

**Date:** September 20, 2016

**Location:** CDM Smith conference room

**Introductions** were made by Heather Fenyk – began by stating that the LRWP is focused on green infrastructure

**Kandyce Perry (JerseyWaterWorks GI sub-committee):**

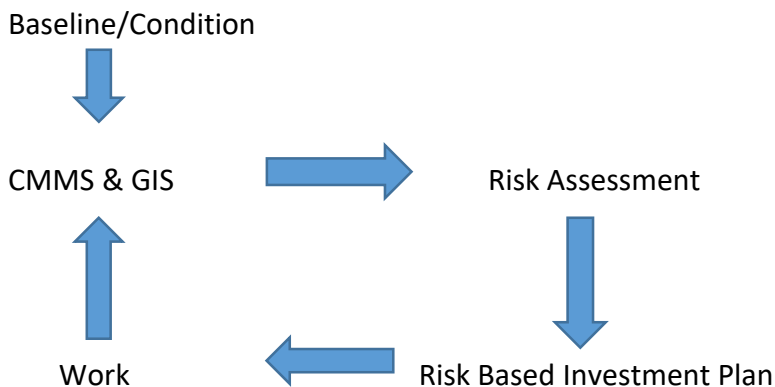
- There is a statewide collaborative – a “virtual organization”
  - This has been created to tackle New Jersey’s failing water infrastructure
  - It is aiming to be a solution to the urban infrastructure problems
  - Green and Gray infrastructure are being implemented to combat the issue
  - Main purpose is to work and promote green infrastructure

**Maria Watt (CDM Smith) – Introduction of speakers and What is Green Infrastructure:**

- Green Infrastructure uses natural systems to mimic natural processes to enhance the management of coastal and waterfront flooding and urban storm water as well as combined sewer overflows
- Green infrastructure is a form of water management
- New York City has made strides in green infrastructure
- CDM Smith did work in Newark prioritizing it

**Jayson Brennen (CDM Smith) – What is Asset Management and NYC GreenHUB Live Demo:**

- Asset Management – is optimizing the life of infrastructure as well as managing it
- Knowing green infrastructure and the risk of failure and minimizing it
- Asset Management program progression



Asset Management Program goes in a cycle

#### NJ DEP

1. Asset inventory
  2. Level of service
  3. Identify critical assets
  4. Life-cycle costs
  5. Long – term funding strategy
- Asset Management is becoming a critical part of implementing green infrastructure
  - Common Challenges:
    - Incomplete Asset Inventory
    - Incomplete maintenance
  - Asset Benefits
    - Improved system reliability
    - Attain desired level of service
    - Fewer unplanned outages
  - Key Asset Management Components
    - GIS
    - CMMS
    - Mobile devices (iPads, etc)
    - Dash Board
  - New York City Green Infrastructure Program is a multi-agency effort
  - GreenHub – is a system to manage green Infrastructure assets
    - Detailed map that gives information on each asset using GIS
    - Intended to manage the lifecycle of green infrastructure assets
    - It has information form the preliminary stages until the construction – they are getting information on maintenance of assets
  - iPads, ArcGIS, etc. used on the field to collect, analyze and visualize

#### **Bill Cesanek (CDM Smith) – Philadelphia Green City Clean Water:**

- Worked with Philadelphia for 10 years on green infrastructure programs
- First city approved by the EPA to address combined sewer overflow problems
- They have a 25-year-old program
- It is the connection of asset management
- Green infrastructure is new and not at the stage to discuss renewal
- Philadelphia has implemented a detailed planning phase

#### Meeting GSI (green storm water infrastructure) Targets

1. Private and public redevelopment sector
  - Developers install GSI to comply with Philadelphia storm water regulations
2. Private incentives and grant programs

- Nonresidential property owners retrofit property and drainage
- 3. Philadelphia water-led programs
  - Government installed

#### Green City Water Approach

- Coordinate with planning initiatives
- Communicate with partners and align goals
  - Consider the use of vacant space
- Maximize proposed drainage area capture
  - Water quality benefits
- Locate maximum volume-capture can occur
- Study Areas: boundaries
- Large Areas are the identified based on available space
  
- Must be continuously maintained because green infrastructures are living devices
- Assess the economic implications of each option

#### **Andrew Kricun (Camden County Municipal Utilities Authority) – Camden Asset Management:**

- In 1996 Camden's treatment system was in disarray
- Borrowed money in order to improve the water system
- In 1996, people paid \$337 (\$498.76 in 2016 dollars) per year for their water bill
- 2016, people pay \$352 per year
- the new system using gray infrastructure is much more efficient and has cut costs
  - received a \$20 million loan to implement gray infrastructure
- Camden county wanted to implement green infrastructure
  - Received a loan with no interest in order to get the project going
- They are in the process of creating rain gardens and small parks
- Never had to increase water rates because of the low interest rate of the loan

#### **David Zimmer (New Jersey Environmental Infrastructure Trust) – Benefits of Asset Management:**

- Asset management takes funds but saves money in the long run (the cheapest decision)
- Camden has been able to spend \$260 million on green infrastructure and Asset Management
- They are able to do this because it is a cash positive decision that creates more money in the budget
- Example:
  - Seaside Park is a small community south of Seaside Heights – they borrowed \$3.5 million to replace their drinking water pipes
    - Their rates went down between 30 to 40%
    - Sewer bill went down

- Saved \$4 million in bills over the course of 5 years
- They already have a positive cash flow and they will continue to save money in the long run
- It's like taking your car for a \$30 oil change every few months, if you put it off you could be paying to fix the entire engine in a few years
- Asset Management creates direct and indirect savings
  - In Camden addressing combined sewer overflows and other failures in the water system has:
    - Improved quality of life
    - Less damage to homes and business (cost of insurance goes down)
    - Costs of annual debt service is low

**Questions: (I had trouble getting the questions down)**

1. **Does the public have access to the GreenHub website? Is there an educational role for the public?**

There is a site with general information that the public can access.

2. **How does green infrastructure work in places with poor soil quality?**

They have to engineer around it.

3. **Can municipalities estimate how much projects will cost using asset management and data management?**

**Closing Remarks:**

Lower Raritan Watershed Partnership takes an ecological perspective

- They are implementing an Infrastructure work group

“Think global, act local”

**How Green Infrastructure can improve water quality:**

Many cities have begun to implement green infrastructure in order to combat the issue of combined sewer overflows and stormwater runoff. By implementing rain gardens, parks, and other forms of vegetation to combat this issue, excess water is absorbed into the earth rather than getting into the water system causing sewage and other waste to end up in water ways. This allows contaminated water to undergo treatment before being released back into the environment.

**Role of Community Monitoring of Green Infrastructure Investments:**

In order for wide scale green infrastructure to be successful, community members need to be involved in the process. Community members can aid in the maintenance of rain gardens and small parks, making it a feasible option for local governments to implement.