

Stormwater Credit Trading for Cook County

Stormwater requirements in place

- ▶ Metropolitan Water Reclamation District (MWRD)'s Watershed Management Ordinance (WMO) includes stormwater management requirements for developments:
 - ▶ Volume Control
 - ▶ Detention
- ▶ Ideally these stormwater features can be incorporated directly into a development site
- ▶ But in some cases this presents challenges
 - ▶ For example, when space is limited and there is no room for a detention basin
 - ▶ In these cases an offsite solution may be a valuable alternative

Current barriers to offsite stormwater management

- ▶ The WMO currently allows for offsite mitigation for detention and volume control, but with certain restrictions. To date, virtually no offsite options have been pursued.
- ▶ During focus groups with developers, barriers were identified which have prevented development sites from pursuing an offsite option to date:
 - ▶ Time consuming to identify a mitigation site and broker a 1:1 transaction with another site.
 - ▶ Current WMO language is limiting and/or unclear, for example when it is not **practicable** to provide onsite controls or when there are demonstrated **site limitations**.
 - ▶ Offsite trading currently allowable for sites under 10 acres.

Incentivizing more, accelerated stormwater management through trading

- ▶ Stormwater credit trading as a market-based approach
- ▶ Innovative way to incentivize decentralized stormwater infrastructure
- ▶ Implement needed stormwater controls in areas where development is not occurring
- ▶ Opportunity for stormwater solutions from private sector, conservation organizations, land banks, residents in addition to governments

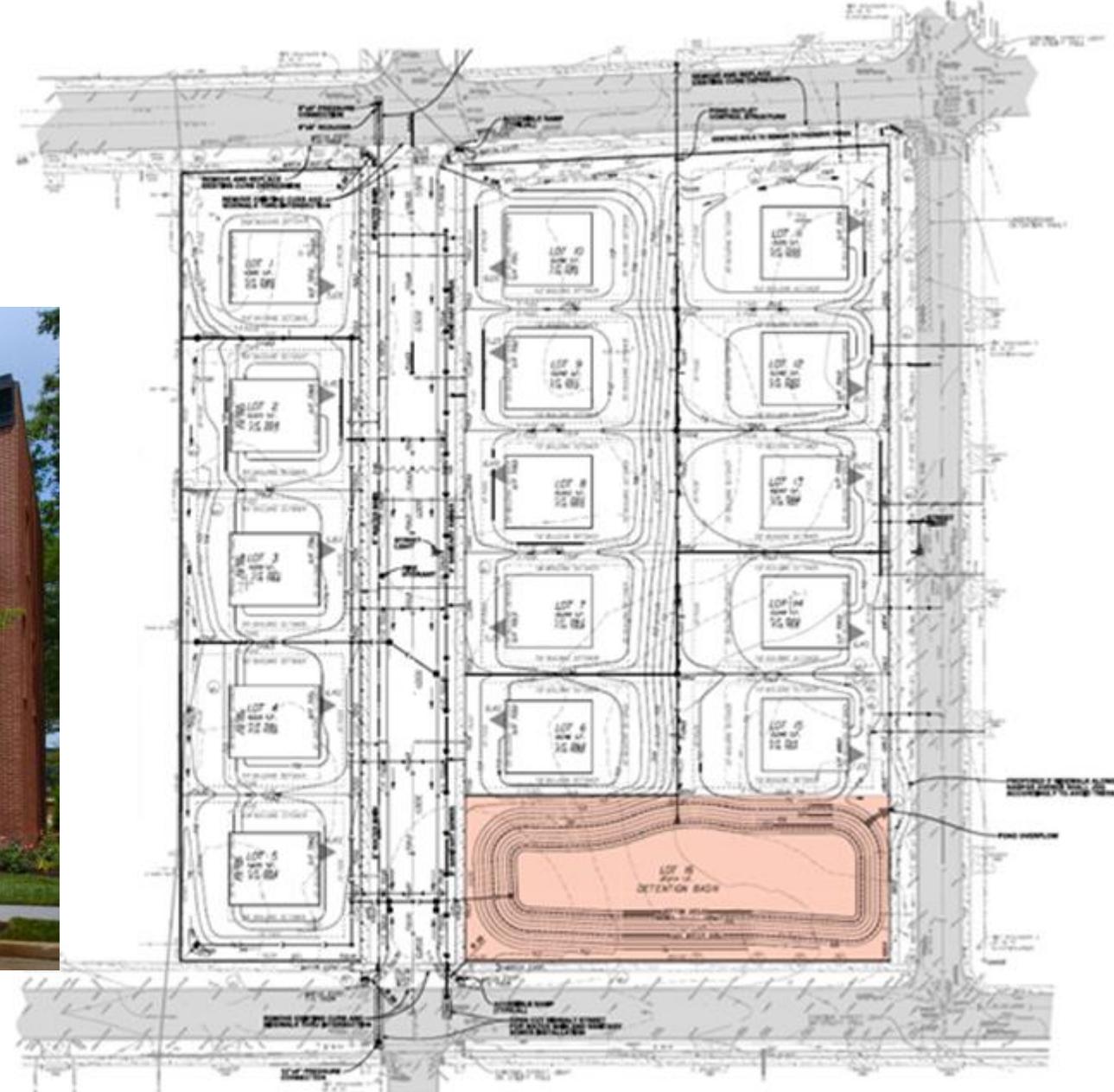
Potential benefits for the Chicago region

- ▶ Multiple benefits for appropriately established offsite trading:
 - ▶ Implement stormwater controls where they can produce valuable results
 - ▶ Protect water quality
 - ▶ Re-use vacant or marginal land
 - ▶ Provide green space with natural habitat
 - ▶ Make infill and transit-oriented development more feasible

Hypothetical Example of Demand Site

Infill Affordable Housing Development

Site Area	5.1 acres
Number of Units	15
Building Square Feet	74,918 sq ft
Impervious Surface Area	2.39 acres
Type of Detention	Wet pond
Detention Volume	1.3 ac ft
Type of Green Infrastructure	Infiltration Basin
GI Volume	.24 ac ft



Hypothetical Example of Supply Site - School Retrofit

- ▶ Site Type: Elementary School
- ▶ Pre-Project Condition: Almost 100% impervious surfaces. Very little storage or infiltration
- ▶ Post-Project Features:
 - Improved features *for students*
 - Improved features *for teachers*
 - Improved *stormwater management*
 - a cistern capturing roof runoff,
 - a rain garden which provides volume control
 - subsurface aggregate-filled storage area holding stormwater for gradual release to the combined sewer



Before

After



StormStore™

- ▶ Metropolitan Planning Council (MPC) and The Nature Conservancy (TNC) working closely with MWRD have been exploring potential benefits of offsite stormwater controls
- ▶ MPC and TNC have coined the term StormStore™ for a stormwater credit trading market in Cook County
- ▶ Feasibility study completed in 2017 for Cook County
- ▶ Current work: updated WMO language which can appropriately accommodate offsite controls and trading

StormStore™ feasibility study for Cook County – November 2017



▶ 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 evaluate policy considerations

See Summary Report.



Demand findings

- ▶ Analysis of past development projects indicates there would be substantial potential demand for offsite alternatives
 - ▶ *roughly 17%* of all projects permitted between 2006 and 2016 on sites under ten acres (132 of 764) could have / likely would have used an offsite option
 - ▶ *approximately 21%* of all projects (197 of 928) would have benefitted if all sites including those over ten acres were able to make use of an off-site option

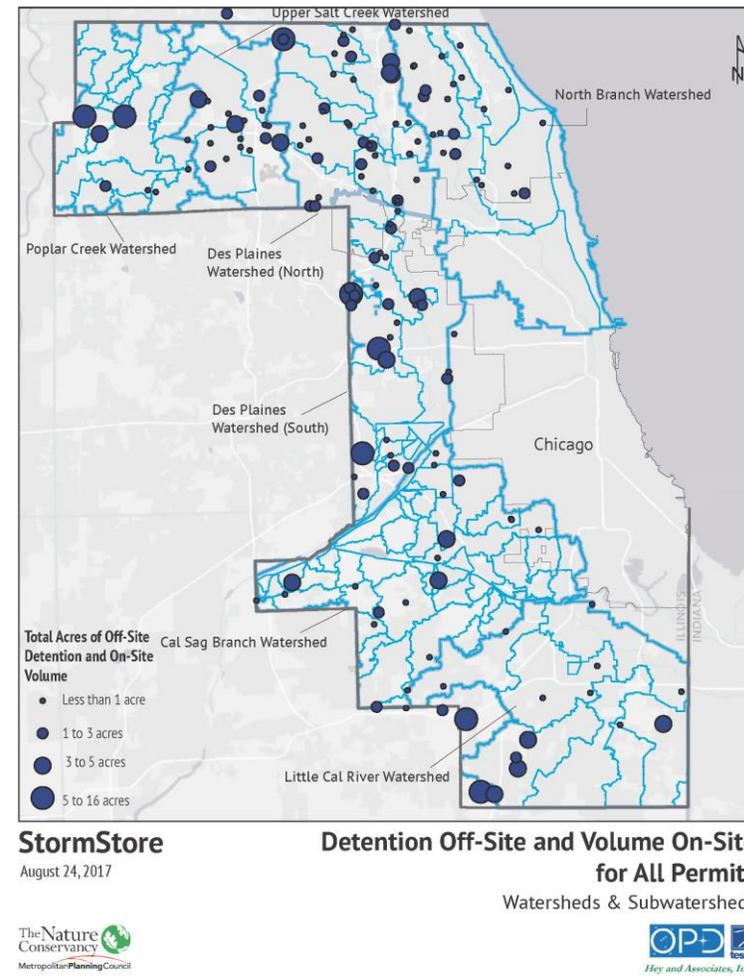
Demand findings

- ▶ The total economic benefit for the 197 projects that had a positive net benefit ($> \$20,000$) was estimated in the model to be **\$47,407,095**, with an average economic benefit per project of **\$240,645**.

Demand findings

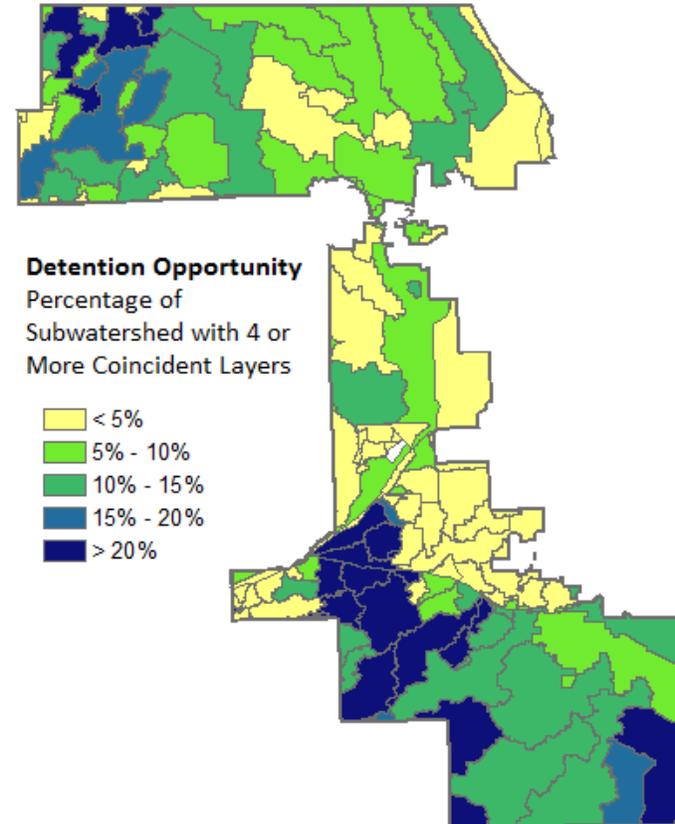
Potential demand for offsite capacity was spread across the six watersheds in Cook County

- ▶ The Lower Des Plaines North subwatershed, which encompasses the high-demand, high-value area around O'Hare International Airport, had the most projects that would have benefited



Opportunities analysis findings

- ▶ Analysis of various land use, topography, and soil characteristics throughout Cook County
- ▶ Adequate surface area of potential sites to meet the potential demand
 - ▶ Potential sites in all the watersheds in Cook County



- SRCs for Sale (11) [Print](#) [Export](#)

Number of SRCs for sale is greater than or equal to:

Asking price is less than or equal to:

Watershed contains:

Sewershed contains:

SRC Project Type contains:

	Contact name	Contact email	Contact phone	Number of SRCs for sale	Asking price	Additional Environmental and
	Ronda DeSplinter	rdesplinter@thewestchestercorp.com	(202) 338-7700	1,720	\$2.00	<ul style="list-style-type: none"> Located in a priority watershed Generated by a voluntary GI project Generated by a vegetated GI project More information about this listing
	Lee Cain	lcain@livingclassroomsdc.org	(301) 768-0952	9,142	\$2.02	<ul style="list-style-type: none"> Located in a priority watershed Generated by a voluntary GI project Generated by a vegetated GI project More information about this listing
	District Stormwater, LLC	kahlil.kettering@tnc.org	(301) 905-2531	276,459	\$2.05	<ul style="list-style-type: none"> Located in a priority watershed Generated by a voluntary GI project Generated by a vegetated GI project More information about this listing

Example of stormwater credit trading market - Washington DC

Online interface for buying/selling credits

Recent Progress & Next Steps

MPC and TNC developed updated language to WMO, with extensive stakeholder input, including sessions with the MWRD TAC

WMO May 2019 amendment included a call for a pilot study of stormwater credit trading by 2022

MPC and TNC exploring potential supply sites and demand sites for first proof-of-concept trades

Conducting market administration and structure analysis