



2024 to 2033 Capital Improvement Program



Capital Program Overview

The Village of Wilmette capital program represents the Village’s commitment to future financial planning and investment in critical Village infrastructure. The capital program is a component of the Village’s Annual Budget and together these two plans provide a comprehensive financial plan. The annual budget provides the short-term plan for maintaining core Village services and the capital program provides the long-term outlook. The capital program summarizes all the major capital outlay anticipated over the next ten years. There are more detailed descriptions for projects in the five-year timeframe that include project descriptions, funding sources, project alternatives, and project updates.

Capital projects cover the full spectrum of investing in the Village’s infrastructure and include facility updates, construction or reconstruction of Village streets, infrastructure for our water, sewer, and stormwater utilities, major equipment and vehicle purchases, and technology updates. Projects are funded by a variety of sources including current revenues, the capital equipment replacement fund (CERF), revenues dedicated for infrastructure investment, grant opportunities, and bond issuances.

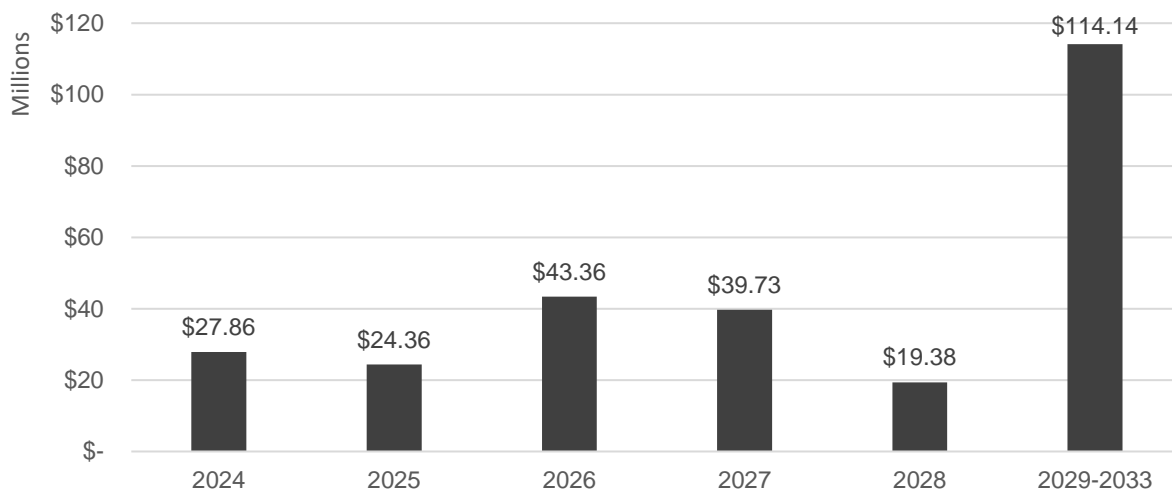
During preparation and review of the capital program, staff sets priorities and identifies which projects can be accomplished in a given year within the limits of the Village’s financial outlook. The Village also incorporates resource allocation, prioritization, consideration of external factors, and cost evaluation to arrive at the final capital program.

Capital Program Highlights

10-Year Overview

The ten-year capital program totals \$268.8 million and ensures needed capital projects and infrastructure are in place in a timely manner to accommodate the infrastructure needs of the community. Below is the distribution by year of the ten-year program. Each year, the capital request becomes more refined. Expenses in 2024 are based on engineering estimates or recent bid prices and accurately reflect the expected cost for the upcoming year. Conversely, expenses projected in 2029-2033 are based on historical expenses and foreseeable needs of the community but are ultimately forecasts. For this reason, staff presents the Village Board with a ten-year overview of projects but focuses discussion on projects that are necessary to support the upcoming year. Attachment #1 is a detailed breakdown of each capital project request over the next ten years.

10-Year Capital Request



2024-2033 Capital Program



2024 Overview

The 2024 capital program is valued at \$27.86 million, which is a 44.0% (\$8.52 million) increase from the 2023 approved capital program. There are two primary drivers of the 2024 increase, including the advancement of engineering design services for the New Police Station, valued at \$2.0 million, and the deferral of \$6.19 million of projects that were originally approved for 2023. These projects include:

- Historic Resources Survey – \$45,570
- Cashiering Software Upgrade – \$50,000
- Treatment Process Improvements Phase 2 – \$100,000
- Water Intake and Low Lift Pumping Station Improvements – \$100,000
- Corrosion Control Inhibitor Study – \$110,000
- Maple Avenue Outfall Repair – \$125,000
- Village Facility Roof Replacement – \$183,400
- Vehicle Replacements – \$591,200
- Automatic Meter Reading Program – \$625,000
- Treatment Process Improvements Phase 1 – \$720,000
- Sewer Lining and Rehabilitation - \$1,640,000
- SWPS Electrical Improvements - \$1,900,000

Additionally, this year’s capital request is more than what was forecasted in the 2023 capital program. In 2023, the capital program was forecasted at \$23.40 million for 2024. In addition to the project deferrals, the 2024 submittal includes \$1.27 million in additional reserve draws based upon both Village Board discussion and staff recommendation. These projects include:

- Phase 1 Studies (advancement of additional work) - \$325,000
- Downtown Parking Study (advancement of new work) - \$20,000
- Edens Pollinator Garden (addition of new sites) - \$276,600
- Old Glenview Road (Village share of grant-funded project) - \$270,377
- Alley Reconstruction Project (increase from 4 to 6 alleys) - \$380,000

To provide a more focused view on the capital investment request for the upcoming fiscal year, below is a breakdown of the capital request that compares the 2023 approved capital program, the 2024 forecasted program, and the 2024 proposed capital program. Attachment #2 includes a listing of the 2024 capital projects.

	2023 Approved	2024 Forecast	2024 Proposed
Buildings & Grounds	1.04	3.10	3.71
Equipment	0.36	0.45	0.37
Information Technology	0.19	0.35	0.39
Professional Services	0.05	0.05	0.14
Sewer	5.55	1.67	5.56
Streets	7.14	7.70	8.03
Vehicle Replacement	1.54	1.97	1.99
Water	3.48	8.13	7.66
TOTALS	\$19.34M	\$23.40M	\$27.86M

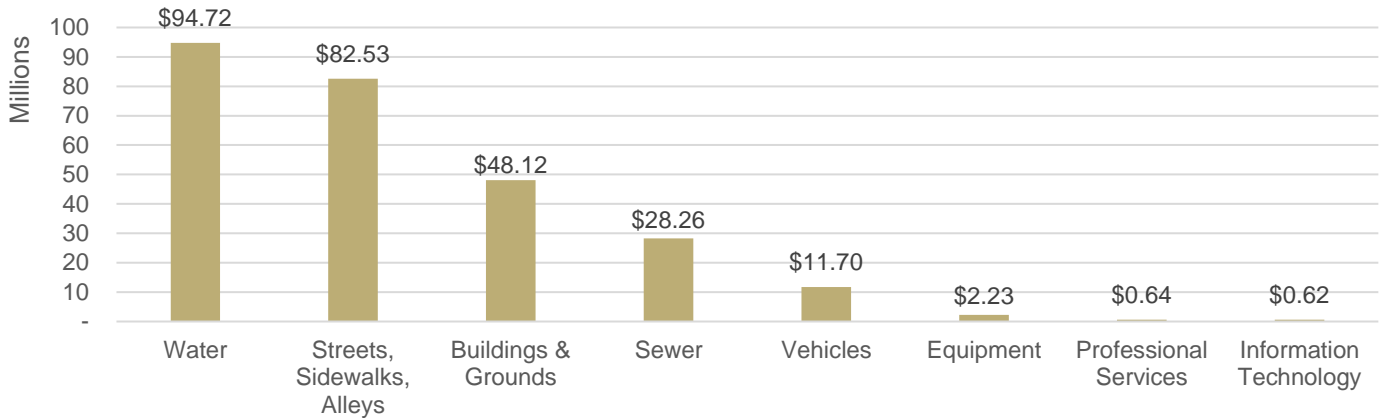


Project Categories

10-Year Overview

Each project within the ten-year capital program is assigned to one of eight capital categories. These categories define the type of projects being requested for capital investment. As the chart shows, investment in the Village’s streets, water, and sewer utility systems make up the majority of the Village’s next ten years of capital spending at 76%. The increase in buildings and grounds is due to the proposed construction of a new police station. Attachment #3 shows a summary of the 10-year program by project category.

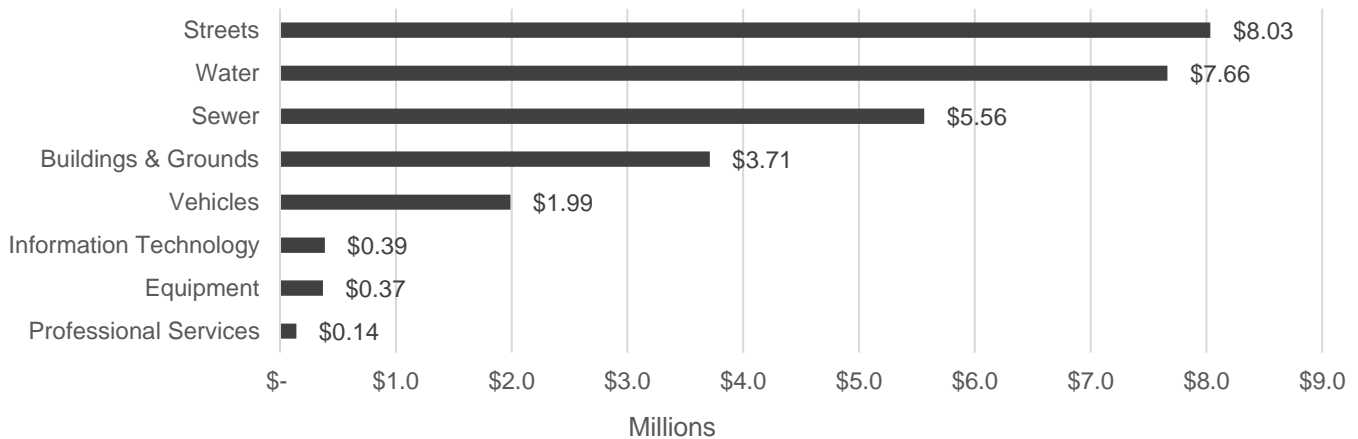
10-Year Category Spending



2024 Overview

To provide a more detailed view of the \$27.86 million request for the 2024 capital program, the below chart breaks down the asset types that will be invested in the upcoming year.

2024 Category Request



As the chart shows, the largest investment will be made in sewer, street, and water assets as the Village continues necessary water and sewer utility upgrades, and continues to invest in streets, alleys, and other critical roadway assets. When taking a more detailed look at the 2024 request, 13 of the total 75 projects in the 2024 capital program exceed \$500 thousand in investment and make up 68% of the 2024 capital spending:

- Water Main Replacement Program - \$3.44 million
- Road Program – \$2.30 million

2024-2033 Capital Program

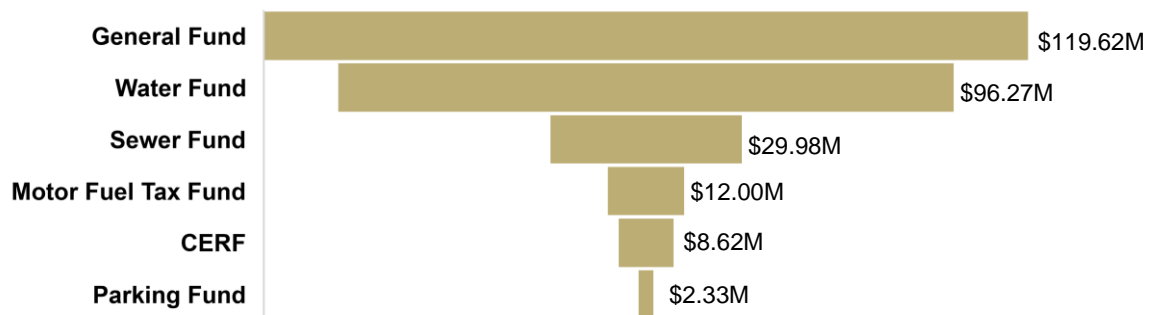


- Automatic Meter Reading Program – \$2.05 million
- New Police Station – \$2.00 million
- SWPS Electrical Improvements – \$1.92 million
- Sewer Lining & Rehabilitation – \$1.64 million
- Old Glenview Road Street Resurfacing – \$1.35 million
- Alley Reconstruction Program – \$1.15 million
- Treatment Process Improvements – \$820 thousand
- Phase 1 Engineering Studies – \$650 thousand
- Lead Service Line Replacement – \$518 thousand
- Sewer Maintenance – \$510 thousand
- Asphalt to Brick Street Reconstruction – \$503 thousand

Funding Source Categories

10-Year Overview

Capital project financing leverages a variety of funding sources that range from operating funds to grant funds and debt financing. Additionally, there are six funds that provide funding for capital projects: the General Fund, Capital Equipment Replacement Fund (CERF), Sewer Fund, Water Fund, Motor Fuel Tax Fund, and Parking Fund. Staff works diligently to identify appropriate funding sources for all projects. The chart below shows the fund breakout for capital over the next 10 years. Attachment #4 provides a detailed breakdown of funding over the next ten years.



2024 Overview

The 2024 capital program uses a variety of funding mechanisms across each fund. Below is a breakdown of each fund and how it finances the Village's capital projects.

- **General Fund** – These projects are funded by three main sources: operating funds, grants, and debt. Operating funds are paid for by the Village's general taxes and include funding for roadway projects, facilities and equipment, and information technology. Grant funds are through the federal, state and county governments and generally associated with road projects. Debt financing is used for long-term capital assets such as village facility roof replacement.
- **CERF (Capital Equipment Replacement Fund)**– These projects are for the replacement of Village equipment and vehicles. The CERF sets aside funds so that the Village can maintain the appropriate replacement cycle for these purchases.
- **Sewer Fund** – These projects are funded through two main sources: operations and debt financing. Operating funds are funded by sewer rates paid by customers. Debt financing was utilized for the now completed Neighborhood Storage Project and will be repaid over time by the stormwater utility fee. Additionally, certain sewer projects are eligible for IEPA low interest loans.
- **Water Fund** – These projects are funded through two main sources: operations and debt financing. Both sources are supported by water utility rates and wholesale water revenues. Certain water projects are

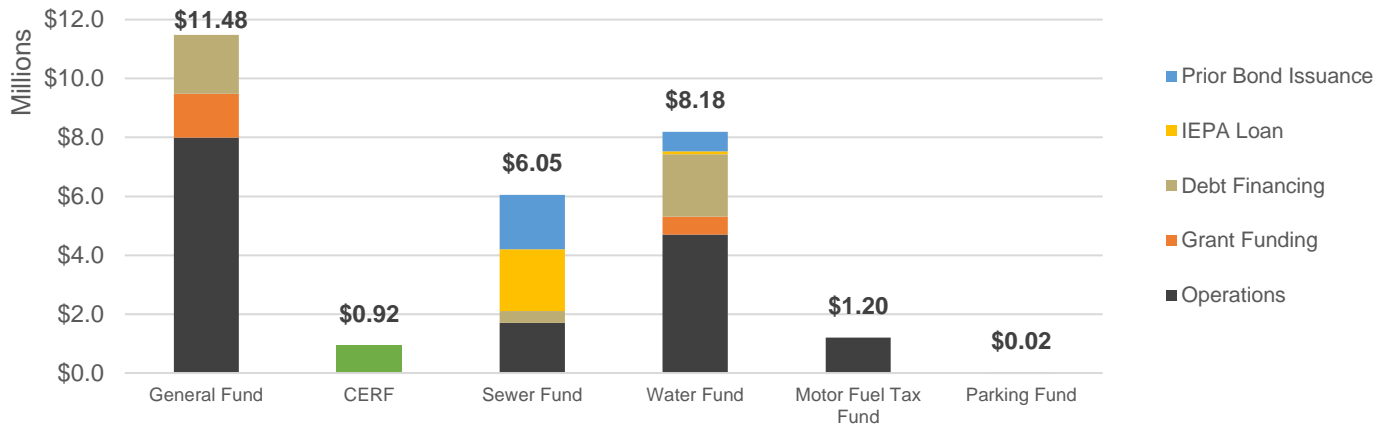
2024-2033 Capital Program



eligible for IEPA low interest loans. Additionally, the Village is allocating American Rescue Plan Act (ARPA) funds for water system investment, including lead service line replacement, water treatment process improvements, and water main replacements.

- **Motor Fuel Tax Fund** – A portion of the road program is funded by the State’s motor fuel tax, which is dispersed to the Village on a per capita basis. Additionally, in 2021, 2022, and 2023, the Village used funds from the Rebuild Illinois bonds to support local road investment.
- **Parking Fund** – These projects are for the maintenance of parking lots owned or leased by the Village. Revenue for the fund is generated by user fees.

2024 Capital Project Funding Sources



Summary

The 2024-2033 capital program provides a framework to allow the Village to not only maintain but enhance the Village of Wilmette’s infrastructure for the long-term benefit of the community. Staff will continue to work closely with the Village Board to provide information that will allow the elected officials to make the best long-term decisions for the Village.

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request

ATTACHMENT #1

	Department	Status	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Buildings & Grounds									
Bike Share Program	Engineering & Public Works	New	-	55,000	55,000	55,000	55,000	220,000	-
Edens Pollinator Corridor	Engineering & Public Works	Recommended	290,100	150,000	170,000	60,000	-	670,100	-
Fire Station #27 Boiler Replacement	Engineering & Public Works	Recommended	-	-	42,000	-	-	42,000	-
Fire Station Alerting System	Fire	New	60,000	-	-	-	-	60,000	-
Fire Station Renovation and Workspace Study	Fire	Contingent	55,000	-	-	-	-	55,000	-
Fire Stations Garage Floor Rehabilitation	Engineering & Public Works	Recommended	76,300	45,000	-	-	-	121,300	-
Garage Floor Coating	Engineering & Public Works	Recommended	-	95,000	40,000	-	-	135,000	-
New Police Station	Police	Recommended	2,000,000	2,000,000	15,000,000	15,000,000	-	34,000,000	-
Outdoor Audio System	Engineering & Public Works	Contingent	-	32,000	62,000	-	-	94,000	-
Parking Lot Paving Program	Engineering & Public Works	Recommended	251,000	321,000	223,000	197,000	208,000	1,200,000	1,849,000
Parkway Tree Maintenance Program	Engineering & Public Works	New	493,450	516,850	529,175	541,800	557,035	2,638,310	3,029,110
Public Works Facility HVAC Condenser Replacement	Engineering & Public Works	New	-	80,000	-	-	-	80,000	-
Public Works Facility Interior Flooring	Engineering & Public Works	Recommended	59,150	70,355	-	-	-	129,505	-
Security Enhancements	Engineering & Public Works	Recommended	75,400	45,465	-	-	-	120,865	-
Village Facility Roof Replacement	Engineering & Public Works	Critical	350,000	727,000	-	-	-	1,077,000	790,000
Village Green Fountain and Streetscape	Engineering & Public Works	New	-	950,000	-	-	-	950,000	-
Village Hall Facility Improvements	Engineering & Public Works	Contingent	-	860,000	-	-	-	860,000	-
Buildings & Grounds Total			\$ 3,710,400	\$ 5,947,670	\$ 16,121,175	\$ 15,853,800	\$ 820,035	\$ 42,453,080	\$ 5,668,110
Equipment									
Automated License Plate Readers	Police	Recommended	23,600	15,050	14,650	11,400	-	64,700	-
Cardiac Monitors	Fire	Recommended	-	-	-	-	-	-	90,000
CPR Chest Compression Devices	Fire	Recommended	-	-	-	-	-	-	55,000
Decorative and Roadway Streetlights	Engineering & Public Works	Contingent	-	-	75,000	155,000	65,000	295,000	-
Extrication Tools	Fire	New	-	-	36,000	-	-	36,000	-
Holiday Décor	Engineering & Public Works	Recommended	47,600	-	-	-	-	47,600	-
Hot Asphalt Paver	Engineering & Public Works	New	-	75,000	-	-	-	75,000	-
Leaf Pan Replacement	Engineering & Public Works	Recommended	20,000	20,600	21,200	21,800	22,400	106,000	71,100
Leak Correlator Equipment	Engineering & Public Works	Recommended	35,000	-	-	-	-	35,000	41,000
Portable Hopper	Engineering & Public Works	Recommended	26,000	-	-	-	-	26,000	-
Street Lighting Control Cabinet - Downtown	Engineering & Public Works	Recommended	44,800	46,200	47,600	49,000	50,400	238,000	274,750
Streetlight LED Luminaire Replacement	Engineering & Public Works	Recommended	78,750	-	-	-	-	78,750	-
Streetlight Pole Painting	Engineering & Public Works	Recommended	80,400	87,075	82,215	83,300	39,760	372,750	239,060
Streetscape Furniture	Engineering & Public Works	Contingent	14,000	29,000	39,000	-	-	82,000	-
Equipment Total			\$ 370,150	\$ 272,925	\$ 315,665	\$ 320,500	\$ 177,560	\$ 1,456,800	\$ 770,910
Information Technology									
Building Permit Software	Administrative Services	Recommended	255,195	-	-	-	-	255,195	-
Cashiering Software Upgrade	Administrative Services	Recommended	50,000	-	-	-	-	50,000	-
GIS Hardware and Software	Administrative Services	Recommended	81,000	-	-	39,000	-	120,000	97,200
Time Clock Software with MUNIS Integration	Administrative Services	Contingent	-	10,300	-	-	-	10,300	-
Village Hall Virtual Server Replacement	Administrative Services	Recommended	-	-	-	-	-	-	85,000
Information Technology Total			\$ 386,195	\$ 10,300	\$ -	\$ 39,000	\$ -	\$ 435,495	\$ 182,200
Professional Services									
Arc Flash Study	Engineering & Public Works	Recommended	75,000	-	-	-	-	75,000	85,000
Downtown Parking Study	Engineering & Public Works	New	20,000	-	-	-	-	20,000	-
Historic Resources Survey	Community Development	Contingent	45,570	45,570	114,720	114,720	114,720	435,300	20,000
Professional Services Total			\$ 140,570	\$ 45,570	\$ 114,720	\$ 114,720	\$ 114,720	\$ 530,300	\$ 105,000

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request

ATTACHMENT #1

	Department	Status	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Sewer									
Clean Out Pumping Station	Water Management	Critical	-	50,000	-	-	-	50,000	50,000
Large Diameter Sewer Lining	Engineering & Public Works	Recommended	450,000	-	340,000	-	340,000	1,130,000	670,000
Maple Avenue Outfall Repair	Engineering & Public Works	Critical	260,000	-	-	-	-	260,000	-
Neighborhood Storage Project	Engineering & Public Works	Recommended	330,000	-	-	-	-	330,000	-
Relief Sewer Improvement Program	Engineering & Public Works	New	-	-	100,000	-	-	100,000	-
Sewer Lateral Rehabilitation Project	Engineering & Public Works	New	-	-	-	-	550,000	550,000	2,750,000
Sewer Lining & Rehabilitation	Engineering & Public Works	Critical	1,640,000	-	1,640,000	-	1,640,000	4,920,000	3,280,000
Sewer Main Repairs	Engineering & Public Works	Critical	412,000	424,000	437,000	450,000	464,000	2,187,000	2,250,000
Sewer Maintenance	Engineering & Public Works	Critical	510,500	526,500	540,750	556,750	571,000	2,705,500	3,083,500
Smoke Testing/Dyed Water Flooding	Engineering & Public Works	Recommended	20,000	20,000	-	-	-	40,000	-
Storm Sewer Lining Program	Engineering & Public Works	New	-	500,000	-	400,000	-	900,000	800,000
Stormwater Incentive Program	Engineering & Public Works	Recommended	20,000	20,000	20,000	20,000	20,000	100,000	100,000
SWPS Electrical Improvements	Water Management	Recommended	1,920,000	-	-	-	-	1,920,000	-
SWPS Pump Renovations	Water Management	Recommended	-	60,000	-	-	-	60,000	-
SWPS Roof Replacement	Water Management	Recommended	-	-	-	-	-	-	26,000
Sewer Total			\$ 5,562,500	\$ 1,600,500	\$ 3,077,750	\$ 1,426,750	\$ 3,585,000	\$ 15,252,500	\$ 13,009,500
Streets, Sidewalks, Alleys									
Active Transportation Plan Implementation	Engineering & Public Works	Recommended	190,000	70,000	75,000	120,000	200,000	655,000	1,000,000
Alley Reconstruction Program	Engineering & Public Works	Recommended	1,147,000	1,181,000	1,218,000	1,254,000	1,290,000	6,090,000	7,049,000
Asphalt to Brick Street Reconstruction Program	Engineering & Public Works	Recommended	503,000	523,000	476,000	564,000	449,000	2,515,000	1,742,000
Brick Street Maintenance Program	Engineering & Public Works	Recommended	192,000	198,000	204,000	210,000	217,000	1,021,000	1,190,000
Brick Street Renovation Program	Engineering & Public Works	Recommended	349,000	323,000	277,000	286,000	484,000	1,719,000	2,540,000
Curb Replacement Program	Engineering & Public Works	Recommended	47,000	49,000	50,000	52,000	54,000	252,000	300,000
Decorative Brick Repairs	Engineering & Public Works	Recommended	15,000	15,000	15,000	15,000	15,000	75,000	75,000
Engineering Services for Capital Projects	Engineering & Public Works	Recommended	351,000	347,000	387,000	435,000	429,000	1,949,000	2,346,000
Illinois Road Street Resurfacing	Engineering & Public Works	Recommended	-	-	110,000	1,374,096	-	1,484,096	-
Old Glenview Road Street Resurfacing	Engineering & Public Works	New	1,351,884	-	-	-	-	1,351,884	-
Pavement Maintenance Program	Engineering & Public Works	Recommended	214,000	210,000	211,000	231,000	241,000	1,107,000	1,369,000
Pavement Marking Program	Engineering & Public Works	Recommended	58,000	60,000	62,000	64,000	67,000	311,000	405,000
Phase 1 Studies	Engineering & Public Works	Recommended	650,000	730,000	200,000	-	-	1,580,000	-
Road Program	Engineering & Public Works	Recommended	2,296,623	2,637,000	3,784,000	3,541,181	4,061,000	16,319,804	22,938,000
Sidewalk Maintenance Program	Engineering & Public Works	Recommended	223,000	187,000	195,000	229,000	187,000	1,021,000	1,111,000
Skokie Boulevard Shared-Use Path	Engineering & Public Works	Critical	379,715	1,108,913	-	-	-	1,488,628	-
Skokie Valley Trail	Engineering & Public Works	Contingent	42,500	463,500	770,000	-	-	1,276,000	-
Traffic Calming	Engineering & Public Works	Contingent	25,000	25,000	25,000	25,000	25,000	125,000	125,000
Streets, Sidewalks, Alleys Total			\$ 8,034,722	\$ 8,127,413	\$ 8,059,000	\$ 8,400,277	\$ 7,719,000	\$ 40,340,412	\$ 42,190,000
Vehicles									
2022 and 2023 Vehicles Purchased in 2024	Vehicle Replacement	Recommended	591,200	-	-	-	-	591,200	-
Ambulance (FD211)	Vehicle Replacement	Recommended	260,000	-	-	-	-	260,000	-
Ambulance (FD212)	Vehicle Replacement	Recommended	-	-	270,000	-	-	270,000	-
Ambulance (FD220)	Vehicle Replacement	Recommended	-	-	-	-	280,000	280,000	-
Backhoe (C13)	Vehicle Replacement	Class 2	-	190,000	-	-	-	190,000	-
Boat (FD214)	Vehicle Replacement	Recommended	-	55,000	-	-	-	55,000	-
Boat (FD222)	Vehicle Replacement	Recommended	150,000	-	-	-	-	150,000	-
Brush Chipper (C07)	Vehicle Replacement	Class 4	-	-	-	-	-	-	160,000
Brush Chipper (C09)	Vehicle Replacement	Class 2	-	160,000	-	-	-	160,000	-

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request

ATTACHMENT #1

	Department	Status	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Combination Sewer Cleaner (T22)	Vehicle Replacement	Class 1	470,000	-	-	-	-	470,000	560,000
Combination Sewer Cleaner (T30)	Vehicle Replacement	Class 4	-	-	-	-	510,000	510,000	-
Custom Service Body Truck (T27)	Vehicle Replacement	Class 4	-	-	-	298,000	-	298,000	-
Fire Department Staff Vehicles	Vehicle Replacement	New	-	55,000	55,000	55,000	-	165,000	-
Floor Sweeper and Scrubber (S03)	Vehicle Replacement	Class 4	-	-	-	100,000	-	100,000	-
Front-End Wheel Loader (C01)	Vehicle Replacement	Class 4	-	-	-	254,000	-	254,000	-
Heavy Rescue Squad (FD201)	Vehicle Replacement	Recommended	-	-	-	-	-	-	550,000
Large Dump Truck (T03, T04, T09)	Vehicle Replacement	Class 5	-	-	-	-	-	-	920,000
Large Dump Truck (T05)	Vehicle Replacement	Class 1	290,000	-	-	-	-	290,000	-
Large Dump Truck (T06)	Vehicle Replacement	Class 1	-	300,700	-	-	-	300,700	-
Large Dump Truck (T08)	Vehicle Replacement	Class 5	-	-	-	279,300	-	279,300	-
Large Dump Truck (T18)	Vehicle Replacement	Class 5	-	-	-	-	287,500	287,500	-
Marked Squad Car (Future Cycle)	Vehicle Replacement	Recommended	-	-	-	-	126,000	126,000	755,300
Marked Squad Car (SQ501)	Vehicle Replacement	Recommended	-	-	60,000	-	-	60,000	-
Marked Squad Car (SQ503)	Vehicle Replacement	Recommended	-	-	60,000	-	-	60,000	-
Marked Squad Car (SQ504)	Vehicle Replacement	Recommended	-	-	60,000	-	-	60,000	-
Marked Squad Car (SQ505)	Vehicle Replacement	Recommended	-	-	-	61,800	-	61,800	-
Marked Squad Car (SQ506)	Vehicle Replacement	Recommended	-	58,500	-	-	-	58,500	-
Marked Squad Car (SQ507)	Vehicle Replacement	Recommended	57,000	-	-	-	-	57,000	-
Marked Squad Car (SQ508)	Vehicle Replacement	Recommended	-	-	-	61,800	-	61,800	-
Marked Squad Car (SQ510)	Vehicle Replacement	Recommended	-	-	-	61,800	-	61,800	-
Marked Squad Car (SQ511)	Vehicle Replacement	Recommended	57,000	-	-	-	-	57,000	-
Marked Squad Car (SQ512)	Vehicle Replacement	Recommended	-	-	-	61,800	-	61,800	-
Police Vehicle (SQ500)	Vehicle Replacement	Recommended	57,000	-	-	-	-	57,000	74,000
Police Vehicle (SQ502)	Vehicle Replacement	Recommended	57,000	-	-	-	-	57,000	72,000
Police Vehicle (SQ509)	Vehicle Replacement	Recommended	-	58,500	-	-	-	58,500	74,000
Police Vehicle (SQ513)	Vehicle Replacement	Recommended	-	58,500	-	-	-	58,500	74,000
Police Vehicle (SQ514)	Vehicle Replacement	Recommended	-	58,500	-	-	-	58,500	74,000
Police Vehicle (SQ515)	Vehicle Replacement	Recommended	-	-	-	-	-	-	74,000
Police Vehicle (SQ521)	Vehicle Replacement	Recommended	-	-	60,000	-	-	60,000	-
Police Vehicle (SQ522)	Vehicle Replacement	Recommended	-	-	-	-	-	-	74,000
Police Vehicle (SQ523)	Vehicle Replacement	Recommended	-	-	-	-	-	-	65,000
Self-Propelled Articulating Boom	Vehicle Replacement	New	-	66,000	-	-	-	66,000	-
Sidewalk Snowplows (C18)	Vehicle Replacement	Class 5	-	-	-	-	-	-	266,000
Sidewalk Snowplows (C20)	Vehicle Replacement	Class 1	-	-	-	-	-	-	-
Sidewalk Snowplows (C24)	Vehicle Replacement	Class 4	-	-	-	-	223,800	223,800	-
Sidewalk Snowplows (C25)	Vehicle Replacement	Class 3	-	-	205,000	-	-	205,000	-
Skid Steer Loader (C35)	Vehicle Replacement	Class 4	-	-	-	88,000	-	88,000	-
Small Dump Truck - W/S (T14)	Vehicle Replacement	Class 2	-	106,000	-	-	-	106,000	-
Small Dump Truck (T11)	Vehicle Replacement	Class 5	-	-	-	-	150,000	150,000	-
Small Dump Truck (T23)	Vehicle Replacement	Class 5	-	-	-	-	-	-	150,000
Small Dump Truck (T32)	Vehicle Replacement	Class 5	-	-	-	-	-	-	150,000
Street Sweeper (S01)	Vehicle Replacement	Class 5	-	-	-	-	-	-	380,000
Street Sweeper (S02)	Vehicle Replacement	Class 4	-	-	-	336,000	-	336,000	-
Stump Grinder (C06)	Vehicle Replacement	Class 2	-	68,000	-	-	-	68,000	-
Trailer - Light Poles (C26)	Vehicle Replacement	Class 1	-	-	-	-	-	-	-
Vehicles Total			\$ 1,989,200	\$ 1,234,700	\$ 770,000	\$ 1,657,500	\$ 1,577,300	\$ 7,228,700	\$ 4,472,300

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request

ATTACHMENT #1

	Department	Status	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Water									
Automatic Meter Reading Program	Water Management	Tier 4	2,050,000	450,000	-	-	-	2,500,000	-
Corrosion Control Inhibitor Study	Water Management	Tier 5	110,000	-	-	-	-	110,000	-
Distribution System Valve Improvements	Engineering & Public Works	Recommended	103,000	106,100	109,200	113,300	116,700	548,300	593,300
Fire Hydrant Painting, Testing, and Abatement	Engineering & Public Works	Recommended	34,560	34,900	11,500	12,000	12,000	104,960	64,500
Hydraulic Model Assessment of Water Distribution System	Engineering & Public Works	Recommended	150,000	-	-	-	-	150,000	150,000
Lead Service Line Replacement	Engineering & Public Works	Critical	517,500	517,500	502,500	502,500	502,500	2,542,500	25,625,000
Leak Detection Services	Engineering & Public Works	New	46,000	46,000	46,000	-	-	138,000	-
Rebuild High Lift Pumps	Water Management	Tier 2	60,000	60,000	60,000	-	-	180,000	-
Rebuild Wash Water Pumps	Water Management	Tier 4	-	80,000	60,000	-	-	140,000	-
Repairs- Water Transmission Main	Engineering & Public Works	Critical	160,750	370,000	150,000	394,500	419,000	1,494,250	-
Replacement Standpipe Isolation Valve	Water Management	Tier 3	-	80,000	-	-	-	80,000	-
Roof Repairs	Water Management	Tier 4	-	260,000	-	-	-	260,000	-
Tank Maintenance Services	Water Management	Tier 2	-	50,000	-	-	-	50,000	-
Treatment Process Improvements Program Phase 1	Water Management	Tier 4	720,000	-	498,000	-	-	1,218,000	-
Treatment Process Improvements Program Phase 2	Water Management	Tier 4	100,000	450,000	2,000,000	-	-	2,550,000	-
Treatment Process Improvements Program Phase 3	Water Management	Tier 3	-	-	750,000	140,000	470,000	1,360,000	-
Unidirectional Water Main Flushing	Engineering & Public Works	Recommended	-	70,000	70,000	-	-	140,000	300,000
Water Intake and Low Lift Pumping Improvements	Water Management	Tier 4	100,000	1,000,000	7,000,000	7,000,000	-	15,100,000	-
Water Main Replacement Program	Engineering & Public Works	Critical	3,440,000	3,470,000	3,570,000	3,680,000	3,790,000	17,950,000	20,710,000
Water Main Surge Suppressors	Engineering & Public Works	Recommended	16,500	17,000	17,500	18,000	18,500	87,500	-
Water Meter Replacement Program	Water Management	Tier 4	55,000	55,000	55,000	55,000	55,000	275,000	300,000
Water Total			\$ 7,663,310	\$ 7,116,500	\$ 14,899,700	\$ 11,915,300	\$ 5,383,700	\$ 46,978,510	\$ 47,742,800
Grand Total			\$ 27,857,047	\$ 24,355,578	\$ 43,358,010	\$ 39,727,847	\$ 19,377,315	\$ 154,675,797	\$ 114,140,820

2024-2033 CAPITAL IMPROVEMENT PROGRAM

2024 Capital Project List

ATTACHMENT #2

Category	Project	2024
Buildings & Grounds	Edens Pollinator Corridor	290,100
	Fire Station Alerting System	60,000
	Fire Station Renovation and Workspace Study	55,000
	Fire Stations Garage Floor Rehabilitation	76,300
	New Police Station	2,000,000
	Parking Lot Paving Program	251,000
	Parkway Tree Maintenance Program	493,450
	Public Works Facility Interior Flooring	59,150
	Security Enhancements	75,400
	Village Facility Roof Replacement	350,000
Buildings & Grounds Total		3,710,400
Equipment	Automated License Plate Readers	23,600
	Holiday Décor	47,600
	Leaf Pan Replacement	20,000
	Leak Correlator Equipment	35,000
	Portable Hopper	26,000
	Street Lighting Control Cabinet - Downtown	44,800
	Streetlight LED Luminaire Replacement	78,750
	Streetlight Pole Painting	80,400
	Streetscape Furniture	14,000
Equipment Total		370,150
Information Technology	Building Permit Software	255,195
	Cashiering Software Upgrade	50,000
	GIS Hardware and Software	81,000
Information Technology Total		386,195
Professional Services	Arc Flash Study	75,000
	Downtown Parking Study	20,000
	Historic Resources Survey	45,570
Professional Services Total		140,570
Sewer	Large Diameter Sewer Lining	450,000
	Maple Avenue Outfall Repair	260,000
	Neighborhood Storage Project	330,000
	Sewer Lining & Rehabilitation	1,640,000
	Sewer Main Repairs	412,000
	Sewer Maintenance	510,500
	Smoke Testing/Dyed Water Flooding	20,000
	Stormwater Incentive Program	20,000
	SWPS Electrical Improvements	1,920,000
Sewer Total		5,562,500
Streets, Sidewalks, Alleys	Active Transportation Plan Implementation	190,000
	Alley Reconstruction Program	1,147,000
	Asphalt to Brick Street Reconstruction Program	503,000
	Brick Street Maintenance Program	192,000
	Brick Street Renovation Program	349,000
	Curb Replacement Program	47,000
	Decorative Brick Repairs	15,000
	Engineering Services for Capital Projects	351,000
	Old Glenview Road Street Resurfacing	1,351,884
	Pavement Maintenance Program	214,000
	Pavement Marking Program	58,000
	Phase 1 Studies	650,000
	Road Program	2,296,623
	Sidewalk Maintenance Program	223,000
	Skokie Boulevard Shared-Use Path	379,715
Skokie Valley Trail	42,500	
Traffic Calming	25,000	

2024-2033 CAPITAL IMPROVEMENT PROGRAM

2024 Capital Project List

ATTACHMENT #2

Category	Project	2024
Streets, Sidewalks, Alleys Total		8,034,722
Vehicles	2022 and 2023 Vehicles Purchased in 2024	591,200
	Ambulance (FD211)	260,000
	Boat (FD222)	150,000
	Combination Sewer Cleaner (T22)	470,000
	Large Dump Truck (T05)	290,000
	Marked Squad Car (SQ507)	57,000
	Marked Squad Car (SQ511)	57,000
	Police Vehicle (SQ500)	57,000
	Police Vehicle (SQ502)	57,000
Vehicles Total		1,989,200
Water	Automatic Meter Reading Program	2,050,000
	Corrosion Control Inhibitor Study	110,000
	Distribution System Valve Improvements	103,000
	Fire Hydrant Painting, Testing, and Abatement	34,560
	Hydraulic Model Assessment of Water Distribution System	150,000
	Lead Service Line Replacement	517,500
	Leak Detection Services	46,000
	Rebuild High Lift Pumps	60,000
	Repairs- Water Transmission Main	160,750
	Treatment Process Improvements Program Phase 1	720,000
	Treatment Process Improvements Program Phase 2	100,000
	Water Intake and Low Lift Pumping Improvements	100,000
	Water Main Replacement Program	3,440,000
	Water Main Surge Suppressors	16,500
	Water Meter Replacement Program	55,000
Water Total		7,663,310
Grand Total		\$ 27,857,047

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request by Category

ATTACHMENT #3

	2024	2025	2026	2027	2028	5-Year Total	2029-2033	Grand Total
Buildings & Grounds	3,710,400	5,947,670	16,121,175	15,853,800	820,035	42,453,080	5,668,110	48,121,190
Equipment	370,150	272,925	315,665	320,500	177,560	1,456,800	770,910	2,227,710
Information Technology	386,195	10,300	-	39,000	-	435,495	182,200	617,695
Professional Services	140,570	45,570	114,720	114,720	114,720	530,300	105,000	635,300
Sewer	5,562,500	1,600,500	3,077,750	1,426,750	3,585,000	15,252,500	13,009,500	28,262,000
Streets, Sidewalks, Alleys	8,034,722	8,127,413	8,059,000	8,400,277	7,719,000	40,340,412	42,190,000	82,530,412
Vehicles	1,989,200	1,234,700	770,000	1,657,500	1,577,300	7,228,700	4,472,300	11,701,000
Water	7,663,310	7,116,500	14,899,700	11,915,300	5,383,700	46,978,510	47,742,800	94,721,310
Grand Total	\$ 27,857,047	\$ 24,355,578	\$ 43,358,010	\$ 39,727,847	\$ 19,377,315	\$ 154,675,797	\$ 114,140,820	\$ 268,816,617

2024-2033 CAPITAL IMPROVEMENT PROGRAM
Capital Project Request by Funding Source

ATTACHMENT #4

Fund	Funding Type	2024	2025	2026	2027	2028	5-Year Total	2029-2033	Grand Total
General Fund	Operations	7,989,928	9,658,248	7,859,560	7,373,020	7,464,315	40,345,071	40,802,420	81,147,491
	Grant Funding	1,491,689	1,290,630	515,000	1,129,277	30,000	4,456,596	14,000	4,470,596
	Debt Financing	2,000,000	2,000,000	15,000,000	15,000,000	-	34,000,000	-	34,000,000
General Fund Total		11,481,617	12,948,878	23,374,560	23,502,297	7,494,315	78,801,667	40,816,420	119,618,087
CERF	CERF	921,200	872,700	806,000	1,026,500	1,067,300	4,693,700	3,924,300	8,618,000
CERF Total		921,200	872,700	806,000	1,026,500	1,067,300	4,693,700	3,924,300	8,618,000
Sewer Fund	Operations	1,708,500	1,748,500	1,097,750	1,814,250	1,310,000	7,679,000	6,754,900	14,433,900
	Debt Financing	400,000	-	-	-	550,000	950,000	2,750,000	3,700,000
	IEPA Loan	2,090,000	-	1,980,000	-	1,980,000	6,050,000	3,950,000	10,000,000
	Prior Bond Issuance	1,850,000	-	-	-	-	1,850,000	-	1,850,000
Sewer Fund Total		6,048,500	1,748,500	3,077,750	1,814,250	3,840,000	16,529,000	13,454,900	29,983,900
Water Fund	Operations	4,696,810	4,847,000	4,149,200	4,542,300	4,666,200	22,901,510	48,096,200	70,997,710
	Grant Funding	617,500	517,500	502,500	502,500	502,500	2,642,500	-	2,642,500
	Debt Financing	2,115,000	450,000	1,248,000	140,000	470,000	4,423,000	-	4,423,000
	IEPA Loan	100,000	1,450,000	9,000,000	7,000,000	-	17,550,000	-	17,550,000
	Prior Bond Issuance	655,000	-	-	-	-	655,000	-	655,000
Water Fund Total		8,184,310	7,264,500	14,899,700	12,184,800	5,638,700	48,172,010	48,096,200	96,268,210
Motor Fuel Tax	Operations	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	6,000,000	6,000,000	12,000,000
Motor Fuel Tax Total		1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	6,000,000	6,000,000	12,000,000
Parking Fund	Operations	21,420	321,000	-	-	137,000	479,420	1,849,000	2,328,420
Parking Fund Total		21,420	321,000	-	-	137,000	479,420	1,849,000	2,328,420
Grand Total		\$ 27,857,047	\$ 24,355,578	\$ 43,358,010	\$ 39,727,847	\$ 19,377,315	\$ 154,675,797	\$ 114,140,820	\$ 268,816,617



BUILDINGS & GROUNDS PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

Project		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Buildings & Grounds	Bike Share Program	-	55,000	55,000	55,000	55,000	220,000	-
	Edens Pollinator Corridor	290,100	150,000	170,000	60,000	-	670,100	-
	Fire Station #27 Boiler Replacement	-	-	42,000	-	-	42,000	-
	Fire Station Alerting System	60,000	-	-	-	-	60,000	-
	Fire Station Renovation and Workspace Study	55,000	-	-	-	-	55,000	-
	Fire Stations Garage Floor Rehabilitation	76,300	45,000	-	-	-	121,300	-
	Garage Floor Coating	-	95,000	40,000	-	-	135,000	-
	New Police Station	2,000,000	2,000,000	15,000,000	15,000,000	-	34,000,000	-
	Outdoor Audio System	-	32,000	62,000	-	-	94,000	-
	Parking Lot Paving Program	251,000	321,000	223,000	197,000	208,000	1,200,000	1,849,000
	Parkway Tree Maintenance Program	493,450	516,850	529,175	541,800	557,035	2,638,310	3,029,110
	Public Works Facility HVAC Condenser Replacement	-	80,000	-	-	-	80,000	-
	Public Works Facility Interior Flooring	59,150	70,355	-	-	-	129,505	-
	Security Enhancements	75,400	45,465	-	-	-	120,865	-
	Village Facility Roof Replacement	350,000	727,000	-	-	-	1,077,000	790,000
	Village Green Fountain and Streetcape	-	950,000	-	-	-	950,000	-
	Village Hall Facility Improvements	-	860,000	-	-	-	860,000	-
Buildings & Grounds Total		\$ 3,710,400	\$ 5,947,670	\$ 16,121,175	\$ 15,853,800	\$ 820,035	\$ 42,453,080	\$ 5,668,110

FUNDING SOURCE

Funding Type		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Buildings & Grounds	General Fund							
	Operations	1,688,980	3,626,670	1,121,175	853,800	683,035	7,973,660	3,819,110
	Debt Financing	2,000,000	2,000,000	15,000,000	15,000,000	-	34,000,000	-
	Parking Fund							
	Operations	21,420	321,000	-	-	137,000	479,420	1,849,000
Buildings & Grounds Total		\$ 3,710,400	\$ 5,947,670	\$ 16,121,175	\$ 15,853,800	\$ 820,035	\$ 42,453,080	\$ 5,668,110



Bike Share Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	55,000	55,000	55,000	55,000	\$220,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount
NEW	

Project Description and Justification

The Village's Sustainability Plan recommends adopting a bike sharing program with multiple access points, similar to what the Cities of Chicago and Evanston have, to allow residents to have convenient bike access. Both Chicago and Evanston utilize the Divvy bike share system.

Divvy was founded in Chicago in 2013 with the goal of providing an additional way to get around the city without a car. Initially, Divvy launched with 700 bikes and 68 docking stations concentrated in the central parts of Chicago. Over time, Divvy has expanded and currently operates 5,800 bikes and 580 docking stations located in Chicago and Evanston. In 2018, the ride-hailing service Lyft purchased Divvy and has since taken over its operation.

In 2016, Divvy expanded beyond Chicago for the first time, adding 23 stations in Evanston and Oak Park. This expansion was partially funded by the Illinois Department of Transportation Illinois Transportation Enhancement Program. However, Oak Park voted to remove their Divvy stations a year after installation due to high operating costs and low ridership.

The low-end estimate for a single Divvy docking station (approximately 10-20 bikes) is \$55,000, and Divvy charges a monthly operating fee to service and maintain the bike share system. Estimates from Oak Park's previous Divvy station program indicate that the monthly operating fee is about \$2,000.

The City of Chicago is currently focused on expanding Divvy station access within City limits, and there are no current plans to extend their service to the suburbs. Therefore, if the Village wants to participate in the Divvy bike share system, it would be responsible for covering the costs of docking stations, bikes, and monthly operating expenses.

Initial discussions with Bike Walk Wilmette members have indicated that docking stations would be best placed at Gillson Beach, the Linden CTA stop, downtown Wilmette, and the Park District Recreation Center.

Project Update

This is a new request for the 2024 CIP.



Project Alternative

According to the Chicago Department of Transportation, the Villages of Skokie and Lincolnwood have also expressed interest in Divvy bike share stations. Due to the interest of other nearby municipalities, there is potential to apply for grants on a regional scale to support Divvy bike expansion. The Chicago Metropolitan Agency for Planning (CMAP) may have interest in supporting the expansion endeavor through financial or technical assistance. Additionally, the Wilmette Park District may be interested in collaborating on stations located at their parks or facilities.

There is also the potential for the Village to establish its own bike share program through community partnerships. Examples of independent bike share programs can be found in Milwaukee, WI; Valparaiso, IN; and Aspen, CO.

Budget Impact

This is a Recurring Expense

Based on information received from other communities, the estimated monthly operating cost per docking station is \$2,000.



Edens Pollinator Corridor

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	290,100	150,000	170,000	60,000	-	\$670,100	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$12,500
2022	\$7,500
2021	\$61,800
2020	\$672
2019	\$15,300



Project Description and Justification

This is a request for the completion of the Edens Pollinator Corridor, which will convert large areas of underutilized land along the Edens Expressway into dedicated pollinator habitat. The Corridor is a multi-year project encompassing seven sites adjacent to the Edens Expressway, totaling approximately 5.63 acres.



Restoration of these ecologically barren sites will increase biodiversity through the installation of native grasses and forbs that are necessary to support pollinators. These deep-rooted natives filter stormwater runoff and improve water quality while recharging the groundwater and building healthy soil. Furthermore, the Edens Pollinator Corridor supports climate resiliency through improved land management and will serve as a model for the restoration of other similar sites along other highways.

Recognizing our responsibility to maximize the benefits of all public open space, Wilmette broke ground on the Edens Pollinator Corridor in 2019 with the installation of a native pollinator meadow at the southwest intersection of Lake & Laramie, shown above. In 2021, the Corridor was expanded south when a vacant land parcel prone to flooding at the corner of Glenview and Hibbard Roads was converted to an underground bioretention cell and planted with Swamp Milkweed and other deep-rooted prairie plants.

For the next phase of the Edens Pollinator Corridor, the Village has contracted Indigo Ecological Design to design the restoration of two underutilized land parcels located at the western entrance to the Village along the Glenview Road corridor.



Glenview Road & Long Road South (proposed rendering)



Glenview Road & Long Road North (proposed rendering)





Staff recommends that the remaining Corridor sites be both seeded and planted with plugs (small seedlings) to ensure success. The first site at Lake and Laramie was exclusively seeded, and the results have not been ideal for such a high-profile landscape. Conversely, the Glenview and Hibbard site was planted with plugs and is now flourishing. Most native plants grown from seed have at least a three-year establishment period, while plugs will be fully established after one year. The proposed timeline for the remaining sites is outlined below.

Proposed Timeline	Location	Cost Est.	Funding Source
2019	Lake & Laramie (Design & Installation) <i>completed</i>	\$15,300	Rotary Club & General Fund
2021	Glenview & Hibbard (Design & Installation) <i>completed</i>	\$61,800	Included in NSP Phase 2
2022	Lake & Laramie (Overseeding) <i>completed</i>	\$1,200	General Fund
2023	Glenview & Long North (Design) <i>completed</i> Glenview & Long South (Design) <i>completed</i>	\$7,800	General Fund
2024	Glenview & Heather (Design)	\$5,600	General Fund
	Glenview & Big Tree (Design)	\$6,500	General Fund
	Lake & Lavergne (Design)	\$2,000	General Fund
	Glenview & Long North (Installation)	\$143,000	General Fund & \$5,000 Openlands Grant
	Glenview & Long South (Installation)	\$133,000	
2025	Glenview & Heather (Installation)	\$150,000	General Fund
2026	Glenview & Big Tree (Installation)	\$170,000	General Fund
2027	Lake & Lavergne (Installation)	\$60,000	General Fund

The remaining project sites are owned by the State of Illinois. The Illinois Department of Transportation (IDOT) has provided the Village with written support for this project, encouraging the model of reduced mowing through restoration of prairie plantings. Each of the remaining sites is currently mowed 21 times annually. By restoring these sites to prairie plantings, the Village will significantly reduce the need to mow, which directly results in a reduced carbon footprint.

The Village received funding from the Rotary Club of Wilmette Harbor for the first site at Lake & Laramie and was awarded a \$5,000 ComEd Green Region grant from Openlands for the construction of the Glenview & Long sites. Staff anticipates pursuing additional grants to help fund future phases of the Corridor. Additionally, this project is fortunate to have the support of volunteers from community groups including the Boy Scouts, the Rotary Club of Wilmette Harbor and Wilmette Openlands.

Project Update

Project costs for years 2024-2028 have been updated.

Project Alternative

This project can be built over several years to reduce the annual expenditure. The prairie installations can also be done with seed instead of plugs, which will reduce the overall project cost; the downside of using seeds is that the sites will take at least three years to establish.

Budget Impact

This is a Recurring Expense

Additional costs associated with this project include annual maintenance costs of \$30,000 for all sites.



Fire Station #27 Boiler Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	-	42,000	-	-	\$42,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Repair Type	Amount
2019	Replaced Power Flame Burner	\$763
2009	Repaired Main Control	\$2,500
2008	Repaired Igniter Box and Starter Motor	\$3,000
1988	Last Replacement	N/A

Project Description and Justification

This project is for the replacement of the boiler at Fire Station #27. The boiler is 35 years old and provides the main source of heat for Fire Station #27. The expected service life of a new boiler is 20-25 years. This boiler has exceeded its useful service life and has outdated and inefficient technology. Notably, since the remodeling of the station in 2005, the boiler became oversized as the building's load was reduced to half of what it used to be. If it were replaced with a higher efficiency boiler (90+ rated) and appropriately sized for the actual load, there would be several benefits realized including a significant reduction in natural gas consumption and a reduction in emissions to the environment.

Project Update

The budget amount has been increased from \$40,000 to \$42,000 after an updated review of cost estimates from area vendors. The cost increase is attributed to disruptions in the supply chain and escalating costs for labor, material, and transportation. This project has been deferred since 2008.

Project Alternative

The alternative is to continue making repairs until parts are no longer available and then replace the boiler on an emergency basis. If the boiler tank ruptures, this will require an emergency repair at a potentially higher price and a longer wait time for receipt of new boiler and install, leaving the living areas of the station without their primary heating system.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Fire Station Alerting System

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	60,000			-	-	\$60,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2018	\$58,000

Project Description and Justification

Fire station alerting is the audio and visual notification for a fire department response to an emergency incident. Fire Stations #26 and #27 received updates to the station alerting in 2018. RED Center, the Wilmette Fire Department contractual dispatch center, led the changeover from a conventional analog alerting system to the US Digital Designs (USDD) Phoenix G2 Station Alerting System for all of the Red Center fire departments. This installation outfitted each Wilmette fire station with a USDD station controller, battery backup power supply, and two red strobe lights. The updated alerting system improved emergency incident notification, but also allowed for priority notifications of street closures, hospital bypasses, public works incidents, severe weather warnings, and other safety/response related information.

Currently the USDD system is amplified throughout the station via the previous station alerting system amplifier. Several failures of the previous system have occurred, which is critical, as the previous system still acts as the emergency backup should the USDD fail. This capital improvement project request will allow for the USDD to act as a stand-alone system without the need for the existing amplifier. Enhancements to the current USDD system will also include: illuminated speakers for all sleeping quarters, digital message sign boards for the kitchen/living spaces, workout rooms, apparatus bay, and incident notification integration on television screens throughout the stations. The cost of this capital improvement purchase includes all equipment/hardware and installation by a warranted USDD installation contractor.



Project Update

The USDD installation contractor is a sole source. Current pricing is good through June of 2024. Fire Department staff is meeting with USDD contractor to discuss the overall project and completion in one phase versus two phases.

Project Alternative

The alternative is to continue to use the hybrid analog/digital system until the older analog equipment fails or no longer can be repaired.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Fire Station Renovation and Workspace Study

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	55,000		-	-	-	\$55,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount

Project Description and Justification

The Fire Department is requesting a facility needs assessment and feasibility study to provide a long-term plan to optimize organizational efficiencies. The existing space in both fire stations is not optimized for the current needs of the Department. The specific needs are categorized by functional area as described below.

Station #26 Administration Area (4,200 Sq. Ft.)

- Administrative work areas are insufficient for the number of required staff. There are no spaces available for additional support staff without dividing the existing work areas into smaller areas.
- Fire Department officers do not have adequate workspace to conduct private or confidential meetings. Program managers do not have adequate space in their work areas for the materials necessary to operate Department programs.
- The training room is inadequately sized to hold meetings with more than 12 attendees. The conference room is a smaller space that can hold no more than 6-8 persons. These spaces are the largest meeting areas within the stations, which limit the ability to conduct meetings and training sessions with multiple agencies and partners.

Station #26 Living Quarters (3,960 Sq. Ft.)

- The renovation in 2005 eliminated the locker room, a transitional area used by firefighters to dress before and after their shifts without disturbing the on-duty crews. Currently, the bunk room and the individual cubicles within are used for this function.
- The living room and kitchen area has ample space for the number of firefighters assigned to the station, however the materials, finishes, and some appliances are worn out and under constant repair. The kitchen area needs to be remodeled with appropriate materials for a commercial space (existing is for a builder-grade residential space).

Station #26 Apparatus Floor / Hose Tower / Storage Areas (5,185 Sq. Ft.)

- The apparatus space requires several functional and cosmetic repairs. The existing concrete floor is in disrepair and has dangerous cracks and spalling in high-traffic areas. The walls and ceilings need cleaning, repairs, and paint.
- The hose tower will require a structural evaluation and tuckpointing to address shifting and compromised masonry.
- Considerations for the size of the fleet related to available space should be addressed as all fire department vehicles cannot be housed within the two buildings.



Station #27 Administration Area (360 Sq. Ft.)

- The office and training rooms require reconfiguration and updates to meet current needs.

Station #27 Living Quarters (1,820 Sq. Ft.)

- Similar to station #26, there is no locker room or transitional area for firefighters to dress before and after their shifts. The bunk room is extremely tight with an egress path of only 32 inches.
- The kitchen area is poorly designed and contains the same poor quality residential (rather than commercial) finishings as station #26. The condition of the countertops and sink is poor and requires frequent repair.

Station #27 Parking

- Parking at this station creates a challenge due to location and parcel size, and the constraints of the ComEd property to the west. The public entrance is in the front of the station, while the handicap parking space is in the rear, taking up a needed space for employees. It is recommended to design a handicap accessible parking area adjacent to the front entrance to the building.

Project Update

Pricing information was updated based upon refined scope of service. Handicap parking in the rear will be moved to the front of Station #27 between the garage doors for a minimal cost. No additional requirements are needed as the entrance is wheelchair accessible.

Project Alternative

The alternative is to defer this project.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Fire Stations Garage Floor Rehabilitation

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	76,300	45,000	-	-	-	\$121,300	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
1964	Station #26 Constructed
1958	Station #27 Constructed

Project Description and Justification

Fire Station #26 has approximately 7,100 square feet of apparatus floor space and Fire Station #27 has 4,380 square feet. The proposed work includes self-leveling and coating substances applied to both floors that will fill and seal cracks and other damage. The new surface to be applied is a non-skid epoxy that protects against impact, abrasion, corrosion, and mild chemicals.



In 2005, both stations were remodeled, however, the scope of work did not include repair and resurfacing of the apparatus bays. The floors in both garages are deteriorating due to damage from chemicals and heavy use. The proposed repair work will prevent more costly work from being needed in the future. The existing concrete floors were installed during original construction in 1958 and 1964. Heavy use over time has deteriorated the surface, making the floors uneven, slippery, and raised cracks and potholes. Fire Station #26 annually hosts dozens of public education tours/events that bring residents and guests to the apparatus bay, including approximately 2,000 open house attendees.

Station #26 has a projected cost of \$76,300 and Station #27 has a projected cost of \$45,000.

Project Update

This project has been deferred since 2013 and the cost increased by 10% from the 2022 cost estimate (\$110,250 to \$121,300) based on supply chain disruptions and rising labor, material, and transportation costs. In 2023, the project was divided into two phases, with Station #26 planned for 2024 and Station #27 planned for 2025. The project cost estimates remain unchanged for 2024 based on review of pricing obtained in 2023 for rehabilitation of the fleet maintenance garage floor at the Public Works Facility.

Project Alternative

The alternative is to defer the project and replace the entire floor when the condition warrants. An attempt to patch the holes in 2014 only lasted one month before deteriorating and becoming dislodged. A less costly option (\$11,000) would be to saw cut the larger concrete areas, remove debris, pour new concrete, and caulk open joints; however, this would not include the cost of coating/sealing the floor and does not address the non-skid issues.



Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Garage Floor Coating

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	95,000	40,000	-	-	\$135,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$79,010



**Village Hall -Garage Floor
\$95,000**



**Public Works Facility-Wash Bay
\$40,000**

Project Description and Justification

This project entails installation of an epoxy coating (3/16" thickness) over the existing floor in the garage areas at the Village Hall -Garage Parking (2025) and the Public Works Facility -Wash Bay (2026). In 2023, the Village completed the Public Works Facility – Fleet Maintenance (approximately 10,000 sq. feet). The garage floor at Village Hall is original to the building construction and shows signs of spalling and cracking, and the epoxy coating will temper the rate at which the floor deteriorates and extend its useful life. Secondly, the Wash Bay floor is original to its construction in 2009; however, the floor was never coated and has been exposed to premature aging and wear and tear from the continual vehicle wash cycles and salt residue from each winter season.

Year	Location	Amount
2025	Village Hall - Underground Garage	\$95,000
2026	Public Works Facility - Wash Bay	\$40,000

Project Update

This project was phased over three years beginning in 2023 with the Public Works Fleet Maintenance Garage Floor. The Wash Bay facility has been deferred from 2024 to 2026 and the Village Hall remains scheduled for 2025. The projected cost was lowered from \$54,000 to \$40,000 for the Wash Bay Facility and from \$110,500 to \$95,000 for the Village Hall Garage Floor based on unit pricing for the Fleet Maintenance Garage Floor.



Project Alternative

The alternative is to phase in portions of the floors in smaller sections and over several years. However, this option would be more costly, and deferring this project until later years will increase the rate of deterioration and shorten the life of the floors.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project



New Police Station

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund (Bond)	2,000,000	2,000,000	15,000,000	15,000,000	-	\$34,000,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$92,400 – Space Needs Study
1986	\$600,000 – Addition
1968	\$400,000 – Construction

Project Description and Justification

The current police facility was opened in 1968. The cost of construction was \$400,000 and the building provided 16,632 square feet of space. At the time, there were 38 Police Officers and 6 civilian employees. The new facility was built to meet the needs of the Wilmette Police for 25 years. In 1986 an addition was added to the south end of the facility, providing a female locker room, sally port for prisoner intake, additional offices, a fitness facility, and additional storage space for records and evidence. This addition cost \$600,000 and provided another 3,500 square feet of space. At that time there were 43 Police Officers and 20 civilian employees.

Space need studies were conducted in 2002 and 2007, and approximately 50,000 square feet was recommended to meet the needs and service levels of the community. An increased need for space to improve function, workflow, circulation, and security were all acknowledged. Additionally, upgrades were identified to bring the facility into compliance with regulatory requirements and recommendations: evidence in all major crimes must be stored indefinitely; existing jail cells do not meet minimum standards; the existing facility is not ADA compliant; workstations do not meet OSHA standards; and existing ventilation and filtering systems fail EPA regulations. State and local building codes requirements have also intensified.

Currently, there are 44 sworn officers and 22 civilian employees. The Department makeup is approximately 25% female, including both sworn and civilian employees. In addition to employee demographic changes, service expectations and technological advances also drive the need for a new facility. Some of the deficiencies include:

- The public entrance is not clear or easy to find.
- Privacy space needed for citizens making reports.
- The Police Department is the Village’s designated Emergency Operations Center. More space is required and be specifically equipped for emergency management.
- Currently, clients must walk through the building and secure areas to meet with the social worker, which defeats the intent of having confidential meetings with residents.
- The visitor and employee parking is inadequate.
- The Communications Center does not have adequate space.
- The locker rooms are too small for the employees and their equipment.



- Nine supervisors share office space with other people. Only the chief, one deputy chief and one division commander can meet privately with employees.
- There is no conference room for group meetings.
- Accessible space is needed for public meeting and training purposes. Presently, attendees must travel through secured work area to reach the basement meeting room, and the room is not easily accessible to persons with disabilities.
- Space and layout for criminal and juvenile investigations are inadequate.
- Currently there is only one private interview room in the entire station. Many offenses may include more than one subject. State legislation mandates certain interviews and witness identifications be recorded.
- Evidence processing and storage space is required.
- There is limited space for digital forensic evidence processing.
- Indoor parking for Village vehicles is needed.
- Indoor firing range replacement parts are no longer available.
- There is inadequate space for defensive tactics and scenario-based use of force training.

Project Update

A land use and space needs study was approved by the Village Board in May of 2023 and is currently being conducted. It is expected to be completed in early fall of 2023 and will include several identified land sites for the new building. The completed study will be presented to the Public Safety committee in the fall of 2023.

Engineering design work is budgeted in 2024-2025 at a cost of \$4,000,000. Construction is projected to start in 2026 and go through 2027 at a cost of \$34,000,000. All cost figures are preliminary and subject to change.

Year	Phase	Amount
2023	Space Needs Study	\$92,400
2024-2025	Engineering Design	\$4,000,000
2026-2027	Construction	\$30,000,000

Project Alternative

The alternative is expanding the existing structure. This presents significant issues as it will not adequately address space, parking, work-flow, technological issues, or security requirements.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Outdoor Audio System -Village Green and Downtown Business District

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	32,000	62,000	-	-	\$94,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount

Project Description and Justification

This request is for installation of an outdoor audio system for the Village Green and Downtown Business District, supporting a public address system and real-time audio for seasonal music, festivals, public gatherings, while providing ambient background music for businesses and patrons. Outdoor audio systems have become more prevalent with technological advancements and offer a new dimension to public spaces and gatherings, making them more inviting and welcoming. This includes the summer concert series on the Village Green, Memorial Day parade and Chamber sponsored events such as the Sidewalk Sale and Tree Lighting Ceremony. Staff met with professional audio vendors to develop the project cost estimate. All materials will be weatherproof to assure a long-term application. The final installation will include Bluetooth technology and wireless connectivity where feasible. Denoted in the table below is a cost breakdown for the Village Green and Downtown business district.



Area	Projected Cost
Village Green	\$32,000
Downtown Business District	\$62,000
Subtotal	\$94,000



Project Update

This was a new request submitted as part of the 2023 CIP budget. The project cost estimate has increased by \$3,500 total due to rises in labor, material, and equipment costs and ongoing disruptions with supply chains.

Project Alternative

The alternative is to defer the project until later years or phase the project over multiple years.

Budget Impact

This is a Non-Recurring Expense



Parking Lot Paving Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	251,000	-	223,000	197,000	71,000	\$742,000	-
Parking Fund	-	321,000	-	-	137,000	\$458,000	1,849,000
Total	251,000	321,000	223,000	197,000	208,000	\$1,200,000	1,849,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$360,000*
2022	\$0
2021	\$15,000

* Budget Amount

Project Description and Justification

The purpose of this program is to rehabilitate local parking lots. The typical scope of work consists of removing the existing pavement surface and paving new hot-mix asphalt. The program also replaces deteriorated sections of the sidewalk and curb, adjusts utility structures, restores adjacent parkways, and installs new pavement markings. The improvement designs include any regrading and restriping necessary to improve the overall site drainage and meet ADA requirements. The table below highlights the improvements made to parking lots under this program since 2021.



Year	Parking Lot	Scope of Work
2023	CTA East	Resurfacing
2023	CTA West	Area Patching
2023	Post Office No. 2 (North)	Resurfacing
2023	St. Augustine's ¹	Resurfacing
2021	Police Station No. 2	Area Patching

¹ One-time rehabilitation project by agreement

The Department assessed the pavement condition for all 24 local parking lots in Summer 2023. The Department used a rating system based on visual inspections to identify pavement defects and severities. The ratings correspond to different surface conditions referenced on the chart below.



Condition	Rating	Lots (2023)
Excellent	10-8.6	12
Good	8.5-7.1	1
Fair	7.0-5.6	6
Poor	5.5-4.1	0
Very Poor	4.0-2.6	3
Serious	2.5-0	2

The average pavement condition rating for the parking lot inventory was 6.7 in 2023, indicating that these assets are in fair condition. Based on these results, staff has identified the candidates below for rehabilitation. The cost estimates are based on 2023 construction pricing with a 3.0% inflation rate.

Parking Lot Candidates	Area (SF)	Condition	Year	Cost
Historical Museum	6,200	Serious	2024	58,000
Village Hall Lot	17,500	Very Poor	2024	163,000
North Poplar Commuter Lot	14,500	Serious	2025	140,000
South Poplar Commuter Lot	18,800	Very Poor	2025	181,000
Atrium North & South Lots	22,500	Very Poor	2026	223,000
Veterans Parking Lot	5,800	Fair	2027	60,000
Post Office No. 1 (South)	13,400	Fair	2027	137,000
Burmeister Parking Lot (Top)	13,000	Fair	2028	137,000
11th & Central Lot	6,700	Fair	2028	71,000
Berman/Metra Commuter Lot	94,900	Fair	2029	1,025,000
CTA West	74,200	Fair	2030	824,000

The program schedule above is structured to address similar-sized total pavement areas per year and to take advantage of economies of scale in construction bidding. This funding request includes \$30,000 to repair the driveway ramp and drain at the entrance of the Burmeister Parking Lot (Bottom) in 2024.

Project Update

Updated funding amounts for 2024-2033. Added request for driveway ramp and drain repairs at the Burmeister Parking Lot (Bottom) in 2024.

Project Alternative

The alternative is to let the pavement in parking lots fail and fund a complete reconstruction in the future at a higher cost.

Another alternative is to construct permeable brick pavers for additional storm water management in the parking lots, like those constructed in the green alleys. This feature would significantly increase the cost of construction; the permeable pavers in the green alleys were funded by a MWRD grant. This feature would also require significant long-term maintenance to sustain use; the maintenance needs in the green alleys have been a strain for the Department.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Parkway Tree Maintenance Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	493,450	516,850	529,175	541,800	557,035	\$2,638,310	3,029,110

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

This is a new CIP project for 2024 that combines all the Village's recurring tree programs (pruning, removals, plantings, and demand/emergency work) into a consolidated program. Historically these programs were included in the operating budget and are being shifted over to the CIP budget. The total 2024 Budget request (\$493,450) reflects a 12.3% increase (\$54,190) over the 2023 Budget amount (\$439,260) due to projected increased unit pricing associated with tree maintenance services.

Parkway Tree Maintenance Program – Total Budget

The Village has a healthy, diverse urban forest canopy (17,500 parkway trees) and the array of benefits it provides to the community. This includes environmental (air quality, greenhouse gas, and stormwater), social, economic (energy savings), and communal. Parkway trees also infuse the landscape with natural beauty which adds unique character to the neighborhoods and increases home values.

Furthermore, the expanse of tree-lined streets is a cherished natural resource (critical green infrastructure), which has woven its way into the fabric of everyday life for residents, businesses, and visitors passing through. The Village has been a Tree City USA member community for the past 39 years and has received 17 growth awards, indicative of its longstanding commitment to the environment and urban forest canopy. The table denoted below provides a breakdown of the budget for all parkway tree maintenance programs.

Project	2023 (est.)	2024	2025	2026	2027	2028	Total	2029-2033
Tree Pruning ≥ 7"	160,210	204,000	210,100	216,400	222,900	229,600	1,083,000	1,255,560
Tree Pruning < 7"	15,000	27,000	27,800	28,650	29,500	30,400	143,350	166,000
Tree Removals	91,000	91,000	105,000	108,200	111,400	114,700	530,300	627,200
Tree Removals EAB	5,500	3,700	4,250	4,375	4,500	4,635	21,460	25,150
Tree Planting	102,500	96,750	96,600	96,350	96,000	98,000	483,700	520,000
Tree Planting EAB	4,000	4,500	4,600	4,700	4,800	4,900	23,500	26,000
Demand/Emergency	60,000	66,500	68,500	70,500	72,700	74,800	353,000	409,200
Subtotals	438,210	493,450	516,850	529,175	541,800	557,035	2,638,310	3,029,110

Routine Parkway Tree Pruning

The Village's forestry budget includes funds for parkway tree pruning. Parkway trees are pruned on systematic or cycle basis to promote health and growth, while improving appearance and providing adequate height clearance for both vehicular and pedestrian traffic. The spacing and thinning of branches improves crown shape and branch structure, allows greater light into the center of the tree, and permits wind to pass freely through the canopy. Appropriate canopy density helps to minimize the incidence of foliar diseases and decreases the amount of storm damage sustained during severe weather events. Systematic pruning also helps to correct foreseeable growth problems and branch defects, including excessively dense canopy



formation, poor branch attachments (including bark), and crossing branches. Another crucial benefit is the removal of dead and hazardous limbs. Pruning cycle length matters as it has direct impacts on the storm resiliency of the Village’s urban forest canopy and public safety. A shorter cycle helps to reduce the number of service requests for pruning services, which are less efficient and more time consuming to address. On average, in-house crews respond to approximately 235 service requests each year for parkway tree pruning. The following tables show an annual summary of spending for tree pruning.

Year	Trees > 7” DBH		Trees ≤ 7” DBH	
	Spending	Trees	Spending	Trees
2024 Proposed	204,700	2,400	27,000	1,000
2023 YTD	101,214	1,328	3,855	334
2022	122,598	1,719	8,942	655
2021	99,564	1,902	-	-
2020	82,245	1,359	-	-
2019	78,154	1,734	-	-
2018	84,300	1,780	-	-
2017	187,397	2,265	-	-

Based on arboricultural industry best management practices, the recommended pruning cycle duration is 5-6 years for trees 7” diameter size and greater (or between 2,200-2,640 trees annually). For trees under 7” diameter, the recommended pruning cycle is 3-4 years (or 1,500 trees annually). For 2024-2028 staff requests funding to prune 2,400 parkway trees (7” DBH and greater) and 1,000 parkway trees (under 7” DBH) annually. This supports a 5.50-year and 3-year cycle, accordingly, and falls within best management practices. The table below shows the projected costs based upon the recommended cycle.

Routine Parkway Pruning				
	No. of Trees	Cycle Period (Years)	Average Unit Cost (Projected)	Extended Cost (Projected)
Tree Pruning (≥ 7” DBH)	*2,400	5.50	\$85.00	\$204,000
Tree Pruning (< 7” DBH)	*1,000	3.50	\$27.00	\$27,000

Tree Removals

The Village’s forestry budget also includes funding for scheduled parkway tree removals. The Village removes trees that are dead, dying, diseased and/or hazardous. Based on activity incurred over the last four years, the Village has removed approximately 207 trees annually (150 contractual, 57 in-house). This represents a 1.2% loss of the Village’s tree population each year, which falls within the threshold (1-2%) indicative of a healthy urban forest. The following tables show an annual summary of budget and final dollars spent for tree removals greater than 12-inches in diameter and for trees impacted by the emerald ash borer (EAB)

Year	Trees ≥ 12” DBH		EAB Trees	
	Spending	Trees	Spending	Trees
2024 Proposed	91,000	140	3,700	10
2023 YTD	61,816	99	2,937	9
2022	90,288	139	2,040	6
2021	88,049	131	6,633	17
2020	94,184	146	3,586	10
2019	76,339	131	2,728	19



Pricing has remained fixed dating back to the original contract award in 2020. Denoted in the table below is breakdown of unit pricing for contractual tree removals in 2024 (pricing inclusive of tree removal, stump grinding, and restoration).

Tree Diameter Class (DBH)	Cost per Inch
1-11 inches	\$17.50
12-18 inches	\$22.25
19-26 inches	\$25.25
27-36 inches	\$32.25
37 + inches	\$37.00

The total tree removal cost and average unit cost fluctuates each year depending on the actual number of trees contractually removed and their associated diameters or DBH. Since 2020, the average unit cost for tree removal has fallen within the range of \$595-\$649 per tree (or between 23.6" - 25.7" DBH).

The 2024 Budget request amount is based on the removal of 150 parkway trees (140 Regular, 10 EAB) at an average unit cost of \$650 for Regular (or \$91,000 total) and \$370 for EAB (or \$3,700 total). This reflects an average DBH of 25.7" for Regular tree removals and 16.6" for EAB tree removals which falls within the upper range of average size tree diameters removed over the last four years.

Tree Planting

The Village's forestry budget also includes funds for tree supply and planting services, which includes routine replacement for regular and Emerald Ash Borer (EAB) parkway tree removals. Trees are typically planted during the spring and fall seasons of each year. The Village's routine replacement program replaces parkway trees (100% of cost) that were lost to storms, disease, decline or tree mortality. The Village's longstanding goal has been to replace parkway trees within 12 months of their respective removal date. Entering 2024, the Village will have met its replacement goal. Staff utilize native tree species whenever possible, given the planting location, soil conditions, supplier's availability, and long-term tree diversity goals. The following tables show an annual summary of the budget and final dollars spent for routine tree planting and tree replacements from ash tree removals due to the emerald ash borer (EAB).

Year	Trees		EAB Trees	
	Spending	Trees	Spending	Trees
2024 Proposed	96,750	215	4,500	10
2023 YTD	68,600	169	-	-
2022	115,800	252	5,200	13
2021	49,070	180	3,710	13
2020	19,194	82	-	-
2019	53,423	219	9,645	43

The 2024 Budget request for tree planting is based on the replacement (or planting) of 225 parkway trees (215 regular and 10 EAB) at an average unit cost of \$450 (or \$101,250 total). This reflects the planting of 2.00" size caliper balled and burlap trees.

Demand and Emergency Contractual Assistance

The Village's forestry budget includes funds for demand and emergency contractual assistance. This includes contractual response for storm clean-up events, alley tree removals, and resident service requests (demand pruning and stump grinding). The contractor also assists with any technical aerial tree situations requiring



advanced arborist skill sets. The following table shows an annual summary of the budget and final dollars spent for tree-related demand and emergency services.

Year	Spending	No. of Hours	Average Rate
2024 Proposed	66,500	700.00	95.00
2023 YTD	37,944	433.25	87.58
2022	64,772	713.25	90.81
2021	49,540	655.25	75.60
2020	29,073	495.75	58.64

The actual hours accrued for demand and emergency services fluctuates from year to year depending on weather conditions (storm clean-up) and tree health conditions. The average hourly rate for each year varies accordingly and is dependent upon the breakdown of hours categorized as demand or emergency response. The 2024 request for demand/emergency contractual assistance is based on an allotment of 700 hours at an average hourly rate of \$95 per hour (or \$66,500 total).

Project Update

Beginning in 2024, the Village's tree maintenance program is being presented as part of the CIP budget. In years prior, the tree maintenance program was included as part of the operating budget.

Project Alternative

The alternative is to reduce requested budget amounts; however, service levels will decrease accordingly.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Public Works Facility HVAC Condenser Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	80,000	-	-	-	\$80,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
1995	Unknown - Original Construction



Project Description and Justification

This budget request is to replace the reciprocating DX packaged air-cooled condenser unit (40-ton) at the Public Works Facility (1995 Administrative Building). The existing HVAC unit is original to the building's construction in 1995 (28 years of age) and has surpassed its expected useful life.

As part of the 2023 CIP budget preparations, the project scope was updated from individual compressor replacement (4 ea.) to replacement of the entire unit. Based on the existing unit's age and condition, scheduled replacement of individual compressors is no longer deemed a viable long-term solution from a cost-effectiveness standpoint.

Project Update

This project has been deferred from 2024 to 2025. The projected replacement cost remains unchanged from last year.

Project Alternative

The alternative is to defer and replace the unit on an emergency basis when the existing one fails.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Public Works Facility Interior Flooring

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	59,150	70,355	-	-	-	\$129,505	-

Project Status

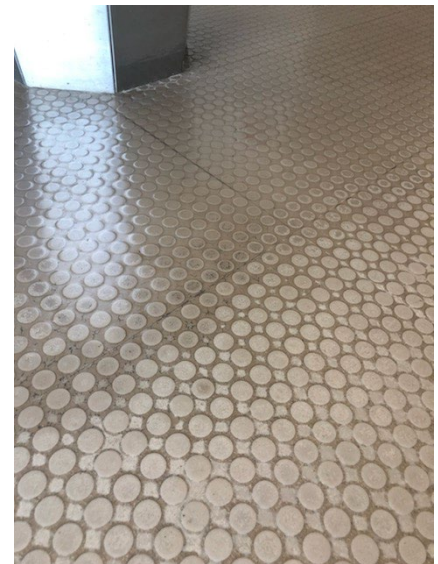
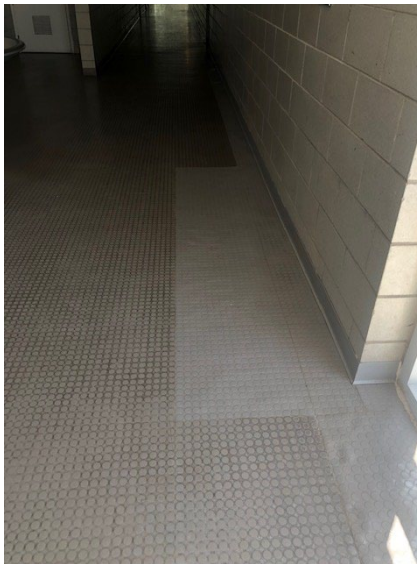
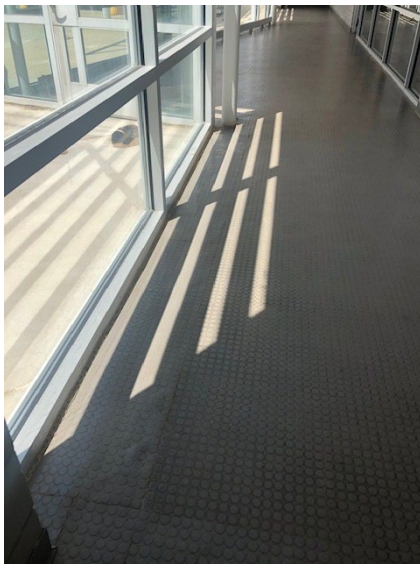
Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$39,050
1995	Original Construction

Project Description and Justification

The original raised tile floor (rubber construction) located at the Public Works Facility (1995 building addition) has been deteriorating for the past 5-10 years and requires replacement with a modern and sustainable finished floor system. The existing floor system's anti-slip qualities are severely worn down if not completely gone and tiles are lifting and curling up in a few areas. Attempts have been made in the past to repair these areas with limited success due to an expansion joint along the west window wall line. Staff obtained a proposal for the removal of the old flooring system and the installation of a three-part, highly durable, epoxy floor coating system with an anti-slip finish.



The expected useful life of an epoxy floor system is 30+ years with regular floor care. The epoxy coating will also mesh well with the expansion joint movement and will not peel or curl-up prematurely. There is a similar system that was installed at Fire Station #26 in 2005 in the fire gear locker room which has held up well for the last 15+ years.



Project Update

This project was phased across three years with replacement of the interior flooring in the main hallway area, south vestibule area, and fleet maintenance garage office (or 2,000 square feet) completed in 2023. The lunchroom, locker room (men’s), and conference room are scheduled for 2024; whereas, the training room, and exercise room are scheduled for 2025. Denoted in the table below is a breakdown of all interior floor areas in the 1995 Administration Building at the Public Works Facility, listed in order of priority for replacement. Unit rates have been updated to reflect pricing obtained in 2023. The total cost estimate has increased from \$117,970 to \$129,505 based on the updated unit pricing.

Area	CIP Year	Square Footage	Unit Rate	Projected Cost
Lunchroom	2024	1,100	\$26.00	\$28,600
Locker room (Men’s)	2024	690	\$26.00	\$17,940
Conference Room	2024	485	\$26.00	\$12,610
Training Room	2025	2,150	\$26.75	\$57,515
Exercise Room	2025	480	\$26.75	\$12,840
Subtotals		4,905		\$129,505

Project Alternative

The alternative is to defer replacement and make spot repairs to address areas exhibiting severe failures (i.e., delamination, and curling); however, there has been difficulty in sourcing the rubber floor tiles of the same era and color as the material is no longer manufactured/stocked by area floor distributors. There are no other repair options to address the worn anti-slip surface of the existing floor system. The second alternative would be source a less costly floor system; however, this is not recommended as long-term performance is unlikely to hold up due to a high volume of daily pedestrian traffic through this corridor of the building.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Security Enhancements

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	53,980	45,465	-	-	-	\$99,445	-
Parking Meter Fund	21,420	-	-	-	-	\$21,420	-
TOTALS	75,400	45,465	-	-	-	\$120,865	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$8,629

Project Description and Justification

In response to concerns presented by recent events in municipal buildings throughout the country, the Police Department performed a security assessment of Village facilities. The assessment provided numerous recommendations to improve security at the Public Works facility and the Metra Station/downtown area.

2024 Project –1A: Installation of camera system at Village Hall and Village Green/Business District

These two systems would be comprised of a fifteen-camera deployment that would integrate with the current Police Department camera platform. It would give the Police Department real-time video for response to critical incidents, as well as recorded video footage for investigative functions in response to criminal acts. The Village Hall system would have cameras that cover the entrance and exits, as well as public spaces within and outside the building. The Village Green/Business District system would cover the public area of the Village Green, as well as the common ways of the Wilmette Ave and Central Ave intersection.

2024 Project –1B: Installation of camera system at Metra Station

This system would be comprised of an eight-camera deployment around the Metra Building and a four-camera deployment in the bike rack area that would integrate with the current Police Department camera platform. It would give the Police Department real-time video for response to critical incidents, as well as recorded video footage for investigative functions in response to criminal acts. The Metra building system would cover the interior and exterior of the building, as well as the train platform. The bike rack deployment would cover the bike racks and portions of the parking lot.

2024 Project –1C: Installation of camera system at PW facility

This system would be comprised of a fifteen-camera deployment around the Public Works facility that would integrate with the current Police Department camera platform. It would give the Police Department real-time video for response to critical incidents, as well as recorded video footage for investigative functions in response to criminal acts. The system would cover the entrances to the facility property, the entrances to the main buildings, and the critical infrastructure contained on the property.



Project	Purchase & Installation	Recurring
Project 1A – Village Hall/Village Green/Business District	\$26,990	\$1,500
Project 1B – Metra Station	\$21,420	\$1,200
Project 1C – Public Works	\$26,990	\$1,500
Totals	\$75,400	\$4,200

2025 Project: Installation of a card reader system at PW facility

This project would replace the current punch code system, coinciding with the entrance gate replacement. In addition to the gates, the main entrance to the facility would also have a reader installed to control access to the building. Employees would be required to swipe a card through a magnetic reader that would activate the automatic gate opener or unlock the entrance doors. The projected cost is \$45,465 and reflects a 5% increase over last year’s estimate. The projected recurring monitoring/software fee for the card reader system is \$3,500.

Project Update

This project was deferred for one year as staff explored and assessed alternative vendors. In 2023, the Village installed panic alarms at the Public Works Facility and Historical Museum and procured a software update for the card reader system due to server replacement at an upfront total cost of \$6,539 and \$2,090 for recurring monitoring fees (or \$8,629 total). The total cost for proposed work scheduled in 2024 and 2025 has been increased due to an expansion of the project scope for additional cameras and is also due to the continual rise in labor, transportation, and commodity costs. Future year assessments will be completed for the Burmeister and CTA station parking lots.

Project Alternative

The alternative is to defer the project to future years.

Budget Impact

This is a Non-Recurring Expense

The recurring annual fees for the proposed 2024 projects is \$4,200.



Village Facility Roof Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	350,000	727,000	-	-	-	\$1,077,000	790,000

Project Status

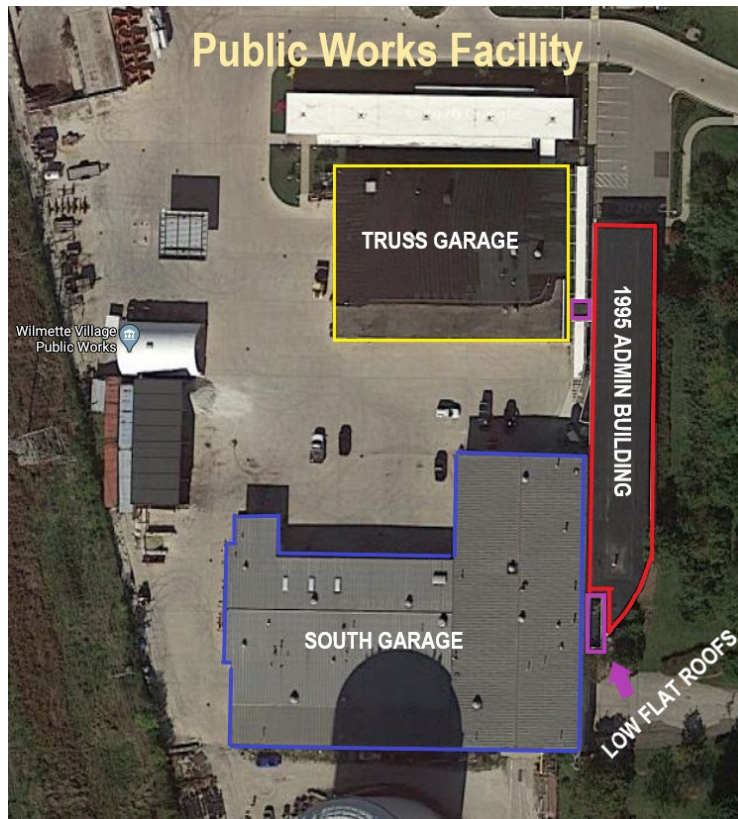
Critical	Recommended	Contingent
X		

Funding History

Year	Amount	Location
2018	\$169,675	Historical Museum
2017	\$518,478	Village Hall
2015	\$215,535	Police Department

Project Description and Justification

Weathering roofs require annual maintenance and repair to ensure their integrity. In addition to routine annual maintenance, a roofing consultant is retained to assess the condition of the roofs at various Village facilities. No additional facility roof systems are scheduled for replacement over the upcoming 10-year period.





2024 – 1995 Administration Building and Lower Flat Roofs at the PW Facility

The first phase of the project is for the restoration of the EPDM construction roof (9,750 square feet) at the facility. The nature of restoration is liquid applied membrane over the existing roof system. All necessary repairs to the field and flashings would be completed prior to installation to prep the roof for the new system. This roof section has also experienced recurring ceiling and drywall repairs due to moisture penetration. Restoration comes with a 20-year warranty, whereas new construction comes with a 30-year warranty. The projected cost of the restoration is \$215,000, whereas the cost of new roof construction is \$420,000 (reflects a 33% increase over last year).

This second phase involves the removal of the existing roof surface and replacement with a modified bitumen roof system, including new roof edge scuppers and downspouts. This project addresses two atrium areas 1) front entrance servicing the Truss Garage and 1995 Administration Building (180 square feet) and 2) South Garage entrance off Laramie Avenue (280 square feet). The existing roofs do not have adequate drainage and have started to delaminate and deteriorate due to prolonged standing water from rain events. There have been recurring ceiling and drywall repairs due to moisture penetration. The new roof system comes with a 30-year warranty and construction estimate of \$25,000 (reflects 15% reduction over last year).

2024 – Salt Dome at PW Facility

The permanent salt dome roof structure has exceeded its expected useful life (25 years) and requires replacement. The salt dome (61' diameter with 12' concrete perimeter wall) was constructed in 1997 and holds approximately 550-600 tons of bulk rock salt. Covered storage of winter deicing materials is a best management practice to prevent chloride runoff from precipitation events and contamination of local waterways. The estimated cost of \$110,000 includes removal and replacement of asphalt shingles (30-year warranty), repair/replacement of base sheeting material as needed (including dormers), repair/replacement of framing material around the entrance door (rotten plywood, weatherproofing) and furnish/install of a new door (fabric material). The Village's salt dome facility is depicted in the photo below.



2025 – South Garage at PW Facility

The roof repairs at the South Garage are routine maintenance. This is a metal construction roof (31,636 square feet). The projected cost is for the repair of 51 penetration locations, encompassing a perimeter of 422 feet and 275 square feet. All fasteners along a total of 1,200 linear feet will also be tightened and sealed. The findings were based on an inspection/survey conducted in 2019. The construction estimate for spot roof repairs and maintenance is \$42,000 (reflects 10% increase over last year).

2025 – Truss Garage at PW Facility

This project is to replace the roof of the truss garage. The truss garage roof (16,200 square feet) was originally recommended for replacement in 2020 based on findings from a survey conducted by a roofing consultant in July 2016. While the truss garage was constructed in the 1950s, the existing roof is not original to the building



and is approximately 26 years of age. The barrel roof structure is comprised of a granule surfaced modified bitumen cap sheet installed over an existing smooth built-up roof system. Likewise, flat portions are comprised of an aggregate surfaced built-up roof. The existing roof areas have reached the end of their service lives, for example, there are several areas that have already failed (displacement of cap sheet, open laps in the field plies, gaps below flange— entry point for water) and the entire roof system should be replaced if the building is to be retained. The estimated costs are \$485,000 for the barrel roof structure and \$200,000 for the flat portions over the department storage areas (construction estimates remain unchanged from 2023). Roof areas at the Public Works facility are depicted in the aerial photo above.

2030 – Fire Station #26

The existing roof was installed in 2005/2006 as part of the last remodeling project and will need complete replacement. By 2030, the roof structure will have reached the end of its expected useful life of 25 years. The estimated cost for full roof replacement is \$300,000 (shingle roof replacement). The new roof material application will mirror the existing roof structure construction.

2031 – Fire Station #27

The existing roof was installed in 2005/2006 as part of the last remodeling project and will need complete replacement. By 2031, the roof structure will have reached the end of its expected useful life of 25 years. The estimated cost for full roof replacement is \$490,000 (30-year warranty, modified bitumen), whereas the estimated cost for rehabilitation is \$340,000 (20-year warranty). The new roof material application will mirror the existing roof structure construction.

Project Update

The budget projection was updated from a roof survey conducted in July 2016 and reflects updated pricing obtained from area roofing vendors. The 1995 administration building at the Public Works Facility was a new addition to the project page in 2021. Repairs to the south garage were deferred to 2025. The salt dome and Fire Stations (26 and 27) were added to the project page as part of the 2023 CIP. The annual request for \$20,000 in roof maintenance expenses is now included in the annual budget and has been removed from the CIP. Staff has shifted funds to start the project in 2024 due to delays associated with material and contractor availability.

Project Alternative

If roof replacements are not completed as scheduled, the roofs will continue to deteriorate, resulting in leaks that could cause mold and structural damage. As an alternative option, the Public Works truss garage could be rehabilitated at a projected savings of 50% as compared to the cost of a complete tear-off and new installation. Rehabilitation provides a shorter warranty period (15 to 20 years) as compared to a new roof (30 years). Staff will also consider “green” roofs where applicable, however, it is anticipated that the green roof would be at 150-200% of the cost of a conventional style roof. Temporary repairs are not recommended on the barrel truss roof at the Village Yard due to its age.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Village Green Fountain and Streetscape

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund		950,000	-	-	-	\$950,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount	Item
2023	\$9,820	New Liner
2021	\$7,579	Drain Valve
2014	\$3,776	Epoxy Paint

Project Description and Justification

This project includes complete demolition and reconstruction of the fountain that is a focal point and gathering place on the Village Green at Village Hall. The fountain was constructed circa 1972 for the Village's centennial celebration.

Over the years, the Village has made investments to keep the fountain operational; however, there are critical fountain components inherent to its construction design that can no longer be rehabilitated, such as the filtration system and water leaks in its subsurface concrete foundation and piping (inaccessible), which can only be addressed through complete demolition and new construction. The final construction estimate depends on the final design of the new fountain (e.g., size, form, function, and finish materials used to achieve desired aesthetics, decorative lighting, and technology offerings implemented). The estimated cost of the fountain is \$350,000.

The project also includes completing the Village Green Streetscape enhancements that were deferred in 2019 when the Central Avenue and Downtown Streetscape project was approved. These improvements include expanded concrete paving around the fountain, the Village Hall entrance, and the holiday tree as well as seatwalls, planters, and landscaping. The estimated cost of the additional streetscape enhancements is \$600,000.





Project Update

This is a new request for the 2024 CIP.

Project Alternative

Staff will seek grants to help offset the cost of this enhancement project. The alternative is to defer the project and re-schedule work to a future year.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Village Hall Facility Improvements

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	860,000	-	-	-	\$860,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount
1974	Construction

Project Description and Justification

This project, referred to as Phase III, completes the improvement project to the Village Hall that began in 1998, including five bathrooms.

Phase I of Village Hall Improvements, completed in 2001, focused on the Community Department and Engineering Departments. A new conference room, referred to as the Village Board Conference Room, was also included in Phase I. Phase II of the project, completed in 2005, consisted of renovations to the Finance Department and Information Technology areas, as well as the lobby and main staircase. The chairs around the dais in the Council Chambers were also replaced.



Phase III will focus on the remaining unimproved areas on the second floor including the Council Chambers and training room area. This will complete the improvements to the Village Hall. The second-floor improvements include: new carpeting and redesigning the Council Chambers, including refurbishing the dais, replacing the audience seating, modernization of the audio system, and adding a new conference room.

This project also includes complete remodeling of all five restrooms at the Village Hall. Each restroom is approximately 120 square feet, bringing the total area to approximately 500 square feet. The existing bathrooms are outdated, and part of the building's original construction. Scope of work includes complete removal and replacement of all existing walls with cement board and/or gypsum board as required, ACT ceilings, new ceramic tile flooring and wet wall surfaces, new painting, partitions, plumbing fixtures and piping, lighting fixtures and electrical switches, outlets, and replacement of the entry/exit doors.





Project Update

The project has been deferred to 2025.

Project Alternative

The alternative is to defer improvements or execute the project in stages, beginning with improvements to the Council Chambers and meeting room.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



EQUIPMENT PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

PROJECTS		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Equipment	Automated License Plate Readers	23,600	15,050	14,650	11,400	-	64,700	-
	Cardiac Monitors	-	-	-	-	-	-	90,000
	CPR Chest Compression Devices	-	-	-	-	-	-	55,000
	Decorative and Roadway Streetlights	-	-	75,000	155,000	65,000	295,000	-
	Extrication Tools	-	-	36,000	-	-	36,000	-
	Holiday Décor	47,600	-	-	-	-	47,600	-
	Hot Asphalt Paver	-	75,000	-	-	-	75,000	-
	Leaf Pan Replacement	20,000	20,600	21,200	21,800	22,400	106,000	71,100
	Leak Correlator Equipment	35,000	-	-	-	-	35,000	41,000
	Portable Hopper	26,000	-	-	-	-	26,000	-
	Street Lighting Control Cabinet - Downtown	44,800	46,200	47,600	49,000	50,400	238,000	274,750
	Streetlight LED Luminaire Replacement	78,750	-	-	-	-	78,750	-
	Streetlight Pole Painting	80,400	87,075	82,215	83,300	39,760	372,750	239,060
	Streetscape Furniture	14,000	29,000	39,000	-	-	82,000	-
Equipment Total		\$ 370,150	\$ 272,925	\$ 315,665	\$ 320,500	\$ 177,560	\$ 1,456,800	\$ 770,910

FUNDING SOURCE

FUNDING SOURCE		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Equipment								
General Fund	Operations	295,150	272,925	279,665	320,500	177,560	1,345,800	584,910
	Debt Financing	40,000	-	-	-	-	40,000	-
CERF	CERF	-	-	36,000	-	-	36,000	145,000
Parking Fund	Operations	35,000	-	-	-	-	35,000	41,000
Equipment Total		\$ 370,150	\$ 272,925	\$ 315,665	\$ 320,500	\$ 177,560	\$ 1,456,800	\$ 770,910



Automated License Plate Readers

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	23,600	15,050	14,650	11,400	-	\$64,700	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount	Cameras Installed
2023	\$17,500	7

Project Description and Justification

Automated License Plate Readers (ALPR) captures computer readable images of license plates and vehicles. The data collected contains the date, time, and location where the image was captured.

The ALPR system compares the license plate data against a list maintained by the State of Illinois and the Wilmette Police Department. This list contains license plate values associated with vehicles such as stolen motor vehicles, vehicles associated with missing persons, Amber and Silver Alerts, and vehicles entered as being associated with criminal activity. If there is a match on a vehicle, the system alerts police dispatch and Wilmette Officers in real-time through the in-car computer system.

In addition to the real-time notification of Officers, an ALPR system can be utilized during criminal investigations. Images of license plates and the associated data is retained for a set period of time and is only searchable for law enforcement purposes outlined by departmental policy.

The program was brought before the Public Safety Committee (PSC) for review and examination of the proposed project. Privacy concerns including confirmation that the system does not share data commercially, does not have any aspects of facial recognition, and that safeguards are in place for access were addressed.

The program studied by the Police Department utilizes a fixed mounting ALPR system, which installs the camera to infrastructure such as streetlights, poles, or other public sites. ALPR cameras are generally located at the entryways of communities and the unidirectional camera only collects license plate information when passing through a specific strategic location. The Police Department has identified 22 strategic locations throughout the community.



Below are two examples of the proposed cameras in neighboring communities.



Project Update

The project was reviewed and approved by the Public Safety Committee and the Village Board in 2022. Seven of the eight approved cameras have been installed in 2023. The final camera is delayed due to a Cook County permit application process, which has stalled at the County level. The eighth camera is not being billed until it is installed while the seven installed cameras have all been funded. The second phase of five cameras is scheduled to be installed in 2024, the third phase is five cameras in 2025, and the final phase is four cameras in 2026.

An update on the implementation of this project will be presented to the Public Safety committee in the fall of 2023.

Project Alternative

The alternative to this project is to not utilize this technology.

Budget Impact

This is a Recurring Expense

There is an annual \$2,500 charge per camera installed. This would be a \$55,000 annual operating budget increase upon installation of 22 units.



Cardiac Monitor and Defibrillator

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	-	-	90,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2021	\$66,401

Project Description and Justification



The Fire Department is requesting \$90,000 for the replacement of three (3) X Series Zoll monitor/defibrillators. This quantity would provide one unit for each of the Department’s ambulances. These units monitor and provide feedback for patients’ biometrics. This includes 4 and 12 lead cardiac monitoring, blood pressures, blood oxygen/ carbon monoxide saturation, capnography and end tidal CO2 (EtCO2). The units also provide pacing, cardioversion and defibrillation for adults and children. These monitors are utilized on all EMS responses and ensure the Department can provide life-saving care.

In 2012, the Fire Department conducted extensive research into the latest capabilities provided by manufactures of cardiac monitors and defibrillators. Three of the leading manufacturers were identified and the Department spent several months conducting classroom and in-field evaluations of these units. The Zoll X Series had just emerged on the market and was the clear leader in technology and ergonomic design. The Wilmette Fire Department was the first to take possession of these units in the Chicagoland area. Since that time, these units have met all expectations with very few mechanical problems. After the 8th year of service, several components in the defibrillator units began to fail, resulting in high repair costs. Recognizing the potential added maintenance expense, the age of the current units, and a favorable trade-in incentive from the vendor, the Fire Department purchased replacement Zoll X series units in 2021. The expected useful life of the new units is 10 years before the cost to maintain the devices exceed the net purchase expense of new units.

Project Update

This item is added to the 2031 CIP as a scheduled replacement based on a 10-year useful life.

Project Alternative

The alternative is to continue to operate with current equipment and repair as needed. The Department will continue to research federal, state, and local grants for the replacement of all or a portion of the equipment.

Budget Impact

This is a Non-Recurring Expense



CPR Chest Compression Devices

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	-	-	55,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2021	\$45,000

Project Description and Justification



The Fire Department purchased two (2) chest compression devices in 2021. An Automatic Chest Compression System is designed to help improve outcomes for sudden cardiac arrest victims and improve operations for medical responders. It performs 102 compressions per minute at a depth of 2.1" and can be deployed quickly with minimal interruption to patient care. It allows for the paramedics to use the devices for CPR (chest compressions), helps improve operational efficiencies, and allows for safe CPR during patient transportation. In addition, the Department believes that this may become recommended, or required equipment by the Saint Francis Emergency Medical Services System in the future. The useful life of this type of device is approximately 10 years depending on frequency of use, with battery replacement recommended every 3-4 years or 200 cycles.

Project Update

This item is added to the 2031 CIP as a scheduled replacement based on a 10-year useful life.

Project Alternative

The alternative is to have EMS crews perform manual CPR chest compressions as indicated by patient condition, and to consider having additional on-duty personnel respond to cardiac arrest incidents to help counter rescuer fatigue during prolonged resuscitations.

Budget Impact

This is a Non-Recurring Expense

There are nominal costs to maintain this equipment, and the majority of training is conducted in-house.



Decorative and Roadway Street Lights

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund			75,000	155,000	65,000	\$295,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount
2018	\$77,300

Project Description and Justification

Village policy allows residents to petition for changes, modifications, and additions to local street lighting. The petitions are reviewed by the Municipal Services Committee (MSC) of the Village Board. If the Committee determines the policy's terms are met, the project is placed in the CIP. The projects below have been reviewed by the MSC and are recommended or under consideration for inclusion on the CIP.

2026 - Koerper Court (\$75,000)

Install roadway street lighting within the north-most cul-de-sac on Koerper Court. This project was the result of a resident petition from the Koerper Court neighbors. The request was reviewed and deferred by the Municipal Services Committee in July 2021. As an interim measure, the Committee asked staff to perform center island maintenance to open sight lines in 2022. Since this maintenance work was performed in 2022, there have been no further safety concerns expressed by the residents.



2027 - Iroquois Road (\$155,000)

Remove the existing cobra style street lighting and install decorative street lighting within the Iroquois Road cul-de-sac. This project was the result of a resident petition from the Iroquois Road neighbors. The request was reviewed and recommended by the Municipal Services Committee in 2012.

2028 - Harvard Lane (\$65,000)

Install decorative street lighting on Harvard Lane, north of Lake Avenue. This project was the result of a resident petition from the Harvard Lane neighbors. The request was reviewed and recommended by the Municipal Services Committee in 2015.

Project Update

The projects on Koerper Court, Iroquois Road, and Harvard Lane have been deferred to 2026, 2027, and 2028, respectively. The project costs have adjusted to account for inflation.



Project Alternative

The alternative is to maintain the existing street lighting.

As an option to funding this project, in 2016, the Village Board approved a special service area policy that allows residents to fund capital projects through taxes over an established number of years.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project



Extrication Tools

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	36,000	-	-	\$36,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2018	Used 3 Tool set (Spreader, Cutter, and Ram) donated by American Legion Hall with Approx Value of \$20,000. \$25,000 if purchased new.
2014	\$16,355 (Cutter and Spreader Only)

Project Description and Justification



The Fire Department is requesting the purchase of three (3) Hurst eDrualic Extrication Tools. One (1) E3 Cutter Package, One (1) E3 Spreader Package, (1) E3 Ram Package. The set of extrication tools is used primarily for cutting and/or spreading cars apart to gain access to the passenger compartment and remove people. While speed limits in town are relatively low, both Sheridan Road and U.S. Interstate 94 on the west side of Wilmette are high hazard areas that increase the likelihood of more severe car accidents. The Fire Department currently has two (2) eDrualic Cutters, two (2) eDrualic Spreaders, one (1) eDrualic Ram, and one front line gasoline powered hydraulic extrication tool set. One set of these electric tools will be 10 years old, and the other set is 5 years old. As technology and materials change in vehicles, extrication tool manufacturers adapt to keep up with automotive materials.

Newer vehicles are made with metal alloys that are higher strength and lower weight, creating new challenges for firefighters. These metals do not cut/spread/ behave like the steel in older vehicles. In addition to this already difficult challenge, the introduction of Lithium-Ion batteries in electric vehicles into the market is adding a new risk to these events that is called “thermal runaway.” When this happens, the batteries ignite at a much higher temperature than that of a typical automobile fire and are very difficult to extinguish with water. This creates a situation where quick patient removal is absolutely vital. Electric extrication tools are more mobile than gasoline powered hydraulic tools. Mobility of these tools assists in additional extrication scenarios such as industrial accidents/entrapment, building collapse, construction accidents, or boating accidents. The useful life of a front-line hurst tool is approximately 10 years and is impacted by environmental conditions during use, battery life, and replacement battery availability. Purchasing this set will give 3 of the 4 fire apparatus a full set of tools.

Project Update

This item is a new request for the 2024 CIP.

Project Alternative

The alternative is to continue to use the existing equipment and maintain/repair as needed.



Budget Impact

This is a Non-Recurring Expense.

There are nominal maintenance charges for annual service of all extrication equipment and the cost of battery replacement as needed.



Holiday Décor

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	47,600	-	-	-	-	\$47,600	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$52,300

Project Description and Justification

This request is for replacement of 24" diameter illuminated snowflakes (LED) to support winter holiday décor within the Linden Square Business District (34 light poles). The new illuminated decor will have an expected service life of 10-12 years. The existing snowflakes are approximately 12-years old and have exceeded their expected useful life. Over the years, the LED light output or lumens diminishes (brightness and vibrancy), which negatively affects their presentation and aesthetic appeal. The existing illuminated décor also utilizes an older generation of LED technology with narrower beam or viewing angles (and lower lumen output) and hardware cannot be refurbished. Denoted in the table below is a summary of projected costs.

Year	Location	Diameter Size	Quantity	Unit Cost	Extended Cost
2024	Linden Square	24-36"	34	\$1,400	\$47,600

Project Update

The 2024 projected cost estimate (unit price) has increased from \$1,350 to \$1,400 based on updated pricing obtained from area suppliers. Unit costs are inclusive of mounting hardware and installation.

Project Alternative

This project can be deferred until later year(s) or phased over several years.

Budget Impact

This is a Non-Recurring Expense



Hot Asphalt Paver Attachment for Skid Steer

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	75,000	-	-	-	\$75,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

This request is for the purchase of a hot asphalt machine or skid steer attachment to improve productivity and asphalt patching quality.

Hot asphalt repair includes four stages 1) Milling or grinding of old asphalt material 2) Clean-up of millings and debris 3) Hot asphalt paving and looting and 4) Hot asphalt rolling or finishing. In 2023, crews performed 225 tons of asphalt patching, which doubled prior years. With a new paver, the patching area performed in-house is expected to increase, but



more importantly, it will be able to be performed more efficiently resulting in a reduction in resources. The proposed equipment will have the capacity to effectively patch and pave asphalt roads, alleys, parking lots, aprons, and utility excavation openings. Equipment specifications include an estimated 1.5 cubic yard working hopper capacity with 6-8' paving width and 2-6" depth, and maximum paving speed of 70-80 feet per minute.

In 2018, the Village purchased a new skid-steer loader equipped with high flow hydraulics, interchangeable buckets, and a 24" cold planer attachment. The Village had replaced its asphalt roller one year prior in 2017. Collectively, this equipment has allowed staff to address and expedite service requests that previously had to be placed on wait lists for contractual repair and/or street resurfacing.

Over time, the program has evolved with recent efforts focused on the Village's network of alleys (18 miles). After the first year, crew members noticed the clean-up process from asphalt milling was laborious and immediately explored alternatives. As a result, in 2019, the Village sourced a pick-up broom attachment for the skid-steer, which made a significant improvement in productivity. In-house (annual) productivity has thus increased from 21 to 250 tons over the last five years. This represents approximately 30 residential driveways or 0.40 miles of alley at 10-foot width and 2" depth.

However, the paving and looting stage remains laborious and tedious. Under current practice, the hot asphalt material or aggregate is distributed and leveled by hand, and while effective, is time consuming. If approved, this request will produce gains in productivity and efficiency with in-house asphalt paving operations.



Project Update

This is a new request for the 2024 CIP and staff will be securing a rental unit over the ensuing paving season for the purpose of conducting a pilot program to affirm proper equipment fitment and specification to achieve desired efficiency gains.

Project Alternative

The alternative is to delay the project and schedule work over future years.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Leaf Pan Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	20,000	20,600	21,200	21,800	22,400	\$106,000	71,100

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2017	\$5,000
2016	\$5,000
2009	\$4,750
2008	\$4,750

Project Description and Justification

The requested funds will be used to replace one steel leaf pan that has exceeded its expected useful life of 15 years.

The Village's primary method for collecting leaves from the streets is using refuse packer trucks (rear-load type) with steel leaf pans affixed to the rear and pick-up trucks with leaf pushers or brooms mounted on the front. Leaf piles are subsequently pushed and collected along curb lines and deposited into the leaf pans.

The Village maintains a total of 10 leaf pans and 11 brooms for the leaf program. Five to six of the leaf pans provide active use throughout the eight-week leaf program. The remaining quantity serve as reserve units. With implementation of the new residential solid waste contract in 2024, leaf collection operations will continue to utilize the present-day curbside program with use of refuse packer trucks, leaf pans, and brooms.

Over time, the leaf pans succumb to wear and tear from leaf pushing operations and the steel welds begin to deteriorate. They also are exposed to outdoor weather and subject to corrosion. Staff has reviewed the condition of the 11 leaf pushers (or pick-up truck brooms), and they are all in good condition. Denoted in the table below is an updated inventory of the Village's leaf pans.

Leaf Pan ID	Year Constructed	Age (Years)	Replacement Year
393	1996	28	2024
396	2001	23	2025
397	2002	22	2026
398	2002	22	2027
395	2004	20	2028
394	2005	19	2029
391	2009	15	2030
392	2008	16	2031
399	2016	8	2032
411	2017	7	2033



Project Update

This is a new request for the 2024 CIP. Out-year purchases include a nominal cost escalator (3%).

Project Alternative

The alternative is to delay the project and schedule work over future years.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Leak Correlator Equipment

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	35,000	-	-	-	-	\$35,000	41,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2017	\$19,502

Project Description and Justification

This request includes funds for a leak correlator to replace an existing unit purchased in 2017. The current leak correlator is highly specialized digital electronic equipment with an expected useful life of eight years. On average, the Village has 55 water main breaks, and 40 water service leaks each year. Leak correlators play an integral role with pinpointing the spatial location (excavation) for repair of water main breaks and leaks.

The Village's leak correlator equipment utilizes a portable microprocessor system to locate fluid leaks in a pressurized pipe system. Transmitters are placed on either side of the suspected leak on accessible points on the water distribution system, such as hydrants, valves, or buffalo boxes.

A combination receiver/calculator/computer compares the amount of time that it takes the noise of the leak to reach each sensor and calculates the exact location of the leak. The system can also be used as a survey device to monitor the distribution system for unseen leaks that infiltrate the underground sewer systems.

Most water main breaks occur during the winter season when the ground is frozen, sometimes down to a frost depth of three to four feet. Excavating through frost requires the use of a jackhammer attachment mounted on a backhoe and can take several hours to complete. To excavate through the frost, backfill, and restore the area can require up to six employees, a variety of equipment and permanent restoration, costing as much as \$5,000-\$6,000 per excavation site. The use of this equipment pinpoints the leak and reduces number of ground openings, thereby reducing restoration expenses.

Overall, the use of this highly specialized electronic equipment has resulted in an efficient, effective method of leak detection. It reduces the length of time of water service disruptions, the number of unnecessary holes dug in the pavement or parkway while searching for the location of the break, the number of labor-hours spent repairing the leak, restoration costs, and lessens neighborhood disruptions and inconvenience.

Project Update

This project was moved up from 2025 to 2024, because spare parts are not available for the existing correlator. The projected replacement cost has increased from \$30,000 to \$35,000 based on a review of updated pricing obtained from area equipment dealers.





Project Alternative

The alternative is to delay the project and reschedule the work during later years. The Village has utilized contractors to assist with leak correlation (\$2,000 per occurrence), however, availability is limited during peak demand periods.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Portable Hopper for Sidewalk Machines

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	26,000	-	-	-	-	\$26,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

This request is for purchase of portable equipment (hoppers and/or liquid tanks) to re-supply sidewalk machines with deicer product (rock salt, liquid salt brine) at a centralized location within the Village during snow events.

Under current practice, when depleted of product, sidewalk machine operators reach out to large dump trucks to arrange for re-supply. The large dump trucks have a chute extension that transports product (dry material) to the sidewalk machine's rear hopper. Both equipment operators arrange for a meeting to complete replenishment of deicer product. However, this practice inconveniences the large dump truck for approximately 20-30 minutes (travel time, refilling time, and clean-up of excess), diverting resources away from servicing and maintaining high priority snow plowing or de-icing routes.



For routine salting events (less than two inches snow accumulation), this occurs on three occasions for each storm, whereas for heavy snow events, this occurs on six occasions over a 12-hour shift. Having dedicated equipment for product delivery eliminates reliance on large dump trucks. The equipment would be accessible in one of the commuter parking lots along Poplar Avenue or at the 1225 Central Ave open lot. Deicer product would be replenished during normal hours throughout the winter (non-snow days). Projected storage capacity needs for dry material is between three and five tons whereas liquid product is 400 gallons.

Project Update

This was a new request for the 2023 CIP, and the projected cost has increased from \$25,000 to \$26,000 due to rises in manufacturing costs.

Project Alternative

The alternative is to defer the project until later year(s) and continue the practice of utilizing large dump trucks to supply sidewalk machines with deicer product during snow events.

Budget Impact

This is a Non-Recurring Expense



Streetlight Control Cabinet Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	44,800	46,200	47,600	49,000	50,400	\$238,000	274,750

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$18,045 (4 controllers)

Project Description and Justification

This project includes replacement of street lighting control cabinets. The funding schedule includes material cost only, as Public Works staff will perform the installation.

Streetlights are assigned to individual circuits (range of 20-100 per circuit) and receive electric supply feeds through control cabinets (100A and 200A services). There are 89 control cabinets in the system with each accommodating up to four circuits. Most of the existing control cabinets have approached the end of their useful life. Staff recommends replacing 7 cabinets per year based on labor capacity.

Control cabinets serve three functions: 1) distribute supply feed to circuits 2) provide on/off switch to allow for maintenance, and 3) regulate supply feed (day/night) with photocells. Over time, internal components (i.e., wiring, connectors, switches, contactors, breakers, fuses, etc.) become brittle and require replacement, leading to service disruptions. The most expensive component is the contactor, which absorbs the electrical load when the circuit is turned on.

For 2024, the projected replacement cost for 7 control cabinets is \$6,400 each or \$44,800 total.

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to delay the project and schedule work over future years and/or reduce the quantity replaced each year. Staff recommends the programmed schedule to ensure long-term reliability of the system.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Streetlight LED Luminaire Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	38,750	-	-	-	-	\$38,750	-
Grant Funding	40,000	-	-	-	-	\$40,000	-
Subtotal	78,750	-	-	-	-	\$78,750	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Village (\$)	Grant (\$)	Subtotal (\$)	Quantity
2023	10,261	35,932	46,193	172
2022	4,822	20,778	25,600	100
2021	6,642	4,358	11,000	40
2020	6,202	4,358	10,560	40
2019	3,920	-	3,920	11
Subtotals	31,847	65,426	97,723	363

Project Description and Justification

Of the Village's 2,600 streetlights (est.), 745 are concrete, 1,562 are decorative green, and 280 are decorative black poles (i.e., Downtown, Green Bay Rd and Linden Square Business Districts, Plaza del Lago/Sheridan Rd, and METRA commuter parking lot). This is the final year of five-year project and entails replacement of 250 of the remaining 745 luminaires (concrete poles), which currently house high intensity discharge (HID) luminaire cobra heads. The HID luminaires utilize high energy consumption and will be replaced with LED technology. The other 132 concrete poles were previously retrofitted with a combination of CFL and LED bulbs. Most of the concrete poles are located west of Ridge Road.

Conversely, the Village's decorative green light poles do not qualify for the ComEd rebate program as they were previously changed over to CFL bulbs (in 2013) and all spent CFL bulbs are being replaced with LED bulbs at a nominal unit cost. Simple light bulb replacement does not qualify for this program; instead, instant rebates from ComEd are issued at point of purchase. Denoted in the table below is a status report of LED streetlight conversion sorted by light pole type. Retrofitting of the decorative black streetlight poles will be completed in 2023. Denoted in the table below is an updated status of the Village's LED conversion activities.

Light Pole Type	Total Quantity (est.)	No. LED Conversion	Conversion Rate
Concrete	745	375	50%
Decorative Green	1,562	1,300	83%
Decorative Black	280	280	100%
Subtotals	2,587	1,955	76%

The total upfront cost is \$78,750 for the 250 luminaries (concrete poles); however, after receiving projected rebates totaling \$40,000 the projected final net total cost is \$38,750 with a return on investment of six (6)



years (attributed to annual energy savings). The new LED luminaires come with a 10-year warranty (or 41,040 hours) and have an expected useful life of 11.62 to 16.26 years (or 50,000-70,000 hours).

The project includes participation in ComEd's Energy Efficiency Program (EEP), which offers rebates for municipalities to replace conventional streetlight luminaires with LED technology. Municipalities are required to pay upfront for all material costs and complete installation prior to receiving rebates, therefore, the requested budget amounts for each year account for all material costs associated with the project (luminaire heads, new wiring, shorting cap/photocells, and fuse assemblies). Removal/installation will be handled by in-house crews with the intent to reuse the existing light poles and arms and replace other components on an as-needed-basis only (poor condition). Denoted in sections below is further discussion on the projected rebate amount and forecasted energy savings, which collectively impact the return on investment (ROI).

Rebate Calculation (ComEd)

The EEP program provides a rebate based on the watts/hour (Wh) reduced per luminaire replacement.

295 (Wh)	HID Luminaire (Current)
135 (Wh)	LED Luminaire (Proposed)
160 (Wh)	Energy Savings

The rebate amount is calculated at \$1.00 per Wh reduced or \$160.00 per luminaire (160 Wh x \$1.00). Denoted in the table below is the breakdown of material costs and rebates for the 2024 budget year (final year).

Budget Year	2024
Material Unit Cost	\$315
Quantity (No. of Luminaires)	250
Total Cost (Material)	\$78,750
Rebate Estimate (Unit Rate)	(\$160)
Quantity (No. of Luminaires)	250
Rebate Estimate (Total)	(\$40,000)
Total Cost (Net)	\$38,750

Energy Savings and Return on Investment (ROI) Calculation

The annual energy savings are calculated at \$0.0400 per kWh reduced and for each HID luminaire replaced with an LED luminaire head; equates to an annual savings of \$26.26 per unit.

160	Energy Savings (Wh)
4,104	Hours (per year)
656.64	Energy Savings (kWh)
\$0.04000	Average Rate (per kWh)
\$26.26	Annual Savings (per Luminaire)

Denoted in the table below is a comparison summary of ROI for each budget year, warranty period and expected useful life (EUL) of the LED luminaire heads.

Budget Year	2024
Net Cost	\$38,750
Annual Energy Savings	\$6,565
ROI (years)	5.90
Warranty (years)	10.00
EUL (years)	11.62 -16.26



Project Update

The funding request for 2024 has been updated based upon streetlight inventory and rebate amounts. This was a new budget request submitted as part of the 2020 CIP based on results from a pilot program implemented in 2019.

Project Alternative

The alternative is to delay the project and reschedule the work during later years and/or reduce the number of LED conversions per year.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project



Streetlight Pole Painting

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	80,400	87,075	82,215	83,300	39,760	\$372,750	239,060

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Quantity	Amount
2023	195	\$76,179
2022	200	\$90,085
2021	3	\$3,600
2020	8	\$1,639
2019	152	\$34,909
2018	150	\$32,366
2017	312	\$63,891
2016	20	\$4,096
2015	122	\$24,983
2014	60	\$12,287
Totals	1,222	\$344,035



Project Description and Justification

This project entails refurbishing decorative green light poles and lead paint abatement. In 2023, a total of 195 decorative green light poles (171 painted, 24 lead abatement) were refurbished in the southeast section of the community (including the CTA parking lots). In 2022, a total of 200 decorative green light poles were refurbished (165 painted, 35 lead abatement) along Sheridan Rd (including no outlet streets). In 2021, 60 decorative black light poles were refurbished as part of the Downtown Streetscape Improvement Project at a total cost of \$29,340 (or \$489 per light pole) and three decorative green poles were lead paint abated in Veterans Park (\$3,600). For 2024, if approved, the contractor will finish refurbishing decorative green poles in the southeast portion of the Village (south of central, between Green Bay and Sheridan Rd) and transition to the area west of Ridge Rd (north of Lake Ave).

	Quantity	Unit Cost	Total Cost
Light Pole Painting	160	\$265	\$42,400
Light Pole Abatement	20	\$1,900	\$38,000
Total			\$80,400

Refurbishing or Painting – Light Poles (Decorative Green)

This request is for the refurbishing (scraping, priming, and painting) of 160 decorative green light poles and lead paint abatement of 20 decorative green light poles. Since 2014, the Village has refurbished a total of 1,222 decorative green light poles (1,146 refurbished, 76 lead paint abated) and based on a continuation of funding, all 1,562 decorative green light poles will be painted by 2025, reflecting an 11-year cycle.



Overall, there are approximately 2,600 streetlights in the system of which 745 are constructed of concrete and require no painting. There are also 280 decorative black light poles of varying lengths (steel/aluminum construction) located in the Village Center, Central Business District, Linden Square and Metra Commuter parking lot. The remaining 1,562 decorative green light poles are manufactured of cast iron or aluminum with lengths of 10 and 12-feet.

Over time, the condition of the paint deteriorates, exposing bare metal leading to corrosion, attributed to continual, open exposure to the elements (UV exposure, road salt spray, etc.). As a result, painting is viewed as an ongoing routine maintenance project, which should be performed periodically, preferably annually. Light poles appear in like new condition after refurbishing.

The Village's decorative green light poles were previously painted and rehabilitated during the multi-year street lighting improvement project that concluded in 2003 (1,179 light poles); the remaining balance of 383 light poles were painted in 2006. Since 2014, the Village has approved annual budgets for contractual light pole painting with an amassed total of 1,222 light poles refurbished, located in the following areas:

- South of Wilmette Ave between Ridge Rd and Green Bay Rd (202 poles)
- Entire area between Ridge Rd and Green Bay Rd., north of Wilmette Ave (190 poles)
- Old Glenview Road between Sunset and Crawford Ave (48 poles)
- Area between Green Bay Rd and Sheridan Rd, north of Greenwood Ave (74 poles)
- Area delimited by Green Bay Rd, Michigan, Chestnut, and Central Avenues (301 poles)
- Veterans Park -1113 Central Ave (3 poles)
- Lake Avenue -Sheridan to Green Bay (9 poles)
- Sheridan Rd (limit to limit) and Isabella (200 poles)
- East of Poplar between Central Ave and Isabella St, including CTA parking lots (195 poles)

Lead Paint Abatement – Light Poles

In 2016 and 2017, the Village tested all 1,562 decorative green light poles for lead paint and 96 light poles tested positive. Through 2023, 76 of the 96 light poles will have been abated for lead paint. The remaining 20 poles are scheduled to be abated in 2024 at a projected total cost of \$38,000.

Refurbishing or Painting – Light Poles (Decorative Black)

This request is for the refurbishing (scraping, priming, and painting) of 280 decorative black light poles. In 2021, the Village refurbished a total of 60 decorative black light poles in the Downtown business district. Staff requests funds to refurbish the remaining 220 decorative black light poles between 2025-2027 (or 75 per year at a projected unit cost of \$585/light pole).

Project	2024	2025	2026	2027	2028	Total	2029-2033
Green Pole Painting	42,400	43,200	38,340	39,050	39,760	\$202,750	203,060
Green Pole Abatement	38,000	-	-	-	-	\$38,000	-
Black Pole Painting	-	43,875	43,875	44,250	-	\$132,000	36,000
Subtotal	80,400	87,075	82,215	83,300	39,760	\$372,750	239,060

Project Update

Funding amounts for 2024-2028 have been updated. The projected unit cost for lead paint abatement has increased from \$1,450 to \$1,900 per unit and for lowered for painting (from \$285 to \$265 per unit). The cost for abatement includes removal and reinstallation of light heads located on the Sheridan Rd bridge deck. Refurbishing and lead abatement of street lighting control cabinets has been omitted as efforts will instead focus on complete replacement in lieu of refurbishing.



Project Alternative

The alternative is to delay the project and reschedule the work during later years.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Streetscape Furniture

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	14,000	29,000	39,000	-	-	\$82,000	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount
2023	\$23,200 (est.)
2022	\$36,104

Project Description and Justification

This request is for purchase of 39 pairs of refuse and recycling receptacles to replace outdated streetscape refuse receptacles at key locations throughout Wilmette. The project is phased across five years.

In 2020 and 2021, 14 paired refuse and recycling receptacles were installed along Central and Wilmette Avenue as part of the Downtown Streetscape Project. For 2022 (first year of this project), the Village purchased and installed 8 paired refuse and recycling receptacles and three benches (6' length), which completed the downtown business district (\$36,104). In 2023, staff replaced one vehicle-damaged bench located in the Downtown (\$6,434) and replaced 6-8 receptacles along Green Bay Rd (\$16,766 estimate).



Staff recommends continuing systematic replacement of the remaining outdated public trash receptacles for 2024-2026 with 29 paired refuse and recycling receptacles of the same design, for a total of 58 receptacles. These receptacles are made from cast aluminum, steel, and wood, including thermally modified ash, a domestically sourced, sustainable material. Each receptacle costs approximately \$1,400.

The Village currently has \$8,000 budgeted annually for the replacement of streetscape furniture, including refuse receptacles, benches, and bike racks. Approximately half of the existing budget would continue to be used for the replacement of benches and bike racks with remaining budget supplemented with capital funds as denoted in the table below.

Year	Location	Qty.	Projected Cost
2024	Green Bay Rd & METRA	10	\$14,000
2025	Linden Square, Ridge & Sheridan Rd	20	\$29,000
2026	Pace Bus Shelters	26	\$39,000

Project Update

The replacement cost has increased from to \$1,400 for 2024, \$1,450 for 2025, and \$1,500 for 2026.



Project Alternative

Public Works could continue to replace outdated streetscape receptacles with the current design, which cost approximately \$1,000 each. This project can also be deferred until later year(s).

Budget Impact

This is a Non-Recurring Expense



INFORMATION TECHNOLOGY PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

Project		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Information Technology	Building Permit Software	255,195	-	-	-	-	255,195	-
	Cashiering Software Upgrade	50,000	-	-	-	-	50,000	-
	GIS Hardware and Software	81,000	-	-	39,000	-	120,000	97,200
	Time Clock Software with MUNIS Integration	-	10,300	-	-	-	10,300	-
	Village Hall Virtual Server Replacement	-	-	-	-	-	-	85,000
Information Technology Total		\$ 386,195	\$ 10,300	\$ -	\$ 39,000	\$ -	\$ 435,495	\$ 182,200

FUNDING SOURCE

Funding Type		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Information Technology								
General Fund	Operations	332,195	10,300	-	13,000	-	355,495	117,400
Sewer Fund	Operations	27,000	-	-	13,000	-	40,000	32,400
Water Fund	Operations	27,000	-	-	13,000	-	40,000	32,400
Information Technology Total		\$ 386,195	\$ 10,300	\$ -	\$ 39,000	\$ -	\$ 435,495	\$ 182,200



Building Permit Software

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	255,195	-	-	-	-	\$255,195	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2003	\$512,780 - Full ERP

Project Description and Justification

This is a project to replace the current permits and code enforcement software, Tyler MUNIS, with a different software offering from Tyler Technologies called EnerGov. The existing permit and code enforcement history will be migrated to EnerGov as part of this proposed project. This project was contingent upon the successful completion of an electronic plan review pilot program, Bluebeam Revu. It was deployed to three employees along with one year of unlimited online training per employee. The pilot project was completed in early 2022 and the software is now in use by two employees in Community Development and three in Engineering, and staff had a positive experience with the review software, which can be integrated into the permitting software the Village opts to use.

In order to efficiently complete the review of electronic permit plans, new specialized touchscreen monitors will be needed. A total of four plan review computers and monitors at the cost of approximately \$7,500 each would be needed after the EnerGov system is up and fully implemented. The project expense breaks down as follows:

	Upgrade Cost	Ongoing Cost
Software	122,795	44,430
Services	102,400	-
Hardware	30,000	-
Total	\$255,195	\$44,430

The current MUNIS software in use meets the basic needs of the Village, but lacks the following functions:

1. Online permit application process
2. Applied-for permit status check
3. Electronic plan review
4. Portal for official project communication between staff and applicant
5. Online payment options for all permit-related fee types
6. Electronic permit issuance/delivery
7. Online inspection scheduling

Staff anticipates improvements primarily for the customer-user of the system. For example, with the EnerGov online application process, information that is entered by the applicant will be directly imported into the permitting system, providing the applicant with immediate confirmation that the application has been received.



Currently, applicants email application documents, and the permit record is created by the permit clerks. With the online portal of EnerGov, applicants will be able to check their permit status without having to contact Village staff. All permit-related communication with an applicant will be tracked in the portal, to be accessible to all parties on the project and for ease of use by the applicant. The online portal will be particularly beneficial for staff and for customers in the handling of revisions. The applicant can upload and track the review of revisions; the system will distribute the revisions to all required plan reviewers saving time and effort.

The EnerGov portal has the ability to tailor the information requested, as well as the required permit documents to be submitted, increasing the likelihood that an application will be submitted with all necessary information, thus allowing the permit to be reviewed more quickly than otherwise.

Staff would work in conjunction with the project implementation team to develop a project plan, provide stakeholder presentation, bi-weekly status updates, updates to the task statuses, and go-live planning activities. The project implementation team will lead an assessment and definition process to identify the Village's current practices and lead a configuration effort that includes standard and unique business transaction process and help with the development of geo-rules and automation events. The project implementation team will also provide training for 12 end-users.

The estimated project completion timeline is 6 to 9 months.

Project Update

A presentation to the Land Use Committee of EnerGov and the way it is expected to assist in online permitting is expected to take place at the end of 2023/beginning of 2024. This project was originally proposed in 2022 and the start of the project was deferred to the end of 2023. The bulk of the project is anticipated to be completed in 2024.

Project Alternative

If funding is unavailable, the alternative would be to continue operations with the current MUNIS (Enterprise ERP) software with staff continuing to function with inefficient workaround processes in billing, online payments, inspection scheduling, etc.

Budget Impact

This is a Recurring Expense

\$44,430 will be required for future year software maintenance beginning in year 2.



Cashiering Software Upgrade

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	50,000	-	-	-	-	\$50,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount

Project Description and Justification

This is a project to update the Village's payment collection software. It will allow for separate systems to be collected through a single, easy to use touch screen interface. Affected programs include all MUNIS (Enterprise ERP) revenue applications including Utility Bills, Business License and General Billing Invoices, and Tyler Incode Court (Municipal Justice.) The new system will provide for updated payment collection stations with an emphasis on contactless payments for a more efficient customer experience.

Currently, the Village utilizes PayPal, BridgePay, Chase Paymentech and Matrix Payment Systems for different revenue collection systems in use by the Village. The project will allow for the Village to pursue consolidation of payment processors, which is anticipated to lower costs to the Village for collecting credit card payments.

Project Update

The project was approved in 2022 and deferred to 2023 and then 2024 due to staffing issues. The cost increased from \$33,500 to integrate credit card processing fees and hardware with the software.

Project Alternative

The alternative is to keep using the current separate systems.

Budget Impact

This is a Recurring Expense

Annual software maintenance costs of \$3,780 beginning in year 2.



GIS Hardware and Software

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	27,000	-	-	13,000	-	\$40,000	32,400
Sewer Operating	27,000	-	-	13,000	-	\$40,000	32,400
Water Operating	27,000	-	-	13,000	-	\$40,000	32,400
Totals	81,000	-	-	39,000	-	\$120,000	97,200

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2021	\$39,000
2019	\$42,000
2018	\$52,500

Project Description and Justification

Geographic Information System (GIS) is used to geographically map data to be used by all Village departments. Once baseline data is entered into the database, departments can use the data as a management tool to guide them in infrastructure improvements, planning and zoning analyses, and public safety details and programs.

The Village joined the GIS Consortium in 2016. Under the Village's current membership, a 40% full time equivalent (FTE) employee is outsourced from MGP, the Consortium's service provider, and works with staff two days per week to create and update GIS layer data. The outsourced staffing component is now incorporated into the operating budget. Additional costs for special services are included in years 2024, 2027, 2029 and 2030.

New digital aerial photography and planimetric mapping (building footprints) was completed in 2021 and high-density LiDAR (1-foot contour elevation data) was completed in 2019. New planimetric data is recommended in 2024 (approximately once every three years), as well as new LiDAR data (approximately once every five years). The planimetric data to be gathered is more detailed than previous years to support the stormwater fee model.



Project Update

No changes. The 2024 number projects a 17% discount for gathering planimetric and LIDAR data at the same time. Planimetric data is projected to be updated in 2027 and 2030 for \$39,000 / year and LIDAR data in 2029 for \$58,200.



Project Alternative

The alternative is to delay the additional data and imagery to future years.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Time Clock Software

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	10,300	-	-	-	\$10,300	-

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount

Project Description and Justification

This request is to purchase time clock software and hardware for Village use through TimeClock Plus, LLC, which integrates with the MUNIS payroll module and would significantly improve the efficiency and accuracy of payroll entry. This purchase would be for a pilot program in the Public Works Department with the potential development of an enterprise-wide system upgrade.

At present, Public Works has 34 non-exempt positions who earn overtime and/or comp time. All overtime and comp time earned must be recorded on paper by the employee and manually entered into the online MUNIS payroll module by Public Works administrative staff. This must also be done for all part time and seasonal employees and all non-accrued time off (i.e. Family Sick Leave, Funeral Leave, Jury Duty, etc.). Supervisory staff must then compare each payroll batch with the employees' timecards to ensure accuracy. This entire process takes on average 8 hours of staff time per pay period for an estimated 192 hours annually.

TimeClock Plus Professional software would automate the process described above. The budget amount requested provides for initial activation, implementation and training, and two biometric time clocks, which will ensure that each employee can only clock in for themselves. Based on the hours of staff time saved by this program, the estimated ROI is approximately one to two years. This software also has the potential to streamline payroll for the Police, Fire, and Water Management Departments.

Project Update

There are no updates to this project request.

Project Alternative

The budget amount requested provides for two biometric time clocks, which cost \$2,300 each (or \$4,600 total). As a cost saving measure, the request could be reduced to one time clock, which would reduce the overall cost to \$8,000. If Engineering and Public Works decides a second time clock is necessary, one could be purchased at a later date. This project can also be deferred until later year(s).

Budget Impact

This is a Recurring Expense

Additional costs associated with this project include employee licenses and hardware support costs of \$2,400 per year.



Village Hall Virtual Server Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	-	-	-	-	\$0	85,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2022	\$82,806
2016	\$47,000

Project Description and Justification

This is a project to replace all necessary hardware and software collectively known as the Village Hall virtual server. Two large servers known as hosts work together to allow for multiple virtual servers to be configured and run simultaneously. The primary applications run in this environment are all of the licensed products from Tyler Technologies, including the MUNIS financial system, Tyler 311, Tyler Content Management, and InCode (now called Municipal Court) adjudication.

Project Update

Funding for the next virtual server host purchase was advanced from 2030 to 2029. The anticipated cost for the upgrade is unchanged at \$85,000.

Project Alternative

If funding is unavailable, the alternative would be to continue to operate the current virtual hosts with restraints on resources available due to the age of the system and its hardware limitations.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



PROFESSIONAL SERVICES PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

Project		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Professional Services	Arc Flash Study	75,000	-	-	-	-	75,000	85,000
	Downtown Parking Study	20,000	-	-	-	-	20,000	-
	Historic Resources Survey	45,570	45,570	114,720	114,720	114,720	435,300	20,000
Professional Services Total		\$ 140,570	\$ 45,570	\$ 114,720	\$ 114,720	\$ 114,720	\$ 530,300	\$ 105,000

FUNDING SOURCE

Funding Type		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Professional Services								
General Fund	Operations	110,570	15,570	84,720	84,720	84,720	380,300	91,000
	Grant Funding	30,000	30,000	30,000	30,000	30,000	150,000	14,000
Professional Services Total		\$ 140,570	\$ 45,570	\$ 114,720	\$ 114,720	\$ 114,720	\$ 530,300	\$ 105,000



Arc Flash Study

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	75,000	-	-	-	-	\$75,000	85,000

Project Status

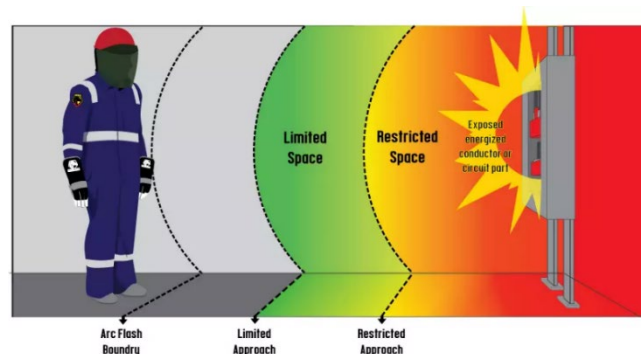
Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

This request is for an arc flash study or assessment of Village facilities receiving three-phase supply feeds, including Village Hall, Public Works Facility, Police Station, Historical Museum, Water Plant, and the Stormwater Pumping Stations, performed by an electrical safety professional engineer to determine the risks and hazards in relation to electrical systems. The study calculates the amount of energy that could be released during an arc flash incident, or explosion, and evaluates the potential risk to workers.



Safety Standards 1910.132(d) and 1910.335(a)(1)(i) from the Occupational Safety and Health Administration (OSHA) require employers to assess the workplace, identify electrical hazards to ensure a safer workplace, and train qualified employees on proper usage of personal protective equipment (PPE). This assessment is also required by IRMA, the Village's insurance carrier.

Additionally, Standard NFPA 70E, Section 130.5 Arc Flash Analysis from the National Fire Protection Association recommends an arc flash risk assessment to be performed once every five (5) years or whenever electrical system improvements are performed (whichever is sooner) to determine the risk, safety related work practices required, the arc flash boundary, the incident energy at the working distance, and the PPE that people within the arc flash boundary shall use. This NFPA standard closely aligns with the Institute of Electrical and Electronics Engineers (IEEE) Standard 1584.

The Arc Flash Study entails four phases:

1. **Data Collection:** Ensures accuracy, reduces assumptions. Switchgears, transformers, and other electrical equipment operating at 208V and above are included in the analysis.
2. **Short Circuit Study:** Analysis of electrical systems that determines the magnitude of the currents that flow during an electrical fault.
3. **Coordination Study:** Ensures electrical equipment is coordinating properly so that in the event of an incident, downstream breakers trip first thereby minimizing power outages, and ensuring electrical equipment is properly protected.
4. **Arc Flash Study:** NFPA-70E Standard aligned study in accordance with IEEE Standard 1584.



Final deliverables of the Arc Flash Study include:

- Arc flash labels detailing critical arc flash and shock hazard information.
- PPE recommendations to ensure personnel safety.
- A short circuit study: to ensure all equipment is adequately rated for the installation.
- A protective device coordination study: to ensure that there are no code issues, to certify that all electrical equipment is adequately protected and to optimize overcurrent settings, thereby minimizing the likelihood of larger power outages.
- Identification of potential hazards to improve system safety and protection.

Project Update

This is a new request submitted as part of the 2024 CIP and the projected cost for this study is \$75,000 based on results of a cost survey from neighboring communities.

Project Alternative

The alternative is to delay the project and reschedule during later years and/or limit scope to the Village Hall, Public Works Facility, Historical Museum, and Stormwater Pumping Stations. The Water Plant was updated within the last three years during their latest round of electrical improvements, and the Police Station would have this survey performed during new construction.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Downtown Parking Study

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	20,000	-	-	-	-	\$20,000	-

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	\$39,724 (est.)

Project Description and Justification

The Village's Downtown business district has become a popular shopping and dining destination on the North Shore. As a result of its popularity, parking has become a challenge for businesses, residents, and visitors. On-street parking in the Downtown is frequently at capacity during peak hours, while several off-street parking lots are underutilized. Recognizing that parking is a key factor to ensure businesses and restaurants continue to thrive, the Village requests funding for a Downtown Parking Study. The study would include the following:

- Inventory and assess the utilization of publicly available parking during peak times.
- Develop strategies and programs to address downtown parking needs, including but not limited to parking management, connectivity, physical parking changes, regulatory changes, signage, education, marketing materials, and public-private partnerships.

A hired consultant will work with Community Development and Engineering staff throughout all phases of the project. The consultant will be expected to present the results of the study at a future Village Board meeting. The project scope of work includes the following.

1. **Review Existing Materials:** Review the most recent draft of the Village's Comprehensive Plan, Master Bike and Active Transportation Plan, Complete Streets Policy, Capital Improvement Plan and other applicable plans and policies.
2. **Stakeholder Meeting:** Conduct a meeting with the Downtown business owners to gather information on their observations and concerns related to parking in the Downtown business district.
3. **Inventory Existing Parking:** Prepare a comprehensive inventory of public on-street and off-street parking within the study area including number of spaces, time limit, hours of availability, and ADA accessible spaces.
4. **Parking Usage Survey:** The consultant shall conduct a parking utilization survey over three days, including a Saturday, for publicly available parking options (on-street parking, off-street public parking, Metra Lot, etc.) within the Downtown. Data will be collected from 7:00 a.m. to 9:00 p.m. and include parking turnover and length of stay. Identify areas where there are parking spot shortages and where there are surpluses. Consultant shall document observations related to the parking surveys and provide the data in maps, charts, and tables.
5. **Assessment of Existing and Future Demand:** Identify parking solutions to account for current and projected growth in the study area, including the possibility of a parking garage.
6. **Identify Parking Priorities and Recommendations:** Develop parking priorities and recommendations to help address the documented parking shortages and the real and perceived parking concerns of the stakeholders.



7. **Stakeholder Meeting:** Share priorities and recommendations with the business stakeholders and modify the plan, as necessary, based on their feedback.
8. **Final Report:** All the tasks above shall be included in the final report.

The study area includes the public on-street and off-street parking areas in the Downtown including the Metra and Poplar commuter lots.

Project Update

This project was awarded in 2023 and will be completed in early 2024. The 2024 CIP includes \$20,000 to cover the work completed in 2024.

Project Alternative

There is no alternative as the project is already awarded by the Village Board.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Historic Resources Survey

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	15,570	15,570	84,720	84,720	84,720	\$285,300	6,000
Grant Funding	30,000	30,000	30,000	30,000	30,000	\$150,000	14,000
Total	45,570	45,570	114,720	114,720	114,720	\$435,300	20,000

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount

Project Description and Justification

The Historic Preservation Commission (HPC) instituted the creation of three Historical and Architectural Surveys of Wilmette neighborhoods between 1991 and 1995. Dixon & Associates were retained to survey the areas of East Wilmette, Gross Point, and Indian Hill Estates and Environs. Each survey page contains a photograph, address, listing of style, date of construction, builder, and architect, and an evaluation of its potential for listing as a local landmark or as a structure on the National Register of Historic Places. The hard copies of the surveys are available for public use at Wilmette Village Hall in the Department of Community Development and at the Wilmette Historical Museum at 609 Ridge Road.

The surveys have proved to be an exceptionally valuable resource for the community. The surveys provide a snapshot in time. Given the increase in teardowns, a permanent record provides historical data to help in policymaking decisions. The surveys provide a professional rating of a structure, which is relied on heavily to make a determination for local landmark status and for determining the boundaries of a possible historic district. The data provided on the style and construction has helped homeowners research their home. This in turn leads to an appreciation for historic preservation and further investment in the community.

The Secretary of the Interior's standard threshold for consideration for landmark status is the structure be at least 50 years old. A large portion of the un-surveyed area of Wilmette was constructed after World War II. and therefore, many of these structures are now considered historic. It is the HPC's desire to begin gauging the value of these homes for future protection for the Village and its residents. In addition, the areas surveyed nearly 30 years ago are out of date and need updating.

Proposal

Conduct a three-phase study that would complete the Historical and Architectural Surveys of the Village of Wilmette. In Phase 1, a consultant would conduct a house-by-house study of the area west of Skokie



Boulevard. Each structure would be photographed and entered into a database. Each structure’s building permits would also be researched and included in the database and would then be evaluated on historical and architectural significance with a consideration of its importance now that these areas have met the 50-year benchmark.

There are approximately 1,519 structures in this part of the Village, and the estimated cost per structure is \$60. A bound version of the survey, similar to the existing surveys, would be provided along with multiple digital copies. The approximate cost of Phase I is \$91,140. Due to the anticipated reduction in available grant funds, Phase I has been divided over two years to take advantage of potential grant funding. This approach will also allow staff to more accurately assess the time and resources required to complete the survey in future years based on the progress made in 2024.

Phase II would extend this same process to the rest of the Village – that part that lies east of Skokie Boulevard. In addition to completing un-surveyed areas east of Skokie, this phase would update the existing 30-year old survey and cover approximately 5,736 structures. The expectation is that several years of grant funding would be required to complete this phase of survey. Grant funding is allocated annually, and Village staff will apply annually for funding until all phases are complete. The scope and timing of the project will depend on available grant funding. The approximate cost of Phase II is \$344,160.

Phase III would be an intensive survey and report that would look at the subdivision history and look at potential historic district boundaries in both areas covered by Phases I and II. Funding for Phase III will be requested upon the successful completion of Phase I and Phase II. The approximate cost of Phase III is \$20,000

Because this project is contingent upon securing grant funding as explained below, estimated costs will be reduced by \$30,000.

Phase I	2024	2025	2026	2027	2028	Total	2029-2033
Total Cost	45,570	45,570	-	-	-	\$91,140	-
Actual Cost (after reimbursement)	15,570	15,570	-	-	-	\$31,140	-
Phase II	2024	2025	2026	2027	2028	Total	2029-2033
Total Cost	-	-	114,720	114,720	114,720	\$344,160	-
Actual Cost (after reimbursement)	-	-	84,720	84,720	84,720	\$254,160	-
Phase III	2024	2025	2026	2027	2028	Total	2029-2033
Total Cost	-	-	-	-	-	-	20,000
Actual Cost (after reimbursement)	-	-	-	-	-	-	6,000

Grant Funding

Matching grants of federal funds are made available by the National Park Service, through the Illinois State Historic Preservation Office. These funds are available to Certified Local Governments in Illinois, including the Village of Wilmette. CLG Grants are available to reimburse participating CLG communities for funding projects that focus on Survey, Public Education, Planning, and National Register of Historic Places



nominations. If awarded the CLG grant, the Village could be eligible for up to 70 percent reimbursement of the project cost. However, anticipated grant amounts are not expected to exceed \$30,000 per year.

Project Update

Staff recently applied for a Certified Local Government (CLG) matching grant in June 2023. Grants are anticipated to be awarded in October 2023. The CLG grants program in Illinois is a resource for participating city and county governments to develop and sustain effective local preservation programs and projects that are critical to preserving local historic resources. The State Historic Preservation Office (SHPO) of the Illinois Department of Natural Resources (IDNR) administers the Illinois CLG grant program utilizing federal funding it receives from the U.S. Department of Interior, National Park Service (NPS) Historic Preservation Fund (HPF) Program.

If awarded the grant, staff will seek consultant services to complete Phase I of the proposed survey. As stipulated under the grant requirements, consultants hired for the project must meet the National Park Service's Professional Qualifications Standards. It is expected that given the grant award's timeframe, monies would not be expended until 2024.

Project Alternative

Due to the scope of the project, staff may be able to partially assist in completing the survey project either in addition to a consultant's work or as time allows if grant funding is not available in a calendar year. Another alternative to completing the project with grant funding and professional services is to hire an intern. Both options would require significant time and resources by the Preservation Planner to conduct the survey or supervise and review the work of the intern. Because the intern's work would need to be reviewed by the Preservation Planner, the time frame to complete the project would increase approximately 50%. It is estimated that Phase I of the project would take an intern approximately 800-1,200 hours to complete with an additional 400-600 hours of staff time to review the intern's work. Due to the difficulty of finding an intern with a preservation background and experience in conducting historic resources survey, the quality of the end-product would suffer.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



SEWER PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Sewer	Clean Out Pumping Station	-	50,000	-	-	-	50,000	50,000
	Large Diameter Sewer Lining	450,000	-	340,000	-	340,000	1,130,000	670,000
	Maple Avenue Outfall Repair	260,000	-	-	-	-	260,000	-
	Neighborhood Storage Project	330,000	-	-	-	-	330,000	-
	Relief Sewer Improvement Program	-	-	100,000	-	-	100,000	-
	Sewer Lateral Rehabilitation Project	-	-	-	-	550,000	550,000	2,750,000
	Sewer Lining & Rehabilitation	1,640,000	-	1,640,000	-	1,640,000	4,920,000	3,280,000
	Sewer Main Repairs	412,000	424,000	437,000	450,000	464,000	2,187,000	2,250,000
	Sewer Maintenance	510,500	526,500	540,750	556,750	571,000	2,705,500	3,083,500
	Smoke Testing/Dyed Water Flooding	20,000	20,000	-	-	-	40,000	-
	Storm Sewer Lining Program	-	500,000	-	400,000	-	900,000	800,000
	Stormwater Incentive Program	20,000	20,000	20,000	20,000	20,000	100,000	100,000
	SWPS Electrical Improvements	1,920,000	-	-	-	-	1,920,000	-
	SWPS Pump Renovations	-	60,000	-	-	-	60,000	-
	SWPS Roof Replacement	-	-	-	-	-	-	26,000
Sewer Total		\$ 5,562,500	\$ 1,600,500	\$ 3,077,750	\$ 1,426,750	\$ 3,585,000	\$ 15,252,500	\$ 13,009,500

FUNDING SOURCE

		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Sewer								
	Sewer Fund							
	Operations	1,222,500	1,600,500	1,097,750	1,426,750	1,055,000	6,402,500	6,309,500
	Debt Financing	400,000	-	-	-	550,000	950,000	2,750,000
	IEPA Loan	2,090,000	-	1,980,000	-	1,980,000	6,050,000	3,950,000
Prior Bond Issuance	1,850,000	-	-	-	-	1,850,000	-	
Sewer Total		\$ 5,562,500	\$ 1,600,500	\$ 3,077,750	\$ 1,426,750	\$ 3,585,000	\$ 15,252,500	\$ 13,009,500



Clean Out Pumping Station

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	-	50,000	-	-	-	\$50,000	50,000

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2012	\$25,000
2006	\$12,000
2000	\$16,000

Project Description and Justification

The intake chamber for the Storm Water Pumping Station collects all the storm water flow from the Village west of Ridge Rd and distributes it to the two pump suction chambers in the pumping station building. Some silt, sand, and debris collect in this intake chamber. About once every five to seven years this debris needs to be removed to prevent damage to the pumping equipment and the grating in the intake chamber.

In 2025, it is proposed to clean the sump areas at the Storm Water Pumping Station (SWPS) at an estimated cost of \$50,000.



Project Update

This project was shifted from 2024 to 2025 based on a condition assessment.

Project Alternative

The project could be postponed another year. However, this could in turn increase the risk of damaging the gratings on the intake and potentially damage the pumps in the station, reducing the functionality of the station.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Large Diameter Sewer Lining

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund (IEPA Loan)	450,000	-	340,000	-	340,000	\$1,130,000	670,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

Sewer lining is a non-invasive technique to rehabilitate sewers by eliminating infiltration, structural defects, and root intrusion. Many of the sewers in the Village were installed 100+ years ago, including many of the large diameter sewers (30" or larger). This is especially true of sewers in the combined sewer system that is east of Ridge Road. There are approximately 130,000 linear feet of large diameter sewers throughout the Village. A summary of the large diameter sewers and total lineal feet is included below:

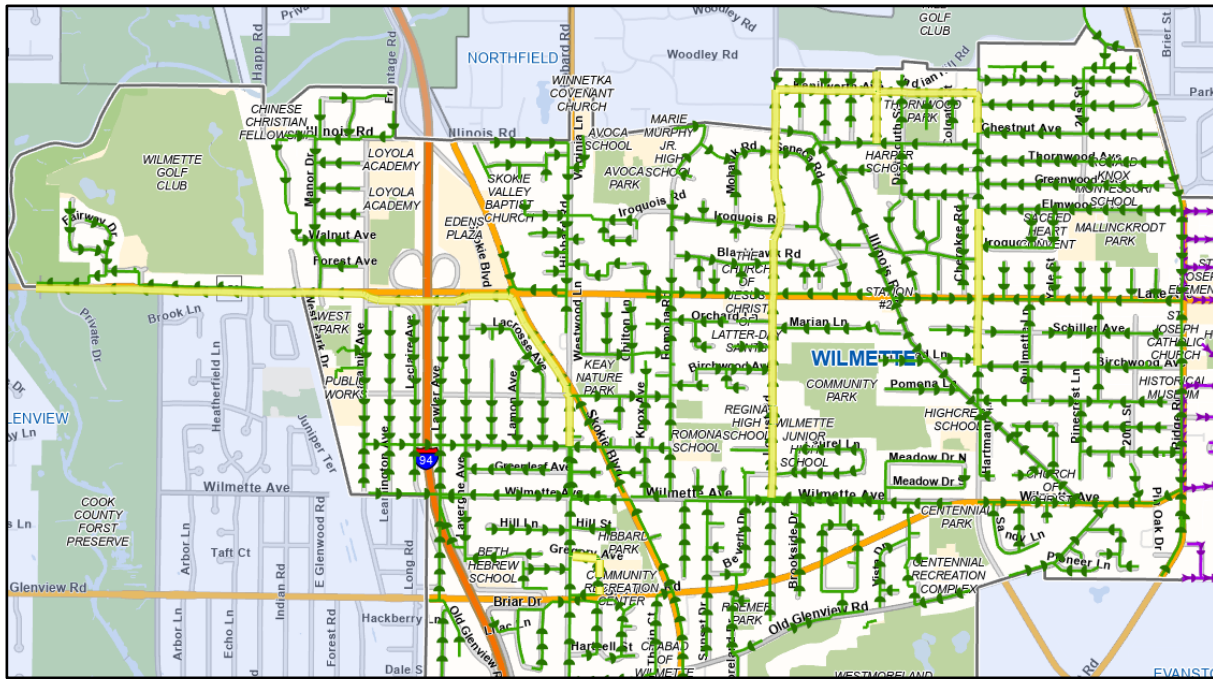
Diameter (in)	Sanitary (ft)	Storm (ft)	Combined (ft)	Total (ft)
30-36	9,830	24,851	12,137	46,818
38-48	-	7,066	16,154	23,220
54-66	1,310	10,224	12,718	24,252
72-78	8,485	8,753	6,555	23,793
84-96	-	3,971	2,466	6,437
102-120	1,805	3,357	-	5,162
Totals	21,430	58,222	50,030	129,682

Funding for televising larger diameter sewers throughout the Village has been included in the budget since 2020. Televising the sewers identifies those with structural defects. This proposed program would allow rehabilitation by Cured-In-Place (CIPP) or other sewer lining method of 100+ year-old large diameter sewers that have a higher criticality of failure. Critical sewers refer to those, which in the event of failure, will incur high repair costs, cause total loss of service, may damage public or private property, and potentially involve significant traffic delays. Lining these sewers would increase the structural integrity of the lines to avoid collapse and reduce the amount of infiltration and inflow (I/I) into the sewer systems.

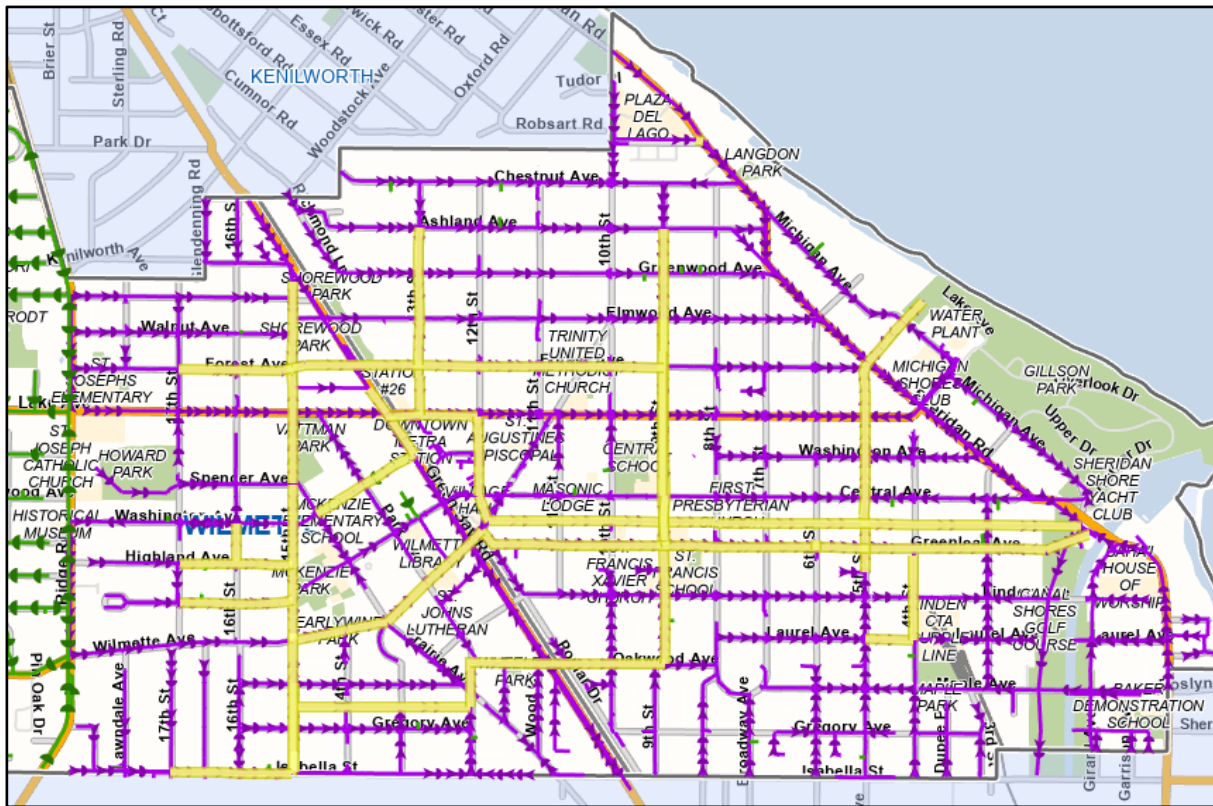
This program is proposed to focus on rehabilitating the older, large diameter sewers that have a higher cost associated with lining than the smaller diameter sewers in the regular lining program. This work is programmed to align with the regular lining program to utilize the same IEPA low interest loan funding source and take advantage of economies of scale.



Separate System – Large Diameter Sewers



Combined System – Large Diameter Sewers



The over 100-year-old 66-inch and 72-inch sewers in the alley between Greenleaf Ave and Central Ave have been identified for rehabilitation. Telescoping reports show calcium deposits and hinge fractures in the sewer main. Cracks and fractures are part of the modality of failure in sewer mains, and deposits indicate areas



where infiltration is occurring. Cracks and fractures are considered hinge when they occur at two or more of the 3, 6, 9 and 12-clock position in the sewer main. Hinge cracks or fractures at three positions or more are considered to increase the probability of failure by 40%. It is recommended to rehabilitate these sewers before deformation occurs because large-diameter sewers could also result in significant damage to public and private property if they deteriorate to the point of failure. Notably, it is far less costly to rehabilitate sewers proactively than on an emergency basis.

The total length of the Greenleaf-Central alley sewer is approximately 5,900 linear feet. This program will begin with the block between Wilmette Ave and 11th St, which is approximately 680 linear feet, and continue with lining the sewers towards the Northshore Channel.



Fractures and Deposits in the Central-Greenleaf Alley Sewer

This program is proposed to be implemented with the biennial sewer lining program beginning in 2024. The requested amount will be in addition to the current program amount of \$1.64 million. It is estimated to take 20 years to complete rehabilitation of this sewer by CIPP.

Program Year	Sewer Segment	Sewer Size (inches)	Sewer Length (feet)	Cost \$
2024	Greenleaf Alley – Wilmette Ave to 11 th St	66	680	\$450,000
2026	Greenleaf Alley – 11 th St to 10 th St	66	520	\$340,000
2028	Greenleaf Alley – 10 th St to 9 th St	66	520	\$340,000
2030	Greenleaf Alley – 9 th St to 8 th St	66	510	\$340,000
2032	Greenleaf Alley – 8 th St to 7 th St	66	490	\$330,000

Sewer Size (inches)	Unit Cost of CIPP*
30	\$180
36	\$180
42	\$275
54	\$545
60	\$600
66	\$655
72	\$735

*Adjusted for 2024 pricing



Project Update

This new project was moved up to 2024 from 2025 to align with the sewer lining program.

Project Alternative

The alternative to sewer lining is sewer replacement by open excavation, which can be significantly costlier and more disruptive, especially for larger diameter sewers. The Village's sewer systems are 60 to 100+ years in age and have numerous cracks and other structural defects, tree roots, and mineral deposits. These pipe deficiencies result in groundwater infiltration, sewer collapses, and blockages. Not funding this program will result in infiltration contributing to sewer backups, continued deterioration of the sewer pipes, and possibly higher rehabilitation costs.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Maple Avenue Outfall Repair

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Operating	260,000	-	-	-	-	\$260,000	-

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	Postponed

Project Description and Justification

The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) conducts riverbank assessments on the North Shore Channel. During an assessment in 2021, MWRDGC notified the Village of failure of the concrete rip rap (embankment) at the Maple Avenue outfall, which is located on an easement on MWRDGC property. The Village is responsible for the maintenance of the easement due to the Maple Avenue storm sewer outfall that discharges to the North Shore Channel. The Village maintains a total of three storm water outfalls to the North Shore Channel that are inspected on an annual basis. It was determined that restoration of the concrete rip rap is required, so an engineering consultant prepared plans and specification for this work.



Due to poor construction bid results in 2023, the project was postponed to 2024. The budget was increased to reflect current industry pricing for this type of work.

Due to poor construction bid results in 2023, the project was postponed to 2024. The budget was increased to reflect current industry pricing for this type of work.

Description	Total Cost
Construction	\$220,000
Construction Engineering	\$30,000
Phase III Total	\$260,000

Project Update

The project was postponed from 2023 to 2024 as a result of the challenging bid climate and the funding amount has been updated to reflect industry pricing.



Project Alternative

There is no alternative because proper maintenance of the Village's outfall is a condition of the easement agreement with the MWRDGC.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Neighborhood Storage Project

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Prior Bond Issuance	330,000	-	-	-	-	\$330,000	-

Project Status

Critical	Recommended	Contingent
	X	

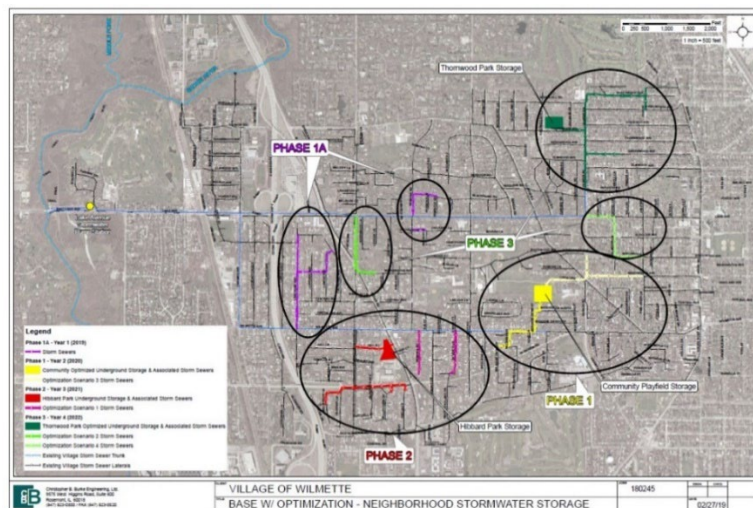
Funding History

Year	Amount
2023	\$634,945.06*
2022	\$28,400,000
2021	\$15,620,000
2020	\$20,100,000
2019	\$2,995,540
2018	\$299,620

* Thru July 10, 2023

Project Description and Justification

The Neighborhood Storage Project will improve the performance of the separate storm sewer system west of Ridge Road. The system can currently convey a 2 to 3-year rain event, but the three new storage areas and associated piping will improve the system by providing 10-yr protection for 99% of vulnerable structures in west Wilmette (based on original Bulletin 70 rainfall data).



The third and final phase of the project was substantially completed in November of 2022, however because of disruptions to supply chains and material procurement, the generator for Thornwood Park was delayed to summer of 2023. In addition, the contractor is still working to complete the restoration of Thornwood Park.



After the construction of the Neighborhood Storage project the Village Board directed staff to perform an evaluation of the effectiveness of the project. \$80,000 has been added to 2024 to perform flow monitoring, a model update and report on the benefits and remaining vulnerabilities of the project including possible next steps to continue upgrading the system. In addition, \$250,000 has been added to cover Phase 3 retention payments.

Project Update

The 2024 CIP includes \$330,000 for flow monitoring and remaining retention payments.

Project Alternative

There is no alternative to this project because it is substantially complete.

Budget Impact

This is a Non-Recurring Expense

Ongoing maintenance costs include \$20,000 in sewer maintenance including televising cleaning, rodding, and basin maintenance. \$20,000 per year for each pump station is projected.



Relief Sewer Improvement Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	-	-	100,000	-	-	\$100,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

This project is a continuation of the combined sewer relief program, which began in the early 1990's and ceased in the late 1990's after construction of three of five phases. The project consists of a series of drainage berms (installed), inlet restrictors (installed) and large diameter relief sewers (partially installed) that work together to reduce flooding east of Ridge Road.

After major rain events in 2001 and 2002, additional relief sewers were installed on Highland and Central Avenues (west of 15th Street), with the most recent being on Isabella Street in 2013. Prior to installing the remainder of the tributary relief sewers, a review of the hydraulic model and performance data is recommended. The engineering study is programmed in 2026 for \$100,000.

Project Update

This project has been deferred to 2026.

Project Alternative

There is no alternative to building relief sewers.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Sewer Lateral Rehabilitation Project

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund (Bond)	-	-	-	-	550,000	550,000	2,750,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

The Sewer Lateral Rehabilitation Project is a pilot project designed to eliminate infiltration from the connection of sewer laterals to the mainline sewers and the portion of the lateral within the right-of-way. This project would be a major change in Village policy, as the Village has not historically performed repairs or maintenance on sewer laterals and as laterals are legally the responsibility of the property owner to maintain. Sewer lateral lining is a trenchless, non-invasive technique to rehabilitate sewers by eliminating infiltration, structural defects, and root intrusion. In this process, the liner is inserted into the lateral and is cured-in-place. Prior to lining, the lateral is cleaned and televised.

In 2016, the Village performed dyed water flooding in the Kenilworth Gardens area to determine locations where stormwater is entering the sanitary system through sanitary laterals. A sewer lateral is the pipe that connects a home to the main public sewer. The test revealed that over 2 million gallons of non-sanitary flows per day can infiltrate the sanitary sewer system. Extraneous groundwater and rainwater in the sanitary system during heavy rain events is a direct cause of sanitary sewer backups.

This project will keep the Village in compliance with MWRD's Inflow and Infiltration Control Program (IICP) and in particular the private sector program (PSP) requirements. The area proposed for the pilot project is in Kenilworth Gardens and bordered by Beechwood on the north, Hunter on the west, Elmwood on the south, and Ridge Road on the east. This area was selected due to the high number of sewer backups and significant overland flooding concerns.

In addition to the sewer lateral pipe, this project will also address "break-in" service connections. Break-in service connections occur when the services are not properly connected to the main line pipe allowing infiltration. The T-Lateral Liner is a one-piece mainline connection and lateral lining that extends up into the lateral pipe. The mainline portion of the liner physically attaches to form a one-piece liner that will eliminate any I/I at the connections.

Adding sewer lateral locations from the televising to the Village GIS will also enable the Village to identify potential dead laterals that can be sealed off. These dead laterals account for sources of infiltration and inflow that can be avoided if omitted from the sewer system.



The project would also allow the residents to extend the sewer lateral liner from the cleanout to their homes. This option would be at the homeowner's expense but would be very cost effective for the resident if the work was done in conjunction with this program.

Project Update

This project has been deferred until 2028-2033.

Project Alternative

The project alternative is to allow residents to improve their laterals at their cost and on their own schedule. Sewer laterals continue to be a significant source of infiltration into the sewer system.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Sewer Lining and Rehabilitation

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund (IEPA Loan)	1,640,000	-	1,640,000	-	1,640,000	\$4,920,000	3,280,000

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	\$0
2022	\$664,134
2021	\$0
2020	\$0
2019	\$1,972,650
2018	\$782,248
2017	\$0
2016	\$701,187

Project Description and Justification

Sewer lining is a non-invasive technique to rehabilitate sewers by eliminating infiltration, structural defects, and root intrusion. The list of sewers identified as needing sewer lining grows each year. This biennial expenditure is proposed to be a long-term program to address the deterioration of the Village's sewer system.

The goal of the lining program is both to increase the structural integrity of the lines to avoid collapse and to reduce the amount of infiltration and inflow (I/I) into the sewer systems. Both lining along with grouting the sewer service connections at the main have been shown to have a more significant effect on the reduction of I/I than with sewer lining alone. The net effect will also be an increase in sanitary sewer conveyance capacity and a reduction in the number of potential basement back-ups and sanitary sewer overflows because excess clean water is kept out of the sanitary sewer system. Without addressing the lateral sewer connections at the main, I/I removed by lining can migrate through the interstitial space between the liner and host pipe and reenter the main at the connections.

By the end of 2024, approximately 62% of the separate sanitary sewer system will be lined. Approximately 18 miles of unlined sanitary sewers will remain. In the combined sewer system, approximately 25% of the sewers will be lined by the end of 2024, with approximately 40 miles remaining. More sewers have been lined on the west side of the Village because the focus has been on areas that experienced basement backups and sewer surcharging. I/I removal is less beneficial in the combined system because it is designed to carry stormwater in addition to sanitary flows. In more recent years, the west side has also been the focus to comply with the MWRD Infiltration / Inflow Control Program (I/ICP) requirements. The goal of the program is to remove clean sources of water from the sanitary system.



Due to the IEPA loan processing requirements, the Village's sewer lining program will be implemented every two years starting in 2024. A new 5-year facility plan will begin in 2024 and recommended \$1,640,000 of sewer lining and grouting biennially. Maintaining the current funding level, while incorporating grouting lateral connections, will result in 12,000-24,000 feet of sewer lining each program depending on the sewer sizes addressed. This rate accounts for grouting 100% of the lateral connections in a sewer lining program. Each lateral is first pressure-tested to determine if grouting is necessary. It is anticipated that most of the connections will require grout since most of the Village's sanitary and combined sewer systems are vitrified clay pipe (VCP).

This work is programmed to align with the large diameter sewer lining program, which will utilize the same IEPA low interest loan funding source to take advantage of economies of scale.

Project Update

Due to reduced staffing levels in 2022, the Sewer Lining and Rehabilitation program was deferred one year. Staff anticipates resuming this program in 2024. It is estimated that both the separate and combined sewer systems will be completely lined in 35-40 years continuing at the biennial funding level of \$1,640,000 per year including the practice of grouting lateral connections.

Project Alternative

The alternative to sewer lining is sewer replacement by open excavation, which can be significantly costlier and more disruptive. The Village's sewer systems are 60 to 100+ years in age and have numerous cracks, tree roots, and mineral deposits. These pipe deficiencies result in groundwater infiltration, sewer collapses, and blockages. Not funding this program will result in infiltration contributing to sewer backups and continued deterioration of the sewer pipes.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Sewer Main Repairs

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	412,000	424,000	437,000	450,000	464,000	\$2,187,000	2,250,000

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023*	\$770,000
2022	\$0
2021	\$466,000
2020	\$337,000
2019	\$327,500
2018	\$360,277
2017	\$488,275

* Budget Amount

Project Description and Justification

The sewer repair program includes excavating and replacing portions of the sewer system, including addressing defective manholes and sewer service connections as necessary. Deteriorated sewer mains and service connections are identified through the annual sewer televising program (contractual and in-house), as well as through routine staff inspections. The goal is to complete sewer point repairs in advance of streets programmed for road rehabilitation and prior to sewer lining.

This project focuses on repairing sewers that show signs of collapse, excessive cracking, voids or holes, and offsets in joints that may prove problematic to the functioning of the sewer main and that require repair before the sewers can be eligible for sewer lining. In addition, this annual expenditure addresses the deterioration of the sewer system by increasing sewer capacity, reducing sewer backups, improving the pipes' structural integrity, and protecting the investment in the newly paved streets.



Failed Sewer

Failed Sewer

Good Condition



Project Update

Funding levels for 2024-2033 have been updated.

Project Alternative

The alternative is to repair sewers on an emergency basis. Reacting to sewers that have already collapsed will result in sewer backups and street sinkholes and cost the Village more than through a proactive main repair program.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Sewer Maintenance

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	510,500	526,500	540,750	556,750	571,000	\$2,705,500	3,083,500

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	\$451,948 (est.)
2022	\$342,000
2021	\$366,500
2020	\$322,000
2019	\$231,700
2018	\$230,443
2017	\$211,500
2016	\$174,480

Project Description and Justification

This is a multi-year effort targeting sewer maintenance, including contractual maintenance of drainage structures, emergency, and road program sewer point repairs. A summary of the large diameter sewers and total lineal feet throughout the Village is included here:

Diameter (in)	Sanitary (ft)	Storm (ft)	Combined (ft)	Total (ft)
30-36	9,830	24,851	12,137	46,818
38-48	-	7,066	16,154	23,220
54-66	1,310	10,224	12,718	24,252
72-78	8,485	8,753	6,555	23,793
84-96	-	3,971	2,466	6,437
102-120	1,805	3,357	-	5,162
Totals	21,430	58,222	50,030	129,682

The following sewer maintenance improvements are recommended in 2024 and future years:

- \$53,000 for contractual assistance to perform sewer repairs that are over 10-feet in depth and cannot be repaired by in-house crews, plus emergency sewer repairs and improvements for the combined, sanitary, and storm sewer systems identified during the budget year.



- \$64,500 to clean approximately 350 drainage structures (catch basins and inlets) to obtain a five-year cleaning cycle (an additional 350 units are cleaned by in-house crews). The average unit cost is \$184 per structure (or \$220 per catch basin and \$75 per inlet).
- \$303,000 to cover the cost of televising and cleaning approximately 23 miles (14%) of main line sewers using contractual services. The Village's sewer systems contain 64.5 miles of storm sewer mains, 48.0 miles of sanitary sewer mains, and 51.4 miles of combination sewer mains. In addition to the contractual sewer televising, the Public Works Water/Sewer crews clean at least 2% of the total sewer system. The Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) mandates that a long-term Operations & Maintenance (O&M) program be developed including maintenance, cleaning, and rehabilitation. Based on the age of the Village's sewers, the best management practice is to clean the sewers once every 7 years or 14% per year.
- For 2024-2028: \$25,000 for chemical grouting of sewer pipe and structures. Chemical grouting is the method for preventing ground water infiltration into structurally sound sewers. Excessive water entering sewers (infiltration) often leads to overflow situations and sewer back-ups. Sources of infiltration are revealed through annual inspections mandated by NPDES and MWRDGC. Chemical grouting is injected through leaking joints, faults, and cracks. The most common points of infiltration occur inside manhole structures, joints, and service line connections. Overall, chemical grouting is recognized as an industry best management practice and useful tool in combating sewer defects. It also serves as a much less costly alternative to open excavation repairs.
- For 2024-2028: \$4,000 for manhole inspections (sewer condition assessment, NASSCO level 1) as required per NPDES (storm system) and MWRDGC (sanitary system). This was a new request submitted as part of the 2023 CIP and contributes to operational efficiencies by requiring the Village's contractor to perform inspections, coinciding with the sewer lining program (~200 manhole structures annually). The contractor routinely accesses manholes as part of sewer lining operations; however, they do not perform inspections, thus requiring in-house crews to double back to each location. Overall, 600 manhole inspections are required each year or 10% of each system (300 storm and 300 sanitary).
- \$61,000 has been included in 2024 to continue televising large diameter sewers. Large diameter sewer cleaning and televising will allow the Village to assess the state of the critical infrastructure and rehabilitate the sewers as necessary in advance of a potential failure. It is far less costly to rehabilitate sewers proactively than on an emergency basis. Critical large-diameter sewers could also result in significant damage to public and private property if they deteriorate to the point of failure. Staff began inspecting 25% of the large diameter sewers annually in 2020 and will complete the inspections in 2023. Starting in 2024, large diameter sewer televising will be included in the regular sewer cleaning and televising program, which will inspect 14% of the total sewer system per year.

Denoted in the table below is a breakdown of project costs.

Project	2024	2025	2026	2027	2028	Total	2029-2033
Repairs >10' Depth	53,000	55,000	55,000	57,000	57,000	277,000	303,000
CB Cleaning	64,500	64,500	66,500	66,500	68,500	330,500	354,500
Televising/ Cleaning	303,000	313,000	323,000	333,000	343,000	1,615,000	1,865,000
Chemical Grout	25,000	27,000	27,000	29,000	29,000	137,000	163,000
Manhole Inspection	4,000	4,000	4,250	4,250	4,500	21,000	24,000
Televising Large Diameter	61,000	63,000	65,000	67,000	69,000	325,000	374,000
Subtotals	510,500	526,500	540,750	556,750	571,000	\$2,705,500	\$3,083,500



Project Update

The funding amounts for 2024 have been updated to account for price increases attributed to rises in labor, material, equipment, and transportation. Projections for out-years have been adjusted accordingly.

Project Alternative

These projects are critical since a reduction in maintenance of the sewer system can ultimately lead to sewer back-ups and increased flooding. Portions of the work correlate to the Village's mandated National Pollutant Discharge Elimination System (NPDES), the Combined Sewer Overflow (CSO) permits, and annual Metropolitan Water Reclamation District of Greater Chicago (MWRDGC) long term maintenance program. The alternative would be a reduction to these contractual services, which would place the Village in non-compliance unless additional personnel and equipment were added so the Public Works staff could perform the work in-house.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Smoke Testing/Dyed Water Flooding

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	20,000	20,000	-	-	-	\$40,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$30,000
2022	\$60,000
2021	\$60,000
2020	\$60,000
2019	\$60,000
2018	\$65,000
2017	\$130,000
2016	\$130,000

Project Description and Justification

This project will ensure the Village remains in compliance with the MWRD's Inflow and Infiltration Control Program (IICP) requirements. This project was recommended in the Separate Sanitary Sewer System Modeling study conducted by RJN in 2012. A continuation of the smoke testing program is also recommended by the Municipal Services Committee and the Metropolitan Water Reclamation District of Greater Chicago (MWRDGC).

In 2012, the Village of Wilmette developed a hydraulic model of the Village's separate sanitary sewer system generally located west of Ridge Road. This system includes approximately 246,000 linear feet (LF) of pipe divided between two outlets to the MWRDGC: the Harms Basin (88,000 LF) and the Princeton Basin (158,000 LF). In 2013, flow monitoring was conducted to measure the flows at the outlets of the system.

Based on wet-weather flow analysis, it was evident that all four metered basins experienced excessive inflow and infiltration (I/I) during storm events. The magnitude and fast response of peak flows in all the basins indicate that the I/I in the system include sources of direct runoff, which may include storm sewer to sanitary sewer cross connections, downspouts, area drains, foundation drains, and other private sector sources.

Smoke Testing

Since 2013, the Village has completed approximately 246,000 feet (or 100%) of smoke testing in the Princeton and Harms basins. Smoke testing is a simple and cost-effective way to identify sources of I/I entering the system. In general, defects found during smoke testing can be divided into four categories:



- **Public Sector Defects:** These are mainline and manhole defects identified during the smoke testing. These defects will be addressed in the mainline and manhole rehabilitation programs.
- **Sanitary-to-Storm Cross Connections:** These are locations where smoke was identified in the storm sewer system, in storm manholes, inlets, or catch basins. This indicates that there is either a direct or indirect connection where storm water is leaving the storm sewer system and entering the sanitary system.
- **“Easy-Fix” Private Sector Defects:** These defects are located on the private side and are very easy and cost-effective to repair or require repair of by the homeowner. These defects include connected downspouts, leaky disconnected downspout leaders, broken or missing cleanout caps, and uncovered, connected window wells.

Project Update

The budget amounts for 2024-2025 have been revised to reflect completion of compliance enforcement activities related to private sewer follow-up as part of the I/I reduction program. Smoke testing completed in 2021 and 2022 identified 275 defects. Compliance enforcement began in 2023 (1st notice and follow-up inspections) and will continue over the final two-years (2nd, 3rd, and final notices and follow-up inspections).

Project Alternative

The alternative is not to perform the work; however, this may place the Village in poor standing with MWRDGC.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Storm Sewer Lining Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	-	500,000	-	400,000	-	\$900,000	800,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

Sewer lining is a non-invasive technique used to rehabilitate storm sewers by eliminating infiltration, structural defects, and root intrusion. Many of the storm sewers in the Village were installed over 100 years ago, so the list of sewers identified as needing sewer lining grows each year. This expenditure is proposed to be an annual program to address the deterioration of the Village's storm sewer system.

The annual lining program currently focuses on the sanitary and combined sewer systems with the intent of reducing infiltration, which contributes to basement backups and combined sewer overflows. The focus of this program will be specific to storm sewers that are in disrepair and that are part of the annual road program. Storm sewers are often in the curb line of streets and are susceptible to degradation from root intrusion from parkway trees. Sewer lining is a more cost-effective way to rehabilitate sewers that exhibit structural defects such as cracks, broken pipe, and holes, as well as deterioration caused by root intrusion when compared to the alternative of excavating and replacing. Lining the sewers would increase the structural integrity of the lines, avoiding collapse and more costly replacement.

There are 344,700 linear feet of storm sewer owned by the Village and approximately 10,250 linear feet of storm sewers have been identified that require rehabilitation. More storm sewers are expected to be added each year as sewer televising inspections are completed ahead of the annual road program. The following table denotes the first areas identified for lining as part of this program for 2025:

Street	Limits	Storm Sewer Length (LF)
Kenilworth Ave	21 ST to Hunter	1,360
Sunset Dr	Old Glenview to Glenview	895
Birchwood Ave	Locust to Birchwood	810
Hawthorn Ln	Locust to cul-de-sac	525
Lacrosse Ave	Washington to Central	425
Ridge Rd	Wilmette to south Village Limits	1,200
Total		5,215



Point repairs were completed on Kenilworth Avenue from 21st Street to Hunter Road in 2021 with the annual road program to address the more immediate needs, but to avoid impacting parkway trees, this segment was reserved for lining to address the remainder of the sewer.

Storm sewer lining would not be eligible for IEPA low interest loan funding that is typically used to finance the annual lining program. This program is proposed to be implemented on the off years from the biennial sewer lining program and to be funded with sewer capital proceeds. The requested amount is in addition to the current sanitary/combined sewer lining program amount of \$1.64 million.

Project Update

This was a new request for the 2023 CIP and unchanged as part of the 2024 CIP.

Project Alternative

The alternative to sewer lining is sewer replacement by open excavation which can be significantly costlier and more disruptive, especially for larger diameter sewers. The Village's sewer systems are 60 to 100+ years in age and have numerous cracks and other structural defects, tree roots, and mineral deposits. These pipe deficiencies result in groundwater infiltration, sewer collapses, and blockages. Not funding this program will result in infiltration contributing to sewer backups, continued deterioration of the sewer pipes, and possibly higher rehabilitation costs.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Stormwater Incentive Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	20,000	20,000	20,000	20,000	20,000	\$100,000	100,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$20,000
2022	\$16,272
2021	\$8,350
2020	\$24,569
2019	\$57,150

Project Description and Justification

In 2019, the Village partnered with Center for Neighborhood Technology (CNT) to administer a RainReady Green Infrastructure cost-share program. The goal of the program was to encourage residents to install green infrastructure on their property to reduce, slow and/or redirect stormwater from entering the public sewer systems. The homeowner benefits by enhancing the aesthetics of their property with environmentally beneficial landscaping, and the Village benefits from less runoff from private property entering the public sewer system. In 2020, the Village created a Stormwater Incentive Program to allow all property owners to participate in a similar opportunity. The Stormwater Incentive Program continues to be available in subsequent years.

Project Update

In 2019 there were 25 grants administered via the RainReady Program. Below is a table outlining the 2020-2023 Stormwater Incentive Program details. In 2024, staff will present options to encourage more participation in this program, including increasing the grant amount, to the Municipal Services Committee for consideration.

Year	Budget (\$)	# Applications	Total Disbursements (\$)	Avg Disbursement (\$)
2020	70,000	22	24,569	1,117
2021	60,000	9	8,350	1,193
2022	35,000	12	16,272	957
2023*	20,000	7	9,100	1,300

*Estimated as of June 2023.

Project Alternative

The alternative is to not offer this program.



Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



SWPS Electrical Improvements

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Prior Bond Issuance	1,520,000	-	-	-	-	1,520,000	-
Debt Financing	400,000	-	-	-	-	400,000	-
Total	1,920,000	-	-	-	-	\$1,920,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$176,000 – ComEd transformers replacement and costs associated with start of the project
2019	\$20,000 – Concept Study
2001	\$235,000
1991	\$283,000

Project Description and Justification

The Stormwater Pumping Station (SWPS) is powered by two ComEd lines to the switchgear that operates the variety of pumps and equipment at the station. The switchgear was replaced in 1991 and a typical main switchgear has an effective life of 30 years. It was due for replacement in 2020, and the current switchgear is located in an area without climate control. To minimize corrosion to the new equipment, an alternative location must be evaluated.

The SWPS has 5 pumps and only pump No. 3 has a Variable Frequency Drive (VFD). The VFD allows the staff to control the level in the pumps more efficiently by changing the speed and obtaining different flows without the need to change pumps. This VFD was installed in 2001. The typical useful life of a VFD is between 15-20 years.



Project Update

The construction contract has been awarded in 2023 by Village Board. Due to supply chain issues, the switch gear and Motor Control Centers (MCCs) are expected to be delivered late 2023/early 2024. The project is expected to be complete early summer 2024.

Project Alternative

There are no project alternatives as the project has been bid and awarded.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



SWPS Pump Renovations

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	-	60,000	-	-	-	\$60,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2022	\$11,500
2008	\$30,000
2003	\$117,780

Project Description and Justification

The pumping equipment was originally purchased in 1963. The west side of the Village is served by a separate sewer system. All storm water from west Wilmette is delivered to the Storm Water Pumping Station (SWPS) and is pumped into the North Branch of the Chicago River. There are five pumps in this station. Pump No. 1 pumps most of the SWPS inflow to the river during non-storm periods followed by pump 3. Pumps No. 2, 4 and 5 are usually only operated during severe storm periods. Recently, Pumps No. 2 & 3 were repaired/rebuilt under a preventative maintenance program. Pumps No. 4 & 5 have very low running hours. SWPS pump 1 was rebuilt for \$30,000 in 2008 on an emergency basis and its motor for \$11,500 in 2022.



SWPS Pump 3 was last refurbished in 2003 and will be due for preventative maintenance repairs in 2025. The estimated cost for repairing/rebuilding this pump is \$60,000.

Project Update

This project was shifted from 2024 to 2025 based upon a condition assessment and fewer hours of service than anticipated.

Project Alternative

The alternative is to make repairs on an emergency basis, as needed.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



SWPS Roof Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Sewer Fund	-	-	-	-	-	\$-	26,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2009	

Project Description and Justification

The intake chamber for the Storm Water Pumping Station (SWPS) collects all of the storm water flow from the Village west of Ridge Rd. and distributes it to the two pump suction chambers in the pumping station building. A typical roof has a 20-year service life and the SWPS's roof was replaced last in 2009. It is proposed to replace the roof in 2029.



Project Update

There are no updates to this project request.

Project Alternative

The alternative is to repair roof leaks as they occur; however, this risks damaging expensive equipment if a significant leak occurs.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



STREETS PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

Project		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Streets, Sidewalks, Alleys	Active Transportation Plan Implementation	190,000	70,000	75,000	120,000	200,000	655,000	1,000,000
	Alley Reconstruction Program	1,147,000	1,181,000	1,218,000	1,254,000	1,290,000	6,090,000	7,049,000
	Asphalt to Brick Street Reconstruction Program	503,000	523,000	476,000	564,000	449,000	2,515,000	1,742,000
	Brick Street Maintenance Program	192,000	198,000	204,000	210,000	217,000	1,021,000	1,190,000
	Brick Street Renovation Program	349,000	323,000	277,000	286,000	484,000	1,719,000	2,540,000
	Curb Replacement Program	47,000	49,000	50,000	52,000	54,000	252,000	300,000
	Decorative Brick Repairs	15,000	15,000	15,000	15,000	15,000	75,000	75,000
	Engineering Services for Capital Projects	351,000	347,000	387,000	435,000	429,000	1,949,000	2,346,000
	Illinois Road Street Resurfacing	-	-	110,000	1,374,096	-	1,484,096	-
	Old Glenview Road Street Resurfacing	1,351,884	-	-	-	-	1,351,884	-
	Pavement Maintenance Program	214,000	210,000	211,000	231,000	241,000	1,107,000	1,369,000
	Pavement Marking Program	58,000	60,000	62,000	64,000	67,000	311,000	405,000
	Phase 1 Studies	650,000	730,000	200,000	-	-	1,580,000	-
	Road Program	2,296,623	2,637,000	3,784,000	3,541,181	4,061,000	16,319,804	22,938,000
	Sidewalk Maintenance Program	223,000	187,000	195,000	229,000	187,000	1,021,000	1,111,000
	Skokie Boulevard Shared-Use Path	379,715	1,108,913	-	-	-	1,488,628	-
	Skokie Valley Trail	42,500	463,500	770,000	-	-	1,276,000	-
Traffic Calming	25,000	25,000	25,000	25,000	25,000	125,000	125,000	
Streets, Sidewalks, Alleys Total		\$ 8,034,722	\$ 8,127,413	\$ 8,059,000	\$ 8,400,277	\$ 7,719,000	\$ 40,340,412	\$ 42,190,000

FUNDING SOURCE

Funding Type		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Streets, Sidewalks, Alleys	General Fund							
	Operations	5,513,033	5,666,783	6,374,000	6,101,000	6,519,000	30,173,816	36,190,000
	Grant Funding	1,321,689	1,260,630	485,000	1,099,277	-	4,166,596	-
Motor Fuel Tax	Operations	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	6,000,000	6,000,000
Streets, Sidewalks, Alleys Total		\$ 8,034,722	\$ 8,127,413	\$ 8,059,000	\$ 8,400,277	\$ 7,719,000	\$ 40,340,412	\$ 42,190,000



Active Transportation Plan Implementation

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	190,000	70,000	75,000	120,000	200,000	\$655,000	1,000,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

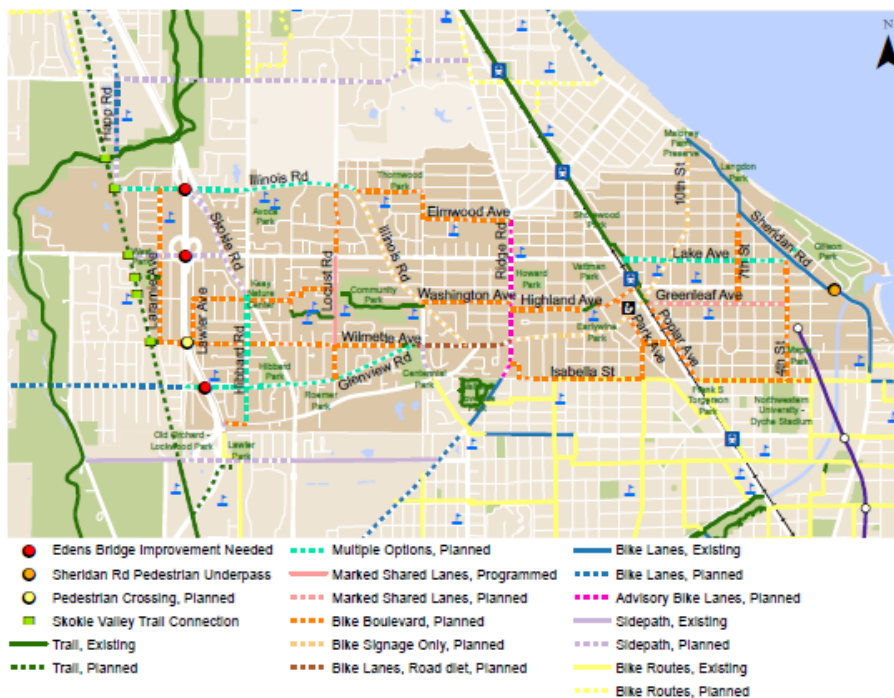
Year	Amount
2023*	\$265,000
2022	\$120,000
2021	\$50,000

* Budget Amount

Project Description and Justification

The Master Bike and Active Transportation Plan (MBATP) was approved by the Village Board in February 2021, after an extensive public engagement and approval process by the Transportation Commission. A 5-Year Implementation Plan of the MBATP was then approved by the Transportation Commission in March 2022. This plan serves as a road map for bicycle and pedestrian improvements.

PLANNED BIKE NETWORK RECOMMENDATION MAP





The implementation plan will ensure that currently planned capital infrastructure improvements are coordinated with bicycle and pedestrian improvements identified in the MBATP, as well as identifying standalone high impact bicycle and pedestrian improvements to program early in the implementation of the MBATP. In addition, grants and other funding alternatives can be sought to help offset some of the costs of larger projects. Projects identified in each phase of the plan will be reviewed on an annual basis and approved by the Transportation Commission after opportunities for the public to view and comment.

The Year 1 and 2 plan implementations were budgeted for 2022 and 2023, respectively. Below is the funding request for Year 3 projects in 2024:

Project	Funding Amount
Wilmette/Glenview (W. Village Limits to Ridge Rd), local share of Phase 1 engineering grant	\$60,000
Ridge Rd (S. Village Limits to N. Village Limits), local share of Phase 1 engineering grant	\$30,000
Ridge / Highland Crosswalk Safety Enhancements - Design	\$5,000
Ridge / Highland Crosswalk Safety Enhancements - Construction	\$50,000
Wilmette/15 th Crosswalk Safety Enhancements - Construction	\$25,000
Locust Road (Glenview Rd to Wilmette Ave) Bike Boulevard - Construction	\$20,000
2024 Budget Total	\$190,000

In addition to the projects in the table above, the Skokie Boulevard Path, from Lake Avenue to Illinois Road, is a federally funded project with a separate CIP page showing a funding request of \$177,000 for 2024. Similarly, the Skokie Valley Trail is a federally funded project with separate CIP page and a funding request of \$5,000 for Phase 2 engineering in 2024.

Project Update

Funding amounts for 2024-2028 have been updated.

Project Alternative

The alternative to funding this project is to apply for grants and other funding sources to fund the improvements.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project



Alley Reconstruction Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	1,147,000	1,181,000	1,218,000	1,254,000	1,290,000	\$6,090,000	7,049,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$1,191,244*
2022	\$663,982
2021	\$574,000
2020	\$663,196
2019	\$752,965
2018	\$473,929
2017	\$482,652

* Award Amount

Project Description and Justification

The purpose of this program is to reconstruct alleys that are in very poor or serious condition. The typical scope of work consists of removing the existing pavement section and pouring concrete over a new stone base. The work also includes sewer repairs or installation as needed, driveway apron replacements, intermittent curb and sidewalk replacement, pavement patching, and parkway restoration.



Alley #3-38 (Serious)
 Located between Highland Ave and Washington Ave
 Entrances at 16th St and 15th St



Alley #2-37 (Very Poor)
 Located between Maple Ave and Laurel Ave
 Entrances at Crescent Pl and 6th St



Background

The Village maintains 228 alley segments with the following pavement surface types:

Surface Type	Alleys
Asphalt	94
Brick Paver	1
Concrete	124
Combination	5
Green Paver	4

The Department uses a rating system based on visual inspections to identify pavement defects and prioritize alley rehabilitation needs. The ratings correspond to different surface condition severities shown in the table below. The last pavement condition assessment occurred in 2021 and the next network inspection is 2024.

Surface Condition	Rating	Total After 2021 Inspection	Estimate After 2023 Construction
Excellent	10-8.6	69	77
Good	8.5-7.1	46	48
Fair	7.0-5.6	44	42
Poor	5.5-4.1	36	27
Very Poor	4.0-2.6	27	34
Serious	2.5-0	6	0

The average pavement condition rating for the alley network was 6.9 in 2021; the estimated rating is 7.1 after the 2023 improvements. These ratings indicate that the overall network is in fair to good condition.

Pavement Rehabilitation Strategy

Candidates for reconstruction are typically in very poor or serious condition and are selected for rehabilitation on a “worst-first” basis. The program will replace the alley pavement with concrete, which has an average service life of 50 years and provides better drainage options compared to asphalt. The primary design for alley drainage is overland flow towards the adjacent street(s). In cases where existing conditions cannot permit overland flow, the designs will utilize underground storm sewer improvements.

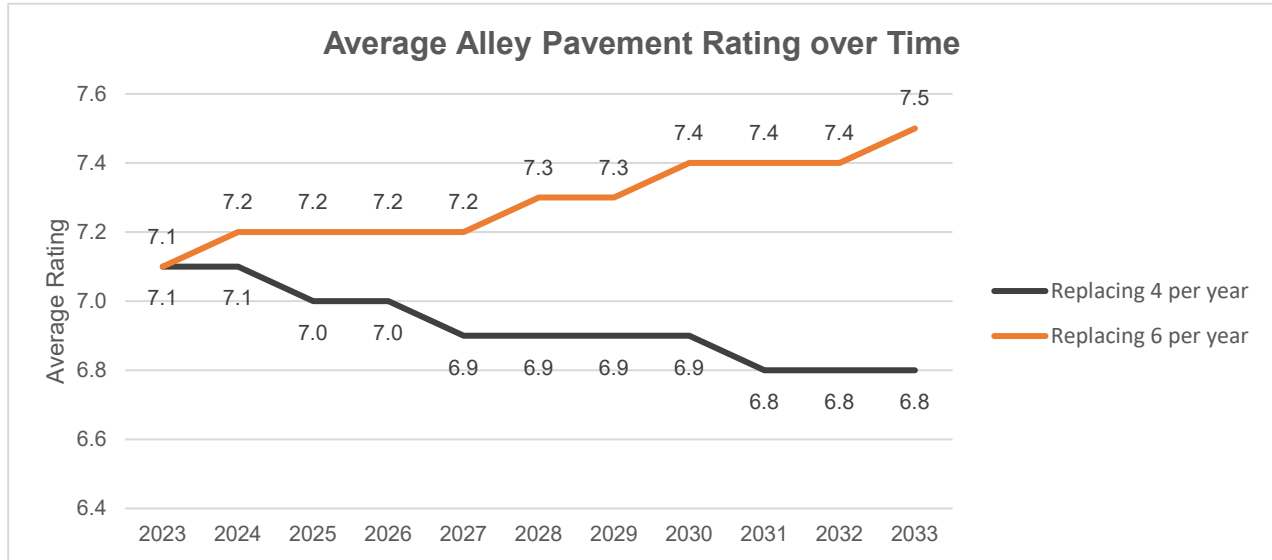
In recent years, the goal for this program was to reconstruct four alleys per year. This schedule is just below the typical replacement rate for concrete pavement based on the size of the Village’s alley network (4.5 alleys per year). However, asphalt alleys have a typical pavement service life of 20 years and require more frequent rehabilitations compared to concrete. The last pavement assessment highlighted that about 42% of the existing alleys have asphalt surfaces, with about 50% of them in poor or worse condition. To reduce the impact of these deteriorating asphalt alleys and to maintain a good overall network rating, the Department recommends increasing the number of alley replacements to six per year over the next 10 years.

The table below highlights the anticipated construction costs based on an average alley pavement area of 7,600 SF and the 2023 construction unit price of \$24.42/SF with a 3.0% inflation rate.

Year	Cost w/ 4 per year	Cost w/ 6 per year
2024	765,000	1,147,000
2025	787,000	1,181,000
2026	812,000	1,218,000
2027	836,000	1,254,000
2028	860,000	1,290,000



The chart below estimates the average pavement condition rating for the alley network over the next ten years. Estimates are based on uniform surface deterioration per pavement type and replacing alleys on a worst-first basis.



Based on these estimates, the table below highlights the approximate number of alleys in each of the poor or worse categories after ten years.

No. of Alleys per Condition	2023 Estimate	2033 after 4 per year	2033 after 6 per year
Poor	27	35	35
Very Poor	34	30	22
Serious	0	13	0
Total Asphalt Alleys Remaining	99	60	45

To provide maximum flexibility, additional alleys can be bid as alternatives in the bid document to take advantage of favorable construction pricing. Alternatives include the option to reconstruct an additional alley or conduct alley pavement patching.

Project Update

Funding amounts and pavement condition estimates for 2024-2033 have been updated.

Project Alternative

The alternative is to temporarily patch the alleys with cold-mix asphalt. This material would need to be replaced on an annual or more frequent basis. Another alternative is to patch the alleys using hot-mix asphalt (by Public Works) or concrete (by an outside contractor). Asphalt patches can last about five to ten years on a stable base; concrete patches can last for decades or until the remaining pavement needs replacement. Pavement patching cannot address most drainage issues.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Asphalt to Brick Street Reconstruction Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	503,000	523,000	476,000	564,000	449,000	\$2,515,000	1,742,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$587,196*
2022	\$673,459
2021	\$264,757
2020	\$354,272
2019	-

* Award Amount

Project Description and Justification

The purpose of this program is to restore asphalt overlaid brick streets in very poor or serious condition. In 2002, the Village adopted a policy on rehabilitating brick streets that have been overlaid with asphalt. The scope of work consists of removing the asphalt surface, replacing the concrete curb, placing a new stone base, and relaying the existing bricks. Like the road program, the improvements also include intermittent sidewalk repairs, minor sewer repairs, and parkway restoration. This policy was last reviewed by the Municipal Services Committee in 2022.



Existing Asphalt Overlay



Brick Paver Reconstruction

A street must meet the following requirements to qualify for the program:

- The street must contain original, clay-fired bricks.
- The street must be included in a given year's annual road rehabilitation program, which is based on pavement ratings.
- A minimum of a three-block segment, if applicable, must endorse the brick paver surface.



- More than 60% of the residents must be in favor of the brick paver surface.
- The eligible streets must be rehabilitated in shorter segments so as not to dominate one year's road program budget.

The following blocks have been converted back to brick pavers over the last five years:

Year	Street	From	To
2023	Forest Ave	11 th St	Wilmette Ave
2023	Michigan Ave	Brick Limit	Lake Ave
2022	Forest Ave	Wilmette Ave	9th St
2021	Forest Ave	9th St	8th St
2020	Forest Ave	8th St	7th St
2019	-	-	-

There are about 20,317 linear feet, or 3.8 miles, of asphalt overlaid brick streets remaining in the Village, however, only 8,493 linear feet, or 1.5 miles are eligible for this program. Forest Avenue, between 12th Street and 11th Street, is scheduled for conversion in 2024. The table below highlights the candidates over the next five years:

Year	Street	From	To	Construction Cost	Brick Purchase Cost	Total Cost
2024	Forest Ave	12th St	11th St	458,000	45,000	\$503,000
2025	Forest Ave	13th St	12th St	473,000	50,000	\$523,000
2026	Forest Ave	Green Bay Rd*	13th St	432,000	44,000	\$476,000
2027	15th St	Wilmette Ave	Highland Ave	513,000	51,000	\$564,000
2028	Forest Ave	15th St	Green Bay Rd	410,000	39,000	\$449,000

*West improvement limit approximately 350-feet east of Green Bay Road.

The funding for this work has been allocated to the Road Program.

Project Update

Funding for 2024-2033 has been updated.

Project Alternative

An alternative is to construct asphalt area patches on an emergency basis.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Brick Street Maintenance Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	192,000	198,000	204,000	210,000	217,000	\$1,021,000	1,190,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$166,000
2022	\$104,012
2021	\$113,000
2020	\$73,420
2019	\$238,250
2018	\$8,070

Project Description and Justification

The purpose of this program is to repair and relay brick pavers that have settled in various locations throughout the Village. This settlement can lead to trip hazards, drainage problems, and, in the worst cases, vehicle damage. Eligible candidates are prioritized based on condition assessments and resident requests. Below are different types of brick street defects.



Depression



Rutting



Localized Edge Settlement

The table below outlines the funding requests for each component of the program.

Maintenance	2024	2025	2026	2027	2028	Total	2029-2033
Brick Street Maintenance	140,000	144,000	148,000	152,000	157,000	\$741,000	860,000
Brick Street Edge Repairs	52,000	54,000	56,000	58,000	60,000	\$280,000	330,000



Brick Street Maintenance

This project consists of repairing localized areas of settled brick street pavers at various locations throughout the Village. The goal of this work is to improve rideability and safety, as well as reduce liability, on local brick streets. The projected area of brick street maintenance in 2023 is 9,400 square feet. The estimated area of brick street maintenance in 2024 is 6,200 square feet.

Brick Street Edge Repairs

In 2023, the Department requested additional funds to pilot a brick street edge repair project. The repairs focused on streets where the gutter edge is higher than the brick paver surface and where the overall pavement condition does not qualify for full renovation. These gaps were typically created in advance of the historic practice of asphalt overlays. The Village no longer paves asphalt over brick streets, and these remaining gaps can cause rideability issues, tripping hazards, drainage problems, and vehicle damage. This project relays the brick paver surface along these edges to eliminate the difference in elevation. Below is an example of the before and after brick street edge repairs.



Edge Before Repair



Edge After Repair

The 2023 pilot program is projected to repair approximately 630 linear feet of brick street edges (about one block). The Department recommends continuing these repairs at one block per year going forward.

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to defer maintenance, which can lead to increased liability resulting from car damage caused by brick street defects.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project



Brick Street Renovation Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	349,000	323,000	277,000	286,000	484,000	\$1,719,000	2,540,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$387,615*
2022	\$520,638
2021	\$341,000
2020	-
2019	\$428,045
2018	\$337,573

* Award Amount

Project Description and Justification

The Village maintains approximately 15 miles of local brick paver streets. These roadways were constructed in the early 1900s and the bricks were re-laid during the 1930s.

The purpose of this program is to rehabilitate existing brick streets rated in poor condition. The scope of work consists of removing the existing brick pavers, replacing the concrete curb, and relaying the existing brick pavers over a new stone base. Like the Road Program, the work also includes intermittent sidewalk repairs, minor sewer repairs, and parkway restoration. The program will renovate at least one block per year.



The Department conducts visual inspections of the entire brick street network on a tri-annual basis. Each brick street block receives a pavement surface condition rating. Staff will use these rating to identify candidates for the renovation program. The last network inspection occurred in 2020 with the results shown below. The next network rating will be completed in Fall 2023.

Surface Condition	Number of Blocks
Excellent	32
Good	92
Fair	57
Poor	2
Very Poor	0
Serious	0



The following blocks are candidates for the program over the next five years. The budget totals include the construction and brick purchase costs for each street. Engineering design and construction oversight services will be completed in-house.

Year	Street	From	To	Condition	Construction Cost	Brick Purchase Cost	Total Cost
2024	8 th Street	Elmwood Ave	Forest Ave	Poor	320,000	29,000	\$349,000
2025	11 th Street	Elmwood Ave	Forest Ave	Poor	296,000	27,000	\$323,000
2026	14 th Street	Gregory Ave	Isabella Ave	Poor	255,000	22,000	\$277,000
2027	8 th Street	Chestnut Ave	Ashland Ave	Poor	264,000	22,000	\$286,000
2028	Chestnut Ave	9 th Street	8 th Street	Poor	447,000	37,000	\$484,000

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is not to renovate brick streets. This will result in continued deterioration, increased liability, and deferred cost in the future. Removing the bricks and rebuilding the street in asphalt would be cost prohibitive.

Budget Impact

This is a Recurring Expense

Additional costs associated with this project include a nominal amount per block to add sand when necessary.



Curb Replacement Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	47,000	49,000	50,000	52,000	54,000	\$252,000	300,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$40,000*
2022	\$25,796
2021	\$25,083
2020	\$23,766
2019	\$43,043

* Award Amount



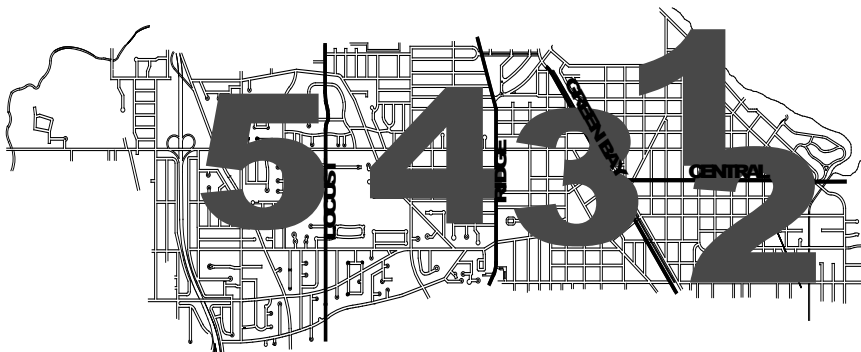
Project Description and Justification

The purpose of this program is to repair hazardous, broken, or missing sections of local curb and gutter. Failed sections do not facilitate positive drainage to the sewer system.

Curb Replacement History					
Item	2019	2020	2021	2022	2023
Total Linear Feet (feet)	1,745	582	602	1,204	1,350*

* Estimate

The estimated curb replacement in 2024 is 1,300 feet. Curb locations are selected based on resident reports of failed curb and gutter sections throughout the Village. In addition, approximately 25% of the Village's curb and gutter is inspected on a rotating annual basis to identify additional candidates for the program.



Year	Zone
2024	5
2025	4
2026	3
2027	1 and 2
2028	5



Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to not repair the failed curb and gutter sections. The poor street drainage will cause accelerated deterioration of the flow line and edge of street pavement, resulting in potholes and additional road maintenance.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Decorative Brick Repair Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	15,000	15,000	15,000	15,000	15,000	\$75,000	75,000

Project Status

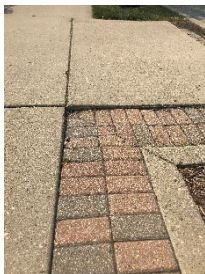
Critical	Recommended	Contingent
	X	

Funding History

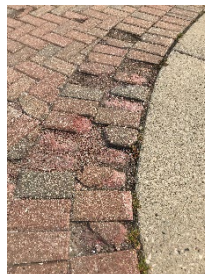
Year	Amount
2023	\$30,000

Project Description and Justification

The purpose of this program is to repair brick sidewalks in the Village that present potential tripping hazards or are damaged. These brick sidewalks are often at the corners of an intersection or are a decorative “ribbon” behind the curb and sidewalk. Over time, the decorative brick can become uneven or break due to weather, tree roots, or other natural factors. These defects can present potential tripping hazards to pedestrians. Most of these brick sidewalks are in the Linden Square business district and the Green Bay Road corridor.



Brick settlement at sidewalk



Missing brick



Brick settlement behind curb

Due to scheduling conflicts, the Department deferred the 2022 work to 2023. The estimated brick sidewalk repair in 2024 is 1,000 square feet.

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to patch the bricks with asphalt. This will result in increased maintenance (the asphalt will not last more than a season), and it will cost more to repair in the long term. Furthermore, the asphalt patches are aesthetically unpleasing.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Engineering Services for Capital Projects

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	351,000	347,000	387,000	435,000	429,000	\$1,949,000	2,346,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$278,000*
2022	\$195,457
2021	\$122,615
2020	\$130,000

*Budget Amount

Project Description and Justification

This CIP item includes specialty engineering services for the Road Program, Alley Reconstruction Program, Brick Street Renovation Program, Asphalt to Brick Street Reconstruction Program, and Parking Lot Paving Program. While the design and construction of these programs is managed by in-house staff, some specialized components of design and testing require assistance from consulting firms. The purpose of this program is to fund the engineering services required to implement the CIP. These services include topographic survey, geotechnical, environmental, and construction material testing.

The 2024 funding will cover the construction material testing and inspection services for 2024 CIP, as well as the topographic survey, geotechnical, and environmental services for preparing future CIP projects. The 2024 funding request also includes benchmark maintenance services.

Year	Road Program	Construction Inspection	Alley Program	Brick Reno	Asphalt to Brick Recon	Parking Lot Paving	Benchmark Maintenance	Budget Total
2024	106,000	92,000	48,000	12,000	19,000	14,000	60,000	\$351,000
2025	152,000	106,000	49,000	11,000	18,000	11,000	-	\$347,000
2026	142,000	152,000	51,000	11,000	21,000	10,000	-	\$387,000
2027	163,000	142,000	52,000	18,000	17,000	43,000	-	\$435,000
2028	169,000	163,000	54,000	18,000	16,000	9,000	-	\$429,000

The estimates above, excluding the Benchmark Maintenance line-item, represent 4.0% of the anticipated construction cost for each program.



Topographic Survey Services

The purpose of the topographic survey services is to provide data on the existing location and elevation of features found in the public right-of-way at future CIP sites. This data will be used in the background of plan sets and is essential for engineering design. The scope of work for the consulting firm includes collecting topographic data in the field and supplying a deliverable of AutoCAD and point files. The surveys will also be incorporated into the bid documents for these programs. The Village does not have the dedicated staff or GPS equipment available to complete this work in-house.



Geotechnical Services

The purpose of the geotechnical services is to provide data on the existing pavement cross-sections and subgrade conditions at future CIP locations. This information will be used in engineering designs to determine the type of improvements required at each project site. The scope of work for the consulting firm includes collecting pavement core and soil boring data at various locations in the Village and preparing reports of the findings. These reports will also be incorporated into the bid documents for these programs. The Village does not have the workforce or rigging equipment available to complete this work in-house.



Environmental Services

The purpose of the environmental services is to develop documents that will allow the contractor to dispose of excavated materials from the upcoming CIP sites. These reports are mandatory for the type of work associated with CIP construction. The scope of work for the consulting firm includes collecting data in the field and preparing the Illinois EPA LPC-662 and/or LPC-663 reports for the CIP Contractors. The Village does not have the trained staff and laboratory resources available to complete this work in-house.



Construction Material Testing Services

The purpose of the construction material services is to provide Quality Assurance (QA) testing of the new aggregate, concrete, and asphalt installed during CIP construction. This testing is required to ensure that the improvements meet Village specifications and to satisfy IDOT QC/QA requirements. The scope of work for the consulting firm includes testing construction materials to ensure they meet strength and durability parameters and preparing reports of the findings to the Village. The Village does not have the certified crew or laboratory equipment available to complete this work in-house.

Construction Inspection Services

The purpose of the construction inspection services is to assist Village staff with construction supervision of the Road Program and other capital projects. The scope of work for this consulting civil engineer includes contractor coordination, stakeholder communications, construction inspection, documentation of daily/weekly construction activities, pay item and quantity record keeping, and other management tasks assigned at the discretion of the Assistant Village Engineer. This was a new service added in 2022 due to the increasing size of annual capital projects over the summer months.

Benchmark Maintenance Services

The purpose of the benchmark maintenance services is to improve the accuracy and access of survey monuments throughout the Village. Accurate and easily accessible benchmark monuments are a vital tool for the installation of private and public construction improvements. The scope of work for the consulting firm includes verifying the accuracy of existing monuments, installing new monuments, and integrating data into



the Village's GIS database. The Village does not have the certified crew or laboratory equipment available to complete this work in-house. The benchmark maintenance services include the following:

- **Verification of Existing Monuments:** The consultant will conduct a thorough assessment of the six usable survey monuments present in the Village. They will employ industry-standard techniques to check the vertical and horizontal accuracy of these benchmarks. The verification process will adhere to the NGS NAD '83, 1201-IL East SPCS, and NAVD '88 Datum to ensure consistency.
- **Installation of New Monuments:** To address the lack of accessible benchmarks in various areas, the consultant will install approximately 20 new monuments to be strategically located across the Village. These new benchmarks will also comply with the NGS NAD '83, 1201-IL East SPCS, and NAVD '88 Datum for vertical and horizontal measurements.
- **Integration with GIS Database:** The data gathered by the consultant during the verification and installation processes will be incorporated into the Village's GIS database. This integration will enhance the management and accessibility of survey data, allowing stakeholders to access accurate information for construction activities efficiently.

Project Update

Funding for 2024-2033 has been updated, including the addition of benchmark maintenance services for 2024.

Project Alternative

The alternative is to fund these services out of each respective program's construction budget and reduce the amount of rehabilitation locations each year.

The alternative to benchmark maintenance is to postpone the work. The accuracy and reliability of the existing survey monuments will continue to decline and potentially impact the precision of local and private construction projects.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Illinois Road Street Resurfacing

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	-	110,000	274,819	-	\$384,819	-
Grant Funding	-	-	-	1,099,277	-	\$1,099,277	-
TOTALS	-	-	110,000	1,374,096	-	\$1,484,096	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount

Project Description and Justification

The Village maintains about 14 miles of local streets that are eligible for federal aid. This designation allows the Village to apply for federal transportation grants to rehabilitate these routes. The Village has successfully received federal grants on several large-scale projects over the years, including the Locust Road Reconstruction project in 2019, the Central Avenue Reconstruction and Downtown Streetscape project in 2020-2021, the Skokie & Lake Intersection Improvements project in 2023, and the Wilmette Avenue Street Resurfacing project in 2023. The purpose of this request is to utilize a federal transportation grant to resurface Illinois Road, from Locust Road to Wilmette Avenue, in 2027.

The scope of work consists of pavement surface removal and resurfacing, intermittent curb and sidewalk replacement, utility structure repairs, pavement patching, and parkway restoration. Below is a summary of the costs:

Description	Federal Share	Local Share	Total Cost
Phase II Design	-	110,000	110,000
Phase III Construction	916,064	229,016	1,145,080
Phase III Construction Engineering	183,213	45,803	229,016
Total	1,099,277	384,819	1,484,096

Background

Federally funded transportation projects are obligated to follow a three-phase process; Phase I Preliminary Engineering Studies, Phase II Design Engineering, and Phase III Construction. These phases are completed in accordance with Illinois Department of Transportation (IDOT) and federal standards. IDOT provides oversight of all phases to ensure compliance with State and Federal standards.

To obtain federal funding approval for construction, the Village must submit successful grant applications. STP grants transitioned to a grant application scoring system that allocates more points if a Phase I study is complete, or nearly complete, at the time of submittal. The Department completed the Phase I study for Illinois Road in 2022 and secured federal funding for the 2027 construction season.



Phase II Design

The services for Phase II design include finalizing the proposed limits of work, preparing bid document materials, and obtaining agreements from federal, state, and local agencies.

Unlike Phase I studies, Phase II designs may be eligible for federal funding based on the grant source. However, obtaining federal funding for this service is not cost neutral for all projects. For example, new guidelines for STP grants will provide 80% federal participation for Phase III construction, instead of 70%, if the Phase II service was 100% locally funded. This change benefits construction funding for resurfacing projects with simpler engineering designs (lower design costs) but not larger reconstruction and corridor projects with extensive design and planning (higher design costs). Based on the scope of work for Illinois Road, staff recommends funding Phase II services locally and seeking 80% funding for Phase III construction.

The Department will obtain Phase II designs for Illinois Road in 2026, ahead of programmed construction in 2027.

Phase III Construction & Construction Engineering

The North Shore Council of Mayors (NSCM) allocates Surface Transportation Program (STP) funding to local public agencies (LPAs) in the region. The STP can fund up to 80% of the Phase III costs for a project. To receive this funding, the program requires local agencies to provide a minimum local share of 20% of the costs. The Village historically assigned this local share contribution from the Road Program non-MFT construction budget, as there was significant value in rehabilitating the large-scale pavement areas at 20% of the cost.

In 2022, the NSCM allocated the full 80% federal participation of STP funding to resurface Illinois Road in 2027. Therefore, it is recommended that the local share of \$274,819 be funded from the general fund Road Program.

Project Update

The funding years, 2026 and 2027, have been updated.

Project Alternative

The alternative is to utilize Road Program funds to construct these improvements. This option would postpone multiple streets that are also in need of immediate rehabilitation.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Old Glenview Road Street Resurfacing

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	270,377	-	-	-	-	\$270,377	-
Grant Funding	1,081,507	-	-	-	-	\$1,081,507	-
TOTALS	1,351,884	-	-	-	-	\$1,351,884	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

The Village maintains about 14 miles of local streets that are eligible for federal aid. This designation allows the Village to apply for federal transportation grants to rehabilitate these routes. The Village has successfully received federal participation on several large-scale projects over recent years, including the Skokie Boulevard/Hibbard Road intersection improvements in 2018, the Locust Road Reconstruction project in 2019, the Central Avenue Reconstruction and Downtown Streetscape project in 2020-2021, the Skokie & Lake Intersection Improvements project in 2023, and the Wilmette Avenue Street Resurface project in 2023. The purpose of this request is to utilize a federal transportation grant to resurface Old Glenview Road, from Skokie Boulevard to Wilmette Avenue, in 2024.

The scope of work consists of pavement surface removal and resurfacing, intermittent curb and sidewalk replacement, utility structure repairs, pavement patching, and parkway restoration. Below is a summary of the costs:

Description	Federal Share	Local Share	Total Cost
Construction	901,256	225,314	1,126,570
Construction Engineering	180,251	45,063	225,314
Phase III Total	1,081,507	270,377	1,351,884

Background

Federally funded transportation projects are obligated to follow a three-phase process; Phase I Preliminary Engineering Studies, Phase II Design Engineering, and Phase III Construction. These phases are completed in accordance with Illinois Department of Transportation (IDOT) and federal standards. IDOT provides oversight of all phases to ensure compliance with State and Federal standards.

To obtain federal funding for construction, the Village must compete with projects submitted by neighboring North Shore communities. More points are allocated to a project if a Phase I study is complete, or nearly complete, at the time of application. The Department completed the Phase I study for Old Glenview Road in 2021 and secured federal funding for the 2024 construction season.



Phase III Construction & Construction Engineering

The North Shore Council of Mayors (NSCM) allocates Surface Transportation Program (STP) funding to local public agencies in the region. The STP can fund up to 80% of the Phase III construction and construction engineering costs for a project. To receive this funding, the program requires local agencies to provide a minimum local share of 20% of the costs. The Village historically assigned this local share contribution from the Road Program non-MFT construction budget, as there was significant value in rehabilitating the large-scale pavement areas at 20% of the cost.

In 2023, the NSCM allocated an 80% federal participation of STP funding to resurface Old Glenview Road in 2024, with the Village funding the remaining 20% of the Phase III costs.

Project Update

This is a new request for the 2024 CIP.

Project Alternative

The alternative is to utilize Road Program funds to construct these improvements. This option could postpone multiple streets that are also in need of immediate rehabilitation.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Pavement Maintenance Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	214,000	210,000	211,000	231,000	241,000	\$1,107,000	1,369,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Surface Rejuvenation	Crack Sealing	Area Patching	Total
2023	69,560*	18,000	240,500* ¹	\$328,060
2022	48,185	25,385	121,595	\$195,165
2021	63,419	26,001	93,617	\$183,037
2020	17,945	25,001	89,962	\$132,908
2019	16,290	-	200,000	\$216,290

* Award amount

¹Includes additional funds awarded at the April 25, 2023 board meeting to construct asphalt patches at multiple locations adjacent to the Union Pacific Railroad.

Project Description and Justification

The purpose of this program is to extend the service life of asphalt surfaces on Village streets by slowing the decline of the overall pavement condition and improving ride quality. This program includes three separate services: pavement surface rejuvenation, crack sealing, and pavement area patching (non-utility).

Year	Surface Rejuvenation	Crack Sealing	Area Patching	Budget Total
2024	52,000	19,000	143,000	\$214,000
2025	41,000	20,000	149,000	\$210,000
2026	35,000	21,000	155,000	\$211,000
2027	47,000	22,000	162,000	\$231,000
2028	49,000	23,000	169,000	\$241,000

Surface Rejuvenation

Surface rejuvenation is the first stage of the pavement maintenance program. The purpose of applying rejuvenator is to restore flexibility in asphalt that is depleted due to oxidation. The goal of this process is to decrease the deterioration rate of asphalt surfaces, thereby reducing or delaying the need for more expensive surface treatments like crack sealing and area patching. The product used in this process is called Reclamite. The optimal application period is typically one to two years after paving a street.





Surface Rejuvenation History					
Item	2019	2020	2021	2022	2023
Pavement Area (square yards)	17,901	21,620	67,466	51,561	66,288

The estimated surface rejuvenation in 2024 is 52,000 square yards. The recent quantity increases for this project reflect the additional street resurfacing work constructed during the Road Program and Neighborhood Storage Projects.

Crack Sealing

Crack sealing is the second stage of the pavement maintenance program. The purpose of this process is to seal cracks that have developed or expanded on streets with asphalt surfaces. This product prevents moisture from reaching the base, which can increase the rate of pavement degradation. Typical candidates for a first sealing application are local streets with three- to five-year-old pavement surfaces, followed by a second application on streets with eight- to ten-year-old asphalt. Streets that show signs of excessive cracking are excluded from this process because crack sealing is no longer effective.



Crack Sealing History					
Item	2019	2020	2021	2022	2023
Centerline Miles (miles)	-	2.26	2.19	1.80	1.67

The estimated crack sealing in 2024 is 1.77 centerline miles.

Area Patching (non-utility)

Area patching is the third stage of the pavement maintenance program. The purpose of this process is to cut out localized areas of pavement surface failure on non-brick streets and pave new hot-mix asphalt. Candidate streets are determined from pothole locations filled by the Department, incident management service requests regarding pavement condition, and from routine roadway and alley inventory inspections.



This work is separate from the permanent area patching installations constructed after the Department completes water main and sewer emergency repairs.

Area Patching History (Asphalt, Non-Utility)					
Item	2019	2020	2021	2022	2023
Pavement Area (square yards)	10,960	4,880	4,673	5,934	7,286*

* Estimate; includes additional asphalt patching near Union Pacific Railroad

The estimated area patching in 2024 is 5,890 square yards.

Project Update

Funding levels for 2024-2033 have been updated.



Project Alternative

One project alternative is in-house crews can fill potholes and other pavement surface failures with cold-mix asphalt until the street requires resurfacing or reconstruction. This application will immediately eliminate hazards in the pavement surface. However, this method only provides a temporary fix to these defects. It is not uncommon for crews to refill potholes on an annual or more frequent basis.

Another alternative is to eliminate these services and wait for the pavement surface to deteriorate to the point where the street requires resurfacing or reconstruction. However, this method does not allow the pavement to reach its full-service life.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Pavement Marking Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	58,000	60,000	62,000	64,000	67,000	\$311,000	405,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$110,000*
2022	\$0**
2021	\$51,886
2020	\$49,670
2019	\$45,798

*Award Amount ** Deferred to 2023

Project Description and Justification



The Village maintains various pavement markings on local streets and parking lots, consisting of traffic lane lines, edge lines, stop bars, crosswalks, school zone markings, railroad crossings, bike markings, and speed humps. Pavement markings are regulated by the Federal Highway Administration through the Manual of Uniform Traffic Control Devices (MUTCD) and the State of Illinois.

The purpose of this program is to restore worn or missing pavement markings on local streets. Pavement markings have a typical service life of two to five years, depending on traffic volumes and weather conditions. The program will focus on addressing high-priority areas first, such as school walking routes, business districts, and high-volume roads. These areas typically have high pedestrian volumes or vehicle traffic, and the pavement markings in these areas also tend to experience more wear and tear.

Pavement Marking Program History					
Item	2019	2020	2021	2022	2023
Pavement Marking (Linear Feet)	47,571	62,819	44,202	0*	93,150**

* Deferred to 2023

** Estimate

The estimated pavement marking to be completed in 2024 is 49,000 feet.



Project Update

The funding amounts for 2024-2033 have been updated. Annual budget amounts have been increased starting in 2029 due to the need to maintain additional markings related to bike accommodations.

Project Alternative

Local pavement markings are constructed with thermoplastic or epoxy material. Public Works does not have the equipment to install thermoplastic or epoxy markings. A project alternative is to increase personnel and equipment budgets to perform these pavement markings in-house.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Phase I Studies

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	650,000	730,000	200,000	-	-	\$1,580,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$200,000*
2022	\$0
2021	\$20,000

* Budget Amount

Project Description and Justification

The Village maintains about 14 miles of local streets that are eligible for federal aid. This designation allows the Village to apply for federal transportation grants to rehabilitate these routes. The Village has successfully received federal participation on several large-scale projects over the years, including the Locust Road Reconstruction project in 2019, the Central Avenue Reconstruction and Downtown Streetscape project in 2020-2021, the Skokie & Lake Intersection Improvements project in 2023, and the Wilmette Avenue Street Resurfacing project in 2023. The Village is also scheduled to receive federal participation for Old Glenview Road Street Resurfacing in 2024 and Illinois Road Street Resurfacing in 2027.

This funding request is to execute Phase I studies so the Village can take advantage of federal transportation grant opportunities that require Phase I completion. Separate funding pages are created for each project once federal participation has been secured for Phase II design engineering and/or Phase III construction.

Background

Depending on the scope of work, the most common grants available for roadway improvements are Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and the Illinois Transportation Enhancement Program (ITEP). These federally funded transportation projects are obligated to follow a three-phase process; Phase I Preliminary Engineering Studies, Phase II Design Engineering, and Phase III Construction. These phases are completed in accordance with Illinois Department of Transportation (IDOT) and federal standards. IDOT provides oversight of all phases to ensure compliance with State and Federal standards. The streets below are eligible for federal aid construction funding and are near the end of their pavement service life. Construction estimates are based on anticipated unit pricing in 2023.



Description	Limits (From/To)		Construction Estimate (\$)
Hibbard Rd Reconstruction	Old Glenview Rd	Skokie Blvd	7,500,000*
Lake Ave Corridor Improvements	Green Bay Rd	Sheridan Rd	7,000,000*
Green Bay Rd Rehabilitation & Streetscape	Village Limit S	Village Limit N	15,000,000
Laramie Ave Street Resurfacing	Lake Ave	Illinois Rd	1,000,000
Sheridan Rd Street Resurfacing	Village Limit N	Village Limit S	4,200,000
Lake Ave Street Resurfacing	Hibbard Rd	Green Bay Rd	10,500,000*

*Includes water main replacement

Phase I Studies

The engineering services involved in a Phase I studies vary based on the proposed scope of work. For example, a simple street resurfacing project with minor changes to the roadway characteristics will require much less effort than a roadway reconstruction project that includes travel lane or intersection configuration modifications. These more substantial improvements require a Project Development Report (PDR). A PDR will include investigations of alternatives with consideration of cultural, biological, environmental, and engineering factors. In addition, safety, serviceability, and economy will be considered during project development. Phase I studies also include the results of public involvement activities.

To obtain federal funding approval for construction, the Village must submit successful grant applications. CMAQ and ITEP grants require Phase I studies to be complete, or nearly complete, to be eligible for grant funding. STP grants transitioned to a grant application scoring system that allocates more points if a Phase I study is complete, or nearly complete, at the time of submittal. In all cases, Phase I engineering is not eligible for federal funding and must use local funds.

The Department recently completed Phase I studies and submitted grant applications for the following federal aid eligible local roadways. Once a project secures federal funding and is programmed for construction, a stand-alone CIP sheet will be generated for the street including local funding requirements for Phase II design and Phase III construction.

Phase I Year	Description	Construction Grant Amount (Program Year)
2023	Lake Ave Corridor Improvements	TBD
2022	Illinois Rd Resurfacing	STP - \$1,099,277 (2027)
2022	Old Glenview Rd Resurfacing	STP - \$1,081,507 (2024)
2021	Wilmette Ave Resurfacing	STP - \$432,094 (2023)

Staff recommends completing Phase I studies for the federal aid eligible local roadways below, these projects are split amongst multiple years:

Phase I Year	Description	Phase I Estimate
2024-25	Hibbard Rd Reconstruction	380,000*
2024-25	Lake Ave Corridor Improvements	250,000*
2024-25	Green Bay Rd Rehabilitation & Streetscape	600,000
2025	Laramie Ave Street Resurfacing	50,000
2025	Sheridan Rd Street Resurfacing	100,000
2026	Lake Ave Street Resurfacing	200,000

*Does not include planned 2023 expenditures



Project Update

CIP content, schedules, and costs for these services has been updated for years 2024-2026.

Project Alternative

The alternative to using federal funds is to improve roadways using local funding only.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project



Road Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Motor Fuel Tax Fund	1,200,000	1,200,000	1,200,000	1,200,000	1,200,000	\$6,000,000	6,000,000
General Fund	276,623	1,437,000	2,584,000	2,341,181	2,861,000	\$9,499,804	16,938,000
General Fund-Water Main	820,000	-	-	-	-	\$820,000	-
Total	2,296,623	2,637,000	3,784,000	3,541,181	4,061,000	\$16,319,804	22,938,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount	Completed Miles ¹
2023	\$2,651,771*	2.60*
2022	\$2,421,668	2.16
2021	\$2,866,713	2.66
2020	\$2,395,728	2.36
2019	\$682,541	0.63

*Award Amount

¹ = The mileage shown above is based on rehabilitated pavement area divided by an average pavement width of 26 feet.

Project Description and Justification

The purpose of this program is to rehabilitate local streets in very poor or worse condition. The typical scope of work consists of pavement surface removal and resurfacing, intermittent curb and sidewalk replacement, utility structure repairs, pavement patching, and parkway restoration.

Road Program Background

The Village maintains approximately 65 centerline miles of non-brick roadways. The network consists of the following pavement surface types:

Surface Type	Total Miles
Asphalt (A)	50 miles
Asphalt Over Brick (ABR)	5 miles
Asphalt Over Concrete (AC)	6 miles
Concrete (C)	4 miles





Pavement Rehabilitation and Funding Strategy

In 2019, the Village Board approved a new funding plan for the Road Program to increase the overall pavement condition of Village streets. From 2020-2025, the Road Program would receive enough funding to maintain an overall roadway network rating of “fair” or better condition. Starting in 2026, after a significant decrease in debt service, the Village will be able to fully-fund the Road Program and maintain an overall “good” pavement condition rating. The Village Board reaffirmed these goals in 2022, focusing on a funding strategy based on meeting target pavement areas instead of target dollar amounts.

The table below highlights the program target pavement areas in comparison to current and previously presented budget amounts. These changes highlight the importance of funding to target pavement areas over a set level budget amount. The “2024 Dollars” amount is based on 2023 construction unit pricing.

Road Program Funding Plan	2024	2025	2026	2027	2028
<i>Program Pavement Area Targets (sq. ft.)</i>	287,500	287,500	375,600	375,600	375,600
Budget (2019 State of the Roads)	2,300,000	2,300,000	3,000,000	3,000,000	3,000,000
Budget (2022 State of the Roads)	2,530,000	2,530,000	3,300,000	3,300,000	3,300,000
Budget Amounts in 2024 Dollars	3,070,000	3,070,000	4,010,000	4,010,000	4,010,000

Road Program Budget Breakdown

The Department allocates Road Program funding to various construction contracts to accomplish rehabilitation goals. The overall budget includes funds for this project, Road Program, and other programs such as the Asphalt to Brick Reconstruction Program and federally funded resurfacing projects. It should be noted that the values in the Budget Projection and Funding History tables are specific to this project, not for all roadway improvements in the Village. The table below highlights the anticipated allocations over the next five years amongst these projects to meet the overall pavement target area:

Project Contracts	2024	2025	2026	2027	2028
Road Program – MFT contract	1,476,623	2,640,000	3,786,000	3,544,181	4,063,000
Asphalt to Brick Reconstruction	505,000	520,000	474,000	561,000	447,000
Manor Drive and Locust Rd Resurfacing	820,000	-	-	-	-
Old Glenview Rd Street Resurfacing	270,377	-	-	-	-
Illinois Rd Street Resurfacing	-	-	-	274,819	-
Road Program Totals	3,070,000	3,160,000	4,260,000	4,380,000	4,510,000

Since 2020, the local share for federally funded street resurfacing projects like Old Glenview Road and Illinois Road have been budgeted separately with unique CIP project pages; however, they are included in the budget to meet the pavement area rehabilitation target. In previous budget cycles, budget funds from the Road Program were allocated toward funding the local share of multimillion dollar federal-aid grant projects, which reduced the number of streets that could be resurfaced under the annual Road Program.

Additionally, the Asphalt to Brick Street Reconstruction project is budgeted separately and has a unique CIP project page; however, it is included in the budget to meet the pavement area rehabilitation target.

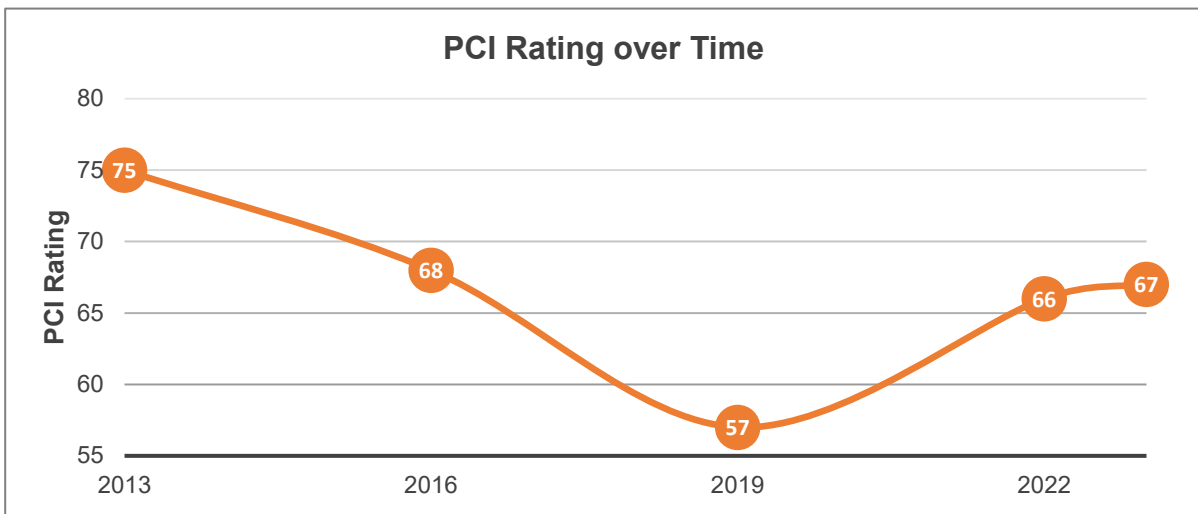
Road Program Candidates

To identify candidates for rehabilitation, the Department will conduct triannual inspections of the entire roadway network. Staff will enter the data collected from these inspections into the PAVER software. This software will use this data to calculate a numeric value for each street segment, known as a pavement condition index (PCI) rating. These ratings correspond to the following pavement surface conditions:

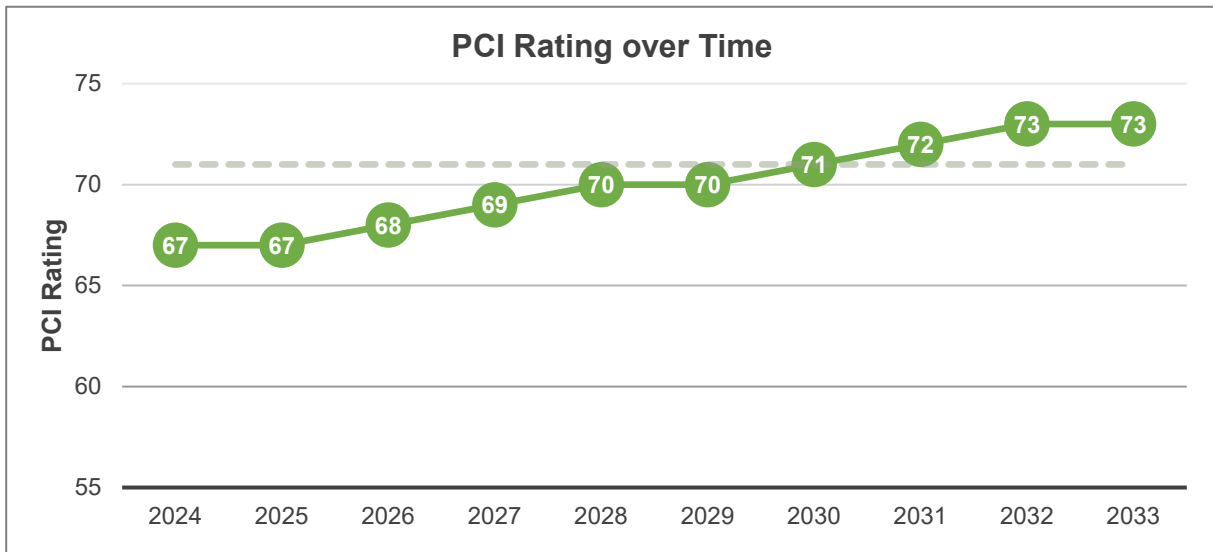


Surface Condition	PCI Rating	Total After 2022 Inspection	Estimate After 2023 Construction
Excellent	100-86	28%	43%
Good	85-71	12%	8%
Fair	70-56	22%	14%
Poor	55-41	21%	22%
Very Poor	40-26	13%	13%
Serious	25-0	4%	0%

The last pavement evaluation occurred in 2022. The assessment found that the average PCI rating for the network was 66, indicating that the local roads are in “fair” condition. Based on this rating, the current funding level is not adequate to maintain the roadway assets over time. The next assessment will occur in 2025. The chart below highlights the average PCI rating over the last 10 years and estimated through the end of 2023:



The chart below highlights the average PCI rating over the next 10 years:





Project Update

Funding amounts for 2024-2033 have been updated. Asphalt to Brick Street conversion cost and miles were removed from the Funding History table.

Project Alternative

An alternative is to postpone roadway maintenance, which will result in total pavement failure. Once the roadway base fails due to a lack of surface maintenance, the roadway will need to be reconstructed at about four times the cost of resurfacing.

The Village Board approved a Special Service Areas (SSA) policy in 2016 which allows residents to petition for their street rehabilitation to be accelerated at a shared cost.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Sidewalk Maintenance Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	223,000	187,000	195,000	229,000	187,000	\$1,021,000	1,111,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$215,000*
2022	\$56,231
2021	\$75,000
2020	\$69,410
2019	\$73,972

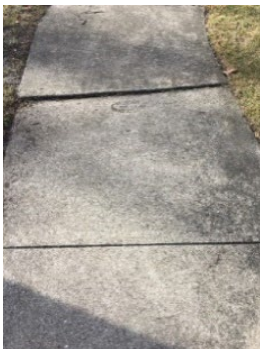
* Budget Amount

Project Description and Justification

The purpose of this program is to repair local sidewalk squares. This work will ensure that accessible routes are safe for travel and remain compliant with the American with Disabilities Act (ADA). The program includes three separate services: Grinding, Mudjacking, and Replacement.

Year	Grinding	Mudjacking	Replacement	Total
2024	40,000	11,000	172,000	\$223,000
2025	41,000	12,000	134,000	\$187,000
2026	43,000	12,000	140,000	\$195,000
2027	23,000	13,000	193,000	\$229,000
2028	23,000	13,000	151,000	\$187,000

Candidate squares for the program have the following defects:



Vertical Separations > 0.5"



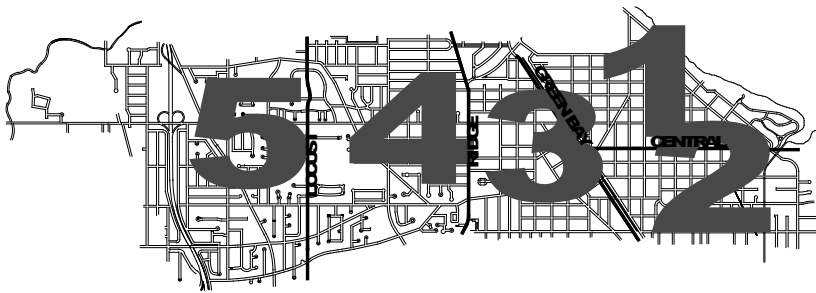
Missing Sections



Cracking with Displacement



The Department will evaluate the sidewalk in one zone per year to identify candidates for these services.



Year	Zone
2024	2*, 5
2025	4
2026	3
2027	1 and 2
2028	5

* Replacement Only

Grinding

Grinding is a cost-effective method of maintaining the safety and operation of public sidewalk squares. The purpose of this service is to remove potential tripping hazards while preserving the existing sidewalk. The process involves removing displaced concrete edges, with vertical separations between 0.5 to 1.5 inches, via horizontal saw-cutting or grinding. The table below highlights the amount of sidewalk grinding since 2019:

Sidewalk Grinding History					
Item	2019	2020	2021	2022	2023
Total Length (feet)	-	-	866	1708	5,100*
No. of Equivalent Squares (5 ft each)	-	-	174	342	1,020*

* Estimate

The sidewalk grinding estimate for 2024 is 3,400 feet, or about 680 equivalent sidewalk squares.

Mudjacking

Mudjacking is another cost-effective method for maintaining the safety and operation of public sidewalk squares. The purpose of this service is to remove edge displacements (various heights) and depressions in the sidewalk by leveling out the squares. The process involves pumping mud under a sunken concrete square(s) that are otherwise in good condition. The table below highlights the amount of sidewalk mudjacking since 2019:

Sidewalk Mudjacking History					
Item	2019	2020	2021	2022	2023
Total Square Feet (sq ft)	2,800	3,000	2,983	0*	6,385**
No. of Equivalent Squares (25 sq ft)	112	120	119	0*	255**

* Deferred to 2023

** Estimate

The estimated sidewalk mudjacking for 2024 is 3,200 square feet, or about 128 equivalent sidewalk squares.

Replacement

The sidewalk replacement project removes and replaces sidewalk squares that are not candidates for grinding or mudjacking. Sidewalk squares with potential tripping hazards greater than 1.5-inches or that have heaved or deteriorated are candidates for full replacement. The table below highlights the amount of sidewalk replacement since 2019:



Sidewalk Replacement History					
Item	2019	2020	2021	2022	2023
Total Square Feet (sq ft)	13,367	9,956	11,520	6,327	20,000*
No. of Equivalent Squares (25 sq ft)	535	398	461	253	800*

* Estimate

The estimated sidewalk replacement for 2024 is 20,000 square feet, or about 800 equivalent sidewalk squares.

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to patch defective sidewalk squares with cold-mix asphalt. This method would increase the amount of maintenance work. Furthermore, the asphalt patches are not expected to last more than one year and are considered aesthetically unpleasing by some residents.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project



Skokie Boulevard Shared-Use Path

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	177,033	221,783	-	-	-	\$398,816	-
Grant Funding	202,682	887,130	-	-	-	\$1,089,812	-
Total	379,715	1,108,913	-	-	-	\$1,488,628	-

Project Status

Critical	Recommended	Contingent
X		

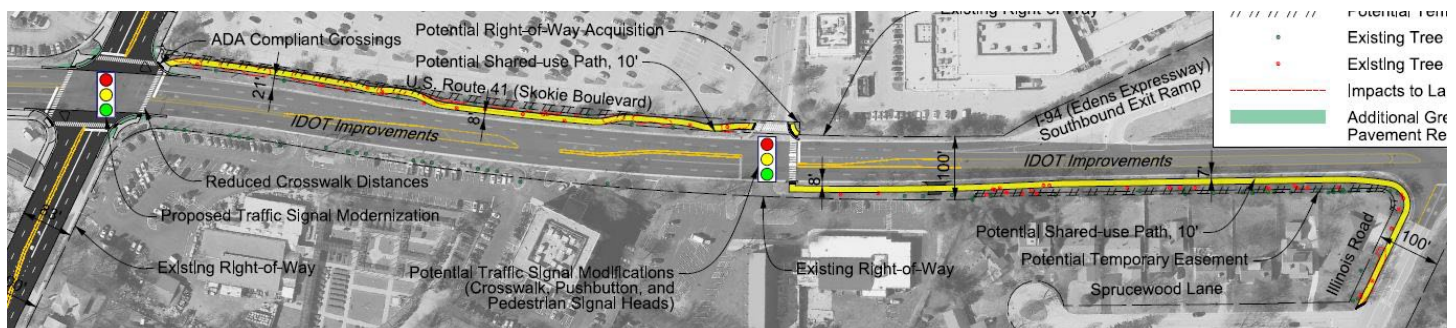
Funding History

Year	Amount
2023	\$428,892 – Phase 2 Engineering
2022	\$0
2019-2021	\$30,153 – Phase 1 Engineering

* 2023 expenditure estimated at \$90,000

Project Description and Justification

The Skokie Boulevard Shared-Use Path Project includes construction of a new shared-use path along Skokie Boulevard from Lake Avenue to Illinois Road where there are currently no pedestrian facilities. The shared-use path is proposed to extend to the Illinois Road and Sprucewood intersection. This path will provide improved access to adjacent businesses and neighborhoods consistent with the Village’s Master Bike and Active Transportation Plan.



Skokie Boulevard is the jurisdiction of the Illinois Department of Transportation (IDOT), but the local share is the responsibility of the Village of Wilmette since IDOT generally is not responsible to maintain pedestrian facilities in their right of way.

The project will be funded through an Illinois Transportation Enhancement Program (ITEP) grant that was awarded in June 2021 which will fund nearly 73% of the \$1,578,628 estimated total cost for Phase II design engineering, land acquisition (ROW), and construction/construction engineering. The total Village share of the path portion of this project is estimated at \$432,898.



Phase I design approval was received in February 2022. Phase II began in the spring of 2023 and construction is anticipated to begin in spring 2025.

Year	Description	Federal Share	Village Share	Total Cost
2023	Phase II	55,918	² 34,082	¹ \$90,000
2024	Phase II	121,600	² 40,033	\$154,892
2024	ROW	137,000	³ 137,000	\$274,000
2024 TOTALS		202,682	177,033	\$379,715
2025	Construction	887,130	⁴ 221,783	\$1,108,913
TOTALS (2023-2025)		1,145,730	432,898	\$1,578,628

¹ Estimated 2023 expenditure.

² The local share of Phase II engineering is roughly 38% of the total cost of this phase

³ The local share of ROW is 50% of the total cost of land acquisition

⁴ The local share of Construction, and Const. Engr. is 20% of the total cost of this phase

Project Update

Costs and schedules have been updated to reflect progress made during Phase II engineering in 2023.

Project Alternative

The alternative to building the shared-use path is to allow the current configuration without pedestrian facilities to remain.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project



Skokie Valley Trail

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	5,000	90,000	285,000	-	-	\$380,000	-
Grant Funding	37,500	373,500	485,000	-	-	\$896,000	-
Total	42,500	463,500	770,000	-	-	\$1,276,000	-

Project Status

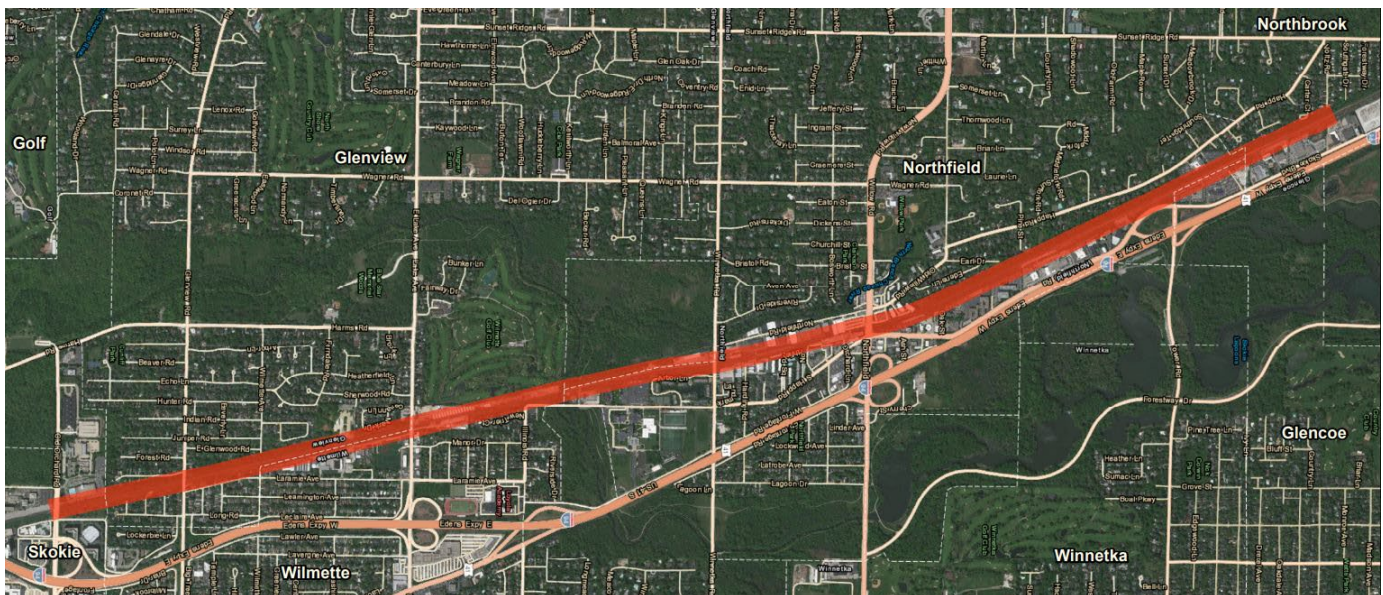
Critical	Recommended	Contingent
		X

Funding History

Year	Amount
2023	\$75,000 – Phase 2 Engineering
2022	\$0
2018-2021	\$25,000 – Phase 1 Engineering

Project Description and Justification

The concept of a Skokie Valley Trail was derived from Wilmette’s Bicycle Task Force over twenty years ago. The goal of the project is to construct a multi-use pedestrian and bike trail in the Commonwealth Edison utility corridor, located west of Laramie Avenue. The limits of the proposed trail are from Voltz Road in Northfield on the north end to Old Orchard Road in Skokie on the south. This 4.5-mile corridor fills a gap in the regional path with connectivity from Wisconsin to the City of Chicago and will provide improved access to schools and neighborhoods consistent with the Village’s Master Bike and Active Transportation Plan.





The Village is partnering with Glenview, Skokie and Northfield in this effort. To date, the following grants have been secured:

Year	Granting Agency	Grant Name	Lead Agency	Amount	Phase/Purpose
2017	Cook County	Invest in Cook	Glenview	\$188,000	Phase 1 preliminary engineering
2021	Cook County	Invest in Cook	Wilmette	\$150,000	Phase 2 design engineering
2021	Federal/ CMAP	Transportation Alternatives Program	Northfield	\$620,000	Phase 2 design engineering
2023	Federal/ CMAP	Transportation Alternatives Program	Wilmette	\$4,546,000	Phase 3 construction

A financial summary is as follows:

Year	Description	Costs	Grants	Wilmette Share
2018-21	Phase 1 Engineering Study	288,000	188,000	\$25,000 ¹
2023-25	Phase 2 Design Engineering	775,000	770,000	\$2,000 ²
2024	Union Pacific Railroad Permit Costs	20,000	-	\$5,000 ³
2025	Wetland Mitigation	232,000	-	\$63,000 ⁴
2025	R.O.W. Acquisition	\$20,000	336,000	\$25,000 ⁴
2026	Construction	5,267,000	4,210,000	\$285,000 ⁴
TOTALS		7,002,000	5,504,000	\$405,000

¹Wilmette share; total local share of \$100,000 split by four municipalities.

²The \$5,000 shortfall will be split by four municipalities, Wilmette's share is estimated at \$2,000.

³Wilmette share; \$20,000 cost split by four municipalities.

⁴ROW acquisition and construction grant funded at 80% federal / 20% local split, wetland mitigation is not grant eligible.

Project Update

Project cost and schedule updates have been made.

Project Alternative

The alternative to funding the trail with grant funds is to fund it through local appropriations.

Budget Impact

This is a Non-Recurring Expense

Additional costs associated with this project include approximately \$2,500 to \$5,000 per mile per year for landscaping and \$10,000 per mile for grass cutting. Maintenance of Wilmette's section of the trail will be added to the 2026 Public Works landscape maintenance contract and included in the 2026 budget.



Traffic Calming

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	25,000	25,000	25,000	25,000	25,000	\$125,000	125,000

Project Status

Critical	Recommended	Contingent
		X

Funding History

Year	Amount
2023	\$25,000*
2022	\$0
2021	\$30,553
2020	\$10,835
2019	\$13,360

* Budget Amount

Project Description and Justification

The purpose of this program is to design and install traffic calming measures on local Village streets, in accordance with the traffic calming policy and procedures developed by the Transportation Commission in 1998. There have been multiple traffic calming projects over the years to reduce speeds and cut-through traffic at various location. These projects include installations on Manor Drive, Locust Road, Thornwood Avenue, Kenilworth Avenue, the 1400 blocks of Forest and Elmwood Avenues, and the 1900-2200 blocks of Elmwood Avenue in Kenilworth Gardens. Traffic calming funds were also used to purchase portable speed radar signs in 2019 and 2023, which are being used as a temporary traffic calming measure on various Village streets.



The Transportation Commission will review the 1900-2200 blocks of Greenwood Avenue in Kenilworth Gardens and other eligible streets for traffic calming.

Project Update

Funding amounts for 2024-2033 have been updated.

Project Alternative

The alternative is to not fund traffic calming, which would likely result in more requests for speed enforcement.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



VEHICLE REPLACEMENT

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

	Project	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Vehicles	2022 and 2023 Vehicles Purchased in 2024	591,200	-	-	-	-	591,200	-
	Ambulance (FD211)	260,000	-	-	-	-	260,000	-
	Ambulance (FD212)	-	-	270,000	-	-	270,000	-
	Ambulance (FD220)	-	-	-	-	280,000	280,000	-
	Backhoe (C13)	-	190,000	-	-	-	190,000	-
	Boat (FD214)	-	55,000	-	-	-	55,000	-
	Boat (FD222)	150,000	-	-	-	-	150,000	-
	Brush Chipper (C07)	-	-	-	-	-	-	160,000
	Brush Chipper (C09)	-	160,000	-	-	-	160,000	-
	Combination Sewer Cleaner (T22)	470,000	-	-	-	-	470,000	560,000
	Combination Sewer Cleaner (T30)	-	-	-	-	510,000	510,000	-
	Custom Service Body Truck (T27)	-	-	-	298,000	-	298,000	-
	Fire Department Staff Vehicles	-	55,000	55,000	55,000	-	165,000	-
	Floor Sweeper and Scrubber (S03)	-	-	-	100,000	-	100,000	-
	Front-End Wheel Loader (C01)	-	-	-	254,000	-	254,000	-
	Heavy Rescue Squad (FD201)	-	-	-	-	-	-	550,000
	Large Dump Truck (T03, T04, T09)	-	-	-	-	-	-	920,000
	Large Dump Truck (T05)	290,000	-	-	-	-	290,000	-
	Large Dump Truck (T06)	-	300,700	-	-	-	300,700	-
	Large Dump Truck (T08)	-	-	-	279,300	-	279,300	-
	Large Dump Truck (T18)	-	-	-	-	287,500	287,500	-
	Marked Squad Car (Future Cycle)	-	-	-	-	126,000	126,000	755,300
	Marked Squad Car (SQ501)	-	-	60,000	-	-	60,000	-
	Marked Squad Car (SQ503)	-	-	60,000	-	-	60,000	-
	Marked Squad Car (SQ504)	-	-	60,000	-	-	60,000	-
	Marked Squad Car (SQ505)	-	-	-	61,800	-	61,800	-
	Marked Squad Car (SQ506)	-	58,500	-	-	-	58,500	-
	Marked Squad Car (SQ507)	57,000	-	-	-	-	57,000	-
	Marked Squad Car (SQ508)	-	-	-	61,800	-	61,800	-
	Marked Squad Car (SQ510)	-	-	-	61,800	-	61,800	-
	Marked Squad Car (SQ511)	57,000	-	-	-	-	57,000	-
	Marked Squad Car (SQ512)	-	-	-	61,800	-	61,800	-
	Police Vehicle (SQ500)	57,000	-	-	-	-	57,000	74,000
	Police Vehicle (SQ502)	57,000	-	-	-	-	57,000	72,000
	Police Vehicle (SQ509)	-	58,500	-	-	-	58,500	74,000
	Police Vehicle (SQ513)	-	58,500	-	-	-	58,500	74,000
	Police Vehicle (SQ514)	-	58,500	-	-	-	58,500	74,000
	Police Vehicle (SQ515)	-	-	-	-	-	-	74,000
	Police Vehicle (SQ521)	-	-	60,000	-	-	60,000	-
	Police Vehicle (SQ522)	-	-	-	-	-	-	74,000
	Police Vehicle (SQ523)	-	-	-	-	-	-	65,000
	Self-Propelled Articulating Boom	-	66,000	-	-	-	66,000	-
	Sidewalk Snowplows (C18)	-	-	-	-	-	-	266,000
	Sidewalk Snowplows (C20)	-	-	-	-	-	-	-

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

Project	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Sidewalk Snowplows (C24)	-	-	-	-	223,800	223,800	-
Sidewalk Snowplows (C25)	-	-	205,000	-	-	205,000	-
Skid Steer Loader (C35)	-	-	-	88,000	-	88,000	-
Small Dump Truck - W/S (T14)	-	106,000	-	-	-	106,000	-
Small Dump Truck (T11)	-	-	-	-	150,000	150,000	-
Small Dump Truck (T23)	-	-	-	-	-	-	150,000
Small Dump Truck (T32)	-	-	-	-	-	-	150,000
Street Sweeper (S01)	-	-	-	-	-	-	380,000
Street Sweeper (S02)	-	-	-	336,000	-	336,000	-
Stump Grinder (C06)	-	68,000	-	-	-	68,000	-
Trailer - Light Poles (C26)	-	-	-	-	-	-	-
Vehicles Total	\$ 1,989,200	\$ 1,234,700	\$ 770,000	\$ 1,657,500	\$ 1,577,300	\$ 7,228,700	\$ 4,472,300

FUNDING SOURCE

Funding Type	2024	2025	2026	2027	2028	5-Year Total	2029-2033
Vehicles							
General Fund							
Operations	50,000	66,000	-	-	-	116,000	-
Grant Funding	100,000	-	-	-	-	100,000	-
CERF	921,200	872,700	770,000	1,026,500	1,067,300	4,657,700	3,779,300
Sewer Fund							
Operations	459,000	148,000	-	374,500	255,000	1,236,500	413,000
Water Fund							
Operations	459,000	148,000	-	256,500	255,000	1,118,500	280,000
Vehicles Total	\$ 1,989,200	\$ 1,234,700	\$ 770,000	\$ 1,657,500	\$ 1,577,300	\$ 7,228,700	\$ 4,472,300

Vehicle Replacement



Staff uses a quantitative approach to prioritize vehicle replacement recommendations based on nine criteria shown in the table below. All vehicles were rated and scored into the following five classes:

Less than 16 points	Class 5	25-49% of score = Good candidate for deferral
16-20 points	Class 4	41-55% of score = Defer up to 4-5 years
21-25 points	Class 3	56-70% of score = Replace within 2-3 years
26-30 points	Class 2	71-85% of score = Replace within 1-2 years
31-36 points	Class 1	86-100% = Replace within 1 year

Rating Category	Rating Measure		Score
Age	1-25% of Vehicle Life Expectancy	1 point	X
	26-50% of Vehicle Life Expectancy	2 points	
	51-75% of Vehicle Life Expectancy	3 points	
	76-100% of Vehicle Life Expectancy	4 points	

Hour/Mileage	0 to 19,999	1 point	X
	20,000 to 29,999	2 points	
	30,000 to 44,999	3 points	
	Over 50,000	4 points	

Cumulative Repair Cost	0-25% of Original Purchase Price	1 point	X
	26-50% of Original Purchase Price	2 points	
	51-75% of Original Purchase Price	3 points	
	76-100% of Original Purchase Price	4 points	

Body and Equipment	Minimal dents/corrosion, all components function	1 point	X
	Some corrosion, body components beginning to wear	2 points	
	Corrosion widespread, body components failing/need replacement	3 points	
	Body corroded through, equipment not functional or is unsafe	4 points	

Chassis and Frame Condition	Minimal leaks, frame shows minimal corrosion and in good condition. Engine, Transmission, and axles operating normally	1 point	X
	Minor leaks, frame corroding, and suspension shows wear. Drivetrain components operate normally but show evidence of wear	2 points	
	Multiple leaks or wear from engine and drivetrain. Frame very corroded, suspension moderately worn	3 points	
	Frame corroded through, suspension severely worn and/or engine and drivetrain components with imminent failure possible	4 points	

Vehicle Replacement



Replacement in-line with Village's 10-YR CIP	In-line with the 10-year plan	1 point	X
	Is consistent with 10-year plan or has been deferred 1 year	2 points	
	Is consistent with 10-year plan or has been deferred 2 years	3 points	
	Vehicle in poorer condition than those in 10-year plan, or has been deferred more than 2 years	4 points	

Vehicle Services Recommendation	Vehicle has little wear or mechanical issues. Potential high-cost repairs unlikely (vehicle could be deferred 2 years +	1 point	X
	Vehicle showing some wear or mechanical issues. Maintenance costs increasing, but high-cost repairs unlikely (vehicle could be deferred 1 or 2 years)	2 points	
	Is consistent with 10-year plan or has been deferred 2 years?	3 points	
	Vehicle in poorer condition than those in 10-year plan, or has been deferred more than 2 years	4 points	

Cost Considerations-Trade-In Value	Expect to get Better Market Value	1 point	X
	Expect to get Fair Market Value	2 points	
	Expect to get Under Market Value	3 points	
	Expect to get Little to No Value	4 points	

Criticality to Village Services	Minimal impact to operations if out of service	1 point	X
	Mild disruption to operations if out of service	2 points	
	Probable disruption to operations if out of service	3 points	
	Significant impact to operations if out of service	4 points	

Total Score		_____
		(of 36)

Vehicle Replacement



Green Fleet Analysis

Staff evaluates green fleet alternatives for vehicles scheduled for replacement within the upcoming year. Analysis for out-year purchases is not provided due to continuing advancements in green fleet technology and availability. This evaluation process applies to all vehicle types such as light-duty (i.e., passenger cars, vans, SUVs), medium-duty trucks, heavy-duty trucks, and construction equipment.

When evaluating green fleet options, staff reviews each application for operational needs. If operational needs can be achieved or upheld, then staff reviews associated costs and calculates a return on investment (ROI). Ultimately, the green option must produce a positive ROI where the upfront cost is offset by savings (fuel consumption) within or equal to the expected useful life of the vehicle. Likewise, fleet maintenance staff reviews the cost of ownership and long-term maintenance implications (i.e., green fleet vs. conventional option) as part of the analysis.

Denoted in the table below are green fleet options available in the marketplace for each vehicle type.

Light-Duty	Medium-Duty	Heavy-Duty
Battery-Electric	Hybrid	Compressed Natural Gas (CNG)
Hybrid		

The Village has two heavy-duty (T-05 and T-22) scheduled for replacement in YR 2024 as part of the Village's ten-year Capital Improvement Program budget (see table below).

Vehicle ID	Description	Type	Replacement Year	Green Fleet (Y/N)
T-05	Streets Large Dump Truck	Heavy-Duty	2024	N
T-22	Combination Sewer Truck	Heavy-Duty	2024	N

Light-Duty Vehicles (No vehicles scheduled for the 2024 CIP Budget Year)

Staff researches green fleet alternatives from the Ford Motor Company (FMC) for light-duty truck applications. Focus was placed on FMC as they currently are the most active vendor for municipal fleet sales (i.e., medium duty trucks) and hold the lowest bids for most joint purchase contracts. FMC currently offers a platform of hybrid technology (gas/electric) for various passenger vehicles and has started to release plug-in electric (battery) technology over the past year. Staff also came across a third-party vendor, XL Fleet, Boston, MA, who provides an aftermarket, hybrid technology solution. However, at an upfront cost of \$14,000 per vehicle and 25% improved fuel economy, the return on investment (ROI) far exceeds the estimated useful life of the vehicle and is not recommended. In 2023, the Village purchased a plug-in Ford E-Transit van for use by Water Management as the added upfront cost was offset by sufficient annual fuel savings to produce a positive return on investment (ROI).

Medium-Duty (No vehicles scheduled for the 2024 CIP Budget Year)

Staff researches green fleet alternatives from Ford Motor Company (FMC) for medium-duty truck applications. FMC has stated they intend to release hybrid technology (i.e., gas/electric engine) within the next 1-2 years, however, they currently do not offer a hybrid powertrain matching operational needs for medium-duty truck applications (i.e., F-350, F-450 truck chassis and above). Also, there are no aftermarket alternatives currently available. XL Fleet only offers conversion options for F-150 and F-250 truck chassis. When options become available, staff will review the added upfront cost and projected annual fuel savings to determine if the purchase option produces a positive return on investment (ROI).

Heavy-Duty (T-05 and T-22)

Staff researches green fleet alternatives from the principle heavy-duty truck chassis manufacturers (i.e., Navistar, Freightliner, Kenworth, Peterbilt, etc.) for large dump truck and aerial truck applications. Most of the manufacturers stated they intend to release electric hybrid technology within the next 1-2 years; however, they

Vehicle Replacement



currently do not offer a hybrid powertrain matching operational needs. There are some prototypes currently in use for other applications. Staff believes this to be a viable green fleet alternative in the near future.

Another alternative is compressed natural gas (CNG) technology for heavy-duty trucks, which is prevalent in the solid waste industry, transport logistics (i.e., freight) and bus transportation. This technology is best suited for fleets with high fuel consumption (or mileage) and/or extended periods of engine idling. CNG has several advantages over conventional combustion engines including 20-25% reduction in emissions and more stable unit pricing as compared to petroleum products. For example, the Village’s heavy-duty fleet currently consumes B5 biodiesel and unit pricing has fluctuated between \$1.08 and \$5.16 per gallon over the past 14 years (2010-23). The 14-year average is \$2.69 per gallon. By comparison, the national average price per gasoline gallon equivalent (GGE) of CNG falls within the range of \$1.85 - \$3.25 covering the same 14-year period (U.S. Dept. of Energy).

Both Freightliner and Kenworth offer CNG alternative heavy-duty vehicles for snow plowing operations, whereas Navistar (International Truck) does not. The upfront cost is \$50,000 more than a traditional heavy-duty truck chassis. Therefore, with an expected useful life (EUL) of 15 years (T-05) and 9 years (T-22), the savings per year would need to exceed \$3,333 (T-05) and \$5,555 (T-22) for a positive return on investment (ROI). T-05 consumes approximately 150 gallons of B5 per year, whereas T-22 consumes approximately 1,958 gallons. As such, the unit price differential between B5 and CNG would need to exceed \$22.22 (T-05) to \$2.84 (T-22) per GGE, and on a sustainable basis, to produce a positive ROI. Over the last 14 years, the average price differential is \$0.35 per GGE with the largest gap occurring in 2012 (\$1.94). The closest CNG fueling station in proximity to the Public Works Facility is located in Des Plaines, IL. According to estimates from the U.S. Dept. of Energy, new construction of CNG fueling facilities can cost up to \$1.8 million.

2020 CIP Budget Green Fleet Pilot – Police Utility Interceptors (2023 Update)

On January 14, 2020, the Village Board approved the purchase of four Police Ford Utility Interceptors (Hybrid). Staff recommended inclusion of the hybrid powertrain option as all four units (i.e., SQ-504, 506, 507 and 511) produced a positive ROI. The analysis was based on the review of each vehicle’s annual miles driven, fuel economy and idling time (i.e., conventional vs. hybrid technology). The purchase of these hybrid cars was the start of a pilot vehicle program, determining the performance and safety of a green fleet.

The table denoted below provides an updated cost/benefit analysis based on real data for the conventional (before) and hybrid technology (after). The return on investment remains positive, falling to nearly half of the estimated useful life of each patrol squad (four years). Since older squads are typically repurposed as rotational vehicles for other departments, these hybrid units are expected to produce further benefit over ensuing years.

Vehicle ID	SQ-504	SQ-506	SQ-507	SQ-511
Annual Miles Driven (Average 2018-2020)	12,710	12,787	16,986	21,563
Annual Consumption (Gals) (Average 2018-2020)	1,400	1,501	2,071	2,458
Actual MPG -Conventional Engine	9.08	8.52	8.20	8.77
Annual Miles Driven (Average 2021-2022)	7,176	11,627	17,959	22,961
Annual Consumption (Gals) (Average 2021-2022)	637	753	1,119	1,565
Actual MPG -Hybrid Engine	11.26	15.45	16.05	14.68
MPG Improvement (%)	2.18 (24%)	6.93 (81%)	7.85 (96%)	5.91 (67%)
Annual Consumption Savings (Gals) (Average 2021-2022)	153	612	1,071	1,053
Cost per Gallon (89 octane) (AVG 4-YR, 2019-2022)	\$2.51	\$2.51	\$2.51	\$2.51
Savings per Year	\$484	\$1,536	\$2,688	\$2,643
Total Cost (Hybrid Engine Option)	\$3,625	\$3,625	\$3,625	\$3,625
Return on Investment [ROI] (Years)	7.49	2.36	1.35	1.37

Vehicle Replacement



2022 and 2023 Vehicles Purchased in 2024

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	143,200	-	-	-	-	\$143,200	-
Water	224,000	-	-	-	-	\$224,000	-
Sewer	224,000	-	-	-	-	\$224,000	-
Subtotals	591,200	-	-	-	-	\$591,200	-

Project Status

Score
Approved

Project Update

Denoted below is a summary of vehicle purchases approved as part of the 2022 and 2023 CIP Budgets, however, final delivery of these vehicles will not occur until 2024 due to supply chain issues and bid timing. The following vehicle purchases (T-34, P-13, T-33, T-40, and P-16) will not be finalized until 2024. Denoted in the table below is summary of anticipated final vehicle purchases approved as part of the 2022 (P-13 and P-16) and 2023 CIP (T-33, T-34, and T-40).

Vehicle ID	Fund	2022 Budget	2023 Budget	2023 Expense	2024 Expense
T-34 Vac-All Truck	CERF	-	200,000	105,605	\$99,200
P-13 Hybrid SUV	CERF	35,000	-	-	\$44,000
	Subtotals	35,000	200,000	105,605	\$143,200

T-33 Lg. Dump Truck	Water	-	96,000	-	\$101,000
T-40 Lg. Dump Truck	Water	-	96,000	-	\$101,000
P-16 Hybrid SUV	Water	17,500	-	-	\$22,000
	Subtotals	17,500	192,000	-	\$224,000

T-33 Lg. Dump Truck	Sewer	-	96,000	-	\$101,000
T-40 Lg. Dump Truck	Sewer	-	96,000	-	\$101,000
P-16 Hybrid SUV	Sewer	17,500	-	-	\$22,000
	Subtotals	17,500	192,000	-	\$224,000

Budget Impact

These are Non-Recurring Expenses

There are annual maintenance expenses associated with these vehicle purchases

Vehicle Replacement



Fire Department - Ambulance (FD211)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	260,000		-	-	-	\$260,000	-

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

<i>Make</i>	Ford F-550
<i>Model</i>	Type I Ambulance
<i>Year</i>	2015
<i>Cost</i>	\$260,000
<i>Useful Life</i>	8 Years
<i>Current Life</i>	7 Years



Fire Department ambulances are equipped to meet the standards established by the Illinois Department of Public Health (IDPH) for an Advanced Life Support vehicle. This is one of three Advanced Life Support ambulances owned by the Village. One ambulance is maintained at each firehouse, and a third is kept in the event another is placed out of service for maintenance or repairs. The Department rotates all three ambulances to extend the life of the vehicles, and the replacement cycle is eight years. The total cost of the new ambulance includes transfer of necessary medical equipment, such as the power cot and auto loading system. The Department is retaining a fourth ambulance to be used as a reserve unit so that the current ambulances in the fleet may have the chassis and powerplant replaced, retaining existing patient compartment, to save between \$80,000 and \$90,000 for each replacement unit. **The budget projection above reflects the option to re-chassis the existing ambulance and includes the anticipated cost savings. The cost to build an entire new ambulance (chassis and patient compartment) is \$325,000.**

Project Update

The current lead time for a new ambulance is approximately 77-80 weeks from the vendor's receipt of a purchase order – most of the lead time is due to significant delays with the procurement of the commercial chassis from the Ford Motor Company. Staff have received the bid from AEV and are looking for Board approval to sign the contract and start the remount process.

This ambulance is currently rotated into service when a front-line ambulance is out of service for repairs. It is also utilized by call back personnel during a large event or emergency. When the project is completed, this ambulance will be front-line and FD-217 will be evaluated for the remount process.

The overall cost increased by \$15,000 due to increase in the Power Loading System and stretcher.

Vehicle Replacement



Project Alternative

The alternative is to delay the purchase of this vehicle and continue use with increased maintenance expenses, or to purchase a completely new ambulance at noted replacement cost, which would include a new chassis and a new patient compartment.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Fire Department - Ambulance (FD212)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	270,000			\$270,000	-

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

<i>Make</i>	Ford F-550
<i>Model</i>	Type I Ambulance
<i>Year</i>	2017
<i>Cost</i>	\$265,000
<i>Useful Life</i>	8 Years
<i>Current Life</i>	6 Years



Fire Department ambulances are equipped to meet the standards established by the Illinois Department of Public Health (IDPH) for an Advanced Life Support vehicle. This is one of three Advanced Life Support ambulances owned by the Village. One ambulance is maintained at each firehouse, and a third is kept in the event another is placed out of service for maintenance or repairs. The Department rotates all three ambulances to extend the life of the vehicles, and the replacement cycle is eight years. The total cost of the new ambulance includes transfer of necessary medical equipment, such as the power cot and auto loading system. The power cot and power load will be evaluated to be reused in the remount process. The Department is retaining a fourth ambulance to be used as a reserve unit so that the current ambulances in the fleet may have the chassis and powerplant replaced, retaining existing patient compartment, to save between \$80,000 and \$90,000 for each replacement unit. **The budget projection above reflects the option to re-chassis the existing ambulance and includes the anticipated cost savings. The cost to build an entire new ambulance (chassis and patient compartment) is \$360,000.**

Project Update

This ambulance is currently rotated into service when a front-line ambulance is out of service for repairs. It is also utilized by call back personnel during a large event or emergency.

Project Alternative

The alternative is to delay the purchase of this vehicle and continue use with increased maintenance expenses, or to purchase a completely new ambulance at noted replacement cost, which would include a new chassis and a new patient compartment.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Fire Department - Ambulance (FD220)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	280,000	\$280,000	-

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

<i>Make</i>	Ford F-550
<i>Model</i>	Type I Ambulance
<i>Year</i>	2020
<i>Cost</i>	\$275,000
<i>Useful Life</i>	8 Years
<i>Current Life</i>	3 Years



Fire Department ambulances are equipped to meet the standards established by the Illinois Department of Public Health (IDPH) for an Advanced Life Support vehicle. This is one of three Advanced Life Support ambulances owned by the Village. One ambulance is maintained at each firehouse, and a third is kept in the event another is placed out of service for maintenance or repairs. The Department rotates all three ambulances to extend the life of the vehicles, and the replacement cycle is eight years. The total cost of the new ambulance includes transfer of necessary medical equipment, such as the power cot and auto loading system. The power cot and power load will be evaluated to be reused in the remount process. The Department is retaining a fourth ambulance to be used as a reserve unit so that the current ambulances in the fleet may have the chassis and powerplant replaced, retaining existing patient compartment, to save between \$80,000 and \$90,000 for each replacement unit. **The budget projection above reflects the option to re-chassis the existing ambulance and includes the anticipated cost savings. The cost to build an entire new ambulance (chassis and patient compartment) is \$395,000.**

Project Update

This ambulance is currently rotated into service when a front-line ambulance is out of service for repairs. It is also utilized by call back personnel during a large event or emergency.

Project Alternative

The alternative is to delay the purchase of this vehicle and continue use with increased maintenance expenses, or to purchase a completely new ambulance at noted replacement cost, which would include a new chassis and a new patient compartment.

Vehicle Replacement



Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Backhoe - Water and Sewer Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	95,000	-	-	-	\$95,000	-
Sewer Fund	-	95,000	-	-	-	\$95,000	-
Total	-	190,000	-	-	-	\$190,000	-

Project Status

C-13
Class 2

Project Description and Justification

This heavy-duty construction equipment is used for various utility excavations within the Water/Sewer Division. The scope of excavation work includes water main break repairs, fire hydrant replacements, water service leak repairs, sewer structure repairs and utility pipe replacement. In total, this machine visits approximately 125-150 excavation worksites each year. The machine is equipped with an extendable backhoe boom, three buckets (12", 18" & 24"), hydraulic (pavement) breaker, emergency lighting, and radio.

<i>Unit</i>	C-13
<i>Make</i>	Case
<i>Model</i>	590 Super N
<i>Year</i>	2013
<i>Cost</i>	\$95,854
<i>Useful Life</i>	12 Years
<i>Current Life</i>	11 Years



Project Update

Since last year, the projected replacement cost has increased from \$160,000 to \$190,000 due to rises in labor, material, and transportation costs attributed to supply chain disruptions. When removed from service, this heavy-duty construction equipment will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference. If the Village receives a low resale offer (below market value), staff will re-evaluate the old equipment and review the option of retaining it as a reserve unit.

Project Alternative

The alternative is to delay the purchase and reschedule during later years. The monthly rate for a rental unit is \$8,000 (or \$96,000 annually). Green fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase

Vehicle Replacement



Fire Department - Boat (FD214)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	55,000	-	-	-	\$55,000	-

Project Status

Critical	Recommended	Contingent
		X

Project Description and Justification

<i>Make</i>	Avon
<i>Model</i>	Adventure A400 Rigid-Hull Inflatable Boat
<i>Year</i>	2000
<i>Cost</i>	\$25,000
<i>Useful Life</i>	15 Years
<i>Current Life</i>	22 Years



The 13-foot rigid hull inflatable boat is utilized to perform rescue/recovery functions in the Village and throughout the MABAS Divisions. The boat has proven useful in many emergency operations and training evaluations, in addition to the Wilmette Water Plant intake maintenance. The boat is used to transport water rescue personnel and acts as a dive platform for underwater operations. Sonar, remote operated vehicles, and communication equipment are also carried and operated in this boat. The size of the boat makes it very maneuverable both on land and in lakes, ponds, canals, and rivers. During 2021, the Department implemented a fast response plan for boat 26 during the summer season. Larger tires were installed on the trailer, and the boat is pulled by the MABAS Division III six-wheel All-Terrain Vehicle. This configuration allows for a faster deployment of the boat into Lake Michigan, as it can drive up to shore and launch. In the past, the boat would have to launch from a boat ramp either in Winnetka or Evanston.

Vehicle	Replacement Cost	In Service	Replacement Year	Miles/Hours	#of Breakdowns	Repair Cost (2 Years)
FD-214	\$55,000	2000	2021	2,031 Hours	1	2,821.14

Project Update

The Fire Department is evaluating the group purchase of FD-222. If FD-222 is purchased in 2024, staff does not recommend the replacement of FD-214. FD-214 will be the primary response vehicle for Lake Michigan. Staff will continue to use FD-214 for inland lake and canal operations and evaluate the boat's condition and performance.

Project Alternative

The alternative is to delay the purchase of this boat and continue to use it while evaluating its condition.

Vehicle Replacement



Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase

Vehicle Acquisition



Fire Department – Water Rescue Boat (FD222)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	50,000	-	-	-	-	\$50,000	-
Grant Funding	100,000	-	-	-	-	\$100,000	-
Total	150,000	-	-	-	-	\$150,000	-

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

<i>Make</i>	Harbor Guard
<i>Model</i>	Fire Hawk 26
<i>Year</i>	2013
<i>Cost</i>	\$295,000
<i>Useful Life</i>	25 Years
<i>Current Life</i>	9 Years



The 26' aluminum hull fire boat is utilized to perform firefighting, rescue, and recovery functions in Lake Michigan. This boat was provisionally acquired through an intergovernmental agreement (IGA) with the Village of Willow Springs in 2022. This agreement provides for the use of this vessel for one (1) year, with options for the group to extend the IGA or purchase the equipment for approximately \$100,000 and Sonar/Mapping upgrades of \$50,000. This IGA declares the boat as a shared resource and expense among the Village of Wilmette, City of Evanston, and the Village of Winnetka. With the acquisition of this boat, the intent is to deploy a unified, all-hazards response to incidents in Lake Michigan within the combined response area.

The boat is used to transport water rescue personnel and acts as an operational dive platform for underwater operations. Sonar, remote operated vehicles (ROV), and communication equipment are also carried and operated from this boat. Funding would also be used to purchase sonar and radio communication equipment. The size of the vessel allows for operations on Lake Michigan during light, moderate, and severe weather conditions. The firefighting capability of the boat addresses the expanded fire risk in Wilmette Harbor; a risk that was previously mitigated by the United State Coast Guard. The fireboat has been used for the Department's initial training of 24 operators for Nabsla BOAT and BOSAR 40-hour classes. The boat has responded 7 times this season to two serious incidents with one major sonar search.



Vehicle	Replacement Cost	In Service	Replacement Year	Miles/Hours	# of Breakdowns	Repair Cost (2 Years)
FD-222	\$350,000	2022	2042	443	1	0

Project Update

This was a new project in the 2023 CIP and the funding source information has been updated for 2024.

Project Alternative

The alternative is to continue to use the Fire Department's small rigid-hull inflatable boat within its operating limits for the Lake Michigan surface and underwater response, and continue addressing fire risks in Wilmette Harbor based on shore-only fire suppression operations.

Staff will seek additional grants for the Village's share of the purchase.

Budget Impact

The purchase of this equipment is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase of approximately \$5,000.

The Fire Department has applied for two Federal Grants for 2023. Applications for the purchase of the boat and additional equipment to operate the boat on Lake Michigan were submitted to the Federal Assistance to Firefighter Grant and the Department of Homeland Security/Federal Emergency Management Agency Port Security Grant. Staff expect grant awards to be announced in the late third quarter of 2023.

Vehicle Replacement



Brush Chipper –Street Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	160,000	-	-	-	\$160,000	160,000

Project Status

C-09	C-07
Class 2	Class 4

Project Description and Justification

Personnel in the Engineering and Public Works Department (Street Division) operate this hydraulic brush chipper while conducting forestry service requests (tree pruning and removal) and storm clean-up efforts. The existing brush chipper is capable of chipping branches up to 18” diameter, which assists in eliminating the need for hauling and disposal of log debris. The new machine will be equipped similarly to the existing unit and have emergency lighting.

<i>Unit</i>	C-09
<i>Make</i>	Morbark
<i>Model</i>	SP211HP3 (dual axle)
<i>Year</i>	1999
<i>Cost</i>	\$31,940
<i>Useful Life</i>	20 Years
<i>Current Life</i>	25 Years



<i>Unit</i>	C-07
<i>Make</i>	Morbark
<i>Model</i>	SP211HP3 (single axle)
<i>Year</i>	2004
<i>Cost</i>	\$32,313
<i>Useful Life</i>	20 Years
<i>Current Life</i>	20 Years



Project Update

Replacement of this unit has been deferred from 2024 to 2025 based on a review of maintenance records. The projected replacement cost has increased from \$140,000 to \$160,000 based on recent price quotes obtained from area vendors and rising commodity (steel) costs. Additionally, the replacement cost has risen significantly over the last five years due to the introduction of tier-five diesel powered engines to comply with more stringent federal emission standards. This machine (C-9) is one of two brush chippers (C-9 and C-7) owned by the Village and currently serves as the secondary chipper. However, in the event of wind and/or



ice storms causing widespread damage throughout the Village, both brush chippers are utilized extensively to provide storm clean-up. If one of the machines breaks down during clean-up efforts, response time is reduced by half. Likewise, if the primary chipper breaks down while in the process of conducting routine parkway tree maintenance (service requests), the secondary chipper serves as its replacement resulting in continuity of service without disruptions.

If approved, staff recommends a replacement unit that is similarly equipped to handle larger branch diameters (up to 18”), which promotes more efficient operations by reducing the cost of additional labor and equipment to process debris twice (larger branches and logs). It also reduces the incidents of tree logs resting on parkways, awaiting collection from a second crew (loader/large dump truck) in the field, and additional handling/processing of log debris back at the Public Works Facility. Woodchip debris is primarily repurposed by the Park District for use in mulch beds around trees and shrubs throughout the various parks. Any excess product is hauled away at season’s end by a commercial mulch product processor, which repurposes wood debris into mulch products. When removed from service, this machine will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the project and reschedule the work during later years. If a significant breakdown to this machine occurs, a second machine may need to be leased at an estimated weekly rate of \$3,000 until repairs can be completed. Alternatively, contractual assistance could be pursued for storm clean-up, however, depending on the magnitude of the storm, their availability may be limited. Additionally, the contractor may offer to furnish only the required minimum resources to comply with contract provisions at costs that equal or exceed the weekly rental fee of a brush chipper. Green Fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Combination Sewer Cleaner –Water and Sewer Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	235,000	-	-	-	255,000	\$490,000	280,000
Sewer Fund	235,000	-	-	-	255,000	\$490,000	280,000
Total	470,000	-	-	-	510,000	\$980,000	560,000

Project Status

T-22	T-30
Class 1	Class 4

Project Description and Justification

<i>Unit</i>	T-22
<i>Make</i>	International, Vac-con
<i>Model</i>	7400 -V390 sewer rodder
<i>Year</i>	2015
<i>Cost</i>	\$347,539
<i>Useful Life</i>	9 Years
<i>Current Life</i>	9 Years



Evaluation Period	T-22 Maintenance Summary						Mileage
	Breakdowns/ Repairs	Labor Hours	Labor Cost	Parts Cost	Contractual Cost	Total Cost	
2021-2022	35	127	\$6,956	\$4,948	\$22,182	\$34,086	4,731
Since Inception	27	1,052	\$47,937	\$32,545	\$34,086	\$114,568	15,184

<i>Unit</i>	T-30
<i>Make</i>	International, Vac-con
<i>Model</i>	7500 -V390 sewer rodder
<i>Year</i>	2019
<i>Cost</i>	\$393,833
<i>Useful Life</i>	9 Years
<i>Current Life</i>	5 Years



The T-22 combination sewer cleaner is scheduled for replacement in 2024. Staff in the Engineering and Public Works Department (Water/Sewer Division) utilize this heavy-duty combination truck to rod sewers (approx. 135,000 LF annually), clean catch basins (approx. 350 structures), excavate broken water mains or sewers (approx. 60 sites annually) and replace fire hydrants (approx. 10 annually). This truck is a 2015 model,

Vehicle Replacement



equipped with a debris body (nine cubic yards capacity), 1,500 gallons of water capacity, sewer-rodding system, vacuum system, emergency lighting, and two-way radio.

This is one of two machines (sewer rodder/catch basin cleaner) owned by the Village (T-22 and T-30). In 2001, the Village added a second sewer combination sewer truck to the fleet and replacement cycles for this type of equipment have historically fluctuated between 8-10 years. This equipment operates almost daily and under extreme conditions. Specifically, they are used for the following operations: all excavation sites (water main breaks, water service repairs and leaks, sewer repairs, fire hydrant replacement), sewer rodding (storm, sanitary and combined systems), cleaning of clogged inlets (street flooding), sewer back-ups/rodding, catch basin cleaning, and sewer cleaning in preparation for televising.

The two machines ensure timely emergency response to events such as street flooding and water main breaks, allowing multiple sites to be addressed simultaneously. Likewise, the benefit of a combination truck is if one system is down, the truck can remain in-service (operational) and carry out the functions of the other system (rodding or vacuum). Continuous functionality is also greatly improved and assured through redundancies (i.e., sewer rodding, and hydro excavation/vacuum cleaning) offered by having two units.

This heavy-duty combination truck comes equipped with vacuum excavation technology which utilizes air or high-pressure water to break apart soil. Loose debris then transports up into the tanks through vacuum suction. This method of excavation (often referred to as soft excavation technology) is safer and more accurate than traditional digging methods, particularly within the tolerance zone around underground facilities where safeguarding non-target infrastructure is at a premium (Nicor gas lines, fiber optic cables, etc.). Excavation areas are targeted and specific, resulting in minimized disturbance to the public right-of-way, reduced risk for damage to subsurface utilities, and lower restoration costs. Equally important, this functionality allows workers to stay safe and above ground while working at an active excavation site, located on the subsurface.

These units are also utilized by the Street Division to assist with subsurface street lighting repairs. Crews can safely 'pothole' or excavate areas for streetlight cable faults, repairs, straightening of leaning poles/bases and new light pole installations. This equipment also services and maintains the Village's 'green alleys' which require bi-annual cleaning of grout areas to uphold permeability and water infiltration performance. Periodic cleaning is mandated by the Metropolitan Water Reclamation District.

Staff recommends continued use of combination units manufactured by Vac-Con or Vactor as their products have proven to be durable, reliable, and serviceable. Their continued use also delivers maintenance cost savings to the Village, attributed to fleet standardization, including reduction in parts inventory, reduction in diagnostic equipment/software, reduction in technician training, improved productivity with failure diagnosis resulting in faster repairs, and lower acquisition costs for component and repair parts. Their continued use also benefits the operator end user experience and proficiency with equipment operation.

Project Update

The projected replacement cost has increased \$10,000 over last year's estimate due to rising commodity costs (steel) attributed to supply chain disruptions. Over the last several years, the replacement cost has increased due to the introduction of tier five diesel-powered engines to comply with more stringent federal emission standards and increased material/manufacturer costs. When removed from service, this truck will



be traded in on a new acquisition or be auctioned through either the Northwest Municipal Conference or a specialty heavy-duty truck auction.

Project Alternative

Though not recommended, the alternative is to delay the purchase and reschedule during later years. If deferred, the Village may be faced with the following extensive repairs over succeeding years: water pump (\$25,000), fan assembly (\$15,000) and hydraulic valve replacement (\$15,000). These repairs will result in significant down time. Reducing the breakdowns of this unit is essential in providing critical services and minimizing disruptions for emergency response.

An alternative to purchasing the vehicle outright is a lease-to-own purchase. Compared to purchasing the catch basin cleaner outright, the lease-to-own cost over seven years would be approximately \$470,000. Staff are still reviewing this purchase option to see if it is advantageous to the Village.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Custom Service Body Truck -Water and Sewer Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	-	-	149,000	-	\$149,000	-
Sewer Fund	-	-	-	149,000	-	\$149,000	-
Total	-	-	-	298,000	-	\$298,000	-

Project Status

T-27
Class 4

Project Description and Justification

<i>Unit</i>	T-27
<i>Make</i>	Navistar
<i>Model</i>	7400 Series, Custom Service Body
<i>Year</i>	2013
<i>Cost</i>	\$181,395
<i>Useful Life</i>	14 Years
<i>Current Life</i>	11 Years



Various personnel in the Engineering and Public Works Department (Water and Sewer Division) utilize this custom service body truck to support core maintenance operations and emergency services for water and sewer utility infrastructure. This truck is equipped with a 13.5' service body, boom crane (10,000 lbs. lift capacity), heavy-duty air compressor, generator, power inverter, tailgate assembly with workbench and bench vice, emergency lighting and two-way radio. The service body contains numerous cabinets for parts and specialty tool storage (hydraulic, air and electric) and hardware including operating nuts, stems, gaskets, fittings, etc. This truck is present at most worksites and supports the following core maintenance operations:

Maintenance Operation	Frequency (Annually)
Water Taps	60
Service B-Boxes	50
Water Main Break Repairs	55
Water Main Pipe Install	10
Water Service Leak Repairs	15
Fire Hydrant Replacements	10
Fire Hydrant Repairs	20
Water Valve Replacements	5
Water Valve Repairs	30
Sewer Structure Replacement	15
Assist Water Plant with Lifts	3
Subtotal	273



Project Update

The estimated replacement cost has increased from \$290,000 to \$298,000 based on the latest estimates from area equipment dealers. The existing unit will be replaced with a similar configuration. Staff recommend mirroring the existing truck as it has demonstrated to be productive, effective, efficient, and essential in supporting core maintenance operations. The boom crane's capacity and extended reach contributes to employee safety through execution of material and equipment lifts at jobsites.

For cost containment, staff will evaluate the condition of existing ancillary equipment (boom crane, power inverter, air compressor) for repurposing on the new service body truck. When removed from service, this unit will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the project and reschedule replacement during later years. Green Fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Fire Department Staff Vehicles

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	55,000	55,000	55,000	-	\$165,000	-

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

The Fire Department has 3 unmarked vehicles that are used by the Chief, Deputy Chief, and the Fire Inspector. The estimated cost of each vehicle incorporates equipment installation, including LED emergency lighting and miscellaneous components. This unit is equipped with emergency lights and two-way radios, and when the vehicle is rotated out of the fleet, the radios will be removed and reinstalled in the replacement vehicle. The vehicle is nearing the end of its useful life cycle as an emergency vehicle and is due to be replaced.



Vehicle	Replacement Cost	In Service	Replacement Year	Miles/Hours	#of Breakdowns	Rating Class	Repair Cost (2 Years)
FD-210	\$55,000	2016	2025	78,468	0	3	\$462
FD-208	\$55,000	2015	2026	69,000	0	3	\$4,308
FD-216	\$55,000	2015	2027	70,805	0	3	\$3,310

Project Update

Staff anticipate replacing this vehicle with a Ford Utility Interceptor Hybrid or like vehicle. After replacement, this unit will be transferred to another department for administrative use, kept as a pool/training vehicle, traded in on a new vehicle acquisition, or auctioned through the Northwest Municipal Conference or another online auction service.

Project Alternative

It is recommended emergency vehicles are replaced when they reach 85,000 to 100,000 miles or 10 years old. The reliability of a vehicle to handle emergency responses decreases with age and use, and maintenance and repair costs increase accordingly. Another alternative would be to purchase the traditional Explorer Interceptor model for approximately \$3,600 less.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Floor Sweeper and Scrubber

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	100,000	-	\$100,000	-

Project Status

S-03
Class 4

Project Description and Justification

This floor sweeper/scrubber is utilized by various personnel in the Engineering and Public Works Department to periodically clean/sweep an estimated 36,525 sq. feet of surface area in various garage areas located at the Public Works Facility (conducted 6-8 times per year). The replacement unit will be able to assist in cleaning an additional 17,000 sq. feet for the Village Hall underground garage and Burmeister parking garage. The existing unit is propane-powered and equipped with emergency lighting.

<i>Unit</i>	S-03
<i>Make</i>	Tenant
<i>Model</i>	8410LP
<i>Year</i>	2005
<i>Cost</i>	\$44,999
<i>Useful Life</i>	15 Years
<i>Current Life</i>	19 Years



In general, periodic floor cleaning is necessary to maintain the integrity of the garage floor surface and prevent premature aging. This is particularly true of commercial floor settings, utilized by heavy equipment. Floor cleaning is also a good housekeeping practice to keep the volume of dust, dirt, and mud down which prevents tracking of debris into office areas, lunchroom, locker rooms, restrooms, equipment storage rooms, etc. Each garage area has a cleaning schedule based on volume of tracking debris. Due to the harsh work environment (dirt, salt debris, high moisture content), the undercarriage of the machine accumulates significant wear and tear over its life.

Garage Area	Square Footage	Cleanings per Year
Truss (PW)	11,475	8
South (PW)	17,900	4
Fleet Maintenance (PW)	7,150	4
Village Hall	6,000	2
Burmeister (Parking)	11,000	2
Subtotals	53,525	20



Project Update

Replacement of this floor sweeper/scrubber has been deferred from 2025 to 2027. The Village invested approximately \$7,000 total in 2022 to make necessary repairs to refurbish the existing unit and extend its useful life for an additional five years. The projected replacement cost has increased from \$97,000 to \$100,000 due to rises in manufacturing costs and impacts from supply chain disruptions. Staff reached out to several vendors to obtain proposals for contractual floor cleaning. The projected annual cost for contractual floor cleaning is \$14,000, per schedule posted on the previous page. Cost estimates for providing this service in-house are only \$12,000 per year (includes labor, operation, fleet maintenance costs and depreciation of equipment). In-house cleanings typically occur during rain events where the opportunity cost for performing other work is lower. Therefore, staff recommend replacing this unit and continuing to perform this work in-house. When removed from service, this unit will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the project, reschedule the work during later years, or outsource garage floor cleaning at an estimated annual cost of \$14,000.

Regarding green fleet alternatives, machines of this type are powered by either propane or battery pack. However, for heavy industrial use and extended service life, the propane unit is recommended by the manufacturer.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Front-End Wheel Loaders

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	127,000	-	\$127,000	-
Water Fund	-	-	-	63,500	-	\$63,500	-
Sewer Fund	-	-	-	63,500	-	\$63,500	-
Total	-	-	-	254,000	-	\$254,000	-

Project Status

C-01	C-21	C-14
Class 4	Class 5	Class 5

Project Description and Justification

All divisions within the Engineering and Public Works Department utilize these machines daily for material loading. The C-01 loader is equipped with emergency lighting and a tool carrier identical to C-21 and C-14 which allows use of the following interchangeable attachments: a 2.75 cubic yard bucket, 5.4 cubic yard light material bucket, 4-in-1 grappling bucket, 13 ft. power angling snowplow, 10 ft. V-snowplow, and material handling arm (jib crane).

<i>Unit</i>	C-01
<i>Make</i>	Volvo
<i>Model</i>	L90F
<i>Year</i>	2007
<i>Cost</i>	\$147,782
<i>Useful Life</i>	20 Years
<i>Current Life</i>	17 Years



<i>Unit</i>	C-21
<i>Make</i>	Volvo
<i>Model</i>	L45GS
<i>Year</i>	2012
<i>Cost</i>	\$112,679
<i>Useful Life</i>	25 Years
<i>Current Life</i>	12 Years



Vehicle Replacement



<i>Unit</i>	C-14
<i>Make</i>	John Deere
<i>Model</i>	624L
<i>Year</i>	2020
<i>Cost</i>	\$198,833
<i>Useful Life</i>	20 Years
<i>Current Life</i>	4 Years



Project Update

The estimated cost is \$254,000 to replace the 2007 model Volvo heavy-duty front end wheel loader. This unit is one of three front end wheel loaders (two large, one small size class) owned by the Village that are utilized on a year-round basis for material loading (sand, stone, and topsoil), excavation spoils, bulk rock salt, street sweepings, and cold patch material (pothole repairs). The wheel loaders also participate in snow hauling operations of the business district areas and provide added snow plowing capability for blizzard events. Additionally, C-01 and C-14 are utilized to load leaf debris into semi-trailers during leaf collection operations. The front-end wheel loaders also play an integral role in providing emergency response for storm clean-up operations by clearing roads of fallen trees and/or large branches. The Fleet Maintenance division also utilizes these loaders for lift/transport of miscellaneous heavy equipment with the jib crane attachment. Denoted in the table below is summary of material types (and volumes) loaded each year by wheel loaders.

Material Type	Volume (Annually)	Metric
Leaves (Compacted)	9,000	Cubic Yards
Excavation Spoils	2,200	Cubic Yards
Street Sweeping Debris	800	Cubic Yards
Topsoil	100	Cubic Yards
Subtotal	12,100	Cubic Yards
Bulk Rock Salt	2,100	Tons
Crushed Stone (backfill)	850	Tons
Sand (backfill)	250	Tons
UPM Cold Patch (potholes)	150	Tons
Subtotal	3,350	Tons

When removed from service, these trucks will be traded in on a new acquisition or auctioned through the Northwest Municipal Conference's sponsored vendor.

Project Alternative

The alternative is to delay the purchase and reschedule during later years. Green Fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Fire Department – Heavy Rescue Squad (FD201)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	-	-	\$550,000

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

<i>Make</i>	Marion
<i>Model</i>	Heavy Rescue Squad
<i>Year</i>	1999
<i>Cost</i>	\$285,000
<i>Useful Life</i>	30 Years
<i>Current Life</i>	22 Years



The Marion Heavy Rescue Squad Truck (FD201) serves as the special rescue vehicle and can house Hazmat, Technical Rescue Team, and Dive Equipment on board. It also has an air cascade system, which allows for re-filling of SCBA and SCUBA tanks in the field. This vehicle previously served as a standby vehicle that responded to EMS and service calls, specifically in use when the front-line light-duty rescue squad was out of service.

Vehicle	Replacement Cost	In Service	Replacement Year	Miles/Hours	#of Breakdowns	Repair Cost (2 Years)
FD-201	\$550,000	1999	2029			

Project Update

This vehicle will be reconfigured in the future as a solely specialized operations response vehicle; this truck will support the underwater rescue, technical rescue, and hazardous materials teams. This change in use will better support operations and reduce wear on the apparatus until it can be replaced.

Project Alternative

The alternative is to purchase a new pumper squad that supports both the special operations and firefighting missions and eliminate this vehicle and Engine 26R (FD206), thereby reducing the fleet size. This is not the recommended option as it does not fully support the needs of the future operational plans.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase

Vehicle Replacement



Large Dump Truck - Street Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	290,000	300,700	-	279,300	287,500	\$1,157,500	920,000

Project Status

T-05	T-06	T-08	T-18
Class 1	Class 1	Class 5	Class 5

Project Description and Justification

Currently, the Village has a total of 10 large dump trucks in the fleet with plowing and salting capabilities, of which, all 10 trucks are 2009-year models or newer. Beginning with the 2016 Budget, one large dump truck was programmed for replacement each year with a total of six trucks scheduled for replacement over six years (2016, 2017, 2018, 2019, 2020 and 2021). The CIP schedule referenced below was established to distribute costs over multiple years by eliminating the purchase of multiple large dump trucks in a single year.

Truck ID	In-Service Year	Replacement Cycle	Replacement Year	Age at Replacement
T-05	2009	15 years	2024	15
T-06	2009	15 years	2025	16
T-08	2012	15 years	2027	15
T-18	2012	15 years	2028	16
T-03	2016	15 years	2031	15
T-04	2017	15 years	2032	15
T-09	2018	15 years	2033	15
T-10	2019	15 years	2034	15
T-16	2020	15 years	2035	15
T-17	2023	15 years	2038	15

Personnel in the Engineering and Public Works Department (Street Division) utilize these large dump trucks for snow and ice control operations and transporting materials to and from worksites. The vehicles are equipped with a five-yard dump body, v-box salt spreader, liquid salt pre-wetting system, computerized ground sense salt application system, 10' power angling snowplow, 10' underbody scraper, dump body tarp system, emergency lighting, and two-way radio.

<i>Unit</i>	T-05
<i>Make</i>	Navistar
<i>Model</i>	7400 (Tandem Rear Axle)
<i>Year</i>	2009
<i>Cost</i>	\$154,415
<i>Useful Life</i>	15 Years
<i>Current Life</i>	15 Years



Vehicle Replacement



T-05 Maintenance Summary							
Evaluation Period	Breakdowns/ Repairs	Labor Hours	Labor Cost	Parts Cost	Contractual Cost	Total Cost	Mileage
2021-2022	8	20	\$731	\$764	-	\$1,494	1,014
Since Inception	285	890	\$41,695	\$14,112	-	\$55,807	17,202

Unit T-06
Make Navistar
Model 7400 (Tandem Rear Axle)
Year 2009
Cost \$154,415
Useful Life 15 Years
Current Life 15 Years



Unit T-08
Make Navistar
Model 7400 (Single Rear Axle)
Year 2012
Cost \$148,084
Useful Life 15 Years
Current Life 12 Years



Unit T-18
Make Navistar
Model 7400 (Single Rear Axle)
Year 2012
Cost \$168,092
Useful Life 15 Years
Current Life 12 Years



Project Update

The projected replacement costs have decreased from \$390,000 to \$290,000 (T-5) and from \$365,700 to \$300,700 (T-6) over the previous year's cost estimate attributed to the omission of leaf vacuum roll-off bodies. The leaf vacuum roll-off bodies were originally included as contingency planning for leaf collection operations in the event rear loading packer trucks become unavailable or limited availability. However, the new solid waste hauler has confirmed availability over future years. T-18 was added as its replacement year fell into the five-year CIP schedule. The roll-off platform provides greater versatility and utility with each truck build. If a

Vehicle Replacement



truck is down, bodies can be interchanged with another truck chassis to uphold operations. The truck chassis will be replaced with a single rear axle truck chassis (versus tandem rear axle), which offers a tighter turning radius, better handling, visibility, and maneuverability. From an equipment operator's standpoint, these attributes are highly regarded and contribute to more efficient and effective snow and ice control operations for side streets. The specifications of the hydraulics, snowplow operation, salt spreader and liquid systems on the existing unit will remain similar for the replacement truck as the existing equipment set-up has proven to be dependable and capable for snow and ice control operations. When removed from service, vehicles will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.

CIP Replacement Year	2024 (T-05)	2025 (T-06)	2027 (T-08)	2028 (T-18)
Truck Build Component (below)	Projected Cost	Projected Cost	Projected Cost	Projected Cost
Truck Chassis (Roll-Off System)	\$110,000	\$113,800	\$121,900	\$125,500
Front Plow (and Controls)	\$17,000	\$17,600	\$18,850	\$19,400
Under Body Plow (and Controls)	\$17,000	\$17,600	\$18,850	\$19,400
V-Box Spreader (Roll-Off)	\$40,000	\$41,400	\$44,400	\$45,700
Liquid Brine Spray (Roll-Off)	\$38,000	\$39,300	\$42,100	\$43,300
Dump Body (Roll-Off)	\$30,000	\$31,000	\$33,200	\$34,200
Chipper Body (Roll-Off)	\$38,000	\$40,000	-	-
Subtotal	\$290,000	\$300,700	\$279,300	\$287,500

Project Alternative

The alternative is to delay purchases and reschedule during later years.

Green Fleet

Staff continues to research Green Fleet Alternatives for this piece of equipment. Currently, there is not a hybrid technology option available for this unit, but staff expects hybrid options for future replacements. Compressed Natural Gas (CNG) options exist for the heavy-duty trucks, however the incremental cost of outfitting a unit for CNG combined with the cost of constructing a CNG facility does not yield a positive return on investment.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase

Vehicle Replacement



Police Squad Vehicles

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	114,000	58,500	180,000	247,200	126,000	\$725,700	\$755,300

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

The Police Department uses 10 marked squad vehicles for daily patrol and emergency response activities. The vehicles are equipped with a laptop computer, moving radar equipment, and a forward-facing video camera, which are moved from the old unit to the new unit. Staff anticipates replacing these vehicles with a Ford Utility Interceptor Hybrid or like vehicle. The estimated cost of the vehicle includes LED emergency light bar, exterior markings, and miscellaneous parts for outfitting each unit. Below is a summary of the units planned for replacement through 2028.



Vehicle	Replacement Cost	In Service	Replacement Year	Miles/Hours	#of Breakdowns	Repair Cost (2 Years)
SQ-507	\$57,000	2020	2024	51,569	12	2,298.06
SQ-511	\$57,000	2020	2024	54,902	10	5,115.17
SQ-506	\$58,500	2020	2025	n/a	n/a	n/a
SQ-501	\$60,000	2022	2026	n/a	n/a	n/a
SQ-503	\$60,000	2022	2026	n/a	n/a	n/a
SQ-504	\$60,000	2022	2026	n/a	n/a	n/a
SQ-505	\$61,800	2023	2027	n/a	n/a	n/a
SQ-508	\$61,800	2023	2027	n/a	n/a	n/a
SQ-512	\$61,800	2023	2027	n/a	n/a	n/a
SQ-510	\$61,800	2023	2027	n/a	n/a	n/a
Start of New Replacement Cycle						
SQ-507	\$63,000	2024	2028	n/a	n/a	n/a
SQ-511	\$63,000	2024	2028	n/a	n/a	n/a

Project Update

After the vehicle is replaced, the current unit will be transferred to another department for administrative use, traded in on a new vehicle acquisition, or auctioned through the Northwest Municipal Conference or another online auction service.



Project Alternative

It is recommended to replace patrol vehicles every four years. The reliability of a vehicle to handle emergency responses decreases with age and use, and maintenance and repair costs increase accordingly. Another alternative would be to purchase the non-hybrid Utility Interceptor model for approximately \$3,600 less.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this project.

Vehicle Replacement



Police Unmarked Squads and Administrative Vehicles

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	114,000	175,500	60,000	-	-	\$349,500	581,000

Project Status

Critical	Recommended	Contingent
	X	

Project Description and Justification

The Police Department uses nine (9) unmarked squads and administrative vehicles for use by the Police Chief, Deputy Chiefs (2), Detective Bureau, NIPAS team, TAC patrol, Parking Enforcement and Community Service. These vehicles are replaced on 8- and 10-year cycles. Staff anticipates replacing these vehicles with a Ford Utility Interceptor Hybrid or like vehicle. The estimated replacement cost includes LED emergency lighting, exterior markings (where applicable), and miscellaneous parts to complete equipment outfitting of each unit. Below is a summary of the units planned for replacement through 2033.



Vehicle	ID	Replacement Cost	In Service	Replacement Year	Miles/ Hours	#of Breakdowns	Repair Cost (2 Years)
SQ-502	Dep. Chief	\$57,000	2015	2024	48,492	5	\$1,755
SQ-500	Dep. Chief	\$57,000	2017	2024	120,834	6	\$2,191
SQ-514	Chief	\$58,500	2017	2025	n/a	n/a	n/a
SQ-509	Detective	\$58,500	2017	2025	n/a	n/a	n/a
SQ-513	Detective	\$58,500	2017	2025	n/a	n/a	n/a
SQ-521	Parking	\$60,000	2016	2026	n/a	n/a	n/a
SQ-523	TAC Patrol	\$65,000	2021	2029	n/a	n/a	n/a
SQ-502	Dep. Chief	\$72,000	2024	2032	n/a	n/a	n/a
SQ-500	Dep. Chief	\$72,000	2024	2032	n/a	n/a	n/a
SQ-515	NIPAS	\$74,000	2023	2033	n/a	n/a	n/a
SQ-522	Com. Service	\$74,000	2023	2033	n/a	n/a	n/a
SQ-514	Chief	\$74,000	2025	2033	n/a	n/a	n/a
SQ-509	Detective	\$74,000	2025	2033	n/a	n/a	n/a
SQ-513	Detective	\$74,000	2025	2033	n/a	n/a	n/a

Project Update

After the vehicle is replaced, the current unit will be transferred to another department for administrative use, traded in on a new vehicle acquisition, or auctioned through the Northwest Municipal Conference or another online auction service.



Project Alternative

It is recommended to replace these vehicles every eight to ten years. The reliability of a vehicle to handle emergency responses decreases with age and use, and maintenance and repair costs increase accordingly. Another alternative would be to purchase the non-hybrid Utility Interceptor model for approximately \$3,600 less.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Self-Propelled Articulating Boom Lift

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
General Fund	-	66,000	-	-	-	\$66,000	-

Project Status

Score
NEW

Project Description and Justification

The self-propelled (battery-powered) articulating boom lift boom would primarily be used by Facilities Maintenance but would also be available for use by any Department. The boom lift would be used to provide routine maintenance of HVAC equipment, overhead garage doors, roof systems, overhead garage lighting, electrical equipment, etc. The articulating boom configuration offers greater versatility and utility than an electric scissors lift as it can be used both indoors and outdoors and has a mobile platform and extended overhead working height of 45-feet.

On average, the Village rents a battery-powered lift 4-5 times per year for use by in-house staff or contractors to expedite repairs to Village facilities and/or equipment. The cost for rental and delivery of a scissor lift is approximately \$450 per week. If the Village were to purchase its own lift, it would be available every day and for use by other Departments. A new boom lift has an expected service life of 25-30 years depending on its use and availability of parts for servicing. Based on projected incurred annual rental fees (4-5 weekly rentals at approximately \$2,200), the return on investment is 30 years. Denoted below is a history of rental fees incurred over the past nine years:

Year	Rentals	Amount
2023 (YTD)	3	1,514
2022	8	3,939
2021	4	1,850
2020	6	2,454
2019	7	3,332
2018	6	2,794
2017	4	1,691
2016	4	1,781
2015	1	448
Subtotals	43	\$19,803
Average (per year)	4.8	\$2,200

Additionally, by having access to a lift at any time, staff could perform many smaller tasks more readily and safely without the need for extra personnel to assist. Any maintenance task greater than 15-feet cannot be accessed safely with a ladder (fall protection), thus requiring an aerial lift. There are numerous overhead facilities located at the Public Works Facility (garage areas and wash bay facility) and Fire Stations 26 & 27. Also, other miscellaneous facilities maintenance projects, which were previously deferred due to added rental expenses, could be scheduled/completed by in-house staff. The boom lift could also be utilized for maintaining year-round LED tree lighting in the downtown business district and the installation and removal of floral hanging baskets.



Project Update

The projected cost for the boom lift has increased from \$64,000 to \$66,000 due to rises in manufacturing costs and disruptions in supply chains. This request has been deferred since 2017.

Project Alternative

As a less costly purchase option, the Village could purchase a refurbished unit with an estimated savings of \$10,000 to \$15,000 or continue renting equipment on an as-needed basis for facilities maintenance operations.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.



Sidewalk Snow Plowing Program

The Village’s sidewalk snow plowing program consists of three routes, which includes the Business Commuter Priority Route, School Walking Route, and Residential Sidewalks. Each route has a service schedule based on snow accumulation, type of equipment utilized and mobilization. Overall, there are approximately 166 miles of sidewalk throughout the Village.

There are two types of equipment staff utilizes for sidewalk snow plowing and a total of five units:

- Wheel articulating machines (MT-Trackless), and
- Track machines (Prinoth and Bombardier).

Vehicle ID	Type	In-Service Year	Projected Replacement Year	Age at Replacement
C-25 (MT-Trackless)	Wheel	2011	2026	15
C-20 (Bombardier)	Track	1993	2024	31
C-24 (Prinoth)	Track	2011	2028	17
C-18 (Prinoth)	Track	2016	2033	17
C-02 (MT-Trackless)	Wheel	2022	2037	15

The wheeled machines are utilized for lighter snow accumulation events (salting events) and preferred for their quick transit, maneuverability, and ease of chemical application, whereas track machines are favored for their power/weight ratio and ability to plow through deeper, heavier snow accumulations with ease.

Denoted in the table below is an overview of the three routes, including service levels, assigned equipment and mobilization.

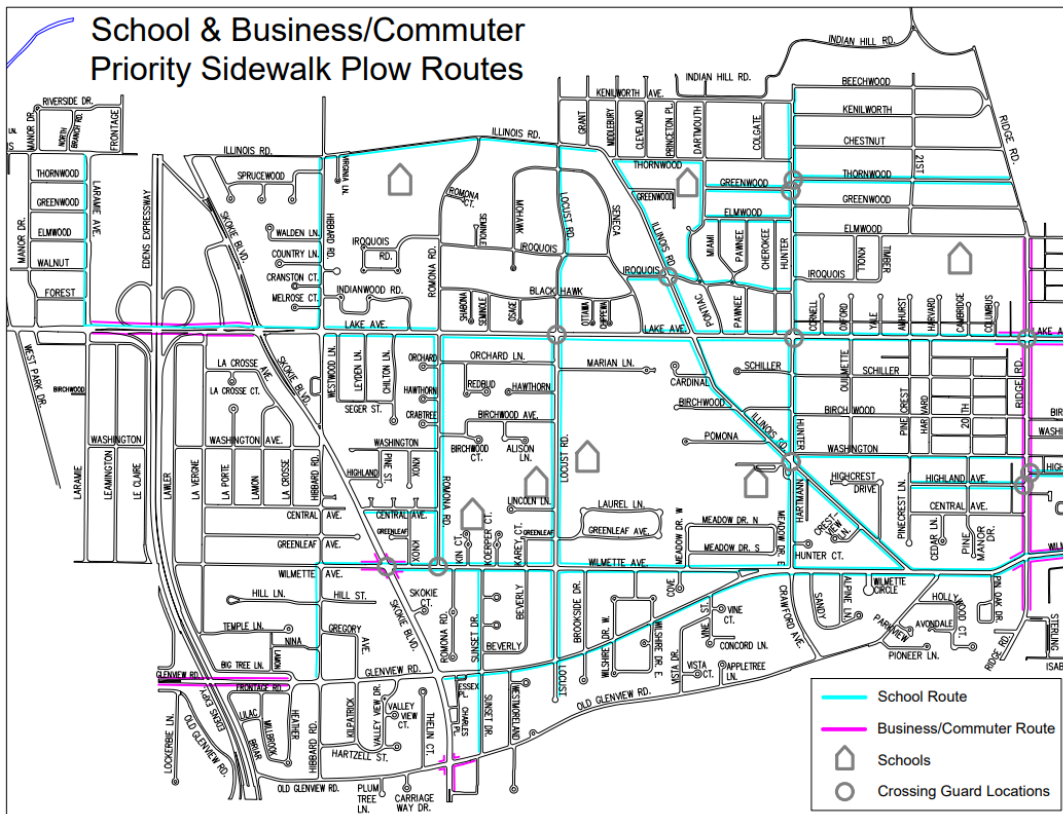
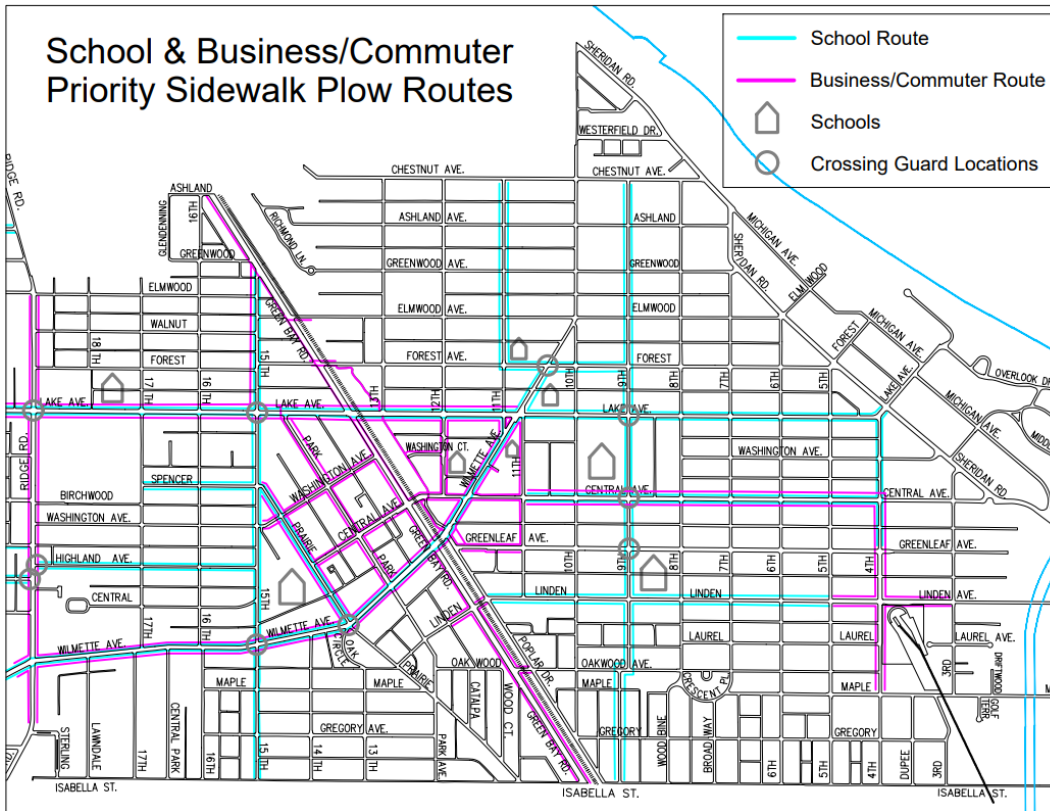
	Business Commuter	School Walking	Residential Sidewalks
Service Initiated	Any (sleet, ice, snow)	2.00 inches+	4.00 inches+
Service Level	Salt and Plow	Salt ¹ and Plow	Plow Only
Length (miles)	16	30	120
Equipment Type	Wheel (MT-Trackless)	Wheel or Track	Track (Prinoth)
Equipment Inventory	C-02 and C-25	C-18, C-20, and C-24	C-18, C-20, and C-24
Average number of events	23	5	2
Mobilization (# of equipment)	2 or 1	3 or 2	3 or 2
Duration-Single Pass (1.00 inch)	4-8 hours	N/A	N/A
Duration-Single Pass (2.00 inch)	5-10 hours	5-8 hours	N/A
Duration-Single Pass (4.00 inch+)	N/A	6-9 hours	30-45 hours

¹Crossing guard locations and at Director’s discretion for all other areas



Vehicle Replacement

Maps of Priority Sidewalk Routes (Business/Commuter & School Walking) for Snow and Ice Control:



Vehicle Replacement



Sidewalk Snowplows (Business and Commuter Route, School Walking Route)

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	205,000	-	-	\$205,000	-

Project Status

C-25	C-02
Class 3	Class 5

Project Description and Justification

Personnel in the Engineering and Public Works Department utilize this articulating sidewalk machine to provide snow and ice control measures for the Business Commuter priority sidewalk route (approximately 16 miles). The new machine will be similarly equipped with a snowplow, dump body, salt spreader, emergency lighting, and two-way radio.

<i>Unit</i>	C-25
<i>Make</i>	MT-Trackless
<i>Year</i>	2011
<i>Cost</i>	\$126,456
<i>Useful Life</i>	15 Years
<i>Current Life</i>	13 Years



<i>Unit</i>	C-02
<i>Make</i>	MT-Trackless
<i>Year</i>	2022
<i>Cost</i>	\$178,213
<i>Useful Life</i>	15 Years
<i>Current Life</i>	2 Years

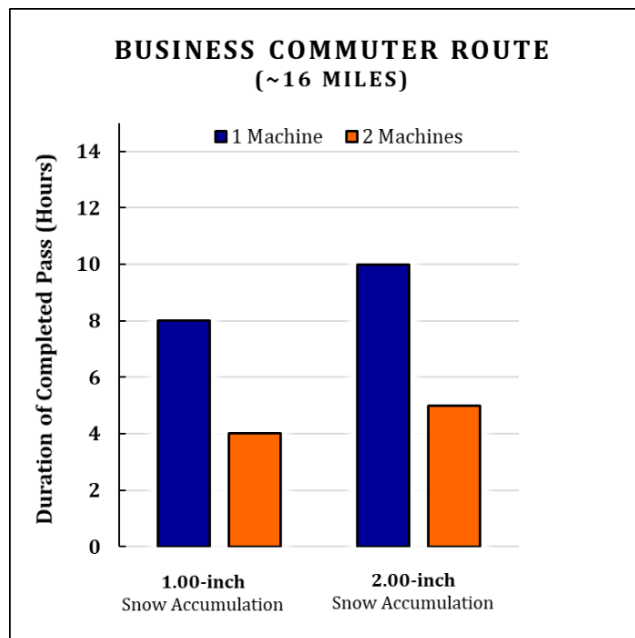


The business commuter walking route (approximately 16 miles) receives service at the onset of any winter precipitation event (dusting of snow, ice, freezing rain and/or moderate/heavy snow), whereas the school walking routes are serviced after 2.00-inches snow accumulation and residential sidewalks after 4.00-inches snow accumulation.

Over an average winter season, the business commuter route receives service for 23-24 snow events. Comparatively, the school walking route receives service for 7-8 snow events while residential sidewalks receive service for 3-4 snow events. The Village currently has two front line machines in the CIP budget for servicing the business commuter sidewalks (C-25 and C-02).



The below table is a summary of expected service levels with one and two frontline machines.



Project Update

The projected replacement cost for a wheel-based machine remains unchanged at \$205,000. Over the past three winter seasons, staff researched alternative equipment to provide for sidewalk snow and ice control. Since these machines provide service at lower snow accumulations, staff tested the possibility that a smaller machine (lower power/weight ratio) could uphold performance, and at a lower cost. Staff brought in several units for demo and surveyed neighboring communities for sidewalk snow equipment.

After extensive review, it was determined the alternative equipment could not effectively replace the functionality and efficiency of a MT-Trackless machine. Specifically, there were concerns with size limitations of equipment (confinement to the width of sidewalk), transport and operational speeds, durability, and nimbleness to safely navigate around Village assets in the downtown areas (light poles, control cabinets, streetscape, and private business awnings).

Therefore, staff recommends continued use of this type of wheel machine (MT-Trackless) for providing snow and ice control along sidewalks. When removed from service, this unit will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the project and reschedule the work during later years or omit purchase and provide service with fewer resources. However, fewer resources will lengthen the cycle or duration to complete the route. The duration (or complete passes) correlates with the morning/evening rush hours. If cycle periods are lengthened, this compromises staff's ability to complete cycles or passes in a timely fashion and provide service ahead of the priority time windows.

The manufacturer of the MT-Trackless unit does not currently offer a hybrid technology alternative. However, the machine's John Deere diesel engine complies with Tier 4 federal emissions standards, and the new models consume 40-50% less fuel and are equipped with an anti-idle shutdown feature.

Vehicle Replacement



Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Sidewalk Snowplows

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	223,800	\$223,800	266,000

Project Status

C-20	C-24	C-18
Class 1	Class 4	Class 5

Project Description and Justification

Personnel in the Engineering and Public Works Department utilize this track sidewalk machine to provide snow and ice control measures for Village sidewalks; primarily the school walking route (~30 miles) and residential sidewalks (~120 miles). The new machine will be similarly equipped with a v-blade snowplow, salt spreader, emergency lighting, and two-way radio.

<i>Unit</i>	C-20
<i>Make</i>	Bombardier (Prinoth)
<i>Year</i>	1993
<i>Cost</i>	\$48,955
<i>Useful Life</i>	17 Years
<i>Current Life</i>	31 Years



C-20 Maintenance Summary

Evaluation Period	Breakdowns/ Repairs	Labor Hours	Labor Cost	Parts Cost	Contractual Cost	Total Cost	Hours
2021-2022	2	3	\$100	\$107	-	\$207	56
Since Inception	408	1,604	\$ 58,501	\$ 46,532	-	\$105,034	1,605

<i>Unit</i>	C-24
<i>Make</i>	Prinoth
<i>Year</i>	2011
<i>Cost</i>	\$110,516
<i>Useful Life</i>	17 Years
<i>Current Life</i>	13 Years



Vehicle Replacement



<i>Unit</i>	C-18
<i>Make</i>	Prinoth
<i>Year</i>	2016
<i>Cost</i>	\$133,447
<i>Useful Life</i>	17 Years
<i>Current Life</i>	8 Years

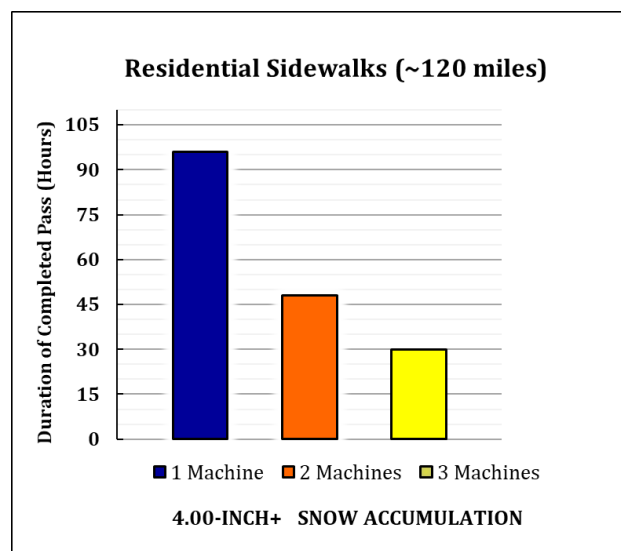
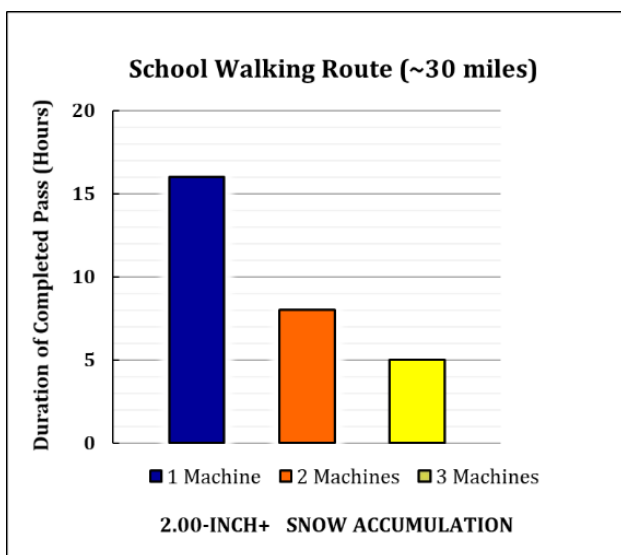


Track machines are used to service the priority school walking route (approximately 30 miles) and residential sidewalks (approximately 120 miles). Plowing of the school walking routes commences after 2.00-inches snow accumulation, whereas residential sidewalks are serviced at 4.00-inches+ snow accumulation. Over an average winter season, the Village plows the school walking routes on 7-8 occasions and residential sidewalks on 3-4 occasions.

These machines are the preferred equipment to plow both the school walking route and residential sidewalks due to their narrow footprint and high power/weight ratio which is unmatched in the industry. Likewise, track machines excel at pushing deep and heavier snow accumulations at a brisk pace as compared to smaller equipment affixed with snow blowers, which operate at a much slower pace.

Project Update

The purchase of C-20 was advanced to 2023 to take advantage of immediate availability from the manufacturer. The projected replacement cost for C-20 has increased from \$190,600 to \$195,000 based on recent price quotes obtained from area vendors and rising costs for manufacturing and commodities (steel). The existing machine is currently a reserve unit (originally budgeted in the 2020 CIP), and staff requests it be replaced and used as an additional front-line unit. Replacement of this unit will bring the total number of front-line machines up from two to three units and will assist in maintaining existing service levels. When removed from service, this unit will be traded in on a new acquisition or be auctioned through the Northwest Municipal Conference.





Project Alternative

The alternative is to delay the project and reschedule the work during later years or omit purchase and provide service with fewer resources. Denoted in the tables above is a comparative summary of expected service levels for the school walking route, and residential sidewalks, with one (1), two (2) and three (3) front line machines. Green Fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Skid-Steer Loaders

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	-	-	44,000	-	\$44,000	-
Sewer Fund	-	-	-	44,000	-	\$44,000	-
Total	-	-	-	88,000	-	\$88,000	-

Project Status

C-35	C-34
Class 4	Class 5

Project Description and Justification

<i>Unit</i>	C-35 (Water & Sewer)
<i>Make</i>	Bobcat
<i>Model</i>	S185
<i>Year</i>	2005
<i>Cost</i>	\$52,350
<i>Useful Life</i>	20 Years
<i>Current Life</i>	19 Years



<i>Unit</i>	C-34 (Street Division)
<i>Make</i>	Bobcat
<i>Model</i>	S650
<i>Year</i>	2018
<i>Cost</i>	\$65,191
<i>Useful Life</i>	20 Years
<i>Current Life</i>	6 Years



Staff in the Engineering and Public Works Department (Water/Sewer Division) utilize the C-35 skid-steer loader for a variety of tasks including material loading, excavation, pavement removal/repairs and storm clean-up efforts. This unit also provides support for snow hauling operations in the business district areas. The existing unit comes equipped with a Cronkite tandem axle trailer, 73" standard bucket, 74" snow bucket, pavement breaker attachment, trencher and 72" snow blower attachment. This is one of two skid-steer loaders (C-35 and C-34) owned by the Village.

Project Update

This equipment was previously deferred from 2025 to 2027 based on review of fleet maintenance records. The projected replacement cost has increased from \$85,000 to \$88,000 based on continuing rises in labor, material, and transportation costs, attributed to supply chain disruptions. When removed from service, this

Vehicle Replacement



equipment will be traded in on a new acquisition or be auctioned through a live auction sponsored through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the purchase and reschedule during later years. Used equipment rental fees are approximately \$7,000 per month. Green Fleet alternatives are not evaluated for out-year purchases.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Small Dump Truck – Water and Sewer Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	53,000	-	-	-	\$53,000	-
Sewer Fund	-	53,000	-	-	-	\$53,000	-
Total	-	106,000	-	-	-	\$106,000	-

Project Status

T-14	T-35	T-38
Class 2	Class 5	Class 5

Project Description and Justification

These three vehicles are categorized as small dump trucks and used by various personnel in the Engineering and Public Works Department (Sewer/Water Division). These trucks are utilized daily to transport excavation spoils, backfill materials and other materials to repair infrastructure. Materials and equipment routinely transported include sand, crushed stone, topsoil, small tools and equipment, trash pumps, concrete sewer structures (catch basins and inlets), manhole covers and frames, clamps, water main break repair sleeves and water/sewer pipe materials.

<i>Unit</i>	T-14
<i>Make</i>	Ford
<i>Model</i>	F-350
<i>Year</i>	2012
<i>Cost</i>	\$36,683
<i>Useful Life</i>	12 Years
<i>Current Life</i>	12 Years



<i>Unit</i>	T-35
<i>Make</i>	Ford
<i>Model</i>	F-450
<i>Year</i>	2022
<i>Cost</i>	\$69,847
<i>Useful Life</i>	12 Years
<i>Current Life</i>	2 Years



Vehicle Replacement



<i>Unit</i>	T-38
<i>Make</i>	Ford
<i>Model</i>	F-450, Valve Exercising Machine
<i>Year</i>	2023
<i>Cost</i>	\$122,833
<i>Useful Life</i>	12 Years
<i>Current Life</i>	1 Year



Project Update

Unit T-14 was previously deferred to 2025. The projected replacement cost (T-14) has increased from \$80,000 to \$106,000 based on review of recent bid results (T-38) and continual rise in labor, material, and transportation costs, attributed to supply chain disruptions. The replacement truck chassis will include a gas engine, stainless steel dump body, hydraulic hoist (for dump body), tunnel toolbox, emergency lighting and two-way radio. T-38 is equipped with a hydraulic valve turning machine whereas the other small dump trucks (T-14 and T-35) are not equipped with valve-exercising equipment.

Benefits of Routine Water Valve Exercising (T-38 Only)

In total, the water distribution system has 1,200 valves, ranging in size from 4” to 36” diameter. The number of turns required to open/close a valve varies from 10 turns (4” diameter) to 150 turns (36” diameter) and can fluctuate with age. The turn direction can be either right or left depending on the valve manufacturer and size.

Best management practices recommend operating (or exercising) at least 25% of the system’s valves annually to ensure proper operation and to proactively identify valves in deteriorating condition. Water acts as a corrosive agent with metal, and over time, if not operated on a routine basis, valves will seize up and become inoperable. Having inoperable valves in the system requires larger shutdowns for emergency repairs as crews must extend out further to find operable valves to facilitate a shutdown, which inconveniences more customers.

The hydraulic machine has many benefits over manual labor. First, the machine has a precision counter for the number of turns required and an auto sense feature for proper turn direction (i.e., verifies by testing both directions first). The machine’s torque settings are calibrated, provide more power than manual labor and will not over torque the valve. The operator can set the torque rating to match each valve’s manufacturer specification, preventing accidental damage or stripping of threads. The machine’s software also maintains a history for each valve that includes the turn direction, number of turns, and torque settings. This information can be uploaded into the Village’s GIS attribute layer. Therefore, staff can monitor the history to see if attributes change and identify those indicative of premature wear.

Likewise, by proactively exercising valves with this machine, the Village ensures proper operation of valves and condition assessment ahead of the unidirectional flushing program. Staff can be proactive with repairs, translating to a smoother run program in which a contractor does not come across broken valves which require abrupt work stoppages and rerouting.

The articulating valve machine (front bumper mount) is powered with hydraulics and can extend out up to 10’ (180 degrees) to access valves. Water valves feed off the water main and can be found in the roadway or in

Vehicle Replacement



the parkway or public right-of-way. With the extension feature, the vehicle no longer needs to drive-up onto the parkway for access which typically results in turf damage such as tire ruts and requires restoration efforts.

When removed from service, these trucks will be traded in on a new acquisition or auctioned through the Northwest Municipal Conference's sponsored vendor.

Project Alternative

The alternative is to delay the purchase and reschedule during later years.

Staff researched green fleet alternatives from Ford Motor Company (FMC) for medium-duty truck applications. Focus was placed on FMC as they currently are the most active vendor for municipal fleet sales (medium duty trucks) and hold the lowest bids for most joint purchase contracts. Hybrid and electric technology applications were released for ½ ton (light duty) pick-up truck chassis only. However, FMC currently does not offer a hybrid or electric powertrain matching operational needs for medium-duty truck applications (F-350, F-450 and above). However, staff will equip the new truck chassis with a low cost, anti-idling system (idle runs off battery power) to reduce fuel consumption.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Small Dump Truck –Street Division

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	150,000	\$150,000	300,000

Project Status

T-11	T-23	T-32
Class 5	Class 5	Class 5

Project Description and Justification

These three vehicles are categorized as small dump trucks and used by various personnel in the Engineering and Public Works Department (Street Division). They are equipped with four-wheel drive, three-yard stainless steel dump bodies with drop down sides, hydraulic controls, v-box salt spreader with liquid pre-wet application and snowplow (T-11 and T-23 only), emergency lighting, and two-way radio.

During the spring, summer, and fall seasons these vehicles are utilized for hauling/transport of various materials (i.e., landscape/compost debris, soil, mulch, stone, barricades, and miscellaneous equipment) and as a watering truck for landscape plants (annuals and perennials), floral hanging baskets, and newly planted trees. These vehicles also assist with transport of the asphalt roller and skid steer (cold planer attachment) equipment to support street paving operations during the summer months.

Two of these vehicles (T-11, T-23) support snow and ice control operations during the winter season; they are specifically utilized for salting/plowing the seven (7) railroad crossings along Green Bay Road, which is of high priority as these intersections have severe inclines that become impassable if not closely monitored during an event for snow and ice accumulation. They also assist with the salting/plowing of all parking offsets in the business district areas, Village parking lots, and Village facilities. The small dump trucks have more maneuverability than the larger dump trucks and are better suited to servicing areas with smaller footprints. More importantly, by performing these tasks, they free up the larger dump trucks during snowstorms, allowing them to focus on servicing arterial streets, collector streets, and priority streets within school zones.

<i>Unit</i>	T-11
<i>Make</i>	Ford
<i>Model</i>	F-550
<i>Year</i>	2016
<i>Cost</i>	\$93,565
<i>Useful Life</i>	12 Years
<i>Current Life</i>	8 Years



Vehicle Replacement



<i>Unit</i>	T-23
<i>Make</i>	Ford
<i>Model</i>	F-550
<i>Year</i>	2016
<i>Cost</i>	\$93,565
<i>Useful Life</i>	12 Years
<i>Current Life</i>	8 Years



<i>Unit</i>	T-32
<i>Make</i>	Ford
<i>Model</i>	F-350
<i>Year</i>	2017
<i>Cost</i>	\$46,858
<i>Useful Life</i>	12 Years
<i>Current Life</i>	7 Years



Project Update

The projected replacement cost for the replacement of T-11, T-23 and T-32 is \$150,000 each. These vehicles will be configured identically. When removed from service, these vehicles will be traded-in on a new acquisition or be auctioned through the State of Illinois online surplus site (iBid) or through the Northwest Municipal Conference (NWMC) outlet. Having multiple disposal outlets helps the Village achieve fair market value for sale of surplus.

Project Alternative

The alternative is to delay the purchase and reschedule during later years.

Staff researched green fleet alternatives from Ford Motor Company (FMC) for medium-duty truck applications. Focus was placed on FMC as they currently are the most active vendor for municipal fleet sales (medium duty trucks) and hold the lowest bids for most joint purchase contracts. Hybrid and electric technology applications were released for ½ ton (light duty) pick-up truck chassis only. However, FMC currently does not offer a hybrid or electric powertrain matching operational needs for medium-duty truck applications (F-350, F-450 and above). However, staff will equip the new truck chassis with a low cost, anti-idling system (idle runs off battery power) to reduce fuel consumption.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Street Sweepers

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	218,000	-	\$218,000	247,000
Sewer Fund	-	-	-	118,000	-	\$118,000	133,000
Totals	-	-	-	336,000	-	\$336,000	380,000

Project Status

S-02	S-01
Class 4	Class 5

Project Description and Justification

Various personnel in the Engineering and Public Works Department (Street Division) use these two machines to sweep streets and collect leaves. S-2 is a regenerative air-type sweeper, whereas S-01 is a mechanical sweeper (broom & conveyor). Both are equipped with emergency lighting and a two-way radio.

<i>Unit</i>	S-02
<i>Make</i>	Schwarze Industries
<i>Model</i>	A9
<i>Year</i>	2017
<i>Cost</i>	\$255,102
<i>Useful Life</i>	10 Years
<i>Current Life</i>	7 Years



<i>Unit</i>	S-01
<i>Make</i>	Elgin
<i>Model</i>	Pelican
<i>Year</i>	2022
<i>Cost</i>	\$268,414
<i>Useful Life</i>	10 Years
<i>Current Life</i>	2 Years



Project Update

The projected replacement cost has increased from \$326,000 to \$336,000 based on a review of updated pricing estimates from area dealers. This sweeper (S-2) is the only regenerative air type sweeper owned by the Village, the other being a mechanical unit. Each type of sweeper has its benefits as the regenerative air type is better suited at collecting fine debris while the mechanical unit is better with collecting larger debris.

Vehicle Replacement



The regenerative air unit has a larger hopper and transports faster, although does not perform as effectively as the mechanical unit with heavy debris loads. Both sweepers are used throughout the year with exception of winter months, due to exposure of cold temperatures (inhibits use of water spray feature for dust control) and road salt, which promotes premature aging and wear of critical system components. Both sweepers are used daily during an eight-week period for leaf collection operations, where the entire Village gets swept on five occasions. As of June 2023, this machine (S2) has amassed 4,295 sweeping miles (or 781 miles swept annually). An additional 3,360 sweeping miles (or 560 miles swept annually) are associated with leaf collection operations. All in all, street sweeping operations collect approximately 700-900 cubic yards of debris each year from Village streets, alleys, parking lots and business district areas (excludes leaf collection operations).

Project Alternative

The alternative is to delay the project and reschedule replacement during later years. If deferred, the Village may be faced with additional extensive repairs over succeeding years, totaling approximately \$50,000, including: interior body housing and electrical wiring corrosion, electrical faults, bearings, hydraulic system repairs (hoses, pumps, motors), and conveyor system repairs. Alternatively, street sweeping operations could be outsourced at an estimated annual cost of \$86,000 based on unit pricing offered through an MPI bid for street sweeping; however, the MPI bid pricing includes routine sweeping operations only and does not include the cost for sweeping during leaf collection operations where five passes of Village streets are completed within an eight-week period (estimated additional cost of \$65,000-\$70,000). As a second option, street sweepers could be leased with an anticipated monthly rate of \$12,000 each (or \$144,000 annually), not inclusive of fuel or maintenance/repair costs.

Staff continues to research Green Fleet Alternatives for this piece of equipment. There is a Compressed Natural Gas (CNG) option available, however the incremental cost of outfitting a unit for CNG combined with the cost of constructing a CNG facility does not yield a positive return on investment. CNG use reduces greenhouse gas emissions (GHG) by up to 23% for medium-duty and heavy-duty truck applications. The closest CNG fueling stations for public access are McCook, IL, Naperville, IL and Bolingbrook, IL. Hybrid technology is also available (paired either with CNG or diesel engine), however, the upfront cost is sizable and does not yield a positive return on investment. Denoted in the table below is a cost summary of alternatives available in the marketplace as of June 2023.

Description	Powertrain	Projected Cost
Elgin Pelican (Mechanical)	Diesel	\$280,000
Elgin Pelican (Mechanical)	Compressed Natural Gas (CNG)	\$393,000
Elgin Broom Bear (Mechanical/Air)	Hybrid (plug-in) with Diesel or CNG	\$672,000

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.

Vehicle Replacement



Stump Grinder

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	68,000	-	-	-	\$68,000	-

Project Status

C-06
Class 2

Project Description and Justification

<i>Unit</i>	C-06
<i>Make</i>	Carlton
<i>Model</i>	7500
<i>Year</i>	2001
<i>Cost</i>	\$21,350
<i>Useful Life</i>	25 Years
<i>Current Life</i>	23 Years



C-06 Maintenance Summary							
Evaluation Period	Breakdowns/ Repairs	Labor Hours	Labor Cost	Parts Cost	Contractual Cost	Total Cost	Hours
2021-2022	2	2	\$112	\$984	-	\$210	5
Since Inception	119	210	\$9,008	\$3,316	-	\$12,324	1,375

Personnel in the Engineering and Public Works Department (Street Division) operate this stump grinder as part of tree removal operations for site restoration. This unit is hydraulically operated and equipped with a 21-inch diameter cutting wheel.

Project Update

Replacement of this machine has been advanced from 2026 to 2025 to facilitate the purchase of a compact skid loader type machine with attachments (including a stump grinder, small bucket, forks, etc.) and trailer unit. Staff utilize this equipment to grind approximately 60 parkway tree stumps (under 12-inch diameter trees) annually. The updated replacement cost has increased from \$40,000 to \$68,000, based on the latest cost estimates received from area dealers. The purchase cost estimate does not include proceeds from surplus sale or trade-in of the existing unit.

Transitioning to a compact utility loader machine offers greater versatility and utility than the existing unit, which is a bulky, cumbersome trailer mount – has proven non-conducive for accessing remote jobsites such as the grounds at Village facilities or other unconventional public rights-of-way. The compact skid-steer machine is self-propelled, maneuverable, and does not require assistance from a vehicle/trailer combination unit to provide remote access. When removed from service, this machine will be traded in toward a new purchase or auctioned through the Northwest Municipal Conference.



Project Alternative

The alternative is to delay the project and reschedule the work during later years, lease a stump grinder on an as-needed basis from an area equipment vendor for approximately \$2,000 per week, or seek additional contractual assistance (approximately \$10,000 per year) in lieu of equipment replacement for stump grinding of parkway trees under 12-inches diameter.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.



Trailer – Light Poles

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
CERF	-	-	-	-	-	-	-

Project Status

C-26
Class 1

Project Description and Justification

<i>Unit</i>	C26
<i>Make</i>	Sauber Mfg. Co.
<i>Model</i>	4300S
<i>Year</i>	1994
<i>Cost</i>	\$4,960
<i>Useful Life</i>	30 Years
<i>Current Life</i>	30 Years



Personnel in the Engineering and Public Works Department (Street Division) utilize this trailer to transport light poles of varying lengths to jobsites. The existing unit has no additional equipment and was designed specifically for this task. The new trailer will be equipped similarly to the existing unit.

Project Update

Refurbishment of this trailer unit was advanced to 2023. This unit had previously been advanced from 2028 to 2024 based on review of fleet maintenance records. The existing unit will be refurbished at an estimated cost of \$12,000 (includes new fenders, wheels/rims, rear axle, brakes, wiring, and lighting). Refurbishing efforts will extend the trailer's useful life by 10 years. The cost of a new trailer is between \$25,000 and \$30,000. When removed from service, this trailer will be traded in on a new acquisition or auctioned through the Northwest Municipal Conference.

Project Alternative

The alternative is to delay the project and reschedule the work during later years. There are no Green Fleet alternatives as the trailer is a non-motorized unit.

Budget Impact

This is a Non-Recurring Expense

There are annual maintenance expenses associated with this purchase.



WATER PROJECTS

2024-2033 CAPITAL IMPROVEMENT PROGRAM

Project Category Overview

PROJECTS

PROJECTS		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Water Total	Automatic Meter Reading Program	2,050,000	450,000	-	-	-	2,500,000	-
	Corrosion Control Inhibitor Study	110,000	-	-	-	-	110,000	-
	Distribution System Valve Improvements	103,000	106,100	109,200	113,300	116,700	548,300	593,300
	Fire Hydrant Painting, Testing, and Abatement	34,560	34,900	11,500	12,000	12,000	104,960	64,500
	Hydraulic Model Assessment of Water Distribution System	150,000	-	-	-	-	150,000	150,000
	Lead Service Line Replacement	517,500	517,500	502,500	502,500	502,500	2,542,500	25,625,000
	Leak Detection Services	46,000	46,000	46,000	-	-	138,000	-
	Rebuild High Lift Pumps	60,000	60,000	60,000	-	-	180,000	-
	Rebuild Wash Water Pumps	-	80,000	60,000	-	-	140,000	-
	Repairs- Water Transmission Main	160,750	370,000	150,000	394,500	419,000	1,494,250	-
	Replacement Standpipe Isolation Valve	-	80,000	-	-	-	80,000	-
	Roof Repairs	-	260,000	-	-	-	260,000	-
	Tank Maintenance Services	-	50,000	-	-	-	50,000	-
	Treatment Process Improvements Program Phase 1	720,000	-	498,000	-	-	1,218,000	-
	Treatment Process Improvements Program Phase 2	100,000	450,000	2,000,000	-	-	2,550,000	-
	Treatment Process Improvements Program Phase 3	-	-	750,000	140,000	470,000	1,360,000	-
	Unidirectional Water Main Flushing	-	70,000	70,000	-	-	140,000	300,000
	Water Intake and Low Lift Pumping Improvements	100,000	1,000,000	7,000,000	7,000,000	-	15,100,000	-
	Water Main Replacement Program	3,440,000	3,470,000	3,570,000	3,680,000	3,790,000	17,950,000	20,710,000
	Water Main Surge Suppressors	16,500	17,000	17,500	18,000	18,500	87,500	-
	Water Meter Replacement Program	55,000	55,000	55,000	55,000	55,000	275,000	300,000
Water Total		\$ 7,663,310	\$ 7,116,500	\$ 14,899,700	\$ 11,915,300	\$ 5,383,700	\$ 46,978,510	\$ 47,742,800

FUNDING SOURCE

FUNDING SOURCE		2024	2025	2026	2027	2028	5-Year Total	2029-2033
Water	Water Fund							
	Operations	4,175,810	4,699,000	4,149,200	4,272,800	4,411,200	21,708,010	47,742,800
	Grant Funding	617,500	517,500	502,500	502,500	502,500	2,642,500	-
	Debt Financing	2,115,000	450,000	1,248,000	140,000	470,000	4,423,000	-
	IEPA Loan	100,000	1,450,000	9,000,000	7,000,000	-	17,550,000	-
	Prior Bond Issuance	655,000	-	-	-	-	655,000	-
Water Total		\$ 7,663,310	\$ 7,116,500	\$ 14,899,700	\$ 11,915,300	\$ 5,383,700	\$ 46,978,510	\$ 47,742,800



Condition Rating Evaluation Methodology

Condition Rating	Description	Probability of Failure	Anticipated Useful Life	Historical Maintenance Needs
1	New, perfect condition.	Unlikely	>90%	None
2	Good condition, no improvements recommended to maintain function.	Seldom	75%	Minor
3	Fair condition, improvements recommended to improve performance or efficiency.	Occasional	50%	Some
4	Poor condition, will not impair operations or safety significantly. Improvements recommended to prevent future deterioration and maintain reliability.	Likely	25%	Many
5	Imminent failure, would directly and significantly impact operations at the water plant, including capacity, water quality or safety. Rehabilitation or replacement required.	Certain	<10%	Major

Criticality Rating Evaluation Methodology

Criticality Rating	Plant Capacity Impacted	Water Quality/Regulatory	Safety Hazard	Replacement Lead Time (Years)	Severity Level
1	None	None	None	None	None
2	25%	Low	Low	0.5	Low
3	50%	Moderate	Moderate	1	Moderate
4	75%	High	High	3	Critical
5	Plant shutdown	Violation	Loss of Life	>5	Catastrophic

Risk Based Assessment – Capital Improvement Projects (CIP) Prioritization

Condition Rating	Criticality Rating				
	1	2	3	4	5
1	Tier 1	Tier 1	Tier 2	Tier 3	Tier 3
2	Tier 1	Tier 1	Tier 3	Tier 3	Tier 4
3	Tier 2	Tier 2	Tier 4	Tier 4	Tier 5
4	Tier 2	Tier 3	Tier 4	Tier 5	Tier 5
5	Tier 2	Tier 3	Tier 4	Tier 5	Tier 5

Tier 1		Very Low Risk	Include in the CIP > 10 years
Tier 2		Low Risk	Include in the CIP 7-10 years
Tier 3		Medium risk	Include in the CIP 5-7 Years
Tier 4		High Risk	Include in the CIP 2-5 Years
Tier 5		Very High Risk	Include in the CIP 1-3 Years



Automatic Meter Reading (AMR) Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund (Bond)	2,050,000	450,000	-	-	-	\$2,500,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2017	\$20,000 – Operating
2012	\$185,000 – Operating
2011	\$52,000 – Operating
2010	\$98,000 – Bond
2009	\$98,000 – Bond

Project Description and Justification

The Automatic Meter Reading (AMR) program began in 2000 and was completed in 2012. As a result, all 8,950 outside registers and inside generators with an AMR system were replaced.

In 2024, it is proposed that the Village replace all the AMRs and install a fixed network infrastructure to allow for automated reading of meters wirelessly. This consists of replacing the existing AMRs with cellular based AMRs. A replacement of this size will require hiring an outside contractor. The mass replacement program would provide instantaneous water meter readings, better customer service, and allow for monthly billing of all accounts. Due to the phased installation of the AMRs, many AMRs are currently out of warranty and have exceeded their life expectancy as the table below shows:

Installation Year	Number of AMRs	Life Expectancy
2004	290	10
2005	697	10
2006	752	20
2007	827	20
2008	954	20
2009	764	20
2010	1,058	20
2011	576	20
2012	1,384	20

The failure of these AMRs will cause significant disruption to water billing as well as unplanned budget cost for replacement.



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	15% of the AMRs have exceeded their life expectancy and an additional 21% would have less than 25% left by year 2022
Criticality Rating	3	Failure in this equipment will have a moderate severity impact on customer service

Project Update

A Request for Proposal (RFP) has been prepared and is expected to be awarded in the fourth quarter of 2023. If needed, staff would bring forward a discussion on the AMR replacement proposals to the Municipal Services Committee (MSC) prior to a Village Board approval.

Project Alternative

There are few alternatives to this project:

- Replace the AMRs in-house in stages (7-10 years) similar to the previous program. However, this would create two different technologies that the Village has to maintain during this process, as well as the possibility of changing technologies by the provider in the middle of the program.
- Replace both the AMRs and water meters during this project. This would increase the cost of the project by an additional \$1.5 M. As a result, the meter replacement program would be eliminated.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Corrosion Control Inhibitor Study

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	110,000	-	-	-	-	\$110,000	-

Project Status

Risk Score
Tier 5

Funding History

Year	Amount
2023	\$20,000 – Start of the study

Project Description and Justification

In 2021, the Illinois Environmental Protection Agency (IEPA) required multiple water treatment plants on Lake Michigan to perform a study to evaluate the effectiveness of the corrosion control inhibitor being used. This inhibitor is used to control lead and copper levels in drinking water. The inhibitor is a chemical additive (ortho-phosphate) that helps in coating the inside of service lines and reduce the leaching of lead and copper into drinking water. This study is expected to take 12-16 months to complete in order to include seasonal changes.

Wilmette has met the regulatory requirements of the lead and copper rule. However, the IEPA is requiring the facilities to update their inhibitors' effectiveness since the last major study was conducted 30 years ago.

Project Update

The study was approved in the 2023 budget and will be concluded in 2024.

Project Alternative

There are no alternatives as this is an IEPA regulatory requirement.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Distribution System Valve Improvements

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	103,000	106,100	109,200	113,300	116,700	\$548,300	593,300

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023*	\$177,000
2022	\$0
2021	\$91,000
2020	\$88,600
2019	\$67,600
2018	\$65,027

* Budget Amount

Project Description and Justification

Operational valves are an important component of a reliable and efficient water distribution system. The valves function by turning a nut on the stem, which closes the valve shut. When shut closed, the valves block the flow of water, allowing sections of water main to be isolated for repairs while keeping other parts of the system in service. This project provides for the installation of new gate valves and the replacement of broken existing valves on the water distribution system. The new valves will reduce the number of residents impacted by water main shutdowns during maintenance or emergency repairs in the event of a water main break.

Approximately 1,250 water valves were operated and inspected during the valve exercise program in 2017 and 2018. There are currently 25 valves that are inoperable that require replacement. Staff recommends replacing 4 to 5 valves annually to improve the reliability of the water distribution system.

Project Update

The funding amounts for 2024-2033 have been updated.

Project Alternative

If new valves are not installed, water main breaks will impact more residents than necessary because larger area shutdowns will be required. In addition, broken valves will make the valve exercising program more difficult to administer. The alternative is replacing fewer valves each year.

Budget Impact

This is a Recurring Expense

There are additional costs associated with this project including personnel costs for valve installations and maintenance costs.



Fire Hydrant Painting, Testing and Abatement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Operating	34,560	34,900	11,500	12,000	12,000	\$104,960	64,500

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	No. Tested	No. Abated	No. Painted	Total Cost
2023	206	15	120	\$28,860
2022	332	12	123	\$25,805
2021	-	-	-	-
2020	200	11	110	\$18,735
2019	130	1	112	\$12,053
2018	-	2	122	\$10,400
2017	138	-	138	\$12,475
2016	12	-	86	\$6,522
2015	-	-	86	\$6,450
Totals	1,018	41	897	\$121,300



Project Description and Justification

For 2024, this project entails fire hydrant painting and lead paint abatement. Denoted in the table below is a breakdown of the costs for these services.

Maintenance Activity	Quantity	Unit Cost	Cost
Fire Hydrant Painting	112	\$105	\$11,760
Fire Hydrant Abatement	24	\$950	\$22,800
Total	136		\$34,560

Painting – Fire Hydrants

The Village has a total of 1,061 fire hydrants (1,018 public, 42 private, 1 multi-jurisdiction) connected to its water distribution system. Fire hydrant refurbishing and painting includes abrasive blasting, priming, and painting of approximately 112 fire hydrants. Over time, the condition of the paint deteriorates, exposing bare metal leading to corrosion, attributed to continual, open exposure to the elements (UV exposure, road salt spray, etc.). As a result, painting is viewed as an ongoing routine maintenance project, which should be performed periodically, preferably annually. Fire hydrants appear in like new condition after refurbishing.

Since 2015, a total of 897 fire hydrants (or 84% of the system) have been refurbished. Based on continuation of funding to support refurbishing of 112 fire hydrants annually, all fire hydrants will be completed by 2025, reflecting a 10-year cycle. Moving forward, the 2025 budget amount reflects painting of 100 fire hydrants



(\$115 each or \$11,500 total) or 10-year cycle. Staff projects the unit pricing to increase for 2024 (or \$105 each) based on the continual rise in commodity costs.

Lead Paint Abatement – Fire Hydrants

For hydrants containing lead paint, the Village secured a licensed abatement firm for remediation. Staff contacted several licensed lead paint abatement firms and obtained proposals from two vendors. The lowest proposal was \$525 per fire hydrant in 2018, which is significantly lower than the replacement cost of a fire hydrant (\$4,100-material only). The pilot project kicked off in 2018, continued in 2019, 2020, 2022 and 2023 with a total of 41 fire hydrants and 75 green light poles abated. The program was successful, and staff recommend continuation of this program for lead paint abatement. There were an additional nine fire hydrants containing lead paint replaced as part of road construction projects, bringing the lead paint abatement total to 50 fire hydrants.

Staff recommends remediating all remaining hydrants containing lead paint (projected 70 total) over a two-year period (2024-2025) with 24 fire hydrants scheduled for 2024 at a projected cost of \$22,800 (or \$950 each). Remediated hydrants would then be painted under the regular fire hydrant painting program.

Lead Paint Testing – Fire Hydrants – Update (2023)

Since 2017, a total of 1,018 fire hydrants have been tested with 89 hydrants testing positive for lead paint (8.7%), of which, 41 hydrants have been abated through 2023. The remaining 48 hydrants are scheduled to be abated in 2024 (24 ea.) and 2025 (24 ea.).

The table below provides a breakdown of project costs over the next five years.

Activity	2024	2025	2026	2027	2028	Subtotals
Painting	11,760	11,500	11,500	12,000	12,000	58,760
Lead Abatement	22,800	23,400	-	-	-	46,200
Subtotals	34,560	34,900	11,500	12,000	12,000	104,960

Project Update

Funding amounts for 2024-2028 have been updated. Starting in 2020, the cost of abatement and lead paint testing was added to the project page for fire hydrant painting. This project was deferred in 2021 to 2022.

Project Alternative

The alternative is to delay the project and reschedule the work during later years and/or schedule testing and abatement services over a longer duration or extended time frame.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Hydraulic Model Assessment of the Water Distribution System

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	150,000	-	-	-	-	\$150,000	150,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2015	\$136,209

Project Description and Justification

This request is to contract with a qualified engineering firm to collect all the latest GIS attribute layers for the water distribution system, along with operating data from the Water Plant on water consumption and to prepare a hydraulic analysis of the Village's water distribution system to provide guidance and recommendations for future water main rehabilitation and/or replacement. The last assessment study for the Village's water distribution system was performed in 2015-2016 by CDM-Smith for \$136,209.

This study/assessment includes looking at the water system's normal operations under controlled conditions, as well as during emergencies. The software analyses are performed for both the existing state of the systems and for the planned system expansions in future. Hydraulic models may validate the design of new or rehabilitated pipelines. This assessment includes steady-state analyses, extended period analyses, fire flow analyses, hydraulic transient analyses, water quality analyses, development of scenarios, pressure optimization, existing and future demand scenarios, operational optimization, existing and emergency water supply analyses.

The water system hydraulic study or assessment looks at various factors to be used in the software model to make its findings. Factors such as main size, break history, dead-ends (connectivity), and fire-flow are considered. From these findings, the consultant will make determinations and prioritize their watermain replacement or rehabilitation recommendations in their final report.

In 2015, five firms made proposals to perform this work. Those firms and others will be asked to provide a price proposal for this assessment. The chosen consultant will prepare the hydraulic model to the latest version, perform field tests to calibrate the model, and recommend sections of water main(s) to be replaced or rehabilitated as needed.

Project Update

This is a new request submitted as part of the 2024 CIP and the projected cost for this study is \$150,000.

Project Alternative

The alternative is to delay the project and reschedule during later years.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Lead Water Service Line Survey and Replacement

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Grant Funding	517,500	517,500	502,500	502,500	502,500	\$2,542,500	-
Water Operating	-	-	-	-	-	\$-	25,625,000
Totals	517,500	517,500	502,500	502,500	502,500	\$2,542,500	25,625,000

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	\$199,000*
2022	\$757,953

*Through August 22, 2023

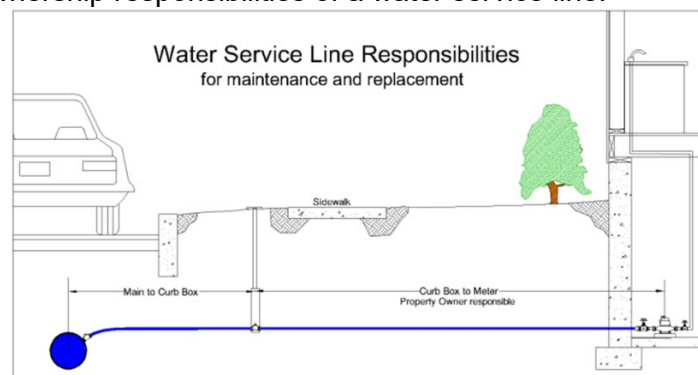
Project Description and Justification

In August 2021, the Governor signed into law the Lead Service Line Replacement and Notification Act (the "Act"), which became law in Illinois as Public Act 102-0613 on January 1, 2022. In the Act, which is codified at 415 ILCS 5/17.12, the Illinois General Assembly determined that for the health and safety of the citizens of Illinois, all lead service lines must be replaced by the owner or operator of any community water supply, including municipalities. Illinois is now the third state in the nation to require full replacement of lead service lines in community water systems.

This act outlines the obligations of community water systems, beginning in 2022, to comply with the mandates regarding the inventory and replacement of lead service lines throughout the State of Illinois. The legislation requires that community water suppliers complete a material inventory of lead service lines, and the legislation sets replacement schedule timelines for community water suppliers.

Water Service Line

Currently, the Village Code splits responsibility for repairing water service lines between parties; the Village is responsible for repairs for the portion from the water main to the curb stop (also known as the buffalo box or curb box) and the property owner is responsible from the b-box to the house. The diagram below helps to illustrate the layout and ownership responsibilities of a water service line.





Water Service Line Survey

A service line inventory must be completed by April 15, 2024. The Village’s survey of the ‘unknown’ water services is ongoing and utilizes a variety of methodologies to aid in the inventory of water service line materials including construction dates, permit date, water projects, water meter replacements, building inspections, and customer self-reporting. The final item, customer self-reporting, is being conducted through a variety of methods including direct mailers, E-News, social media, and the Village’s website.

There are just over 9,000 water service lines in the Village’s water distribution system inclusive of all residential, commercial, and institutional properties. Below is a table breakdown of the water service lines by type through the end of August 2023:

Water Service Line Inventory		
Material Construction	Quantity	Percentage
Unknown	3,700	40%
Non-Lead	4,111	45%
Lead	1,381	15%
Total	9,192	

Staff projects the final survey result to reflect 30-35% of all water services having lead pipes, which is approximately 3,000 to 3,500 households. The differential between the current inventory percentage of 11% and the projected 30-35% is because the east side of the Village is underrepresented in the initial data collection results; it is expected that there will be more lead service in the east side based upon the age of the water infrastructure.

Replacement Plan

To comply with the second component of the Act, which is the development of a replacement plan, staff is expecting the initial development of the plan starting in mid-2023. Staff does not recommend the development of a plan until a more representative materials inventory is completed. An initial replacement plan will be brought before the Municipal Services Committee (MSC) in the first quarter of 2024 for discussion and approval before submission to the IEPA.

Current Replacements

In the interim, staff is working to complete both proactive and reactive replacements of complete lead service lines. Proactive replacements are coordinated with capital projects that include water main. Reactive replacements are in response to leaks or damage to either the public or private side of a water service line. The table below shows the number of lead service lines replaced since 2022:

Year	Reactive LSLRs	Proactive LSLRs	Total LSLRs
2022	19	21	40
2023	9	0	9

Through August 30, 2023 the Village has completed or plans the replacement of 53 lead water service lines at an average cost of roughly \$20,000 per service.

Water Service Line Replacement -Cost Estimates

Staff is utilizing \$25,000 as the benchmark for complete water service line replacement as it was the average of the range provided by CDM Smith for the City of Chicago for their lead service line replacement estimates. There are variety of factors that may impact the total cost, but the \$25,000 figure is a reasonable estimate given current market conditions.



In addition, there are additional budget implications of this new law that include the requirement to sample water services and provide filter-pitchers to affected properties, and these costs are estimated at \$2,500 per year. The table below provides a breakdown of project costs over the next five years.

Activity	2024	2025	2026	2027	2028	Subtotals
Water Services -Lead Survey	15,000	15,000	-	-	-	30,000
Water Service Leaks (Public)	250,000	250,000	250,000	250,000	250,000	1,250,000
Water Service Leaks (Private)	250,000	250,000	250,000	250,000	250,000	1,250,000
Miscellaneous (Filters, etc.)	2,500	2,500	2,500	2,500	2,500	12,500
Subtotals	517,500	517,500	502,500	502,500	502,500	\$2,542,500

Lead Service Line Replacement Plan

In 2023, the Village Board approved a contract with a consultant to assist with public education and engagement, to develop a lead service line replacement plan and to prepare documents for IEPA low interest loan funding. The public engagement component includes reviewing the Village's existing materials and providing additional brochures/FAQ's and developing a website dedicated to the water line inventory and educating the public on lead in water. The scope of work also includes preparing all necessary documents for the Village to apply for a low interest loan from the IEPA. The replacement plan will include developing an annual budget to replace a portion of all lead/iron water service lines until there are no more lead/iron water service lines in the community. The current total exposure to the Village based upon projected inventory and cost projections is \$88 million through 2044.

Project Update

This project has been updated with new cost figures and replacement estimates. The funding source has been updated to reflect the usage of American Rescue Plan (APRA) funds over the first five years of the program.

Project Alternative

This project is a requirement of State law and there are no alternatives to the inventory or replacement requirements.

Budget Impact

This is a Recurring Expense



Leak Detection Services

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	46,000	46,000	46,000	-	-	\$138,000	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
NEW	

Project Description and Justification

This request is for contractual leak detection services (210 linear miles), phased out over three years.

The Village of Wilmette obtains drinking water from Lake Michigan through an allocation by the Illinois Department of Natural Resources (IDNR). This allocation is subject to rules and regulations that require annual reporting by the Village regarding volume of water use and requirements to provide data on non-revenue water use. The term "Non-revenue" Water (NRW) is defined to reflect the sum of:

- Unbilled Authorized Consumption (e.g., water for firefighting, hydrant flushing, etc.)
- Apparent Losses (e.g., customer meter inaccuracies, unauthorized consumption, and data errors)
- Real Losses (e.g., system leakage and storage tank overflows)

The expectation is that all water sent into the distribution system can be accounted for and each utility must account for this non-revenue water in their annual Lake Michigan water use reporting (LMO-2) to the IDNR. In Illinois, the standard for NRW by each utility is 10% or less. The IDNR has published NRW data up to 2017 and the data below shows the last two years of published information.

Community	2016	2017
Evanston	13.0%	9.0%
Glenview	17.8%	11.9%
Highland Park	17.3%	24.3%
Lake Forest	15.0%	16.1%
Northbrook	7.9%	11.7%
Skokie	19.1%	11.8%
Wilmette	11.9%	17.6%
Winnetka	11.8%	15.3%

The latest figures reported from the Water Management Department estimate the Village's NRW for 2022 at 18%, which is comparable to regional communities in the range of 10-20% NRW.

The rules and regulations for using Lake Michigan water require that each user whose NRW exceeds the non-revenue thresholds shall submit a water system improvement plan that outlines the actions the permittee



plans to undertake, along with a timeframe, to reduce non-revenue water to less than the thresholds outlined in this subsection.

Currently, staff actively look for and respond to water leak calls and perform leak surveys each year to work at reducing the annual NRW. These efforts have not been sufficient. In researching newer ways to identify leaks in the water distribution system, technology has been developed that uses satellites and synthetic aperture radar scanning, along with sophisticated computer modelling. This technology was developed by NASA in their search for water on Mars and has been licensed from NASA and developed by Asterra, into a highly reliable leak detecting system.

Staff have participated in webinars and seminars by various groups outlining their success with using this technology. Locally, Aqua Illinois in Lake County, actively uses this technology to perform annual leak detection studies and one of their contractors checking on the results, Associated Technical Services (ATS), Villa Park, Illinois has confirmed the accuracy of the results. ATS has long been a reliable contractor for the Village in locating and identifying leaks and underground utilities.

Staff interviewed the company performing satellite leak surveys and requested a proposal to perform this survey for the Village. This firm has provided over 650 projects worldwide resulting in the location of over 57,000 leaks. The proposal provides for a satellite survey performed once each year for three-years then a review of the imagery by their software whose results would be overlaid onto the Village's GIS attribute layer to identify areas with high-probability of leaks. Field crews, for five days per year, and Village staff would then target those areas for more extensive leak detection.

Project Update

This is a new request for the 2024 CIP.

Project Alternative

The alternative is to delay the three-year project and schedule work over future years or explore a pilot project for a section of the Village.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Rebuild High Lift Pumps

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	60,000	60,000	60,000	-	-	\$180,000	-

Project Status

Risk Score
Tier 2

Funding History

Year	Amount
2023	\$49,934
2017	\$35,000
2015	\$20,744
2014	\$13,000
2013	\$26,990

Project Description and Justification

In 2024, high lift pump #12 is scheduled to be rebuilt at an estimated cost of \$60,000.

There are eight High Lift Pumps (HLPs) at the Water Plant that maintain the pressure in the distribution system and deliver the finished water to residents and wholesale customers. Bi-monthly, all available HLPs are tested for vibration levels and operating efficiency. Based on the results of this testing and the hours of operation, maintenance is recommended. Experience has indicated that the existing HLPs need to be removed and rebuilt after approximately 30,000 hours of operation for preventative maintenance. After rebuilding, the pumps are expected to operate for an additional ten years or more with minimal maintenance. Below is a table of all the high lift pumps inventory and proposed preventative maintenance in this CIP:



CIP Year	Pump	Year Last Rebuilt	Hours of Service
2023	HL #2	2023	-
2024	HL #12 VFD	2013	61,275
2025	HL #1	2004	15,799
2026	HL #5	2010	6,411
--	HL #3	2017	15,689
--	HL #4	2014	17,370
-	HL #9	New 1988	11,198
--	HL #20	2017	18,963

Since this program began in 2001, seven of the eight pumps have been rebuilt. The above schedule considers the hours of operation, pumping efficiency, and bimonthly vibration test results for each unit.



In 2025 and 2026, HL # 1 and HL #5 are scheduled to be rebuilt, respectively.

Risk Assessment

Risk Score	Tier 2	Justification
Condition Rating	3	Fair condition as the regular maintenance date approaches.
Criticality Rating	2	The plant capacity will be impacted up to 25% depending on which pump failed

Even though this project is rated a tier 2 risk, this is a preventative maintenance program for the high lift pumps. Therefore, the recommendation to perform this maintenance will be based on the hours of service as discussed above. The break-down of these pumps could cause significantly higher repair costs as damage to the shaft and/or propeller can occur.

Project Update

The budget has been increased from \$40,000 to \$60,000 in 2023 due to updated pricing. Also, in the 2023 project, funding was used to rebuild pump #2 structure by replacing the discharge valve.

Project Alternative

An alternative is to postpone the rebuilding until symptoms of malfunction appear or the pumps fail. However, the high lift pumping capacity will be reduced somewhere from 4 MGD to 18 MGD depending on which pump(s) are out of service. The impact of such a reduction in capacity could lead to water restrictions during high demand days. Additionally, much higher costs to repair the pumps would be likely as other parts of the pumps could be damaged.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Rebuild Wash Water Pump

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	80,000	60,000	-	-	\$140,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2007	\$21,550 – Rebuild pump #24 motor
1987	\$6,660 – Rebuild pump #24
1986	\$4,400 – Rebuild pump #15

Project Description and Justification

2025 Project

Rebuild Wash-Water Pump #24

The Wilmette Water Plant has 2 wash-water pumps used to supply potable water to all 10 filter units during the backwash process. Pump #24 is a large 400 HP pump used to supply water to the larger filter units (filters 8-10) during the backwash process. It was installed with the 1971 expansion and last rebuilt in 1987. The pump runs less than 2 hours every other day and sees less wear than other pumps in the plant. Rebuilding this pump every 20 to 30 years is advisable. The pump now has limited reliable life remaining, and failure would require the use of the smaller pump #15. The smaller pump will not be able to provide adequate and complete backwash to filters 8-10 and therefore will affect the water quality produced risking violation of EPA regulations. Additionally, pump failure could cause more damage to the rotating elements costing significantly more in repairs than scheduled rebuilding.



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	Reliable life has been exceeded but generally performance has not been measurably impacted
Criticality Rating	3	Backwashing efficiency will be impacted which will have a moderate impact on water quality/regulatory

2026 Project

Rebuild Wash-Water Pump #15

The Wilmette Water Plant has 2 wash-water pumps used to supply potable water to all 10 filter units during the backwash process. Pump #15 is a smaller 200 HP pump used to supply water to the filter units 1-7 during the backwash process. It was installed with the 1956 expansion and last rebuilt in 1986. The pump runs less



than 2 hours every other day and sees less wear than other pumps in the plant. Rebuilding this pump every 20 to 30 years is advisable. The pump now has limited reliable life remaining, and failure would require the use of the larger pump #24. Pump #24, due to its size, is not ideal to use for the smaller filters (especially filters 1-4). It will lead to loss of filter media and would potentially damage the underdrain. Additionally, pump failure could cause more damage to the rotating elements costing significantly more in repairs than scheduled rebuilding.

Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	Reliable life has been exceeded but generally performance has not been measurably impacted
Criticality Rating	3	Backwashing efficiency will be impacted which will have a moderate impact on water quality/regulatory

Project Update

Projects were deferred one year each due to lower operating hours than anticipated.

Project Alternative

An alternative is to postpone the rebuilding until symptoms of malfunction appear or the pumps fail. However, the filters' performance will be impacted if these pumps were out of service, which will impact the water quality.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Repairs – Water Transmission Main

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Operating	160,750	370,000	150,000	394,500	419,000	\$1,494,250	-

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023 (YTD)	39,800
2022	5,940
2021	20,938
2020	11,372
2019	3,425
Subtotal	81,475

Project Description and Justification

In 2023, the Village issued an RFP for the review of its current operation and maintenance practices and development of a capital infrastructure plan with a condition assessment for the Village's water transmission mains (WTMs). The work is scheduled to be completed by the end of 2023 and performed by a consulting engineering firm with qualified experienced professionals specializing in pre-stressed concrete pressure pipe (PCCP).

Final deliverables of the project include the following:

- Capital Infrastructure Plan which includes short-term (1-5 years) and long-term (6-20+ years) recommendations for the inspection, maintenance, repair, and replacement of the WTMs, including descriptions, timelines, and estimated costs for each recommendation.
- Evaluation of the efficacy of various methods and technologies for assessing the structural integrity of the PCCP WTMs.
- Condition assessment with an estimated remaining service life for the WTMs, as well as estimated cost and timeframe for replacement; and,
- Provide a standard data structure for use in reporting the results of the Village's condition assessment work to the Village Board and public.

WTM Inventory

The Village maintains approximately 14 miles of 24-inch and 36-inch PCCP WTMs with associated valves, blowoffs and air vents. The water distribution system also includes 9.15 miles of 24-inch PCCP and 4.85 miles of 36-inch PCCP. The 36-inch transmission main on the north side of the Village was built in 1989. The middle and the southwest portion of the 24-inch transmission main was built between 1955 and 1958. The balance of the transmission main, east of Ridge Road, was built between 1930 and 1955.



The Village's WTM's serve as the supply feed for the water distribution system and external customers (neighboring communities) and are recognized as critical infrastructure.

The following maintenance projects have been carried over from the 2023 CIP budget and currently serve as placeholders based on prior feedback received from other sewer consultant professionals. However, they are subject to revision based on a review of final deliverables received from the hired consulting engineering firm.

Air Vent Repairs

This request is for repair of 10 air release and/or air vacuum valves (2024) along the water transmission main (WTM). In 2023, the repairs cost \$2,500 each (or \$25,000 total). In 2024, the project includes a 3% increase in material and repair costs (or \$25,750). Overall, there are 36 air valves in the system that are scheduled for replacement over a four-year period (2020-2024). Through 2023, 26 air vents have been replaced with the remaining 10 scheduled in 2024. The vents are part of the pipe's original construction (1971 and 1989, two north runs) and have exceeded their expected useful life.

The Village has a total of four runs of transmission main traversing across the Village. Only the two north runs (24" and 36") have air vents while the other two stretches of transmission pipe do not (1955 and 1956 construction). In 2020, a consultant conducted a condition assessment survey of all air vents along the transmission mains and determined all 36 air vents had corroded and were inoperable. The air vents are spaced approximately 1-mile apart.

The transmission mains are pressurized at the water plant with air pockets developing as the water flows at different subsurface elevations across the Village. The changes in elevation create turbulence, promoting formation of air pockets on the top portion of the pipe. Air pockets slow down flow, restricts the movement of water and could lead to damaging pressure surges, which can migrate over to the distribution system through interconnections. Therefore, the air relief vents assist by releasing air build-up and help to dissipate air pockets that can lead to pressure surges.

Testing and Condition Assessments

In addition to the survey of the air relief vents, CDM Smith, acting as a consultant to the Village, reviewed the transmission mains to determine what improvements or repairs were needed to ensure that this critical infrastructure remains structurally viable into the foreseeable future. In their analysis, the following projects were recommended (listed in order of priority):

2024: \$135,000

- Hydraulic Surge or Transient Study: to review the location, spacing and sizing of air release and/or air vacuum valves along the WTM.
- The analysis will also determine the maximum and minimum pressure profiles at different transient conditions, identifying potential vulnerable points along the WTM that should be addressed further.
- Hydraulic model calibration updates and re-runs of the pressure and water age simulations. The Village's model was last updated in 2014; industry best management practices recommend performing updates every 5-6 years or coincide with major system improvements (Central Avenue -Water Main Replacement 2020-21).

2025: \$320,000

- Non-destructive ultrasonic testing (NDT) at six (6) different locations for condition assessment.
- The Village's WTM was constructed in different eras (1955, 1956, 1971 and 1989).
- Purpose is to evaluate the integrity and condition of the WTM system utilizing non-destructive ultrasonic testing to assess condition and confirm material, diameter, etc.
- Six areas will be exposed to facilitate testing; excavation and restoration efforts provided by Village.

2025: \$50,000

- Conduct a Cathodic Protection System (CPS) study, to coincide with NDT.



- The WTM currently does not have any type of external corrosion protection; study will further evaluate appropriate corrosion protection measures and applications.

2026, 2027 & 2028: \$963,500 total

- This request entails spatial locating of approximately five miles on one-third of transmission main system each year. This is a new request submitted as part of the 2023 CIP.
- Outside vendor utilizes proprietary SmartBall platform, which captures X and Y coordinates of the pipeline using the latest accelerometer and gyroscope technologies, advanced location algorithms, and field collected global positioning system (GPS) points (final product delivers +/- 2-foot accuracy).
- This request supports protection of Village’s critical infrastructure and addresses a vulnerability.
- The Village does not have as-builts for the transmission mains.
- The current GIS layer is based on construction plans, actual work completed, and valve information.
- Some segments are 85% accurate, while others are only 33% accurate.
- As current practice, potholing is mandated to verify location (in field) ahead of planned excavation.
- If damaged, the projected cost for transmission main repairs is \$75,000 to \$125,000 per location.
- Each year, the Village processes ~2,000 utility locate requests (within 50’ of a transmission main).
- Addition of 10 blow-off hydrants on the southern 24” main.
- The blow-off hydrants allow the WTM to be drained during maintenance or repairs/construction work.
- This work can be spaced out over multiple years.

The table below is a summary of the CIP year schedule and project costs:

Project	2024	2025	2026	2027	2028	Total	2029-2033
Air Vent Repairs	25,750	-	-	-	-	\$25,750	-
Hydraulic Model Update	90,000	-	-	-	-	\$90,000	-
Hydraulic Surge Study	45,000	-	-	-	-	\$45,000	-
Non-Destructive Testing	-	320,000	-	-	-	\$320,000	-
Cathodic (CPS) Study	-	50,000	-	-	-	\$50,000	-
GPS Spatial Locating	-	-	150,000	154,500	159,000	\$463,500	-
Blow-Off Hydrants (24”)	-	-	-	240,000	260,000	\$500,000	-
Subtotal	160,750	370,000	150,000	394,500	419,000	\$1,494,250	-

Project Update

This project page was originally submitted as part of the 2020 CIP. The subsection for Surveys, Testing and Condition Assessments was added as part of the 2021 CIP. Capital Infrastructure Plan Development, Hydraulic Model Update and GPS spatial locating were added as part of the 2023 CIP. Project estimates have increased based on updated proposals obtained from a potential vendor.

Project Alternative

The alternative is to delay the project and reschedule the work during later years, although this is not recommended as the continued state of disrepair can worsen and become more destructive. If repairs are deferred for several years, the system will be exposed to increased pressure, resulting in pipe fractures. The installation of blow-off hydrants can be spaced out over multiple years.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Replacement Standpipe Isolation Valve

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	80,000	-	-	-	\$80,000	-

Project Status

Risk Score
Tier 3

Funding History

Year	Amount
1956	Original Installation

Project Description and Justification

The 4.0 MG standpipe is periodically required to be serviced for maintenance or inspection. This requires the complete isolation of the standpipe from the distribution system, which is accomplished by a 16-inch valve located near the standpipe. This valve was installed when the standpipe was erected in 1956. During the rehabilitation of the standpipe in 2011, staff observed difficulty in operating the valve and some minor leakage. Failure in the isolation valve to operate properly would prevent the Village's ability to easily isolate the standpipe for maintenance or emergency. For 2025, it is proposed to replace the 16-inch isolation valve with a new valve at an estimated cost of \$80,000. This estimate includes the cost of a new valve and installation by an outside contractor.



Risk Assessment

Risk Score	Tier 3	Justification
Condition Rating	3	The valve is in fair condition but functional with less <50% of anticipated useful life
Criticality Rating	2	Failure will have a low impact as this valve is not used in day-to-day operations. There are other ways to isolate the standpipe but not as convenient.

Project Update

This project was shifted from 2024 to 2025 based on condition assessment.

Project Alternative

The alternative is to postpone the replacement of the valve and repair/replace it on an emergency basis. However, this could jeopardize the ability to isolate the standpipe when maintenance is required or in case of an emergency, which could lead to flooding or water pressure issues.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Roof Repairs

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	260,000	-	-	-	\$260,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2014	\$38,000 – Rebuild 3.0 MB reservoir roof
2010	\$330,000 – Install membrane on 1956 & 1971 roofs
2008	\$298,000 – Rebuild upper portion 1933 roof
2006	\$304,900 – Rebuild lower portion 1933 roof
1999	\$8,700 – 3.0 MB reservoir building roof rebuild
1998	\$153,900 – 1933 & 1956 plant building roof rebuild
1990	\$63,960 – 1971 filter building roof rebuild

Project Description and Justification

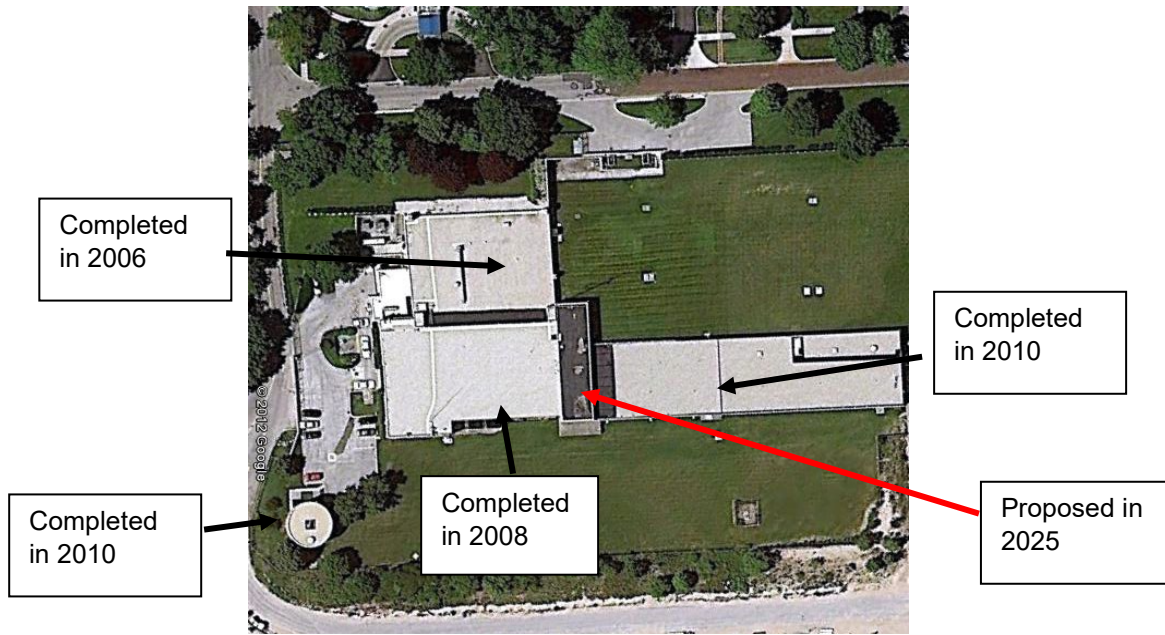
The Water Plant facility, with the initial construction in 1933, has grown to a facility that has many roof areas as the result of subsequent expansions in 1956 and 1971 (see figure 1).

Hutchinson Design Group, a roof consultant, conducted a survey in 2012. The survey provided a recommended schedule for roof repairs based on type, age, and condition of each roof area:

2025 Roof Repairs

The upper 1956 roof was last rebuilt in 1998 and a temporary repair was performed in 2006. It is anticipated that by 2025, permanent repairs will be needed to restore roof integrity and protect building equipment housed underneath it. The initial budget estimate of \$260,000 for the upper 1956 Water Plant roof is for a conventional membrane system. The roof will have a projected 30-year life. A Green roof could be considered as alternative during design.





Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	The 1956 roof has exceeded useful life and is in poor condition.
Criticality Rating	3	Leaks in the roof could damage equipment housed in the building and have a significant impact on operation.

Project Update

This project was shifted from 2024 to 2025 based on condition assessment.

Project Alternative

An alternative is to postpone the rebuild and repair leaks on an emergency basis. However, this would increase the risk of damaging expensive equipment such as pump motors, which are the motor control centers housed in this building. Additionally, a green roof will be bid as an alternative option for construction.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Tank Maintenance

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Operating	-	50,000	-	-	-	\$50,000	-

Project Status

Risk Score
Tier 2

Funding History

Year	Amount
2013	\$17,000 – Wetwell #2
2013	\$10,000 – 1971 Intake
2007	\$4,243 – 1971 Intake
2003	\$23,000 – Wetwell #2
2003	\$5,827 – 1971 Intake

Project Description and Justification

Over time, accumulation of sediment, primarily “spent” anthracite filter media, will buildup in Wetwell 2 and sand/clay will build up in the 1971 Intake station well. This media will not wash out and must be manually removed and hauled away. The sediment cannot be reused and must be disposed of at an approved landfill. In 2025, it is proposed to clean out the 1971 Intake station well and Wetwell #2.

Even though this project is a tier 2 risk rated, this is a preventative maintenance program to ensure fair condition is maintained in these tanks. Therefore, the recommendation to perform this maintenance will be based on the years of service since last cleaning and the amount of sediments found upon inspections. The last cleaning was performed in 2013. The frequency of the cleaning varies from 5 to 15 years depending on the raw water quality.



Risk Assessment

Risk Score	Tier 2	Justification
Condition Rating	3	Fair condition as the regular maintenance date approaches.
Criticality Rating	1	The plant capacity is only minimally reduced as sediment builds up in the wells.



Project Update

This project was shifted from 2024 to 2025 based on lower sediments accumulation.

Project Alternative

An alternative is to postpone the cleaning. However, delaying the cleaning of the 1971 Intake station could physically restrict the ability of the Water Plant to draw water from Lake Michigan. Likewise, the delay in cleaning the Wetwell could result in more “build-up” of the sediments, causing a reduction in volume of this well and negatively affecting the operation of filters’ washing and recycling of the washed water.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Treatment Process Improvements Program – Phase 1

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Prior Bond Issuance	655,000	-	-	-	-	\$655,000	-
Water Fund (Bond)	65,000	-	498,000	-	-	\$563,000	-
Total	720,000	-	498,000	-	-	\$1,218,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2023	\$150,000 – Replacement of two hypochlorite bulk tanks and the start of the design of the other chemical tanks
2019	\$40,000 – Installed new low lift pumpage meters
2009	\$119,000 – Installed new wash-water troughs for 1933 filters
2007	\$1,143,400 – Installed air scour system, replaced under-drains and media filters
2005	\$76,144 – 1971 filter improvements design

Project Description and Justification

2024 Projects

Replacement of the Water Treatment Chemicals Bulk Storage Tanks

The Water Plant has five different chemicals used for water treatment. In this project, three chemicals bulk storage tanks are proposed to be replaced:

Coagulant Chemical Storage

DeIPAC 2020 is the coagulant treatment chemical used at the Water Plant to remove naturally occurring turbidity in the raw lake water. DeIPAC 2020 is purchased in 4,000 gallon quantities and stored in two rubber-lined steel 8,000 gallon bulk storage tanks. The present bulk storage tanks were constructed in 1956. The original rubber lining is deteriorating and in need of replacement. The tanks also need a steel top installed with a vent line to the outside to meet current safety standards.



Fluoride Chemical Storage

Fluoride is fed at the Water Plant to prevent dental cavities in children. Fluoride is purchased in 3,000 gallon quantities and stored in one rubber-lined steel 2,000 gallon bulk storage tank and three 700 gallon fiberglass tanks. The 2,000 gallon steel tank was constructed in 1956. The original rubber lining is deteriorating and because the lining on the tank is not accessible, the tank will need to be replaced.

Hypochlorite Chemical Storage

Sodium Hypochlorite (Hypo) is fed at the Water Plant to disinfect the finished water. Hypo is purchased in 4,000 gallon quantities and stored in four fiberglass reinforced 3,800 gallon bulk storage tanks. These tanks were installed in 2003, and they have an expected life of 10-15 years while storing this chemical.



The projected cost of this CIP is as follows:

Item	Estimated Cost
Engineering Design and Permitting	95,000
Bulk Storage Tanks	425,000
Installation	200,000
Total	\$720,000

Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	3	The tanks are in fair condition.
Criticality Rating	4	Failure of the chemical bulk tanks would be a high safety hazard. Potential regulatory impact with storage requirements.

2026 Projects

Replacement of the Compressed Air System

The compressed air provides the air needed for the pneumatic valves and many level transmitters. Failure in this system will impact the operation of the plant and the ability to determine the levels of some tanks. The compressed system is 18 years old and is approaching the end of its useful life. It has had increased maintenance needs and repairs. The projected cost of replacement is \$57,000.

Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	5	The air compressor system has reached its useful life and has had many maintenance needs.
Criticality Rating	3	Failure in the air system will have a moderate severity impact as it would affect the operation of pneumatic valves and tanks levels.

Replacement of the Vacuum System

The vacuum system is used for pump priming valves at the Water Plant. Failure in this system will cause the pumps (such as backwash pumps and the 1933 low lift pumps) requiring the priming valves to be inoperable. The vacuum compressors proposed to be replaced are 23 years old and have exceeded their reliable life. The projected cost of replacement is \$21,000.



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	The vacuum system has reached its useful life and has had many maintenance needs.
Criticality Rating	3	Failure in the system will make the associated pumps inoperable and will have a moderate severity impact on the operation.



Installation of New Air Scour Blower

The air scour blower is used to provide air during the air scouring step of a filter backwash sequence. The Water Plant currently has one air scour blower, installed in 1999. The expected life of a blower is generally 30 years. The current IEPA regulation requires a minimum of two blowers for the air scour system. The second blower will provide redundancy. Failure in this equipment will negatively impact the effectiveness of the backwashing process of the filters, which will impact the water quality produced by these filters. The estimated cost of the installation of a new air blower is \$420,000.



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	3	The existing air scour is in fair condition and has 50% of expected reliable lifespan.
Criticality Rating	3	There is no redundancy to the existing air scour blower. Failure will have a moderate severity impact on the water quality of the filters and the regulatory compliance.

Project Update

The Replacement of the Water Treatment Chemicals Bulk Storage Tanks design study will be finished in 2023 and the installation is planned for 2024.

Project Alternative

Projects can be implemented separately to reduce total cost for a particular year. This could reduce savings due to economy of scale in some years, such as the chemicals storage tanks replacement project. Additionally, delaying projects will increase their risk score and potentially impact the operation as stated above.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Treatment Process Improvements Program Phase 2

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund (IEPA Loan)	-	450,000	2,000,000	-	-	\$2,450,000	-
Grant Funding	100,000	-	-	-	-	\$100,000	-
Totals	100,000	450,000	2,000,000	-	-	\$2,550,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2023	\$20,000 - Concept Study
1933	Filters Underdrain
1978	\$126,000

Project Description and Justification

The Water Plant has 10 multimedia filters. The underdrain systems of filters have multiple functions including:

- Provide structural support to the filter media.
- Collect the filtered water and deliver it to the clear-wells for storage and pumping.
- Provide the basis for how the backwash system will function.

The current underdrain system for the 1933 filters was installed in 1978. The Water Plant has not had performance issues (operationally or water quality) with the 1933 filters. However, the typical life expectancy of an underdrain system is 30-50 years. Additionally, the lead time for a typical underdrain project could take up to 3 years to design and install. Failure in the underdrain could reduce the water plant capacity up to 22% and could affect the water quality produced. The projected cost for the design and installation of a new underdrain system is \$2,550,000.

For 2023 and 2024, it is proposed to:

- Conduct a conceptual study on treatment process improvements to 1933 filters that would meet the forthcoming regulations of Per- and Polyfluoroalkyl Substances (PFAS).
- Study changes for design decisions on the type of underdrain and media sizing of the 1933 filters.
- Additionally, the conceptual study would allow staff to submit for an IEPA loan. The estimated cost of the study is \$100,000.



FILTERS 1-4 MEDIA&UNDERDRAIN SYSTEM



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	4	25% of anticipated useful life is remaining based on a life expectancy of 30-50 years.
Criticality Rating	3	The lead time is up to 3 years of design and install new underdrain. Failure could impact up to 25% of plant capacity and have a low to moderate impact on water quality.

Project Update

This project was approved in the 2023 budget and will be completed in 2024. Additional studies may be required based on the finalized EPA regulation of PFAS, chemical analysis technology, and health effects findings.

Project Alternative

Postponing the project is an alternative. However, the underdrain system will be 47 years old in 2025, which is when the system is scheduled to be replaced. This would increase the risk for capacity impact and water quality issues if the underdrain were to fail.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Treatment Process Improvement Program - Phase 3

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund (Bond)	-	-	750,000	140,000	470,000	\$1,360,000	-

Project Status

Risk Score
Tier 3

Funding History

Year	Amount
2016	\$75,000 – Filter valve improvements
2012/13	\$387,000 – Filter valve improvements
2016	\$75,000 – Filter valve improvements

Project Description and Justification

2026 Project

Filter Valves Replacement

Each filter at the Water Plant has 5 valves:

- Influent valve to allow the water into the unit.
- Drain valve to drain the backwash water away from the unit.
- Backwash valve to allow the water from underneath the filter unit during the backwash sequence.
- Surface wash or air scour valve to assist during the backwash sequence.
- Effluent valve to allow the filtered water to move into the clear-wells.



A typical butterfly valve could last for 35-45 years before replacement. In recent years, staff has noted increased difficulty operating the valves and some leakage. Due to their age, there are no repair parts available for these valves and they will require replacement. At the same time these valves are replaced they will receive motorized operators. Motorized operators provide added longevity and improved SCADA compatibility over the current cylinder actuated operators. Some valves were replaced in 2013. The remaining filter valves to be replaced are summarized below:

Original Install	No. Of Valves	Description	Estimated Cost
1967	8	1933 influent and drain valves	\$ 200,000
1971	6	1971 filters backwash and influent valves	\$ 300,000
1971	3	1971 filters drain valves	\$ 250,000



Risk Assessment

Risk Score	Tier 3	Justification
Condition Rating	5	The valves have reached or have <10% of useful life.
Criticality Rating	2	Plant capacity would eventually be impacted by 10% and the lead time is about 6 months.

2026 Project

High Lift Flow Meter Vault "A" Replacement

The existing Vault "A" flow meter, installed in 1956, is used to measure high lift pump flows entering the distribution system. It is one of two high lift meters.

The flow meter in Vault "A" is no longer accurate at low flows and needs to be replaced. Due to the age of this meter, repair parts are no longer available. The old meter cannot be replaced without demolishing the existing vault. It is less costly to build a new vault along the east wall of the 1933 building than to demolish and reconstruct the old vault. A new 24-inch magnetic flowmeter would be installed in the new vault. Once this is completed, the old meter would be abandoned in place. The projected cost of these improvements is \$140,000.

Risk Assessment

Risk Score	Tier 3	Justification
Condition Rating	4	Poor condition with reduced accuracy
Criticality Rating	2	Failure would result in less accurate readings which could affect regulatory fillings

2027 Project

Flocculation Basins 1&2 Valves Replacement

Basins 1 and 2 are currently operated in series, as one combined basin. During the stress testing conducted in 2004, treatment deficiencies (high settled turbidity and poorly coagulated water) were identified in this basin pair. A preliminary engineering review suggested that if the Village restored these basins to their original operation as two separate basins, this would likely solve these deficiencies. This will be accomplished by replacing two of the inoperable 1933 gate valves and installing a blank plate over a third broken valve. The estimated cost of these repairs is \$170,000.



Risk Assessment

Risk Score	Tier 3	Justification
Condition Rating	5	The valves have failed.
Criticality Rating	2	Low impact on the water quality.



Flocculation Basins Bearings Replacement

Basins 3, 4, 5 and 6 at the Water Plant have grease bearings on the flocculator drive shaft to balance the rotation and mixing. The bearings were installed in 2002 as part of the 8.0 MGD upgrade. The life expectancy of these bearings is around 30 years. In recent years, the maintenance needs and repairs for these bearings have increased. The failure of these bearings could affect the water quality and potentially taking the basin out of service, which would reduce the plant capacity. In this project it is proposed to replace the bearings with water lubricating bearings that require less maintenance. The projected cost of this replacement is \$300,000.



Risk Assessment

Risk Score	Tier 3	Justification
Condition Rating	4	Many historical maintenance needs.
Criticality Rating	2	Plant capacity would eventually be impacted by 25%.

Project Update

This project start was shifted from 2024 to 2025 based on the condition assessment.

Project Alternative

An alternative is that projects can be implemented separately to reduce total cost for a particular year. This could reduce savings due to economy of scale in some years, such as the filters valves replacement. Additionally, delaying projects will increase their risk score and potentially impact the operation as stated above.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Unidirectional Water Main Flushing

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	-	70,000	70,000	-	-	\$140,000	300,000

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2018	\$30,393 - 650 valves
2017	\$27,715 - 600 valves
2011	\$36,750
2010	\$36,750
2007	\$24,704



Project Description and Justification

This project consists of isolating half of the water distribution system and flushing sections of pipe by closing appropriate valves and exercising the hydrants in an organized, sequential manner. The American Water Works Association (AWWA) recommends flushing of municipal water distribution systems every two to four years using the unidirectional flushing (UDF) method. UDF provides direct flow to the hydrant from one direction, creating higher velocity of flow during the flushing operation to clean out the water main. According to the AWWA, while UDF is more time consuming than conventional hydrant flushing, the cleansing of the pipe interior is superior, with longer lasting results and less degradation of water quality due to stirring up of sediments or loosening of bacteriological growth. This operation was completed in 2006/2007 and most recently in 2010/2011, with half the system completed each year.

Project Update

To properly implement and conduct UDF, the Village needs to ensure all valves are operating properly and be made aware in advance of all locations in disrepair. Therefore, the contractor designing and performing the UDF program will not have to deal with unknowns and circle back and re-route around broken valves. As part of the original valve assessment study (2017), an inventory of all valves (and attributes) was denoted and uploaded into the Village's GIS attribute layer. This strategy and approach results in lower costs by reducing redundancies and providing more accurate valve information upfront, translating to a more efficient UDF design and implementation. Having this information is also critical for coordinating a routine, annual valve-exercising program (25% of system per year or 300 valves). Likewise, having a spatially accurate GIS attribute layer (water valves) completed upfront, translates to further savings.

This has been deferred from 2023/24 to 2025/2026 to allow more time for repairs and maintenance of water valves previously identified as in disrepair as part of the water valve assessment study (entire distribution system), completed in 2018. As of 2023, in-house crews have completed more than 90% of identified repairs



and remain on track for a start date in 2025. The projected total cost for the two-year project has increased from \$110,000 to \$140,000 based on the latest cost estimates from qualified firms.

Valve Assessment Study Findings and Follow-Up Repairs

In 2017, the Village Board approved a contract for water main valve assessment and operation with work scheduled over two years (2017-18). The project entailed assessment of all valves in the water distribution system (or 1,250 total). Results of the survey indicated a total of 335 valves were in disrepair; including 180 packing leaks (163 minor, 17 major), 36 inoperable, 31 requiring bonnet bolts, and 88 classified as other. In-house staff has addressed the minor repairs and the work currently remains ongoing; final repairs will not be completed until 2023. Large-scale repairs and valve replacements will be scheduled through the valve replacement program.

Project Update

This project has been deferred from 2024/2025 to 2025/2026.

Project Alternative

The alternative is to delay the project and reschedule the work during later years.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Water Intake and Low Lift Pumping Improvements

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund (IEPA Loan)	100,000	1,000,000	7,000,000	7,000,000	-	\$15,100,000	-

Project Status

Risk Score
Tier 4

Funding History

Year	Amount
2023	\$10,000 – portion of the concept study
1992	Zebra Mussel Control Feed Line
1933	Water Intake Pipe – Part of Original Plant

Project Description and Justification

The Water Plant has two raw water intakes: a 33-inch pipe constructed with the original plant in 1933 (approximately 3,000 ft from the shore) and a 42-inch intake (approximately 5,000 ft from the shore) built with the 1971 expansion.

The Water Plant utilizes both intakes throughout the year. The 1971 intake is sufficient to meet the capacity demand of the facility. However, if the 1971 intake happens to become unavailable, the 1933 intake is not sufficient to meet the water capacity demand.

In 2024, it is proposed to perform a preliminary design study to provide a better budgetary cost. Concurrently, the IEPA loan process would be started to help fund the project. In 2025 through 2027, it is proposed to replace the 1933 intake with a new intake that would be large enough to meet the water demand if the 1971 intake were unavailable and establish a true redundancy in the raw water intake operation. The project also includes the replacement of the zebra mussel control line installed in 1992, the 1971 low lift station isolation valve, and improvements to the low lift pumps. Additionally, it is proposed to install an intake heater to prevent the potential blockage of the intake due to formation of frazil ice.



Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	3	The pipe condition appears to be in fair condition with minimal issues, but it is reaching the end of its useful life and it will be 100 years old in 2033.
Criticality Rating	3	The 1933 intake can't support the demand of the facility if the 1971 intake is an available. Long lead time for construction.



Project Update

This project was approved in the 2023 CIP and re-programmed in 2024.

Project Alternative

An alternative is to postpone the replacement project. However, the risk of failure will increase as this intake approaches 100 years of service and the potential that the facility cannot meet water demand if the 1971 intake becomes unavailable.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Water Main Replacement Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Operating	3,440,000	3,470,000	3,570,000	3,680,000	3,790,000	\$17,950,000	20,710,000

Project Status

Critical	Recommended	Contingent
X		

Funding History

Year	Amount
2023	\$850,000*
2022	\$471,538
2021	\$0
2020	\$2,920,200
2019	\$1,392,235

*Budget Amount

Project Description and Justification

The purpose of this program is to rehabilitate failing water mains. The typical scope of work consists of water main replacement or lining, service line replacements, intermittent curb and sidewalk repairs, pavement patching, and parkway restoration.

Water Main Background

The Village maintains over 107 miles of water main, and a majority are between 60 to 90-years-old. As water mains become old and reach the end of their life, performance deteriorates and results in high maintenance costs, loss of hydraulic capacity, reduced water quality, and a decreased level of customer service.

Year	Breaks
2023*	14
2022	88
2021	67
2020	51
2019	59
* Through Q2	

On average, the Department repairs 55 water main breaks per year. The chart to the left represents the total number of breaks per year over the last 5 years. The Department expenses about \$330,000 per year on labor, equipment, materials, and restoration to repair these breaks.



In addition to repairing breaks, the Village has taken advantage of constructing water main replacements in conjunction with other major capital improvement projects. The most recent example is the replacement on Lake Avenue, between Lavergne Avenue and Skokie Boulevard, in conjunction with the Skokie & Lake Intersection Improvement project in 2023.



Rehabilitation Strategy

Based on industry metrics, the American Water Works Association (AWWA) recommends the replacement of 1% of the distribution system per year to economically manage water mains. To achieve this rate of replacement in Wilmette, the Department will need to replace about 1.1 miles of water main per year. This length equates to a construction cost of \$3.4 million based on 2023 construction pricing. The budget estimates for 2024 and beyond assume a 3.0% increase per year for inflation.

The Department is developing an annual rehabilitation schedule for the Water Main Replacement Program. Replacement candidates will be based on known age, number of breaks per segment, and available fire flow capacity. This data is obtained from Village records, staff reports, and consulting services. Additional data will come from a Hydraulic Model Assessment and the Lead Service Line Replacement plan in 2024.

For the initial year of this new annual schedule, the candidates identified in the table below are based on water main break history and roadway resurfacing needs. The estimated rehabilitation length is 1.8 miles; 0.7 miles of replacement and 1.1 miles of lining and decommissioning of obsolete water main.

Street	From	To	Length (FT)	Construction Cost	Design + Const. Oversight Cost	Total Cost
Locust Rd	Cul-de-sac	Wilmette Ave	1,500	1,040,000	130,000	\$1,170,000
Manor Dr	Lake Ave	Illinois Rd	2,000	1,320,000	160,000	\$1,480,000
Alleys N. of Greenleaf Ave*	Poplar Dr	Sheridan Rd	5,900	700,000	90,000	\$790,000
Total Cost:						\$3,440,000

* Combination Water Main Lining and Abandonment

Design engineering and construction oversight services are anticipated to be outsourced to a civil engineering consultant; the value for these services equates to about 12.0% of the construction cost. Design for the 2024 program is proposed to begin in 2023 utilizing water fund savings.

The contract for the water main replacement will include typical Road Program improvements like full-width paving, intermittent sidewalk and curb repairs, and structure adjustments so the street will not be disturbed multiple times. The budget for these additional improvements will be allocated from the overall Road Program in the General Fund. The amounts for these streets are noted in the table below for reference.

Street	Road Program Cost
Locust Rd	400,000
Manor Dr	420,000
Total:	\$820,000

Project Update

Funding for 2024-2033 has been updated.

Project Alternative

Deferring main replacement will result in decreased distribution system reliability, increased maintenance costs, and will place increased demands on future budgets.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.



Water Main – Surge Suppressors

Budget Projection

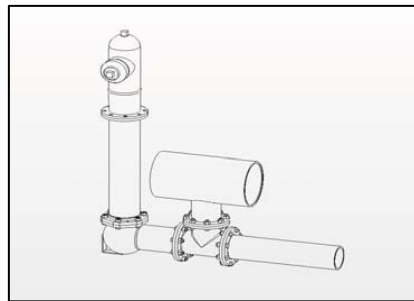
Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Operating	16,500	17,000	17,500	18,000	18,500	\$87,500	-

Project Status

Critical	Recommended	Contingent
	X	

Funding History

Year	Amount
2023	\$16,000 (6 units)
2022	\$16,620 (7 units)
2021	\$15,000 (5 units)
2020	\$6,000 (2 units)
2019	\$11,216 (4 units)
Subtotal	\$64,836 (24 units)



Project Description and Justification

This project entails the annual purchase and installation of up to six surge suppressors for the Village’s water distribution system, with 50 units to be installed over a 10-year period (or 2019-2028). The suppressors act as a safeguard against harmful water hammer effects and proactively protect the water distribution system. When possible, the work will coincide with routine fire hydrant replacements or water main break repairs. By the end of 2023, in-house crews and the contractor will have installed 24 surge suppressors to the water distribution system.

Water hammer or pressure surge is a common occurrence in water distribution systems and is triggered whenever water is forced to stop or change direction suddenly, such as when a valve closes or a fire hydrant opens abruptly. Other system actions precipitating water hammering include fast startup or shutdown of pumps, power interruptions, check-valves slamming shut on reverse flow, and water column separation. While the water hammer effect occurs on year-round basis, it is most prevalent during summer months when water demand is at its peak and hydrant flushing is commonplace.

When combined with other factors, such as weakened pipes, water hammers can result in water main breaks. The average repair cost of a water main break is \$5,000-\$6,000 per occurrence. The surge suppressors provide benefit by absorbing the pressure increases as compared to snapping or cracking the water pipes. The new installs will be strategically located in problematic areas or those prone to water main breaks. Staff also recommends inclusion of these devices with water main improvement projects and areas where the new main ties into the existing distribution system.

Project Update

This is the sixth year of a 10-year project, originally submitted as part of the 2019 CIP. For 2024, staff will be looking to purchase six surge suppressors and adapter pieces to accommodate different size water main pipe (6”, 8” and 12” diameter). The end goal has been increased from 20 to 50 units by 2028.



Project Alternative

The alternative is to delay the project and reschedule the work during later years.

Budget Impact

This is a Non-Recurring Expense

There are no additional costs associated with this project.



Water Meter Replacement Program

Budget Projection

Funding Source	2024	2025	2026	2027	2028	Total	2029-2033
Water Fund	55,000	55,000	55,000	55,000	55,000	\$275,000	\$300,000

Project Status

Risk Score
Tier 4

Funding History

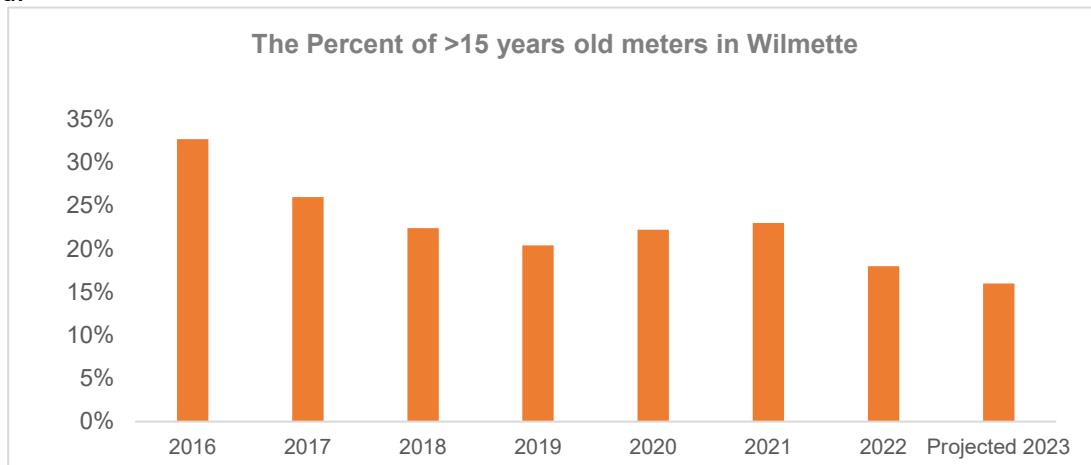
Year	Amount
2022	\$55,000
2021	\$55,000
2020	\$88,000
2019	\$88,000
2018	\$88,000

Project Description and Justification

The Village has approximately 9,000 water meters installed throughout the distribution system that are read on a quarterly basis. Meters are replaced based on age and usage, with an average life of 13-20 years. As water meters age, they tend to slow down and under-register water use.

Between 2007 and 2014, the water meter replacement program suffered a reduction in replacement due to the acceleration of the automatic meter reader (AMR) installations and staff attrition. This led to a backlog of meters in need of replacement. By the beginning of 2016, the percent of meters that were older than 15 years had increased to almost a third of all meters in Wilmette or almost 3,000 meters.

In 2016, the Village Board approved a funding increase in the meter replacement program in order to clear the backlog and maintain a 15-year replacement rate. As a result, only 18% of all meters (or 1,607) are over 15 years old.





The following table is a summary of the meters age and corresponding number as of July 2023:

Age	Number of meters	Percent
< 5 years	2,656	29%
5-10 years	2,984	33%
10 – 15 years	1,796	20%
>15 years	1,607	18%

In 2024-28, it is proposed to replace approximately 600 meters each year.

Risk Assessment

Risk Score	Tier 4	Justification
Condition Rating	5	The meters have less <10% of anticipated useful life.
Criticality Rating	3	Old meters tend to decrease in accuracy resulting in lower revenue.

Project Update

The cost of the project was increased from \$50,000 to \$55,000 due to the increase in the cost of the meters.

Project Alternative

An alternative is to delay or not replace old meters. However, this could result in the under-registering of water use. Another alternative is to replace partial (oldest) or all meters during the replacement of AMR project.

Budget Impact

This is a Recurring Expense

There are no additional costs associated with this project.