

Metropolitan Water Reclamation District of Greater Chicago

Stormwater Management Program

2015 Annual Report



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Overview

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) was granted stormwater management authority for Cook County with the passage of Public Act 93-1049 (Act) in November 2004. The framework of the MWRD's Stormwater Management Program, including its mission, goals, and program elements, is presented in the Cook County Stormwater Management Plan (CCSMP), which was adopted by the MWRD's Board of Commissioners in February 2007. The CCSMP was amended on July 10, 2014 to be consistent with P.A. 98-0652, which amends the MWRD's statutory authority to allow for acquisition of flood-prone properties and to plan, implement, finance, and operate local stormwater management projects.

During 2015, the MWRD continued preliminary engineering and design work for several of the alternatives recommended in Detailed Watershed Plans (DWPs), continued development of Phase II of the MWRD's Stormwater Management Program, continued work on the Small Streams Maintenance Program (SSMP), and continued the rain barrel program. New activities for 2015 include the construction of streambank stabilization and flood control projects recommended in the DWP, the further development of the District's Green Infrastructure Program (GIP), and the expanding the online content related to the Chicago Area Waterway System and the SSMP to provide education materials. Further details concerning these items and other stormwater management activities are provided in this Annual Report.

Mission and Goals

Stormwater Management Mission Statement

The mission of the Stormwater Management Program is to protect the safety of Cook County's residents and minimize flooding damage by coordinating, planning, implementing, financing, and operating regional stormwater management projects, and to develop and enforce reasonable rules with respect to watershed development. The framework of the MWRD's countywide stormwater management program is presented in the Cook County Stormwater Management Plan (CCSMP).

2015 Accomplishments for the Stormwater Management Program include the following:

- Completed construction of two streambank stabilization projects originally identified in the DWPs:
- Awarded the following flood control, streambank stabilization, and green infrastructure construction projects:
 - 10-883-AF, Flood Control/Streambank Stabilization Project on Tinley Creek (DWP Alternative TICR-3);
 - 10-884-AF, Flood Control Project for Upper Salt Creek (DWP Alternative SCAH-50);
 - 14-254-3FR, Blue Island Green Infrastructure Project;
- Entered into seven Intergovernmental Agreements (IGAs) for Stormwater Management Phase II projects to allow for construction of local flood control projects;
- Entered into an IGA with the City of Chicago for the construction and maintenance of the Albany Park Stormwater Diversion Tunnel;
- Continued design of Phase I "regional" projects recommended from the DWPs for the established watersheds of Cook County, including the projects summarized below:

- o Streambank stabilization projects on reaches of Tinley Creek, Midlothian Creek, Melvina Ditch, Oak Lawn Creek, Calumet Union Drainage Ditch, the Middle Fork and the West Fork of the North Branch of the Chicago River, and Addison Creek;
 - o Flood control projects on reaches of Tinley Creek, Navajo Creek, Cherry Creek East Branch, Addison Creek, Buffalo Creek, Des Plaines River, the West Fork of the North Branch of the Chicago River, and Farmers Prairie Creek;
- Continued the SSMP with the objective of removing debris and blockages from 532 miles of small streams and rivers;
- Completed construction of green infrastructure at two Chicago Public School campuses in collaboration with the City of Chicago Department of Water Management and the Chicago Public Schools System.

Stormwater Management Activities

Stormwater Management Capital Improvement Program

Capital improvement projects recommended for implementation by DWPs are separated into two categories: streambank stabilization and flood control. Projects given the highest priority for implementation are streambank stabilization projects which address streambank erosion posing an imminent threat to public safety and/or structures. Flood control projects will address regional flooding issues through traditional measures, such as stormwater detention reservoirs, levees, and conveyance improvements. Preliminary engineering and design of projects approved by the Board of Commissioners are underway and will continue into the future.

In 2015, the following Streambank Stabilization Project was awarded for construction:

- TICR-SE1 (Tinley Creek)

The above project awarded in 2015 is scheduled to be substantially completed in 2017.

Streambank Stabilization Projects

The following is a detailed list of streambank stabilization projects. Streambank stabilization project locations are shown in Appendix A.

- **OLCR-3 (Oak Lawn Creek)**
Watershed: Calumet-Sag Channel
Location: Oak Lawn
Description: Stabilize approximately 1,200 LF of Oak Lawn Creek using soldier piles and precast concrete panels.
Estimated Construction Cost: \$4,175,000
Status: Design Complete. Applying for State Revolving Fund Loan.
- **CUDD-G3 (Calumet Union Drainage Ditch)**
Watershed: Little Calumet River
Location: Markham
Description: Stabilize approximately 3,559 LF of Calumet Union Drainage Ditch using bioengineering techniques and provide conveyance improvements.
Estimated Construction Cost: \$1,839,000
Status: Final Design. Working on acquiring required easements.
- **MTCR-G2 (Midlothian Creek)**
Watershed: Little Calumet River
Location: Tinley Park
Description: DWP recommended to stabilize Midlothian Creek at two locations: between 172nd Street and Oak Park Avenue and between Hickory Street and 66th Court.
Estimated Construction Cost: \$307,400
Status: Final Design
- **MEDT-1 (Melvina Ditch)**
Watershed: Calumet-Sag Channel
Location: Chicago Ridge, Oak Lawn
Description: Stabilize approximately 2,700 LF of Melvina Ditch.
Estimated Construction Cost: \$10,600,000
Status: Final Design
- **TICR-SE1 (Tinley Creek)**
Watershed: Calumet-Sag Channel
Location: Crestwood
Description: Stabilize approximately 1,000 LF of Tinley Creek using gabions.

Estimated Construction Cost: \$7,223,000 (includes cost TCR-3 Flood Control Project)
Status: Final Design – Under Construction.

- **WF-03 (West Fork of the North Branch of the Chicago River)**
Watershed: North Branch of the Chicago River
Location: Northbrook
Description: Stabilize approximately 200 LF along the West Fork of the North Branch of the Chicago River.
Estimated Construction Cost: \$449,000
Status: Final Design
- **ADCR-9 (Addison Creek)**
Watershed: Lower Des Plaines River
Location: North Riverside
Description: Stabilize approximately 410 LF along Addison Creek.
Estimated Construction Cost: \$625,000
Status: Final Design
- **ADCR-7 (Addison Creek)**
Watershed: Lower Des Plaines River
Location: Northlake
Description: Stabilize approximately 1,950 LF along Addison Creek.
Estimated Construction Cost: \$625,000
Status: Final Design
- **TICR-7 (Tinley Creek)**
Watershed: Calumet-Sag Channel
Location: Orland Park
Description: Stabilize approximately 2,200 LF of Tinley Creek using a combination of retaining walls and bioengineering techniques.
Estimated Construction Cost: \$1,463,000
Status: Final Design
- **TICR-8 (Tinley Creek)**
Watershed: Calumet-Sag Channel
Location: Orland Park
Description: Stabilize approximately 1,803 LF of Tinley Creek using a combination of retaining walls and bioengineering techniques.
Estimated Construction Cost: \$2,343,000
Status: Final Design

Flood Control Projects

The following is a detailed list of flood control projects. Flood control project locations are shown in Appendix B.

- **CHEB-G3 (Cherry Creek)**
Watershed: Little Calumet River
Location: Flossmoor
Description: Construct 900 LF of new open channel on the west side of Governors Highway, create a flood shelf in the existing channel, and add culverts.
Estimated Construction Cost: \$2,637,000
Status: Final Design. Finalizing IGA with the Village of Flossmoor and Homewood-Flossmoor High School.

- **TICR-5 (Tinley Creek)**
 Watershed: Calumet-Sag Channel
 Location: Orland Hills, Orland Park
 Description: Dredge 1,500 LF of Tinley Creek downstream of Lake Lorin and remove existing low flow pipe.
 Estimated Construction Cost: \$794,000
 Status: Final Design
- **SCAH-50 (Upper Salt Creek)**
 Watershed: Upper Salt Creek
 Location: Palatine
 Description: Construct 1,100 LF of storm sewer, engineered berm, and backflow preventers.
 Estimated Construction Cost: \$1,350,000
 Status: Under Construction
- **TICR-3 (Tinley Creek)**
 Watershed: Calumet-Sag Channel
 Location: Alsip, Crestwood, and Unincorporated Cook County
 Description: Increase conveyance capacity along 2,000 LF of Tinley Creek.
 Estimated Construction Cost: \$7,223,000 (includes cost TICR-SE1 Flood Control Project)
 Status: Under Construction
- **NVCR-3 (Navajo Creek)**
 Watershed: Calumet-Sag Channel
 Location: Palos Heights
 Description: Raise bike trail 3 ft to provide additional storage in Lake Arrowhead.
 Estimated Construction Cost: \$1,087,000
 Status: Final Design
- **DRCR-G1 (Deer Creek)**
 Watershed: Little Calumet River
 Location: Ford Heights
 Description: Increase channel conveyance and raise berm for 3,000 LF.
 Estimated Construction Cost: \$3,440,000
 Status: Final Design
- **FRCR-12 (Farmers Prairie Creek).**
 Watershed: Lower Des Plaines River
 Location: Park Ridge, Des Plaines, Nilens, and Maine Township
 Description: Construct conveyance improvements, pump station, additional storage, and a new force main.
 Estimated Construction Cost: \$13,760,000
 Status: Final Design
- **BUCR-3 (Buffalo Creek Reservoir Expansion)**
 Watershed: Lower Des Plaines River
 Location: Buffalo Creek Forest Preserve
 Description: Expansion of existing Buffalo Creek Reservoir and prairie enhancement
 Estimated Construction Cost: \$15,000,000
 Status: Final Design - 30%

- **MS-07 (Main Stem of the North Branch of the Chicago River)**
 Watershed: North Branch of the Chicago River
 Location: Chicago (Albany Park)
 Description: Joint project with City of Chicago Department of Transportation (CDOT) for diversion tunnel under Foster Ave.
 MWRD Contribution: \$25,920,000
 Status: Project advertised for construction on June 12, 2005, by the City of Chicago (CDOT)
- **ADCR-6B (Addison Creek)**
 Watershed: Lower Des Plaines River
 Location: Northlake, Stone Park, Melrose Park, Bellwood, and Westchester
 Description: Construct a 960 ac-ft reservoir and conveyance improvements.
 Conceptual Cost Estimate: \$133,921,000
 Status: Preliminary Engineering
- **DPR-14D (Lyons Levee)**
 Watershed: Lower Des Plaines River
 Location: Lyons
 Description: Enhance the height of the existing Lyons Levee to prevent overtopping.
 Estimated Construction Cost: \$6,500,000
 Status: Final Design
- **WF-06 (West Fork of the North Branch of the Chicago River)**
 Watershed: North Branch of the Chicago River
 Location: Glenview
 Description: Construct 80 ac-ft of storage, a floodwall, pump station, and a new storm sewer
 Conceptual Cost Estimate: TBD
 Status: Preliminary Engineering

Phase II Stormwater Management Program

Based on the direction provided by MWRD's Board of Commissioners on April 18, 2013, the MWRD initiated Phase II of its Stormwater Management Program to address local drainage problems, develop stormwater master plans across Cook County, and set up a program for purchasing flood prone and flood damaged property on a voluntary basis.

Based on stormwater problem and potential project information solicited from each municipality, township and regional agency having jurisdiction in Cook County a total of 38 projects have been approved by the Board of Commissioners (on September 19, 2013 and October 16, 2014) authorizing the MWRD assist local communities and agencies in the furtherance of these projects in the form of funding, engineering, and/or other assistance to be defined through negotiations with these entities. The approved projects are distributed across Cook County and include green infrastructure improvements, localized detention, upsizing critical storm sewers/culverts, pump stations, and establishing drainage ways.

In addition to assisting the local communities with the projects as described above, the MWRD initiated five Stormwater Master Plan pilot studies in 2015 to begin putting together a Cook County green and gray infrastructure plan that will better protect the community against severe weather events. The goal of these pilot studies is to identify solutions to 100-year flooding of

structures and basement backups which involve green and gray infrastructure located in publicly and privately owned properties. To achieve this goal, it will be necessary to demonstrate to the general public that no agency alone can solve the flooding woes plaguing our region. Through extensive public outreach and education, MWRD will work to educate the public as to the magnitude of the flooding issues faced by our region. Based on input from each of the four Councils of Government and the City of Chicago, the five pilot locations are: 1) the Little Calumet River/Calumet-Sag Channel drainage areas, 2) Northbrook, 3) Roberts Road drainage area, 4) Village of Harwood Heights, and 5) the City of Chicago's 8th Ward and surrounding area (on the southeast side). After completing the pilot Stormwater Master Plans, MWRD will continue to develop additional wet weather plans for other areas in Cook County over the next several years following the process to be defined through the pilot studies.

On August 7, 2014, the Board of Commissioners adopted a policy on the selection and prioritization of projects for acquiring flood-prone property. This program is comprised of three distinct components:

1. Local Sponsor Assistance Program - The MWRD's top priority will be to facilitate the Illinois Emergency Management Agency's federally funded program by assisting Local Sponsor communities in providing their share of the cost for property acquisition.
2. District Initiated Program - In communities where the MWRD's Board of Commissioners approved capital projects from the MWRD's Detailed Watershed Plans for further study, should the cost of a property acquisition alternative be less for equivalent benefits, the acquisition alternative will be pursued.
3. Local Government Application Program - The MWRD will consider applications directly from local governments requesting property acquisition of specific flood-prone structures.

In 2015, the MWRD partnered with the Village of Glenview and the Illinois Department of Natural Resources to acquire 17 flood-prone residential structures, negotiated an IGA to partner with the City of Des Plaines to acquire 13 flood-prone residential structures, and partnered with Cook County to assess the feasibility of acquiring flood-prone homes in unincorporated Riverside Lawn. In 2016, the MWRD plans to assist roughly five more communities with the acquisition of flood-prone structures located throughout Cook County.

The MWRD entered into seven Intergovernmental Agreements (IGAs) for Stormwater Management Phase II projects to allow for construction of local flood control projects. The following is a list of these phase II projects.

- **15-IGA-02**
Service Area: North
Location: Niles
Description: Relief Sewer project that consists of approximately 11,200 feet of new storm sewer to provide relief from surface water flooding. Village is responsible for the design, construction, operation, and maintenance.
Estimated Construction Cost: \$2,000,000
Status: Village is currently taking bids for this contract.
- **15-IGA-03**
Service Area: Calumet
Location: Hickory Hills, and Bridgeview

Description: Install a new trunk storm sewer under Roberts Road, varying in diameter from 30" to 60" and a 24" restrictor at 79th Street to maintain existing flows into the 71st Street Ditch.

Estimated Construction Cost: \$1,250,000

Status: Under Construction

- **15-IGA-06**

Service Area: Kirie/O'Hare

Location: Elk Grove Village

Description: Replace the fixed concrete weir with a pair of hinged gates that can be raised and lowered in order to keep the reservoir at its normal water surface elevation until outflow reaches a critical value downstream of Salt Creek

Estimated Construction Cost: \$1,125,000

Status: Under Construction

- **15-IGA-07**

Service Area: Stickney

Location: Franklin Park

Description: Channel Improvements on Silver Creek from Riverside Drive to Scott Street. Village is responsible for the design, construction, operation, and maintenance.

Estimated Construction Cost: \$3,000,000

Status: Under Construction

- **15-IGA-08**

Service Area: Egan

Location: Hoffman Estates

Description: The Village's Jones Road/Highland Boulevard Storm Sewer Improvements consist of construction of new 48" storm sewers as running from Jones Rd to Hillcrest Blvd along with asphalt pavement patching, curb & gutter, sidewalk, and driveway apron removal and replacement, utility structure adjustments, restoration and related improvements, which will provide direct flood reduction benefits to an estimated 7 residential structures and will reduce storm related access impacts for approximately 50 homeowners in the project area

Estimated Construction Cost: \$788,811

Status: Project is complete

- **15-IGA-09**

Service Area: Calumet

Location: Lansing

Description: Regrade ditch in Stony Island Avenue, upgrade existing pumping station, modify a detention pond, and reroute a storm sewer.

Estimated Construction Cost: \$1,173,000

Status: Awarded

- **15-IGA-10**

Service Area: North

Location: Northbrook

Description: New storm sewers on Shermer Road and Cherry Lane, ranging from 24" to 72" in diameter. Village of Northbrook to design, construct, operate and maintain.

Estimated Construction Cost: \$1,050,000

Status: Under Construction

Small Streams Maintenance Program (SSMP)

The 2015 Small Streams Maintenance Program (SSMP) successfully concluded the ninth full year of operation. The program, conceived and established in 2006, follows the MWRD's

stormwater management mission to improve flooding in urbanized areas through immediate and relatively simple remedies. The objective of the program is to remove obstructions and debris in the waterways that impede the natural drainage of Cook County's small streams and rivers with the potential for flooding urban areas.

The SSMP staff also attended meetings of the Watershed Planning Councils (WPCs), Councils of Governments (COGs) and local public works meetings to provide an overview of the program's purpose, objectives and goals. The local municipalities enthusiastically assisted in identifying blockages, stream deficiencies and sensitive areas within their jurisdictions. The partnership with the MWRD is important to the success of the program.

The SSMP is advertised on the MWRD's website and includes a link to allow citizens to report stream blockages. The MWRD also implemented a new citizen incident reporting system, in which, the public can report stream blockages as well as other waterway issues at mwrdd.org and on their Apple IOS devices. This new system is a GIS based system that allows SSMP staff to view incidents on a desktop and mobile application. All inspections and work orders are now documented on the SSMP application.

MWRD and contractor crews removed approximately 23,573 cubic yards of debris in 2015. In addition 2,212 cubic yards of river and canal debris was removed by the MWRD's debris and pontoon boat crews along the Chicago Area Waterways (CAWS). In 2015, the District continued to utilize a two-year stream maintenance contract. The District paid a total of \$2,139,180 in 2015 to contractors to provide stream maintenance. Listed in the table below are the debris amounts removed in each watershed.

Watershed	2012 Cubic Yards Removed	2013 Cubic Yards Removed	2014 Cubic Yards Removed	2015 Cubic Yards Removed
Little Cal	5,564	7,405	3,615	6,545
Cal Sag	7,414	8,115	5,200	5,860
Lower Des Plaines	5,310	10,038	9,939	8,691
North Branch	4,313	4,533	1,896	1,606
Upper Salt Creek	590	480	1,095	491
Poplar Creek	201	250	150	380
Total	23,392	30,821	21,895	23,573

Other major accomplishments of the SSMP in 2015 include the following:

- Cherry Creek, stream bank stabilization at Cal Union Reservoir Pool Number 5. Approximately 860 ft of rip rap and native slope stabilization.

- West Fork of the North Branch of the Chicago River, reservoir improvements at Techny 32A Reservoir. Repairs included placement of rip rap at the base of the spillway.

The SSMP will continue in 2016 at a contract budget value of \$2,500,000. It is anticipated that 30,000 cubic yards of debris will be removed from streams and rivers in 2016. Major goals include standardizing procedures, identifying critical stream areas, scheduling critical inspections and continuing to introduce the MWRD's Small Stream crews to local governments to increase the public's awareness of the MWRD's presence and execution of the SSMP.

The 2015 expenditure for the SSMP program (Functional Area 4332) was \$3,892,982. Therefore, the average cost per cubic yard was \$165.14.

Watershed Management Ordinance

The Watershed Management Ordinance (WMO) establishes uniform, minimum, countywide stormwater management regulations throughout Cook County. Components which are regulated under the WMO include drainage and detention, volume control, floodplain management, isolated wetland protection, riparian environment protection, and soil erosion and sediment control. The MWRD's Board of Commissioners adopted the Watershed Management Ordinance on October 3, 2013, which became effective on May 1, 2014. The WMO was amended by MWRD's Board of Commissioners on July 10, 2014, to incorporate the Infiltration/Inflow Control Program (Article 8). The MWRD continues to develop and maintain the Technical Guidance Manual (TGM), which serves as a technical reference to the WMO. The WMO webpage, wmo.mwrld.org, contains more information on both the WMO and the TGM.

Joint Funding Agreement with the United States Geological Survey (USGS) for Stream Gaging Stations in Cook County

The MWRD entered into a Joint Funding Agreement (JFA) with the USGS beginning in 2006 and has since renewed the agreement annually to fund the continued maintenance and operation of various stream gages and rain gages within Cook County. Under the 2015–2016 JFA, the MWRD is funding the following nine stream gages:

- Salt Creek at Rolling Meadows
- Salt Creek near Elk Grove Village
- Salt Creek at Western Springs
- Des Plaines River at Lyons
- North Branch of the Chicago River at Deerfield
- North Shore Channel at Wilmette
- Deer Creek near Chicago Heights
- Natalie Creek at Midlothian
- Tinley Creek near Palos Park

and two rain gages located on Salt Creek near Rolling Meadows and on Natalie Creek at Midlothian, respectively. The data from the streamflow gaging stations have proven useful for the MWRD with calibration of the hydrologic and hydraulic models in the DWP development, and MWRD will continue to use data from these stations in ongoing and future planning and design of stormwater improvements. Real time data from the stream gages are available on the USGS's website at <https://waterdata.usgs.gov/nwis>. Precipitation data are available at

<http://il.water.usgs.gov/gmaps/precip/index.php>. A map showing the location of the gages is presented in Appendix D.

Coordination with Watershed Planning Councils (WPCs)

The Act required the formation of WPCs, which serve as advisory bodies to the MWRD for its stormwater management program. Membership in the WPCs includes the chief elected official, or his or her designee, for municipalities and townships, and the Cook County Board President, or his or her designee, for unincorporated areas. In 2005, the municipal conferences, with assistance from the MWRD, established WPCs for the watersheds of the North Branch of the Chicago River, the Lower Des Plaines River, the Calumet-Sag Channel, the Little Calumet River, Poplar Creek, and Upper Salt Creek.

Since 2005, each of the WPCs has met at least quarterly, as required by the Act. WPC meetings serve as a mechanism for representatives of municipalities and townships to be updated on the progress of the DWPs, SSMP, WMO, and capital projects, as well as to communicate concerns of the public to the MWRD.

The following Councils of Government (COGs) are responsible for coordination of the WPCs: Northwest Municipal Conference, West Central Municipal Conference, South Suburban Mayors and Managers Association, and Southwest Conference of Mayors. The MWRD negotiated agreements with each of the COGs to provide administrative assistance related to coordination of the WPCs; the current agreement was renewed for 2013, 2014 and 2015. In 2013, the COGs assisted the MWRD by arranging meeting schedules, drafting and distributing meeting agendas, distributing information from the MWRD to WPC members, assembling contact information for WPC representatives, and forwarding information about stormwater management concerns from the WPC members to the MWRD.

Green Infrastructure Program

The MWRD entered into a Federal Consent Decree (CD) with USEPA and IEPA on January 6, 2014. Appendix E of the CD requires MWRD to create a Green Infrastructure Plan to guide the goals of its Green Infrastructure Program. The Plan was submitted to the USEPA and IEPA in December 2014 and approved in October 2015.

Elements of the Green Infrastructure Program include an expanded rain barrel program, land use policy for property owned by MWRD, community technical assistance, a reporting schedule, and a plan for early monitoring, evaluation, and knowledge building.

The District calculates the Design Retention Capacity (DRC) of each green infrastructure project to quantify the volume of stormwater stored and thus kept out of the local sewer system during storm events. The DRC is expressed in gallons and it accounts for design data such as the area of the GI components, the depth and porosity of prepared soil and aggregate layers, the surface storage volume, and the infiltration capacity of the native soil.

The MWRD has partnered with organizations with similar goals. One such example is with the Chicago Public Schools, which completed a major rehabilitation of the grounds of four elementary schools with Stormwater Green Infrastructure (GI) as a major design component of each project. MWRD contributed to the design process and contributed close to \$500,000 to each of the four schools, for a total of approximately \$1,907,000, specifically on GI measures that will reduce local flooding and the amount of rainwater entering the local combined sewer systems. As a part of the inter-governmental partnership, the City of Chicago's Department of

Water Management also provided close to \$2,000,000 for GI at the schools. Each project included various amounts of permeable pavement, rain gardens, native landscaping, stormwater trees, bioswales, and bioretention areas greenways to store and infiltrate stormwater generated from the site. The four elementary schools – Grissom, Leland, Morrill and Schmid – are all located in low income areas where homes have experienced basement backups. The design and construction of the four sites involved a high degree of community involvement and contained educational components to inform students and the surrounding community about the benefits of GI. All four projects were completed in the fall of 2014. The total DRC of the four schools was 731,004 gallons.

Due to the success of the school projects, the MWRD committed to fund up to \$500,000 per school, for a total of 30 schools, for the period 2015 to 2020. The Chicago Department of Water Management has committed to contributing a similar amount of money. In 2015, six schools were designed with the intention of being transformed; they were: Willa Cather Elementary School, Daniel J. Corkery Elementary School, Frank W. Gunsaulus Elementary Scholastic Academy, Jose Clemente Orozco Elementary School, James Wadsworth Elementary School and Oliver S. Westcott Elementary School. Due to funding issues, only Cather and Orozco were completed in 2015. The total DRC for the two schools was 364,504 gallons. It is anticipated that Corkery, Gunsaulus and Wadsworth will be built in 2016.

MWRD is keeping records of and investigating funding the GI components of other projects throughout its service area. For calendar year 2015, MWRD partnered with three suburbs within its service area and the Chicago Housing Authority to develop flood mitigation projects that incorporate GI technology. The designated areas have developed projects that will reduce local flooding. The MWRD has committed a total of over \$1,500,000 to fund the GI components of these projects.

The City of Evanston partnered with MWRD to reconstruct its Civic Center parking lot using GI in the forms of bioswales, rain gardens, and three different types of pervious pavement, which provides an estimated DRC of 167,278 gallons. The plan was put out for bid in the spring of 2015 and completed in October of 2015. The cost to the MWRD is anticipated to be \$750,000.

MWRD developed construction ready engineering plans to address urban flooding issues using GI in the City of Blue Island. The plans included six rain gardens in the right-of-way and two permeable parking areas, which provides an estimated DRC of 167,278 gallons. The plan was put out for bid in the spring of 2015 and completed in November of 2015. The project had a cost of approximately \$663,000 and it was completely funded, designed and constructed by the MWRD.

The Village of Wilmette partnered with the MWRD to construct four green alleys within the Village. The MWRD agreed to pay the difference between using conventional pavement and pervious pavement, which provides an estimated DRC of 74,677 gallons. The rainwater that previously would run off to the local sewer system will now be absorbed into the ground. The project was started in August of 2015, and completed in November of 2015. The cost to the MWRD is anticipated to be \$130,000.

MWRD is funding a project at the Chicago Housing Authority's Dearborn Homes where an existing 290,000 gallon storage tank will be retrofitted with a control system in order to capture and store stormwater that can be used for irrigation of the local grounds and a nearby park. The design cost of this project is \$327,695, and was started in February, 2015. The MWRD will fund a similar control system for an approximately 7,500,000 gallon underground detention vault to

be constructed by the Village of Northbrook at Wescott Park in 2016. The underground detention vault will have a dedicated sump that provides approximately 160,000 gallons of stormwater storage, allowing the stored stormwater to be re-used for irrigation.

The Village of Kenilworth will partner with the MWRD to construct green infrastructure components as part of the Village's Phase I Infrastructure Program, to be constructed in 2016. With MWRD collaboration, the Village has designed plans to install permeable asphalt pavement and native landscaping to help reduce flooding in the combined sewer area of the Village. The Village identified 105 homes which will directly benefit from the project. The project will provide approximately 1,300,000 gallons of DRC. The cost to the MWRD is anticipated to be \$1,200,000.

In addition to the Northbrook and Kenilworth projects, four other projects are anticipated to be designed in 2016. These projects will be located in Berwyn, Crestwood, Nilens and Skokie. All of the above community projects will be using various Green Infrastructure technologies to augment existing gray infrastructure to reduce local flooding. Besides assistance in flood reduction, GI will also keep stormwater out of the stressed combined sewer systems. The MWRD is already investigating similar potential projects to be funded in 2017 and beyond.

The MWRD is also planning on installing a permeable pavement parking lot and a bioswale at its Egan Water Reclamation Plant, with construction starting in 2016 and continuing into 2017.

Rain Barrel Program

To minimize basement backups, combined sewer overflow volume, and flooding, the MWRD introduced a new rain barrel distribution program that offers free rain barrels to Cook County residents and organizations that meet certain qualifications. The MWRD will deliver free rain barrels through three distribution networks: municipalities; campus-type facilities; and non-government organizations, planning groups, or community groups.

Municipalities must sign an intergovernmental agreement with the MWRD to participate. Once registered, the village or city can make barrels available to residents who meet certain requirements:

- The resident must have property that has downspouts that are directly connected to the sewer system;
- The homeowner must agree to disconnect all downspouts from the sewer system;
- The homeowner must place rain barrels on each downspout, where feasible.

The MWRD will also provide free rain barrels to campus-type facilities that are committed to being a community partner and good steward of stormwater. These types of facilities include: schools, municipal properties (i.e. town halls, libraries, park district buildings, fire and police stations, garage/outbuildings), churches, community centers, senior centers, hospitals and clinics.

Non-government organizations, planning groups, or community groups throughout Cook County will also have access to the MWRD's Rain Barrel Program for well thought out regional plans. These entities must submit a detailed plan and assure that there will be proper installation, education, care and maintenance of the barrels.

For those who do not qualify for the free barrels, the MWRD will continue to sell and deliver them for \$58 plus tax via www.mwrd.org. The MWRD distributed 33,406 free rain barrels in 2015.

Public Affairs

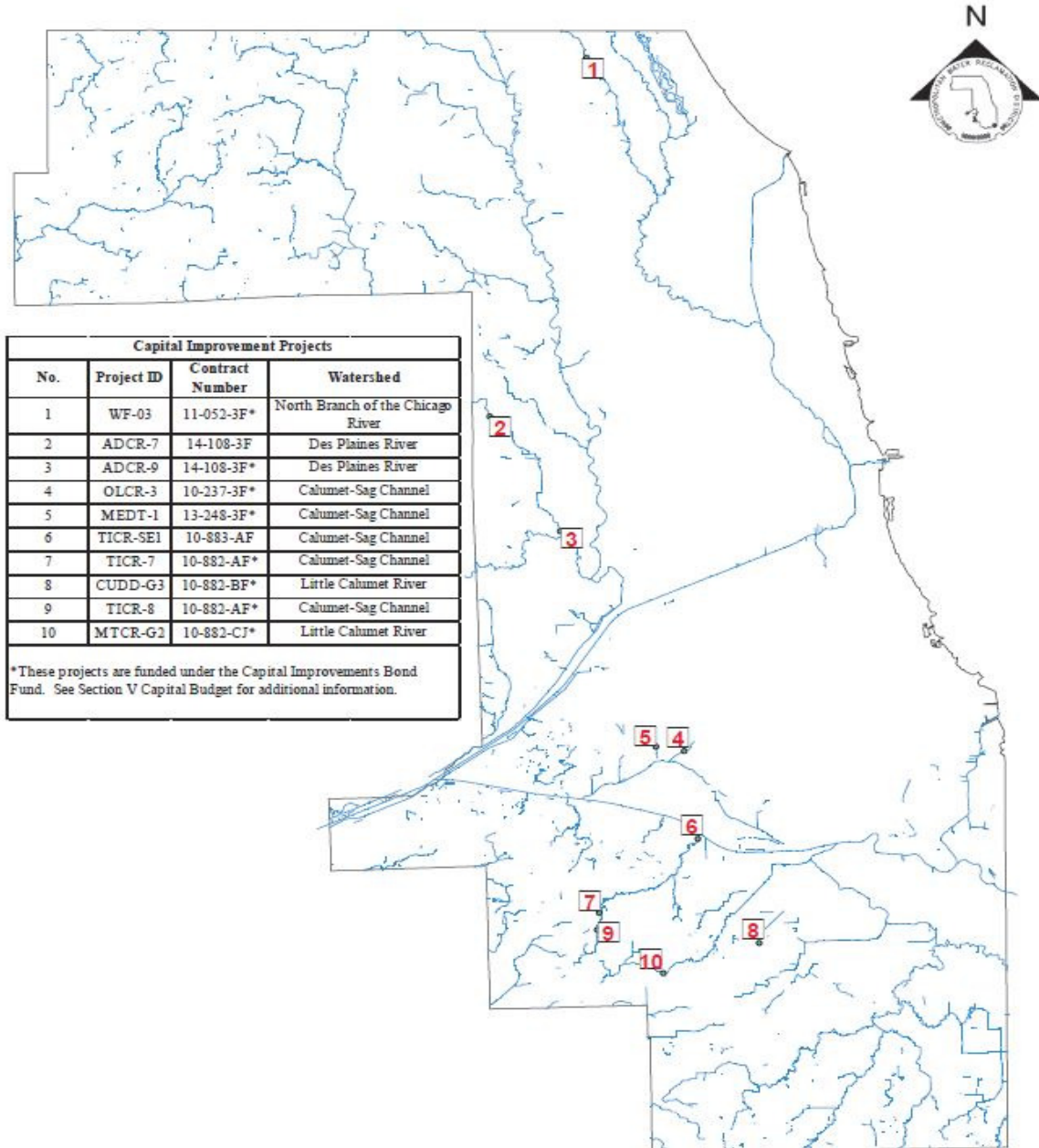
In 2015, MWRD staff provided information about the MWRD and the Stormwater Management Program at various public events in communities throughout the region and at various technical conferences. The MWRD attends all WPC meetings to provide updates on watershed planning efforts, administration of the WMO, and stream maintenance activities. These meetings are open to the public and provide an opportunity for concerns of the public to be communicated to the MWRD. The projects that MWRD is partnering with Chicago Public Schools and Department of Water Management also have a large public affairs component, including community meetings to recommend design elements, community planting days, and ribbon cutting ceremonies, where the value of green stormwater infrastructure is presented and demonstrated. The MWRD also worked to educate the general public on their water footprint by attending numerous community and environmental fairs. The 2015 Stormwater Management related press releases are listed in Appendix F.

MWRD Staff will continue to participate in community outreach events and provide rain barrel giveaways through the Water Environment Pledge initiative in 2016. The MWRD will continue to participate in Watershed Planning Council meetings, and continue to promote the MWRD stormwater management efforts using press releases and other media outlets.

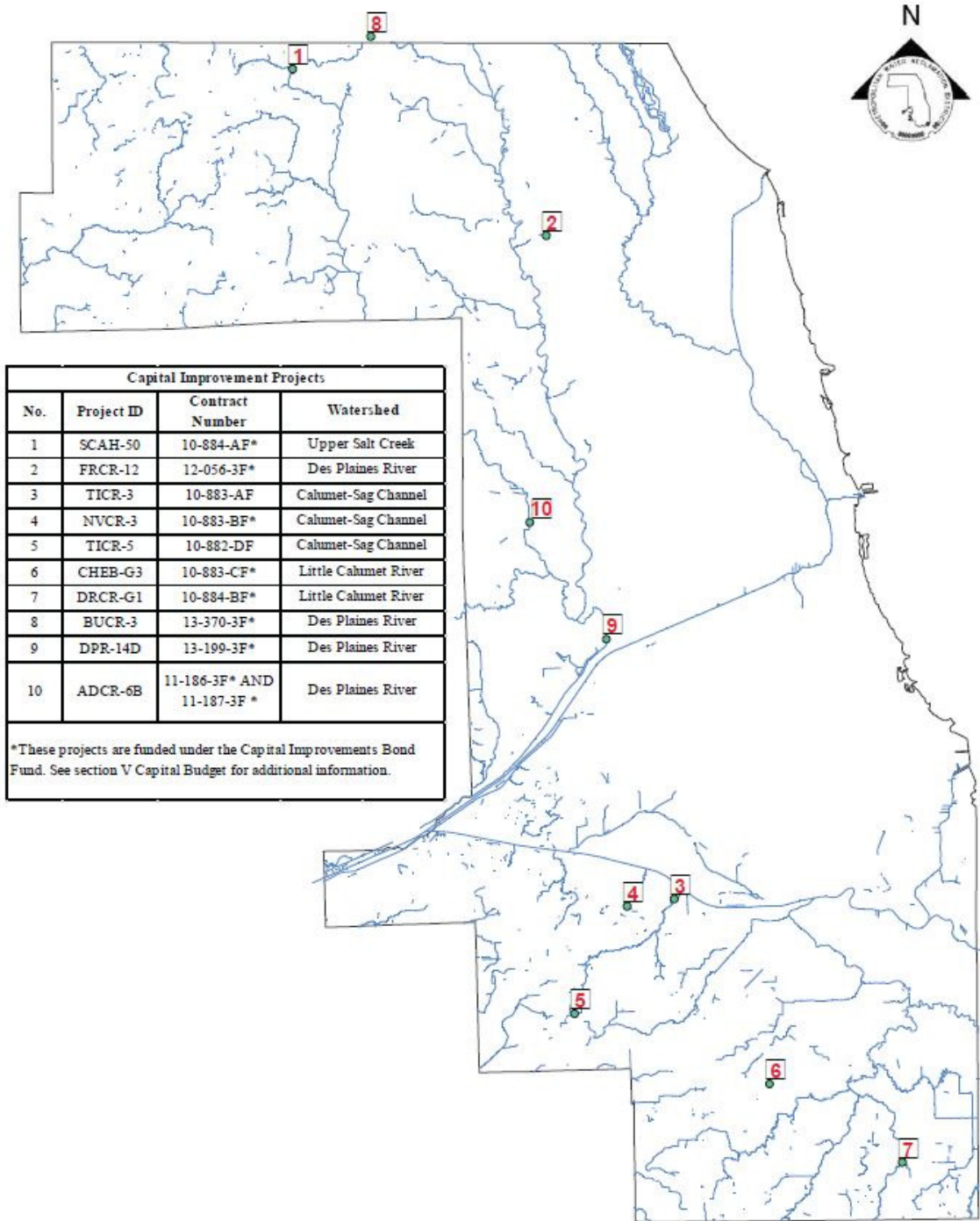
Appendices

Appendix A	Streambank Stabilization Projects
Appendix B	Flood Control Projects
Appendix C	Completed Projects
Appendix D	MWRD and USGS Joint Funded Stream Gages
Appendix E	Committed Expenditures
Appendix F	Stormwater Management Related Press Releases

Appendix A - Stream Bank Stabilization Projects



Appendix B - Flood Control Projects



Appendix C – Completed Projects

Contract:	10-885-AF	(Streambank Stabilization Project for I&M Canal Tributary D)
	Construction	
	Cost:	\$1,124,000
	Construction	
	Duration:	363
	IMTD-SE-1	
	Watershed:	Calumet-Sag Channel
	Location:	Willow Springs
	Description:	Stabilize approximately 1,250 LF of I&M Canal Tributary D using a combination of concrete masonry units and bioengineering techniques.
Contract:	14-254-3FR	
	Construction	
	Cost:	\$697,030
	Construction	
	Duration:	90
	Green	
	Infrastructure	
	Location:	Blue Island
Contract:	14-IGA-01	
	Construction	
	Cost:	\$9,508,000
	MWRD Funding:	\$5,170,087
	Completed:	6/26/2015
	Location:	Elmwood Park
	Description:	Elmwood Park Floodwall and Pump Station
Contract:	14-IGA-02	
	Construction	
	Cost:	\$10,981,850
	MWRD Funding:	\$6,000,000
	Completed:	8/5/2015
	Location:	Glenview
	Description:	East of Harms
Contract:	14-IGA-03	
	Construction	
	Cost:	\$2,221,436
	MWRD Funding:	\$1,821,578
	Completed:	12/16/2015
	Location:	Westchester
	Description:	Mayfair Reservoir Expansion
Contract:	14-IGA-04	

	Construction Cost:	\$2,000,000
	MWRD Funding:	\$1,500,000
	Completed:	11/8/2015
	Location:	Des Plaines
	Description:	Des Plaines 12
Contract:	15-IGA-12	
	Construction Cost:	\$6,176,615
	MWRD Funding:	\$2,000,000
	Completed:	11/11/2015
	Location:	Winnetka
	Description:	Winnetka 4
Contract:	15-IGA-11	
	Construction Cost:	\$146,455
	MWRD Funding:	\$95,000
	Completed:	12/11/2015
	Location:	Williow Springs
	Description:	Willow Springs 1
Contract:	14-IGA-05	
	Construction Cost:	\$1,519,000
	MWRD Funding:	\$608,000
	Completed:	10/19/2015
	Location:	Evanston
	Description:	Evanston Civic Center Parking Lot (Green Infastructure)
Contract:	15-IGA-17	
	Construction Cost:	\$836,561
	MWRD Funding:	\$130,000
	Completed:	10/29/2015
	Location:	Wilmette
	Description:	Wilmette Green Alleys (Green Infastructure)
Contract:	15-IGA-17	
	Construction Cost:	\$836,561
	MWRD Funding:	\$130,000
	Completed:	10/29/2015
	Location:	Wilmette
	Description:	Wilmette Green Alleys (Green Infastructure)

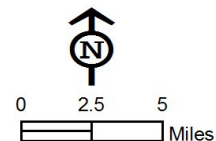
Appendix D - MWRD and USGS Joint Funded Stream Gages



USGS Stream Gages and Rain Gages

Funded by MWRDGC in 2015 - 2016

File: \\COBRA\GIS\USGS\Gages2015.mxd Date: 01-12-17 Drawn by: TPC



Appendix E – Committed Expenditures

Category	Description	2015 Committed Expenditures
Personal Services: Consultants	Fees paid to consultants for professional services rendered, including the following projects:	\$ 9,093,691
	Preliminary Engineering	\$ 7,816,443
	Final Engineering	\$ 1,248,647
	Post Award	28,601
Personal Services: In-House	Salaries and associated costs related to MWRD personnel:	\$ 5,759,735
Contractual Services	Fees paid for services provided by COGs, agencies or companies, including the following:	\$ 20,472,704
	COGs Administrative Contracts:	\$ 34,063
	Small Streams Maintenance Program	\$ 3,895,852
	Small Streams Maintenance Program Waste Disposal	\$ 37,138
	Court Reporting Services	\$ 9,279
	USGS Joint Funding Agreement for Stream Gauging Stations in Cook County	\$ 68,05,
	Streetscape and Sustainability Design Program	\$ 70,000
	Flood Control Facility Land Acquisition and Appraisals	\$ 0
	Waterways Facilities Structures (Construction)	\$ 1,457,351
	Repairs to Collection Facilities	\$ 0
	Permit Review	\$ 9,613
	IGAs	\$ 6,570,943
	Elmwood Park Flood Control Project	\$ 792,522
	Glenview IGA for East Harms Road	\$ 1,500,000
	US Army Corps – Lyons Levee Flood Control Improvements	\$ 150,000
	11-889-5F Strmbnk Stabilization Proj Higgins and McDonald Creek	\$ 2,387,576
	10-885-AF Strmbnk Stabilization of I&M Canal	\$ 1,146,211
	Equity Transfer to B&I Fund	\$ 2,123,920
	Payments for Easements	\$ 190,000
	Miscellaneous Contractual Services	\$ 30,186
Administrative Expenses	Materials, equipment, supplies:	\$ 409
	Total 2015 Committed Expenditures	\$ 35,326,539

Appendix F - 2015 Stormwater Management Related Press Releases

Jan. 9	MWRD Board elects new officers; <i>Attorney Mariyana T. Spyropoulos</i> named as new President
Jan. 29	New green roof tops Racine Ave. Pumping Station
Feb. 11	Good news for homeowners: MWRD to issue tax abatement
Feb. 18	Mayor Emanuel, Rep. Quigley, MWRD and Ald. Laurino Announce Funding Secured for Albany Park Storm Water Tunnel
March 18	Award-winning partnership builds healthy playgrounds, captures stormwater
April 6	MWRD to host open house at Stickney Water Reclamation Plant April 18
May 4	Value of Water Coalition Releases New Poll Results: Over 80% of Americans Believe Securing Sustainable Water Supplies to Be a National Priority; The Value of Water Coalition Highlights the Importance of Investing in Water Resources and Infrastructure during National Drinking Water Week
May 6	MWRD's Thornton Quarry Transitional Reservoir will add storage capacity for stormwater in the south suburbs
May 13	MWRD introduces two new boats to help clean the Chicago River
May 13	May 7 marks last Board meeting for MWRD Commissioner Patrick D. Thompson
May 19	MWRD introduces two new boats to help clean the Chicago River
May 21	MWRD gives flood prevention tips through Space to Grow partnership
May 27	Parking lot replacement provides green benefits at MWRD's Egan WRP
June 2	MWRD sparks environmental conversation during 'On the Table' discussions
June 3	MWRD christens two new skimmer boats: 'Skim Pickens' and 'Skimmy Dipper'
June 9	Apr. 8 MWRD seeks applicants for Sustainable Landscaping and Biosolids User awards
June 12	MWRD holding open house to discuss Burbank flooding solutions
June 22	MWRD Vice President McGowan brings rain barrel program to West Side
June 23	Harwood Heights, MWRD host public meeting for stormwater management
July 1	Platinum awards cement MWRD's sterling reputation for clean water
July 7	Statement from the MWRD regarding Moody's rating action
July 8	Ukrainian delegation tours MWRD properties, discusses water issues with commissioners
July 14	Conserving water takes priority on the West Side

Aug. 17 Cook, DuPage counties, MWRD work on Busse Woods Reservoir South Dam project to minimize Salt Creek flooding

Aug. 24 Vendor outreach event gives firms exposure to MWRD work process

Aug. 31 Thornton Composite Reservoir ribbon cutting set for Sept. 1

Sept. 2 Preparing for tomorrow's water: MWRD, Sen. Durbin, Reps. Kelly and Quigley, US EPA, IEPA officials cut ribbon on Thornton Composite Reservoir

Sept. 3 No sandbags needed: Completed Levee 37 project prevents flooding in Des Plaines River communities

Sept. 8 WEF service project to construct new learning garden at Pershing East Magnet School, Chicago

Sept. 10 Vendor outreach event gives firms exposure to MWRD work process

Sept. 18 U.S. EPA Acting Deputy Administrator Stan Meiburg to Keynote WEFTEC 2015 Water Leaders Session July 1 Severe storms impact Cook County

Sept. 21 Australian engineers pay visit to MWRD to learn about public works

Sept. 22 Glenview teams with MWRD, Cook County to provide flood relief

Sept. 23 Water Environment Federation Convenes in Chicago, Sept. 26-30

Sept. 24 WEF service project to construct new learning garden at Pershing East Magnet School, Chicago with ribbon cutting Sat., Sept. 26, 2 p.m. at Pershing East Magnet School, 3200 S. Calumet Ave., Chicago

Oct. 6 Imagine a day without water: MWRD joins national effort to raise awareness for challenges facing water infrastructure and resources

Oct. 7 Free family fun and education at stormwater expo

Oct. 8 Outreach fair gives firms platform to explore work opportunities with MWRD

Oct. 13 Improved Centennial Trail to open with scenic overlook

Oct. 16 Commissioner David J. Walsh appointed to MWRD Board

Oct. 17 Improved Centennial Trail opens to great fanfare

Oct. 21 Improved Centennial Trail opens to great fanfare; New scenic overlook offers sweeping views above the Des Plaines River valley

Oct. 23 Pershing East Magnet School is home to new learning garden; MWRD, CPS, city of Chicago and Water Environment Fed. team up on project

Oct. 30 MWRD seeks feedback on creative solutions to flooding in Hickory Hills, Justice, Palos Hills, Bedford Park and Bridgeview

Nov. 13 Second vendor outreach event connects firms to MWRD opportunity

Nov. 13 U.S. EPA officials tour MWRD projects, facilities to see local resources recovered, water transformed

Nov. 16 Chi-Cal Rivers Fund Announces \$1.4 Million in Grants; *Public-private partnership funds five projects to improve stormwater management, habitat, and green space in Chicago/Calumet Region*

- Nov. 20 Sustainability efforts unearthed at MWRD's annual summit
- Nov. 24 Space to Grow program unveils two new schoolyard transformations
- Dec. 1 Thornton Reservoir takes in combined sewer overflow for first time
- Dec. 17 MWRD President Spyropoulos covers strong fiscal record, water quality improvements, stormwater management and resource recovery at City Club of Chicago
- Dec. 17 MWRD's Egan Water Reclamation Plant celebrates 40 years of service and innovation in enhancing water quality and pioneering technology
- Dec. 18 Senators Durbin, Kirk, Congressional delegation work to improve Great Lakes, local waterways in federal Omnibus Appropriations bill
- Dec. 24 Ribbon cuttings help ring in improvements in water treatment, stormwater management in 2015