

1. Introduction

On behalf of Mr. Richard Dimmel of Millwood, Virginia, Engineering Consulting Services LTD (ECS), is submitting this prospectus to establish a wetland mitigation bank in Clarke County, Virginia, known as the Millwood Wetlands Bank (Bank). The Bank is being proposed to provide compensation for authorized wetland impacts in Frederick County and Clarke County, Virginia. The Bank will provide a mechanism by which permit applicants can satisfy wetland replacement/mitigation requirements associated with Section 404 and Section 401 of the Clean Water Act and the Virginia Water Protection Permit Program in those instances where on-site mitigation is not feasible.

The intent of this document is to initiate formal agency involvement and review of this project, which is consistent with the role of the mitigation bank prospectus, as described in the *Federal Guidance for the Establishment Use and Operation of Mitigation Banks* (60 FR pp 58605-58614, 1995). This prospectus provides summary information on existing site conditions, and a conceptual wetland mitigation plan. Detailed information will be provided in the Mitigation Banking Instrument (MBI).

2. Goals and Objectives

The goal of the Bank is to provide environmentally sound, economically efficient wetland mitigation opportunities for activities authorized under current federal and state water protection guidelines. The Bank will ease the administrative and financial burdens associated with individual, site-specific wetland mitigation projects while maintaining appropriate levels of environmental protection for significant wetland resources.

The use of this Bank for compensatory mitigation may occur only after the relevant permitted activity has complied with federal and state regulations and policy regarding wetland avoidance, minimization and on-site mitigation.

3. Bank Location

The proposed Bank is located on State Route 50, near the town of Millwood in Clarke County, Virginia (Figure 1). Specifically, the 12-acre Bank site is situated within a 146 acre parcel of land owned by Richard and Mary Dimmel of Millwood, Virginia in the Spout Run watershed within the USGS Hydrologic Unit Code (HUC) 02070007. The geographic center coordinates for the Bank are Latitude: 39° 04' 17" North; Longitude: 78° 02' 52" West.

4. Service Area

The Bank site is located within the USGS Hydrologic Unit Code (HUC) 02070007. The geographic extent of the service area includes hydrologic units 0207007, and 02070004, which encompasses all or portions of Clarke County, Frederick County, and Warren County.

During the past three years, there has been an increase in wetland permit submittals within the Berryville area of Clarke County (HUC 0207007) and the Winchester (HUC 02070004) / Stephens City (HUC 02070007) corridor of Frederick County. Several projects requiring wetland mitigation have been authorized. For these projects, the permit applicants have demonstrated that on-site mitigation is not feasible, and since there are no mitigation banks within this region, the applicants have provided contributions to the in-lieu-fee program to offset wetland impacts. Federal and state resource agencies have both indicated the need for a wetland mitigation bank to service this two county area.

5. Bank Management

The Bank Sponsor will be responsible for the development of the MBI, implementation of the site plan, and management of the Bank consistent with the Code of Virginia 33.1-223.2:1 (Wetlands Mitigation Banking), Virginia Water Protection Permit (VWPP) regulations (9VAC 25-210-10 et.seq.), and the *Federal Guidance for the Establishment Use and Operation of Mitigation Banks* (60 FR pp 58605-58614, 1995).

The interagency Mitigation Bank Review Team will review and seek consensus on the banking instrument and the final plans for the restoration, monitoring, and management of wetlands at the bank site.

6. Baseline Conditions

The Bank site and the surrounding lands have historically been used for livestock grazing and crop production. The proposed wetland mitigation area is approximately 15 acres in size and is presently used as a pasture for livestock grazing.

b. Hydrology

A man-made drainage ditch is present in the southwest portion of the site and is the dominant hydrologic feature. A seasonal seep/spring area is present in the southwest branch, just north of the drainage ditch. This seep/spring area was not flowing in October 2002, but has maintained a steady above ground flow during the entire 2003 growing season. A well-defined, intermittent stream channel is formed by the confluence of the drainage ditch and the seep area – this channel then conveys flows to the east to a stock pond adjacent to the project site.

c. Soils

According to the Clarke County Soil Survey, one soil type - Lobdell soils - has been mapped on the project site. Lobdell soils are nearly level, deep soils, with slow surface runoff potential and a seasonal high water table. Permeability and water capacity are moderate.

d. Vegetation

Vegetation at the project site has been subject to disturbance due to historic clearing activities associated with agricultural production and livestock grazing. The entire project site is currently used as pasture land.

e. Wetlands

A field reconnaissance of the subject property was conducted in October, 2002 to gather pertinent information on existing site conditions, and to document vegetation, soils and hydrologic characteristics consistent with the guidelines in the US Army Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) for determining jurisdictional wetland boundaries. This initial investigation was done during the tail end of a three year drought. A follow-up field reconnaissance was conducted April 2003 following extended periods of precipitation (up to 3 feet of winter snow cover and above normal spring rains). These two site investigations allowed for a comparison of site hydrology in response to these two extreme precipitation patterns.

A delineation of regulated waters (wetlands and stream channels) was performed on the site in early June 2003 and the US Army Corps of Engineers – Northern Virginia Field Office made a jurisdictional determination of the flagged wetland boundaries in September 2003. A complete copy of the wetland report will be included in the Mitigation Banking Instrument.

Four separate wetland areas, totaling 0.63 acres have been mapped on the site. All of these wetland areas are classified as palustrine emergent wetlands. A summary of each wetland area is presented below.

Wetland 1 is a small (1,984 square foot) palustrine emergent wetland in the southeast portion of the site. This emergent wetland /drainage swale is associated with the intermittent stream channel and likely formed as a result of culvert installation associated with the farm pasture service road.

Wetland 3 is a palustrine emergent wetland (22, 208 square feet) which originates from the seasonal seep/spring area and a hillside seep area to the west, and extends to the southeast to the man-made drainage ditch. This area supports low chroma soils with oxidized rhizospheres. Hydrophytic vegetation (primarily rushes, sedges, and smartweeds) is beginning to establish.

Wetland 2 (1,280 square feet) and Wetland 4 (1,920 square feet) are palustrine emergent wetlands east of the confluence of the intermittent stream channel and the man-made drainage ditch. Soils within these areas were borderline hydric (mixed chroma of 2 and 3) and hydrophytic vegetation (rushes, sedges, New York ironweed) is beginning to establish.

7. Conceptual Site Development Plan

1. Objectives

The proposed mitigation effort will involve the development of wetland hydrology through land grading; and native wetland vegetation through plantings and site management on the parcel. The goal of the mitigation effort is to restore/create 8.5 acres of wetlands, and enhance the existing 0.6 acres of disturbed wetlands. This 9.1 acre wetland area will be surrounded by an upland buffer area.

The mitigation plan will include: (1) land grading to reach target elevations that will support wetland conditions and restore historic surface water patterns, (2) land shaping (low-profile berms and shallow drainage swales) to increase surface water retention and water residence time within the newly created wetland areas; (3) soil amendments, where necessary, to reduce soil permeability in portions of the site, (4) planting plan using native wetland plant species from adjacent reference wetlands to promote the establishment of a diverse, native wetland ecosystem; (5) short-term monitoring to determine whether the Bank is developing into a self-sustaining wetland system; and (6) long-term management and easement mechanisms to ensure protection of the Bank in perpetuity.

2. Hydrology

Hydrologic functions of wetlands are viewed in the context of modified flow regimes. Water quality functions are enhanced as water volume and velocity decrease. This results in an increase in sediment deposition within the wetland and an increase of nutrient uptake by wetland vegetation.

Wetland hydrology will be provided by holding water on the site and spreading flows across the proposed mitigation area. Wetland hydrology will be achieved by: (1) creating a series of low-profile ditch plugs and berms along the drainage ditch; (2) creating shallow depressions throughout the site; and (3) excavating portions of the site down to the bottom elevation of the existing drainage ditch.

3. Vegetation

The objective of the plant community restoration is to promote the establishment and development of self-sustaining, native wetland plant communities. This will be accomplished through land shaping and plantings to produce an emergent wetland/

forested wetland mosaic which will develop in response to varying hydroperiods. This increased species composition and plant structural diversity will also increase overall wildlife habitat diversity on the project site.

4. *Monitoring*

An annual monitoring plan will be undertaken to assess site conditions and determine if the project site is moving in the direction of an ecologically sound, self-sustaining wetland ecosystem.

Site visits and field data collection efforts will be performed annually for a minimum period of five years at the project site and at nearby reference wetlands. Field monitoring will involve the collection of data relative to vegetation diversity and density. Surface water and groundwater conditions will also be assessed as part of the vegetation sampling procedures. During the data collection efforts, photographs documenting site conditions will be taken and observations on wildlife use will be documented.

The overall goal of the monitoring will be to:

- *Show Degree of Success:* Annual changes in the functional status of the mitigation area hydrology, plant community maintenance, and food web support/habitat will be documented. In this way, progression of the mitigation site towards a stable ecological condition can be assessed.
- *Trigger Contingency Plans:* The monitoring will provide annual feedback to the resource agencies concerning the progression towards stipulated goals. This feedback will clearly illustrate any problems or deficiencies in the implementation of the mitigation plan, and allow for implementation of contingency measures in the event of failures prior to achieving a stable ecological condition.

5. *Management and Maintenance*

Operation and maintenance of all practices essential to restore and maintain hydrology and vegetative cover is required for the life of the project site. At the time of the required replacement of any restoration practice, an evaluation will be made by the resource agencies to determine if the restored wetland functional values can be maintained without the replacement or maintenance of the practice in question.

State identified noxious weeds will be controlled as required by state law or if they present a threat to the functions and values of the wetland. Control techniques will be applied in a manner consistent with state and federal laws to minimize and/or eliminate potential threats to human health and the environment. Pesticides, if necessary, will be used in accordance with label directions, and applied in a manner that will not adversely affect wildlife or the wetland area.

Management of the mitigation site will emphasize establishment and perpetuation of a diverse wetland system. Future conditions on the site and the juxtaposition with other habitats will provide critical habitat for both resident and transient wildlife species. Proper planning and implementation of hydrology and vegetation will optimize wetland conditions and provide for ease of long term management

A description of existing site conditions, a detailed narrative of the proposed mitigation measures, plan views and cross sectional drawings, short-term monitoring procedures, mitigation success criteria, long-term management measures, and compatible land uses will be included in the MBI.

8. Determining Credits and Debits

One credit will be equal to one acre of created or restored wetland. These ratios are consistent with current federal and state guidelines for measuring the functional capacity of affected wetlands and determining wetland mitigation requirements.

The Bank Sponsor can sell the wetland credits when the 404 permit is issued. Based on current federal and state guidelines, up to 15 percent of the bank credits will be available for sale once the MBI has been approved. The release and sale of the remaining credits will be determined by the MBI and will be based on the yearly site monitoring and site inspections. The Bank Sponsor will maintain a ledger and produce a report of debit and credit activities which will be distributed to the MBRT members on a quarterly basis. The Bank Sponsor will provide written notice to the MBRT when the mitigation credits have been exhausted.

9. Performance Standards, Monitoring, and Remediation

The Bank will be monitored on an annual basis until it can be demonstrated that the site has reached an ecologically sound, self-sustaining condition for five consecutive years. The Bank Sponsor will be responsible for the monitoring and will provide the results to the MBRT after each monitoring visit. This data will be used to determine the level of mitigation success and to identify problems requiring remedial action. Final performance standards, field measurement variables, monitoring frequency, and success criteria will be developed in cooperation with the MBRT and finalized in the MBI.

Remedial measures, if necessary, will be developed by the Bank Sponsor and reviewed and approved by the MBRT. Remediation will not be required for adverse impacts that are due to changes in adjacent land use or natural disasters that are beyond the control of the Bank Sponsor.

The Bank Sponsor will post a letter of credit or performance bond to cover the costs of any potential remedial measures, at an amount equal to the cost of the project restoration and five year monitoring.

10. Long-Term Management

The Bank will be protected in perpetuity with a permanent conservation easement to be recorded on the project site prior to the sale of any credits from the Bank. The Bank Sponsor will be responsible for long-term site management. As mentioned in Section 9, remediation will not be required for adverse impacts that are due to changes in adjacent land use or natural disasters that are beyond the control of the landowner.

The Bank Sponsor reserves the right to certain uses of the site, such as hunting, provided that the activity does not adversely affect the functional integrity of the mitigation lands. A list of compatible and supplemental land uses will be provided in the conservation easement document in the MBI.

11. Accounting Procedures

The Bank Sponsor will maintain a ledger and produce a report of debit and credit activities which will be distributed to the MBRT members on a quarterly basis. Data entered into the ledger will include: location of the permitted activity; extent of wetlands, by type, to be impacted; number of mitigation credits needed; and the number of mitigation credits remaining in the Bank.