



Using Private Capital to Assemble, Construct, & Manage Large-scale, Distributed Green Infrastructure in the Great Lakes

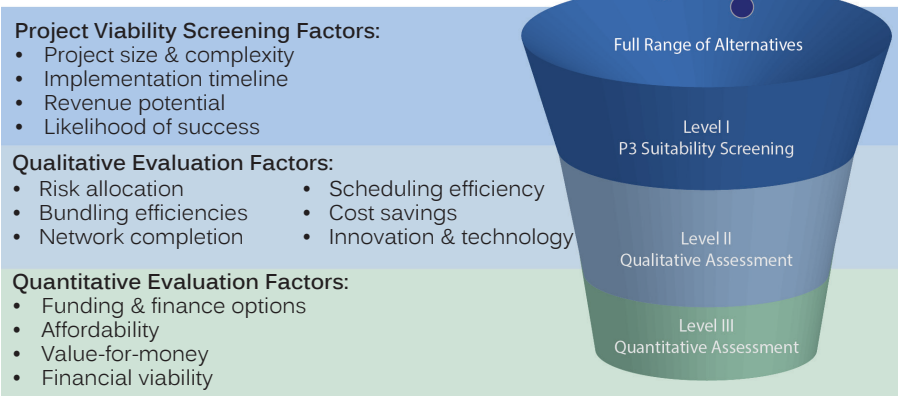
A Public-Private Partnership, P3, is a collaboration or joint endeavor between public and private sectors for the purpose of developing, constructing, and/or operating an infrastructure project through a series of interrelated agreements between public and private participants which define the anticipated outcome as well as their respective rights and responsibilities.

In this project, the private funding could be attracted by a traditional P3 setup, credit trading, stormwater banks, and innovation bonds or combination thereof.

This project seeks to finance and build large-scale (up to \$50 million per municipality), privately-financed, distributed green infrastructure (GI) in 2-4 municipalities/regions within the Great Lakes Basin. The project team has partners with access to large sums of private funding for GI that could result in measurable reductions in peak flows, reduced combined sewer overflows (CSOs), nutrient loading reduction, and increased groundwater recharge. The long-standing challenges to Great Lakes municipalities have been exacerbated by a lack of sufficient sustainable funding. Through the significant scale of the proposed GI program, the project will facilitate a measurable improvement in the underlying stormwater quantity/quality with a sustainable, long-term solution via sustainable and reliable funding sources.



SCREENING OF P3 CANDIDATE COMMUNITIES



Benefits **over ten years** from two hypothetical P3s which have implemented nearly 5,000 acres of GI include (approximate numbers):

- 13 billion gallons of water retained,
- 7.7 million pounds of Nitrogen removed,
- 20 million pounds of Phosphorus removed,
- 3.5 million pounds of metals removed,
- 720 million pounds of CO2 removed, and
- 460 Million KWH saved.



Project Partners:

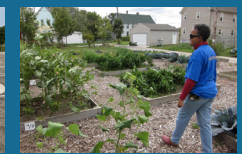


Funded by:



Great Lakes Protection Fund

WORK PLAN



TASK 1: FORM AN ADVISORY BOARD, ASSESS MARKET SIZE, AND IDENTIFY EARLY ADOPTERS

This task will evaluate the potential market size for GI across the Great Lakes, and target early adopter communities that have a demonstrated need as well as policies/fees in place that could drive private investment.

The three likely drivers to be considered are:

1. Stormwater detention/retention capacity needs in CSO communities.
2. Regulation-driven needs in MS4 communities.
3. Regions with excessive nutrient loadings expecting increased pressure to mitigate the currently unregulated loads leading to toxic algal blooms.

TASK 2: WORK WITH HIGH-PRIORITY COMMUNITIES TO IDENTIFY REVENUE STREAMS, DEVELOP BUSINESS PLANS, AND PROPOSE GI P3S

This task will rely on the top three or four P3 prospect communities identified in Task 1. In addition, the project team will continue on-going discussions with several potential public partners that are motivated to develop large-scale GI programs.

The communities need assurances that a P3 would provide a cost-effective way forward. Accordingly, for each community, a community specific business plan will be prepared to utilize private financing for a large-scale GI program. The plan would identify the steps needed to execute the business plan for each community/customer.

This task will include development of a summary of value propositions to be accrued by each P3 including a summary of the cost-effectiveness and ecological benefits expected for

GI versus traditional gray infrastructure. These will include: 1) volume of water detained/retained/infiltrated, water quality benefits, and any energy/air emissions related savings; 2) identification and review of potential revenue sources, such as a stormwater fee, private property payments-in-lieu-of, or availability payment; 3) assessment of the overall (big picture) project characteristics in each community (size, locations, and value); 4) estimation of the capital and operating costs; and 5) a business plan demonstrating value from private sector participation in design, construction, operations and/or financing.

TASK 3: DEVELOP TRANSACTIONAL FRAMEWORKS, CLARIFY CONTRACTUAL RELATIONSHIPS, AND EXECUTE P3 AGREEMENTS

Under this task, project team will: 1) assess enabling frameworks for communities that progress to developing a P3 agreement; 2) provide advice on any changes to the enabling framework, such as P3 legislation, that would need to be enacted before the community could enter into a P3; and, 3) assist with project design, including identifying performance metrics, desired environmental and social impact outcomes, and structuring appropriate risk transference between public and private partners.

TASK 4: DEVELOP A P3 PIPELINE, EVALUATE P3 EXECUTIONS & CARRY OUT KNOWLEDGE TRANSFER & OUTREACH

This task will seek to evaluate and execute P3s as well as support knowledge transfer and communication-plan-related objectives. In short, project team will summarize the lessons learned in the executed P3s, provide a list of suggested improvements to facilitate future P3s, and will develop a tool kit for other potential adopters.

COMPARISON OF TRADITIONAL VS P3 PROGRAM IN PRINCE GEORGE'S COUNTY (USEPA, 2015)

Item	Traditional County	Traditional Description	P3 Approach	P3 Description
STAFFING				
Project Management	15	Each project manager oversee several projects	1	Only one project manager to track P3
Inspectors	10	Each to oversee several projects	3	P3 will be required to inspect and certify
Field Engineers	0	None proposed	2	Needed to approve field modifications
Professional service contracts	13	Consultants need to design projects	3	P3 provides consultants
FUNDING				
Funding options	Bond sales/tax	Could reduce fees for bond sale	Private financing/tax	Perhaps better rates and terms
CONTRACT TERMS				
Retrofit cost per acre	\$100,000	Piecemeal costly designs	\$70,000	Optimized BMP to reduce costs
Project procurement time	12-18 months	Typical bid process time	2-4 weeks	Up to P3 general contractor
Planning time	Months	Several months	Days to weeks	Site visit for BMP placement