

# SECTION V

## CAPITAL BUDGET

The Capital Improvement Program is the District's plan for the construction, rehabilitation, and modernization of District-owned and operated infrastructure. It includes plans to protect Lake Michigan from pollution, to clean up approximately 200 miles of rivers and streams within the District's jurisdiction to meet federal and state standards, and to reduce the level of flooding which has persistently plagued many municipalities within the District's jurisdiction.

The Capital Budget includes the Construction Fund and the Capital Improvements Bond Fund. To understand the Capital Budget, it is necessary to visualize existing facilities as well as the program for the next year and the long-term plan.

The type of funding for each fund corresponds to the estimated useful life of the project and statutory restrictions on bond sales. The Tax Cap Law imposes restrictions on the non-referendum bonding authority of the District. There are exceptions in the Tax Cap Law to allow non-referendum bonds to be sold to finance certain District projects. Bonds or long-term debt are only utilized to finance projects with useful lives beyond 20 years. Capital projects not eligible for bond financing, or with shorter useful lives, are funded on a "pay as you go" basis and financed primarily by property taxes. The Capital Improvements Bond Fund receives most of its resources from bond sales, state revolving fund loans, and governmental grants. It provides for major plant and sewer construction, flood control facilities, and land acquisition. The Construction Fund is financed primarily through a property tax levy and provides for much of the District's infrastructure rehabilitation and modernization.

The narrative discussion of the District's 2015 Capital Improvement Program places the 2015 program within the context of our long-range plan. Information is provided on the levels of funding in 2015 and in the future. The graphs, charts, figures, and descriptions of the Construction Fund and Capital Improvements Bond Fund Program within this section aid the reader in understanding this component of the Budget. The impact on operating costs associated with capital projects scheduled for award in 2015 is presented in the Capital Improvement Program narrative.

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Metropolitan Water Reclamation District of Greater Chicago

100 EAST ERIE STREET

CHICAGO, ILLINOIS 60611-3154

312.751.5600

September 10, 2014

Mr. David St. Pierre  
Executive Director  
OFFICE

Dear Sir:

Subject: 2015 Program for the Capital Funds

The Capital Funds' program for 2015, as prepared in detail, is transmitted herewith. The budget presentation supports the request for funding of the department's 2015 initiatives in alignment with and in support of the Strategic Business Plan. The budget requests include all amendments as directed by you during the Executive Director Budget Hearings in August of this year.

The narratives by fund provide a summary of the 2015 major initiatives and challenges and 2014 accomplishments. Supporting schedules of objectives and performance, present three years of detailed budgetary information.

Thank you for the opportunity to present the proposed Capital Funds budget for 2015.

Respectfully submitted,

Catherine A. O'Connor  
Director of Engineering

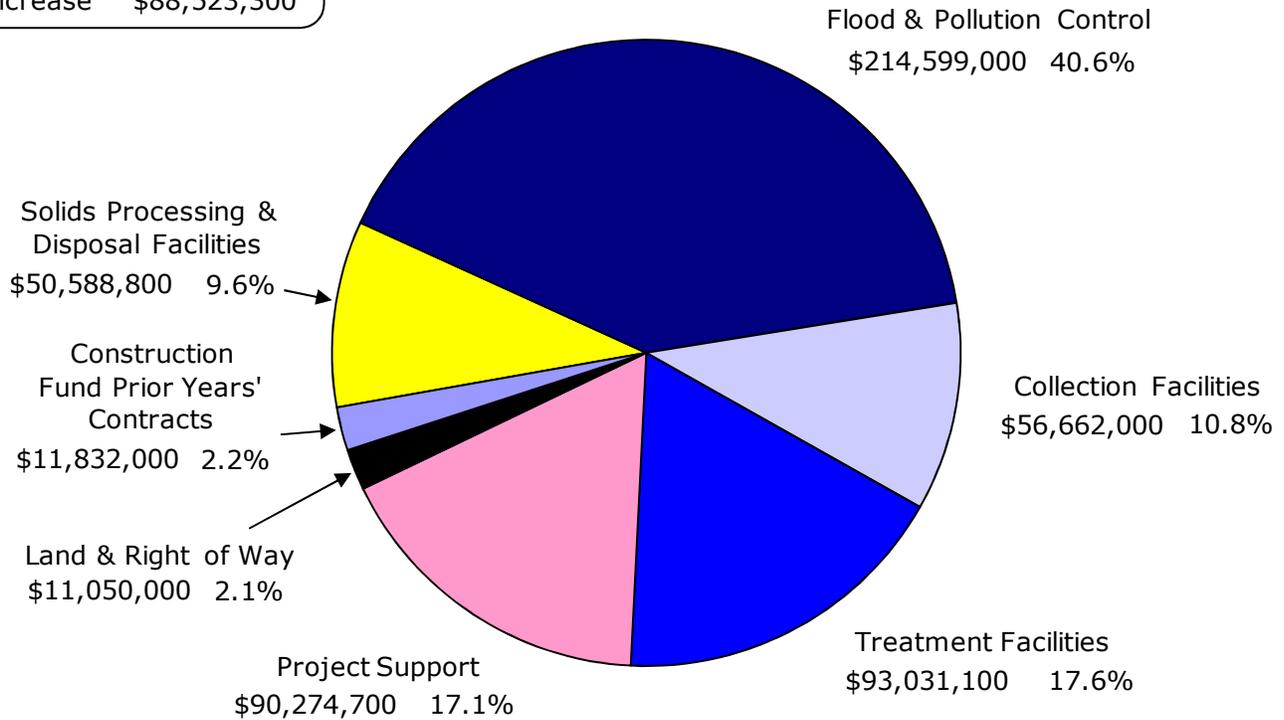
Manju Prakash Sharma  
Director of Maintenance & Operations

Thomas C. Granato  
Director of Monitoring & Research

# CAPITAL IMPROVEMENT PROGRAM CONSTRUCTION AND CAPITAL IMPROVEMENTS BOND FUNDS

2015	\$528,037,600
2014	\$439,514,300
Increase	\$88,523,300

## FUNCTIONS



A comprehensive Capital Improvement Program narrative appears on the following pages. The District utilizes the Construction and Capital Improvements Bond Funds for the Capital Improvement Program. Capital improvements comprise all new facilities and projects that preserve the useful life of District facilities or increase the capacity or efficiency of these facilities. The project support activities of the Construction Fund and Capital Improvements Bond Fund consist of planning, designing, and constructing District infrastructure, acting as a liaison to the United States Environmental Protection Agency (USEPA) and the Illinois Environmental Protection Agency, and pursuing funding for capital projects from the United States Army Corps of Engineers.

### Budget Highlights

The 2015 Capital Improvement Program (Construction and Capital Improvements Bond Funds) totals \$528,037,600, an increase of \$88,523,300, or 20.1 percent, from 2014. The increase is primarily due to an increase in the number of capital projects. A total of 114 projects funded by the Construction or Capital Improvements Bond Funds will be under planning, design, or construction in 2015.

**The mission of the Capital Improvement Program is to plan, develop, and implement projects for new facilities, to preserve the useful life of facilities, or increase the capacity or efficiency of facilities to ensure that the District complies with its statutory responsibilities in the areas of sewage treatment and pollution control.**

### **Capital Improvement Program Policy**

The District's Capital Improvement Program consists of those projects identified as necessary to ensure safe and uninterrupted operation of its facilities, meet existing and new statutory and regulatory requirements, and maintain efficiency in a cost-effective manner. Projects are identified based on asset management audits, Governmental Accounting Standards Board (GASB) Statement 34 inspections, and need, such as regulatory requirements or long-term strategic planning. Following identification, projects must be justified and vetted by an interdepartmental review panel. Projects are then prioritized using an evaluation and scoring system. Projects are then added to the Capital Improvement Program and scheduled for award according to priority and resource availability.

GASB Statement 34 became effective in 2003. By adopting the modified approach for infrastructure, the District agrees to perform condition assessments of its facilities, establish service levels for our infrastructure, and appropriate monies to maintain these high standards, thus protecting the environment and avoiding the detrimental impacts of deferred maintenance. The results of these assessments are reported in the Comprehensive Annual Financial Report.

### **Beneficial Impacts of Capital Projects**

Through proper operation, maintenance, repair, and replacement of equipment and facilities, the District ensures continued efficient, reliable service, protects its investment and infrastructure, and meets National Pollutant Discharge Elimination System permit requirements. The Capital Improvement Program identifies and prioritizes projects to upgrade and modernize obsolete equipment and facilities.

### **Program Funding**

Sources of funding for the Capital Improvement Program consist of the sale of Capital Improvement Bonds, general property tax revenues, State Revolving Fund loans, and federal and state grants.

### **Construction Fund**

Section 9.6(a) of "An ACT to create sanitary districts and to remove obstructions in the Des Plaines and Illinois Rivers," approved May 29, 1889, as amended, provides that the Board of Commissioners of the District can levy and collect taxes for construction purposes (which means the replacement, remodeling, completion, alteration, construction, and enlargement, which will add appreciably to the value, utility, or useful life of sewage treatment works or flood control facilities, and additions thereto, pumping stations, tunnels, conduits, and intercepting sewers connecting therewith, and outlet sewers together with the equipment and appurtenances necessary thereto, and for the acquisition of the sites and rights of way necessary thereto, and for engineering expenses of designing and supervising construction of the work above described) for the year 1985 and each year thereafter, which shall be at a rate not to exceed 0.10 percent of the assessed valuation of all taxable property within the District as equalized and determined for state and local taxes.

### **Capital Improvements Bond Fund**

Section 9.6(a) of "An ACT to create sanitary districts and to remove obstructions in the Des Plaines and Illinois Rivers," approved May 29, 1889, as amended, provides that the Board of Commissioners of the District is authorized to issue bonds for District purposes. The District issues bonds to provide funds to replace, remodel, complete, alter, construct, and enlarge sewage treatment or flood control facilities, to acquire air pollution control equipment, and to build or acquire sewers. The total allowable bond debt at any given time cannot exceed 3.35 percent of the last known equalized assessed valuation of all taxable property within the District. The ordinance authorizing the issuance of the bonds provides for the levy of a tax on all taxable property within the District adequate to pay principal and interest on the bonds when due, including a provision for loss in the collection of taxes.

Tax Cap laws enacted in Illinois have a significant impact on the funding of the District's Capital Improvement Program through bond sales. Under Public Act 89-1, the District's non-referendum bond authority is restricted to fund only projects initiated prior to October 1, 1991, which generally covers only Tunnel and Reservoir Plan (TARP) projects. However, Public Act 89-385 provided additional non-referendum authority to the District by authorizing the issuance of "limited bonds." These "limited bonds" allow the District to issue non-referendum debt for projects initiated after October 1, 1991. "Limited bonds" can be issued up to the debt service extension base established by the Act. This "limited bond" authority was expanded for the District by passage of Public Act 90-485 in the 1997 legislative session. This act excludes debt associated with the TARP program from the "limited bond" limitation. The use of "limited bonds", in conjunction with the "unlimited bonds" authorized for TARP-related projects, positions the District's capital funding on firm ground.

**State Revolving Loan Fund (SRF)**

The purpose of the SRF is to ensure that each state’s program is designed and operated to continue to provide capital funding assistance for water pollution control activities into perpetuity. The USEPA implemented the SRF program in a manner that preserves for the states, a high degree of flexibility for operating their revolving funds in accordance with each state’s unique needs and circumstances.

Funds in the SRF shall not be used to provide grants. SRF balances must be available in perpetuity and must be used solely to provide loans and other authorized forms of financial assistance:

- a. To municipalities, intermunicipal, interstate, or state agencies for the construction of publicly owned wastewater treatment works;
- b. For implementation of a new point source pollution control management program;
- c. For development and implementation of a conservation and management plan.

For many years, the major sources of funding for District projects were federal grants and the Build Illinois Compliance Grants, both of which were discontinued. Under the grant program, the District received approximately \$1.9 billion between 1973 and 1993, leaving 25 percent of the cost to be borne by the District. The District continues to aggressively pursue federal and state funding to minimize the impact on its constituency. The SRF is an integral part of the District’s capital improvements financing. SRF revenues are based on the award and construction schedule of specific projects. It is estimated the District will receive at least \$200.0 million annually in SRF loans.

**Operating Cost Impacts of Capital Improvement Projects**

Specific tables are provided to show the estimated cost impacts on the operating budget of capital improvement projects under construction, scheduled for award, and under development.

The annual maintenance and/or operating costs associated with new capital projects are an important part of the decision-making process for the selection of capital projects. In many cases, the District must build new or modify existing facilities to meet regulatory requirements, and increases in operating costs cannot be avoided. In other cases, operating costs can be significantly reduced based on the replacement of aging infrastructure or equipment. In either case, the operating cost impacts of proposed capital projects are analyzed by design personnel, as well as operating staff, in order to implement a capital program that meets operating needs in the most cost-effective manner.

The operating cost impact tables are designed to give a range of cost impacts on the most significant cost elements, specifically, manpower, chemicals, and energy. The cost impact ranges are defined as no impact, minor impact, or major impact. These estimated cost impacts are reviewed once the specific projects are completed to guide in the preparation of operating budgets and to evaluate if planned efficiencies are realized.

Included in the operating cost impact tables is a categorization of the justification for a particular capital project. As discussed above, projects must be built to meet regulatory requirements, but they may also be built to obtain operating efficiencies, provide a safer operating environment, or extend useful life. The specific categories used are capacity needs, useful life, economic benefit, and safety/regulatory. Projects are often justified by more than one criterion.

**Overall Capital Improvement Program Costs**

The District’s 2015 overall Capital Improvement Program includes 2015 project awards, program support, and projects under construction, with a total estimated construction cost of approximately \$1,446.7 million. A breakdown of these projects (in millions of dollars) is as follows:

2015 project awards	\$ 408.1
2015 program support (project support and land)	101.3
Projects currently under construction	<u>937.3</u>
Total	\$ 1,446.7

◆ A breakdown of projects scheduled for 2015 award by fund is as follows:

Construction Fund projects	\$ 12.3
Capital Improvements Bond Fund projects	<u>395.8</u>
Total	\$ 408.1

◆ A breakdown of projects under construction by fund is as follows:

Construction Fund projects	\$ 11.9
Capital Improvements Bond Fund projects	<u>925.4</u>
Total	\$ 937.3

### 10-YEAR CAPITAL IMPROVEMENT PROGRAM SUMMARY

#### 2010 - 2019 CAPITAL PROJECT CONSTRUCTION COST

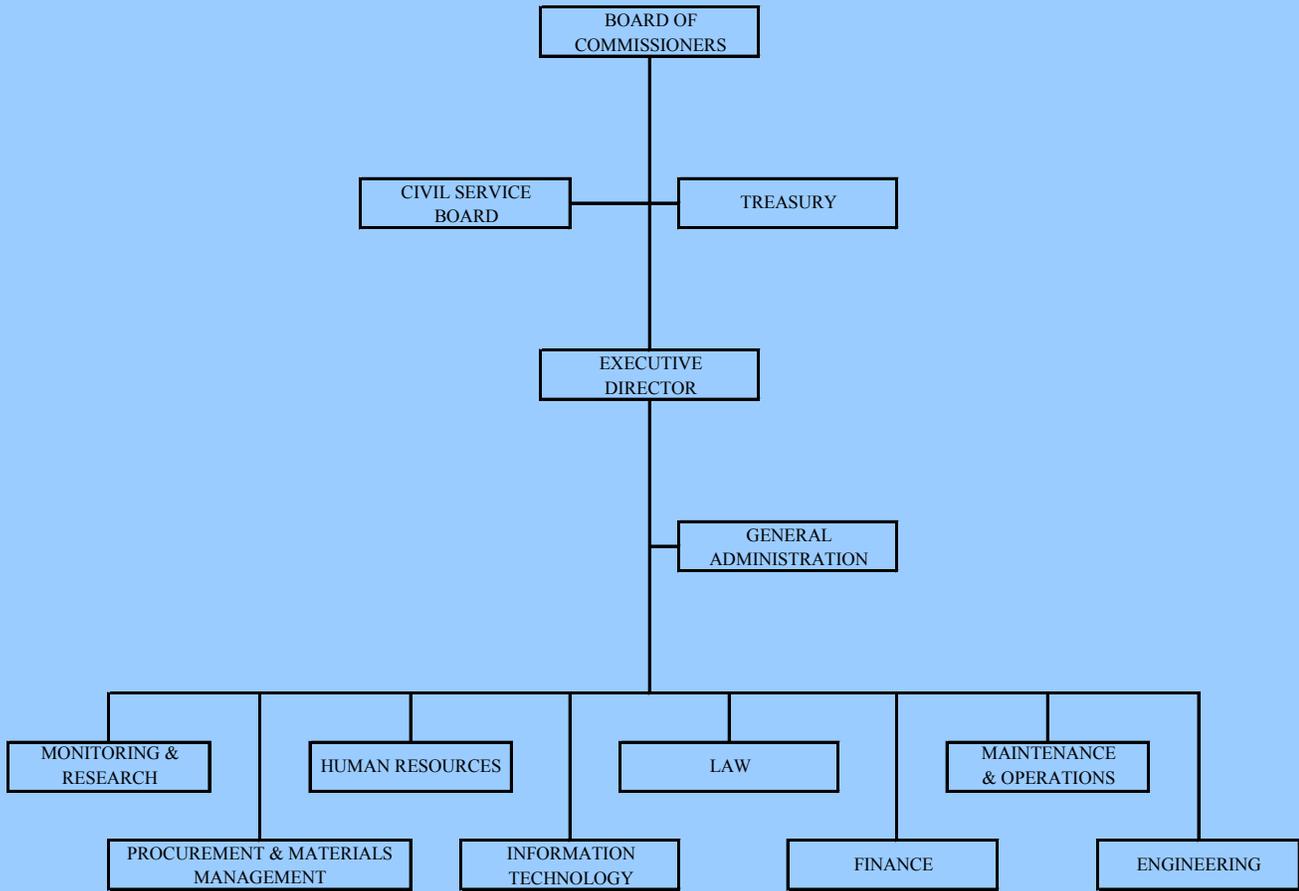
	ACTUAL CASH DISBURSEMENTS					ESTIMATED CASH DISBURSEMENTS					TOTAL DISBURSEMENTS
	2010	2011	2012	2013	2014 *	2015	2016	2017	2018	2019	2010-2019
<b>BY CATEGORY</b>											
Water Reclamation Plants and Solids Management	\$159.19	\$103.17	\$58.96	\$51.54	\$75.36	\$117.06	\$146.48	\$99.93	\$71.55	\$48.42	\$931.66
Replacement of Facilities	73.43	56.10	37.33	31.77	42.82	23.84	53.33	47.73	52.15	44.78	\$463.28
Collection Facilities	101.23	63.14	69.99	32.32	44.30	26.56	17.24	22.83	19.22	20.54	\$417.37
Stormwater Management	-	-	4.54	19.37	7.01	44.05	69.52	54.77	61.48	56.49	\$317.23
Tunnel and Reservoir Plan	38.21	53.95	29.36	35.99	49.72	20.57	72.25	76.55	17.37	10.00	\$403.97
<b>TOTAL</b>	<b>\$372.06</b>	<b>\$276.36</b>	<b>\$200.18</b>	<b>\$170.99</b>	<b>\$219.21</b>	<b>\$232.08</b>	<b>\$358.82</b>	<b>\$301.81</b>	<b>\$221.77</b>	<b>\$180.23</b>	<b>\$2,533.51</b>
<b>BY FUND</b>											
Stormwater Management Fund	\$ -	\$ -	\$4.54	\$19.37	\$7.01	\$8.80	\$7.76	\$7.25	\$7.25	\$7.25	\$69.23
Construction Fund	5.14	1.72	5.24	10.78	23.97	18.09	25.62	16.27	16.00	13.25	\$136.08
Capital Improvements Bond Fund	366.92	274.64	190.40	140.84	188.23	205.19	325.44	278.29	198.52	159.73	\$2,328.20
<b>TOTAL</b>	<b>\$372.06</b>	<b>\$276.36</b>	<b>\$200.18</b>	<b>\$170.99</b>	<b>\$219.21</b>	<b>\$232.08</b>	<b>\$358.82</b>	<b>\$301.81</b>	<b>\$221.77</b>	<b>\$180.23</b>	<b>\$2,533.51</b>

Notes: 1. All project costs are in millions of dollars.

2. Information regarding the distribution of funds between the sub-items in the Construction and Capital Improvements Bond Funds can be found in the Five-Year Financial Forecast.

\* PROJECTED CASH DISBURSEMENTS

**NOTE PAGE**



# CONSTRUCTION FUND

## Fund Summary

The Construction Fund provides for the acquisition of infrastructure assets or the rehabilitation of existing structures that increase the efficiency or extend the life of the structure. The useful life of the assets generally will be less than five years and the cost of the project typically does not exceed \$500,000. The Construction Fund is funded primarily by property taxes.

## Summary of 2014 Accomplishments

Significant accomplishments include:

- Work began on the rotating assemblies replacement project at the 95<sup>th</sup> St. Pumping Station;
- Completed the Blower Building steam line replacement project at the Calumet Water Reclamation Plant (WRP);
- Completed the rotating assemblies rehabilitation project at the Stickney WRP;
- Completed upgrades to the elevator system at the Mainstream Pumping Station;
- Completed DuFlow water quality modeling to analyze the effectiveness of the Devon Avenue Instream Aeration Station;
- Concluded the second year of a seven-year project (2013-2019) on microbial source tracking for the reaches of the Chicago Area Waterway System (CAWS) designated as primary contact recreation use;
- Completed the evaluation of the Albany Park flood mitigation alternatives as part of the project of developing a three-dimensional hydrodynamic and water quality model for the CAWS;
- Awarded a contract for odor mitigation experts to assist in the development of a District Odor Master Plan;
- Awarded a construction contract for membrane gas holder replacement and digester cleaning at Egan WRP;
- Awarded a contract for the expansion of the storeroom building at the O'Brien WRP.

## Budget Highlights

Significant features of the 2015 budget are:

- The 2015 appropriation for the Construction Fund is \$37,840,700, a decrease of \$15,465,300, or 29.0 percent, from the 2014 budget request;
- Replacement of a gearbox in Sidestream Elevated Pool Aeration Station #3 in the Calumet Service Area;
- Rehabilitation of a hydraulic operator at Tunnel and Reservoir Plan (TARP) Gate Structure #1 in the Calumet Service Area;
- Complete the development of a three-dimensional hydrodynamic and water quality model for the CAWS and link the completed three-dimensional model to the TARP system models;
- Complete a hydrological investigation of the TARP groundwater system to evaluate the possibility of a reduction in the monitoring program.

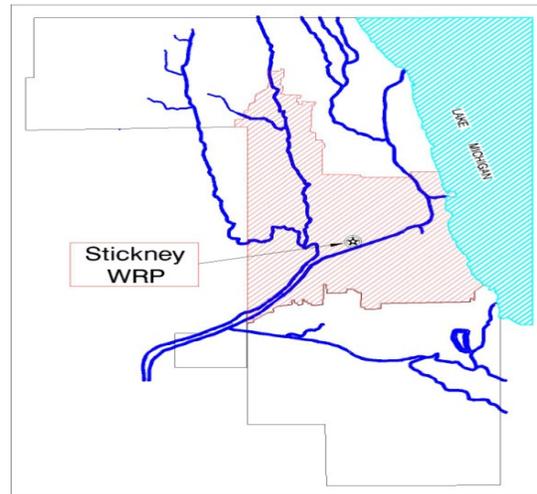
## 2015 Initiatives in Support of the Strategic Plan Include the Following:

- **Add Value**
  - Increase the use of the in-house trades for the completion of repair projects;
  - Increase the use of the Construction Fund, as part of the Asset Maintenance Plan, for the maintenance of facilities to ensure the long-term viability of assets.
- **Excellence**
  - Continue to develop and refine the Asset Maintenance Plan with the goal of reducing emergency sewer collapses and sludge line breaks and the high costs associated with them;
  - Continue the use of District personnel to develop, design, and implement construction projects;
  - Develop a Calumet WRP odor mitigation strategy and complete the evaluation of odor mitigation options.
- **Resource Recovery**
  - Purchase equipment for phosphorus removal at the Kirie WRP;
  - Build a pervious parking lot at the Egan WRP.

**CAPITAL PROJECTS LISTED BY SERVICE AREA - CONSTRUCTION FUND**

The following is a list of capital projects within the District’s three major service areas. They are presented by their association with a Water Reclamation Plant (WRP) and by their completion status: projects under construction and projects for 2015 award.

**STICKNEY  
SERVICE  
AREA (SSA)**



**Stickney Water Reclamation Plant (SWRP)**

**Projects Under Construction (with estimated completion date)**

**Estimated Construction Cost**

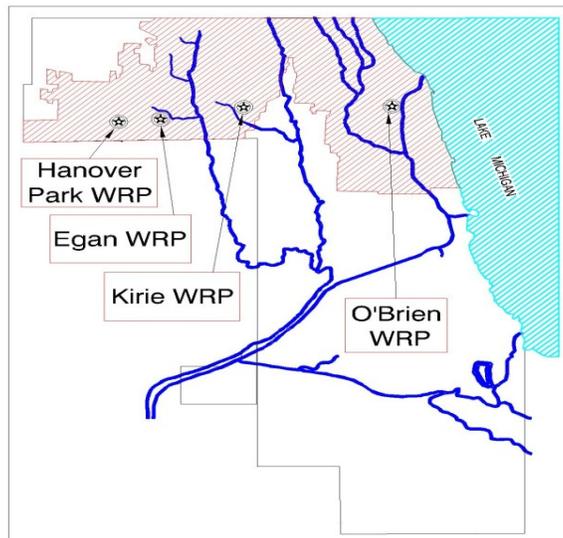
11-961-22	Facility Roof Replacements and Associated Tuckpointing, SWRP, LASMA (12/2015)	\$ 2,880,000
12-907-21	Crane Rehabilitation, MSPS (12/2015)	625,000
12-932-21	Rehabilitation of Sludge Heat Exchangers, SWRP (12/2015)	1,593,000
13-805-2S	Television Inspection and Recording of Sewer and Manholes, District-wide (9/2017)	1,522,000
13-932-21	Painting Services, SSA (12/2015)	1,636,000
14-918-21	Fence Line Extension and Repair, SSA (5/2015)	200,000
14-922-21	Furnish, Deliver, and Install (FD&I) Gas Detection System, WSPS (4/2015)	160,000
J15090-042	Rehabilitation of Elevator Mechanical Systems, MOBA (5/2015)	850,000
	<b>Total</b>	<b>\$ 9,466,000</b>

**Projects for 2015 Award**

14-107-2J	Stickney Effluent Reuse Line, SSA	\$ 600,000
15-603-21	Waterways Telemetry Communication Pilot Study, SSA	200,000
15-906-21	Rehabilitation of Main Sewage Pump Rotating Assembly, RAPS	245,000
15-910-21	F&D Replacement Parts for Sludge Heat Exchangers, SWRP	225,000
15-911-21	Rehabilitate the Valve and Actuator of Main Sewage Pump No. 8, MSPS	300,000
15-912-21	FD&I Ammonia Probes in Aeration Batteries, SWRP	450,000
15-913-21	Gas Turbine Recommissioning, SWRP	500,000
15-914-21	Recondition Various Circuit Breakers, SSA	200,000
J15090-048	Paint and Carpet Replacement, MOB	435,000
	<b>Total</b>	<b>\$ 3,155,000</b>

**Stickney Service Area Grand Total \$ 12,621,000**

# NORTH SERVICE AREA (NSA)



## Terrence J. O'Brien Water Reclamation Plant (OWRP)

### Projects Under Construction (with estimated completion date)

	<b>Estimated Construction Cost</b>
04-015-2V     Storeroom Building Expansion, OWRP (3/2015)	\$     2,201,000
11-722-21     Distributed Control System Server Upgrade, OWRP and NBPS (5/2015)	1,053,000
13-721-22     Painting of Final Tanks, OWRP and KWRP (10/2016)	985,000
<b>Total</b>	<b>\$     4,239,000</b>

### Projects for 2015 Award

14-061-2S     Glenbrook Sewer Rehabilitation, NSA	\$     1,800,000
14-824-2D     Rehabilitation of Bridges, NSA	1,000,000
15-711-21     Restoration of Process Control Building, OWRP	1,750,000
15-713-21     FD&I 350 kW Natural Gas Generator, OWRP	345,000
15-RFP-XX     Guaranteed Energy Performance Contracts, District-wide	1,000,000
<b>Total</b>	<b>\$     5,895,000</b>

## John E. Egan Water Reclamation Plant (EWRP)

### Projects Under Construction (with estimated completion date)

	<b>Estimated Construction Cost</b>
11-403-2P     Membrane Gas Holder Replacement and Digester Cleaning, EWRP (10/2016)	\$     4,800,000
12-711-21     Rebuild Centrifuge Rotating Assembly and Gearbox, EWRP (12/2015)	680,000
<b>Total</b>	<b>\$     5,480,000</b>

### Projects for 2015 Award

12-716-21     Return Activated Sludge Valves Replacement in South Aeration, EWRP	\$     40,000
14-714-21     Restoration of Concrete Pavement, EWRP	1,100,000
15-720-21     Rehabilitate Chiller 1, EWRP	100,000
<b>Total</b>	<b>\$     1,240,000</b>

**James C. Kirie Water Reclamation Plant (KWRP)**

**Projects for 2015 Award**

15-707-21	Equipment for Phosphorus Removal, KWRP
15-719-21	Sludge Line Improvements, KWRP

**Estimated Construction Cost**

	\$	800,000
		<u>200,000</u>
Total	\$	<b>1,000,000</b>

**Hanover Park Water Reclamation Plant (HPWRP)**

**Project for 2015 Award**

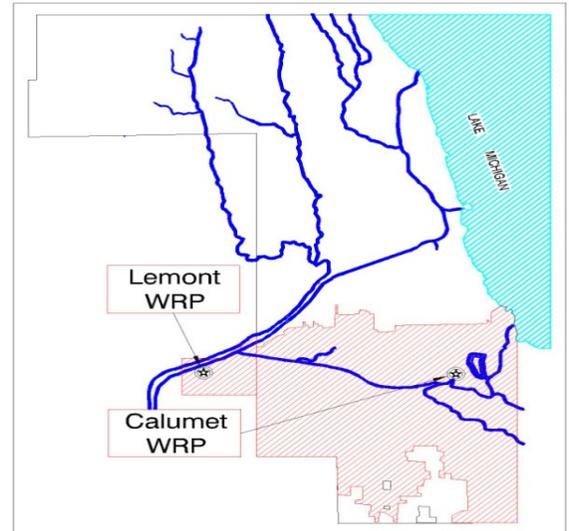
15-701-21	F&D Turbo Blower for Process Air, HPWRP
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**Estimated Construction Cost**

	\$	175,000
Total	\$	<b>175,000</b>

North Service Area Grand Total	\$	<b><u><u>18,029,000</u></u></b>
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## CALUMET SERVICE AREA (CSA)



### Calumet Water Reclamation Plant (CWRP)

#### Projects Under Construction (with estimated completion date)

		Estimated Construction Cost
14-808-21	FD&I Submersible Pumps Replacement at SEPA 1, CSA (12/2015)	\$ 368,000
14-821-21	FD&I Rotating Assemblies for 95th and 125th St. Pumping Stations, CSA (4/2015)	
		2,290,000
Total		<b>\$ 2,658,000</b>

#### Projects for 2015 Award

14-811-21	FD&I New Boilers at 125th St. Pumping Station, CSA	\$ 455,000
15-801-21	FD&I Crane Maintenance Platform, CWRP	50,000
15-802-21	Rehabilitation of Hydraulic Operator at TARP Gate Structure #1, CSA	900,000
15-813-21	Rehabilitation of Buildings, Fulton County	250,000
Total		<b>\$ 1,655,000</b>

### Lemont Water Reclamation Plant (LWRP)

#### Project Under Construction (with estimated completion date)

		Estimated Construction Cost
14-806-21	FD&I New Tank Drives, LWRP (9/2017)	\$ 976,000
Total		<b>\$ 976,000</b>

Calumet Service Area Grand Total **\$ 5,289,000**

Capital Projects Grand Total - All Service Areas **\$ 35,939,000**

## Construction Fund Program

<b><u>Projects Under Construction</u></b>		Est.	MWRD			Award	
#	Project Name	Project Number	Constr- uction Cost	2015 Appro- piation	Dura- tion (days)	Prof. Svcs.	Date / Est. Award
1	Rebuild Centrifuge Rotating Assembly and Gearbox, EWRP	12-711-21	\$ 680	\$ 170	1,441	\$ -	Jan-12
2	Distributed Control System Server Upgrade, OWRP and NBPS	11-722-21	1,053	50	730	-	May-13
3	Facility Roof Replacements and Associated Tuckpointing, SWRP, LASMA	11-961-22	2,880	777	756	-	Dec-13
4	Rehabilitation of Elevator Mechanical Systems, MOBA	J15090-042	850	340	472	-	Feb-14
5	Painting of Final Tanks, OWRP and KWRP	13-721-22	985	314	981	-	Feb-14
6	Storeroom Building Expansion, OWRP	04-015-2V	2,201	1,496	366	-	Mar-14
7	Painting Services, SSA	13-932-21	1,636	728	619	-	Apr-14
8	Furnish, Deliver, & Install (FD&I) Rotating Assemblies for 95th and 125th St. Pumping Stations, CSA	14-821-21	2,290	2,000	310	-	Jun-14
9	Rehabilitation of Sludge Heat Exchangers, SWRP	12-932-21	1,593	1,400	536	-	Jul-14
10	FD&I New Tank Drives, LWRP	14-806-21	976	300	1,095	-	Sep-14
11	Television Inspection and Recording of Sewer and Manholes, District-wide	13-805-2S	1,522	600	1,095	-	Sep-14
12	Fence Line Extension and Repair, SSA	14-918-21	200	200	210	-	Oct-14
13	Crane Rehabilitation, MSPS	12-907-21	625	625	420	-	Nov-14
14	FD&I Gas Detection System, WSPS	14-922-21	160	65	159	-	Nov-14
15	Membrane Gas Holder Replacement and Digester Cleaning, EWRP	11-403-2P	4,800	2,400	699	-	Nov-14
16	FD&I Submersible Pumps Replacement at SEPA 1, CSA	14-808-21	368	367	378	-	Dec-14
Total Projects Under Construction			\$22,819	\$ 11,832		\$ -	
<b><u>Awards in 2015</u></b>		Project	Est.	MWRD			Est.
#	Project Name	Number	Constr- uction Cost	2015 Appro- piation	Dura- tion (days)	Prof. Svcs	Award Date
1	F&D Turbo Blower for Process Air, HPWRP	15-701-21	\$ 175	\$ 175	330	\$ -	Jan-15
2	Rehabilitate the Valve and Actuator of Main Sewage Pump No. 8, MSPS	15-911-21	300	300	365	-	Jan-15
3	Gas Turbine Recommissioning, SWRP	15-913-21	500	500	210	-	Jan-15
4	Sludge Line Improvements, KWRP	15-719-21	200	100	700	-	Jan-15
5	Rehabilitate Chiller 1, EWRP	15-720-21	100	100	365	-	Jan-15
6	FD&I Crane Maintenance Platform, CWRP	15-801-21	50	50	365	-	Jan-15
7	Rehabilitation of Hydraulic Operator at TARP Gate Structure #1, CSA	15-802-21	900	700	730	-	Jan-15
8	Rehabilitation of Buildings, Fulton County	15-813-21	250	250	365	-	Jan-15
9	Stickney Effluent Reuse Line, SSA	14-107-2J	600	600	192	-	Feb-15

<b><u>Awards in 2015 (continued)</u></b>		Est.	MWRD		Est.		
#	Project Name	Project Number	Constr- uction Cost	2015 Appro- piation	Dura- tion (days)	Prof. Svcs.	Award Date
10	Paint and Carpet Replacement, MOB	J15090-048	435	435	55	-	Feb-15
11	Return Activated Sludge Valves Replacement in South Aeration, EWRP	12-716-21	40	40	122	-	Feb-15
12	Restoration of Process Control Building, OWRP	15-711-21	1,750	1,750	300	-	Mar-15
13	FD&I 350 kW Natural Gas Generator, OWRP	15-713-21	345	345	210	-	Mar-15
14	Rehabilitation of Main Sewage Pump Rotating Assembly, RAPS	15-906-21	245	245	270	-	Apr-15
15	F&D Replacement Parts for Sludge Heat Exchangers, SWRP	15-910-21	225	225	365	-	Apr-15
16	Recondition Various Circuit Breakers, SSA	15-914-21	200	200	210	-	Apr-15
17	Guaranteed Energy Performance Contracts, District-wide	15-RFP-XX	1,000	1,000	240	-	May-15
18	Glenbrook Sewer Rehabilitation, NSA	14-061-2S	1,800	1,800	213	-	May-15
19	FD&I New Boilers at 125th St. Pumping Station, CSA	14-811-21	455	455	120	-	Jun-15
20	Equipment for Phosphorus Removal, KWRP	15-707-21	800	800	180	-	Jun-15
21	Waterways Telemetry Communication Pilot Study, SSA	15-603-21	200	200	111	-	Jun-15
22	FD&I Ammonia Probes in Aeration Batteries, SWRP	15-912-21	450	450	90	-	Jul-15
23	Restoration of Concrete Pavement, EWRP	14-714-21	1,100	558	366	-	Aug-15
24	Rehabilitation of Bridges, NSA	14-824-2D	1,000	1,000	270	-	Oct-15
Total 2015 Awards			<u>\$13,120</u>	<u>\$ 12,278</u>		<u>\$ -</u>	
<b>TOTAL 2015 PROJECTS</b>			<b>\$35,939</b>	<b>\$ 24,110</b>		<b>\$ -</b>	

### Construction Fund Program Operating Impacts

<b>Projects Under Construction</b>			Justification				Impact		
			<i>Capacity Needs</i>	<i>Useful Life</i>	<i>Economic Benefit</i>	<i>Safety/Regulatory</i>	<i>Manpower</i>	<i>Energy</i>	<i>Chemical</i>
#	Project Name	Project Number							
1	Rebuild Centrifuge Rotating Assembly and Gearbox, EWRP	12-711-21		x			=	=	=
2	Distributed Control System Server Upgrade, OWRP and NBPS	11-722-21		x			=	=	+
3	Facility Roof Replacements and Associated Tuckpointing, SWRP, LASMA	11-961-22		x			=	=	=
4	Rehabilitation of Elevator Mechanical Systems, MOBA	J15090-042		x	x	x	=	+	=
5	Painting of Final Tanks, OWRP and KWRP	13-721-22		x			=	=	=
6	Storeroom Building Expansion, OWRP	04-015-2V	x				=	-	=
7	Painting Services, SSA	13-932-21		x			=	=	=
8	Furnish, Deliver, & Install (FD&I) Rotating Assemblies for 95th and 125th St. Pumping Stations, CSA	14-821-21		x			=	+	=
9	Rehabilitation of Sludge Heat Exchangers, SWRP	12-932-21		x			=	+	=
10	FD&I New Tank Drives, LWRP	14-806-21		x		x	=	+	=
11	Television Inspection and Recording of Sewer and Manholes, District-wide	13-805-2S		x		x	=	=	=
12	Fence Line Extension and Repair, SSA	14-918-21		x		x	=	=	=
13	Crane Rehabilitation, MSPS	12-907-21		x		x	=	=	=
14	FD&I Gas Detection System, WSPS	14-922-21		x		x	=	=	=
15	Membrane Gas Holder Replacement and Digester Cleaning, EWRP	11-403-2P		x			=	=	=
16	FD&I Submersible Pumps Replacement at SEPA 1, CSA	14-808-21		x		x	=	=	=
<b><u>Awards in 2015</u></b>									
1	F&D Turbo Blower for Process Air, HPWRP	15-701-21		x	x	x	+	+	+
2	Rehabilitate the Valve and Actuator of Main Sewage Pump No. 8, MSPS	15-911-21		x			=	=	=
3	Gas Turbine Recommissioning, SWRP	15-913-21			x		=	++	=
4	Sludge Line Improvements, KWRP	15-719-21		x			=	=	=
5	Rehabilitate Chiller 1, EWRP	15-720-21	x	x	x		=	=	=
6	FD&I Crane Maintenance Platform, CWRP	15-801-21				x	=	=	=
7	Rehabilitation of Hydraulic Operator at TARP Gate Structure #1, CSA	15-802-21		x		x	=	=	=
8	Rehabilitation of Buildings, Fulton County	15-813-21		x			=	=	=
9	Stickney Effluent Reuse Line, SSA	14-107-2J			x		=	=	=

<b>Construction Fund Operating Impacts for Awards in 2015 (continued)</b>		Justification				Impact			
		<i>Capacity Needs</i>	<i>Useful Life</i>	<i>Economic Benefit</i>	<i>Safety/Regulatory</i>	<i>Manpower</i>	<i>Energy</i>	<i>Chemical</i>	
#	Project Name	Project Number							
10	Paint and Carpet Replacement, MOB	J15090-048		x		x	=	=	=
11	Return Activated Sludge Valves Replacement in South Aeration, EWRP	12-716-21		x			=	+	=
12	Restoration of Process Control Building, OWRP	15-711-21		x		x	-	=	=
13	FD&I 350 kW Natural Gas Generator, OWRP	15-713-21	x	x	x	x	=	=	=
14	Rehabilitation of Main Sewage Pump Rotating Assembly, RAPS	15-906-21		x			=	+	=
15	F&D Replacement Parts for Sludge Heat Exchangers, SWRP	15-910-21		x			+	=	=
16	Recondition Various Circuit Breakers, SSA	15-914-21		x			=	=	=
17	Guaranteed Energy Performance Contracts, District-wide	15-RFP-XX			x		=	+	=
18	Glenbrook Sewer Rehabilitation, NSA	14-061-2S		x	x		=	=	=
19	FD&I New Boilers at 125th St. Pumping Station, CSA	14-811-21		x	x	x	+	+	=
20	Equipment for Phosphorus Removal, KWRP	15-707-21		x			=	=	=
21	Waterways Telemetry Communication Pilot Study, SSA	15-603-21	x		x		+	+	=
22	FD&I Ammonia Probes in Aeration Batteries, SWRP	15-912-21			x		=	++	=
23	Restoration of Concrete Pavement, EWRP	14-714-21		x		x	=	=	=
24	Rehabilitation of Bridges, NSA	14-824-2D		x	x	x	=	=	=

<b>LEGEND</b>		
Under " <b>Justification</b> ", the marked columns note the categories of benefits expected from each project.		
<b>Manpower</b>		
+ or - Labor savings (+) or increases (-) expected to result in redirecting existing manpower away from or toward facility or process to other tasks with no net change in total position costs.	++ or --	Labor impact significant enough to ultimately result in reduction (++) or increase (--) in personnel. See additional cost details contained in the Project Fact Sheets.
<b>Energy</b>		
+ or - Minor energy savings (+) or costs (-) having a negligible impact on the District's overall energy budget.	++ or --	Major energy savings (++) or costs (--) expected to result in significant revisions to a facility's energy budget. See additional cost details contained in the Project Fact Sheets.
<b>Chemical</b>		
+ or - Chemical savings (+) or costs (-) having a negligible impact on the District's overall chemical costs.	++ or --	Major chemical savings (++) or costs (--) expected to result in significant revisions to the budgeted chemical expenditures for the associated process. See additional cost details contained in the Project Fact Sheets.
=		No budgetary impact expected.

## Rehabilitation of Elevator Mechanical Systems, MOBA

**Project Number:** J15090-042

**Service Area:** Stickney

**Location:** Chicago

**Engineering Consultant:** In-house design

**General Contractor:** Meccor Industries, LTD

**Estimated Construction Cost:** \$850,000

**Contract Award Date:** February 14, 2014

**Substantial Completion Date:** May 31, 2015\*



**Project Description:** Upgrade Haughton elevator machines (1986) for three passenger elevators and one freight elevator from direct current (DC) motors to alternating current (AC) motors with variable frequency drives (VFDs) to ensure reliable operation and to achieve energy savings. Upgrade elevator control drives from analog to digital controls.

**Project Justification:** The elevators need an upgrade to replace the 28-year old machinery that is near the end of its useful life. Current condition: elevator motors and associated machinery are in critical condition through 28 years of constant use. All machinery leaks gear oil and the gears for these machines are worn out, causing the cars to constantly jump while travelling from floor to floor. There are no more adjustments to be made on the tachometers or braking system to mitigate deficiencies. This upgrade is necessary to ensure safe and reliable transportation of personnel.

There are three major reasons for this request:

- Parts obsolescence, resulting in parts scarcity.

In 1979, the manufacturer, Haughton Elevator Company (Haughton), merged with Swiss-based Schindler Elevator Company. Haughton became Schindler's American elevator division and was known as Schindler Haughton until 1989, when the company stopped the production of the Haughton-designed machines. As a result, the Main Office Building Annex (MOBA) elevator machine parts have become obsolete. Currently, 24 years later, the entire stock of the Haughton repair parts for this type of elevator machines has been depleted nationwide. This forces elevator maintenance contractors to acquire needed parts online, where they are sold as scrap by the buildings that have upgraded their elevator machinery.

- Elevator controls obsolescence, resulting in inefficient operating mode of all four cars due to a lack of programmability of the old analog controls.

MOBA elevators have 1986 Haughton elevator machines with DC motors operated by antiquated analog elevator controls. The current control parts have become obsolete and are difficult to obtain. This causes more frequent breakdowns with longer out-of-service time. The new control drives will allow for a smoother ride and energy savings. Most importantly, effective January 1, 2015, the new Fire Code requires an automatic recall of all elevators in case of an emergency, such as fire. This can only be achieved if the new machinery with digital controls is installed.

- Incompatibility of the existing 28-year old DC machine motors with VFDs.

This results in energy-intensive use of MOBA vertical transportation systems. Installation of VFDs with new AC motors is expected to result in approximately 30 percent in energy savings.

**Project Status:** In progress.

\*Information shown is estimated.

## Paint and Carpet Replacement, MOB

**Project Number:** J15090-048

**Service Area:** Stickney

**Location:** Chicago

**Engineering Consultant:** In-house design

**General Contractor:** Meccor Industries, LTD

**Estimated Construction Cost:** \$435,000

**Contract Award Date:** 2/5/2015\*

**Substantial Completion Date:** 4/1/2015\*



**Project Description:** Replace old carpet and wall-coverings on the 4th floor of the Main Office Building (MOB) utilizing "green" practices such as recycling of the existing carpet, applying zero volatile organic compound paint, and installing Carpet and Rug Institute (CRI) Green Label Plus certified carpet tiles with aquatic (water-based) adhesive.

**Project Justification:** The MOB was last remodeled in 1985, including installation of carpet tiles, wallpaper and painting of the walls. Since then, some partial repairs to floor and wall coverings have been made, on a limited basis. The carpet throughout the building is worn, painted areas are fading and wallpaper is deteriorating. The project will provide an appealing, clean work area for employees and visitors.

**Project Status:** In planning.

\*Information shown is estimated.

## Storeroom Building Expansion, OWRP

**Project Number:** 04-015-2V

**Service Area:** North

**Location:** O'Brien WRP

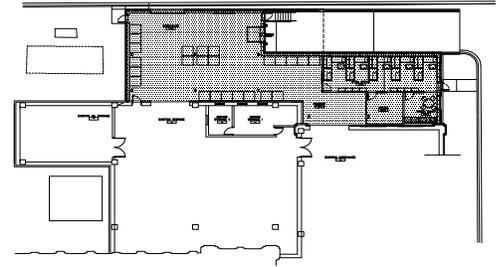
**Engineering Consultant:** In-house design

**General Contractor:** Path Construction Company

**Estimated Construction Cost:** \$2,201,000

**Contract Award Date:** March 6, 2014

**Substantial Completion Date:** March 6, 2015\*



**Project Description:** An expansion to the north for the Storeroom Building encompassing additional storage area, a recessed loading dock, and an updated office area.

**Project Justification:** The existing O'Brien WRP storeroom has 6,215 square feet of storage space. This amount of floor area is not sufficient to meet the current and future space requirements. The expansion will improve office functions, storage of parts and pallets, and receiving functions, including the ability to receive semitrailers, which is not currently possible. The current office space is decentralized and has inadequate space for the staff to function properly. Providing a centralized area will improve function and increase safety for the staff. Additional lockable storage space will be created in the old office area.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Membrane Gas Holder Replacement and Digester Cleaning, EWRP

**Project Number:** 11-403-2P

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$4,800,000

**Contract Award Date:** November 20, 2014\*

**Substantial Completion Date:** October 19, 2016\*



**Project Description:** Drain and clean Digesters A through D. Remove and replace the Dystor membrane gas holders at Digesters B and D. Remove and replace digester gas plug valves for Digesters A through D. Install new digester gas plug valves to allow Digesters B and D to be isolated. Install new actuators to some of the new/replaced valves to isolate digester gas during emergency shutoff events. Provide control wiring to the Distributed Control System (DCS) for these valves. Programming of the DCS will be performed by District personnel. Install new check valves in gas mixing pipelines to prevent sludge backflow at Digesters A and C. Replace flushing water lines in Digesters A and C. Replace digested sludge sampling pipes at Digesters A through D. Replace mixing gas flow meters and associated gas piping, as necessary, at Digesters A and C.

**Project Justification:** Digesters A through D need to be drained and cleaned in order to maintain proper capacity and to perform the contract work. Digesters B and D currently use the Dystor membranes to contain and store biogas. Those membranes were installed around the year 2000. They are typically designed to be replaced every 12 to 14 years. It is economically justified to replace the membranes in kind in order to maintain the unit capacities and capabilities of safe utilization of digester gas. The existing digester gas plug valves are degraded to the point of being non-operational and spare parts are not available for rebuilding, therefore, they need to be replaced. These valves and additional new valves are required for adequate isolation of digester gas piping. DCS control of the actuated digester gas valves is required to allow complete isolation of the digester gas system in an emergency.

**Project Status:** This project is being advertised.

\*Information shown is estimated.

## Distributed Control System Server Upgrade, OWRP and NBPS

**Project Number:** 11-722-21

**Service Area:** North

**Location:** O'Brien WRP and North Branch Pumping Station (NBPS)

**Engineering Consultant:** In-house design

**General Contractor:** ABB, Inc.

**Estimated Construction Cost:** \$1,053,000

**Contract Award Date:** May 16, 2013

**Substantial Completion Date:** May 15, 2015\*



**Project Description:** This contract is to upgrade the O'Brien and NBPS ABB Distributed Control System (DCS) to the latest ABB 800xA platform, including all the required servers for the O'Brien WRP and NBPS process historian systems, engineering workstations, operator workstations, and management consoles. The new server hardware and software are expected to provide a minimum of 10 years of service. This contract covers the hardware costs of the servers, expert field support for configuration and database migration, and the costs of training one engineer and three Electrical Instrument & Testing Mechanics in system installation, configuration, and graphics development.

**Project Justification:** The upgrade ensures that the O'Brien DCS will maintain complete operability and process integrity. The upgrade is necessary because the DCS and server software currently running are no longer compatible with the computer hardware available today, and our current hardware is exhibiting faults typically associated with aging computers. In-house personnel will require extensive training on the new platform. Expert support will minimize the downtime of the DCS during changeover.

**Project Status:** In progress.

\*Information shown is estimated.

## Facility Roof Replacements and Associated Tuckpointing, SWRP, LASMA

**Project Number:** 11-961-22

**Service Area:** Stickney

**Location:** Stickney WRP, Lawndale Avenue Solids Management Area (LASMA), Racine Avenue Pumping Station (RAPS)

**Engineering Consultant:** In-house design

**General Contractor:** L. Marshall, Inc.

**Estimated Construction Cost:** \$2,880,000

**Contract Award Date:** December 5, 2013

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Aeration Battery C, 52nd Avenue Gate House, West Side Pumping Station (WSPS) Main Foyer, Ejector Station D-1, Effluent Disinfection Storage Building, and the Scum Concentration Building will have their failed roofs replaced with a cold-applied, three-ply, Styrene-Butadiene-Styrene (SBS) modified, built-up asphalt roofing system that is ballasted with river washed aggregate. The LASMA Visitor Center's roof will be replaced with the same SBS system, but instead of being covered with river washed aggregate, the roof will be covered with a white reflective Energy Star rated aggregate surface. Imhoff Battery B Facilities (#150 and 152) failed roofs will be replaced with a 10-year warranty roof, and the RAPS roof will be replaced with an SBS white reflective system, as described for the LASMA building, but the roof will also incorporate a "green roof" system.

This is a two-year project:

2014 – 52nd Avenue Gate House, WSPS Main Foyer, Ejector Station D-1, Effluent Disinfection Storage Building, Scum Concentration Building, Imhoff Battery B Facilities (#150 and 152), and RAPS;

2015 – Aeration Battery C and LASMA Visitor Center.

**Project Justification:** The purpose of this project is to replace failing or failed roofing systems with a new roofing structure. The new roofs are required in order to protect personnel, interior mechanical and electrical equipment, and the interior of the building structure from the outdoor elements.

The roofs described here have exceeded their expected life. The current roofing systems are not reliable, which is evidenced via the visible vegetation growth and structural damage, recorded inspection reports, and recorded roof leak repairs. Due to the unreliability of the existing roof structures, the roofs need to be replaced.

**Project Status:** In progress.

\*Information shown is estimated.

## Rebuild Centrifuge Rotating Assembly and Gearbox, EWRP

**Project Number:** 12-711-21

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** Alfa Laval, Inc.

**Estimated Construction Cost:** \$680,000

**Contract Award Date:** January 19, 2012

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Rebuild four centrifuge rotating assemblies and gearboxes at the Egan WRP.

**Project Justification:** This is mission critical equipment. The work must include quality assurance and engineering verification. Due to the project scale, expert services are recommended to perform verification and validation of the work. It is inappropriate to use District employees to both conduct quality assurance activities and perform verification and validation of the work. Alfa Laval, Inc., the equipment manufacturer, has the highest level of knowledge and experience necessary to perform the work. The cost estimate is \$170,000 annually for four years.

**Project Status:** Project is awarded and will be complete in 2015.

\*Information shown is estimated.

## Return Activated Sludge Valves Replacement in South Aeration, EWRP

**Project Number:** 12-716-21

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$40,000

**Contract Award Date:** February 28, 2015\*

**Substantial Completion Date:** June 30, 2015\*



**Project Description:** The purpose of this project is to install two replacement return activated sludge (RAS) valves and appurtenances for the south aeration tanks at Egan WRP. The original estimated cost was \$180,000. The updated contract estimated cost is \$40,000 for materials only. The installation work will be performed by in-house staff.

**Project Justification:** Recently, six frozen-in-place, leaking 24-inch RAS valves were removed and replaced with blind flanges. Two of these valves will be now reinstalled for the following reasons:

- (1) There is evidence to show that since the leaking valves were removed, the RAS return rate has dropped, and the associated aeration tank and final tanks are not able to achieve the maximum design RAS rate. This is most evident during high flow events. The ability to maintain and adjust proper RAS flow rate is critical for reliable secondary treatment.
- (2) Since the valves were removed, the air and energy usage in the airlift has increased. Due to the resulting high air flow rate, sludge sprays and spills around the airlift station are creating unsafe conditions and housekeeping problems.
- (3) Flow control valves will allow variable step-feed RAS rates based on the plant raw sewage pumping and loading rates. Step-feed control optimizes treatment and provide more efficient air usage by spreading the treatment throughout the entire tank. This additional capacity will also be needed for implementation of centrate recycle treatment.
- (4) The valves will also be used for isolation.

**Project Status:** Project is under design.

\*Information shown is estimated.

## Crane Rehabilitation, MSPS

**Project Number:** 12-907-21

**Service Area:** Stickney

**Location:** Mainstream Pumping Station

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$625,000

**Contract Award Date:** November 6, 2014\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Rehabilitate and recondition eight overhead cranes. Resolve deficiencies found during Contract 07-932-11 on the North and South Pump House and service bays, wheel gate gantry, and the dewatering and discharge valve chamber cranes.

**Project Justification:** The purpose of the contract is to perform various structural, mechanical, and electrical repairs to the eight overhead cranes at the Mainstream Pumping Station in order to comply with the American Society of Mechanical Engineers and the Occupational Safety and Health Administration requirements. The cranes located in the subterranean dewatering and discharge valve chambers have experienced severe corrosion, deterioration and rusting of the electrical boxes, rails, and platforms due to the conditions inherent to their location, as well as being subject to multiple combined sewer overflow flood events in 2009 and 2010.

**Project Status:** Pending award.

\*Information shown is estimated.

## Rehabilitation of Sludge Heat Exchangers, SWRP

**Project Number:** 12-932-21

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** Meccon Industries, Inc.

**Estimated Construction Cost:** \$1,593,000

**Contract Award Date:** July 10, 2014

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** The purpose of this project is to replace six of the 24 sludge heat exchangers, now in service, that are necessary to maintain required sludge temperature at the digesters.

**Project Justification:** The existing sludge heat exchangers in Areas D and E were poorly designed. At the present time, the units need to be replaced due to tube failures and u-bend erosion. The units will be replaced with an economically superior product.

**Project Status:** Under construction.

\*Information shown is estimated.

## Painting of Final Tanks, OWRP and KWRP

**Project Number:** 13-721-22

**Service Area:** North

**Location:** O'Brien and Kirie WRPs

**Engineering Consultant:** In-house design

**General Contractor:** Crown Painting

**Estimated Construction Cost:** \$985,000

**Contract Award Date:** February 20, 2014

**Substantial Completion Date:** October 31, 2016\*



**Project Description:** Painting of final tanks including rake arms and walkway at the O'Brien and Kirie WRPs.

**Project Justification:** Existing paint is peeling, causing accelerated corrosion of the metal, and has exceeded the expected service life.

**Project Status:** In progress.

\*Information shown is estimated.

## Television Inspection and Recording of Sewer and Manholes, District-wide

**Project Number:** 13-805-2S

**Service Area:** North, Calumet, and Stickney

**Location:** District-wide

**Engineering Consultant:** In-house design

**General Contractor:** National Power Rodding Corporation

**Estimated Construction Cost:** \$1,522,000

**Contract Award Date:** September 4, 2014

**Substantial Completion Date:** September 4, 2017\*



**Project Description:** To provide the District with sewer inspection services of varying methods including: video inspection, water jetter system television inspection, zoom camera inspection, laser profiling, multi-sensor inspection, and manhole and TARP drop shaft inspection. The contractor will also be responsible for cleaning, disposal, and hourly video inspection services.

**Project Justification:** The purpose of this contract is to determine and monitor the state of the District's existing collection systems infrastructure.

**Project Status:** This contract is in process.

\*Information shown is estimated.

## Painting Services, SSA

**Project Number:** 13-932-21

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** ERA Valdivia Contractors, Inc.

**Estimated Construction Cost:** \$1,636,000

**Contract Award Date:** April 17, 2014

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Group A: Painting of the final tanks at the Stickney WRP. Recoat the interior rake arm and center column portions, which are constructed of ferrous metal, on 22 final settling tanks.

Group B: Painting of the digester covers at the Stickney WRP. Furnish all necessary labor to clean, prepare, and paint digester covers and miscellaneous structures related to the covers located in Digester Areas D, E, F, and G at the Stickney WRP.

Group C: Miscellaneous painting at the Mainstream Pumping Station. Coat various piping and appurtenances at the MSPS. Areas include North and South pump houses, North and South vent shafts, North and South guard valve galleries, North and South receiving bays, Trashrake Building, Gate Building, discharge valve shaft and chamber, and the dewatering shaft and chamber.

**Project Justification:** The coating on the tanks is approaching the end of its lifecycle and delamination has started to occur. Recoating is necessary to prevent corrosion, which will reduce the thickness of the steel members, and lead to an increase in future costs and downtime to replace members that would otherwise have only required recoating.

The services outlined in this contract have been part of a protective coating program at the Stickney WRP to protect the physical integrity of equipment. Failure to proceed with this contract will result in excessive pitting and corrosion resulting in need to replace digester tank covers.

In order to maintain a quality facility with a lengthy service life, piping and appurtenances must be reasonably protected from corrosion. If support equipment, such as pipe hangers/supports, is left to fail, pipes can become dislodged and separate. If stairs and ladders are deteriorated, the safety of District personnel becomes compromised. The location of many of these systems are not readily accessible for inspection, therefore detection may not be possible until a failure occurs.

**Project Status:** In progress.

\*Information shown is estimated.

## Glenbrook Sewer Rehabilitation, NSA

**Project Number:** 14-061-2S

**Service Area:** North

**Location:** Northfield Township

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$1,800,000

**Contract Award Date:** May 12, 2015\*

**Substantial Completion Date:** December 15, 2015\*



**Project Description:** This project consists of the rehabilitation of 5,730 feet of 18 inch diameter circular pipe by a cured-in-place pipe lining process and the rehabilitation of 20 manholes by spray on products.

**Project Justification:** The sewers were inspected with a closed-circuit television inspection system. The video shows infiltration and concrete/metal deterioration due to hydrogen sulfide. In order to restore the hydraulic and structural integrity of the sewers, they need to be rehabilitated. The manholes and structures exhibit similar signs of deterioration and need to be rehabilitated.

**Project Status:** Design phase: 50 percent complete.

\*Information shown is estimated.

## Stickney Effluent Reuse Line, SSA

**Project Number:** 14-107-2J

**Service Area:** Stickney

**Location:** Stickney Township

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$600,000

**Contract Award Date:** February 1, 2015\*

**Substantial Completion Date:** August 13, 2015\*



**Project Description:** This project consists of the installation of 2,000 linear feet of 6-inch diameter pressure pipe by directional drilling and the installation of air relief and blow-off structures and clean-out and blow-off structures.

**Project Justification:** This project provides a Stickney WRP neighboring facility with treated effluent water for use in process applications and represents the first of the effluent water reuse opportunities.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Restoration of Concrete Pavement, EWRP

**Project Number:** 14-714-21

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$1,100,000

**Contract Award Date:** August 31, 2015\*

**Substantial Completion Date:** September 1, 2016\*



**Project Description:** Replacement of concrete roads and parking lot sections at the Egan WRP. This project entails a complete rehabilitation of the almost 40-year old parking lot at the Egan WRP, including the installation of a bioretention area on a parking island and permeable pavers in a portion of the parking spaces.

**Project Justification:** At the Egan WRP, the aging concrete is failing and developing large pot holes. The pot holes create a driving hazard on roads and a walking hazard in the parking lots. This project will be applied towards the Green Infrastructure requirements of the recently lodged Consent Decree.

\$1,100,000 split between 2015/2016, \$558,300/\$541,700 respectively.

**Project Status:** Project is under design.

\*Information shown is estimated.

## Furnish, Deliver, and Install New Tank Drives, LWRP

**Project Number:** 14-806-21

**Service Area:** Calumet

**Location:** Lemont WRP

**Engineering Consultant:** In-house design

**General Contractor:** Independent Mechanical Industries, Inc.

**Estimated Construction Cost:** \$976,000

**Contract Award Date:** September 4, 2014

**Substantial Completion Date:** September 4, 2017\*



**Project Description:** Furnish, deliver, and install new clarifier drives on four final tanks, and mixers on one digester and one concentration tank. Refurbish and paint the structural steel members of the six tanks. Refurbish two tanks per year.

**Project Justification:** These tank drives are in poor condition and require excessive maintenance. They are original equipment. The structural steel will also require replacement of miscellaneous members due to rust.

Replacement of tank drives will ensure tanks are available to meet operational needs of the plant.

**Project Status:** In progress.

\*Information shown is estimated.

## Furnish, Deliver, and Install Submersible Pumps Replacement at SEPA 1, CSA

**Project Number:** 14-808-21

**Service Area:** Calumet

**Location:** Chicago

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$368,000

**Contract Award Date:** December 18, 2014\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Furnish, deliver, and install three submersible Flyght pumps and retrofit existing pump tubes to accommodate Roxtech electrical power cable support system at the Sidestream Elevated Pool Aeration (SEPA) Station 1.

**Project Justification:** Three of the four submersible pumps at the SEPA Station 1 are out of service and require replacement. This project to furnish, deliver, and install three replacement pumps and perform ancillary electrical work will bring the station back up to full design capacity. The SEPA station provides oxygen to the waterway via engineered sidestream waterfalls. The aeration process provided by the SEPA pumps improves water quality and encourages fish population growth, in addition to enhancing the surrounding scenery and providing a park-like environment.

New pumps will allow Calumet Operations to meet permitted dissolved oxygen requirements.

**Project Status:** Under review.

\*Information shown is estimated.

## Furnish, Deliver, and Install New Boilers at 125<sup>th</sup> St. Pumping Station, CSA

**Project Number:** 14-811-21

**Service Area:** Calumet

**Location:** Chicago

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$455,000

**Contract Award Date:** June 1, 2015\*

**Substantial Completion Date:** September 30, 2015\*



**Project Description:** Remove and replace the boilers, condensate transfer system, and feedwater system at the 125<sup>th</sup> St. Pumping Station.

**Project Justification:** In 2011, a consultant was tasked to perform a vulnerability study of our large pumping stations. A report by the consultant dated March 25, 2011, entitled Pump Station Vulnerability and Risk Assessment Study, identified the boiler system at the 125<sup>th</sup> Street Pumping Station as "quite aged and in poor to fair condition." In addition, the report determined that "steam availability is unlikely to be reliable." The burner systems for the boilers, manufactured by North American Atlas Generator, are obsolete. The efficiency of the boiler system is poor, as it takes hours (vs. minutes) to start producing steam from a cold start and the boilers run continuously to hold the low temperature set point needed at the station to keep pipes from freezing in the winter.

Boilers are necessary to maintain the environment in this facility such that the equipment is available when necessary.

**Project Status:** Under review.

\*Information shown is estimated.

## Furnish, Deliver, and Install Rotating Assemblies for 95<sup>th</sup> and 125<sup>th</sup> St. Pumping Stations, CSA

**Project Number:** 14-821-21

**Service Area:** Calumet

**Location:** Chicago

**Engineering Consultant:** In-house design

**General Contractor:** Ornelas Construction Co.

**Estimated Construction Cost:** \$2,290,000

**Contract Award Date:** June 5, 2014

**Substantial Completion Date:** April 15, 2015\*



**Project Description:** This project consists of furnishing, delivering, and installing a reverse-engineered rotating assembly for one storm pump at 95th St. and one storm pump at 125th St., rebuilding one existing rotating assembly from each pumping station, and providing dimensional Computer-Aided Design drawings of the pumps and their associated components.

**Project Justification:** Storm pumps at both the 95<sup>th</sup> St. and 125<sup>th</sup> St. Pumping Stations are custom-made pumps manufactured in 1920 by manufacturers that are no longer in business. Dimensional drawings of the pumps do not exist. Replacement of rotating assemblies will ensure that the pumping stations are available to meet operational needs of the plant.

**Project Status:** In progress.

\*Information shown is estimated.

## Rehabilitation of Bridges, NSA

**Project Number:** 14-824-2D

**Service Area:** North

**Location:** Linden, Maple and Sheridan Road Bridges

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$1,000,000

**Contract Award Date:** October 1, 2015\*

**Substantial Completion Date:** June 30, 2016\*



**Project Description:** This project provides for the replacement of sidewalks on Linden and Maple Avenue bridges, removal of encasing concrete from the bottom flanges of steel girders and beams of the Sheridan Road bridge, strengthening of steel members, and painting of steel members. In addition, the Maple Avenue and Linden Avenue bridges will be modified to make them biker friendly.

**Project Justification:** The sidewalks of Maple Avenue and Linden Avenue bridges are severely cracked and are out of alignment. These sidewalks need to be replaced for the safety of pedestrians. The concrete encasement on the steel girders and beams of the Sheridan road bridge is cracked and loose. This concrete needs to be removed to protect the equipment inside the Wilmette Pumping Station (under the bridge) and for the safety of pedestrians walking under the bridge to Wilmette Harbor. In addition, several steel members of Maple Avenue and Linden Avenue bridges have section loss due to corrosion and need strengthening. All steel members will be painted to protect from further corrosion.

**Project Status:** This project is in design stage.

\*Information shown is estimated.

## Fence Line Extension and Repair, SSA

**Project Number:** 14-918-21

**Service Area:** Stickney

**Location:** 1) Racine Avenue Pumping Station (RAPS), 3838 S. Racine Avenue, Chicago, IL

2) Vacant District Property (bordering Burlington Northern Santa Fe (BNSF) Railway), 3500 S. Kedzie Avenue, Chicago, IL

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$200,000

**Contract Award Date:** October 16, 2014\*

**Substantial Completion Date:** May 16, 2015\*



**Project Description:** 1) Fence Line Extension, RAPS – The purpose of this project is to extend the current fence and relocate the existing sliding entry gate in order to fully enclose the District's property. The project involves the installation of roughly 1,000 linear feet of fencing.

2) Fence Line Repair, 3500 S. Kedzie – The purpose of this project is to replace and/or repair roughly 2,500 linear feet of deteriorated fencing at a vacant District property which borders BNSF Railway.

**Project Justification:** 1) Fence line extension, RAPS - There is a potential for encroachment onto District property and/or structures.

2) Fence line repair, 3500 S. Kedzie – BNSF, the District's neighbor to the south, requested to install a pole swing gate onto District property in order to deter thefts that were occurring to stationary trains within the area. Burglars were using the District's vacant property in order to remove the stolen goods. Upon further investigation, it was discovered that the District's existing fence line, which separates the two properties, was in great disrepair. The existing fencing which borders the east, south, and west sides of the District's property needs to be replaced and/or repaired due to large gaps resulting from vandalism or poor installation, damage resulting from fallen trees, utility poles, overgrown brush, and improper past repairs. The mentioned discrepancies allow unauthorized foot traffic onto District property.

Both parts of the project will prevent encroachment, as well as help deter illegal activity threatening public safety.

**Project Status:** Contract preparation.

\*Information shown is estimated.

## Furnish, Deliver, and Install Gas Detection System, WSPS

**Project Number:** 14-922-21

**Service Area:** Stickney

**Location:** West Side Pumping Station

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$160,000

**Contract Award Date:** November 6, 2014\*

**Substantial Completion Date:** April 15, 2015\*



**Project Description:** Furnish, deliver, and install a hazardous gas detection system at the West Side Pumping Station (WSPS) Coarse Screen Facility.

**Project Justification:** The purpose of the project is to provide labor, materials, and appurtenances to replace the failed/obsolete oxygen, methane, and hydrogen sulfide gas detection system at the WSPS's Coarse Screen Facility. The existing system has been out of service since February 2014. The locations of the existing gas sensors have been subject to high wet well flooding during unplanned outages or high flow conditions.

**Project Status:** Pending award.

\*Information shown is estimated.

## Waterways Telemetry Communication Pilot Study, SSA

**Project Number:** 15-603-21

**Service Area:** Stickney

**Location:** Waterways Control Room and Remote Gauge Locations

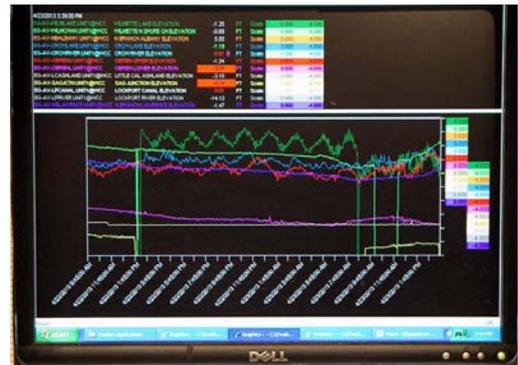
**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$200,000

**Contract Award Date:** June 9, 2015\*

**Substantial Completion Date:** September 30, 2015\*



**Project Description:** Pilot programs to migrate Waterways' telemetry from copper based AT&T phone lines to a wireless solution.

**Project Justification:** Pilot program will identify reliable and cost cutting solutions for transmitting and archiving elevation and precipitation data while also protecting against excessive service outages and high maintenance costs associated with traditional phone lines. Additionally, there is a need to migrate from Legacy hardware that is no longer available for purchase.

**Project Status:** Under development.

\*Information shown is estimated.

## Furnish and Deliver Turbo Blower for Process Air, HPWRP

**Project Number:** 15-701-21

**Service Area:** North

**Location:** Hanover Park WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$175,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 1, 2015\*



**Project Description:** Furnish and deliver one high speed turbo blower, electrical and mechanical accessories for the process air blowers at the Hanover Park WRP.

**Project Justification:** The project entails replacing two existing process air blowers with one high speed turbo blower at the Hanover Park WRP using in-house trades. The contractor will furnish and deliver the turbo blower assembly, and all electrical and mechanical accessories needed to replace the blowers.

The turbo blower uses air or magnetic bearings instead of ball bearings used in the conventional blower, which makes the turbo blower more energy efficient than any conventional blower.

The existing multi-stage blowers have no variable frequency drive (VFD) motor controls. The air demand is controlled by throttling the air inlet valve. The blower always operates at full speed irrelevant of air flow. The turbo blower has VFD motor controls, which will accurately control the speed based on the air flow, resulting in additional energy savings. Furthermore, due to low operating sound levels for the turbo blower, the noise pollution near the trades shop and the Treatment Plant Operator lab storage area will be reduced significantly.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Equipment For Phosphorus Removal, KWRP

**Project Number:** 15-707-21

**Service Area:** North

**Location:** Kirie WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$800,000

**Contract Award Date:** June 1, 2015\*

**Substantial Completion Date:** December 1, 2015\*



**Project Description:** Procure and install pumps, mixing systems, baffle walls, piping, and instrumentation in the first pass of two aeration tanks and return sludge pumps in two final settling tanks.

**Project Justification:** A future phosphorus limit, tentatively scheduled to be in place within five years of issuance of the currently expired National Pollutant Discharge Elimination System permit, will require the use of both batteries A and B for first stage treatment. The first pass of each aeration tank will be converted to an anoxic zone requiring mechanical mixers in place of using low pressure air. Return sludge pumps will be installed for sludge withdrawal as a replacement for air lifts. This equipment will reduce dissolved oxygen in the first pass of the aeration tanks, which is necessary for phosphorus removal.

During 2016 and 2017, aeration and final settling tanks A5 and A6 will be used as pilot tanks to determine the length of the first pass anoxic zone and overall capacity for biological treatment and phosphorus removal.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Restoration of Process Control Building, OWRP

**Project Number:** 15-711-21

**Service Area:** North

**Location:** O'Brien WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$1,750,000

**Contract Award Date:** March 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** This contract is to restore the Process Control Building: grind and recaulk capstones and limestone, tuckpoint entire structure, remove and replace sealant on all doors and windows, replace all windows and glass block, remove and replace roof. This project is expected to have a life expectancy of over 20 years.

**Project Justification:** The building is 85 years old. The envelope of the building is in poor repair and beginning to fail. Structural steel in other buildings of the same age on the same site has begun to rust badly, due to envelope issues. The condition of the building, if not addressed now, will deteriorate further. This may require more extensive and expensive repairs in the future.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Furnish, Deliver, and Install 350 kW Natural Gas Generator, OWRP

**Project Number:** 15-713-21

**Service Area:** North

**Location:** O'Brien WRP, Walters Road Pumping Station

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$345,000

**Contract Award Date:** March 1, 2015\*

**Substantial Completion Date:** October 1, 2015\*



**Project Description:** This project is to furnish, deliver, and install a sound attenuated, 350 kW natural gas generator for the O'Brien WRP - Walters Road Pumping Station. This will provide the critical automatic backup power needed for the station.

**Project Justification:** Walters Road is a critical pumping station because it has no sewer overflow bypass. If the pumps fail to start at the station, the entire neighborhood will flood.

Currently, the 250 kW portable generator parked at the station is 35 years old, unreliable, needs to be started manually by an operator, is undersized (cannot provide full functionality for the station), and is causing a noise disturbance to the residents.

A risk assesment study was performed at the station and the consultant has determined that this portable generator was installed as temporary backup and was found to be inadequate for this application. The consultant recommended that we install a 350 kW permanent generator at the station.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Sludge Line Improvements, KWRP

**Project Number:** 15-719-21

**Service Area:** North

**Location:** Kirie WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$200,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 1, 2016\*



**Project Description:** The purpose of this project is to locate 21 of the 54 missing cathodic protection testing stations along approximately 5.6 miles of underground force main from Kirie WRP to Egan WRP. The pipeline consists of approximately 5.6 miles of 18-inch ductile iron force main with mechanical joint construction. These test stations or identification marks are missing over the years due to construction activities or soil erosion. The expert service contractor will locate, verify operation, and raise and identify all the test stations.

**Project Justification:** This is a single force main pipeline for pumping sludge from Kirie WRP to Egan WRP. The operation of Kirie WRP and ability to meet the National Pollutant Discharge Elimination System permit is directly affected if waste sludge cannot be pumped to Egan WRP as designed. Cathodic protection provides secondary corrosion protection to the underground force main. We need all cathodic protection testing stations functional to verify the cathodic protection to the underground force main. Under this project, we will locate the missing 21 cathodic protection testing stations along the pipeline to provide complete cathodic protection. We will reestablish the ability to test cathodic protection electrical continuity of the underground pipeline system.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Rehabilitate Chiller 1, EWRP

**Project Number:** 15-720-21

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$100,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Furnish, deliver, and install generator section tubes for Chiller 1 at the Egan WRP.

**Project Justification:** This project is to replace the generator section tube bundle for Chiller 1. The chiller provides climate control for M&R Lab operations and office air-conditioning for the Egan WRP.

There are three chillers at the Egan WRP. Two chillers are required for operation to meet design criteria.

As a condition assessment, the contractor, Anchor Mechanical, has performed eddy-current tests on all four tube sections of Chiller 1. The report indicates that the generator section has five percent of the wall thickness remaining and replacement is required. This chiller has been in service for 28 years. If we continue running this chiller, the tubes will fail and the chiller will cease to operate. It is less damaging to the chiller to replace the tube bundle under pre-planned, controlled conditions.

**Project Status:** Project is under review.

\*Information shown is estimated.

## Furnish, Deliver, and Install Crane Maintenance Platform, CWRP

**Project Number:** 15-801-21

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$50,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** This project will include the replacement of the existing ladder and platform at the Influent Pumping Station (IPS) at the Calumet WRP with a new crane maintenance platform consisting of a catwalk and access ladder permanently mounted to the overhead crane.

**Project Justification:** Currently, if the overhead crane at the IPS malfunctions over the pump floor, there is no way to safely access the bridge to perform the required maintenance. The new crane maintenance platform would allow for any necessary work to be completed regardless of the crane's position.

**Project Status:** Under review.

\*Information shown is estimated.

## Rehabilitation of Hydraulic Operator at TARP Gate Structure #1, CSA

**Project Number:** 15-802-21

**Service Area:** Calumet

**Location:** TARP Gate Structure #1

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$900,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 31, 2016\*



**Project Description:** This project will include the removal, rehabilitation, and installation of the hydraulic operator on TARP Gate Structure #1 (GS-1) in the Calumet Service Area.

**Project Justification:** TARP GS-1 is a critical roller gate in the Calumet Service Area that isolates the Torrence Avenue leg of the Calumet TARP System, protecting this service area from localized flooding events and providing a buffer to prevent combined sewer overflows (CSOs) into Lake Michigan. The gate is 16'x25' and is located 300 feet underground.

The hydraulic operator, installed in 2003, controls the operation of the gate. Corrosion of the rod on GS-1 has damaged the packing, which caused a hydraulic oil leak in the cylinder that cannot be repaired in the field. As a result, the gate may fail in the closed position and the Torrence Avenue leg of the Calumet TARP System could not be dewatered after a fill event. The rehabilitation of the hydraulic operator will include an upgraded rod designed to withstand the highly corrosive environment in the drop shaft.

**Project Status:** Under review.

\*Information shown is estimated.

## Rehabilitation of Buildings, Fulton County

**Project Number:** 15-813-21

**Service Area:** Calumet

**Location:** Prairie Plan, Fulton County

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$250,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Rehabilitation of various building and structures at the Prairie Plan Site in Fulton County, Illinois.

**Project Justification:** Replacement of the decking and roof material is needed to ensure the Building B's structural integrity. Building B is the Prairie Plan's largest heated storage area and provides space for maintenance and repair work. The current structure is over 35 years old, and the new roof will have a warranty of 40 years. The new decking would ensure the new metal roofing material will be well fastened to the existing structure. Roof material replacement of the oil shed is also needed to maintain integrity of the building. Replacement of the roof of the Maintenance & Operations office building is also needed as the roof is past its useful life and new asphalt shingles and decking in low slope areas are recommended. The roof and windows of the Wier Farmhouse also need to be replaced. Multiple sheet metal repairs are needed, such as new gutters and downspouts on the Monitoring & Research Building.

**Project Status:** Under review.

\*Information shown is estimated.

## Rehabilitation of Main Sewage Pump Rotating Assembly, RAPS

**Project Number:** 15-906-21

**Service Area:** Stickney

**Location:** Racine Avenue Pumping Station (RAPS)

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$245,000

**Contract Award Date:** April 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** The purpose of this project is to refurbish one main sewage pump rotating assembly at the RAPS. The work includes complete disassembly, inspection of the impeller for re-use, and replacement of the shaft and all other parts. Epoxy coating of the impeller is an added technical feature. The project will provide for refurbishment of this assembly and return it to a condition where it can provide another lifecycle of utilization.

**Project Justification:** Inspection of the rotating assembly in service at RAPS indicates excessive wear of the pump casing rings, impeller wear rings, and packing sleeves.

**Project Status:** Preliminary planning.

\*Information shown is estimated.

## **Furnish and Deliver Replacement Parts for Sludge Heat Exchangers, SWRP**

**Project Number:** 15-910-21

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$225,000

**Contract Award Date:** April 1, 2015\*

**Substantial Completion Date:** March 31, 2016\*



**Project Description:** Furnish and deliver parts for the sludge heat exchangers at the Stickney WRP.

**Project Justification:** The sludge heat exchangers, located at the Digester facility, have provided over 20 years of service. Due to sludge and hot water leaks, caused by tube failures and u-bend erosion, rehabilitation is required. This project will provide the necessary parts required to rehabilitate 11 units and extend the useful life of the equipment.

**Project Status:** Preliminary planning.

\*Information shown is estimated.

## Rehabilitate the Valve and Actuator of Main Sewage Pump No. 8, MSPS

**Project Number:** 15-911-21

**Service Area:** Stickney

**Location:** Mainstream Pumping Station (MSPS)

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$300,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** The purpose of this project is to rehabilitate the 48-inch Rodney Hunt discharge valve and the corresponding 0.65M Flo-Tork actuator of the valve for Main Sewage Pump No. 8 at the MSPS.

**Project Justification:** Previous inspections and rehabilitations of the discharge valves at MSPS have shown internal wear and damage. Specific repairs can only be determined after removal and disassembly. In addition, the project impact on operational needs would be minimized if the project was completed concurrently with the rehabilitation of Pump No. 8.

**Project Status:** Project initiation.

\*Information shown is estimated.

## **Furnish, Deliver, and Install Ammonia Probes in Aeration Batteries, SWRP**

**Project Number:** 15-912-21

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$450,000

**Contract Award Date:** July 1, 2015\*

**Substantial Completion Date:** September 30, 2015\*



**Project Description:** Furnish, deliver, and install ammonia probes in the aeration batteries.

**Project Justification:** The purpose of the project is to provide labor, materials, and appurtenances to install an ammonia analyzer in each of the aeration batteries to monitor and control through the distributed control system process air from the blowers. This will reduce energy consumption and aid in better process efficiencies of the aeration process.

**Project Status:** Pending award.

\*Information shown is estimated.

## Gas Turbine Recommissioning, SWRP

**Project Number:** 15-913-21

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$500,000

**Contract Award Date:** January 1, 2015\*

**Substantial Completion Date:** July 31, 2015\*



**Project Description:** The purpose of this project is to recommission the gas turbine at the Stickney WRP. The work includes conversion of the gas turbine to operate on natural gas and an upgrade to the electrical control system.

**Project Justification:** The existing gas turbine generator is a capital asset that can be used to generate electricity. Conversion to natural gas operation will allow it to run without any interruptions in gas supply, and save the cost of digester gas treatment, which diminished the benefit of operation previously.

**Project Status:** Preliminary planning.

\*Information shown is estimated.

## Recondition Various Circuit Breakers, SSA

**Project Number:** 15-914-21

**Service Area:** Stickney

**Location:** Various

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$200,000

**Contract Award Date:** April 1, 2015\*

**Substantial Completion Date:** October 30, 2015\*



**Project Description:** Furnish and deliver services and material to recondition various circuit breakers in the Stickney Service Area.

**Project Justification:** The purpose of the project is to provide labor, materials, and appurtenances to recondition, test, and warranty various circuit breakers in the Stickney Service Area to extend the useful life of the equipment. This reconditioning will ensure equipment electrical safety and reliability during normal operating conditions and fault conditions. Reconditioning will overhaul the breakers to meet the original manufacture specifications.

**Project Status:** Pending award.

\*Information shown is estimated.

## Guaranteed Energy Performance Contracts, District-wide

**Project Number:** 15-RFP-XX

**Service Area:** North, Calumet, and Stickney

**Location:** District-wide

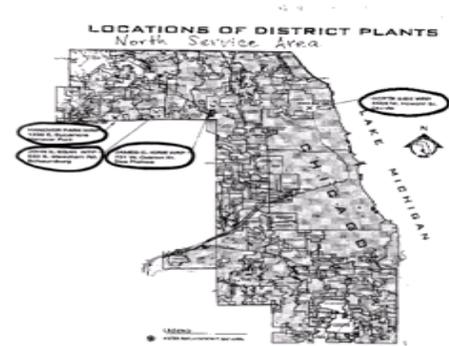
**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$1,000,000

**Contract Award Date:** May 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Under an existing purchase order, Noresco is performing an Investment Grade Audit at major District facilities. This project will be to perform energy conservation measures identified by the audit.

**Project Justification:** Install energy conservation and/or efficient equipment identified by the Investment Grade Audit. Projects will be justified based on District needs and economic payback.

**Project Status:** Under review.

\*Information shown is estimated.

**50000 CONSTRUCTION FUND**

**OBJECTIVES AND PROGRAM SUMMARY**

OBJECTIVES BY PRIORITY:	Cost	Percent
1. TREATMENT FACILITIES: Award projects such as Restoration of Concrete Pavement, EWRP, which will reduce operation and maintenance costs and/or provide facility improvements.	\$ 9,531,100	25.2%
2. COLLECTION FACILITIES: Award projects such as Furnish, Deliver and Install 350 kW Natural Gas Generator, OWRP, which will reduce operation and maintenance costs and/or provide facility improvements.	\$ 3,662,000	9.7%
3. SOLIDS PROCESSING & DISPOSAL FACILITIES: Award projects such as Furnish and Deliver Replacement Parts for Sludge Heat Exchangers, SWRP, which will reduce costs and/or provide facility improvements.	\$ 4,588,800	12.1%
4. FLOOD & POLLUTION CONTROL: Provide the funding for flood control studies and construction projects.	\$ 1,250,000	3.3%
5. CONSTRUCTION FUND PROJECT COST: Provide funding for contracts awarded prior to 2015.	\$ 11,832,000	31.3%
6. PROJECT SUPPORT: Administration, design, and construction inspection for current and future contracts, funding support, construction materials and testing services, and land and right-of-way expenditures.	\$ 6,976,800	18.4%
<b>Total</b>	<b>\$ 37,840,700</b>	<b>100.0%</b>

MEASURABLE GOALS:

	2013 Actual	2014 Estimated	2015 Proposed
1. Awarding Contracts for the continued implementation of the District's Capital Improvement Program.			
Number of Projects proposed	64	42	24
Number of Contracts awarded	26	20	24
Plans available for award	26	20	24

The projects proposed for each year are based upon the requirements dictated by the Capital Improvement Program. The number of actual projects awarded may not, on face value, quantify performance. There are several factors that could either increase or decrease the number of projects awarded. Some of these factors are project size, project complexity, and unforeseen obstacles. These numbers are provided only as a general indicator of performance.

**50000 CONSTRUCTION FUND**

**OBJECTIVES AND PROGRAM SUMMARY**

PROGRAMS BY PRIORITY:		2013 Actuals	Budgeted		Change			
Number	Name		Positions	Dollars	Dollars	Percent		
1110	Interceptor Systems	\$ 25,058	2015	-	\$ 600,000	\$ (550,000)	(47.8)	a)
			2014	-	\$ 1,150,000			
1300	Pumping Station Facilities	\$ -	2015	-	\$ 2,000,000	\$ 350,000	21.2	b)
			2014	-	\$ 1,650,000			
1700	Collection Design	\$ 27,243	2015	-	\$ 182,000	\$ (88,000)	(32.6)	c)
			2014	-	\$ 270,000			
1800	Collection Construction	\$ 1,518,629	2015	-	\$ 4,960,000	\$ (1,212,300)	(19.6)	d)
			2014	-	\$ 6,172,300			
2700	Treatment Design	\$ 504	2015	-	\$ 1,059,100	\$ 430,900	68.6	e)
			2014	-	\$ 628,200			
2800	Treatment Construction	\$ 5,539,487	2015	-	\$ 11,818,000	\$ (17,854,700)	(60.2)	f)
			2014	-	\$ 29,672,700			
3700	Solids Processing Design	\$ -	2015	-	\$ 2,414,000	\$ 2,364,000	4,728.0	g)
			2014	-	\$ 50,000			
3800	Solids Processing Construction	\$ 1,597,632	2015	-	\$ 6,240,800	\$ 2,354,000	60.6	h)
			2014	-	\$ 3,886,800			
4200	Waterways Control and Stormwater Reservoirs	\$ 75,800	2015	-	\$ 200,000	\$ (570,000)	(74.0)	i)
			2014	-	\$ 770,000			
4335	Waterways Debris Removal	\$ 36,099	2015	-	\$ -	\$ (250,000)	(100.0)	j)
			2014	-	\$ 250,000			
4600	Monitoring	\$ 1,050,275	2015	-	\$ 2,825,000	\$ 455,000	19.2	k)
			2014	-	\$ 2,370,000			
4700	Flood & Pollution Control Design	\$ -	2015	-	\$ -	\$ (375,000)	(100.0)	l)
			2014	-	\$ 375,000			

- a) Decrease is due to the completion of 14-604-21, Lining of NS 11A Main Street Leg, NSA.
- b) Increase is due to the carryforward balance of 14-821-21, FD&I Rotating Assemblies for 95th and 125th St. Pumping Stations, CSA (\$500,000), offset by the completion of 12-906-21, Rehabilitation of Four Sewage Pump Rotating Assemblies, SWRP, RAPS (\$150,000).
- c) Decrease is due to the carryforward balance of 07-857-2S, Civil Consulting Support Services.
- d) Decrease is due to the completion of 11-961-21, Facility Roof Replacements and Associated Tuckpointing, SWRP, LASMA (\$1,301,000), offset by the addition of 14-922-21, FD&I Gas Detection System, WSPS (\$65,000).
- e) Increase is due to the addition of 14-817-2P, Evaluate Aeration Systems (\$298,100) and the increase for 09-401-2P, Master Underground Piping Survey, EWRP (\$222,000).
- f) Decrease is due to the deferral of 14-714-21, Restoration of Concrete Pavement, EWRP (\$541,700), the completion of 11-722-21, DCS Server Upgrade at the O'Brien WRP and North Branch PS, NSA (\$421,200), 13-926-21, F&D Heavy Equipment, CWRP, SWRP (\$1,030,000), AnitaMox Moving Bed Biofilm Reactor (\$3,575,000), and the change in funding to the Bond Fund of 14-801-21 (now 14-250-3P), Digester Gas Utilization, CWRP (\$9,771,800), and 14-920-21 (now 09-182-3E), Medium Voltage Cable Replacement, SWRP (\$2,400,000).
- g) Increase is due to the addition of 14-816-2P, Legal Advisor for Renewable Energy Projects (\$25,000), and professional services only for 14-250-3P, Digester Gas Utilization Facility, CWRP (\$455,000) and 11-240-3P, Organic Waste Receiving and Processing Facility, CWRP (\$1,934,000).
- h) Increase is due to the greater second year utilization of 12-932-21, Rehabilitation of Sludge Heat Exchangers, SWRP (\$1,050,000) and 11-403-2P, Membrane Gas Holder and Digester Cleaning, EWRP (\$1,408,200).
- i) Decrease is due to the deferral of 14-606-21, Repair of Maple and Linden Avenue Bridges, NSA (\$750,000), offset by the addition of 15-603-21, Waterways Telemetry Communication Pilot Study, SSA (\$200,000).
- j) Decrease is due to the completion of 14-611-21, F&D Skimmer Boats, District-wide.
- k) Increase is due to the addition of Technology Evaluation for Odor Control (\$100,000), Odor Modeling (\$100,000), and Biosolids Drying Pilot Testing (\$250,000).
- l) Decrease is due to the cancellation of 06-841-2S, Collateral Channel Contaminated Sediment Remediation Demonstration Project, SSA.

**50000 CONSTRUCTION FUND**

**OBJECTIVES AND PROGRAM SUMMARY**

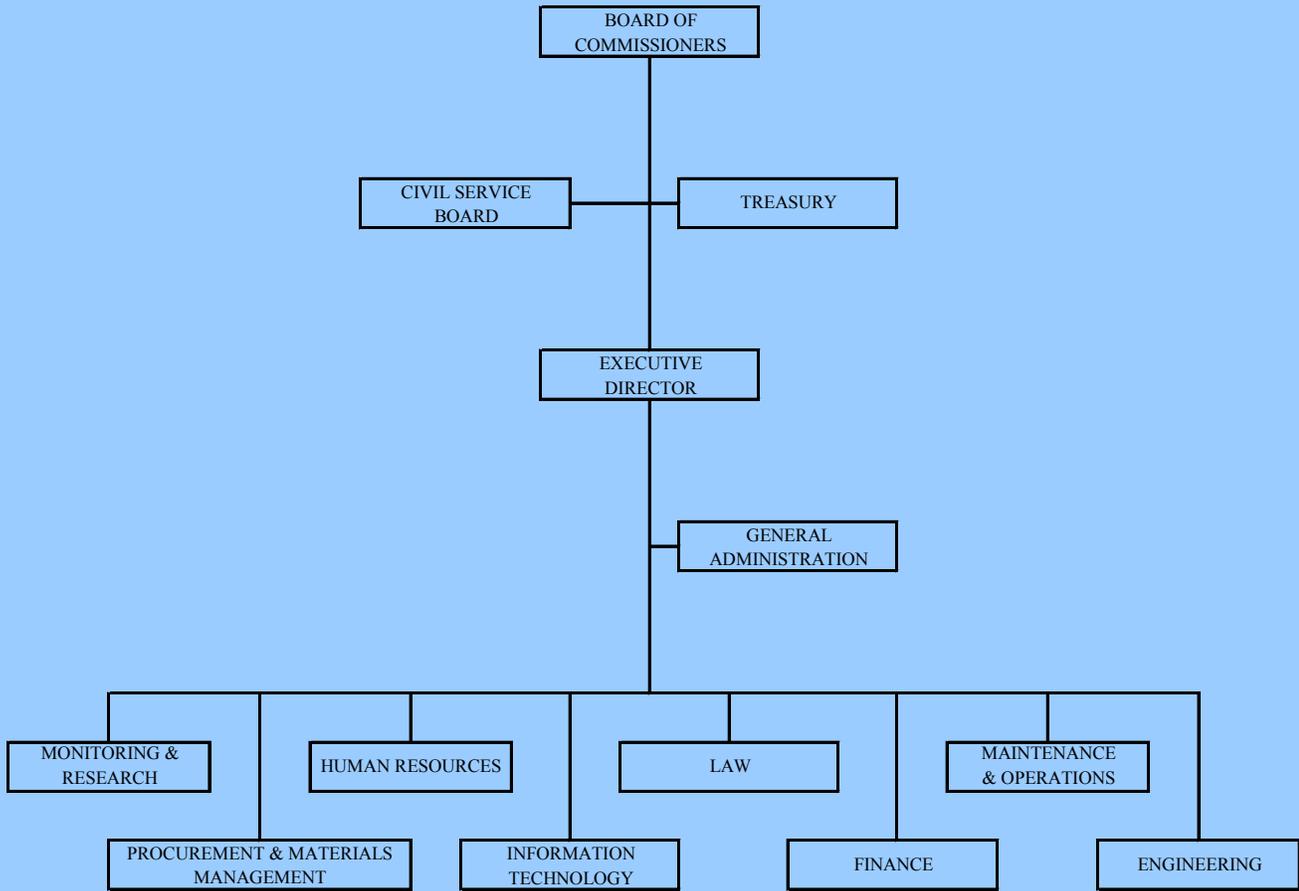
PROGRAMS BY PRIORITY:		2013 Actuals	Budgeted		Change			
Number	Name		Positions	Dollars	Dollars	Percent		
4800	Flood & Pollution Control Construction	\$ 117,770	2015	-	\$ 1,050,000	\$ 950,000	950.0	m)
			2014	-	\$ 100,000			
5800	Solids Disposal Construction	\$ -	2015	-	\$ -	\$ (150,000)	(100.0)	n)
			2014	-	\$ 150,000			
7248	External Public Affairs	\$ -	2015	-	\$ -	\$ (400,000)	(100.0)	o)
			2014	-	\$ 400,000			
7284	Storing	\$ -	2015	-	\$ 200,000	\$ 200,000	100.0	p)
			2014	-	\$ -			
7286	Stores Operation and Issue - All Other Good (General)	\$ -	2015	-	\$ -	\$ (90,000)	(100.0)	q)
			2014	-	\$ 90,000			
7355	Litigation	\$ 527,408	2015	-	\$ -	\$ (73,000)	(100.0)	r)
			2014	-	\$ 73,000			
7367	Real Estate Asset Management	\$ -	2015	-	\$ 305,800	\$ (444,200)	(59.2)	s)
			2014	-	\$ 750,000			
7380	Information Technology and Telecommunications	\$ -	2015	-	\$ 1,661,000	\$ (622,000)	(27.2)	t)
			2014	-	\$ 2,283,000			
7461	Main Office Building Complex Operations	\$ 2,094,502	2015	-	\$ 775,000	\$ (415,000)	(34.9)	u)
			2014	-	\$ 1,190,000			
7480	Safety Program	\$ -	2015	-	\$ 100,000	\$ 100,000	100.0	v)
			2014	-	\$ -			
7491	Automotive Fleet Procurement	\$ 696,271	2015	-	\$ 950,000	\$ 50,000	5.6	
			2014	-	\$ 900,000			
7500	Risk Management Operations	\$ -	2015	-	\$ -	\$ (125,000)	(100.0)	w)
			2014	-	\$ 125,000			
7745	Utility Review	\$ -	2015	-	\$ 500,000	\$ 500,000	100.0	x)
			2014	-	\$ -			
Totals		\$ 13,306,678	2015	-	\$ 37,840,700	\$ (15,465,300)	(29.0%)	
			2014	-	\$ 53,306,000			

- m) Increase is due to the addition of 14-824-2D, Rehabilitation of Bridges, NSA.
- n) Decrease is due to the completion of the Irrigation Line Rehabilitation, HPWRP.
- o) Decrease is due to the deferral of the Website Development project.
- p) Increase is due to the addition of a contract to Furnish, Deliver, and Install Racks for the O'Brien WRP Storeroom.
- q) Decrease is due to the receipt of a Storeroom Delivery Truck.
- r) Decrease is due to the completion of the professional services component of 13-RFP-14, Litigation Case and Document Management System.
- s) Decrease is due to the anticipated favorable award of the professional services component of Request for Proposal for Geographical Integrated System.
- t) Decrease is due to the deferral of the SAP Supplier Builder Relationship.
- u) Decrease is due to the lesser second year utilization of J15090-042, Rehabilitation of Elevator Mechanical Systems, MOBA.
- v) Increase is due to the addition of Outdoor Electronic Signs for Treatment Plants.
- w) Decrease is due to the completion of 13-RFP-15, Risk Management Information System.
- x) Increase is due to the addition of Illinois Department of Transportation Sewer Support Relocation.

201 50000	Fund: Construction Department: Engineering Division:	LINE ITEM ANALYSIS						
		2013	2014				2015	
Account Number	Account Name	Expenditure	Original Appropriation	Adjusted Appropriation 09/30/14	Expenditure (Committed Budget plus Disbursement) 09/30/14	Estimated Expenditure 12/31/14	Proposed by Executive Director	Recommended by Committee on Budget and Employment
601170	Payments for Professional Services	\$ 743,180	\$ 6,885,500	\$ 5,810,500	\$ 4,067,679	\$ 3,200,000	\$ 4,133,800	\$ -
601410	Personal Services Exp for Prelim Engineering Rpts & Studies	-	150,000	539,000	478,042	478,000	448,100	-
601420	Personal Services Exp for Constr Drawings, Specs, & Cost Est	-	327,500	2,327,500	1,300,000	300,000	2,389,000	-
601440	Personal Svcs for Post-Award Engr for Construction Projects	27,921	471,100	471,100	301,904	220,000	182,000	-
100	TOTAL PERSONAL SERVICES	771,101	7,834,100	9,148,100	6,147,625	4,198,000	7,152,900	-
612240	Testing and Inspection Services	-	40,000	40,000	10,000	-	10,000	-
612250	Court Reporting Services	797	5,000	5,000	5,000	3,500	5,000	-
612380	Soil and Rock Mechanics Investigation	-	30,000	30,000	30,000	20,000	40,000	-
612490	Contractual Services, N.O.C.	-	192,000	192,000	49,500	49,500	400,000	-
612600	Repairs to Collection Facilities	-	600,000	600,000	335,567	-	600,000	-
612760	Repairs to Material Handling and Farming Equipment	-	-	-	-	-	625,000	-
612820	Computer Software Maintenance	16,701	-	-	-	-	-	-
612990	Repairs, N.O.C.	325	-	-	-	-	-	-
200	TOTAL CONTRACTUAL SERVICES	17,823	867,000	867,000	430,067	73,000	1,680,000	-
623250	Vehicle Parts and Supplies	-	-	78,000	70,096	70,100	50,000	-
623270	Mechanical Repair Parts	-	1,500,000	2,289,500	2,289,500	300,000	2,900,000	-
623300	Manhole Materials	25,058	-	-	-	-	-	-
623520	Office, Printing, & Photo Supplies, Equipment, & Furniture	504	-	-	-	-	-	-
623570	Laboratory Testing Supplies, Small Equipment, and Chemicals	-	25,000	25,000	16,795	16,800	20,000	-
623810	Computer Supplies	-	233,000	433,000	347,236	347,300	200,000	-
300	TOTAL MATERIALS AND SUPPLIES	25,562	1,758,000	2,825,500	2,723,627	734,200	3,170,000	-
634600	Equipment for Collection Facilities	-	-	-	-	-	345,000	-
634620	Equipment for Waterway Facilities	-	570,000	480,500	142,717	146,500	367,500	-
634650	Equipment for Process Facilities	647,896	625,000	625,000	461,498	415,300	925,000	-
634780	Safety and Medical Equipment	49,978	-	-	-	-	-	-
634790	Marine Equipment	-	500,000	516,000	515,144	515,200	-	-

201 50000	Fund: Construction Department: Engineering Division:	LINE ITEM ANALYSIS						
		2013	2014			2015		
Account Number	Account Name	Expenditure	Original Appropriation	Adjusted Appropriation 09/30/14	Expenditure (Committed Budget plus Disbursement) 09/30/14	Estimated Expenditure 12/31/14	Proposed by Executive Director	Recommended by Committee on Budget and Employment
634810	Computer Equipment	-	-	470,000	-	-	534,000	-
634820	Computer Software	-	-	161,000	120,503	120,600	40,000	-
634860	Vehicle Equipment	696,290	2,896,000	2,818,000	2,643,056	2,000,000	900,000	-
634990	Machinery and Equipment, N.O.C.	321,120	951,000	951,000	590,029	389,400	1,250,000	-
400	TOTAL MACHINERY AND EQUIPMENT	1,715,284	5,542,000	6,021,500	4,472,947	3,587,000	4,361,500	-
645600	Collection Facilities Structures	341,819	1,605,300	1,630,300	1,157,132	1,000,000	650,000	-
645620	Waterway Facilities Structures	536,089	20,000	20,000	-	40,000	-	-
645650	Process Facilities Structures	1,062,801	16,952,000	13,868,800	4,030,272	3,568,000	1,480,000	-
645680	Buildings	2,495,684	3,697,500	4,435,700	4,294,606	3,446,900	4,078,800	-
645690	Capital Projects, N.O.C.	-	750,000	159,000	-	-	2,450,000	-
645700	Preservation of Collection Facility Structures	934,831	2,919,000	3,303,100	3,192,300	2,700,000	2,233,000	-
645720	Preservation of Waterway Facility Structures	185,392	100,000	650,000	167,560	100,000	1,050,000	-
645750	Preservation of Process Facility Structures	5,176,455	5,977,100	5,293,000	4,380,584	2,900,000	7,743,800	-
645780	Preservation of Buildings	-	4,034,000	3,834,000	3,663,563	3,150,100	1,232,400	-
645790	Preservation of Capital Projects, N.O.C.	43,837	1,250,000	1,250,000	330,000	-	558,300	-
500	TOTAL CAPITAL PROJECTS	10,776,909	37,304,900	34,443,900	21,216,018	16,905,000	21,476,300	-
TOTAL ENGINEERING CONSTRUCTION		\$ 13,306,678	\$ 53,306,000	\$ 53,306,000	\$ 34,990,284	\$ 25,497,200	\$ 37,840,700	\$ -

NOTES: 1. Amounts may not add up due to rounding.  
 2. Departmental appropriation totals for salaries in the Line Item Analysis may differ from those contained in the Position Analysis by a factor identified to adjust for vacancies. Additionally, Estimated Expenditure may either exceed Adjusted Appropriation when transfers of funds are anticipated or be less than Expenditure (Committed Budget plus Disbursement) when not all commitments are anticipated to be completed by year-end.



## CAPITAL IMPROVEMENTS BOND FUND

### Fund Summary

The Capital Improvements Bond Fund is used when acquiring an asset that meets the definition of a capital asset: the cost typically exceeds \$500,000 and the useful life extends beyond five years. The Capital Improvements Bond Fund is funded by the sale of bonds and therefore use of these funds is governed by state statutes, federal guidelines, and applicable bond opinions.

### Summary of 2014 Accomplishments

- Completed construction of the final tank rake arm assemblies and repair and replacement of preliminary tank concrete at the O'Brien Water Reclamation Plant (WRP);
- Completed the upgrade of the effluent and potable water piping at the O'Brien WRP;
- Completed the rehabilitation of Battery D Aeration Tank No. 8 at the O'Brien WRP;
- Completed the digester gas piping replacement and heating, ventilation, and air conditioning improvements at the Hanover Park WRP;
- Completed the sheet pile placement and bank stabilization of the North Branch of the Chicago River between Montrose and Berceau Avenues;
- Completed the upgrade of the elevators at the north and south pump houses at the Mainstream Pumping Station (MSPS);
- Awarded a construction agreement for the recovery of phosphorus, a valuable limited resource, from the centrate waste stream at the Stickney WRP;
- Awarded a construction contract for nine new primary settling tanks and aerated grit removal facilities for improved operations at the Stickney WRP;
- Awarded a construction contract to replace aging coarse screens and return sludge pump slide gates at the Egan WRP;
- Awarded a construction contract for final tank improvements and concrete rehabilitation to improve operational efficiencies at the O'Brien WRP;
- Awarded a construction contract for air main rehabilitation and diffuser plate replacement to improve the efficiency of air usage and return sludge withdrawal at the Stickney WRP;
- Awarded a construction contract to replace the Tunnel and Reservoir Plan (TARP) pumping station screens, which require manual cleaning, with a fully automated self-cleaning screen system at the Calumet WRP;
- Awarded a contract to Iowa State University to begin research on the phosphorus uptake of algae using a patented revolving biofilm reactor;
- Continued the nitrogen removal project at the Egan WRP. The new process will use cutting-edge technology for the cost-effective removal of nitrogen from the centrate, which will eliminate the need to convey and treat this waste stream at the O'Brien WRP.

### Budget Highlights

Significant features of the 2015 budget are:

- The Capital Improvements Bond Fund's 2015 appropriation is \$490,196,900, an increase of \$103,988,600, or 26.9 percent, from 2014. There are no staff positions budgeted in the Capital Improvements Bond Fund. The 2015 appropriation includes funding for Stormwater Management capital projects and related costs;
- Complete the centrate nitrogen removal project at the Egan WRP;
- Issue requests for proposal for the development of a digester gas utilization facility and an organic waste receiving facility at the Stickney WRP;
- Award a construction contract to upgrade the digester gas sludge heating system at the Calumet WRP;
- Award a construction contract for the rehabilitation of the service and connecting tunnels at the Stickney WRP;
- Award a construction contract to replace the switchgear at the Stickney WRP;
- Award a construction contract to improve the digester gas piping and hot water system at the Hanover Park WRP;
- Award a construction contract for a digester gas utilization facility and an organic waste receiving and processing facility at the Calumet WRP;
- Award a construction contract to rehabilitate Pump No. 8, which has been in service for 29 years at the Mainstream Pumping Station;
- Continue construction of new disinfection facilities at the Calumet and O'Brien WRPs;
- Continue construction of a wet weather treatment facility and reservoir at the Lemont WRP;
- Continue construction of a process to recover phosphorus from the centrate waste stream at the Stickney WRP;
- Continue construction of nine new primary settling tanks and aerated grit removal facilities for improved operations at the Stickney WRP.

**2015 Initiatives in Support of the Strategic Plan Include the Following:**

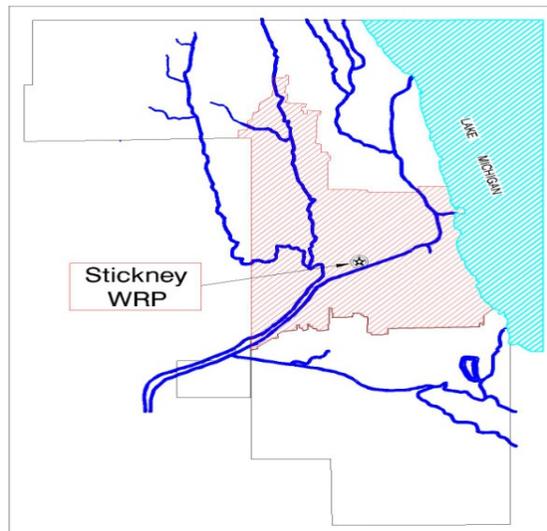
- **Add Value**
  - Optimize use of digester gas;
  - Recover valuable resources and reduce the consumption of energy by improving treatment processes;
  - Stabilize Capital Improvement Program project expenditures;
  - Fully utilize digester gas to reduce the energy demand from outside sources and reduce the carbon footprint and air pollutants associated with conventional energy sources;
  - Develop a program for receiving organic waste streams for co-digestion, that both increases energy production and reduces waste products going to landfills.
- **Excellence**
  - Strive to achieve best-in-class in performance for budgeting and scheduling of all capital improvement projects;
  - After construction is completed, contracts are reviewed to document best practices to foster continuous improvement;
  - Apply comprehensive metrics to manage Capital Improvement Program projects for best-in-class performance;
  - Continue to lead the industry and exceed contractor expectations by promptly processing and paying invoices for completed work, in less than 30 days after submittal;
  - Achieve multiple environmental benefits by recovering and reusing phosphorus in lieu of phosphate rock, which must be mined and transported for use;
  - Remove nutrients from the waste stream to benefit downstream receiving waters and ecosystems.
- **Resource Recovery**
  - Promote the ongoing work of effluent disinfection at the Calumet and O'Brien WRPs;
  - Highlight phosphorus recovery and nutrient removal;
  - Optimize use of digester gas;
  - Recover valuable resources and reduce the consumption of energy by improving treatment processes.

**CAPITAL PROJECTS LISTED BY SERVICE AREA - CAPITAL IMPROVEMENTS BOND FUND**

The following is a list of capital projects within the District’s three major service areas. They are presented by their association with a Water Reclamation Plant (WRP) and by their completion status: projects under construction, for 2015 award, or under development.

**Bold type indicates projects to be financed by "Unlimited Tax Bonds".**

**STICKNEY  
SERVICE  
AREA (SSA)**



**Stickney Water Reclamation Plant (SWRP)**

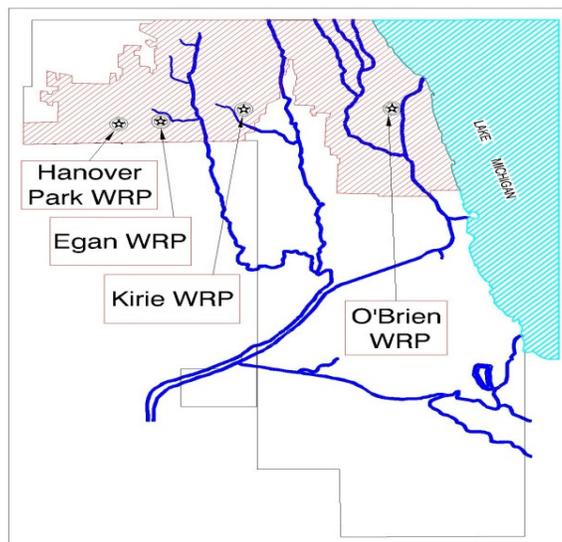
<b>Projects Under Construction (with estimated completion date)</b>		<b>Estimated Construction Cost</b>
73-161-DH	<b>McCook Reservoir Expanded Stage 2 Overburden Removal, SSA (10/2015)</b>	\$ 18,657,000
04-128-3P	West Side Primary Settling Tanks 1-9 and Aerated Grit Facility, SWRP (3/2018)	206,458,000
04-131-2D	Rehabilitation of the A/B and C/D Service Tunnels – Phase I, SWRP (8/2016)	13,615,000
06-158-3S	Des Plaines River Intercepting Sewer Rehabilitation, SSA (1/2016)	13,261,000
09-176-3P	Sludge Thickening Facilities, SWRP (11/2016)	162,232,000
09-181-3P	Battery C Airlift and Air Main Rehabilitation and Aeration Tanks No. 6, 7, 8 Diffuser Plate Replacement, SWRP (11/2016)	5,500,000
10-880-3H	TARP Control Structure Rehabilitation, NSA, SSA, and CSA (8/2016)	14,410,000
11-195-AP	Phosphorus Recovery System, SWRP (2/2016)	31,879,000
		<b>Total \$ 466,012,000</b>

**Projects for 2015 Award**

02-111-3M	TARP Pump #8 Rehabilitation, MSPS	4,500,000
04-132-3D	A/B and C/D Service Tunnel and Connecting Tunnel Rehabilitation - Phase II, SWRP	10,000,000
06-155-3S	Salt Creek Intercepting Sewer 2 Rehabilitation, SSA	41,000,000
09-182-3E	D799 Switchgear Replacement, SWRP	7,500,000
11-189-3P	Digester Gas Utilization Facilities, SWRP	50,000,000
11-191-3M	Boiler No. 6 Installation and Turbine Removal, SWRP	3,000,000
13-106-4F	McCook Reservoir Des Plaines Inflow Tunnel	155,000,000
13-199-3F ^	Flood Control Project on the Des Plaines River in Lyons	9,800,000
14-108-3F * ^	Streambank Stabilization Projects for Addison Creek [CIBF = \$450,000; Stormwater Management Fund = \$400,000]	450,000
14-109-3D	Safety Railing around Tanks, SWRP	3,000,000
		<b>Total \$ 284,250,000</b>

<b>Projects Under Development</b>		<b>Estimated Construction Cost</b>
01-103-AS	39 <sup>th</sup> Street Conduit Rehabilitation – Phase II, SSA	\$ 24,700,000
05-146-3M	Mainstream TARP Pumps Rehabilitation, SWRP	12,000,000
08-173-3V	Aquatic Ecology & Water Equipment Storage Building and Austin Avenue Gatehouse, SWRP	1,900,000
08-174-3D	Final Settling Tanks Battery A, B, C & D, Rehabilitation of Concrete , SWRP	6,500,000
11-186-3F ^	Addison Creek Reservoir	104,327,000
11-187-3F ^	Addision Creek Channel Improvements	29,595,000
11-190-3P	Digester Gas Storage Facilities, SWRP	15,000,000
12-801-3P	Odor Control Facilities, SWRP	20,000,000
13-101-3P	Deammonification System, SWRP	30,000,000
14-115-3F	Wet Weather Relief Program (four projects budgeted at \$100,000,000 per year)	400,000,000
	Total	<b>\$ 644,022,000</b>
	Stickney Service Area Grand Total	<b>\$ 1,394,284,000</b>

## NORTH SERVICE AREA (NSA)



### Terrence J. O'Brien Water Reclamation Plant (OWRP)

#### Projects Under Construction (with estimated completion date)

	<b>Estimated Construction Cost</b>
08-041-3P     Rehabilitation of Final Settling Tanks 11, 12, 13, and 14 in Batteries A, B, and C, OWRP (3/2015)	\$     2,682,000
11-054-3P     Disinfection Facilities, OWRP (12/2015)	60,000,000
12-057-3S     North Shore Intercepting Sewer No. 2 Rehabilitation, NSA (8/2015)	4,934,000
<b>Total</b>	<b>\$     67,616,000</b>

#### Projects for 2015 Award

11-052-3F ^     Streambank Stabilization Projects for the Middle Fork and West Fork of the North Branch of the Chicago River	\$     2,496,000
10-884-AF ^     Flood Control Project for Upper Salt Creek	1,097,000
12-056-3F ^     Flood Control Project on Farmers and Prairie Creeks	14,595,000
<b>Total</b>	<b>\$     18,188,000</b>

#### Projects Under Development

10-047-3S     North Shore 1 Rehabilitation, NSA	\$     20,000,000
11-053-3D     Devon Instream Aeration Station Rehabilitation	1,200,000
12-055-3F ^     Flood Control Project for the West Fork of the North Branch of the Chicago River	25,000,000
<b>Total</b>	<b>\$     46,200,000</b>

### John E. Egan Water Reclamation Plant (EWRP)

#### Projects Under Construction (with estimated completion date)

06-494-3P±     Centrifuge Building and Sludge Loading System Upgrades, EWRP and HPWRP (3/2015) [Construction Fund = \$43,000; CIBF = \$9,001,000]	\$     9,001,000
11-405-3M     Coarse Screens and Raw Sewage Pump Slide Gates Replacement, EWRP (2/2016)	2,714,000
13-409-3P     Nitrogen Removal in Centrate, EWRP (8/2015)	8,524,000
<b>Total</b>	<b>\$     20,239,000</b>

**Projects Under Development**

14-xxx-3P	Odor Control Facilities, EWRP	\$ 20,000,000
11-404-3S	Upper Des Plaines Intercepting Sewer 11D, Ext. C Rehabilitation, NSA	5,500,000
	Total	<u>\$ 25,500,000</u>

**Estimated Construction Cost**

**James C. Kirie Water Reclamation Plant (KWRP)**

**Project Under Construction (with estimated completion date)**

06-357-3S	Upper Des Plaines Intercepting Sewer 20B Rehabilitation, NSA (2/2015)	\$ 6,367,000
	Total	<u>\$ 6,367,000</u>

**Projects Under Development**

06-358-3M	Gate Control Equipment Upgrade at TARP Control Structures, KWRP, NSA	\$ 2,200,000
06-360-3S	Upper Des Plaines Intercepting Sewer 14B Rehabilitation, NSA	6,700,000
12-369-3S	Upper Des Plaines Intercepting Sewer 11D Rehabilitation, NSA	5,500,000
13-370-3F ^	Buffalo Creek Reservoir Expansion	15,000,000
	Total	<u>\$ 29,400,000</u>

**Hanover Park Water Reclamation Plant (HPWRP)**

**Project for 2015 Award**

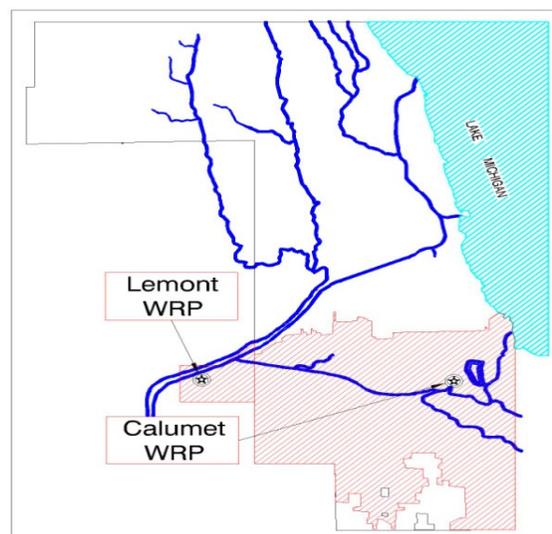
11-531-3M	Central Boiler Facility and Electrical Updates, HPWRP	\$ 10,000,000
	Total	<u>\$ 10,000,000</u>

**Project Under Development**

11-533-3P	Final Settling Tanks Improvements, HPWRP	\$ 10,000,000
	Total	<u>\$ 10,000,000</u>

North Service Area Grand Total \$ 233,510,000

# CALUMET SERVICE AREA (CSA)



## Calumet Water Reclamation Plant (CWRP)

Projects Under Construction (with estimated completion date)		Estimated Construction Cost
04-201-4F	<b>Tollway Dam, Grout Curtain &amp; Quarry Plugs, Thornton Composite Reservoir, CSA (5/2015)</b>	\$ 71,926,000
04-202-4F	<b>Connecting Tunnels and Gates, Thornton Composite Reservoir, CSA (5/2015)</b>	135,476,000
04-203-4F	<b>Final Reservoir Preparation, Thornton Composite Reservoir, CSA (11/2015)</b>	50,922,000
06-212-3M	Calumet TARP Pumping Station Improvements, CWRP (5/2018)	35,067,000
11-241-3P	Disinfection Facilities, CWRP (8/2015)	32,000,000
13-246-3M	Calumet TARP Screens, CWRP (12/2018)	9,800,000
<b>Total</b>		<b>\$ 335,191,000</b>

## Projects for 2015 Award

06-213-3M	Digester Sludge Heating System Upgrades and Boiler Removal, CWRP	\$ 6,000,000
10-237-3F ^	Streambank Stabilization Project on Oak Lawn Creek	4,100,000
10-882-AF ^	Streambank Stabilization Project on Tinley Creek in Orland Park, IL	3,806,000
10-882-BF ^	Streambank Stabilization Project along Calumet Union Drainage Ditch	1,839,000
10-882-CJ ^	Streambank Stabilization Project along Midlothian Creek	307,000
10-883-BF ^	Flood Control Project at Arrowhead Lake in the City of Palos Heights, IL	509,000
10-883-CF ^	Flood Control Project on the East Branch of Cherry Creek in Flossmoor, IL	3,410,000
10-884-BF ^	Flood Control Project for Deer Creek	3,440,000
11-239-3S	Calumet Intercepting Sewer 19F Rehabilitation, CSA	12,000,000
11-240-3P	Organic Waste Receiving and Processing Facility, CWRP	27,000,000
13-248-3F ^	Streambank Stabilization Project on Melvina Ditch	8,000,000
14-250-3P	Digester Gas Utilization Facilities, CWRP	13,000,000
<b>Total</b>		<b>\$ 83,411,000</b>

## Projects Under Development

08-228-3V	Vehicle Maintenance Building, CWRP	\$ 7,000,000
09-230-3M	Screens and Conveyor Improvements at 125th Street Pumping Station, CSA	3,825,000
11-242-3S	Palos Hills Pumping Station Force Main, CSA	20,000,000
12-245-3P	Phosphorus Recovery System, CWRP	31,000,000
14-114-3P	Odor Control Facilities, CWRP	20,000,000
14-116-3P	Biosolids Processing Facility, CWRP	48,000,000
<b>Total</b>		<b>\$ 129,825,000</b>

**Lemont Water Reclamation Plant (LWRP)**

**Project Under Construction (with estimated completion date)**

		<b>Estimated Construction Cost</b>
10-716-3P	Wet Weather Treatment Facility and Reservoir, LWRP (12/2015)	\$ 30,000,000
		Total <u>\$ 30,000,000</u>
	Calumet Service Area Grand Total	<u>\$ 578,427,000</u>
	Capital Projects Grand Total - All Service Areas	<u>\$ 2,206,221,000</u>

± These projects are funded by the Capital Improvements Bond Fund (CIBF) and the Construction Fund.

\* This project is funded by the Capital Improvements Bond Fund and the Stormwater Management Fund.

^ These projects are part of the Stormwater Management Fund Program. Detailed information about this fund and these projects appears in Section VI of this budget book.

## Capital Improvements Bond Fund Program

<b>Awards in 2015</b>			Est. Constr- uction Cost	Dura- tion (days)	Prof. Svc.	Land Cost	Est. Award Date
#	Project Name	Project Number					
1	D799 Switchgear Replacement, SWRP	09-182-3E	\$ 7,500	730	\$ -	\$ -	Jan-15
2	Central Boiler Facility and Electrical Updates, HPWRP	11-531-3M	10,000	1,095	-	-	Feb-15
3	TARP Pump #8 Rehabilitation, MSPS	02-111-3M	4,500	300	-	-	Mar-15
4	Digester Sludge Heating System Upgrades and Boiler Removal, CWRP	06-213-3M	6,000	540	-	-	May-15
5	Boiler No. 6 Installation and Turbine Removal, SWRP	11-191-3M	3,000	750	-	-	Jun-15
6	Safety Railing around Tanks, SWRP	14-109-3D	3,000	400	-	-	Jun-15
7	McCook Reservoir Des Plaines Inflow Tunnel	13-106-4F	155,000	850	-	-	Jun-15
8	Digester Gas Utilization Facilities, SWRP	11-189-3P	50,000	1,095	-	-	Jun-15
9	Organic Waste Receiving and Processing Facility, CWRP	11-240-3P	27,000	540	-	-	Jul-15
10	A/B & C/D Service Tunnel and Connecting Tunnel Rehabilitation - Phase II, SWRP	04-132-3D	10,000	1,278	-	-	Jul-15
11	Calumet Intercepting Sewer 19F Rehabilitation, CSA	11-239-3S	12,000	620	-	-	Aug-15
12	Digester Gas Utilization Facilities, CWRP	14-250-3P	13,000	540	-	-	Aug-15
13	Salt Creek Intercepting Sewer 2 Rehabilitation, SSA	06-155-3S	41,000	1,000	-	-	Sep-15
Total 2015 Awards			\$ 342,000		\$ -	\$ -	

### Projects Under Development

#	Project Name	Project Number	Est. Constr- uction Cost	Dura- tion (days)	Prof. Svc.	Land Cost	Est. Award Date
14	Wet Weather Relief Program	14-115-3F	\$ 100,000	365	\$ -	\$ -	Mar-16
15	Biosolids Processing Facility, CWRP	14-116-3P	48,000	365	-	-	Mar-16
16	39th Street Conduit Rehabilitation - Phase II, SSA	01-103-AS	24,700	770	-	-	Jun-16
17	Mainstream TARP Pumps Rehabilitation, SWRP	05-146-3M	12,000	455	-	-	Oct-16
18	North Shore 1 Rehabilitation, NSA	10-047-3S	20,000	650	-	-	Dec-16
19	Palos Hills Pumping Station Force Main, CSA	11-242-3S	20,000	500	-	-	Dec-16
20	Devon Instream Aeration Station Rehabilitation	11-053-3D	1,200	400	-	-	Jan-17
21	Phosphorus Recovery System, CWRP	12-245-3P	31,000	900	-	-	Jan-17
22	Upper Des Plaines Intercepting Sewer 11D, Ext. C Rehabilitation, NSA	11-404-3S	5,500	450	-	-	Feb-17
23	Wet Weather Relief Program	14-115-3F	100,000	365	-	-	Mar-17
24	Odor Control Facilities, SWRP	12-801-3P	20,000	2,200	-	-	Mar-17
25	Upper Des Plaines Intercepting Sewer 11D Rehabilitation, NSA	12-369-3S	5,500	450	-	-	Aug-17
26	Deammonification System, SWRP	13-101-3P	30,000	550	-	-	Sep-17
27	Gate Control Equipment Upgrade at TARP Control Structures, KWRP, NSA	06-358-3M	2,200	540	-	-	Oct-17
28	Aquatic Ecology & Water Equipment Storage Building and Austin Avenue Gatehouse, SWRP	08-173-3V	1,900	400	-	-	Nov-17
29	Digester Gas Storage Facilities, SWRP	11-190-3P	15,000	1,095	-	-	Jan-18
30	Upper Des Plaines Intercepting Sewer 14B Rehabilitation, NSA	06-360-3S	6,700	360	-	-	Mar-18
31	Wet Weather Relief Program	14-115-3F	100,000	365	-	-	Mar-18
32	Odor Control Facilities, CWRP	14-114-3P	20,000	365	-	-	Mar-18

<b><u>Projects Under Development (continued)</u></b>		Project	Est. Constr- uction Cost	Dura- tion (days)	Prof. Svc.	Land Cost	Est. Award Date
#	Project Name	Number					
33	Final Settling Tanks Improvements, HPWRP	11-533-3P	\$ 10,000	730	\$ -	\$ -	Dec-18
34	Wet Weather Relief Program	14-115-3F	100,000	365	-	-	Mar-19
35	Odor Control Facilities, EWRP	14-xxx-3P	20,000	365	-	-	Mar-19
36 *	Screens and Conveyor Improvements at 125th Street Pumping Station, CSA	09-230-3M	3,825	450	-	-	Jul-19
37	Final Settling Tanks Battery A, B, C, & D, Rehabilitation of Concrete, Stickney WRP	08-174-3D	6,500	370	-	-	Aug-19
38	Vehicle Maintenance Building, CWRP	08-228-3V	7,000	1,200	-	-	Oct-19
Total Future Awards			<u>\$ 711,025</u>		<u>\$ -</u>	<u>\$ -</u>	
Cumulative 2015 and Future Awards			<u>\$1,053,025</u>		<u>\$ -</u>	<u>\$ -</u>	

\*This project is funded by the Capital Improvements Bond Fund and the Corporate Fund.

**Note: All cost figures are in thousands of dollars; inflation factor is 0 percent.**

**Method of Financing**

State Revolving Fund Loans	General Obligation Bonds	Total	
\$ -	\$ 155,000	\$ 155,000	Tunnel and Reservoir Plan
70,500	101,500	172,000	Water Reclamation Plant Expansion and Improvements
70,000	48,000	118,000	Solids Management
75,700	401,900	477,600	Collection Facilities
110,400	20,025	130,425	Replacement of Facilities
<u>\$ 326,600</u>	<u>\$ 726,425</u>	<u>\$1,053,025</u>	

### Capital Improvements Bond Fund Program Operating Impacts

#	Project Name	Project Number	Justification				Impact		
			Capacity Needs	Useful Life	Economic Benefit	Safety/Regulatory	Manpower	Energy	Chemical
<b><u>Awards in 2015</u></b>									
1	D799 Switchgear Replacement, SWRP	09-182-3E		x			=	=	=
2	Central Boiler Facility and Electrical Updates, HPWRP	11-531-3M		x	x	x	+	++	=
3	TARP Pump #8 Rehabilitation, MSPS	02-111-3M		x			+	+	=
4	Digester Sludge Heating System Upgrades and Boiler Removal, CWRP	06-213-3M		x	x	x	+	=	=
5	Boiler No. 6 Installation and Turbine Removal, SWRP	11-191-3M	x	x			+	+	=
6	Safety Railing around Tanks, SWRP	14-109-3D				x	=	=	=
7	McCook Reservoir Des Plaines Inflow Tunnel	13-106-4F		x			+	+	=
8	Digester Gas Utilization Facilities, SWRP	11-189-3P			x		=	++	=
9	Organic Waste Receiving and Processing Facility, CWRP	11-240-3P			x		--	-	=
10	A/B & C/D Service Tunnel and Connecting Tunnel Rehabilitation - Phase II, SWRP	04-132-3D		x			=	=	=
11	Calumet Intercepting Sewer 19F Rehabilitation, CSA	11-239-3S		x			=	=	=
12	Digester Gas Utilization Facilities, CWRP	14-250-3P			x		-	++	=
13	Salt Creek Intercepting Sewer 2 Rehabilitation, SSA	06-155-3S		x			=	+	=
<b><u>Projects Under Development</u></b>									
14	Wet Weather Relief Program	14-115-3F	x				=	=	=
15	Biosolids Processing Facility, CWRP	14-116-3P				x	=	=	=
16	39th Street Conduit Rehabilitation - Phase II, SSA	01-103-AS		x	x		=	=	=
17	Mainstream TARP Pumps Rehabilitation, SWRP	05-146-3M		x			=	=	=
18	North Shore 1 Rehabilitation, NSA	10-047-3S		x			=	=	=
19	Palos Hills Pumping Station Force Main, CSA	11-242-3S		x			=	=	=
20	Devon Instream Aeration Station Rehabilitation	11-053-3D		x			=	=	=
21	Phosphorus Recovery System, CWRP	12-245-3P				x	-	-	-
22	Upper Des Plaines Intercepting Sewer 11D, Ext. C Rehabilitation, NSA	11-404-3S		x			=	=	=
23	Wet Weather Relief Program	14-115-3F	x				=	=	=
24	Odor Control Facilities, SWRP	12-801-3P				x	=	=	=
25	Upper Des Plaines Intercepting Sewer 11D Rehabilitation, NSA	12-369-3S		x	x		=	=	=
26	Deammonification System, SWRP	13-101-3P	x				=	-	=
27	Gate Control Equipment Upgrade at TARP Control Structures, KWRP, NSA	06-358-3M		x			=	=	=
28	Aquatic Ecology & Water Equipment Storage Building and Austin Avenue Gatehouse, SWRP	08-173-3V	x	x			=	=	=
29	Digester Gas Storage Facilities, SWRP	11-190-3P			x		=	+	=

<b>Capital Improvements Bond Fund Operating Impacts for Projects Under Development (continued)</b>			Justification				Impact		
			<i>Capacity Needs</i>	<i>Useful Life</i>	<i>Economic Benefit</i>	<i>Safety/Regulatory</i>	<i>Manpower</i>	<i>Energy</i>	<i>Chemical</i>
#	Project Name	Project Number							
30	Upper Des Plaines Intercepting Sewer 14B Rehabilitation, NSA	06-360-3S		x			=	=	=
31	Wet Weather Relief Program	14-115-3F	x				=	=	=
32	Odor Control Facilities, CWRP	14-114-3P				x	=	=	=
33	Final Settling Tanks Improvements, HPWRP	11-533-3P		x			=	=	=
34	Wet Weather Relief Program	14-115-3F	x				=	=	=
35	Odor Control Facilities, EWRP	14-xxx-3P				x	=	=	=
36	Screens and Conveyor Improvements at 125th Street Pumping Station, CSA	09-230-3M		x			=	=	=
37	Final Settling Tanks Battery A, B, C, & D, Rehabilitation of Concrete, Stickney WRP	08-174-3D		x			=	=	=
38	Vehicle Maintenance Building, CWRP	08-228-3V	x	x			=	-	=

<b>LEGEND</b>	
Under " <b>Justification</b> ", the marked columns note the categories of benefits expected from each project.	
<b>Manpower</b>	
+ or - Labor savings (+) or increases (-) expected to result in redirecting existing manpower away from or toward facility or process to other tasks with no net change in total position costs.	++ or -- Labor impact significant enough to ultimately result in reduction (++) or increase (--) in personnel. See additional cost details contained in the Project Fact Sheets.
<b>Energy</b>	
+ or - Minor energy savings (+) or costs (-) having a negligible impact on the District's overall energy budget.	++ or -- Major energy savings (++) or costs (--) expected to result in significant revisions to a facility's energy budget. See additional cost details contained in the Project Fact Sheets.
<b>Chemical</b>	
+ or - Chemical savings (+) or costs (-) having a negligible impact on the District's overall chemical costs.	++ or -- Major chemical savings (++) or costs (--) expected to result in significant revisions to the budgeted chemical expenditures for the associated process. See additional cost details contained in the Project Fact Sheets.
= No budgetary impact expected.	

**TARP PHASE 2 PROJECT COSTS**

Though only partially complete, TARP has already been effective in reducing pollution and flooding. In order to substantially resolve the pollution and flooding problems in the Chicagoland combined sewer area, the reservoirs component of TARP must be completed. The Majewski Reservoir is completed and functional, and the larger two reservoirs, McCook and Thornton, are under design and construction. McCook and Thornton Reservoir project costs are shown in the tables below.

**McCook Reservoir**

Project Name	Project Number	Estimated Cost (in thousands)				Eligible for Federal Cost Sharing	Status
		Outside Engineering	Construction	Total			
McCook Reservoir - Army Corps Work	73-161-2H	\$83,000	\$528,000	\$611,000	\$596,000	Army Corps Projects, MWRD pays 25%	
Conveyance Tunnel	73-161-AH	891	4,537	5,428	0	Completed	
Site Preparation	73-161-BH	0	889	889	307	Completed	
Overburden Removal	73-161-CH	500	65,816	66,316	0	Completed	
Expanded Stage 2 Overburden Removal	73-161-DH	0	18,657	18,657	0	Under Construction	
Vulcan Excavation Agreement Hard Costs	73-161-EH	35	93,710	93,745	0	Stage 1 Mining Underway	
Expanded Stage 2 Hard Costs	-	0	8,200	8,200	0	To be Negotiated with Vulcan	
Vulcan Conveyor & Maintenance Facilities	73-161-FH	1,817	30,564	32,381	1,753	Completed	
Vulcan Miscellaneous Mining Vehicles	73-161-GH	0	4,884	4,884	0	Completed	
Vulcan Mining Trucks and Loaders	73-161-HH	0	11,105	11,105	0	Completed	
Stage 2 Misc. Overburden Removal	73-161-JH	0	6,510	6,510	0	Completed	
Furnish and Deliver Primary Crusher	PO3030920	0	1,626	1,626	0	Completed	
Willow Springs Berm	96-249-2P	0	3,593	3,593	0	Completed	
73rd Street Tunnel Relocation	97-156-2H	129	15,003	15,132	15,132	Completed	
Des Plaines Inflow Tunnel	13-160-4F	2,071	150,000	152,071	TBD	Design	
MWRD Engineering/PM	-	2,500	0	2,500	2,500	Ongoing	
MWRD Land Value	-	38	5,375	5,413	5,413	Completed	
<b>Total Project Cost</b>		<b>\$90,981</b>	<b>\$948,469</b>	<b>\$1,039,450</b>	<b>\$621,105</b>		

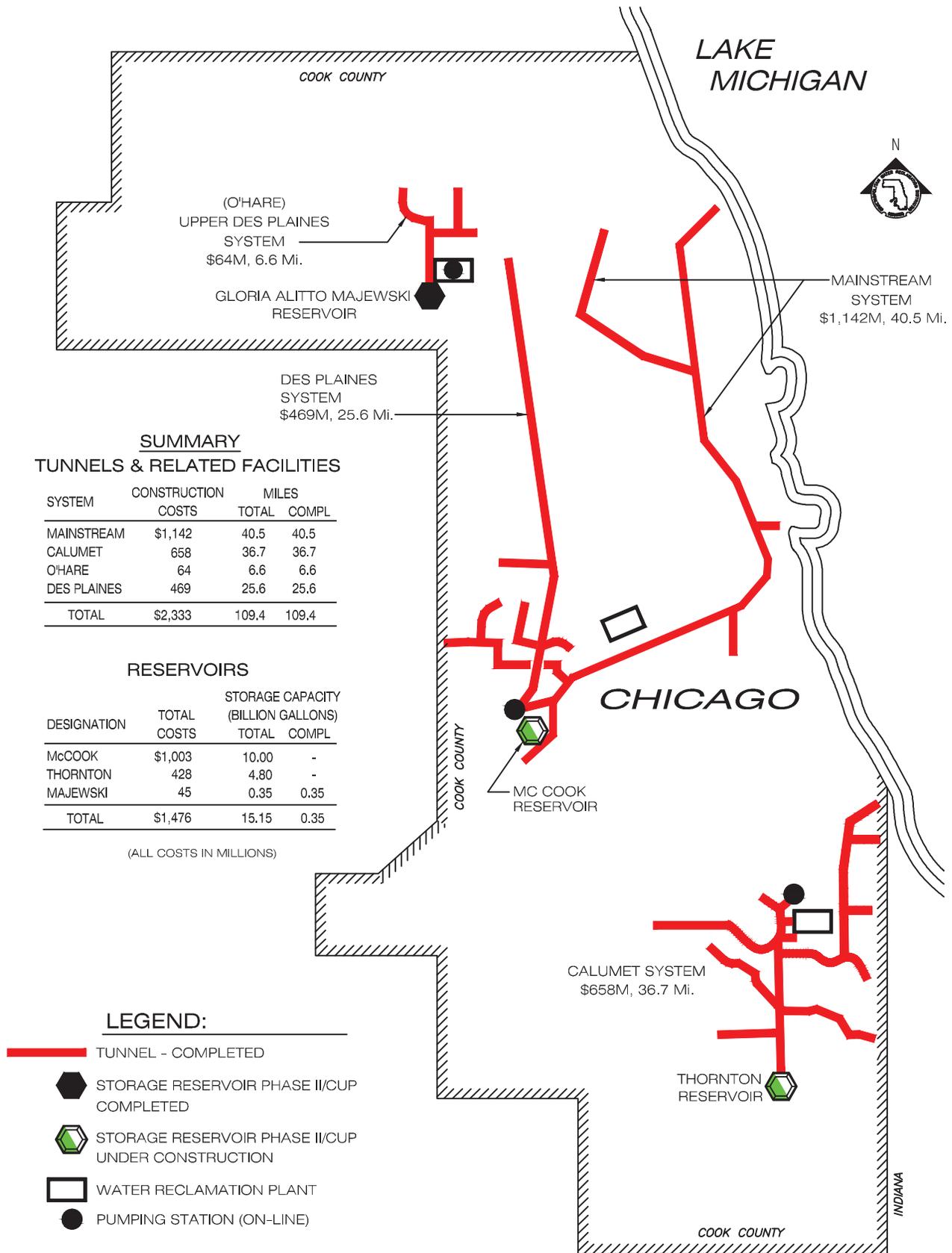
<b>Total McCook Reservoir Project Costs</b>	<b>\$1,039,450</b>
-Amount Ineligible for Cost Sharing	418,345
-Amount Eligible for Cost Sharing	621,105
<i>Corps' Share (75%)</i>	465,829
<i>MWRD's Share (25%)</i>	155,276
MWRD's Cash Payments to Date	113,519
MWRD's Estimated Credits	24,286
Estimated Remaining Payments to Corps	17,471

Note: Through 2013 the MWRD has received \$8.5 million in royalty payments from Vulcan for sale of the rock mined from the site. It is estimated that the MWRD will receive a total of \$36 million in royalties over the life of the project, offsetting some of the MWRD's costs.

**Thornton Reservoir**

Project Name	Project Number	Estimated Cost (in thousands)				Eligible for Federal Cost Sharing	Status
		Outside Engineering	Construction	Total			
Vincennes Avenue Relocation	77-235-AF	\$467	\$3,931	\$4,398	\$4,398	Completed	
Thornton Transitional Reservoir	77-235-BF	2,970	51,737	54,707	32,079	Completed	
Transitional Reservoir GW Monitoring Wells	77-235-CF	0	529	529	0	Completed	
Overburden Removal and Berm Construction	JOC	0	1,674	1,674	0	Completed	
Chain Link Fence	77-235-2F	0	140	140	140	Completed	
MSC Hard Costs	77-235-2F	0	25,647	25,647	12,525	Thornton is completed; McCook is ongoing	
MSC Lost Reserves/Capital Costs	77-235-2F	0	22,658	22,658	15,485	Completed	
Other Lands and Easements	77-235-2F	0	8,169	8,169	8,169	Mostly Completed	
Corps of Engineers LRR (Planning)	77-235-2F	6,345	0	6,345	6,345	Completed	
Tollway Dam, Grout Curtain, and Quarry Plugs	04-201-4F	17,107	72,045	89,152	89,152	Under Construction	
Connecting Tunnels and Gates	04-202-4F	13,308	136,078	149,386	149,386	Under Construction	
Final Reservoir Preparation	04-203-4F	9,850	50,922	60,772	60,772	Under Construction	
Surface Aeration	04-203-AF	408	600	1,008	1,008	Under Design	
Army Corps Review	-	3,500	0	3,500	3,500	Ongoing	
<b>Total Project Costs</b>		<b>\$53,955</b>	<b>\$374,130</b>	<b>\$428,085</b>	<b>\$382,959</b>		

<b>Total Thornton Reservoir Project Costs</b>	<b>\$428,085</b>
-Amount Ineligible for Cost Sharing	45,126
-Amount Eligible for Cost Sharing	382,959
<i>Corps' Share (75%)</i>	287,219
<i>MWRD's Share (25%)</i>	95,740



**SUMMARY**

**TUNNELS & RELATED FACILITIES**

SYSTEM	CONSTRUCTION COSTS	MILES	
		TOTAL	COMPL.
MAINSTREAM	\$1,142	40.5	40.5
CALUMET	658	36.7	36.7
O'HARE	64	6.6	6.6
DES PLAINES	469	25.6	25.6
<b>TOTAL</b>	<b>\$2,333</b>	<b>109.4</b>	<b>109.4</b>

**RESERVOIRS**

DESIGNATION	TOTAL COSTS	STORAGE CAPACITY (BILLION GALLONS)	
		TOTAL	COMPL.
McCOOK	\$1,003	10.00	-
THORNTON	428	4.80	-
MAJEWSKI	45	0.35	0.35
<b>TOTAL</b>	<b>\$1,476</b>	<b>15.15</b>	<b>0.35</b>

(ALL COSTS IN MILLIONS)

**LEGEND:**

-  TUNNEL - COMPLETED
-  STORAGE RESERVOIR PHASE II/CUP COMPLETED
-  STORAGE RESERVOIR PHASE II/CUP UNDER CONSTRUCTION
-  WATER RECLAMATION PLANT
-  PUMPING STATION (ON-LINE)

**TUNNEL and RESERVOIR PLAN PROJECT STATUS**

## McCook Reservoir Expanded Stage 2 Overburden Removal, SSA

**Project Number:** 73-161-DH

**Service Area:** Stickney

**Location:** Lyons Township

**Engineering Consultant:** In-house design

**General Contractor:** The Lane Construction Corporation

**Estimated Construction Cost:** \$18,657,000

**Contract Award Date:** November 1, 2012

**Substantial Completion Date:** October 16, 2015\*



**Project Description:** The expanded Stage 2 portion of the McCook Reservoir replaces the originally planned Stage 3 and expands the reservoir to include former sludge drying lagoons 21 and 22 at the Lawndale Avenue Solids Management Area. This project will remove the overburden on lagoons 21 and 22 to allow for the underlying rock to be mined.

**Project Justification:** The McCook Reservoir project is an essential part of the District's Tunnel and Reservoir Plan to prevent flooding and pollution from combined sewer overflows (CSO). The expanded Stage 2 portion of the reservoir is required to reach the 10 billion gallon capacity included in the District's CSO Long-Term Control Plan for complying with federal and state water quality standards.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## TARP Pump #8 Rehabilitation, MSPS

**Project Number:** 02-111-3M

**Service Area:** Stickney

**Location:** Mainstream Pumping Station

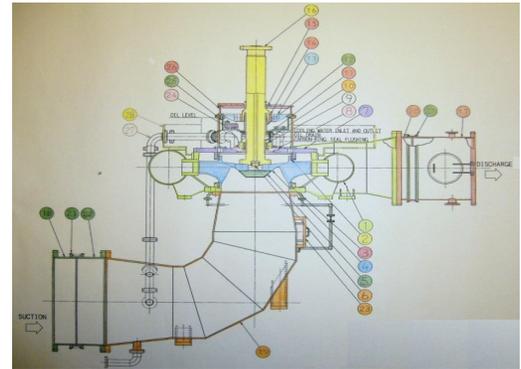
**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$4,500,000

**Contract Award Date:** March 1, 2015\*

**Substantial Completion Date:** December 15, 2015\*



**Project Description:** The purpose of this project is to completely overhaul the pump and motor of Main Sewage Pump No. 8 in the north pump house of the Mainstream Pumping Station. Also, the new inflatable seal design utilized on new Pumps No. 2 and No. 6 will be installed on Pump No. 8. This contract will serve as the model for the overhaul of the other five original installations.

**Project Justification:** The complete overhaul of the pump and motor involves the installation of new parts and current technology components, which will reduce the maintenance labor required for both pieces of equipment and improve reliability. The new inflatable seal design will increase the life of the mechanical seal and decrease leakage. The pump and motor will operate more efficiently by pumping more liquid in less time, leading to reduced electricity usage to power the pump. The overhaul will extend the useful life of the pump and motor, which have been in service since May 1985.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## West Side Primary Settling Tanks 1-9 and Aerated Grit Facility, SWRP

**Project Number:** 04-128-3P

**Service Area:** Stickney

**Location:** Stickney WRP

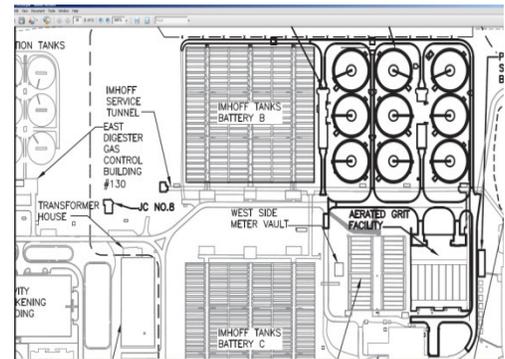
**Engineering Consultant:** Greeley & Hansen

**General Contractor:** To be determined

**Estimated Construction Cost:** \$206,458,000

**Contract Award Date:** November 6, 2014\*

**Substantial Completion Date:** March 3, 2018\*



**Project Description:** Construction of nine Primary Settling Tanks (PSTs) of 160-foot diameter and six 132-foot long aerated grit tanks, associated support facilities, service tunnels, and conduits. The aerated grit facility will include shaftless-screw conveyors, centrifugal and airlift pumps for grit removal, grit classifiers and a dumpster-loading system. Grit tanks will be covered for odor control. Process air for the grit tanks and PSTs will be provided by new turbo blowers. The PST area will have Tunnel Access Pump Stations (TAPS) containing scum pumps, sludge airlifts, an electrical substation, odor control vessels and fans, and associated equipment. PST effluent weirs and troughs will be covered for odor control. The ability to bypass six PSTs will be provided. Additionally, modifications to the existing Monitoring & Research Building at the Stickney WRP are included in this project. The work involves the installation of new air handling units, an absorption chiller, heat exchangers, pumps, and strobic fans. Replacement of associated controls, intake, supply, and exhaust ductwork, piping, conduit, and wiring at the Monitoring & Research Building is also included. Equipment will be provided by the District, but installed by the contractor. Piping will be installed in Mechanical Room LC-118 to bypass and abandon leaking underground condenser water piping.

**Project Justification:** The West Side Imhoff tanks are being decommissioned and replaced with more modern and effective treatment. Imhoff Battery A and Skimming Tanks 1-8 have already been demolished in preparation for this project. The Imhoff tanks have been in service since 1928, are labor-intensive to operate, and provide treatment inferior to PSTs. Valves for sludge withdrawal are difficult to operate, and have resulted in injuries to personnel. Skimming scum from Imhoff tanks requires personnel to walk narrow walkways above open sewage with no fall protection. Certain areas of the structures have exhibited structural cracking and leakage from conduits. Maintenance and repair supplies are not readily available for antiquated systems. Sludge solids are digested in the lower anaerobic zone of the Imhoff tanks, and the methane gas byproduct of digestion is impossible to capture and is emitted to the atmosphere. A significant increase in digester gas production will result from this project, allowing the District to proceed on the path to energy neutrality. The aerated grit facility will replace the existing West Side skimming tanks and provide superior grit removal, thus preserving downstream piping and equipment from damage due to scouring by grit. The existing skimming tanks and grit concentration utilize maintenance-intensive chain-and-flight mechanisms. In addition, the skimming tanks and existing grit concentration create a recycle load of up to 100 million gallons per day; there will be minimal recycling from the new facilities. The existing Imhoff and skimming tanks are significant generators of odor. Odors from new facilities will be captured and removed, in keeping with the District's good-neighbor policy. The central portion of the Monitoring & Research Building was constructed in 1963 and much of the existing equipment in this area is original to the facility. The supply and exhaust ventilation can no longer meet the testing and ventilation needs of the facility staff. Increased maintenance needs and the increased risk of failure necessitate that it be replaced to ensure a reliable and safe environment for the employees.

**Project Status:** This project has been advertised for bid.

\*Information shown is estimated.

## Rehabilitation of the A/B and C/D Service Tunnels - Phase I, SWRP

**Project Number:** 04-131-2D

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** Klein & Hoffman and Stanley Consultants

**General Contractor:** F.H. Paschen, S. N. Nielsen and Associates, LLC.

**Estimated Construction Cost:** \$13,615,000

**Contract Award Date:** January 17, 2013

**Substantial Completion Date:** August 8, 2016\*



**Project Description:** This project will rehabilitate approximately 240 feet of the C/D service tunnel and 130 feet of the A/B service tunnel. Rehabilitation of pump discharge conduits 1 through 7 will also be performed at the West Side Pumping Station.

**Project Justification:** The A/B and C/D tunnels are approximately 68 to 78 years old and significant deterioration has occurred since they were placed into service. Rehabilitating the tunnels will restore structural capacity, extend their service life, and prevent further damage to the utilities inside the tunnels.

Repairs on pump discharge conduits 1 through 7 at the West Side Pumping Station are required to repair erosion and spalling observed in videotaped TV inspections performed in August 2006 by the Stickney WRP Sewer Control Section.

Repair of deteriorated concrete, leaking cracks, and joints in areas with active leaks, and installation of sump pumps within the Pump & Blower House will eliminate the water infiltration in those areas and prolong the building's service life.

**Project Status:** This project is under construction.

\*Information shown is estimated.

**A/B and C/D Service Tunnel and Connecting Tunnel Rehabilitation - Phase II, SWRP**

**Project Number:** 04-132-3D

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design and Consultant, RME

**General Contractor:** To be determined

**Estimated Construction Cost:** \$10,000,000

**Contract Award Date:** July 25, 2015\*

**Substantial Completion Date:** July 28, 2017\*



**Project Description:** This project will rehabilitate approximately 200 feet of A/B service tunnel and 135 feet of C/D service tunnel, and replace 150 feet of connecting tunnel between A/B and C/D service tunnels.

**Project Justification:** The A/B and C/D service tunnels are approximately 68 and 78 years old and significant deterioration has occurred since they were placed into service. Rehabilitating the tunnels will restore structural capacity, extend their service life, and prevent further damage to the utilities inside the tunnels.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Tollway Dam, Grout Curtain & Quarry Plugs, Thornton Composite Reservoir, CSA

**Project Number:** 04-201-4F

**Service Area:** Calumet

**Location:** Thornton Composite Reservoir

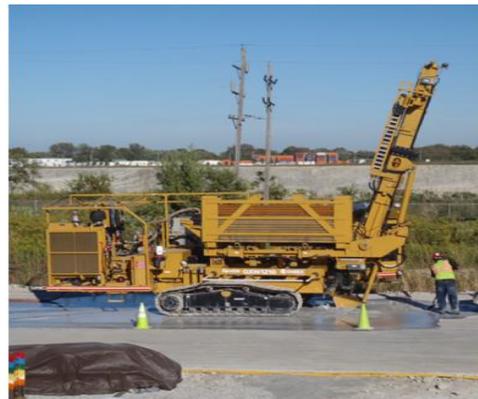
**Engineering Consultant:** Black and Veatch/MWH Americas, Inc.

**General Contractor:** F.H. Paschen, S.N. Nielsen and Associates LLC, and Cabo Construction Corporation, Joint Venture

**Estimated Construction Cost:** \$71,926,000

**Contract Award Date:** December 3, 2009

**Substantial Completion Date:** May 25, 2015\*



**Project Description:** This project is one of several contracts that will convert the north lobe of the Thornton Quarry into the Thornton Composite Reservoir. The project consists of the construction of a roller compacted concrete dam under I-80/294 to prevent water in the reservoir from entering the Material Service Corporation's quarry, two concrete plugs in existing haul tunnels to isolate the reservoir from the quarry, and a double row grout curtain along the perimeter of the reservoir to prevent water from exfiltrating into the quarry. The completed reservoir will provide a storage capacity of 7.9 billion gallons.

**Project Justification:** The Thornton Composite Reservoir project is an essential part of the District's Tunnel and Reservoir Plan to prevent flooding and pollution from combined sewer overflows. Completion of the reservoir is part of the District's Combined Sewer Overflow Long-Term Control Plan for complying with requirements of the Clean Water Act. The project is estimated to provide an average of \$40 million in benefits annually to over 550,000 people in its service area.

**Project Status:** Construction is 77 percent complete. The dam has been completed. Work on the grout curtain and quarry plugs continues.

\*Information shown is estimated.

## Connecting Tunnels and Gates, Thornton Composite Reservoir, CSA

**Project Number:** 04-202-4F

**Service Area:** Calumet

**Location:** South Holland and Thornton

**Engineering Consultant:** MWH Americas, Inc.

**General Contractor:** Walsh/II in One Joint Venture

**Estimated Construction Cost:** \$135,476,000

**Contract Award Date:** May 6, 2010

**Substantial Completion Date:** May 14, 2015\*



**Project Description:** The purpose of this contract is to construct rock tunnels and a control structure to connect the Calumet Tunnel and Reservoir Plan (TARP) System to the Thornton Composite Reservoir. The project includes the construction of 1,300 linear feet of 30-foot diameter concrete lined tunnel, a tunnel portal structure, a diffuser apron, a concrete lined gate shaft, a control building, steel lined tunnel bifurcations, four wheel gates, each approximately 15 feet wide and 29 feet high, a maintenance bulkhead, two jet flow dewatering gates, a live connection to the existing Indiana Avenue TARP tunnel, and all other work collateral thereto.

**Project Justification:** The Thornton Composite Reservoir project is an essential part of the District's TARP to prevent flooding and pollution from combined sewer overflows. Completion of the reservoir is part of the District's Combined Sewer Overflow Long-Term Control Plan for complying with requirements of the Clean Water Act. The project is estimated to provide an average of \$40 million in benefits annually to over 550,000 people in its service area.

**Project Status:** The gate shaft and tunnel have been excavated and lined. The tunnel portal has been completed, and the apron is currently being excavated. The foundation work for the control building is nearly complete. The steel liner has been installed in the bifurcation and gate bay areas, and the gate embed parts are being installed. The wheel gates and bulkhead are in fabrication.

\*Information shown is estimated.

## Final Reservoir Preparation, Thornton Composite Reservoir, CSA

**Project Number:** 04-203-4F

**Service Area:** Calumet

**Location:** South Holland and Thornton

**Engineering Consultant:** Black & Veatch

**General Contractor:** Walsh/II in One Joint Venture

**Estimated Construction Cost:** \$50,922,000

**Contract Award Date:** December 2, 2010

**Substantial Completion Date:** November 1, 2015\*



**Project Description:** The purpose of this contract is to complete all of the remaining work to make the Thornton Composite Reservoir operational and decommission the Thornton Transitional Reservoir.

The project includes: construction of a 20-foot diameter concrete lined connection tunnel and drop shaft; two reinforced concrete tunnel plugs within the existing Thorn Creek diversion tunnel; conversion of the diversion tunnel between the tunnel plugs into a drainage adit; concrete lining of the existing diversion tunnel; 10-foot diameter access shaft and tunnel to the existing dewatering tunnel; replacement of two existing cone valves with a check valve in parallel with an in-line pump and check valve and installation of a drip ceiling in the existing valve chamber; reservoir level and tunnel inflow instrumentation; highwall stability measures as needed throughout the reservoir; decommissioning the Thornton Transitional Reservoir; inclinometers; various site work, including access roads, walkways and ramps, an overlook, fencing, and landscaping.

**Project Justification:** The Thornton Composite Reservoir project is an essential part of the District's Tunnel and Reservoir Plan to prevent flooding and pollution from combined sewer overflows. Completion of the reservoir is part of the District's Combined Sewer Overflow Long-Term Control Plan for complying with requirements of the Clean Water Act. The project is estimated to provide an average of \$40 million in benefits annually to over 550,000 people in its service area.

**Project Status:** Construction is 77 percent complete. The contractor has lined the existing diversion tunnel from the east tunnel plug to the existing Thorn Creek diversion structure. The portal area has been stabilized. Excavation of the 20-foot diameter drop shaft, connection tunnel, and 10-foot diameter access shaft is complete. Concrete lining of the 20-foot diameter connection tunnel and drop shaft is 75 percent complete. The overlook structure has been constructed.

\*Information shown is estimated.

## Salt Creek Intercepting Sewer 2 Rehabilitation, SSA

**Project Number:** 06-155-3S

**Service Area:** Stickney

**Location:** Proviso Township and Lyons Township

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$41,000,000

**Contract Award Date:** September 1, 2015\*

**Substantial Completion Date:** May 28, 2018\*



**Project Description:** The work consists of rehabilitating approximately 32,800 feet of intercepting sewer with sizes ranging from 10" in diameter to 7'0"x7'0" semi-elliptic concrete pipe using the cured-in-place pipe lining method and/or the channeline lining method, rehabilitating 80 manholes by the spray-on lining system, rebuilding and raising 12 manholes, constructing one manhole, and making control structure modifications.

**Project Justification:** The sewers were inspected by the Maintenance & Operations Department in 2003 with a closed-circuit television inspection system. The video inspection tapes show cracks (circular and longitudinal), sewage solids deposits, sags, offset joints, root intrusion, infiltration, and concrete corrosion due to the action of hydrogen sulfide generated by the decomposition of settled solids. Physical inspection of the manholes reveals cracks and holes in the walls and bases of the manholes.

**Project Status:** The design for this project is approximately 98 percent complete.

\*Information shown is estimated.

## Des Plaines River Intercepting Sewer Rehabilitation, SSA

**Project Number:** 06-158-3S

**Service Area:** Stickney

**Location:** Maywood, Melrose Park, River Forest, Forest Park

**Engineering Consultant:** In-house design

**General Contractor:** Kenny Construction Company

**Estimated Construction Cost:** \$13,261,000

**Contract Award Date:** May 1, 2014

**Substantial Completion Date:** January 9, 2016\*



**Project Description:** This project includes the rehabilitation of 18,569 feet of sewer ranging in size from 10-inch diameter to 8'x4'6" box sewer by the cured-in-place pipe method and the spray-on lining system; rehabilitation of an inverted siphon; rehabilitation of 63 structures by the spray-on lining system; raising of two manholes; abandoning 290 feet of 20-inch pipe; cleaning 500 feet of 8'x4'6" box sewer; construction of an access manhole.

**Project Justification:** The sewers were inspected by the Maintenance & Operations Department with a closed-circuit television inspection system. The video inspection tapes show cracks (circular and longitudinal), sewage solids deposits, sags, offset joints, root intrusion, infiltration, and concrete erosion. Physical inspection of the manholes reveals cracks and holes in the wall and base of the manholes.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Calumet TARP Pumping Station Improvements, CWRP

**Project Number:** 06-212-3M

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** AECOM

**General Contractor:** Sollitt/Sachi/Alworth Joint Venture

**Estimated Construction Cost:** \$35,067,000

**Contract Award Date:** May 2, 2013

**Substantial Completion Date:** May 19, 2018\*



**Project Description:** The purpose of this project is to replace the existing East 1 and West 1 Tunnel and Reservoir Plan (TARP) pumps with larger capacity pumps, replace their motors, and install new 4.6 kV variable frequency drives (VFDs) for the pumps. The suction and discharge piping will be modified to accommodate the new pumps. Also, the remaining four pumps, East 2 and 3 and West 2 and 3, will be replaced with new 72 million gallons per day (MGD) pumps, along with new motors and four 4.6 kV VFDs. The drives will be located on an elevated platform in each of the pump rooms. A low pressure steam line will be constructed from the high level influent pumping station to TARP for heating needs, and the grading, roads, and site work disturbed under numerous contracts over the last 10 years will be completed and restored.

**Project Justification:** This project will increase the firm pumping capacity of each pump room to 150 MGD while restoring dependability of equipment to the Calumet TARP Station, which is becoming of greater importance as the Thornton Reservoir is nearing completion. There will be some increase in maintenance costs due to the addition of VFDs in place of the constant speed motors for the existing small pumps. However, VFDs will allow better control of pumping and reduce energy costs by matching pump speed with flow needs.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Digester Sludge Heating System Upgrades and Boiler Removal, CWRP

**Project Number:** 06-213-3M

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$6,000,000

**Contract Award Date:** May 14, 2015\*

**Substantial Completion Date:** November 6, 2016\*



**Project Description:** Remove six boilers and associated digester gas, natural gas, hot water supply, and hot water return piping. Remove all electrical and controls work associated with these boilers. Remove old flares and the associated digester gas piping. Provide two steam-to-hot water converters per cluster and associated hot water recirculation pumps, variable frequency drives, valves, and piping to supply hot water to the sludge heat exchangers and air handling units. Provide steam and condensate lines from the main headers to each cluster with supports. Replace four sludge heat exchangers in Cluster 1 and rehabilitate four sludge heat exchangers in Cluster 2.

**Project Justification:** The boilers for the Digester Complex are over 20 years old. Due to their condition, the increased risk of failure necessitates their replacement to ensure an appropriate level of service for the digestion process and space heating. With the completion of the Central Boiler Facility (under Contract 03-296-3M), the six boilers in the Digester Complex currently used to heat sludge are no longer needed as heat will be provided by the Central Boiler Facility. The new steam-to-hot water converters will provide the heat for the digesters and are less operation and maintenance intensive than boilers. New flares were installed under Contract 90-214-2P to burn excess digester gas, therefore, the old flares are no longer needed for operation and should be removed. The existing sludge heat exchangers are over 20 years old. It is economically justified to replace or rehabilitate them due to the increased level of maintenance costs.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Upper Des Plaines Intercepting Sewer 20B Rehabilitation, NSA

**Project Number:** 06-357-3S

**Service Area:** North

**Location:** Elk Grove and Maine Township

**Engineering Consultant:** In-house design

**General Contractor:** Kenny Construction Co.

**Estimated Construction Cost:** \$6,367,000

**Contract Award Date:** September 19, 2013

**Substantial Completion Date:** February 23, 2015\*



**Project Description:** The rehabilitation of 5,955 linear feet of 60-inch diameter sewer by the cured-in-place lining and/or slip lining methods, 10 manhole structures, air separation chambers by spray-on products, and the modification of Drop Shaft No. 5.

**Project Justification:** The sewer and manholes were inspected by the Maintenance & Operations Department using closed-circuit television. The video shows infiltration and concrete/metal deterioration. In order to restore the structural and hydraulic integrity of the sewer, it needs to be rehabilitated. Drop Shaft No. 5 was inspected by man entry and signs of concrete deterioration were prevalent.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Centrifuge Building and Sludge Loading System Upgrades, EWRP and HPWRP

**Project Number:** 06-494-3P

**Service Area:** North

**Location:** Egan WRP and Hanover Park WRP

**Engineering Consultant:** In-house design

**General Contractor:** IHC Construction Companies, LLC

**Estimated Construction Cost:** \$9,044,000

**Contract Award Date:** March 7, 2013

**Substantial Completion Date:** March 26, 2015\*



**Project Description:** Remove the existing Serpentix belt conveyor system and replace with one horizontal shafted screw conveyor and two solids pumps. Remove two sludge storage silos and replace with four silos. Remove and replace two ferric chloride tanks, piping, and pumps. Reline two aged polymer tanks. Remove and replace a centrifugal pump in Pump House No. 1. Remove and replace piping, valves, and flow meters in Pump House No. 2. Remove and replace a 60-inch butterfly valve on the raw sewage conduit to Pump House No. 1. Modify aeration tank A-1 at the Hanover Park WRP for pilot testing of an energy conservation study.

**Project Justification:** The expansion of the sludge storage capacity is necessary to eliminate a bottleneck in the sludge dewatering operations and permit a more efficient biosolids hauling operation. The existing sludge conveyor system has odor and spill problems and requires continuous cleaning of the area. Installing an enclosed conveyor system will reduce odors from the transfer of biosolids, improve system performance, and reduce maintenance costs and operator attention.

**Project Status:** The project is under construction.

\*Information shown is estimated.

## Rehabilitation of Final Settling Tanks 11, 12, 13, and 14 in Batteries A, B, and C, OWRP

**Project Number:** 08-041-3P

**Service Area:** North

**Location:** O'Brien WRP

**Engineering Consultant:** In-house design

**General Contractor:** Joseph J. Henderson & Son, Inc.

**Estimated Construction Cost:** \$2,682,000

**Contract Award Date:** October 17, 2013

**Substantial Completion Date:** March 6, 2015\*



**Project Description:** Replacement of sludge and scum collector mechanisms, including influent baffle walls and supports, center cages, rake arms, and skimmers in final settling tank Nos. 11, 12, 13, and 14 of aeration batteries A, B, and C (12 tanks total). Paint the remaining existing components, including walkway bridges, center support structures, drive turntables, drive units, scum piping, and scum troughs. Repair concrete inside the 12 final settling tanks and their surrounding slabs. Repair concrete walkways for eight primary settling tanks.

**Project Justification:** The existing influent baffles on the final settling tanks are severely corroded, allowing short-circuiting of the influent mixed liquor and causing inefficient settling of solids. Additionally, several steel members on the rake arms and associated assemblies are severely corroded. The Engineering Department analyzed the costs of replacing the individual component versus the complete replacement of the mechanisms. The complete replacement was more cost effective due to the number of individual members requiring replacement. Additionally, the new rake arm assembly will be a spiral rake style, increasing the efficiency of solids removal and reducing the torque on the existing drives, which will prolong their service lives. Spalling concrete in the primary tanks has fallen into the tanks, causing damage to the chain and flight mechanisms. Additionally, spalling concrete under steel structures has the potential to cause instability of the structures themselves.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Sludge Thickening Facilities, SWRP

**Project Number:** 09-176-3P

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** AECOM

**General Contractor:** McHugh Construction

**Estimated Construction Cost:** \$162,232,000

**Contract Award Date:** March 18, 2010

**Substantial Completion Date:** November 11, 2016\*



**Project Description:** The project consists of the construction of a gravity thickening facility for primary settling tank sludge from both Southwest and future West Side primary settling tanks consisting of eight 80-foot diameter tanks, replacement of 12 of the existing 16 thickening centrifuges in the pre-digestion centrifuge building with new centrifuges to thicken waste activated sludge (WAS), replacement of four of the existing 16 thickening centrifuge frames, controls and motors in the pre-digestion centrifuge building with new units to thicken the O'Brien WRP sludge, construction of new pumping stations and underground pipes for the Southwest preliminary tank sludge (SW-PREL), WAS, and the O'Brien WRP, construction of a new 13.2kV/480V electrical substation to replace the existing substation at the Southwest aerated grit facilities, replacement of corroded and undersized city water and effluent water piping throughout the plant, replacement of the Laramie Avenue Gate House, and reconfiguring the entrance road to accommodate increased construction traffic.

**Project Justification:** The purpose of this project is to improve the sludge thickening processes at the Stickney WRP by separating the three sludge streams within the plant and thickening each by the most effective and efficient method. Currently, SW-PREL, WAS, and the O'Brien WRP sludge are blended together in the existing concentration building and partially thickened by gravity prior to additional centrifuge thickening. The existing gravity concentration tanks are undersized and maintenance intensive, and the present blend of sludge does not thicken well by gravity. This results in large volumes of sludge recycled back to the head end of the treatment plant. The large recycle flow adds an unnecessary biological oxygen demand loading to the aeration tanks and a higher suspended solids loading to the final settling tanks.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Battery C Airlift and Air Main Rehabilitation and Aeration Tanks No. 6, 7, 8 Diffuser Plate Replacement, SWRP

**Project Number:** 09-181-3P

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$5,500,000

**Contract Award Date:** November 20, 2014\*

**Substantial Completion Date:** November 9, 2016\*



**Project Description:** The purpose of this project is to replace airlift umbrellas, rehabilitate sludge boxes, and install slide gates and workways for the sludge box outlets to the return activated sludge (RAS) channel. Work also includes replacing all dresser couplings and pipe spool pieces for air mains in manholes at the Y-walls of the aeration tanks and the channels around the aeration tanks, and replacing the fine bubble diffuser plates in aeration tank Nos. 6, 7, and 8. All work under this project is located in Aeration Battery C.

**Project Justification:** The sludge box airlift umbrellas and concrete covers are deteriorating and need to be replaced. In order to facilitate an easier and safer means of isolating the sludge boxes from the RAS channel, new walkways and slide gates are required to be installed at the outlets. Improvements to the venting of the sludge boxes will eliminate the current spraying of a significant amount of sludge through existing vents onto walkways. The fine bubble diffuser plates in aeration tank Nos. 6, 7, and 8 are cracked and/or clogged and inefficient. The concrete plate holders are spalled and/or cracked contributing to leaking air. The dresser couplings on the air mains within the Y-walls and the vaults on the battery perimeter are severely corroded and leaking air. Repair and/or replacement of these items will save energy and provide a proper level of service and treatment.

**Project Status:** This project is being advertised.

\*Information shown is estimated.

## D799 Switchgear Replacement, SWRP

**Project Number:** 09-182-3E

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$7,500,000

**Contract Award Date:** January 22, 2015\*

**Substantial Completion Date:** December 20, 2016\*



**Project Description:** Replacement of the medium voltage (13.2kV) switchgear and medium voltage feeder cables in D799 at the Stickney WRP .

**Project Justification:** The medium voltage switchgear and cables are over 30 years old. Failure of a tie breaker in 2009 caused the Stickney WRP facility to be out of service. Replacement of the switchgear would improve reliability, reduce the risk of failure, provide enhanced safety features, and provide for future expansion (proposed new Monitoring & Research Lab and disinfection facility). Due to its condition, the increased risk of failure necessitates its replacement to ensure the appropriate level of service. Recent inspection and testing revealed the potential of an incipient failure of the cables. They should be replaced to avoid a catastrophic failure.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Wet Weather Treatment Facility and Reservoir, LWRP

**Project Number:** 10-716-3P

**Service Area:** Calumet

**Location:** Lemont WRP

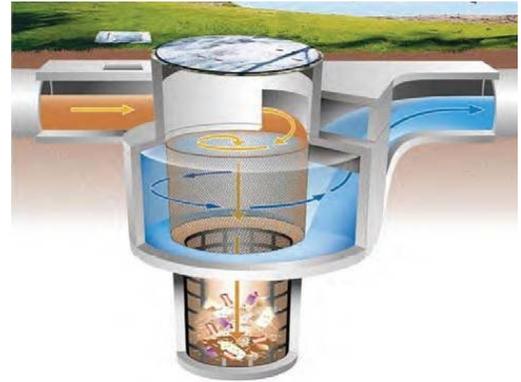
**Engineering Consultant:** CH2M Hill

**General Contractor:** Joseph J. Henderson & Son, Inc.

**Estimated Construction Cost:** \$30,000,000

**Contract Award Date:** September 19, 2013

**Substantial Completion Date:** December 30, 2015\*



**Project Description:** The work includes increasing the size of the 18-inch interceptor sewer entering the plant site from the Village of Lemont's combined sewer area, constructing a new wet-weather treatment facility to provide primary treatment followed by disinfection, sized to treat up to 10 times the volume of dry weather flow (approximately 6.8 million gallons per day), and construction of a five-million gallon equalization reservoir to buffer the peak wet weather flows from the Village's separate sewer area.

**Project Justification:** During storm events, the Lemont WRP currently receives high flows from the tributary sewer systems, which result in bypasses to the Chicago Sanitary & Ship Canal. In the Fall of 2009, the District received a violation notice from the Illinois Environmental Protection Agency (IEPA) that alleged failure to provide adequate treatment of excess flows during wet weather periods at the Lemont WRP. A long-term control plan was developed and approved by the IEPA on March 16, 2011, which included this new facility.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## TARP Control Structure Rehabilitation, NSA, SSA, and CSA

**Project Number:** 10-880-3H

**Service Area:** North, Calumet, and Stickney

**Location:** District-wide

**Engineering Consultant:** Donohue & Associates, Inc.

**General Contractor:** IHC Construction Companies, LLC.

**Estimated Construction Cost:** \$14,410,000

**Contract Award Date:** December 5, 2013

**Substantial Completion Date:** August 23, 2016\*



**Project Description:** The project consists of the rehabilitation and/or replacement of sluice gate actuators, equipment platforms, dehumidifiers, and other miscellaneous equipment, as well as the installation of new equipment including additional sump pumps, dehumidifiers, and gas detectors at the various TARP control structures.

**Project Justification:** The purpose of this project is to rehabilitate and/or replace various components of the control structures throughout the TARP system in order to eliminate hydraulic communication between the tunnels and the structures and to ensure reliable operations.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Disinfection Facilities, OWRP

**Project Number:** 11-054-3P

**Service Area:** North

**Location:** O'Brien WRP

**Engineering Consultant:** Greeley and Hansen

**General Contractor:** Walsh Construction Company II, LLC.

**Estimated Construction Cost:** \$60,000,000

**Contract Award Date:** August 8, 2013

**Substantial Completion Date:** December 19, 2015\*



**Project Description:** Construction of ultraviolet (UV) light disinfection facilities and improvements to existing infrastructure at the O'Brien WRP. Construction consists of new flow conduits to intercept the flow from the existing effluent discharge conduit and reroute it to the new UV light disinfection facility, then back again to the discharge conduit. The UV disinfection facilities include disinfection channels and equipment, control gates, power distribution, instrumentation and controls, connection to the plant distributed control system, and a new building.

**Project Justification:** This project will provide disinfection to the effluent of the O'Brien WRP before it is discharged into the waterway in order to protect public health and in recognition of the recreational uses of the Chicago Area Waterway System.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Digester Gas Utilization Facilities, SWRP

**Project Number:** 11-189-3P

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** To be determined

**General Contractor:** To be determined

**Estimated Construction Cost:** \$50,000,000

**Contract Award Date:** June 9, 2015\*

**Substantial Completion Date:** September 1, 2017\*



**Project Description:** A Request for Proposal (RFP) will be issued to identify a highly reputable and experienced contractor to design and build a system for producing renewable energy from the Stickney WRP's digester gas in a way that is economically beneficial, energy efficient, and environmentally responsible.

**Project Justification:** The Stickney WRP has 24 anaerobic digesters which stabilize and reduce the volume of primary and waste activated sludge produced as a function of the plant's wastewater treatment process. A beneficial by-product of this process is digester gas, also known as "biogas." Although the treatment plant beneficially uses some of the digester gas that is produced, there are significant quantities that are not utilized at certain times of the year. The purpose of this project is to reduce the treatment plant's energy footprint by maximizing the resource recovery of biogas (a renewable energy source) and move the District towards its long-term goal of energy neutrality.

**Project Status:** The RFP is to be issued during the fourth quarter of 2014.

\*Information shown is estimated.

## Boiler No. 6 Installation and Turbine Removal, SWRP

**Project Number:** 11-191-3M

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$3,000,000

**Contract Award Date:** June 4, 2015\*

**Substantial Completion Date:** June 24, 2017\*



**Project Description:** Removal of the existing gas turbine, associated digester gas compressors, piping, storage tanks, and related electrical equipment. Installation of new boiler No. 6 with co-firing capabilities of digester gas and natural gas. Replacement of simplex chemical (phosphate) feed pumps with dual pump units (two pumps per boiler) for seven boilers. Replacement of two instrument air compressors and accessories. Upgrade of building lighting in the new boiler No. 6 area. Increase of the height of the existing overhead door to 16 feet. Addition of a second egress from the switchgear room.

**Project Justification:** The existing gas turbine will be removed due to its unreliable performance and excessive maintenance burden. A new boiler will be installed in the location of the turbine. The new boiler will have co-firing of digester gas and natural gas to maximize the use of available digester gas and to reduce the purchase of natural gas. The existing simplex chemical (phosphate) feed pumps will be replaced with redundant pumps to provide reliability and to maintain the operational integrity of the central boiler facility. The existing air compressors do not provide a sufficient quantity of instrument quality air and are not reliable. Replacement is required to provide reliable equipment with sufficient capacity and provide instrument quality air to the central boiler facility instruments. The lighting upgrade is needed in the area of the new boiler due to the inadequacy of the existing lighting, which was designed when the building was used for other purposes. The existing doorways are only 14 feet high and need to be increased in height to accommodate the new boiler. A second egress from the switchgear room is necessary to meet the National Electrical Code requirements.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Phosphorus Recovery System, SWRP

**Project Number:** 11-195-AP

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** Black & Veatch Construction, Inc.

**General Contractor:** Black & Veatch Construction Inc./Ostara USA, LLC.

**Estimated Construction Cost:** \$31,879,000

**Contract Award Date:** August 7, 2014

**Substantial Completion Date:** February 1, 2016\*



**Project Description:** The purpose of this project is to construct a facility to recover phosphorus from the pre- and post-centrifuge centrates. The scope of work will include construction of a building to house the recovery process and product storage, installation of the Pearl® reactors, and installation of pumping equipment and appurtenances to transfer the centrates to this facility. As a result of 12-RFP-20, the Black & Veatch Construction Inc./Ostara USA, LLC team was selected to design and construct this facility. The District will operate the facility and Ostara USA, LLC will continue to market the product for the term of the agreement.

**Project Justification:** The District is voluntarily looking at means to reduce the phosphorus concentration in the Stickney WRP effluent. The District is further refining the Enhanced Biological Phosphorus Removal treatment occurring at Stickney to allow an increased uptake of phosphorus into our solids. The Ostara Pearl® Process will be utilized to recover the phosphorus from our system. The recovered phosphorus will be a marketable product. A combination of the Enhanced Biological Phosphorus Removal and the phosphorus recovery should effectively lower our effluent phosphorus concentration and recover a resource (phosphorus) that is being depleted in the world.

**Project Status:** This project was awarded on August 7, 2014.

\*Information shown is estimated.

## Calumet Intercepting Sewer 19F Rehabilitation, CSA

**Project Number:** 11-239-3S

**Service Area:** Calumet

**Location:** Bremen Township

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$12,000,000

**Contract Award Date:** August 1, 2015\*

**Substantial Completion Date:** April 12, 2017\*



**Project Description:** The rehabilitation of Calumet Intercepting Sewer 19F which consists of 10,432 linear feet of 60-inch sewer pipe, 23 drop manholes, and one junction structure.

**Project Justification:** The sewers were inspected by the Maintenance & Operations Department with a closed-circuit television inspection system. The video shows infiltration and concrete/metal deterioration due to hydrogen sulfide. In order to restore the hydraulic and structural integrity of the sewers, they need to be rehabilitated. The manholes and structures exhibit similar signs of deterioration and need to be rehabilitated.

**Project Status:** This project is at the 50 percent design stage.

\*Information shown is estimated.

## Organic Waste Receiving and Processing Facility, CWRP

**Project Number:** 11-240-3P

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** To be determined

**General Contractor:** To be determined

**Estimated Construction Cost:** \$27,000,000

**Contract Award Date:** July 16, 2015\*

**Substantial Completion Date:** January 6, 2017\*



**Project Description:** The overall scope of work includes construction of a new organic waste receiving and processing facility, including receiving pits for a variety of organic waste types, screens, transfer pumps, transfer piping, and an odor control system located south of the anaerobic digesters, modifications to two existing digesters including fixed covers, mixers, and digester gas collection piping, and a 20-year agreement with the proposer to provide organic waste material.

**Project Justification:** Biogas, generated as a by-product of the anaerobic digestion process at the Calumet WRP, has value as a fuel. Currently, the biogas is used to produce steam in boilers for plant heating. However, there are periods of time in the year when the steam demand is low, and not all of the biogas is fully utilized. This project will increase biogas production by about 160% over the current volume by utilizing excess capacity in the digesters to take in organic waste material from outside sources. All of the biogas that is produced, from both the sewage sludge and the organic waste material, will be cleaned to pipeline quality and sold to the natural gas pipeline where it will be used as a renewable energy source for vehicle fuel. This project is expected to provide a reduction in greenhouse gases by 99,000 metric tons of carbon dioxide equivalent per year due to reduced fugitive emissions from landfills and reduced haul trucks on the road.

**Project Status:** The design contract is expected to be awarded in September 2014. The construction contract is expected to be awarded in July 2015.

\*Information shown is estimated.

## Disinfection Facilities, CWRP

**Project Number:** 11-241-3P

**Service Area:** Calumet

**Location:** Calumet WRP

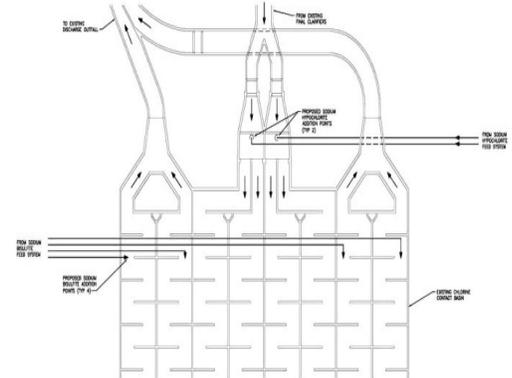
**Engineering Consultant:** CH2M Hill

**General Contractor:** IHC/KED Joint Venture

**Estimated Construction Cost:** \$32,000,000

**Contract Award Date:** August 8, 2013

**Substantial Completion Date:** August 19, 2015\*



**Project Description:** The installation of the chlorination/dechlorination disinfection facilities includes furnishing and installing sodium hypochlorite storage tanks with a chemical feed system, sodium bisulfate storage tanks with a chemical feed system, instrumentation and control, and site work modifications to permit frequent chemical delivery.

**Project Justification:** This project will provide disinfection of the effluent at the Calumet WRP before it is discharged into the waterway in order to protect public health and in recognition of the recreational uses of the Chicago Area Waterway System.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## Coarse Screens and Raw Sewage Pump Slide Gates Replacement, EWRP

**Project Number:** 11-405-3M

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** In-house design

**General Contractor:** IHC Construction Companies, LLC.

**Estimated Construction Cost:** \$2,714,000

**Contract Award Date:** September 4, 2014

**Substantial Completion Date:** February 25, 2016\*



**Project Description:** Replacement of the three coarse bar screens and associated controls, installation of new stop logs for the coarse bar screens, removal of grit from the coarse bar screen channel, replacement of five slide gates with stainless steel motor actuated slide gates for raw sewage pumps (RSPs), replacement of six drain valves for RSPs, isolation of the electrical rooms, motor control center Nos. 1 and 2 from the adjacent classified areas, and installation of a new air handling unit for the operating engineer's office in the dewatering building.

**Project Justification:** The existing coarse screen is a climber type screen, and the drive assembly, rake, motor, gearbox, and drive train travels to remove debris from the screen. The motor assembly gets submerged during major storm events and requires emergency maintenance to repair the gearboxes in order to place the screen back in service. A different type of screen will be installed so that the screen operation will not be impacted by high influent flows.

The stop logs are necessary for isolation of the coarse screen channels during replacement of coarse screens and to perform routine maintenance. Also, the existing upstream stop log groove is approximately 16 feet away from the overhead monorail, and the stop logs need to be hand-carried to the existing stop log grooves once they are lowered to the screen channel elevation. Relocating the upstream stop log grooves directly below the path of the overhead crane's monorail will eliminate the double-handling of the stop logs. There is grit accumulation in the screen channel, which needs to be removed.

While operating a cast iron slide gate to isolate a raw sewage pump, it was observed that the gate was cracked in the middle and required immediate replacement. It was determined that the existing gates are underdesigned for current operating head conditions. The remaining five slide gates will be replaced under this project. The existing slide gates are manually operated. Motor operated actuators will be installed for all six slide gates to automatically isolate and protect the dry well area in the event of catastrophic failure in the raw sewage pump and piping.

The six drain valves for the raw sewage pumps are leaking and will be replaced.

Motor control center Nos. 1 and 2 are currently situated adjacent to classified areas. This project includes modifications to the motor control center structure and equipment. A physical separation for each electrical room is provided to comply with the National Fire Protection Association Standard 820.

Personnel located in the control room in the dewatering building have complained of foul odors emanating from the centrifuge area. Existing window air conditioning units will be removed, and an air handling unit will be installed to provide better indoor air quality per the American Society of Heating, Refrigerating, & Air Conditioning Engineers Standard 62, Ventilation for Acceptable Indoor Air Quality.

**Project Status:** This project was awarded on September 4, 2014.

\*Information shown is estimated.

## Central Boiler Facility and Electrical Updates, HPWRP

**Project Number:** 11-531-3M

**Service Area:** North

**Location:** Hanover Park WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$10,000,000

**Contract Award Date:** February 1, 2015\*

**Substantial Completion Date:** March 19, 2018\*



**Project Description:** Provide four hot water boilers, three heat exchangers, hot water circulating pumps, and piping for the digester complex and administrative building. Provide an electrical room in the digester complex and relocate motor control centers into the new electrical room. Also included is the removal of the existing boiler systems in the administrative building and digester complex.

**Project Justification:** National Fire Protection Agency Standard 820 classifies the digester complex as a Class 1, Division 1 space, which requires all equipment within the space to be rated either explosion proof or intrinsically safe. There are five boilers and a number of motor control centers in the digester complex. With the current configuration, achieving the standard is not feasible due to the frequent need for access to the equipment. This equipment should be installed in a physically separated room. The existing two boilers for the administrative building are over 35 years old, require heavy maintenance, and are due for replacement. By combining both building heating loads in a central location, we can reduce the number of boilers to operate and maintain.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## North Shore Intercepting Sewer No. 2 Rehabilitation, NSA

**Project Number:** 12-057-3S

**Service Area:** North and Stickney

**Location:** New Trier & Leyden Townships

**Engineering Consultant:** In-house design

**General Contractor:** SAK Construction, LLC.

**Estimated Construction Cost:** \$4,934,000

**Contract Award Date:** June 5, 2014

**Substantial Completion Date:** August 29, 2015\*



**Project Description:** The rehabilitation of 6,590 feet of 40"x62" egg shaped sewer by the cured-in-place lining method and/or the channel lining process and the rehabilitation of eight manholes by spray-on products. The spot repair of 20 feet of 27-inch diameter sewer and the rehabilitation of 347 feet of 27" sewer pipe.

**Project Justification:** The sewer and manholes were inspected by the Maintenance & Operations Department by closed-circuit television. The video shows infiltration and concrete/metal deterioration. In order to restore the structural and hydraulic integrity of the sewers, they need to be rehabilitated. A blockage was found in the 27" sewer that requires the sewer to be removed and replaced to restore hydraulic integrity.

**Project Status:** This project is under construction.

\*Information shown is estimated.

## McCook Reservoir Des Plaines Inflow Tunnel

**Project Number:** 13-106-4F

**Service Area:** Stickney

**Location:** Mainstream Pumping Station

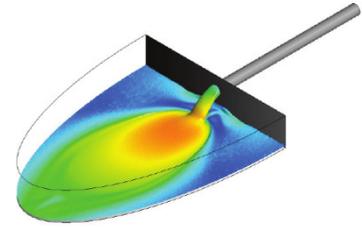
**Engineering Consultant:** Black and Veatch Corporation

**General Contractor:** To be determined

**Estimated Construction Cost:** \$155,000,000

**Contract Award Date:** June 5, 2015\*

**Substantial Completion Date:** December 12, 2018\*



**Project Description:** This project consists of the construction of an approximately 20-foot diameter tunnel that will connect the Des Plaines tunnel directly to the McCook Reservoir.

**Project Justification:** The McCook Reservoir project is an essential part of the District's Tunnel and Reservoir Plan to prevent flooding and pollution from combined sewer overflows (CSO). The tunnel is required to provide adequate conveyance of CSOs from the Des Plaines tunnel to the reservoir. The tunnel will improve upon the conveyance plan formulated by the US Army Corps of Engineers (USACE), which includes unacceptable flow restrictions. As a locally preferred plan, the District will need to reimburse the USACE for the incremental costs of the new tunnel.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Calumet TARP Screens, CWRP

**Project Number:** 13-246-3M

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** Rubinos & Mesia Engineers, Inc.

**General Contractor:** To be determined

**Estimated Construction Cost:** \$9,800,000

**Contract Award Date:** December 18, 2014\*

**Substantial Completion Date:** December 18, 2018\*



**Project Description:** The purpose of this project is to replace the existing bar screens, which are located upstream of the Tunnel and Reservoir Plan (TARP) pumping station, approximately 350 feet below ground with new screens which will be mechanically cleaned. The cleaning mechanism will be rail mounted at ground level and have a gripper, which will travel down the shaft and remove the screenings from the bar screens, returning them to the surface for disposal. The work will be performed in conjunction with Contract 06-212-3M, Calumet TARP Pump Station Improvements.

**Project Justification:** This project will restore dependability of equipment to the Calumet TARP pumping station, which is increasing in importance as the Thornton Reservoir nears completion. Even with the addition of the screen cleaning mechanism, there will be a decrease in maintenance costs for the screens due to the elimination of the manual cleaning operation. However, there will be an increase in energy costs. The mechanism will provide more frequent cleanings and a safer operation, as workers will no longer need to be lowered into the wet shaft via man basket in order to manually clean the screens.

**Project Status:** Project is expected to be awarded in December 2014.

\*Information shown is estimated.

## Nitrogen Removal in Centrate, EWRP

**Project Number:** 13-409-3P

**Service Area:** North

**Location:** Egan WRP

**Engineering Consultant:** Kruger

**General Contractor:** Veolia Water Solutions & Technologies North America, Incorporated (Veolia)

**Estimated Construction Cost:** \$8,524,000

**Contract Award Date:** October 17, 2013

**Substantial Completion Date:** August 31, 2015\*



**Project Description:** Partial nitrification-deammonification of centrate at the Egan WRP using ANITA Mox Moving Bed Biofilm Reactors. The process uses significantly less energy compared to conventional nitrogen removal.

Veolia will supply technical support, equipment, and seeded media at an estimated cost of \$4,420,000 in the Capital Improvements Bond Fund. In addition, structural improvements, reactor tank modifications, installation of equipment, piping, electrical work and process instrumentation will be performed using in-house trades and/or job order contracting (JOC). The estimated cost for JOC work is \$4,104,000 in the Construction Fund. The estimated cost for in-house trades labor and materials is \$320,000 in the Corporate Fund.

**Project Justification:** The Egan WRP treats sludge from the Egan and Kirie WRPs. The centrate from this process is pumped into a gravity sewer, comingled with combined sewage, and treated at the O'Brien WRP roughly 20 miles from the source. This operational strategy is inefficient, causes considerable odors and corrosion in the conduit that conveys the flow, and increases the load on the O'Brien WRP.

**Project Status:** Design of the partial nitrification-deammonification process, including process, mechanical and electrical piping, structural supports and reactor tank modifications is complete. Design of separating the adjacent gravity belt thickener area to de-classify the nitrification-deammonification process area is also complete. Structural improvements and tank modifications by the JOC Contractor have been initiated. The start-up of the system is anticipated in March 2015.

\*Information shown is estimated.

## Safety Railing around Tanks, SWRP

**Project Number:** 14-109-3D

**Service Area:** Stickney

**Location:** Stickney WRP

**Engineering Consultant:** In-house design

**General Contractor:** To be determined

**Estimated Construction Cost:** \$3,000,000

**Contract Award Date:** June 1, 2015\*

**Substantial Completion Date:** December 31, 2015\*



**Project Description:** Install stainless steel guard rails around the existing aeration tanks and preliminary tanks for safety reasons to meet OSHA regulations. In addition, the concrete will be repaired as required to anchor the railings around the tanks.

**Project Justification:** The guard rails were never installed around some of these tanks and are required for worker safety.

**Project Status:** This project is being designed.

\*Information shown is estimated.

## Digester Gas Utilization Facilities, CWRP

**Project Number:** 14-250-3P

**Service Area:** Calumet

**Location:** Calumet WRP

**Engineering Consultant:** To be determined

**General Contractor:** To be determined

**Estimated Construction Cost:** \$13,000,000

**Contract Award Date:** August 9, 2015\*

**Substantial Completion Date:** January 30, 2017\*



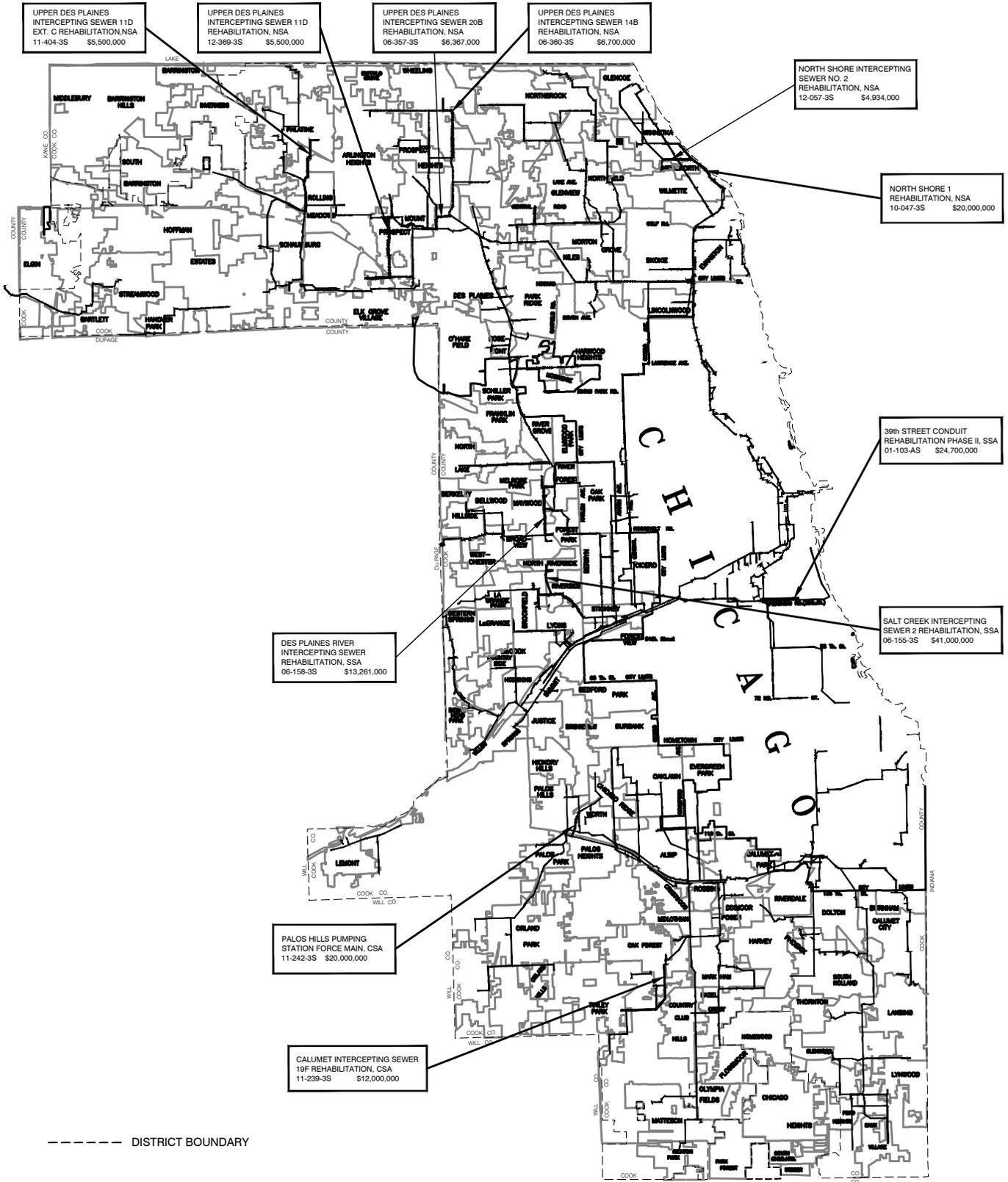
**Project Description:** Cleaning of digester gas from the plant's anaerobic digesters to produce pipeline-quality natural gas. The project consists of connecting to the plant's digester gas collection piping system, installing a pressure swing absorption gas cleaning system in the vicinity of the anaerobic digester complex, installing gas compressors and a gas pipeline, and connecting to Nicor's natural gas pipeline located near 138th Street, south of the CWRP. The contractor will also provide a seven-year off-take agreement and commitment to purchase the cleaned digester gas from the District.

**Project Justification:** This project is a step toward achieving the District's goal of becoming energy neutral. By cleaning the digester gas produced in the anaerobic digesters from treated sludge and from off-site organic waste feedstock, the resulting "biomethane" can be sold to the natural gas pipeline, where it will be used for vehicle fuel. The project will reduce greenhouse gas emissions by an estimated 9,000 metric tons of carbon dioxide equivalent per year.

**Project Status:** The design contract is expected to be awarded in 2014. The construction contract is expected to be awarded in August 2015.

\*Information shown is estimated.

# SEWER DESIGN PROJECT MAP 2015





LOCATION MAP

**LEGEND:**

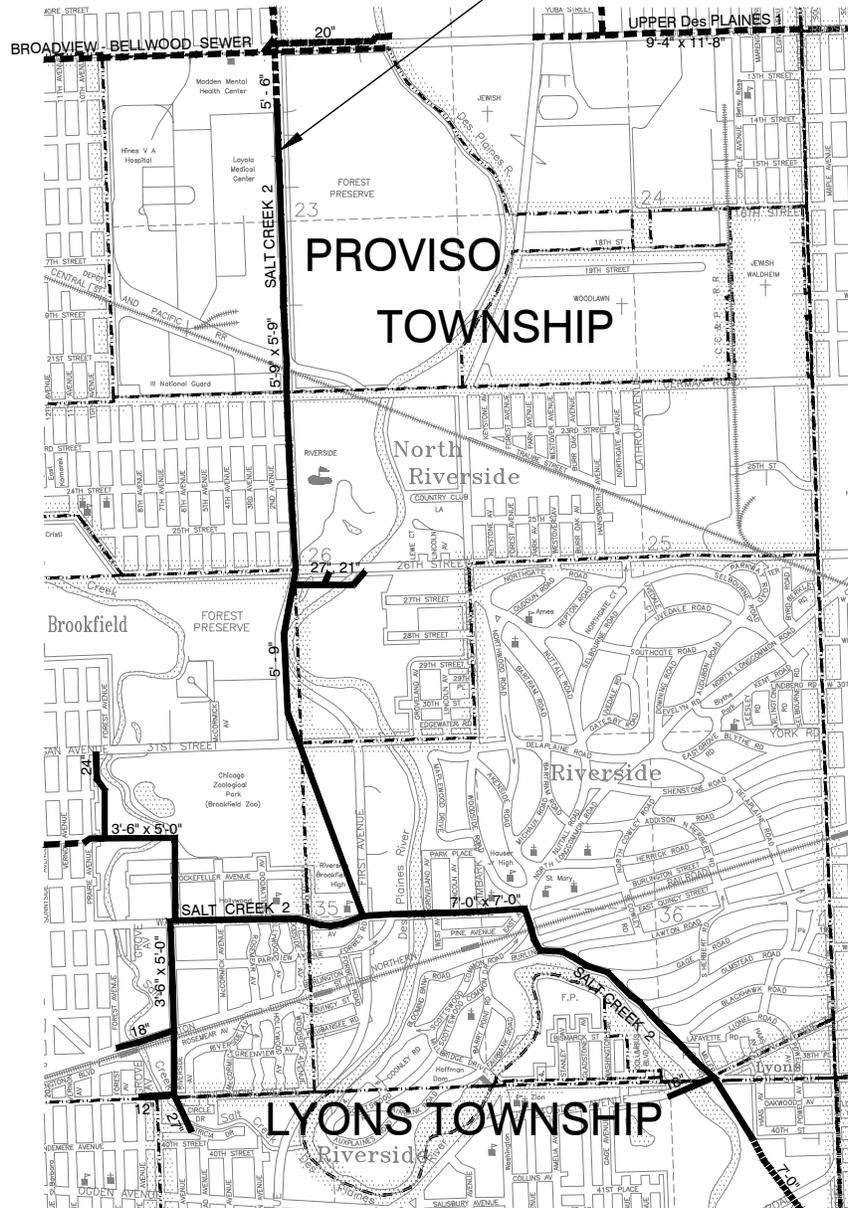
-  = EXISTING SEWERS
-  = SEWER TO BE REHABILITATED

39th STREET CONDUIT REHABILITATION -  
 PHASE II, SSA  
 REHABILITATE CONDUIT FROM LAKE  
 SHORE DRIVE TO THE RACINE AVENUE  
 PUMPING STATION  
 COST: \$24,700,000

# 39th STREET CONDUIT REHABILITATION - PHASE II, SSA CONTRACT 01-103-AS



SALT CREEK INTERCEPTING SEWER 2 REHABILITATION, SSA  
 300 FEET OF 12-INCH DIAMETER SEWER  
 1,324 FEET OF 18-INCH DIAMETER SEWER  
 292 FEET OF 20-INCH DIAMETER SEWER  
 278 FEET OF 21-INCH DIAMETER SEWER  
 1,370 FEET OF 24-INCH DIAMETER SEWER  
 1,412 FEET OF 27-INCH DIAMETER SEWER  
 7,857 FEET OF 3'-6"x5'-0" SEMIELLIPTICAL SEWER  
 12,509 FEET OF 5'-9"x5'-9" SEMIELLIPTICAL SEWER  
 73 MANHOLES  
 CONTROL STRUCTURE MODIFICATION  
 COST: \$41,000,000



**LEGEND:**  
 - - - - - = EXISTING SEWER  
 ————— = SEWER TO BE REHABILITATED

LOCATION MAP

SALT CREEK INTERCEPTING SEWER 2 REHABILITATION, SSA  
 CONTRACT 06-155-3S



DES PLAINES RIVER INTERCEPTING SEWER  
 REHABILITATION, SSA  
 18,000-FOOT LONG SEWER VARYING IN SIZE  
 FROM 20-INCH DIAMETER TO 8'x4'-6"  
 SEMIELLIPTICAL SEWER  
 COST: \$13,261,000



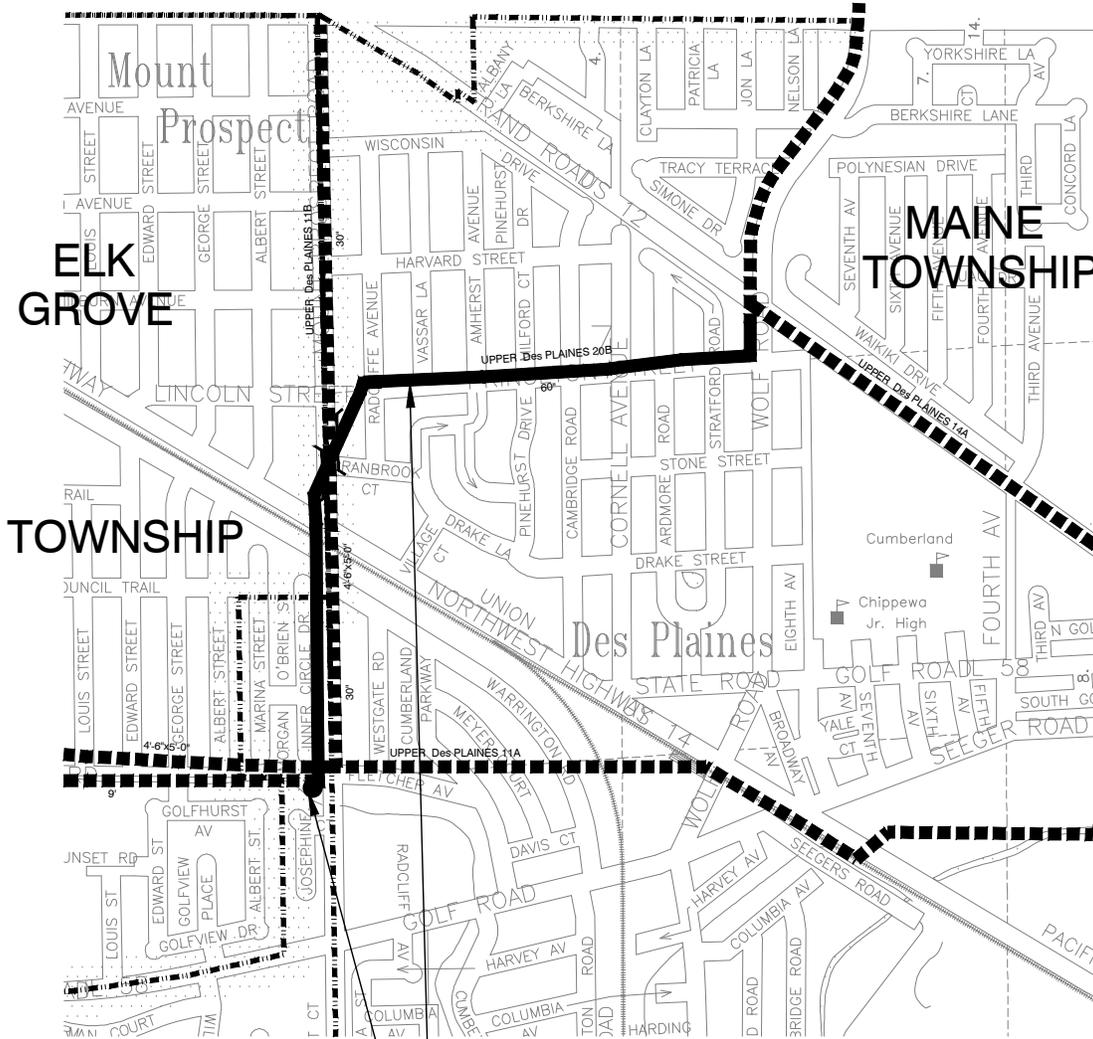
**TOWNSHIP**

**LOCATION MAP**

**LEGEND:**

- = EXISTING SEWER
- = SEWER TO BE REHABILITATED

**DES PLAINES RIVER INTERCEPTING SEWER  
 REHABILITATION, SSA  
 CONTRACT 06-158-3S**



LOCATION MAP

UPPER DES PLAINES INTERCEPTING SEWER 20B  
 REHABILITATION, NSA  
 5,955 FEET OF 60-INCH DIAMETER SEWER,  
 10 MANHOLES  
 AIR SEPARATION CHAMBER OF UPPER DES  
 PLAINES DROPSHAFT 5  
 COST: \$6,367,000

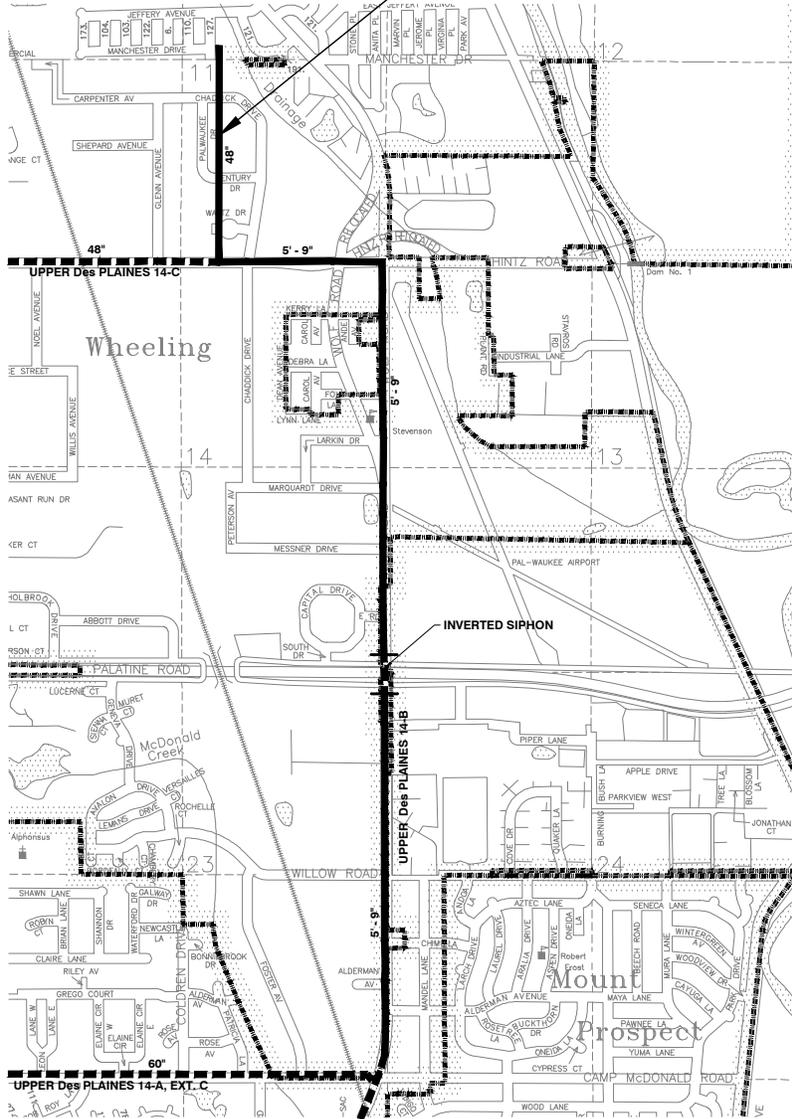
LEGEND:

- = SEWER TO BE REHABILITATED
- = EXISTING SEWER

# UPPER DES PLAINES INTERCEPTING SEWER 20B REHABILITATION, NSA CONTRACT 06-357-3S



UPPER DES PLAINES INTERCEPTING SEWER 14B  
 REHABILITATION, NSA  
 3,000 FEET OF 48-INCH SEWER  
 11,000 FEET OF 69-INCH SEWER  
 26 MANHOLES/STRUCTURES  
 1 NEW MANHOLE  
 COST: \$6,700,000

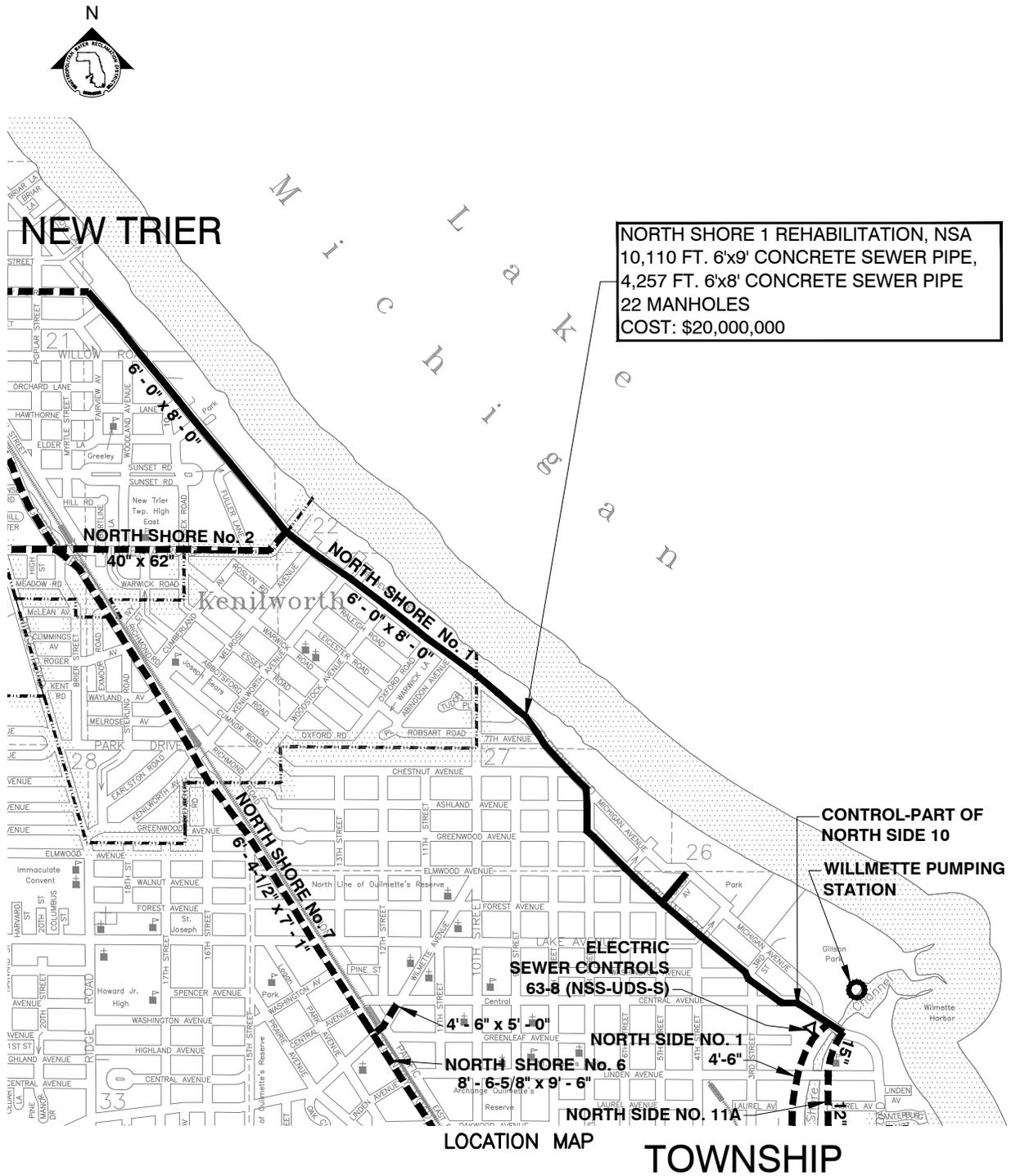


LOCATION MAP

**LEGEND:**

- = EXISTING SEWER
- = SEWER TO BE REHABILITATED

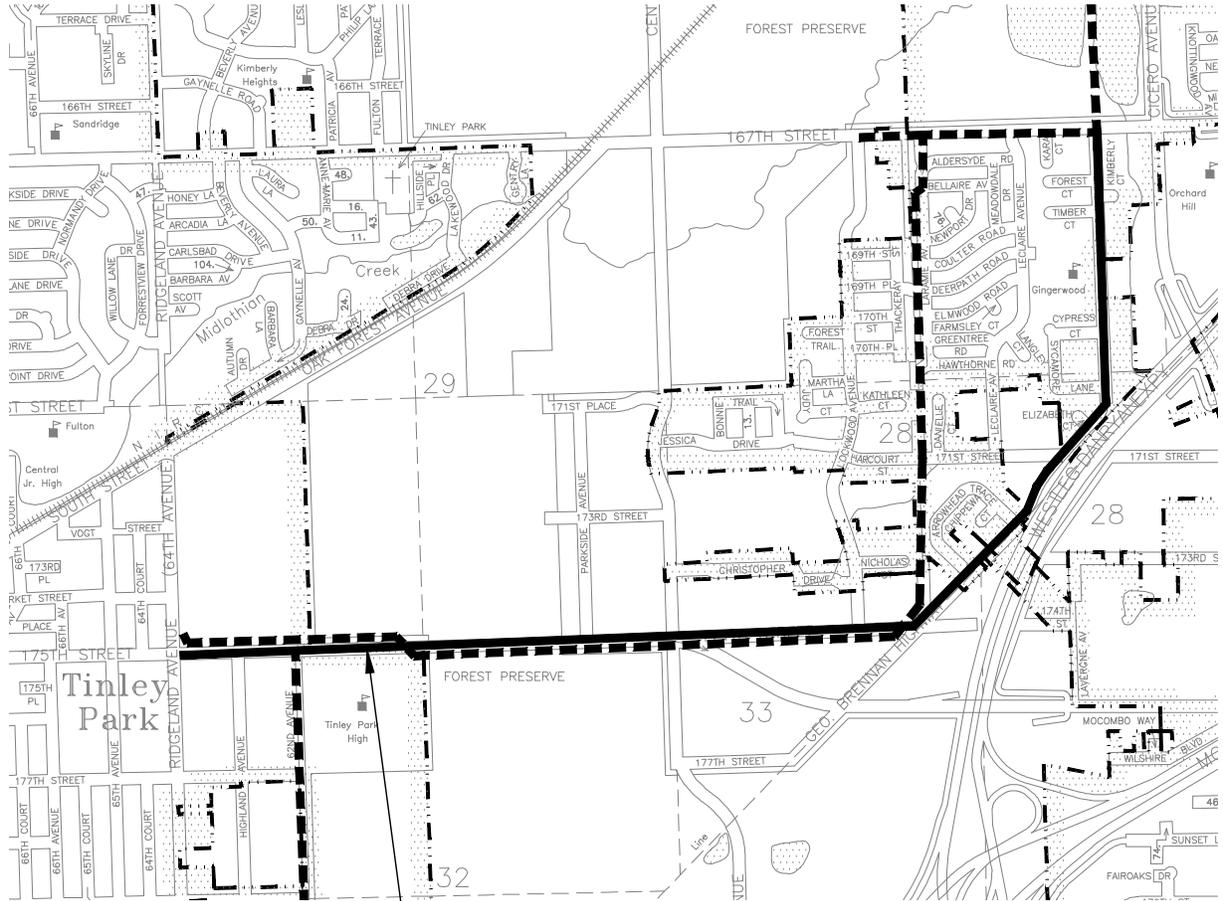
# UPPER DES PLAINES INTERCEPTING SEWER 14B REHABILITATION, NSA CONTRACT 06-360-3S



**LEGEND:**

- = EXISTING SEWER
- = SEWER TO BE REHABILITATED

**NORTH SHORE 1 REHABILITATION, NSA  
CONTRACT 10-047-3S**



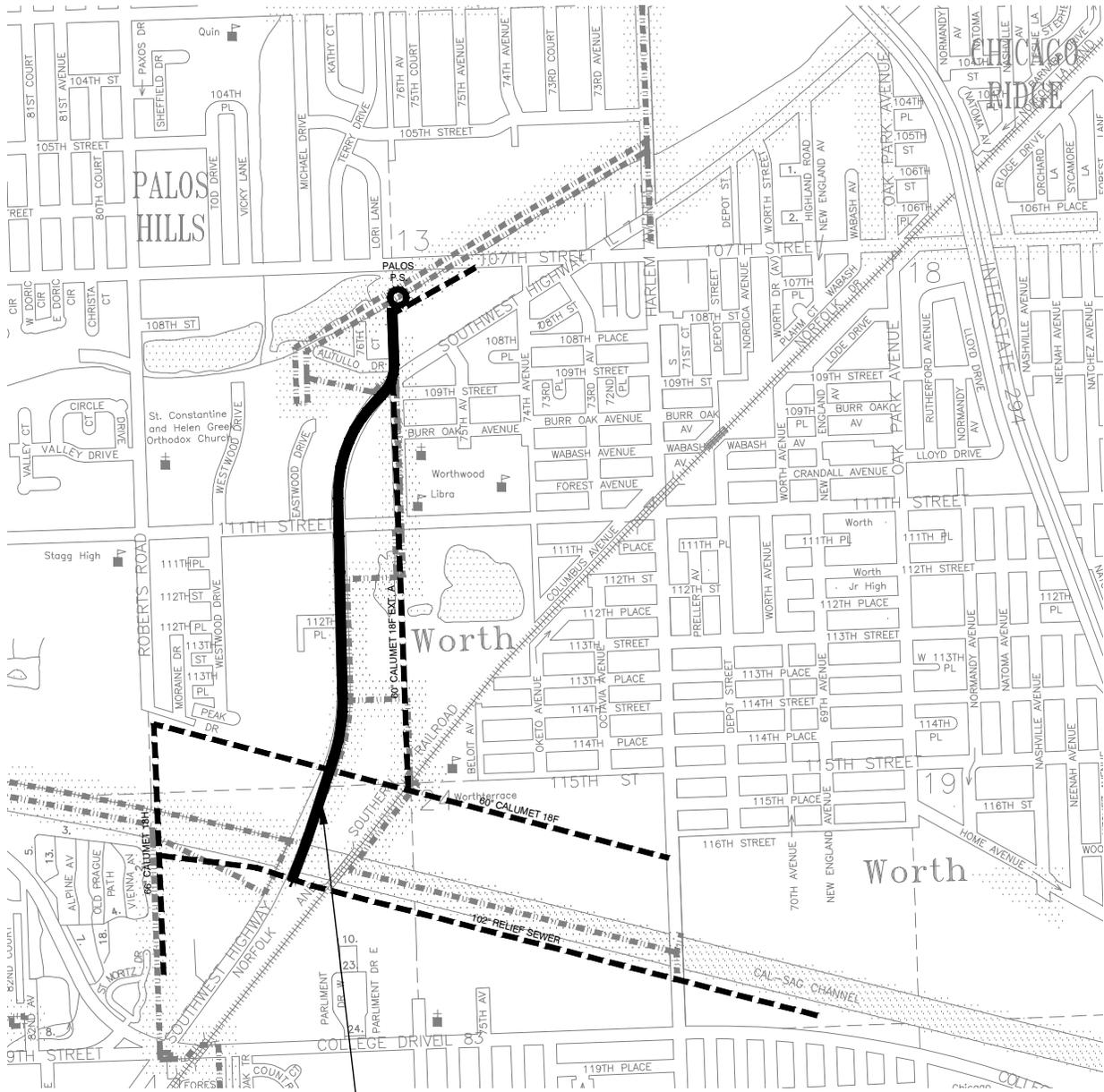
LOCATION MAP

CALUMET INTERCEPTING SEWER 19F  
 REHABILITATION, CSA  
 10,432 FEET OF 60-INCH DIAMETER  
 SEWER  
 23 MANHOLES AND 1 JUNCTION  
 STRUCTURE  
 COST: \$12,000,000

**LEGEND:**

- = EXISTING SEWER
- = SEWER TO BE REHABILITATED

# CALUMET INTERCEPTING SEWER 19F REHABILITATION, CSA CONTRACT 11-239-3S



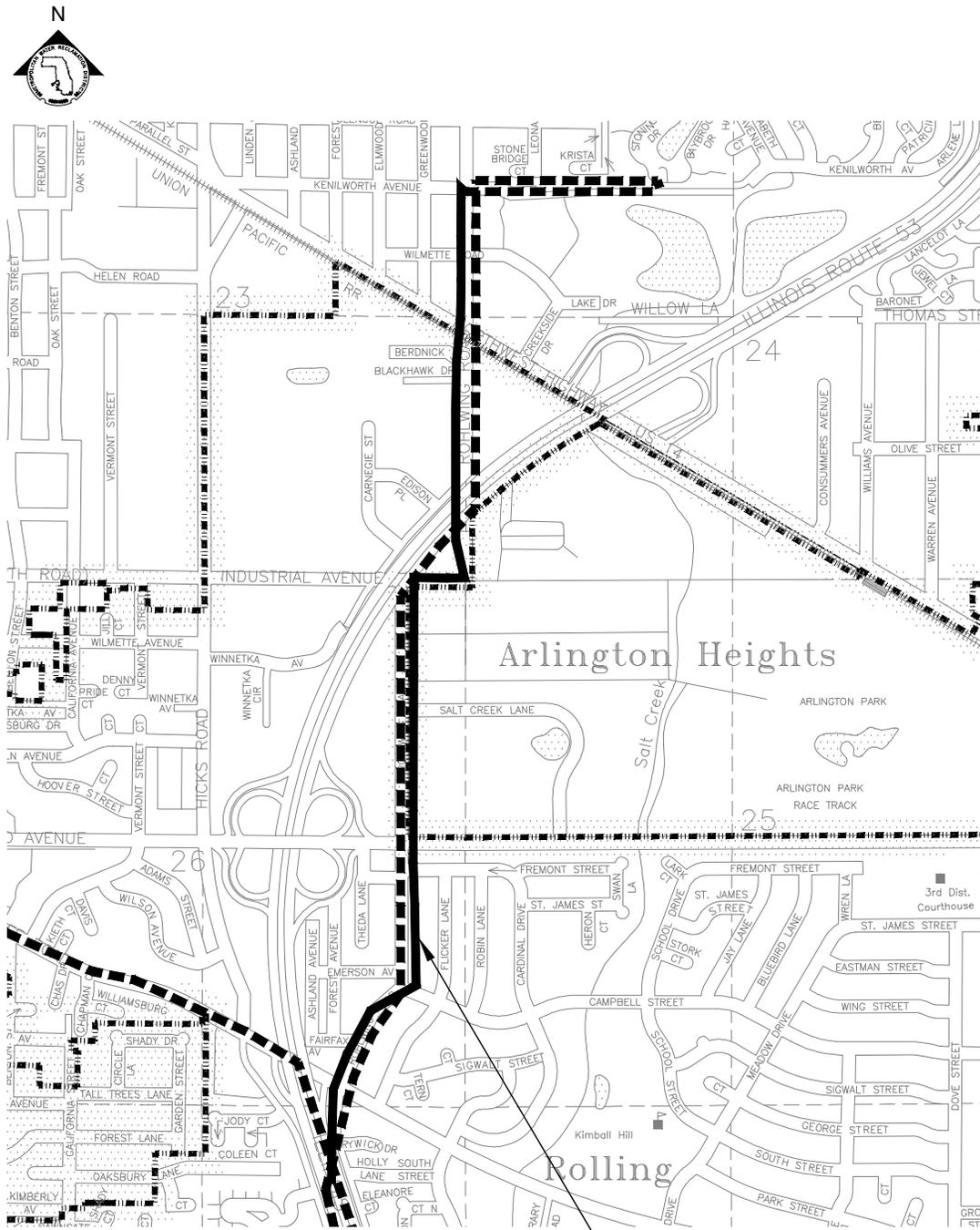
LOCATION MAP

PALOS HILLS PUMPING STATION FORCE MAIN, CSA  
6,500 FEET OF 24-INCH DIAMETER FORCE MAIN  
COST: \$20,000,000

**LEGEND:**

-  = SEWER TO BE REHABILITATED
-  = EXISTING SEWERS

# PALOS HILLS PUMPING STATION FORCE MAIN, CSA CONTRACT 11-242-3S

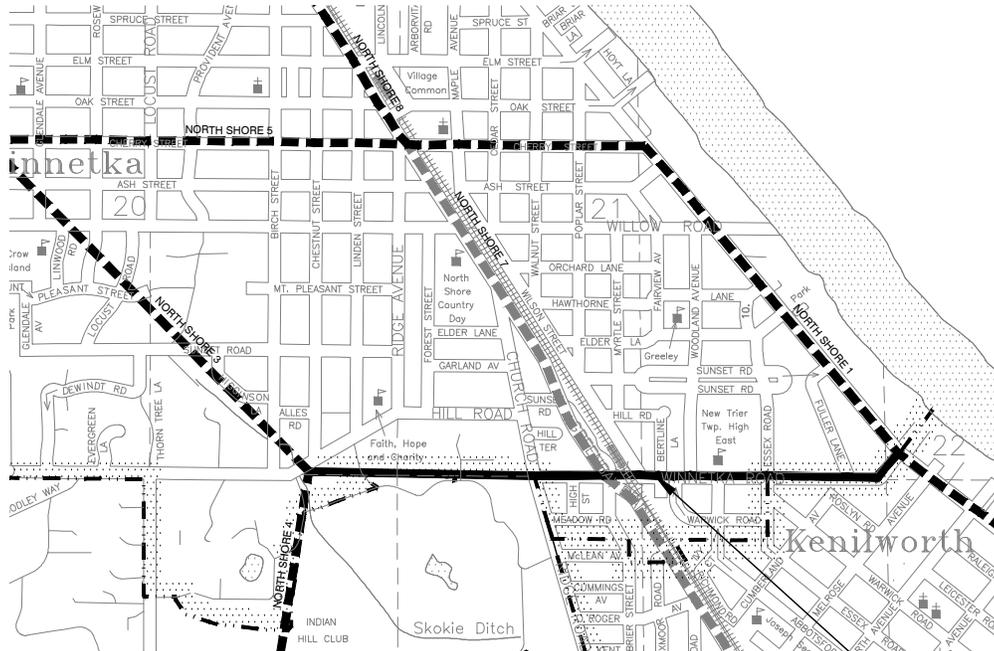


LOCATION MAP

UPPER DES PLAINES INTERCEPTING  
SEWER 11D EXT. C REHABILITATION, NSA  
10,828 FEET OF 36-INCH DIAMETER SEWER  
24 MANHOLES AND 1 JUNCTION  
STRUCTURE  
COST: \$5,500,000

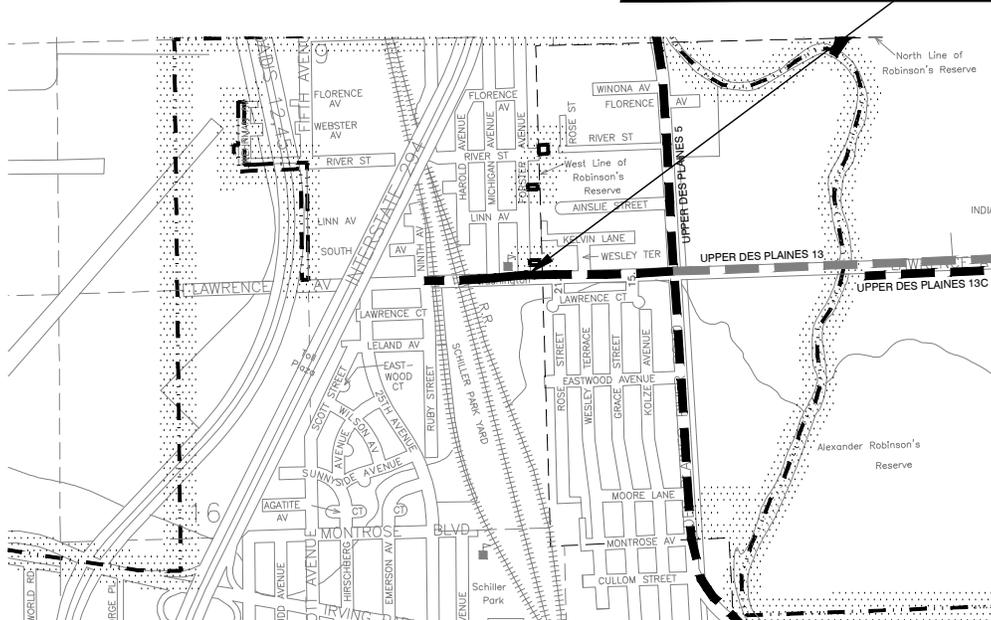
- LEGEND:**
- = EXISTING SEWER
  - = SEWER TO BE REHABILITATED

# UPPER DES PLAINES INTERCEPTING SEWER 11D EXT. C REHABILITATION, NSA CONTRACT 11-404-3S



LOCATION MAP

**NORTH SHORE INTERCEPTING SEWER NO. 2 REHABILITATION, NSA**  
 6,590 FEET OF 40"x60" EGG SHAPED SEWER  
 8 MANHOLES  
**UPPER DES PLAINES INTERCEPTING SEWER 13B SPOT REPAIR**  
 20 FEET OF 27-INCH SEWER  
 347 FEET OF 27-INCH SEWER  
 2 MANHOLES  
**COST: \$4,934,000**



LOCATION MAP

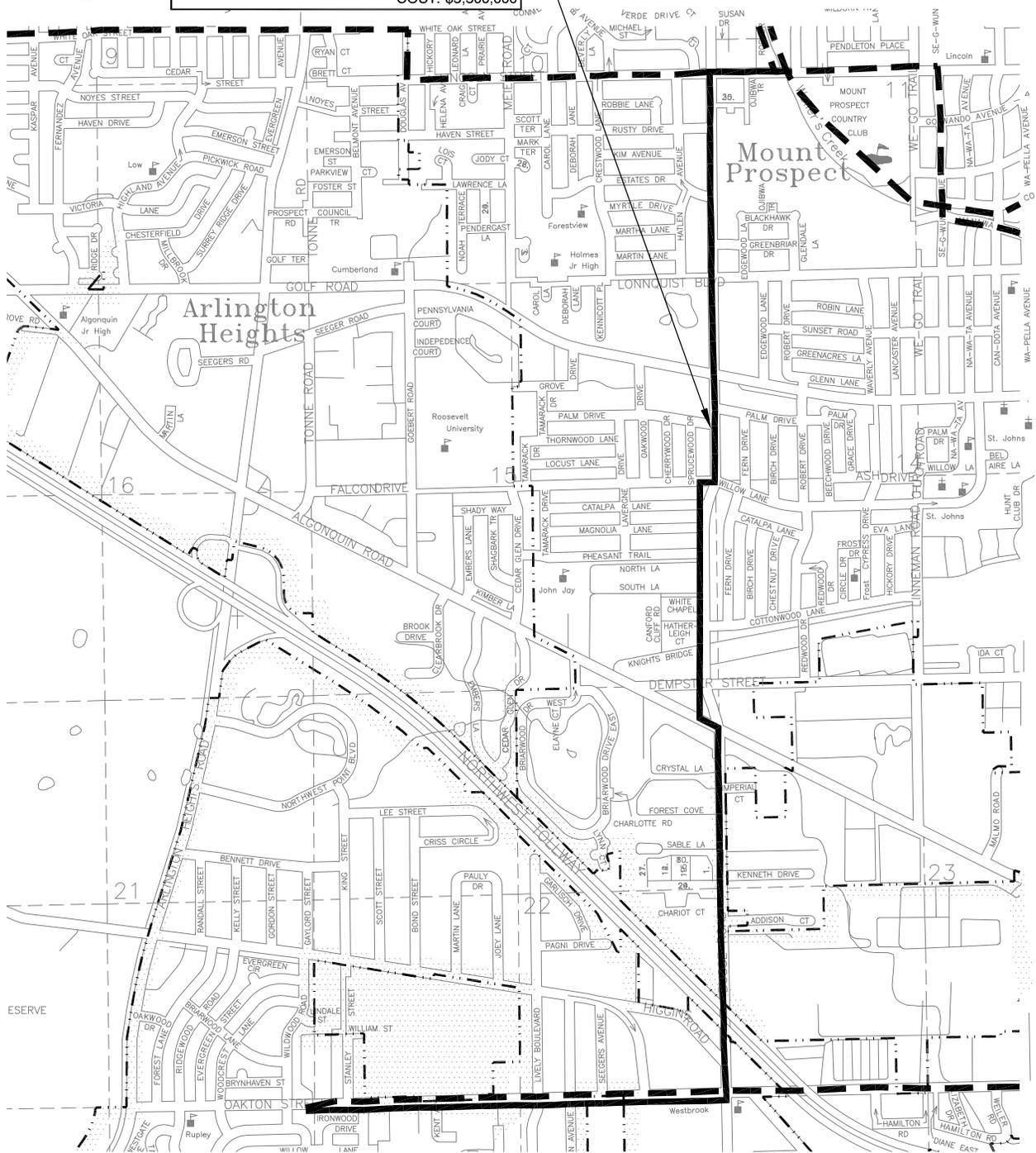
**LEGEND:**

- - - - - = EXISTING SEWERS
- = SEWER TO BE REHABILITATED

**NORTH SHORE INTERCEPTING SEWER NO. 2  
 REHABILITATION, NSA  
 CONTRACT 12-057-3S**



UPPER DES PLAINES INTERCEPTING SEWER 11D  
 REHABILITATION, NSA  
 11,317 FEET OF 36-INCH SEWER  
 1,089 FEET OF 54-INCH SEWER  
 36 MANHOLES  
 COST: \$5,500,000



LOCATION MAP

**LEGEND:**

- = MWRD SEWER TO BE REHABILITATED
- - - - -** = MWRD SEWER NOT TO BE REHABILITATED

**UPPER DES PLAINES INTERCEPTING SEWER 11D  
 REHABILITATION NSA, CONTRACT 12-369-3S**

## Stormwater Management Capital Improvements Bond Fund Program

<b>Awards in 2015</b>		Project	Est. Constr- uction Cost	Dura- tion (days)	Prof. Svc.	Land Cost	Est. Award Date
#	Project Name	Number					
1	Flood Control Project for Upper Salt Creek	10-884-AF	\$ 1,097	370	\$ -	\$ -	Jan-15
2	Streambank Stabilization Project on Oak Lawn Creek	10-237-3F	4,100	365	-	-	Jan-15
3	Streambank Stabilization Project on Melvina Ditch	13-248-3F	8,000	425	-	-	Feb-15
4	Streambank Stabilization Project along Calumet Union Drainage Ditch	10-882-BF	1,839	370	-	-	Feb-15
5	Streambank Stabilization Project along Midlothian Creek	10-882-CJ	307	370	-	-	Feb-15
6 *	Streambank Stabilization Projects for Addison Creek	14-108-3F	450	366	-	-	Mar-15
7	Streambank Stabilization Project on Tinley Creek in Orland Park, IL	10-882-AF	3,806	370	-	-	Apr-15
8	Flood Control Project on the East Branch of Cherry Creek in Flossmoor, IL	10-883-CF	3,410	370	-	-	Apr-15
9	Streambank Stabilization Projects for the Middle Fork and West Fork of the North Branch of the Chicago River	11-052-3F	2,496	541	-	-	Apr-15
10	Flood Control Project at Arrowhead Lake in the City of Palos Heights, IL	10-883-BF	509	370	-	-	May-15
11	Flood Control Project for Deer Creek	10-884-BF	3,440	370	-	-	May-15
12	Flood Control Project on Farmers and Prairie Creeks	12-056-3F	14,595	670	-	-	Jun-15
13	Flood Control Project on the Des Plaines River in Lyons	13-199-3F	9,800	365	-	-	Nov-15
Total 2015 Awards			\$ 53,849		\$ -	\$ -	

<b>Projects Under Development</b>		Project	Est. Constr- uction Cost	Dura- tion (days)	Prof. Svc.	Land Cost	Est. Award Date
#	Project Name	Number					
14	Buffalo Creek Reservoir Expansion	13-370-3F	\$ 15,000	548	\$ -	\$ -	Jan-16
15	Flood Control Project for the West Fork of the North Branch of the Chicago River	12-055-3F	25,000	730	-	-	Jun-16
16	Addison Creek Reservoir	11-186-3F	104,327	1,825	-	-	Apr-17
17	Addison Creek Channel Improvements	11-187-3F	29,595	730	-	-	Jan-19
Total Future Awards			\$ 173,922		\$ -	\$ -	
Cumulative 2015 and Future Awards			\$ 227,771		\$ -	\$ -	

\*This project is funded by the Capital Improvements Bond Fund and the Stormwater Management Fund. Refer to Section VI Stormwater Management Fund for more information about the Stormwater Management Capital Improvement Program.

**Note: All cost figures are in thousands of dollars; inflation factor is 0 percent.**

<u>Method of Financing</u>		
State		
Revolving		
Fund	Alternate	
<u>Loans</u>	<u>Bonds</u>	<u>Total</u>
\$ 154,613	\$ 73,158	\$ 227,771

# Stormwater Management Capital Improvements Bond Fund Program

## Operating Impacts

#	Project Name	Project Number	Justification				Impact		
			Capacity Needs	Useful Life	Economic Benefit	Safety/Regulatory	Manpower	Energy	Chemical
<b>Awards in 2015</b>									
1	Flood Control Project for Upper Salt Creek	10-884-AF				x	=	=	=
2	Streambank Stabilization Project on Oak Lawn Creek	10-237-3F				x	=	=	=
3	Streambank Stabilization Project on Melvina Ditch	13-248-3F				x	=	=	=
4	Streambank Stabilization Project along Calumet Union Drainage Ditch	10-882-BF				x	=	=	=
5	Streambank Stabilization Project along Midlothian Creek	10-882-CJ				x	=	=	=
6	Streambank Stabilization Projects for Addison Creek	14-108-3F				x	=	=	=
7	Streambank Stabilization Project on Tinley Creek in Orland Park, IL	10-882-AF				x	=	=	=
8	Flood Control Project on the East Branch of Cherry Creek in Flossmoor, IL	10-883-CF				x	=	=	=
9	Streambank Stabilization Projects for the Middle Fork and West Fork of the North Branch of the Chicago River	11-052-3F				x	=	=	=
10	Flood Control Project at Arrowhead Lake in the City of Palos Heights, IL	10-883-BF				x	=	=	=
11	Flood Control Project for Deer Creek	10-884-BF				x	=	=	=
12	Flood Control Project on Farmers and Prairie Creeks	12-056-3F				x	=	=	=
13	Flood Control Project on the Des Plaines River in Lyons	13-199-3F				x	=	=	=
<b>Projects Under Development</b>									
14	Buffalo Creek Reservoir Expansion	13-370-3F				x	=	=	=
15	Flood Control Project for the West Fork of the North Branch of the Chicago River	12-055-3F				x	=	=	=
16	Addison Creek Reservoir	11-186-3F				x	=	=	=
17	Addison Creek Channel Improvements	11-187-3F				x	=	=	=

LEGEND	
Under " <b>Justification</b> ", the marked columns note the categories of benefits expected from each project.	
+ or - Labor savings (+) or increases (-) expected to result in redirecting existing manpower away from or toward facility or process to other tasks with no net change in total position costs.	<b>Manpower</b> ++ or -- Labor impact significant enough to ultimately result in reduction (++) or increase (--) in personnel. See additional cost details contained in the Project Fact Sheets.
+ or - Minor energy savings (+) or costs (-) having a negligible impact on the District's overall energy budget.	<b>Energy</b> ++ or -- Major energy savings (++) or costs (--) expected to result in significant revisions to a facility's energy budget. See additional cost details contained in the Project Fact Sheets.
+ or - Chemical savings (+) or costs (-) having a negligible impact on the District's overall chemical costs.	<b>Chemical</b> ++ or -- Major chemical savings (++) or costs (--) expected to result in significant revisions to the budgeted chemical expenditures for the associated process. See additional cost details contained in the Project Fact Sheets.
= No budgetary impact expected.	

**50000 CAPITAL IMPROVEMENTS BOND FUND**

**OBJECTIVES AND PROGRAM SUMMARY**

OBJECTIVES BY PRIORITY:	Cost	Percent
1. TREATMENT FACILITIES: Award six construction projects: Digester Gas Utilization Facilities, CWRP, Central Boiler Facility and Electrical Updates, and four other projects that will reduce operation and maintenance costs or provide facility improvements.	\$ 83,500,000	17.0%
2. COLLECTION FACILITIES: Award two construction projects: Salt Creek Intercepting Sewer 2 Rehabilitation, SSA and one other project that will reduce operation costs or provide facility improvements.	\$ 53,000,000	10.8%
3. SOLIDS PROCESSING AND DISPOSAL FACILITIES: Award three construction projects: Organic Waste Receiving and Processing Facility, CWRP and two other projects.	\$ 46,000,000	9.4%
4. FLOOD AND POLLUTION CONTROL: Award 15 construction projects: McCook Reservoir Des Plaines Inflow Tunnel, Streambank Stabilization on Melvina Ditch, and 13 other projects.	\$ 213,349,000	43.5%
5. LAND AND RIGHT-OF-WAY ACQUISITION COSTS: Acquisition of land for the expansion of reservoir projects. Payments for land easements.	\$ 10,550,000	2.2%
6. PROJECT SUPPORT: Administration, design, and construction inspection for current and future contracts, funding support, and construction services such as concrete and soil testing.	\$ 83,797,900	17.1%
<b>Total</b>	<b>\$ 490,196,900</b>	<b>100.0%</b>

MEASURABLE GOALS:	2013 Actual	2014 Estimated	2015 Proposed
1. Awarding Contracts for the continued implementation of the District's Capital Improvement Program.			
Number of projects proposed	16	29	26
Number of contracts awarded	11	9	26
Plans available for award	11	9	26

The projects proposed for each year are based upon the requirements dictated by the Capital Improvement Program. The number of actual projects awarded may not, on face value, quantify performance. There are several factors that could either increase or decrease the number of projects awarded. Some of these factors are project size, project complexity, and unforeseen obstacles. These numbers are provided only as a general indicator of performance.

**50000 CAPITAL IMPROVEMENTS BOND FUND**

**OBJECTIVES AND PROGRAM SUMMARY**

PROGRAMS BY PRIORITY:		2013 Actuals	Budgeted		Change		
Number	Name		FTEs	Dollars	Dollars	Percent	
1700	Collection Design	\$ 1,103,436	2015	- \$ -	\$ -	-	
			2014	- \$ -	\$ -	-	
1800	Collection Construction	\$ 10,593,692	2015	- \$ 59,150,000	\$ (22,050,000)	(27.2)	a)
			2014	- \$ 81,200,000			
2700	Treatment Design	\$ 7,074,080	2015	- \$ 2,483,600	\$ 400,000	19.2	b)
			2014	- \$ 2,083,600			
2800	Treatment Construction	\$ 47,299,016	2015	- \$ 104,775,000	\$ (64,170,000)	(38.0)	c)
			2014	- \$ 168,945,000			
3700	Solids Processing Design	\$ 4,866	2015	- \$ -	\$ -	-	
			2014	- \$ -	\$ -	-	
3800	Solids Processing Construction	\$ 15,945,652	2015	- \$ 48,500,000	\$ 24,381,000	101.1	d)
			2014	- \$ 24,119,000			
4300	Stormwater Management	\$ -	2015	- \$ 83,026,600	\$ 25,069,300	43.3	e)
			2014	- \$ 57,957,300			
4700	Flood & Pollution Control Design	\$ 2,206,462	2015	- \$ 2,250,000	\$ -	-	
			2014	- \$ 2,250,000			
4800	Flood & Pollution Control Construction	\$ 70,906,200	2015	- \$ 189,661,700	\$ 140,358,300	284.7	f)
			2014	- \$ 49,303,400			
5800	Solids Disposal Construction	\$ 4,393,515	2015	- \$ 100,000	\$ -	-	
			2014	- \$ 100,000			
7740	Land and Easements	\$ 31,851	2015	- \$ 250,000	\$ -	-	
			2014	- \$ 250,000			
Totals		\$ 159,558,770	2015	- \$ 490,196,900	\$ 103,988,600	26.9%	
			2014	- \$ 386,208,300			

- a) Decrease is due to the 2014 award of Contracts 06-158-3S, Des Plaines River Intercepting Sewer Rehabilitation, SSA (\$11,445,000) and 12-057-3S, North Shore Intercepting Sewer No. 2 Rehabilitation, North Service Area (\$5,880,000) and the rescheduling of Contract 10-047-3S, North Shore 1 Rehabilitation (\$21,000,000), offset by the anticipated 2015 award of Contracts 06-155-3S, Salt Creek Intercepting Sewer 2 Rehabilitation, SSA (\$3,675,000) and 11-239-3S, Calumet Intercepting Sewer 19F Rehabilitation, CSA (\$12,600,000).
- b) Increase is due to the expected 2015 award of Contract 09-875-3D, Civil, Structural, and Architectural Support Services (\$2,400,000), offset by the cancellation of Contract 09-044-3P, Aeration Blower and Raw Sewage Pump, NSWRP (\$2,000,000) in 2014.
- c) Decrease is due to 2014 contract awards, including 04-128-3P, West Side Primary Settling Tanks 1-9 and Aerated Grit Facility, SWRP and 11-405-3M Coarse Screens and Raw Sewage Pump Slide Gates Replacement, EWRP (\$100,065,000), and decreased requests for legal services (\$250,000) and asbestos removal (\$80,000), offset by 2015 contract awards, including 09-182-3E, D799 Switchgear Replacement, SWRP and 11-189-3P, Digester Gas Utilization Facilities, SWRP (\$36,225,000).
- d) Increase is due to the expected 2015 award of Contracts 11-240-3P, Organic Waste Receiving and Processing Facility, CWRP (\$28,350,000) and 14-250-3P, Digester Gas Utilization Facilities, SWRP, (\$13,650,000), offset by the 2014 award of various agreements relating to Contract 11-195-3P, Phosphorus Recovery System, SWRP, (\$17,010,000).
- e) Increase is due to the flood mitigation construction projects budgeted for award in 2014 (\$45,457,300) being less than contracts budgeted for award in 2015 (\$64,526,600), and increased 2015 requests for design and post-award consulting and land acquisition (\$6,000,000).
- f) Increase is due to the addition of construction Contract 13-106-4F, McCook Reservoir Des Plaines Inflow Tunnel.

401 50000	Fund: Capital Improvements Bond Department: Engineering Division:	LINE ITEM ANALYSIS						
		2013	2014				2015	
Account Number	Account Name	Expenditure	Original * Appropriation	Adjusted ** Appropriation 09/30/14	Expenditure (Committed Budget plus Disbursement) 09/30/14	Estimated Expenditure 12/31/14	Proposed by Executive Director	Recommended by Committee on Budget and Employment
601170	Payments for Professional Services	\$ 137,640	\$ 1,100,000	\$ 1,636,339	\$ 756,573	\$ 582,000	\$ 950,000	\$ -
601410	Personal Services Exp for Prelim Engineering Rpts & Studies	637,466	250,000	503,077	353,077	253,100	250,000	-
601420	Personal Services Exp for Constr Drawings, Specs, & Cost Est	9,098,844	7,000,000	25,372,053	20,929,677	9,588,000	10,900,000	-
601440	Personal Svcs for Post-Award Engr for Construction Projects	4,061,945	2,900,000	32,783,739	31,333,530	5,527,600	2,000,000	-
100	TOTAL PERSONAL SERVICES	13,935,896	11,250,000	60,295,209	53,372,858	15,950,700	14,100,000	-
612090	Reprographic Services	-	40,000	64,000	34,000	1,000	10,000	-
612240	Testing and Inspection Services	74,463	500,000	1,075,017	875,017	60,000	-	-
612250	Court Reporting Services	5,133	25,000	25,001	25,000	5,000	5,000	-
612380	Soil and Rock Mechanics Investigation	17,463	-	681,090	681,090	200,000	-	-
612490	Contractual Services, N.O.C.	7,564	83,600	83,600	-	60,000	83,600	-
612780	Safety Repairs and Services	-	180,000	180,000	-	100,000	100,000	-
200	TOTAL CONTRACTUAL SERVICES	104,624	828,600	2,108,707	1,615,106	426,000	198,600	-
634620	Equipment for Waterway Facilities	-	-	-	-	-	422,700	-
400	TOTAL MACHINERY AND EQUIPMENT	-	-	-	-	-	422,700	-
645600	Collection Facilities Structures	31,980,030	11,500,000	111,444,634	111,113,407	42,434,600	1,000,000	-
645620	Waterway Facilities Structures	23,071,965	49,732,700	131,762,784	123,024,907	46,500,000	42,493,600	-
645630	Army Corps of Engineers Services	12,375,000	20,000,000	10,000,000	3,785,000	3,785,000	176,199,000	-
645650	Process Facilities Structures	46,867,881	163,305,000	383,765,073	369,474,478	62,382,000	136,530,000	-
645680	Buildings	1,068,811	730,000	1,199,900	1,188,806	112,500	100,000	-
645690	Capital Projects, N.O.C.	40,000	8,150,000	3,643,157	1,114,013	2,000,000	8,750,000	-
645700	Preservation of Collection Facility Structures	10,296,857	85,450,000	27,496,693	27,120,395	11,119,000	62,875,000	-
645720	Preservation of Waterway Facility Structures	814,469	-	3,584,885	3,151,319	2,926,000	22,033,000	-
645750	Preservation of Process Facility Structures	13,951,264	19,720,000	27,815,570	27,623,316	16,967,000	13,945,000	-
645780	Preservation of Buildings	367,459	6,670,000	10,057,782	10,057,700	-	1,000,000	-
500	TOTAL CAPITAL PROJECTS	140,833,736	365,257,700	710,770,478	677,653,342	188,226,100	464,925,600	-
656010	Land	263,000	7,300,000	7,300,000	203,000	1,000,000	10,300,000	-
600	TOTAL LAND	263,000	7,300,000	7,300,000	203,000	1,000,000	10,300,000	-

401 50000	Fund: Capital Improvements Bond Department: Engineering Division:	LINE ITEM ANALYSIS						
		2013	2014				2015	
Account Number	Account Name	Expenditure	Original * Appropriation	Adjusted ** Appropriation 09/30/14	Expenditure (Committed Budget plus Disbursement) 09/30/14	Estimated Expenditure 12/31/14	Proposed by Executive Director	Recommended by Committee on Budget and Employment
667340	Payments for Easements	31,750	250,000	250,000	1,800	250,000	250,000	-
727102	Principal Expense - Capital Lease	2,042,176	-	49,415,614	49,415,614	2,142,200	-	-
727112	Interest Expense - Capital Lease	2,347,588	-	20,727,418	20,727,418	2,247,600	-	-
767300	Bond Issuance Costs	-	1,322,000	1,322,000	-	1,322,000	-	-
700	TOTAL FIXED AND OTHER CHARGES	4,421,515	1,572,000	71,715,032	70,144,832	5,961,800	250,000	-
<b>TOTAL CAPITAL IMPROVEMENTS BOND</b>		<b>\$159,558,770</b>	<b>\$386,208,300</b>	<b>\$852,189,426</b>	<b>\$802,989,138</b>	<b>\$211,564,600</b>	<b>\$490,196,900</b>	<b>\$ -</b>

\* The Capital Improvements Bond Fund is budgeted and accounted for on an obligation basis.

\*\* The appropriation in the Capital Improvements Bond Fund is adjusted to carry forward open value of contracts from the prior year.

- NOTES: 1. Amounts may not add up due to rounding.  
 2. Departmental appropriation totals for salaries in the Line Item Analysis may differ from those contained in the Position Analysis by a factor identified to adjust for vacancies. Additionally, Estimated Expenditure may either exceed Adjusted Appropriation when transfers of funds are anticipated or be less than Expenditure (Committed Budget plus Disbursement) when not all commitments are anticipated to be completed by year-end.  
 3. The Capital Improvements Bond Fund appropriation is controlled on the Summary Object level.

**NOTE PAGE**