

Stormwater Management Planning, July 2016

Background

Paved parking lots, garages, and rooftops can accumulate rain water, snow, and cooling tower condensation that may run off and end up in local waterways, carrying pollutants such as oil, grease, pesticides, and fertilizers. With funding from the Chesapeake Bay Trust, a multi-stakeholder team (The Team) of non-profit, consulting, and government staff worked with a Maryland hospital to evaluate and recommend opportunities to improve facility stormwater management operations and to improve staff knowledge regarding the connection between stormwater and human health.

Process

- EXECUTIVE LEADERSHIP MEETING:** The Team met with hospital executives to understand the history of stormwater issues and management at the facility. For example, The Team learned that parking lot and road flooding was an ongoing problem during extreme weather events, as shown in Figure 1.
- SURVEY AND VALUE-BASED ASSESSMENT:** The Team developed and administered an online survey to gauge Green Team members' knowledge of stormwater related issues; and conducted a value-based assessment during a hospital Green Team meeting to rate hospital spaces that staff drive through, walk by, or look at.
- SITE VISIT:** The Team conducted an on-site tour, guided by hospital Green Team members, to learn of existing efforts and to identify potential stormwater management solutions.
- DECISION MATRIX:** The Team developed criteria to rate and compare alternative stormwater management solutions (shown in Figure 2) and compiled a list of potential projects.
- MASTER PLAN:** The Team prepared a stormwater management master plan which included an overview of potential projects; costs related to design, construction, and maintenance; and the estimated impervious surface fee reduction the hospital could expect to earn based on local jurisdiction policy.



Figure 1. Post storm flooding in hospital parking lot.

2	Evaluation Categories	Criteria
3	Economic	Is the implementation cost low?
4		Is the ongoing cost low?
5		Is there funding potential?
6	Weight: %	Economic Score
7		Weighted Economic Score
8		Is there good visibility for the project?
9	Social	Are there stewardship opportunities?
10		Is the project marketable?
11		Social Score
12	Weight: %	Weighted Social Score
13		Does the project reduce stormwater runoff?
14		Is this a functional solution?
15	Environmental	Is there a health connection?
16		Environmental Score
17		Weighted Environmental Score
18		OVERALL SCORE

Figure 2. Decision matrix for stormwater planning

Results and Moving Forward

The hospital selected to move forward with bioretention projects in select parking lots. The hospital will apply for grant monies to assist with design and implementation; work with the local jurisdiction on stormwater management issues on adjacent properties; host a hospital/community educational event; and implement a marketing plan with the dual purpose of reducing pollution in stormwater runoff and increasing recycling rates at the hospital.

