



Water Supply System Capital Improvement Program

Fiscal Years 2012 Through 2016
July, 2011

Dave Bing, Mayor
City of Detroit

Administration

Sue F. McCormick, Director

Darryl A. Latimer, Deputy Director

James George, Assistant Director
Financial Services Group

Syed Ali, P.E., Manager
Capital Management Group

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**Water Supply System
Capital Improvement Program
Fiscal Years 2011-12 Through 2015-16
July, 2011**

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**Detroit Water and Sewerage Department
Capital Improvement Program
Fiscal Years 2011-12 through 2015-16
July, 2011**

Executive Management Team

Sue F. McCormick, Director
Darryl A. Latimer, Deputy Director
Pa Dada, Assistant Director, Information Technology, Systems Integration & Operations
Assistant Director, Asset Maintenance Group - Vacant
James George, Assistant Director, Financial Services Group
Rodney Johnson, Assistant Director, Commercial Operations and Public Affairs Group
Stephen Kuplicki, P.E., Assistant Director, Industrial Waste Control
Cheryl Porter, Assistant Director, Water Supply Operations Group
Samuel A. Smalley, P.E., Assistant Director, Wastewater Operations Group
Miriam Dixon, General Manager, Contracts and Grants
Terri Conerway, Manager, Process and Quality Control

Capital Management Group

Syed Ali, P.E., Manager
Joan A. Wills
Corey Thomas

Water Supply System Detroit Water and Sewerage Department Capital Improvement Programs

OVERVIEW

The attached report summarizes the capital planning agenda for the DWSD Water Supply System. This should be considered a planning document – the CIP is a dynamic and evolving plan that requires continual review and modification during the course of each year. The estimates indicated in the early years of the attached report are likely more precise than those in the later years. The project descriptions represent brief synopses of the entire project scope; these descriptions are generally more precise for ongoing active projects than for planned new projects, where specific project activities may have yet to be determined.

DEFINITIONS

Funded Portion of the Programs

The Water System and Sewerage System capital improvement programs cover a five fiscal year planning horizon. However, only the first year or two of the programs are actually funded. The department uses the pay as you go method of capital project funding rather than financing projects 100% in advance. The department uses maximum debt financing to pay for the capital programs. This means that the programs are paid for primarily through the sale of revenue bonds, with only a small amount of capital financing provided directly from annual revenues. These fiscal policies allow the department to minimize the impact of the capital programs on water and sewage rates.

Projected Expenditures Spread by Fiscal Year

In the Water System and Sewerage System capital improvement programs, when project funding requirements are displayed spread by fiscal year, the dollar amount shown for the projects is the estimated expenditures for each fiscal year throughout the life of the projects. This type of presentation identifies what the financial requirements would be, using the pay as you go method of financing, which is the method currently in use by DWSD.

Project Types

The typical capital project consists of three distinct phases: study, design and construction. In some cases, phases are combined, such as study/design or design/construction. For capital program purposes, each phase is considered a separate project. Financing is committed only for the current project phase, and not for any subsequent phase until that phase has been authorized to start. Project identified as ongoing have been authorized to start by the director and the work is underway. Project identified as new have not yet started.

Project Detail Sections

Active Project: is a project that has an assigned DRMS number, been issued the Notice to Start Work, had expenditures in the last fiscal year and has projected expenditures of more than \$100,000 in the current fiscal year.

Project On Hold: is a project that may or may not have an assigned DRMS number, experienced expenditures or no expenditures in previous fiscal year(s), and/or has no projected expenditures in the current fiscal year or future fiscal years.

Water Supply System Detroit Water and Sewerage Department Capital Improvement Programs

Projects Under Procurement: is a project that has an assigned DRMS number and has not been issued the Notice to Start Work.

Projects Pending Close-out: is a project that has an assigned DRMS number, been issued the Notice to Start Work, has projected expenditures for the current fiscal year equal to \$100,000 or less – with no further projected expenditures, and has been substantially completed.

New Project: is a project that does not have an assigned DRMS number, has a proposal, and has never had expenditures charged to it.

Primary Project Purpose

- 1 – Directly mandated projects (Specific projects mandated by regulatory agencies or court ordered)
- 2 – Projects mandated by regulatory requirements to maintain compliance
- 3 – Projects required to maintain or improve system reliability and/or capacity
- 4 – Projects that utilize technological advances to improve operational efficiency, worker productivity and/or managerial effectiveness
- 5 – Projects required for new service

Allocation Status

- D – Detroit Only
- S – Suburban Only
- CTA - Common To All

Project Types

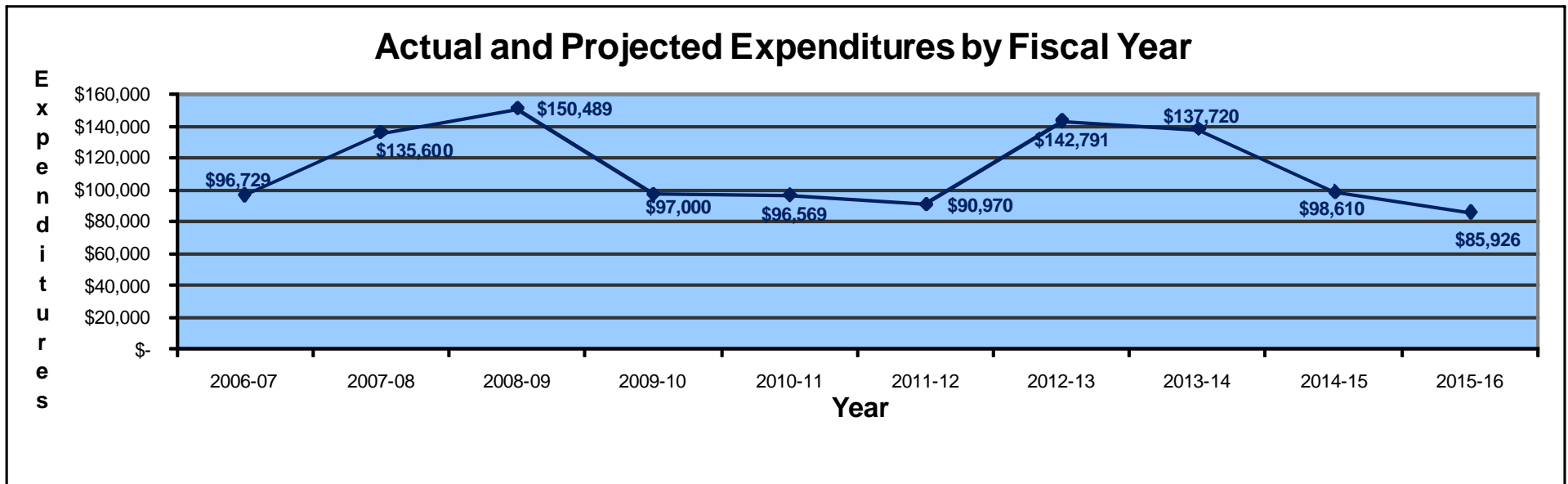
- S – Study; S/D – Study and Design; S/D/C – Study, Design and Construction;
- S/D/CA – Study, Design and Construction Assistance
- D – Design; DB – Design Build; DBA – Design Build Assistance;
- D/C – Design and Construction; D/CA – Design and Construction Assistance
- C – Construction; CA – Construction Assistance;
- CM – Construction Management
- C/CA – Construction and Construction Assistance
- IT – Information Technology Systems
- LS – Legal Services
- PO – Purchase Order

Legend

(1) Costs shown represent the Water Supply System's portion of the project. Refer to the Sewage Disposal System CIP for project costs financed by the Sewage Disposal System.

**Water Supply System
Capital Improvement Program
CIP Executive Summary
(000)**

Ongoing	<u>2011 - 12</u>	<u># of Projects</u>	<u>2012 - 13</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Active	42,474	24	22,691	5,010	2,570	1,126	5,432	79,303
Under Procurement	18,800	9	57,650	65,600	42,900	31,800	4,053	220,803
Pending Close-out	546	22	0	0	0	0	0	546
Ongoing Total	<u>61,820</u>	55	<u>80,341</u>	<u>70,610</u>	<u>45,470</u>	<u>32,926</u>	<u>9,485</u>	<u>300,652</u>
New Projects Total	29,150	11	62,450	67,110	53,140	53,000	157,658	422,508
Total CIP	<u>\$ 90,970</u>	<u>66</u>	<u>\$ 142,791</u>	<u>\$ 137,720</u>	<u>\$ 98,610</u>	<u>\$ 85,926</u>	<u>\$ 167,143</u>	<u>\$ 723,160</u>



Notations: 2006-07 thru 2009-10 totals are actual (unaudited) expenditures
2010-11 thru 2015-16 are projected expenditures

Summary of Projected Expenditures Spread by Fiscal Year

**Water Supply System
Capital Improvement Program**

**Summary of Projected Expenditures Spread by Fiscal Year for Ongoing and New Projects
(000)**

	<u>2011 - 12</u>	<u>2012 - 13</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Facilities							
Metro Area Construction	17,040	46,000	41,000	21,100	10,000		135,140
Urban System Improvements	13,251	8,800	11,000	10,800	10,000		53,851
Mechanical Maintenance	5						5
Computer Systems	1,832	1,400	2,400	1,000	1,000		7,632
	<u>\$32,128</u>	<u>\$56,200</u>	<u>\$54,400</u>	<u>\$32,900</u>	<u>\$21,000</u>		<u>\$196,628</u>
Plant Replacement and Renovation							
General Plant	10,320	11,836	9,146	2,625	785	70	34,782
Water Works Park						1	1
Springwells	4,024	38,150	67,945	58,885	60,841	157,647	387,492
Northeast	12,001	10,000				5,367	27,368
Southwest	26,824	21,305	279			7	48,415
Lake Huron	150	2,000	3,000	900			6,050
Pumping Stations and Reservoirs	5,523	3,300	2,950	3,300	3,300	4,051	22,424
	<u>\$58,842</u>	<u>\$86,591</u>	<u>\$83,320</u>	<u>\$65,710</u>	<u>\$64,926</u>	<u>\$167,143</u>	<u>\$526,532</u>
Ongoing Projects	61,820	80,341	70,610	45,470	32,926	9,485	300,652
New Projects	29,150	62,450	67,110	53,140	53,000	157,658	422,508
TOTAL CAPITAL COSTS	<u>\$90,970</u>	<u>\$142,791</u>	<u>\$137,720</u>	<u>\$98,610</u>	<u>\$85,926</u>	<u>\$167,143</u>	<u>\$723,160</u>

Projected Expenditures Spread by Fiscal Year

Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
(000)

	<u>2011 - 12</u>	<u>2012 - 13</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Springwells							
Ongoing	4,024	28,050	36,945	27,885	27,841	1	124,746
New		10,100	31,000	31,000	33,000	157,646	262,746
	<u>\$4,024</u>	<u>\$38,150</u>	<u>\$67,945</u>	<u>\$58,885</u>	<u>\$60,841</u>	<u>\$157,647</u>	<u>\$387,492</u>
Northeast							
Ongoing	2,001					5,362	7,363
New	10,000	10,000				5	20,005
	<u>\$12,001</u>	<u>\$10,000</u>				<u>\$5,367</u>	<u>\$27,368</u>
Southwest							
Ongoing	21,824	16,305	279			1	38,409
New	5,000	5,000				6	10,006
	<u>\$26,824</u>	<u>\$21,305</u>	<u>\$279</u>			<u>\$7</u>	<u>\$48,415</u>
Lake Huron							
Ongoing	50						50
New	100	2,000	3,000	900			6,000
	<u>\$150</u>	<u>\$2,000</u>	<u>\$3,000</u>	<u>\$900</u>			<u>\$6,050</u>
Pumping Stations and Reservoirs							
Ongoing	5,423	1,650	2,200	3,300	3,300	4,050	19,923
New	100	1,650	750			1	2,501
	<u>\$5,523</u>	<u>\$3,300</u>	<u>\$2,950</u>	<u>\$3,300</u>	<u>\$3,300</u>	<u>\$4,051</u>	<u>\$22,424</u>
<u>Plant Replacement and Renovation Total</u>							
Ongoing Projects	42,992	53,141	45,210	32,570	31,926	9,485	215,324
New Projects	15,850	33,450	38,110	33,140	33,000	157,658	311,208
	<u>\$58,842</u>	<u>\$86,591</u>	<u>\$83,320</u>	<u>\$65,710</u>	<u>\$64,926</u>	<u>\$167,143</u>	<u>\$526,532</u>
Summary - Total Costs							
Ongoing Projects	61,820	80,341	70,610	45,470	32,926	9,485	300,652
New Projects	29,150	62,450	67,110	53,140	53,000	157,658	422,508
TOTAL CAPITAL COSTS	<u>\$90,970</u>	<u>\$142,791</u>	<u>\$137,720</u>	<u>\$98,610</u>	<u>\$85,926</u>	<u>\$167,143</u>	<u>\$723,160</u>

Summary of Mandate and Allocation Status by Fiscal Year

**Water Supply System
Capital Improvement Program
Summary of Primary Project Purpose & Allocation Status
Projected Expenditures Spread by Fiscal Year**

(000)

SUMMARY BY PRIMARY PROJECT PURPOSE AND ALLOCATION	<u>2011 - 12</u>	<u>2012 - 13</u>	<u>Funded</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Projects Mandated by Regulatory Requirements to Maintain Compliance								
Common to All	43,979	72,555	116,534	71,084	59,025	60,841	163,021	470,505
Projects Required to Maintain or Improve System Reliability and/or Capacity								
Detroit Only	13,251	8,800	22,051	11,000	10,800	10,000	0	53,851
Common to All	32,253	58,836	91,089	52,036	27,685	15,085	4,122	190,017
Projects that Utilize Technological Advances to Improve Operational Efficiency, Worker Productivity and/or Management Effectiveness								
Detroit Only	5	0	5	0	0	0	0	5
Common to All	1,482	2,600	4,082	3,600	1,100	0	0	8,782
TOTAL	<u>\$90,970</u>	<u>\$142,791</u>	<u>\$233,761</u>	<u>\$137,720</u>	<u>\$98,610</u>	<u>\$85,926</u>	<u>\$167,143</u>	<u>\$723,160</u>

**Water Supply System
Capital Improvement Program
Summary of Primary Project Purpose & Allocation Status
Projected Expenditures Spread by Fiscal Year
(000)**

SUMMARY BY ALLOCATION STATUS	<u>2011 - 12</u>	<u>2012 - 13</u>	<u>Funded</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Detroit Only	13,256	8,800	22,056	11,000	10,800	10,000	0	53,856
Common to All	77,714	133,991	211,705	126,720	87,810	75,926	167,143	669,304
TOTAL	<u>\$90,970</u>	<u>\$142,791</u>	<u>\$233,761</u>	<u>\$137,720</u>	<u>\$98,610</u>	<u>\$85,926</u>	<u>\$167,143</u>	<u>\$723,160</u>
Detroit Only	15%	6%	9%	8%	11%	12%	0%	7%
Common to All	85%	94%	91%	92%	89%	88%	100%	93%

Water Supply System
Capital Improvement Program
Summary of Primary Project Purpose & Allocation Status
Projected Expenditures Spread by Fiscal Year
(000)

SUMMARY BY PRIMARY PROJECT PURPOSE	<u>2011 - 12</u>	<u>2012 - 13</u>	<u>Funded</u>	<u>2013 - 14</u>	<u>2014 - 15</u>	<u>2015 - 16</u>	<u>Remaining</u>	<u>Total</u>
Projects Mandated by Regulatory Requirements to Maintain Compliance	43,979	72,555	116,534	71,084	59,025	60,841	163,021	470,505
Projects Required to Maintain or Improve System Reliability and/or Capacity	45,504	67,636	113,140	63,036	38,485	25,085	4,122	243,868
Projects that Utilize Technological Advances to Improve Operational Efficiency, Worker Productivity and/or Management Effectiveness	1,487	2,600	4,087	3,600	1,100	0	0	8,787
TOTAL	<u>\$90,970</u>	<u>\$142,791</u>	<u>233,761</u>	<u>\$137,720</u>	<u>\$98,610</u>	<u>\$85,926</u>	<u>\$167,143</u>	<u>\$723,160</u>
<hr/>								
RELATIVE PERCENTAGE								
Projects Mandated by Regulatory Requirements to Maintain Compliance	48%	51%	50%	52%	60%	71%	98%	65%
Projects Required to Maintain or Improve System Reliability and/or Capacity	50%	47%	48%	46%	39%	29%	2%	34%
Projects that Utilize Technological Advances to Improve Operational Efficiency, Worker Productivity and/or Management Effectiveness	2%	2%	2%	3%	1%	0%	0%	1%

A - Active Projects

An Active Project is a project that has:

1. an assigned DRMS number
2. been issued the Notice to Start Work
3. had expenditures in the last fiscal year
4. expenditures of more than \$100,000 in the current fiscal year

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Metro Area Construction													
1 As-Needed Aerial Photogrammetric Related Aerial Survey, Ground Survey and Related Services (1)	003779	409	CS-1343	C	115						115	3	CTA
<i>This project is being performed to procure professional services, on an as-needed basis, for aerial photography, strip and area topographic mapping using Global Positioning System or equal.</i>													
Urban System Improvements													
2 Department-wide Engineering Services II (1)	001951	107	CS-1240	D	107						107	3	D
<i>This project provides general engineering services for project-specific tasks for smaller scale projects, on an as-needed basis.</i>													
3 Water System Improvements, Various Streets Throughout the City	004240	1156	WS-668	C	1,872						1,872	3	D
<i>This project work consists of the replacement of 16,996 linear feet (L.F.) of six-inch and eight-inch diameter of existing old water main by eight-inch diameter ductile iron pipe and fittings. It also includes the installation of 55 L.F. of diameter ductile iron water main in 16-inch diameter steel casing by Jack & Bore through Warren Ave.</i>													
4 Department-wide General Engineering Services on an As-needed Basis (1)	004337	1026	CS-1499	D	1,200	1,200	1,000	800			4,200	3	D
<i>This project involves designing water main and lateral sewer replacement projects for aging and dysfunctional water mains and sewers throughout Detroit under different tasks on an as-needed basis. The work also includes civil, structural, architectural, hydraulics, mechanical, electrical, surveying, instrumentation and piping design services.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
General Plant													
5 As-needed Engineering Services (1)	003447	52	CS-1340	D	215						215	3	CTA
<i>This consulting services contract provides rapid design turn-around for a variety of small scale projects which have not been initiated due to lack of in-house engineering staff.</i>													
6 As-needed Engineering Services (1)	003450	54	CS-1345	D	1,118						1,118	3	CTA
<i>This project provides rapid design turn-around for a variety of small scale projects which have not been initiated due to lack of in-house engineering staff.</i>													
7 As-needed Engineering Services (1)	003452	55	CS-1346	D	550						550	3	CTA
<i>This project provides rapid design turn-around for a variety of small scale projects which have not been initiated due to lack of in-house engineering staff.</i>													
8 Facilities As-built Documentation Development and Maintenance Services (1)	003950	380	CS-1333	D	800						800	4	CTA
<i>This project involves compiling & updating existing "as-built" drawings for DWSD facilities, creating "as-built" drawings where none exist, procuring & installing equipment to implement a network database system for storage, and retrieving the "as-built drawings and subjected facility manuals.</i>													
9 General Engineering Services (1)	004206	1031	CS-1432A	D	1,500	786	786	785	785	70	4,712	3	CTA
<i>This project involves the study, design and construction assistance services for a variety of disciplines including, but not limited to, civil, architectural, structural, geotechnical, hydraulics, mechanical, piping, electrical, and instrumentation in a variety of tasks on an as-needed basis. Further tasks involve one or more DWSD facilities including, but not limited to water treatment plants, water distribution system including booster stations, wastewater treatment plant, wastewater collection systems including pumping stations, combined sewer overflow facilities, and administrative and logistical support facilities.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
10 As-needed CIP Implementation Assistance and Related Services (1) <i>This project provides for multi-discipline Engineering services on an "as-needed basis" to support DWSD's Water & Sewer Systems.</i>	004217	956	CS-1433	S/D/CM	900	800	800				2,500	3	CTA
11 Chemical Treatment System Modifications at the Northeast, Springwells, Lake Huron and Southwest Water Treatment Plants <i>This project is required to provide better monitoring and control of specific chemicals. Properly sized new day tanks will be installed for the application of fluorosilic acid and alum. Wiring will be extended from existing level transmitter to the Control Room to provide continuous monitoring of existing day tank level for the phosphoric acid chemical system.</i>	004228	1099	DWS-867	C	252						252	3	CTA
12 General Engineering Services (1) <i>This project provides for rapid design turn-around for a variety of small scale projects on an as needed basis providing multi disciplinary professional services.</i>	004292	1182	CS-1481	D	1,500	1,500	1,500	600			5,100	3	CTA
13 As-needed Engineering Services for Concrete Testing, Geotechnical Soil Borings, other Testing Services, and Related Services (1) <i>The scope of work provides for as-needed engineering services for concrete testing, geotechnical soil borings, and other testing and related services.</i>	004294	1147	CS-1488	D/C	300	300	200				800	3	CTA
14 Geotechnical and Related Services on an As-Needed Basis (1) <i>The work includes consultant services for geotechnical work on as needed basis. The work also provides for additional engineering/technical services as requested by DWSD.</i>	004306	1164	CS-1490	D	1,500	1,250					2,750	3	CTA

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Springwells													
15 Springwells Water Treatment Plant 1958 Filter Rehabilitation and Auxiliary Facilities Improvements	004100	917	CS-1425	S/D/CA	400						400	2	CTA
<i>Provide study, design, and construction assistance services for the following projects. Project A: Relocation of Phosphoric Acid Feed System. Project B: Rehabilitation of 1958 Filters including HVAC and Architectural updates of 1930 and 1958 Buildings. Project C: Auxiliary Facilities Improvements for 1930 Plant. Project D: Update of existing O & M manuals and preparing On-line Manuals for DWSD web site. Project E: Oversight services for the 1930 plant failed filters.</i>													
16 Replacement of High Lift and Low Lift Pumping Units at Springwells Water Treatment Plant	004234	1071	CS-1474	S/D/CA	1,595	550	445	385	341		3,316	2	CTA
<i>The scope of work includes study, design, and construction assistance services to replace pumps, motors, and valves in both the Low Lift and the High Lift Pumping Station, replace electrical switchgear, VFDs for several of the pumps in both pumping stations, a local instrumentation and control system to monitor and operate equipment at the Low Lift and High Lift Station, and installation of a computerized control system based on a hierarchical design consisting of a main control station and remote control station and remote control stations linked to multiple PLC based local control panels throughout the SPWTP (i.e., at the laboratories, filter plant, chemical areas, and other process related areas). The work further involves constructing isolation valve chambers for each of the seven High Lift discharge lines, replacing Dewatering Pumping Units and valves, and upgrading the vacuum priming system.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Northeast													
17 Northeast Water Treatment Plant - Rehabilitation of Filtration System	004113	1077	CS-1430	S/D/CA	198					375	573	2	CTA
<i>Provide design services, contract documents, and construction assistance services for improvements to the following: Valves, backwash pumping units, Electrical, Instrumentation and Control System, Administration Building HVAC, Service Water System, and Low Lift Exciter at Northeast Water Treatment Plant.</i>													
18 Sludge Treatment and Flocculation/ Sedimentation Basins Upgrade at Northeast Water Treatment Plant	004235	931	CS-1475	S/D/CA	770					3,172	3,942	2	CTA
<i>The scope of work consists of installing continuous sludge removal systems in the settling basins and constructing a process facility for the sludge. The scope of Flocculation and Sedimentation basins upgrade includes increasing the flocculation zone length, replacing the Flocculation equipment, installation of new inlet baffles, and inclined plate settlers.</i>													
19 Northeast Water Treatment Plant - Chemical Process, Electrical and Mechanical Improvements	004316	1119	CS-1494	S/D/CA	935					1,814	2,749	2	CTA
<i>Provide design services, contract documents, and construction assistance services for the electrical/mechanical system and I & C improvements to the process in the Chemical Building, and replacement of the filter media.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Active Projects
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Southwest													
20 Oversight of Waste Washwater and Sludge Disposal at Lake Huron, Southwest, Northeast and Springwells Plants	001999	269	CS-1305	D/CA	319	605	279				1,203	2	CTA
<i>This project provides oversight services for the design/build contract for treatment facilities for the disposal of waste washwater at the Lake Huron WTP and sludge collection, treatment and disposal of alum sludge and treatment of waste washwater at the Southwest, Springwells, Northeast WTPs.</i>													
21 Southwest Water Treatment Plant, Sludge Treatment & Waste Washwater Treatment Facilities	003466	262	SW-548	C	20,000	15,500					35,500	2	CTA
<i>This project involves the continuous sludge removal from the settling basins and filter waste Backwash Water Treatment with coagulation, flocculation, sedimentation and thickening, and removal of alum sludge to the Treatment Facilities. The effluent flow will be monitored and sampled prior to the Sexton-Killoil drain.</i>													
22 Southwest Water Treatment Plant - Chemical Tank and Loading Dock, and HVAC Rehabilitation	004270	1098	SW-550	DB	1,500	200					1,700	2	CTA
<i>The work provides for construction services to rehabilitate deteriorated liquid alum bulk storage tanks and loading dock; replace existing ventilation system in Flocculator Building, steaming heating facilities, portions of the steam filter room ventilation systems. The work also involves performing a comprehensive mechanical overhaul of all three Kathabar dehumidification units, ductwork, sump pumps, supply header, and installing new service water supply booster station.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year**

Active Projects

(000)

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
23 Southwest Water Treatment Plant - Filtration Improvements <i>The work provides for design services, documents, and const. assist. services to replace the transfer washwater supply pumps, motors and related appurtenances; add Variable Frequency Drives; provide PLC based controls for the pumps; and provide electronic actuators for all valves. The work also includes installing a local instrumentation and controls system to monitor and operate the equipment; replace orifice plates with rate control valves and perform structural repairs.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>	004314	1067	IH-106	S/D/CA						1	1	2	CTA
Pumping Stations and Reservoirs													
24 Schoolcraft Pumping Station Rehabilitation <i>This project provides for electrical improvements at the Schoolcraft Pumping Station. The work consists of a new substation, electrical building, switchgear, MCC, variable frequency drives, motors, power and controls, and two new diesel generators.</i>	004062	933	DWS-853	C	328						328	3	CTA
25 Wick Road Station Rehabilitation <i>This project provides for the design, furnishing, installing, and testing of a new building. The work also provides for transformers, switchgear, variable frequency drives, starters, motors, pumps, heating, cooling and ventilation, lighting, controls, power monitoring, ovation system modifications, fire alarm, security, and training. This project further provides for complete documentation of installed system and revised O & M manuals.</i>	004224	1047	DWS-858	DB	4,500						4,500	3	CTA
					<u>\$42,474</u>	<u>\$22,691</u>	<u>\$5,010</u>	<u>\$2,570</u>	<u>\$1,126</u>	<u>\$5,432</u>	<u>\$79,303</u>		

UP - Projects Under Procurement

A Project Under Procurement has:

1. an assigned DRMS number
2. not been issued the Noticed to Start Work

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Under Procurement
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Metro Area Construction													
1 96" Main Relocation - 24 Mile Road and Dequindre	001841	153	WS-622	C		5,000	8,000	4,700			17,700	3	CTA
<i>This project provides for the installation of approximately 25,000 linear feet of 96-inch diameter prestressed concrete embedded steel cylinder pipe with rubber and steel joints (SP-12).</i>													
2 Parallel 42-Inch Main in 24 Mile Road from Foss Road to Fairchild Road	004226	1111	WS-674	C 2	6,500	3,000					9,500	3	CTA
<i>This project will provide for the installation of approximately 13,900 linear feet of 42-inch diameter ductile iron pipe in 24 Mile Road, parallel to the existing 36-inch main from Foss Road to Fairchild Road. The work will also provide for all interconnections and valves.</i>													
3 Parallel 42-Inch Main in 24 Mile Road from Rochester Station to Romeo Plank Road	004373	1112	WS-681	C	2,000	14,000	14,000	6,400			36,400	3	CTA
<i>This project will provide for the installation of approximately 35,650 feet of parallel 42-Inch diameter prestressed embedded concrete cylinder pipe (PCCP) and approximately 1070 linear feet of 36-inch diameter of PCCP in 24 Mile Road from Rochester Station to Romeo Plank Road. The work will also provide for all interconnections and valves.</i>													
Urban System Improvements													
4 Water Main Replacement in Various Streets Throughout the City	004170	1108	WS-648A	C	1,000	600					1,600	3	D
<i>This project work consists of the replacement, installation, or abandonment of existing eight-inch, twelve-inch, and sixteen-inch water mains with approximately 5,800 linear feet (L.F.) of eight-inch, 1,400 L.F. of twelve-inch, and 1,100 L.F. of sixteen-inch ductile iron pipe, including an eight-mil polyethylene wrap, all appurtenances, and related structures.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Under Procurement
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
5 Water Systems Improvements - Various Streets Throughout the City of Detroit	004360	1202	WS-680	C	4,000	2,000					6,000	3	D

This project consists of the replacement of approximately 28,925 linear feet of existing six-inch, eight-inch, twelve-inch and sixteen-inch water main with eight-inch, twelve-inch and sixteen-inch ductile iron water mains along with appurtenances in various streets throughout the city of Detroit.

Computer Systems

6 Consolidated Process Control System and Standardization for Construction Contracts (1)	003422	1153	PC-773A	DB	1,200	800	800				2,800	3	CTA
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This project involves integrating the control and monitoring network throughout all of the DWSD facilities with the new SCADA system installed under PC-713. The work includes control system hardware, software, and firmware upgrade or replacement, also troubleshooting, installation, start-up, testing, and repair services. The scope of work also includes preparation of a DWSD Ovation Standards Manual to establish guidelines for incorporating processes into Ovation System through future design and construction contracts.

7 Data Center Reliability/Availability Improvements (1)	004366	1206	DWS-881	DB	600	600	600				1,800	4	CTA
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The scope of work consists of designing and building data centers, which will provide system improvements for both power and UPS systems, environmental service, fire protection, structural wiring, and monitoring. This includes the Switch Room Central Services Facility, Switch Room WWTP-NAB-B1, Data Center Central Service Facility - IS-226, and Data Center WWTP-K303.

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Under Procurement
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
8 SCADA Radio Network Upgrade (1)	004368	1207	DWS-882	DB			1,000	1,000	1,000		3,000	3	CTA

The scope of work consists of installing and upgrading the Department's new SCADA Radio network including low voltage wiring, radio wiring and cable, data connections, antenna mounting and connections, instrument wiring, network wiring, and fiber networks. It also includes system improvements and planning, system and material procurement in support of the activities required for completing each task.

General Plant

9 Vulnerability Assessment Recommended Upgrades	004230	1062	DWS-862A	DB	1,000	2,500	2,500				6,000	2	CTA
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This project will provide for the installation of intrusion detection software; installation of cameras at the pumping stations, Clear Well, Main Transformer Station, and the Emergency Generators; perform video assessment wherever there are alarm points; install interior and exterior detection devices. This project also provide other miscellaneous security devices and monitoring systems to secure DWSD's properties.

Water Works Park

10 Yard Piping, Valves and Venturi Meters Replacement at Water Works Park	004296	1166	WW-536	C						1	1	2	CTA
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The work provides for the replacement of yard piping from 24 inch to 72 inch diameter, pressure reducing valves improvements, replacing venturi meters, water supply valves, 48 inch HLPS suction gate valves, discharge header isolation valves and reburish valve manholes. The work also provides for other miscellaneous improvements.

This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Under Procurement
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Springwells													
11 Springwells Water Treatment Plant - 1958 Filter Rehabilitation and Auxiliary Facilities Improvements	004100	917	SP-563	C	2,000	27,500	36,500	27,500	27,500		121,000	2	CTA
<i>Provide construction services to furnish and install new filter media, underdrains, filter valves, and rate controllers; replace the existing filter control consoles, hydraulic control valves with electric control valves, enclosures; add appurtenances to enable automatic backwashing of the filters; provide a Filter Aid Polymer System to the 1930 and 1958 filter complexes; PLC based controls for automatic control of the polymer system; install a local instrumentation and controls system.</i>													
12 Springwells Water Treatment Plant Discharge Header Pipe System Replacement	004266	1157	SP-567	DB						1	1	2	CTA
<i>The work consists of designing, furnishing and installing a complete functional double header system (replacement in kind). This includes field investigations, prepare basis of design, design and replacement of discharge header system, pipe support, valves replacement, and other ancillary work to provide a complete and fully functional system.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Under Procurement
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Northeast													
13 Northeast Water Treatment Plant - Rehabilitation of Filtration System	004370	1077	NE-378	C						1	1	2	CTA
<i>Provide construction services for Valves replacement, rehabilitation or replacement of backwash pumping units, Electrical, Instrumentation and Control System improvements, Administration Building HVAC, Service Water System, and Low Lift Exciter improvements at Northeast Water Treatment Plant.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													
Pumping Stations and Reservoirs													
14 Booster Stations and Reservoirs Inspection, Rehabilitation and Inspection Repair Program Management	004297	1170	DWS-874	PM	500	1,650	2,200	3,300	3,300	4,050	15,000	3	CTA
<i>The work provides for all Pumping Stations, study, design, and construction contract documents for rehabilitation and upgrades, and management services related to construction including award of contract, inspection during construction, and furnishing all construction work through provisional allowance for subagreements.</i>													
					<u>\$18,800</u>	<u>\$57,650</u>	<u>\$65,600</u>	<u>\$42,900</u>	<u>\$31,800</u>	<u>\$4,053</u>	<u>\$220,803</u>		

PC - Projects Pending Close-Out

A Project Pending Close-Out is a project that has:

1. an assigned DRMS number
2. been issued the Notice to Start Work
3. been substantially completed
4. project expenditures for the current fiscal year equal to \$100,000 or less - with no projected expenditures

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Metro Area Construction													
1 Parallel 42-Inch Water Main in Ecorse, Tyler, Beck, and Haggerty Roads from Ypsilanti Station to Hannan Road	004276	1114	WS-676	C	100						100	3	CTA
<i>The work will provide for the installation of approximately 37,825 feet of 42-Inch water main, parallel to the existing water main with five interconnections.</i>													
2 Flint Loop Transmission System	004286	1181	CS-1486	S/D/CA	5						5	3	CTA
<i>The work will provide for the study, design and construction assistance of approximately 195,000 feet of 72-inch main from the intersection of Giddings Road and Brown Road (Orion Station), west in Brown Road to Joslyn Road, south in Joslyn Road from Brown Road to I-75 (MDOT r.o.w) from Joslyn to Bristol Road, east in Bristol Road from I-75 to Vassar Road, north in Vassar Road from Bristol Road to Potter Road (City of Flint). In addition, it will provide for a proposed pump station and reservoir.</i>													
3 Construction Management Services for the Flint Loop Transmission System	004286	1181	CM-2017	CM	5						5	3	CTA
<i>The original scope of work for this project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

	Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
4	96"/48" Transmission Main from Romeo to Walton Road - North Oakland Transmission System <i>The work will provide for the study, design and construction assistance of approximately 70,000 feet of 96-inch main from the existing 96-inch water main at GTWRR and east of Van Dyke going west in 31 Mile Road in Washington Township to Dequindre Road to Inwood, west in Inwood from Dequindre to Hadden, south in Hadden from Inwood to Buell Road, west in Buell Road from Hadden to Adams Road, south in Adams Road from Buell to Gunn Road, west in Gunn Road from Adams Road to Kern Road, south in Kern Road from Gunn Road to Silver Bell Road, west in Silver Bell Road from Kern to M-24, south in M-24 from Silver Bell Road to Brown Road, west in Brown Road from M-24 to Giddings Road (Orion Station). This work will also provide for the design of Romeo Pump station with reservoir and a high ground reservoir along the route.</i>	004287	1180	CS-1487	S/D/CA	5						5	3	CTA
5	Construction Management Services for the 96"/48" Transmission Main from Romeo to Walton Road - North Oakland Transmission System <i>The work will provide for the construction of approximately 70,000 feet of 96-inch main from the existing 96-inch water main at GTWRR and east of Van Dyke going west in 31 Mile Road in Washington Township to Dequindre Road to Inwood, west in Inwood from Dequindre to Hadden, south in Hadden from Inwood to Buell Road, west in Buell Road from Hadden to Adams Road, south in Adams Road from Buell to Gunn Road, west in Gunn Road from Adams Road to Kern Road, south in Kern Road from Gunn Road to Silver Bell Road, west in Silver Bell Road from Kern to M-24, south in M-24 from Silver Bell Road to Brown Road, west in Brown Road from M-24 to Giddings Road (Orion Station). The work will also provide for the construction of Romeo Pump station with reservoir and a high ground reservoir along the route.</i>	004287	1180	CM-2016	CM	5						5	3	CTA

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

	Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
6	Oversight Services for Flint Transmission System and North Oakland Transmission System <i>The scope of oversight services includes full inspection and quality control services, geotechnical monitoring and analysis, schedule review analysis, review of Request for Information (RFI) and other construction services for Flint Transmission System and North Oakland Transmission System.</i>	004317	1199	CS-1492	DBA	5						5	3	CTA
Urban System Improvements														
7	Water System Improvements - Various Streets Throughout the City of Detroit <i>This project provides for construction management, inspection services, assistance with permits and overall oversight coordination, etc. (for contracts: WS-672, WS-659 and WS-660).</i>	004213	1135	CM-2015	CM	5						5	3	D
8	Water System Improvements - Various Streets Throughout the City of Detroit <i>This project provides for construction management, inspection services, assistance with permits and overall oversight coordination, etc. (for contracts: WS-628, WS-658 and WS-661).</i>	004214	1134	CM-2014	CM	5						5	3	D
9	Water System Improvements - Various Streets Throughout the City <i>The work consists of the replacement of approximately 16,769 linear feet of eight-inch and twelve-inch water mains with new eight-inch and twelve-inch ductile iron water mains.</i>	004281	463	WS-671	C 2	62						62	3	D

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Mechanical Maintenance													
10 Water Meter Replacement and Automatic Meter Reading Equipment Installation (1)	002002	131	CM-2007	DB	5						5	4	D
<i>This project involves replacing existing 5/8-inch through 12-inch residential and commercial water meters, within the City of Detroit, with new water meters and an automatic reading system.</i>													
Computer Systems													
11 Customer Billing and Management System (CBMS) Upgrade (1)	004219	1139	CS-1465	IT	32						32	4	CTA
<i>This project involves upgrading of the CBMS operating software to enQuesta 2006 (Version 3.5). The consultant will install and configure the software. This project will also involve ensuring that the existing interfaces are updated to perform with this new version and training end-users and support staff.</i>													
General Plant													
12 As-needed Engineering Services for Water System	002018	224	CS-1291	D	5						5	3	CTA
<i>This project involves providing as-needed engineering services in civil, electrical, mechanical, architectural, and other disciplines for facilities in the water supply system such as water treatment plants, treated water transmission, and distribution system.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

	Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
13	Power Enhancement - Primary Service Conversion and PCB Disposal (1)	004143	1082	DWS-837C	DB	25						25	2	CTA
	<i>This project will remove and dispose of the existing PCB contaminated transformers and replace with liquid filled Transformers at (3) locations, install new 27KV primary switchgear at Southwest Treatment Plant. It will also replace the existing nitrogen gas filled primary cable to the power transformer No. 2 at Southwest Treatment Plant, and replace the existing PLD Primary power feed system with DTE at (4) locations.</i>													
14	Department-wide Roof Replacement and Repair III (1)	004165	1027	DWS-857	D/C	5						5	3	CTA
	<i>This project involves repairing, removing or replacing existing built-up and shingle type roofs on an as-needed basis.</i>													
Springwells														
15	Springwells Plant Reservoir No. 1 Rehabilitation	004279	1158	SP-568	C	29						29	2	CTA
	<i>The work consists of chemical grout injection, sealing, caulking, concrete restoration and other improvements.</i>													
Northeast														
16	Northeast Water Treatment Plant - Pumping Facilities Critical Improvement	004179	1073	NE-376	DB	98						98	2	CTA
	<i>The work provides design build services for the comprehensive refurbishment of the Low Lift Pump Station (LLPS) and the High Lift Pump Station (HLPS) at the Northeast Water Treatment Plant as recommended by the Needs Assessment. The work also includes replacement of HLPS and vault valves, piping and fittings in the high service header pipe, four LLPS pump discharge valves, and other related work.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Southwest													
17 Southwest Water Treatment Plant Intake Improvements & Rehabilitation	004149	258	SW-549	C	5						5	2	CTA
<i>This project comprises rehabilitation of the Intake structure, providing a steel closure cylinder with support structure and other operational improvements.</i>													
Lake Huron													
18 Lake Huron Water Treatment Plant - Purchase and Install Three Variable Frequency Drives for Three Existing High Lift Pumping Units	004216	1120	LH-395	DB	5						5	2	CTA
<i>This project provides for the furnishing and installation of three (3) variable frequency drives on existing high lift pumping units and constructing a building for the drives. The scope also includes new control systems and modifications to the valve control system.</i>													
19 Construction of Baffle Walls in Clearwell No.1 of Lake Huron WTP	004278	1159	LH-396	C	45						45	3	CTA
<i>The work includes construction of baffle walls in Clearwell No. 1 of Lake Huron WTP, which also includes construction of access openings, concrete formwork, concrete reinforcement, and cast-in-place concrete.</i>													
Pumping Stations and Reservoirs													
20 Imlay Station Improvements	002005	284	DWS-812	C	85						85	3	CTA
<i>This project includes installation of five (5) additional pumping units each at 70 mgd capacity; installation of five (5) new variable speed drives - two (2) for the existing pumps and three (3) for the new pumps; construction of a building to house all the variable speed drives; installation of a dual suction piping for six (6) pumps and rehabilitation of three (3) air release valve pits.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
Projects Pending Close-out
(000)**

	Project Title	DRMS No.	CIP No.	Contract No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status	
21	Reservoir Rehabilitation and Inspection Repair Program Management	002023	285	DWS-823	D/C	5						5	3	CTA	
	<i>This project consists of the rehabilitation of sixteen (16) reservoirs and eight (8) booster pumping stations; inspection/repair of thirty (30) reservoirs and sixteen (16) booster pumping stations and other related works as specified in the contract documents.</i>														
22	Michigan Avenue Reservoir No. 1 Decommissioning	004285	1161	DWS-872	C	5						5	3	CTA	
	<i>The work includes demolishing pre-stressed concrete Reservoir No. 1 without jeopardizing the structural safety of Reservoir No. 2 and other facilities nearby, foundation removal, piping and electrical system removal, modifications to an existing valve chamber and site restoration.</i>														
						<u>\$546</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$0</u>	<u>\$546</u>			

N - New Projects

A New Project is a project that:

1. does not have an assigned DRMS number
2. has a proposal
3. has never had expenditures charged against it

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
New Projects
(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Metro Area Construction													
1 Parallel 48-Inch Main from Wick Station to Hannan Road		2005	1113	C	2,000	9,000	9,000				20,000	3	CTA
<i>This project will provide for the installation of approximately 15,000 feet of 48-Inch main, parallel to the existing 48-Inch and 42-Inch mains, from Wick Station to Hannan Road. The work will also provide for all interconnections and valves.</i>													
2 Replacement of Five (5) PRV Pits of DWSD Treated Water Transmission System		2010	1216	C	1,300						1,300	3	CTA
<i>The scope of work consists of replacement of five (5) existing defective Pressure Release Valves (PRV), improve accessibility to the pits, install isolation valves for the PRV pit, provide new sump pumps as needed, and other necessary improvements.</i>													
3 Water Transmission Allowance		2010	1230	D/C	5,000	15,000	10,000	10,000	10,000		50,000	3	CTA
<i>This project is a yearly funding allocation for the design and/or construction work for the rehabilitation or replacement/construction of aging water transmission lines and all appurtenances, connections and related structures.</i>													
Urban System Improvements													
4 Water Main Replacement Allowance			463	D/C	5,000	5,000	10,000	10,000	10,000		40,000	3	D
<i>This project is a yearly funding allocation for the design and/or construction work for the maintenance, replacement and/or construction of aging water mains and all appurtenances, connections and related structures in the City.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
New Projects
(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
General Plant													
5 Meter Improvements at Water Treatment Plants		2007	1168	C	100	600	360	140			1,200	2	CTA
<i>The work consists of rehabilitation/replacement of the flow measuring devices at the Northeast, Southwest, Springwells, and Lake Huron water treatment plants. The work also includes instrumentation and control, SCADA system, and security system upgrades related to the flow measuring devices.</i>													
6 Central Services Facility (CSF) Improvements (1)		2008	1188	C	50	2,000	3,000	1,100			6,150	4	CTA
<i>The scope of work includes HVAC system improvements, overhead doors replacement and other structural, mechanical and electrical rehabilitative work at the Central Services Facility (CSF).</i>													
7 Update of DWSD Comprehensive Master Plan		2010	1233	S	500	2,100					2,600	3	CTA
<i>Scope of work includes updating of the current Water Master Plan, which will include review of previous/ongoing studies, regulatory mandates under the Clean Water Act/MDNRE, obligations by DWSD to the customers through the model contract, and DWSD policies.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
New Projects
(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Springwells													
8 Springwells Water Treatment Plant - Low Lift and High Lift Pump Station		2004	1071	C		10,000	30,000	30,000	23,000	5,500	98,500	2	CTA
<i>The scope of work includes construction for the replacement of High Lift and Low Lift pumps, motors, and valves, a 4800-volt switchgear, VFDs for several of the pumps in both High Lift and Low Lift Pumping Station, a local instrumentation and control system to monitor and operate equipment at the Low Lift and High Lift Station, and installation of computerized control system based on a hierarchical design consisting of a main control station and remote control stations linked to multiple PLC based local panels throughout the SPWTP (i.e., at the laboratories, filter plant, chemical areas, and other process related areas). The work will further involve constructing isolation valve chambers for each of the seven High Lift discharge lines, replacing Dewatering Pumping Units and valves, and upgrading the vacuum priming system.</i>													
9 Springwells Water Treatment Plant - Pre-treatment Improvements		2004	1075	D/CA		100	1,000	1,000	10,000	12,600	24,700	2	CTA
<i>Provide design and construction assistance services for the installation of two new raw water conduits from Low Lift Pump to 1958 plant, and a local instrumentation and controls system to operate and monitor equipment at the Pre-treatment and Chemical facilities. This also includes construction of new rapid mix facilities and installing new turbine flocculators, and a new superstructure above the 1958 Sedimentation Basins. This project further will entail demolishing portions of the 1958 Settling Basins, demolishing the 1930s pre-treatment facility, the Sanitary Sewer Lift Station, and other performing rehabilitation work.</i>													

**Water Supply System
Capital Improvement Program
Projected Expenditures Spread by Fiscal Year
New Projects
(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
10 Springwells Water Treatment Plant - Pre-treatment Improvements		2004	1075	C						139,546	139,546	2	CTA
<p><i>Provide construction services for the installation of two new raw water conduits from Low Lift Pump to 1958 plant, and a local instrumentation and controls system to operate and monitor equipment at the Pre-treatment and Chemical facilities. This also includes construction of new rapid mix facilities and installing new turbine flocculators, and a new superstructure above the 1958 Sedimentation Basins. This project further will entail demolishing portions of the 1958 Settling Basins, demolishing the 1930s pre-treatment facility, the Sanitary Sewer Lift Station, and other performing rehabilitation work.</i></p>													

Northeast

11 Northeast Water Treatment Plant - Design Services for Major Pumping Equipment Improvements		2002	927	D/CA						1	1	2	CTA
<p><i>Provide design services, contract documents, and construction assistance services for the following: upgrading the Low Lift Pump Station (LLPS) and High Lift Pump Station (HLPS) pump; replacing the suction gage valves, cabinet unit heaters, sump pumps and rails; refurbish supply fans, and steam coils in the LLPS and the HLPS; provide motor floor exhaust and install oil water separator for high lift building.</i></p> <p><i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i></p>													

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(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
12 Northeast Water Treatment Plant - Construction Services for Major Pumping Equipment Improvements		2002	927	C						1	1	2	CTA
<i>Provide construction services for upgrading the Low Lift Pump Station (LLPS) and High Lift Pump Station (HLPS) pumps; replacing the suction gate valves, ductwork heaters, cabinet unit heaters, sump pumps and rails; refurbish supply fans and steam coils in the LLPS and the HLPS; provide motor floor exhaust and install oil water separator for high lift building.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													
13 Sludge Treatment and Flocculation/Sedimentation Basins Upgrade at Northeast Water Treatment Plant	NE-374	2002	931	C						1	1	2	CTA
<i>Provide construction services for the rehabilitation of the Flocculation/Sedimentation basins at Northeast Water Treatment Plant. The tasks include, but are not limited to, increasing the flocculation zone length, replacing existing drives, motors, and starter per basin, adding intermediate and end baffle walls, and constructing a continuous sludge collection system including treating and disposal for the sludge collected.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													
14 Northeast Water Treatment Plant - Chemical Process, Electrical and Mechanical Improvements		2005	1119	C						1	1	2	CTA
<i>Provide construction services for the electrical/mechanical system and I & C improvements to the process in the Chemical Building, and replacement of the filter media.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													

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(000)**

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15 Northeast Water Treatment Plant - High Pressure Zone Pumping Units <i>This work consists of the replacement of existing four (4) high lift pumps with higher head pumps, two (2) of them with variable speed drives and improve building ventilation to meet the higher horse power motor needs.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>		2009	1211	C						1	1	2	CTA
16 NE Water Treatment Plant Allowance <i>This is an Allowance for critical improvements at Northeast Water Treatment Plant.</i>		2011	1242	D/C	10,000	10,000					20,000	2	CTA

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(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
Southwest													
17 Southwest Water Treatment Plant Improvements - High Lift and Low Lift Pump Station, Administration Building, Chemical Building and System		2004	1065	D/CA						1	1	2	CTA
<i>Provide design services, contract documents, and construction assistance services for installing a low lift pump, motor and controls; new traveling screen controls and flushing system; and sluice gates for isolation of Equalization Chamber and High Lift Suction Flume. The work will also include High and Low Lift Building structural and architectural rehabilitation.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													
18 Southwest Water Treatment Plant Improvements - High Lift and Low Lift Pump Station, Administration Building, Chemical Building and System		2004	1065	C						1	1	2	CTA
<i>Provide construction services for installing a low lift pump, motor and controls; new traveling screen controls and flushing system; and sluice gates for isolation of Equalization Chamber and High Lift Suction Flume. The work will also include High and Low Lift Building structural and architectural rehabilitation.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													

**Water Supply System
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Projected Expenditures Spread by Fiscal Year
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(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
19 Southwest Water Treatment Plant - Filtration Improvements - Construction <i>Provide construction services to replace the transfer washwater supply pumps, motors and related appurtenances; add Variable Frequency Drives; provide PLC based controls to enable automatic control of the pumps; and provide electronic actuators for all valves. The work will also include installing a local instrumentation and controls system to monitor and operate the equipment; replace orifice plates with rate control valves and perform structural repairs, etc.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>		2004	1067	C						1	1	2	CTA
20 Southwest Water Treatment Plant - Electrical and Instrumentation and Controls - Design <i>Provide design services, contract documents, and construction assistance services for the installation of a computerized control system based on a hierachical design and consisting of a main control station and remote multiple PLC (Programmable Logic Control) based local control panels throughout the SWWTP; replace PCB type surge protection capacitors and most of the existing low voltage electrical system and lighting facilities throughout the plant.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>		2004	1068	D/CA						1	1	2	CTA

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New Projects
(000)**

Project Title	Contract No.	Year Added	CIP No.	Type	2011 - 12	2012 - 13	2013 - 14	2014 - 15	2015 - 16	Remaining	Total	Primary Project Purpose	Allocation Status
21 Southwest Water Treatment Plant - Electrical and Instrumentation and Controls - Construction <i>Provide construction services for the installation of a computerized control system based on a hierachical design and consisting of a main control station and remote control stations linked to multiple PLC (Programmable Logic Control) based local control panels throughout the SWWTP; replace PCB type surge protection capacitors and most of the existing low voltage electrical system and lighting facilities throughout the plant.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>		2004	1068	C						1	1	2	CTA
22 MCCs and Lighting Panels at Southwest Water Treatment Plant <i>The scope of work consists of the study, design, and replacment of four (4) motor control centers (MCCs), lighting panels and associated conduits and wiring at the Southwest Water Treatment Plant.</i> <i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>		2010	1234	S/D/C						1	1	3	CTA
23 SW Water Treatment Plant Allowance <i>This is an Allowance for critical prpjects at Southwest Water Treatment Plant.</i>		2011	1243	D/C	5,000	5,000					10,000	2	CTA

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**New Projects
(000)**

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Lake Huron													
24 Lake Huron Water Treatment Plant Replacement of Pumping Unit No. 4 and Furnishing Variable Frequency Drive		2010	1227	DB	100	2,000	3,000	900			6,000	3	CTA
<i>The scope of work consists of designing and replacing the existing pumping unit for the low lift pump No. R4 and equipping it with a Variable Frequency Drive with a by pass starter. Work will also include verifying the HVAC for displacement of heat being generated from proposed VFD, and integration with the ovation system.</i>													
Pumping Stations and Reservoirs													
25 Replacement of Switchgear at Joy Road Pumping Station		2010	1226	S/D/C	100	1,650	750				2,500	3	CTA
<i>The scope of work consists of the study, design, and replacement of the outdoor switchgear, associated conduits and wiring, and providing new housing and power consumption monitoring in the Ovation system for the two (2) DTE feeds at Joy Road Pumping Station.</i>													
26 Ready Road Pump Station and Reservoir		2010	1228	C						1	1	3	CTA
<i>The scope of work consists of the construction of a five (5) million gallon (MG) portable water storage tank and reservoir pump station; and an unmanned mechanical and electrical/ control system. The work will also include the construction of a 11.5 mile length water main from the existing 24" Ready Road main extending to, and along Will-Carleton Road to connect both Ash Township meters to the DWSD network.</i>													
<i>This project is being re-evaluated. Changes in scope of work, cost, and schedule are likely.</i>													
					<u>\$29,150</u>	<u>\$62,450</u>	<u>\$67,110</u>	<u>\$53,140</u>	<u>\$53,000</u>	<u>\$157,658</u>	<u>\$422,508</u>		