2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Maintenance & Operations

Executive Director's Budget Recommendations

John P. Murray, Director of Maintenance & Operations

2018 Budget
Building a Resilient Cook County

Maintenance & Operations – All Divisions

	Appropriations	Positions
2018	$189,607,600	903
2017	187,034,700	922
Change	↑ $2,572,900	↓ 19
	1.4%	

(Including BF-19 Changes)

Note: An additional 27 operational positions are funded by the Stormwater Management Fund for 2018.

2

2017 Accomplishments

Establish excellence in maintenance and operations

- 5 of 7 WRPs received NACWA Platinum Awards
  - 25 consecutive years of 100 percent compliance for the Calumet WRP
  - 99.97 percent compliance for all 7 plants

3

2017 Accomplishments

Optimize chemical intensive processes

- Acquired additional experience with disinfection at the Calumet WRP and reevaluated assumptions, resulting in a decrease of $1.2M for sodium hypochlorite
- Correspondingly, the decrease in sodium hypochlorite usage resulted in a decrease in sodium bisulfite usage for a savings of approximately $180,000
- The carbon dioxide sparger, installed in 2016 at the Stickney WRP, is expected to show chemical savings of more than 15 percent, or $70,000, in 2017

4

2017 Accomplishments

Optimize energy intensive processes

- As part of the phosphorus reduction efforts at the Calumet WRP, air at the beginning of each aeration tank has been shut off to create anoxic zones with an estimated 10 percent reduction in air usage
- TARP Pump #8 at the Stickney WRP was overhauled with an estimated reduction in future annual operating costs between $75,000 and $100,000

5

2017 Accomplishments

Establish excellence in maintenance and operations

6

2017 Accomplishments

Establish excellence in maintenance and operations

7

2017 Accomplishments

Establish excellence in maintenance and operations

8

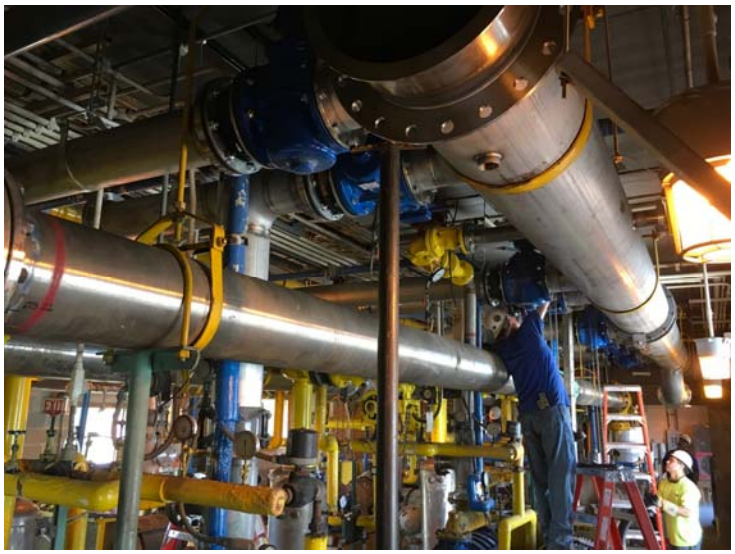
2017 Accomplishments

Establish excellence in maintenance and operations

9

2017 Accomplishments

Establish excellence in maintenance and operations



10

Major Initiatives & Changes

Optimize chemical intensive processes

- Continued optimization of chemicals used in the disinfection process at the Calumet WRP and in the Ostara process at the Stickney WRP

Optimize energy intensive processes

- Install a small dedicated turbo blower at the Egan WRP to operate two aeration tank air lifts, which will lower the operating air pressure of the large blowers and reduce annual operating costs by $44,000

11

Major Initiatives & Changes

Build infrastructure that includes technologies and equipment to extract and recover resources

- Phosphorus: Implement WASSTRIP® in the Ostara process
- Energy: Begin operating the SWRP gas turbine using digester gas for potential savings of $1.0M in 2018

12

Major Initiatives & Changes

Pursue the sale of biosolids to the marketplace

- Increase the utilization rate of Class A biosolids in local communities to 30 percent of total utilization
- Produce a minimum of 30,000 tons of composted biosolids
- Seek to award professional services contracts for procuring wood chips and developing a comprehensive marketing plan for composted biosolids

13

2018 Budget

Building a Resilient Cook County

Construction Fund

14

2018 Budget

Building a Resilient Cook County

Construction Fund

	Appropriations
2018	$24,842,100
2017	34,450,400
Change	$9,608,300
	27.9%

(Including BF-19 Changes)

15

2017 Accomplishments

Optimize aeration processes and reduce energy consumption

- Purchased a turbo blower for the Lemont WRP with an expected 25 percent, or $17,000, reduction in annual electrical costs
- Completed the energy conservation project to install a new boiler system at the 125th Pumping Station in the Calumet Service Area

16

2017 Accomplishments

Green infrastructure implementation: Completed the installation of a permeable parking lot at the Egan WRP

17

2017 Accomplishments

Develop and implement targeted odor control strategies

- Evaluated odor control strategies for various process areas at the Egan and O'Brien WRPs

Utilize Fulton County for nutrient control

- Install drain tiles and bioreactors, a best management practice for reducing nitrogen runoff

18

Major Initiatives & Changes

Prioritize projects to ensure the best use of current spending

- Add 49 projects to the 2018 contract schedule based on their alignment with the Strategic Business Plan

Establish excellence in maintenance and operations

- Replace HVAC equipment, District-wide
- Replace railroad grade crossings, Stickney Service Area

19

Major Initiatives & Changes

Pursue the recovery of natural resources and implement sustainable and resilient practices

- Continue phosphorus removal feasibility studies for the Egan, Hanover Park, Lemont, and Kirie WRPs
- Continue research project utilizing algae technology for the recovery of phosphorus and nitrogen
- Complete the digester gas turbine rehabilitation project

20

Major Initiatives & Changes

Seek optimal solutions to provide the best services and products available

- Develop plans to construct and operate a pilot unit of the MicroNiche™ technology at the O'Brien WRP

Provide active leadership in water issues

- IGA with the USGS to operate a water quality superstation in the Des Plaines River

21

2018 Budget

Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Engineering

Executive Director's Budget Recommendations

Marcella V. Landis, Acting Director of Engineering

2018 Budget

Building a Resilient Cook County

Engineering - Corporate Fund

	Appropriations	Positions
2018	$27,849,900	242
2017	28,835,400	246
Change	↓ 985,500	↓ 4
	3.4%	

Note: An additional 30 operational positions are funded by the Stormwater Management Fund for 2018.

23

2017 Accomplishments

Deliver and implement flood relief plan for Cook County

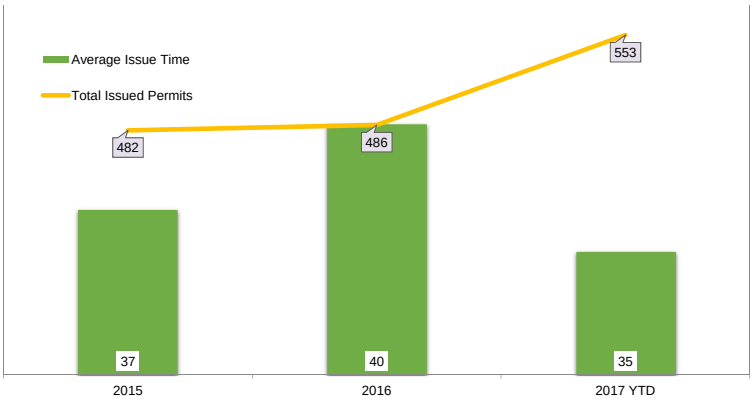
- As a result of WMO enforcement, in 2017 we expect to have permitted approximately:
  - 17 million gallons of volume control storage through GI
  - 95 million gallons of locally-provided stormwater detention

24

2017 Accomplishments

Issue permits in less than 30 days

- Average WMO permit issuance time = 35 day (down from 40 days in 2016)



25

Major Initiatives & Changes

Issue permits in less than 30 days

- Inform WMO applicants of compliance options and improve procedures to streamline process

Enhance use of current technology platforms

- Provide GPS units to local municipalities to map their sewer systems in GIS
  - District receives sanitary, storm, and combined sewer information

26

2018 Budget

Building a Resilient Cook County

Capital Improvements Bond Fund

	Appropriations
2018	$304,468,400
2017	354,625,600
Change	$50,157,200
	14.1%

(Including BF-19 Changes)

27

2017 Accomplishments

Implement flood relief for Cook County

- McCook Reservoir completion in 2017

28

2017 Accomplishments

Recycle demolition material on all District projects

- In 2017, so far over 700 tons of construction and demolition material recycled

29

Major Initiatives & Changes

Develop planning schedules and adhere to project timeframes

- Construction delivery
- Design delivery

Implement food-to-energy at the Calumet WRP

- Design is complete and project is bid
- Waiting board consideration once risk analysis is complete

Maximize use of digester gas at the Stickney WRP

- Gas increase with primary tanks – FY2018

Optimize aeration processes and reduce energy consumption

- Evaluating piping configuration and turn-down capacity of blowers

30

2017 Accomplishments

Schedule Status Report : Dashboard View
10/27/2017

Project Number	Project Name	Contract Starting Date	Orig. Dur.	Add. Days Grant.	Cal. Days In Cont.	Current Compl. Date	Days +/-End Current Month	Subst. Compl. Date	Projected Compl. Date	% of Original Contract Time
(2) Awarded - Pre-Mobilization (no SOV)										
0										
(2) Final Completion (in closeout)										
04-131-2D	Rehabilitation of the A/B and C/D Service Tunnels	2/8/2013	1,278	0	1,278	8/8/2016	91	3/9/2016	5/9/2016	88%
06-842-2E	Electrical Equipment Replacement	4/14/2015	545	93	638	10/10/2017	0	9/28/2016	1/10/2017	98%
11-052-3F	Streambank Stabilization for the West Fork of the NB of the Chicago River	5/10/2016	370	0	370	5/14/2017	-124	7/11/2017	9/15/2017	115%
11-403-2P	Membrane Gas Holder Replacement and Digester Cleaning at Egan WRP	12/2/2014	720	234	954	7/12/2017	-23	6/12/2017	8/4/2017	128%
6										
(2) Substantially Complete										
04-202-4F	Connecting Tunnels and Gates Thornton Composite Reservoir	5/28/2010	1,570	243	1,813	5/14/2015	-900	11/26/2015	10/31/2017	128%
04-203-4F	Final Reservoir Preparation Thornton Composite Reservoir, CSA	12/31/2010	1,670	97	1,767	11/1/2015	-730	12/24/2015	10/31/2017	109%
06-494-3P	Centrifuge Building and Sludge Loading System Upgrades, EWRP and HPWRP	3/26/2013	730	0	730	3/25/2015	-981	8/2/2016	11/20/2017	168%
14-714-21	Parking Lot Replacement at Egan Water Reclamation Plant	10/16/2015	465	0	465	1/22/2017	-289	11/28/2016	11/7/2017	88%
4										
(2) Under Construction										
02-111-3M	TARP Pump #8 Rehabilitation Mainstream Pumping Station	5/8/2015	365	0	365	5/7/2016	-605	10/3/2017	1/3/2018	241%
04-128-3P	Westside Primary Settling Tanks & Aerated Grit Tanks	12/23/2014	1,200	0	1,200	4/6/2018	-185	8/9/2018	10/8/2018	115%
04-132-3D	A/B and C/D Service Tunnel Rehabilitation – Phase Two	5/18/2016	1,095	0	1,095	5/17/2019	-51	5/8/2017	7/7/2019	32%
06-155-3S	Salt Creek Intercepting Sewer 2 Rehabilitation, SSA	12/19/2015	1,060	0	1,060	11/12/2018	0	9/13/2018	11/12/2018	94%
06-212-3M	Calumet TARP Pump Station Improvements	5/21/2013	1,825	0	1,825	5/19/2018	-129	5/7/2018	9/25/2018	99%
09-182-3E	D799 Switchgear Replacement Stickney Water Reclamation Plant	1/6/2016	1,095	318	1,413	11/18/2019	0	9/19/2019	11/18/2019	123%
10-237-3F	Streambank Stabilization on Oak Lawn Creek, Cal-Sag Channel Watershed	9/27/2016	730	0	730	9/26/2018	-61	12/16/2018	12/16/2018	111%
10-882-DF	Streambank Stabilization Flood Control Project for Tinley Creek in Orland Hills	5/5/2016	1,460	0	1,460	5/4/2020	0	5/4/2020	5/4/2020	100%
10-883-AF	Flood Control/Streambank Stabilization on Tinley Creek	10/7/2015	1,460	0	1,460	10/5/2019	0	10/5/2019	10/5/2019	100%
10-883-CF	Cherry Creek East Branch Flood Control Project	3/23/2017	1,460	0	1,460	3/22/2021	0	3/22/2021	3/22/2021	100%
11-195-AP	Phosphorous Recovery Facility, SWRP	9/4/2014	720	67	787	10/29/2016	-548	2/28/2018	4/30/2018	127%
11-239-3S	Calumet Intercepting Sewer 19F Rehabilitation, CSA	6/25/2016	620	0	620	3/6/2018	0	3/6/2018	3/6/2018	100%
13-106-4F	McCook Reservoir, Des Plaines Inflow Tunnel, SSA	7/9/2016	1,294	0	1,294	1/23/2020	-119	4/21/2020	5/21/2020	107%
13-246-3M	Calumet TARP Screens, Calumet Water Reclamation Plant	3/10/2015	1,460	0	1,460	3/8/2019	300	10/13/2018	5/12/2018	90%
14-824-3D	Rehabilitation of Bridges,NSA on the North Shore Channel	9/27/2016	370	0	370	10/1/2017	-249	12/22/2017	1/26/2018	132%
15-072-3D	Safety Railing Around Tanks, Terrence J. O'Brien Water Reclamation Plant	10/5/2016	370	0	370	10/9/2017	-66	12/4/2017	12/14/2017	115%
15-118-3M	Main Sewage Pump Seal Water system Modification	1/19/2017	545	0	545	7/18/2018	0	5/18/2018	7/18/2018	89%
15-120-3P	Conversion of OLD GCTs to WASSTRIP Process	6/14/2016	550	0	550	12/15/2017	-72	12/24/2017	2/25/2018	101%
15-122-3P	Aeration Tanks Air Valves Automation in Batteries A, B, C and D	10/25/2016	730	0	730	10/24/2018	88	5/29/2018	7/28/2018	80%
15-123-3D	Safety Railing Around Tanks, Stickney Water Reclamation Plant	8/30/2016	400	0	400	10/3/2017	-27	10/6/2017	10/30/2017	101%
15-265-3D	Safety Railing Around Tanks, Calumet WRP	11/11/2016	370	0	370	11/16/2017	-30	12/16/2017	12/16/2018	108%
16-125-4F	McCook Reservoir Stage 2 Slope Stabilization & Retaining Walls in the (SSA)	4/25/2017	370	0	370	4/29/2018	0	2/25/2018	4/29/2018	83%
16-268-2V	Industrial Waste Division (IWD) and Const. Office Renovation at the CWRP	12/6/2016	400	0	400	1/9/2018	-139	3/29/2018	5/28/2018	120%
23										

Schedule Status Report

31

2017 Accomplishments

Contract Values to Date
Latest Pay Request Data for Active Projects as of 10-27-17

Project Number	Project Name	Latest Contractor Pay App Approved Date	Original Contract Sum	Contract Sum to Date	Total Completed & Stored to Date	% Complete	% of Original Bid
06-842-2E	Electrical Equipment Replacement	1/11/2017	$1,949,646.00	$1,988,487.68	$1,972,367.62	99.2%	102%
06-494-3P	Centrifuge Building and Sludge Loading System Upgrades, EWRP and HPWRP	9/11/2017	$9,044,000.00	$9,291,169.50	$9,111,840.90	98.1%	103%
04-202-4F	Connecting Tunnels and Gates Thornton Composite Reservoir	2/8/2017	$135,475,200.00	$137,067,451.17	$133,630,105.82	97.5%	101%
04-131-2D	Rehabilitation of the A/B and C/D Service Tunnels	1/11/2016	$13,615,000.00	$14,047,024.65	$13,641,852.23	97.1%	103%
10-883-AF	Flood Control/Streambank Stabilization on Tinley Creek	10/11/2017	$7,222,220.00	$7,358,539.96	$7,139,600.53	97.0%	102%
15-123-3D	Safety Railing Around Tanks, Stickney Water Reclamation Plant	10/13/2017	$5,239,000.00	$5,271,460.61	$5,090,969.33	96.6%	101%
11-052-3F	Streambank Stabilization for the West Fork of the NB of the Chicago River	10/11/2017	$413,000.00	$429,795.19	$411,795.19	95.8%	104%
04-203-4F	Final Reservoir Preparation Thornton Composite Reservoir, CSA	3/13/2017	$50,763,937.00	$53,932,475.17	$51,356,777.47	95.2%	106%
11-195-AP	Phosphorous Recovery Facility, SWRP	9/11/2017	$31,879,000.00	$34,905,483.55	$32,538,660.25	93.2%	109%
11-403-2P	Membrane Gas Holder Replacement and Digester Cleaning at Egan WRP	10/10/2017	$4,364,000.00	$5,832,802.63	$5,342,687.21	91.6%	134%
13-246-3M	Calumet TARP Screens, Calumet Water Reclamation Plant	10/10/2017	$12,754,000.00	$12,754,000.00	$11,496,217.50	90.1%	100%
06-212-3M	Calumet TARP Pump Station Improvements	10/10/2017	$35,067,000.00	$36,233,366.93	$32,307,322.00	89.2%	103%
15-072-3D	Safety Railing Around Tanks, Terrence J. O'Brien Water Reclamation Plant	10/9/2017	$1,400,000.00	$1,555,493.45	$1,330,708.63	85.5%	111%
04-128-3P	Westside Primary Settling Tanks & Aerated Grit Tanks	10/10/2017	$224,760,000.00	$232,212,836.07	$197,889,406.62	85.2%	103%
15-122-3P	Aeration Tanks Air Valves Automation in Batteries A, B, C and D	10/10/2017	$6,566,307.00	$6,654,230.00	$5,646,687.53	84.9%	101%
10-882-DF	Streambank Stabilization Flood Control Project for Tinley Creek in Orland Hills	12/1/2016	$664,000.00	$664,000.00	$545,672.00	82.2%	100%
10-883-CF	Cherry Creek East Branch Flood Control Project	10/6/2017	$3,304,500.00	$3,304,500.00	$2,715,112.44	82.2%	100%
06-155-3S	Salt Creek Intercepting Sewer 2 Rehabilitation, SSA	10/10/2017	$43,878,100.00	$44,223,508.01	$32,599,053.45	73.7%	101%
14-824-3D	Rehabilitation of Bridges,NSA on the North Shore Channel	10/6/2017	$2,093,000.00	$2,260,251.30	$1,652,437.82	73.1%	108%
02-111-3M	TARP Pump #8 Rehabilitation Mainstream Pumping Station	7/12/2017	$4,533,000.00	$4,631,675.87	$3,367,595.88	72.7%	102%
15-120-3P	Conversion of OLC GCTs to WASSTRIP Process	10/10/2017	$5,223,243.00	$5,402,617.04	$3,575,542.64	66.2%	103%
15-265-3D	Safety Railing Around Tanks, Calumet WRP	10/10/2017	$1,455,030.00	$1,455,030.00	$911,136.60	62.6%	100%
04-132-3D	A/B and C/D Service Tunnel Rehabilitation – Phase Two	10/10/2017	$20,519,000.00	$20,614,593.58	$11,004,858.07	53.4%	100%
13-106-4F	McCook Reservoir, Des Plaines Inflow Tunnel, SSA	10/11/2017	$107,770,362.00	$107,764,062.00	$53,598,081.41	49.7%	100%
11-239-3S	Calumet Intercepting Sewer 19F Rehabilitation, CSA	10/11/2017	$12,395,588.70	$12,395,588.70	$5,785,746.27	46.7%	100%
16-268-2V	Industrial Waste Division (IWD) and Const. Office Renovation at the CWRP	10/11/2017	$2,546,000.00	$2,564,483.07	$1,001,862.15	39.1%	101%
14-714-21	Parking Lot Replacement at Egan Water Reclamation Plant	7/11/2017	$1,461,900.00	$1,519,004.25	$535,606.78	35.3%	104%
09-182-3E	D799 Switchgear Replacement Stickney Water Reclamation Plant	10/12/2017	$12,645,300.00	$12,785,040.03	$3,221,774.01	25.2%	101%
10-237-3F	Streambank Stabilization on Oak Lawn Creek, Cal-Sag Channel Watershed	9/12/2017	$3,035,000.00	$3,035,000.00	$609,109.89	20.1%	100%
15-118-3M	Main Sewage Pump Seal Water system Modification	10/10/2017	$1,121,000.00	$1,113,300.00	$220,987.00	19.8%	99%
16-125-4F	McCook Reservoir Stage 2 Slope Stabilization & Retaining Walls in the (SSA)	9/22/2017	$7,338,677.00	$7,338,677.00	$586,658.68	8.0%	100%
Report Total:			**$770,496,010.70**	**$790,605,947.41**	**$630,838,233.92**	80%	101%

32

2018 Budget

Building a Resilient Cook County

Stormwater Management Fund

	Appropriations	Positions
2018	$65,880,200	57
2017	45,800,100	59
Change	↑ $20,080,100	↓ 2
	43.8%	

33

2017 Accomplishments

Develop and implement effective flood mitigation programs

- Five pilot studies completed
- Buyout programs implemented
- Phase I projects
- Phase II – Annual Submittals

Structure a multi-dimensional, culture changing strategy for green infrastructure

- Space to Grow
- 47 community submittals in 2017
- Annual green infrastructure project submittals
- WMO permitted green infrastructure – estimated in excess of 17 million gallons of retention capacity in 2017

34

2017 Accomplishments

Stormwater Management projects completed to date:

- Over 3,500 structures protected

PHASE I

Project Number	Project Title/IGA Description	Structures Protected
09-365-5F	Heritage Park Flood Control Facility / Levee 37	600
14-IGA-01	Elmwood Park Floodwall and Pump Station	50
10-885-AF	Streambank Stabilization Project for I&M Canal Tributary D	19
11-889-5F	Streambank Stabilization Project for Higgins Creek	6
11-889-5F	Streambank Stabilization Project for McDonald Creek	3
10-884-AF	Flood Control Project for Upper Salt Creek	18
10-883-AF	Flood Control/Streambank Stabilization on Tinley Creek in Crestwood	173
10-882-DF	Streambank Stabilization Project on Tinley Creek	12
11-052-3F	Streambank Stabilization Project on West Fork of NBCR	2
10-883-CF	Flood Control Project on the East Branch Cherry Creek in Flossmoor	16
15-IGA-13	Centerpoint Preserve Riparian Area Restoration	1

35

2017 Accomplishments

Stormwater Management projects completed to date:

- Over 3,500 structures protected

PHASE II

Project Number	Project Title/IGA Description	Structures Protected
14-IGA-02	Glenview 1 - East of Harms	1,150
14-IGA-03	Westchester 1 - Mayfair Reservoir Expansion	60
14-IGA-04	Des Plaines 12	56
15-IGA-12	Winnetka 4	27
15-IGA-08	Hoffman Estates 1	57
15-IGA-09	Lansing 1	67
15-IGA-10	Northbrook 2 and 5	40
15-IGA-03	CCDTH 2 - Roberts Road	30
15-IGA-07	Franklin Park 5	76
15-IGA-11	Willow Springs 1	20
15-IGA-02	Niles 1	140
15-IGA-15	Glenwood Relief Sewer	12
15-IGA-16	Brookfield 1	14
15-IGA-06	Elk Grove Village 1	44
15-IGA-19	IDOT 11 - IL53 and IL62 Interchange in Rolling Meadows	4
15-IGA-17	Lemont 1	2
16-IGA-05	Glencoe 4 & 6	16
17-IGA-01	Hillside Master Plan	TBD

36

2017 Accomplishments

Stormwater Management projects completed to date:

- Over 3,500 structures protected

Green Infrastructure		
Project Number	Project Title/IGA Description	Structures Protected
14-IGA-06	CPS Green Infrastructure 2014 (4 pilot schoolyards completed)	4
15-IGA-20	CPS Green Infrastructure 2015-2019 (5 schoolyards completed)	5
14-254-3FR	Blue Island GI	12
14-IGA-05	Evanston Civic Center Parking Lot (GI)	102
15-IGA-21	Northbrook - Wescott Park Stormwater Reuse (GI)	70
15-IGA-17	Wilmette Green Alleys	160
16-IGA-01	Kenilworth GI	105
16-IGA-07	Berwyn GI	336
16-IGA-09	Niles GI	60
16-IGA-19	Chicago Park District - Parjana	1
Flood-Prone Property Acquisitions		
15-IGA-01	Glenview Flood Prone Acquisition	17

37

Major Initiatives & Changes

Deliver and implement flood relief plan for Cook County

- Program Managers for combined & separate sewer areas
  - Interviews complete, will bring to Board for consideration
  - Work with local communities to find solutions to stormwater issues using an outcome-based approach at an affordable cost
- Construct regional stormwater projects: Addison Creek Reservoir, Farmers-Prairie Creek Flood Control Project, Lyons Levee, Melvina Ditch Reservoir Expansion, Buffalo Creek Reservoir Expansion, and Deer Creek Flood Control
- Leverage grant funding from IEPA and Cook County
- Green Book

38

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Monitoring & Research

Executive Director's Budget Recommendations

Donna Coolidge, Assistant Director of Monitoring & Research

2018 Budget

Building a Resilient Cook County

Monitoring & Research

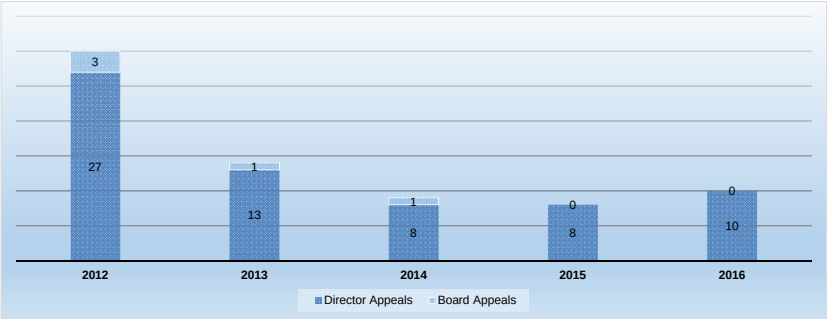
	Appropriations	Positions
2018	$31,637,100	315
2017	31,270,400	309
Change	↑ $366,700	↑ 6
	1.2%	

41

2017 Accomplishments

Transition from an enforcement perspective to informed compliance

- Implementation of single account representative, data sharing initiatives, and educational outreach to the user community
- 30 users have been moved into the simplified reporting program, with another 160 users under review



42

2017 Accomplishments

Develop and implement targeted odor control strategies

	Conceptual Designs	
	Completed in 2017	To be completed in 2018
SWRP	5	2
CWRP	2	-
HPWRP	3	-
KWRP	1	2
OWRP	-	4
EWRP	-	4

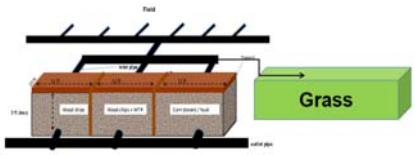
43

2017 Accomplishments

Utilize Fulton County property for nutrient control

- Cover crops research and demonstration plots as a nutrient reduction best management practice (BMP) have been established
- Field days have been conducted in collaboration with Illinois Central College to demonstrate the practice to local farmers
- Research and demonstrations of other BMPs are established in collaboration with University of Illinois Urbana-Champaign

Bioreactor/Saturated Buffer (2017)



Removes nitrogen and phosphorus in tile drain

44

2017 Accomplishments

Continue the prioritization of projects to ensure best use of current spending

- Interdepartmental Long-Term Planning Process
- Interdepartmental Capital Project Vetting Process

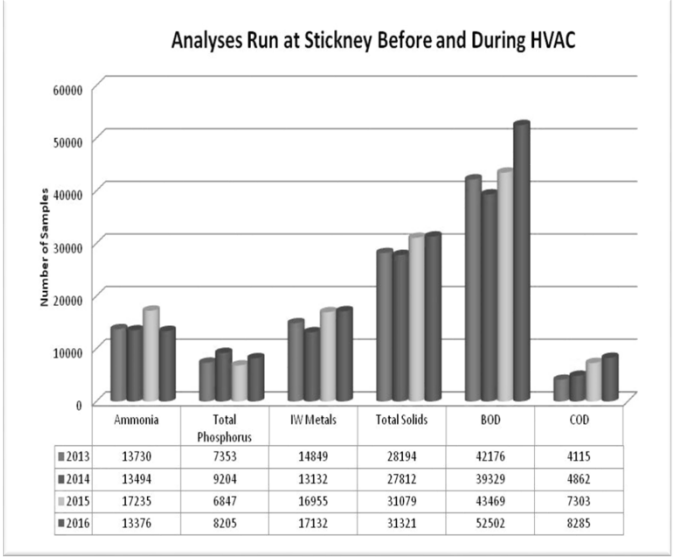
45

2017 Accomplishments

Maintaining excellence through major laboratory renovations

Before

After

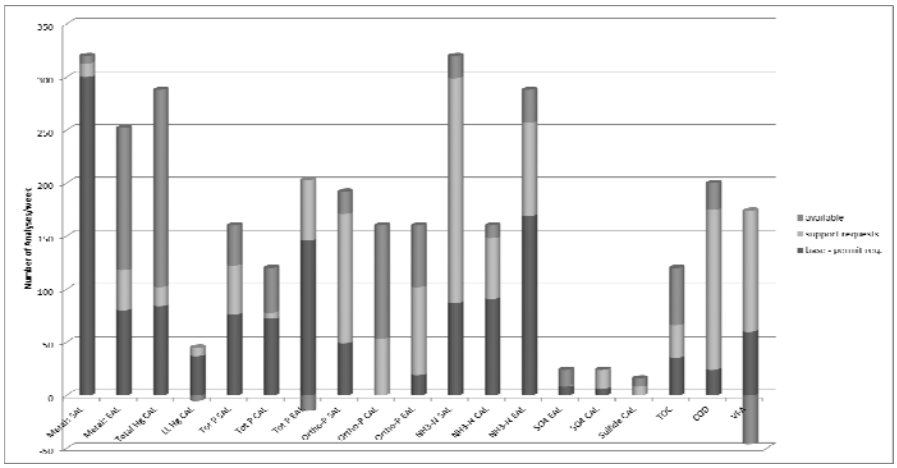


	Ammonia	Total Phosphorus	IW Metals	Total Solids	BOD	COD
2013	13730	7353	14849	28194	42176	4115
2014	13494	9204	13132	27812	39329	4862
2015	17235	6847	16955	31079	43469	7303
2016	13376	8205	17132	31321	52502	8285

46

2017 Accomplishments

Develop planning schedules and adhere to project timeframes



Analytical Laboratory Division (ALD) Support Request Dashboard

47

2017 Accomplishments

Implement recovery process at the Calumet and Egan WRPs by 2022

- Completed Phosphorus Removal Evaluation at the Calumet WRP
- Recommendation: EBPR with Phosphorus Recovery
- An interdepartmental review of all Phosphorous Recovery Technologies (Task Force)

48

2017 Accomplishments

Explore algae nutrient reduction processes as an additional recovery resource

- Phase 1 of pilot testing of the Revolving Algae Biofilm (RAB) reactor has been completed
- A new 10-ft. tall RAB is has been installed and is now in operation for a one-year study
- A second algae treatment research study is in progress at UIUC using submerged LED lights and floating plastic media for algae attachment

49

2017 Accomplishments

	Stickney WRP	Calumet WRP	Total
Truckloads	110	100	210
Volume (gallons)	547,500	500,000	1,047,500
Tipping Fees Collected	$27,375	$25,000	$52,375

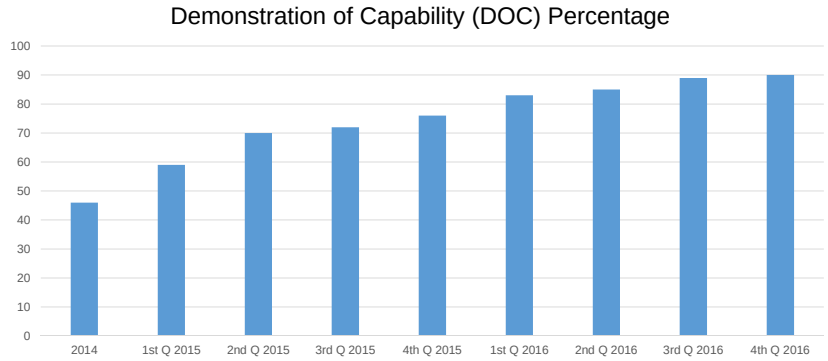
**As of October 16, 2017*

- First permit was approved on April 24, 2017
- First truckload to Stickney WRP was on April 26, 2017
- First truckload to Calumet WRP was on August 23, 2017

50

2017 Accomplishments

Develop and implement leadership initiatives that support succession planning



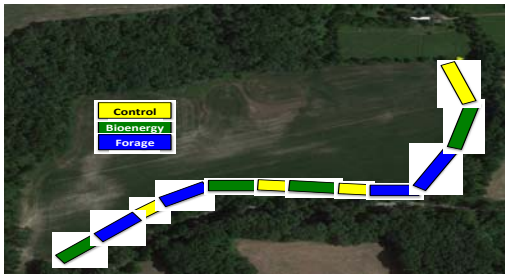
- 90 percent DOC completion rate
- Volunteer Technician Exchange Program
- Technicians Cross-Training

51

Major Initiatives & Changes

Continue to use the Fulton County site for conducting non-point source nutrient loss reduction studies

- Completing drainage tile installation and initiating the study for water management in drainage tiles
- Completing the installation of bioreactors for nitrogen removal and initiating the bioreactor evaluation study



52

Major Initiatives & Changes

Continue odor control/mitigation strategies for District WRPs

Continue the prioritization of projects to ensure the best use of current spending

- Phosphorus removal feasibility studies for seven WRPs
- Continue to update the District's long-term capital plan and integrate this process with the District's budget process in the first half of 2018

■ *Hydrogen Peroxide Dosing System for TARP Pumpback.*

53

Major Initiatives & Changes

Pursue the sale of biosolids to the marketplace

- District-wide biosolids master plan with the goal of completing long-term plan for LASMA

Explore algae nutrient reduction processes

- Conduct Phase 2 study on using algae for nutrient removal with 10-foot height revolving belts

Implement phosphorus recovery process at Calumet by 2022

- Complete technology evaluation for phosphorus recovery at the Calumet WRP
- Recruit more high strength organic materials for biological phosphorus removal at the Calumet WRP

54

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Finance

Executive Director's Budget Recommendations

Jacqueline Torres, Clerk/Director of Finance

2018 Budget
Building a Resilient Cook County

Finance

	Appropriations	Positions
2018	$3,680,300	28
2017	3,684,400	28
Change	↓ $4,100	→ --
	0.1%	

56

2017 Accomplishments

Manage resources to ensure financial stability targets are met

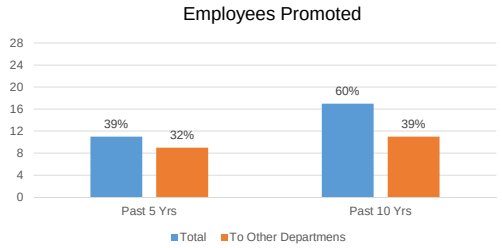
- Received an unmodified (clean) opinion for the 2016 Comprehensive Annual Financial Report (CAFR)
- Received the Government Finance Officers Association Award for Excellence in Financial Reporting on the 2016 CAFR for the 42nd consecutive year
- Completed ten planned audits resulting in assurance of continued compliance, improved operating efficiencies, and cost savings
- Established the District's Sales Tax Filing with the State of Illinois

57

2017 Accomplishments

Develop a culture that recognizes the value of every employee

- Training initiatives have resulted in promotional opportunities for Finance staff



- Hold a one-day, off-site Team Building Training for all levels of the department

58

2017 Accomplishments

Technology

- Implemented CAFR solution to re-engineer compilation and delivery of financial information resulting in improved accuracy and increased efficiency
- Developed a strategy to optimize payment processing and increase Automated Clearing House (ACH) usage

59

Major Initiatives & Changes

Maximize automated solutions

- Enable functionality of vendor payment system to utilize straight-through processing
- Investigate ways to receive revenues using Automated Clearing House (ACH) processing

60

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Law

Executive Director's Budget Recommendations

Susan T. Morakalis, General Counsel

2018 Budget
Building a Resilient Cook County

Law

	Appropriations	Positions
2018	$7,417,700	37
2017	8,386,100	38
Change	↓ $968,400	↓ 1
	11.5%	

62

2017 Accomplishments

Excellence

- Complex settlement of the Citizens Suit - Federal lawsuit filed by the Natural Resources Defense Council, Inc., et al v MWRD

Maximize our real estate portfolio

- The Real Estate Division increased rental revenue by approximately $1 million

Focus on customer service and transparency

- The Freedom of Information Act (FOIA) link on the District's website now includes links to categories of records whereby the public can easily access many documents online, previously only obtainable by filing a FOIA request with the District

63

2017 Accomplishments

Provide legal support for resource recovery initiatives

- Oversaw the legal aspects of implementation of various resource recovery programs including the issuance of Organic Materials Discharge Authorization to allow delivery of high strength liquid waste for use in the phosphorus removal initiative
- Obtained anticipatory authority to participate in a nutrient trading program in Illinois to help meet water quality standards

64

Major Initiatives & Changes

Provide legal support for resource recovery initiatives

- Continue to oversee the legal aspects of the District's resource recovery programs

Provide support to our internal customers

- The Law Department will continue to work with the Public Affairs Section to facilitate drone operations

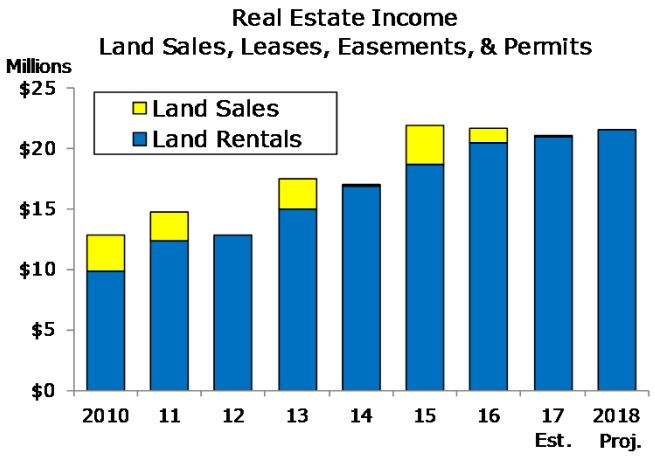
Maximize our real estate portfolio

- Real estate lease & easement revenue continues to grow. This revenue stream has increased from $9.8 million in 2010 to a projected $21.5 million in 2018.

65

Major Initiatives & Changes

Generate at least $21.5 million in real estate income



66

Major Initiatives & Changes

Participate in active leadership roles in a variety of organizations

- The Law Department has a member on the NACWA Legal Affairs Committee
- Continue to work with the M&O Department to facilitate and administer the chlorides work group created to bring together dischargers and other interested participants to address ways to reduce chlorides in the Chicago Area Waterway System
- Formed the Local Government Law Consortium, which comprises legal counsel representing 17 state, county, and local public bodies. It's goal is to build relationships with other local governmental in-house counsel in Cook County and to share ideas and common experiences.

67

2018 Budget

Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Procurement & Materials Management

Executive Director's Budget Recommendations

Darlene A. LoCascio, Director of Procurement & Materials Management

2018 Budget

Building a Resilient Cook County

Procurement & Materials Management

	Appropriations	Positions
2018	$9,383,500	63
2017	9,567,100	63
Change	$183,600	--
	1.9%	

69

2017 Accomplishments

Manage resources to ensure financial stability targets are met

- Secured an electricity supply price for 2019 of $0.02924 per kilowatt-hour kWh) for a total unit price of $0.03150 per kWh, including a bandwidth of 100 percent

Optimize work distribution processes and workflow

- Collaborated with M&O to ensure that 100 percent of materials and supplies required for preventive maintenance work orders are available in the storerooms

Achieve energy neutrality by 2023

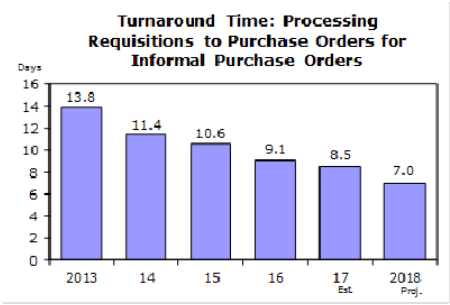
- Completed the replacement lighting project using high-efficiency light-emitting diode fixtures in the Stickney Water Reclamation Plant storeroom

70

Major Initiatives & Changes

Improve service levels to meet the needs and expectations of the internal customer to improve planning schedules and adherence to project timeframes

- For informal contract purchases, modifications are being implemented to reach the goal of a five-day turnaround time from requisition to purchase order



71

Major Initiatives & Changes

Develop processes that are results oriented

- Have an active role in the selection of engineering consultants and attorneys by developing a request for qualifications and search criteria for the vendor database

Promote environmental stewardship through recycling

- P&MM will complete the replacement of wooden pallets used for the racking systems at the District's storerooms with recyclable plastic pallets made with recycled content

72

Major Initiatives & Changes

Market electrical capacity at Lockport to maximize return on investment

- In collaboration with M&O, P&MM has awarded a contract to assist the District in becoming a PJM service provider to market electricity generation capacity at the Lockport Powerhouse, which will allow the District to begin buying and selling electrical energy and Renewable Energy Credits on the wholesale market

73

2018 Budget

Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

General Administration

Executive Director's Budget Recommendations

Eileen M. McElligott, Administrative Services Officer
Regina D. Berry, Diversity Administrator
Allison Fore, Public and Intergovernmental Affairs Officer

2018 Budget
Building a Resilient Cook County

General Administration

	Appropriations	Positions
2018	$16,343,500	121
2017	17,387,400	123
Change	↓ $1,043,900	↓ 2
	6.0%	

75

2018 Budget
Building a Resilient Cook County

Administrative Services

76

2017 Accomplishments

Provide base budget targets and assure approvals above base are strategic initiatives

Manage resources to ensure financial stability targets are met

- Monitor revenues and expenditures throughout year
- 2017 Budget received 33rd consecutive GFOA Distinguished Budget Presentation Award

Develop a culture that recognizes the value of every employee

- Developed a targeted training session for 49 analysts with Lake Forest College
- Trained Officers on Staff & Command and Use of Force

77

2017 Accomplishments

Ensure availability of medical disposal options

- Continued in-house drug collection and disposal program
  - 277.9 lbs. collected in 2016
  - 313.3 lbs. collected in 2017 YTD
- Continued partnership with Cook County Sheriff's Office to collect and dispose of used medications County-wide
  - 2,117.5 lbs. collected since IGA inception June 2016

78

2017 Accomplishments

Explore opportunities for recycle partnerships

- New single stream recycling program implemented at MOBC in September 2017

Before

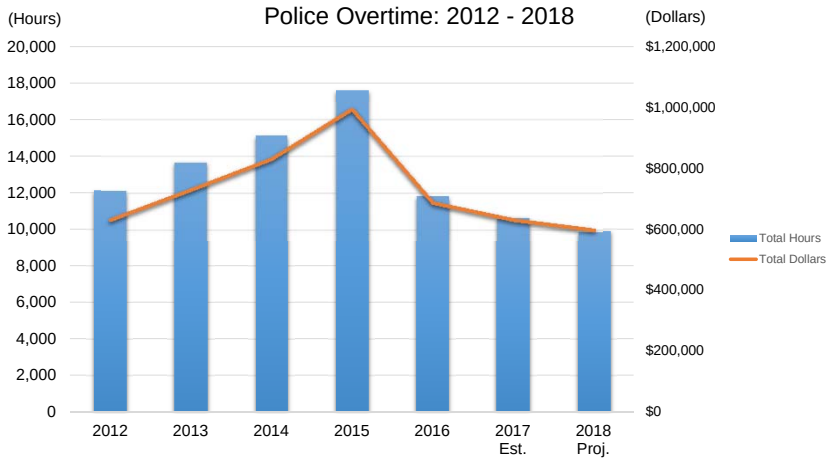
After

79

Major Initiatives & Changes

Optimize work distribution processes and workflow

- Police Section will optimize the relief unit to further reduce overtime



80

Major Initiatives & Changes

Streamline and simplify the budget process

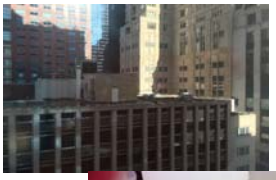
- Implement a new financial reporting tool to increase efficiencies in the data consolidation and publication of the budget book
- Revise chart of accounts to accurately reflect the organizational structure

81

Major Initiatives & Changes

Establish excellence in maintenance and operations

- Elevator upgrades at MOB
- Roof life extension at MOB
- Paint and carpet replacement at MOB
- Bathroom stall renovation at MOBC



82

2018 Budget
Building a Resilient Cook County

Diversity

83

2017 Accomplishments

Increase the number of MBE and WBE vendors on the District's vendor list

- Hosted two Minority/Women/Small Business Entity outreach events targeted towards professional service contractors and construction contractors
  - Events were attended by over 400 subcontractors, 70 prime contractors, other local government agencies, and assist agencies

84

2017 Accomplishments

Participate in active leadership roles

- Regina Berry named to Board of Directors for the American Contract Compliance Association

Hosted the Annual African American History Celebration

- Highlighted the Chicago City Council Wars of the 1980's
- Honored members of late Mayor Harold Washington's 21 – living and posthumously
- Honored Trailblazers in the area of Minority-owned and Women-owned Business inclusion

85

Major Initiatives & Changes

Strengthen compliance requirements for consulting contracts

- Implement recommendations from the Baker Tilly review of engineering consulting contracts
- Professional services contracts District-wide training FY2018

Enhance contracting opportunities

- Implement and establish a Small Business Enterprise Program for particular District contracts
- Host contract specific outreach events

86

2018 Budget

Building a Resilient Cook County

Public Affairs

87

2017 Accomplishments

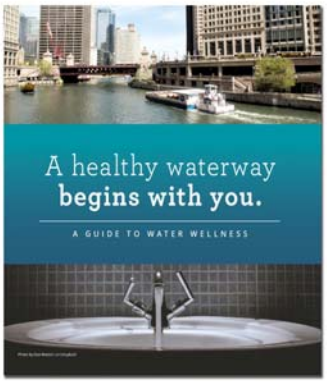
Work to revitalize the urban forest

- The District has distributed 45,000 saplings throughout Cook County through partnerships with community organizations, schools, Boy and Girl Scouts, municipalities, Park District, Forest Preserves, etc.

88

2017 Accomplishments, cont.

Develop prevention education materials. Copies are now available.



89

Major Initiatives & Changes

Develop a culture that recognizes the value of every employee

- Continue to prepare and send the daily '*MWRD in the News*' report to all employees
- Continue to write and disseminate the '*District Digest*' newsletter
- Work with the Human Resources Department to promote the Values Recognition program by recognizing staff excellence with a certificate and writing stories for the '*District Digest*'

90

Major Initiatives & Changes, cont.

Enhance use of current technology platforms

- Public Affairs will improve and expand drone operation skills; sample footage can be seen here:

91

Major Initiatives & Changes, cont.

Promote the District as one of the top leaders in the water industry

- Public Affairs will maintain the District's positive public image through proactive communications and by implementing an updated Community Outreach Plan that addresses all Strategic Business Plan goals

92

EFTEC
UTRIENT
MACKDOWN
#2017
FROM LEMONS
TO LEMONADE
WEFTEC SMACKDOWN 2017 FINAL

94

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Information Technology

Executive Director's Budget Recommendations

John H. Sudduth, Director of Information Technology

2018 Budget
Building a Resilient Cook County

Information Technology

	Appropriations	Positions
2018	$16,903,400	73
2017	17,358,600	75
Change	↓ $455,200	↓ 2
	2.6%	

96

2017 Accomplishments

Provide reliable system services to every user

- Completed the installation of wireless networks at MOB, MOBA, and conference rooms at various plant locations
- Re-architected the District's printing environment, cutting printing issues by 87 percent
- Increased the District's internet connection speed in efforts to better support hosted applications
- Completed the upgrade of network infrastructure at MOB and MOBA
- Replaced antiquated thin client devices with personal computers

97

2017 Accomplishments

Utilize current capability and develop a shared information technology vision

- Revamped the Help Desk to the IT Service Desk based on the IT Infrastructure Library (ITIL) best practice framework
- Completed the implementation of a new Information Technology Service Management solution to enhance help desk services, resulting in improved customer response
- Implemented a cyber security awareness program to better inform District staff of cyber threats
- Implemented an online channel atlas, giving the general public access to view vacant property online

98

Major Initiatives & Changes

Provide reliable system services to every user

- Telemetry system upgrade
  - Antiquated water-way phone lines
  - Consolidate the voicemail system
  - Upgrade PBX phone system converted to digital system
- Network infrastructure upgrade at various plant locations
  - Replace hardware at Stickney, Calumet, and Egan WRPs
  - Redesign the District's IT backup solution
- Reevaluate the District's ERP systems
  - Replace the employee Applicant Tracking system
  - Replace the intranet (District portal)

99

2018 Budget

Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Human Resources

Executive Director's Budget Recommendations

Beverly K. Sanders, Director of Human Resources

2018 Budget

Building a Resilient Cook County

Human Resources

	Appropriations	Positions
2018	$59,106,300	91
2017	60,905,400	141
Change	↓ $1,799,100	↓ 50
	3.0%	

101

2017 Accomplishments

Develop a culture that recognizes the value of every employee

- Delivered training courses
- Tuition reimbursement
- Leadership development

Wellness initiatives

- On-site health fairs
- Free on-site flu shots
- Mainstream 5k walk/run

Employee selection

- Served 8,000 individuals
- Administered civil service examinations for 60 classifications

102

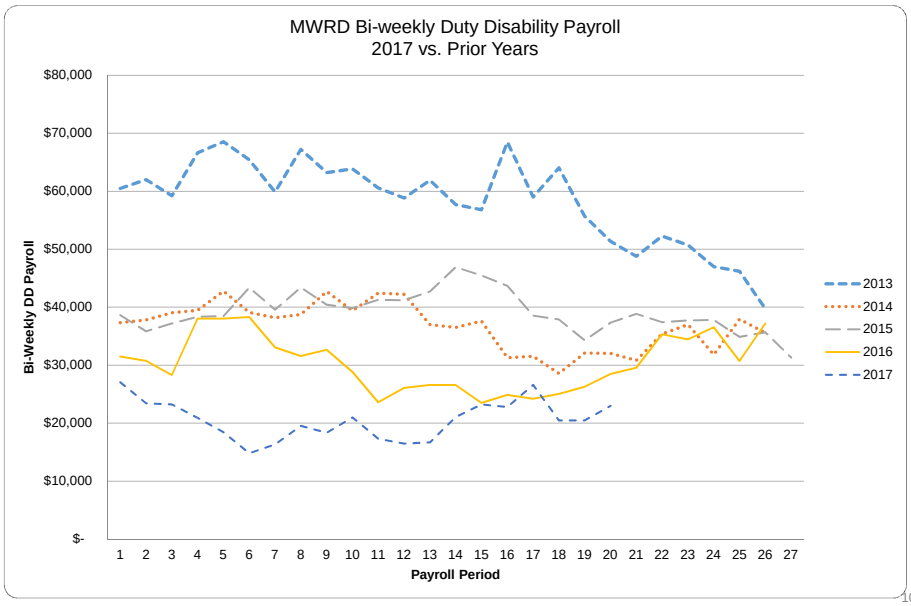
2017 Accomplishments

Strive to provide a safe environment for our employees

- Safety courses
  - 1,048 sessions
  - 8,623 attendees
  - 55 different topics

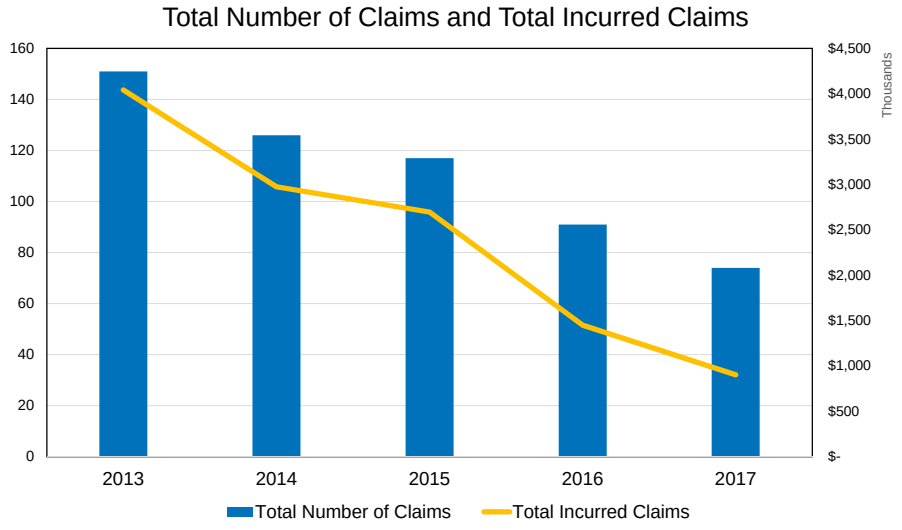
103

2017 Accomplishments



104

2017 Accomplishments



2017 figures are for 9 months

105

Major Initiatives & Changes

Develop and implement initiatives that support succession planning

- Coaching training
- Emerging leaders

Continue development of competency-based individual development plans

- Measureable goals

106

Major Initiatives & Changes

Develop a culture that recognizes the value of every employee

- Acknowledge accomplishments
- Training opportunities for all levels of the organization

Provide reliable system service to every employee

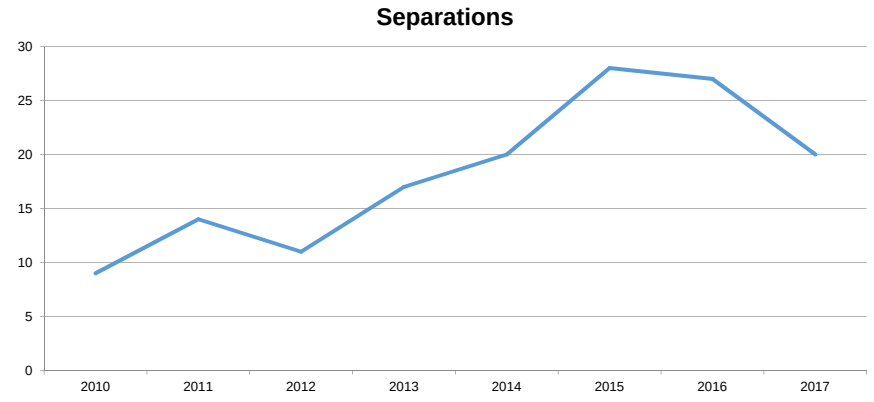
- Employee benefits software platform

107

Major Initiatives & Changes

Attract and retain employees

	2010	2011	2012	2013	2014	2015	2016	2017
Separations	9	14	11	17	20	28	27	20



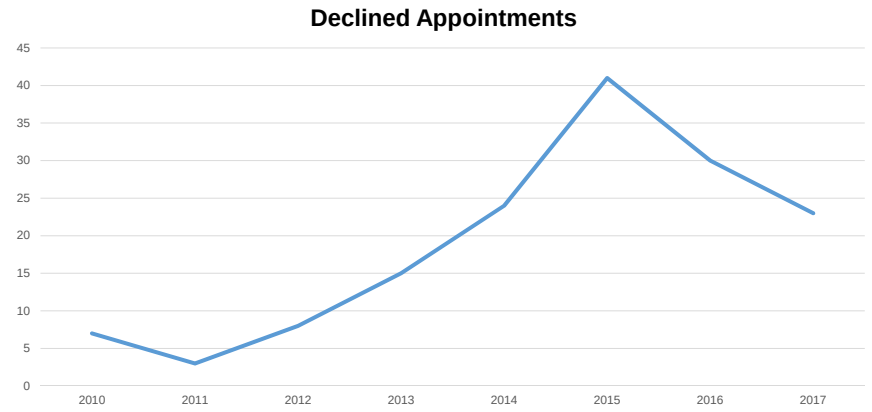
All voluntary or involuntary separations excluding retirements .

108

Major Initiatives & Changes

Attract and retain employees

	2010	2011	2012	2013	2014	2015	2016	2017
Declines	7	3	8	15	24	41	30	23



109

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

Board of Commissioners

Executive Director's Budget Recommendations

Nicholas O'Connor, Administrative Aide to President
Mary Ann Boyle, Treasurer

2018 Budget
Building a Resilient Cook County

Board of Commissioners

	Appropriations	Positions
2018	$4,665,700	38
2017	4,495,600	38
Change	$169,400	--
	3.8%	

111

2018 Budget
Building a Resilient Cook County

Board of Commissioners

- Establish policies and programs for the District
- Promote the District's Legislative Program with the state and federal governments
- Provide a forum to encourage community participation

112

2017 Accomplishments

Treasury

Manage resources to ensure financial stability targets are met

- Investment interest income earned for the year will be approximately $7.0 million, an increase of $1.9 million, or 37 percent, from 2016
- Fifth consecutive year of access to $200 million in low-interest loans from the IEPA as a result of the Illinois Clean Water Initiative
- The District progressed in meeting its funding policy goals for its Retirement plans. As of December 31, 2016, the Retirement Fund's funded ratio was 56.2 percent, and the OPEB Trust's funded ratio was 52.1 percent (based upon 2015 actuarial valuation).

113

Major Initiatives & Changes

Ensure the responsible use of resources

- Commit to excellence through responsible management of assets, maintenance of compliance with federal laws and state statutes, and fulfillment of pension and OPEB funding policy goals
- Maintain the District's high credit ratings
- 2018 budget includes a prepayment of $28.4 million in State Revolving Fund loans which will result in $9.6 million in interest cost savings. This prepayment illustrates the District's commitment to sustainable capital program funding.

114

2018 Budget
Building a Resilient Cook County

Metropolitan Water Reclamation District of Greater Chicago

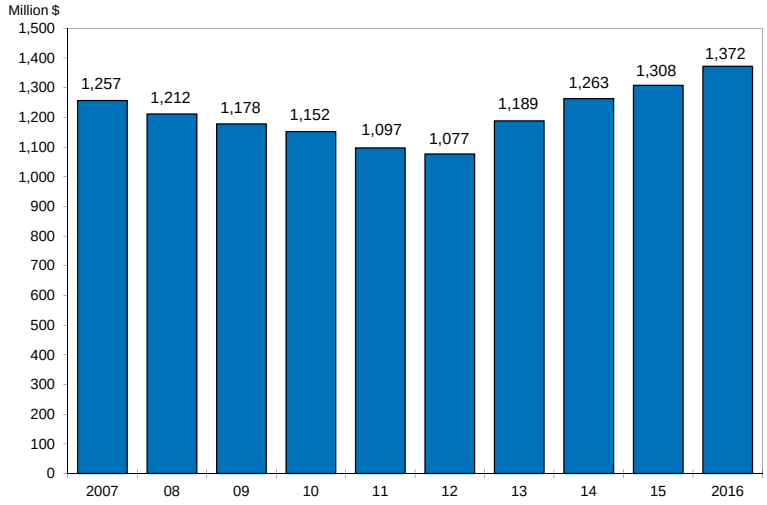
Retirement Fund

Executive Director's Budget Recommendations

Susan Boutin
Executive Director, Metropolitan Water Reclamation District Retirement Fund

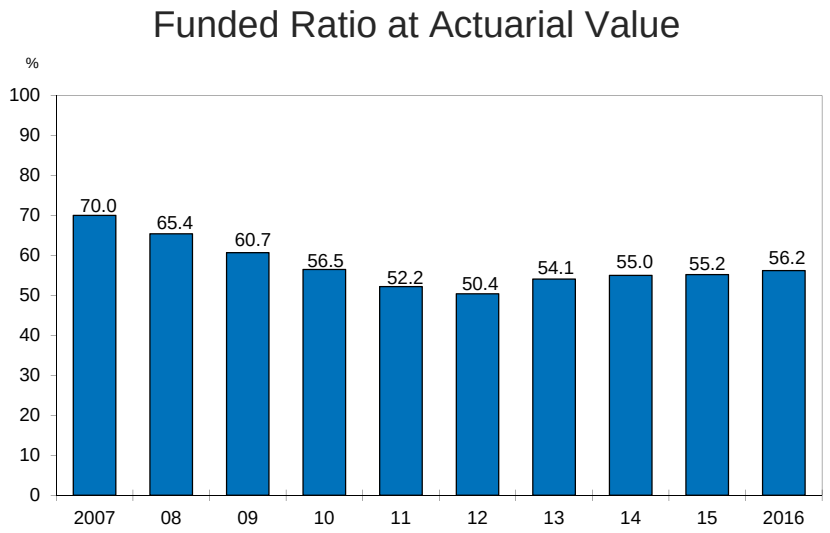
Actuarial Value of Assets

Actuarial Value of Assets from 2007 to 2016



116

Funded Ratio



117

District Retirement Obligations

As of December 31, 2016	
Actuarial Value of Assets	$1.4 billion
Total Actuarial Liability	$2.4 billion
Funded Ratio	56.2%
2017 Actuarially Determined Contribution	$65.7 million
2018 Expected Employer Contribution	$89.6 million

118

2018 Budget

Building a Resilient Cook County

Questions?

119