

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

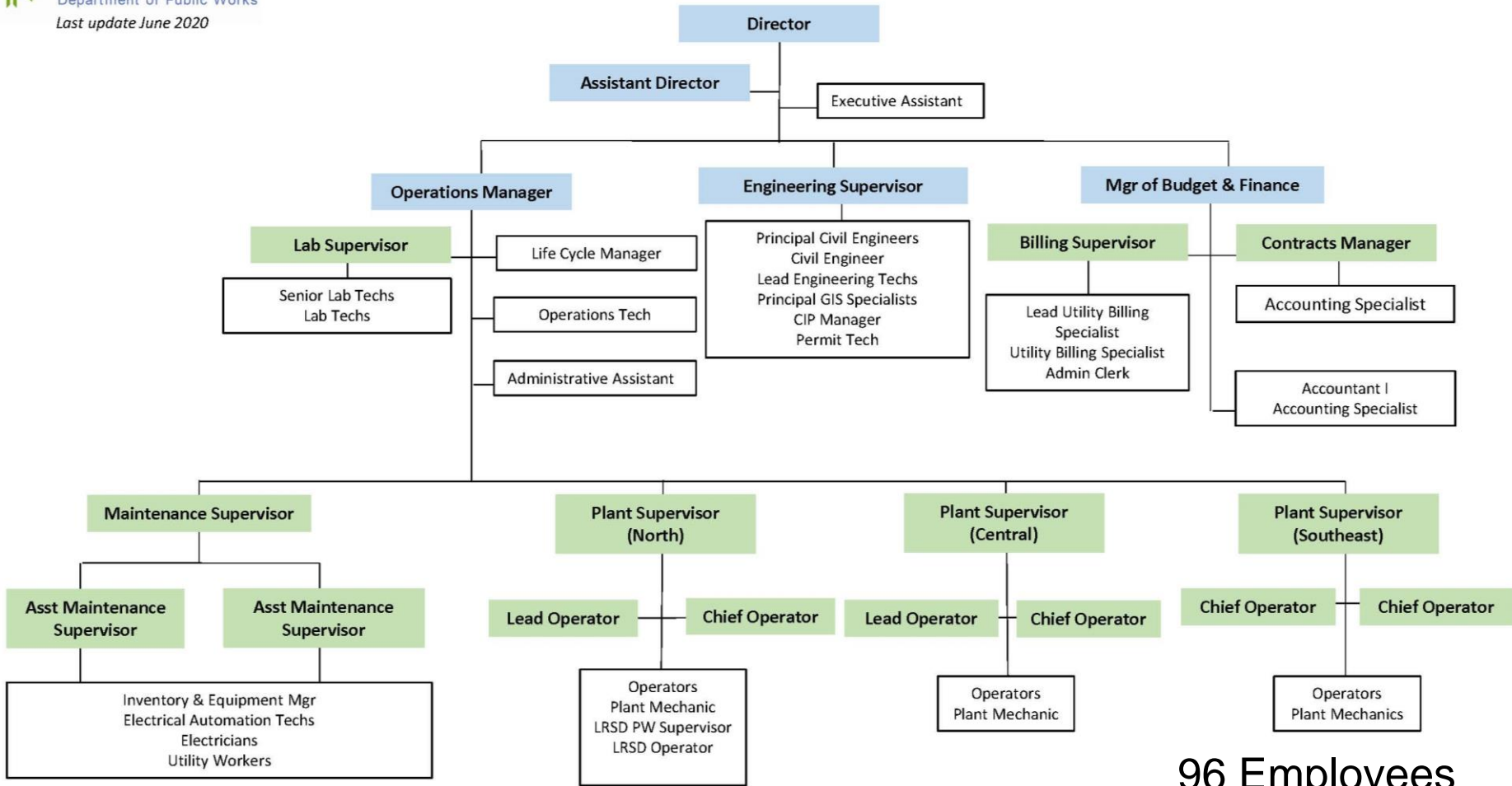
- Department Overview
- Our Systems
- Budget and Funding
- Capital Improvement Program (CIP) Development
- CIP Development Process
- Investment Categories & Targets
- Project Types
- Anticipated Program Costs
- 2020 Projects Underway
- FY2021 Anticipated Construction Project Summary

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

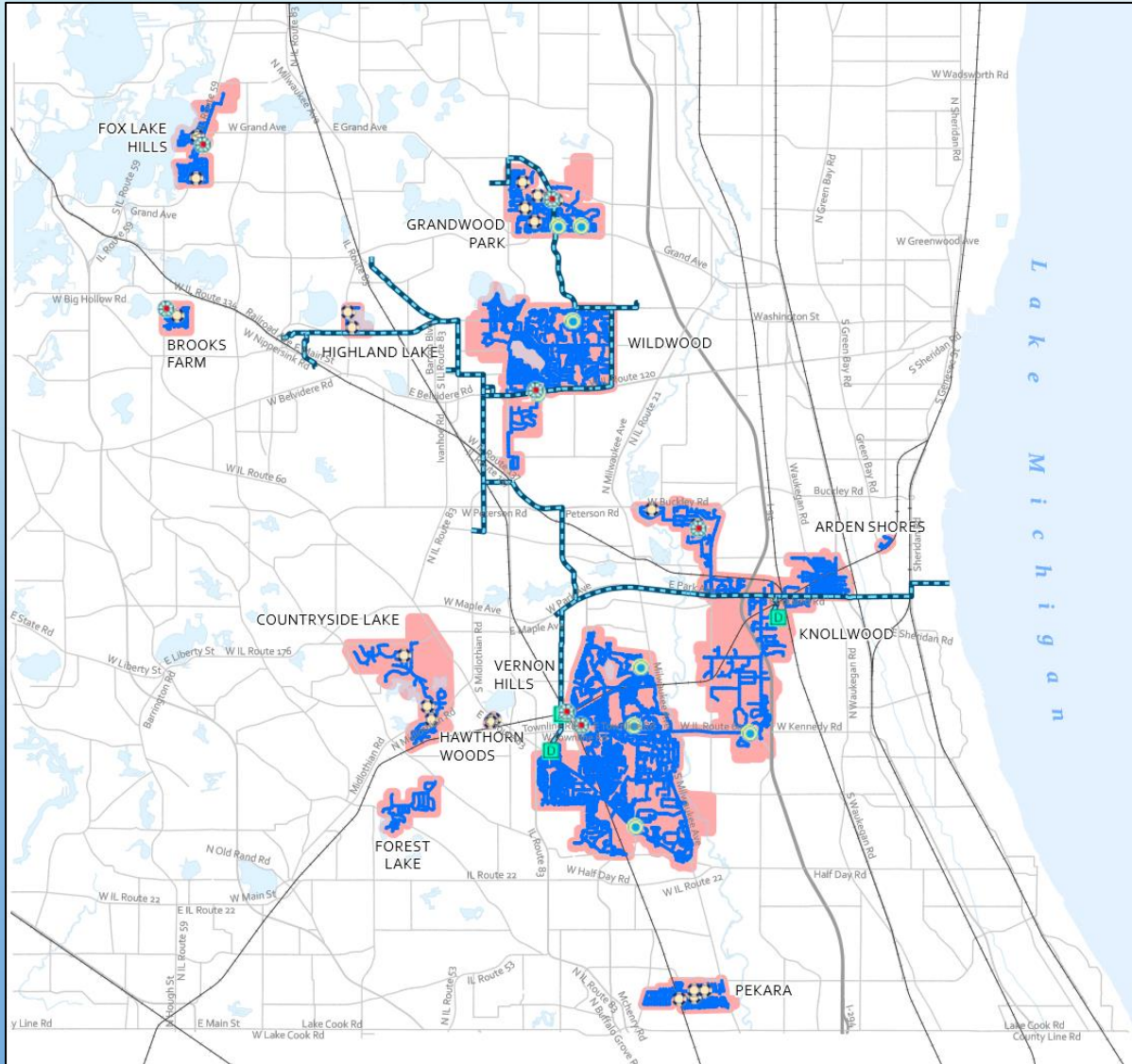


Department Overview (Continued)



96 Employees

Our Systems



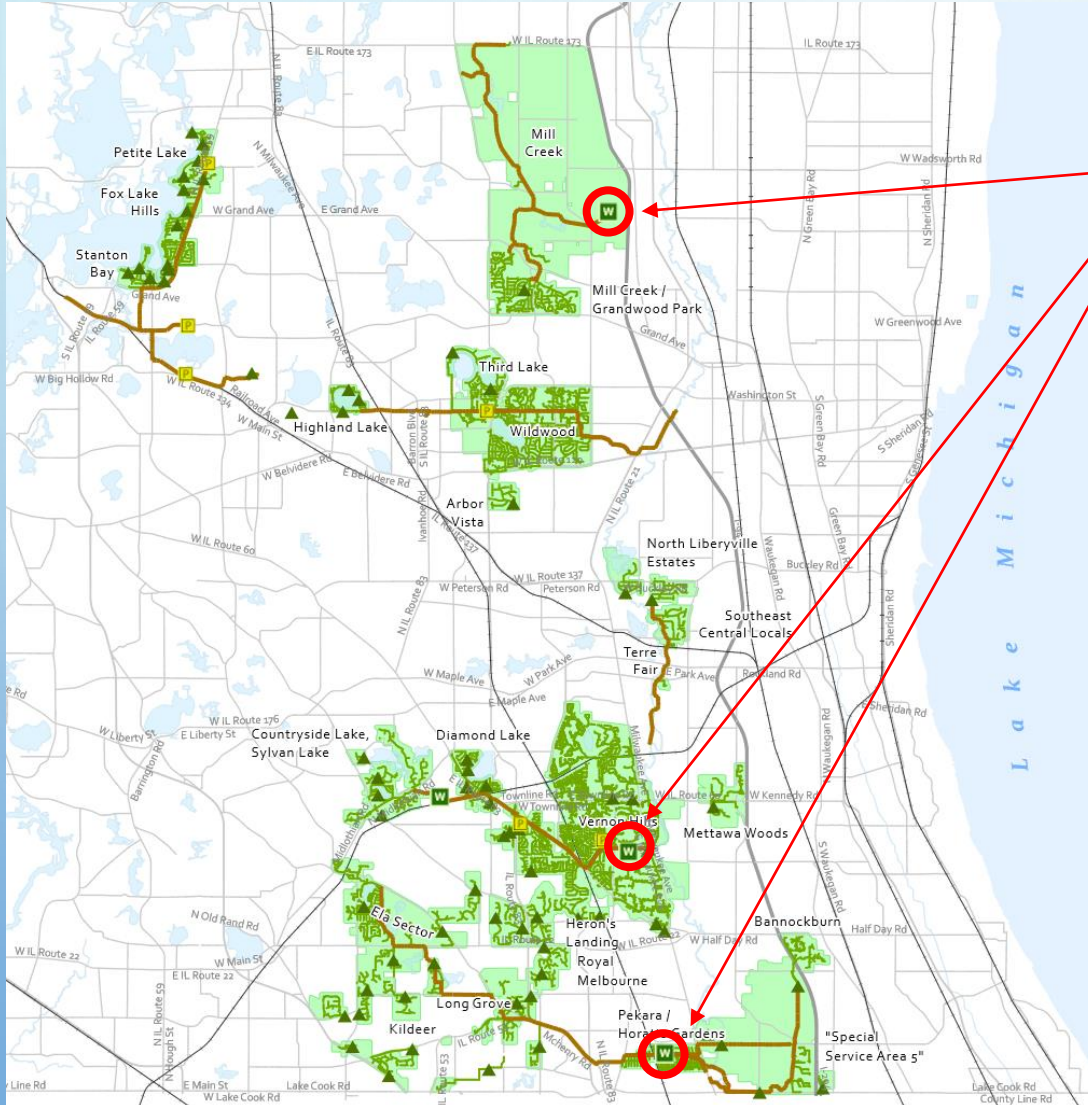
Water Systems

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

Our Systems (Continued)

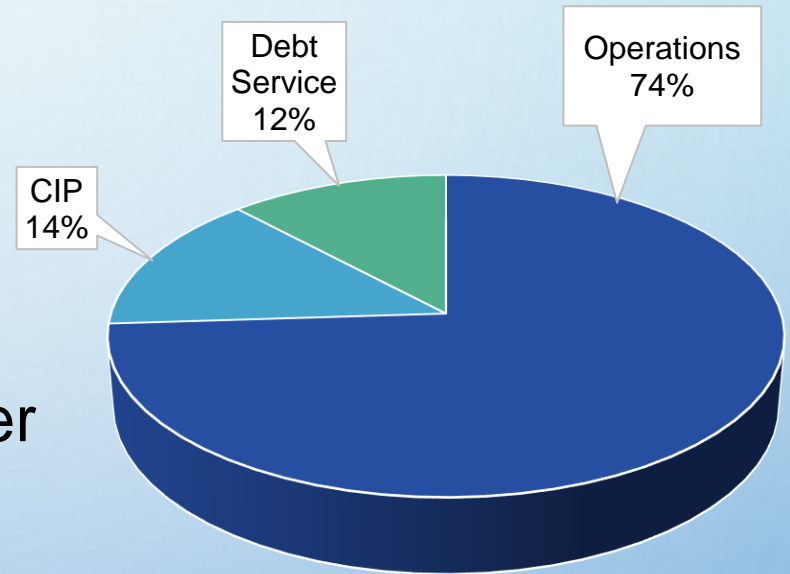
Wastewater Systems

- 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



FY2020 Adopted Budget

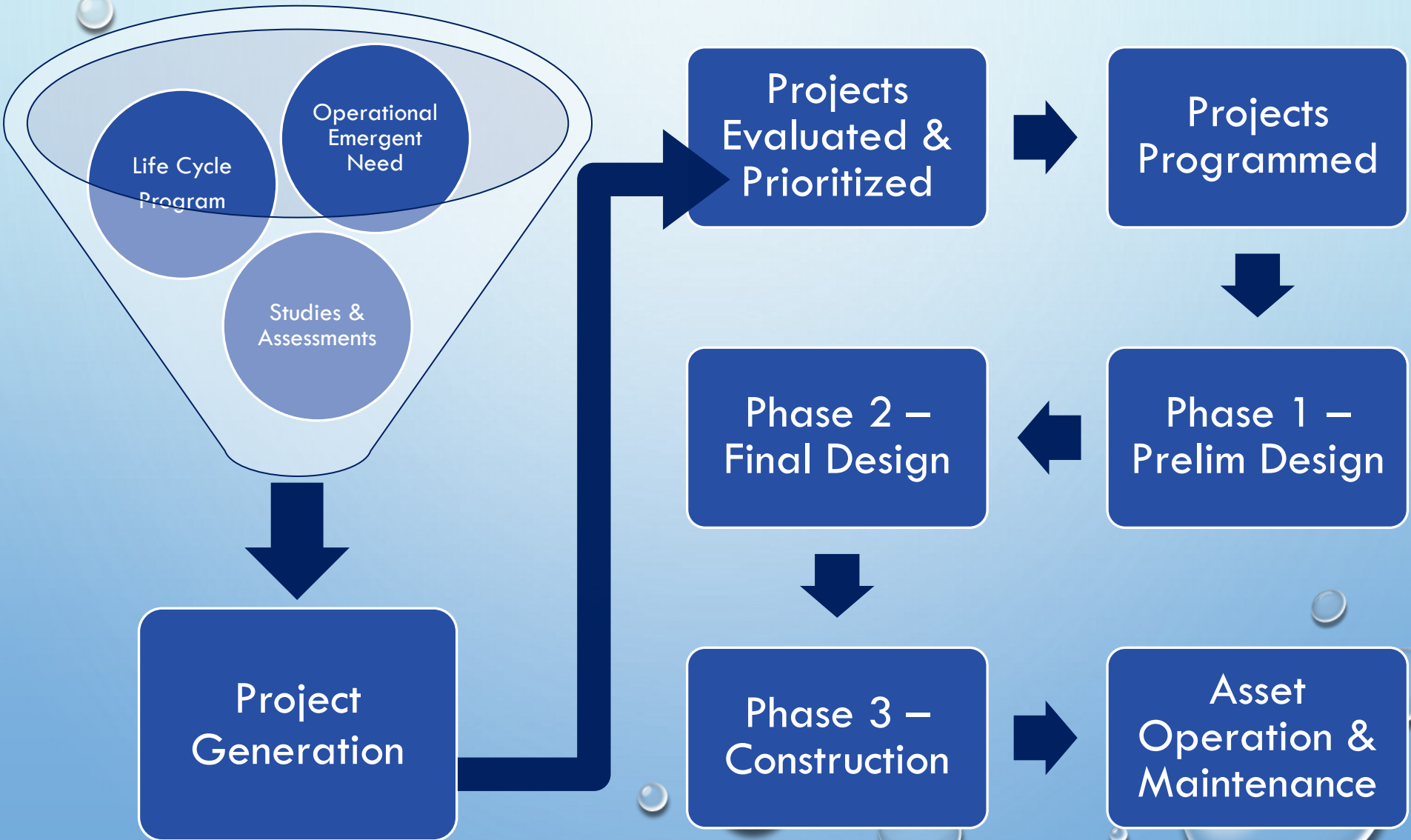
CIP Development

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

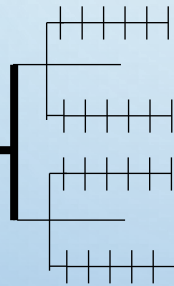


Investment Categories & Targets

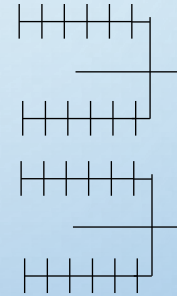
Water
Production
& Storage
\$1.7M



Water
Distribution
\$2.7M



Wastewater
Collection
\$2.6M



Wastewater
Reclamation
Facilities
\$1.3M



Other Support Facilities &
Equipment
\$0.9M



Project Types

(2020-2025)



Preservation

Higher priority

Examples: water tower & lift station rehabs, sanitary sewer lining

79% of projects

Modernization

Medium priority

Examples: SCADA, some plant upgrades

18% of projects

Expansion

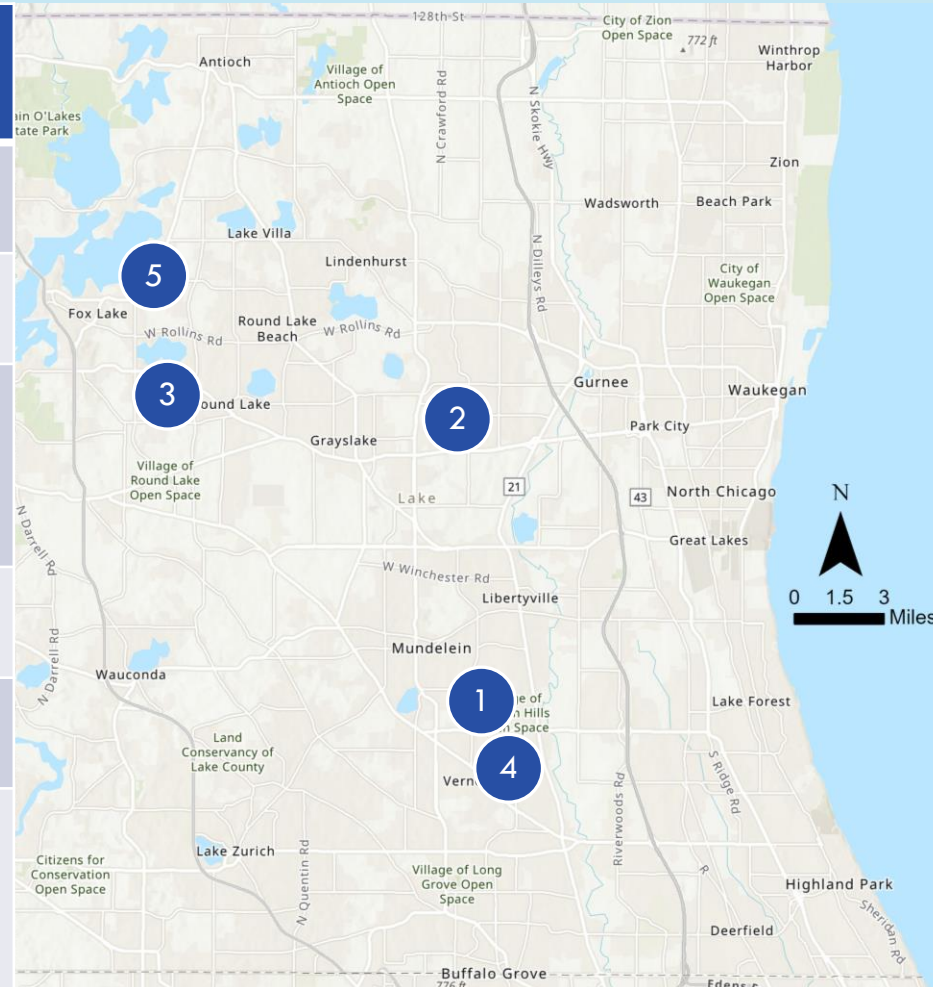
Typically lower priority

Examples: upsizing water or sewer main, major plant upgrades

3% of projects

Water Production & Storage

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Hawthorn Water Tower Rehabilitation	Preservation	2020
2	Wildwood Water System Storage	Modernization	2022
3	Brooks Farm Water Tower Rehabilitation & Drainage Improvement	Preservation	2021
4	Vernon Hills Water System Reservoir	Expansion	2022
5	Fox Lake Hills Reservoir	Expansion	2023
6**	Annual Tower and Reservoir Maintenance Projects – Various Locations	Preservation	2020-2025

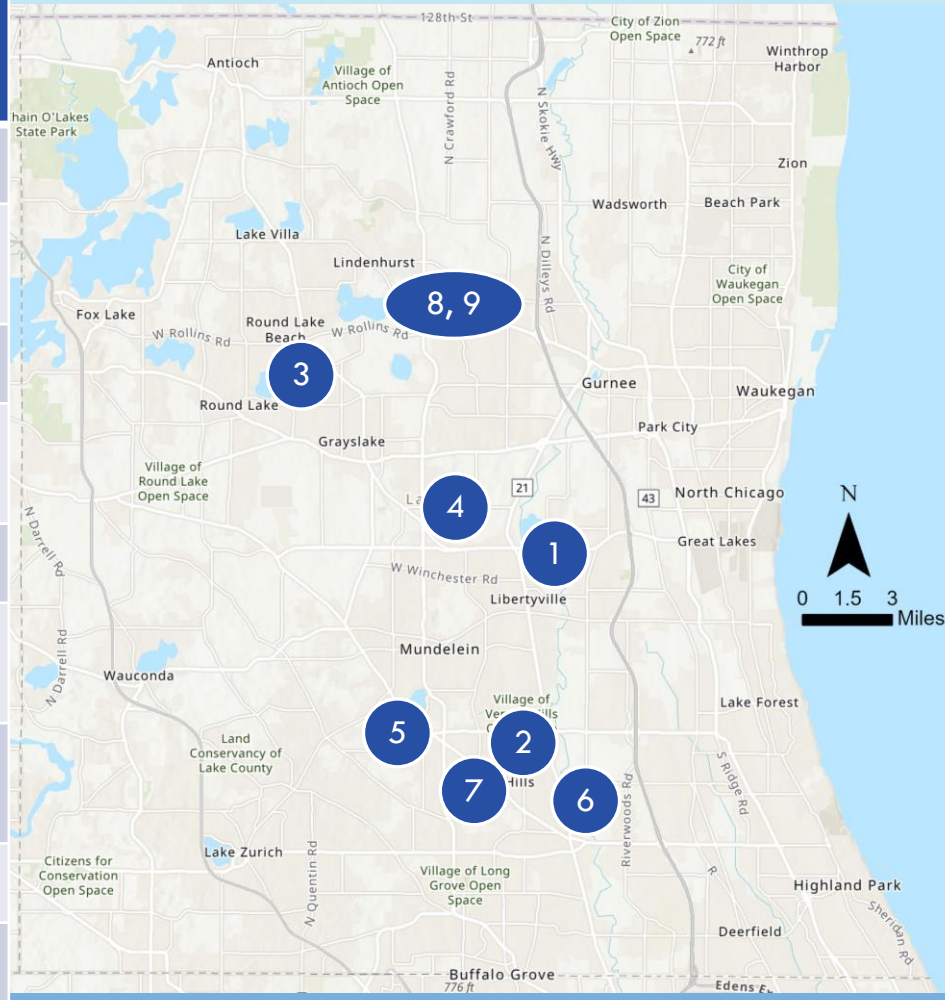


*Dependent upon project readiness and availability of funding

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

Water Distribution

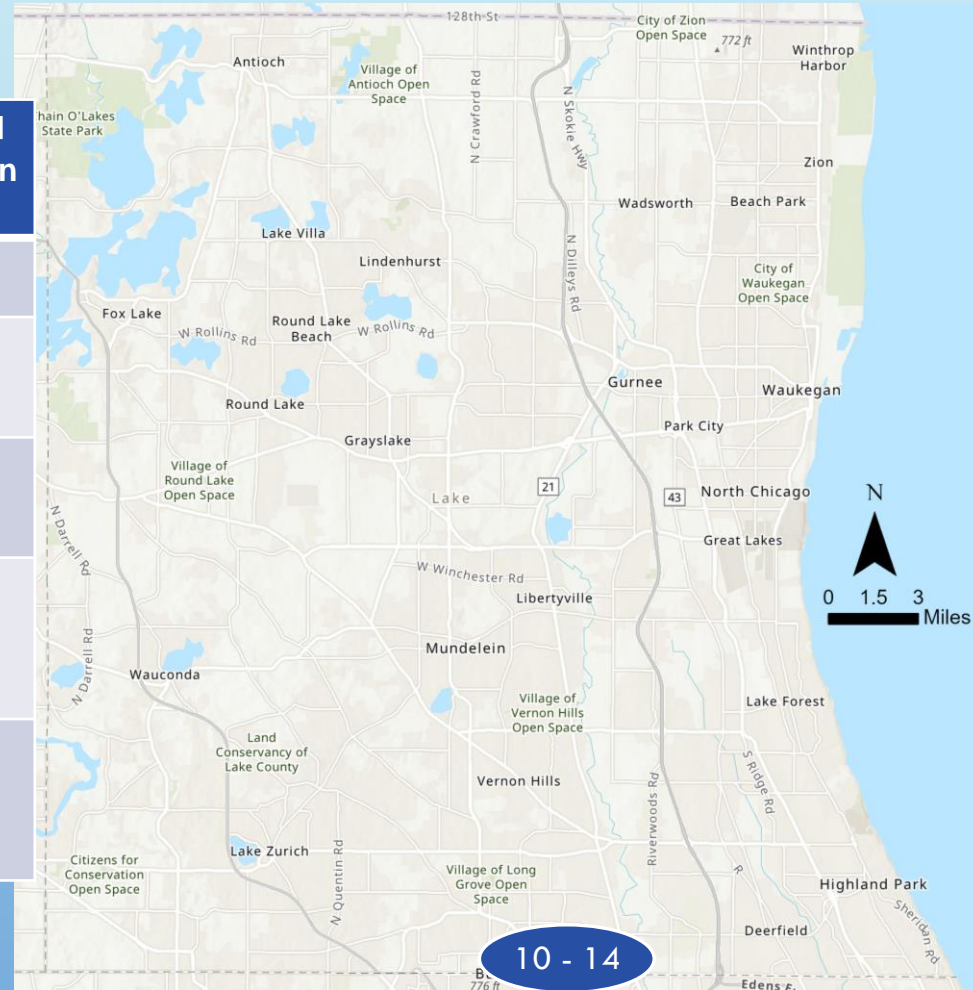
Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Countryside Manor Water Main Replacement	Preservation	2022
2	Hawthorn Fashion Square Watermain Replacement	Preservation	2021
3	Highland Lake – Lake Michigan Water Study	Preservation & Modernization	TBD
4	Liberty Acres Rear Easement Water Main Replacement(Wildwood)	Preservation & Modernization	2023
5	Oak Terrace Water System Replacement	Preservation & Modernization	2021
6	Vernon Hills Water System Emergency Interconnect	Preservation	2021
7	Vernon Hills Water Main Replacement Near Oakwood Rd	Preservation	2023
8	Grandwood Park Edgewood Dr	Preservation	2025
9	Grandwood Park South Sector	Preservation	2025



*Dependent upon project readiness and availability of funding

Water Distribution (Continued)

Map Key	Project Description	Project Type	Anticipated Construction Year*
10	Pekara Lake Michigan Water Connection	Modernization	2022
11	Pekara Water System Cast Iron Water Main Replacement (Phase I)	Preservation	2021
12	Pekara Water System Cast Iron Water Main Replacement (Phase II)	Preservation	2022
13	Pekara Water System Cast Iron Water Main Replacement (Central Sector of Park West)	Preservation	2024
14	Pekara Water System Cast Iron Water Main Replacement (Park East Townhouse)	Preservation	2024

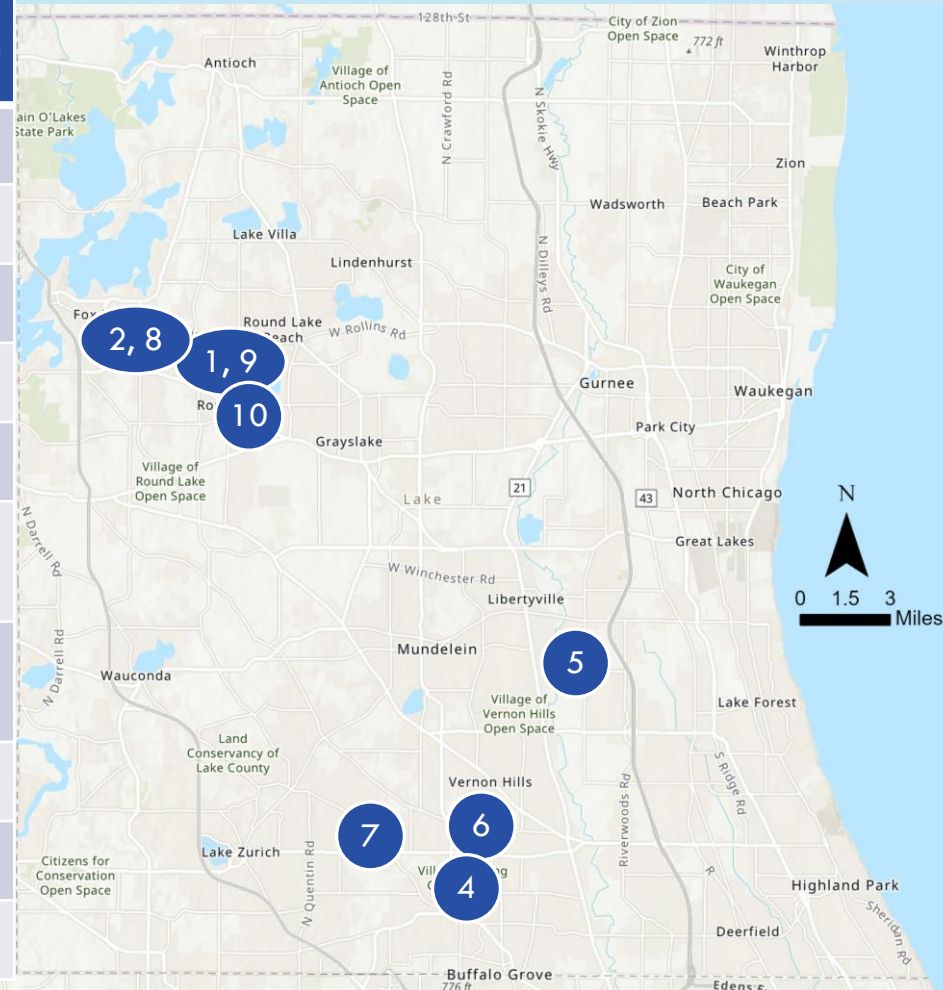


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*Dependent upon project readiness and availability of funding

Wastewater Collection

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Midland Force Main Replacement Part 1	Preservation	2020
2	Wilson & Rollins Roads Sewer Lining	Preservation	2021
3**	Lift Station Rehabilitation	Preservation	2020-2025
4	IL Route 83 Force Main Realignment	Preservation & Modernization	2021
5	SEC Siphon & Box Lining at DPR	Preservation	2021
6	Buffalo Grove Teal Lane Sanitary Sewer Interconnection	Modernization	2021
7	IL Route 22 utility relocation with IDOT improvement	Preservation	2021 (IDOT Dependent)
8	Wilson & Rollins Roads Drop Chamber Repair	Preservation	2021
9	Sunset Drive Gravity Sewer	Preservation	2021
10	Midland Force Main Replacement Part 2	Preservation	2022

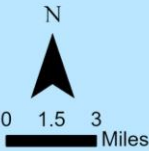
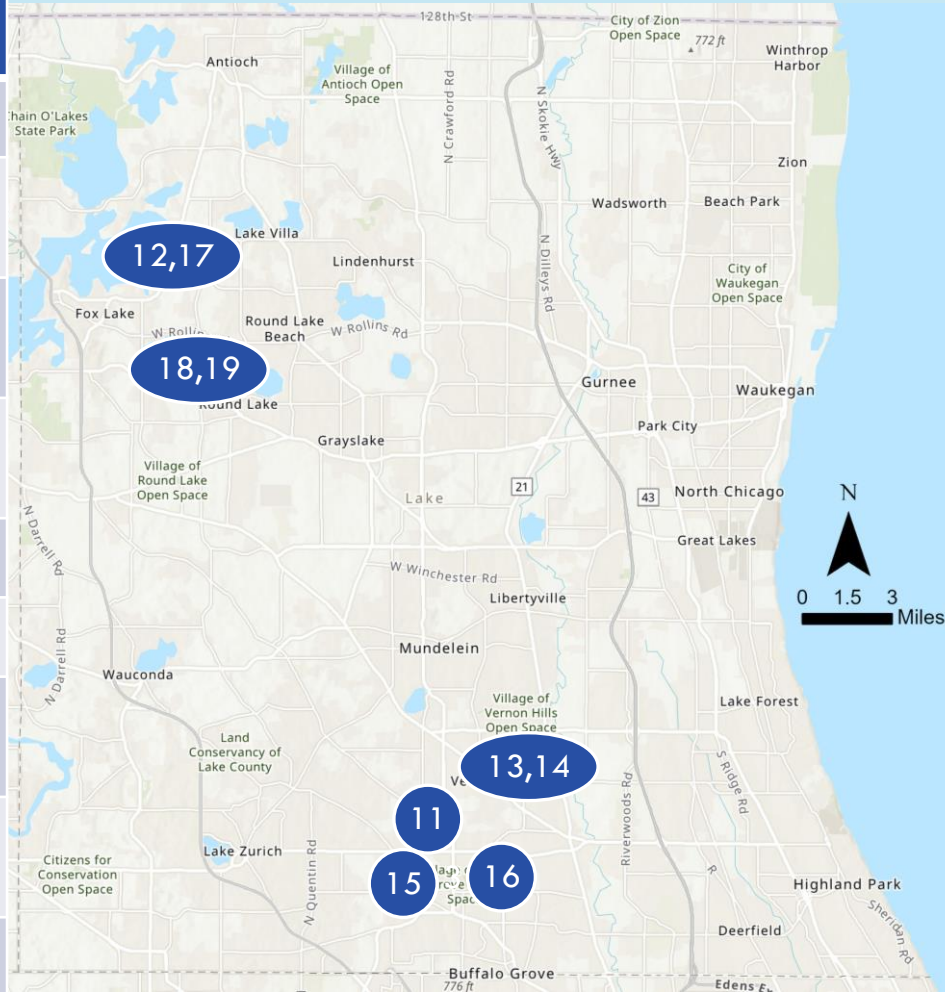


*Dependent upon project readiness and availability of funding

**Lift Station Rehabilitation at various locations not mapped

Wastewater Collection (Continued)

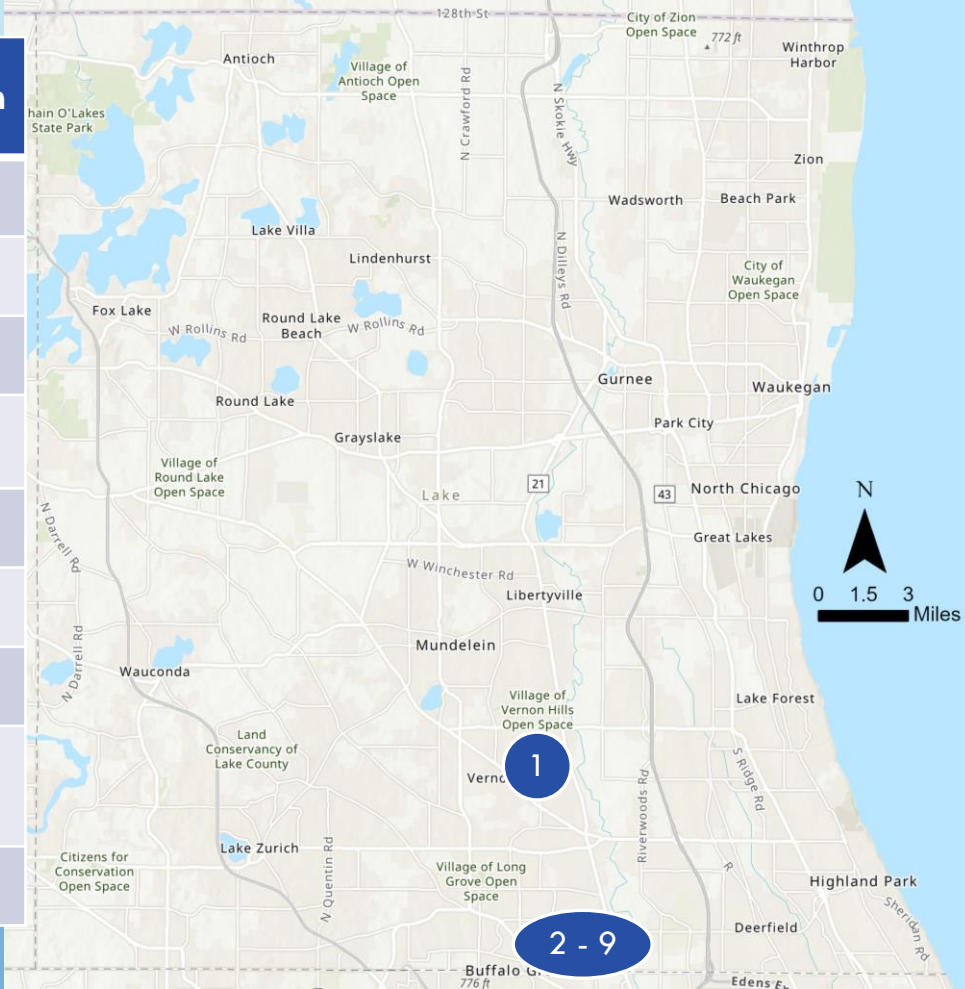
Map Key	Project Description	Project Type	Anticipated Construction Year*
11	Wellington Drive Force Main Rehabilitation	Preservation	2022
12	South Cedar Crest Drive Force Main Rehabilitation	Preservation	2022
13	VH W Pump Station Force Main Insp & Pigging Station Construction	Preservation	2023
14	VH W Pump Station Force Main Rehabilitation	Preservation	2023
15	Three Lakes Dr. Force Main Rehabilitation	Preservation	2022
16	Hilltop Rd. Force Main Rehabilitation	Preservation	2024
17	Columbia Bay Rd. Force Main Rehabilitation	Preservation	2024
18	Rollins Rd Force Main Inspection & Pigging Station Construction	Preservation	2024
19	Rollins Rd Force Main Rehabilitation	Preservation	2025



*Dependent upon project readiness and availability of funding

Wastewater Reclamation Facilities

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	NCT Bar Screens Replacement	Preservation	2022
2	DPR Building 60 - Gas Monitor Sys	Modernization	2021
3	DPR Building 80 & 90 upgrades	Preservation	2022
4	DPR Building 60 - Odor Control Sys 1	Preservation	2021
5	DPR Building 60 - Odor Control Sys 2	Preservation	2022
6	DPR Structure 40 – Clarifier Covers	Modernization	2023 TBD
7	DPR Building 50 (Filters & CL2 tanks)	Preservation	2024 TBD
8	DPR Upsizing the Denitrification Pumps in Tank 32	Modernization	2024 TBD
9	DPR Secondary & Final Alum Injection	Modernization	2025 TBD



*Dependent upon project readiness and availability of funding

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

(Dependent upon project readiness and availability of funding)

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

(Dependent upon project readiness and availability of funding)

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

(Dependent upon project readiness and availability of funding)

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

(Dependent upon project readiness and availability of funding)

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

Thank You!

