UNDERWOOD & ASSOCIATES, INC.

LANDSCAPE ARCHITECTURE ♦ ECOLOGICAL RESTORATION

A DESIGN/BUILD Co.

April 19, 2016

Maria Broadbent, Director
Department of Neighborhoods & Environment
City of Annapolis
16 Gorman Place
Annapolis, MD 21032

Dear Ms. Broadbent:

In regard to the St. Luke's project at 1101 Bay Ridge Avenue in Eastport, we are pleased to inform you that we carry the insurance required of the St. Luke's project as written in the draft City Agreement dated April 17, 2016. Further, we wish to guarantee you that we are providing 5 (five) years of maintenance following the end of construction to insure a stable, mature project is presented to the City as a upgraded stormwater utility serving the 28.2 acre drainage area in Eastport.

The City Finance Committee might be further assured of the structural stability of our projects by reviewing our nearby installations. The Howard's Branch project in the Severn River watershed has been functioning for more than a decade without the need for structural repair. The Wilelinor project on the South River has been functioning for sixteen (16) years and had its first small adaptive management action last year. A newer and larger installation is the Cabin Branch project, adjacent to the Annapolis Mall in the Severn River watershed, which we also are caring for in its first 5 (five) years to ensure long-term stability.

The St. Luke's project will be a significant contribution to the City's WIP goals. With its treatment train approach of several best management practices in regenerative stormwater conveyance working in tandem and its easily accessible location, this project will be one that teaches urban planners and environmental groups all across the Chesapeake watershed. We also believe it can inspire future leaders to undertake environmental stewardship.

We are excited to be a part of this project and to be working with you, Alliance for the Chesapeake Bay, St. Luke's members, and the Maryland Department of Natural Resources to make this project possible.

Should you have any questions about this project, please contact me at 410-849-3211 or heather.johnson@ecosystemrestoration.com.

Sincerely,

Heather Johnson

Heather Johnson
Operation Manager

901-A Commerce Road ♦ ANNAPOLIS, MD 21401
Tel. 410 849-3211 fax. 1-443 782-0290

Alliance for the Chesapeake Bay

Maria Broadbent
Director, Department of Neighborhoods & Environment
City of Annapolis
145 Gorman Street
Annapolis, MD 21401

April 26, 2016

Dear Maria:

RE: Finance Committee Presentation
St. Luke's Restoration of Nature

St. Luke's Restoration of Nature is a comprehensive watershed restoration project funded for design by Maryland's Department of Natural Resources (DNR) and Chesapeake Bay Trust and funded for construction through DNR's Atlantic & Coastal Bays Trust Fund with matching church secured funding for completion in 2016.

The location in Eastport will not only restore nature but manage stormwater pollution entering Back Creek, sub-watershed of the Severn River, tributary of the Chesapeake Bay. Over 3 acres of degraded tidewater property in an urban setting being restored is a rare opportunity on private property. A treatment train approach to the 28.2 acre drainage area of which 48% is impervious will feature an important variety of stormwater best management practices (BMP) guided by the Chesapeake Bay Program expert guidelines for construction. BMPs include:

Restored woodlands and stream will resemble native tidewater property. Before development native forest and streams cleaned stormwater with massive room systems and tree canopy. Ancillary benefit is that these native plantings will provide food and shelter for flora and fauna.

7 curb cuts allowing upland sheet flow stormwater to enter a series of bioswales will capture and pre-treat stormwater before reaching the regenerative stormwater conveyance system (RSC) designed for reducing harmful pollution naturally. A main bioswale on Bay Ridge Ave. will accept stormwater from daylighting a stormwater pipe initially allowing further pre-treatment before the flow reaches the (RSC). The RSC is fed by these bioswales as well as groundwater seepage and daylighting a municipal stormwater pipe at a lower elevation.

The RSC is a well-known BMP for re-establishing ecosystem balance by mimicking native coastal plain streams. The RSC slows down the storm flow, spreads it out, and allows infiltration to occur while conveying stormwater in a series of step pools and weirs built with native Bay sand, wood chips, sandstone cobble, and sandstone boulders and enriched with coarse woody material. The stream banks are planted with native trees, shrubs, and herbaceous plants that participate in infiltration with large root

501 Sixth Street
ANNAPOLIS, MD 21403
443-949-0575 FAX 443-949-0673

3310 Market Street, Suite A
CAMP HILL, PA 17011
717-737-8622 FAX 717-737-8650

612 Hull Street, Suite 101 C
RICHMOND, VA 21224
804-775-0951 FAX 804-775-0954

www.allianceforthebay.org

systems and share the stream's role in reducing excess nutrients in stormwater. Much of the stormwater is returned to groundwater through infiltration while microbes clean the water in pools providing a healthy environment to attract and support aquatic species.

At the tidal interface, the RSC will tie in more BMPs. A restored tidal marsh along with a living shoreline on Watergate Pointe's property installed in a low energy cove will further improve water quality in the tributary while stabilizing eroding banks and providing clean water and habitat for spawning fish and other aquatic species to thrive.

Trails on this accessible campus gives Annapolis a chance to showcase this advanced comprehensive watershed restoration project. We see this wide variety of BMPs accessed easily by children to seniors as a wonderful way to teach urban solutions to Chesapeake Bay restoration and environmental stewardship.

There are many benefits for the City of Annapolis to consider:

1) Cleaner water in the tributaries is a known health goal of both private and public sectors and citizens who live in the watershed. The City, guided by MDE's Watershed Implementation Plan (WIP), has financial incentive to mitigate 20% of its impervious surface.

2) The project's engineer, using state approved formulas for calculating WIP's Total Maximum Daily Load (TMDL) reduction credits, depicts this project as attractive to the City as a significant contributor to the City's WIP goals. Projected credits include:

> Impervious Acres Credit: 11.5 acres
>
> Bioswales and RSC: 144.18 lbs/per year TN, 17.23 lbs/ per year TP, and 6,165 lbs/per year TSS.
>
> Living Shoreline: 51.2 lbs/ per year TN, 21.76 lbs/ per year TP, and 43,840 lbs/ per year TSS.

3) No cost for design/construction/land - a value of $1,517,015. Funding sources: Two grant awards from Maryland's Chesapeake and Atlantic Coastal Bays Trust Fund totaling $1,115,770, a Chesapeake Bay Trust award of $20,000, and St. Luke's raised $31,245 in matching funds through small grant awards and community fundraisers. Additionally, in preparation for eventual conservation easement, St. Luke's has signed the DNR pledge to place land valued at $350,000 in perpetuity for Bay restoration.

4) No cost for 5 years in maintenance following construction, a value of $10-20K, ensuring the City will receive a stable project to withstand the 100 year storm. Upon turnover to the City at the end of 2021, the project will have been brought through the critical first 5 years of plant establishment so budgeted general maintenance cost is expected to be at the lower end of annual maintenance range of $2-4K per year.

5) Assures proven stability through an RFP process that placed importance on long term structural integrity. Underwood & Associates built Howard's Branch, a similar project, and no structural repair has been necessary in its 11 years of existence. The project is basically maintenance free with the exception of the community's responsibility of clearing walking trails. That said, it is prudent to be prepared. Anne

Arundel County's Watershed Protection & Restoration Division recommends a reserve budget of 20% of the total construction award cost for structural repair, which translates to $213,000, 20% of the total construction award of $1,065,000.

6) Provides an accessible and comprehensive environmental education campus for urban planners, environmentalists, schools, etc. providing Maryland and Annapolis tourism dollars and giving Annapolis a great start to becoming the showcase state capitol in Bay restoration best practices.

7) Provides a park-like setting in a high density and diverse socio economic community, which will inspire environmental stewardship practices to be installed on the visitor's home property.

Alliance for the Chesapeake Bay is proud to be the sponsor of St. Luke's initiative. Photos are attached for your review. We look forward to working with the City to provide this opportunity with many benefits for the community and the City.

With regards,

Louis A. Etgen
Maryland Director

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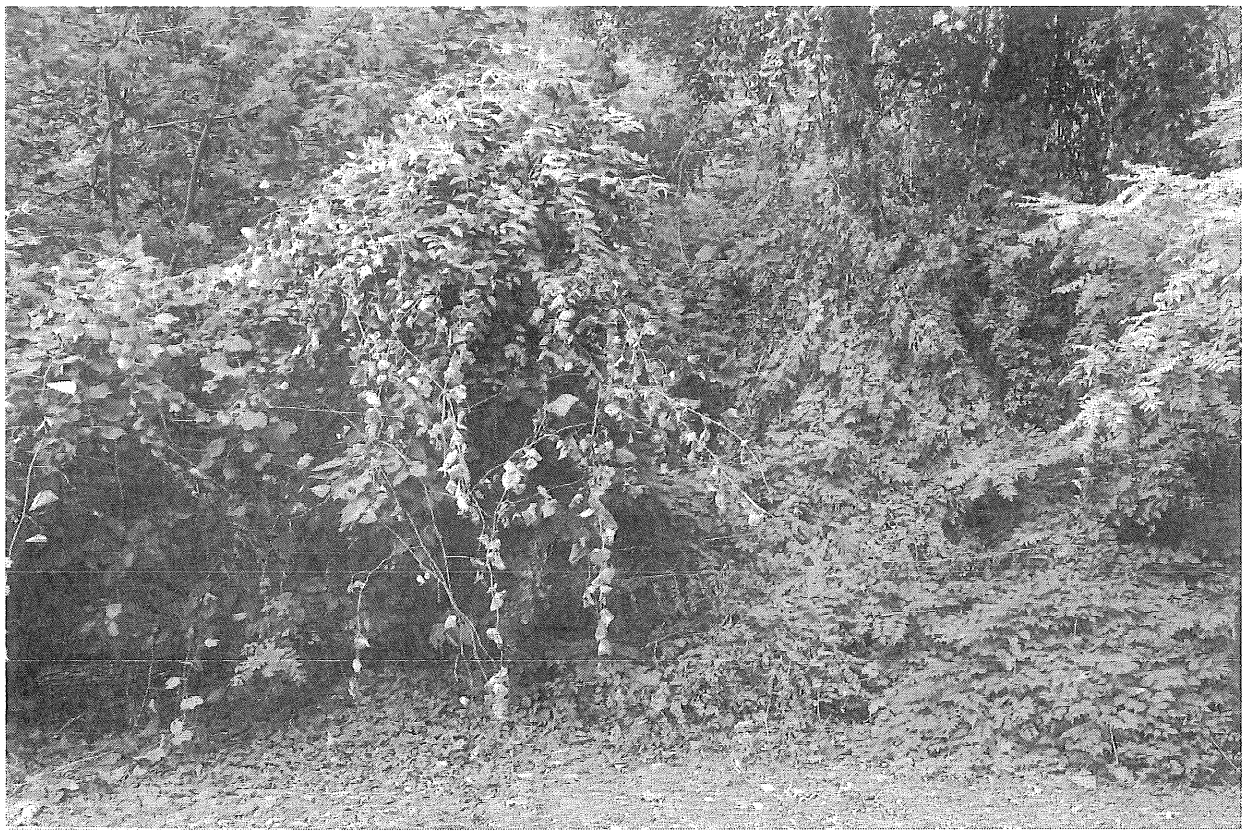
Existing Conditions at St. Luke's



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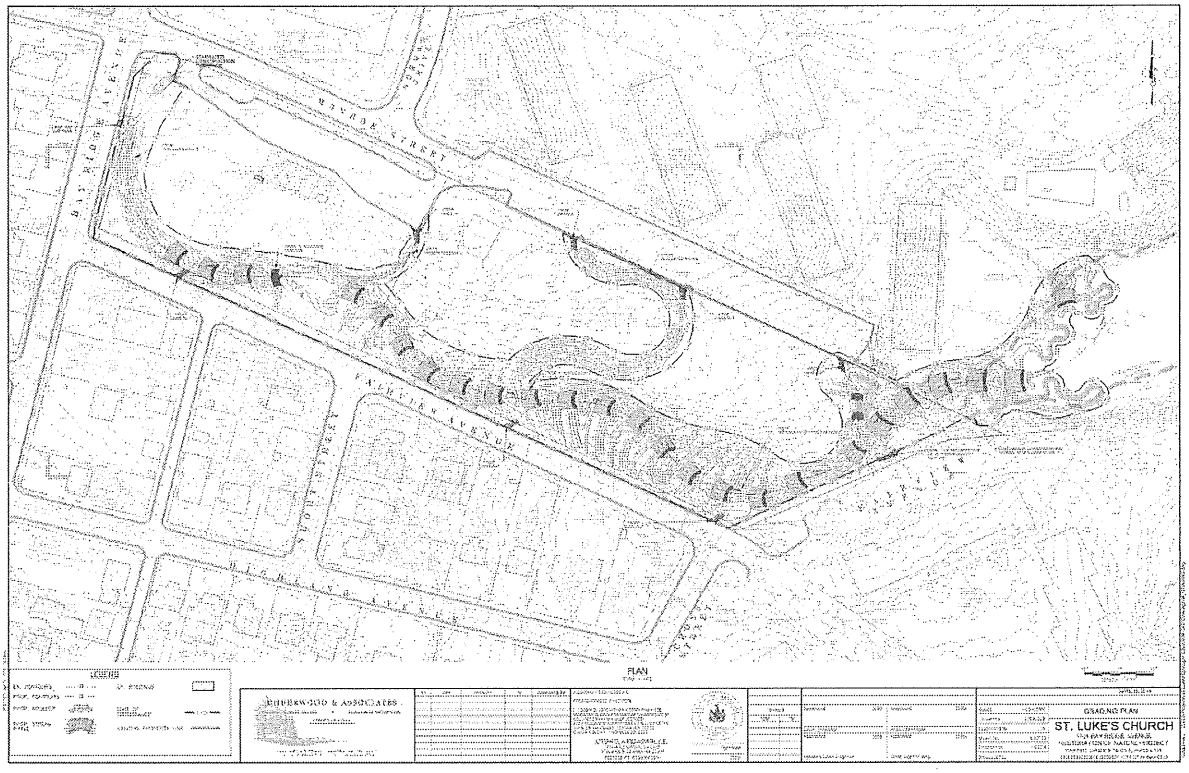

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