WILLIAMSBURG ENVIRONMENTAL GROUP, INC.

Environmental Consultants

PROSPECTUS

Lower James Stream Mitigation Bank

Surry County, Virginia

Prepared for:
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I. Introduction

A. Summary

Brandon and Brandon, LLC (hereinafter, the Sponsor) proposes to establish the Lower James Stream Mitigation Bank (hereinafter, the Bank) to provide compensation for unavoidable impacts to aquatic resources in the James River drainage basin. This proposal calls for the establishment of an approximate 645.6-acre Bank in Surry County, Virginia (HUC 02080206). Additional Bank sites located within the James River watershed may be added to the Lower James Stream Mitigation Bank in the future.

The purpose of the Bank will be to provide offsite compensation for the unavoidable loss of streams and wetlands as a result of aquatic impacts from development projects authorized under Section 401 and 404 of the Clean Water Act, Section 10 of the Rivers and Harbor Act, and Section 62.1-44.15:20-23 of the Code of Virginia provided such impacts have met all applicable requirements and are approved by the respective permitting agencies.

B. Sponsor and Agent Qualifications

The Sponsor owned and managed the Appomattox Mitigation Bank, which created both stream and wetland credits. In addition, the Sponsor owns other property that is currently in the process of being incorporated into another Mitigation Bank. Moreover, Williamsburg Environmental Group, Inc. (hereinafter, the Agent), has extensive experience in all stages of the mitigation banking process, from initial site assessment through design and construction oversight, with approximately twenty-seven (27) approved or pending mitigation bank sites currently in Virginia.

C. Contact Information

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II. Bank Site Description

A. Location and Current Use

The proposed Bank site will consist of two properties located in Surry County, Virginia (Figure 1: Vicinity Map). The total area of the Bank is approximately 645.6-acres of the approximately 1,358.4-acres of the two properties combined and located in the James River watershed. The Bank site is bisected by State Route 618 (Southwark Road) and by State Route 610 (Swann's Point Road), and is bordered to the north by the James River and to the south by Spring Run (Figure 2: Location Map).

The proposed Bank site contains approximately 49,369 linear feet (LF) of existing stream channels and approximately 109-acres (AC) of wetlands (Master Plan, Appendix A). Spring Run and several unnamed tributaries flow through the south portion of the property with the confluence of Grays Creek and Spring Run located at the southeast corner of the Bank site. North of SR610, small headwater streams flow to the James River while the headwater streams to the east of SR618 flow to Cross Creek. The Bank site consists of mature bottomland and riparian hardwood forests; mid-succession regenerative growth; forested and emergent wetlands; and open fields and pine stands in the uplands. The property has been used for silviculture and agriculture over the last several decades. A series of historical aerial photographs dating from 1963 show the land use pattern of the Bank site over time and are included in the Historic Images graphic located in Appendix B.

B. Zoning / Easements

The Bank site is currently zoned A-R –Agricultural – Rural Residential. This designation is intended to preserve and enhance the rural character and natural resources of the county in areas where urban services are not planned. The Surry County Comprehensive Plan (updated in 2000) Existing Land Use Map depicts the Bank site in the Agricultural and Timberlands area of the County. Surry County states in the Comprehensive Plan that it "wishes to encourage continued agricultural and forest uses and preserve the natural beauty of rural areas." Minimal future development is planned and would center on the places of historic significance and town centers in the County, following the concept of growth node development. This concept is depicted on the Development Plan Map which also indicates that the future land use for the Bank site will remain Agricultural – Rural Residential. According to the Comprehensive Plan, the Bank site should not adversely affect nor be affected by any future planned uses within Surry County. The Comprehensive Plan Maps can be found in Appendix C.

C. Stream and Wetland Delineation

Streams and wetlands were identified and field mapped by WEG within the property limits in July 2012 for the southern portion of the Bank and in December 2012 for the northern portion of the Bank. The locations and limits of stream channels and wetlands were estimated using the National Hydrologic Database (NHD) and field mapping, with limited GPS location. A formal delineation and confirmation of limits of the resources by the U.S. Army Corps of Engineers (Corps) has not been completed, therefore all stream lengths and wetland acres presented here are to be used for planning purposes only. A stream and wetland delineation will be completed and provided to the IRT as part of the Mitigation Banking Instrument (MBI) approval process.

D. Soil Data

The Bank site is located within the Coastal Plain Physiographic Region. According to the *Soil Survey for Surry County, Virginia*, the property is underlain with predominately three (3) soil series: Nevarc-Remlik complex (46.3%), Craven find sandy loam (23.9%), and Nawney and Mattan soils (8.2%). Nawney and Mattan soil series are generally found in frequently-flooded swamp areas, and are classified by the USDA Natural Resources Conservation Service (NRCS) as hydric soils. Other soil series found on the property include Kempsville fine sandy loam, Emporia fine sandy loam, Caroline silt loam, Craven clay loam, Craven-Slagle complex, Emporia gravelly fine sandy loam, Exum silt loam, Slagle fine sandy loam, and Uchee loamy fine sand.

E. Threatened and Endangered Species

A search of the Virginia Department of Game and Inland Fisheries (VDGIF) Virginia Fish and Wildlife Information Service (VaFWIS) database was conducted to determine potential threatened and endangered species located within a two-mile search radius of the Bank site.

Based on the search, two (2) Federally endangered species were listed within a two-mile radius of the Bank site. These species are the red-cockaded woodpecker (*Picoides borealis*) and the Atlantic sturgeon (*Acipenser oxyrinchus*). Two (2) State endangered species were also listed and include the blackbanded sunfish (*Enneacanthus chaetodon*) and the Rafinesque's eastern big-eared bat (*Corynorhinus rafinesquii macrotis*). Lastly, seven (7) State threatened species were identified within the two mile search radius. These species are the peregrine falcon (*Falco peregrinus*), upland sandpiper (*Bartramia longicauda*), loggerhead shrike (*Lanius ludovicianus*), Mabee's salamander (*Ambystoma mabeei*), barking treefrog (*Hyla gratiosa*), bald eagle (*Haliaeetus leucocephalus*), and the migrant loggerhead shrike *(Lanius ludovicianus migrans)*. The species confirmed within the two-mile radius are the barking treefrog and bald eagle.

Five (5) locations were listed where barking treefrog (*Hyla gratiosa*) has been observed within the radius search. One of the observation sites is located along the western property boundary on the southern portion of the Bank site. Another site is located immediately adjacent to this and overlaps the aforementioned observation site. A third site is located near the northeastern property boundary and overlaps the Bank site.

The FWIS search reported twenty-eight (28) bald eagle nests within the two-mile radius search. According to the report approximately eleven (11) nests are located within the property limits, three (3) nests have primary management zones intersecting the property limits, and three (3) nests have secondary management zones intersecting the property limits. Additionally, three (3) areas were identified as bald eagle concentration areas/roosts (BECAR) with one of those areas (#47) located along the James River at the northern property limits. A search of the Center for Conservation Biology (CCB) Bald Eagle Nest Locator identified three (3) active nests located within property limits (see Master Plan, Appendix A).

The FWIS identified Grays Creek, immediately downstream of the Bank site, as an Anadromous Fish Use Stream for striped bass (*Morone saxatilis*), blueback herring (*Alosa aestivalis*), and yellow perch (*Perca flavescens*) and the James River as an Anadromous Fish Use Stream for the three species listed above as well as alewife *(Alosa pseudoharengus)*, American shad *(Alosa sapidissima)*, and hickory shad *(Alosa mediocris)*. The FWIS Colonial Water Bird Survey documents a colony/rookery for the great blue heron (*Ardea herodias Herodias*) on the Bank site.

The FWIS database search also lists Wildlife Action Plan (WAP) Tier I, II, and III species predicted habitat that is located within the two-mile radius search. Mabee's salamander (*Ambystoma mabeei*) and oak toad (*Anaxyrus quercicus*) are Tier II species, species with a very high conservation need, and habitat predicted for these species is located within the Bank site. Additionally, as stated above, the FWIS listed the bridle shiner (*Notropis bifrenatus*) as a species confirmed to be located within the 2-mile radius search. The bridle shiner is a Virginia Action Plan (VAP) Tier I - Critical Conservation Need species. However, the confirmed observation location is located outside of the project area.

In addition to the online database search, a project review request was submitted to the Virginia Department of Conservation and Recreation (DCR) Division of Natural Heritage (DNH). The DCR Natural Heritage Resources Map (Appendix D) depicts polygons for several Conservation Sites that overlap the Bank site, suggesting unique habitat that may exist on the Bank site. The Barking treefrog and the Oak toad have been historically documented near and within the Bank site and are identified as yellow polygons on the map. A survey for these resources will be completed in the study area.

F. Cultural Resources

A review of The Virginia Department of Historic Resources (DHR) Data Sharing System (DSS) revealed four (4) architectural sites and eight (8) archaeological sites within the vicinity of the Bank site. All of the sites are located either along the perimeter of the property within upland areas or adjacent to the property, and should not be adversely affected or adversely affect the proposed mitigation or Bank site.

G. Existing Stream Conditions

Spring Run, Cross Creek, and the unnamed tributaries in the Bank were not listed in the Virginia Department of Environmental Quality (VADEQ) Draft 2012 303(d) Water Quality Assessment Integrated Report. A Map of 303(d) Impaired Waters shows that Spring Run, Grays Creek, Cross Creek, and their tributaries are designated safe for all uses (Appendix E). Protecting the headwater streams, stabilizing the stream banks, and enhancing and protecting the riparian buffers with native vegetation will effectively maintain water quality within Spring Run, Grays Creek, and Cross Creek on and downstream of the Bank site.

Stream quality within the Bank varies with stream size and surrounding activities. The headwaters of some stream reaches have been influenced by agriculture, silviculture, and have some erosion, downcutting, and sedimentation. A majority of the downstream portions of the tributary streams are in good condition with mature wooded buffers and floodplain wetlands. The larger streams, such as Spring Run, are generally stable with wide forested wetland floodplains and occasional transient bank erosion due to beaver activity.

A preliminary stream assessment was conducted in July 2012 and in December 2012 utilizing the Unified Stream Methodology (USM) to determine the potential for compensation credits. A USM Compensation Summary (Form 4) is provided in Appendix F for both properties.

Drainage areas for the streams onsite are shown in the following tables:

Southern Reaches that Drain to Spring Run

Reach	DA (Acres)	DA (Square Miles)	Headwater stream

R1 (Confl. With Spring Run)	517.47	0.81	Yes
R2	13.63	0.02	Yes
R3	14.05	0.02	
R4	16.30	0.03	Yes
R5	22.92	0.04	Yes
R6	9.06	0.01	Yes
R7	11.75	0.02	Yes
R8	116.09	0.18	Yes
R9	26.67	0.04	
R10	10.03	0.02	Yes
R11	43.27	0.07	Yes
R12	79.35	0.12	Yes
R13	35.32	0.06	Yes
R14	8.49	0.01	Yes
R15	10.58	0.02	Yes
R16	10.02	0.02	Yes
R17	8.98	0.01	Yes
R18	2.79	0.004	Yes
R19	5.18	0.008	Yes
R20	1.80	0.003	Yes
R21	9.60	0.02	Yes
R22	18.28	0.03	Yes
R23	215.60	0.34	
Spring Run – R24 (Enters Bank)	1606.09	2.51	
Spring Run – R24 (Confl. With Grays Creek)	2478.46	3.87	

Northern and Eastern Reaches that Drain to the James River and Cross Creek, respectively.

Reach	Drainage Area (AC)	Drainage Area (Square Miles)	Headwater stream
S1 (includes S2 – S4)	321.82	0.50	Yes
S6 (includes S5)	12.51	0.02	Yes
S14R1 & R2 (includes S7 – S13)	369.05	0.58	Yes
S16	43.24	0.07	Yes
S17 (includes S15)	92.05	0.14	Yes
S18	9.30	0.01	Yes
S19	9.11	0.01	Yes
S23 (includes S20 – S22)	97.47	0.15	Yes

H. Virginia Off-Site Mitigation Location Guidelines

The location and landscape of the Bank site meets several of the suggested criteria for locating mitigation areas. The following briefly explains how these criteria are being met.

- The Bank site contains stream restoration and enhancement opportunities in conjunction with preservation of high quality streams, riparian buffers, and mature wetlands. Restoring and stabilizing the degraded stream channels will improve the overall function of the Bank site.

- The Bank site is contiguous with and connected to several stream systems and associated wetlands and bottomland hardwood swamps. Ultimately these aquatic resources drain to the James River and the Chesapeake Bay.
- This Bank site will protect/restore approximately 50,291 LF, or over nine (9) miles, of streams on-site. Of particular importance, the Bank will also protect nearly 45,301 LF of headwater streams with 300-foot buffers along with the associated watersheds of the headwater streams. Restoring, enhancing and preserving the streams of this Bank site will maintain the chemical, biological, and physical integrity of Spring Run, Grays Creek, and Cross Creek and improve the water quality of the James River.
- The Bank site is not located in an area with future foreseeable activities that would cause adverse effects to the mitigation areas. The Bank site is currently zoned A-R – Agricultural and Rural Residential. The Surry County Comprehensive Plan has not identified this area for future development. The use of the properties for mitigation purposes is consistent with the goals and objectives set forth in the Comprehensive Plan.
- 300-foot wide buffers will be planted/preserved on each side of the stream where appropriate, exceeding any state or local riparian buffer protection requirements. The buffers will have a variety of trees, shrubs, and herbaceous species.
- The Bank site is located west of a property which is conserved under a Virginia Outdoor Foundation (VOF) easement, and managed by Ducks Unlimited. In addition, the Colonial National Historic Park and a VA DHR easement are located adjacent to the northern property of the Bank site along the James River. The proposed Bank site will increase conserved land connection between the James River and its tributaries, therefore contributing to increased wildlife corridor connection (See Appendix E).
- Several federal and state threatened and endangered species may occur within, or in close proximity, to the Bank site. Most notably, the state threatened barking tree frog has been confirmed along the property boundary. Providing additional protection through the Bank will enhance and protect the habitat and water quality for this species. Additionally, active bald eagle nests have been identified near the James River and near Cross Creek within the Bank limits.
- The Bank site may contain specimens or habitat for the state threatened Mabee's salamander (*Ambystoma mabeei*) and/or oak toad (*Anaxyrus quercicus*), which are FWIS WAP Tier II species, indicating a very high conservation need. Conserving or restoring habitat for these species may increase suitable land for colonization and help these species to reestablish healthy populations.
- The Bank site is located immediately upstream of and adjacent to an Anadromous Fish Use Stream (Grays Creek and James River, respectively) for alewife, American shad, striped bass, blueback herring, hickory shad, and yellow perch.
- A great blue heron colony/rookery has been documented on the Bank site.

III. Goal and Need

The goal of the proposed Bank is to establish a self-sustaining, functional aquatic system to replace the functional values of streams and wetlands anticipated to be adversely affected within the authorized Geographic Service Area through stream preservation, enhancement, and restoration. In so doing, the Bank expects to satisfy a portion of the existing and prospective demand for compensatory mitigation within its Geographic Service Area. The targeted functions include improvements to wildlife habitat, water quality, flood conveyance and storage, and erosion control through the implementation of natural stream channel design, and the reestablishment, enhancement, and/or preservation of riparian buffers and wetlands.

The specific need for the Bank is to protect and enhance the habitat and the species that utilize this habitat. The Bank site contains and is connected to aquatic resources of state significance. Preservation of these resources will help ensure their continued existence and utilization, as well as protecting water quality.

The general need for the Bank comes from the demand for stream compensation within the proposed Geographic Service Area. There are a limited number of stream mitigation banks that serve this area, and this will provide an additional alternative.

While the Surry County Comprehensive Plan discourages residential development on agriculturally zoned land, it still could be divided into multiple residential lots. Other existing threats to this property include expanding or increased intensity of agricultural and silvicultural practices since Surry County relies heavily on these industries for its identity and economy.

IV. Measures To Be Taken To Establish Bank

A. Mitigation Banking Instrument

A MBI will be developed by the Sponsor and Agent to establish the Bank. The MBI will contain a detailed Bank Development Plan (BDP), which will outline how credits will be obtained, and include the requirements for construction, operation, and maintenance of the Bank.

The MBI and the development and operation of the Bank will be in accordance with the "Compensatory Mitigation for Losses of Aquatic Resources: Final Rule, 33 CFR 332" and follow the most current version of the Mitigation Banking Template provided by the Norfolk District, Army Corps of Engineers.

B. Permits

Development of the Bank, including all construction activities, will be performed in a manner that will avoid and minimize both temporary and permanent adverse effects on the environment to the greatest extent practicable. Impacts to small areas of existing, degraded stream channel may be required for the implementation of natural stream channel design. The Sponsor will obtain all documentation, permits, and other authorizations required to implement the final design and maintain the Bank.

C. Ownership Arrangements

The Sponsor owns the 518-acre property that makes up the southern portion of the Bank and has entered into an agreement with the landowners of the 840-acre property immediately north and will control operations of the 645.6-acre Bank throughout the credit sale and monitoring period. The Sponsor will record restrictive covenants or conservation easements on those portions of land designated for mitigation to ensure proper bank management and stewardship in the future.

D. Mitigation Methods

Stream mitigation credits will be derived by utilizing compensation crediting as calculated using the most current version of the Unified Stream Methodology (USM). USM Form 4 is provided in Appendix F. With adherence to the USM method, the total number of stream

mitigation credits will be derived by a combination of stream preservation, enhancement, and restoration, and riparian buffer preservation and restoration activities.

Stream and Riparian Buffer Preservation
Preservation of existing stream channels and riparian buffer will include approximately 38,164 LF and approximately 565.4-acres, respectively, throughout the Bank site. Activities to protect these streams and buffers will include recording protective easements encompassing the stable stream channel and its associated buffer. Approximately 12,034 compensation credits are anticipated through preservation.

Stream Enhancement
Stream enhancement activities are proposed on approximately 2,082 LF of stream channel. Stream enhancement activities will include bank stabilization, including stream bank planting, bank grading, and instream structures. It is anticipated that approximately 481 compensation credits will result from proposed stream enhancement activities.

Stream Restoration
Stream restoration activities are proposed on approximately 10,045 LF of stream channel. Many of these areas are characterized by headcuts, steep, eroded banks, and a confined channel. Mitigation activities within the restoration reaches will include the creation of a more stable profile and natural dimension, bank stabilization, and the installation of instream structures. Approximately 10,045 compensation credits are anticipated through stream restoration activities.

Riparian Buffer Restoration
Riparian buffer restoration activities, including heavy planting, are proposed on approximately 17.7-acres. Heavy planting requires a mix of native plants to re-establish a canopy, understory, and shrub layer at a density of approximately 400 stems per acre. The majority of the planting will occur in the open upland fields. Approximately 771 compensation credits are anticipated through riparian buffer restoration.

Adjustment Factors
A number of the watersheds will be within the mitigation bank or property limits, and therefore, may be protected in perpetuity. The watershed adjustment factor was applied to several reaches throughout the Bank. It is anticipated that the adjustment factor for watershed preservation will be approximately 6,002 credits.

IV. Geographic Service Area

The proposed Geographic Service Area for the Bank shall be consistent with Section 62.1-44.15:20-23(B) of the Code of Virginia and in accordance with the Federal Banking Guidance. The Bank is established to provide mitigation to compensate for unavoidable impacts to Waters of the United States and/or State Waters, including wetlands, within the service area depicted on the most current version of the Hydrologic Unit Map ("Hydrologic Unit Map of the United States", U.S.G.S. 1980), and will be revised according to any adjustments to USGS HUC boundaries. The service area, as depicted in Appendix G, is specifically defined as follows:

- All of HUC 02080206;

- The portion of HUC 02080208 within the Nansemond River Basin, plus the City of Newport News;
- The portion of HUC 02080205 within Henrico County, Chesterfield County, and the City of Richmond; and
- The portion of HUC 02080207 within Chesterfield County and the Cities of Hopewell, Colonial Heights, and Petersburg.

The final Geographic Service Area is subject to approval by the Corps and other Interagency Review Team (IRT) members. The Bank Sponsor is responsible for obtaining IRT approval for any credit transactions outside of the approved Service Area.

V. Establishment and Use of Credits

Decisions concerning project applicability, relationship to mitigation requirements, use of a mitigation bank vs. onsite mitigation, in-kind vs. out-of-kind mitigation, and compensation ratio determinations will be made as part of permit decisions.

Decisions concerning credit withdrawal from the Bank will be made in accordance with the Federal Banking Guidance. In addition, the following general guidelines apply to the Bank. Availability of credit will be based on the level of achievement of those Goals and Objectives contained in the signed MBI approved by the IRT.

1. Stream credits will be based upon calculations using the USM, and will be released pending the accomplishment of the success criteria as outlined in the MBI.

2. Debits of available credit from the Bank will be based on the permit requirements of projects duly authorized. The permit requirement will normally reflect consideration of the value of the streams or wetlands impacted along with the value of the compensation streams or wetlands in the Bank. Compensation requirements consistent with those used by the permitting agencies will be applied at the time of application.

3. Use of the Bank for projects outside the service area will be considered by the IRT on a case-by-case basis.

The proposed Bank will establish and maintain an accounting system (i.e., ledger) which documents credits and debits to the Bank account. Each time an approved debit/credit transaction occurs, the Bank will submit a statement to the permitting agencies. The Bank will also generate an annual ledger report to be submitted to all members of the IRT. The ledger will be available for inspection upon request by any participating agency.

VI. Long-Term Monitoring and Maintenance

Decisions concerning the operational life of the proposed Bank, long-term monitoring/management, remedial actions, and financial assurances will be made in accordance with Federal Banking Guidance and approved by the IRT.

Streams and buffer areas which are part of the proposed Bank, and which are ultimately used as compensation, will provide long-term protection in the form of a restrictive covenant, or

other equivalent instrument, that is agreeable to the IRT. An alternative is to have a non-profit land conservancy organization hold a conservation easement on the Bank. The legal easement will be recorded on the Bank site in County land records prior to the sale of any credits from the Bank site, to assure preservation of these lands in perpetuity.

At the end of the active monitoring period, the Sponsor may transfer interest to a public resource agency, a non-profit organization engaged in conservation activities, or an academic institution engaged in research activities subject to written approval of the receiving entity by the IRT.

VII. Anticipated Schedule for Completion

The Sponsor plans to move forward with the Bank upon approval by the IRT. All necessary signatures are anticipated to be obtained by Fall 2013 with final plan approval and construction in Summer 2014.

APPENDIX A
Master Plan

APPENDIX B
Historic Images

APPENDIX C
Surry County Comprehensive Plan Maps

APPENDIX D
DCR Natural Heritage Resources Map

APPENDIX E
303(d) Impaired Waters Information
Conserved Lands Map

APPENDIX F
USM Form 4

APPENDIX G
Geographic Service Area Map

APPENDIX H
Adjacent Property Owner Table