Prospective Project Development in the Chesapeake Bay

Walmart, Opti and The Nature Conservancy intend to jointly work to design and install water quality retrofits on existing Walmart stormwater assets in the Chesapeake Bay watershed to improve its water quality. The partners seek to fund these installations through the sale of the resulting water quality credits to prospective public buyers. The environmental management plan for the Chesapeake Bay—North America's largest estuary—has set precedents in policy, science, and implementation for other large water bodies around the world. The EPA-sanctioned "pollution diet" for the Chesapeake is the largest and most complex ever in the U.S. If this work in the Bay is successful, the partners would look to scale the collaboration nationally.

Walmart: Walmart owns thousands of stormwater ponds throughout the US and wants to lead the retail and private sector in sustainable and innovative environmental management. Walmart has a strong interest in achieving measurable and valuable environmental benefits from the use of existing built stormwater assets while also lowering operational costs through stormwater fee or maintenance offsets and/or other payment for use. This initiative demonstrates our corporate commitment to address climate change, advance Clean Water Act compliance, and work closely with the communities we serve.

TNC/NatureVest: The Nature Conservancy has been focused on improving water quality in the Bay for decades. While agriculture remains the largest contributing source of pollution to the Bay, progress is being made. Stormwater runoff—the second largest and fastest growing source of pollution here and globally—is especially vexing, and the costs associated with traditional stormwater management have created financing and political concerns. Few efforts have the potential to be truly scalable; and TNC believes the Opti approach for utilizing existing assets provides a significant opportunity to achieve measurable and meaningful results. The Bay is also a strong launching point for this type of program, as it is a bellwether for how conservation efforts proceed in the US. TNC is excited to have a potential partner like Walmart be the initial pioneer and catalyst in this type of effort. As the world's largest retailer, its leadership influences the entire sector. TNC will finance the design and construction of these projects and will leverage their network to assist in publicizing this effort and attracting credit buyers.

Opti: Opti's intent is to accelerate the pace of cleanup of the Bay and adoption of CMAC retrofits and present an alternative to the traditional public Design->Bid->Build process to obtain treated acre or greened acre credits. Opti will leverage our technology and Chesapeake Bay water quality approvals to identify, design, and build projects on Walmart properties that will receive treated acre credits that will then be salable to communities and agencies that need to meet MS4 and TMDL retrofit targets.

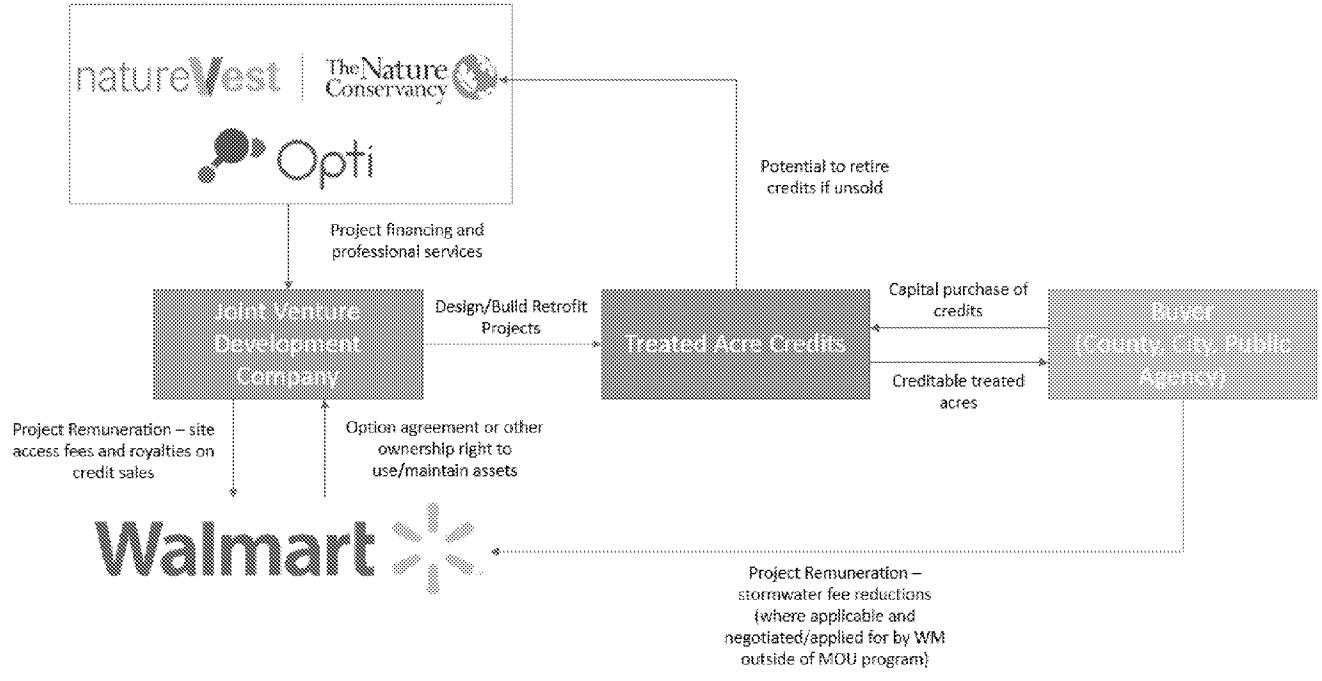

Figure 1: Overview of Project Model Flow

Quantified Opportunity

An initial assessment of Walmart assets in the Bay boundary was conducted to quantify the opportunity. Initial results are shown in the tables and figure below:

Table 1. Potential Credit and Pollutant Removal Summary for Walmart Assets

	# of Ponds	Estimated Imp. Drainage Area	Potential Credits - Low	Potential Credits - High	Estimated TSS removal / year (tons)	Estimated TP removal / year (lbs)	Estimated N removal / year (lbs)
Bay-wide Wet Ponds	52	400	200	280	75	280	2500
Bay-wide Dry Ponds	97	720	360	720	135	504	4500
Totals	149	1120	560	1000	210	784	7000
Estimated credit value based on PG County Benchmark ($50,000/acre)			**$28,000,000**	**$50,000,000**			

*Bay-wide Wet Ponds (11 MD; 34 VA; 4 DE; 2 NY; 1 WV); Bay-wide Dry Ponds (16 MD; 44 VA; 2 NY; 1 WV; 34 PA)

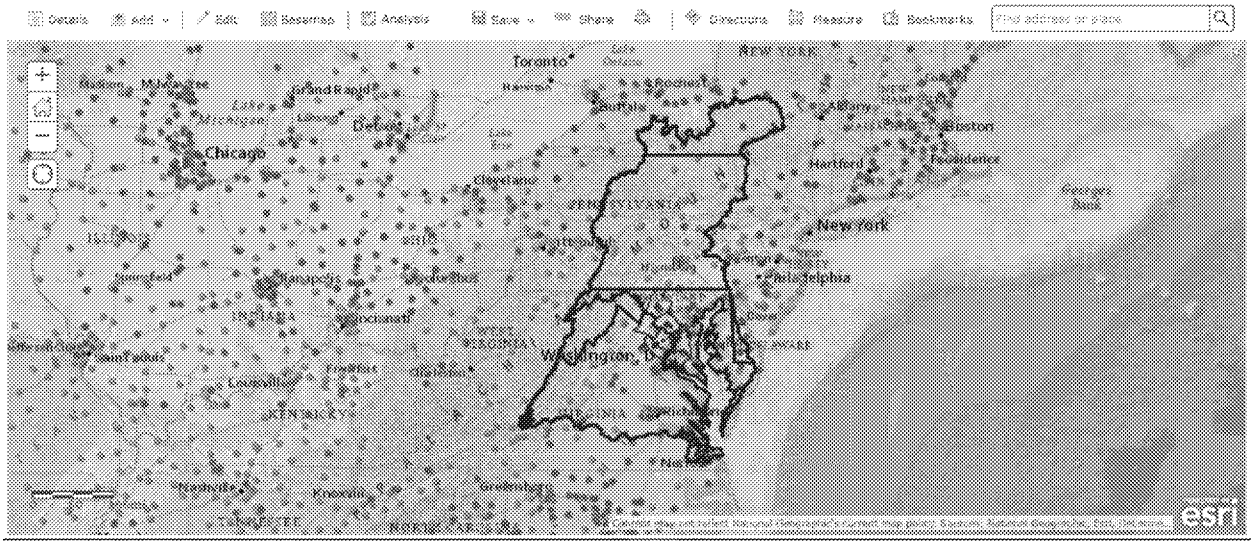

Figure 2: Supply map for Walmart Ponds in Bay Watershed

Purchasing Power

Typically, there are dedicated funding streams used to plan, design, bid, and build retrofits. The revenue streams are well supported in most cases through stormwater specific fees. Opti has databases of SW related funding streams for Bay communities and suggests targeting the following buyers in this order for purchase of water quality credits.

Potential Buyers

1. Counties - Large, Phase I MS4
2. Counties - Medium, Phase I MS4
3. Municipal - Phase I MS4 -
4. SHA Phase I and Phase II MS4 (SHA areas within MS4 jurisdictions)
5. Counties - Phase II MS4

6. Municipal - Phase II MS4
7. State and Federal Lands Phase II MS4 Permittees under the NPDES General Permit
8. Industrial Property Owners (Part III, A)
9. New development (stormwater treatment off-site or offset program)

There are two potential payment models under consideration (there are many variations on these models TBD during JV/MOU development):

Conventional CIP: Capital cost for the retrofit project and ongoing maintenance costs (lump sum or compensated by fee reduction or maintenance credit) are paid upfront by the buyer. This results in a perpetual credit to the buyer. BMP verification of function and maintenance is required by the CBP and MDE every 3 years. The perpetual credit is contingent on this verification. Opti projects fit well in this model, final value required per credit to cover long-term costs is TBD.

Alternative Annual Credit Approach: This approach is not currently being used; however, it is a strong option for private property retrofits. The buyer purchases verified credits annually with no capital outlay and the owner does not have a long-term obligation to provide credits. Although, likely there would need to be a minimum 5 year initial obligation by both parties. If this approach can be implemented, it has less burden for both parties and might encourage more participation by all parties to participate given the lack of need for a long-term easement or deed restriction. The risk for the buyer is that credits may not be available or assured over the long term unless an aggregator participates and holds a contract with the buyer for a set quantity of credits that the aggregator then is contractually obligated to deliver.

Contractual Development

All three parties intend to enter into a Memorandum of Understanding (MOU) that outlines the program requirements, the remuneration to Walmart for access to its assets, Opti's role in the design and construction of retrofitting those assets, TNC's role in leveraging its networks for sale of credits, and any other obligations by all parties (including marketing, branding rights, etc.…). Walmart will enter into an option agreement with a Joint Venture (JV) co-owned by Opti and TNC that will allow the JV to design and construct projects on Walmart assets if all conditions of the option agreement and MOU are met. The JV agreement between TNC and Opti will outline the construction, financing, and sale and payment mechanisms necessary to develop the projects and sell the water quality credits, and the respective roles and responsibilities of each party under the JV.