

**Exhibit M**  
**Long-Term Management Plan (LTMP)**

**Long-term Management Plan**  
**For**  
**The \_\_\_\_\_ Site of the**  
**The \_\_\_\_\_ Mitigation Bank**

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## **I Introduction**

### **A Purpose of Establishment**

The \_\_\_\_\_ (“Bank”) was established by the Mitigation Bank Instrument (“MBI”) to compensate for unavoidable impacts to streams and wetlands, and to conserve and to protect streams and wetlands and their associated buffers. The Bank includes \_\_\_\_\_ acres of streams and wetlands and their associated buffers including \_\_\_\_\_ acres [*insert as applicable: of /all of which are*] preserved wetlands, \_\_\_\_\_ acres of established or restored wetlands, \_\_\_\_\_ linear 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 USACE 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 LTMP have the same meaning as defined in the MBI.

### **B Purpose**

The purpose of this LTMP 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. and/or State Waters and their associated protected buffers, covered species and covered habitat on the Bank. This LTMP is implemented in accordance with the MBI and the site protection instrument (conservation easement or declaration of restrictions) covering the Bank Site.

### **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 LTMP, managing and monitoring the Bank in perpetuity to preserve its habitat and conservation values in accordance with the MBI, conservation easement and/or declaration of restrictions, and the LTMP. 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 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 Bank’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.

### **D Eminent Domain**

If the Bank is taken in whole or in part through eminent domain, the Long-Term Steward shall use all monies it receives as compensation for lands and all associated services and values taken to provide replacement compensation within the same Geographic Service Area subject to IRT approval. The IRT will have the right to participate in any proceeding associated with the

determination of the amount of such compensation. Replacement compensation may be determined in consultation with the IRT.

## **II Property Description**

### **A Setting and Location**

The Bank is located at \_\_\_\_\_ [*include address and county*], in the Commonwealth of Virginia, designated as Parcel No. \_\_\_\_\_. The Bank is shown on the general vicinity map (Figure 1) and the Bank location 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 location map shows the Bank property boundaries on a topographic map.

### **B Cultural Resources –**

*[Describe all existing architectural features including but not limited to battlefields, historic districts, roads, levees, fencing, and buildings, and their intended future use on the area. Note whether 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 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.]*

### **E Existing Man-Made Structures**

*[Describe and depict on a map or aerial image all manmade features associated with establishment and operation of the Bank including roads, berms, fences, gates, dams, weirs, outfall structures, and water control structures]*

## **III Habitat and Species Descriptions**

### **A Baseline Description of Biological Resources on Bank**

*[Include a general description of geographic location and features, vegetation (assessment of native vs. INU and non-native species), a quality assessment of all wetland and streams on the Bank. An overview of native plant species present, if applicable, their habitat and management requirement should be presented here. This section may need to be modified at Bank closure if conditions are different than those described here.]*

## **B Final Map**

*Provide final map showing the location of streams and wetlands and their associated buffers]*

## **IV Management and Monitoring**

The overall objective of long-term management is to foster the long term viability of the Bank's streams and wetlands and their associated buffers, and any listed species/habitat. Routine monitoring and minor maintenance tasks are intended to assure the viability of the Bank in perpetuity.

### **A Biological Resources**

The approach to the long-term management of the Bank's biological resources is to conduct annual bank examinations and monitoring of selected characteristics to determine stability and ongoing trends of the preserved, restored, and enhanced streams and wetlands and their associated buffers. Annual monitoring will assess the Bank's condition, degree of erosion, establishment of INU 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 LTMP 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 effects of climate change, fire, flood, or other natural events. Before considering any adaptive management changes to the LTMP, the IRT will consider whether such actions will help ensure the continued viability of Bank's biological resources.

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

#### **Element A.1 Streams and wetlands and their associated buffers,**

**Objective:** Monitor, conserve and maintain the Bank's streams and wetlands and their associated buffers. Limit any impacts to streams and wetlands and their associated buffers 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, INU 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 INU 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 the interim bank management period. Reference photographs will be taken of the overall Bank at least every five years from the

beginning of 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, and their associated buffers, 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).

Task: Maintain stream restoration/enhancement features like sills and J hooks as necessary.

**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, Nuisance, and Undesirable (INU) Species**

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

INU 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 INU species that diminish Bank 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](http://www.dcr.virginia.gov/natural_heritage/documents/invlist.pdf) as well as the definition of INU species in the MBI for the Bank for guidance on what species may threaten the site and on management of those species.

Task: Monitor any new introduction or expansion of INU species compared to the baseline map provided at Bank Closure

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

Attached to this plan are fact sheets (including identification aid) for all INU species known to be present on the Bank.

Task: Develop and implement a management plan to control/manage INU species on the bank site.

#### **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 as deemed appropriate by the IRT and as provided for in the site protection instrument, but are not specifically funded or a part of this LTMP.

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 Bank as required for fire control while limiting impacts to biological values.

Task: Reduce vegetation in any areas recommended by authorities, and as approved by the IRT, for fire control. Potential wildfire fuels will be reduced as needed where approved by the IRT.

Task: Manage, maintain, or re-establish fire breaks as necessary on the bank site.

## **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 or otherwise allowed and to what extent.]*

### **Element C.1 Fences, Gates, Signage, and Property Boundaries**

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

Objective: Maintain fences, gates, signage, and property boundaries to prevent casual trespass, allow necessary access, and facilitate management (if applicable).

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

Task: Maintain fences, gates, signs, 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 as well as any negative effects attributed to authorized livestock activities.

### **Element C.2 Crossings, Trails, & Roads**

Objective: Monitor condition of trails, crossings, and roads, etc.

Objective: Maintain trails, crossings, and roads, to facilitate management (if applicable) and maintain conditions of wetlands and streams

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

Task: Maintain trails, crossings, and roads as necessary. Replace trails, crossings, and roads as necessary, and as funding allows.

### **Element C.3 Wetland Berms, Water Control Structures, Grade Control Structures**

Objective: Monitor condition of wetland berms and/or water control structures for wetland mitigation, and grade control and other structures for stream mitigation, and any other mitigation practices, as appropriate.

Objective: Maintain berms and structures, etc. to facilitate management (if applicable) and maintain conditions of wetlands and streams.

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

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

### **Element C.4 Impoundments**

Objective: Ensure that impoundments have minimal to no adverse effects on downstream compensatory wetland and stream mitigation practices.

Task: During each site visit, if the impoundments are onsite, record the condition of the impoundments, including inspecting for breaches, cracks, or other signs of instability or damage. Record the condition of downstream aquatic resources within the mitigation site. If it appears that the channel may have been impacted by sediment from the impoundment, record the condition of other stream resources in the area, as a reference condition.

Task: Maintain and repair the onsite impoundments, as necessary to ensure stable downstream wetland and stream conditions.

Task: Remediate sediment or other impacts from the impoundment in any downstream wetlands or streams onsite, if such impacts are determined to be affecting the goals and objectives of the mitigation site.

## **D Reporting and Administration**

### **Element D.1 – Annual Report**

Objective: Provide annual report on all management tasks conducted and general Bank 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), (3) any changes in the monitoring or management program that appear to be warranted based on monitoring results to date, (4) and provide documentation that the Long-Term Steward (if not an individual) is considered active and in good standing with the SCC. Provide documentation of the cost of any recommended maintenance and repairs.

Task: Provide a copy of the LTM Fund end of year statement that indicates the balance in the fund, interest accrued, withdrawals made, etc.

### **Element D.2 – Administrative & Contingency Fees**

Objective: Provide funds for regular administrative costs incurred as a result of administrative tasks, maintenance of escrow, endowment, or other funding accounts, etc. These funds shall be paid from the interest of the account and not the principal funds.

Task: Pay all regular administrative or other fees through this task.

### **Element D.3 – Defense of Easement or Other Real Estate Issues**

Objective: Ensure the perpetual protection of and address any encroachments on the property on which the wetland and stream mitigation activities occurred.

Task: Maintain conservation easements, declarations of restriction, or other protective instruments intended to protect mitigation site.

Task: If the property is owned by the Sponsor or stewardship organization, assist in resolving real estate issues, such as property taxes, title considerations, Virginia Land Conservation Incentives Act, relevant county initiatives, mineral rights, easements and maintenance, and conservation, water or other district assessments.

Task: If the LTS is not the easement holder, then coordination/cooperation with the easement holder.

Task: Hire attorney or other legal representation for defense of easement or other proceedings, where necessary.

## **VI Transfer, Replacement, Amendments, and Notices**

### **A Transfer**

Any subsequent transfer of responsibilities under this LTMP to a different Long-Term Steward shall be requested by the Long-Term Steward in writing to the IRT, will require written approval by the IRT, and will be incorporated into this LTMP by amendment.

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 requirements for long-term stewardship.

**B Replacement**

If the Long-Term Steward fails to implement the tasks described in this LTMP and is notified of such failure in writing by any member of the IRT, the Long-Term Steward shall have 90 days to correct such failure. If failure is not corrected within 90 days, the Long-Term Steward may request a meeting with the IRT to resolve the failure. Such meeting will 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 LTMP. 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 LTMP.

**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, or at a minimum every five (5) years, to revise the LTMP to better meet management objectives and preserve the conservation values of the Bank. Any proposed changes to the LTMP will be discussed with the IRT and the Long-Term Steward. Any proposed changes will be designed with input from all parties. Amendments to the LTMP will be approved by the IRT in writing, will be required management components and will be implemented by the Long-Term Steward.

**D Notices**

Any notices regarding this LTMP will be directed as follows:

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

\_\_\_\_\_  
\_\_\_\_\_

Property Owner (name, address, telephone and 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. a prorated calculation of funding needed to fully repair and/or replace fences and other structures every \_\_\_\_\_ years, and funding for catastrophic event assessment and repair 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 LTMP.

**Table 1. Hypothetical Annual Cost estimate for long-term management of a 20 acre Bank**

Task	Component/Specification	Unit	Number	Cost/Unit	Annual Cost	Recurrence interval (years)	Total
Sign	Boundary	Ea.	20	\$6	\$120	10	\$12
Sign	Inspect/replace	Hour	4	\$25	\$100	1	\$100
Trash	Collection & dump	Hour	8	\$25	\$200	1	\$200
Trash	Dump Fee	Ea.	2	\$20	\$40	1	\$40
Adaptive Management Plan	Labor	Hour	80	\$120	\$9,600	50	\$192
Exotic Control	Herbicide	Oz	8	\$50	\$400	1	\$400
Exotic Control	Herbicide application	Hour	10	\$50	\$500	1	\$500
Exotic Control	Monitoring report	Hour	12	\$75	\$900	1	\$900
Annual Report	Narrative summary	Hour	4	\$75	\$300	1	\$300
Field Equipment	Small pickup	Ea.	0.10*	\$30,000	\$3,000	10	\$300
Fence	Labor	Hours	32	\$30	\$960	5	\$211
Fence - Installed	Barbed wire – 4 strand	Lin. Ft.	2,000	\$4	\$8,000	5	\$1600
Gate	Powder River, Classic	Ea.	1.0	\$300	\$300	15	\$20
Sub Total							\$4775
Contingencies	20%					1	\$955
Administration	10%					1	\$478
Estimated Annual Expenses							\$6208
Capitalization rate	3.5%						
Total Endowment amount	Est. Annual Expenses/Capitalization rate						\$177,372

**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 will 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 (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 will have the right to inspect the Property and take actions necessary to verify compliance with this LTMP. The LTMP herein shall be enforceable by any proceeding at law or in equity or administrative proceeding by the IRT, including the USACE or DEQ. Failure by any agency (or owner) to enforce the LTMP 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.

_____	_____
Mitigation Bank Sponsor	Date
_____	_____
Long-Term Steward	Date