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 2020 and is due March 31, 2021.

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 2020.
3. 2020 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 2020 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.
In the photo, Stage 2 of the McCook Reservoir is under construction to hold 6.5 billion gallons. The reservoir mitigates flooding and waterway pollution by containing the first flush of combined stormwater and sewage, enabling the District’s Stickney Water Reclamation Plant time to catch up on treatment operations during heavy rainfalls.
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 was responsible for designing and constructing the reservoir and the District was 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 of the reservoir was completed. The District and the Corps executed a new Project Participating Agreement (PPA) under which the Corps transferred the remaining federal funds for Stage 2 to the District, and the District will complete the remaining design and construction.

**District Work**

In order to accomplish its responsibilities, the District initiated numerous of projects which are described below, along with their status:

- **DECOMMISSIONING OF LOW SOLIDS LAGOONS**: Severance 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-BN)**: 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 McCook's Vaulting 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 MCoko 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 2016, fulfilling the District's obligations from Paragraph 17 of the Consent Decree, which required that the Stage 1 mining be completed by December 31, 2016.

- **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 (dewatering, parking area, site lighting). The crusher was purchased separately in advance due to 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.

- **STAGE 1 GROUT CURTAIN**: A grout curtain was completed 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 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 building were installed to connect the future reservoir to the Mainstream Pumping Station.

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

- **DISTRIBUTION TUNNEL SYSTEM - ELECTRICAL AND MECHANICAL SYSTEM AND MISCELLANEOUS REPAIRS**: Corroded equipment in the distribution tunnel was repaired to be replaced and new communication for fire and gas alarms installed. This work was completed in 2017.

The following projects have been completed by the Corps for the Stage 2 McCook Reservoir:

- **STAGE 2 GROUNDWATER CUT-OFF 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 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 to provide 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.

- **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.

**Corps Work**

The following projects have been completed by the Corps for the Stage 1 McCook Reservoir:

- **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 the rock is less than expected. In order to allow the footfall of the reservoir to be mined, due to time constraints, the District did part of this work. This work was 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 drains, 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.
Thornton Composite Reservoir

The Thornton Composite Reservoir 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 as 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, with official approval of the Corps, 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 $437 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 2022, 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 Corps. By 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 great 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 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 2020, the reservoir captured a total of 39.8 billion gallons of combined sewage during 89 storms events. A table showing the dates and respective volumes captured by the Thornton Composite Reservoir is provided on the enclosed thumb drive. Since the Thornton Composite Reservoir became operational, there have been very few CSO discharge events within the Calumet TARP service area. Overall, more than 99.9 percent of combined sewer overflows have been captured by the Calumet TARP System since Thornton became operational. The few discharges to the waterways that have occurred were the result of local conditions which prevented conveyance of storm flows into the TARP dropshafts. A contract to make some structural adjustments at these locations was completed in 2020 to prevent recurrence.

In 2021, a new contract is scheduled to be awarded to install odor control facilities at two shafts located near the Thornton Composite Reservoir, connect the Thorn Creek tunnel to the Thornton Composite Reservoir, and abandon the Thornton Transitional Reservoir. The contract is budgeted at $50 million and will provide odor control facilities at two shafts located near the Thornton Composite Reservoir, and connect the Thorn Creek tunnel to the Thornton Composite Reservoir, thereby reducing the amount of airflow to the quarry.
Combined Sewer Overflow Quarterly Discharge Reports submitted to the IEPA for Calendar Year 2020

The Chicago River provides an efficient way to transport goods downstream. The number of trucks needing to traverse the roadways and vehicle emissions are therefore reduced.
“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 thumb drive).

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 that assumes that all rain 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 is used as the final discharge volumes.

CSO Quarterly Discharge Reports submitted to the IEPA for calendar year 2020 are on the enclosed thumb drive.

Humans are not the only ones benefitting from improved water quality. This duck represents the increasing diversity of wildlife on the Chicago Area Waterway System. Since the District began monitoring fish population in the waterways in the 1970s, the number of fish species has skyrocketed from 10 fish species to 77, including 60 since 2000, drawing birds and other wildlife that are attracted to this increasing amount of fish.
The Chicago River in downtown Chicago has experienced an economic resurgence thanks to the District’s treatment initiatives and innovation and renewed public efforts to protect the quality of the water that is home to this uptick in traffic. Long considered the city’s backyard to Lake Michigan, the attraction of the Chicago River is beginning to rival that famous front yard.

2020 Water Quality Data for Waterway Systems within the District’s Jurisdiction
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 the District’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 2020, AWQM was conducted monthly at sixteen locations (weekly at Lockport) on the CAWS in accordance with the attached Quality Assurance Project Plan (Appendix A). A spreadsheet containing the water quality data generated from this monitoring is submitted as Attachment 1.

The CAWS Use Attainability Analysis (PCB 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. Analysis of the District’s AWQM data shows that the CAWS typically exhibits high compliance with the new water quality standards; only dissolved oxygen (DO), fecal coliform, chloride, and low-level mercury (human health criteria) were exceeded more than once at any single station during 2020. In 2020, CDOM was conducted at fifteen locations on the CAWS in accordance with the attached Quality Assurance Project Plan (Appendix B). A spreadsheet containing the hourly dissolved oxygen data generated from this monitoring is submitted as Attachment 2. A report entitled “Continuous Dissolved Oxygen Monitoring in the Service Area of the Metropolitan Water Reclamation District of Greater Chicago During 2019” was released in 2020 and is included as Appendix C.

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 more stringent water quality standard over 95 percent of the time on an annual basis at 11 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 thumb drive). The sampling and monitoring required in this plan occurred during 2017 and 2018, and the required report was submitted on June 27, 2019. A report entitled “Post-Construction Monitoring Report for the Calumet Tunnel and Reservoir Plan System” is included as Appendix D.

A draft of the Mainstream/Lower Des Plaines TARP System Post Construction Monitoring Plan was submitted to the required agencies on November 5, 2018 in accordance with Section IX, Paragraph 35b of the Consent Decree (copy on enclosed thumb drive). The sampling and monitoring required in this plan will occur during 2030 and 2031, with the final report scheduled for submittal by June 30, 2032.
The District removed 1,540 cubic yards of debris from the Chicago Area Waterway System in 2020.
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 2020.

**The dates on which each skimmer boat, pontoon boat, or other piece of equipment was operated:**
- A spreadsheet on the enclosed thumb drive, entitled **Summary of 2020 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 are also transmitted on the enclosed thumb drive. ([2020 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 and continued operation in 2020. All necessary permits and easements were obtained before the installation of the boom. A summary of floatables collected is also transmitted on the enclosed thumb drive. ([Summary of 2020 Floatable Control Activities](#))

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 thumb drive).
- On January 8, 2015, the District Board of Commissioners 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 thumb drive) authorizing the project.
- On February 19, 2016, the District obtained an executed easement agreement (on the enclosed thumb drive) from the first private property owner, Real Group, LLC. The District’s Board of Commissioners approved payment of the easement on April 7, 2016.
- On February 19, 2016, the District purchased the floatables control boom.
- On March 31, 2017, the District obtained an executed easement agreement (on the enclosed thumb drive) 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 thumb drive) from the third private property owner, the Village of Broadview.
- On July 31, 2017, the floatables control boom was installed (photo on enclosed thumb drive).

The District’s Skim Pickens and its partner the Skinny Dipper work along the Chicago River to protect the quality of the waterway by removing trash, debris and other floatables polluting the water. The District’s skimmer boats provide a vital community service by improving water quality and the recreational experience for thousands of people canoeing, kayaking, boating, and enjoying the waterways.
The District partnered with the Village of Riverside in 2019 to construct a new commuter parking lot and bioretention area that will provide parking for Metra commuters and more than 237,000 gallons of stormwater storage per rain event. The permeable parking lot and rain garden will reduce the current load to the combined sewer system and help alleviate flooding within the project area.
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 of the Consent Decree. The 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 thumb drive)

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

2015 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, 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 began, 294,500 rain barrels were delivered to Cook County residents at $45.78 per barrel via med gr.)

Marketing Activities

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.

Technical Assistance

The District provided essential training and support to the 23 organizations who participated in the District’s new “Green Neighbor Guide.”

GO? Where a rain barrel is shown on page 12. Rain barrels are also described in the District’s new “Green Neighbor Guide.”

OVERVIEW

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 in the City of Chicago. The District’s GIPP was developed to meet the criteria the Consent Decree requires the District to meet to comply with the requirements of the GI Consents. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

Phase I Space to Grow Program – Financial

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

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago’s schoolyards into vibrant green spaces for physical activity, conservation, and education. The spaces provide a setting for learning about rainwater harvesting and green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is managed by the Healthy Schools Campaign and Openlands with capital funding, leadership, and expertise from the District and DWM. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

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

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.

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

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago’s schoolyards into vibrant green spaces for physical activity, conservation, and education. The spaces provide a setting for learning about rainwater harvesting and green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is managed by the Healthy Schools Campaign and Openlands with capital funding, leadership, and expertise from the District and DWM. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.

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

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago’s schoolyards into vibrant green spaces for physical activity, conservation, and education. The spaces provide a setting for learning about rainwater harvesting and green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is managed by the Healthy Schools Campaign and Openlands with capital funding, leadership, and expertise from the District and DWM. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.

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

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago’s schoolyards into vibrant green spaces for physical activity, conservation, and education. The spaces provide a setting for learning about rainwater harvesting and green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is managed by the Healthy Schools Campaign and Openlands with capital funding, leadership, and expertise from the District and DWM. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.

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

Space to Grow is an innovative public-private partnership with a mission of transforming Chicago’s schoolyards into vibrant green spaces for physical activity, conservation, and education. The spaces provide a setting for learning about rainwater harvesting and green infrastructure features such as permeable surfaces, native plants and rain gardens.

The program is managed by the Healthy Schools Campaign and Openlands with capital funding, leadership, and expertise from the District and DWM. The District’s nearly $2 million investment was used solely for GI improvements at the selected CPS schools; therefore, far exceeding the minimum $25,000 requirement of the Consent Decree.

The District marketed rain barrels through multiple channels in 2020. Our marketing materials educated the public about the value of rain barrels in preventing flooding and improving water quality while raising awareness of the benefits to their community.
The additional funding was allocated in 2019 and this project was constructed in 2019, along with the other four schools. The District has contributed $2,528,202.54 towards the work at these five schools, which provide an estimated combined DRC of 881,416 gallons per rain event.

In 2020, five more schools were designed. These five schools are Horace Mann Elementary School, 8050 S. Chappel Avenue; Arnold Mireles Elementary Academy, 9000 S. Exchange Avenue; Isabelle C. O’Keeffe Elementary School, 6840 S. Merrill Avenue; Daniel S. Wentworth Elementary School, 1340 W. 71st Street; and John Whistler Elementary School, 11533 S. Ada Street. The DRC for these five schools will be determined once the plans and specifications are completed. All Space to Grow schools were prioritized for implementation by CPS, DWM, and the District based on flood risk, site suitability, and socioeconomic factors. Numerous virtual community meetings were held to describe project details and benefits.

The existing IGA and amendments between the District and CPS facilitates the remaining projects through 2022. Under the agreement, 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 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.

Space to Grow Awards

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 (NAFMA);
- 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;
- The 2018 Local Initiatives Support Corporation Chicago Neighborhood Development Awards – Blue Cross Blue Shield of Illinois Healthy Community Award;
- The 2018 Metropolitan Planning Council Burnham Award for Excellence in Planning;
- The 2020 SHIFT Award for Land Management Innovation;
- The 2020 Water Environment Federation Public Communication and Outreach Program Award.

Additional GI Partnerships

In 2020, the District constructed additional GI projects that conform to the criteria established in the GIPP. The District worked with the City of Chicago, the City of Northlake, the Town of Cicero, the Village of Broadview, Maywood, River Grove, Summit, the Chicago Park District, University of Illinois at Chicago, Thornton School District 104, and Lyons School District 86 to develop GI projects consisting of permeable pavement parking, green alleys, and bioretention facilities. The District committed $3,139,689 to these projects which provided a combined DRC of 1,523,563 gallons. The District entered into IGAs with these entities whereby maintenance responsibilities lie with the local municipality or park district 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.
Broadview – Green Alley Improvements

In 2020, the Village of Broadview Green Alley Improvements consisted of constructing three permeable alleys using a combination of impermeable concrete and permeable pavers located between 18th and 19th Avenues, between 2nd and 3rd Avenue, and between 22nd and 23rd Avenue. The alleys were bounded by Harvard Street to the north and Fmilo Street to the south. The District funded $230,739 of the total $568,444 estimated construction cost. This project provides 20,746 gallons per rain event in a flood prone area.

Chicago 10th Ward – Green Alleys Projects in Chicago

In 2020, the City of Chicago’s 10th Ward Green Alleys Project consisted of replacing two alleys with permeable pavement located in various locations in the 10th Ward. The project put the current load on the existing sewer system and help alleviate flooding within the project area. The District funded $100,350 of the total $250,000 estimated construction cost. This project provides 78,361 gallons per rain event in a flood prone area.

Chicago Park District – Stormwater Infiltration Through the Establishment of Native Habitat at Three Chicago Parks

Completed in 2020, the Chicago Park District Stormwater Infiltration Through the Establishment of Native Habitat at Three Chicago Parks project consisted of replacing turf grass with native plantings at three Chicago Parks. The native plantings will reduce the current load to the combined sewer system and help alleviate flooding within the project area. The District funded $228,930 of the total $779,978 estimated construction cost. This project provides 367,372 gallons per rain event in a flood prone area.

 Cicero – Green Alley Paving Improvements

In 2020, the Town of Cicero completed two alley pavement improvement projects in various locations in Cicero. Both projects consisted of removing deteriorated alley pavement and replacing it with new permeable pavement. In total for both projects the District funded $437,422 of the total $771,129 estimated construction cost. Both projects provided a combined 134,431 gallons per rain event in a flood prone area.

Maywood – Green Alley Program

In the Village of Maywood the Green Alley Program consisted of constructing three permeable alleys using permeable pavers in the following locations to reduce flooding in a flood prone area: the "T" alley bounded by 21st and 22nd Avenues, Washington Boulevard, and Randall Street, and the two alleys bounded by Oak Street to the north, 21st Avenue to the west, Randall Street to the south, and the two alleys bounded by East 55th Street to the north, 132nd Avenue to the west, 131st Avenue to the south, and 54th Street to the east. The District funded $88,336 of the total $176,873 estimated construction cost. This project provides 163,915 gallons per rain event in a flood prone area.

Northlake – City Centre Permeable Parking Lot Project

In 2020, the City of Northlake City Centre Permeable Parking Lot Project consisted of constructing a permeable parking lot at 112 North Wolf Road using permeable pavers to reduce flooding and provide green infrastructure in the general area. The project funded $131,792 of the total $154,225 estimated construction cost. This project provides 106,568 gallons per rain event in a flood prone area.

River Grove – Green Alley Program

In 2020, the Village of River Grove Green Alley Program consisted of constructing three permeable alleys using permeable pavers in the following locations in River Grove, Illinois, for the public benefit of reducing flooding and providing green infrastructure in the general area: between Spruce Street and Rhodes Avenue bounded by Herrick Avenue and Wrightwood Avenue, between Spruce Street and Rhodes Avenue bounded by Wrightwood Avenue and Richard Street, and between Rhodes Avenue bounded by Richard Street and Grand Avenue. The District funded $263,548 of the total $580,451 estimated construction cost. This project provides 141,804 gallons per rain event in a flood prone area.

Summit – Green Alley Paving Improvements

In the Village of Summit Green Alley Paving Improvements consisted of constructing two green alleys using permeable pavers—one located north of 66th Place bounded by 73rd Avenue and 74th Avenue and another located between 66th Place & 61st Street bounded by 75th Avenue and 76th Avenue. The District funded $289,546 of the total $463,273 estimated construction cost. This project provides 50,464 gallons per rain event in a flood prone area.

Thornton School District 164 – Woolcott School Playground Rehabilitation

In 2020, the Thornton School District 154 Woolcott School Playground Rehabilitation consisted of installing permeable playground surfaces and replacing four existing storm drains and the construction of permeable pavers. The District funded $140,953 of the total $281,954 estimated construction cost. This project provides 5,494 gallons per rain event in a flood prone area.

UCIC – University of Illinois at Chicago Green Infrastructure Comprehensive Land Use Policy

In 2020, the UIC, Chicago Green Infrastructure at the Arthington Mall project consisted of installing curbs, rain gardens and native landscaping at Arthington Mall. The District funded $242,140 of the total $650,429 estimated construction cost. This project provides 228,311 gallons per rain event in a flood prone area.

Union Ridge SD86 – Union Ridge Elementary School Parking Lot Improvements in Harwood Heights

In 2020, the Union Ridge Elementary School Parking Lot Improvements in Harwood Heights consisted of constructing a permeable parking lot at 4600 N. Oak Park Avenue using permeable pavers. The District funded $250,000 of the total $500,000 estimated construction cost. This project provides 108,712 gallons per rain event in a flood prone area.

In 2020, the total DRC installed at CPS, the District-sponsored projects at the City of Chicago, the City of Northlake, Town of Cicero, and the Villages of Broadview, Maywood, River Grove, Summit, the Chicago Park District, UCIC, Thornton School District 164, Union Ridge SD86 and UCIC provided 666,666 gallons per rain event in a flood prone area.

Flood-Prone Property Acquisition Program

The District installed a buyout program for properties in high flood-prone areas in 2015. Buildings that qualify will be purchased, demolished, and replaced with green infrastructure to prevent flooding and detention. Since the program was initiated the District has partnered with five communities on six different projects to acquire 90 homes thus far. These homes were subsequently demolished and restored to open space. These 90 properties provide approximately 650,000 gallons of stormwater retention. Three of these partnerships are still actively pursuing acquisition of additional 64 properties. The District has a budget of approximately $15,100,000 while the Illinois Emergency Management Authority (EMA) and U.S. Housing and Urban Development (HUD) contributed $15,800,000 of funding towards the acquisition of these flood-prone properties to date. The District will continue to pursue additional projects that will exceed the goals required by the Consent Decree.

Chicago-Chalmette Riverfront Project

A team of civic and public organizations, including the District, established and funded the Chicago-Chalmette Riverfront Project (funding provided), administered by the National Fish and Wildlife Foundation (NFWF). The Fund’s management includes reducing damages caused by flooding, improving water quality, and restoring habitat for public access and 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 in the general area, with the Chi-Cal team deciding to no longer contribute to the Fund in order to have more funding for projects with high DRC in flood prone areas throughout the general area. However, the District continues to work with the Chi-Cal team in evaluating projects that will reduce flooding, improve water quality and provide green infrastructure 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 Order (WMO). Numerous public hearings were held with the assistance of an Advisory Committee consisting of regulatory agencies, municipalities, and non-governmental organizations.

Potential Future GI Projects

In order to assist communities in addressing urban flooding issues and promote the use of GI in the region, the District has been setting up a “Call for Green Infrastructure Projects” to governmental organizations (i.e. municipalities, townships, and various agencies) within its corporate boundaries. In 2017, the District received 47 project submittals and selected 19 partnerships to help fund GI installations. Due to the positive response to the program, the District again solicited project submissions in 2018, and of the 153 proposals received, 16 additional projects were selected.

Green Infrastructure Comprehensive Land Use Policy (Appendix E.I.I.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 Board of Commissioners on August 6, 2015 and approved by the USEPA on November 20, 2015. The Policy requires new and existing development projects to be constructed in accordance with the Green Infrastructure Project Log below and table showing Green Infrastructure Permits issued from 2014 through 2020 is on the enclosed thumb drive.

- City of Evanston: Lease of 16.4 acres located at Dempster St. and McDaniell Avenue in Evanston, IL known as District Main Channel Parcel 4.01. This lease commenced on May 7, 2020.
- Village of Lemont/Lemont Park District- Lease of 27.19 acres located in the Town of Lemont, Illinois known as District Main Channel Parcel 23.04. This lease commenced on October 1, 2020.
- Village of Stickney - Lease of 71 acres located at Pershing Blvd. and Ridgeeland Ave. in Stickney, IL known as District Main Channel Parcel 38.01, 38.02, 38.04, 38.05, 38.06, and 38.08. This lease commenced on December 1, 2020.
- Village of Lemont- Lease of approximately 170 acres along the Main Channel in Lemont, IL known as District Main Channel Parcels 2021.21.01, 21.03 and 21.04. Although authorized, this lease has not yet commenced. An update on the green infrastructure component of these Leases will be contained in future Annual Reports.
The Space to Grow Program provides opportunities for students to learn about Stormwater Management.

### Green Infrastructure Project Log (Appendix E.III)

**Watershed Management Ordinance Permits**
1,060 WMO Permits issued requiring Green Infrastructure

**Construction Status**
- **GI Permitted Yet to Begin Construction**: 1,164,204 gallons
- **GI Permitted Under Construction**: 1,378,252 gallons
- **GI Permitted Construction Complete**: 48,213,827 gallons

**Total WMO GI Permitted**: 94,793,103 gallons

**Summary of Green Infrastructure Capture Volume 2014–2020**

<table>
<thead>
<tr>
<th>Year</th>
<th>CPS School Retention</th>
<th>District Partnership Projects</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>771,004</td>
<td>300,000</td>
</tr>
<tr>
<td>2015</td>
<td>364,504</td>
<td>188,648</td>
</tr>
<tr>
<td>2016</td>
<td>312,000</td>
<td>142,630</td>
</tr>
<tr>
<td>2017</td>
<td>1,000</td>
<td>2,000</td>
</tr>
<tr>
<td>2018</td>
<td>2,500</td>
<td>4,000</td>
</tr>
<tr>
<td>2019</td>
<td>1,000</td>
<td>1,500</td>
</tr>
<tr>
<td>2020</td>
<td>2,000</td>
<td>2,500</td>
</tr>
</tbody>
</table>

**Total DRC Installed**: 978,051

**Capacity (Gallons)**
- 2014: 2,021,438,490
- 2015: 1,906,953
- 2016: 1,000
- 2017: 1,000
- 2018: 1,500
- 2019: 1,500
- 2020: 1,500

**Total**: 4,480,226

### Thumbs Drive Table of Contents

**Attachments for Item 1 - TARP Reservoirs**
- Total Thornton Composite Reservoir CSO Capture Volume 2016-2020.pdf

**Attachments for Item 2 - CSOs**
- GB-WR (Not MWR) CSO M&R Plan-February 2018.pdf
- Stickney (Central) CSO M&R Plan-February 2018.pdf

**Attachments for Item 3 - Water Quality**
- Appendix A AWQM-QAP.pdf
- Attachment C CAWS_AWQM_2020.xlsx
- Attachment B AWQM_AWQM_2020.xlsx
- Attachment A AWQM_AWQM_2020.xlsx
- Appendix C Continuous Dissolved Oxygen Monitoring in the Service Area of the MWRDGC During 2015.pdf

**Attachments for Item 4 - Floatables**
- Summary of 2020 Floatable Control Activities.pdf
- 2020 Floatable Control Logs.pdf
- USACE Letter of No Objection – Debris Boom.pdf
- DNHI Approval Letter - Debris Boom.pdf
- Executed Easement Agreement No. 1.pdf
- Executed Easement Agreement No. 2.pdf
- Executed Easement Agreement No. 3.pdf
- Addison Creek Debris Boom Photo.pdf

**Attachments for Item 5 - Green Infrastructure**
- Green Infrastructure Program Plan.pdf
- MWRO Rain Barrel Brochure.pdf
- MWRO Rain Barrel Instructions.pdf

**Space to Grow Schools 2020 Annual Report Referenced Resources**

- **Year Completed**
  2014: Virgil I. Grissom Elementary School 12810 S. Escanaba Ave. 253,962
  2014: George Leland Elementary School 512 S. Laverage Ave. 128,197
  2014: Mollie Elementary School of Math & Science 6011 S. Rockwell St. 118,098
  2014: Theophilus Schmid Elementary School 6755 S. Greenwood Ave. 230,852
  2015: John W. Cook Elementary School 2669 W. Washington Blvd. 56,752
  2015: Orozco Fine Arts & Science Elementary School 1940 W. 18th St. 308,352
  2016: Daniel J. Cortney Elementary School 2510 S. Eider Ave. 102,798
  2016: Frank W. Gurnealess Elementary School 4420 S. Sacramento Ave. 152,517
  2016: James Wadsworth Elementary School 6650 S. E. Ave. 135,393
  2016: John W. Cook Elementary School 8730 S. Bishop St. 217,979
  2016: Nathan S. Davis Elementary School 3014 W. 87th Pl. 157,422
  2016: Fernwood Elementary School 10041 S. Union Ave. 138,222
  2016: Eugene Field Elementary School 7019 N. Ashland Ave. 422,169
  2016: Morton School of Excellence 431 N. Troy St. 155,783
  2017: James R. Fernwood Elementary School 5414 W. 21st St. 156,077
  2017: Arthur S. Ashe Elementary School 8525 S. Ingleside Ave. 244,771
  2017: Ninon Heroes Elementary Academy Center 8344 S. Commercial Ave. 179,432
  2017: Henry H. Nash Elementary School 4837 W. Erie St. 152,841
  2017: Daniel Webster Elementary School 4055 W. Arthington St. 151,742
  2018: Silver S. Hewitt Elementary School 400 W. 80th St. 152,830
  2018: John Barry Elementary School 2829 N. Kedzie Ave. 151,367
  2018: Daniel Boone Elementary School 6710 N. Washtenaw Ave. 186,241
  2018: Garvanza Metro Elementary School 3937 W. Wolcott St. 154,000
  2019: Jesse Sherwood Elementary School 245 W. 57th St. 184,454
  2019: Harold Washington Elementary School 915 S. University Ave. 150,941

**Total**: 4,480,226
Board of Commissioners

Kari K. Steele
President

Barbara J. McGowan
Vice President

Marcelino Garcia
Chairman of Finance

Cameron Davis
Kimberly Du Buclet
Josina Morita
Eira L. Corral Sepúlveda
Debra Shore
Mariyana T. Spyropoulos

Brian A. Perkovich
Executive Director

Established in 1889, the MWRD is an award-winning, special purpose government agency responsible for wastewater treatment and stormwater management in Cook County, Illinois.