Draft Mitigation Bank Template Table of Contents

Date last revised – ~~30April~~ 9 July 2009

DRAFT TEMPLATE MITIGATION BANKING INSTRUMENT

This is a template instrument for a single Mitigation Bank site. It is not a template for an umbrella Mitigation Bank.

The purpose of this template is to expedite review of the proposed instrument by the Interagency Review Team (IRT) agencies. It is possible to deviate from the template, but any and all deviations should be clearly marked (highlighted or red-lined) to facilitate review. The italicized text in this template is intended as instructions to the Bank Sponsor and the IRT members.

This template could be used to develop an Umbrella Mitigation Bank Instrument, however, any site specific information should be relocated to the mitigation plan for each specific bank site. Information that should be included in a mitigation plan rather than in an Umbrella Mitigation Bank Instrument include, but may not be limited to those sections addressing: Location and Ownership of Parcel (Section I C.), Project Description (Section I D), Site Selection Factors (Section I E), Baseline Conditions (I. F), detailed Financial Assurance Requirements (Section IV D & E), specific Real Estate provisions (Section IV F), Service Area (Section V. A), Success Criteria (Section V. E), Schedule of Credit Availability (Section V.F), Monitoring provisions (Section VI. B), Reporting requirements (Section VI. C), Long-Term Ownership (Section VI. I), and Long-Term Management and Maintenance Plan (Section VI. J). Inclusions of new bank sites will require modification of the Umbrella Mitigation Banking Instrument to comply with the most current approved MBI template. Previously approved Mitigation Plans (formerly known as Site Development Plans) for operational bank sites do not need to be revised.

This Banking Instrument, which describes the establishment, use, operation, and maintenance of Blackwater Creek Mitigation Bank (hereinafter, the "Bank") is an agreement (the "Agreement") made and entered into by and among Blackwater Mitigation, LLC (hereinafter, "Bank 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"), as applicable.

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 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, 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. *Clearly define the goals and objectives of the Bank in terms of Functions and values, such as education/research, erosion control, fisheries/wildlife habitat, flood conveyance/flood storage, channel dimension, pattern, profile, stability, streambank stability, aquatic and riparian habitat, open space/aesthetics, recreation, rare or threatened and endangered species, water quality, etc. Goals and objectives should be expressed as acres of wetlands, vegetation type, and wetland classes (Cowardin or HGM classifications) stream type (Rosgen classification, Strahler order, Cowardin classification), channel length, riparian buffer width, etc.. The goals and objectives of any proposed buffer areas should be specified (to filter sediments, to protect the Mitigation site from adjacent development, to provide stream stability, etc.).*

C. Location and Ownership of Parcel: (1) Whereas, the Bank Sponsor has acquired , or secured by easement or other sufficient property interest 80 acres of land in Lynchburg, Virginia, as shown on the vicinity map (Exhibit A) and as depicted on a plan prepared by Williamsburg Environmental Group, dated September 7, 2007, (Exhibit B). Said parcels are hereinafter referred to as the "Property." (2) The Bank Sponsor may elect to acquire additional lands in the Blackwater Creek watershed by proposing a Bank Development Plan for each new parcel as an amendment to this Banking Instrument.

Provide a legal description of the Property that includes a reference to the deed and Plat and if applicable, provide a copy of the Plat depicting the limits of the proposed bank (Exhibit C). Identify all easements, encumbrances, and liens.

The Bank 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 the ability to place deed restrictions on the Property. A copy of this title search shall be provided as part of Exhibit C.

D. Project Description: Whereas, in accordance with this Banking Instrument, the Bank Sponsor will establish and/or maintain aquatic habitats and upland buffers (The "Project") in compliance with the provisions of this Banking Instrument and the Bank Development Plan (Exhibit D), 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 stream and wetland credits as described in Exhibit D.

E. Site Selection Factors: Whereas, the Bank area has been evaluated in terms of the Virginia Offsite Mitigation Site Location Guidelines (dated February 12, 2008, or subsequent versions). The results of the evaluation are described in Exhibit ~~I~~E.

F. Baseline Conditions: Whereas, the Bank area is currently dominated by Blackwater Creek, small perennial and intermittent streams, wetlands and hardwood forest. These features will be modified so as to:
   1. preserve small perennial and intermittent streams with associated upland buffer
   2. preserve and enhance existing wetlands
   3. enhance and restore stream function.

Provide a baseline description of the Property in this section, including acreage and cover type descriptions and boundary survey. Where stream mitigation channel restoration or bank stabilization is proposed, provide a survey of channel cross-section, form, and profile indicative of each stream type, condition class, or order as determined in the field or reference reach that will be part of the Bank Development Plan. Indicate whether the Property has been inspected and the baseline conditions verified.

Baseline surveys should be sufficient to develop a bank development plan and support the goals of the bank (e.g. aquatic macroinvertebrates, water quality, economic analyses)

G. 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 sale of credits includes all natural services, functions, and values associated with the resource from which credits were derived. No credit may be resold to satisfy another permit requirement, compensation for another resource, or to satisfy the requirements of any other program. The preliminary number of Credits and the number of credits available for initial release will be determined based upon the approved concept plan. If the number of total Credits varies with the approval of the mitigation site plan, the as-built plan, or subsequent monitoring reports, the number of Credits available will be adjusted accordingly in accordance with the terms and conditions contained herein.

H. Whereas, as of the date of the Agreement and subject to execution of the Agreement by a duly authorized representative of the participating agencies described below, the Interagency Review Team (IRT) consists of the following agencies, though the individual representatives may change:

1. Corps, Chair, represented by _____; and

2. EPA, represented by _____; and

3. FWS, represented by _____; and

4. DEQ, Chair represented by _____; and

5. Virginia Department of Game and Inland Fisheries ("VDGIF"), represented by _____; and

6. VMRC represented by _____; and

7. National Marine Fisheries Service represented by _____; and

8. Virginia Institute of Marine Sciences ("VIMS") represented by _____;

9. Virginia Department of Conservation and Recreation ("DCR") represented by _____;

10. Virginia Department of Forestry ("DOF") represented by _____; and

11. The City/County of _____, represented by _____.

Each entity represented on the IRT may replace its representative upon written notice to the IRT Chair(s), the other IRT members, and the Bank Sponsor.

I. Disclaimer: Whereas, this Banking Instrument does not warranty the ultimate viability of the Mitigation Bank as a mitigation mechanism. Furthermore, all parties acknowledge that the permitting and resource agencies have statutory responsibilities over trust resources that are independent and separate from the actions identified in this Banking Instrument. The parties understand that agency signature to this instrument should not be construed in any way to eliminate the need for consultation between the Corps and resource agencies or to predetermine the nature and extent of recommendations or conditions made in any future project consultation. Nor should this instrument be considered to circumscribe or to limit the extent of any potential consultative recommendation made by a resource agency in the future.

J. Exhibits: Whereas, the following Exhibits are incorporated by reference to this Banking Instrument:

1. "Exhibit A," Vicinity Map
2. "Exhibit B," Initial Phase Plan;
3. "Exhibit C," Plat and Title Search
4. "Exhibit D," Bank Development Plan;
5. "Exhibit E," " Virginia Offsite Mitigation Location Guidelines Analysis ~~Crediting and Debiting Procedure for the Bank;~~
6. "Exhibit F," Financial Assurance to Secure Initial Release of Credits ~~;Service Area Map~~;
7. "Exhibit G," Escrow Agreement for Monitoring and Maintenance Fund
8. "Exhibit H," Escrow Agreement for Long-Term Management Fund
9. "Exhibit I," Escrow Agreement for Catastrophic Event Fund
10. "Exhibit J," Restrictive Covenant
11. ~~7. "Exhibit K," Service Area Map Restrictive Covenant; and~~ "Exhibit ~~H~~L," Crediting and Debiting Procedure for the Bank;
12. "Exhibit M," Success Criteria for the Bank
13. "Exhibit N," Monitoring Requirements for Bank Site
14. "Exhibit O," Sample Bank Ledger
15. "Exhibit P" Long-Term Management Plan

Add any appropriate documents regarding title.

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

II. DEFINITIONS

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1. BANK SPONSOR – Any public or private entity responsible for establishing, and in most circumstances operating a Mitigation Bank. For this Bank, the Bank Sponsor is _____.
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 stream's Ordinary High Water Mark (OHWM) top of a stream bank or wetlands. A buffer is an upland, wetland, and/or riparian area that protects and/or enhances aquatic resource functions associated with wetlands, rivers, steams, lakes, marine, and estuarine systems from disturbances associated with adjacent land uses.
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 mitigating for, or substituting some form of aquatic resource for aquatic resources 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 an aquatic resource did not formerly exist.
10. CREDIT – A unit of measure representing the accrual or attainment of aquatic resource function, condition, or other performance measure at a Mitigation Bank.
11. DEBIT – A unit of measure representing the reduction of credits at the Mitigation Bank corresponding to the loss of aquatic resource function at an impact or project site.
12. ESCROW AGREEMENT- An agreement by which two parties assent to the deposit of a sum of money as assurance or guarantee for certain actions with conditional delivery of the monies 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 IRT. Financial Assurances may be required for varying aspects associated with a Mitigation Bank including: a) A mechanism to guarantee the initial release of Mitigation Bank Credits; b) The Maintenance and Monitoring Fund; c) The Catastrophic Event Fund; and d) The 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. INTERAGENCY REVIEW TEAM (or IRT) – 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 and DEQ serving as Chair(s). For tidal wetland Mitigation Banks, the Corps and VMRC will serve as Co-Chairs.

16.LEDGER – An accounting of Credits and Debits. A sample ledger can be found at Exhibit J.
17.LONG-TERM STEWARD – The landowner, ~~or~~ easement holder of the Bank lands, or other party 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 Bank Sponsor may also be the Long-Term Steward.
18.MITIGATION – Sequentially avoiding impacts, minimizing impacts, and compensating for remaining impacts to aquatic resources.
19.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.
20. 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.
21. MITIGATION PLAN – A detailed portion of the Bank Development Plan that identifies specifically how aquatic resources and associated upland buffers will be restored, created, enhanced, preserved, managed and maintained 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 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, **Habitat, 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 REACH – The length of a stream identified as representing a uniform set of physical, chemical, and biological conditions. It is the principal sampling unit for collecting physical, chemical, and biological data. In practice, a reach is often defined by a repeating sequence of channel units (riffle-pool-run sequence), by a sampling convention of channel units (e.g. 25 stream widths), or by the length of uniform mitigation activities (restoration, enhancement, or preservation).
30. 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.
31. WETLAND ENHANCEMENT – Activities conducted in existing wetlands, which increase one or more Functions.
32. WETLAND RESTORATION – Re-establishment of wetland Function(s) at a site where they have ceased to exist, or exist in a substantially degraded state.
33. UMBRELLA MITIGATION BANK – A group of mitigation bank sites located in a distinct geographical area that share a single Bank Sponsor and are governed by a single mitigation banking instrument. Inclusion of additional bank sites under an Umbrella Mitigation Banking Instrument will require modification of the MBI. Mitigation Plans for all bank sites operating under an Umbrella Mitigation Banking Instrument are considered part of the MBI. Separate credit ledgers and financial assurances shall be maintained for each bank site.

III. AUTHORITIES

The establishment, use, operation and maintenance of the Bank are 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. Endangered Species Act (16 USC 1531 et. seq.);

7. Magnuson Stevens Fishery Conservation and Management Act (16 USC 1801 et. seq.)
8. 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);
9. Regulatory Guidance Letter No. 05-01. U.S. Army Corps of Engineers, February 14, 2005.
10. Regulatory Guidance Letter No. 08-03. U.S. Army Corps of Engineers, October 10, 2008.

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 Bank 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 D, until it is demonstrated to the satisfaction of the agencies represented on the IRT (acting through the Chair(s)) 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 D).

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

The Bank 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 Mitigation Bank. Notification to the appropriate permitting authorities shall be required for the proposed use of any Nationwide Permit, State Program General Permit, Regional Permit, or state general permit under VWPP regulations.

C. Bank Development Plan: *The Bank Development Plan must be approved by the IRT. If the Bank will be developed in phases, the phases should be described in the Bank Development Plan.*

Establishment of the Bank may be performed in phases as described in the Bank Development Plan (Exhibit D), and the Credits will become available in accordance with the schedule specified in Part V, Section F of this Banking Instrument. Phasing should be such that each phase would be acceptable to the IRT as a stand-alone bank should the subsequent phases not be constructed

D. Financial Assurance Requirements: *The appropriate Financial Assurance documents must be attached as exhibits.*

1. For the initial release of Credits (not to exceed 15% of the total number of anticipated credits that could be derived from this site, excluding those associated with stream buffer preservation) the Bank Sponsor agrees to provide adequate Financial Assurances (e.g. escrow agreement, performance bond, letter of credit) to ensure that aquatic functions will be restored, established, or maintained on site (Exhibit F). The amount of the assurances ~~should~~ must be sufficient to acquire replacement compensatory mitigation sufficient to offset the initial release of credits 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 IRT, acting through the Chair(s) once it has reviewed and approved the annual monitoring report, 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.

2. The Bank Sponsor shall establish an escrow account, performance bond, or Letter of Credit with the following law firm/title company/surety company who will act as specified under this Banking Instrument: _____
The Bank Sponsor may, at its discretion, with written approval of the IRT 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 Bank Sponsor shall provide the IRT with notice prior to replacement of the escrow agent/surety company and a draft of the new instrument for review. The provisions of the new instrument shall conform with the provisions of the former instrument.

The following sentence must be included in the financial assurance instrument as well as this section of the MBI to comply with Corps regulations at 33 CFR 332.3(n)(5):

The Bank Sponsor shall provide notice to the IRT through the Chair(s) at least 120 days in advance of any planned termination or revocation of financial assurances. Until released by the IRT, financial assurances must be renewed, extended or replaced, and approved by the IRT

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

a. 8% of all cash proceeds from said transactions shall be placed in a separate escrow account to be called the Maintenance and Monitoring Fund (Exhibit G). If the required monitoring or maintenance is not conducted as specified in Section VI of this instrument and the Bank Development Plan, then the IRT, acting through the Chair(s) shall request release of funds to an IRT 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 Bank Sponsor on each February 1st after the IRT 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 and approved.

(The IRT should be flexible regarding the percentage of cash proceeds placed in an escrow account. A higher percentage may be required for high-risk Mitigation Bank sites & lower percentages for those with a greater likelihood of success.)

b. A sufficient percentage of all cash proceeds from said transactions or $ _____, based on an itemized analysis of the funds needed for long-term management shall be placed within a separate escrow account to be called the Long-Term Management Fund (Exhibit H). The itemized analysis of the necessary funds may include but is not limited to expected long-term management costs such as posting, fencing, maintenance of structures, control of invasive species, and legal defense of any easements or restrictive covenants recorded to protect the bank property, etc. that occur after the initial 10-year monitoring period. This itemized analysis shall be based upon an accepted methodology and the mitigation plan and must be approved by the Chair(s) prior to approval of the MBI.

Alternately, this Long-Term Management fund may be funded through a single lump sum payment upon approval of the MBI or through an IRT approved schedule of payments to be completed within ~~3~~ 5 years of approval of the MBI**.**

This itemized analysis shall be based upon the anticipated long-term maintenance tasks, as detailed in a spreadsheet format summarizing the average annual expenditures for maintenance. The itemized tasks and expenditures shall be approved by the IRT and incorporated into the Long-Term Management and Maintenance plan discussed further in Section VI.J. When estimating the funds to be deposited in the Long-Term Management Fund, consideration should be given to the size and location of the mitigation bank site. A site located on a first order stream may require less long-term management than a site located on a higher order stream system. The amount of funds deposited in the Fund will depend upon Long-Term management and maintenance requirements. Wetland sites that utilize berms or other structures to establish and maintain hydrology will require more maintenance and accordingly more funding set aside than those sites that do not rely upon such features. More long-term funding will need to be set aside for projects involving stream channel restoration than those based solely on enhancement activities such as establishment of riparian buffers.

These funds shall be placed in a federally insured financial institution in an interest bearing account. No Long-Term Management Fund monies shall be used to finance activities other than those specified~~s~~ in the Long-Term Management and Maintenance Plan for long-term maintenance and management of the bank unless approved by the IRT, acting through the Chair(s).

c. A sufficient percentage of all cash proceeds from said transactions to address potential catastrophic events shall be placed within a separate escrow account to be called the Catastrophic Event Fund (Exhibit I). These funds shall be placed in a

federally insured financial institution in an interest bearing account separate from the account discussed in section 3.b above . The amount deposited in the Fund shall not be less than the percentage specified in the table below. No Catastrophic Event Fund monies shall be used to finance activities other than those repairs to the bank necessitated by the events specified in Section IV E. unless approved by the IRT, acting through the Chair(s).

In the event of a catastrophic event, as determined by the IRT, acting through the Chair(s) that effects the long term viability of the Mitigation Bank, the IRT can cause the appropriate corrections to occur by either: (i) directing the Bank Sponsor, if said event occurs while the Bank 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 IRT 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.

(The percentage of cash proceeds placed in the Catastrophic Event Fund & Long-Term Management Fund depend upon foreseeable requirements. For instance, sites that rely upon water control structures may require more long-term management than those without those structures. It should be noted that most IRT members do not support the use of water control structures that may require long-term or ongoing maintenance to sustain wetland hydrology. The percentages for each fund should be sufficient to remediate catastrophic events and to enable the Long-Term Steward to manage the Bank site, including fencing, structures, invasive species control, etc.

The Following table suggests minimum percentages to be set aside in the Catastrophic Event Fund based on the proposed mitigation types at the bank:)

Proposed Mitigation Bank Type	*Catastrophic Event Fund*
Wetland with dams or weirs	5%
Wetland with berms or structures only	3%
Wetland without berms and/or structures	2%
Stream Restoration	7.5%
Stream Enhancement with instream structures	5%
Stream Enhancement without instream structures	3%
Stream and Buffer Preservation	2%

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 Funds, shall provide funding sources for any maintenance requirements or repairs necessitated by natural disasters or other catastrophic events as defined in paragraph E below that the Bank Sponsor or Long-Term Steward must address.

E. Catastrophic Event Fund: The Bank Sponsor shall be responsible for the repair and remediation of catastrophic events as described below. As described above, a portion of all cash proceeds from said transactions shall be placed in an escrow account called the Catastrophic Event Fund (Exhibit I). Damages from the catastrophic events identified below are permitted to be repaired using the principal and interest accumulated in the Catastrophic Event Fund by either the Bank 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 IRT, acting through the Chair(s) if the damage occurs within the 10-year monitoring period associated with Bank establishment. The Bank Sponsor is responsible for demonstrating to the IRT's satisfaction that catastrophic damage has taken place. Examples of catastrophic events where expenditures may be approved include but are not limited to the following:

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 2 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;
6. 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).
7. 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.

In the event of a catastrophic event that affects the long-term viability of the Mitigation Bank during the initial 10 year monitoring period, the Bank Sponsor shall submit a written request to the IRT for release of funds from the Catastrophic Event Fund. The Bank Sponsor is responsible for demonstrating to the IRT's satisfaction that catastrophic damage has taken place and the requested funding amount is appropriate to repair the sustained damage. The IRT, acting through the Chair(s) shall have sixty (60) days to review and approve or comment on the Bank Sponsor's request. Following approval, the Bank Sponsor shall direct the escrow agent to release the designated amount of funds from the Catastrophic Event Fund to the Bank Sponsor.

Should a catastrophic event occur after the initial 10-year monitoring period, the Long-Term Steward shall submit a written request to the escrow agent for release of funds from the Catastrophic Event Fund. Any unspent funds shall remain in this fund if not utilized to repair the Bank from a catastrophic event. This Catastrophic Event Fund will be transferred to the designated Long-Term Steward for use in addressing future catastrophic events.

F. Real Estate Provisions: The Bank Sponsor is responsible for ensuring recordation of a restrictive covenant *(conservation easement, declaration of restrictions, etc.)* ~~approved in writing by the IRT~~ by the landowner on the Bank land. The restrictive covenant must be approved in writing by the IRT, acting through the Chairs before it is submitted for recordation. The Bank Sponsor shall provide a copy of the recorded instrument to the IRT prior to sale of any Credits in favor of any permittee. The restrictive covenant shall be recorded in the chain of title for the bank property and ensure the right of ingress and egress for the Bank Sponsor, IRT, and Long-Term Steward of the Bank Site. A template declaration of restrictions is attached in Exhibit ~~G~~J. The IRT, acting through the Chair(s) agrees that , if a conservation easement approved by the IRT, is recorded over the property with a non-profit conservation organization or government conservation organization named as easement holder, credit yield for the proposed mitigation will be increased by 5% over the credit amount that would be generated under a restrictive covenant for the same mitigation activities. ~~If a conservation easement approved by the~~ IRT ~~is recorded over the property with a non profit conservation organization or government 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 and approved by the IRT. A copy of the recorded document shall be provided to the Corps within 30 days of recordation. Notwithstanding anything in this Agreement or any related documents or Agreements, such as the Bank Development Plan, in NO EVENT can any credits be released or sold or debited or credited until the Chair(s) receives proof of recordation of approved Restrictive Covenants on the portions of the Property over which credits are sought; and the Restrictive Covenants may not be altered, amended, terminated or vacated without written approval of the Chairs.

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~~*In other words, if a conservation easement approved by the IRT, is recorded over the property with a non profit conservation organization or government conservation organization named as easement holder, credit yield for the proposed mitigation will be increased by 5% over the credit amount that would be generated under a restrictive covenant for the same mitigation activities.*~~ *The conservation organization must meet the following criteria:*

- *May hold easements which are perpetual in duration in accordance with the Virginia Conservation Easement Act (has had a principal office in the Commonwealth of Virginia for at least five years,*
- *Is a charitable corporation exempt from taxation pursuant to 26USCA 501 (c)(3), and a "qualified organization" and an "eligible donee" under Section 170(h)(3) of the internal Revenue Code and Treasury Regulation §1.170A-14(c)(1), whose purposes include those specified in the Virginia Conservation Easement Act, and has had a principal office in the Commonwealth of Virginia for at lease five years,*

The following language must be included in this section of the MBI, in the real estate instrument used to protect the bank site, in the bank management plan, and long-term protection plan in accordance with Corps regulations at 33 CFR 332.7(a)(3):

The Bank Sponsor or Long-Term Steward shall provide the Chair(s) with 60 day advance notice before any action is taken to modify the conservation easement, restrictive covenant, management plan, or long-term protection mechanism, EXCEPT THAT the conservation easement, restrictive covenant, management plan or long-term protection mechanism MAY NOT be altered, amended, modified, vacated or terminated in whole or in part in any way without the express written approval of the IRT, acting through the Chair(s).

G. As Built Survey: *An as-built survey may not be required for wetland restoration that is based solely upon plugging or filling ditches or Stream mitigation based solely on riparian buffer establishment*

(For both Wetlands and Streams) The Bank Sponsor agrees to submit an as-built report to the IRT 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 IRT in accordance with the Bank Development Plan (Exhibit D). Additional requirements are detailed in VI.C.9.

(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 F. This service area shall include Hydrologic Unit _____, and the portion of _____ within _____, _____ and _____ Counties and _____, _____Cities. The Service Area of the Bank is depicted in Exhibit K

B. Access: The Bank Sponsor will allow, or otherwise provide for, access to the site by members of the IRT 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 maximum extent practicable;

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 Bank 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..

D. Assessment Methodology: Credits and Debits will be assessed using measurements of the area of impacts and the Mitigation land area. The potential number of credits to be generated by the Bank site and the method(s) by which they will be generated are described in Exhibit L.

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 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) except for mining projects located in the coal region of the state -as provided in the Bank Development Plan (Exhibit D) and the associated USM forms.

The amount to be debited for each impact is within the sole discretion of the agency issuing a permit for which impacts are authorized and mitigation required (i.e., the Corps or the DEQ) and will take into account such factors as the area of wetlands or waters to be impacted.

E. Success Criteria: The IRT 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. The success criteria for this bank site are specified in Exhibit M.

F. Schedule of Credit Availability: Upon submittal of all appropriate documentation by the Bank Sponsor, and subsequent approval by the IRT, acting through the Chair(s), the IRT Chair(s) will provide in writing the release of Credits to the Bank Sponsor in accordance with Corps regulations (33 CFR 332.8(g)(2) and (o)(8) and the following schedule:

1. Up to fifteen percent (15%) of anticipated Credits (excluding credits derived from Stream Buffer Preservation) per phase/site plus 100% of Stream Buffer Preservation credits may be available for Debiting upon implementation of the following: (a) approval of this Banking Instrument and the ~~Mitigation~~ Bank Development Plan described in Exhibit D; (b) Implementing financial assurances necessary to secure the initial release of credits (Exhibit F) (e,g. posting a performance bond, letter of credit, or execution of an Escrow Agreement approved in writing by the Chair(s) substantially in accordance with the sample Escrow Agreement provided in Exhibit ~~H~~G) ~~covering the initial release of credits~~ as well as executing the escrow agreements for the Monitoring and Maintenance, Long-Term Management, and Catastrophic Event Funds (Exhibits G-I); (c) securing the Property proposed for the Mitigation Bank (fee simple acquisition, easement, necessary or appropriate property interests, etc.) in its entirety *(not just one or more phases of the bank site)*; (d) a copy of the approved and recorded real estate instrument that protects the site in perpetuity is provided to the IRT (Exhibit J); (e) a schedule is submitted to the IRT 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; (f) a Long-Term Management and Maintenance Plan approved by the IRT acting through the Chair(s) (Exhibit P); and (g) an electronic version of this MBI the Bank Development plan and associated exhibits is submitted to the IRT Chair(s) and/or uploaded to the Corps Regional Internet Bank Information Tracking System (RIBITS)

   The first phase of the bank site should be large enough to offset this initial credit release. The first phase shall begin construction within 1 year of the first sale or transfer of the initially released credits. No additional releases of credits will take place until a sufficient amount of compensatory mitigation meets success criteria to offset all debits from this initial release of credits.

2. Wetland Credits beyond the initial release of credits (typically 15%) ~~advanced credits~~ can be released by the IRT, (acting through the Chair(s)) on the following schedule: 75% of potential credits (90% cumulative) shall be released upon meeting the success criteria in ~~at~~ Exhibit M, Section V 4.(a), (b), (c), ~~and~~ (e), and (h) for intended forested wetlands. The remaining wetland credits (10% or 100% cumulative), shall be released at Monitoring Year 5 upon meeting success criteria (g) for wetlands.

3. Stream 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:
   - 65% of total credits (90% cumulative) derived from the area meeting success standards ~~at~~ in Exhibit M, Section ~~V. E.~~ 3. a-c and subject to IRT approval, acting through the Chair(s) of the first year monitoring report

c. The final 10% of total credits (100% cumulative) shall be released when all success criteria (3a-d in Exhibit M) are met.

4. 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:

a. Construction release:
   - 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:
   - 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).

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

d. 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).

e. 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).

f. 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 on Debiting: Any Credits Debited before achieving the Success Criteria (e.g. the 15% initial release of Credits), shall require conformance with the Financial Assurance requirements described in Section IV.D, and execution of ~~an~~ the Escrow Agreements approved in writing by the Chair(s) in substantial conformance with the agreement found in Exhibit ~~H~~ G to provide sufficient Financial Assurance to assure performance and to cover contingency actions in the event of partial or total failure and other relevant provisions in this Agreement. Aside from the initial release of credits, if the number of Credits Debited exceeds the number created, then no further credit sales shall be permitted by the IRT until additional credits are released by the IRT acting through the Chair(s).

H. Provisions For Uses of the Mitigation Bank Area: The Bank Sponsor shall not use or authorize the use of areas within the Bank 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, trapping, 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 Bank Sponsor agrees to perform all necessary work to maintain the Bank consistent with the maintenance criteria established in the Bank Development Plan. The Bank 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 requires review and written approval by IRT, acting through the Chair(s).

B. Monitoring Provisions: The Bank Sponsor agrees to perform all necessary work to monitor the Bank to demonstrate compliance with the Success Criteria established in this Banking Instrument. The monitoring provisions are detailed in Exhibit N. Monitoring shall be conducted during Years 1, 2, 3, 5, 7, and 10 following construction of any phase of the bank site. Monitoring may be terminated or the extent of monitoring may be reduced over part or all of the site at the discretion of the IRT acting through the Chair(s).

C. Reports: The Bank Sponsor shall submit to the IRT reports describing the conditions of the Bank and relating those conditions to the Success Criteria as well as the provisions of Section VI B and Exhibit N. Reports will be submitted to the IRT and an electronic version shall be submitted to the Chair(s) and/or uploaded to the Corps' Regional Internet Banking Information Tracking Systems (RIBITS) by December 31 of each monitoring year. Monitoring reports shall contain at a minimum, the following information:

1. A Title page indicating the bank name, (umbrella bank name if applicable), site name (if applicable), bank phase (if applicable), monitoring year, any requested action (e.g. credit release, IRT review) Bank Sponsor identification (name, address, phone number and email address), and Preparer identification (name, address, phone number and email address)..

2. An aerial photograph, taken either the 3rd or 7th 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~~Exhibit N;

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

4. 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;

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

6. 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 in accordance with the appropriate success standards ~~at V.E.3~~in Exhibit M.; and

7. ***For wetland restoration/creation***: 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 in accordance with the appropriate success standards in Exhibit M~~at V.E.4~~.; 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 _____ to _____with a comparison to historical average precipitation;

8. ***For Stream preservation, enhancement, and restoration activities***:
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.

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

10. As-Built Report: An as-built report shall be submitted to the IRT within 60 days of completion of mitigation activities depicted in the Bank Development Plan (Exhibit D). 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.
h) Revised credit breakdown in the same format as in Exhibit E.

11. A map depicting areas associated with previous credit releases and the year of those releases, as well as the location and extent of current requests for credit release

12. Each monitoring report will include detailed resource documentation, tables summarizing attainment of success criteria, and a revised summary table of actual wetland and stream credits based on field measurements.

13. Any additional information required to adequately characterize site conditions (as needed).

D. Accounting Procedure: The Bank 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 IRT. The Bank Sponsor or its agent shall update credit ledgers on RIBITS by the 10th of each January, April, July, and October for the previous quarter. In addition, the Bank Sponsor shall submit a semi annual Ledger to the Corps for distribution to all members of the IRT, 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 wetland and/or stream impacts, amount of wetland and/or stream Debit from Mitigation Bank, USGS HUC Catalog Unit, Date of transaction (see Exhibit ~~J~~O). The IRT will review the semi annual report and acting through the Chair(s) adjust the credit composition to assure no net loss of wetlands acreage. Semi-annual Ledgers and transaction reports shall be submitted to the IRT as long as Credits remain in the Bank and/or the Bank remains operational.

E. Financial Report: The Bank Sponsor shall submit to the IRT a financial report by January 30th of each monitoring year and every subsequent year that the bank remains operational (see VI. H.). An electronic version of this report shall be submitted to the IRT Chair(s) 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)(2)(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)(2)(a) (*For example, the required deposits may be a specified percentage of the total cash proceeds)* minus any approved expenditures or distributions.
2. Documentation of balance in the escrow accounts referred to in IV(D)(2)(b) and (c)as the "~~Catastrophic Event and~~ Long-Term Management Fund" and the "Catastrophic Event Fund". The balances in ~~this~~ these accounts (principal balance without earned interest) must match the amounts required to be set aside in IV(d)(2)(b) and (c) (*For example, the required deposits may be a specified percentage of the total cash proceeds)* minus any approved expenditures or distributions and must be certified by the escrow agent.

F. Contingency/Adaptive Management Plans/Remedial Actions: The Bank Sponsor shall develop necessary contingency/adaptive management plans and implement appropriate remedial actions in coordination with the IRT 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 and Exhibit M of this Banking Instrument. In the event the Bank 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 IRT (acting through the Chair(s)) will notify the Bank Sponsor and the appropriate authorizing agency (ies) and direct appropriate remedial actions or take action including suspension/revocation of available Mitigation Credits (see VI. G. below).

If the IRT acting through the Chair(s) 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 or Exhibit M, debiting by the Bank Sponsor of Credits shall immediately cease, and the Chair(s) in consultation with the IRT and the Bank Sponsor, will determine what remedial actions are necessary to correct the situation. As determined by the Chair(s) in coordination with the IRT and the Bank 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 Bank Sponsor by the Chair(s) of the IRT, the IRT, (acting through the Chair(s)) 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 IRT, to undertake corrective measures. The IRT, acting through the Chair(s) 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 Bank Sponsor, the IRT will perform a compliance visit to determine whether all Success Criteria have been satisfied.

G. Default: Should the IRT, acting through the Chair(s) determine that the Bank Sponsor is in material default of any provision of this Agreement, the IRT, acting through the Chair(s) may suspend

the sale or transfer of any Credits and, in such event, will notify the Bank Sponsor that the sale or transfer of any Credits is suspended until the appropriate deficiencies have been remedied to the satisfaction of the IRT. Upon notice of such suspension, the Bank Sponsor agrees to immediately cease all sales or transfers of ~~Mitigation~~ Credits until the IRT informs the Bank Sponsor that sales or transfers may be resumed. If the Bank Sponsor fails to submit one or more required monitoring reports, an additional year of monitoring and reporting will be required to document bank compliance. Should the Bank Sponsor remain in default, the IRT, acting through the Chair(s), may terminate all future credit transactions. Upon termination, the Bank 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: Within 90 days following the end of the 10-year monitoring period and upon satisfaction of the Success Criteria, as determined by the IRT, the Chair(s) shall issue a written certification of satisfaction to the Bank Sponsor and the escrow agent, and thereafter any remaining Monitoring and Maintenance Fund (see Section IV D (3)(a)) will be released to the Bank Sponsor. After Bank Closure and subject to review and approval by the IRT, acting through the Chair(s) the Bank Sponsor may utilize that portion of the Bank lands that ~~have~~ has 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. The IRT will determine, in its sole discretion, whether any such utilization of Bank lands adversely impacts Bank lands for which credits were transferred or debited and whether any such utilization is permissible.

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

(1) All applicable success criteria prescribed in Section V.E. and Exhibit M for that bank or bank site have been achieved;
(2) All released credits for that ***bank*** or bank site have been debited;
(3) The Bank Sponsor has prepared a Long-Term Management and Maintenance Plan, that has been approved by the IRT, pursuant to Section VI J.;
(4) The Bank Sponsor has prepared and submitted to the IRT and the appropriate locality a GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank.
(5) The Bank Sponsor has either: (i) assumed responsibilities for accomplishing the Long-Term Management and Maintenance Plan, in which case the Bank 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 Funds ~~has~~ have been funded pursuant to Section IV D.;
(7) The contents of the Catastrophic Event and Long-Term Management Funds have been transferred to the Long-Term Steward;
(8) The Bank has complied with the terms of this Instrument, 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 Bank Sponsor shall develop a Long-Term Management and Maintenance Plan (Exhibit P) prior to the initial release of bank credits that is consistent with the guidelines and objectives specified in Section J below, and submit the Plan for approval by the Chair(s), in consultation with the other members of the IRT. The approved Long-Term Management and Maintenance Plan shall be considered an exhibit to this instrument. The Bank Sponsor is responsible for execution of the approved Long-Term Management and Maintenance Plan. The Bank Sponsor may only deviate from the approved Plan upon written approval of the Chair(s), following consultation with the IRT.

2. The Bank 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 Bank Sponsor. The identity of the assignee, his or her qualifications, and the terms of the long-term management and maintenance agreement between the Bank Sponsor and the assignee must be approved by the Chair(s), following consultation with the IRT, in advance of assignment. The Bank Sponsor shall provide to the Long-Term Steward a copy of the approved MBI, Bank Development Plan, all exhibits and addenda associated with this site, as well as the approved Long-Term Management Plan and the final monitoring report.

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 (Exhibit P), the bank development plan, and real estate provisions, including the terms of the recorded restrictive covenant, a sample of which is provided in Exhibit ~~G~~J. At that time, the real estate provisions must be revised to allow access, maintenance, and enforcement of the Long-Term Management Plan by the Long-Term Steward, subject to approval by the IRT. If _____ *[Long-Term Steward]*, or its successor declines to accept stewardship responsibility for the Bank and the associated Long-Term Management Fund, the Bank Sponsor shall then transfer stewardship responsibility for the Bank and the associated Long-Term Management Fund to a public resource agency, non-profit agency, or other appropriate candidate engaged in conservation activities, subject to written approval of the receiving entity by the IRT. If no alternative Long Term Steward is willing to accept management responsibility for the Bank lands, then the Bank Sponsor will be the Long-Term Steward until another party acceptable to the IRT agrees to accept management responsibility for the Bank lands.

4. If the Bank Sponsor and/or Long-Term Steward elect 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 IRT, of accomplishing the Long-Term Management and Maintenance Plan. The Long-Term Management and Maintenance Plan must be approved by the IRT and signed by the Bank Sponsor, Long-Term Steward, and all signatories to this MBI. 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 Bank Sponsor will ~~direct disbursement of the full amount of funds~~ensure that the Long-Term Steward is made the beneficiary of ~~in~~ the Catastrophic Event Fund 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 Bank Sponsor will remain the beneficiary of ~~full amount of funds in~~ the Catastrophic Event and Long-Term Management Funds ~~will be disbursed to the Bank Sponsor~~.

J. Long-Term Management and Maintenance Plan: The Long-Term Management and Maintenance Plan (Exhibit P) will contain specific objectives that address the long-term management of the bank site. The Bank Sponsor or subsequently, the Long-Term Steward shall provide the Chair(s) with 60 days advance notice before any actions is taken to modify the Long-Term Management and Maintenance Plan. The Long-Term Management and Maintenance Plan may only be amended or modified with the written approval of all signatory parties. The Long-Term Steward will document that it is achieving each objective or standard by submitting status reports to the IRT on a schedule approved by the IRT, acting through the Chair(s). 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.

(The Long-Term Management and Maintenance Plan will include those elements necessary to provide long-term protection for the Bank site. The specific elements of the Plan must be tailored to meet the specific needs of the site. At minimum the IRT will likely find the following core elements to be necessary for inclusion in the Long-Term Management and Maintenance Plan. The particular characteristics of the Bank site at the end of the establishment period may necessitate including other elements not specified below, that are needed to protect the ecosystem resources present at the Bank.)

The Long-Term Management Plan will include at a minimum the following provisions for:

(1) Periodic 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, in-stream structures, and trails. This should be done by a qualified individual. 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. This should be done by a qualified individual. Any invasive plant species discovered on the Bank site and occupying more than 5% cover of the total bank area or any area of ¼ acre in size or larger should be controlled. In the event the IRT 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 IRT will consider appropriate changes to the Long-Term Management Plan.

Funds from the Long-Term Management Fund may be used for provisions (1)-(3) above in accordance with the approved Long-Term Management Plan. The maximum amount of funds released annually shall not exceed 4% of the fund's value. No funds shall be released if monitoring was not conducted, as evidence by the submittal of a report to the IRT.

The Bank Sponsor or Long-Term Steward may modify the Long-Term Management and Maintenance Plan, subject to review and approval by the IRT.

We recommend that the Long-Term Management and Maintenance Plan be developed in consultation with the Long-Term Steward. If the Long-Term Steward should change, we recommend discussing the requirements of the Long-Term Management and Maintenance Plan with that entity.

Upon creation of a Long-Term Management and Maintenance Plan, including execution of a Long-Term Management and Maintenance assignment agreement, the transfer of the contents of the Catastrophic Event and Long-Term Management Funds, 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 Bank Sponsor shall be relieved of all further long-term management and maintenance responsibilities under this Instrument.

VII. RESPONSIBILITIES OF THE INTERAGENCY REVIEW TEAM

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

B. The agencies represented on the IRT 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 D, 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 thirty (30) calendar days from the date that the Corps provides a complete submittal

to the IRT. The Corps Chair shall coordinate such review with members of the IRT so that comments can be provided within the ninety (90) day comment period.

C. The Corps 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 Bank Sponsor updates the Bank ledger in RIBITS,

D. The agencies represented on the IRT 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 IRT 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 Bank 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 an irreparable material and detrimental impact on the Bank site over which the Bank Sponsor or any entity controlled by the Bank Sponsor could not have anticipated or controlled;

2. The Bank Sponsor shall bear the burden of demonstrating:
   (a) That the Force Majeure event was caused by circumstances beyond the control or anticipation of the Bank Sponsor and/or any entity controlled by the Bank Sponsor, including its contractors and consultants;
   (b) That neither the Bank Sponsor nor any entity controlled by the Bank Sponsor, including its contractors and consultants, could have reasonably foreseen and prevented such an event; and
   (c) The damage was caused by such circumstances.
   (d) The damage is irreparable.

B. Reasonably foreseeable technical problems, unanticipated or increased costs, 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 act to excuse the performance of the requirements of this MBI.

C. 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 Bank Sponsor must make an individual showing of proof regarding the cause of each delayed step or

requirement for which an extension is sought.

D. Dispute Resolution: Resolution of disputes about application of this Banking Instrument shall be in accordance with those stated in the Department of the Army and Environmental Protection Agency regulations entitled "Compensatory Mitigation for Aquatic Resources" (33 CFR Parts 325 and 332 and 40 CFR Part 230), as well as any other 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 IRT. The IRT will evaluate this input and determine whether the success criteria are met.

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

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

Any proposed modification 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 review and likely amendment of the approved banking instrument to comply with Corps regulations at 33 CFR 332.8(g) and will likely require use of the most current approved MBI template in use in Virginia.

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

This Banking Instrument (or any approved mitigation plans under an Umbrella Mitigation Bank Instrument) will be considered null and void if implementation of the mitigation plan (excluding the recordation of real estate instruments) has not been initiated within 5 years of the last date of signature or approval. The Bank Sponsor may reinitiate the process by submitting a new prospectus (or mitigation plan for a Bank Site under an Umbrella Banking Instrument) consistent with the latest mitigation banking instrument template approved for use in Virginia

F. 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.

G. Notice: Any notice required or permitted hereunder shall be deemed to have been given ~~either~~ (i) when delivered by hand, or (ii) when sent electronically, or (iii) three (3) days following the date deposited in the United States mail, postage prepaid, by registered or certified mail, return receipt requested, or (~~iii~~iv) 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):

Insert addresses of the Bank Sponsor and IRT members here.

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

I. 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.

J. 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.

K. 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.

L. Binding: This Agreement shall be immediately, automatically, and irrevocably binding upon the Bank Sponsor and its heirs, successors, assigns and legal representatives upon execution by the Bank 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 _____ Bank in connection with any specific permit or project.

M. Transfer of Mitigation Responsibility: For projects in the service area of this Mitigation Bank that require Department of the Army authorization pursuant to Section 404 of the Clean Water Act, Section 10 of the Rivers and Harbors Act of 1899, or the Virginia Water Protection Permit Regulations (9 VAC 25-210), if such authorizations require compensatory mitigation, credits from this Mitigation Bank may be used to satisfy those compensatory mitigation requirements if the Bank Sponsor and the Permittee reach a mutually acceptable financial agreement, subject to Corps and/or DEQ written approval on a case-by-case basis. Notwithstanding anything in this Agreement to the contrary, the Corps and DEQ have sole discretion over how many and what type of credits are required for permits each agency issues and whether credits from this Bank are acceptable as mitigation.

In consideration of the Bank Sponsor's agreement to be bound by the terms of this Instrument, the Corps and other IRT 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 Bank 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.

N. No 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.

O. Third Party Resale or Brokerage of Credits: Written approval of the IRT is required for any Third party resale or brokering of mitigation credits or transfer of credits to any entity for resale or re-transfer to a permittee. In the event of third party resale or brokering of mitigation credits, the Bank Sponsor remains responsible for the Bank and all applicable provisions of the approved MBI and Bank Development Plan. The Bank Sponsor shall first notify the Chair(s) prior to a proposed transfer. 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 required and will be determined 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 Bank 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 broker (and any subsequent broker) provides a written "bank ledger allocation statement" to the Corps, DEQ, and the Bank 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.

P. Transfer of Bank/MBI Ownership: In the event of sale or transfer of the Bank and/or MBI to a third party, the transfer provision of this MBI must be completed and filed with the IRT. The Bank Sponsor shall first notify the Chair(s) no less than 60 days prior to the transfer. Once the transfer has been executed by the Bank Sponsor/Owner, the Transferee/new Owner remains responsible for the Bank and all applicable provisions of the approved MBI and Bank Development Plan.

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

_____ _____
Bank Sponsor Date

_____ _____
Land Owner(s) Date

INTERAGENCY REVIEW TEAM

By the IRT Chair:

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

By the IRT Co Chair(s):

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

_____
_____
Virginia Marine Resources Commission Date
By: _____
Its: _____

When the land and/or MBI associated with this Mitigation Bank is transferred, the terms and conditions of this MBI will continue to be binding on the new Bank Sponsor and owner(s) of the property. To validate the transfer of this MBI and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____
(Transferee)

_____
(Date)

When the responsibility for Long-Term Stewardship associated with this Mitigation Bank is assumed by a party other than the Bank Sponsor, the terms and conditions of this MBI will continue to be binding on the Long-Term Steward of the property. To validate the transfer of this responsibility and the associated liabilities associated with compliance with its terms and conditions, have the transferee sign and date below.

_____
(Long-Term Steward)

_____
(Date)

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Exhibit A
Vicinity Map

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Exhibit B
Initial Phase Plan

Exhibit C
Plat and Title Search

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Exhibit D
Bank Development Plan

I. Phasing

The Bank shall be planned and designed in phases. _____ phases have been identified to date, encompassing _____ acres of land along _____ waterway. Additional parcels in the _____ watershed may be contracted for purchase and proposed for inclusion in the _____ Bank by the Bank Sponsor by submission of a concept plan to the IRT.

II. Concept Plan of Initial Phase

A. Background

Careful consideration will be given to the ecological suitability of site for achieving goals and objectives.

Attached is a Concept Plan for Phase I prepared by _____ dated _____, consisting of the following sheets:

1. Cover Sheet with Location Map and Soils Map;
2. Existing Conditions with wetlands delineation survey, 6" C.I. topography and soil test pit locations;
3. Concept Grading Plan and Credit Analysis;
4. Hydrologic analyses
5. Soil test pit profiles and/or soil auger borings to controlling depths;
6. Soil test results;
7. Stream deficiencies to be addressed
8. Existing and proposed stream plan and profile (including proposed buffer limits, types, structure locations, and mitigation acreages/linear feet of stream restoration, enhancement, and preservation segments
9. Description of proposed stream restoration, enhancement, and preservation measures to be employed.
10. Existing and proposed typical cross section (riffle and pool only)
11. Schedule for compensation activities.
12. USM compensation crediting forms 1,3, & 4

Based upon the hydric soils map, field borings of the soils, and discussions with the owner it appears that the areas proposed for Restoration/Creation were historically _____ areas. They were converted to _____ in order to _____ by a combination of:

1. Ditching,
2. Recontouring, and
3. Filling

B. Proposal

Restoration or enhancement of drained and degraded wetland areas and streams or creation of wetland areas to a high level of function shall be accomplished by a combination of practices, including but not limited to:

1. Filling or blocking of ditches,
2. Creation of low berms with outlet controls,
3. Regrading of high spots,
4. Removal of fill areas,
5. Herbicide treatments of non-native species, if required,
6. Discing and plowing of soils
7. Replanting of indigenous vegetation,
8. Fencing along adjacent agricultural uses;
9. Restoration of channels;
10. Stabilization of eroding banks;
11. Buffer or stream bank plantings;
12. Installation of grade controls or other instream structures.

This proposal may also include the preservation of high quality wetland and/or streams and associated upland buffers .
Specific goals and objectives for each portion of the Mitigation Bank shall be specifically provided in the Mitigation Site Plan for each phase of the Bank.

III. Mitigation Site Plan

A. Submission and Approval

The Bank Sponsor shall submit the Mitigation Site Plan to the IRT for each phase of the Bank and obtain approval of the IRT (in accordance with Section VI.B. of the Mitigation Banking Instrument), prior to commencement of construction activities.

B. Design Specifications

The Mitigation Site Plan for wetlands 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 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 _____ County/City Design and Construction Standards Manual and the most current edition of the Virginia Erosion and Sediment Control Handbook
d. The goals and objectives in terms of water quality, flood storage, and/or habitat benefits

e. A detailed location map, including the latitude and longitude and the hydrologic unit code (HUC) at the center of the site.
f. A GIS shapefile or similar exhibit depicting the location and extent of the mitigation bank

In addition, the Wetland Mitigation Site Plan shall include at a minimum,:
a. 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). The habitat design goal will be to maximize the Restoration of _____ aquatic resource areas.

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.

Understory vegetation shall primarily comprise of a 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.

Tree seedlings and shrubs shall be planted in Restoration areas, and comprised of at least 5 of the following species: _____, _____, _____, _____, _____.

g. A surveyed wetland delineation, in accordance with the Corps'1987 Manual, of existing wetlands areas of each phase. A GPS survey is sufficient.
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.

The Stream Mitigation Site Plan shall also include, at a minimum:

1. The proposed stream segment restoration locations, including plan view and cross-section sketches.

2. A description of the existing watershed and the estimated proposed land use for that watershed (percent residential, forested, commercial, agricultural, etc.).

3. A description of the existing riparian buffer (mature forested, shrub, and herbaceous strata present, utility easements, understory mowed, actively cropped, etc.)

4. The goals and objectives of the mitigation, and how will the mitigation plan meet those goals and objectives.

5. Phase of channel evolution.

6. Hydraulic assessment including, but not limited to, a quantification of flood stage, stream velocity, sheer stress, and stream power.

7. The stream deficiencies to be addressed. Describe the causes of instability and the methods used to make determination Describe existing lateral and vertical stability.

8. The proposed restoration measures and methods (form, process, combination) to be employed, including channel measurements (bankfull elevation, cross-sectional area, slope, etc), proposed design flows, and types of instream structures.

9. Plan-view location of proposed riparian buffer restoration, reestablishment, enhancement, and preservation segments

10. Design plan view, typical cross-sections, and typical instream structures.

11. If utilized, reference stream data.

12. Describe any project constraints.

13. Plan-view location of proposed riparian buffer restoration, reestablishment, enhancement, and preservation segments. Vegetation schedule with plants and seeds selected based on habitat, water quality, and stream stability value. Said schedule shall include: (1) Species; (2) Plant size and spacing; and (3) Wildlife value assessment. ***[DEQ]***

14. Completed USM Forms 1, 3, & 4

C Monitoring

(Detail the specific monitoring activities used to satisfy Success Criteria identified in Section IV E of the Bank Instrument, including methodology for monitoring soil, vegetation, and hydrology criteria such as numbers of monitoring wells, placement of stream gauges, plant sampling strategies, etc.)

D Maintenance Activities

(Include likely maintenance activities such as posting of Property limit, maintenance of fences, water control structures, access roads, plantings, mowing, or the use of approved herbicides)

Exhibit E
Virginia Off-site Mitigation Location Guidelines Checklist

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A. General regulatory requirements and practices:
Project within same 8 digit HUC as impact: Yes ____ No ____
Project within same physiographic province as impact:
Yes _____ No _____

Project within an adjoining HUC in same river basin Yes ____ No ____

Project outside of this area Yes ___ No ____
(If "Yes" then provide documentation that no suitable sites are available in area)

Mitigation is in-kind: Yes ____ No ____

B. Evaluate & Document whether project meets the following criteria
1. Wetland restoration: Yes ____ No ____
Wetland creation: Yes ____ No ____

2. Stream restoration/enhancement: Yes ___ No ____
Stream Preservation: Yes ___ No ___
If stream preservation is proposed, is the preservation area exemplary and/or under threat?
Yes ____ No ___

3. Mitigation sites contiguous or connected to other aquatic areas
Yes ___ No ___

4. Current, planned, or foreseeable activities upstream or upgradient of project that may adversely affect mitigation project:
Yes ____ No ____ Uncertain ____

Is there an existing or proposed development upstream of, upslope of, or adjacent to the mitigation project? Yes ___ No ___ Uncertain ____

Are there areas upstream of, upslope of, or adjacent to the mitigation project that are zoned or identified for future development in the comprehensive plan, long-range plan, or zoning overlay?
Yes ___ No ___

5. Does proposed riparian buffer protection provide greater protection than state or local requirements? Yes ___ No ___

Is proposed riparian buffer a minimum of 100 feet wide on each side of the channel? Yes ___ No ___

6. Are there any easements, liens, rights of way, reserved timber or mineral rights on project site or adjoining lands? Yes ____ No ___
If Yes, describe _____

7. Is mitigation site consistent with local planning requirements?

Yes ___ No ___ Describe _____

8. Describe order(s) of streams on project site _____
9. Is recordation of a third party conservation easement proposed for the project? Yes ____ No ____ If No, please explain _____

C. Does the project satisfy one or more of the following criteria? If the answer is "Yes" then describe.

1. Does it abut or adjoin an existing reserve or conservation area or create or contribute to a corridor linking existing reserves, conservation areas, or large aquatic systems?
   Yes ____ No ___ Describe _____
2. Conserve or restore habitat for one or more state or federal-listed species species, including critical habitat or Threatened/Endangered Species Waters? Yes ____ No ____ Describe _____
3. Conserve or restore habitat for species identified as rare by DCR- Division of Natural Heritage or Species of Greatest Conservation Need in the Virginia Wildlife Action Plan?
   Yes ____ No ____ Describe _____
4. Conserve or restore aquatic resources or buffers areas identified by DCR-Division of Natural Heritage as rare or imperiled natural communities?
   Yes ____ No ____ Describe _____
5. Contribute to improved water quality for identified/designated impaired waters? Yes ____ No ____ Describe _____
6. Remove barriers to fish passage in areas identified by VDGIF as meriting improvement? Yes ____ No ____ Describe _____
7. Restore, enhance, preserve aquatic resources and/or riparian areas identified as meriting conservation in an approved watershed management plan or conservation plan?
   Yes ____ No ____ Describe _____
8. Conserve/restore the entire watershed upstream of the project site?
   Yes ____ No ____ Describe _____
9. Remediate inputs of substantial amounts of sediments or remove other pollutants to downstream waters?
   Yes ____ No ____ Describe _____
10. Conserve or restore areas designated by VDGIF as wild trout streams or Anadromous Fish Use Areas?
    Yes ____ No ____ Describe _____

Exhibit F
Financial Assurances to Secure the Initial Release of Credits

Exhibits G, H, and I
Escrow Agreements

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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 _____ Interagency Review Team (IRT), 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:

Corps of Engineers

4. Notification of Disbursement of Funds from Escrow Account. The Sponsor, the IRT, 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. F, H, I, and J. 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, IRT, or Long-Term Steward to:

Upon receiving written approval from the IRT Chair for the requested disbursement, the Escrow Agent shall release said funds requested by the Sponsor, the IRT, 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 E and Section VI. F, H, I, and J. of the Banking Instrument and by its execution hereof agrees to comply with Section IV.D and E and Section VI. F, 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 IRT or the IRT 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.

9 Revocation, Modification/Termination. In accordance with regulations at 33 CFR 332.3(n)(5), the Escrow Agent shall provide notice to the IRT through the Chair(s) at least 120 days in advance of any planned termination or revocation of financial assurances. Revocation or termination of financial assurances is subject to approval by the IRT.

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

Exhibit J

The restrictive covenant should mirror the acceptable land uses contained in the MBI as well as providing for support activities and the ability to modify the covenant with the approval of the IRT. One example is attached:

DECLARATION OF RESTRICTIONS

OF

_____

(Owner)

_____ , VIRGINIA

THIS DECLARATION OF RESTRICTIVE COVENANTS, is made this _____day of _____, 2009~~3~~, by _____, Owner.

WHEREAS, (_____) 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 _____.; the Interagency Review Team (the "IRT") 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 or streams, restored wetlands or streams, enhanced wetlands or streams, created wetlands, uplands, and areas to be converted into wetlands and serves as compensation for impacts to state waters and Waters of the U.S..

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 the 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 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 IRT, 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 state 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 IRT) other than any authorized under the Banking Instrument;

4. Permitting livestock to graze, inhabit or otherwise enter the Preservation area.
(**Delete if not appropriate**)

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 IRT);

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.

7. Further subdividing the area shown on Exhibit B.

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 IRT. The Owner or its successor may apply to the IRT 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 IRT and the Owner or its successor in interest.

The Corps and DEQ shall be provided with a 60-day advance written notice of any legal action concerning this (document) or of any action to extinguish, void or modify this (document) in whole or in part. This (document) is intended to survive foreclosure, bankruptcy, condemnation or judgments affecting the property.

Compliance Inspections and Enforcement

The IRT, and its authorized agents and the designated Long-Term Steward of the Mitigat Bank 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 administra proceeding by the IRT, including the Corps or DEQ or citizens. Failure by any agency (owner) to enforce any covenant or restriction contained herein shall in no event be deeme waiver of the right to do so thereafter.

Provision

Should an easement, right or lease on or to the property not shown on the survey or listed in Exhibit A and prior in time and recording to this (document), or unrecorded, be exercised in such a manner that it conflicts with or voids the prohibited uses of the property set out in this (document), then the Owner(s) of the property shall be responsible for providing alternative conservation mitigation in such amounts and of such service and function as the Corps, DEQ, IRT or any enforcer of this (document) shall determine in accordance with the Clean Water Act and/or Sections 62.1-44.15:20-23 of the Code of Virginia.

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Eminent Domain

If the preservation property is taken in whole or in part through eminent domain, the consequential value of the property protected by the Clean Water Act is the cost of replacement of the conservation functions, services and values with other property in the same watershed

Litigation in Court:

In any state court action, Corps reserves the right to be represented by the U.S. Department of Justice and/or to remove a legal action affecting jurisdictional waters of the U.S. to the United States Federal District Court in the district where the land lies

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: _____

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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 K
Service Area Map

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Exhibit L
Crediting and Debiting Procedure for the Bank

I. Impact Debit Values

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.***[This section should include discussion of stream credits as well]***

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 Mitigation Site Plan.

Stream credits are derived using the USM or current stream assessment and credit methodology**.** Credits may then be adjusted by the IRT if as-built conditions differ substantially from the areas projected in the Mitigation Site Plan projections as determined by the IRT acting through the IRT Chair(s). Adjustments may include changes in the number of available Credits, credit composition, or minimum credit ratios associated with use of the Bank. 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: _____ wetland credits and _____stream credits.

The IRT agrees that if a conservation easement approved by the IRT is recorded over the property with a Long-Term Steward approved by the IRT 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. *The conservation organization must meet the following criteria:*

- *May hold easements which are perpetual in duration in accordance with the Virginia Conservation Easement Act (has had a principal office in the Commonwealth of Virginia for at least five years,*

- *Is a charitable corporation exempt from taxation pursuant to 26USCA 501 (c)(3), and a "qualified organization" and an "eligible donee" under Section 170(h)(3) of the internal Revenue Code and Treasury Regulation §1.170A-14(c)(1), whose purposes include those specified in the Virginia Conservation Easement Act, and has had a principal office in the Commonwealth of Virginia for at lease five years,*

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.

B. Post-Construction

During or after the fifth growing season, the Chair(s), acting in consultation with the IRT, may assess the Functions and values of this ecological system (or when requested to do so by the Bank Sponsor). The IRT may issue a written determination to the Bank 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 Credits available at the _____ 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 Bank 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 wetlands permitted to use Credits from the Mitigation Bank exceed the total area of wetlands 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.

WETLAND MITIGATION CREDIT CALCULATOR WITH PROPOSED RATIOS & CREDITS**

Proposed mitigation activity	Acres	Ratio	Proposed Credit
Wetland Restoration		1 : 1	
Wetland Creation		1 : 1	
Wetland Enhancement - Upper range (e.g. hyd & veg enhancement with high increase in function)	9.7	3 : 1	1.9
Wetland Enhancement - Lower range (e.g. control invasives or activities partially addressing function)		9 : 1	
Wetland Preservation (can be adjusted higher or lower depending upon condition or function of wetland)	2.4	10 : 1	0.2
Upland Buffer Restoration - Upper range (restoration likely to succeed and increases wetland protection or function)	31.5	15 : 1	1.6
Upland Buffer Preservation/Enhancement (can be adjusted higher or lower depending upon condition or function)		20 : 1	
Upland Buffer Preservation/Enhancement - Lower range (condition or control of watershed is poor)		40 : 1	
Other - add intermediate values here			
5% Conservation Easement			
Sum			**3.7**
Percent of credits involving restoration or creation and directly addressing NNL			

*For the Enhancement or Upland categories there are ranges based upon what is proposed and how it is related to improving or protecting wetland function. This table contains the general limits of the ranges; however intermediate values may be proposed based upon the specific project.

** Acreage and credits are subject to change based on the results of the as-built report, boundary surveys, delineations, and monitoring reports

STREAM MITIGATION CREDIT COMPOSITION **

Proposed mitigation activity	Linear Feet/Acres	Proposed Credit
Stream Restoration (LF)	5968	5968
Stream Enhancement with Instream Structures (LF)		
Stream Enhancement (LF)	771	293
Riparian Areas – Preservation (LF or Ac)	37.7	482
Riparian Areas – Planting/Re-Establishment (Ac)		
Adjustment Factors (LF)		70
Other - add intermediate values here		
5% Conservation Easement		
Sum		**6813**
Percent of credits involving preservation only		13

** Linear feet and credits are subject to change based on the results of the as-built report, boundary surveys, delineations, and monitoring reports

Exhibit M
Success Criteria for the Mitigation Bank Site

The IRT will use best professional judgment, visual observations and monitoring reports to evaluate attainment of success criteria and in determining whether part or of the entire bank site is successful or whether corrective actions are warranted. The following criteria will be used to assess project success:

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

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% aerial cover over the entire preservation area and/or individual areas no larger than ¼ acre in size beyond that identified in the baseline evaluation of the preservation areas may be made up by invasive species such as *Typha latifolia*, *Phragmites australis, Lonicera japonica, Pueraria lobata, or Ailanthus altissima.* Any deviation from this standard must be agreed upon by the IRT acting through the Chair(s) prior to approval of the MBI and mitigation plan. *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

Stream buffer preservation areas are those portions of the stream buffer in which no work, including but not limited to disturbance, grading, clearing, or planting is conducted.

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. *(The number of woody stems per acre may vary under certain circumstances. For example, if invasive species need to be controlled upon implementation of the project, then a lower density may be appropriate in order to mow and/or spray).*

    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% aerial cover per 500 linear foot stream segment, and/or buffer cell, field, or block may be made up by invasive species such as *Typha latifolia*, *Phragmites australis, Lonicera japonica, Pueraria lobata, or Ailanthus altissima.* Any deviation from this standard must be agreed upon by the IRT acting through the Chair(s) prior to approval of the MBI and mitigation plan. *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 Year 5 and the final monitoring report (typically 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 surviving trees within sample plots are at least 5 feet in height.

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 measured in consecutive days 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 ____ and _____ in _____ County/City; or the period during which the soil temperature in a wetlands in _____ County/City is greater than biological zero (5^0C) at a depth of 50 cm (19.7 inches) if such data is available), and

A hydroperiod consisting of saturation of the major part of the root zone (the upper 12 inches of the soil profile) or ponding upon the soil surface for between five percent (5%) and twelve and one-half percent (12.5%) measured in consecutive days may have wetland hydrology, but strong corroborative evidence would be required (such as positive tests with α,α, diperydyl, algal mats, common occurrence of oxidized rhizospheres within 12 inches of the soil surface, and blackened leaves.).

(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") *(or insert reference to any approved Regional Supplements as they become available prior to MBI approval)* must be achieved; and

(c) Plant density in forested and shrub/scrub wetland areas of at least 400 living woody stems per acre.

For areas within a bank in which establishment of hard or soft mast is desirable, at least 150 living stems per acre must be achieved by the end of the first growing season following planting and maintained through the end of the third growing season following planting. A minimum woody stem count (including planted specimens and volunteers) of 400 steams per acre shall be maintained through the end of the monitoring period or until canopy coverage of woody species is greater than 30%, whichever comes first. No more than 5% aerial cover and/or areas larger than ¼ acre in size dominated by 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 ___% must be achieved by the end of the first growing season, ____% must be achieved by the end of the second growing season, and _____% 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 and/or areas larger than ¼ acre in size dominated by ~~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) Woody plant density in forested wetlands areas must include at least ____ living stems per acre of _____ (sp.) that are rated FAC or wetter; and

(f) Plant coverage in floating aquatic areas of at least __% must be achieved during a portion (July and August) of the first growing season, ___% must be achieved during a portion of the second growing season, and ___% must be achieved during a portion of the third growing season and maintained during a portion of each subsequent growing season (i.e., these plants do not persist in colder periods of the growing season, thus this requirement only pertains to the middle portion of the growing season).

(g). Until canopy coverage exceeds 30%, the average height of all woody stems of tree species including volunteers in each cell, field, or block must increase by not less than an average of 10% per year by the fifth (Year 5 following construction) and tenth (Year 10 following construction) monitoring year~~s~~. As an alternative standard, the fifth year monitoring report (Year 5) and tenth year (Year 10) shall contain documentation that all vegetation within the buffer areas is healthy and thriving and the average tree height of all established and surviving trees is at least 5 feet in height.

(h) *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 a positive indicator for all monitoring 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 a positive indicator for all monitoring 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, 7th, and 10th year following construction 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 at a distance of 10 to 30 feet from each well.

5. Stream Success Criteria

It is important to note that this is not a standard set of Criteria to be placed on all projects. It is a standard set of Criteria to choose from, however, the bank sponsor may propose additional criteria. Criteria should be project-specific based goals and objectives, type of restoration activity, reference data, current stream condition vs. anticipated restored condition, and the stream type being restored or created.

The overall goal for the stream compensation is to ensure that the dimension, pattern, and profile of the stream enhancement and restoration areas: 1) remain within the natural range of variability present in the reference data obtained for the design; 2) remain stable; 3) exhibit appropriate habitat diversity; and 4) have healthy viable riparian buffers. In addition, restoring appropriate biological diversity and integrity should be the aim of any project.

The IRT 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-sections shall indicate that they have not aggraded, degraded, widened, or narrowed to the point where they have 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 approved as-built 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 approved as-built Bank Height Ratio.

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. It may be useful to consider paired cross-sections of riffles and pools, with at least one pair per reach and stream channel type. Useful depictions include pool width ratio and pool depth ratios.

(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 outlined 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 50 square feet per stream edge along the bank 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. Native non-invasive herbaceous plant coverage shall be at least 80% by the end of the first growing season , and at least 80% each monitoring year thereafter, until canopy cover exceeds 30%. Any seeds used for plant establishment should conform to 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 allelopthic turf grass species, as well as plant species on the Virginia Department of Conservation and Recreation's Invasive Alien Plant List.

3. 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.

4. 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 does not increase or decrease by an amount greater than 0.1 of the approved as-built pattern.

2. The thalweg of each channel cross-section does not move by more than 10% of the width of the approved as-built channel width in any given year.

3. The Radius of Curvature / Width Ratio does not increase or decrease by an amount greater than 0.2 of the as-built condition. For instance, if the as-built ratio is 3.0, the acceptable ratio shall be 2.8 to 3.2 remain within the range of variability present in the reference data

(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 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 or streambed associated with any instream structure, excluding any minor channel scour within the thalweg immediately downstream of a structure caused by its intended redirection of flow.
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 not vary more than 0.2 feet from the approved as-built.

Materials (*if applicable)*

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:

The D50 size particle remains within its approved as-built size class (silt, sand, gravel, cobble, boulder

(d) STREAM RESTORATION

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

Profile

The analysis of the longitudinal profile shall indicate that the bed elevation has neither aggraded nor degraded to the point where it will cause instability.

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

The analysis of the Longitudinal Profile does not indicate significant alterations in the locations, depths, and slopes of stream features (riffle, run, pool, glide)

Materials (*if not included in Section V.E.5.c***) in gravel bed streams only**

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

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

Exhibit N.
Monitoring Requirements

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. After Year 3, physical monitoring of stream condition (e.g. Longitudinal profiles, cross-sections, channel Width and Depth) may be conducted outside of the growing season

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 earlier than October and at least 6 months following planting;
(b)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.
(d) A final monitoring report (typically prepared the 10th growing season following completion of construction activities, including planting)

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

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. Visual observations including name of the observer and date of the observation shall also be noted on the As-Built drawings

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 after site construction (including planting) and again in the 3rd and 7th 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 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 *(for instance use of point-line, point frame, or line-intercept sampling techniques; use of species-area curves or sample size analyses to establish numbers of samples, etc.)* may be submitted for IRT review and approval, acting through the Chair(s) . The vegetation data shall be collected in each sample plot 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) Percent survival of planted species; and
(e) An invasive species assessment, including percent cover;
(f) At Monitoring Year's 5 and 10, the 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 after site construction (including planting) and again in the 3rd and 7th year following final grading

2. Hydrology. This is a _____ driven system on top of a _____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 IRT approval, acting through the Chair(s) as described in Exhibit D (Mitigation Site Plan). 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 IRT review and approval, acting through the Chair(s). The vegetation data shall be collected in each plot 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 species assessment including percent cover;
(g) Number and species of _____ (sp.) rated FAC or wetter (excluding FAC-) growing in wetlands (total and #/acre).
(h) Average height of woody species at monitoring years 5 and 10 in each sample and percent change in height since previous monitoring event

If the approved MBI or mitigation plan requires specific data on oak (Quercus) species then the following data will be required:
(i) Number and species of Quercus (sp) rated FAC or wetter (excluding FAC-) growing in wetlands (total and #/acre).

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

Within one week after any storm event that meets or exceeds a 1-year, 24-hour duration, as determined by the onsite rain gauge or the nearest National Weather Service station the stream(s) shall be visually inspected for damages. Any damage noted shall be reported to the Corps and DEQ in writing within 1 week of inspection, with supporting photographs, and accompanied by a remediation plan. Photographs and narrative shall be utilized to summarize performance and necessity of remediation efforts in the next monitoring report.

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.

The following will be documented at each cross-section:

Ground level photographs shall be provided with each monitoring report for the purpose of documenting vegetation and stream stability. The photographs will be taken annually during November or December of that monitoring year 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 intervals on a representative sample of riffles and pools. The 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 100 feet upstream or downstream of each cross-section where streambank plantings were completed. Sampling shall be conducted in accordance with Section VI.B of this document
b. The Bank Erodibility Hazard Index (BHI) will be assessed at each permanent cross-section and additional locations selected in consultation with the IRT 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. Radius of curvature within a representative longitudinal profile
e. Sinuosity of representative section.
f. Bankfull shear stress and mean depth and slope (calculated using dimensionless shear stress).
g. Bankfull event gage documentation.

The number of stream gages will be determined on a case-by-case basis for each Bank depending on the number of stream reaches and proposed mitigation types.

h. (*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: Photo documentation will be provided for each structure, regardless of type, depicting the full width, length, and landscape position so that all portions of the structure are visible**.** 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. (*For constructed riffles)* Wetted-perimeter cross-section pebble count at constructed riffles.

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

a. A surveyed longitudinal profile of the stream within the thalweg with measurements of the locations, depths, and slopes of riffles, runs, pools, and glides.

b. Stream classification pebble count

c. Bar sample of pavement/sub-pavement sample

d. Wetted-perimeter cross-section pebble count of representative riffles (*not constructed riffles*)

e. The D50 analysis of the pebble count data

f. Monitoring of the pre- and post restoration instream habitat and macroinvertebrate community

Benthic and Chemistry monitoring shall occur once per monitoring year during March – May or September – November and shall be conducted prior to construction (baseline) and in years 1, 2, 3, 5, 7, and 10. For comparative purposes, data shall be collected during the same season each monitoring year. Water chemistry and benthic samples shall be collected simultaneously at each of the monitoring locations. The number and location of monitoring stations shall be determined, and approved by the IRT, on a case-specific basis and shall remain consistent throughout the monitoring period.

Scientific Collection permits for conducting benthic sampling shall be obtained from Virginia Department of Game and Inland Fisheries (information available at http://www.dgif.virginia.gov/permits/guide.asp). All field sampling as well as laboratory sample processing shall be performed by or under supervision of a professional aquatic biologist.

Chemistry – Temperature, dissolved oxygen, pH, and conductivity shall be collected at each designated monitoring location.

Biological – A quantitative survey for benthic macroinvertebrates and a habitat assessment shall be conducted at designated monitoring locations. Benthic macroinvertebrates shall be identified to the genus level.

For non-coastal streams, the habitat assessment and benthic macroinvertebrate protocols are:

- *Rapid Bioassessment Protocols For Use in Streams and Wadeable Rivers: Periphyton, Benthic Macroinvertebrates, and Fish, Second Edition*, Chapters 5 and 7 and associated Appendices at http://www.epa.gov/OWOW/monitoring/rbp/

Blank field forms are attached to this exhibit.
For coastal streams, the protocols are identified in:

- *Field and Laboratory Methods for Macroinvertebrate and Habitat Assessment of Low Gradient, Nontidal Streams* at http://www.epa.gov/bioindicators/pdf/MACS-FieldandLabMethods.pdf.
- Maxted, J. R., Barbour, M. T., Gerritsen, J., Poretti, V., Primrose, N., Silvia, A., Penrose, D., Renfrow, R. **Assessment framework for mid-Atlantic coastal plain streams using benthic macroinvertebrates.** Journal of the North American Benthological Society 2000 19: 128-144.
- The data sheet for the Coastal Plain Macroinvertebrate Index can be found in Appendix D in *Biological Monitoring Program Quality Assurance Project Plan for Wadeable Streams and Rivers (2006)* at http://www.deq.state.va.us/export/sites/default/biomonitoring/documents/VADEQBiomonQAPPSOPsRBPIIversion24April2006.pdf

Blank field forms are attached to this exhibit

The objective is to allow for comparison between mitigation banks involving stream channel restoration activities; to identify issues that may need to be addressed in the restoration design; to determine realistic expectations for the post-restoration aquatic community; and to inform future stream restoration efforts

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HABITAT ASSESSMENT FIELD DATA SHEET—HIGH GRADIENT STREAMS (BACK)

Parameters to be evaluated broader than sampling reach

Habitat Parameter	Condition Category			
	Optimal	Suboptimal	Marginal	Poor
6. Channel Alteration	Channelization or dredging absent or minimal; stream with normal pattern.	Some channelization present, usually in areas of bridge abutments; evidence of past channelization (i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channelization may be extensive; embankments or shoring structures present on both banks; and 40 to 80% of stream reach channelized and disrupted.	Banks shored with gabion or cement; over 80% of the stream reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
7. Frequency of Riffles (or bends)	Occurrence of riffles relatively frequent; ratio of distance between riffles divided by width of the stream <7:1 (generally 5 to 7), variety of habitat is key. In streams where riffles are continuous, placement of boulders or other large, natural obstruction is important.	Occurrence of riffles infrequent; distance between riffles divided by the width of the stream is between 7 to 15.	Occasional riffle or bend; bottom contours provide some habitat; distance between riffles divided by the width of the stream is between 15 to 25.	Generally all flat water or shallow riffles; poor habitat; distance between riffles divided by the width of the stream is a ratio of >25.
SCORE	20 19 18 17 16	15 14 13 12 11	10 9 8 7 6	5 4 3 2 1 0
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream.	Banks stable; evidence of erosion or bank failure absent or minimal; little potential for future problems. <5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion, high erosion potential during floods.	Unstable, many eroded areas; "raw" areas frequent along straight sections and bends; obvious bank sloughing; 60-100% of bank has erosional scars.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
9. Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by native vegetation, including trees, understory shrubs or nonwoody macrophytes; vegetative disruption through grazing or mowing minimal or not evident; almost all plants allowed to grow naturally.	70-90% of the streambank surfaces covered by native vegetation, but one class of plants is not well-represented; disruption evident but not affecting full plant growth potential to any great extent; more than one-half of the potential plant stubble height remaining.	50-70% of the streambank surfaces covered by vegetation; disruption obvious; patches of bare soil or closely cropped vegetation common; less than one-half of the potential plant stubble height remaining.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters or less in average stubble height.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roadbeds, clear-cuts, lawns, crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters; little or no riparian vegetation due to human activities.
SCORE ___ (LB)	Left Bank 10 9	8 7 6	5 4 3	2 1 0
SCORE ___ (RB)	Right Bank 10 9	8 7 6	5 4 3	2 1 0

Total Score _____

BENTHIC MACROINVERTEBRATE SAMPLE LOG-IN SHEET

Date Collected	Collected By	Number of Containers	Preservation	Station #	Stream Name and Location	Date Received by Lab	Lot Number	Date of Completion		
								sorting	mounting	identification

Serial Code Example: B0754001(1)
B = Benthos (F = Fish; P = Periphyton) ■ 0754 = project number ■ 001 = sample number ■ (1) = lot number (e.g., winter 1996 =1; summer 1996 = 2)

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Appendix D (i)

Benthic Macroinvertebrate Field Data Sheet (front)

Station ID: _____ Ecoregion _____

Field Team: _____ Survey Reason: _____

Stream Name: _____ Land Use: _____

Location: _____

DATE _____ Start Time _____ Finish Time _____

LATITUDE (Decimal degrees) _____ LONGITUDE (Decimal degrees) _____ GPS Signal _____

Stream Physicochemical Measurements

Instrument ID number:_____

TEMPERATURE:_____ºC CONDUCTIVITY:_____µS/cm

DISSOLVED OXYGEN:_____mg/L pH: _____

Did instrument pass all post-calibration checks?:_____

(If NO- which parameter(s) failed and action taken: _____

Benthic Macroinvertebrate Collection

Method used (circle one) **Single habitat** **Multi-habitat**

Riffle quality (circle one) **Good** **Marginal** **Poor** **None**

Habitats sampled	**Riffle**	**Snags**	**Banks**	**Vegetation**
# jabs	____	____	____	____

Perservative:_____ Area Sampled (square meters):_____

RBP Habitat Assessment

	High Gradient		*Low Gradient*	
1	Epifaunal Substrate		Epifaunal Substrate	
2	Embeddedness		Pool Substrate	
3	Velocity/Depth		Pool Variability	
4	Sediment Deposition		Sediment Deposition	
5	Channel Flow Status		Channel Flow Status	
6	Channel Alteration		Channel Alteration	
7	Riffle Frequency		Channel Sinuosity	
8	Bank Stability LDB 1-10		Bank Stability LDB 1-10	
	Bank Stability RDB 1-10		Bank Stability RDB 1-10	
9	Vegetative Protection LDB 1-10		Vegetative Protection LDB 1-10	
	Vegetative Protection RDB 1-10		Vegetative Protection RDB 1-10	
10	Riparian Zone LDB 1-10		Riparian Zone LDB 1-10	
	Riparian Zone RDB 1-10		Riparian Zone RDB 1-10	
	Total	_____	Total	_____

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Appendix D (i)

Benthic Macroinvertebrate Field Data Sheet (back)

Weather observations

Current weather:_____

Recent precipitation:_____

Stream flow (circle one) Low Normal Above Normal Flood

Biological Observations

circle one in each category

0 1 2 3	Periphyton	0 1 2 3	Salamanders	0 = Absent
0 1 2 3	Filamentous algae	0 1 2 3	Warmwater Fish	1 = Sparse
0 1 2 3	Submerged Macrophytes	0 1 2 3	Coldwater Fish	2 = Common to Abundant
0 1 2 3	Emergent Macrophytes	0 1 2 3	Beavers	3 = Dominant - abnormally high density where other taxa are insignificant in relation to the dominant taxa. There can be situations where multiple taxa are dominant such algae and snails.
0 1 2 3	Crayfish	0 1 2 3	Muskrats	
0 1 2 3	Corbicula	0 1 2 3	Ducks/Geese	
0 1 2 3	Unionidae	0 1 2 3	Other…	
0 1 2 3	Operculate Snails	0 1 2 3		
0 1 2 3	Non-operculate Snails	0 1 2 3		
0 1 2 3	Frogs/ Tadpoles	0 1 2 3		

Notes: _____

Appendix D (ii)

Benthic Macroinvertebrate Laboratory Bench Sheet

Station ID: _____ Sample subsorted by: _____ Date: _____

Stream Name: _____

Date Sampled: _____ Sample Identified by: _____ Date: _____

Sampling Method: _____

Taxa Collected:

Porifera
- Spongillidae

Flatworms
- Dendrocoelidae
- Planariidae

Limpets
- Ancylidae

Snails
- Lymnaeidae
- Physidae
- Planorbidae
- Hydrobiidae
- Pleuroceridae
- Viviparidae

Unionida
- Corbiculidae
- Sphaeriidae
- Unionidae

Lumbriculida
- Lumbriculidae

Tubificida
- Enchytraeidae
- Naididae
- Tubificidae

Haplotaxida
- Haplotaxidae

Leeches
- Erpobdellidae
- Glossiphoniidae
- Hirudinidae
- Piscicolidae

Branchiobdellida
- Branchiobdellidae

Decapoda
- Cambaridae

Shrimp
- Palaemonidae

Isopoda
- Asellidae

Amphipoda
- Gammaridae
- Talitridae

Water Mites
- Hydracarina

Ephemeroptera
- Ameletidae
- Baetidae
- Baetiscidae
- Caenidae
- Ephemeridae
- Heptageniidae
- Isonychiidae
- Leptophlebiidae
- Neoephemeridae
- Polymitarcyidae
- Potamanthidae
- Siphlonuridae
- Tricorythidae

Zygoptera
- Calopterygidae
- Coenagrionidae
- Ephemerellidae
- Lestidae
- Protoneuridae

Anisoptera
- Aeshnidae
- Cordulegastridae
- Corduliidae
- Gomphidae
- Libellulidae
- Macromiidae
- Petaluridae

Plecoptera
- Capniidae
- Chloroperlidae
- Leuctridae
- Nemouridae
- Peltoperlidae
- Perlidae
- Perlodidae
- Pteronarcyidae
- Taeniopterygidae

Hemiptera
- Belostomatidae
- Corixidae
- Gelastocoridae
- Gerridae
- Hebridae
- Hydrometridae
- Mesoveliidae
- Naucoridae
- Nepidae
- Notonectidae
- Veliidae

Neuroptera
- Sisyridae

Megaloptera
- Corydalidae
- Sialidae

Trichoptera
- Brachycentridae
- Calamoceratidae
- Glossosomatidae
- Helicopsychidae
- Hydropsychidae
- Hydroptilidae
- Lepidostomatidae
- Leptoceridae
- Limnephilidae
- Molannidae
- Odontoceridae
- Philopotamidae
- Phryganeidae
- Polycentropodidae
- Psychomyiidae
- Rhyacophilidae
- Sericostomatidae
- Uenoidae

Lepidoptera
- Pyralidae

Coleoptera
- Chrysomelidae
- Curculionidae
- Dryopidae
- Dytiscidae
- Elmidae
- Gyrinidae
- Haliplidae
- Helodidae
- Hydrophilidae
- Limnichidae
- Noteridae
- Psephenidae
- Ptilodactylidae

Diptera
- Athericidae
- Blephariceridae
- Canaceidae
- Ceratopogonidae
- Chaoboridae
- Chironomidae (A)
- Chironomidae (B)
- Culicidae
- Dixidae
- Dolichopodidae
- Empididae
- Ephydridae
- Muscidae
- Psychodidae
- Ptychopteridae
- Sciomyzidae
- Simuliidae
- Stratiomyidae
- Syrphidae
- Tabanidae
- Tanyderidae
- Tipulidae

TOTAL: _____

Use back of sheet for subsampling information

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Exhibit ~~J~~O . Sample Credit Ledger

Bank Name

Project Name	Corps Permit #	DEQ Permit #	Permittee	Transaction Date	Impact *	Mitigation *	HUC	Type of Impact	Type of Mitigation

* Wetland impacts and credits should be reported to the hundredth of an acre.
Stream impacts and compensation should be reported in whole numbers (no decimals)

Exhibit P
Long-Term Management Plan

Note: The Virginia Interagency Review Team developed this general outline to assist in the development of the Long-term Management Plan for mitigation banks. Objectives and tasks are provided for illustrative purposes only and may not represent management requirements for a specific bank. Long-term Steward and the IRT members shall meet and confer upon the request of any one of them, to consider revisions to the Long-term Management Plan which may be necessary or appropriate to better conserve the habitat and conservation values of the Bank Property.
(Template Version Date: July 2009)

Long-term Management Plan
For
The _____Site of the
The _____ Mitigation Bank

Long-Term Management Plan

I Introduction

A Purpose of Establishment

The _____ ("Bank") was established by the Mitigation Bank Instrument ("MBI") to compensate for unavoidable impacts to, and to conserve and to protect waters of the U.S. The Bank *(Site)* property includes _____acres of waters of the U.S. including _____acres [*insert as applicable:* of /all of which are] preserved wetlands, _____acres of created or restored wetlands, _____ feet of restored stream channel, ____ linear feet of enhanced stream channel, _____ acres of preserved riparian buffer, ____ acres of restored or enhanced riparian buffer. The IRT Agencies include the Norfolk District of the U.S. Army Corps of Engineers, Region 3 of the U.S. Environmental Protection Agency, the Virginia Field Office of the U.S. Fish and Wildlife Service, the Virginia Department of Environmental Quality, the Virginia Department of Game and Inland Fisheries, the Virginia Department of Conservation and Recreation, and the Virginia Department of Forestry. Terms used in this management plan have the same meaning as defined in the MBI.

B Purpose of this Long-term Management Plan

The purpose of this long-term management plan is to ensure the Bank or Bank Site is managed, monitored, and maintained in perpetuity. This management plan establishes objectives, priorities and tasks to monitor, manage, maintain and report on the waters of the U.S., covered species and covered habitat on the Bank. This management plan is a binding and enforceable instrument, implemented in accordance with the MBI and the real estate protection instrument (conservation easement or declaration of restrictions) covering the Bank property.

C Long Term Steward and Responsibilities

The Long-Term Steward is _____. The Long-Term Steward, and subsequent Long-Term Stewards upon transfer, shall implement this long-term management plan, managing and monitoring the bank property in perpetuity to preserve its habitat and conservation values in accordance with the Bank's MBI, conservation easement and/or declaration of restrictions, and the long-term management plan. Long-term management tasks shall be funded through the Long-Term Management Fund. The Long-Term Steward must maintain a copy of the MBI and all addendums associated with the Bank (Site) including all deed restrictions and easements. The Long-Term Steward shall be responsible for providing an annual report to the IRT detailing the time period covered, an itemized account of the management tasks and total amount expended. Any subsequent grading, or alteration of the site's hydrology and/or topography by the Long-Term Steward or its representatives must be approved by the IRT and the necessary permits, such as a Section 404 permit and/or Virginia Water Protection Permit, must be obtained if required.

II Property Description

A Setting and Location

The Bank *(Site)* is located at _____ [*include address and county*], in the Commonwealth of Virginia, designated as Parcel No. _____. The Property is shown on the general vicinity map (Figure 1) and the bank property map (Figure 2). The general vicinity map shows the Bank location in relation to cities, towns, or major roads, and other distinguishable landmarks. The Bank property map shows the Bank property boundaries on a topographic map.

B History and Land Use

[*Describe past and present land use including grazing practices*].
The land in the general area of the Bank site is currently _____ [*Describe adjacent land and local area land uses.*]

C Cultural Resources – (*if applicable*, refers to Cultural Resources Survey for the Bank – attached as an Exhibit to the MBI)

[*Describe all existing architectural features including battlefields, historic districts, roads, levees, fencing, and buildings, and their intended future use on the area. If such structures are likely to be considered "historic properties" pursuant to state or federal historic resource preservation laws.*]

[*Describe any known archeological sites without providing their specific locations on the property, and include a summary of the results of any site surveys/inventories, including who conducted them. An assessment of the impacts of management should be given for such sites.*]

D Hydrology and Topography

[*Describe hydrology and topography of Bank site. Indicate whether wetlands are driven by surface flows (i.e., fluvial systems) or groundwater flows from offsite sources. Describe precipitation onto and off of the site. Describe the Strahler order of the streams onsite, the channel classification, and the duration of the hydroperiod]*

E Soils

[*Describe soils on the Bank site*.]

F Existing Easements

[*Include descriptions/locations of existing easements, their nature (buried pipeline, overhead power, ingress/egress, mineral or timber rights etc.), authorized users (if known), access procedures, etc. Depict easements, rights of way, ingress, and egress routes on an attached map.*]

G Adjacent Land Uses

[*Detail the baseline adjacent land uses. These land uses may change over time; however, the description of the baseline conditions will give the Long-Term Steward some idea of the conditions present when the management plan was first developed. Detailing adjacent land uses will identify areas that may be of management concern or items that may compromise biological integrity over time.*]

III Habitat and Species Descriptions

A Baseline Description of Biological Resources on Bank Site

[*Include a general description of geographic location and features, topography, soils, vegetation (assessment of native vs. invasive and non-native species), a quality assessment of all wetland and streams on the bank site. An overview of native plant species present, if applicable, their habitat and management requirement should be presented here.]*

B Summary of Bank Development Plan (*if applicable*)

[*Describe all created and/or enhanced waters of the U.S., including acreages and/or lengths Provide final map showing the location of waters of the U.S.]*

C Endangered and Threatened Species

[*Describe all federal and state endangered and threatened species that occur or may occur on the bank site. If applicable, provide map showing their location.]*

D Rare Species and Species of Special Concern

[*Description of rare species and species of special concern that occur or may occur on the bank site. If applicable, provide map showing their location.]*

IV Management and Monitoring

The overall goal of long-term management is to foster the long term viability of the Bank site's waters of the U.S., and any listed species/habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the Bank site in perpetuity.

A Biological Resources

The approach to the long-term management of the Bank site's biological resources is to conduct annual site examinations and monitoring of selected characteristics to determine stability and ongoing trends of the preserved, restored, enhancement, and created waters of the U.S., including wetlands and streams. Annual monitoring will assess the Bank's condition, degree of erosion, establishment of invasive or non-native species, water quality, fire hazard, and/or other aspects that may warrant management actions. While it

is not anticipated that major management actions will be needed, an objective of this long-term management plan is to conduct monitoring to identify any issues that arise, and using adaptive management to determine what actions might be appropriate. Those chosen to accomplish monitoring responsibilities will have the knowledge, training, and experience to accomplish monitoring responsibilities.

Adaptive management means an approach to natural resource management which incorporates changes to management practices, including corrective actions as determined to be appropriate by the IRT in discussion with the Long-Term Steward. Adaptive management includes those activities necessary to address the affects of climate change, fire, flood, or other natural events. Before considering any adaptive management changes to the long-term management plan, the IRT will consider whether such actions will help ensure the continued viability of Bank's biological resources.

[*The list that follows is not meant to be exhaustive and some sites may have more elements to consider and some may have fewer.*]

The Long-Term Steward for the Bank site shall implement the following:

Element A.1 Waters of the U.S., including wetlands

Objective: Monitor, conserve and maintain the Bank site's waters of the U.S., including wetlands and streams. Limit any impacts to waters of the U.S. from vehicular travel or other adverse impacts.

Task: At least one annual walk-through survey will be conducted to qualitatively monitor the general condition of these habitats. General topographic conditions, hydrology, general vegetation cover and composition, invasive species, erosion, will be noted, evaluated and mapped during a site examination. Notes to be made will include observations of species encountered, water quality, general extent of wetlands and streams, and any occurrences of erosion, structure failure, or invasive or non native species establishment.

Task: Establish reference sites for photographs and prepare a site map showing the reference sites for the Bank file. Alternatively, utilize photographic reference sites, if any, developed during interim bank management period. Reference photographs will be taken of the overall Bank site at least every five years from the beginning of the long-term management, with selected reference photos taken on the ground more frequently, _____ times per year ***(****if applicable****)***.

Special attention should be paid to any area adjacent to or draining from non-bank lands. Streams and wetlands should be observed near bank boundaries to observe if increased sediment deposition has occurred. The

report should provide a discussion of any recent changes in the watershed (i.e., subdivision being developed upstream of stream bank).

Element A.2 Threatened/Endangered Plant Species Monitoring *(if applicable)*

[Note: This methodology may vary for different plant species as determined in consultation with the appropriate agencies]

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for _____.

Task: Monitor status every year by conducting population assessment surveys. The annual survey dates will be selected during the appropriate period as identified by the applicable member of the IRT and will generally occur from _____ through ____ each year. Occupied habitat will be mapped and numbered to allow repeatable data collection over subsequent survey years. Abundance will be assessed semi-quantitatively using broad abundance categories, i.e., 0, 1 - 100, 101 - 500, 501 - 1,000, and >1,000 plants.

Task: Visually observe for changes to occupied habitat, such as changed hydrology or vegetation composition. Record any observed changes. Size of population (1 acre, etc).

Task: Implement other tasks that enhance or monitor habitat characteristics for _____.

Element A.3 Threatened/Endangered Animal Species Monitoring *(if applicable)*

[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies]

Objective: Monitor population status and trends.

Objective: Manage to maintain habitat for _____.

Task: Monitor status every year by conducting population assessment surveys. [*The annual survey dates will be selected during the appropriate period each year*.]

Task: Implement other tasks that enhance or monitor habitat characteristics for _____.

Element A.4 Invasive Species

[Note: Species-specific objectives and tasks will need to be developed in consultation with the appropriate IRT agencies] Invasive species threaten the diversity or abundance of native species through competition for resources, predation, parasitism, interbreeding with native populations, transmitting diseases, or causing physical or chemical changes to the invaded habitat.

Objective: Monitor and maintain control over invasive species that diminish site quality for which the bank was established. The Long-Term Steward shall consult the *Virginia Department of Conservation and Recreation's Invasive Alien Plant list at* http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf for guidance on what species may threaten the site and on management of those species.

Task: Mapping of invasive species cover or presence shall occur during the first five years of bank management, to establish a baseline. Mapping shall be accomplished through use of available technologies, such as GIS and aerial photography.

Task: Each year's annual walk-through survey (or a supplemental survey) will include a qualitative assessment (e.g. visual estimate of cover) of invasive species. Additional actions to control invasive species will be evaluated and prioritized in coordination with the IRT.

Attached to this plan are fact sheets (including identification aid) for all invasive/non-native species known to be present on the site. (Should we include this for all highly invasive or likely species and/or and discussion on the areas of greatest concern – areas affected by storm damage, fire, or recent die-off, areas next to roads or maintained lands?)

Element A.5 Vegetation Management

Objective: Analyze effects of any authorized silvicultural manipulations on the wetland, streams, and buffers on the bank site. If determined appropriate, develop and implement specific silvicultural manipulations (e.g. selective thinning) in coordination with the IRT. [Site specific targets for vegetation may be specified here and task revised or added to achieve those targets].

Objective: Adaptively manage vegetation based on site conditions and data acquired through monitoring to maintain biological values.

Task: Review and explore potential vegetation management regimes as proposals and/or opportunities and funding arise. If determined to potentially maintain site quality, develop specific silvicultural practices, amend this long-term management plan with the IRT's approval to reflect those practices, and implement silvicultural actions as funding allows.

Task: Implement vegetation management techniques, if determined beneficial and as funding allows, to allow development of vegetation as identified in the MBI. Implementation of vegetation management techniques must be approved by the IRT.

Comment [b1]: I would prefer that we write this based on a naturally developing forest stand (no management).

B Security, Safety, and Public Access

The Bank will be fenced or appropriately marked and shall have no general public access, nor any regular public use. Research and/or other educational programs or efforts, hunting, fishing, and passive recreational activities may be allowed on the Bank site as deemed appropriate by the IRT, but are not specifically funded or a part of this long-term management plan.

Potential mosquito abatement issues will be addressed through the development of a plan by the Long-Term Steward and any local mosquito control district or local health department in coordination with and approved by the IRT.

Potential wildfire fuels will be reduced as needed where approved by the IRT.

Element B.1 – Trash and trespass

Objective: Monitor sources of trash and trespass.

Objective: Collect and remove trash, repair vandalized structures, and rectify trespass impacts.

Task: During each site visit, record occurrences of trash and/or trespass. Record type, location, and management mitigation recommendations to avoid, minimize, or rectify a trash and/or trespass impact.

Task: At least once yearly collect and remove as much trash as possible and repair and rectify vandalism and trespass impacts.

Element B.2 – Fire Hazard Reduction

Objective: Maintain the site as required for fire control while limiting impacts to biological values.

Task: Reduce vegetation in areas required by authority agency(ies), and as approved by the IRT, for fire control.

Comment [b2]: What agency requires vegetation control?

C Infrastructure and Facilities

[*Fence and gate maintenance and repair frequency will be dependent on trespass and access control issues, as well as whether grazing is utilized as a vegetation management technique and to what extent.]*

Element C.1 Fences, Gates, Signage, Crossings, and Property Boundaries

Objective: Monitor condition of fences, gates, signage, crossings, and property boundaries.

Objective: Maintain fences, gates, signage, crossings and property boundaries to prevent casual trespass, allow necessary access, and [*if applicable:* facilitate management.]

Task: During each site visit, record condition of fences, gates, signs, crossings, and property boundaries. Record location, type, and recommendations to implement repair or replacement to fence, gate, signage, crossings or property boundary markers, if applicable.

Task: Maintain fences, gates, signs, crossings and property boundary markers as necessary by replacing posts, wire, gates, and signs. Replace fences and/or gates, as necessary, and as funding allows. Note any trespass by livestock.

Element C.2 Berms, Structures, and Roads

Objective: Monitor condition of berms, structures, and roads.

Objective: Maintain berms, structures, and roads to facilitate management and maintain conditions of wetlands and streams

Task: During each site visit, record condition of berms, structures, and roads. Record location, type, and recommendations to implement repair or replacement to berms, structures, and roads, if applicable.

Task: Maintain berms, structures, and roads as necessary. Replace berms, structures, and roads as necessary, and as funding allows.

D Reporting and Administration

Element D.1 – Annual Report

Objective: Provide annual report on all management tasks conducted and general site conditions to IRT and any other appropriate parties. Each report shall include a cover page with the following information: the bank name, (umbrella bank name if applicable), site name (if applicable), bank phase (if applicable), Long-Term Steward (name, address, phone number, and email address), monitoring year, and any requested action (e.g. funding release, maintenance recommendations requiring IRT approval).

Task: Prepare annual report and any other additional documentation. Include a summary. Complete and circulate to the IRT and other parties by December 31 of each year. Reports should be distributed electronically.

Task: Make recommendations with regard to (1) any enhancement measures deemed to be warranted, (2) any problems that need near-,short-, and long-term attention (e.g., weed removal, fence repair, erosion control), and (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date. Provide documentation of the cost of any recommended maintenance and repairs.

V Transfer, Replacement, Amendments, and Notices

A Transfer

Any subsequent transfer of responsibilities under this long-term management plan to a different Long-Term Steward shall be requested by the Long-Term Steward in writing to the IRT, shall require written approval by the IRT, and shall be incorporated into this long-term management plan by amendment. Any subsequent Property Owner assumes Long-Term Steward responsibilities described in this long-term management plan and as required in the Conservation Easement, unless otherwise amended in writing by the IRT.

Comment [b3]: Assuming that the owner is the long-term steward.

The long-term steward shall be required to ensure that any subsequent property owners (if not identified as the long-term steward) are notified of the deed restriction, conservation easement, purpose and location of the bank lands, and requirement for long-term stewardship.

B Replacement

If the Long-Term Steward fails to implement the tasks described in this long-term management plan and is notified of such failure in writing by any of the IRT, the Long-Term Steward shall have 90 days to cure such failure. If failure is not cured within 90 days, the Long-Term Steward may request a meeting with the IRT to resolve the failure. Such meeting shall occur within 30 days or a longer period if approved by the IRT. Based on the outcome of the meeting, or if no meeting is requested, the IRT may designate a replacement Long-Term Steward in writing by amendment of this long-term management plan. If the Long-Term Steward fails to designate a replacement Long-Term Steward, then such public or private land or resource management organization acceptable to and as directed by the IRT may enter onto the Bank property in order to fulfill the purposes of this long-term management plan.

C Amendments

The Long-Term Steward**,** property owner**,** and the IRT may meet and confer from time to time, upon the request of any one of them, to revise the long-term management plan to better meet management objectives and preserve the conservation values of the Bank

property. Any proposed changes to the long-term management plan shall be discussed with the IRT and the Long-Term Steward. Any proposed changes will be designed with input from all parties. Amendments to the long-term management plan shall be approved by the IRT in writing shall be required management components and shall be implemented by the Long-Term Steward.

If the VDGIF or USFWS determine, in writing, that continued implementation of the long-term management plan would jeopardize the continued existence of a state or federally listed species, any written amendment to this long-term management plan, determined by either the VDGIF or USFWS as necessary, shall be a required management component and shall be implemented by the Long-Term Steward.

D Notices

Any notices regarding this long-term management plan shall be directed as follows:

Long-Term Steward (name, address, telephone and FAX)

_____

_____

Property Owner (name, address, telephone and FAX)

_____

_____

IRT Chair:

U.S. Army Corps of Engineers
Norfolk District
[DISTRICT ADDRESS, TELEPHONE, FAX]

IRT Co-Chair:

Virginia Department of Environmental Quality
[ADDRESS, TELEPHONE, FAX]

IRT Members:

U.S. Fish and Wildlife Service
[ADDRESS, TELEPHONE, FAX]

U.S. Environmental Protection Agency, Region 3
[ADDRESS, TELEPHONE, FAX]

Virginia Department of Game and Inland Fisheries
[ADDRESS, TELEPHONE, FAX]:

Virginia Department of Conservation and Recreation
[ADDRESS, TELEPHONE, FAX]

Virginia Department of Forestry
[ADDRESS, TELEPHONE, FAX]:

VI Funding and Task Prioritization

A Funding

[*The list of tasks in Table 1 is not meant to be exhaustive. Some sites may have more elements to consider and some may have fewer depending on the attributes of the bank.*] Table 1 summarizes the anticipated costs of long- term management for the Bank. These costs include estimates of time and funding needed to conduct the basic monitoring site visits and reporting, trash removal, fence repair, etc. and a prorated calculation of funding needed to fully repair and/or replace fences and other structures every _____ years. The total annual funding anticipated is approximately $_____, therefore, with the current annual estimated capitalization rate of ____ the total endowment amount (The Long-Term Management Fund) required will be $_____.

_____ shall hold the endowment principal and interest monies (The Long-Term Management Fund) as required in the MBI, which consists of monies that are paid into it in trust, and is appropriated to fulfill the purposes for which payments into it are made. These interest monies will fund the long-term management, enhancement, and monitoring activities on Bank lands in a manner consistent with this long-term management plan.

B Task Prioritization

Due to unforeseen circumstances, prioritization of tasks, including tasks resulting from new requirements, may be necessary if insufficient funding is available to accomplish all tasks. The Long-Term Steward and the IRT shall discuss task priorities and funding availability to determine which tasks will be implemented. In general, tasks are prioritized in this order: 1) required by a local, state, or federal agency; 2) tasks necessary to maintain or remediate the Bank Site (including unauthorized impacts); and 3) tasks that monitor resources, particularly if past monitoring has not shown downward trends. Equipment and materials necessary to implement priority tasks will also be considered priorities. Final determination of task priorities in any given year of insufficient funding will be determined in consultation with the IRT and as authorized by the IRT in writing.

C. Enforcement

The IRT, and its authorized agents shall have the right to inspect the Property and take actions necessary to verify compliance with this Long-Term Management Plan. The Long-Term Management Plan herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the Corps or DEQ. Failure by any agency (or owner) to enforce the Long-Term Management Plan contained herein shall in no event be deemed a waiver of the right to do so thereafter.

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

_____ _____
Long-Term Steward Date

INTERAGENCY REVIEW TEAM

By the IRT Chair:

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

By the IRT Chair:

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

_____
_____
Virginia Marine Resources Commission Date
By: _____
Its: _____