

# The ABCs of P3's & the Role of Partnerships for Addressing Our Stormwater Retrofit Challenge in the Chesapeake Bay & Beyond



Findings and Recommendations of EPA's Efforts to  
**Advance Next Generation Alternative Financing Strategies**  
For Green Infrastructure-Driven  
Urban Stormwater Retrofits



Dominique Lueckenhoff, Deputy Director  
Water Protection Division  
US EPA Region 3

Community-Based Public Private Partnership Workshop  
September 26, 2013, Annapolis, MD

# \* Overview

- \* EPA-Sponsored National Expert Roundtables
- \* Next Generation High Performance GI Technologies
- \* Alternative Financing Via Performance-Based Public Private Partnerships



# \*What is Green Infrastructure?

Green infrastructure is an approach that communities can choose to:

- Maintain healthy waters,
- Provide multiple environmental benefits, and
- Support sustainable communities

Unlike single purpose gray stormwater infrastructure, which uses pipes to dispose of rainwater, green infrastructure uses vegetation and soil to manage rainwater where it falls.

# \* How is EPA Defining Green Infrastructure?

“Green infrastructure refers to **an array of technologies, approaches, and practices that protect and use natural systems or systems engineered to mimic natural processes, to manage rain water as a resource**, to solve combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs), enhance environmental quality and achieve other economic and community benefits.”



# \* Green Infrastructure is a Paradigm Shift: Rain as a Resource, rather than a Waste

- \* Ground water recharge
- \* Enhance stream base flow
- \* Stormwater capture and use
- \* Augment water supplies





# \* GI Solutions Address Multiple Benefits

- \* Impacts to human health and the environment
- \* Regulation
- \* Flooding
- \* Cost / Benefit: Cities are interested in the multiple benefits of green
  - \* Multiple Benefits / Triple Bottom Line
  - \* "Livability"
  - \* Becoming green leaders
  - \* Cities want to be seen as green



# \* Green Infrastructure Approaches

## Infiltration - Evapotranspiration - Capture & Use

- \* Protecting areas with natural ecological functions
- \* Impervious cover removal
- \* Bio retention
- \* Permeable pavements
- \* Green roofs
- \* Cisterns & rain barrels
- \* Green Streets
- \* Trees & expanded tree boxes
- \* Reforestation & restoration
- \* Infill & Redevelopment
- \* Alternative parking & street designs





# EPA Convened an Experts Roundtable - Seeking Ways to Better Assist Local Jurisdictions

Tapping National Experts in a GI Network to Define New Affordable Solutions

LID/GI Workshop - Spring, 2012



## \* Summary of Key Recommendations



### Advancing Next Generation - Cost-Effective, Higher Performance LID/GI

Provide Incentives and programmatic drivers for innovative LID/GI technologies.

Use more robust, performance-based design standards for Better, Cheaper, Greener technologies.

Promote Public- Private Partnerships to optimize all available technical and financial resources to reduce cost burdens to local government

Streamline the BMP technology Verification Processes to accelerate innovative solutions.

Consider Long-Term Asset Management when selecting technologies and determining long-term costs.

Revisit Federal and State Grants (including Sec. 319) to support alternative affordable business models for successful local government urban retrofits.

Use Energy Sector as a role model for advancing a cost-effective, performance driven GI/LID model to implement the Bay TMDL.

# Definition PPP

Innovative involvement of the private sector through a "contractual agreement" between a public agency and a private sector entity that allows for the private sector participation in the financing, planning, design, construction, operation, maintenance, rehabilitation and replacement of urban retrofit facilities.

Can reduce costs to government from 20-50+ %



## EPA Convened a Second Roundtable of P3 Experts from the Private Sector

The Roundtable addressed a variety of financial, administrative, and capacity-related burdens, barriers and potential P3 oriented solutions.

\* P3 Roundtable - Fall, 2012



# \* FINDINGS

FINDINGS

## - No shortage of money

- \* NYC, Philadelphia, Chicago, DC, and hundreds of other municipalities around the U.S. pursuing GI as an alternate to constrained gray infrastructure
- \* Investment banks, financiers see innovation in stormwater as an emerging market
- \* Stormwater credit and contract trading markets being established

**\* Basic Finding**



The current economic climate and infrastructure workload make it nearly impossible for local governments to plan, finance and manage multi-million-dollar stormwater ID/GI retrofit projects to meet the required deadlines and outcomes.

### Hurdles:

- \* Major capital investment
- \* Long-term commitment to operation and maintenance
- \* Need to adopt innovative technologies
- \* Greater administrative burden

**\*The Situation**

Most governments procure design, construction and maintenance services on a piece-mealed basis because there is a low volume of projects to build or maintain.

*BUT*

LID/GI urban retrofit programs require design, construction and maintenance services on a scale that makes individual project procurement impractical, inefficient, time-consuming, and expensive.

*SO*

The current approach used by most Municipalities is not sustainable under the pressures to expand and operate an increasingly complex stormwater infrastructure.

**\*Current Practices Won't  
Get It Done**

# **\* Areas for Cost Savings**

- \* Procurement**
- \* Permitting**
- \* Design**
- \* Construction**
- \* Maintenance**

Can we design the right kind of partnership with the private sector to...

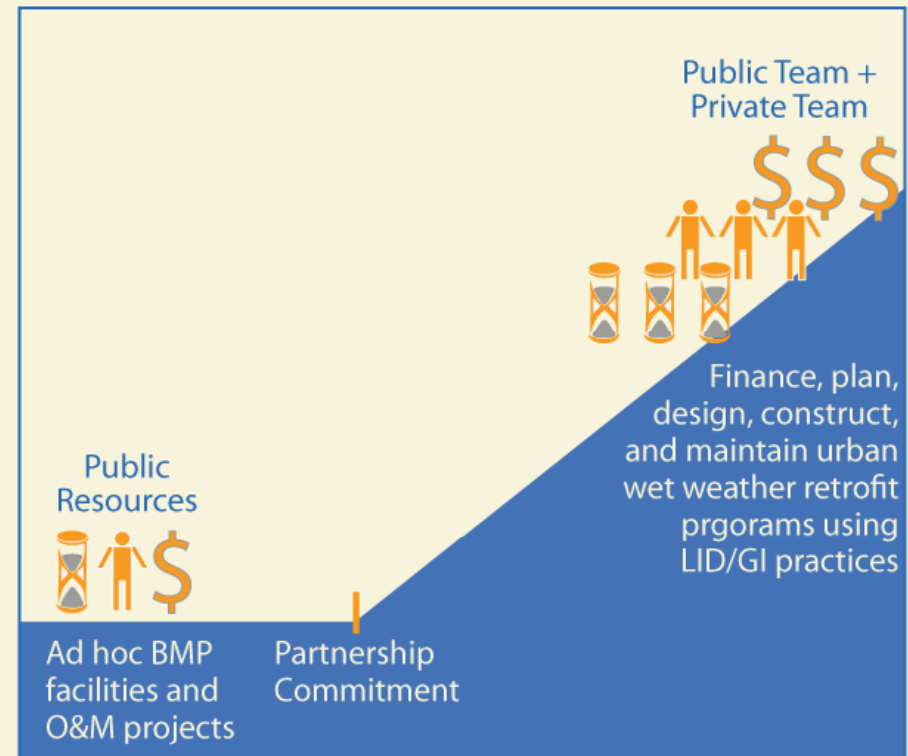
- Create economic feasibility
- Better leverage local government funds and resources
- Foster development of new LDI/GI technologies
- Expedite project delivery
- Spur local economic development
- Show transparency in community engagement
- Drive down costs using market forces, private sector ingenuity and efficiencies; and,
- Accelerate sustained regulatory compliance with water quantity and quality standards?

**\*The Challenge**

The Private Sector can be a Force Multiplier that can bring valuable resources such as; people, money, and time.

- Produce economic value through private sector participation
- Solve a costly, complex public problem with faster, less expensive and better outcomes
- Substitute private resources for limited public resources

#### RESOURCE MULTIPLIER TO LEVERAGE GOVERNMENT INVESTMENT AND PRODUCT ECONOMIC VALUE

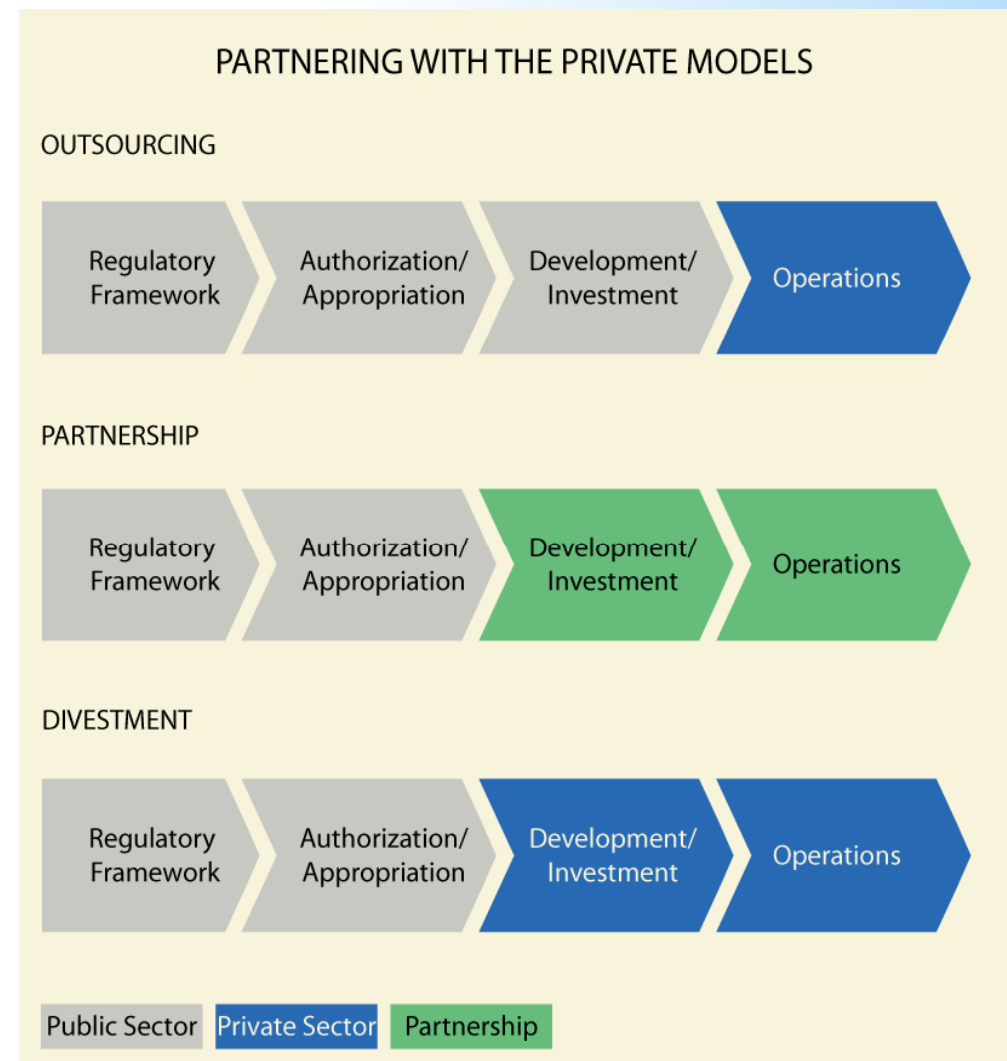


**\* Why Partner with the Private Sector**



Done right, a balanced **PARTNERSHIP** between the public and private sectors can accomplish more than other unbalanced approaches.

- \* Allocate the responsibility to the party best positioned to control the activity *and* manage the risks
- \* Produce economic value through private sector participation
- \* Solve a costly, complex public problem with faster, less expensive and better outcomes
- \* Substitute private resources for limited public resources
- \* Employ private industry to drive innovation, operational efficiencies ultimately lowering future costs.



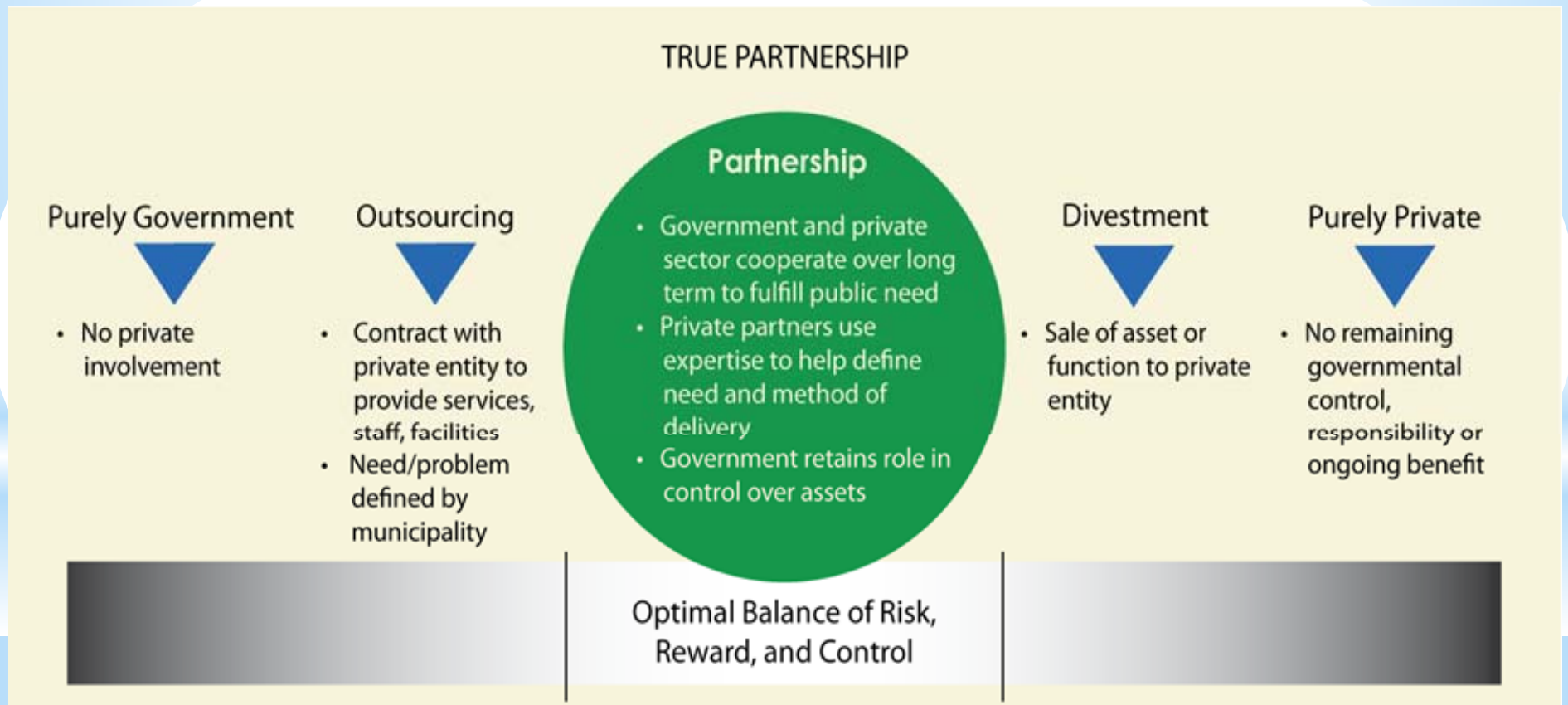
**\* Models for Partnering with the Private Sector**

# \* Critical Themes in the Community-Based Public-Private Partnership Model (CB 3P)

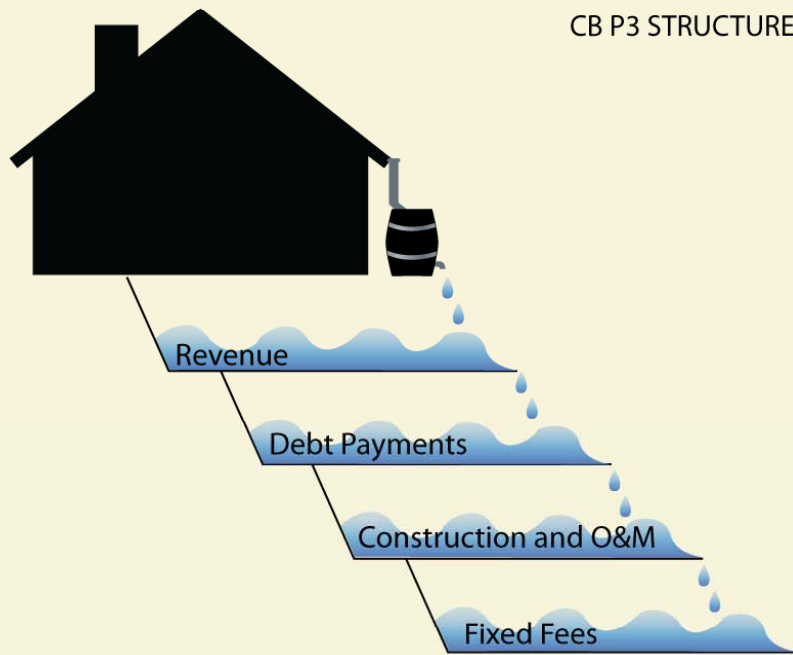
- \* **Alignment of Goals:** Common goals that create shared results and a symbiotic relationship.
- \* **Sustainability:** Programmatic long term focus that aligns the initial design/build with O&M. Long-term operational savings and excess cash flow from savings or efficiencies are reinvested into project or returned to local government.
- \* **Efficient Use of Funds:** Use of private capital, expertise, and efficiencies that delivers faster and leverages public investment
- \* **Commitment:** To the local community through community stewardship and economic development of small and disadvantaged businesses.
- \* **Value Driven:** Public partner basis its selection of a private partner based on qualifications and long-term value versus price.
- \* **Transparency:** Private sector operates under a fixed performance based fee. Government retains control through major to ensure the project meets its intended goals for today and tomorrow.
- \* **Accountability:** Partners share responsibility for project governance and major decisions, but the private partner is responsible and held accountable for performance based implementation.
- \* **Surety of Execution/Funding:** Fully funded programs on Day One at the lowest cost with control of funds by a third party according to an agreed upon Lockbox Servicing Agreement.
- \* **Transfer of Risk:** Financial risk is transferred to the private sector through the partnership LLC, which will bear the burden of debt, thus allowing there to be no recourse to the public partner.

*“There must be, not a balance of power, but a community of power; not organized rivalries, but organized peace.”*

*Woodrow T. Wilson*



CB P3 STRUCTURE



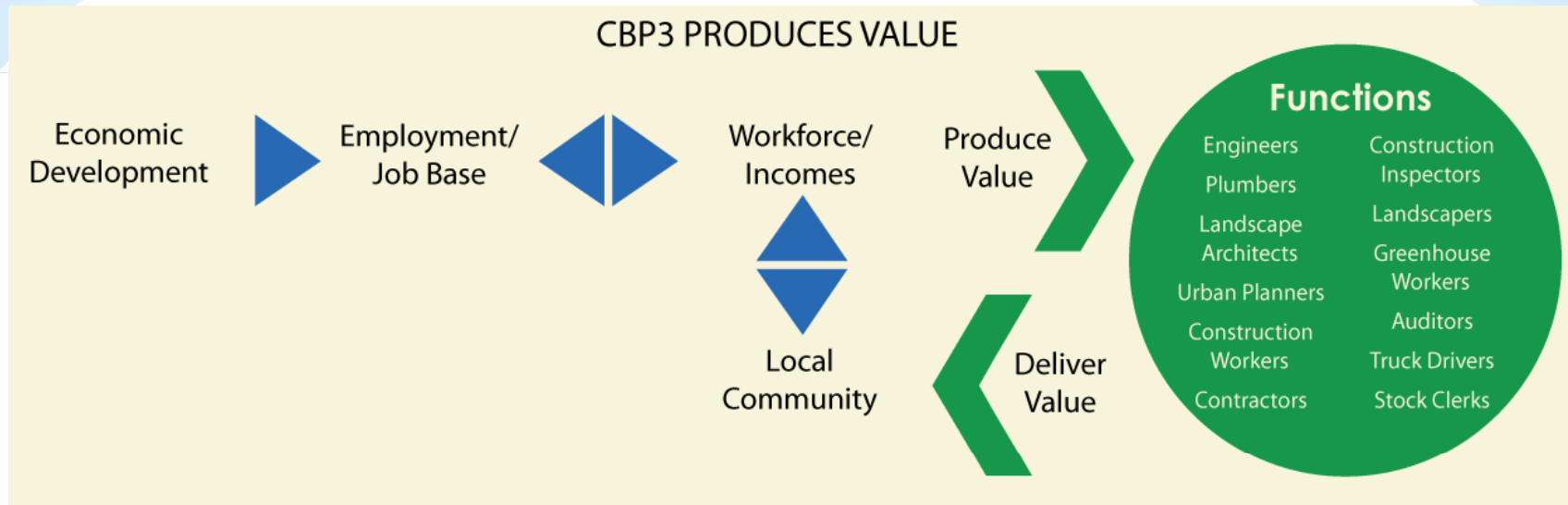
**Sustainability:**  
Programmatic long-term focus that ensures both the initial construction and long term O&M.

**Reinvestment:** All net income from project efficiencies is re-invested back into the project for additional scope or returned to local government.



**\* Partnership  
Reinvestment**

The local community benefits through community stewardship and the economic development of small and disadvantaged businesses.



**\* Producing & Delivering Value**



# \* A Case Study of CB 3P Success: U.S. Army Residential Communities Initiative (RCI)

Implemented under the DOD *Military Housing Privatization Authorities*  
(MHPI)

By 1998, three quarters of Army soldier and family housing was in substandard condition. Traditional solutions would have needed 20 years to clear the maintenance backlog of more than \$7 billion.

## Highlights

- \* 98% of Army housing (88,000 homes in 23 states) is managed by private partners.
- \* The maintenance backlog eliminated 20 times faster than if done by traditional procurement methods.
- \* Soldiers and families are highly satisfied with spacious, modern communities featuring community centers, tot lots, green space and other amenities.
- \* RCI partners raised \$10b in private capital, leveraging public funds approximately 11:1.
- \* Program transparency and accountability is maintained through joint administration and decision-making structure expressed in an LLC operating agreement.
- \* More than 70% of vendor and service expenditures go to small, disadvantaged & minority-owned businesses.

# “Cents” on the Dollar that Makes “Sense”

The charts below represent an average 50-year distribution of public-partner contributions at multiple Army bases. The first chart represents the CB3P model that the Army actually implemented under RCI. The second chart represents what the same programs would look like under a “privatized” scenario with many P3 projects falling somewhere in between.

- ✓ A fixed performance based ‘fee-for-service’ model that supports transparency and ensures County retains ownership and control of 100% of the residual cash flow through 3<sup>rd</sup> party lockbox account.

- ✓ Low-cost, low-risk, 100% debt financing models with the County’s long term goals and objectives in mind versus private investors priorities.

- ✓ Excess cash flow is reinvested back into the project for further community enhancement and economic growth.

**Existing CB3P Model under Army RCI:\***



\*50-Year Average of RCI Programs at Ft. Meade, Ft. Bragg, Ft. Polk, Ft. Rucker, Ft. Riley, Ft. Sill and Aberdeen Proving Ground.

**What if Army utilized an Equity Funded Privatization model:\***

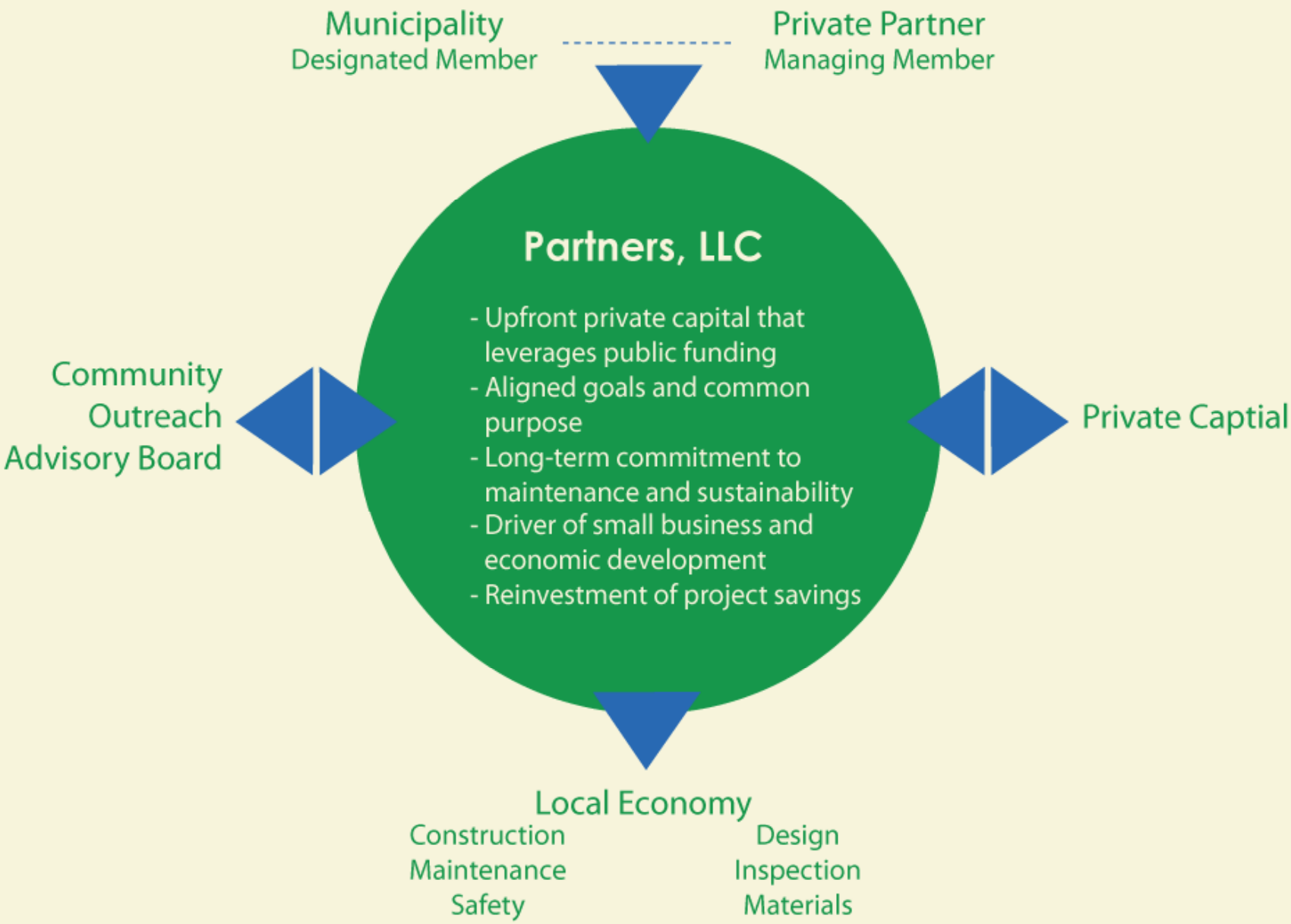


\*Hypothetical scenario estimated on \$0 fees and 100% of Net Cash Flow going to Equity Provider/Developer for RCI Programs at Ft. Meade, Ft. Bragg, Ft. Polk, Ft. Rucker, Ft. Riley, Ft. Sill and Aberdeen Proving Ground.

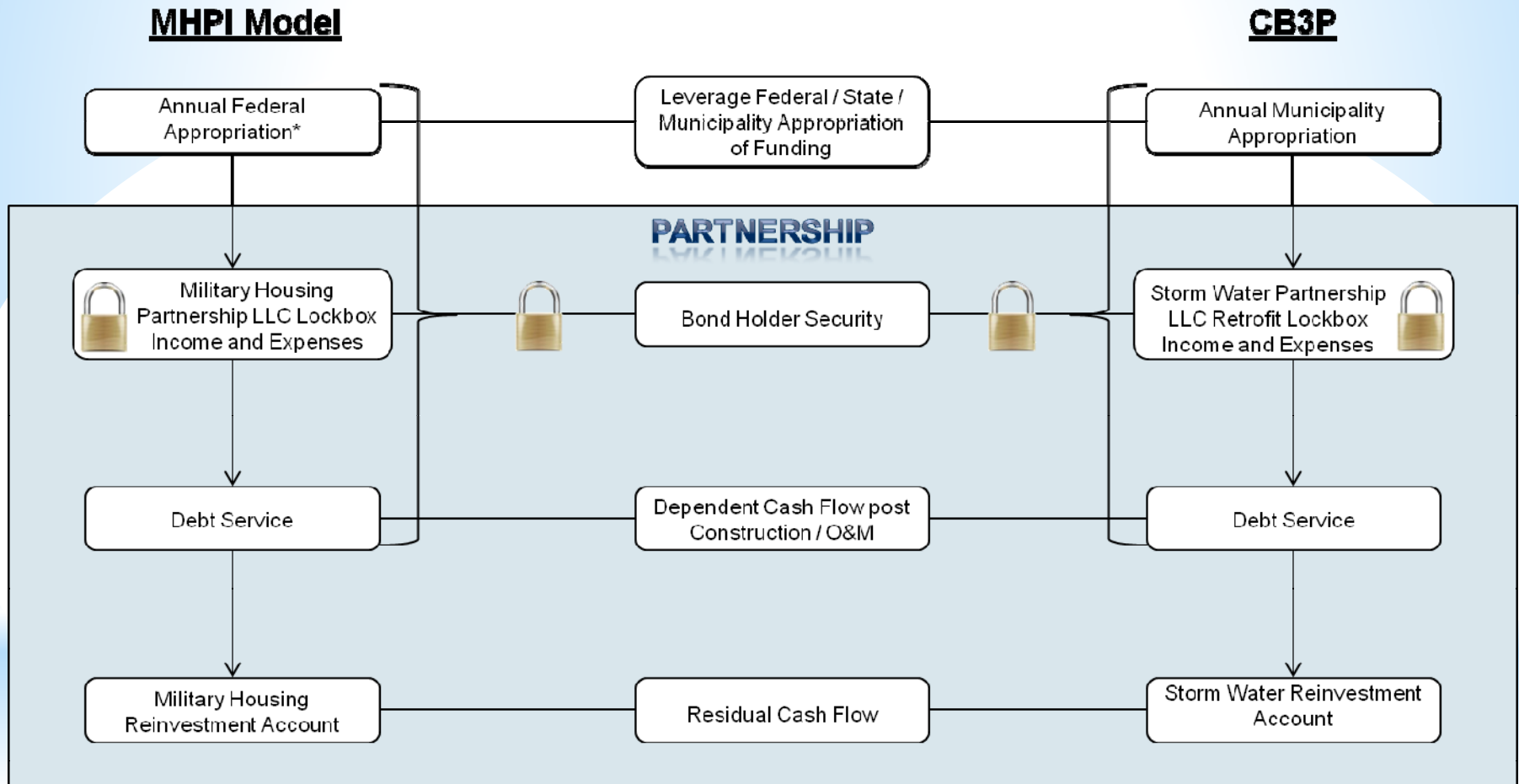
# \* A Community-Based Public Private Partnership (3P) for Urban Retrofits

- \* The CB 3P methodology features a transparent framework that aligns the public, private, and community stakeholders through a long-term legal arrangement that outlines a governance structure founded in the spirit of stewardship and common purpose.
- \* This is a departure from the traditional adversarial, contract-oriented management deal structure.
- \* It requires a change in mindset from government “contractor” to business “partner”.

# COMMUNITY BASED PUBLIC PRIVATE PARTNERSHIP



# MHPI vs CB3P Financing Model

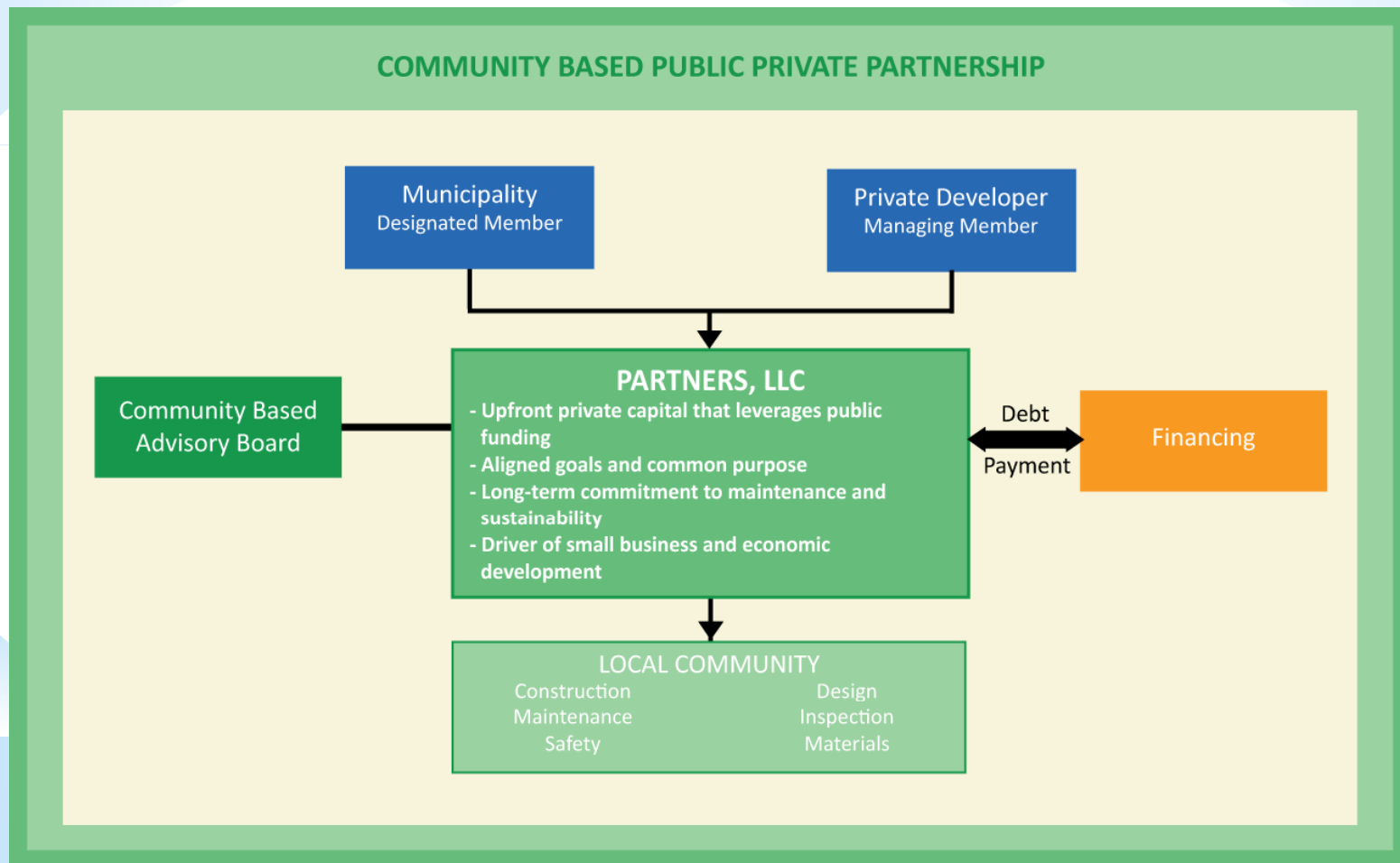


\* Annual Federal Appropriation is referencing the Basic Allowance for Housing (BAH) program which is a component of the compensation package provided to US military service members. The US military service members use it to pay the rental costs of housing located on their assigned bases or in the immediate surroundings. BAH is the main source of revenue for privatized military housing financings.



# Using CB 3P to Support Successful Green Urban Retrofits

Region 3 is actively working to support the synthesis, transfer and tailoring of the CB 3P model to meet the needs of representative communities in the Chesapeake Bay Watershed:



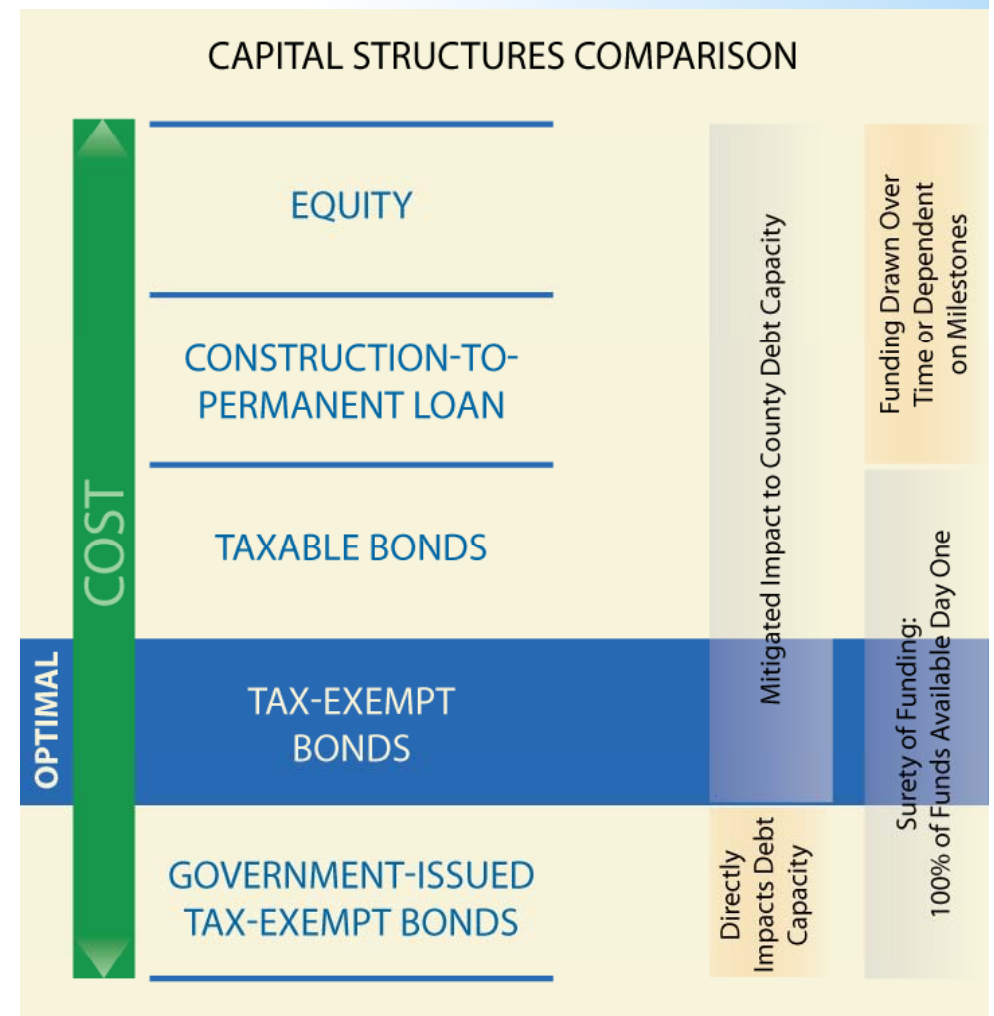
✓ Partnership LLC enables optimal financing solution through private investment tax exempt bonds at the lowest cost of debt.

✓ Tax exempt project income through Partnership, LLC maximizes \$ for projects.

✓ Private partner gains no tax benefit.

✓ Bond financing creates Surety of Funding with 100% of funds available on day one. (no interest rate risk or partner default risk)

✓ It is adaptable to each local government's unique goals, funding availability, credit rating, local water protection and restoration needs, and can be coupled with traditional funding sources such as grants, SRF, etc...



\* **Optimal Capital Structure**

- ✓ Municipality and Private Partner form a true Partnership with aligned goals, A unique, customized, holistic solution that is the *right* single source solution for the County, without loss of control.
- ✓ The partnership is provided a protected and predictable stream of money to leverage private capital that funds the initial retrofit in a expedited timeframe and ensures the long-term maintenance and sustainability of the retrofitted infrastructure.
- ✓ Integrated Design, Build, Finance, Operate, and Maintain for greater Life Cycle cost efficiencies
- ✓ Local government ignites local economic development with an infusion of a large amount of private capital over a short period of time for the initial retrofit.
- ✓ A marketplace is created where local small businesses can grow the services they deliver and the local government is positioned to take greater advantage of the economies of scale, cutting-edge innovation, increased public awareness, and efficiencies that drive down costs.

**\* CB 3P is a Turn-key  
Stormwater Solution**

## Local Government

- \* No capital outlay.
- \* No increase in staff.
- \* Reduced risks.
- \* Reduced Cost up to 50%.
- \* No bond or debt service.
- \* Phase in fees.
- \* Control performance.
- \* Demand added values.
- \* Quicker completion.

## \* Benefits

### *“Mutual Rewards”*

## Private Entity

- \* Low risk source of income.
- \* Hire local vendors.
- \* Performance rewards.
- \* Reduced Admin costs.
- \* Taxes, finance cost, banking trading
- \* ROI long-term.
- \* Technology innovations.
- \* Experience is more competitive.
- \* Private sector efficiencies.

- \* Public Sector Champion
- \* Statutory Environment
- \* Public Sector Contract Administration
- \* Detailed Comprehensive Contract
- \* Dedicated Revenue Stream
- \* Stakeholder Support
- \* Pick Partner Carefully (trust)
  - \* Best value most trusted not lowest price!

\* **Keys to Success**  
**from NCPFP**

# Financing Recommendations

## Fee Sources

The ways to generate reliable revenues to ensure success include:

- \* Property Tax
- \* Dedicated Utility Fee
- \* Fee-in-lieu
- \* Special Assessments
- \* Fee for services



# Financing Recommendations

Other funding resources can play an important role in urban retrofit.

- \* Grants
- \* Banking and trading
- \* State Revolving Loans
- \* User fees
- \* Service Fee Credits
- \* Multi-jurisdictional funding
- \* Cost-sharing with other public programs
- \* Broader private sector participation

# \* EPA Near-Term Follow-Up Actions

Providing Outreach & Training Support;  
Establishing Partnerships with States & Local  
Communities to Show the Path

- Sustainable Urban Retrofit P3 Pilots (1<sup>st</sup> -Prince George's County Pilot )
- Tapping NGO Partnerships and private sector expertise to assist
- Linking Green Streets/Green Towns work task to this - incentive funding, training, tech-transfer
- Making technical assistance available to select jurisdictions to support RFQ/RFP development



# \* PPP Resources

## Experience is Transferable

\* National Council of Public Private Partnerships

\* <http://www.ncppp.org/>

\* Federal Highway Administration

\* <http://www.fhwa.dot.gov/ipd/p3/index.htm>

\* Department of Defense Privatized Military Housing

\* <http://www.afcee.af.mil/resources/housingprivatization/index.asp>

\* Solid Waste

\* <http://www.environmentalistseveryday.org/solid-waste-management/privatization-saving-money-maximizing-efficiency/index.php>

\* Wastewater

\* <http://www.gao.gov/products/GAO-10-728>

\* Recycling

\* <http://www.republicservices.com/Corporate/GovernmentMunicipalities/republic-services-privatization.aspx>

\* World bank

\* <http://ppp.worldbank.org/public-private-partnership/>

# \* Final Thoughts

GI is about **INNOVATION & COLLABORATION** - so is the Chesapeake Bay!

It's time to do things **Differently** in order to meet today's demands and tomorrow's challenges. Green stormwater management is an **EMERGING MARKET!**

The U.S. (& Mid-Atlantic!) is filled with **innovators and problem solvers.**

**Creativity, Collaboration, and Commitment** are pivotal to saving our natural resources and ensuring a sustainable future for our **Communities!!**



Faster,  
Cheaper,  
**GREENER**



**Thank You!**

[lueckenhoff.dominique@epa.gov](mailto:lueckenhoff.dominique@epa.gov)

