



S T R A U G H A N
E N V I R O N M E N T A L
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Stormwater Management Design Germantown Town Center Local Park

Location: Germantown, MD

Client: Maryland-National Capitol Park and Planning Commission

Description: This study supported the Maryland-National Capitol Park and Planning Commission (M-NCPPC) in the future development of the Germantown Town Center Local Park on a 2.5-acre parcel of land. Straughan Environmental Services, Inc. (SES) provided technical guidance on existing and proposed conditions, hydrologic modeling (HEC-HMS) of complex wetland/water systems, stormwater management planning, and forest management planning for new park facilities that included a new regional library. Specific tasks included:

- Field investigations to confirm and identify existing site conditions;
- Wetland delineation;
- Assistance in planning, design, and permitting of the Park Facility Plan;
- Design of stormwater management facilities based on Best Management Practices (BMP) and use of hydrologic models (HEC-HMS) to develop the required design data;
- Development and processing of the SWM permit through Montgomery County;
- Design of an oxbow SWM concept as an alternative to disturbing the existing wetlands with the SWM structures originally proposed for the site; and
- Preparation of a Forest Conservation Plan, based upon an approved Forest Stand Delineation, for submission to the M-NCPPC for approval.

During wetland investigations, SES identified high-quality emergent wetlands on the site. Working with the project design team, SES developed an alternative stormwater management concept that would preserve the wetlands rather than converting them into a stormwater pond, as proposed during conceptual site design.

SES' alternative stormwater management design will enhance the existing wetland system by directing stormwater through a two cell system that pre-treats the water before it flows to existing wetlands. The first cell is a deep wet pond that would receive the initial flush of stormwater from adjacent development and buffer the runoff by diluting the discharge prior to flowing into a newly created floodplain area. The second cell consists of a created wetland that provides additional storage and allows for additional uptake of nutrients, heavy metals, and minerals before the contaminants enter the existing natural wetland.

SES' concept allows the wetland to transport stormwater flows in a stable manner, reduce downstream sedimentation, eliminate the need for costly grading, and create multiple public recreation and education opportunities, including interpretive walkways and connection to adjacent trail systems. In addition, the concept preserves and enhances the functions and values of the existing wetland.