

Village of Lindenhurst



2019 Capital Improvement Plan (CIP)

2019 Capital Improvement Plan



Introduction

The purpose of the Village's Capital Improvement Plan (CIP) is to establish a long range planning tool to provide for the investment in major community infrastructure improvements and the maintenance/repair/replacement of existing Village facilities and equipment.

The Village currently uses various capital funds for infrastructure and community improvements. These include:

- Community Capital Fund
- Water/Sewer Capital Fund
- Motor Fuel Tax Fund
- Public Works Vehicle Replacement Fund
- Police Squad Car Replacement Fund

More specifically, the Capital Improvement Plan will:

1. Identify existing major infrastructure and facilities.
2. Describe the CIP planning process.
3. Identify needed capital improvement projects over the next 20 years.
4. Provide a summary of current debt obligations.
5. Identify, categorize and describe potential future community improvement projects.
6. Make recommendations to maximize community improvement spending.

When planning for capital projects, the Village uses four primary objectives when evaluating the priority of projects:

1. Continuation of Maintenance and Replacement of Village Infrastructure to Address Essential Community Infrastructure Needs
2. Improvements to Technology to Increase Operational Efficiencies or Increase Data Driven Decision-Making
3. Enhances Quality of Life Elements and Improves Property Values
4. Improve Citizen Engagement in order to Establish Future Goal Setting and/or Comprehensive Planning

To reinforce the themes outlined in this memo, there will be corresponding numeration in the capital improvement projection.

Planning Process

The planning process for the Capital Improvement Plan is a multi-step process and includes the following steps.

1. Annually, staff will prepare a draft CIP that includes revenue projections and proposed projects and costs.
2. The Draft CIP will be reviewed annually by the Village Board.
3. After this review, the Village Board will consider taking action as specified in the Recommendation section of the CIP.
4. Staff will prepare a final CIP to include any Village Board decisions/modifications.
5. Staff will begin preparation of capital projects to be included in the next budget year.

Existing Village Infrastructure, Facilities and Major Equipment

- Well water distribution system that includes 6 well houses, 9 wells, two water towers that hold 750,000 and 500,000 gallons, a 1,000,000 gallon reservoir, and 62 miles of watermains.
- Wastewater treatment system that includes, 11 lift stations, 65 miles of sanitary sewer lines and a waste water treatment facility that can treat 2.0 million gallons per day.
- 94.3 lane miles of streets and rights of way.
- 5,312 parkway trees.
- 134 Village-owned streetlights.
- 728 fire hydrants.
- Village Hall and Garage area
- Public Safety Building
 - Radio antenna
- Public Works Garage
 - Salt dome
 - Material storage area
 - Fuel station (limited use)
- Veteran's Memorial
- 8 police vehicles
- Public Works Vehicles & Major Equipment
 - 2 Public Works sport utility vehicles
 - 5 Public Works pick-up trucks
 - 2 – 2 yard dump trucks
 - 6 – 5 yard dump trucks
 - 1 – 10 yard dump truck
 - Backhoe, Jetter, Loader, Vector, Roller, Trash Pump
- 4 Lakes
 - Lake Potomac (14 acres)
 - Waterford (67 acres)
 - Linden (31 acres)
 - Springledge (5 acres)

Project Types

Village capital improvement projects will be identified into the following areas:

- Road Improvements
- Storm water
- Water & Wastewater
- Bike Paths and Sidewalks
- Village facilities
- Vehicle replacement
- Miscellaneous

Some projects will require design and construction engineering services. Where possible, these costs will be listed separately.

Capital improvement projects can be listed as any of the following:

- **Engineering Design** –Involves the design of a project.
- **Major Equipment Replacement** – Occurs when a piece of equipment exceeds its useful life and needs to be replaced.
- **Capital Improvement or Expansion** – Any project that enhances or improves the community such as a new bike path, providing additional storm water capacity, or the addition of decorative street lights.
- **New Equipment** – The purchase of new equipment. These items are typically in excess of \$10,000.

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Community Capital

The Community Capital Fund typically funds storm water improvements, bike path and sidewalk improvements, municipal facility improvements, a portion of road improvements and other miscellaneous improvements as determined by the Village Board.

Regular Revenue & Expenses

Regular Revenue

Transportation & Facilities Fee
Cell Antenna Lease Fees
Income Tax (10% of total)
Sales Tax (10% of total)
Public Facility Donation
Video Gaming Revenues
Interest
General Operating Fund Transfer¹ \$TBD

Regular Expenses

Refunding Bonds Series 2013
Misc. Equipment

¹ At the end of each fiscal year, any available dollars in excess of the General Fund Target balance are transferred into the Community Capital Fund.

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You may notice the color coding used in the capital improvement projections. Because of the nature of capital projects, I have highlighted projects based on their disposition. The color codes correspond as follows:

Peach	Long-Term Capital Projects and/or Part of an Agreement
Lavender	Previously Approved Projects Underway
Olive	Proposed Projects for Current Year
Salmon	Future Projects

“Peach” Projects

These projects we conduct annually or were agreed to in previous years. In this category you will see our annual pavement patching program and Emerald Ash Borer removal. Beginning in 2018/2019, we shifted our priority of EAB removal to replanting. We believe that this commitment in future years will reduce as we move toward completion of replanting over the next two years.

This section also includes our contributions to the rebuilds of Grand Avenue and US 45. The projection includes our contribution to each project respectively. Each project must be paid 80% upfront, and in the case of Grand Avenue an estimate included for utility relocation. This year, these projects also include stormwater improvements. Finally, in order to track and account for Ziegler’s sales tax rebate, that amount is estimated and included in the Capital Project expenses.

“Lavender” Projects

The projects in this section are ones previously committed to by the Village Board in previous budgets. Some of these costs will be adjusted based on future information. Moving forward, policy decisions will need to be made regarding the future of these projects.

“Olive” Projects

Olive projects represent those capital items recommended by the staff for expensing this year. These projects reflect some of the goals I have outlined for the Village to you.

“Salmon” Projects

These projects are projects that should be considered for future year funding. Many costs are estimated at this time.

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Community Capital Fund FY 2019/2020 Programming

Est. Balance as of 4-30-2019	\$2,416,952
Regular Revenues	\$1,173,473
Operating Transfer (General Fund)	
Available Funds	\$3,590,425

Peach Projects	Long-Term Projects/Previous Contractual Agreement
Road Program Design Engineering	\$25,000
Annual Pavement Patching	\$100,000
Sidewalk Replacement and Repairs	\$25,000
Stormwater Management Projects	\$100,000
Emerald Ash Borer Program	\$15,000
Grand Avenue Village Contribution	\$632,312
Route 45 Village Contribution	\$68,696
Zeigler Sales Tax Rebate	\$110,000
Subtotal	\$1,076,008

Lavender Projects	Village Previously Approved Projects
Lindenhurst Drive Flood Design Engineering	\$175,000
Lakeshore to Hawthorne FAU Design Ph. II	\$350,000
Emerald Ridge Sidewalk Linkage	\$260,000
Hastings Lake Bike Path Connection	\$19,450
Subtotal	\$804,450

Olive Projects	Proposed Projects for Upcoming Fiscal Year
Strategic Planning	\$16,900
Economic Development Feasibility Study	\$45,000
Police Department Security Enhancements	\$10,000
Public Works Garage Space Needs Study	\$20,000
Public Works Office Furniture Replacement	\$15,000
Liquid De-Icing Agent Equipment	\$31,000
Asphalt Hot Box	\$30,000
Subtotal	\$167,900

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Salmon Projects		Future Projects
US 45 from Rt. 173 to Rt. 132 Expansion	FY 22	\$101,269
Community Survey	FY 22	\$11,000
Pavement Management Assessment	FY 22	\$30,000
PD Evidence Storage Security Upgrades	FY 22	\$100,000
Grand Avenue Streetscaping Elements	FY 22	\$150,000
Village Hall Parking Lot Resurfacing	FY 22	\$230,000
Video Callbox/Kiosk PD Lobby	FY 23	\$12,000
Sand Lake Road Sidewalk Design Engineering	FY 23	\$100,000
Public Works Garage Expansion	FY 24	\$700,000
<i>Subtotal</i>		<i>\$1,434,269</i>
Misc. Equipment/Projects		\$30,000
Debt Service Expense	FY 20	\$58,474
<i>TOTAL FY 20 COMMUNITY CAPITAL EXPENSE</i>		<i>\$2,136,832</i>
YE FY20 COMMUNITY CAPITAL BALANCE		\$1,372,463

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Community Capital Fund 5-Year Projection - Committed Projects & Projects for Consideration FY 19/20 - 23/24

Estimated Balance 4/30/19

\$ 2,416,952

	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
Revenue	\$ 1,173,473	\$ 1,196,942	\$ 1,220,881	\$ 1,245,299	\$ 1,270,205
Transfer From Operating	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 1,173,473	\$ 1,196,942	\$ 1,220,881	\$ 1,245,299	\$ 1,270,205

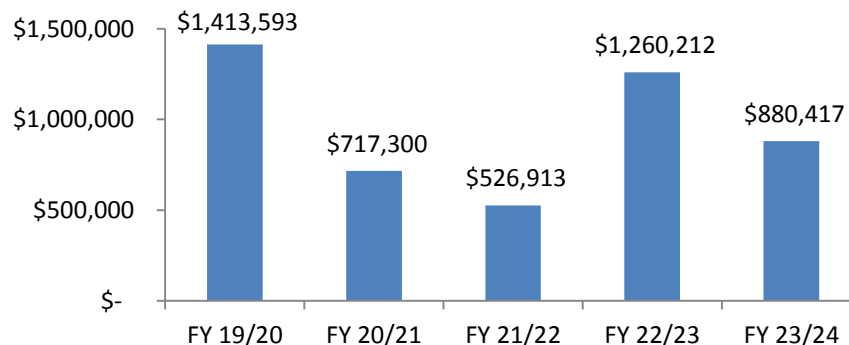
Expenses

Recommended Projects

1	Road Program Design Engineering	\$ 25,000		\$ 25,000		\$ 25,000
1	Additional Road Resurfacing		\$ 525,000			\$ 525,000
1	Pavement Patching	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
1	EAB Program	\$ 35,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
1	Sidewalk Repair and Replacement	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
1	Stormwater Management Projects	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
1	Route 132 Village Contribution	\$ 632,312	\$ 210,771	\$ -	\$ -	\$ -
1	Route 45 Village Contribution	\$ 68,696	\$ -	\$ -	\$ -	\$ -
3	Zeigler Sales Tax Rebate	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000
3	Village Entry Sign Replacement	\$ -	\$ 27,090	\$ -	\$ -	\$ -
1/3	Lindenhurst Drive Flood Phase II	\$ 175,000	\$ -	\$ -	\$ -	\$ -
1/3	Lake Shore Drive Design Eng. (PH. 2)	\$ 350,000	\$ -	\$ -	\$ -	\$ -
3	Emerald Ridge Sidewalk Linkage	\$ 260,000	\$ -	\$ -	\$ -	\$ -
3	Hazelwood Path Construction	\$ 19,450	\$ -	\$ -	\$ -	\$ -
3	Strategic Planning	\$ 16,900	\$ -	\$ -	\$ -	\$ -
3/4	Economic Development Feasibility Study	\$ 45,000	\$ -	\$ -	\$ -	\$ -
1/2/3	Police Department Security Enhancements	\$ 10,000	\$ -	\$ -	\$ -	\$ -
1	Public Works Garage Space Needs Study	\$ 20,000	\$ -	\$ -	\$ -	\$ -
1	Public Works Office Furniture Replacement	\$ 15,000	\$ -	\$ -	\$ -	\$ -
1	Liquid De-Icing Agent Equipment	\$ 31,000	\$ -	\$ -	\$ -	\$ -
1	Asphalt Hot-Box	\$ 30,000	\$ -	\$ -	\$ -	\$ -
1	US 45 from Rt. 173 to Rt. 132 Expansion	\$ -	\$ -	\$ 101,269	\$ -	\$ -
1/2	Video Callbox/Kiosk PD Lobby	\$ -	\$ -	\$ -	\$ 12,000	\$ -
1	Sand Lake Road Sidewalk Design Engineering	\$ -	\$ -	\$ -	\$ 100,000	\$ -
1	Public Works Garage Expansion	\$ -	\$ -	\$ -	\$ -	\$ 700,000
3/4	Community Survey	\$ -	\$ -	\$ 11,000	\$ -	\$ -
1/2	Pavement Management Assessment	\$ -	\$ -	\$ 30,000	\$ -	\$ -
1/2	PD Evidence Storage Security Upgrades	\$ -	\$ -	\$ 100,000	\$ -	\$ -
1/3	Grand Avenue Streetscaping	\$ -	\$ -	\$ 150,000	\$ -	\$ -
1	Lake Shore Drive Reconstruction FAU Match	\$ -	\$ 676,000	\$ 364,000	\$ -	\$ -
1	Village Hall Resurfacing	\$ -	\$ -	\$ 230,000	\$ -	\$ -
	Debt Obligations	\$ 58,474	\$ 54,374	\$ -	\$ -	\$ -
	Misc. Equipment/Projects	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
		\$ 2,176,832	\$ 1,893,235	\$ 1,411,269	\$ 512,000	\$ 1,650,000

Available Dollars

\$ 1,413,593 \$ 717,300 \$ 526,913 \$ 1,260,212 \$ 880,417



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**Community Capital Fund
5-Year Projection - No Additional Projects
FY 19/20- 23/24**

Estimated Balance 4/30/19

\$ 2,416,952

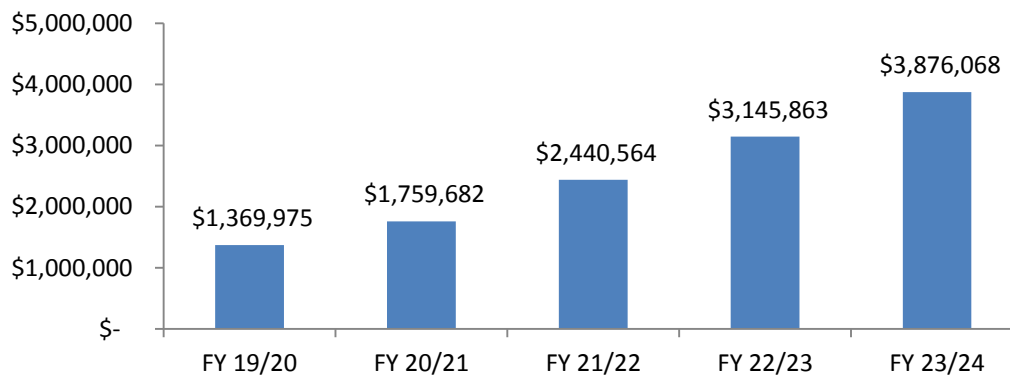
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
Revenue	\$ 1,173,473	\$ 1,196,942	\$ 1,220,881	\$ 1,245,299	\$ 1,270,205
Transfer From Operating	\$ -	\$ -	\$ -	\$ -	\$ -
	\$ 1,173,473	\$ 1,196,942	\$ 1,220,881	\$ 1,245,299	\$ 1,270,205

Expenses

<i>Recommended Projects</i>					
Pavement Patching	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Road Program Design Engineering	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Sidewalk Repair and Replacement	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000	\$ 25,000
Route 132 Village Contribution	\$ 632,312	\$ 210,771	\$ -	\$ -	\$ -
Route 45 Village Contribution	\$ 68,696	\$ -	\$ -	\$ -	\$ -
EAB Program	\$ 35,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000
Zeigler Sales Tax Rebate	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000	\$ 110,000
Stormwater Management Projects	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000	\$ 100,000
Emerald Ridge Sidewalk Linkage	\$ 260,000	\$ -	\$ -	\$ -	\$ -
Lindenhurst Drive Flood Phase II	\$ 175,000	\$ -	\$ -	\$ -	\$ -
Lake Shore Drive Design Eng.	\$ 350,000	\$ -	\$ -	\$ -	\$ -
Village Entry Sign Replacement	\$ -	\$ 27,090	\$ -	\$ -	\$ -
Emerald Ridge Avenue Sidewalk Linkage	\$ 260,000	\$ -	\$ -	\$ -	\$ -
Hazelwood Path Construction	\$ 19,450	\$ -	\$ -	\$ -	\$ -
Debt Obligations	\$ 58,474	\$ 54,374	\$ -	\$ -	\$ -
Misc. Equipment/Projects	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000	\$ 50,000
	\$ 2,413,932	\$ 807,235	\$ 540,000	\$ 540,000	\$ 540,000

Available Dollars

\$ 1,369,975 \$ 1,759,682 \$ 2,440,564 \$ 3,145,863 \$ 3,876,068



Project Descriptions

Grand Avenue Pedestrian Path and Traffic Signal Local Cost Share *(Objective 1)*

As part of IDOT's planned improvements to Route 132 (Grand Avenue) from Sand Lake Road to Munn Road, the Village can elect to have pedestrian pathways installed as part of the project. This involves the construction of a sidewalk on one side of the road and a bike path on the other side. IDOT will pay for 80% of the cost and the Village would need to pay for the remaining 20%. This total cost of \$843,082 is split over the two construction seasons and includes additional funds for construction oversight. The largest portion of this cost is the associated sanitary sewer and water main relocation needed within the State's right-of-way. We have estimated that these costs may be higher than anticipated in the agreement with the State which accounts for some of the cost increase over the previous capital plan.

Route 45 Pedestrian Path Contribution *(Objective 1)*

This project involves the Village's contribution towards pedestrian paths and preemption lights included in the IDOT/LCDOT Route 45 Bypass Project. The Village's estimated local cost share is \$95,735. We have paid a portion of this amount, and may have another payment before the end of the fiscal year. The remaining balance of our contribution is \$68,696.

Similarly, in the out-years, the Village Board has agreed to contribute to this installation of bike paths and sidewalks for the expansion of US 45 south of the Milburn Bypass. Per the agreement made in October, the Village's contribution is \$101,269. That amount is programmed tentatively (based on State funding) for FY 22.

Stormwater Management Projects *(Objective 1)*

The Village is continually making strides to address drainage issues in various parts of the community. The Village has spent part of 2018 identifying areas throughout the Village with the greatest stormwater impacts and has assigned a design engineering/construction cost to each of those projects. Projects will be prioritized by the Village Board on an annual basis to eliminate those stormwater projects over the course of time, reducing the possibility of large unexpected expenses to address these needs.

Zeigler Economic Incentive Payment *(Objective 3)*

Per the Board approved revisions to the Economic Incentive Agreement between the Village and Zeigler Nissan, the Village has committed to ongoing rebates of 50% of sales tax generated by the project. This is estimated for FY 20 at \$110,000.

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Lindenhurst Drive Flood Mitigation Phase II (Objectives 1&3)

As noted above, FEMA did not allow site grading, storm sewer improvements and the creation of a storm water detention area to be included in the grant eligible portion of the project. As a result, in order to complete the improvements the Village would need to perform the remaining improvements with Village funds. The remaining work is estimated at \$175,000.

Lake Shore Drive Design Engineering Ph. II (Objectives 1&3)

The Beck Road Reconstruction project improvements ended at Beck Road and Lake Shore Drive. Lake Shore Drive is also a FAU designated route making it eligible for 80% federal funding. Lake Shore Drive is in need of resurfacing, curb replacement, and completion of curb improvements in locations currently without. The Village could seek federal funding for the project, but Phase I and II must be completed first. The first phase of engineering will be complete this year, but Phase II will likely need to begin next fiscal year. The estimated cost of the Phase II engineering is \$350,000. This number is an estimate on 10% of the cost of constructing project.

Emerald Ridge Sidewalk Linkage (Objective 3)

With the completion of the Grand Avenue pedestrian underpass, several residents from the Emerald Ridge neighborhood have requested the Village explore options to provide a pedestrian connection to the Millennium Trail system. Currently, there are no pedestrian paths to connect the neighborhood to any of the area trails. In addition, a sidewalk linkage would provide pedestrian access from the future Grand Avenue pathways to the Forest Preserve's Millennium Trail system. The Village has evaluated options and a sidewalk could be installed along Grand Avenue at a cost of approximately \$260,000.

Hazelwood Path Construction (Objective 3)

If acquired, the Forest Preserve has agreed to consider construction of the path. Work to the construct the path is estimated at a cost of \$19,450. This number is a place holder as we believe this work will be completed in the Spring of 2019 and may not affect next year's plan.

Strategic Planning (Objective 3)

In conjunction with the citizen survey and mission/vision development, forming a strategic plan would allow the Village Board and staff to discuss priorities over the next 3-5 years. A process would include discussions with staff and trustees one-on-one and as a group. There also could be opportunity for focus groups with community stakeholders. Once all input is received, the Village Board and staff work collectively on our goals. This project could take 4-5 months.

Economic Development Feasibility Study (Objectives 3&4)

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The Village Board has expressed various interests and concepts for pushing forward an economic development agenda. I believe that it's important to determine what types of commercial develop that we wish to see and possibly more importantly, what our market supports in effort to solidify an economic development vision. The study could provide us with market factors and tools at our disposal to encourage the right type of economic development growth.

Police Department Security Enhancements (Objectives 1,2,3)

The Police Department has identified the need to replace certain interior doors with keyless entry in furtherance of what is programmed to be replaced this fiscal year. The Department is requesting \$6,000 for up to four additional locks in FY 2020. Additionally, the staff has identified certain gaps in surveillance areas which need to be addressed with the installation of cameras. This year, five exterior cameras are budgeted. The request for next year is for five interior cameras at a cost of \$4,000.

Public Works Garage Space Needs Study (Objective 1)

A significant portion of the Village's Public Works fleet is stored outside and exposed to the various elements. A study would help provide ideas for how to make better use of space or provide options for expansion. There may be opportunity for cost sharing with the Park District as they have expressed a need for fleet storage.

Public Works Furniture Replacement (Objective 1)

Almost five years ago, Public Works budgeted for replacement office equipment for the supervisors' offices, break room, and map room. Much of the current Public Works furniture was moved from Village Hall as a temporary measure when the Street and Water functions merged in 2010.

Liquid De-Icing Agent Equipment (Objective 1)

To reduce the cost of purchasing de-icing brine, Public Works would like to purchase equipment for mixing our own salt brine. For example, the current cost of brine is about \$1.50/gallon and we could likely make it ourselves for \$0.71/gallon. We would also be able to add treatment chemicals as we see fit based on weather conditions. What we would continue to track is how the use of pre-wetting solution would reduce the use of salt and reduce the manpower needed to plow the streets.

Asphalt Hot Box (Objective 1)

To meet our goal of improving the quality of our streets, an asphalt hot box would allow for pothole patching year-around in a more permanent quality than a typical cold patch. We

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believe this will improve the overall Pavement Condition Index scoring for our streets and improve their longevity.

Grand Avenue Streetscaping

This project involves enhancing the visual appearance of Grand Avenue from Sand Lake Road to Lindenhurst Drive with decorative street lights, banners, burial of electricity wires, decorative benches, trash cans and pedestrian walkways. This opportunity to create a commercial focal point will run in conjunction with the Illinois Department of Transportation's (IDOT) plan to add a center median to this section of Grand Avenue. Additional information on this project has been included in this year's plan.

Police Department Video Callbox/Kiosk

A two-way monitor communication device would allow direct communication to Glenview dispatch for persons using the Police Department lobby after reception hours in the case of emergency.

Public Works Garage Expansion

An expansion could allow for more fleet protection from weather elements and could represent a collaborative effort between the Public Works Department and the Park District.

Community Survey

In an effort to measure our efforts and continuously engage our residents a follow-up survey is budgeted in the future years.

Pavement Management Assessment

To measure our road network after resurfacing improvements to re-assess conditions and prioritize resources.

Police Department Evidence Storage Security Upgrades

Enhancements to the security measures, access, and organization of the evidence storage area are needed to improve evidence chain of command integrity. Additionally, work safety elements including ventilation may be needed due to noxious odors of certain evidence.

Sediment Removal – Lake Potomac

Remove sediment accumulation from the bottom of Lake Potomac.

Sediment Removal – Lake Waterford

Remove sediment accumulation from the bottom of Lake Waterford.

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Sediment Removal – Springledge Lake

Remove sediment accumulation from the bottom of Springledge Lake.

Sediment Removal – Lake Linden

Remove sediment accumulation from the bottom of Lake Linden.

Central Trail Segment (Grass Lake/Beck to South)

Provide funding to create a trail starting at the intersection of Grass Lake Road and Beck Road and continue south on Beck Road.

Village Green Trail Segment (from Millennium Trail)

Provide funding to create a trail branch off of the Millennium Trail.

Deep Lake Trail Segment (Library to Lakes High School)

Provide funding to create a trail network at the western portion of Lindenhurst from the Lake Villa District Library to Lakes High School's Polley Field.

Sand Lake Road Sidewalk/Pedestrian Trail

Provide funding to create a pedestrian trail along Sand Lake Road between Route 45 and Grand Avenue. Cost unknown. In FY 16/17, the Village submitted a grant application for Congestion Mitigation and Air Quality (CMAQ) funds, but the application was denied. This year's plan includes funds for engineering. The Village and County are continuing discussion on funding options and timing of the construction.

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Water/Sewer Capital

The Water/Sewer Capital Fund typically funds water and wastewater improvements/replacements including watermains, lift stations, pump stations, etc.

Regular Revenue & Expenses

Revenue

W/S Tap on Fees	\$0
Interest	\$30,000

Expenses

Projects & Debt	\$491,443
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Water & Sewer Capital FY 2019/2020 Program Evaluation

Balance as of 12-31-2018	\$883,983
Regular Revenues	\$30,000
Operating Transfer (Utility Fund)	
Available Funds	\$913,983

Lavender Projects	Village Previously Approved Projects
Phosphorus Analyzer, Pumps, Probes	\$80,000
PLC Replacement – Lift Stations #2-4	\$50,000
Fiber Optics at WWTF	\$12,000
Subtotal	\$142,000

Olive Projects	Proposed Projects for Upcoming Fiscal Year
Sanitary Force Main Rehab Lift 1	\$175,000
Subtotal	\$175,000

Salmon Projects		Future Projects
Pipeline Prioritization Study	FY 23	\$36,000
Tower Repainting – Tower 2	FY 23	\$440,000
Well Removal/Take-Down	FY 23	\$50,000
Subtotal		\$526,000

Debt Service Expense	FY 19	\$301,443
Misc. Equipment		\$15,000
TOTAL FY 20 WATER/SEWER CAPITAL EXPENSE		\$633,443

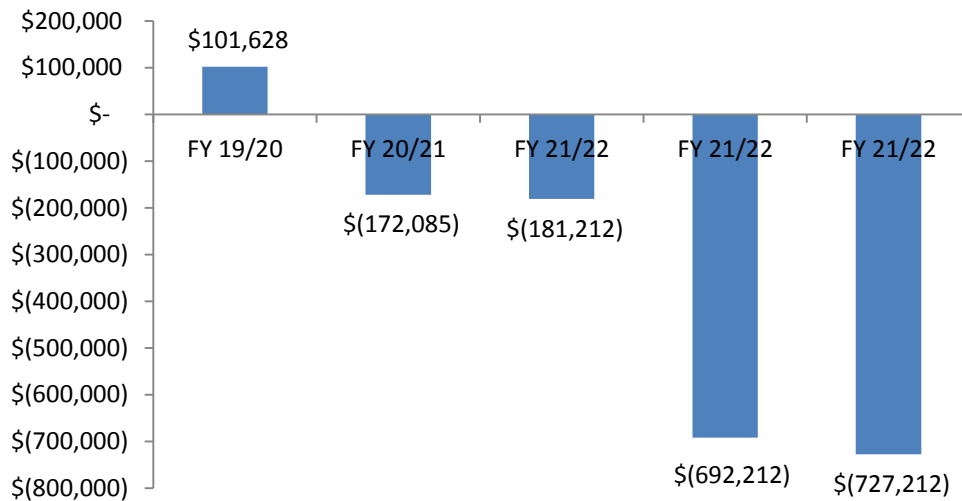
END WATER/SEWER CAPITAL FUND BALANCE **\$101,628**

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Water & Sewer Capital Fund 5-Year Projection FY19/20 - 23/24

Balance 3-31-2019	801,191				
	FY 19/20	FY 20/21	FY 21/22	FY 22/23	FY 23/24
Regular Revenue	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Transfer From Operating					
Transfer From Community Capital	\$ -	\$ -	\$ -	\$ -	\$ -
Total Revenues	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000	\$ 30,000
Expenses					
1 Phosphorus Analyzer, Pumps, Probes	\$ 80,000	\$ -	\$ -	\$ -	\$ -
1 PLC Replacement - Lift Stations 2-4	\$ 50,000	\$ -	\$ -	\$ -	\$ -
1 Lift Station Upgrades - Stations 9 & 10	\$ -	\$ -	\$ -	\$ -	\$ -
1 Fiber Optics at WWTF	\$ 12,000	\$ -	\$ -	\$ -	\$ -
1 Well Removal/Take-Down	\$ -	\$ -	\$ -	\$ 50,000	\$ 50,000
1 Force Main Rehab WWTF Headworks	\$ 175,000	\$ -	\$ -	\$ -	\$ -
1 Pipeline Prioritization Study	\$ -	\$ -	\$ -	\$ 36,000	\$ -
1 Water Tower Painting	\$ -	\$ -	\$ -	\$ 440,000	\$ -
Misc. Equipment	\$ 15,000	\$ 10,000	\$ 15,000	\$ 15,000	\$ 15,000
Debt Obligations (SE Utilities Extension)	\$ 301,443	\$ 293,713	\$ 24,127	\$ -	\$ -
	\$ 633,443	\$ 303,713	\$ 39,127	\$ 541,000	\$ 65,000
Available Dollars	\$ 101,628	\$ (172,085)	\$ (181,212)	\$ (692,212)	\$ (727,212)



Project Descriptions

Sanitary Force Main Rehab at WWTF Headworks (Objective 1)

Public Works has identified significant deterioration of the sanitary sewer lines leading into the wastewater treatment facility. The lines are beginning to show their steel inner ribbing and allowing for significant infiltration of groundwater. In 2018, Public Works bid out the work for repair of the line under current conditions, but the responding bids came back too costly to justify within the normal repair budget of the Utility Fund. The work bid would have improved the infrastructure itself, but it would not improve flow into the headworks. Staff has identified a new route for the infrastructure that would improve the headworks by installing new sanitary lines and eliminate superfluous manholes and lines. This work is under design now and could be completed in the Spring of 2019.

WWTF Phosphorus Analyzer, Flow Paced Pump, and ORP Probes (Objective 1)

We propose the addition of phosphorus analyzers to be installed at the WWTF to aide in the treatment proses for phosphorus removal. The analyzer provides instant results to allow for automatic addition of alum to remove the phosphorus. Along with the Oxygen Reduction Probes, we will be able to monitor the phosphorus 24 hours a day as opposed to once a day allowing a better control of the phosphorus removal. Adjustments would be made instantly according to the results.

PLC Replacement Lift Stations 2, 3, 4 (Objective 1)

The PLC (Primary Logic Controller) acts as the brain of the lift stations. The current PLC is no longer used and parts are not available. We propose the upgrading of these stations to the newer model. This pricing would include replacement of controller, electrical components, start-up and training.

Upgrade Lift Stations No. 9 & 10 (Objective 1)

Lift Station no. 9 is located in Emerald Ridge and receives pumping from Lift Station no. 10 as well as 20 residential and 2 commercial services. This station continuous to experience pumping issue with the pumps clogging from rags disposed from the residents. We have sent letters to the resident advising of this issue but have not seen any improvements. We have looked into putting grinder pumps in but there is not enough clearance under the pumps to install this style of pump. In order to achieve this, the station's wet well would need to be re-configured and the electrical components up-graded.

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Lift Station no. 10 is located in Emerald Ridge and serves 21 residential homes. This station continuous to experience pumping issue with the pumps clogging from rags disposed from the residents. We have sent letters to the resident advising of this issue but have not seen any improvements. We have looked into putting grinder pumps in but there is not enough clearance under the pumps to install this style of pump. In order to achieve this, the station's wet well would need to be re-configured and the electrical components up-graded.

Extension of Fiber Optics to Rear of Plant *(Objectives 1,2)*

Currently there are a number of buildings in the rear of the wastewater treatment facility that are not connected to fiber optics, limiting our ability to remotely operate and monitor operations. Connection would increase operating efficiencies.

Well Removal/Take-Down *(Objective 1)*

As the Village transitions its water system to Lake Michigan water, some wells will be kept in service for use as an emergency back-up. Those wells not needed for emergency purposes would be taken out of service and removed. This project allocates funding for the removal of unneeded wells.

Pipeline Prioritization Study

This will build on the work started by Wes with the goal of establishing a long-term plan for annual water main replacement. The plan will consider street condition, pipe age, pipe material, criticality, service records/breaks/leaks, among other criteria. The deliverable will be a report and CIP with implementation schedule and costs. The 2006 Water System Study should be updated with water use trends and facility assessments to include a schedule to water tower maintenance and painting. We also included costs to update the computerized hydraulic model. This cost is estimated at \$36,000.

Elevated Tank No. 2 Repainting

The tank should be inspected the year prior to the repaint work. We typically generate an inspection report that evaluates the existing coatings to determine if overcoating is feasible and identify other improvements/repairs needed while the tank is out of service.

Interconnection Evaluation

Given the unknowns surrounding the reliability of well #8, pipe improvements needed on the Lake Villa side, potential service to currently unincorporated areas along Deep Lake Road; the Village should look at all these factors before pursuing improvements to the existing interconnection. This cost is estimated at \$15,000.

LIFT STATION REPLACEMENT LIST

PUMP STATION INFORMATION

Pump Station No.	Location	Last Station Upgrade	Station Type	Pump Qty.	Type of Controller	Pump Manufacturer & Model	Pump Installed
1	1910 Elmwood Dr.	Upgraded in 1995	Submersible pump w/control room	2	Consolidated Electric HMI Transducer w/backup float controls	8" Flygt Model No. NP-3153.095/2015	2015
2	227 Valley Dr.	2002	Submersible pump w/control room	2	PLTU/Transducer w/backup float controls	6" Flygt Model No. CP3153.091-0410	2012
3	2216 Rolling Ridge Ln.	2002	Submersible pump w/control panel	2	PLTU/Transducer w/backup float controls	4" KJI HydroAire Model No. KSE-5-4T001	2008
4	205 Hickory Dr.	2002	Submersible pump w/control panel	2	PLTU/Transducer w/backup float controls	3" Flygt Model No. CP3085.092	2008
5	3155 Haven Ln.	1995/Upgraded 2005	Submersible pump w/control room	3	PLC/Transducer w/backup float controls	6" Flygt Model No. 3301.185-1470013	99/14/15
6	1136 E. Grand Ave	1987	Package pump station w/dry barrel	2	Consolidated Electric HMI Transducer w/backup float controls	6" Fairbanks Morse Model No. B5444-T40	1987
7	618 Crosswinds Ln.	1997	Submersible pump w/control panel	2	Float Control Only	Hydromatic Model No. S4M1000M3-4 50' cable	1997
8	680 N. Beck Rd.	1991	Submersible pump w/control panel	2	Float Control Only	1 1/4" Barnes Model No. SGVF2032L	2014
9	2595 Emerald Ln.	2019*	Submersible pump w/control panel	2	Float Control Only	3" Hydromatic S200M3-4 pump -1 S4N300M3-4 pump-2	2012/2014
10	2455 Emerald Ln.	2019*	Submersible pump w/control panel	2	Float Control Only	3" Hydromatic S200M3-4 pump -2 S4N300M3-4 pump-1	2012/2014
11	401 Woodland Trail Ln.	2005	Submersible pump w/control panel	2	Float Control Only	2" Hydromatic Grinder HPGFX300CC 50' cable	2005

Station Upgrade Recommendations – These recommendations should be incorporated into CMOM Plan & Long Term Funding

1. Replace pumps at each station every 10 years – refer to pump install column for guidance.
2. Replace starters and breakers every 5 years at lift no. 1.
3. Work with integrator to upgrade all operating systems at pump stations. This will eliminate the costs incurred from an engineering firm which isn't necessary for these upgrades.
4. When upgrading of lift nos. 1 and 5 you might want to think about upgrading to VFD controls on the pumps.
5. When performing upgrades on any station think about including adding new level transducer and floats.
6. Recommend new control cabinets for station no. 8 when upgraded.

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PROPOSED UPGRADE YEAR	Pump Station No.	COMMENTS	ESTIMATED COST
2016	6	To be re-bid December 2015	\$833,000.00
2017	2	Proposal from Automatic Systems Co. Includes upgrading proprietary telemetry control system and incorporating into SCADA.	\$33,000.00
2017	3	" "	\$33,000.00
2017	4	" "	\$33,000.00
2018	5	This station already has a PLC so upgrading and incorporating into SCADA should be straight forward.	\$33,000.00
2018	1		\$33,000.00
2019	9	This station will need to be upgraded to 4 Hp pumps which will require larger starters, etc. Recommend using Flygt N-impellor pumps. Wet wells will need to be upsized for greater capacity.	\$75,000.00
2019	10	"	\$75,000.00
2021	8		\$33,000.00
2022	7		\$33,000.00
2023	11		\$33,000.00

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Vehicle Replacement Fund

The Vehicle Replacement Fund providing funds, through contributions from the Street Maintenance and Water/Sewer Operating Funds, for the replacement of Public Works vehicles and major equipment. Village forecasting provides a 20 year projection of the fund including replacement costs and frequency and annual dollars needed to fund the replacements. Below is a general overview of the 20 year projections. In 2018, staff is recommending combining the previous separated replacement funds into a single fund for all fleet. The resulting cash balance increase strengthens the position of the fund and reduces overall contributions.

Public Works

Regular Revenue & Expenses

Fund Beginning Balance		\$316,239
<i>Revenue</i>		
Fund Contributions -	Street Maintenance -	\$66,000
	Water/Sewer -	\$0
	Police Department -	\$66,000
<i>Expenses</i>		
Public Works Vehicle	1 Pickup, and a 5 Ton	
Replacements -	Dump Truck at a cost of	\$190,393
Police Department Vehicle	3 Ford Explorer PI's at a	
Replacements -	cost of \$130,697	
Projected Ending Fund		\$156,210
Balance		

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Motor Fuel Tax Fund

The Motor Fuel Tax Fund provides revenue for various street maintenance activities including road salt, asphalt and road resurfacing. Road resurfacing is the largest expense in this fund. Revenue received cannot support a recommended 20-year road resurfacing program. The Road Resurfacing schedule. Currently, the 20-year road resurfacing program is under-funded by \$4.7 million. The Village completed a network-wide road assessment in 2018 with the purpose of reevaluating our current 20-year plan and how we budget for necessary improvements. The figures below may be adjusted based upon the findings of that assessment.

Regular Revenue & Expenses

Revenue

Motor Fuel Tax	\$330,000
Special Allocation	\$11,000
Interest	\$2,000

Non-Capital Expenses

Asphalt Products	\$17,000
De-Icing Material	\$100,000

Annual Dollars Available for Road Resurfacing \$345,000

Annual Dollars Needed for 20-Year Program \$660,000

Summary

December '18 Fund Balance	\$263,436
Total Revenue Resurfacing (16/17 – 35/36)	\$6.0 Million
Projected Resurfacing costs	\$15.0 Million
Available CIP Dollars (16/17 – 35/36)	-\$9 Million

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Municipal Debt Obligations

Below is a summary of debt payments in the 19/20 Budget and when they expire.

Title	Amount	Fund	Expires	Purpose
2013 Refunding	\$99,108	Community Capital	2020/21	Police Facility Construction/Schiessle Settlement
2008	\$177,150	W/S Operating	2022/23	Grand Ave. Phase I
2010 IEPA	\$44,364	W/S Operating	2030/31	Grand Ave Phase II
2011 Sanitary District	\$125,000	W/S Operating	2032/33	WWTF Phase II
2016 IEPA 026	\$404,995	W/S Operating	2035/36	Lake Michigan Improvements
2016 IEPA 027	\$667,666	W/S Operating	2036/37	Lake Michigan Improvements
2016 Debt Cert	\$301,443	W/S Capital	2021/22	Southeast Utilities Extension