agencies represented on the MBRT (acting through the Chair) that the project complies with all provisions contained herein, or until all Credits are sold, whichever is later. Work as described above shall include implementing the Bank Development Plan (Exhibit C). Prior to any Debiting, the Mitigation Site Plan for the phase of the Mitigation Bank proposed for Debiting must be approved by the MBRT, the site for that phase must be secured, and appropriate Financial Assurances (escrow agreement) for that phase must be established.

B. **Permits**: The Sponsor will obtain all appropriate permits or other authorizations needed to construct and maintain the Bank, prior to Debiting any advance Credits. This Banking Instrument does not fulfill or substitute for such authorization.

The Sponsor agrees not to utilize a non-reporting Nationwide Permit or State Program General Permit under Section 10 of the Rivers and Harbor Act , Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Waters of the United States and/or State Waters on the Property. Notification to the appropriate permitting authorities shall be required for the use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

C. **Bank Development Plan**: Establishment of the Bank may be performed in phases as described in the Bank Development Plan (Exhibit C), and the Credits will become available in accordance with the schedule specified in Part V, Sections F and G of this Banking Instrument.

D. **Financial Assurance Requirements**:

1. For the advance release of Credits (not to exceed 15% of the total number of Credits that could be derived from this site) the Sponsor agrees to provide adequate Financial Assurances (e.g. escrow agreement, performance bond) to ensure that aquatic resources would be restored or established on site. The amount of the assurances should be sufficient to acquire replacement compensatory mitigation through an approved bank or in-lieu fee program in the event of a default (see also Part V, F1). Release of funds from this Financial Assurance will be recommended by the MBRT once it has reviewed and approved the annual monitoring report for the year the advanced release of credits occurred. which demonstrates that success criteria have been met for the type of credits previously released (i.e. stream or wetland). Complete release of the financial assurance agreement may only occur if the submitted report demonstrates that sufficient area met the specific success criteria (as stated herein) to offset the advanced release of Credits. (Please see Section V, F4 and F5 for stream credit release schedule)

2. The Sponsor shall establish an escrow account/performance bond with the following law firm/title company/surety company who will act as specified under this Banking Instrument:

Mr. Duncan Blair
Land, Clark, Carroll, Mendelson and Blair
Trust Account
524 King Street
Alexandria, Virginia 22314
703.836.1000

The Sponsor may, at its discretion, replace this escrow agent/surety company with a different law firm, title, or surety company registered to do business in the Commonwealth of Virginia. The provisions of the new instrument shall conform with the provisions of the former instrument.

3. For any sale of Mitigation Credits consummated by the Sponsor:

a. 8% of all cash proceeds from said transactions shall be placed in a separate escrow account (or an equivalent amount placed in a performance bond) to be called the Maintenance and Monitoring Fund. If the required monitoring or maintenance is not conducted as specified in Section VI of this instrument and the Bank Development Plan, then the MBRT, acting through the Chair shall request release of funds to an MBRT agency or its designee from this account sufficient to cover the necessary monitoring or maintenance activities. One-tenth of this fund (or 0.8% of the total cash proceeds) shall be released to the Sponsor on each February 1st after the MBRT reviews and approves the most recently submitted monitoring report (see Section VI C) that documents that part or all of the Restoration/Creation/Enhancement portion of the site satisfies the Bank Success Criteria (see Part V E) to cover the expected costs of maintenance and monitoring over the required 10 year monitoring period. The last one-tenth of the fund (or 0.8% of the total cash proceeds) shall be held until the final monitoring report is submitted.

b. 3% of all cash proceeds from said transactions shall be placed in a federally insured financial institution in an interest bearing account. In the event of a catastrophic event, as determined by the MBRT, that effects the long term viability of the Mitigation Bank, the MBRT can cause the appropriate corrections to occur by either: (i) directing the Sponsor, if said event occurs while the Sponsor's maintenance period is in effect, to implement corrections which will be funded by release of an appropriate amount of said funds, (ii) recommend the escrow agent release the necessary funds to the Long-Term Steward of the Mitigation Bank to make necessary corrections and/or manage the Property, or (iii)) recommend the escrow agent release the funds to an Agency represented on the MBRT or its designee to effect the necessary corrections. Any unspent funds shall remain in this fund if not utilized to repair the Mitigation Bank from a catastrophic event or for long-term management of the Bank site. This Catastrophic Event and Long-Term Management Fund will be transferred to the designated Long-Term Steward of the land for use in addressing future catastrophic events or land management requirements once all monitoring has been completed and all Credits from the Bank have been Debited.

4. Long-term (past 10 years) maintenance requirements will be determined on a site-specific basis. However, any such activities shall be the responsibility of the Long-Term Steward. The Catastrophic Event and Long-Term Management Fund, shall provide a funding source for any significant repairs necessitated by natural disasters or other catastrophic events as defined in paragraph E below that the Sponsor or Long-Term Steward must address.

E. **Catastrophic Event and Long Term Management Fund**: As described above, a portion of all cash proceeds from said transactions shall be placed in an escrow account called the

Catastrophic Event and Long Term Management Fund. Damages from the catastrophic events identified below are permitted to be repaired using the principal and interest accumulated in the Catastrophic Event and Long Term Management Fund by either the Sponsor or the long term steward of the land, the funds being provided to whichever entity has responsibility to repair the resulting damages. Expenditures shall be approved by the MBRT if the damage occurs within the 10-year monitoring period associated with Bank establishment. The sponsor is responsible for demonstrating to the MBRT's satisfaction that catastrophic damage has taken place. Expenditures may be approved to address the following issues:

1. Floods greater than a presently projected 100-year flood, where "flood" refers to a runoff event;
2. Tornado of F2 or greater magnitude on the Fujitsu scale;
3. Hurricane of Category 3 or greater magnitude on the Saffir-Simpson scale;
4. Earthquakes of a magnitude greater than 6.5 on the Richter Scale;
5. Extreme drought (Drought Monitor Classification of D3 or greater or Palmer Drought Index of -4.0 or less) if such event has broad regional impact, and is not endemic to the Bank and its immediate locale;5. Drought, insect damage, or animal damage to planted vegetation that occurs across a majority of the site at a magnitude such that the vegetation fails to achieve the Success Criteria described in Section V.E after each respective phase of planting has surpassed the contractor's one-year warranty (if a one-year warranty was required).
6. Breach of any berms, embankments or spillway and/or damage to outlet structures washout of stream stabilization structures (including cross vanes, J hooks, rock weirs, imbricated riprap, vegetated stream banks, coir logs, fascines, and riparian plantings) from a 100 year or greater magnitude storm event.
7. Any long-term maintenance requirements necessitated under paragraph IV D (4) above.

F. **Real Estate Provisions**: The Sponsor shall record a restrictive covenant *(conservation easement, declaration of restrictions, etc.)* on the Bank land and provide a copy to the MBRT prior to sale of any Credits in favor of any permittee. A template declaration of restrictions is attached in Exhibit F. The MBRT agrees that if a conservation easement approved by the MBRT is recorded over the property with a non profit conservation organization named as easement holder, credit composition will be revised so that 5% less land area is required to generate a mitigation credit than would be required under a restrictive covenant. Any proposed changes in credit composition must be proposed in the MBI. A copy of the recorded document shall be provided to the Corps within 30 days of recordation.

G. **As-Built Report**: (For both Wetlands and Streams) The sponsor agrees to submit an as-built report to the MBRT within 60 days following completion of the grading for each phase of the bank site. The as-built will depict the completed portions of the bank site for that operational year, including a survey showing finished grades, the elevation of any constructed structures (e.g. berms, weirs, etc.), and will describe in detail any substantial deviations from the requirements described in the Mitigation Site Plan (s) submitted to the MBRT in accordance with the Bank Development Plan (Exhibit C).

(For Streams Only) The Stream as-built information will be used as a comparative measure for streambank stability and will be referenced in each Monitoring Report, in accordance with the terms found in Section VI.B and C. of this MBI.

V. OPERATION OF THE BANK

A. **Service Area**: The Bank is established to provide Mitigation to compensate for impacts to Waters of the United States and/or State Waters, including wetlands, within the service area depicted on the excerpt of the USGS Hydrologic Unit Map as shown in Exhibit E. This service area shall include Hydrologic Unit 02070011, and the portion of 02070010 within Prince William and Fairfax Counties (as shown in Exhibit E). A specific geographic limit of applicability in no way compromises any federal agency's ability to accept or reject the use of a bank site for any given Section 404 or Section 10 impact.

The Service Area within Hydrologic Unit Code 02070010 within Prince William and Fairfax Counties is defined by the following State Routes (SR): SR 642, SR663, SR610, and SR123. All projects south of this line are included within the Bank Service Area. All projects north of this line are not included in the Bank Service Area (see inset shown on Exhibit E).

B. **Access**: The Sponsor will allow, or otherwise provide for, access to the site by members of the MBRT or their agents or designees, as reasonably necessary, for the purpose of inspection, compliance monitoring, and remediation consistent with the terms and conditions of this Banking Instrument throughout the period of Bank establishment, monitoring, and operation. Inspecting parties shall not unreasonably disrupt or disturb activities on the Property.

C. **Projects Eligible to Use the Bank**: The following types of projects may be eligible to use the Mitigation Bank:

1. All activities regulated under Section 10 of the Rivers and Harbors Act, Section 404 of the Clean Water Act and/or the Virginia Water Protection Permit Regulations (9 VAC 25-210) located within the Service Area of this Mitigation Bank may be eligible to use Mitigation Bank as compensatory Mitigation for unavoidable impacts;

2. Use of Credits may only be authorized when adverse impacts have been avoided and minimized to the extent practicable; when onsite Compensation is either not practicable or use of a Mitigation Bank is environmentally preferable to onsite Compensation.

3. Credits may be used to compensate for environmental impacts under other programs (civil works, Superfund removal and remedial, supplemental environmental projects for state and Federal enforcement actions, etc.)

4. For projects in the service area of this Mitigation Bank that require authorization with a Nationwide Permit (NWP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act, Norfolk District State Program General Permit (SPGP), and/or a Virginia Water Protection Permit, and if said authorizations requires compensatory Mitigation, Credits from this Mitigation Bank may be permitted to be used to satisfy these

compensatory Mitigation requirements if the Sponsor and the third party permittee reach a mutually acceptable Financial agreement and subject to regulatory approval on a case by case basis.

5. For projects in the Service Area of this Mitigation Bank that require authorization with an Individual Permit (IP) under Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act and/or Virginia Water Protection Permit, the Corps and DEQ, in consultation with the other regulatory and resource agencies, will determine the eligibility of such projects to use the Bank on a case-by-case basis. Once the Corps and/or DEQ have determined that Mitigation in this Bank is ecologically preferable to any on-site alternatives or that there are no practicable on-site alternatives, Mitigation may be provided by the use of Mitigation Credits from the Mitigation Bank as determined by the Corps and/or DEQ for each agency's respective permits if the Sponsor and the third party permittee reach a mutually acceptable Financial agreement.

D. **Assessment Methodology**: Credits and Debits will be assessed using measurements of the area of impacts and the Mitigation land area. The number of Wetland Mitigation Credits created by development of this Mitigation Bank is determined by a combination of land area and habitat type (e.g. Cowardin Classification) provided in the Bank Development Plan (Exhibit C) as described in Exhibit D.

The number of stream mitigation credits created by development of this mitigation bank is determined by linear feet of each activity and the corresponding credits for those activities outlined in the Unified Stream Methodology (January 2007 or most current version) or other acceptable tools (e.g. Eastern Kentucky model) as provided in the Bank Development Plan (Exhibit C) and the associated USM forms.

The amount to be debited for each impact will depend upon the area of wetlands or waters to be impacted as determined during the permitting process.

E. **Success Criteria**: The following criteria will be used to assess project success:

1. Submittal of required documentation, including monitoring reports, semi-annual Ledgers, as-built drawings, proof of escrow deposits and withdrawals in accordance with Section VI. C. and D.

2. In Preservation Areas, including Buffer areas,

(a) Proof of recordation of the restrictive covenant

(b) The final monitoring report (Year 10) shall document that all preserved areas, including Buffers are intact in their approved condition

(c) No more than 5% cover per stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia, Phragmites australis, Lonicera japonica, Puerraria lobata,* or *Ailanthus altissimus.* Invasive species are identified on the Virginia Department of Conservation

and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf

3. In all restoration, creation, and enhancement Buffer areas,

   (a) A minimum of *400* woody stems of native trees and shrubs per acre (including volunteers) from the top of the stream bank landward and/or within the wetland shall be achieved by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 30%. Canopy coverage shall be at least 30% each monitoring year thereafter.

   (b) Native non-invasive herbaceous plant coverage shall be at least 60% by the end of the first growing season, and at least 80% each monitoring year thereafter. Any seeds used for plant establishment should conform to the Virginia Seed Law (Sections 3.1-262 Code of Virginia) and Virginia Seed Regulations (2 VAC 5-290-10 et seq) and shall be free of tall fescue, Bermuda grass, and other allelopathic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.

   (c) No more than 5% cover per stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia, Phragmites australis, Lonicera japonica, Puerraria lobata,* or *Ailanthus altissimus.* Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf

   (d) The final monitoring report (Year 10) shall contain documentation by cell, field, or block that demonstrates that all vegetation within the buffer area is healthy and thriving and the average tree height of all planted trees is at least 5 feet in height in each cell, field, or block.

4. In vegetated wetland Restoration/Creation areas success shall be evaluated by each cell, field, or block:

   (a) Wetland hydrology, defined as saturation of the major part of the root zone (in the upper 12 inches of the soil profile) or ponding upon the soil surface for at least twelve and one-half percent (12.5%) of the growing season must be achieved (for the purpose of this determination, the growing season is defined as the period in which temperatures are expected to be above 28°F in 5 out of 10 years. This is the period between March 20 and November 22 in King George County; or the period during which the soil temperature in a wetlands in King George County is greater than biological zero (5^0C) at a depth of 50 cm (19.6 inches) if such data is available), and

   (b) Wetland vegetation dominance, defined as a vegetation community where more than 50% of all dominant species are facultative ("FAC") or wetter,

excluding FAC- plants, using "routine delineation methods" as described in the "Corps of Engineers Wetland Delineation Method," Technical Report 87-1 ("1987 Manual"), must be achieved; and

(c) Plant density in forested and shrub/scrub wetland areas of at least 400 living woody stems per acre of trees and shrubs must be achieved by the end of the first growing season following planting and maintained through the end of the monitoring period until canopy coverage of woody species is greater than 30%. No more than 5% aerial cover of invasive species such as *Typha latifolia* or *Phragmites australis* may be present in each cell, field, or block. Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf.; Once these cover requirements are met, woody species counts may be halted; and

(d) Plant coverage in emergent wetland areas of at least 60% must be achieved by the end of the first growing season, 70% must be achieved by the end of the second growing season, and 80% must be achieved by the end of the third growing season and maintained through the end of the monitoring period with no more than 5% aerial cover of invasive species such as *Typha latifolia* or *Phragmites australis* in each cell, field, or block. Invasive species are identified on the Virginia Department of Conservation and Recreation's Invasive Alien Plant list. This list of invasive plants may be found at http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf. and

(e) Plant density in forested wetlands areas must include at least 400 living stems per acre of species that are rated FAC or wetter, excluding FAC- species; and

(f) The average height of all woody stems including volunteers in each cell, field, or block must increase by not less than 10% during each successive monitoring period after the first monitoring report, until canopy coverage of woody species exceeds 30%.

(g) *Soil Success Criteria shall be evaluated for wetland Creation areas located on non-hydric soils. In that event, the following success criteria shall be followed:*

(1) For coarse textured (sandy) surface soils, positive indicators of hydric soil formation must be demonstrated within 6 inches of the soil surface. Groundwater monitoring may be used as the positive indicator for the first 2 years after reaching the final grade, in which case, wells must demonstrate free water within 6 inches of the surface for 15 consecutive days during the growing season.

(2) For fine textured soils (silts, clays, loams), positive indicators of hydric soil formation must be demonstrated within 12 inches of the soil surface. Groundwater monitoring may be used as the positive indicator for the first 2 years after reaching the final grade, in which case, wells must

demonstrate free water within 12 inches of the surface for 15 consecutive days during the growing season.

(3) Positive indicators of hydric soil formation may include redoximorphic features including, but not limited to redox concentrations, redox depletions, reduced matrices, positive tests with α,α, diperydyl, or other field indicators contained in the Field Indicators of Hydric Soils of the U.S.

(4) A complete soil morphologic description shall be documented pre and post construction and at the 3rd year following construction and each subsequent mandatory monitoring year to document changes in overall soil morphology, particularly the development of redoximorphic features over time (such as a reduction in matrix chroma or development of redox depletions), to demonstrate that soils at the site are progressing towards hydric soil conditions. At a minimum, soil profiles shall be described within 30 feet of each well.

5. Stream Success Criteria: The overall goal for the stream success criteria is to ensure that the dimension, pattern, and profile of the stream enhancement and restoration areas remain within the natural range of variability present in the reference data obtained for the design. The MBRT will use best professional judgment, visual observations and monitoring reports to evaluate attainment of success criteria and in determining whether part or all of the bank site is successful or whether corrective actions are warranted.

(a) Stream Preservation Areas: For the linear footage of stream in which no instream or bank work is accomplished, but stream preservation is done (regardless of riparian area activities) (as described in Section II), the following success criteria will apply:

Dimension

The analysis of representative riffle cross-section shall indicate that it has neither aggraded, degraded, widened, nor narrowed to the point where it has become unstable or will cause instability. The following measurements will be used to aid in making this determination each monitoring year:

(1) The Width / Depth Ratio Stability Rating (measured Width / Depth Ratio divided by the baseline Width / Depth Ratio) shall not be greater than 1.3. If the channel is incising, then the Width / Depth Ratio Stability Rating shall not be less than 0.7.

(2) The Bank Height Ratio shall not increase or decrease by an amount greater than 0.2 of the baseline Bank Height Ratio.

(3) Other measurements to consider include cross-sectional (bankfull) area of the channel, floodprone elevation, bankfull elevation, floodprone

width, entrenchment ratio, mean depth, bankfull width, and hydraulic radius.

(b) Stream Enhancement: For the linear footage of stream with stream enhancement activities (as defined in Section II), the following success criteria will apply in addition to those outline in Section V.E.5.a:

Stream Reach Stability

The analysis of the streambank from the top of the bank to the ordinary high water mark shall indicate a significant amount of natural protection to prevent streambank erosion that could jeopardize the stability of the streambank or the stream reach.

The following measurements will be used to aid in making this determination each monitoring year:

(1) Where streambank plantings were undertaken: The numbers of live stakes, planted, or volunteer woody species providing bank stabilization from the top of bank to ordinary high water mark shall be at least 1 living stem per 10 square feet per sample plot by the end of the first growing season following planting and maintained each monitoring year until canopy coverage is 50% for any identified reach. Canopy coverage shall be at least 50% each monitoring year thereafter.

(2) The individual Index Values of the Bank Erodibility Hazard Index (BEHI) rating for any identified reach shall be equal to or less than the previous year's Index Value. In addition, the Total Score shall be equal to or less than the previous year's Total Score, and shall have a Total Score of "Moderate" by Monitoring Year 3, and a Total Score of "Low" by Monitoring Year 5, and maintained at "Low" throughout the remainder of the monitoring period.

(3) The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfankuch, 1975) rating shall be "Good" each monitoring year, beginning with Year 2.

Pattern

The analysis of the plan-view survey or field measurements shall indicate that the stream is not migrating significantly to the point where it will cause significant bank erosion and cause instability.

The following criteria will be used to aid in making this determination each monitoring year:

(1) The sinuosity of the stream shall not increase or decrease by an amount greater than 0.1 of the approved as-built pattern.

(2) The centerline of each channel cross-section will not move by more than 10% of the length of the approved as-built channel width in any given year.

(3) The Radius of Curvature / Width Ratio shall remain within the range of variability present in the reference data.

Habitat Structures

The analysis of each habitat structure shall indicate that it is maintaining its structural integrity, performing its intended function, and not adversely affecting the stream. The following measurements will be used to aid in making this determination each monitoring year:

(1) Absence of under cutting, washing around, or erosion of the bank, backfill or stream bed associated with any habitat structure.

(2) The visual observation that the structure is used by the intended species.

(c) Stream Enhancement with Structures: For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following success criteria will apply in addition to those outlined in Sections V.E.5.a and V.E.5.b:

Structures

The analysis of each instream structure shall indicate that it is maintaining its structural integrity, performing its intended function, and not adversely affecting the stream. The following measurements will be used to aid in making this determination each monitoring year:

(1) Absence of under cutting, washing around, or erosion of the bank, backfill or stream bed associated with any instream structure.

(2) The invert elevation (controlling elevation) of the header rocks or logs of any vane, j-hook, cross-vane, W-weir, or other structure shall remain unchanged from the approved as-built

Materials

The analysis of the pebble count data shall not show a significant change in streambed materials to the point that indicates a shift in bedload material due to

stream instability. The following measurement will be used to aid in making this determination each monitoring year:

(1) The D50 size particle shall remain within its approved as-built size class (silt, sand, gravel, cobble, boulder).

6. At the written request of the Sponsor, the MBRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

F. **Schedule of Credit Availability**: Upon submittal of all appropriate documentation by the Sponsor, and subsequent approval by the MBRT, the MBRT Chair will provide in writing the release of Credits to the Sponsor in accordance with the following schedule:

1. Up to fifteen percent (15%) of anticipated Credits per phase/site will be available for Debiting upon implementation of the following: (a) approval of this Banking Instrument and the Mitigation Site Plan described in Exhibit C; (b) Implementing financial assurances (e,g. posting a performance bond or execution of an Escrow Agreement substantially in accordance with the sample Escrow Agreement provided in Exhibit G) covering the advance release of credits; (c) securing the Property proposed for the Mitigation Bank (fee simple acquisition, easement, etc.); (d) a copy of the approved and recorded real estate instrument that protects the site in perpetuity is provided to the MBRT; (e) a schedule is submitted to the MBRT that shows that the initial (i.e., Phase I) physical and biological improvements will be completed no later than the first full growing season following initial Debiting from the Bank; and (f) an electronic version of this MBI the Bank Development plan and associated exhibits is submitted to the MBRT chair and/or uploaded to the Corps Regional Internet Bank Information Tracking System (RIBITS);

2. Wetland Credits beyond 15% advanced credits can be released by the MBRT, (acting through the Chair) once all wetland success criteria are met,

3. Buffer Preservation - For those credits derived from riparian buffer and stream preservation release of credits beyond the initial 15% will adhere to the following schedule:

   - 100% of total credits will be released upon meeting the conditions in Section V E.2.:

4. Buffer Enhancement/Restoration/Reestablishment Area: For those credits associated with buffer area enhancement/restoration/reestablishment activities (as defined in Section II), release of credits beyond the initial 15% will adhere to the following schedule:

:

   a. Construction release
      i. 10% (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan

b. After year 1 following completion of construction:
- 75% of total credits (100% cumulative)

After MBRT approval of the first year monitoring report which documents compliance with success standards at Section V E. 3.

5. Stream Restoration and Enhancement: For those credits associated with stream restoration and enhancement activities (defined in Section II), release of credits beyond 15% will adhere to the following schedule:

Construction release:
- 10 % (25% cumulative) upon completion of all initial physical and biological improvements made pursuant to the mitigation plan:

After Year 1 following completion of construction:
- if a bankfull event has not occurred this year and all success criteria are met and channel is stable, 10% credits release (35% cumulative)
- if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (50% cumulative).

After year 2 following completion of construction:
(1) if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (45% cumulative)
(2) if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (75% cumulative).

After year 3 following completion of construction:
- if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (55% cumulative)
- if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release (100% cumulative). [1]

After year 4:
- if a bankfull event has not occurred and all success criteria are met and channel is stable, 10% credits release (65% cumulative)
- if a bankfull event has occurred this year, channel is stable and all success criteria are met, 25% credit release not to exceed the remaining available credits (100% cumulative).

No additional credits will be released after Year 4 until a bankfull event occurs. For each additional monitoring year, no more than 25% of total credits will be released not to exceed the remaining available credits if a bankfull event occurs that year, the channel is stable, and all success criteria are met.

G. **Conditions of Debiting**: Any Credits Debited before achieving the Success Criteria (e.g. the 15% advance release of Credits), shall require conformance with the Financial Assurance requirements described in Section IV.D, and execution of an Escrow Agreement in substantial conformance with the agreement found in Exhibit G to provide sufficient Financial Assurance to assure performance and to cover contingency actions in the event of partial or total failure.

Aside from the advance release of credits, if the number of Credits Debited exceeds the number created, then no further credit sales shall be permitted by the MBRT until additional credits are released by the MBRT acting through the Chair.

H. **Provisions For Uses of the Mitigation Bank Area:** The Sponsor shall not use or authorize the use of areas within the Bank or areas surrounding the Bank over which the Sponsor has control for any purpose that interferes with its conservation purposes. In addition to implementation of the terms of this instrument, the following activities are permissible:

a) Monitoring of vegetation, soils and water;
b) Maintenance of wetlands, restored/enhanced stream segments, riparian buffers, trails, bridges, berms, dams, outlet and spillway structures, and other appurtenant facilities;
c) Hunting and fishing and other passive recreational uses such as hiking and bird watching;
d) Ecological education; and
e) Compliance with applicable Federal, State, or local regulations or appropriate court orders.

VI. MAINTENANCE AND MONITORING OF THE BANK

A. **Maintenance Provisions**: The Sponsor agrees to perform all necessary work to maintain the Bank consistent with the maintenance criteria established in the Bank Development Plan. The Sponsor shall continue with such maintenance activities until completion of the monitoring period described in Section VI.B. Deviation from the monitoring and maintenance provisions in the approved Mitigation Bank Instrument and the Bank Development Plan is subject to review and written approval by MBRT, acting through the Chair.

B. **Monitoring Provisions**: The Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the Success Criteria established in this Banking Instrument. Monitoring may be terminated or the extent of monitoring may be reduced over part or all of the site at the discretion of the MBRT.

Timing. Monitoring activities shall occur during the growing season, and at least once during the 1st, 2nd, 3rd, 5th, 7th and 10th growing seasons following completion of grading. In addition, monitoring shall adhere to the following schedules:

(a)For any year in which planting was conducted, monitoring of woody vegetation shall take place no sooner than 1 year following planting.;
(b)Otherwise, monitoring of vegetation (herbaceous and woody species) shall be conducted during the growing season.
c If all performance criteria have not been met in the 10th year, then a monitoring report shall be required for each consecutive year until two sequential annual reports indicate that all criteria have been successfully satisfied.
(e) A final monitoring report (typically prepared the 10th growing season following completion of grading)

The monitoring program ***for upland buffer preservation areas*** shall consist of:

1. Visual Observations: Visual observations shall be provided with each monitoring report through a written discussion of the buffer condition, any significant changes to the buffer, and photographic documentation, as necessary to further describe the buffer condition.

The monitoring program ***for upland buffer restoration/establishment/reestablishment areas*** shall consist of:

1. Visual Description. Visual descriptions shall be provided with each monitoring report by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the entire site. An aerial photograph should be taken once the site has been graded, planted, and stabilized (preferably in the 3rd or 5th year following final grading).

2. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all habitat areas of upland buffer at locations adjacent to each photo location marker. The following ***minimum*** numbers of samples will be required:

If the buffer area is < 5 acres, then a minimum of 3 plots/acre is necessary
If the buffer area is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.
If the buffer area is > 20 acres, then a minimum of 1 plot/acre is necessary
However, all cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods may be submitted for MBRT review and approval. The vegetation data shall be collected during the growing season and shall include:

(a) Dominant vegetation species identification;
(b) Coverage assessment;
(c) Number of woody plant stems (total and #/acre);
(e) Percent survival of planted species; and
(f) An invasive/noxious species assessment, including percent cover;
(h) Average height of planted woody species in each sample and percent change in height since previous monitoring event

The monitoring program for ***wetlands*** (both restoration and creation) shall follow the guidelines established below:

1. Visual Description. Visual descriptions shall be provided with each monitoring report in narrative form along with documentation by one of the following means: (i) ground level photographs, taken facing north, south, east and west, from stations located adjacent to each vegetation plot and hydrology monitoring station [permanent markers shall be established to ensure that the same locations (and view directions) are monitored in each monitoring period], or (ii) one color aerial photograph (8" x 10" or larger) depicting the entire site. An aerial photograph should be taken once the site has been graded, planted, and stabilized (preferably in the 3rd or 5th year following final grading).

2. Hydrology. This is a groundwater driven system with some surface hydrology anticipated on top of a silt loam/silty clay loam substrate. For surface saturation driven systems located on top of a clayey substrate, soil saturation measurement devices may be used in lieu of groundwater wells and other secondary hydrology indicators to determine groundwater elevations and/or hydro period in these wetlands areas. Specific details on the soil saturation measurement device and location or groundwater monitoring wells shall be provided in the Final Construction Documents for MBRT approval as described in Exhibit C. For each monitoring report, either 60 days of continuous automated monitoring, or 8 consecutive weekly measurements shall be provided during the growing season to demonstrate achievement of the hydrology performance criterion (actual monitoring may be of longer duration, as needed, to obtain proof of wetland hydrology).

3. Vegetation. Sample plots shall be located on a stratified random basis over the site in order to sample all areas of restored/constructed wetlands at locations adjacent to each photo location marker. The following minimum numbers of samples will be required:

If the site is < 5 acres, then a minimum of 3 plots/acre is necessary
If the site is > 5 acres but less than 20 acres, then a minimum of 2 plots/acre is necessary.
If the site is > 20 acres, then a minimum of 1 plot/acre is necessary
All cells, fields, or blocks shall be sampled.

Each plot shall be of a size no less than 400 square feet for woody plants and 3'x3' for herbaceous plants (or circular with approximately the same surface area). Alternative sampling methods may be submitted for MBRT review and approval. The vegetation data shall be collected during the growing season and shall include:

(a) Dominant vegetation species identification;
(b) Coverage assessment;
(c) Number of woody plant stems (total and #/acre);
(d) The percentage of dominant species FAC or wetter (excluding FAC-).
(e) Percent survival of planted species; and
(f) An invasive/noxious species assessment including percent cover;

(g) Number and species rated FAC or wetter (excluding FAC-) growing in wetlands (total and #/acre).
(h) Average height of woody species in each sample and percent change in height since previous monitoring event

The monitoring program ***for streams*** shall follow the guidelines established below:

1. **Stream Channel Preservation**: For the linear footage where no instream work was accomplished (regardless of riparian buffer activities), the following monitoring shall occur:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. A minimum of one cross-section per 1000 linear feet will be required. Total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed. A stream gage shall be placed in each stream to document bankfull events

The following will be documented at each cross-section:

a. Ground level photographs shall be provided with each monitoring report for the purpose of documenting vegetation and stream stability. The photographs will be taken twice annually (summer/winter) at representative cross-sections and will clearly show the channel upstream and downstream, the riparian buffer area, and each stream bank.

Cross-sectional measurements shall include streambanks, streambed, water surface, bankfull, and adjacent floodplain elevations.

2. **Stream Enhancement:** For the linear footage of stream with stream enhancement activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation areas:

Permanent cross-sections shall be established to ensure that the same locations are used each monitoring year. Representative cross-sections (with permanent markers established during the first monitoring interval) will be surveyed at 500-foot intervals on a representative sample of riffles, runs, glides, and pools. Total number required will vary depending on project length and complexity. Additional cross-sections may be required to show areas where aggradation, degradation, erosion, and mid-channel bars have developed.

a. Sample plots for stream bank vegetation (10 square feet in size) shall be located on each bank at 500-foot intervals within representative sections of streambank where streambank plantings were completed.
b. The Bank Erodibility Hazard Index (BHI) will be assessed at each permanent cross-section and additional locations to provide a representative assessment.

c. Beginning with Year 2, The U.S. Forest Service Stream Reach Inventory and Channel Stability Evaluation (Pfankuch, 1975) will be performed at each permanent cross-section and additional locations to provide a representative assessment
d. Bankfull event gage documentation
e. *(for habitat structures)*Photographs documenting the structural integrity and function at each habitat structure. Documentation of use by intended species.

3. **Stream Enhancement with Structures**: For the linear footage of stream with stream enhancement with structures activities (as defined in Section II), the following monitoring will occur in addition to those outlined for Stream Preservation and Stream Enhancement areas:

a. Each instream structure shall have the following data collected:
    i. Photographs documenting structural integrity and function
    ii. Surveyed profile documenting invert elevation
b. Wetted-perimeter cross-section pebble count at constructed riffles.

C. **Reports**: The Sponsor shall submit to the MBRT reports describing the conditions of the Bank and relating those conditions to the Success Criteria as well as the provisions of Section VI B. Reports will be submitted to the MBRT and an electronic version shall be submitted to the Chair and/or uploaded to the Corps' Regional Internet Banking Information Tracking Systems (RIBITS) by November 30th of each monitoring year. Monitoring reports shall contain the following:

1. An aerial photograph, taken either the 3rd or 5th year following final grading (if allowed in accordance with national security provisions) during the growing season, depicting the completed phases of the Mitigation Bank with the photo date and approximate scale noted, and ground level photographs as described in Section VI.B;

2. A detailed narrative summarizing the condition of the Bank and all regular maintenance and monitoring activities;

3. A drawing based upon the grading plans of the site that depicts topography, and the location of wells, sampling plots, cross-section, and permanent photo stations;

4. For preservation activities including Buffer preservation: Photographic documentation and discussion of visual observations.

5. For buffer restoration/enhancement/reestablishment: Results of vegetation survey including visual estimates of percentage (%) overall cover and % cover by each vegetation layer, species diversity, % non-native/invasive vegetation in each vegetation layer, total % "facultative" and total % "upland" species in each vegetation layer, survival rate of planted vegetation, an estimate of natural revegetation, average height of woody species in each sample and percent change in height since previous monitoring event, and a qualitative estimate of plant vigor as measured by evidence of reproduction; and

6. For wetland restoration/creation, the results of vegetation monitoring including visual estimates of percentage (%) overall cover and % cover by each vegetation layer, species diversity, % non-native/invasive vegetation in each vegetation layer, total % "facultative" and total % "upland" species in each vegetation layer, survival rate of planted vegetation, an estimate of natural revegetation, average height of woody species in each sample and percent change in height since previous monitoring event; soils data (for wetland creation areas,and the results of hydrology measurements, including depth of standing water and daily precipitation data for the monitoring period from March 20 to November 22 with a comparison to historical average precipitation;

7. Stream Monitoring: The sponsor agrees to monitor the bank to demonstrate compliance with the Success Criteria established in this Mitigation Bank Instrument. Monitoring shall be completed using previously documented or approved stream assessment techniques (i.e. EPA RBP, Rosgen, ICEM). Monitoring reports shall present yearly data in tabular and graphical format comparing as-built, current, and previous years monitoring data. Monitoring reports shall include a discussion of any deviation from as-built or previous year's data.

8. A summary of Credits created by the Bank and the permits that have been Debited against these Credits cumulatively and for this monitoring year.

9. As-Built Report: An as-built report shall be submitted to the MBRT within 60 days of completion of mitigation activities depicted in the Bank Development Plan (Exhibit C). The report shall include:

a) plan view of the constructed/restored wetlands, streams, and adjacent buffers with location of all permanent sampling stations, photo stations, monitoring wells, instream and stream bank structures, and all permanent cross-sections and profiles;
b) photographs of the completed Site taken from permanent photo stations;
c) profiles of instream structures, cross-sections, and longitudinal stream profiles taken from permanent locations and compared to design plans;
d) pebble counts and summary geomorphologic data;
e) Planting zones, phases, and densities;
f) Stream gage locations;
g) As-built elevations.

10. Each monitoring report will include detailed resource documentation and a revised summary table of actual wetland and stream credits based on field measurements.

D. **Accounting Procedure**: The Sponsor shall submit a statement to the Corps and DEQ each time Credits are Debited or additional Credits are approved. If requested, the Corps will distribute the statement to other members of the MBRT. The Sponsor or its agent shall update credit ledgers on RIBITS no less than once every 3 months. In addition, the Sponsor shall submit a semi annual Ledger to the Corps for distribution to all members of the MBRT, showing all transactions at the Bank for the previous 6 months and a cumulative tabulation of all transactions to date. At a minimum, each Ledger must include the following information: permittee, Permit

number, type of permit, locality, type of impacted system (Cowardin Classification), amount of impacts, amount of Debit from Mitigation Bank, USGS HUC Catalog Unit, Date of transaction). The MBRT will review the semi annual report and adjust the credit composition to assure no net loss of wetlands acreage. Semi-annual Ledgers and transaction reports shall be submitted to the MBRT as long as Credits remain in the Bank and/or the Bank remains operational.

E. **Financial Report**: The sponsor shall submit to the MBRT a financial report by November 30th of each monitoring year. An electronic version of this report shall be submitted to the MBRT Chair or uploaded to RIBITS concurrently with this submittal The report shall contain the following:

1. Documentation of balance in the escrow account referred to in IV(D)(3)(a) as the "Maintenance and Monitoring Fund" The balance in this account (principal balance without earned interest) must match the amount required to be set aside in IV (D)(3)(a).

2. Documentation of balance in the escrow account referred to in IV(D)(3)(b) as the "Catastrophic Event and Long-Term Management Fund". The balance in this account (principal balance without earned interest) must match the amount required to be set aside in IV(D)(2)(b).

F. **Contingency Plans/Remedial Actions**: The Sponsor shall develop necessary contingency plans and implement appropriate remedial actions in coordination with the MBRT to address the likelihood that the Bank or a specific phase of the Bank may fail to achieve the Success Criteria specified in Part V, Section E of this Banking Instrument. In the event the Sponsor fails to implement necessary remedial actions within one growing season (by November 1 of the following year) after notification by the Corps and/or DEQ of necessary remedial action to address any failure in meeting the Success Criteria, the MBRT (acting through the Chair) will notify the Sponsor and the appropriate authorizing agency(ies) and direct appropriate remedial actions or take action including suspension/revocation of available Mitigation Credits.

If the MBRT acting through the Chair determines that the Bank is operating at a deficit, or has failed to meet the criteria at Section IV parts D, E, F, or G, debiting by the Sponsor of Credits shall immediately cease, and the Chair in consultation with the MBRT and the Sponsor, will determine what remedial actions are necessary to correct the situation. As determined by the Chair in coordination with the MBRT and the Sponsor, if conditions at the Bank site do not improve or continue to deteriorate within one growing season from the date that the need for remediation was first identified in writing to the Sponsor by the Chair of the MBRT, the MBRT, (acting through the Chair) shall request the escrow agent to transfer the amount necessary to correct the deficiency from the Monitoring and Maintenance Funds to a party acceptable to the MBRT, to undertake corrective measures. The MBRT may also choose to suspend credit transactions until the deficiency(ies) is (are) corrected (see VI. G. below).

Following implementation of remedial measures and at the written request of the Sponsor, the MBRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

G. **Default**: Should the MBRT determine that the Sponsor is in material default of any provision of this Agreement, the MBRT, acting through the Chair may notify the Sponsor that the sale or transfer of any Credits is suspended until the appropriate deficiencies have been remedied. Upon notice of such suspension, the Sponsor agrees to immediately cease all sales or transfers of Mitigation Credits until the MBRT informs the Sponsor that sales or transfers may be resumed. If the Sponsor fails to submit one or more required monitoring reports, an additional year of monitoring and submittal of the associated report to the MBRT will be required to document bank compliance. Should the Sponsor remain in default, the MBRT, acting through the Chair, may terminate all future credit transactions. Upon termination, the Sponsor agrees to perform and fulfill all obligations under this Agreement relating to Credits that were sold or transferred prior to termination.

H. **Bank Closure**: At the end of the 10-year monitoring period, upon satisfaction of the Success Criteria, the MBRT shall issue a written certification of satisfaction to the Sponsor and the escrow agent, and thereafter any remaining Monitoring and Maintenance Fund (see Section IV D (3)(a)) will be released to the Sponsor. After Bank Closure and subject to review and approval by the MBRT, the Sponsor may utilize that portion of the Bank lands that have not had Compensation Credits Debited from it (i.e. Restoration, Creation, Enhancement, or Preservation lands) provided the utilization does not adversely impact the areas from which Compensation Credit has been Debited.

Prior to termination of a Bank or bank site, the MBRT will perform a final compliance inspection to evaluate whether all success criteria have been achieved. Upon the Chair determining, in consultation with the other members of the MBRT and the Sponsor, that:

(1) all applicable success criteria prescribed in Section V.E. for that bank or bank site have been achieved;
(2) all available credits for that ***bank*** or bank site have been debited;
(3) the Sponsor has prepared a Long-Term Management and Maintenance Plan, that has been approved by the MBRT, pursuant to Section VI J.;
(4) the Sponsor has prepared and submitted to the MBRT and the appropriate locality a GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank.
(5) the Sponsor has either: (i) assumed responsibilities for accomplishing the Long-Term Management and Maintenance Plan, in which case the Sponsor will fulfill the role of Long-Term Steward, or (ii) has assigned those responsibilities to another Long-Term Steward pursuant to Section VI. I. of this Instrument;
(6) the Catastrophic Event and Long-Term Management Fund has been funded pursuant to Section IV D.;
(7) the contents of the Catastrophic Event and Long-Term Management Fund have been transferred to the Long-Term Steward; and
(8) the Bank has complied with the terms of this Instrument., an the Bank or Bank site will close and the period of Long-term Ownership and Preservation will commence.

I. **Long-Term Ownership and Preservation**:

1. The Sponsor shall develop a Long-Term Management and Maintenance Plan within 1 year of the approval of this instrument and the Bank Development Plan by the Chair that is consistent

with the guidelines and objectives specified in Section J below , and submit the Plan for approval by the Chair, in consultation with the other members of the MBRT. The Sponsor is responsible for execution of the approved Long-Term Management and Maintenance Plan. The Sponsor may only deviate from the approved Plan upon written approval of the Chair, following consultation with the MBRT.

2. The Sponsor may assign its long-term management and maintenance responsibilities to a third party assignee at the end of the active monitoring period, which will then serve as Long-Term Steward in place of the Sponsor. The identity of the assignee and the terms of the long-term management and maintenance agreement between the Sponsor and the assignee must be approved by the Chair, following consultation with the MBRT, in advance of assignment.

3. At that time, the Long Term Steward shall be responsible for managing the Bank in perpetuity in accordance with the terms of the Long-term Management and Maintenance Plan, the bank development plan, and real estate provisions, including the terms of the recorded restrictive covenant, a sample of which is provided in Exhibit F. If Long Term Steward, or its successor declines to accept stewardship responsibility for the Bank and the associated Long-Term Management Fund, the Sponsor shall then transfer stewardship responsibility for the Bank and the associated Long-Term Management Fund to a public resource agency or non-profit agency engaged in conservation activities, subject to written approval of the receiving entity by the MBRT. If no public resource agency or non profit agency engaged in conservation activities is willing to accept management responsibility for the Bank lands, then the Sponsor will be the Long-Term Steward until another party acceptable to the MBRT agrees to accept management responsibility for the Bank lands.

5. If the Sponsor and/or Long-Term Steward elects to assign responsibility for the Long-Term Management and Maintenance Plan to a Long-Term Steward, the assignment agreement will reflect that the assignee has assumed the obligation, owed to the MBRT, of accomplishing the Long-Term Management and Maintenance Plan. In exchange for the assignee's commitment to implement the Long-Term Management and Maintenance Plan, contemporaneously with the assignment of long-term management and maintenance responsibilities the Sponsor will direct disbursement of the full amount of funds in the Catastrophic Event and Long-Term Management Fund, pursuant to Section IV.D. of this Instrument to the Long-Term Steward. In the event the responsibility for executing the Long-Term Management and Maintenance Plan is not assigned to a third-party assignee, upon closure of the bank in accordance with Section VI H. of this Instrument, the full amount of funds in the Catastrophic Event and Long-Term Management Fund will be disbursed to the Sponsor.

J. **Long-Term Management and Maintenance Plan**: The Long-Term Management and Maintenance Plan will contain specific objectives that address the long-term management of the bank site.. The Long-Term Steward will document that it is achieving each objective or standard by submitting status reports to the MBRT on a schedule approved by the MBRT. A primary goal of the Bank is to create a self-sustaining natural aquatic system that achieves the intended level of aquatic ecosystem functionality with minimal human intervention, including long-term site maintenance. Natural changes to the vegetative community, other than changes caused by non-native/invasive weeds, that occur after all Bank performance standards have been met are not expected to require remediation.

The Long-Term Management Plan will include as appropriate the following provisions for:

(1) Periodical patrols of the Bank site for signs of trespass and vandalism. Maintenance will include reasonable actions to deter trespass *(e.g. mark property boundaries and post "No trespass")* and repair vandalized Bank features *(e.g. collect and dispose of rubbish including "white goods" and roofing shingles)*

(2) Monitoring the condition of structural elements and facilities of the Bank site such as signage, fencing, roads, and trails. The Long-Term Management and Maintenance Plan will include provisions to maintain and repair these improvements as necessary to achieve the objectives of the Bank and comply with the provisions of the real estate instrument providing protection to the site. Improvements such as access roads, berms, or water control structures that are no longer needed to facilitate or protect the ecological function of the Bank site may be removed or abandoned if consistent with the terms and conditions of the recorded real estate instrument.

(3) Inspection of the Bank site annually to locate invasive Species. Any invasive plant species discovered on the Bank site and occupying more than 5% cover in any given cell, field, or block should be controlled. In the event the MBRT determines that the watershed or drainage basin within which the Bank is located becomes infested with these species in the future, so that their effective control on the Bank site is either no longer practicable or unreasonably expensive, the MBRT will consider appropriate changes to the Long-Term Management Plan.

Funds from the Catastrophic Event & Long-Term Management Fund may be used for provisions (1)-(3) above.

Upon execution of a long-term management and maintenance assignment agreement, the transfer of the contents of the Catastrophic Event and Long-Term Management Fund, the transfer of management responsibility for the Bank land to the Long-Term Steward, and upon satisfaction of the remaining requirements for Bank Closure under Section H. of this Instrument, the Sponsor shall be relieved of all further long-term management and maintenance responsibilities under this Instrument.

VII. RESPONSIBILITIES OF THE MITIGATION BANK REVIEW TEAM

A. The agencies represented on the MBRT agree to provide appropriate oversight in carrying out provisions of this Banking Instrument.

B. The agencies represented on the MBRT agree to review and provide comments on all project plans, proposed additions of land to the Bank, annual monitoring reports, credit review reports, contingency plans, and necessary permits for the Bank. Comments, if any, on the final construction documents for each phase as described in Exhibit C, additions of land to the Bank, monitoring reports, credit review reports, contingency plans, and permits for Mitigation Bank construction and operation will be reviewed within ninety (90) calendar days from the date of

complete submittal. The Chair of the MBRT shall coordinate such review with members of the MBRT so that comments can be provided within the ninety (90) calendar day comment period.

C. The Chair or the Corps RIBITS Administrator shall update the credit ledger for the bank in RIBITS, within 30 days of receiving reports or credit ledgers, unless the sponsor updates the Bank ledger in RIBITS,

D. The agencies represented on the MBRT agree to review and approve reports on evaluation of Success Criteria prior to approving Credits within each phase of the Bank.

E. The agencies represented on the MBRT shall conduct compliance inspections, as necessary to verify Credits available in the Mitigation Bank, assess site conditions, and recommend corrective measures (if any) to the Bank Sponsor, until the terms and conditions of the Bank Development Plan have been determined to be fully satisfied or until all Credits have been sold, whichever is later.

VIII. OTHER PROVISIONS

A. **Force Majeure**:

1. The Sponsor shall be responsible for repair and remediation of any portion of the bank except upon events of Force Majeure, as defined below:

   Force Majeure shall mean, flood, tornado, hurricane, earthquake, fire, which has an irreparable material and detrimental impact on much of the Bank over which the Sponsor or any entity controlled by the Sponsor has no control;

2. The Sponsor shall bear the burden of demonstrating:

   (a) That the Force Majeure event was caused by circumstances beyond the control of the Sponsor and/or any entity controlled by the Sponsor, including its contractors and consultants;
   (b) That neither the Sponsor nor any entity controlled by the Sponsor, including its contractors and consultants, could have reasonably foreseen
   and prevented such an event; and
   (c) The damage was caused by such circumstances.

3. Reasonably foreseeable technical problems, or unanticipated or increased costs or expenses associated with the implementation of actions called for by this MBI, or changed financial or business circumstances in and of themselves shall not serve as the basis for modifications of this MBI or an excuse from the performance of the requirements of this MBI.

4. Compliance with any requirement of this MBI by itself shall not constitute compliance with any other requirement. An extension of one growing season for compliance based on a particular incident or for one portion of the site shall not necessarily result in the extension of a subsequent or other compliance date or dates. The Sponsor must make an individual showing of proof regarding the cause of each delayed step or requirement for

which an extension is sought.

B. **Dispute Resolution**: Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in the Federal Guidance for the Establishment, Use and Operation of Mitigation Banks (60 F.R. 58605 et seq., November 28, 1995) as well as any federal or state regulations governing mitigation bank operation as applicable. Disputes related to satisfaction of Success Criteria may be subject to independent review from government agencies or academia that are not part of the MBRT. The MBRT will evaluate this input and determine whether the success criteria are met.

C. **Validity, Modification, and Termination of the Banking Instrument**: This Banking Instrument will become valid on the latter date of either the Sponsor's signature or the signature of the representative of the Corps.

This Banking Instrument may only be amended or modified with the written approval of all signatory parties. In the event the Sponsor determines that modifications must be made in the Bank Development Plan to ensure successful establishment of the Bank, the Sponsor shall submit a written request for such modification to the MBRT, through the Chair, for approval. The MBRT, through the Chair, agrees to not unreasonably withhold or delay such approval. Documentation of implemented modifications shall be made consistent with this agreement.

Any proposed substantial change to the mitigation bank or bank site, including but not limited to addition of lands to the bank, establishment of additional bank sites, additions of different types of mitigation credit resources (e.g. stream or wetland credits), or alteration of success criteria will require amendment of the approved banking instrument to comply with the most current approved MBI template in use in Virginia

Any of the MBRT members may terminate their participation upon written notification to all signatory parties without invalidating this Banking Instrument. Participation of the MBRT member seeking termination will end 30 days after written notification.

This Banking Instrument will be considered null and void if implementation of the bank development plan (excluding the recordation of real estate instruments) has not been initiated within 5 years of the last date of signature . The Sponsor may reinitiate the process by proposing a new banking instrument consistent with the latest mitigation banking instrument template approved for use in Virginia

D. **Specific Language of Banking Instrument Shall Be Controlling**: To the extent that specific language in this document changes, modifies, or deletes terms and conditions contained in those documents that are incorporated into the Banking Instrument by reference, and that are not legally binding, the specific language within the Banking Instrument and any associated Bank Development Plans shall be controlling.

E. **Notice**: Any notice required or permitted hereunder shall be deemed to have been given either (i) when delivered by hand, or (ii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (iii) the day sent by Federal Express or similar next day nationwide delivery system, addressed as

follows (or addressed in such other manner as the party being notified shall have requested by written notice to the other party):

Sponsor:

Mr. John Marino
113 North Fayette Street
Alexandria, Virginia 22314

MBRT:

Regena Bronson (Chair)
U.S. Army Corps of Engineers
Norfolk District – Northern Virginia Regulatory Section

Kim Smith
U.S. Fish and Wildlife Service
6669 Short Lane
Gloucester, Virginia 23061
(804) 693-6694

Amy Ewing
Virginia Department of Game and Inland Fisheries
4010 West Broad Street
Richmond, Virginia 23230
(804) 367-2733

Charles A. Rhodes, Jr.
U.S. Environmental Protection Agency
Environ. Assess. & Innov. Division
3EA30, 1650 Arch Street
Philadelphia, Pennsylvania 19103-2029
(215) 814-2743

Michelle Henicheck/Bettina Rayfield
Virginia Department of Environmental Quality
629 East Main Street, 9th Floor
P.O. Box 10009
Richmond, Virginia 23240
(804) 698-4007/(804) 698-4204

F. **Entire Agreement**: This Agreement constitutes the entire agreement between the parties concerning the subject matter hereof and supersedes all prior agreements or undertakings.

G. **Invalid Provisions**: In the event any one or more of the provisions contained in this Agreement are held to be invalid, illegal or unenforceable in any respect, such invalidity, illegality or unenforceability will not affect any other provisions hereof, and this Agreement shall be construed as if such invalid, illegal or unenforceable provision had not been contained herein.

H. **Headings and Captions**: Any paragraph heading or captions contained in this Agreement shall be for convenience of reference only and shall not affect the construction or interpretation of any provisions of this Agreement.

I. **Counterparts**: This Agreement may be executed by the parties in any combination, in one or more counterparts, all of which together shall constitute but one and the same instrument.

J. **Binding**: This Agreement shall be immediately, automatically, and irrevocably binding upon the Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Sponsor and the Corps, even though it may not, at that time or in the future, be executed by the other potential parties to this Agreement. The execution of this Agreement by EPA, DEQ, or the USFWS, or other agency, city or county shall cause the executing agency to become a party to this Agreement upon execution, even though all or any of the other potential parties have not signed the Agreement. Execution does not signify the agencies' agreement with the use of Credits in the Buena Vista Wetland Mitigation Bank in connection with any specific permit or project.

K. **Transfer of Mitigation Responsibility**: In consideration of the Sponsor's agreement to be bound by the terms of this Instrument, the Corps and other MBRT agencies acknowledge that upon approval of a proposal by the Permittee to secure mitigation bank credits through a contract with this Mitigation Bank to satisfy all or part of the compensatory mitigation requirements for that Department of the Army and/or Department of Environmental Quality permit, a fully executed contract between the Sponsor and the Permittee shall act to transfer to this Mitigation Bank the responsibility for the required compensatory mitigation to be provided by the Mitigation Bank in accordance with the permit.

L. **Liability of Regulatory Agencies**: The responsibility for financial success and risk to the investment initiated by the Bank Sponsor rests solely with the Bank Sponsor. The regulatory agencies that are parties to this agreement administer their regulatory programs to best protect and serve the public's interest in its waterways, and not to guarantee the financial success of Banks, specific individuals, or entities. Accordingly, there is no guarantee of profitability for any individual Mitigation Bank. Bank Sponsors should not construe this agreement as a guarantee in any way that the Agencies will ensure sale of Credits from this Bank or that the Agencies will forgo other Mitigation options that may also serve the public interest. Since the Agencies do not control the number of Mitigation Banks proposed or the resulting market impacts upon success or failure of individual Banks, in depth market studies of the potential and future demand for Bank Credits are the sole responsibility of the Bank proponent.

M. **Third Party Resale or Brokerage of Credits**: In the event of third party resale or brokering of mitigation credits, the Banker remains responsible for the Bank and all applicable provisions of the approved MBI and Bank Development Plan. Credits must be used in the same service area as the bank site that generated the credits. There is no guarantee that transferred credits will be approved by the Corps or DEQ for use with a specific permit. Approval by the Corps and/or DEQ for use of said credits as mitigation for a given permit is on a case-by-case basis.

The permit number shall be placed on every credit bill of sale. For bills of sale associated with bulk sales and other sales where there is no associated permit number, the Sponsor shall include

a special provision in the bill of sale that states that those credits cannot be utilized to satisfy a Corps or DEQ permit requirement unless the purchaser (and any subsequent purchaser) provides a written "bank ledger allocation statement" to the Corps, DEQ, and the Sponsor. This bank ledger allocation statement will state that the associated credit(s) was part of a bulk sale to a specific party and has been allocated for use with _____ (named) project and _____(specific) permit number.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

_____ _____
Bank Sponsor Date

MITIGATION BANK REVIEW TEAM

By the MBRT Chair:

_____ 5/6/08
U.S. Army Corps of Engineers, Norfolk District Date
By: J. Robert Hume
Its: Chief, Regulatory Office

By the MBRT Members:

_____ _____
Environmental Protection Agency, Region III Date
By: _____
Its: _____

_____ _____
U.S. Fish and Wildlife Service Date
By: _____
Its: _____

_____ _____
Virginia Department of Environmental Quality Date
By: _____
Its: _____

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the date herein below last written.

_____ _____
Bank Sponsor Date

MITIGATION BANK REVIEW TEAM

By the MBRT Chair:

_____ _____
U.S Army Corps of Engineers, Norfolk District Date
By: _____
Its: _____

By the MBRT Members:

_____ _____
Environmental Protection Agency, Region III Date
By: _____
Its: _____

_____ _____
U.S. Fish and Wildlife Service Date
By: _____
Its: _____

Ellen Gilinsky 5/28/08
Virginia Department of Environmental Quality Date
By: Ellen Gilinsky
Its: Water Division Director

EXHIBIT A
VICINITY MAP

EXHIBIT B
LOCATION MAP

EXHIBIT C
BANK DEVELOPMENT PLAN

I. Conceptual Site Plan - Stream Mitigation Activities

Development of the Bank will involve stream mitigation activities via stream and riparian area restoration, enhancement, and preservation activities as depicted in the Conceptual Site Plan (see Map Pocket at end of Exhibit C). Specific goals and objectives for each portion of the Bank shall be specifically provided in the Mitigation Site Plan for each phase of the Bank.

A. *Riparian Area Activities*

Approximately 53 acres of the Bank will be included as riparian area activities. Heavy planting of the riparian buffer is the predominant activity, comprising 36.6 acres. Buffer preservation comprises 16.0 acres, of which 2.1 acres are wetlands. The riparian preservation and planting areas are indicated on the Conceptual Site Plan.

B. *Stream Preservation*

The Bank will preserve 3,911 LF of un-named tributaries to Deep Creek. In general, the streams proposed for preservation are low gradient, have stable banks and demonstrate a variety of instream habitats.

C. *Stream Enhancement (with and without structures)*

Stream enhancement activities are proposed on approximately 736 LF of the northern un-named tributary on the site. Stream enhancement activities can fall into two separate categories: with structures and without structures. Stream enhancement with instream structures may include rock cross-vanes and/or j-hooks. The instream structures are typically used to divert erosive flows from unstable stream banks and may also be used to provide grade control in areas that are unfeasible for restoration. Stream enhancement without instream structures include biological and mechanical bank work, such as:

- Laying back the banks;
- Installation of bankfull benches; and
- Streambank plantings.

D. *Stream Restoration*

Stream restoration is not proposed.

II. Stream Assessment and Crediting Methodology

The USM Form 3 was utilized to derive the number of credits from the aforementioned stream mitigation activities. The number of stream credits derived from proposed stream and riparian area preservation, enhancement, and/or restoration activities were determined by the linear feet of stream activity as well as acreage of activities within the associated riparian areas. Credits for the proposed activities range as follows:

- Stream restoration – 1 credit per foot
- Stream enhancement (with structures) – 0.3 credit per foot of influence
- Stream enhancement (without structures) – 0.09 to 0.15 credit per foot per bank
- Riparian Area Enhancement – 0.15 to 0.38 credit per % area per bank

- Riparian Area Preservation – 0.07 to 0.14 credit per % area per bank

Stream credit adjustment factors were not applied to any of the stream resources on the Bank.

USM Form 4 (see below) provides a summary of the linear feet and credits derived from each reach within the Bank. Credits derived from the mitigation activities listed above, include:

- Riparian Area Activities: Preservation – 391 credits
- Riparian Area Activities: Enhancement (Heavy Buffer Planting) – 1,872 credits
- Stream Preservation – 0 credits
- Stream Enhancement (with and without structures) – 119 credits
- Stream Restoration – 0 credits
- Adjustment Factors – 0 credits

Approximately 2,382 credits may be derived from stream activities on the Bank per the Conceptual Site Plan.

III. Mitigation Site Plan - Stream Activities

A. Submission and Approval

The Sponsor shall submit the Mitigation Site Plan to the MBRT for each phase of the site and obtain approval of the MBRT prior to commencement of construction activities.

B. Design Specifications

The Mitigation Site Plan shall include the following:

a. Introduction
   - Goals and objectives of enhancement and preservation in terms of water quality benefits and replacement of functions and values, stream stability
   - Brief summary of construction impacts
   - Summary of enhancement activities

b. Description of Existing Stream to be Enhanced
   - Existing stream type
   - Geomorphologic measurements of existing stream
   - Summarize current deficiencies which make the stream an appropriate candidate for stream enhancement (i.e., eroded streambed / streambank, poor riparian buffers, livestock impacts, etc.)
   - Include applicable overall watershed conditions: habitat for T&E species, etc.

c. Proposed Restoration Measures
   - Reference reach information (if available) used to design proposed stream, including geomorphologic measurements
   - Proposed stream type
   - Summary of design geomorphologic measurements for proposed stream
   - Summary of proposed restoration measures, which may include:
     - Description and functions of streambed / streambank stabilization activities (grade control, root wads, live staking, etc.)
     - Description of bank sloping / shaping and bench features, including grading (bankfull benches, bio-remediation techniques, etc.)
     - Description and functions of instream structures (cross vanes, j-hooks, step-pools, etc.)

- Description of channel alterations (elevations / slope, sinuosity, riffle-pool complexes, etc.)
- Floodplain design
- Description of riparian buffer plantings (species, planting scheme, etc.)
- Seed mixtures used following construction
- Any other appropriate measure

d. Plan Sheets
- Depicting stream segments with mitigation activities, and proposed pattern
- Identify locations of all structures and activities (cross vanes, j-hooks, step-pools, root wads, bank shaping / sloping, bio-remediation techniques, riparian buffers, fencing, etc.)
- Designed longitudinal profile
- Designed cross-sections
- Designed pattern

IV. Conceptual Site Plan - Wetland Mitigation Activities

Development of the Bank will involve wetland mitigation activities via wetland creation/restoration and preservation activities as well as upland enhancement and preservation as depicted in the Conceptual Site Plan. Specific goals and objectives for each portion of the Bank shall be specifically provided in the Mitigation Site Plan for each phase of the Bank.

A. *Wetland Creation/Restoration*

Approximately 128 acres of the Bank will be included as wetland creation/restoration activities. Those areas where a wetland did not formally exist but where it is proposed to establish a wetland resource on site is deemed wetland creation. Activities associated with wetland creation can include site grading to establish high and low marsh areas, low earthen berms, and subgrade preparation to ensure success of the created wetland. Wetland restoration involves re-establishing a wetland resource, in both characteristic and function, where it has ceased to exist or exists in a severely degraded state. Restoration activities can include minimal site grading and potentially removing invasive or unwanted vegetation from the wetland restoration area. The wetland creation/restoration areas are indicated on the Conceptual Site Plan.

B. *Wetland Preservation*

The Bank will preserve 4.2 acres of wetlands to ensure the protection of these important resources in perpetuity. Disturbance within the preservation areas from Bank construction activities will be avoided and minimized where practical.

C. *Upland Enhancement*

Upland enhancement activities are proposed on approximately 60 acres of the Bank. Upland enhancement activities include re-establishing an upland riparian buffer through planting a mix of native canopy trees and shrubs to further protect the wetlands that are being created/restored and preserved at the Bank. Removal of any invasive or unwanted species may also be necessary to promote vigorous growth of the native vegetation.

D. *Upland Preservation*

Upland preservation is proposed for 3.9 acres at the Bank. An established buffer is already present at the Bank in the areas designated as upland preservation. These areas will be preserved to protect the adjacent wetlands and maintain a broader functionality at the Bank.

V. Wetland Assessment and Crediting Methodology

The crediting formula and procedure provided herein is designed to ensure that there is no net loss of wetlands due to the use of this Bank. A set of wetland credit ratios which is universally accepted by the environmental agencies has been established to ensure no net loss of wetlands. The number of wetland and upland credits derived from proposed preservation, enhancement, and/or restoration activities were determined by the total number of acres of wetland and upland areas. The following credit ratios were used in this assessment:

- 1:1 Wetland Creation/Restoration
- 10:1 Wetland Preservation
- 15:1 Upland Enhancement
- 20:1 Upland Preservation

The table below provides a summary of the number of acres and credits derived from each area within the Bank. Credits derived from the mitigation activities listed above include:

- Wetland Creation/Restoration – 128 credits
- Wetland Preservation – 0.4 credits
- Upland Enhancement – 4 credits
- Upland Preservation – 0.2 credits

Approximately 132.6 credits may be derived from wetland activities on the Bank per the Conceptual Site Plan.

	Acres	**Ratio**	**Credits**
Wetland Creation/Restoration	128.0	1:1	128
Wetland Preservation	4.2	10:1	0.4
Upland Enhancement	60.3	15:1	4.0
Upland Preservation	3.9	20:1	0.2
Totals	**196.4**		**132.6**

VI. Mitigation Site Plan - Wetland Activities

A. Submission and Approval

The Sponsor shall submit the Mitigation Site Plan to the MBRT for each phase of the Bank and obtain approval of the MBRT prior to commencement of construction activities.

B. Design Specifications

The Mitigation Site Plan shall include, at a minimum:

a. Narrative describing the nature of the wetland Mitigation concept.
b. Grading plans at a scale of 1" = 50' and providing 0.5 ft contour intervals in wetlands Restoration areas (or metric equivalent), or at a more detailed scale. Plans shall use the correct vertical datum, NOS in tidal Mitigation areas and NGVD 88 in non-tidal areas.
c. Erosion and Sediment Control Plans, in accordance with the King George County Erosion and Sediment Control Ordinance and the most current edition of the Virginia Erosion and Sediment Control Handbook
d. Water budget for a typical, wet, and dry year that includes, on a monthly basis:

    (1) Inputs
        a) Precipitation
        b) Infiltration
        c) Surface Flow Runoff
    (2) Outputs
        a) Evapotranspiration
        b) Exfiltration
        c) Spillway Outflow

e. Vegetation plan depicting or listing expected zonation (i.e., POWZ, PEM, PS/S, and PFO).
f. Vegetation schedule with plants and seeds selected based on habitat value and projected water elevation and duration. Said schedule shall include:

    (1) Species;
    (2) Wetland indicator status as specified in the current version of the *National List of Plant Species That Occur in Wetlands: Northeast (Region 1)*
    (3) Plant size and spacing; and
    (4) Wildlife value assessment.

The vegetation shall primarily comprise of an herbaceous wetlands seed mix (at least ten (10) native species commonly found in region) to reflect the expected community type during the initial growth years of tree and shrub seedlings. Bare root tree seedlings and shrubs shall be randomly planted in Restoration areas.

g. A surveyed wetland delineation, in accordance with the Corps'1987 Manual, of existing wetlands areas of each phase.
h. A credit analysis based on the Mitigation Site Plan for the subject phase, utilizing the methodology described in Exhibit D Section II of this Agreement, to estimate the expected number of Credits that will be created by the plan.

VII. Maintenance and Monitoring Activities

Specific maintenance and monitoring activities for the Mitigation Bank site are identified in Section VI.A-B of the Mitigation Banking Instrument. After development of the final Mitigation Site Plan, if additional maintenance or monitoring activities are considered necessary

they will be specified in more detail at that time.

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length	
2986A	Buena Vista Stream and Wetland Mitigation Bank	King George	R4SB4	02070011	2-1-07	S1R1	1481	

Name(s) of Evaluator(s)	Stream Name and Information
Blair Goodman	

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration | | Credit per foot: 1 | Project Credits: 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures | 161 | Credit per foot: 0.3 | Project Credits: 48.3

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Structure	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings ONLY
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length	310						310
	Credit>	0.1						
Left Bank	Length	392						392
	Credit >	0.1						

CREDITS: Rt Bank > 31.00 Credit; Lt Bank > 39.20 SUM of banks: 70

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation ONLY, No work proposed High Quality	Preservation ONLY, No work proposed Low Quality	Buffer area not within preservation width but within the first 100'
Credit for inner 100'	0.4	0.38	0.29	0.14	0.07	0
Credit for outer 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 148,100 square feet

Insert area in square feet for a given activity: 876342 Percentage of "Goal">>>> 359.16%

WITHIN FIRST 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03; Missing two vegetative communities — Subtract 0.06; Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	31%	69%					100%
	Credit>	0.14	0.38					
Left Bank	% Area	32%	68%					100%
	Credit >	0.14	0.38					

CREDITS: Rt Bank > 0.31 Credit; Lt Bank > 0.30 0.30: 450.82

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

WITHIN SECOND 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03; Missing two vegetative communities — Subtract 0.06; Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	152%						152%
	Credit>	0.19						
Left Bank	% Area	100%						100%
	Credit >	0.19						

CREDITS: Rt Bank > 0.29 Credit; Lt Bank > 0.19 0.24: 355.44

Σ(% Area X Credit) for all areas (banks done separately)

AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Stream Length Affected							
Credit>							

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 925

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length
2986A	Buena Vista Stream and Wetland Mitigation Bank	King George	R4SB4	02070011	2-1-07	S1R2	1764

Name(s) of Evaluator(s)	Stream Name and Information
Blair Goodman	

		Project Credits
Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.	Credit per foot	0
List Reaches that will receive full Restoration: Total length of Full Restoration	1	
Credits = Stream Length X 1.0		

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles	Credit per foot	
Discuss Length Affected by Instream Structures (justify length): Length Affected by Instream Structures	0.3	0
Credits = Stream Length X 0.3		

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Structure	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings ONLY
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length						0
	Credit>						
Left Bank	Length						0
	Credit >						

CREDITS			
Rt Bank >	0.00	Credit	
Lt Bank >	0.00	SUM of banks	0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation ONLY. No work proposed High Quality	Preservation ONLY. No work proposed Low Quality	Buffer area not within preservation width but within the first 100'
Credit for inner 100'	0.4	0.38	0.29	0.14	0.07	0
Credit for outer 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 176,400 square feet

Insert area in square feet for a given activity: 334105 Percentage of "Goal">>>> 189.40%

WITHIN FIRST 100' - Mitigation Categories

Missing one vegetative community	Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100
Missing two vegetative communities	Subtract 0.06	

Right Bank	% Area	59%	19%	22%				100%
	Credit>	0.14	0.38	0				
Left Bank	% Area	59%	19%	22%				100%
	Credit >	0.14	0.38	0				

CREDITS			
Rt Bank >	0.16	Credit	
Lt Bank >	0.16	0.16	273.07

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

WITHIN SECOND 100' - Mitigation Categories

Missing one vegetative community	Subtract 0.03	Ensure the sums of % Riparian Blocks equal 100
Missing two vegetative communities	Subtract 0.06	

Right Bank	% Area	10%	95%					105%
	Credit>	0.07	0.19					
Left Bank	% Area	10%	95%					105%
	Credit >	0.07	0.19					

CREDITS			
Rt Bank >	0.19	Credit	
Lt Bank >	0.19	0.19	335.16

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Stream Length Affected						
Credit>						

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project 608

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length	
2986A	Buena Vista Stream and Wetland Mitigation Bank	King George	R4SB4	02070011	2-1-07	S2R1	706	

Name(s) of Evaluator(s)	Stream Name and Information
Blair Goodman	

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration = 1 | Credit per foot = 0 | Project Credits = 0

Credits = Stream Length X 1.0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures = 0.3 | Credit per foot = 0.3 | Project Credits = 0

Credits = Stream Length X 0.3

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Structure	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings ONLY
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length							0
	Credit>							
Left Bank	Length							0
	Credit >							

CREDITS: Rt Bank > 0.00; Lt Bank > 0.00; Credit = SUM of banks = 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation ONLY. No work proposed High Quality	Preservation ONLY. No work proposed Low Quality	Buffer area not within preservation width but within the first 100'
Credit for inner 100'	0.4	0.38	0.29	0.14	0.07	0
Credit for outer 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 70,600 square feet

Insert area in square feet for a given activity: 191226 Percentage of "Goal">>>> 270.85%

WITHIN FIRST 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03; Missing two vegetative communities — Subtract 0.06; Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	85%	5%	10%				100%
	Credit>	0.14	0.38	0				
Left Bank	% Area	95%	5%					100%
	Credit >	0.14	0					

CREDITS: Rt Bank > 0.14; Lt Bank > 0.13; Credit = 0.14 | Project Credits = 95.66

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

WITHIN SECOND 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03; Missing two vegetative communities — Subtract 0.06; Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	185%	135%					320%
	Credit>	0.19	0.07					
Left Bank	% Area	185%	135%					320%
	Credit >	0.19	0.07					

CREDITS: Rt Bank > 0.45; Lt Bank > 0.45; Credit = 0.45 | Project Credits = 317.7

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Stream Length Affected							
Credit>							

Credits > 0

ΣLength X Credit) for all areas

Total Compensation Credit Provided by Project: 413

Compensation Crediting Form (Form 3)

Unified Stream Methodology for use in Virginia

Project #	Project Name	Locality	Cowardin Class.	HUC	Date	Reach #	Reach Length	
2986A	Buena Vista Stream and Wetland Mitigation Bank	King George	R4SB4	02070011	2-1-07	S3R1	728	

Name(s) of Evaluator(s)	Stream Name and Information
Blair Goodman	

Restoration: Includes Priority 1, 2, and 3 restoration activities. Does not include buffer width.

List Reaches that will receive full Restoration:

Total length of Full Restoration		Credit per foot	Project Credits
Credits = Stream Length X 1.0		1	0

Enhancement With Instream Structures: Addressing Streambank Stability, Grade Control (Vanes, Weirs, Step-Pools), Constructed Riffles

Discuss Length Affected by Instream Structures (justify length):

Length Affected by Instream Structures		Credit per foot	
Credits = Stream Length X 0.3		0.3	0

Enhancement: Addressing Streambank Stability, Entrenchment Ratios, Access to Floodplain

Mitigation Categories

	Mechanical Bank Work			Biological Bank Work	
	Credit Per Structure	Pick One Per Length		May Be Cumulative Per Length	
Activities	Habitat Structures	Create Bankfull Bench	Lay Back Banks	Bio-Remediation Techniques	Stream Bank Plantings ONLY
Credit per foot per bank	0.1	0.15	0.1	0.1	0.09

Right Bank	Length							0	
	Credit>								
Left Bank	Length							0	
	Credit >								

CREDITS		
Rt Bank >	0.00	Credit
Lt Bank >	0.00	*SUM of banks* 0

Σ(Length X Credit) for all areas (banks done separately)

Riparian Areas: Assess the proposed 100 foot buffer on both banks based on the activity proposed. Enter the percentage of area and the credit below. (Widths of buffer above 100' will be determined below)

Activities	Buffer Re-establishment (removal of invasives)	Buffer Planting - Heavy	Buffer Planting - Light	Preservation ONLY, No work proposed High Quality	Preservation ONLY, No work proposed Low Quality	Buffer area not within preservation width but within the first 100'
Credit for inner 100'	0.4	0.38	0.29	0.14	0.07	0
Credit for outer 100'	0.2	0.19	0.15	0.07		0

Calculation of "Goal" riparian buffer for each side (SAR length times 100') >>>> 72,800 square feet

Insert area in square feet for a given activity: 187918 Percentage of "Goal">>>> 258.13%

WITHIN FIRST 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03

Missing two vegetative communities — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	100%						100%	
	Credit>	0.38							
Left Bank	% Area	10%	90%					100%	
	Credit >	0.14	0.38						

CREDITS			
Rt Bank >	0.38	Credit	
Lt Bank >	0.36	0.37	267.9

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

WITHIN SECOND 100' - Mitigation Categories

Missing one vegetative community — Subtract 0.03

Missing two vegetative communities — Subtract 0.06

Ensure the sums of % Riparian Blocks equal 100

Right Bank	% Area	8%						8%	
	Credit>	0.07							
Left Bank	% Area	258%						258%	
	Credit >	0.19							

CREDITS			
Rt Bank >	0.01	Credit	
Lt Bank >	0.49	0.25	182

Σ(% Area X Credit) for all areas (banks done separately)
AVE of credit for banks X length of project

Adjustment Factors: These factors are applied as a multiplier to length of a reach for which they apply

Adjustment Factor Categories

Activity	Rare, Threatened, or Endangered Species or Communities	Livestock Exclusion	Watershed Preservation
Credit	0.1 - 0.3	0.1 - 0.3	0.1 - 0.3

Credits are cumulative and can apply to more than one reach. Each reach can have more than one Adjustment Factors

Stream Length Affected							
Credit>							

Credits >	0

Σ(Length X Credit) for all areas

Total Compensation Credit Provided by Project	450

Compensation Summary Form (Form 4)

Unified Stream Methodology
for use in Virginia

Project #	Applicant		Date
2986A	Buena Vista Stream and Wetland Mitigation Bank		2/1/2007
Evaluators		**HUC**	**Locality**
Blair Goodman		2070011	King George

Stream Name	Reach ID	Comp. Length (L_c) (feet)	Total Compensation Credit (Total CC) (From Form 3)
S1R1		1481	925
S1R2		1764	608
S2R1		706	413
S3R1		728	450
	Totals	**4679**	**2396**

Note: Round all feet & CC's to the nearest whole number.

EXHIBIT D
CREDITING AND DEBITING PROCEDURES

I. Impact Debit Values

The Cowardin system of wetland classification shall be utilized to determine the maximum number of Credits that may be Debited from the Bank. This maximum number of Credits may be modified by the MBRT based on the age, and status of construction of the Mitigation areas. The U.S. Army Corps of Engineers ("Corps") and the Virginia Department of Environmental Quality ("DEQ") shall determine the appropriate and specific number of Mitigation Credits necessary to be Debited against the Bank to achieve no net loss of Functions and values during the permit process based upon their use of methods determined to be appropriate by said agencies, of the impact areas and the status of this Bank.

II. Mitigation Credit Creation

A. Pre- Construction

Mitigation Credits shall be created by development of a Mitigation area in substantial conformance with the Mitigation Site Plan described in Exhibit C (Bank Development Plan) of the Banking Instrument. The number of Credits created by this Mitigation Bank shall initially be based upon the Bank Development Plan. Credits may then be adjusted by the MBRT if as-built conditions differ substantially from the areas projected in the Bank Development Plan projections as determined by the MBRT acting through the MBRT Chair. Adjustments may include changes in the number of available Credits, credit composition, or minimum credit ratios associated with use of the Bank. However, this adjustment shall not be permitted to increase the number of Credits available from upland reforestation as originally proposed in the final construction documents. If such areas cannot be modified so as to create the planned wetlands habitats, no Credits will be available from such areas. Each acre of land area within the Property described in Exhibit B shall be designated by the Mitigation Site Plan as to which types of land forms, as classified by the Cowardin System, shall be restored or created by grading and/or water impoundment. The number of Credits created by this plan shall be based on community or cover type and the use of the Unified Stream Methodology.

The exact number of Credits created is determined by the Mitigation Site Plan and adjusted based upon final as-built conditions. The number of Credits is estimated to be: 132.6 wetland credits and 2,382 stream credits.

B. Post-Construction

During or after the tenth growing season, the Corps, acting in consultation with the MBRT, may assess the Functions and values of this ecological system (or when requested to do so by the Sponsor). The MBRT may issue a written determination to the Sponsor that due to the demonstration of successful performance, the number of Credits attributable to this Mitigation Bank may be modified to reflect the Functions and values provided.

C. Open Water

Any created Open Water areas shall be accounted for separately from the wetland Credits available at the Buena Vista Wetland Mitigation Bank. When an impact in the service area of the Bank to Open Water occurs, DEQ and/or the Corps may allow a permittee to purchase a portion of any open water on the Mitigation Bank site as off-site Mitigation for said impact permitted under permits issued under the Clean Water Act and/or Virginia Water Protection Permit.

III. Accounting Procedures

A. The Sponsor shall comply with the accounting procedures described in Section VI D. of the Banking Instrument and the quantitative assessment of Credits and Debits for permitted impacts as described herein.

B. In no event shall the cumulative total area of impacts to Waters of the U.S. permitted to use Credits from the Mitigation Bank exceed the total area of Waters of the U.S. created by this Mitigation Bank.

C. If the Mitigation Bank is constructed in Phases, the accounting of Credits shall duly reflect this phasing of work.

EXHIBIT E
SERVICE AREA MAP

EXHIBIT F
RESTRICTIVE COVENANT

DECLARATION OF RESTRICTIONS

OF
Buena Vista Wetland Mitigation Bank, LLC
113 North Lafayette Street
Alexandria, Virginia 22314

THIS DECLARATION OF RESTRICTIVE COVENANTS, is made this _____day of _____, 2008, by Buena Vista Wetland Mitigation Bank, LLC, Owner.

WHEREAS, Buena Vista Wetland Mitigation Bank, LLC is the owner of the Property more fully described on Exhibit A attached hereto; it being the same Property conveyed to _____, by deed from _____, dated _____, and duly recorded in the Clerk's Office of the _____ of _____ in Deed Book ____, at page ____).

WHEREAS, (_____) desires to comply with the respective conditions of the Banking Instrument between: the Buena Vista Wetland Mitigation Bank, LLC; the Mitigation Bank Review Team (the "MBRT") which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); and the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Institute of Marine Sciences ("VIMS"); dated _____, 20__, by imposing this Restrictive Covenant on the Property that may consist of preserved wetlands, restored wetlands, enhanced wetlands, created wetlands, uplands, and areas to be converted into wetlands.

WHEREAS, (_____) desires to impose on said Property restrictive covenants expressing (_____) 's intent to preserve _____acres of said Property as shown on Exhibit B and as described as _____ Bank in perpetuity as detailed below. These covenants are imposed by Owner freely and voluntarily.

NOW THEREFORE THIS DECLARATION WITNESSETH: (_____) does hereby declare, covenant and agree, for itself and its successors and assigns, that said Property described as _____ shown on Exhibit B shall be hereafter held, leased, transferred, and sold subject to the following conditions and restrictions which shall run with the land and be binding on all parties and persons claiming under them.

Covenants and Restrictions.

The Property described as _____ shown on Exhibit B attached hereto shall be preserved in perpetuity in its natural state, by prohibiting the following activities:

1. Destruction or alteration of the area shown on Exhibit B except:

(a) alteration necessary to construct the wetland Mitigation areas and associated improvements, such as dams, outlet structures and spillways, nature trails, and interpretive stations, proposed to be built by _____., or its successors, and/or assigns, for the "_____Bank" as approved in the Mitigation Banking Instrument;
(b) alteration necessary to ensure the success of the _____ Bank including monitoring, reconstruction or maintenance of the constructed Mitigation areas;
(c) alteration to construct structures such as walkways, boardwalks, foot trails, wildlife observation or management structures, benches, observation decks, picnic tables, fence posts (spaced in a manner so that neither the posts nor the fence itself prevents the natural movement of water), fish ladders, and, ecological, biological, hydrological or chemical monitoring, observation or management equipment including, without limitation, monitoring wells, water control weirs or interpretive stations, or other structures approved by the MBRT, provided that

(i) any such structures permit, and do not impede, the natural movement of water, and
(ii) such facilities are constructed and maintained in accordance with all applicable federal and states laws;

(d) addition of signs constructed in public right of ways by or on behalf of the Virginia Department of Transportation or other governmental agencies;
(e) removal of vegetation (where not precluded by federal or state law) when conducted for
(i) removal of noxious or invasive plants or
(ii) public safety purposes
(f) planting of native species of wetlands plants by hand for aesthetic landscaping or screening purposes; and
(g) alteration as reasonably necessary to comply with state or federal law or appropriate court order.

2. Construction, maintenance or placement of any structures or fills including but not limited to buildings, building pads, and mobile homes, other than those, which currently exist.

3. Ditching, draining, diking, damming, filling, excavating, grading, plowing, flooding/ponding, mining, drilling, placing of trash and yard debris or removing/adding topsoil, sand, or other materials (except as may be necessary on a case-by-case basis with prior written approval by the MBRT) other than any authorized under the Banking Instrument;

4. Permitting livestock to graze, inhabit or otherwise enter the Preservation area.

5. Harvesting, cutting, logging, and pruning of trees and plants, or using fertilizers and spraying with biocides other than what is authorized by the Banking Instrument (except as may be necessary on a case-by-case basis with prior approval by the MBRT);

6. Utilizing a non-reporting Nationwide Permit or State Program General Permit under Section 404 of the Clean Water Act or state general permits under VWPP regulations to impact any Water of the U. S., or any State Waters on the Property. Notification shall be required for the use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

Amendment

The covenants contained herein shall not hereafter be altered in any respect without the express written approval and consent of the Owner or its successor in interest and the MBRT. The Owner or its successor may apply to the MBRT for vacation or modification of this declaration; however, after recording, these restrictive covenants may only be amended or vacated by a recorded document signed by the signatory members of the MBRT and the Owner or its successor in interest.

Compliance Inspections and Enforcement

The MBRT, and its authorized agents shall have the right to enter and go on the Property to inspect the Property and take actions necessary to verify compliance with these restrictive covenants. The restrictive covenants herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the MBRT, including the Corps or DEQ. Failure by any agency (or owner) to enforce any covenant or restriction contained herein shall in no event be deemed a waiver of the right to do so thereafter.

Separability Provision

The provisions hereof shall be deemed individual and severable and the invalidity or partial invalidity or unenforceability of any one provision or any portion thereof shall not affect the validity or enforceability of any other provision thereof.

Consent of Lender and Trustee (if applicable)

Owner is the maker of a note dated_____, secured by, among other things, a deed of trust dated _____, from Owner to _____, as trustee, recorded in the Clerk's office at Deed Book_____, Page ____. For the benefit of _____Bank (the "Deed of Trust"), _____, trustee joins herein for the sole purpose of subordinating the lien, dignity and priority of the Deed of Trust to these restrictive covenants. _____Bank joins herein for the sole purpose of consenting to trustee's action.

WITNESS the following signature the day and year first above written.

[_____]
BY: Its General Partner

BY: _____

TITLE: _____

Commonwealth of Virginia, City of _____, to wit:

I, _____, a notary public for the state and city aforesaid, do certify that [Name] [Title] whose name was signed on _____, 20__ in his capacity on that date to the foregoing document has acknowledged said document and signature before me in the city aforesaid.

Given under my hand and notarial seal this _____ day of _____, 20__.

_____
Notary Public

My commission expires _____.

_____

Bank

Trustee.

Exhibit A

Legal description of Property.

Exhibit B

Plat Map and /or Legal description of preserved area. If Plat is oversized and will be recorded separately, Exhibit B should contain a description that includes the reference to the Plat Book and Page number where the plat is recorded.

EXHIBIT G
ESCROW AGREEMENT

THIS ESCROW AGREEMENT ("Escrow Agreement") is made and entered into as of the _____ day of _____, 20__ by and among _____., a Virginia limited liability Corporation ("Sponsor"), and _____ (Escrow Agent) specifically described herein, governs distribution of escrow funds associated with the _____ Mitigation Banking Instrument as described below:

STATEMENT OF PURPOSE

Sponsor has entered into the _____ Wetland Mitigation Banking Instrument with the _____ Mitigation Bank Review Team (MBRT), which consists of the U.S. Army Corps of Engineers, Norfolk District (the "Corps"); the Environmental Protection Agency ("EPA"); the U.S. Fish and Wildlife Service ("USFWS"); the Virginia Department of Environmental Quality ("DEQ"), the Virginia Department of Game and Inland Fisheries ("VDGIF"), the Virginia Marine Resources Commission ("VMRC") and the Virginia Institute of Marine Sciences ("VIMS"), represented by its Chair, the Corps, dated as of the _____ day of _____, 20__ ("Banking Instrument"),such Bank consisting of approximately _____ acres of land located in _____ County, Virginia, as more particularly described in the Banking Instrument (the "Property"). The Sponsor desires to have the Escrow Agent hold certain funds in escrow and distribute said funds resulting from the sale of Mitigation Credits as required under the Banking Instrument and pursuant to the terms of this Escrow Agreement.

NOW, THEREFORE, in consideration of the premises and other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereby agree as follows:

1. Appointment. The Sponsor hereby appoints the law firm or title company of _____ as Escrow Agent hereunder, and by its execution thereof, _____ agrees to accept such appointment.

2. Mitigation Sale Proceeds. Sponsor shall cause all required funds from any Mitigation Sale Proceeds relating to the Property to be delivered and deposited in escrow with the Escrow Agent as required by Section IV.D. of the Banking Instrument. The Escrow Agent agrees to immediately deposit said funds in an escrow account at a federally insured depository institution, and to hold and only disburse said funds, and any interest earned thereon (together the "Mitigation Sales Proceeds") as hereinafter provided.

3. Notification of Receipt of Mitigation Sale Proceeds. Upon receipt of any Mitigation Sale Proceeds, Escrow Agent shall provide written confirmation to the Sponsor of receipt of such funds. The Sponsor shall forward copies of this confirmation to the following organizations:

4. Notification of Disbursement of Funds from Escrow Account. The Sponsor, the MBRT, acting through the Chair, and/or the Long-Term Steward (if one has been designated) shall only request that Escrow Agent disburse said funds in accordance with the criteria established in Sections IV.D., IV. E., and VI. E. of the Banking Instrument as necessary. The Escrow Agent agrees that it shall only honor requests for disbursements that are made in writing. A copy of each request for disbursement shall be simultaneously sent by the Sponsor, MBRT, or Long-Term Steward to:

Upon receiving written approval from the MBRT Chair for the requested disbursement, the Escrow Agent shall release said funds requested by the Sponsor, the MBRT, or the Long-Term Steward (If one has been designated) within 5 days of receiving said approval.

5. Instructions. Escrow Agent is instructed and directed by the parties to comply with Section IV.D and VI H, I,. and J. of the Banking Instrument and by its execution hereof agrees to comply with Section IV.D. and VI H., I., and J of the Banking Instrument.

6. Duties of Escrow Agent/Exculpation. The Sponsor agrees that in performing any of its duties under this Agreement, that Escrow Agent shall not be liable to the Sponsor for any loss, costs or damage that may incur as a result of its service as Escrow Agent hereunder, except for any loss costs or damage arising out of its willful default or negligence. Accordingly, Escrow Agent shall not incur any liability with respect to (a) any action taken or admitted to be taken in good faith upon advice of its counsel given with respect to any questions relating to its duties and responsibilities, or (b) to any action taken or admitted to be taken in reliance upon any document, including any written notice of instruction provided for in this Escrow Agreement, not only as to its due execution and validity and effectiveness of its provisions, but also as to the truth and accuracy of any information contained therein, which Escrow Agent shall in good faith believes to be genuine, believes to have been signed or presented by a proper person or persons and, in good faith believes to conform with the provisions of this Escrow Agreement.

7. Indemnification. The Sponsor hereby agrees to indemnify and hold harmless the Escrow Agent and any and all of its partners acting hereunder, against any and all losses, claims, damages, liabilities and expenses, including, without limitation, reasonable attorneys' fees and disbursements, which may be imposed upon or incurred by Escrow Agent in connection with its service as Escrow Agent, unless such losses, claims, damages, liabilities and expenses are the result of Escrow Agent's willful default or negligence.

8. Disputes. In an event of dispute between the Sponsor and the MBRT or the MBRT Chair, sufficient in the discretion of Escrow Agent to justify its doing so, Escrow Agent shall be entitled to tender unto the registry or custody of any court of competent jurisdiction all money or Property held by it under the terms of this Escrow Agreement, together with such legal pleadings as it deems appropriate and immediately thereupon it should be discharged from all duties and responsibilities hereunder.

IN WITNESS WHEREOF, the undersigned have caused this instrument to be duly executed and sealed as of the day and year first above written.

By: _____
XXXXXX

AND BY: _____
XXXXXXX