



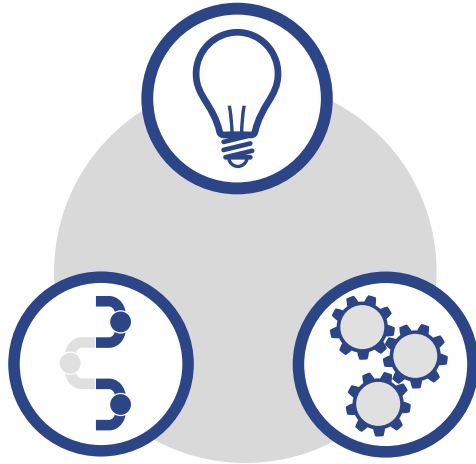
A MARKET FOR STORMWATER CREDITS?

ILLINOIS POLLUTION CONTROL BOARD

SEPTEMBER 7, 2017

Presentation Overview

- Motivation for exploring stormwater credit trading in Cook County
- MPC, TNC, MWRD work to date
 - Summary of feasibility study findings
- Overview of key policy considerations
- Next steps
- Q&A



Immediate and long-term solutions

Connect region's assets

**Partnerships with governments,
communities and business**

Metropolitan Planning Council



Investigating Stormwater Detention Credit Trading

- **StormStore** is a name coined by TNC and MPC for a possible market or exchange for stormwater credits
- Funding assistance provided by Grand Victoria Foundation
- Seeks to help protect water quality and help mitigate regional flooding by:
 - acquiring land or construction rights in areas of high flooding
 - implementing natural infrastructure to detain/retain rainfall
 - selling or leasing stormwater detention or volume control capacity to real estate developers, utilities, etc.



Background

- 2014 Cook County Watershed Management Ordinance (MWRD)
 - Establishes stormwater management requirements for new real estate development
 - Volume Control
 - Detention
 - Ideally these stormwater features can be incorporated directly into a development site

Limitations to Onsite Stormwater Controls

What if it is impracticable to provide stormwater controls on the development site?

- For example, utilities limit space for a detention basin, or there are safety concerns
- If there are contaminants in the soil, or a high groundwater table, volume control practices such as rain gardens, bioswales, or permeable pavement may be inadvisable



Offsite Stormwater Controls Opportunity

Concept

- Where it is impracticable or inadvisable to provide stormwater controls onsite, allow a developer to provide the necessary amount of detention or volume control on another parcel

Purpose of this Project

- WMO allows for offsite stormwater detention
- Currently, off-site mitigation involves a specific agreement between the development site and a mitigation site
 - This may present challenges for the developer who must find a mitigation site and negotiate the terms of the agreement
- Would a **market or exchange for stormwater credits** facilitate this process, and lower transaction costs?

Offsite stormwater management could...

- ... enable more optimal siting of stormwater improvements
- ... re-use marginal land
- ... make infill and TOD less expensive
- ... reduce development costs



Permeable pavement at White Sox Park

Is this Happening in Other Places?

- Washington D.C.
 - ordinance requirements for volume control
 - set up a system for generating and selling credits to developers who are unable to implement required volume control measures at their site
- Detroit
 - implementing a new system that allows for off-site mitigation
- Chattanooga, TN
 - stormwater ordinance requiring stormwater capture and keeping onsite (Stay-on-Volume or SOV)
 - set up a system for water quality volume trading via Credit Coupons on the open market earned by exceeding a baseline SOV

StormStore Feasibility Study

- Real Estate Demand Analysis
 - Identify situations where developers would have benefitted from or would have utilized offsite mitigation if it were available
- Land and Hydrological Analysis (“Opportunities Map”)
 - Identify where are sites well-suited for detention or volume control
- Policy Analysis
 - Identify key features of other successful trading programs (Washington, D.C.; Chattanooga, TN) and primary issues to consider for structure of possible system in Cook County

Feasibility Study Team

- Metropolitan Planning Council, The Nature Conservancy, Metropolitan Water Reclamation District
 - Real Estate Analysis Consultants: Orion Planning + Design, Teska Associates, Hey & Associates
 - Land & Hydrologic Analysis Consultant: Illinois State Water Survey

StormStore Feasibility Study

- Look across the three components of the evaluation work and assess the need for (or potential for) a market or exchange for stormwater credits
 - Would there be significant demand for the purchase of credits?
 - Would there be sufficient supply for the sale of credits?
 - How would the program best be set up? How might the exchange work?
 - What changes to the Watershed Management Ordinance may be appropriate to accommodate a credit system?

Preliminary Findings: potential demand

- An analysis of development projects permitted by MWRD over the past 10 years indicates there would be substantial potential demand for offsite alternatives
 - Opportunities noted in all the watersheds in Cook County

Preliminary Findings: potential supply

- A broad look at multiple land use and land characteristics indicates there is substantial potential for credit (supply) sites
 - Potential supply was noted in all the watersheds in Cook County

Preliminary Findings: policy analysis

- Policy analysis includes various considerations for how features of the market could work and what requirements might be in an amended version of the WMO, including:
 - No Adverse Impacts
 - Spatial Proximity
 - Maintenance of credit sites



No Adverse Impacts

- Much emphasis/attention on the need to assure ***no adverse impacts*** in the sewerage area near the development site or downstream
- This is MWRD's intent, and may be clarified when the WMO is updated



No Adverse Impacts

Essentially two ways that a development site could demonstrate that there will not be local or downstream adverse impacts:

- Site analysis – calculating/modeling the runoff profile from the site before and after the project
- Sewershed analysis – modeling of the sewershed (in most cases using a Hydrologic and Hydraulic model) and demonstrating a result that there is capacity in the sewer system and connected storage facilities for the runoff from the site such

Spatial Proximity

- Relative locations of credit buyers and credit sellers
- One possible consideration is that offsite controls could be in the same watershed, when appropriate 'no adverse impact' are ensured to local sewershed or sewer service areas downstream

Maintenance of Credit Sites

- Various provisions could ensure appropriate amounts of credits are provided for offsite stormwater management locations and that offsite controls are properly maintained over time



Next Steps

- MWRD working on changes/updates to the WMO
- Finalizing feasibility study by Fall 2017
- Exploring City of Chicago feasibility study phase
- Begin evaluating options for mechanics/operation of the exchange or market



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Thank you!

Questions?