National Pollutant Discharge Elimination System Permits Consent Decree

2017 Annual Report

Metropolitan Water Reclamation District of Greater Chicago

Introduction

Metropolitan Water Reclamation District of Greater Chicago (District) National Pollutant Discharge Elimination System (NPDES) Permits Consent Decree (Civil Action No. 11 C 8859)—2017 Annual Report

This report is being submitted to comply with the District's Consent Decree entered on January 6, 2014. Per the Consent Decree, this required Annual Report is for calendar year 2017 and is due March 31, 2018.

Workers are lowered by crane over 300 ft into the McCook TARP Reservoir Des Plaines Connecting Tunnel in May 2017.

Per Section XII.44.a of the District's Consent Decree, this pre-TARP completion annual report transmits the following information:

1. Status of Design and Construction Activities (Consent Decree Section V) and Reservoir Mining Progress for Thornton Composite and McCook Reservoirs.
2. Combined Sewer Overflow (CSO) Quarterly Discharge Reports submitted to the Illinois Environmental Protection Agency (IEPA) for calendar year 2017.
3. 2017 Water Quality Data for Waterway Systems within the District's Jurisdiction.
4. Record of Floatable Control Activities (Consent Decree Paragraph 18 and Appendix B).
5. Green Infrastructure (GI) Activities (Consent Decree Section V of Appendix E).

This Annual Report for calendar year 2017 is intended to demonstrate satisfactory compliance with the Annual Reporting obligation of the District per the Consent Decree entered on January 6, 2014.

In addition to the above, the District would like to note that it is in compliance with Section II, Paragraph 5 of the Consent Decree, which requires the District to transmit copies of the Consent Decree to its officers, employees, and agents, as well as to CSO municipalities and its contractors. Letters were transmitted to all of the parties and a copy of the Consent Decree has been posted on the District's website. Language regarding the Consent Decree continues to be included in all contracts where the required work may impact the ability of the District to comply with the terms and conditions of the Consent Decree.

Also, as required in Section V of the Consent Decree, the District remitted the civil penalty to both the IEPA and USEPA within 30 days from the date the Court entered the Consent Decree.


METROPOLITAN WATER RECLA

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McCook and Thornton Composite Reservoir
March 2018 Progress Report

Congressman Mike Quigley speaks at the McCook Reservoir Stage 1 ribbon cutting ceremony in December 2017.

This report provides an **update on the progress of the McCook and Thornton Composite Reservoirs** as required in the Consent Decree paragraphs 21 and 44.

McCook Reservoir

The District owns the land for the McCook Reservoir, which is being built within the Lawndale Avenue Solids Management Area (LASMA). A Project Cooperation Agreement (PCA) with the US Army Corps of Engineers (Corps) to construct, operate, and maintain the reservoir was signed on May 10, 1999. Under the PCA, the Corps is responsible for designing and constructing the reservoir features, and the District is responsible for providing lands, easements, right-of-way, and relocations, including providing the storage capacity for the reservoir through excavation of overburden and rock mining. The reservoir is being completed in two stages. A major milestone was reached at the end of 2017 when the first stage was placed in service providing 3.5 billion gallons of storage for CSOs. The second stage is currently under construction and will expand the total capacity to 10 billion gallons of storage

District Work

In order to accomplish its responsibilities under the PCA, the District has initiated a number of projects which are described below, along with their status.

DECOMMISSIONING OF LOW SOLIDS LAGOONS: Seventeen of the District's biosolids stabilization and drying lagoons were decommissioned to provide the land necessary for constructing the reservoir.

WILLOW SPRINGS BERM (96-149-2P): Approximately 300,000 cubic yards of the reservoir overburden was hauled off-site in a test project and placed as a berm along the canal.

SITE PREPARATION (73-161-BH): Sludge lines that cut through the reservoir footprint were relocated, and earthwork was performed to drain the reservoir footprint to facilitate future work. This work commenced in July 1999 and was the start of construction work for the McCook Reservoir.

73RD STREET TUNNEL RELOCATION (97-156-2H): The existing 73rd Street TARP Tunnel cut through the future reservoir footprint and was relocated to go around the reservoir.

CONVEYANCE TUNNEL (73-161-AH): This tunnel was constructed to connect LASMA to Vulcan's McCook Quarry and is used to transport the crushed rock to the Vulcan processing plant.

STAGES 1 AND 2 OVERBURDEN REMOVAL (73-161-CH): Approximately 7.3 million cubic yards of overburden was removed from the footprint of the original Stage 1 and 2 McCook Reservoir sites to expose the top of rock for mining.

MISCELLANEOUS OVERBURDEN REMOVAL (73-161-JH): An additional 450,000 cubic yards of overburden was removed from the site under this contract.

EXPANDED STAGE 2 OVERBURDEN REMOVAL (73-161-DH): The remaining 1.8 million cubic yards of overburden overlying the rock in the expanded Stage 2 portion of the reservoir was removed in 2015, fulfilling the District's obligations from Paragraph 17.d. of the Consent Decree ahead of schedule.

VULCAN CONVEYANCE SYSTEM AND MAINTENANCE FACILITIES (73-161-FH): Mining facilities were constructed to crush and transport the rock from the reservoir site to the existing Vulcan Quarry. The contract included construction of the conveyance system, the office and maintenance buildings, installation of a rock crusher, relocation of the LASMA access road and sludge lines, and miscellaneous site work (access ramp, parking area, site lighting). The crusher was purchased separately in advance due to the long lead time.

VULCAN MINING EQUIPMENT (73-161-GH AND 73-161-HH): A fleet of mining trucks and other mining equipment were procured to facilitate mining of the reservoir.

MINING (73-161-EH): The District entered into an agreement with Vulcan on October 1, 2003, to mine the rock to create the storage capacity required for the original two-stage reservoir. Terms of the Agreement require Vulcan to mine at the same production rates they would have achieved at the existing quarry to meet the market demand.

- ✓ Mining for Stage 1 commenced in 2008 and was essentially completed in 2016, fulfilling the District's obligations from Paragraph 17.a. of the Consent Decree, which required that the Stage 1 mining be completed by December 31, 2016.
- ✓ A mining ramp into Stage 2 was initiated in 2013 and production mining began in 2014, concurrent with Stage 1 mining. Approximately 20 percent of the stone from Stage 2 had been mined by the end of 2017. Paragraph 17.e. of the Consent Decree requires that the Stage 2 mining be completed by December 31, 2028.

The overall market for stone in the Chicagoland area remained relatively stable and less than historical averages. However, mining of Stage 2 is still expected to be completed by December 31, 2028. Vulcan's annual mining progress report for 2017 was transmitted to the IEPA and USEPA within 30 days of receipt (per paragraph 21 of the Consent Decree).

DES PLAINES INFLOW TUNNEL (13-106-4F): The Corps' original plan to use the existing dewatering tunnels and distribution tunnels to convey water from the Des Plaines Tunnel to the reservoir was modelled and it was determined that a new direct connection to the reservoir would provide greater flood relief benefits to the Des Plaines Tunnel's service area. Construction of a new 20-foot diameter tunnel and associated gate shaft to convey and control flow from the Des Plaines Tunnel System to the McCook Reservoir began in 2016 and is scheduled to be completed in 2019.

EXPANDED STAGE 2 SLOPE STABILIZATION AND RETAINING WALLS (16-125-4F): The District has committed to expanding the Corps-authorized 7 billion gallon reservoir to hold a total volume of 10 billion gallons. The District awarded this contract to construct retaining walls and stabilize the overburden slopes for the expanded portion of the reservoir in 2017. This work is scheduled to be completed in 2018.

EXPANDED STAGE 2 ROCK WALL STABILIZATION (17-131-4F): As the final vertical rock faces of the expanded portion of the reservoir are exposed, scaling, rock bolting, and other ground support will need to be installed to make the permanent walls stable. This work is scheduled to begin in 2022.

EXPANDED STAGE 2 MISCELLANEOUS FLOOR FEATURES (17-132-4F): Additional solar powered aeration equipment will need to be installed in the expanded portion of the reservoir. This work is scheduled to begin in 2026.

Corps Work

The following projects have been completed or are being pursued by the Corps for the Stage 1 McCook Reservoir:

TEST GROUT CURTAIN: A test grout curtain was constructed along 400 linear feet of the reservoir perimeter to test the effectiveness of a grout curtain to prevent polluted water in the reservoir from migrating into the groundwater aquifer.

STAGE 1 GROUT CURTAIN: Based on the performance of the test grout curtain, a grout curtain was constructed around the north and west sides of the reservoir perimeter to create a full hydraulic barrier between the reservoir rock walls and surrounding groundwater.

STAGE 1 GROUNDWATER CUT-OFF WALL: A bentonite slurry wall was constructed through the overburden, around the perimeter of Stage 1 of the reservoir, to prevent migration of groundwater into the reservoir.

ADDITION OF PUMPS AND MOTORS: Two additional 330 cubic feet per second pumps were installed at the Mainstream Pumping Station to provide adequate pumping capacity to dewater the reservoir to the Stickney Water Reclamation Plant.

DISTRIBUTION TUNNEL SYSTEM: Tunnels and an underground control chamber were installed to connect the future reservoir to the Mainstream Pumping Station.

DISTRIBUTION TUNNELS EMERGENCY WORK: Due to excessive infiltration in the new distribution chamber from the distribution tunnels, emergency leakage investigation and repair work was completed.

DISTRIBUTION TUNNEL SYSTEM – ELECTRICAL AND MECHANICAL SYSTEM & MISCELLANEOUS REPAIRS: Corroded equipment in the distribution chamber needed to be replaced and new communication for fire and gas alarms installed. This work was completed in 2017.

STAGE 1A AND 1B ROCKWALL STABILITY CONTRACTS: As the final vertical rock faces of the reservoir are exposed, scaling, rock bolting, and other ground support is installed as required to make the permanent walls stable. This work was completed under two separate contracts for Stage 1 of the reservoir.

STAGE 1 OVERBURDEN RETAINING WALLS: Retaining walls were constructed in several areas of Stage 1 where the top of rock is lower than expected, in order to allow the footprint of the reservoir to be mined; due to time constraints, the District did part of this work. This work is completed.

MAIN TUNNELS AND GATES: The Mainstream Tunnel was connected to the reservoir by a new set of tunnels and control gates. This work was split among three contracts: one to fabricate the gates, another to excavate the main shaft, and the third to complete the tunnels and install the gates in the shaft. This work was completed in 2017.

FINAL RESERVOIR PREP: Final connections to the reservoir were made, including completion of the distribution tunnel and outlet structure. Floor drainage, reservoir aeration, ramps, roads, and other miscellaneous items were also installed under this contract which was completed in 2017.

INSTRUMENTATION AND GROUNDWATER MONITORING WELLS: Groundwater monitoring wells, piezometers, inclinometers, and other instrumentation were provided to monitor the reservoir under several different contracts. The groundwater monitoring wells and instrumentation for Stage 1 have been installed and are now functioning

The following projects have been completed or are being pursued by the Corps to complete the Stage 2 McCook Reservoir:

STAGE 2 GROUT CURTAIN: Based on the performance of the test grout curtain contract, a grout curtain was constructed around the south and east sides of the reservoir perimeter to create a full hydraulic barrier between the reservoir rock walls and surrounding groundwater.

STAGE 2 GROUNDWATER CUT-OFF WALL: A bentonite slurry wall was constructed through the overburden, around the perimeter of Stage 2 of the reservoir, to prevent migration of groundwater into the reservoir.

STAGE 2 ROCKWALL STABILITY CONTRACTS: As the final vertical rock faces of the reservoir are exposed, scaling, rock bolting, or other ground support will be installed as required to make the permanent walls stable. This work is in progress.

STAGE 2 OVERBURDEN RETAINING WALL: A retaining wall was constructed in several areas to hold back the overburden and allow the footprint of the reservoir to be mined.

STAGE 2 MISCELLANEOUS FLOOR FEATURES: Drainage improvements to the reservoir floor and reservoir aeration provisions will be provided after the mining is completed. Two tunnels will be constructed through the weir to allow water to pass between Stages 1 and 2.

Final construction work underway at Stage 1 McCook Reservoir in December 2017.

Thornton Composite Reservoir

The Thornton Composite Reservoir currently provides 7.9 billion gallons of storage for combined sewage from the Calumet TARP Service Area. In the future, flood waters from Thorn Creek will also be diverted to the Thornton Composite Reservoir when the Thornton Transitional Reservoir is decommissioned. Design and construction of the Thornton Composite Reservoir was planned to be a joint venture between the Corps and the District. However, due to uncertainties in federal funding that threatened to deprive the Corps of appropriations sufficient to work on both the McCook and Thornton projects simultaneously, the District committed to proceed with the Corps work on the Thornton Composite Reservoir using the District's own resources in 2004 at a total cost of approximately $420 million. The following projects were completed as part of construction of Thornton Composite Reservoir:

VINCENNES AVENUE RELOCATION (77-235-AF): Approximately 2,500 feet of roadway that cut through the footprint of the reservoir was relocated in order to provide the required storage volume.

THORNTON TRANSITIONAL RESERVOIR (77-235-BF): This temporary reservoir was constructed to provide floodwater storage for Thorn Creek while the Thornton Composite Reservoir was being constructed. At the end of 2020, the Thorn Creek flood water will be rerouted to the composite reservoir and the transitional reservoir will be decommissioned and turned back over to the quarry. At that time, the reservoir volume allocated for capturing CSOs will be 4.8 billion gallons while the remaining 3.1 billion gallons will be allocated for floodwater storage from Thorn Creek. Many of the facilities constructed for the transitional reservoir will be reused at the composite reservoir.

MINING (77-235-2F): The District entered into an agreement with Material Service Corporation (MSC) to purchase a portion of its existing rock quarry to be used for the reservoir. Under the agreement, MSC expanded their existing quarry to neighboring lands purchased by the District in order to achieve the required storage volume. Mining for the Thornton Composite Reservoir was completed in 2013, in fulfillment of the requirements outlined in Paragraph 16.a. of the Consent Decree.

TOLLWAY DAM, GROUT CURTAIN AND QUARRY PLUGS (04-201-4F): The south side of the reservoir is a rock dam that separates the reservoir from the rest of the quarry and carries the I-80/294 Tollway. A large opening and two haul tunnels in this wall were plugged to hydraulically isolate the reservoir from the quarry. Also, as part of this contract, a grout curtain was constructed around the entire reservoir perimeter, creating a hydraulic barrier and providing stability to the rock dam. This contract was completed in 2015 as required in Paragraph 16.b. of the Consent Decree.

CONNECTING TUNNELS AND GATES (04-202-4F): The existing TARP tunnels were extended to connect to the reservoir. A large gate chamber was constructed to allow for isolation of the tunnels from the reservoir. This contract work was completed in 2015 as required in Paragraph 16.c. of the Consent Decree.

SURFACE AERATION (04-203-AF): Floating solar aerators were installed in the reservoir to mitigate odors that may come from the reservoir. This contract was completed in 2015. An additional thirteen floating solar aerators were installed in the reservoir in March 2017.

FINAL RESERVOIR PREPARATION (04-203-4F): All remaining items required for operation of the Thornton Composite Reservoir such as the Thorn Creek tunnel connection, live connections to the existing Thorn Creek tunnel, creating a drainage conduit in the Thorn Creek tunnel, site landscaping and stabilization of the finished reservoir walls were completed under this contract in 2015, and the reservoir was placed in operation as required in Paragraph 16.d. of the Consent Decree.

The Thornton Composite Reservoir became operational when it took water for the first time on November 26 and 27, 2015. Since that time and through the end of 2017, the reservoir captured a total of 14.4 BG of combined sewage during 32 storms events. A table showing the dates and respective volumes captured by the Thornton Composite Reservoir is provided on the enclosed CD. During 2017, there were two CSO discharge events from the Calumet TARP System; these occurred on February 28, 2017 at C-1 and CDS-45 on the Little Calumet Leg and on March 30, 2017 at CDS-18 on the 140th Street Leg and CDS-45. The storms on those days resulted in an average rainfall over the south area in the amount of 3.32 and 2.13 inches, respectively; however, the capacity of the TARP System had not been exceeded. Overall, more than 99.9 percent of combined sewer overflows were captured by the Calumet TARP System. The approximately six million gallons that discharged to the waterways were the result of local conditions which prevented conveyance of storm flows into the TARP dropshafts. The District is planning to make some structural adjustments at these locations in 2018 to prevent recurrence.

Dragon Boat Race participants row on the Calumet-Sag Channel, which is protected from combined sewer overflows by Thornton Reservoir, in June 2017.


Skyview

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Combined Sewer Overflow Quarterly Discharge Reports submitted to the IEPA for Calendar Year 2017

Tour boats ply the Main Stem of the Chicago River in downtown Chicago in April 2017.

"CSO monitoring reports and other CSO-related reports submitted to Illinois EPA including, but not limited to, all documentation of water quality data for the waterway systems within MWRD's jurisdiction, as required by the Calumet, North Side, and Stickney NPDES Permits." (44(a)(iii))

CSO Monitoring

The District utilizes its approved CSO Representative Monitoring and Reporting Plans for the North, Central, and South Areas to track the frequency, duration, and volume of individual CSOs within the Des Plaines River and Chicago Area Waterway System (Plans on the enclosed CD).

In summary, the District monitors 221 (28 permitted to the District; 193 permitted to the City of Chicago and Suburbs) of the 394 (39 permitted to the District; 355 permitted to the City of Chicago and Suburbs) total outfalls within its service area. Most of the monitored outfalls have tide gates with telemetry; however, there are six monitored outfall locations permitted to the District that are pump stations. Unmonitored outfalls are assumed to discharge when select monitored ones discharge because of similar invert elevations. Signals are transmitted to the Stickney and Calumet Water Reclamation Plants (WRPs) when the outfall tide gate is open and assumed to be discharging. Plant staff are notified when the pumps are activated at the six pump stations. Volume estimates at six pump station locations are based on pump ratings and run times while volume estimates at the other outfall locations are performed via a conservative method which assumes that all rainfall that falls during the period that a tide gate is open is being discharged to the waterway. These discharge volumes are then compared to two boundary conditions: (1) total area rainfall volume and (2) outfall pipe capacity. The minimum of these three values are used as the final discharge volumes.

CSO Quarterly Discharge Reports submitted to the IEPA for calendar year 2017 are on the enclosed CD.

A barge being loaded on the Chicago Sanitary and Ship Canal in September 2017.


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2017 Water Quality Data for Waterway Systems within the District's Jurisdiction

Kayakers paddle on the Main Stem of the Chicago River in downtown Chicago.

"CSO monitoring reports and other CSO-related reports submitted to Illinois EPA including, but not limited to, **all documentation of water quality data for the waterway systems within MWRD's jurisdiction**, as required by the Calumet, North Side, and Stickney NPDES Permits." (44(a)(iii))

The District conducts Ambient Water Quality Monitoring (AWQM) and Continuous Dissolved Oxygen Monitoring (CDOM) on the Chicago Area Waterway System (CAWS).

In 2017, AWQM was conducted monthly at fifteen locations (weekly at Lockport) on the CAWS in accordance with the attached Quality Assurance Project Plan (See Appendix A on the enclosed CD). A spreadsheet containing the water quality data generated from this monitoring is submitted as Attachment 1 on the enclosed CD.

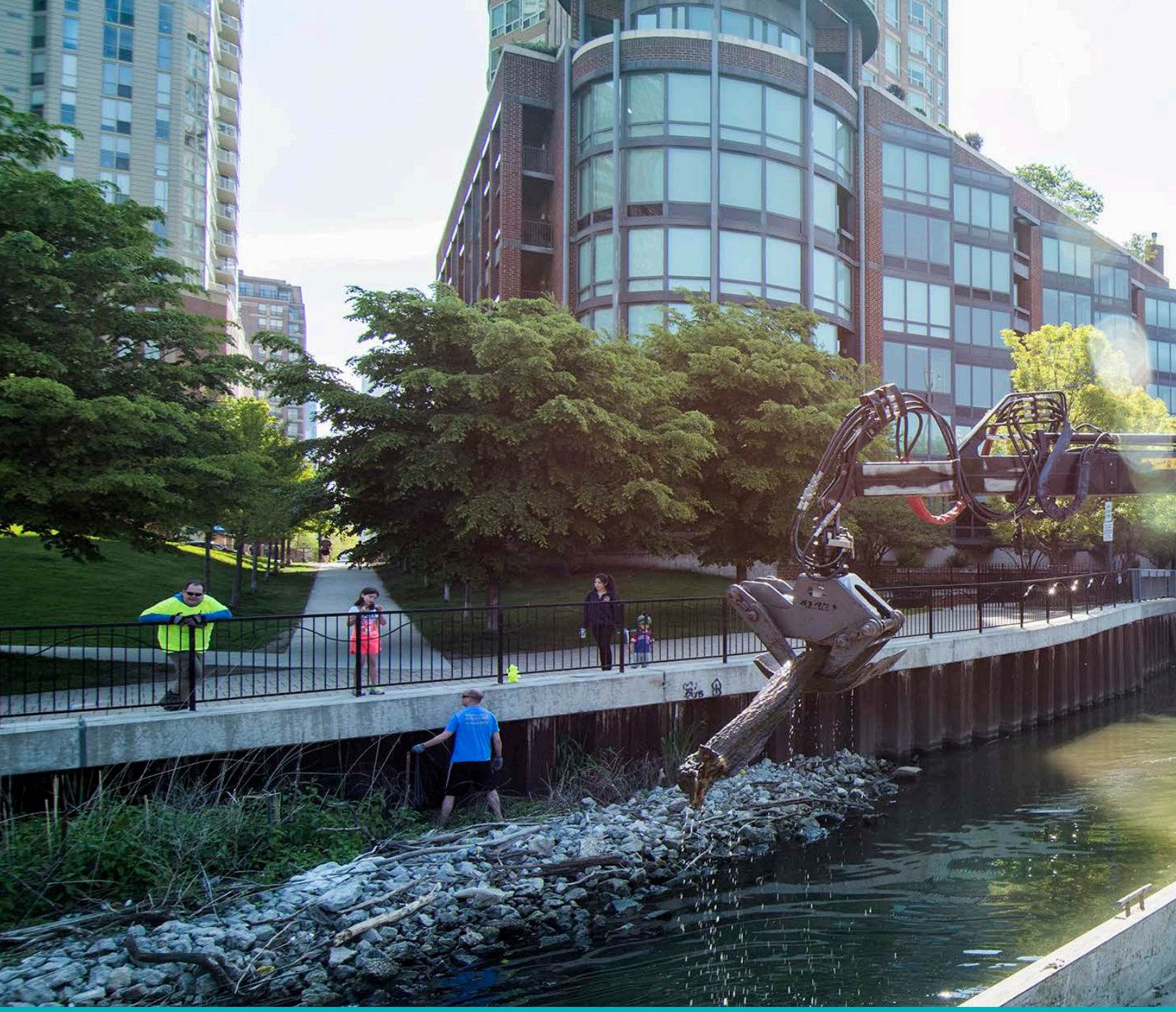
The CAWS Use Attainability Analysis (IPCB Rulemaking R08-009) resulted in more stringent water quality standards for the CAWS, effective July 1, 2015, based on new CAWS A and CAWS B Aquatic Life Use designations. The CAWS exhibited high compliance with water quality standards. Of the parameters analyzed that had applicable water quality standards, only dissolved oxygen (DO), fecal coliform, and low-level mercury (human health criteria) were exceeded at any station.

In 2017, CDOM was conducted at fifteen locations on the CAWS in accordance with the attached Quality Assurance Project Plan (See Appendix B on the enclosed CD). A spreadsheet containing the hourly dissolved oxygen data generated from this monitoring is submitted as Attachment 2 on the enclosed CD. A report entitled "Continuous Dissolved Oxygen Monitoring in the Chicago Area Waterways During 2016" was released in 2017 and is included as Appendix C on the enclosed CD.

The District submitted a petition for variance related to the more stringent DO water quality standards for the CAWS, resulting in a stay of the DO standards that would otherwise have been effective July 1, 2015. As such, most CAWS waterways were subject to the Secondary Contact and Indigenous Aquatic Life Use DO water quality standard of 4.0 mg/L, with the exception of the Cal-Sag Channel, which had a DO standard of 3.0 mg/L, anytime, and the Chicago River, which was subject to General Use Standards. The DO concentration was greater than the applicable water quality standard over 95 percent of the time on an annual basis at 9 out of 15 stations on the CAWS.

A draft of the Calumet TARP System Post Construction Monitoring Plan was submitted to the required agencies on November 7, 2014 in accordance with Section IX, paragraph 35a of the Consent Decree. Discussions regarding the plan continued in 2016 and a revised plan was submitted to the required agencies on September 30, 2016 (copy on enclosed CD). This plan was approved by the USEPA in a letter dated October 7, 2016. (copy on enclosed CD). The sampling and monitoring required in this plan will occur during 2017 and 2018, with the final report scheduled for submittal by June 30, 2019.

An MWRD boat pilot at work on the Chicago Sanitary and Ship Canal in September 2017.



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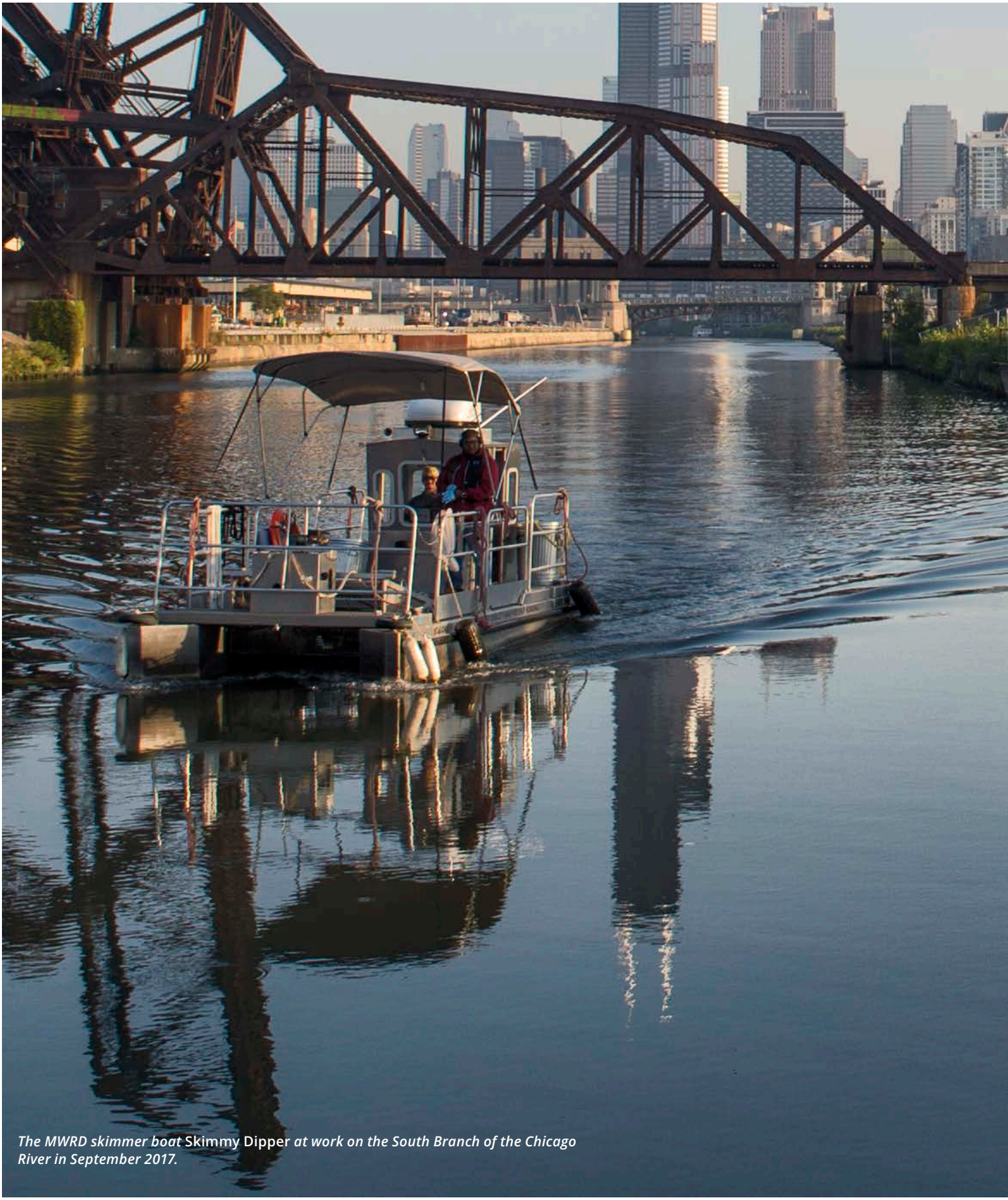
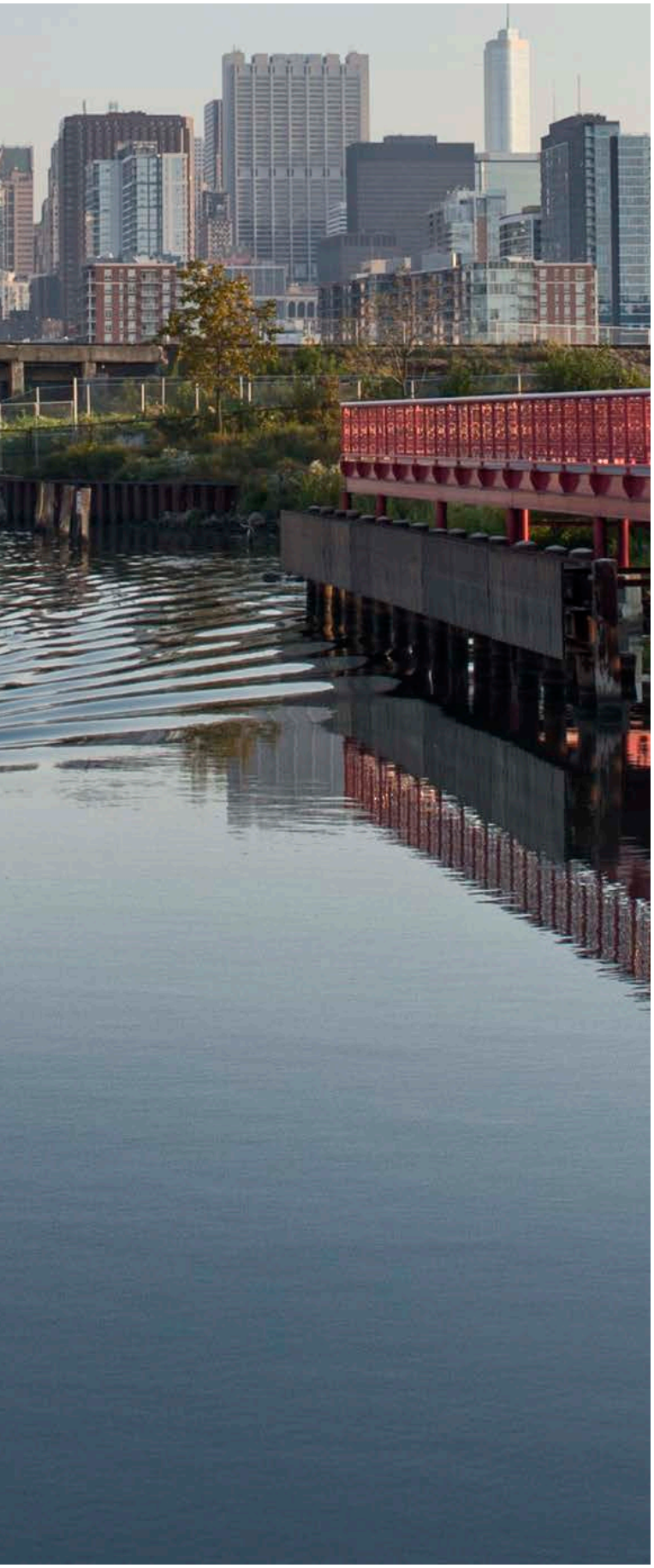
Record of Floatable Control Activities

The MWRD debris boat assists with the Friends of the Chicago River's annual river clean up day in May 2017.



The MWRD skimmer boat Skimmy Dipper *at work on the South Branch of the Chicago River in September 2017.*



The following is a record of floatable control activities undertaken pursuant to the Consent Decree Paragraph 18 and Appendix B:

Dates of purchase and commencement of operations of each skimmer boat:

- ✓ The two skimmer boats were procured under Contract 13-611-21, "Furnish and Deliver Trash Collection Boats to the Stickney Water Reclamation Plant." The boats were delivered on January 2, 2015 and commenced operations on April 6, 2015. These boats continued operations during 2017.

The dates on which each skimmer boat, pontoon boat, or other piece of equipment was operated:

- ✓ A spreadsheet on the enclosed CD, entitled Summary of 2017 Floatable Control Activities, is a summary of data collected for debris, skimmer and pontoon boat operations.
- ✓ Additionally, logs for each day a boat was in operation is also transmitted on the enclosed CD. (2017 Debris and Skimmer Boats Floatable Control Logs.pdf)

Status of Combined Sewer Overflow Floatables Control in Addison Creek:

The floatables control boom was installed during the summer of 2017. All necessary permits and easements were obtained before the installation of the boom. The following is the summary of activities:

- ✓ In late September 2014, the District spoke to the Village of Broadview and the two private property owners regarding the proposed installation of the debris boom.
- ✓ On November 14, 2014, the District received a Letter of No Objection (LONO) from the United States Army Corps of Engineers (USACE) (on the enclosed CD).
- ✓ On January 8, 2015, the District Board adopted an ordinance establishing the right-of way in the installation, operation, and maintenance of the containment boom.
- ✓ On July 7, 2015, the District received Permit No. NE2015032 from the Illinois Department of Natural Resources (IDNR) (on the enclosed CD) authorizing the project.
- ✓ On February 19, 2016, the District obtained an executed easement agreement (on the enclosed CD) from the first private property owner, Real Group, LLC. The District's Board of Commissioners approved payment of the easement on April 7, 2016.
- ✓ In February 2016, the District purchased the floatables control boom (See copy of Purchase Order on enclosed CD).
- ✓ On March 31, 2017, the District obtained an executed easement agreement (on the enclosed CD) from the second private property owner, 2920 South 19th Avenue, LLC. The District's Board of Commissioners approved payment of the easement on March 3, 2017.
- ✓ On April 17, 2017, the District obtained an executed agreement (on the enclosed CD) from the third private property owner, the Village of Broadview.
- ✓ On July 31, 2017, the floatables control boom was installed (photo on enclosed CD).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PROFESSIONAL TOOLS

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Green Infrastructure Activities

The MWRD was joined by more than 220 volunteers and water professionals from around the world to build a rain garden at Manierre Elementary School in Chicago for the 10th Annual Water Environment Federation (WEF) Community Garden Service Project in October 2017.

The following is a report on Green Infrastructure activities undertaken pursuant to Consent Decree Section V of Appendix E:

Introduction

The Consent Decree required the District to submit a Green Infrastructure Program Plan (GIPP) to the EPA and IEPA for approval within one year of the effective date. A Draft of the District's GIPP was submitted to the EPA and IEPA on December 23, 2014 and ultimately approved on October 7, 2015. (See Green Infrastructure Program Plan on the enclosed CD)

Going forward, the Consent Decree (Appendix E, Section V), requires the District to include Green Infrastructure reporting in its Annual Report.

The GIPP outlines the District's strategy to gain the public's acceptance and understanding of how GI can be beneficial to alleviate flooding issues and Combined Sewer Overflows in addition to describing how the District will satisfy the Consent Decree's GI Design Retention Capacity (DRC) requirements. The District is required to provide a minimum of 2 million gallons of DRC within five years and 10 million gallons of DRC within 15 years, of the approval date of the Consent Decree.

2017 Rain Barrel Program Annual Report (Appendix E.II.A)

Rain Barrel Program

In May 2015, the District revised and expanded the rain barrel distribution program that offered free rain barrels to Cook County residents and organizations to increase the number of barrels disseminated. The District delivered free rain barrels through three distribution networks: municipalities; campus-type facilities; and non-government organizations, planning groups, or community groups. This free program continued through 2016 and ended on December 31, 2016. To participate in this free program, municipalities were required to sign an Intergovernmental Agreement (IGA) with the District and non-governmental organizations, planning groups, or community groups throughout Cook County were required to sign a Memorandum of Understanding. During the free program, a total of 88 municipalities and 23 organizations were enrolled as partners. Since the free program concluded, the District began selling rain barrels to Cook County residents at cost ($45.78 per rain barrel) via mwrd.org.

Marketing Activities

The District marketed rain barrels through multiple channels in 2017. Our marketing materials introduced rain barrels to those unfamiliar with them and emphasized their utility in preventing flooding and improving water quality. The marketing efforts also countered common barriers to acceptance of rain barrels: to address concerns about the difficulty of installation, simple installation instructions were included in every barrel and a link to an installation video developed in 2016 by the District in partnership with Openlands (a not-for-profit organization that unites people and resources around the goal of land and water protection) continued to be available with an easy to follow demonstration; concerns that rain barrels would have a negative impact on the appearance of a property were countered by using photography of rain barrels installed in beautifully landscaped yards.

PUBLICATIONS: The District had created a rain barrel brochure that continued to be distributed at all community outreach events in 2017. The brochure provides specific details for ordering (See MWRD Rain Barrel Brochure on the enclosed CD.)

The District continued to print an installation, use and maintenance instructional guide for rain barrels which were distributed with our rain barrels and available at mwrd.org. (See MWRD Rain Barrel Instructions on the enclosed CD.)

SOCIAL MEDIA: The District promoted rain barrels throughout the year on social media by posting photos, press releases, videos and sharing the productive uses of rain barrels and other green infrastructure via Facebook and Twitter. Postings included general educational information regarding the environmental and monetary value of utilizing rain barrels, while other postings detailed specific events where rain barrels would be or were distributed to community members.

WEBSITE: Rain barrels were prominently advertised with a large graphic on the home page of the District's website, mwrd.org. The rain barrel content on mwrd.org was refreshed in 2017 to match the messaging and content of the other marketing materials.

OUTREACH EVENTS AND RAIN BARREL DRAWINGS: The District promoted rain barrels at public outreach events by bringing a rain barrel to these events and giving it away in a drawing to an attendee. To qualify, event attendees were required to fill out a "Water Environment Pledge" detailing water conservation actions. Eighty-eight rain barrels were distributed in this manner at different events. (See list of all events with rain barrel drawings on the enclosed CD.) These outreach efforts were established to educate the public on the value of rain barrels and other green infrastructure in the District's pursuit of water quality improvements and flooding solutions. The benefits of rain barrels were also marketed through the Space to Grow program, which works to transform Chicago Public Schools playgrounds into vibrant outdoor spaces that better absorb rain water. For more information on this program, please see the Green Infrastructure Section of this document. The District held its Fifth Annual Sustainability Summit on October 23, 2017 at the Stickney Water Reclamation Plan (see press release on enclosed CD). The Summit is an opportunity to empower and equip partnering municipalities and environmental advocates with the latest trends in resource recovery and stormwater management. The event also spotlights some of the best management practices taking place across the country that promote a sustainable environment and speaks to the District's mission in renewable resources, flood control and water quality improvements. District staff presented updates on the agency's resource recovery and stormwater management initiatives and emphasized the value of rain barrels as a green infrastructure tool.

WATER ENVIRONMENT PLEDGE MAILING LIST: The District maintained an electronic mailing list of those who signed the Water Environment Pledge. These individuals have a demonstrated interest in rain barrels and may be targeted in future marketing efforts. There are now approximately 3000 addresses in this database.

Number of Barrels Distributed

The District distributed 925 rain barrels in 2014, 29,358 barrels in 2015, 92,981 barrels in 2016, and 10,294 in 2017 for a total of 133,558 barrels. The cost to the District to provide the rain barrels in 2014, 2015, 2016, and 2017 was $17,458.00, $1,520,817.55, $4,417,121.69, and $428,019.90, respectively.

Technical Assistance

The District continued to provide instructions on how to install a rain barrel with each order. As previously mentioned, we worked with Openlands to create a YouTube video that shows how to install a rain barrel (See storyboards on the enclosed CD.)

Potential Volume

If all rain barrels distributed and sold through December 31, 2017 were properly utilized during the entire year, the volume of rainwater kept out of the sewer system in 2017 would be 499,506,920 gallons:

133,558 rain barrels × 55 gallons × 68 average annual days of rain = 499,506,920 gallons

Early Monitoring, Evaluation & Knowledge Building (Appendix E.II.B.)

The Consent Decree also required the District to implement one or more GI projects and dedicate a minimum of $325,000 towards such projects prior to January 6, 2015, within one year of the effective date of the Consent Decree or prior to approval of the GI Plan, whichever was later. As further described below, the District satisfied this requirement in 2014 through collaboration with the Chicago Public Schools (CPS), the City of Chicago Department of Water Management (DWM), Openlands, and Healthy School Campaign in the Space to Grow Program (Phase I Space to Grow) and continued to participate in this program in 2016 (Phase II Space to Grow). The District and the DWM each invested approximately $2 million towards the construction of GI at four CPS schools in 2014. The District's nearly $2 million investment was used solely for GI improvements at the selected CPS schools, thereby far exceeding the minimum $325,000 requirement of the Consent Decree.

Phase I Space to Grow Program – Financial Partnership between the District, CPS & DWM

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago schoolyards into vibrant green spaces for physical activity, outdoor learning and play. As centers of school and community life, Space to Grow projects promote active and healthy lifestyles and connect people with nature in their daily lives. The schoolyards are also designed to prevent flooding and water pollution via rainfall-capturing green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is co-managed by the Healthy Schools Campaign and Openlands with capital funding, leadership and expertise from the District, CPS and the DWM. The District also provides technical support for green infrastructure elements to ensure that the new schoolyards provide optimal stormwater capture benefits.

Each Space to Grow schoolyard is unique, and the architectural landscape designs incorporate input from neighborhood residents, students, families, staff and faculty. Prior to renovations, many of the schoolyards were little more than asphalt parking lots with aging, or in many cases a lack of, playground equipment. In contrast, the new schoolyards typically feature expanded and safer playground equipment, track and field areas, multi-purpose courts on permeable asphalt, turf fields, outdoor classrooms, rain gardens and vegetable gardens. Also, on average, each Space to Grow schoolyard has the capacity to capture hundreds of thousands of gallons of rainwater that otherwise would have drained into local sewers.
The four elementary schools selected for Phase I Space to Grow are in low income areas throughout the City:

- ✓ Virgil I. Grissom Elementary School, 12810 S. Escanaba
- ✓ Morrill Elementary School of Math & Science, 6011 S. Rockwell Street
- ✓ Schmid Elementary School, 9755 S. Greenwood Avenue
- ✓ George Leland Elementary School, 512 S. Lavergne

These schools were prioritized for implementation by CPS, DWM, and the District based on flood risk, site suitability, and socioeconomic factors. Numerous community meetings were held to describe project details and benefits. The District and CPS executed an intergovernmental agreement (IGA) to facilitate this project whereby long term maintenance responsibilities are assigned to CPS. The District has perpetual rights to inspect the GI to ensure it is being properly maintained in accordance with the Operations and Maintenance (O&M) Manual developed for each school.

The District reviewed and provided comments on the construction drawings and specifications at various intervals during the course of design. During the course of construction, the District frequently visited the sites to gain knowledge on the installation of GI. The four sites combine for a Design Retention Capacity (DRC) of 731,004 gallons per rain event. Educational signage has been placed at the sites to inform students and the surrounding community of the benefits of GI. Neighborhood residents were involved in the installation of GI plantings at some of the schools.

Groundbreaking and ribbon cutting ceremonies were held at each of the schools and were attended by students, parents, school staff, local residents, and elected officials, including the District's Commissioners. The four projects have positively impacted thousands of local residents by providing a safe place for their children to play, educating all to the benefits of GI, and providing much needed relief to localized flooding. CPS has indicated that the new playgrounds are being utilized by students at a far greater rate than before, as well as reducing gang activity within close proximity to the schools.

The Space to Grow program continues to be recognized by numerous awards, including:

- ✓ The 2014 Silver Ribbon Award, Friends of the Chicago River
- ✓ The 2015 Active Design Excellence Award, Honorable Mention: This was the only submission from Chicago to be recognized this year. Fellow award recipients span the globe.
- ✓ The 2015 Emerald Award from the Illinois Chapter of the U.S. Green Building Council, Mission category.
- ✓ The 2015 New Champions Award from the National Physical Activity Plan Alliance (NPAPA).
- ✓ The 2015 Sustainability Award from the Illinois Association for Floodplain and Stormwater Management (IAFSM), which recognizes excellence in stormwater management across the state of Illinois.
- ✓ Top 100 Finalist for the 2015 Chicago Innovation Awards.
- ✓ Best of Green Schools 2016 – Collaborator, Green Schools National Network.
- ✓ First Place - Large Population Green Infrastructure, 2016, National Association of Flood and Stormwater Management Agencies (NAFSMA).
- ✓ The 2016 Special Achievement Award to Primera Engineers, Ltd. for Morrill Elementary - American Council of Engineering Companies (ACEC) of Illinois.
- ✓ The 2017 MWRD Sustainable Landscaping Award.
- ✓ The 2017 Stormwater Solutions Magazine Top Project. (See press release on enclosed CD)

The District is proud to be a part of the Space to Grow program as it successfully brings communities together, enhances the educational experience for children throughout Chicago, connects people to nature

and encourages physical activity while reducing the risk of flooding and water pollution.

Green Infrastructure Program (Appendix E)

Phase II Space to Grow Program – Partnership between the District, CPS & DWM

Given the success of the Phase I Space to Grow Program, the District's Board of Commissioners authorized expansion of the program to fund GI at up to thirty schools, which started in 2015, through 2020, with a total investment by the District of approximately $15 million. These projects will not only address localized flooding but will also serve to educate students, parents, and school staff about the benefits of GI. The District will also invest up to $1,000,000 to fund project design at ten schools.

In 2015, plans and specifications were prepared for six schools and construction completed for two schools: Willa Cather (Cather) Elementary School, located at 2908 W. Washington Boulevard, and the Orozco Fine Arts and Sciences (Orozco) Elementary School, located at 1940 W. 18th Street. Both of these elementary schools are located in low income neighborhoods in the City. The combined DRC for these two schools is an estimated 364,504 gallons per rain event. The District contributed a total of $898,477.66 for the work at Cather and Orozco.

In 2016, Space to Grow projects were completed at three additional schools, also located in low-income neighborhoods: Daniel J. Corkery Elementary School, located at 2510 S. Kildare Avenue; Frank W. Gunsaulus Elementary Scholastic Academy, located at 4420 S. Sacramento Avenue, and the James Wadsworth Elementary School, located at 6650 S. Ellis Avenue. The District will contribute almost $1,500,000 towards the work at these three schools, which will provide a combined DRC of 388,648 gallons per rain event.

In 2017, projects were designed for the following schools: John W. Cook Elementary School, located at 8150 S. Bishop Street, Nathan S. Davis Elementary School, located at 3014 W. 39th Place, Fernwood Elementary School, located at 10041 S. Union Avenue, Eugene Field Elementary School, located at 7019 N. Ashland Avenue, and Morton School of Excellence, located at 431 N. Troy Street. Unfortunately, due to financial issues at both CPS and CDWM, the projects at these schools were not constructed in 2017. The financial issues have since been addressed, and the projects will be constructed in 2018.

As with prior schools, one of the main criteria for choosing Cook, Davis, Fernwood, Field and Morton was to identify playgrounds that could facilitate a large amount of Design Retention Capacity in flood prone areas. The actual work will be started once the schools are closed for the summer in 2018. Ribbon cuttings for each school will be held during October and November of 2018.

One school that was designed in 2015, the Oliver S. Wescott Elementary School, located at 409 W. 80th Street, is still looking for sufficient funding to start construction. The DRC for this school is estimated to be 146,346 gallons per rain event.

Design work, which was originally scheduled for 2017, will now commence in 2018 for the following five schools:

- ✓ Arthur R. Ashe Elementary School, 8505 S. Ingleside Avenue
- ✓ James B. Farnsworth Elementary School, 5414 N. Linder Avenue
- ✓ Ninos Heroes Elementary Academic Center, 8344 S. Commercial Avenue
- ✓ Henry H. Nash Elementary School, 4837 W. Erie Street
- ✓ Daniel Webster Elementary School, 4055 W. Arthington Street

The permeable parking lot at the MWRD's John E. Egan Water Reclamation Plant.

The DRC for these five schools will be determined once the plans and specifications are completed.

These schools were prioritized for implementation by CPS, DWM, and the District based on flood risk, site suitability, and socioeconomic factors. Numerous community meetings were and will continue to be held to describe project details and benefits.

The negotiated IGA between the District and CPS to facilitate projects through 2020 specifies that long term maintenance responsibilities are assigned to CPS. The District has perpetual rights to inspect the GI to ensure it is being properly maintained in accordance with the Operations and Maintenance (O&M) Manual developed for each school. The District reviewed and provided comments on the construction drawings and specifications at various intervals during the course of design. During construction, the District frequently visited the sites to gain knowledge on the installation of GI, while monitoring progress.

Additional GI Partnerships

In 2017, the District constructed additional GI projects that conform to the criteria established in the GIPP. The District worked with the City of Berwyn (Berwyn) and the Village of Niles (Niles) to develop GI Projects consisting of permeable pavement, rain gardens and swales. The District contributed a total of $866,670 to these projects which provided a combined DRC of 732,933 gallons. The District entered into IGAs with Berwyn and Niles whereby maintenance responsibilities lie with the municipality and the District retains perpetual rights to inspect the facilities to ensure they are being maintained as required by the O&M Manuals of the respective projects.

Berwyn – Green Alleys

In 2017, the City of Berwyn replaced 10 alleys with permeable pavement throughout the city to reduce the load to the combined sewer system and to help alleviate flooding within the project area at a cost of $2,555,165. The District contributed $666,700 to the project. This project was completed in August 2017. The calculated DRC of this project is 679,122 gallons per rain event.

Niles – Bioswale and Permeable Pavement Parking Lot

In 2017, the Village of Niles constructed a bioswale and a permeable pavement parking lot adjacent to Oak Park with the goals of increasing groundwater infiltration, capturing stormwater, reducing combined sewer overflow events, and offering volunteer opportunities. The District funded $200,000 of the total $400,000 construction cost. This project provides 53,811 gallons of DCR in this flood prone area.

Egan Permeable Pavement Parking Lot

In 2017, The District completed construction of a permeable pavement parking lot at our John E. Egan Water Reclamation Plant in Schaumburg. The District designed and funded the entire $1,519,000 of the construction cost. The project provides 360,855 gallons of DRC.

Buyouts

The District initiated a buyout program for properties in chronic flood-prone areas in 2015. Buildings that qualify will be purchased, demolished, and restored to pervious space, thereby increasing stormwater retention and detention. Since the program was initiated the District has partnered with seven communities to acquire 51 homes thus far. These homes were subsequently demolished and restored to open space. These 51 properties provide approximately 368,746 gallons of stormwater retention. Five of these partnerships are still actively pursuing acquisition of an additional 101 properties. The District contributed buyout funds in the amount of $14,567,000 while the Illinois Emergency Management Authority (IEMA) and U.S. Housing and Urban Development (HUD) contributed $6,810,000 of funding towards the acquisition of these flood-prone properties to date. The District recently sent out invitations to communities to submit pre-applications for potential new acquisition projects and received five pre-applications for 82 homes, which are currently under review.

The District will continue to pursue additional projects that will exceed the goals required by the Consent Decree.

Chicago-Calumet Rivers Fund

A team of private and public organizations, including the District, established and funded the Chicago-Calumet (Chi-Cal) Rivers Fund (Fund), administered by the National Fish and Wildlife Foundation (NFWF). The Fund's main goals include reducing damages caused by flooding, improving water quality, and restoring habitat and safe public access on the local waterways. One method to achieve these goals is through green infrastructure such as rain gardens, green roofs, pervious surfaces, bioswales, and cisterns.

In 2014 and 2015, the District contributed to the Chi-Cal Fund for green infrastructure projects throughout the region. However, in 2016 the District decided to no longer contribute to the Fund in order to have more flexibility to fund projects with high DRCs in flood prone areas throughout our jurisdiction. However, the District has continued to work with the Chi-Cal team in evaluating projects that will reduce flooding, improve water quality and reduce loads to the local sewer systems.

Watershed Management Ordinance

The District began requiring stormwater detention in 1972 under the Sewer Permit Ordinance (SPO) for development projects greater than five acres. In 2007, the District began work on a new stormwater management regulatory ordinance, known as the Watershed Management Ordinance (WMO). Numerous public hearings were held on the WMO in order to receive public input. The District's Board of Commissioners subsequently approved the WMO, which became effective on May 1, 2014. The WMO is a comprehensive regulatory ordinance drafted with the assistance of an Advisory Committee consisting of regulatory agencies, municipalities, and non-governmental organizations. The WMO aims to protect public health, safety, and welfare, and Cook County homes and businesses from flood damage by managing and mitigating the effects of development and redevelopment on stormwater drainage. It provides uniform minimum stormwater management regulations for Cook County that are consistent with the region. The WMO replaces the District's Sewer Permit Ordinance (SPO) with WMO permit requirements more comprehensive than those of the SPO. The District has included a GI component in its WMO, which requires the capture of 1-inch of runoff from impervious surfaces for parcels greater than ½ acre in size when a WMO permit is required. In 2017, 207 permits were issued that required a total of 17,498,948 gallons of GI retention volume. For the WMO permits issued in 2017, 2,999,784 gallons of retention were completed, 7,940,663 gallons were under construction, and 6,558,501 gallons were approved on projects that have yet to be started. An additional 13,151,054 gallons of retention capacity permitted since 2014 has been constructed bringing the total GI installed under the WMO to 16,150,838 gallons. The District anticipates that more GI retention volume will be approved in 2018 and beyond. (see Green Infrastructure Project Log below and table showing Green Infrastructure Design Retention Accomplishments on enclosed CD)

In 2017, the total DRC installed at the District-sponsored projects in Berwyn, Niles, and at the Egan Water Reclamation Plant was 1,093,788 gallons.

The District's WMO requires GI for new development and redevelopment projects. As can be seen in the table below, the WMO's GI requirements will lead to the eventual installation of nearly 38 million gallons of DRC throughout Cook County. (See GI Permits List on enclosed CD) This number will continue to grow significantly in future years. The District's permit

review engineers provide input to design consultants on GI at the onset and during the permitting process.

	2014	2015	2016	2017
WMO GI Permits Issued	7	109	193	207
Permitted GI DRC (Gallons) Installed*	247,647	5,805,101	7,098,306	2,999,784
Permitted GI DRC (Gallons) Under Construction*	0	2,323,318	4,318,959	7,940,663
Permitted GI DRC (Gallons) to be Constructed*	0	82,114	644,533	6,558,501
Total DRC (Gallons) Permitted	**247,647**	**8,210,533**	**12,061,798**	**17,498,948**
Cumulative Total		**38,018,926**		

*Values reflect status of permits issued in each respective year

Potential Future GI Projects

The District began planning several other GI Projects in 2017. The Village of Skokie (Skokie) will construct a rain garden located at Devonshire Park to address localized flooding at the intersection of Greenwood Street and Kenneth Terrace. Skokie will also construct a naturalized stormwater detention basin at the Police Station Headquarters located at 7300 Niles Center Road. This project has been designed, and construction will be done in the spring of 2018. The District will fund $200,000 of a total estimated cost of $500,000 for the project, which has an estimated DRC of 46,424 gallons.

In May 2017, the District sent out a "Call for Green Infrastructure Projects" to governmental organizations (i.e. municipalities, townships, and various agencies) within its boundaries. The District received 47 applications, and selected a total of 20 projects from 19 different agencies. These projects will be started in 2018, with the District funding up to approximately $6 million dollars. The DRCs for the projects have yet to be finalized, but are currently estimated at 2.3 million gallons. The District plans to put out another call for GI projects in the second quarter of 2018.

The District continues to explore innovative ways to harvest and reuse captured stormwater. In 2015, the District began working with the Chicago Housing Authority to utilize a 290,000-gallon storage tank located in their Dearborn Homes complex at 2930 S. Dearborn Street for harvesting stormwater. This stormwater will later be used to irrigate nearby landscaping, which will reduce flow to the combined sewer system, reduce usage of potable water, and help alleviate localized flooding. The design of this project was completed in late 2017 and was advertised for bid in early 2018, with construction to start and finish in 2018. The District has paid a total of $327,695 for the design and the estimated construction cost of the project is $1,088,880.

Green Infrastructure Comprehensive Land Use Policy (Appendix E.II.C)

As part of the GI Plan, the District has also developed a Comprehensive Land Use Policy.

The District's Comprehensive Land Use Policy was approved by the District's Board of Commissioners on August 6, 2015 and approved by the USEPA on October 7, 2015 (see Appendix B of the GIPP on the enclosed CD). The Comprehensive Land Use Policy requires public entities leasing property at a nominal fee from the District to provide GI based on the size of the leasehold and the desired use. For any new/renewed lease, the public lessee must now pay for and include GI on its leasehold. Private entities leasing District land are provided incentives to implement and maintain GI for development projects based on the size and type of use of the property. Private entities installing GI will receive a credit equal to $0.50 on the $1.00 up to 10% of the leasehold cost, capped at 10 years, for GI improvements in excess of WMO requirements. The District will seek credit towards the DRC requirements outlined in Section III of this plan for any GI installed by leaseholders of District property due to GI installed as a result of the requirements of the Comprehensive Land Use Policy.

In 2017, two leases were issued under this policy. One lessee, the Village of Crestwood, will install a fishing pond and greenways on the District's Cal-Sag Channel Parcel 11.04 in Crestwood, Illinois, that will provide a Design Retention Capacity (DRC) of 15,533.50 gallons, which is greater than the 32,890.86 gallons required under the terms of the lease. Another lessee, the Village of Lemont, is revising its plan concerning the green infrastructure it is required to install for leasing the District's Main Channel Parcel 23.11 in Lemont, Illinois.

Green Infrastructure Project Log (Appendix E.III)

Summary Log of Green Infrastructure Capture Volume
2014–2017

Installed Design Retention Capacity (Gallons)	2014	2015	2016	2017
CPS School Retention	731,004	364,504	388,648	0
District Partnership Projects	0	392,764	1,482,753	1,093,788
WMO Projects (Installed)	247,647	5,805,101	7,098,306	2,999,784
Total DRC Installed	**978,651**	**6,562,369**	**8,969,707**	**4,093,572**
Cumulative Total Installed		**20,604,299**		

Watershed Management Ordinance Permits
516 WMO Permits issued requiring Green Infrastructure

Construction Status	Capacity
GI Permitted Yet to Begin Construction	7,285,148 gallons
GI Permitted Under Construction	14,582,940 gallons
GI Permitted Construction Complete	16,150,838 gallons
Total WMO GI Permitted	**38,018,926 gallons**

GI Installed Through 2017

*Nine schools completed through 2017
**Eight projects completed through 2017

Rowers on the North Shore Channel in May 2017.

National Pollutant Discharge Elimination System Permits Consent Decree

2017 Annual Report Referenced Resources

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Attachments for Item 1 – TARP Reservoirs
- Thornton Composite Reservoir Fill Events.pdf

Attachments for Item 2 - CSOs
- Calumet (South) CSO M&R Plan February 2018.pdf
- O'Brien (North) CSO M&R Plan February 2018.pdf
- Stickney (Central) CSO M&R Plan February 2018.pdf
- IEPA Quarterly Report Jan-Mar 2017.pdf
- IEPA Quarterly Report Apr-June 2017.pdf
- IEPA Quarterly Report July-Sept 2017.pdf
- IEPA Quarterly Report Oct-Dec 2017.pdf

Attachments for Item 3 - Water Quality
- Appendix_A_AWQM QAPP.pdf
- Appendix_B_CDOM QAPP.PDF
- Attachment 1_2017_CAWS_AWQM.xlsx
- Attachment 2_2017_CAWS_CDOM.xlsx
- Continuous Dissolved Oxygen Monitoring in the CAWS during 2016.pdf
- Post Construction Monitoring Plan for Calumet TARP System.pdf
- USEPA Approval Letter PCMP for Calumet TARP System October 7, 2016.pdf
- Photo - Addison Creek Debris Boom

Attachments for Item 4 - Floatables
- Summary of 2017 Floatable Control Activities.pdf
- 2017 Debris and Skimmer Boats Floatable Control Logs.pdf
- USACE Letter of No Objection – Debris Boom.pdf
- IDNR Approval Letter - Debris Boom.pdf
- Executed Easement Agreement No. 1.pdf
- Purchase Order Addison Creek Control Boom.pdf
- Executed Easement Agreement No. 2.pdf
- Executed Easement Agreement No. 3.pdf

Attachments for Item 5 - Green Infrastructure
- Green Infrastructure Program Plan.pdf
- MWRD Rain Barrel Brochure.pdf
- MWRD Rain Barrel Instructions.pdf
- 2017 Rain Barrel Outreach Events.pdf
- Fifth Annual Sustainability Summit Press Release.pdf
- Rain Barrel Install Storyboard.pdf
- Space to Grow Top Project Press Release.pdf
- GI Design Retention Capacity Accomplishments.pdf
- GI Permits 2014–2017

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Cover: Elected officials, agency representatives and clean water advocates joined the Metropolitan Water Reclamation District of Greater Chicago to back up their commitment to protect the waterways by jumping into the Chicago River in September 2017.