#### AUSTIN McFARLANE INTERIM DIRECTOR

PUBLIC WORKS, PLANNING AND TRANSPORTATION COMMITTEE AUGUST 26, 2020



#### DEPARTMENT OF PUBLIC WORKS PROPOSED 2020 - 2025 CAPITAL IMPROVEMENT PROGRAM

PROJECT OVERVIEW AND ENDORSEMENT REQUEST

Our mission is to provide drinking water and wastewater treatment services in an efficient, reliable and safe manner that meet or exceed the expectations of our customers and satisfy all local, state and federal requirements.

## **Presentation Outline**

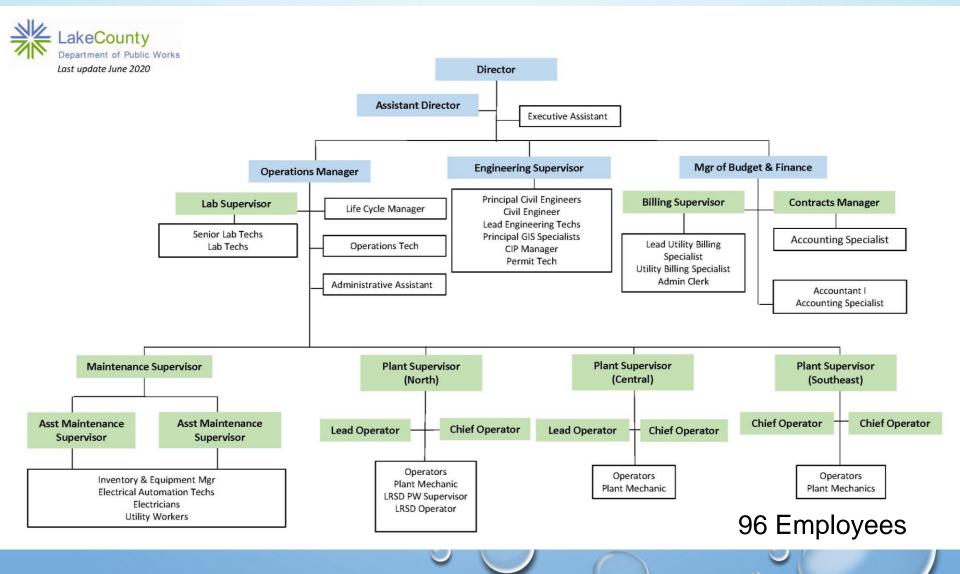
- Department Overview
  - Our Systems
  - Budget and Funding
  - Capital Improvement Program (CIP) Development
  - CIP Development Process
  - Investment Categories & Targets
  - Project Types
  - Anticipated Program Costs
  - 2020 Projects Underway
  - FY2021 Anticipated Construction Project Summary

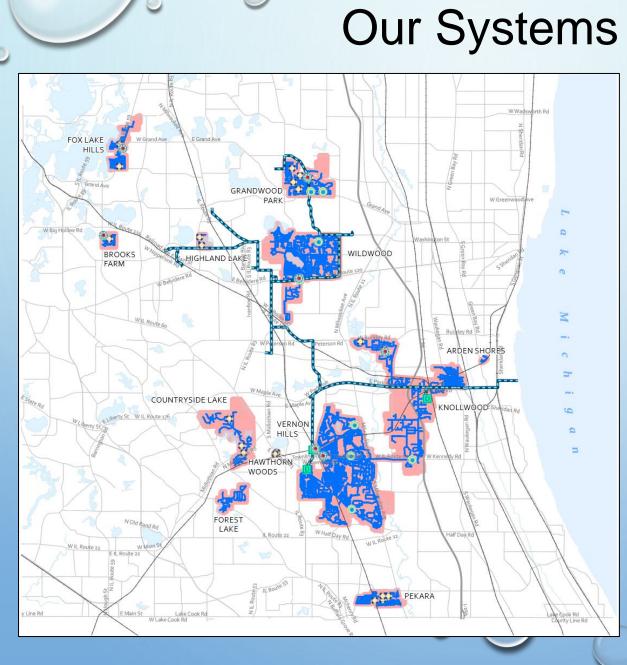
## **Department Overview**

- Created by County Board Resolution on October 9, 1962 under the provisions of the State of Illinois Water Supply, Drainage and Flood Control Act, more commonly known as the County Public Works Act of July 22, 1959
  - Provide water and sanitary sewer services to over 30,000 direct retail customers and 300,000 wholesale customers - primarily unincorporated areas, some municipalities
  - Administer testing, inspections, permits related to water & sewer
  - Perform other government services



## **Department Overview (Continued)**

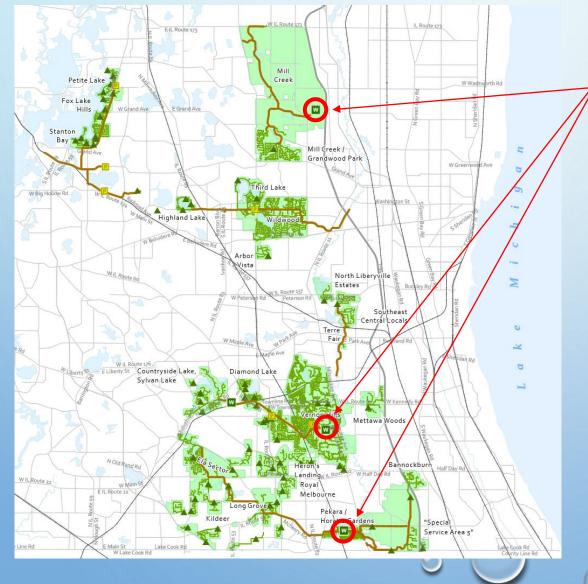




#### Water Systems

- 11 public water systems
- Over 290 miles of water main
- 24 wells
- 9 water reservoirs
- 8 water towers

## **Our Systems (Continued)**

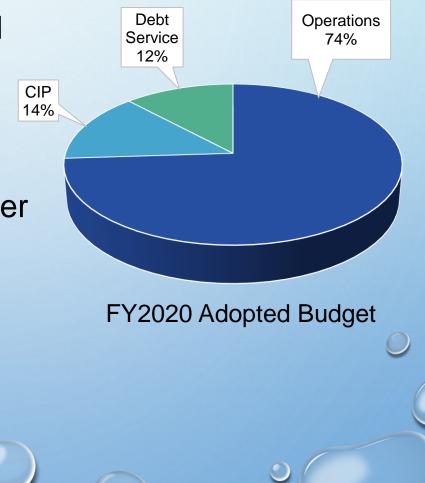


#### Wastewater Systems

- 3 treatment facilities
- 7 sewer systems
- Over 470 miles of sanitary sewer pipe
- 5 regional interceptor sewers
- 107 lift stations
- 5 pump stations
- Excess Flow Facility
- Levee Maintenance

## **Budget and Funding**

- County's sole Enterprise Fund
- Not property tax based
- Connection fees
- User fees from water and sewer used by property owners
- \$52M FY2020 Adopted Department Budget



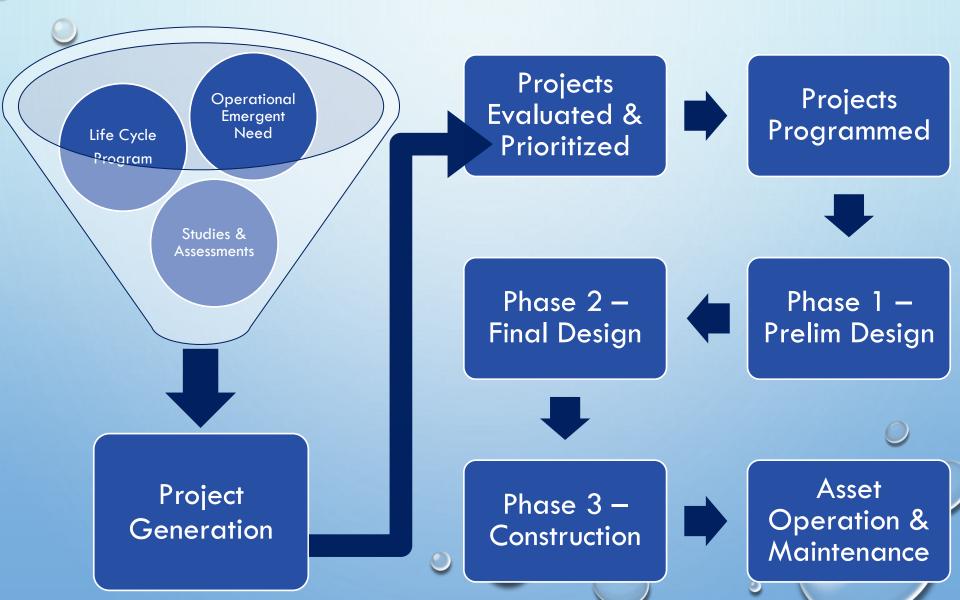
## **CIP** Development

#### **Overarching priorities**

- Meet regulatory requirements
- Maximize life of existing assets
- Recapitalize existing capacity
- Meet tomorrow's capacity demands
- Meet goals of County Strategic Plan



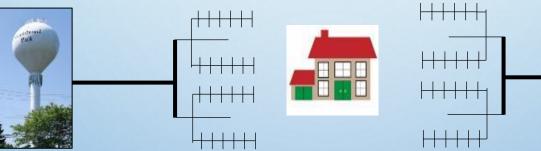
## **CIP** Development Process



## **Investment Categories & Targets**

Water Production & Storage \$1.7M

Water Distribution \$2.7M Wastewater Collection \$2.6M Wastewater Reclamation Facilities \$1.3M





# Other Support Facilities & Equipment





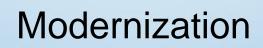


#### Project Types (2020-2025)





Higher priority Examples: water tower & lift station rehabs, sanitary sewer lining 79% of projects



Medium priority Examples: SCADA, some plant upgrades 18% of projects



#### Expansion

Typically lower priority Examples: upsizing water or sewer main, major plant upgrades 3% of projects

## Water Production & Storage

Map Key	Project Description	Project Type	Anticipated Construction Year*	Antioch Village of Antioch Open Space Downey Juliane Space Downey Julian	City of Zion Open Space 772 fr Harbor
1	Hawthorn Water Tower Rehabilitation	Preservation	2020	Lake Villa	Zion Wadsworth Beach Park
2	Wildwood Water System Storage	Modernization	2022	5 Fox Lake W ROWINS Rd Beach W ROWINS Rd	City of Waukegan Open Space
3	Brooks Farm Water Tower Rehabilitation & Drainage Improvement	Preservation	2021	Village of Round Lake Open Space La ke 21	Gurnee Waukegan Park City 43 North Chicago N Great Lakes
4	Vernon Hills Water System Reservoir	Expansion	2022	W Winchester Rd Libertyville Mundelein	0 1.5 3 Miles
5	Fox Lake Hills Reservoir	Expansion	2023	Land Conservancy of Lake County	Lake Forest
6**	Annual Tower and Reservoir Maintenance Projects – Various Locations	Preservation	2020-2025	Citizens for Conservation Open Space	Highland Park Deerfield

\*Dependent upon project readiness and availability of funding

\*\*Annual Tower and Reservoir Maintenance Projects at various locations not mapped

## Water Distribution

Map Key	Project Description	Project Type	Anticipated Construction Year*	Antioch Village of Antioch Open Space 772 ft Winthrop Harbor
1	Countryside Manor Water Main Replacement	Preservation	2022	State Park
2	Hawthorn Fashion Square Watermain Replacement	Preservation	2021	Lake Villa Lindenhurst Fox Lake
3	Highland Lake – Lake Michigan Water Study	Preservation & Modernization	TBD	W Rolling Rd Beach W Rolling Rd Gurnee Waukegan
4	Liberty Acres Rear Easement Water Main Replacement(Wildwood)	Preservation & Modernization	2023	Round Lake Village of Round Lake Open Space Z Z A A A A A A A A A A A A A
5	Oak Terrace Water System Replacement	Preservation & Modernization	2021	W Winchester Rd Libertvville 0 1.5 3
6	Vernon Hills Water System Emergency Interconnect	Preservation	2021	Wauconda Village of Ver Uls
7	Vernon Hills Water Main Replacement Near Oakwood Rd	Preservation	2023	Land Conservancy of Lake County
8	Grandwood Park Edgewood Dr	Preservation	2025	Citizens for Conservation Open Space Village of Long Grove Open Space Village of Long Grove Open Space
9	Grandwood Park South Sector	Preservation	2025	Buffalo Grove 776 ft Edens F.

## Water Distribution (Continued)

			/	Antioch Village of Antioch Deen Bace Z
Map Key	Project Description	Project Type	Anticipated Construction Year*	hain O'Lakes State Park
10	Pekara Lake Michigan Water Connection	Modernization	2022	Lindenhurst City of Waukegan Open Space
11	Pekara Water System Cast Iron Water Main Replacement (Phase I)	Preservation	2021	W Rollins Rd Beach W Rollins Rd Gurnee Waukegan Round Lake Park City
12	Pekara Water System Cast Iron Water Main Replacement (Phase II)	Preservation	2022	Grayslake Round Lake Open Space Lake C
13	Pekara Water System Cast Iron Water Main Replacement (Central Sector of Park West)	Preservation	2024	WWinchester Rd Libertyville Wauconda Wauconda Village of, Vernon Hills
14	Pekara Water System Cast Iron Water Main Replacement (Park East Townhouse)	Preservation	2024	Land Conservancy of Lake County Vernon Hills
				Grove Open Open Space B 10 - 14 Fdens e

## Wastewater Collection

Map Key	Project Description	Project Type	Anticipated Construction Year*	Á,	Antioch	Village of Antioch Open B Space B	City of Zion Open Space 772 ft Winthrop Harbor
1	Midland Force Main Replacement Part 1	Preservation	2020	ain O'Lakes State Park		N Crawfo	Zion
2	Wilson & Rollins Roads Sewer Lining	Preservation	2021	22	Lake Villa	Lindenhurst	Wadsworth Beach Park
3**	Lift Station Rehabilitation	Preservation	2020-2025	For	8 Round La	ake w Rollins Rd	City of Waukegan Open Space
4	IL Route 83 Force Main Realignment	Preservation & Modernization	2021		1,9 <sup>Ro</sup> 10		Gurnee Waukegan
5	SEC Siphon & Box Lining at DPR	Preservation	2021		Village of Round Lake Open Space	Grayslake	Park City 43 North Chicago N
6	Buffalo Grove Teal Lane Sanitary Sewer Interconnection	Modernization	2021	N Dantell Rd		W Winchester Rd Libertyville	Great Lakes
7	IL Route 22 utility relocation with IDOT improvement	Preservation	2021 (IDOT Dependent)	P.Darrell Rd	conda	Mundelein Village of, Vernon Hills Open Space	5 Lake Forest
8	Wilson & Rollins Roads Drop Chamber Repair	Preservation	2021	72	Conservancy of Lake County	Vernon Hills	S mage Rd
9	Sunset Drive Gravity Sewer	Preservation	2021	Citizens for Conservation Open Space	Lake Zurich		Highland Park
10	Midland Force Main Replacement Part 2	Preservation	2022			G Buffalo Grove	Deerfield B Redens E

\*Dependent upon project readiness and availability of funding \*\*Lift Station Rehabilitation at various locations not mapped

## Wastewater Collection (Continued)

Map Key	Project Description	Project Type	Anticipated Construction Year*	Antioch Village of P Harbor
11	Wellington Drive Force Main Rehabilitation	Preservation	2022	Antioch Open & Z Space V Space Z State Park Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z Z
12	South Cedar Crest Drive Force Main Rehabilitation	Preservation	2022	Z Z Zion Wadsworth Beach Park
13	VH W Pump Station Force Main Insp & Pigging Station Con	Preservation	2023	Fox Lake N Rolling Beach W Rolling Rd Gurnee Waukegan
14	VH W Pump Station Force Main Rehabilitation	Preservation	2023	Village of Round Lake Open Space Lake 21 3 North Chicago
15	Three Lakes Dr. Force Main Rehabilitation	Preservation	2022	Great Lakes
16	Hilltop Rd. Force Main Rehabilitation	Preservation	2024	Libertyville 0 1.5 3 Mundelein
17	Columbia Bay Rd. Force Main Rehabilitation	Preservation	2024	Land Conservancy of Lake County Ve. 13,14
18	Rollins Rd Force Main Inspection & Pigging Station Construction	Preservation	2024	Citizens for Conservation Open Space Open Sp
19	Rollins Rd Force Main Rehabilitation	Preservation	2025	Buffalo Grove 776 ft Edens F.

## Wastewater Reclamation Facilities

			-	724			City of Zion Open Space 772 ft	
Map Key	Project Description	Project Type	Anticipated Construction Year*	hain O'Lakes State Park	Antioch	Village of Antioch Open Space	3	Harbor
1	NCT Bar Screens Replacement	Preservation	2022	E,	Lake Villa		Wadsworth Bea	Zion ch Park
2	DPR Building 60 - Gas Monitor Sys	Modernization	2021	Fox La	ke	Lindenhurst	Wa	City of aukegan en Space
3	DPR Building 80 & 90 upgrades	Preservation	2022		W Rollins Rd Beach	h W Rollins Rd	Gurnee	Waukegan
4	DPR Building 60 - Odor Control Sys 1	Preservation	2021		Round Lake Village of Round Lake	Grayslake	Park City	7
5	DPR Building 60 - Odor Control Sys 2	Preservation	2022	N Dantell Rd	Open Space	Lake [21]	43 North C Great La	
6	DPR Structure 40 – Clarifier Covers	Modernization	2023 TBD	Rd		W Winchester Rd Libertyvil Mundelein	le	0 1.5
7	DPR Building 50 (Filters & CL2 tanks)	Preservation	2024 TBD	Warrell Wa	auconda	Village of Vernon Hill Open Space	5	ake Forest
8	DPR Upsizing the Denitrification Pumps in Tank 32	Modernization	2024 TBD	7	Land Conservancy of Lake County	Verne 1	VIII Y	Ane Rd
9	DPR Secondary & Final Alum Injection	Modernization	2025 TBD	Citizens for Conservation Open Space	Lake Zurich	Village of Long Grove Open Space	RIV	Highland Pa She eerfield
						Buffalo G.	- 9	ense

## **Other Support Facilities & Equipment\***

Map Key	Project Description	Project Type	Anticipated Construction Year**
1	Facility Master Plans and Risk Analyses	Preservation	2020-2025
2	General Engineering Support	Preservation & Modernization	2020-2025
3	North Libertyville Estates Levee Drainage Improvement	Preservation	2021
4	SCADA Historian, Training & Reporting Services	Modernization	2020
5	SCADA Phase 3 Design-Build	Modernization	2021
6	Various maintenance projects, vehicle & generator replacements, building maintenance/improvements	Preservation	2020-2025

\*Locations not mapped due to the broad areas and varying locations that these projects entail \*\*Dependent upon project readiness and availability of funding

## **Anticipated Program Costs**

Investment Category	2021- 2025 5-Year Avg	FY2021	FY2022	FY2023	FY2024	FY2025
Water Production & Storage	\$2.9M	\$0.9M	\$9.7M	\$2.9M	\$0.4M	\$0.4M
Water Distribution	\$3.8M	\$4.8M	\$5.8M	\$2.2M	\$3.6M	\$2.7M
Wastewater Collection	\$4.4M	\$9.6M	\$3.4M	\$3.6M	\$3.0M	\$2.3M
Wastewater Reclamation	\$2.8M	\$2.1M	\$3.8M TBD	\$0.6M TBD	\$7.7M TBD	TBD
Other Support Facilities & Equip	\$2.3M	\$2.7M	\$2.1M	\$2.1M	\$2.1M	\$2.1M
FY TOTAL	\$16.2M	\$20.1M	\$24.8M	\$11.4M	\$16.8M	\$7.5M

## 2020 Projects Underway

Project Description	Project Type	Category	Contract Awarded	Anticipated Completion	Construction Contract Amount
Des Plaines River Water Reclamation Facility Improvements Project	Modernization & Expansion	Wastewater Reclamation	2015	2021	\$34M
Vernon Hills Water System Mechanical & Electrical Upgrades	Preservation	Water Production & Storage	2019	2021	\$2.6M
Hawthorn Parkway Water Tower Rehabilitation	Preservation	Water Production & Storage	2020	2020	\$529,900
Midland Drive Force Main Replacement Part 1	Preservation	Wastewater Collection	2020	2021	\$898,250

Project Description	Project Type	Category	Budget Year	Status	Anticipated Amount
Annual Tower and Reservoir Maintenance Projects	Preservation	Water Production & Storage	2020	underway/ ongoing	up to \$80,000
Lift Station Rehabilitation (Work by LCPW Maintenance)	Preservation	Wastewater Collection	2020	underway/ ongoing	up to \$160,000
Various maintenance projects, vehicle & generator replacements, building maintenance/improvements	Preservation	Other Support Facilities & Equipment	2020	underway/ ongoing	up to \$1.7M
General Engineering Support	Preservation & Modernization	Other Support Facilities & Equipment	2020	underway/ ongoing	up to \$1.3M
Facility Master Plans and Assessments	Preservation & Modernization	Other Support Facilities & Equipment	2020	underway/ ongoing	up to \$275,000

### FY2021 Anticipated Construction Project Summary

Project Description	Project Type	Investment Category	Programmed Construction Year	Programmed Cost (Eng & Con)
Brooks Farm Water Tower Rehabilitation & Drainage Improvement	Preservation	Water Production & Storage	2021	<\$1M
Annual Tower and Reservoir Maintenance Projects – Various Locations	Preservation	Water Production & Storage	2021	<\$1M
Hawthorn Fashion Square Watermain Replacement	Preservation	Water Distribution	2021	\$1M - \$5M
Oak Terrace Water System Replacement	Preservation & Modernization	Water Distribution	2021	\$1M - \$5M
Pekara Water Main Replacement (Phase I)	Preservation	Water Distribution	2021	<\$1M
Vernon Hills Water System Emergency Interconnect	Preservation	Water Distribution	2021	<\$1M
IL Route 83 Force Main Realignment	Preservation & Modernization	Wastewater Collection	2021	<\$1M

### FY2021 Anticipated Construction Project Summary Continued

Project Description	Project Type	Investment Category	Programmed Construction Year	Programmed Cost (Eng & Con)
Buffalo Grove Teal Lane Sanitary Sewer Interconnection	Modernization	Wastewater Collection	2021	<\$1M
IL Route 22 utility relocation with IDOT improvement	Preservation	Wastewater Collection	2021 (IDOT Dependent)	\$5M - \$10M
Wilson Road & Rollins Road Sewer Lining	Preservation	Wastewater Collection	2021	<\$1M
Wilson Road & Rollins Road Drop Chamber Repair	Preservation	Wastewater Collection	2021	\$1M - \$5M
Sunset Drive Gravity Sewer	Preservation	Wastewater Collection	2021	<\$1M
Lift Station Rehabilitation – Various Locations	Preservation	Wastewater Collection	2021	<\$1M
SEC Siphon & Box Lining at the Des Plaines River	Preservation	Wastewater Collection	2021	<\$1M

### FY2021 Anticipated Construction Project Summary Continued

Project Description	Project Type	Investment Category	Programmed Construction Year	Programmed Cost (Eng & Con)
DPR Building 60 - Gas monitor systems	Modernization	Wastewater Reclamation	2021	<\$1M
DPR Building 60 - Odor control systems - Part 1	Preservation	Wastewater Reclamation	2021	<\$1M
North Libertyville Estates Levee Drainage Improvement	Preservation	Other Support Facilities & Equipment	2021	<\$1M
SCADA Phase 3 Design-Build	Modernization	Other Support Facilities & Equipment	2021	\$1M - \$5M
General Engineering Support	Preservation & Modernization	Other Support Facilities & Equipment	2021	<\$1M
Various maintenance projects, vehicle & generator replacements, building maintenance/improvements	Preservation	Other Support Facilities & Equipment	2021	\$1M - \$5M

