Environmental Restoration and Protection Opportunities

As part of the cost sharing agreement between the City of Chesapeake and the U.S. Army Corps of Engineers, improvements to the New Mill watershed must include features that provide valuable habitat restoration or creation opportunities that may also provide ancillary flood damage reduction benefits. This study was authorized by Resolution of the Committee of Transportation and Infrastructure of the U.S. House of Representatives, Docket 2674, Dismal Swamp and Dismal Swamp Canal, Chesapeake, Virginia, adopted 22 May 2002, which states in part *"…to determine whether modifications to the existing project are advisable to address flooding problems, environmental restoration and protection, and related water resources needs in the vicinity of the Dismal Swamp Canal in Chesapeake, Virginia."*

There are five categories under which potential restoration opportunities are evaluated: scarcity, connectivity, special species status, plan recognition, and self-sustainability.

The City of Chesapeake worked closely with URS to develop restoration and protection concepts that could be applied in this watershed to enhance environmental resources. The most practical opportunities involve benching of drainage outfall ditches and channels, using the typical channel sections presented in Figure 10. These conceptual improvements were reviewed with Norfolk District Corps of Engineers staff, who also offered ideas for implementation of wetland and riparian habitat corridors. After discussing these ideas at several meetings between the City of Chesapeake, the Norfolk District and URS, technical staff from the District visited the candidate sites, and further pared the list of potential improvement projects based on the five requirements noted above. After field screening, Corps staff identified two potential environmental protection and restoration projects, as shown in Figure 11.

The first potential project is a passageway for threatened and endangered (T&E) species to travel from the Great Dismal Swamp, across the Dismal Swamp Canal and into the subject watershed through a wetland and riparian habitat corridor. This corridor facilitates access because it is sufficiently wide to encourage animals to travel through it to the 40-acre borrow pit recreation lake (which will be connected to the Elizabeth River through future outfall improvements described elsewhere in this report). Studies have shown that the corridor must be wide enough that animals will not see predators or they won't use it. This corridor could be re-graded and planted with wetlands vegetation while providing positive drainage towards the borrow pit recreation lake. The re-creation of wetlands will restore this corridor area to be more like the original land cover (Dismal Swamp) conditions that existed before development activities began.

It would be most feasible to construct this wetlands area utilizing the least number of land parcels. It is also intended, as described in the future conditions scenario, that drainage from the areas surrounding the lake will be graded to drain into the constructed wetlands and lake. The grading of future development into the 40-acre lake is strategic in that increased drainage into the lake will promote flushing, which will result in enhanced water quality in the lake, while taking advantage of the existing storage afforded by the old borrow pit. This pit is sufficiently large that with steady flushing the quality of water in the lake should be very good.

The second potential project involves benching the northwest bank of a lower portion of the existing Lindsey Canal. This benching would extend upstream of the Cedar Road crossing approximately 1,000 feet, as indicated in Figure 11. The benching area just adjacent to Cedar Road is already in pretty good shape. The proposed benching would enhance water quality by

increasing wetland plant uptake of pollutants, and result in a restoration of this portion of the canal to be more like its natural condition. The area targeted is tidal.

Approximately a dozen other potential benching projects were considered, but did not meet the five requirements for one or more reasons. For example, benching a farmer's ditch does not provide connectivity for T&E species if there is no potential habitat at the upstream end of the ditch. The two selected projects should meet all of the five requirements used in the Corps evaluation process.