

# Metropolitan Water Reclamation District of Greater Chicago

## Stormwater Management Program

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2014 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 2014, the MWRD continued preliminary engineering and design work for several of the alternatives recommended in Detailed Watershed Plans (DWPs), continued work on the Small Streams Maintenance Program (SSMP), effectuated the Watershed Management Ordinance (WMO), on May 1, 2014, and continued the rain barrel program. New activities for 2014 were the development of shovel-ready and conceptual projects under Phase II of the MWRD's Stormwater Management Program and starting work on a Green Infrastructure Program. 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).

### 2014 Accomplishments for the Stormwater Management Program include the following:

- Continued design of recommended stormwater improvements, or alternatives, identified in the DWPs that were completed in 2011, including projects summarized in the Stormwater Management Activities section of the Annual Report;
- Continued design for the following projects:
  - Streambank stabilization projects on reaches of Tinley Creek, Midlothian Creek, I&M Canal Tributary, Melvina Ditch, Oak Lawn Creek, Calumet Union Drainage Ditch, Middle Fork and the West Fork of the North Branch of the Chicago River, Addison Creek, Higgins Creek, and McDonald Creek;
  - Flood control projects on reaches of Upper Salt Creek, Deer Creek, Tinley Creek, Navajo Creek, Cherry Creek East Branch, Addison Creek, Des Plaines River, Buffalo Creek, Main Stem and the West Fork of the North Branch of the Chicago River, Skokie River and Farmers Prairie Creek;
- WMO became effective on May 1, 2014;
- Developed a Technical Guidance Manual for the Implementation of the WMO;
- Continued construction on the Heritage Park Flood Control Facility;

- Continued the removal of debris and blockages from the 532 miles of small streams within the MWRD's service area as part of the Small Streams Maintenance Program (SSMP).
- Adoption of a policy on the selection and prioritization of projects for acquiring flood-prone property.

## 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 2014, the following Streambank Stabilization Projects were awarded for construction:

- IMTD-SE1 (I&M Canal Tributary D)
- HGCR-1 (Higgins Creek)
- HGCR-2 (Higgins Creek)
- MDCR-5 (McDonald Creek)

The above projects awarded in 2014 are scheduled to be substantially completed in 2015.

### 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 1,070 LF of Oak Lawn Creek using soldier piles and precast concrete panels.  
Estimated Construction Cost: \$4,375,000  
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 - 98%
- **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: \$8,000,000  
Status: Final Design - 60%
- **TICR-SE1 (Tinley Creek)**  
Watershed: Calumet-Sag Channel

Location: Crestwood

Description: Stabilize approximately 1,000 LF of Tinley Creek using gabions.

Estimated Construction Cost: \$1,479,000

Status: Final Design - 98%

- **IMTD-SE1 (I&M Canal Tributary D)**

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.

Awarded Construction Cost: \$ 1,124,000

Status: Under Construction

- **MF-06N (Middle Fork of the North Branch of the Chicago River - North)**

Watershed: North Branch of the Chicago River

Location: Northfield

Description: Stabilize approximately 1000 LF along the Middle Fork of the North Branch of the Chicago River.

Estimated Construction Cost: \$988,000

Status: Final Design - 98%

- **MF-06S (Middle Fork of the North Branch of the Chicago River - South)**

Watershed: North Branch of the Chicago River

Location: Northfield

Description: Stabilize approximately 150 LF along the Middle Fork of the North Branch of the Chicago River.

Estimated Construction Cost: \$534,000

Status: Final Design - 98%

- **MF-07 (Middle Fork of the North Branch of the Chicago River)**

Location: Northfield

Watershed: North Branch of the Chicago River

Description: Stabilize approximately 500 LF along the Middle Fork of the North Branch of the Chicago River.

Estimated Construction Cost: \$525,000

Status: Final Design - 98%

- **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 - 98%

- **ADCR-9 (Addison Creek)**

Watershed: Lower Des Plaines River

Location: North Riverside

Description: Stabilize approximately 410 LF along Addison Creek.

Estimated Construction Cost: \$450,000

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: \$400,000  
 Status: Final Design
- **HGCR-1 (Higgins Creek)**  
 Watershed: Lower Des Plaines River  
 Location: Des Plaines  
 Description: Stabilize approximately 400 LF along Higgins Creek.  
 Awarded Construction Cost: \$1,150,000  
 Status: Under Construction
- **HGCR-2 (Higgins Creek)**  
 Watershed: Lower Des Plaines River  
 Location: Unincorporated Elk Grove Township  
 Description: Stabilize approximately 820 LF along Higgins Creek.  
 Awarded Construction Cost: \$964,000  
 Status: Under Construction
- **MDCR-5 (McDonald Creek)**  
 Watershed: Lower Des Plaines River  
 Location: Mount Prospect  
 Description: Stabilize approximately 1280 LF along McDonald Creek.  
 Awarded Construction Cost: \$332,000  
 Status: Under Construction
- **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. Working on acquiring required easements.
- **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. Working on acquiring required easements

### **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: Homewood  
 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: \$3,410,000  
 Status: Final Design

- **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: \$200,000  
 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: \$1,451,000  
 Status: Final Design
- **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: \$2,617,000  
 Status: Final Design
- **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: \$509,000  
 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, Niles, and Maine Township  
 Description: Construct conveyance improvements, pump station, additional storage, and a new force main.  
 Estimated Construction Cost: \$14,595,000  
 Status: Final Engineering - 60%
- **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 for diversion tunnel under Foster Ave.  
 MWRD Contribution: \$25,920,000  
 Status: Final Design by City of Chicago (Chicago Department of Transportation)
- **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.  
 Conceptual Cost Estimate: \$9,800,000  
 Status: Preliminary Engineering
- **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: \$12,900,000  
 Status: Preliminary Engineering
- **SR-08 (Skokie River)**  
 Watershed: North Branch of the Chicago River  
 Location: Northfield  
 Description: Construct a levee on both sides of Interstate 94.  
 Conceptual Cost Estimate: \$5,761,000  
 Status: Approved for Preliminary Engineering

### **Heritage Park Flood Control Facility**

While the DWPs were being developed, the MWRD considered funding projects that would provide regional benefits as identified in studies performed by regional agencies such as the Illinois Department of Natural Resources/Office of Water Resources (IDNR-OWR) and the United States Army Corps of Engineers (USACE). One such project is the Heritage Park Flood Control Facility, which will provide the required compensatory storage for USACE's Levee 37 project along the Des Plaines River. In 1999, the USACE approved a study for the Upper Des Plaines River from the Wisconsin/Illinois state line to Riverside, Illinois. Known as the Des Plaines River Phase I Study, its purpose is to identify solutions to flooding along the main stem of the river. Subsequently, the MWRD began negotiations with the Wheeling Park District and the Village of Wheeling for the use of Heritage Park in Wheeling as the site of the compensatory storage required for Levee 37. The MWRD entered into an intergovernmental agreement with the Wheeling Park District and the Village of Wheeling on April 1, 2010, and final design of the Heritage Park Flood Control Facility commenced shortly thereafter. Final design was completed in 2011, and a construction contract was awarded in 2012 for \$29.5 million. Construction is currently underway and is anticipated to be completed in 2015. Based on MWRD's completion of the necessary compensatory storage at Heritage Park, the U.S. Army Corps of Engineers received the necessary authorization to complete their Levee 37 project. The Heritage Park

project includes an expansion to the existing stormwater detention reservoir known as Lake Heritage, excavation of new floodwater storage areas east and west of Buffalo Creek, and passive and active recreation components. An exhibit depicting the Heritage Park Flood Control Facility is provided in Appendix C.

## **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 as depicted on the exhibit included in Appendix G, 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 will initiate 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 8<sup>th</sup> 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 2014, the MWRD initiated negotiations for Intergovernmental Agreements for acquisitions under the District Initiated Program in the Village of Glenview and Unincorporated Riverside Township. In 2015, the MWRD will perform outreach to all communities in Cook County to provide information about the Local Sponsor Assistance and Local Government Application Programs, and seek applications for assistance with acquisitions.

### **Small Streams Maintenance Program (SSMP)**

The 2014 Small Streams Maintenance Program (SSMP) successfully concluded the eighth 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](http://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 21,895 cubic yards of debris in 2014. In addition 2,600 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 2014, the District continued to utilize a two-year stream maintenance contract. The District paid a total of \$2,064,924.88 in 2014 to contractors to provide stream maintenance. Listed in the table below are the debris amounts removed in each watershed.

<b>Watershed</b>	<b>2011 Cubic Yards Removed</b>	<b>2012 Cubic Yards Removed</b>	<b>2013 Cubic Yards Removed</b>	<b>2014 Cubic Yards Removed</b>
Little Cal	9,526	5,564	7,405	3,615
Cal Sag	3,195	7,414	8,115	5,200
Lower Des Plaines	12,874	5,310	10,038	9,939
North Branch	4,338	4,313	4,533	1,896
Upper Salt Creek	645	590	480	1,095
Poplar Creek	184	201	250	150
<b>Total</b>	<b>30,762</b>	<b>23,392</b>	<b>30,821</b>	<b>21,895</b>

Other major accomplishments of the SSMP in 2014 include the following

- West Fork of the North Branch of the Chicago River, stream bank stabilization at Techny 32C Reservoir. Repairs included placement of approximately 100 feet of rip rap on the east bank downstream of the pump station and completed on June 19 and 20 for a total cost \$9,232.26.
- Prairie Creek, stream bank stabilization in Unincorporated Maine Township at Ballard Road and Delphia Ave. Repairs included placement of approximately 80 feet of rip rap on the north bank behind 9029 Dephia Ave on July 9 and 10 for a total cost of \$11,491.81.
- Des Plaines River, Lyons Levee repair and maintenance. SSMP staff provided necessary maintenance to raise approximately 2,500 feet of the levee up to its original elevation for a total cost \$189,598.95.
- Butterfield Creek East Branch Tributary, stream bank stabilization at 22756 Lake Shore Drive, Richton Park. Repairs included rip rap placement of approximately 100 feet for a total cost of \$15,124.00 on November 4 and 6.
- North Branch of the Chicago River, 2845 Giddings. SSMP staff repaired the west bank of the NBCR which was damaged by a large tree that uprooted for a total cost of \$18,830.90 on November 21, 25 and 26.

The SSMP will continue in 2015 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 2015. 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 2014 expenditure for the SSMP program (Functional Area 4332) was \$3,214,643. Therefore, the average cost per cubic yard was \$146.82.

## **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 MWRD developed a Technical Guidance Manual (TGM), which serves as a technical reference to the WMO. The MWRD conducted 13 training for stakeholders in 2014 to ease the transition from the Sewer Permit Ordinance to the WMO. The WMO webpage, [wmo.mwrld.org](http://wmo.mwrld.org), contains the WMO, TGM, and other permit resources.

## **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 with the USGS in 2006 and has renewed the agreement annually to fund the maintenance and operation of the following seven stream gages located within Cook County:

1. North Branch of the Chicago River at Deerfield
2. Salt Creek at Elk Grove Village
3. Salt Creek at Western Springs
4. Des Plaines River at Lyons
5. Deer Creek near Chicago Heights
6. Tinley Creek near Palos Park
7. North Shore Channel at Wilmette

The data from the streamflow gaging stations has 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. In addition to the streamflow gages, this agreement also funds a rain gage on Salt Creek near Rolling Meadows. Real time data from these gages is available on the USGS's website at [www.usgs.gov](http://www.usgs.gov). 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.

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 MWRD has partnered with organizations with similar goals. One such example is with the Chicago Public Schools, which did 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, while reducing the amount of rainwater entering the local combined sewer systems. As a part of the inter-governmental partnership, City of Chicago 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 in low income areas that experience basement backups throughout the City. The four sites have been constructed using a high degree of community involvement, and all employ educational components to inform students and the surrounding community about the benefits of Green Infrastructure. All four projects were completed in the fall of 2014.

Due to the success of the school projects, the MWRD has committed to fund up to \$500,000 per school, for six schools per year, for the five year period 2015-2019. The Chicago Department of Water Management has committed to contributing a similar amount of money. The six schools that are scheduled to be transformed starting in 2015 are; 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. The projects were anticipated to be completed this fall.

MWRD is keeping records of, and investigating funding the GI components of other projects throughout the service area. For calendar year 2015, MWRD is partnering with two suburbs and the Chicago Housing Authority within its service area to develop flood mitigation projects that incorporate GI. 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 is partnering 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, to provide a DRC of over 160,000 gallons. This project will be put out for bid by the City of Evanston in April of 2015, and is anticipated to be completed by the end of the year. 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 include six rain gardens in the right-of-way and two permeable parking areas, with the DRC estimated to be around 150,000 gallons. The plan will be put out for bid in the spring of 2015. Construction is anticipated to be completed by the fall of 2015. The cost is estimated to be approximately \$400,000, completely funded, designed and constructed by the MWRD.

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. A similar project will be partially funded for the Village of Northbrook in 2016.

All of the above community projects are using Green Infrastructure to augment grey projects that are meant 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 2016 and beyond.

### **Rain Barrel Program**

To minimize basement backups, combined sewer overflow volume, and flooding, the MWRD introduced a new rain barrel distribution program that will offer 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.mwrdd.org](http://www.mwrdd.org). The MWRD distributed 925 rain barrels in 2014.

### **Public Affairs**

In 2014, 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, the WMO, development of the TGM, 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 outreach 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 2014 Stormwater Management related press releases are listed in Appendix F.

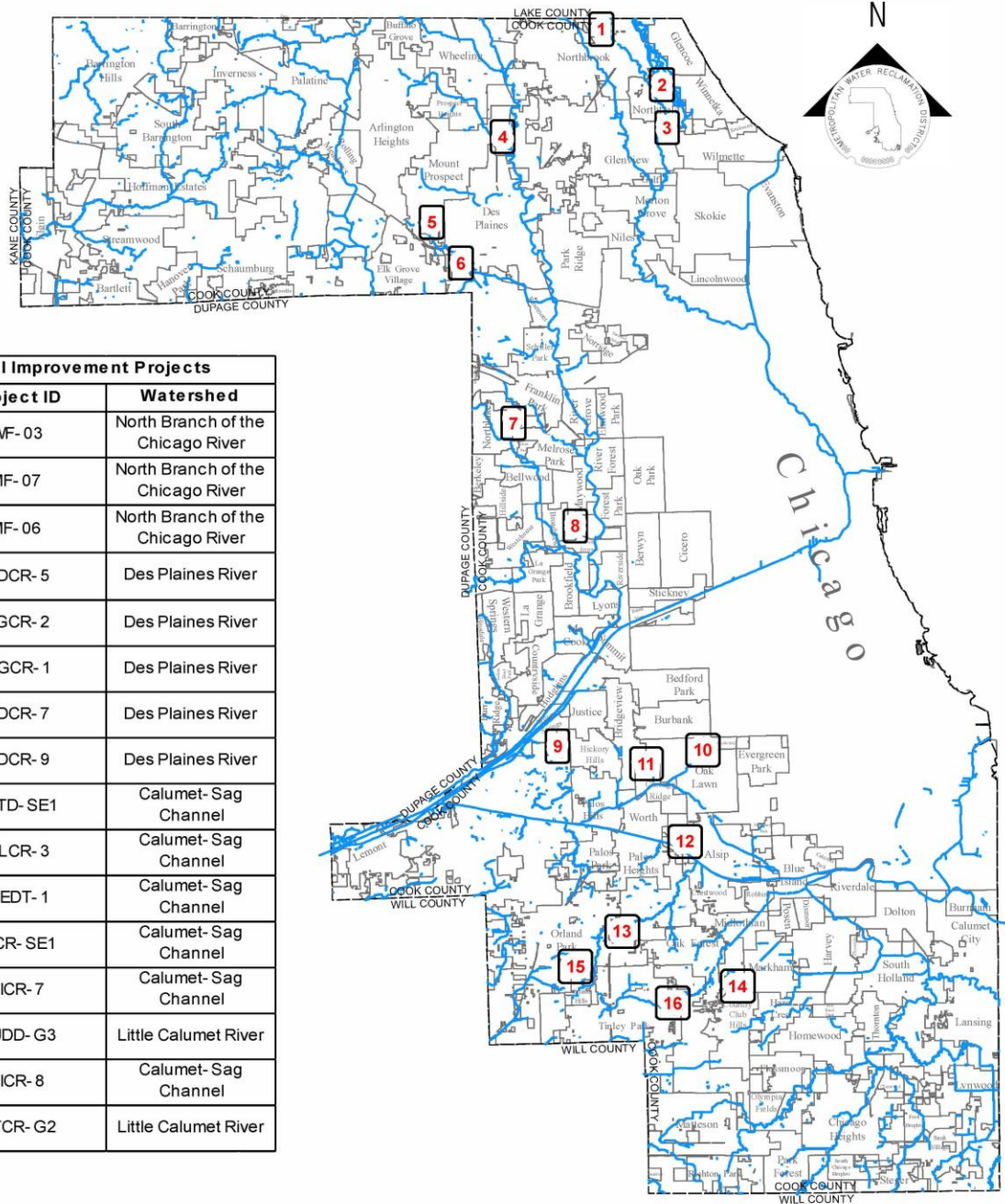
MWRD Staff will continue to participate in community outreach events and provide rain barrel giveaways through the Water Environment Pledge initiative in 2015. The MWRD will continue to participate in Watershed Planning Council meetings, and continue to promote the MWRD stormwater management efforts using press releases and other media outlets.



## Appendices

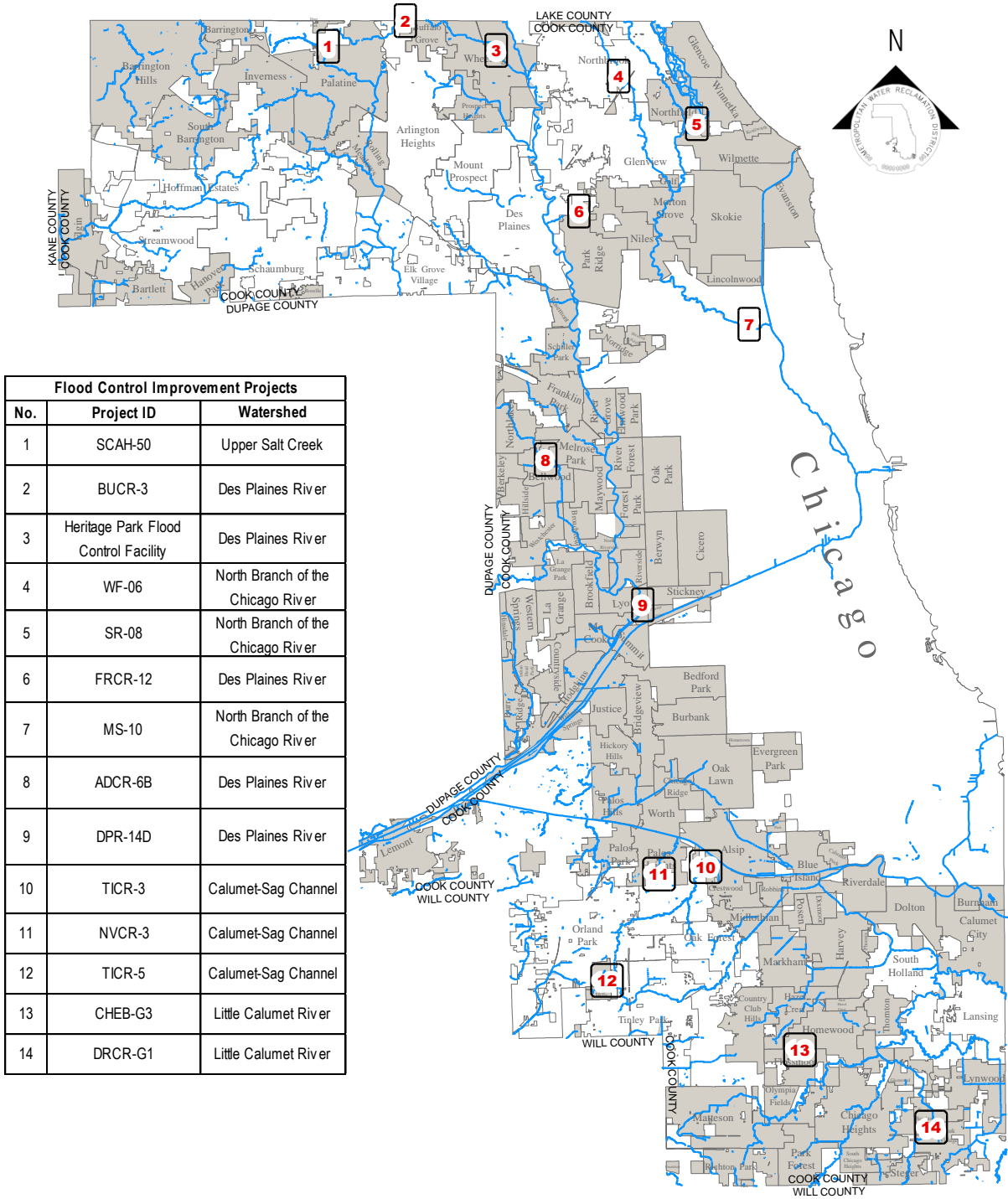
Appendix A	Streambank Stabilization Projects
Appendix B	Flood Control Projects
Appendix C	Heritage Park Flood Control Facility
Appendix D	MWRD and USGS Joint Funded Stream Gages
Appendix E	Stormwater Expenditures
Appendix F	Stormwater Management Related Press Releases

# Appendix A - Stream Bank Stabilization Projects

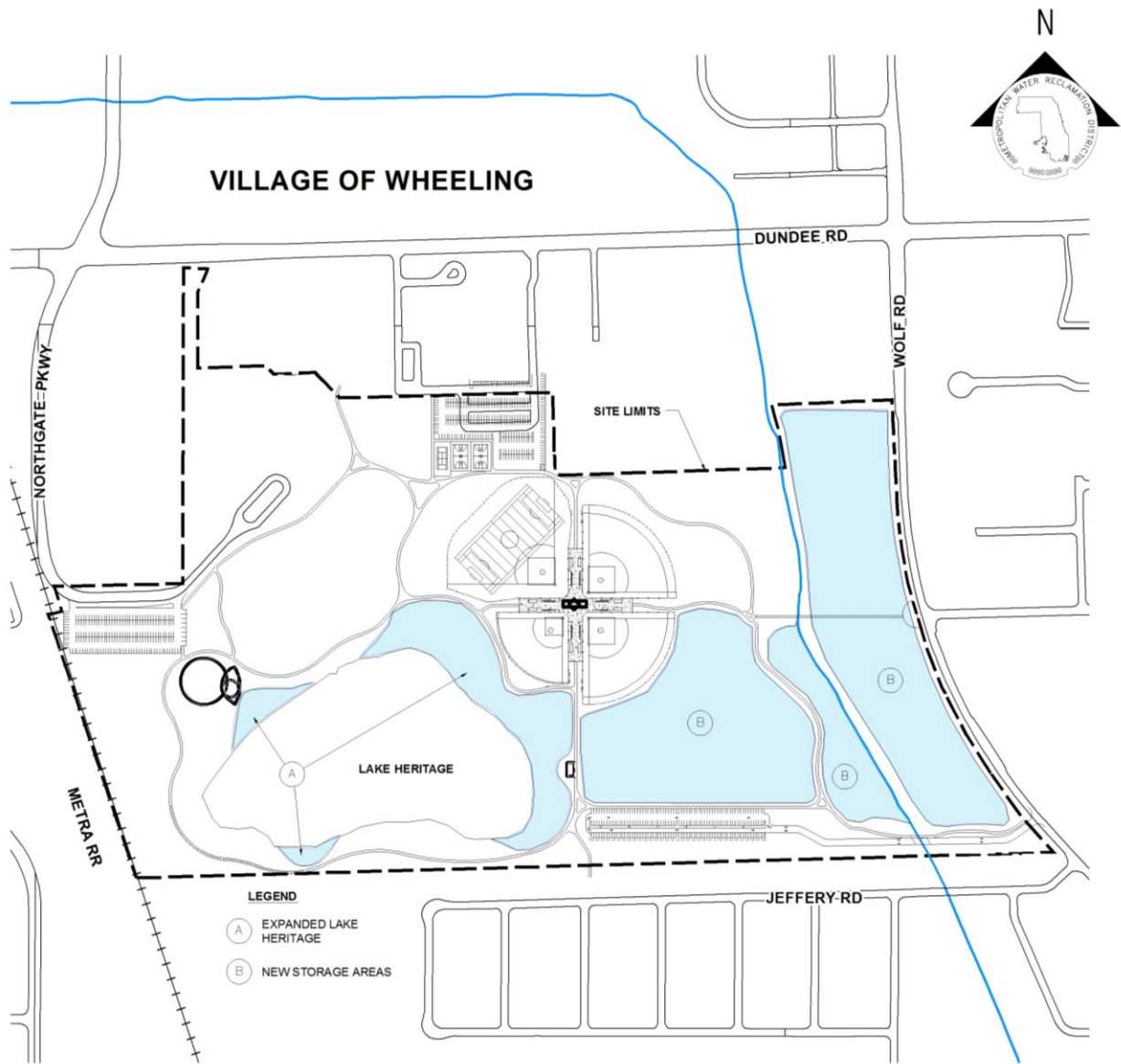


Capital Improvement Projects		
No.	Project ID	Watershed
1	WF-03	North Branch of the Chicago River
2	MF-07	North Branch of the Chicago River
3	MF-06	North Branch of the Chicago River
4	MDCR-5	Des Plaines River
5	HGCR-2	Des Plaines River
6	HGCR-1	Des Plaines River
7	ADCR-7	Des Plaines River
8	ADCR-9	Des Plaines River
9	IMTD-SE1	Calumet-Sag Channel
10	OLCR-3	Calumet-Sag Channel
11	MEDT-1	Calumet-Sag Channel
12	TICR-SE1	Calumet-Sag Channel
13	TICR-7	Calumet-Sag Channel
14	CUDD-G3	Little Calumet River
15	TICR-8	Calumet-Sag Channel
16	MTCR-G2	Little Calumet River

# Appendix B - Flood Control Projects



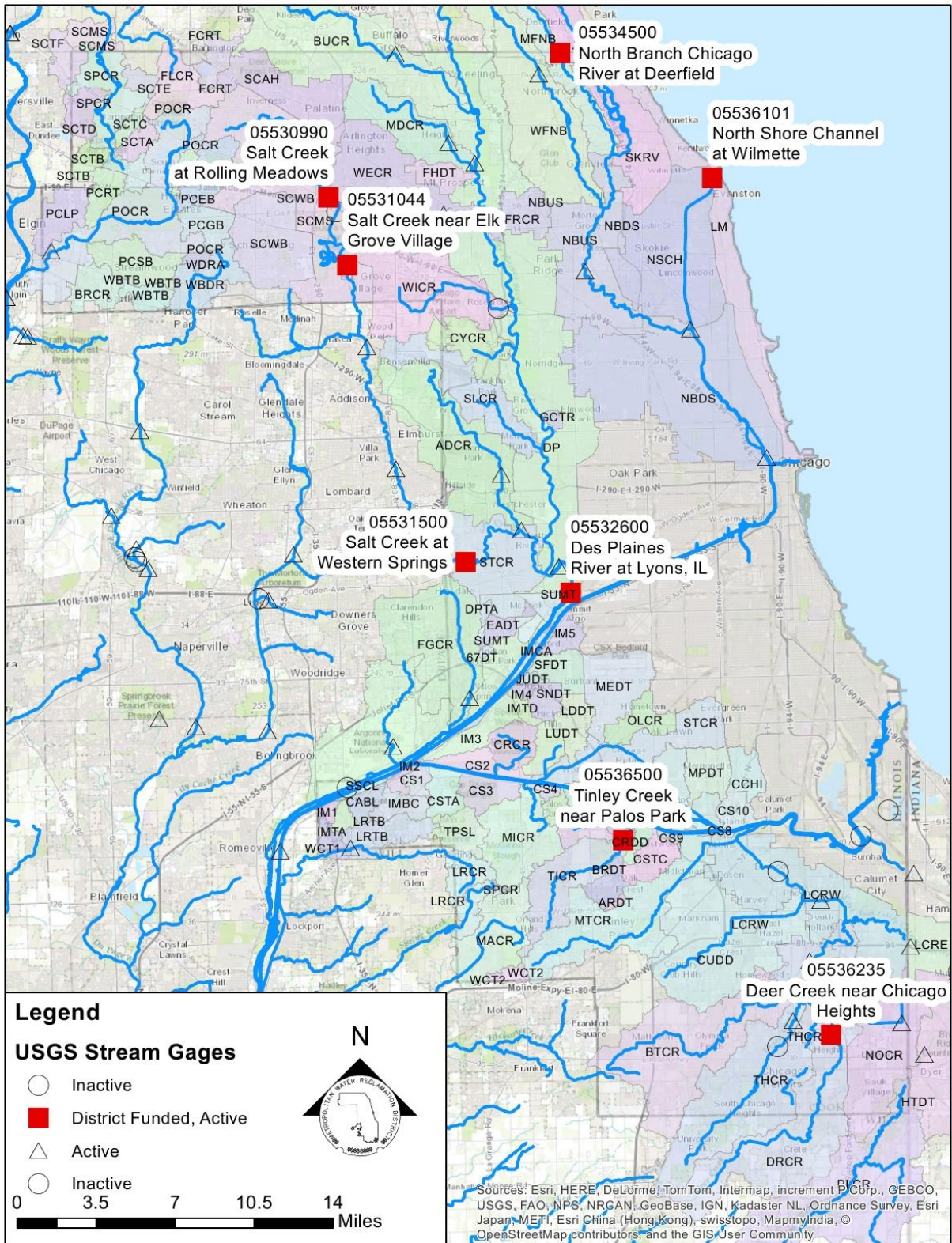
Appendix C - Heritage Flood Control Facility



**HERITAGE PARK FLOOD CONTROL FACILITY  
(COMPENSATORY STORAGE FACILITY FOR LEVEE 37)  
AWARDED IN 2012  
COST: \$29,475,000**



# Appendix D - MWRD and USGS Joint Funded Stream Gages



## Appendix E – Committed Expenditures

Category	Description	2014 Committed Expenditures
Personal Services: Consultant	<b>Fees paid to consultants for professional services rendered, including the following projects:</b>	<b>\$ 5,364,556</b>
	Preliminary Engineering	\$ 3,112,313
	Final Engineering	\$ 2,043,615
	Post Award	\$ 208,628
	Heritage Park Flood Control Facility Legal Services	\$ 0
Personal Services: In-House	<b>Salaries and associated costs related to MWRD personnel:</b>	<b>\$ 4,808,186</b>
	Engineering Department	\$ 2,421,200
	Maintenance and Operations Department	\$ 2,386,986
Contractual Services	<b>Fees paid for services provided by COGs, agencies or companies, including the following:</b>	<b>7,614,621</b>
	COGs Administrative Contracts:	\$ 38,311
	Small Streams Maintenance Program	\$ 2,115,196
	Small Streams Maintenance Program Waste Disposal	\$ 34,365
	Court Reporting Services	\$ 13,761
	USGS Joint Funding Agreement for Stream Gauging Stations in Cook County	\$ 69,938
	Streetscape and Sustainability Design Program	\$ 102,000
	Flood Control Facility Land Acquisition and Appraisals	\$ 23,222
	Waterways Facilities Structures (Construction)	\$ 5,193,003
	Repairs to Collection Facilities	\$ 0
	Permit Review	\$ 0
	Miscellaneous Contractual Services	\$ 24,825
Administrative Expenses	<b>Materials, equipment, supplies:</b>	<b>\$ 2,930</b>
<b>Total 2014 Committed Expenditures</b>		<b>\$ 17,790,293</b>

## Appendix F - 2014 Stormwater Management Related Press Releases

Jan. 13	Federal Judge George M. Marovich Enters Consent Decree between MWRD, Dept. of Justice
Jan. 17	MWRD, Lake County Forest Preserve District to host an open house to discuss Buffalo Creek Reservoir Expansion and Forest Preserve improvements
Jan. 31	MWRD applauds Gov. Quinn commitment to clean water, flood protection
Feb. 3	MWRD to discuss Infiltration/Inflow program at public meetings
Feb. 19	Winter flooding alert
Feb. 20	MWRD honors professional engineers during National Engineers Week Feb. 16-22
Feb. 20	Feb 20, 2014 Storm Update
Feb. 21	Feb 21, 2014 Final Winter Storm Update
Feb. 24	Future city competition cultivates future engineers
Mar. 17	Learn how to check for leaks during Fix a Leak Week
Mar. 18	Precious natural resource requires wise water use
Mar. 19	Retrofitting fixtures with WaterSense-labeled products can save water
Mar. 20	Outdoor leaks contribute to water waste
Mar. 21	Simple flapper fix can save 200 gallons of water per day
Apr. 3	MWRD celebrates Earth Month through community event participation
Apr. 8	MWRD seeks applicants for Sustainable Landscaping and Biosolids User awards
Apr. 9	MWRD to host household hazardous waste collection at Moraine Valley College May 3
Apr. 10	MWRD to discuss how sewers work at Chesterfield Community Council Home Expo 2014
Apr. 11	MWRD offers Watershed Management Ordinance Compliance Trainings
Apr. 16	MWRD to host 2 <sup>nd</sup> annual Sustainability Summit
Apr. 17	MWRD Exec. Director testifies at Clean Water Caucus "Utility of the future" Congressional Briefing
Apr. 28	MWRD implements new online incident reporting app
Apr. 29	MWRD to provide mid-point review of Centennial Trail project
May 12	MWRD investigating damage to infrastructure
May 13	MWRD provides immediate clean-up and seeks long-term solution at Veterans Park
May 14	MWRD to offer tours of Lockport Powerhouse for Old Canal Days on June 14

May 15	MWRD celebrates 125 <sup>th</sup> Anniversary
June 2	Anchors aweigh! MWRD announces contest to name new skimmer boats
June 18	Lockport Powerhouse tours highlight Old Canal Days
June 18	Gov. Quinn signs important flood legislation for Cook County residents
June 30	MWRD Principal Civil Engineer Lou Storino participates in Singapore International Water Week
July 1	Severe storms impact Cook County
July 17	Safeguarding our cities is focus of Monday's Chicago Water Summit
July 23	MWRD honors Village of Franklin Park, Historic Chicago Bungalow Assoc., Evanston High School, Chicago Park District at Sustainability Summit
July 28	MWRD receives Excellence in Management Platinum award
July 30	Gov. Pat Quinn signs legislation expanding Clean Water Initiative to help combat flooding in Illinois
Aug. 6	Gov. Quinn signs additional legislation to address urban flooding
Aug. 19	MWRD unveils free rain barrel distribution program
Aug. 22	Statement regarding Melvina Ditch Reservoir, flooding in Burbank
Sept. 9	MWRD joins water leaders in Washington, DC to rally support for investing in cities, jobs
Sept. 12	MWRD to host open houses, tours to celebrate 125 <sup>th</sup> anniversary, raise awareness of water industry
Sept. 16	Governor Quinn announces funding support for flooding, phosphorus recovery project
Sept. 17	MWRD releases Incident Reporting App for Apple IOS devices
Oct. 9	MWRD, city leaders, community to unveil new Morrill Elementary schoolyard
Oct. 31	Officials break ground on Mayfair Reservoir Expansion in Westchester
Nov. 12	Pride School students first to decorate MWRD rain barrel for contest
Nov. 18	Chi-Cal Rivers Fund announces \$1.1 million in grants
Nov. 21	MWRD issues permit to Olympia Fields for sanitary sewer lateral lining project in Graymoor Subdivision
Nov. 26	President's Annual Message 2014
Dec. 12	MWRD to offer "Green Bonds" to investors for environmentally-friendly projects
Dec. 16	MWRD's DUMP hotline celebrates silver anniversary
Dec. 23	Area schools participate in rain barrel painting contest