



Proposed FY2025-FY2029 Capital Improvement Program

Program Overview

Department of Public Works

August 28, 2024

Presentation Outline

- **Strategic Alignment & Department Mission**
- **Public Health Significance**
- **Asset Portfolio**
- **Financial Information**
- **ARPA Projects & Execution**
- **Capital Improvement Program (CIP) Development**
- **FY2024 CIP**
- **Proposed FY2025-FY2029 CIP**
- **“Outer Years” CIP (FY2030-2034)**

Strategic Alignment

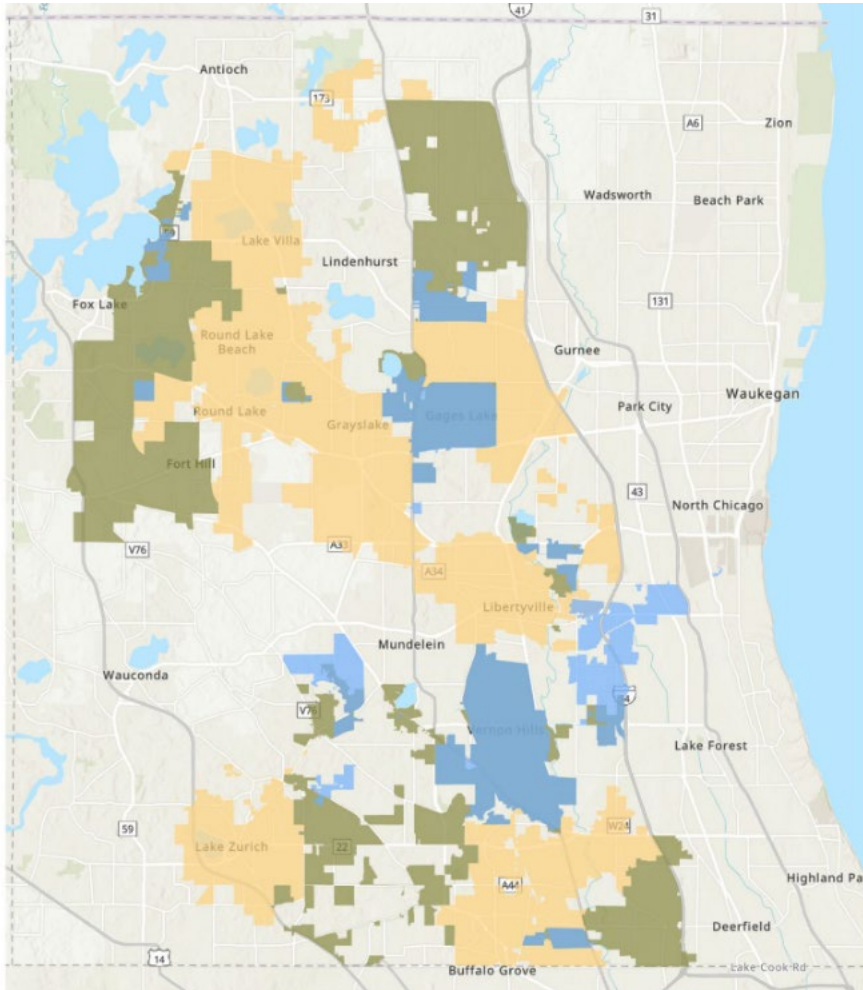
Lake County Strategic Plan



✓ STRATEGIC PRIORITY: ADAPTIVE INFRASTRUCTURE

GOAL STATEMENT: Provide County facilities, infrastructure, and technology to meet the ever-changing and evolving needs of and demands upon Lake County.

Department's Mission



Public Works Mission:
Deliver exceptional, financially sustainable, reliable, drinking water and wastewater services in a safe manner, ensuring high quality service, public health and environmental stewardship.

Public Health Significance

Good Public Sanitation and Quality Drinking Water are among the key building blocks to a healthy and developing community

Failure to have these building blocks in a community could result in:

- **Inability** to build close communities
- **Increased** risk of disease (cholera, dysentery, typhoid, polio)
- **Increase** mortality rate
- **Reduced** social and economic development
- **Environmental** Degradation

Key Fact:

- **Over 1.5 billion people still do not have basic sanitation**



Department's Asset Portfolio

Macro View of Assets

Value of System

- 💧 \$900M+ value of assets
- 💧 Ongoing maintenance & operations
- 💧 Ongoing recapitalization & investment

System Level Overview

- 💧 3 water reclamation facilities
- 💧 5+ billion gallons treated annually
- 💧 8 sewer systems
- 💧 12 public water systems
- 💧 1-mile-long levee w/ stormwater pump station
(North Libertyville Estates)



Department Goal & Asset Portfolio

Micro View of Assets

Regional & Local Main Pipes

- 💧 480+ miles sewer main pipes
- 💧 300+ miles water main pipes

Neighborhood-Level Assets

- 💧 101 pump stations & lift stations
- 💧 10,000+ manholes
- 💧 18 water storage structures
- 💧 4,000 hydrants
- 💧 8,000 water valve structures
- 💧 20,000+ b-boxes

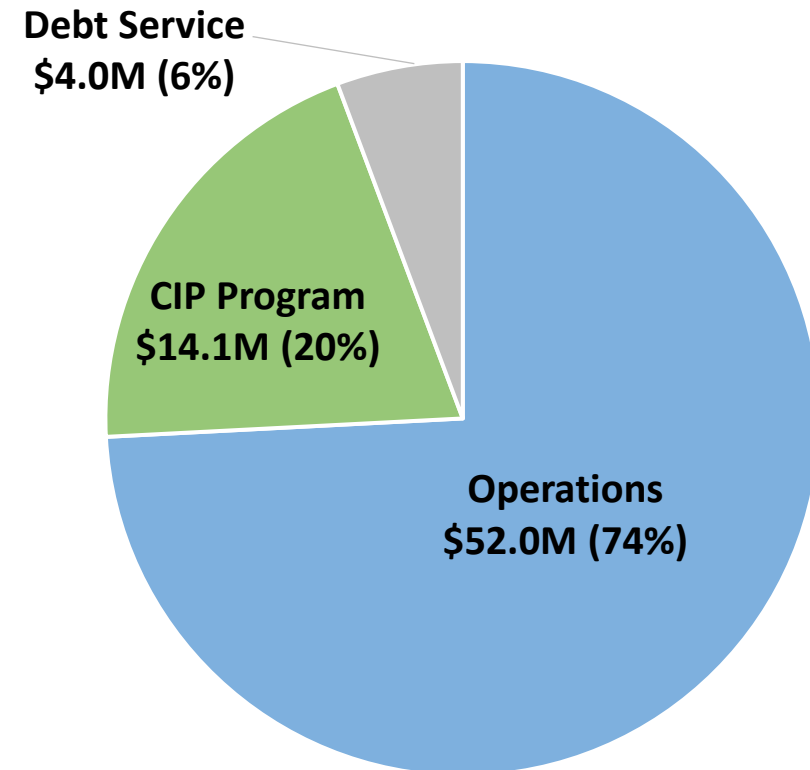


Financial Information

Budget and Funding

- County's sole Enterprise Fund
- Not property tax based
- Connection fees
- User fees from water and sewer used by customers
- \$70.1M FY2024 Department Budget
- Outside funding sources
- Exploring other funding opportunities

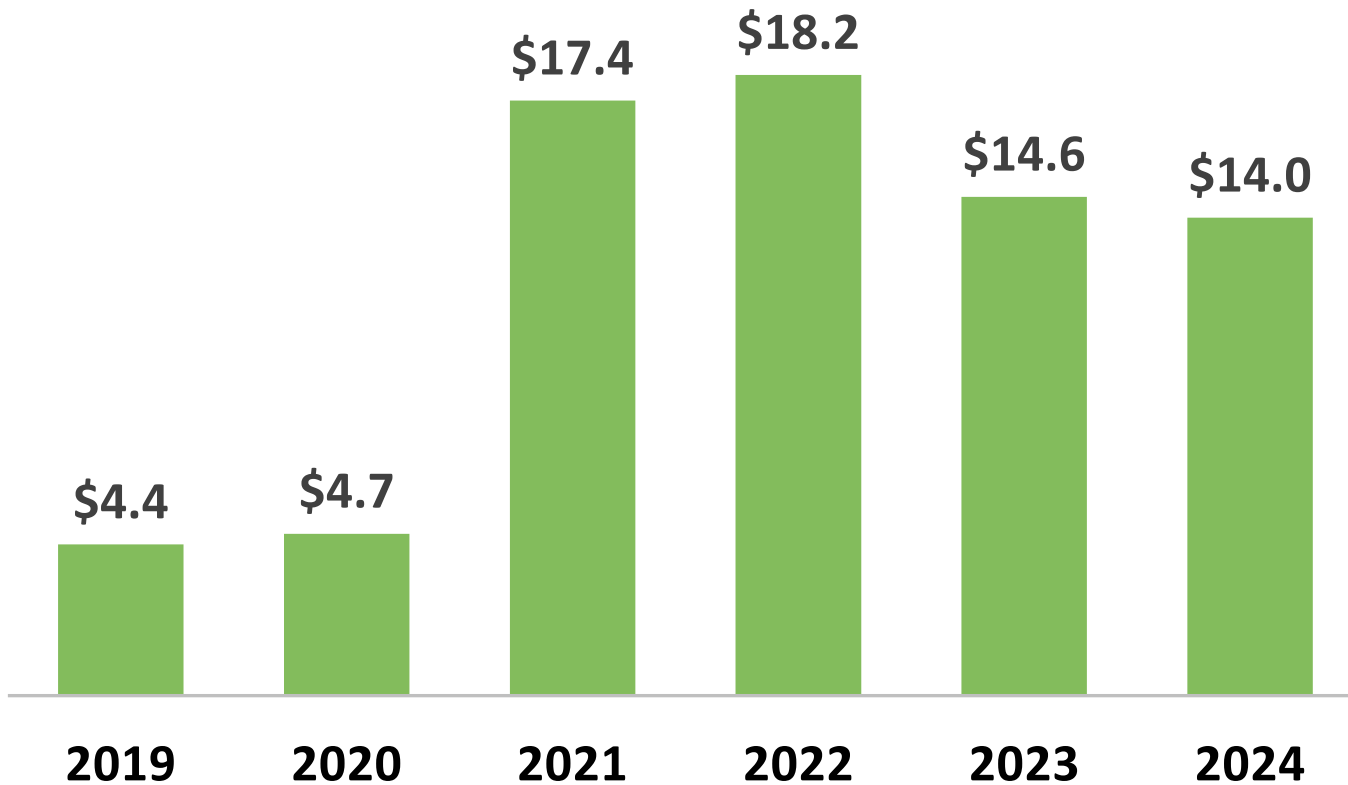
FY2024 ADOPTED BUDGET



Financial Information

Capital Budget

Enterprise Funds Capital Budget



- Core funding historically Enterprise

Financial Information

Outside Funding – Congressionally-Directed Funding



Des Plaines River WRF Dewatering Project Phase 2	Design funding awarded 80% match, up to \$400k
New Century Town (Vernon Hills) WRF* Dewatering Project	Design funding award in process 80% match, up to \$960k
Idlewild and Dady & Decker Water Main Replacement	Design funding award in process 80% match, up to \$960k
Forest Lake/Hawthorn Woods (Glennshire) Improvements	Under Consideration
Antioch Township Sewer Expansion	Under Consideration

ARPA Funds Execution

Project Status



LCPW ARPA Funded Projects	Total ARPA Budget	Status	Target Construction Year
Oak Terrace Water System Replacement	\$2,500,000	Phase 1 - Complete Phase 2 – Contract Awarded	2024-2025
Highland Lake Water System Improvements	\$2,500,000	Phase 1 - Complete Phase 2 - In Design	2023-2026
Pekara Lake Michigan Water Supply Connection	\$1,100,000	Contract Awarded	2024-2026
Mill Creek WRF UV Disinfection	\$1,000,000	Contract Awarded	2024-2025
DPR WRF Blowers Replacement	\$1,500,000	Contract Awarded	2024-2026
DPR WRF Disc Filter Installation & Clarifier Covers at DPR, NCT, MC WRFs	\$6,300,000	Contract Awarded	2024-2026
DPR WRF UV Disinfection	\$5,500,000	Contract Awarded	2024-2026
Antioch Township Sewer Expansion	\$1,000,000	Under Review; Waiting to Proceed	2024-2026*
TOTAL =	\$21,400,000		



DPR = Des Plaines River NCT = New Century Town MC = Mill Creek
 WRF = Water Reclamation Facility UV = Ultraviolet

* Design Only

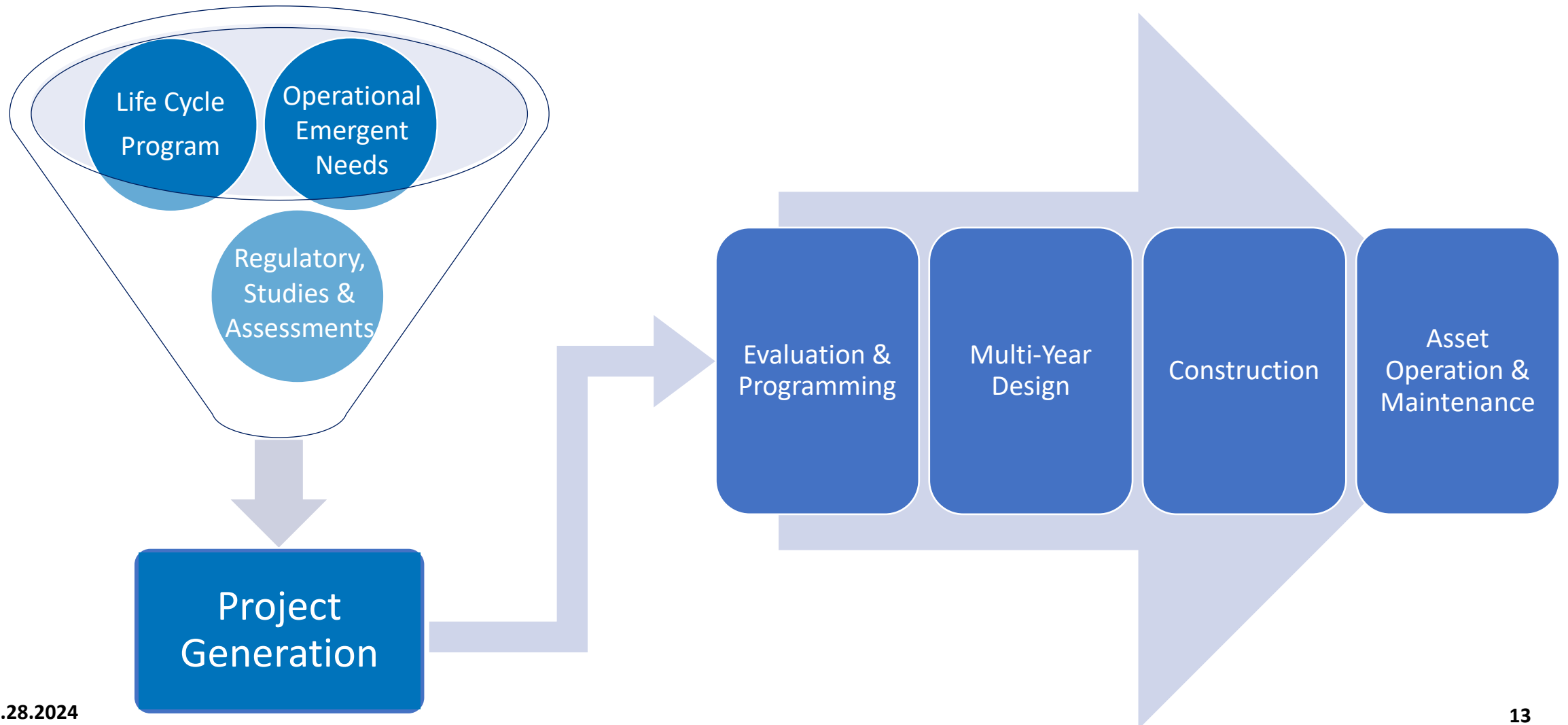
CIP Development

Program Priorities

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



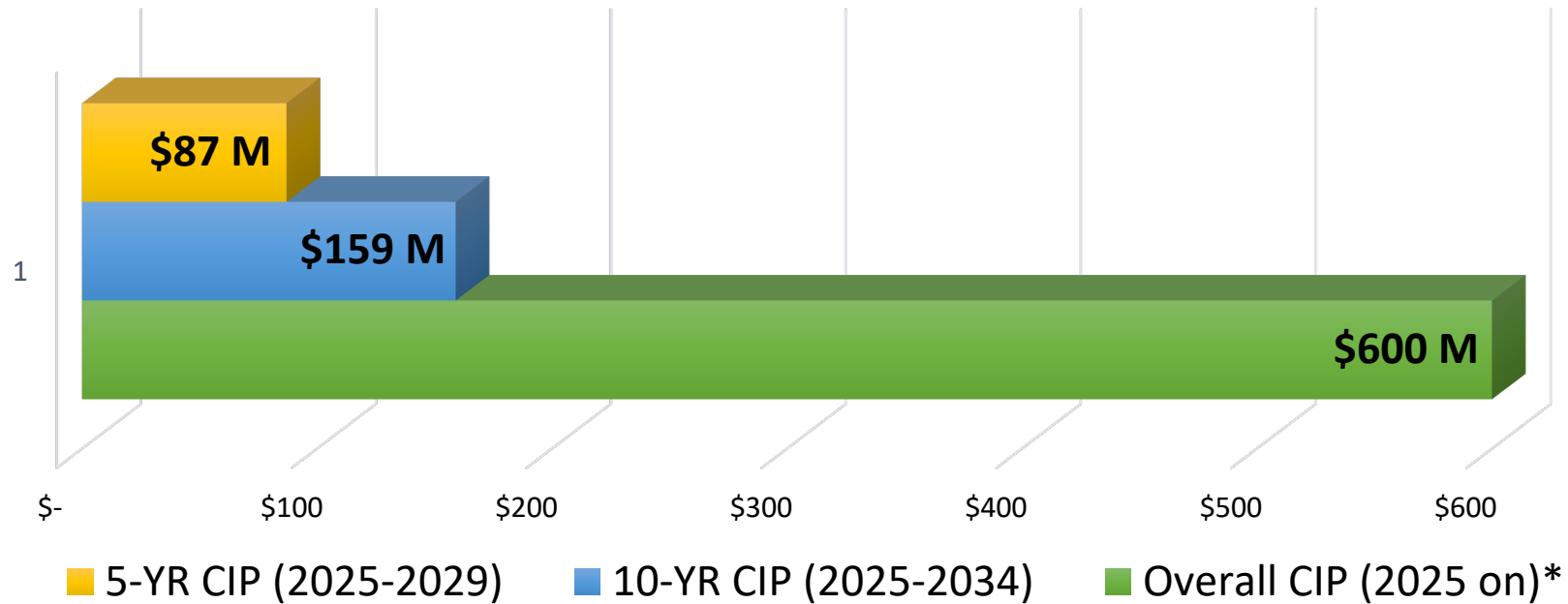
CIP Development Programming Process



CIP Development

Identified Needs

LCPW CIP Identified Needs



*** Note Long Range CIP is aspirational and includes expansion projects which would require substantial outside funding**

CIP Development

Project Types

- **Preservation**
Highest priority
- **Modernization**
Medium priority
- **Expansion**
Typically lowest priority



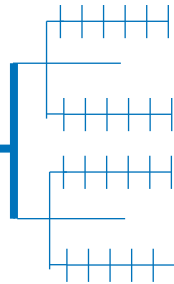
CIP Development

Program Investment Categories

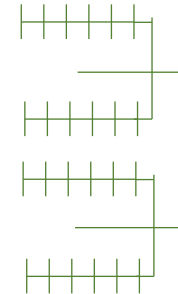
Water Production & Storage



Water Distribution



Wastewater Collection



Water Reclamation Facilities



Other Support Facilities & Equipment



FY2024 CIP

Investments From Budget



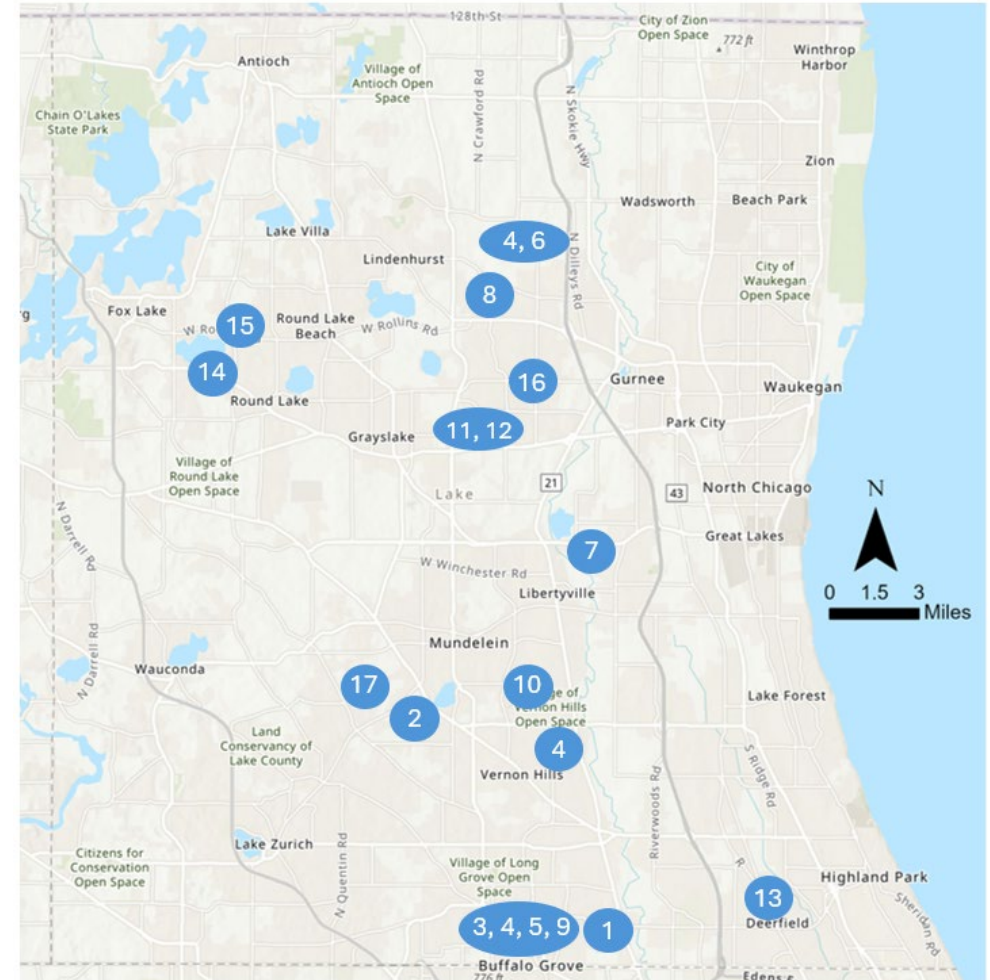
- Water Production & Storage - \$0.1 M
- Water Distribution - \$8.5 M
- Wastewater Collection - \$1.9 M
- Water Reclamation Facilities - \$0.2 M
- Other Support Facilities & Equipment - \$3.4 M

FY 2024 CIP Proposed Total = \$14.1 M

FY2024 CIP

Construction Projects In Process

1. Pekara Water System – Lake Michigan Water Connection**
2. Oak Terrace Well House & Water System Interconnection**
3. DPR WRF UV Treatment Improvements**
4. DPR WRF Filter Replacements & Clarifying Covers at all WRFs**
5. DPR WRF High Speed Blowers Replacement**
6. Mill Creek WRF UV Replacement**
7. Countryside Manor Water Main Replacement Phase 1
8. Grandwood Park Water Main Replacement
9. DPR WRF SCADA Critical Improvements
10. Vernon Hills Water System White Deer Run Reservoir (FY23 award)
11. Gages Lake Water Tower (FY23 award)
12. Wildwood & Allen Farms Water Main Replacement (FY23 award)
13. Saunders Rd Sewer Improvements Phase 1 (FY23 award)
14. SCADA Phase 3 Implementation – NW Sites (FY23 award)
15. Wilson & Rollins Sewer Asset Lining (FY21 award; legacy project)
16. Washington Street Water Main Relocation (LCDOT Project)
17. Sylvan Lake Dam Sewer Main Relocation (SMC/FEMA Project)
18. Annual Tower & Reservoir Painting & Maintenance Projects *



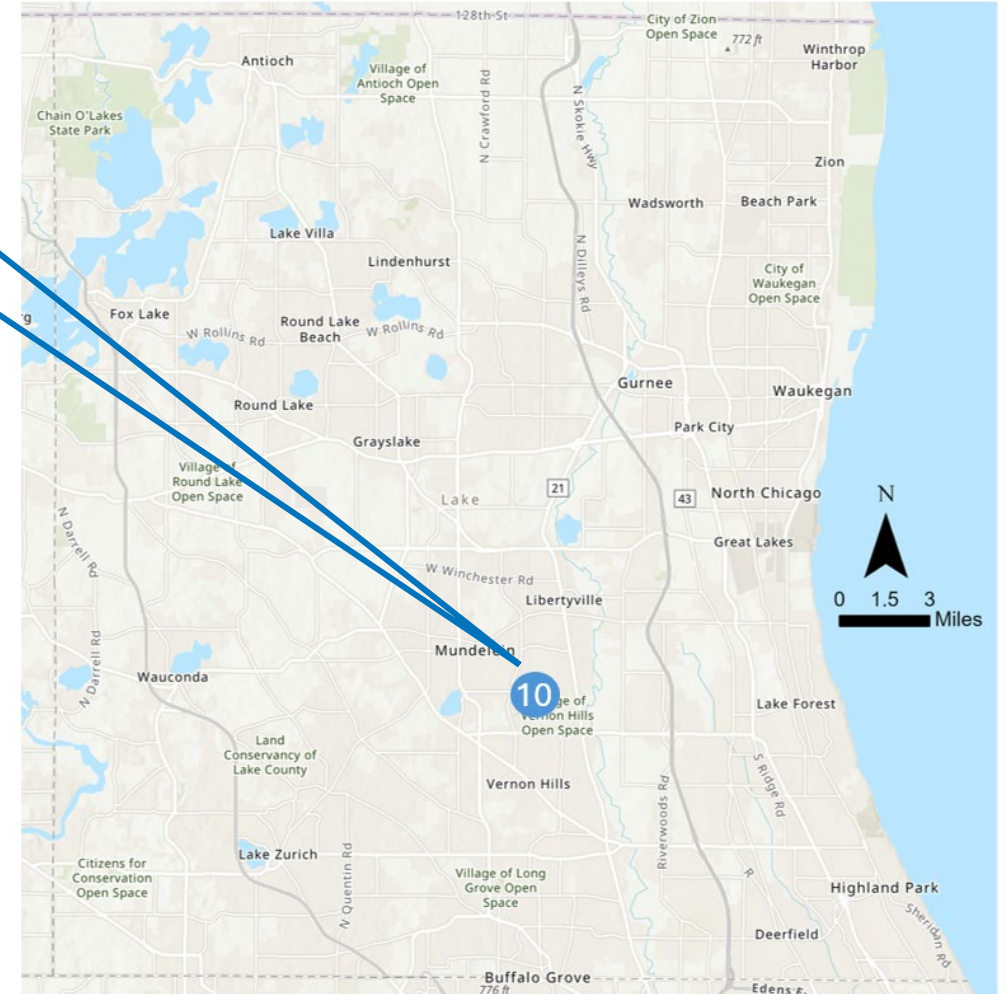
DPR = Des Plaines River NCT = New Century Town WRF = Water Reclamation Facility SCADA = Supervisory Control and Data Acquisition

FY2024 CIP

Construction Project Highlights – Water Production & Storage



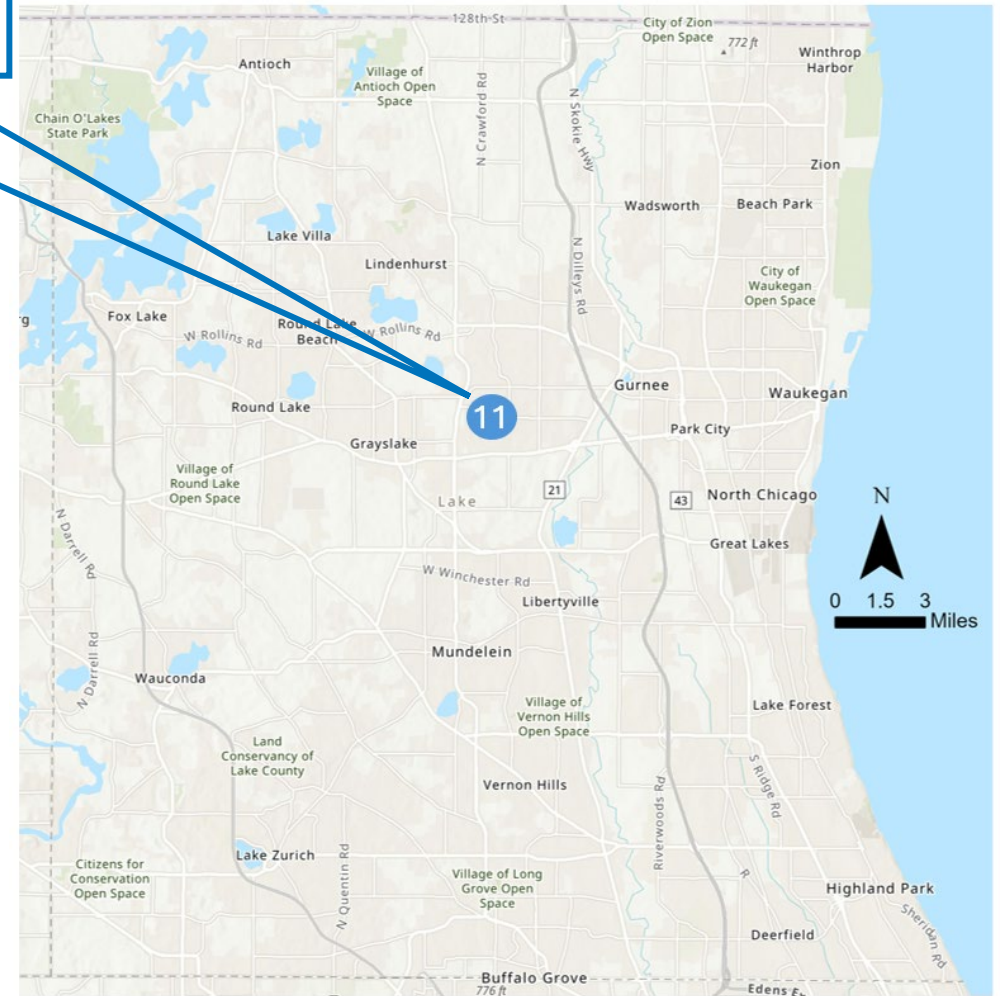
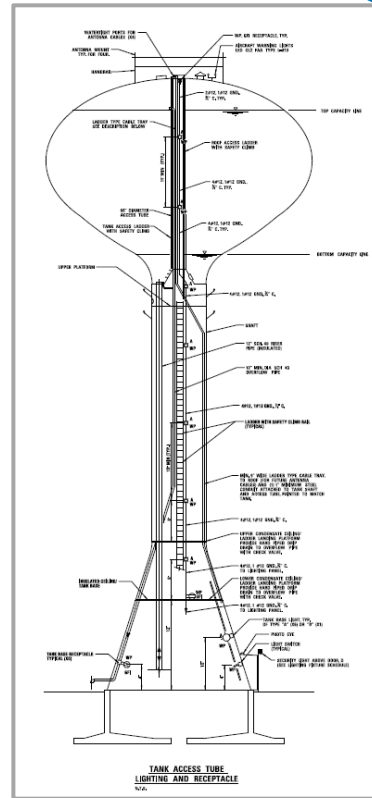
Vernon Hills White Deer Run Reservoir



FY2024 CIP

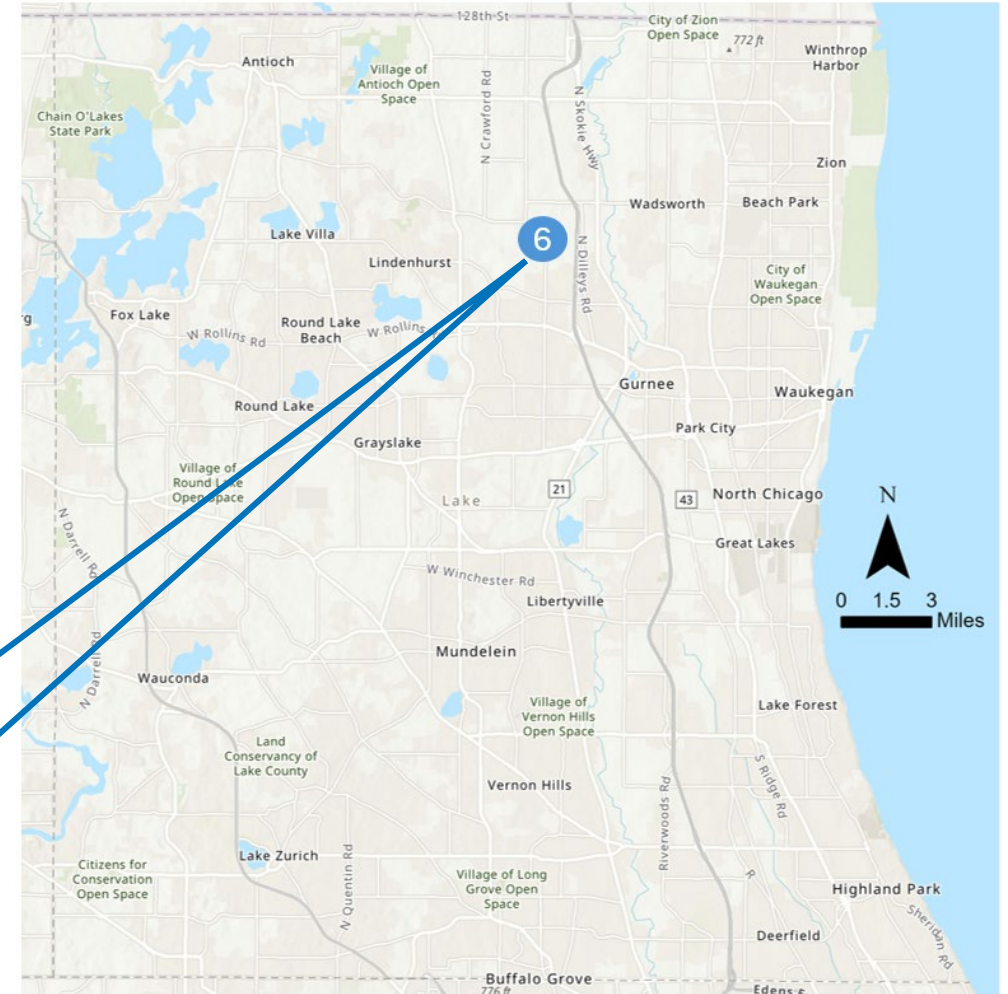
Construction Project Highlights – Water Production & Storage

Gages Lake Water Tower



FY2024 CIP

Construction Project Highlights – Water Reclamation



**Mill Creek WRF UV
Equipment Replacement**

Proposed FY2025-FY2029 CIP

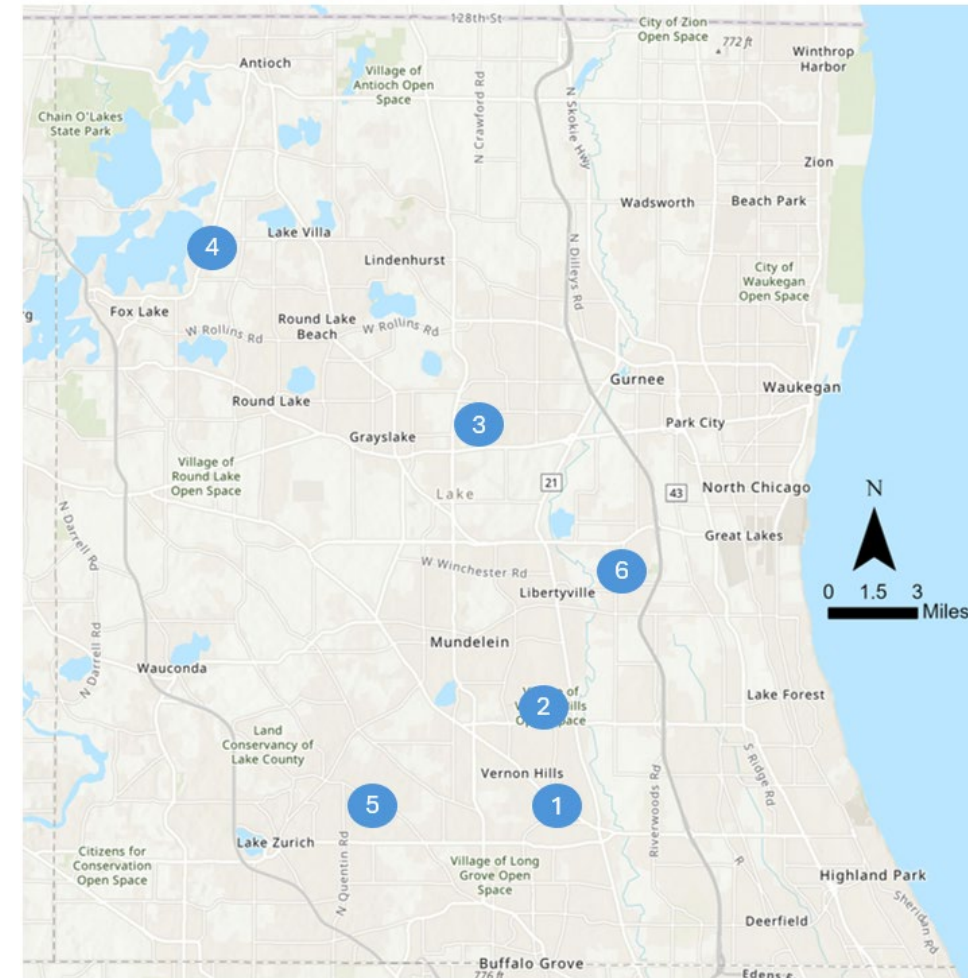


- **Water Production & Storage**
- **Water Distribution**
- **Wastewater Collection**
- **Water Reclamation Facilities**
- **Other Support Facilities & Equipment**

Proposed FY2025-FY2029 CIP

Water Production & Storage

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Corporate Woods Reservoir Improvements	Preservation	2025
2	Vernon Hills Extended Resiliency Improvements (Phased)	Preservation	2025+
3	Wildwood Extended Resiliency Improvements (Phased)	Preservation	2025+
4	Fox Lake Hills Water Storage Facility	Preservation	2026
5	Forest Lake/Hawthorn Woods (Glennshire) Water System Resiliency Improvements	Preservation	2027
6	Vernon Hills Water System Emergency Interconnection with Green Oaks	Preservation	2029
7**	Annual Tower & Reservoir Painting & Maintenance Projects – Various Locations	Preservation	2025-2029



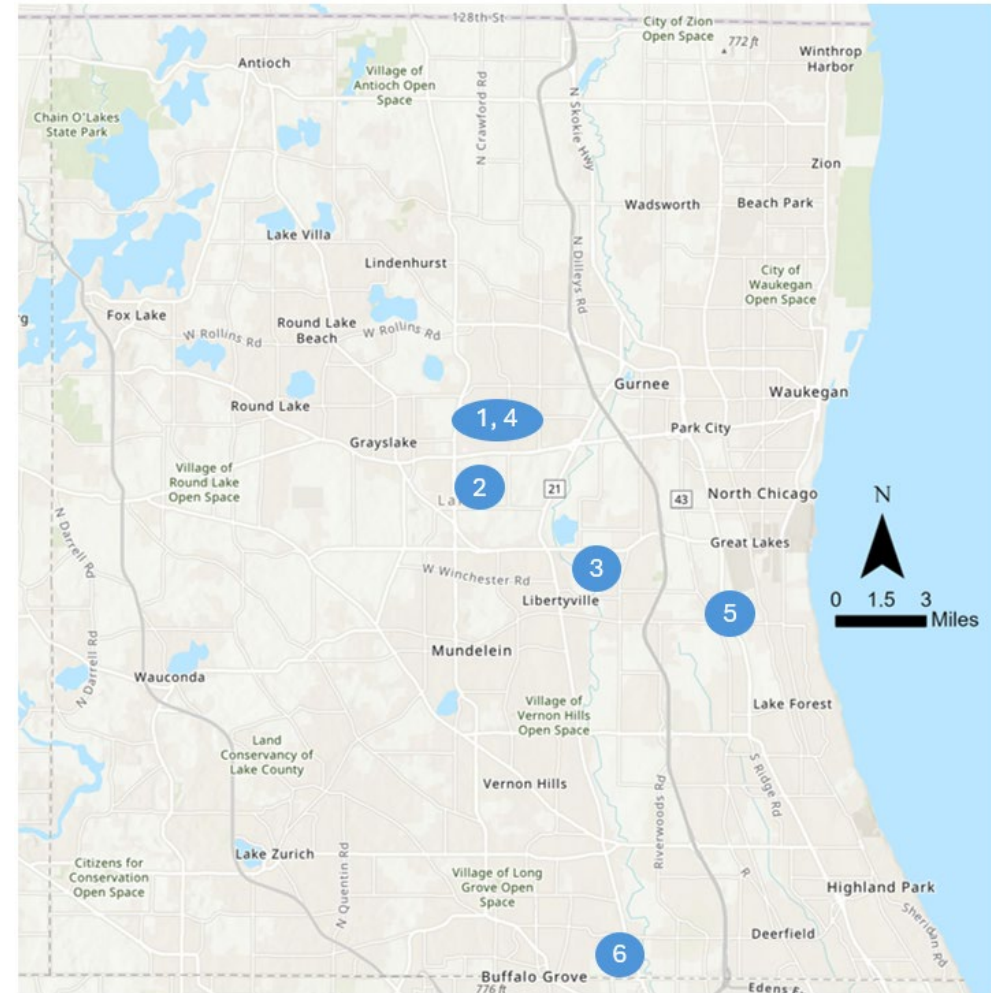
*Dependent upon project readiness and availability of funding

**Various location projects not mapped

Proposed FY2025-FY2029 CIP

Water Distribution

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Gages Lake Rd Water Main Improvements	Preservation	2025
2	Wildwood South Branch Resiliency Improvements (Phased)	Preservation	2025+
3	Countryside Manor Water Main Replacement Phase 2	Preservation	2026
4	Idlewild/Dady & Decker Water Main Replacement	Preservation	2027
5	IL 176/US 41 Water Main Relocation	Modernization	2028 (IDOT Project)
6	Pekara Water Main Rehabilitation Phase 2, 3 and 4	Preservation	2029

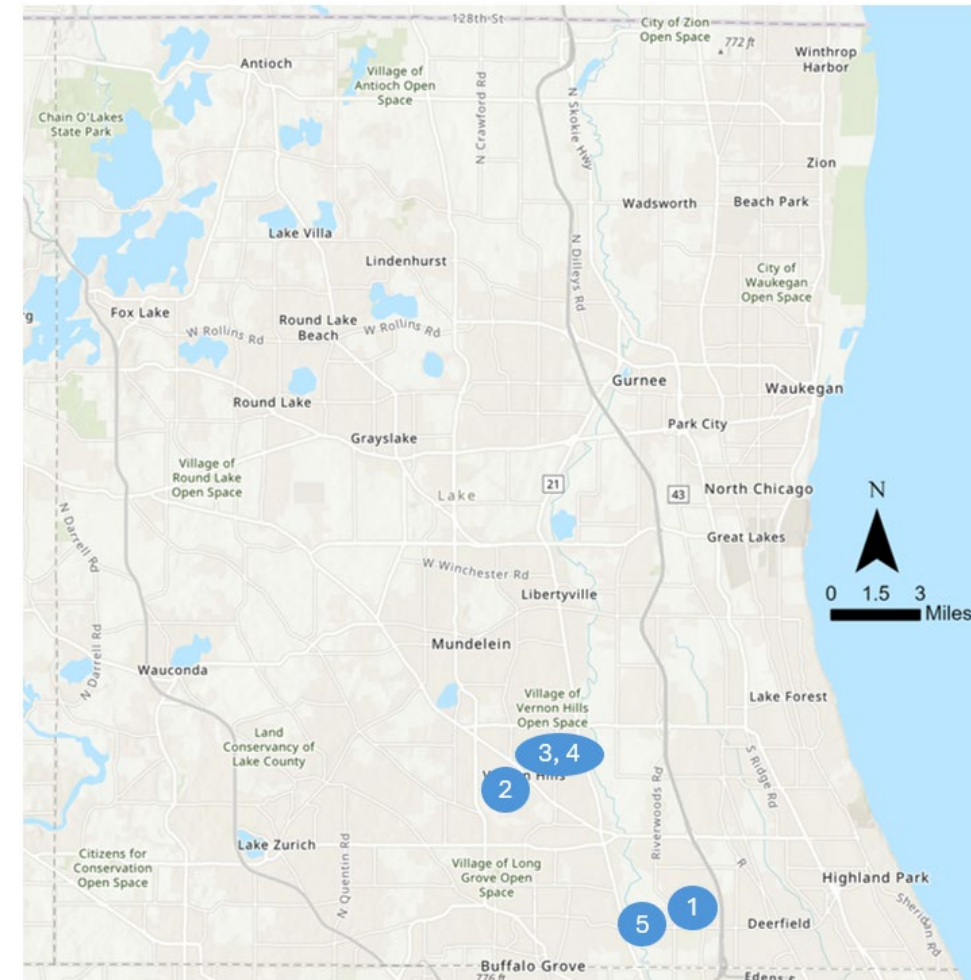


*Dependent upon project readiness and availability of funding

Proposed FY2025-FY2029 CIP

Wastewater Collection

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Saunders Rd Lift Station & Sewer Improvements Phase 2	Preservation & Expansion	2025
2	Teal Lane Lift Station Diversion	Preservation	2025
3	VH West Pump Station Force Main Replacement	Preservation	2026
4	Milwaukee Ave Pump Station Rehabilitation	Preservation	2026
5	Deerfield Rd Lift Station Relocation & Sewer Rehabilitation	Modernization	2026 (LCDOT Project)

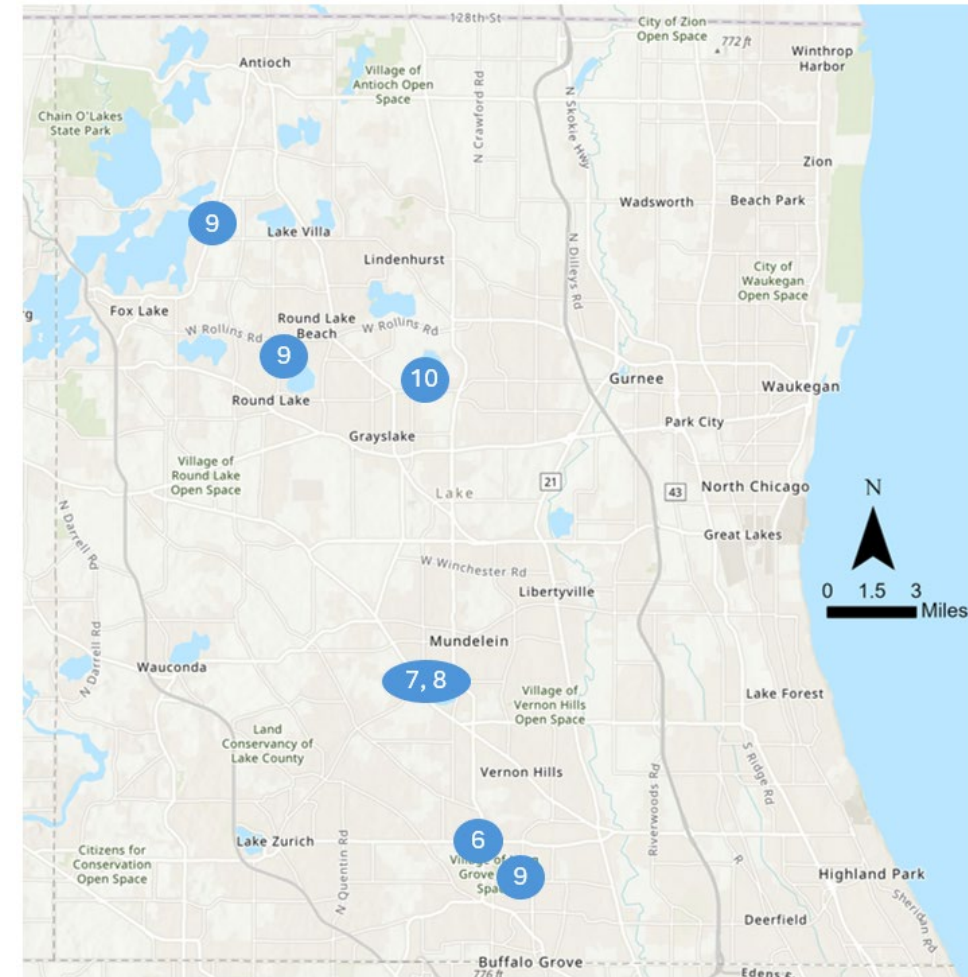


*Dependent upon project readiness and availability of funding

Proposed FY2025-FY2029 CIP

Wastewater Collection Continued

Map Key	Project Description	Project Type	Anticipated Construction Year*
6**	IL 22/IL 83 Intersection Improvements	Modernization	2028 (IDOT Project)
7**	IL 60/IL83 (IL 176 - Midlothian Rd) Sewer Relocation	Modernization	2028 (IDOT Project)
8**	IL 60/IL83 (Midlothian Rd – IL 60) Sewer Relocation	Modernization	2028 (IDOT Project)
9	Hilltop, Midland Phase 2, and Columbia Bay Road Force Main Replacements	Preservation	2029
10	Third Lake Sanitary Sewer Relocation	Modernization	2029
11***	Annual Lift Station and Sewer Improvements – Various Locations	Preservation	2025-2029



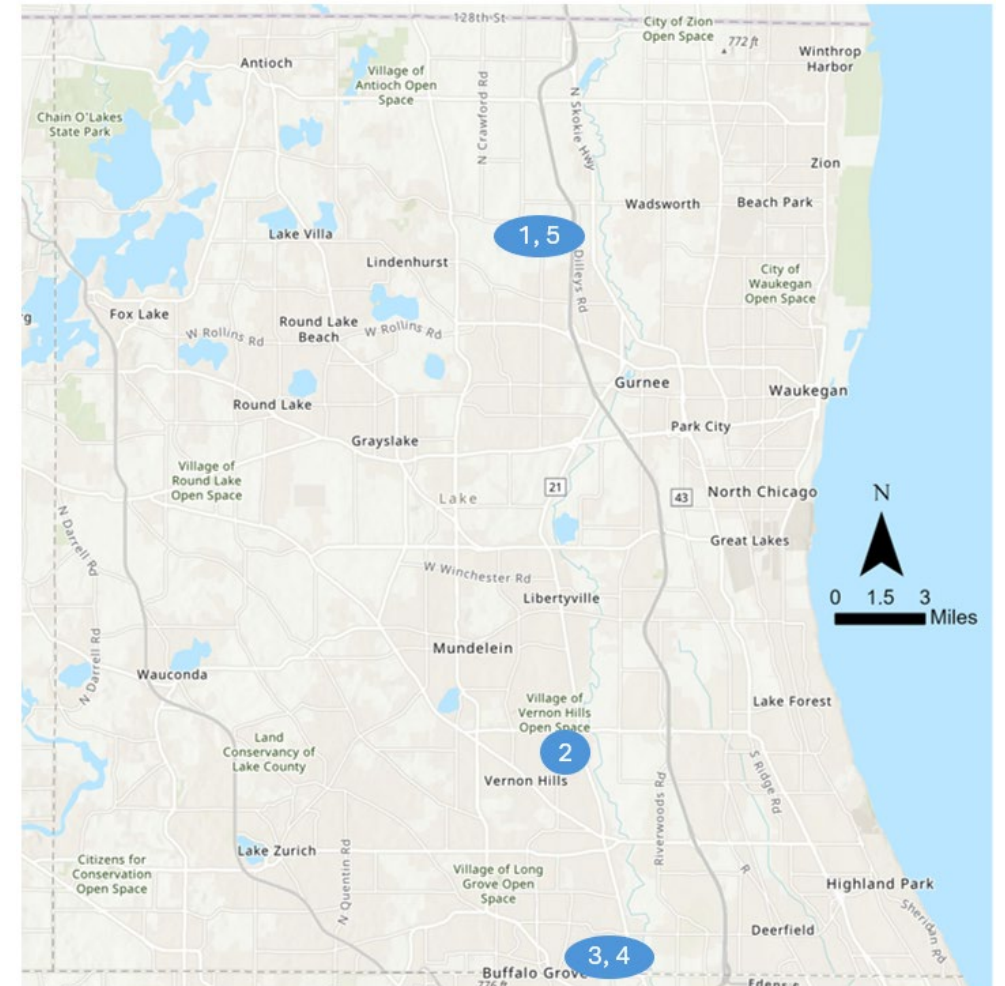
*Dependent upon project readiness and availability of funding
 **Capital Cost Share for this project is TBD
 ***Various location projects not mapped

Proposed FY2025-FY2029 CIP Water Reclamation Facilities (WRF)



Map Key	Project Description	Project Type	Anticipated Construction Year*
1	Mill Creek WRF Improvements	Modernization	2026
2	NCT WRF Dewatering Improvements	Modernization	2027
3	DPR WRF Denitrification Pump Improvements	Modernization	2028
4	DPR WRF Dewatering Improvements Phase 2	Preservation	2028
5	Mill Creek WRF Bar Screen Equipment Replacement	Preservation	2029

DPR = Des Plaines River NCT = New Century Town MC = Mill Creek
UV = Ultraviolet WRF = Water Reclamation Facility

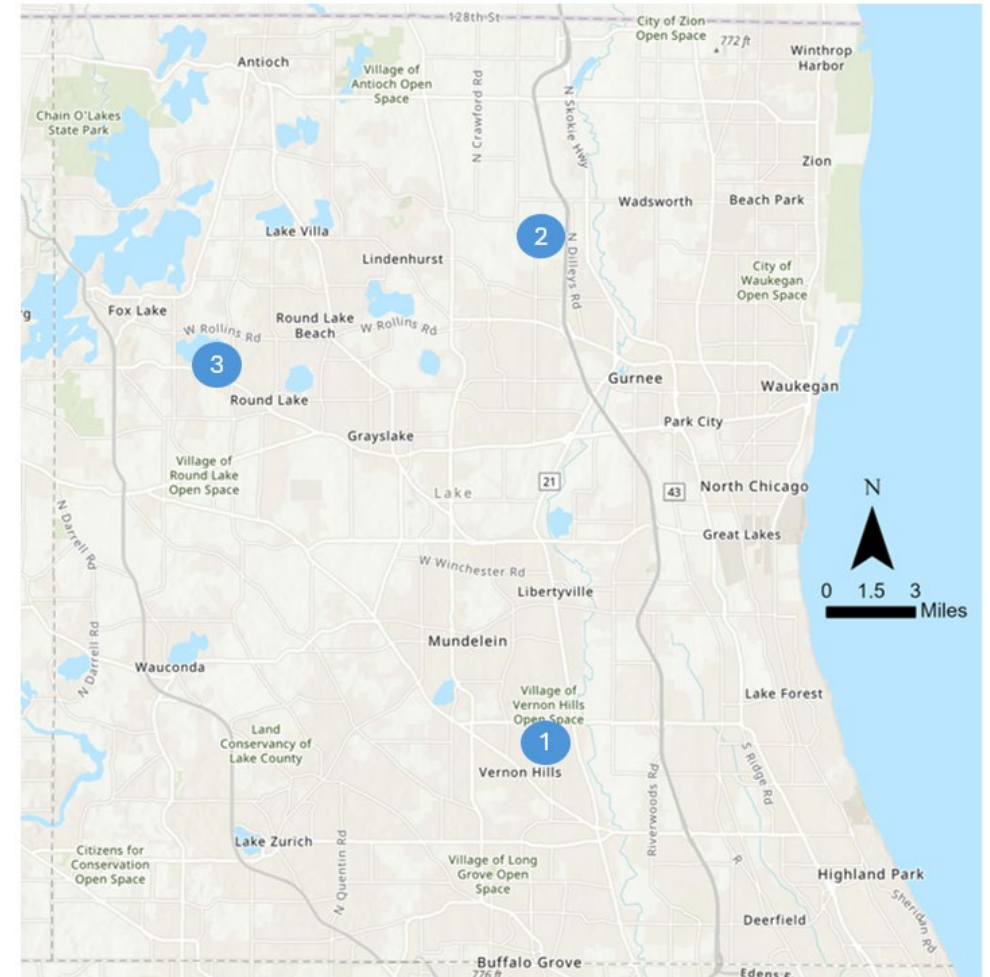


*Dependent upon project readiness and availability of funding

Proposed FY2025-FY2029 CIP

Other Support Facilities & Equipment

Map Key	Project Description	Project Type	Anticipated Construction Year*
1	SCADA Modernization: New Century Town WRF	Modernization	2025
2	SCADA Modernization: Mill Creek WRF	Modernization	2026
3	Manitou Creek Shoreline Stabilization Improvements (East Main Pump Station)	Preservation	2026



*Dependent upon project readiness and availability of funding

Proposed FY2025 CIP

Enterprise Fund Investments



- **Water Production & Storage - \$2.0 M**
- **Water Distribution - \$4.3 M**
- **Wastewater Collection - \$6.5 M**
- **Water Reclamation Facilities - \$1.0 M**
- **Other Support Facilities & Equipment - \$1.5 M**

FY 2025 CIP Proposed Total = \$15.3 M

Proposed FY2025 CIP

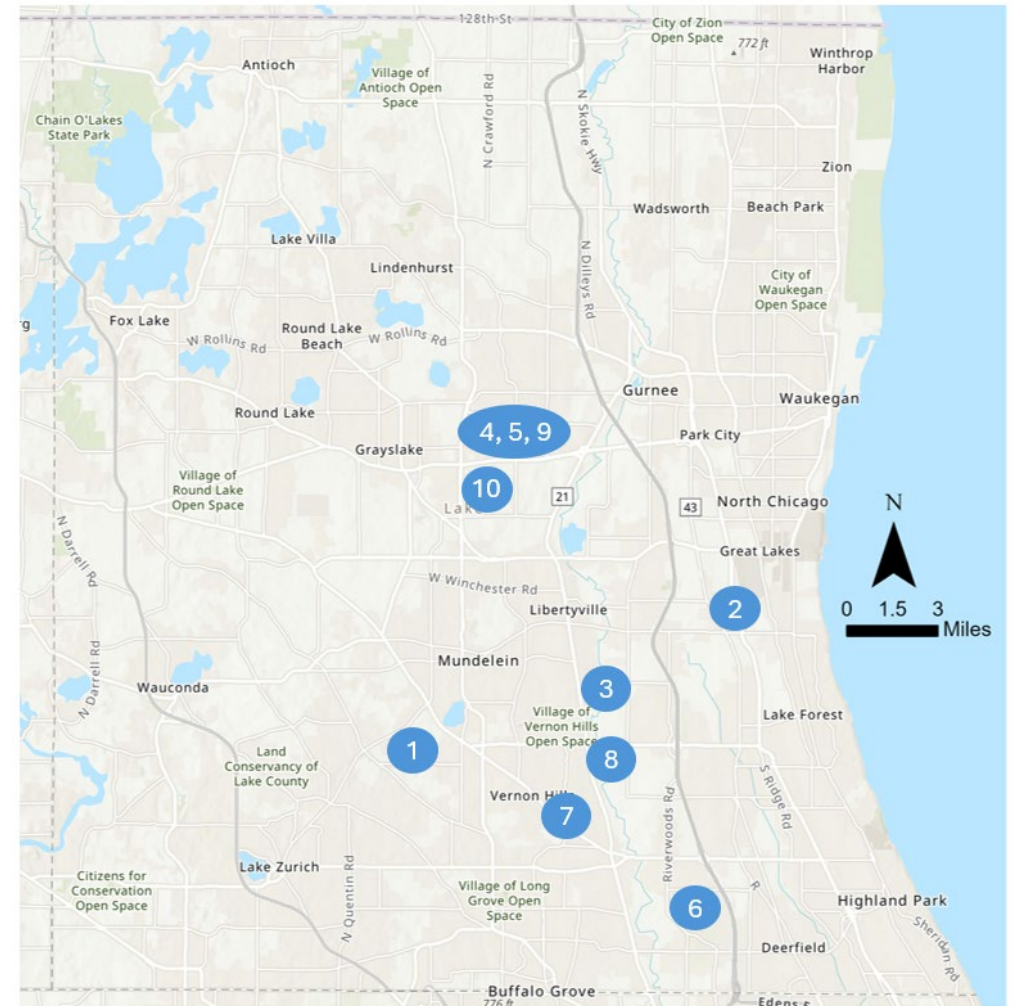
Anticipated New Construction Projects (Enterprise Funds)

1. Indian Creek Club Water Main Replacement**
2. US 41 North Chicago Interconnect Meter Pit Rehabilitation**
3. SEC Drop Chamber Replacement**
4. Wildwood Water System Controls Modernization**
5. Gages Lake Rd Water Main Improvements
6. Saunders Rd Sewer Improvements Phase 2
7. Vernon Hills Corporate Woods Reservoir Improvements
8. Vernon Hills Water System Extended Resiliency Improvements (Scope TBD)
9. Wildwood Water System Extended Resiliency Improvements (Scope TBD)
10. Wildwood "South Branch" Water System Improvements
11. SCADA Critical Infrastructure Upgrades (various locations)*
12. Annual Tower & Reservoir Painting & Maintenance Projects *

Note: eight (8) existing, multi-year projects will be active in FY25

*Various Locations – Not Mapped

**FY24 Projects to be Awarded in FY25



Out Years CIP FY2030-FY2034

Years 6 to 10 – Prospective Projects



- **Butterfield Tower Rehabilitation**
- **Vernon Hills Water System Additional Storage**
- **Countryside Lake Water System Resiliency**
- **Horatio Gardens Water Main Replacements Phases 1 & 2**
- **Vernon Hills Westmoreland Water Main Replacement**
- **Vernon Hills Westmoreland Sewer Main Replacement**
- **John Mogg Water Tower Rehabilitation**
- **Countryside Manor/North Libertyville Estates Water Main Loop Improvements on IL Route 137**
- **Highland Lake Water System Lake Michigan Water Connection**
- **IDOT US 45 (Washington St to Grand Ave) – potential sewer/water impacts**
- **IDOT US 45 at Buffalo Grove Rd – potential sewer/water impacts**
- **SCADA Critical Improvements**
- **LCPW Libertyville Campus Improvements**
- **LCPW Maintenance Storage Building Improvements**
- **Biosolids Storage Building**
- **Annual Water Storage Rehabilitation**
- **Annual Collection Sewer Rehabilitation**
- **Annual Lift & Pump Station Improvements**

Out Years CIP FY2030-FY2034

Years 6 to 10 – Prospective Projects (Continued)



- **IL 83 Forcemain Valve Insertion**
- **IL 83 Relief Sewer (Buffalo Grove area)**
- **Lakeside, Jackson & N Cedar Crest Force Main Replacements**
- **Vernon Hills Westmoreland Sewer Replacement**
- **Rollins Rd Force Main Rehabilitation**
- **Fox Lake Hills Water System Resiliency Improvements near Bald Eagle Rd and IL Route 59**
- **Antioch Township Sanitary Sewer Collection System**
- **Mill Creek WRF Blower Replacement**
- **New Century Town WRF Building 85 Replacement Digester Blowers**
- **New Century Town WRF Clarifier Retrofits & Building #46 Rehabilitation**
- **Mill Creek WRF Dewatering & Miscellaneous Improvements**
- **Countryside Lake, Forest Lake, and Hawthorn Woods (Glennshire) Lake Michigan Water Source**
- **Countryside Lake Water Main Resiliency Improvements (North Side of System)**

WRF = Water Reclamation Facility

Thank you & Questions

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