

VILLAGE OF ARLINGTON HEIGHTS
PUBLIC WORKS & ENGINEERING

2023 ANNUAL REPORT



THE PUBLIC WORKS & ENGINEERING DEPARTMENT IS COMMITTED TO WORKING HARDER AND SMARTER IN ORDER TO CONTINUE THE HIGH LEVEL OF SERVICE THAT THE RESIDENTS OF ARLINGTON HEIGHTS HAVE COME TO EXPECT AND DESERVE.



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DIRECTOR'S NOTE

THE VILLAGE OF ARLINGTON HEIGHTS IS PROUD TO PRESENT THIS 2023 PUBLIC WORKS & ENGINEERING ANNUAL REPORT.

As I complete this annual note, historically focus has been to highlight the wonderful projects our Team has completed over the year, that appears to impact the community most.

From the development of creative ways to navigate new lead law regulations, new Commercial Driver's License (CDL) procedures, or managing the millions of dollars in Federal funding secured, I am reminded it is our Staff that should be highlighted.

Public Works & Engineering (PWE) consists of 105 of the most dedicated and talented people in the industry. The PWE Department is the largest single-staffed department in the Village. I highlighted this fact in appreciation of the Staff's eagerness to provide 24-hour stewardship and care, during and outside of their normal working hours. The sacrifices our Staff offers to respond to any emergency; from water main breaks, to flooding, to power outages, or storm damage, are truly amazing and commendable.

In 2023, new committees were created to improve communication with front-line workers, to make sure Village Board direction reaches everyone and ensure that their perspective and concerns reach upper management. This collaboration between my team and their involvement with all the Departments within the Village, outside the Village, and with other government agencies gives me a great sense of pride.

As you review this annual report, please take note of our awe-inspiring Village Staff, and the wonderful interactions we have with the community. The work is not easy or glamorous, and the hours are very long, but Staff is proud of the service we provide to the Village and I am extremely proud of them.

Enjoy the report!

Cris Papierniak
Director of Public Works & Engineering

DEPARTMENT OVERVIEW

The responsibilities of the Public Works & Engineering Department include the design, maintenance, and repair of all Village infrastructure, properties and buildings, and equipment. The ten Operating Units within the Department are Building Maintenance, Engineering, Fleet Services, Forestry and Grounds, Sewer, Street, Traffic, Water Distribution, Water Meter Services, and Water Production. Total staffing includes 102 full-time employees, and three permanent part-time employees. During the summer months, an additional 15-17 seasonal employees, and three interns are hired to assist crews with outdoor maintenance activities. The following report sections summarize the 2023 activities of the ten Operating Units and the Administrative Staff supervising the Department.



PUBLIC WORKS & ENGINEERING DIRECTOR

ADMINISTRATIVE SUPPORT COORDINATOR	PUBLIC WORKS SERVICE COORDINATOR	PUBLIC WORKS ASSISTANT DIRECTOR	VILLAGE ENGINEER
ADMINISTRATIVE ASSISTANTS	MANAGEMENT ANALYST UTILITY TECHNICIAN ENGINEERING TECHNICIAN ENGINEERING DATA COORDINATOR ACCOUNT CLERK (PART-TIME)	MAINTENANCE SUPERINTENDENT BUILDING MAINTENANCE UNIT FLEET SERVICES UNIT FORESTRY & GROUNDS UNIT STREET UNIT UTILITIES SUPERINTENDENT SEWER UNIT TRAFFIC UNIT WATER METERS UNIT WATER DISTRIBUTION UNIT WATER PRODUCTION UNIT	SENIOR ENGINEERS CIVIL ENGINEERS ENGINEERING INSPECTORS

FINANCIAL OVERVIEW

OPERATING BUDGET

The Public Works Department operates through numerous funds: Maintenance, Utility, Fleet, Capital, Storm, MFT, and Parking. The operating budget funds the day-to-day routine maintenance activities.

UTILITY. Operations of the water distribution, production and storage system, water meters, sanitary sewage collection systems and the storm water collection system.
Total budget for 2023 $ 16,820,400

MAINTENANCE. Responsible for all municipally-owned streets, sidewalks, trees, and landscaping, buildings and grounds, street lights, and traffic signals.
Total budget for 2023 $ 15,974,300

FLEET. An internal service fund for fleet operations. Provides maintenance and replacement schedules for vehicles and equipment within the Village Fleet.
Total budget for 2023 $ 2,469,400

MUNICIPAL PARKING. Responsible for the maintenance of four parking structures and 31 surface lots around the Downtown.
Total budget for 2023 $ 1,315,100

CAPITAL IMPROVEMENT PLAN BUDGET

The Capital Improvement Plan (CIP) accounts for capital acquisitions and construction projects of a significant nature, as well as the scheduled replacement of fixed assets.

MFT – ROAD RESURFACING, RECONSTRUCTION & TRAFFIC SIGNAL MAINTENANCE
Total budget for 2023 $ 4,654,000

STORM WATER CONTROLS
Total budget for 2023 $ 3,822,000

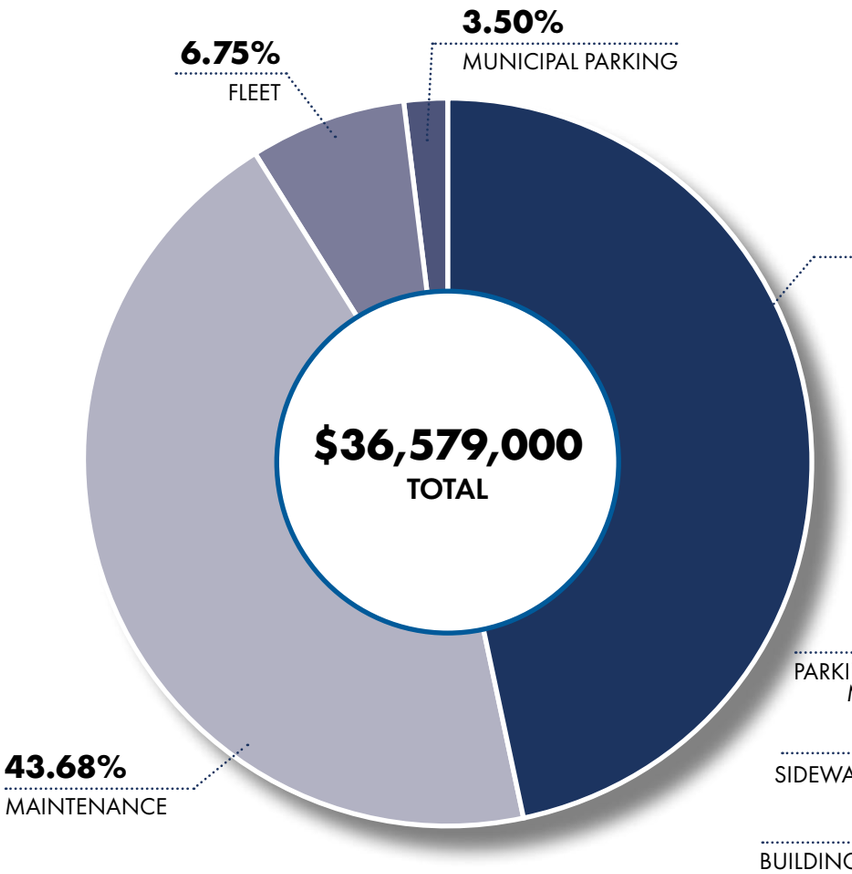
WATER & SEWER CONSTRUCTION PROJECTS
Total budget for 2023 $ 7,647,300

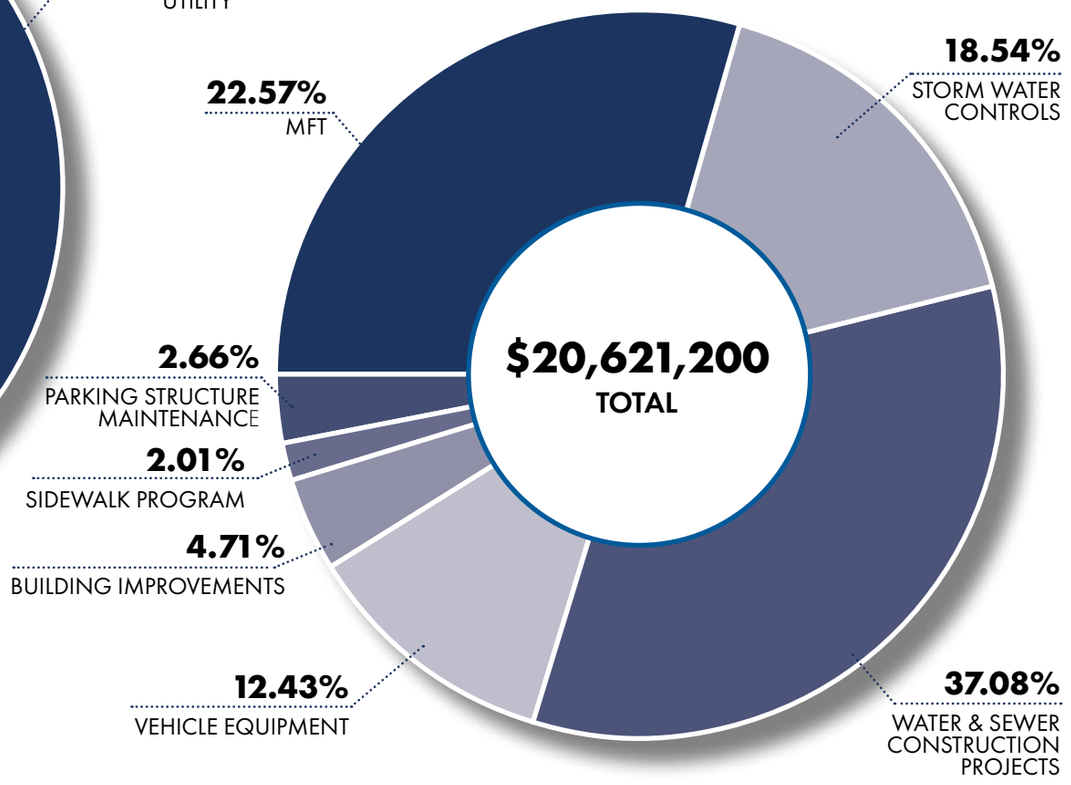
VEHICLE EQUIPMENT
Total budget for 2023 $ 2,562,100

BUILDING IMPROVEMENTS
Total budget for 2023 $ 972,300

SIDEWALK PROGRAM
Total budget for 2023 $ 415,000

PARKING STRUCTURE MAINTENANCE
Total budget for 2023 $ 548,800





WORK ORDER SUMMARY

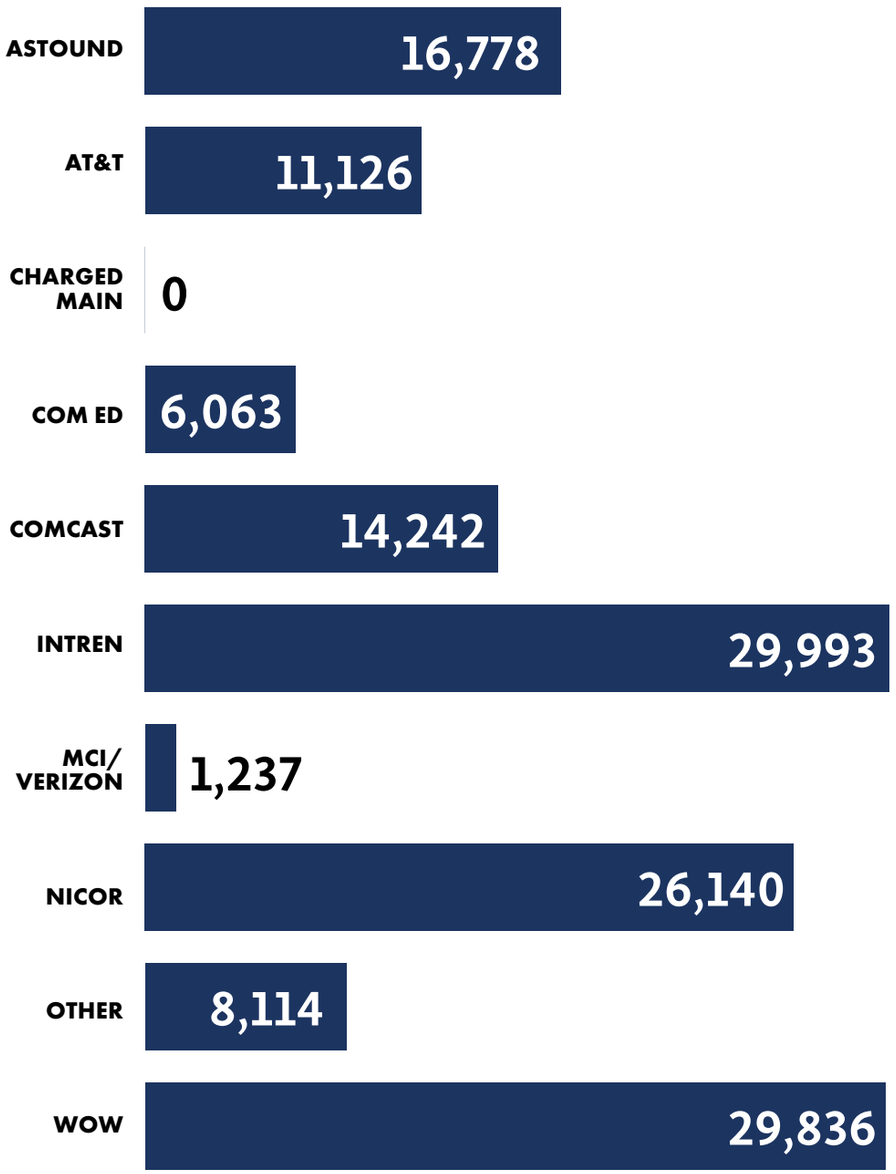
A total of **10,077** new "Service Requests" were recorded by the Front Office Personnel. The Work Requests are entered for follow-up with the appropriate Public Works Units.

A total of **6,068** invoices were processed.

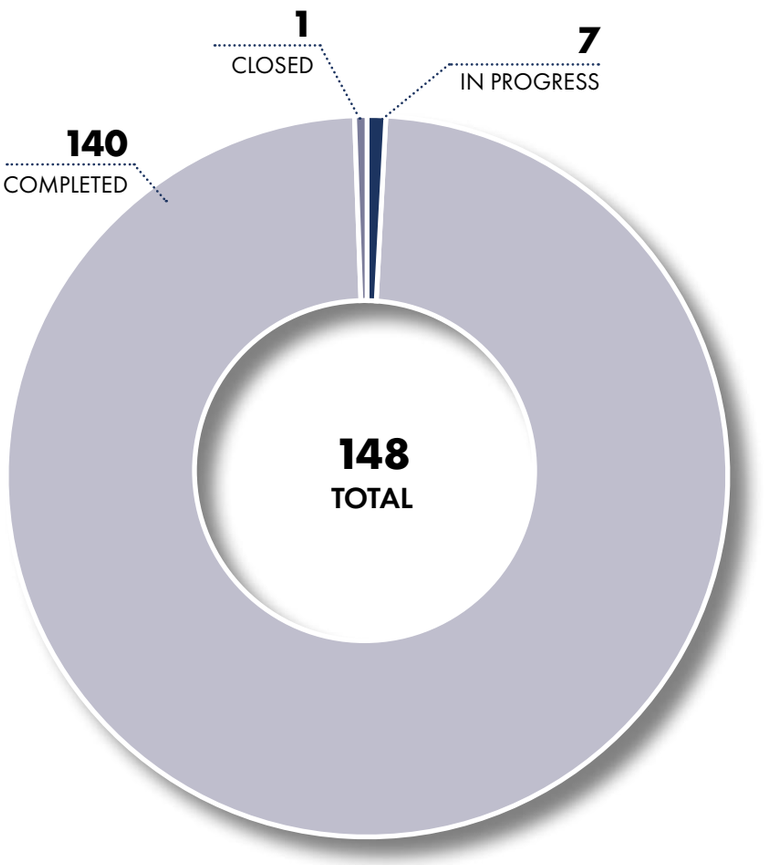
UTILITY PERMITS (JANUARY 1, 2023 TO DECEMBER 31, 2023)

The Public Works Services Coordinator and the Utility Technician review/approve Utility Permits and Utility Map requests for all utilities in the Village right-of-ways. Public Works Staff processes all underground/overhead facilities requests to be installed within the Village right-of-ways and also monitors the installation of these facilities and their restoration. In 2023, Public Works Staff processed 148 permits from 9 different utilities to install new underground facilities in the Village right-of-ways.

UTILITY PERMITS BY FOOTAGE INSTALLED



UTILITY PERMITS BY STATUS



RECOGNITIONS/AWARDS/GRANTS

The American Public Works Association (APWA) promotes to its members the importance of advocating for the good work that Public Works and Engineering teams each year. The Suburban Branch of the APWA Chicago Metro Chapter is its oldest Branch and is made up of communities primarily south of Lake Cook Road, east of Route 31, and north of Route 88. There are 21 different awards available to apply for in the APWA Award Recognition Program. The Suburban Branch received 20 different award submissions for twelve different award categories. Village Staff met in late November and identified projects, activities, and people worthy of award consideration. The Village was honored to receive five (5) Suburban Branch Awards, which are listed below.

EXCELLENCE IN EDUCATION

Awarded for related to promoting the Public Works and Engineering Industry through education. TreeU, World of Work, Community Outreach, and Water Operator Training programs were all referenced.



ASSET MANAGEMENT AWARD

Awarded for advancements in the area of asset management, with a focus on capital planning, resource management and maintenance activities.



STRUCTURES – LESS THAN $5 MILLION

Awarded for project focused on improvements completed on Village-owned parking garages, with an emphasis on structural repairs completed on the Municipal Garage.



SERVICE IMPROVEMENT

Awarded for service improvements developed for the management and reporting of traffic, signage, pavement marking, and other traffic related concerns brought to the department.



PROFESSIONAL MANAGER OF THE YEAR – ROW

Awarded to Steve Mullany for outstanding effort and performance in the area of public rights-of-way management and innovations developed in the management of utility permits and processes.

ENVIRONMENT – LESS THAN $5 MILLION

PROJECT: BERKLEY HINTZ INFRASTRUCTURE IMPROVEMENT
CONSULTANT: CMT ENGINEERING • CONTRACTOR: NERI CONSTRUCTION

Project submitted for outstanding efforts made in the coordination and completion of the multi-faceted holistic project that focused on watermain, storm sewer, stormwater storage, and roadway improvements.





In January, the Village and its Staff received several awards from the Suburban Branch of the Chicago Metro Chapter of the American Public Works Association (APWA). In March of 2023, the Village of Arlington Heights received three Chapter Awards, which were presented at the Regional APWA Chicago Metro Chapter Awards ceremony. This award ceremony recognizes outstanding projects and public works initiatives and efforts throughout the region. The Chicago Metro Chapter includes all agencies, municipalities, and organizations generally located north of Route 80 and east of Route 39. The Awards the Village received included.

ASSET MANAGEMENT AWARD

PUBLIC WORKS AND ENGINEERING DEPARTMENT

Awarded for advancements in the area of asset management, with a focus on capital planning, resource management and maintenance activities.

PROFESSIONAL MANAGER OF THE YEAR – ROW

STEVE MULLANY

Awarded for outstanding effort and performance in the area of public rights-of-way management and innovations developed in the management of utility permits and processes.

SERVICE IMPROVEMENT

TRAFFIC DATA COORDINATION SYSTEM (NOT ELIGIBLE FOR NATIONAL AWARD)

Awarded for service improvements developed for the management and reporting of traffic, signage, pavement marking, and other traffic related concerns brought to the department. The entire Department is extremely proud of Steve, the Traffic Data Coordination System team, and the Asset Management team recognition, but want to recognize the entire Department in their tireless and consistent efforts to improve our Department, the Organization, and the Community as a whole.

WE ALL COULD NOT BE PROUDER TO HEAR THAT **STEVE MULLANY** WAS SELECTED AS THE NATIONAL APWA'S PROFESSIONAL MANAGER OF THE YEAR – PUBLIC RIGHT-OF-WAY AWARD WINNER.



TREE CITY USA

The Village of Arlington Heights has been named a Tree City USA in 2023. Arlington Heights has been a Tree City USA recipient since 1985. Our community takes pride in its urban forest and ensures that its future is preserved. Receiving the Tree City USA Award acknowledges the Department's dedication to the urban forest.

TREE GROWTH AWARD

Arlington Heights was awarded the Tree Growth Award for the 11th year. This award is designed to recognize specific environmental improvement and encourage higher levels of tree care in communities.

CLEAN TRANSPORTATION AWARD

The Illinois Alliance for Clean Transportation (IACT) recognizes Sustainable Transportation leaders.

TOM THOMPSON LEADERSHIP IN PUBLIC SERVICE AWARD

The Village of Arlington Heights proudly earned the Tom Thompson Leadership in Public Service Award in recognition of its outstanding commitment to environmental sustainability. With a visionary approach, the Village has implemented a series of initiatives aimed at reducing harmful emissions and fostering a cleaner, greener community.

Since 2007, their Public Works Department has been at the forefront of environmental efforts, utilizing biodiesel fuel to significantly decrease soot, hydrocarbon and carbon monoxide emission levels. A groundbreaking Diesel Retrofit project in the same year equipped 10 Public Works trucks with diesel particulate exhaust filters, funded by almost $18,000 in grant funding from the Clean Air Counts campaign, addressing over 20% of the nation's smog-inducing nitrogen oxide emissions.

The Village's commitment to innovation extends to its vehicle fleet, with 25 hybrid vehicles acquired since 2007, including Ford Police Interceptor Utility Hybrids for the Police Department's Patrol fleet. These hybrids have yielded a 60% increase in fuel economy, averaging close to 16 MPG compared to the non-hybrid average of below 10 MPG.

In 2023, the Village added seven electric vehicles to its fleet, distributed among the Building & Life Safety Department, Health and Human Services and Public Works. This strategic move aligns with the Village's fiscal and environmentally responsible initiatives, saving approximately 4.6 tons of carbon exhaust per replaced gas-powered vehicle and yielding substantial operating cost savings.

The Village of Arlington Heights has been a pioneer in environmental recognition, earning a place among the Top 25 Green Fleets by Heavy Duty Trucking Magazine in 2019. Notable investments include an Advance CS7000 LPG-Hybrid sweeper-scrubber for cleaning parking garages, demonstrating operational versatility with lower CO2 emissions and reduced operational costs. Embracing the Drive Clean Chicago incentive program, the Public Works Department utilized incentives to purchase a hybrid aerial truck from Altec Industries, furthering the Village's commitment to cleaner vehicles. The Altec JEMS (Jobsite Energy Management System) exemplifies innovation, eliminating idle time, reducing fuel consumption, lessening noise pollution, and decreasing the carbon footprint.



GRANT FUNDING

Many of the projects taken on by the Public Works & Engineering Department are very expensive, and many times, cannot be completed without funding assistance. As a result, our Staff is very aggressive in the pursuit of state, federal, and other program funding for capital projects and initiatives related to public infrastructure. Over the course of 2023, staff submitted applications or were able to secure the following funding commitments for future capital projects.

- In January, staff received notification of grant award from the Illinois Department of Commerce and Economic Opportunity (DCEO) for the two grants totaling **$1,300,000** associated with the "Forrest Avenue Stormwater Improvements" project.
- In February, staff received notification of grant award from the Illinois Department of Commerce and Economic Opportunity (DCEO) for the two grants totaling **$845,000** associated with the "Evergreen-Maude Storm Sewer Improvements" project.
- In March, the Cook County Department of Transportation and Highways (CCDOTH) pledged partnership with the Village by agreeing to fund **$2,288,120** toward the "Euclid Avenue Resurfacing" project.
- In March, staff applied for Community Project Funding through Congressman Quigley's office for the Phase 1 study for a multi-use path through the existing ComEd ROW
- In April, staff received notification of grant award from the Illinois Department of Commerce and Economic Opportunity (DCEO) for the **$207,240** grant associated with the "Rockwell Street Rehabilitation" project.
- In April, staff received notification of grant award from the Illinois Department Transportation (IDOT) for **$2,233,530** in Illinois Transportation Enhancement (ITEP) funding for the "Windsor Drive Road Diet" project.
- In August, staff received notification of grant award from the Chicago Metropolitan Agency for Planning (CMAP) for **$1,751,520** in Locally Programmed Transportation Alternatives Program (TAP-L) funding for the "Windsor Drive Road Diet" project.
- Staff was able to secure approximately **$47,588** in funding through the ComEd Efficiency Program to assist with the replacement of existing Village-owned lighting systems to new, energy efficient LED fixtures.
- In March, staff secured a grant from ComEd to retrofit the light fixtures in the North Parking Garage. This grant was for **$26,400**.

Staff will continue seeking Federal, State, and Local grant opportunities as they arise to leverage Village funds toward vital infrastructure improvement projects.

HIGHLIGHT TOPICS

ENGINEERING STUDY

WINDSOR DRIVE ROAD DIET

In 2022 directed by the Village Board and the Bike Pedestrian Committee, the Engineering Team initiated what is referred to as a "Road Diet" study for Windsor Drive. A "road diet" consists of reducing the number of travel lanes in order to accommodate an on-street bicycle lane. The study will determine the feasibility of a road diet on Windsor Drive from Palatine Road to Crabtree Drive to improve bicycle and pedestrian access to Lake Arlington and the existing Trail.

The Phase I engineering study for the Windsor Drive Road Diet and Resurfacing Project was completed in December 2023. The next step to proceed with the project as initially intended, was to submit required documentation to the Illinois Department of Transportation (IDOT) for review and approval and to begin the selection process for the Phase II and Phase III consultant. Staff held a public information meeting in early November, and received several concerns from the public regarding the proposed Windsor Drive Road Diet & Resurfacing project. As a result, a second Committee-of -the-Whole meeting has been scheduled to review all available project options.

TOTAL BY AGENCY PARTICIPATION				
	FEDERAL	LOCAL	STATE	TOTAL
PHASE I		$104,516		$104,516
PHASE II	$263,800	$29,600	$29,600	$296,000
CONSTRUCTION	$4,393,670	$1,020,870	$190,060	$5,604,600
PHASE III	$564,560	$121,630	$28,510	$714,700
TOTAL BY AGENCY PARTICIPATION	**$5,195,030**	**$1,276,616**	**$248,170**	**$6,719,816**

Phase II Design is estimated to cost $296,000. The Village's portion of Phase II is estimated to be $29,600. Construction and Phase III Construction Engineering. If all grant funding is used, the Village's portion of Construction would be $1,020,870 and Phase III Construction Engineering is estimated at $121,630. However, the grant funding assumes a construction cost $5,604,600 and $714,700 for Phase III Construction Engineering which exceeds the current estimate of $3,713,000 for construction and $429,100 for Phase III Construction Engineering, so the Village's portion may go down if construction increases are not realized.

ROAD DIET AND RESURFACING				
	PHASE I	PHASE II	CONSTRUCTION	PHASE III
VILLAGE ONLY COST (100%)	$104,516			
ITEP – FED SHARE (80%)		$263,800	$1,530,240	$228,080
ITEP – IDOT SHARE (10%)		$29,600	$191,280	$28,510
ITEP – VILLAGE SHARE (10%)		$29,600	$191,280	$28,510
STP – FED SHARE (75%)			$1,350,150	$36,000
STP – VILLAGE SHARE (25%)			$450,050	$36,000
TAP – FED SHARE (80%)			FUNDS NOT USED CURRENTLY OVER FUNDED	
TAP – VILLAGE SHARE (20%)				
TOTAL PROJECT COST BY PHASE	**$104,516**	**$296,000**	**$3,713,000**	**$136,510**
TOTAL VILLAGE COST BY PHASE	**$104,516**	**$29,600**	**$641,330**	**$64,510**
			OVERALL PROJECT VILLAGE COST	**$839,956**

OPTIONS TO CONSIDER

Staff is seeking direction for the next steps on this project and presents the following options for consideration:

OPTION #1 – Proceed with submitting the PDR to IDOT that reduces the number of vehicular lanes from four to two to provide on-street bicycle lanes, and have Staff begin the selection process for Phase II and Phase III consultants. Estimated construction is late 2026 or early 2027.

OPTION #2 –Approval of Supplement# 4 in the amount of $130,914 to complete the necessary Phase I work efforts for the off-street shared-use paths on the east and west side of Windsor Dr. Leaving Windsor Drive a four-lane roadway. An estimated construction cost will be determined as part of the additional Phase I work effort. Estimated construction would likely be end of 2027 or early 2028.

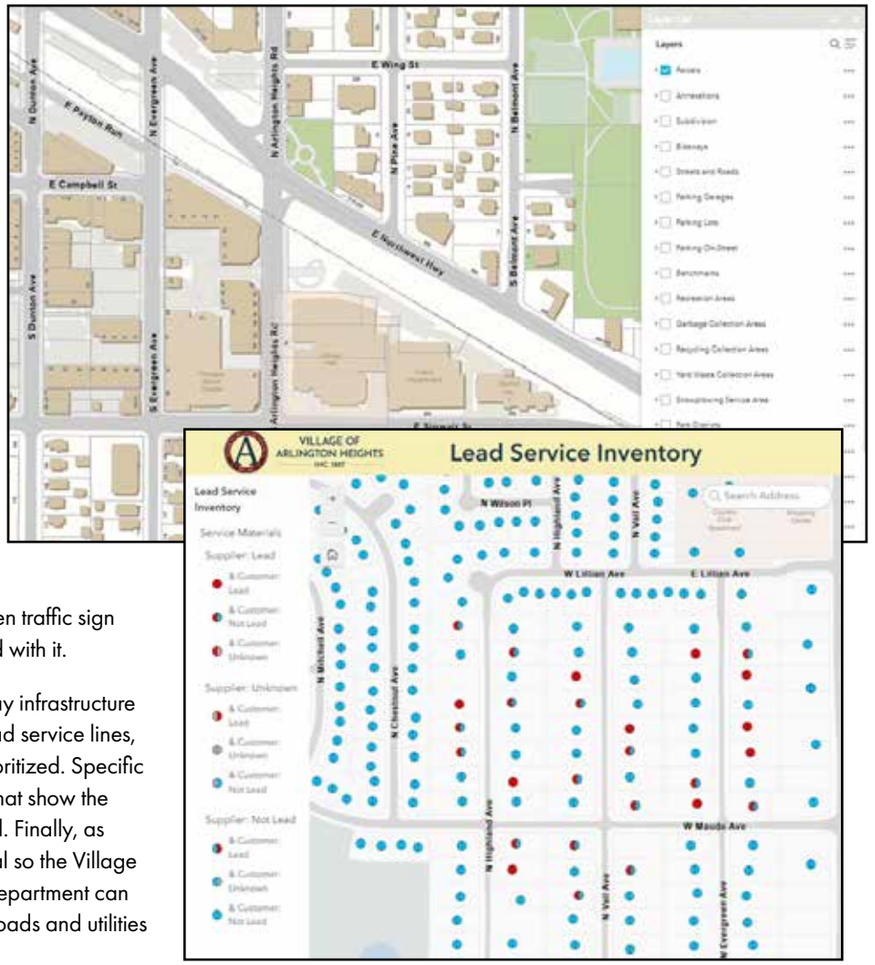
OPTION #3 – Proceed with resurfacing, existing ADA ramp improvements, and approve local funds in Phase II and III to pursue the design and installation of RFBs at Crabtree Dr and Suffield Dr. The cost and local share of the RFB design and installation would be determined during the Phase II process. This option would not include on-road or off-road bike lanes, but the existing five (5) to eight (8) foot sidewalks would remain. Estimated construction is late 2026 or early 2027.

OPTION #4 – Proceed with resurfacing and existing ADA ramp improvements only. This option would not include on-road or off-road bike lanes. Estimated construction is late 2026 or early 2027.

GIS

What is GIS, actually? GIS stands for geographic information systems and is a digital system that helps create, manage, and analyze data in the form of a map. Public Works data can be read in GIS to help show where things are – like fire hydrants, water valves, and other infrastructure throughout the town. GIS can also be used to store and represent descriptive information – like population demographics and other information. On the Village of Arlington Heights website, the Community Map Viewer is an interactive map that displays many of these layers to benefit the public. Now residents can learn about school district boundaries or waste collection days without having to make numerous phone calls or emails.

The Public Works Department uses GIS on a daily basis from field work to office work. The technology is extremely beneficial to all of our employees because it allows them to see where underground utilities are located, property information, zoning details, and much more.



Many Public Works employees utilize GIS in the field at work sites. Through various applications they can access data and maps via mobile phones and tablets to better visualize what they are working on. For example: When they are inspecting a water main break, they can open up a mapping application, find the specific water main that is leaking, and locate the nearest shut-off valves in the vicinity. The same workflow can be applied to other Public Works units too like Sewer, Water, and Traffic. At their fingertips, employees can view fire hydrant data, storm sewer catch basin data, and even traffic sign data. Entirely within GIS, employees can view the infrastructure they work with and the data associated with it.

Within GIS, the Public Works Department is able to recreate data into informative maps that help display infrastructure to be upgraded in the Capital Improvement Program. Key projects such as water main replacement, lead service lines, and road reconstruction all utilize GIS tools at the inception to determine what parts of town will be prioritized. Specific maps that show density of water main breaks will help in replacing mains in prone areas. Other maps that show the road network by a scoring system will prompt roads with low scores getting reconstructed or resurfaced. Finally, as the lead service line replacement project begins, identifying properties where lead is suspected is critical so the Village can properly plan on replacing these services. These workflows are all extremely helpful because the department can logistically plan out specific projects years in advance. It's a great way to stay proactive in upgrading roads and utilities that are slowly degrading or do not meet certain standards.

PUBLIC WORKS WATER QUALITY LABORATORY

The Village of Arlington Heights maintains a State / Illinois Environmental Protection Agency (IEPA) certified microbiology water quality laboratory. This facet of the Village's water quality operation is one of the only facilities of its kind in the area. This is an important benefit to the Village for a variety of reasons, including cost-savings and increased service levels to our water customers.

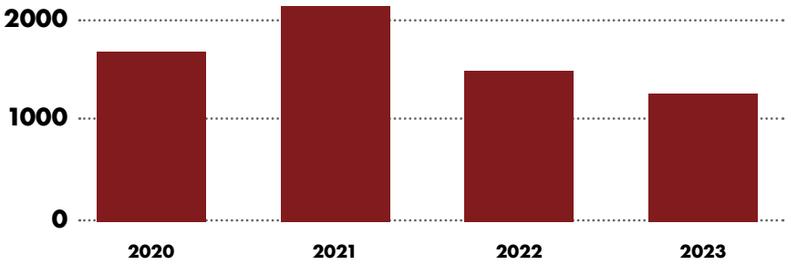
As a condition of the IEPA the Village is required to issue a Water Boil Order in the affected area of a water main break, if the system pressure falls below the prescribed threshold. As a result, most communities have to work with outside testing companies that are usually not accessible for service during evenings, weekends, or holidays. By having this resource on-site, our department is able to perform the required testing to ensure the water quality is safe, sometimes days before other communities, thus improving water reliability for our water customers. Secondly, in this area, water quality laboratories are generally located along the lake front or a distance from Arlington Heights. For example, the closest non-lakefront facility is approximately 45 minutes from our facility. This means that our staff time spends approximately five (5) hours (two trips required) of time delivering and picking up samples. This time savings allows staff to better allocate resources to other priorities.

Staff regularly performs required proficiency testing, cleaning, compliance, and bi-daily temperature monitoring of the laboratory equipment. Duties are carried out by three (3) IDPH certified analysts and one IDPH certified lab supervisor. In 2023, there were sixty-eight water samples analyzed in the lab. This is a slight increase from the samples collected in 2022.

New IEPA regulations related to lead service lines will increase testing and sampling requirements in future years. Staff has been preparing to ensure these new requirements are followed.



WATER SAMPLES COLLECTED



WATER QUALITY SAMPLING (#)

MANDATED SAMPLES **1,221**

UNPLANNED SAMPLES **68**

PUBLIC WORKS COMMITTEES

SAFETY COMMITTEE

Steve Mullany
Management Representative

Ross Vlieger
Fleet Unit
Committee Chair

MEMBERS

Anthony Hatfield
Administration

Chuck Homuth
Engineering

Mike Braunsreuter
Forestry

Harrison Mackay
Sewer

Zack Roddy
Street

Tom Shawke
Traffic

Eric Brown
Water Distribution

Vee Trevino
Water Meters

Sam Argiris
Water Production

PW SAFETY COMMITTEE

The PW Safety Committee is responsible for meeting regularly to ensure and encourage all employees to implement safe work habits and practices throughout the year, with everything we do. Additionally, the committee looks for new ways to implement safety practices, organizes an annual safety training day, and discusses safety matters related to our risk management.

This year several Committee members ended their time on the committee and several new members began on the committee. The group includes members from each of the Public Works Units, giving a thorough representation of the Department and to bring new ideas and insight to the Committee.

The Committee continues its facility inspections by inspecting one Public Works unit shop area each month. Initially, each unit was inspected by the entire committee to ensure all members knew the high priority areas required for inspection. The Village's risk management agency (IRMA) recommends that the entire facility be inspected monthly. The committee agreed that the best approach was to split up into groups of two to three members and divide the facility responsibilities, which allowed us to better manage the entire facility. This process has been successful, and the team has now added our remote annex facility to the inspection duties.

Safety Committee monthly Unit inspections have had a very positive impact for the Department, not only with employees, but also with recommended IRMA inspections. The most recent IRMA inspection that took place in 2022 was very positive and the Public Work facility's corrective items were minimal.

The importance of the Safety Committee cannot be overstated. Ensuring that all of our employees understand the importance of **SAFETY IS PRIORITY #1** in the Public Works Department. Some of the accomplishments from 2023, include:

- Incorporation of the Annex area and facility with the other Public Works inspection areas.
- In 2023, a new twist on Safety Day was included. Staff, from the Safety Committee, were charged with planning and presenting safety related content. This was a new challenge for the staff, but they did an outstanding job at educating the rest of the Public Works staff on a variety of different topics.
- The team plans to build on those successes going into 2024, and is planning on bigger and better training sessions.
- Staff secured am IRMA grant that helped fund the purchase and installation of a 360-degree camera, that was installed on a large piece of equipment used primarily by the Sewer Unit. Staff will use this a case-study to determine if this technology should be implemented elsewhere in the fleet.
- The Safety Committee began working with administrative staff to identify National Incident Management Certification training needs, department-wide. Staff has developed training and testing applications to assist staff in staying current.
- The Committee reviewed any outstanding projects from the year, and followed up with the necessary steps to complete the projects.





CDL TRAINING COMMITTEE

The State of Illinois requires all drivers of any single vehicle that has a gross weight of over 26,000 lbs. to hold a Commercial Driver's License (CDL). As many of the vehicles in the Village's fleet exceed this weight, all Public Works employees are required to hold a valid CDL. In an effort to ensure that our employees are fully competent and properly trained, the Department has employees who have volunteered to become subject matter experts in this area. These employees have committed themselves to making sure all the members of our team are trained, knowledgeable, and fully prepared to pass all state required testing. The CDL Training Committee's commitment and strive for excellence supports the entire team's effort to be outstanding.

PUBLIC WORKS IMPROVEMENT COMMITTEE

Public Works makes an effort to continually improve our Department, our organization, and our community. Additionally, with such a large department functioning every day, it can sometimes be difficult to communicate well and create clarity in the Department. As a result, we have developed a committee that serves as a conduit from the employees to the Department leadership to address improvements, concerns, or initiatives from both employees and leadership. The committee is made up of employees that represent each unit of Public Works. At these meetings, we discuss ways to make the department better, improve communication between employees and leadership, and develop ways to engage employees and residents alike with a variety of initiatives.







CERTIFICATION/ TRAINING

ASBESTOS AWARENESS

BLOODBORNE PATHOGENS SAFETY

CDL LICENSE PROCEDURE, TEST AND PRE-TRIP INSTRUCTIONS

COMBUSTIBLE & FLAMMABLE LIQUIDS

COMPUTER SECURITY AWARENESS

CONFINED SPACE ENTRY

ACCIDENT INVESTIGATION & ROOT CAUSE ANALYSIS - IRMA

EYE SAFETY

FALL PROTECTION

FIRE EXTINGUISHER SAFETY

FIRE PREVENTION SAFETY

FLAGGER TRAINING AND CERTIFICATION

FORKLIFT SAFETY

HAND & POWER TOOL SAFETY

HAZARD COMMUNICATION

HEARING CONSERVATION

HOLDUP BUTTON VIDEO TUTORIAL

IMPLICIT BIAS/DEI WORKSHOP

LEAD AWARENESS

LOCK-OUT / TAG-OUT

MACHINE GUARDING

PERSONAL PROTECTIVE EQUIPMENT

PW 01: HAZMAT POLICY & HANDBOOK REFERENCE REVIEW

RESPIRATORY PROTECTION

SEXUAL HARASSMENT PREVENTION TRAINING - 2023

TAIL GATE TALK

TRENCHING & SHORING

WATER INDUSTRY CONFINED SPACE ENTRY

WATER INDUSTRY FALL PROTECTION

WATER INDUSTRY TRENCHING & SHORING

TREEU PROGRAM









Tree University, or TreeU, is a Public Works program offering young students a chance to better understand and connect with their urban forest environment. The Forestry Unit started TreeU in 2016 as a way to engage young students in urban tree stewardship after the devastation caused by the invasive Emerald Ash Borer beetle. Arlington Heights replanted nearly 10,000 new parkway trees. Staff developed the program to teach young school-aged kids the importance of trees and how to help care for them. Since the program's inception, staff have visited eight local schools and met with over 3,000 students.

During TreeU visits, classes are split into multiple small groups to discuss basic forestry operations, tree biology, and environmental issues. Students are also able to observe and learn about commonly used forestry equipment during live demonstrations. By providing information on these subjects and encouraging students to explore careers in environmentally-related fields, we hope to inspire younger generations to become stewards of the urban forest and the environment. The mission statement of TreeU is

"TO BE A POSITIVE COMMUNITY OUTREACH THAT EDUCATES YOUNG STUDENTS ON THE BENEFITS OF TREES AND THE IMPORTANCE OF PROPER TREE CARE; A WAY TO WORK WITH EDUCATORS TO FOCUS ON CURRENT FORESTRY RELATED TOPICS THAT ARE RELEVANT TO THEIR STUDENTS' CURRICULUM".

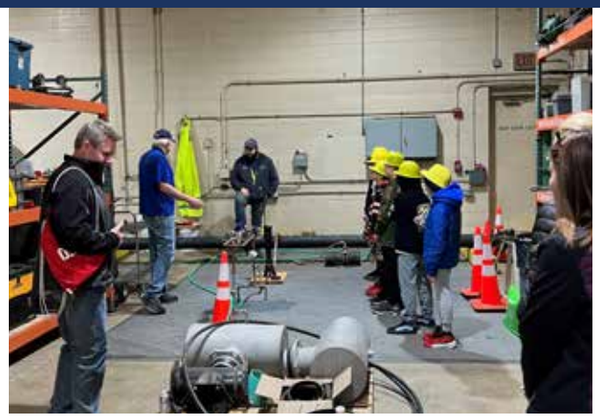
We believe through these efforts we can make our community a better, greener, and more sustainable environment for future generations. Our Forestry Team presented at eight (8) TreeU events this year for approximately 370 students at two elementary schools and two early childhood centers. Students ranged in age from early Preschool to second grade. Staff educated the students on basic tree biology, the benefits of trees, and demonstrated tree climbing techniques. Students were given native oak saplings to take home and plant, to help grow their interest in forestry.

COMMUNITY OUTREACH

PUBLIC WORKS CONNECTING TO THE COMMUNITY:

Public Works prioritizes staying out in front of the communication that most interests our residents and business owners. The Public Works Department takes great pride in communicating our role and connecting with Village residents at events and partnering with local organizations, schools, and agencies.













WORLD OF WORK - The Public Works Department hosted two World of Work events; with students from Olive-Mary Stitt Elementary School and Windsor Elementary School. In 2022, each Public Works Unit planned an interactive display or demonstration for the event. Students also received a swag bag filled with Public Works Department promotional items and educational brochures.

Engineering also participated with grade school students from Greenbrier, Windsor, and Dryden Schools for World of Work Days. The students were shown how we utilize GIS mapping of sewer and water utilities along with aerial contours to assist residents with drainage issues and planned construction activities. The students also got hands-on experience with surveying equipment.



FEED MY STARVING CHILDREN



DISASTER RELIEF MACOMB, IL







Our Staff planted a sweetgum tree at Pioneer Park with students from Patton Elementary school to celebrate ARBOR DAY on April 29th. Staff also planted a new parkway tree with a local Girl Scout troop in honor of the day as well.

OLIVE SCHOOL EARTH DAY FAIR – Public Works attended and provided a free sapling giveaway and informational booth.

The Village was proud to celebrate its commitment to outstanding forestry stewardship by receiving its 37th consecutive award as a **TREE CITY USA**.

Staff performed demonstrations on how to use equipment, including the log truck and gave away free tree saplings at **ST. SIMON'S CHURCH PET BLESSING** and **EARTH FEST**.

EARTH DAY COMPOST GIVEAWAY – the Public Works Department hosted a drive-through event where residents could pick-up free compost and a pre-ordered compost bin. The compost bin program is managed by the Health & Human Services Department. The event was staffed in cooperation with volunteers from the Arlington Heights Garden Club.



COMPOST GIVEAWAY



SWING INTO SPRING - Two staff members exhibited the log truck at the new event at North School Park on May 20th. Attendees could pick up plastic hardhats and touch a giant log.



MEMORIAL DAY PARADE – Public Works staff prepared and assembled a variety of floats, including the Fallen Heroes float for the parade. Numerous staff across all Units were on hand to manage, coordinate, and participate in the parade activities and presentation sound systems.

Members of the Forestry Unit hosted an informational booth at the **GARDEN CLUB'S UNIQUE BOUTIQUE**. The arborists answer questions, passed out informational brochures, and gave away free native burr oak saplings.



GARDEN CLUB'S UNIQUE BOUTIQUE



ROLLING MEADOWS CAREER FAIR



SOUNDS OF SUMMER



NATIONAL NIGHT OUT – Public Works Staff answered questions, passed out giveaways, and exhibited equipment and interactive displays for the annual National Night Out.









FARMER'S MARKET TOUCH-A-TRUCK – Each week a different Public Works Unit was featured at the Farmer's Market. Units showcased equipment, vehicles, or demonstrations as well as handing out free items, such as tree saplings.

FOURTH OF JULY PARADE - Public Works staff prepared and assembled a variety of floats, including the Fallen Heroes float for the parade. Numerous staff across all Units were on hand to manage, coordinate, and participate in the parade activities and presentation sound systems. Also, this year, Public Works staff worked closely with the Police and Fire Departments to provide a safer and more aesthetically pleasing road closures through the use of the Villages 2.5-ton plow trucks along parade route.

HARMONY FEST – The Public Works staff provided a booth for Harmony Fest that included an interactive display showcasing leaky toilets, free tree saplings, and free giveaway items.



SAINT PETER'S TOUCH-A-TRUCK – Multiple Public Works employees showcased a variety of equipment and vehicles at a small public event held at Saint Peter's Lutheran Church. Attendees could walk through a hollow log, sit in a front-end loader, or see how high an aerial bucket reaches. The event also featured the Police and Fire Departments, as well as other local vendors such as Groot and ComEd.





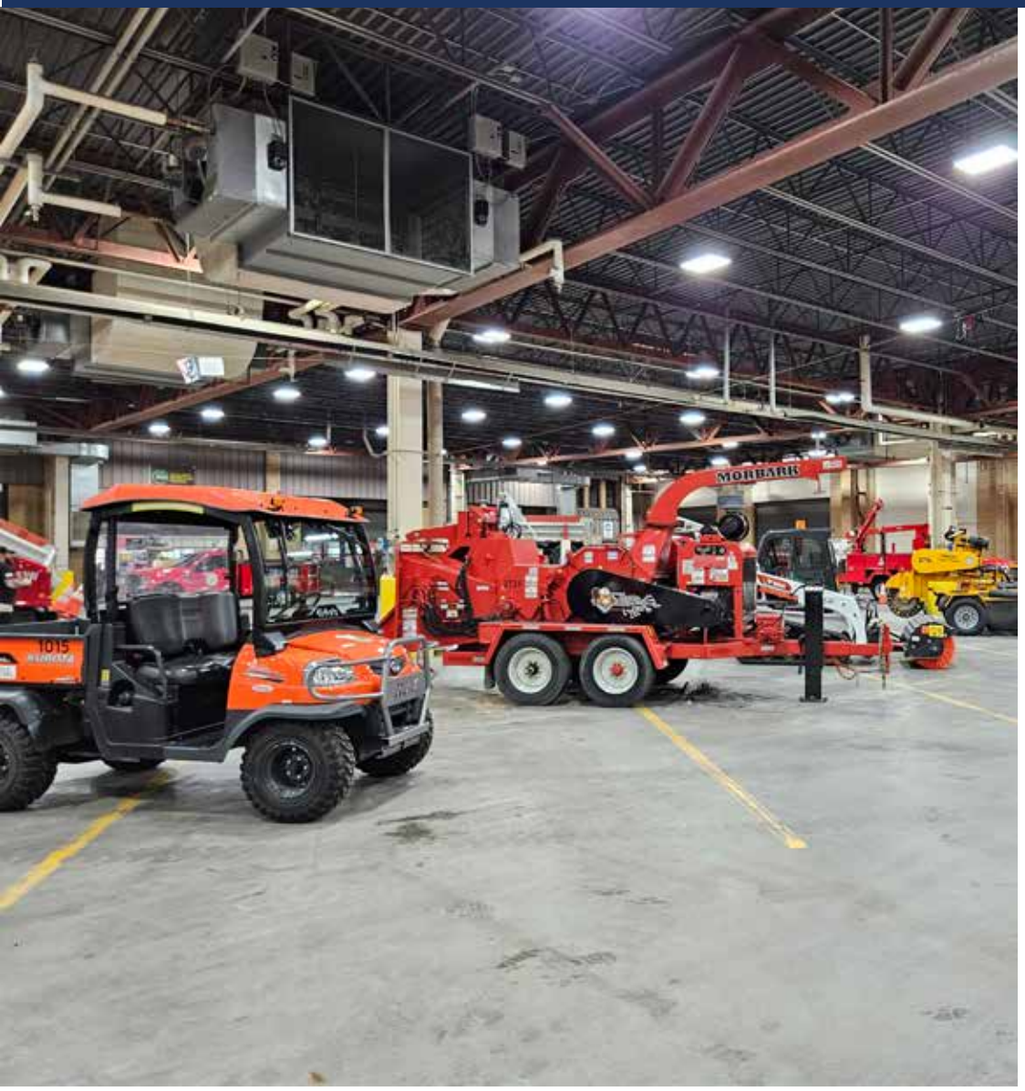








COMMUNITY OPEN HOUSE – In October, the Public Works Department had the opportunity to showcase different pieces of equipment and vehicles, alongside the Fire and Police Departments, at the 2023 Community Open House. Staff assisted young residents into the equipment for photo opportunities and handed out small giveaway items.





In an effort to engage residents in locally focused capital projects, Staff provides opportunities to educate the community by hosting virtual evening meetings with residents to discuss their concerns and potential solutions.

Staff regularly performs site visits with residential homeowners to discuss drainage issues, sewer backups, and other site and utility related issues and educates them on the Village's rules and regulations, while also collaborating on possible resolutions to their concerns.

TREE-KEEPERS PRUNING EVENT – Forestry arborists assisted a group of eight Open Lands Tree-Keepers volunteers prune fifteen (15) parkway trees on Arlington Heights Rd. near Thomas Middle School. Staff provided traffic control to help give volunteers a safety barrier from vehicular traffic.





Utility staff gave several tours of the water system and control system to school groups.

TRUNK-OR-TREAT – Public Works hosted a table at the Park District's Trunk-or-Treat event. The staff passed out hundreds of pieces of candy to attendees.

AUTUMN HARVEST – Public Works Staff continued to assist the Arlington Heights Park District with the required setup for the Autumn Harvest event held annually. Additionally Public Works arborists handed out oak saplings in honor of OAKtober, Oak Awareness Month. Oak trees are vital to the local ecosystem and are host to the most native insects.



Staff assisted a local GIRL SCOUTS troop plant a parkway tree near Pioneer Park. The troop members had the chance to learn about the importance of trees, proper tree care techniques, and how to plant a tree.





BOY SCOUTS PUMPKIN SMASH – Staff members assisted a Boy Scout troop in smashing pumpkins for a composting event. Public Works used one of its aerial tower trucks to drop pumpkins from the air, making the event a great success that resulted in many department kudos.

The holiday season culminates in the annual Tree Lighting Ceremony at North School Park. The event is a collaboration between the Village, Park District, and Special Events Committee. This is an "all-hands" event where all personnel assist with plugging in lights and decor, repairing damaged lighting, and manning switches in order for all lights in the downtown to turn on simultaneously, when the mayor "flips" the ceremonial switch. Holiday décor is removed in January; the parkway trees remain lit until February. Throughout the 2023 holiday lighting season, the Public Works Department and Health Department collected unwanted and discarded holiday lights for recycling. A total of 3,960 pounds of lights were collected. The Holiday Light Recycling Program is managed by Elgin Recycling.

HOLIDAY TREE LIGHTING – The Public Works Department participates in the annual Village-wide tree lighting ceremony on November 29th. Assignments include street closings, managing loading areas for the Holly Trolly, assisting with pedestrian traffic control, managing vendors at Harmony Park, and cleaning up at the end of the night. Public Works Staff manage all holiday lights and décor in the downtown. The employees standby at 11 different area electrical cabinets to coordinate all the lights being activated simultaneously when the mayor "flips the lights switch".











SANTA'S SPECIAL PROJECT

In 2023, the Forestry Staff was tasked with storing Santa's Arlington Harmony Park Holiday House for the summer. Staff inspected the structure and asked if they could give it a facelift. Well, the team did much more than that! The Forestry team completed a major overhaul of Santa's house after it was determined that the house components were in very poor condition.

Staff removed the old decaying wood façade on the entire structure, leaving only the walls and roof framing intact. New wood sheeting was installed and the entire structure was primed to discourage weathering. A new metal roof was installed and is anticipated to last much longer than the old plywood roof. The Team decorated the exterior of the house with thoughts of a gingerbread house as inspiration. Staff put their creative juices in overdrive by adding a new whimsical gingerbread/candy theme to the house. Staff then upgraded Santa's door and added new and improved decorations to make sure that Santa and all his visitors fully enjoyed the holiday season.

VILLAGE EVENTS



VAH PIE DAY



PUBLIC WORKS & ENGINEERING TACO DAY

VILLAGE SELFIE DAY



ADMIN DEPARTMENT



FORESTRY DEPARTMENT

MAJOR EVENTS

ARLINGTON ALFRESCO

As in the past, Staff began constructing the soft opening of the Arlington Alfresco event. During the spring months, staff performs concrete repairs, asphalt repairs, landscaping and lighting maintenance and cleans streets, trash bins, benches, and light standards. Additionally, staff worked hard to have the Harmony Park area prepped and restored for the upcoming season.

The Alfresco setup requires over 250 sections of fencing installed with weights to protect against high winds, 50 water barriers and 12 concrete barriers installed to protect pedestrians from traffic, 150 delineators, and hundreds of feet of rope necessary to provide separate areas for each of the many businesses to safety participate in the event. Signage in and around the downtown district are also installed for a variety of reasons.

Staff continues to make improvements to enhance the entrance and exit areas of Alfresco to encourage patrons and a safe environment. Planters were brought in and planted at different times of the year. Covers were also purchased to place over barricades and barriers to enhance the appearance of these critical safety measures.











WHITE OAK – PARKING / BIKE LANE

Pavement striping for shared parking/bike lane completed on White Oak Street between New Wilke Road and Arlington Heights Road, meeting one of the Village Board's strategic goals to make the community more livable by increasing bicycle options for residents.





EMERGENCY RESPONSE/WEATHER EVENTS

Why recognize Public Works professionals as FIRST RESPONDERS? While Police, Fire, and EMS are often the three most recognized first responders, Public Works is also often silently there—providing vital support to emergency response partners, helping protect essential services, and restoring those services following an emergency situation.

The National Incident Management System (NIMS) is a program designed to provide a standard set of consistent practices to utilize in emergency response situations. As part of this program, the NIMS lists public works alongside police, fire, and public health in its documentation as a critical agency needed when responding in emergencies. Whether it is clearing debris after a major storm, clearing the roads during winter weather conditions, setting up protective barriers, or any other critical essential function, that public works is always there to ensure government operations return to normal as quickly as possible. Public works is the silent arm of public safety and are generally the first to arrive and the last to leave.

Arlington Heights Public Works Staff take great pride in responding to Village emergencies to ensure that critical infrastructure is available to the Community with minimal disruptions. It's not uncommon for people to think the worst when considering emergency response, like tornadoes and floods. However, while these are definitely Public Works related responses, more common emergencies happen every day in Arlington Heights, such as; water main breaks, sewer backups, power outages, signal failures, localized flooding, wind storms (damage), etc. These are among hundreds of different issues that our Public Works Team responds to every day, and our Team is committed to limiting the inconveniences of these emergencies on our resident's day-to-day lives. Below are just some highlights of emergencies our Team responded to in 2023.





WIND STORM EVENTS

JULY STORM EVENT

On July 14th, a line of strong storms tracking east from Iowa, threatened potential damaging winds, hail, lightning, and torrential downpours. Following a Severe Thunderstorm Watch issued for Cook County, heavy rainfall and strong wind gusts moved into Arlington Heights around 9:30 pm. The storm lasted for less than thirty (30) minutes. Immediately following major wind activity, Staff responded to six emergency calls from the Police Department for tree blocked roads. Multiple crews cleared as many blocked roads as possible during the nighttime operations, as additional downed trees and road closures continued through the night. After a brief pause to ensure safer operational conditions, crews resumed cleanup efforts during the following day to provide safe conditions for motorists, open driveways, and respond to home damage caused by a parkway tree.

Crews continued cleanup efforts on Monday and continued through most of the week, and was completed by Thursday, July 20th. The majority of damage was concentrated in the southern half of the Village, with 412 service requests received for tree related issues including one tree on a house, ten impassable roads, and three hazardous tree removals.

IPWMAN EMERGENCY ASSISTANCE – In response to an Illinois Public Works Mutual Aid Network (IPWMAN) request for assistance, the Public Works Department responded to Macomb, Illinois to assist with significant damage they experienced from the same storm event. Public Works dispatched two staff members with an aerial tower truck and skid-steer with grapple to assist with tree debris cleanup after the area received 150 mph straight line winds. The crew assisted for five day and removed over 275 loads of brush and 50 broken or hanging limbs.

SNOW AND ICE EVENTS

GENERAL SNOW EVENTS

SIDEWALK SNOW & ICE CONTROL – The Snow and Ice Response Team responded to twelve (12) separate snow and ice events in 2023. As a result of the milder winter, staff used approximately 53% less road salt in 2023. Additionally, staff was able to increase road and sweeping maintenance efforts. As always, two trackless machines equipped with brooms cleared the 7-mile route of sidewalks in the downtown and adjacent to Village owned buildings. In the Downtown Area and in school zones snow removal equipment, shovels, and snowblowers are used to clear pedestrian areas and areas hard to reach areas for larger snow removal equipment.

FEBRUARY ICE STORM EVENT

A multi-faceted weather system impacted the Village February 22nd and 23rd. The system produced freezing rain across much of northern Illinois, which accumulated on various surfaces, including trees and aerial utility lines. The combination of ice and winds gusting to 35-40 mph resulted in numerous instances of tree damage and utility lines being downed. Despite significant tree damage, only one parkway tree had major damage and split in half during the storm. The Public Works Department responded to complete nearly 280 service requests during the days immediately following the storm event.

UTILITY EVENTS

In the Water Distribution Unit, emergency response is, at times, a daily activity. In 2023, the Unit was tasked with responding to and repairing 233 water main breaks and/or water service leaks. Although these repairs are typically unscheduled or required during late night hours, weekends, or holidays, our crews can always be counted on to respond, regardless of the time of day or weather conditions.

- The Sewer Unit responded to 26 total emergency sewer line blockages and three rain storm events from residents throughout the community.
- There was a ComEd ground fault at a sanitary pumping station that resulted in a burned-up emergency backup power transfer switch. The station ran on the generator for almost one week as ComEd made extensive repairs to their infrastructure.
- There were two separate occasions of main breaks near the Hydropillar. The water in the tank dropped to an uncomfortable level. The SCADA system had to be monitored and pressures adjusted until crews were able to throttle valves back.

INTERNAL EMERGENCY EVENTS

Our Team responds to Internal emergencies as well. This includes emergencies such as; power outages, broken water pipes, HVAC failures, and phone system outages. Some examples of emergencies handled by our team this past year, include:

- The Building Unit did not run into significant emergencies in 2023, primarily as a result of proactive maintenance and planning. However, the team did institute a new Cold Watch program.
- The "Cold Watch" program is intended to proactively initiate and schedule maintenance staff to be on-site whenever temperatures drop below zero degrees. The program proved beneficial in its first year when our team prevented catastrophic damage at Fire Station 1. Staff was able to immediately repair a heating frequency drive, restoring heat and averting potential disaster. Additionally, while at Public Works, the team spotted and restored a faulty boiler, potentially saving the Village thousands of dollars in repair costs from frozen plumbing ruptures.
- Fleet services provides emergency vehicle repair services throughout the year at all different times of the day and night. Not only are they critical to our snow and ice operations, but they keep equipment up and running during emergency events such as windstorms, water main repairs and sewer backups. They also respond to after hour breakdowns when emergency repairs need to be made to Police and Fire equipment. As if that isn't enough, when everything is up and running perfectly, they assist with snow removal operations!







WINTER MAINTENANCE



SNOW & ICE OPERATIONS

The Street Unit team serves as the Department's lead for Snow and Ice Operations. They are also responsible for organizing the Department's Annual Snow Day training event, which is intended to familiarize winter maintenance Staff with their plow routes and equipment. Although the Street Unit is the primary unit for snow and ice control operations, the responsibility for these emergencies falls on the entire department. Each year, as part of the Snow and Ice Operations, Crew Chiefs and Foremen are tasked with helping strategize the Department's response to our winter emergency response activities.

The 2023 snow and salt season salt usage totaled 4,041 tons of salt used over the course of 12 separate snow and ice control events. Our salt totals continued to improve in accuracy as new and improved equipment has been implemented. In an effort to reduce costly salt materials, a total of 54,878 gallons of liquid beet juice blend were used to anti-ice streets and pre-wet our road salt. The Load-Rite scale system has been key to accurate tracking of snow and ice activities. The snow fleet traveled a total of 22,254 miles during the 2023 season.

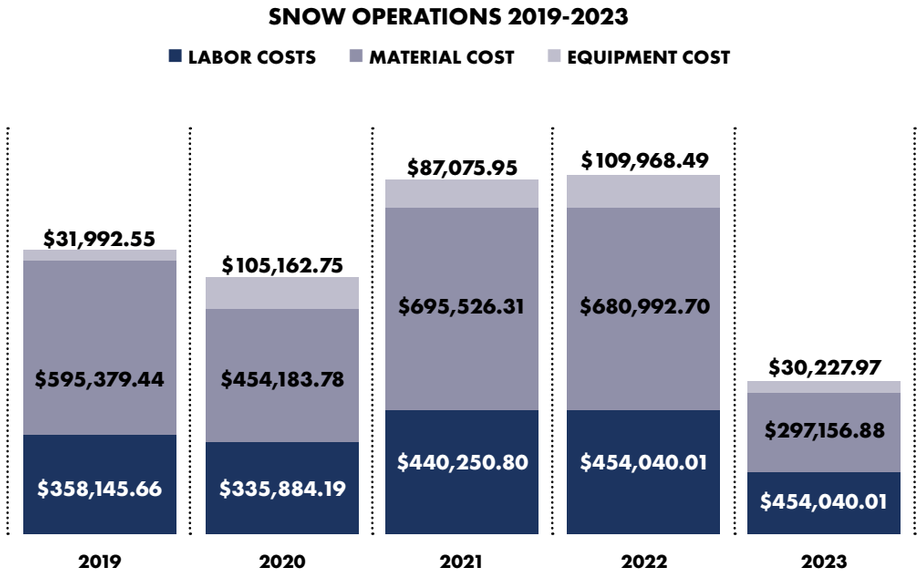
THE SNOW FIGHTING FLEET CONSISTS OF THE FOLLOWING VEHICLES:

21 — 2 ½ TON DUMP TRUCKS

2 — 5-TON DUMP TRUCKS

2 — 1 TON DUMP TRUCKS

13 — PICK-UP TRUCKS





The Arlington Heights Snow Fighting Team consists of two separate crews made up of up to 52 different team members responsible for clearing the 241 miles of Village streets, parking lots and parking garages. This enables teams to rotate responsibilities on 12-hour shifts to fight sustained snow events. Most of those miles require four to six passes to complete. A Six -person mechanic crew is also necessary to provide emergency truck repairs. Snow storms that produce 3 plus inches of snow require an additional 10-member team for clearing over 300 Village cul-de-sacs of snow.

The Village is divided into 19 primary road zones and 3 specialty zones for snow and ice control. Each zone is assigned a driver from each of the three teams to cover 24/7 throughout the winter months. The third team drivers clear the 10 cul-de-sacs.

Each year, in late October/early November, the Street Unit hosts "Snow Day". This is an event designed to refocus our team on important safety factors and driver knowledge on a variety of snow-fighting related topics. This helps to ensure our team is as prepared as possible for the upcoming season. In 2023, the Mayor, Village Manager, and several Trustees stopped by to remind our team of just how important their efforts are to the entire community. This support goes a long way to rallying the team, as the prospects of very long days and nights fighting snow and ice storms approach.

An important training component that occurs during Snow Day includes driver dry runs. Drivers travel their routes in their plow vehicles to identify any obstructions, such as; manholes, broken asphalt, tree limbs, signs, etc., which the department attempts to repair or address prior to the first snow. Other important training addressed last year included; pre and post trip vehicle inspections, proper snow plow installation, and MS-4 training, which reminds staff of the environmental impacts of salt on stormwater facilities.

SIDEWALK SNOW PROGRAM

A significant operation for the Department's Snow and Ice Control operations includes the maintenance of select sidewalk areas within the Village. The Forestry Unit has the primary responsibility for this operation, which involves more than seven (7) miles of Village-maintained sidewalks, and when there is more than ten inches of snowfall, staff is responsible for an additional seventeen (17) miles of sidewalk. Snow removal operations includes ensuring that all walks are cleared for both morning and evening commuters. As a result of the mild 2023 snow season, the Village experienced a reduction in snow and ice control materials. Machines equipped with brooms, snow blowers, salt spreaders and hand shovels (for hard-to-reach areas) are all necessary tools used by staff when clearing and de-icing Village-maintained sidewalks.



2023 – ANNUAL PROJECTS/PROGRAMS





TREE PLANTING

The Forestry Unit was again busy replanting hundreds of trees lost from a variety of reasons such as wind damage, sewer and/or utility excavation, car accidents, and other natural causes. Preparations for the spring planting season began in late winter with Staff contacting nurseries and the planting contractor to confirm orders and the timing of planting. During the spring planting season, Staff identified 479 new planting locations. Residents received a tree planting informational card outlining the tree planting process and instructions for how to care for a newly planted tree, which was followed up with a reminder after the tree was planted.

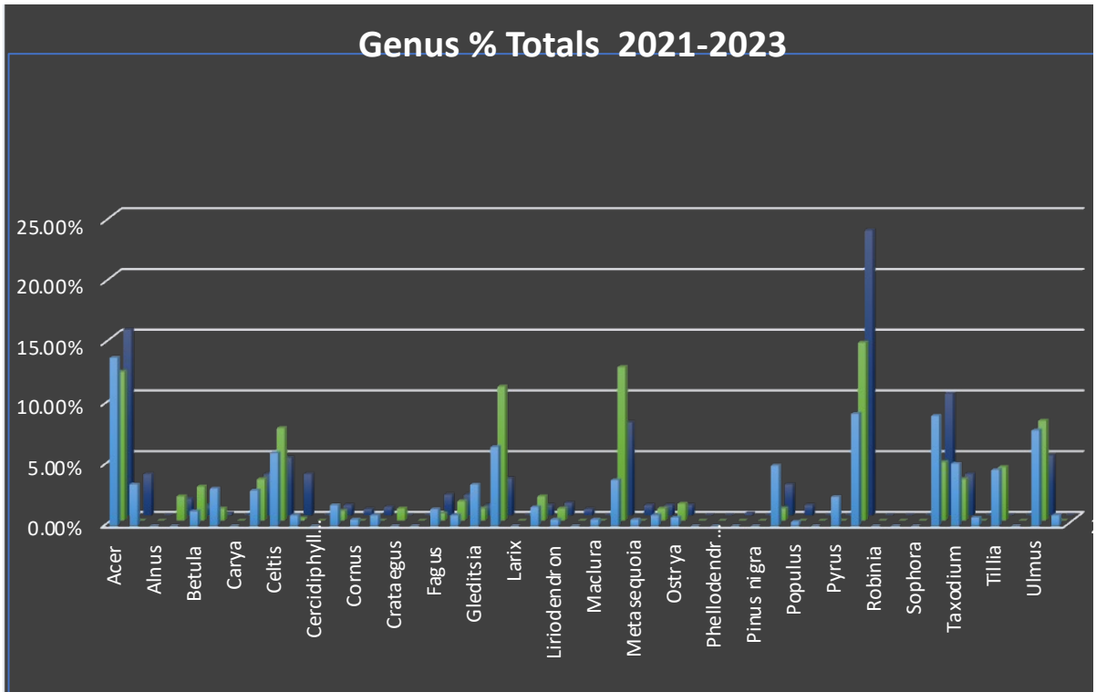
The Village's tree planting contractor started planting trees in late April and finished installing the 479 trees in early May. The Village received a grant to resurface a portion of Kensington Avenue and install a new bike path. Numerous trees were lost as a result of the bike path installation requirements. In 2023, staff was able to reinstall 53 new trees along the roadway, to revitalize the area with nature. The utility wires, compacted soils, and heavy salt use in this area are all challenging conditions for tree survival. As a result, staff arborists selected 11 different species that have the best chance at survival in this harsh environment, while also maximizing beautification in the area. Gator bags were installed upon planting and trees were watered at least twice a week throughout the growing season, and will be monitored until they are fully established.

During the spring planting season trees were purchased from Wilson Nurseries, Spring Grove Nursery, and Hinsdale Nursery. Many of the trees were ordered up to five years prior to the Village taking possession to ensure the Village had the quantity and quality of each tree needed.

Fall tree planting prep started with the same procedure as the spring planting season, marking planting locations, managing the tree inventory data and coordination with nurseries. Fall tree planting prep started in mid-September with 109 trees planted over two days in October.

At the conclusion of the 2023 planting season, a total of 588 parkway trees were installed within the Village. The Village continued to expand the community's urban forest diversity with different species with the hopes of eliminating widespread loss of canopy due to an outbreak of a virulent disease or insect pest. The graph shows the different species (Genus) planted in 2023.

The graph below is a breakdown of the Genus Percentage Totals between 2021 through 2023.



PAVEMENT MANAGEMENT

The Public Works Department utilizes a scientific and unbiased approach to evaluate the conditions of all the Village-maintained roadways. The operation utilizes a truck mounted scanner that analyzes both surface and subsurface conditions. Following a full inventory of road conditions completed in 2023, the Village will begin a cycle of measuring road conditions every three years, to maximize maintenance efforts and improve roadway construction planning efforts for the entire roadway network.

A software solution allows Staff to run different modeling scenarios to assist in developing a multi-year program for street maintenance programs, including; crack sealing, edge grinding, surface treatment, resurfacing and reconstruction. This information enables Staff to better develop long-term capital plans that incorporate scheduled utility system improvements, neighborhood impacts, and other critical factors used to build a holistic program.



EDGE GRINDING – ASPHALT MILLING & PAVING PROGRAM

One of our most important maintenance activities is the Edge Grinding Program. This program provides improvements to the pavement edges where the asphalt meets the curb. These improvements allow rain runoff access to the flow line of the curb, rather than pooling in front of the curb causing further structural damage to the street edges where buses, garbage trucks, and other heavy vehicles can exacerbate roadway damage.

This program is normally completed in two (2) phases throughout the spring and summer months. We work as a team to comprehensively plan the best areas for this program and ensure efforts are maximized as part of the greater pavement maintenance program. Totals for the months of April and August was nearly 35,850 square yards, which results in approximately 3,815 tons of asphalt placed.



PHASE 1: **17,628 YD²**

PHASE 2: **18,222 YD²**

DOWNTOWN ADA COMPLIANCE

This multi-year program reflects the Village's efforts to upgrade the paver brick sidewalks in the downtown area, many of which were first installed in the 1980's. The new paver bricks have a hardened surface for longer wear and color retention. The paver brick sidewalks are now reconstructed to meet ever-evolving ADA accessibility standards, including the concrete sidewalks and curbs at street corners.

The 2023 project completed improvements along Wing Street from Vail Avenue west to Chestnut Avenue. Staff worked with adjoining property owners to ensure accessibility concerns were addressed.



CONTRACTUAL REPAIR PROGRAMS

The Public Works Department is responsible for the management and oversight of many contractual programs that are intended to extend the useful life of the Village's infrastructure. Some of the more significant projects, include; sidewalk saw cutting, brick paver maintenance, roadway crack sealing, pavement treatments, asphalt patching, concrete repairs, pavement markings and various other maintenance related solutions.

In 2023 these projects covered over 750 separate locations, including;

- Concrete replacements include replacement of driveway aprons and concrete pavement patching. In 2023, 3,800 square yards of concrete were improved for these items.
- The Village has over 250 miles each of curb and gutter and sidewalks. In 2023, 985 linear feet of curb and gutter was replaced and 24,000 square feet of sidewalk was replaced.
- 1000 sidewalk offsets were repaired through the sidewalk cutting program
- In 2023, Public Works had 123,500 lbs. of crack sealing material placed on various roadways throughout the Village. In 2023, a new dustless system was implemented which reduces overall dust by 90%.
- Lastly, 335 square Yards of brick walkway areas were improved.







STREET RECONSTRUCTION AND RESURFACING

By far, the Department's largest budget allocation is the two street rehabilitation programs. Both initiatives take significant planning and coordination between numerous stakeholders in Public Works to develop a long-term program that takes into consideration factors, such as; scientific data, project geography, utility/other project coordination, neighborhood impacts, and maintenance efforts.

The Resurfacing/Sidewalk Program is the most significant and generally the last opportunity to incorporate pavement preservation as a method to extend the service life of Village streets. This program takes advantage of favorable roadway conditions and enhances them by milling off and replacing the top 2 to 3 inches of the asphalt surface to improve rideability. Select areas of poor performing curb and gutters and sidewalks are also addressed, with attention to ADA ramps at intersections. This work is also very beneficial in extending the life of the entire pavement cross section.

This year's Resurfacing Program & Sidewalk Program improved 31 asphalt streets totaling 9.0 miles. The project also included improvements funded by a Community Development Block Grant on Cedar Glen Ln. Construction began in spring due to early project letting that leveraged early bid pricing, and was completed in fall. The total cost of construction was approximately $4.06 million, which represented 95% of the original total contract amount of $4.29 million.

105,630 SQ. FT.
SIDEWALK REMOVAL & REPLACEMENT

18,824 L. FT.
CURB REMOVAL & REPLACEMENT –

112,594 SQ. YDS.
BITUMINOUS SURFACE REMOVAL & REPLACEMENT, 3″

37,406 SQ. YDS.
BITUMINOUS SURFACE REMOVAL & REPLACEMENT, 2″

In 2023, the Village was able to complete 9.0 miles of roadways in the following locations:

STREET	FROM	TO
BELMONT AVE	CENTRAL RD	WHITE OAK ST
BERKLEY DR	HIGHLAND AVE	HINTZ RD
BRAESIDE DR	KENNICOTT AVE	HINTZ RD
BURGOYNE RD	MARION RD	HARVARD AVE
CEDAR GLEN LN	ALGONQUIN RD	EMBERS LN
CHESTNUT AVE	RAND RD	WALNUT AVE
DUNTON AVE	BURR OAK DR	HENRY ST
ELM ST	KENNICOTT AVE	WALNUT AVE
EVANSTON AVE	GROVE ST	GREGORY ST
HACKBERRY DR	KENNICOTT AVE	BURR OAK DR
HENRY ST	HIGHLAND AVE	ARLINGTON HEIGHTS RD
HIGHLAND AVE	THOMAS ST	LILLIAN AVE
KINGSLEY DR	SCHAEFER RD	HARVARD AVE
MAGNOLIA AVE	ARLINGTON HEIGHTS RD	DOUGLAS AVE
MARION RD	YALE AVE	KENNICOTT AVE
MAUDE AVE	HIGHLAND AVE	ARLINGTON HEIGHTS RD
OAKTON ST	KENNICOTT AVE	WILKE RD
PARK ST	ARLINGTON HEIGHTS RD	DRYDEN PL
PINE AVE	CENTRAL RD	LINCOLN LN
RIDGE AVE	HINTZ RD	BRAESIDE DR
RIDGE AVE	BRAESIDE DR	BERKLEY DR
SALEM AVE	ELM ST	CUL-DE-SAC
SALEM BLVD	THOMAS ST	KENNICOTT AVE
TANGLEWOOD DR	KENNICOTT AVE	BURR OAK DR
TOWNE BLVD	SCHOENBECK RD	LAKE ARLINGTON DR
TOWNE BLVD	LAKE ARLINGTON DR	WEST END
VAIL AVE	CAMPBELL ST	SIGWALT ST
VAIL AVE	THOMAS ST	LILLIAN AVE
WALNUT AVE	HACKBERRY DR	TANGLEWOOD DR
WAVERLY CT	CHESTNUT AVE	WEST END
WESTON DR	SCHAEFER RD	KINGSLEY DR

The Reconstruction Program replaces streets that have exceeded their useful life and can no longer be considered for any maintenance activities. The Reconstruction Program impacts residents more than resurfacing because it involves rebuilding the entire street. All of the roadway asphalt and concrete curb and gutters are removed. The roadway base (gravel) is regraded and recompacted, and any "soft" areas are excavated and replaced with new gravel. In addition, there is the potential for grade changes in the roadway. When this happens, residential driveways are completely removed and replaced from the sidewalk to the curb. This program requires significant design, planning, and coordination efforts to complete. The Engineering Staff works very hard to ensure that roadways scheduled for reconstruction are done in a fashion that minimizes impacts on residents and the motoring public as much as possible.

All streets received improved subgrade when required, a stone subbase and full depth asphalt.

Unfortunately, during the 2022 construction season, the construction industry in the Chicagoland area experienced an aggregate strike that lasted several months. As a result, the following streets (0.8 miles of the 2.3 miles awarded) scheduled for reconstruction in 2022 were postponed and completed in 2023.

STREET	FROM	TO
CAMPBELL STREET R-O-W	HICKORY AVE	BEVERLY LN
LADD STREET	KENNICOTT AVE	RIDGE AVE
RIDGE AVENUE	LADD ST	TECHNY RD
EATON DRIVE (INCLUDES COURTS)	WINDSOR DR	STANFORD DR
STANFORD ROAD	BUFFALO GROVE RD	EATON DR

The total cost of construction for the 2022 MFT Street Reconstruction project was approximately $4.14 million, which represented 98% of the original total contract amount of $4.24 million. Work completed in 2023 amounted to approximately $1.5 million.

Work completed in 2023 *(for the 2022 project)*, included; 1,168 square yards of new pavement area, 14,548 square yards of reconstructed pavement area, 9,093 feet of curb and gutter removal and replacement, 1,972 square yards of driveway apron removal and replacement, 19,432 square feet of sidewalk removal and replacement, including; ADA sidewalk improvements, one (1) drainage structure replacement, and 307 feet of underdrain installation.

The 2023 MFT Street Reconstruction Program included street segments totaling about 1.5 miles. All streets required full reconstruction due to the existing base material failing, which no longer provides a sufficient structure to place an asphalt driving surface. The following is a list of all streets included in this year's MFT Street Reconstruction Program:

STREET	FROM	TO
N DOVER LN*	LILLIAN AVE	AVON LN
N DALE AVE*	LILLIAN LN	SOUTH END
E SHERWOOD RD*	STRATFORD RD	DALE AVE
N STRATFORD RD*	PALATINE RD	AVON LN
N CHAMPLAIN ST	ALLEGHANY DR	VERDE DR
S PRINCETON AVENUE*	100' SOUTH OF PARK ST	N SIDE GROVE ST
W LEONA TERRACE	PRINCETON AVE	CUL-DE-SAC

** Streets that also had water main installed prior to the MFT Street Reconstruction Project as part of the Water Main Replacement Program*

The total cost of construction for the 2023 MFT Street Reconstruction project was approximately $2.94 million, which was just under the original total contract amount of $2.95 million.

Work for the 2023 project, included; 26,410 square yards of reconstructed pavement, 15,520 feet of curb and gutter removal and replacement, 3,775 square yards of driveway apron removal and replacement, 33,880 square feet of sidewalk removal and replacement, including; ADA sidewalk improvements, four (4) drainage structure repairs, thirteen (13) drainage structure replacement, and 581 feet of underdrain installation.





WATER SYSTEM

WATER MAIN REPLACEMENT

The Public Works Department evaluates and prioritizes water main replacement based on defect severity, occurrence intervals of failures, service reliability, and other related parameters.

The water main project for 2023 included the replacement of over 11,000 linear feet of water main.

The Village replaces 1% of its underground water pipes every year. This aligns with industry best practice for replacement programs.

WATER MAIN REPLACEMENT PROGRAM

The annual Watermain Replacement Program for 2023 was awarded in Spring 2023 in two contracts. The program included:

• The replacement of over 11,00 lf. of water main

• Replacement of 38 fire hydrants

Surge suppressors were installed strategically throughout the water system to help eliminate any water hammer affects that may occur within the distribution system.

The following water main sections were reconstructed in 2023 and identified in our Capital Plan.

A total of 11,00' of watermain was replaced in the following locations:

- AVON AVENUE
- DALE AVENUE
- DOVER LANE
- FORREST LANE
- LILLIAN LANE
- MICHAEL MANOR LANE
- PRINCETON AVENUE
- ROBINHOOD LANE
- ROLLING LANE
- SHERWOOD LANE
- STRATFORD ROAD
- WATERMAN AVENUE

MANHOLE REHABILITATION

Sanitary and storm sewer manholes require periodic maintenance over the useful lifespan of the structure. The longevity of the structure is related to the material of construction, effluent that flows through the structure, and the backfill material outside the structure. The oldest manholes are generally comprised of brick construction.

Manhole rehabilitation involves bypassing the flow, high pressure cleaning of the walls and floor, application of a grout or cementitious coating referred to as cementitious coating, and in some instances structurally enhanced epoxy coating. The rebuilding of the floor, or bench and trough, was performed as the situation required. All of this work was done without excavation, reducing the impact on neighborhoods.



The Village lined 240 vertical feet of existing sewer manholes. Sewer manholes were primarily made of common brick and block nearing their projected service life. Manhole lining allows the Village to lower the amount of intrusion and infiltration that comes with aging brick infrastructure without the costly point repair of replacement.

SEWER LINING

In 2023, the Village lined 9,323 linear feet of sanitary sewer main. Public Works focused on selecting sanitary main lines that had high level of inflow infiltration is a priority. Preventing inflow and infiltration is a Public Work priority because this reduces the volume of ground water in the sewer system during significant rain events, giving the Village's storm sewer more capacity and preventing backups on private property. In addition, sanitary sewer lining helps increase the life span of the existing infrastructure up to 50 years.

MS4 PERMIT

Under the 1987 Clean Water Act Amendments, the U.S. Environmental Protection Agency developed new regulations to address stormwater that might impact water quality. These new "Municipal Separate Storm Sewer System" (MS4) regulations were set up in two phases, dependent upon population, and are enforced by the USEPA. As part of the MS4 regulations, the Village is responsible for conducting and documenting public and contractor education, and compliance inspection and enforcement. The Village has developed a stormwater management program that includes public education, public involvement, pollution prevention/ good housekeeping for municipal operations, and more. The Village's illicit discharge ordinance formalizes clean water practices and is key to the governance of the new MS4.

NPDES PERMIT

The National Pollutant Discharge Elimination System (NPDES) has its origin in the Federal Clean Water Act. The program requires permits for the discharge of treated municipal effluent, treated industrial effluent, and stormwater. The permits establish the conditions under which the discharge may occur and establish monitoring and reporting requirements. The Village maintains NPDES Permit Number ILM580006. This permit is for the combined sewer overflow connected to the Village's Combined Sewer System. The overflow is located at the headwater of Weller Creek, near Central Road, within Mount Prospect. The Public Works Department submits an annual report detailing the previous year's operations and maintenance to our Combined Sewer System. In the event of an overflow into Weller Creek, the Metropolitan Water Reclamation District of Greater Chicago (MWRD) will respond and notify the proper governing agencies.

LEAK DETECTION SURVEY

The Water Distribution Unit worked with a consulting engineer on the Village's first Village-wide Leak Detection Survey. Field crews surveyed approximately 1,510,080 linear feet of water main listening on water system valves and fire hydrants. Water main consists of cast iron or ductile iron pipe ranging in 4" to 24" sizes.

Once a possible leak has been detected, the leak is pinpointed to a specific location by using an acoustic device called a correlator. Water leaks create a distinctive noise as water leaves the pipe. The difference in sound frequencies can help determine a small leak from a large leak. The correlator can differentiate leak sounds from those of normal water flow in the water system.

Eighty-five leaks were detected, located, and repaired. Estimated leakage totals resolved water losses in excess of 469,440 gallons per day, due to this survey.



ARLINGTON HEIGHTS TRAIN STATIONS

The Public Works Department has an active role in the daily operation and maintenance of both the Arlington Park and Downtown Arlington Heights Train Stations. The Downtown train station is the busiest public building maintained by the Village. An estimated 1,500 people pass through the facility each day during its 12 hours of operation. This large volume of people and long operating hours present continuing challenges for the operation, maintenance, and safety to the public. Public Works Staff ensures that both train stations are cleared, closed, and locked every evening after hours. In addition to nightly lockup, Staff also networks closely with local, Metra, and Union Pacific Police Departments to coordinate the additional safety and security needs unique to the train stations. This process has been extremely successful in the continued mission of Public Works to make these extremely busy public buildings convenient, welcoming, and safe for all.

ANNUAL MAINTENANCE

MAINTENANCE-MANDATED PROGRAMS

Administrative and Operational Staff collaborate on the following annual maintenance programs and systems, not including everyday infrastructure, maintenance and customer service responsibilities:

- Consumer Confidence Annual Drinking Water Report
- Contractual Tree Trimming Program
- Municipal Separated Storm Sewer System (MS4) Program & Yearly Reporting Requirements
- Tornado Warning Siren System
- Holiday Lights Program
- IEPA Water Sampling
- Snow & Ice Control Program (Roadway and Sidewalk)
- Tree Planting
- Street Sweeping Program
- Sign Maintenance Program
- Sidewalk Maintenance Program
- Contractual Fountain Maintenance Program
- Contractual Crack Sealing Program
- Friday Police Car Check Program
- Contractual Mowing & Weed Spraying Program
- Meter Reading Program
- Contractual Thermoplastic Replacement Program
- Leak Detection Program
- Generator Maintenance Program
- Sewer Televising Program
- Sewer Root Cutting Program
- Arlington Heights Train Stations
- Metropolis Theater
- Street Reconstruction
- Street Rehabilitation
- Surface Treatment
- Crack Sealing
- Neighborhood Sidewalk Improvements
- Bike Route Improvements
- Pedestrian Crossing Improvements
- Corridor Landscape Enhancements
- Overhead Sewer Program
- Storm Sewer Rehab/Replacement
- Manhole Rehabilitation
- Water Tank Painting
- Federally-Funded Road Programs
- Water Meter & AMR Replacement & Repair
- Roof Maintenance Program
- Watermain Replacement and Repair Program
- Sanitary and Sewer Slip Lining Programs
- Water System Security Enhancements

PARKING GARAGE IMPROVEMENTS

LED LIGHTING

Electricians with the Department installed 150 Light Emitting Diode (LED) type fixtures. These fixtures completed the conversion of the Municipal Garage, and allowed Staff to start the conversion of the North Garage. LED lights not only use less power, saving money and the environment. They last longer and therefore, reduce maintenance costs. The program started in 2019 and was completed in 2023. Public Works utilizes Grants from ComEd, which offset approximately 1/3 of the materials cost.

ELEVATOR MODERNIZATION

Public Works started a multi-year program to upgrade and modernize our parking garage elevators. In 2021, Staff began the process on one of the four elevators in the Vail Parking Garage. In 2023, both elevators in the North Parking Garage were planned to be modernized. Unfortunately, due to supply chain issues, the Village had to push the North Parking Garage improvements to 2024, which is when they are expected to be completed. The multi-year program is expected to last until 2031.

EJECTOR PIT CHECK VALVE REPLACEMENT

During a maintenance check, it was discovered that two check valves in the sewage ejector pits of the mechanical room in the Evergreen Underground Parking Garage were faulty. The malfunctioning valves resulted in the system working much harder than intended. Staff installed replacement valves to mitigate the strain on the pumps. The repair will significantly reduce the stress on the pumps and save energy by limiting the time the pumps need to run.

ELEVATOR, LIFE SAFETY, AND AESTHETIC IMPROVEMENTS

The elevator hatch and sill of the double bank elevator at the Vail parking garage were replaced. Water intrusion, which led to concrete expansion, occurred, causing the hatch to bow to an unserviceable state. In this condition, the elevator would land unevenly on the ground floor, causing a potential trip hazard. Multiple elevator components and a freshly poured concrete hatch have resorted the elevator to safe operation. While the vestibule was downed for improvements staff felt that it was prudent to replace the tile walls and flooring at the same time to avoid future demolition and repair.

The annunciator panel located at the Evergreen Underground Parking Garage needed to be replaced to ensure the fire safety system was fully operational after mechanical problems were discovered.

Additionally, at Vail, the 5th-floor vestibule was uneven and had several broken tiles. The floor was leveled, and the tile and grout were replaced, providing a safer pedestrian walkway and a rejuvenated appearance.



BUILDING MAINTENANCE UNIT



IN 2023 BUILDING MAINTENANCE UNIT COMPLETED 1,175 WORK ORDER REQUESTS FOR SERVICES.



DUTIES & RESPONSIBILITIES

- The Building Maintenance Unit is responsible for the overall upkeep and maintenance of 28 Village-owned buildings with over 521,560 sq. ft. of building space. The Police Department and four Fire Stations are occupied 24 hours a day, 365 days a year.
- The in-house maintenance and repair of these facilities includes, but is not limited to electrical systems, HVAC, plumbing, general apparatus, and office equipment.
- Electrical systems consist of both electric motors and building electric. Electric motor maintenance includes the repair and replacement of single-phase and three-phase motors, motor starters, a variety of pump motors ranging from 1/6 HP to 15 HP in size, and the disconnect switches that power them. Building electrical systems include the maintenance/repair of low voltage switches, receptacles, electric door strikes, and trouble-shooting electrical distribution circuits.
- Heating Ventilation and Air Conditioning (HVAC) system maintenance includes the maintenance and repair of boiler, A/C control wiring, single and three-phase contactors, relays, and pneumatic-electric relays and sequencers.
- Plumbing system maintenance includes the maintenance and repair of plumbing waste and supply lines, plumbing fixtures and fixture controls, water heater vessel inspection and repair.
- General apparatus and office equipment maintenance includes the cleaning, replacement and repair of lighting, ceiling tiles, cubicle partitions, desks, and chairs.
- Snow and Ice Removal.

ASSIGNMENTS

- Working on rooftop units of these facilities can be a daily occurrence. The staff is well-trained and educated in HVAC, electrical distribution, mechanicals, and plumbing.
- The Unit's custodians are responsible for handling recycling waste generated daily. They also perform general cleaning tasks and schedules of the Village Hall, Police Department, Public Works, Senior Center, and the two Train Stations.
- The Unit is responsible for distributing and stocking all janitorial paper products and cleaners used at these facilities and the additional Historical Society building and Metropolis Theater building.
- The Unit supervises the fire alarm and fire suppression systems in 14 facilities and certifies over 500 fire extinguishers.
- The Unit oversees the maintenance, repair, and operation of 15 building elevators.
- The Unit supervises the maintenance and repair of over 70 overhead doors and all man, service, and entry doors with hardware at 28 facilities.
- The Unit oversees the seasonal contractual HVAC equipment changeovers and preventative maintenance performance at Village Hall, Police Department, Public Works, the Historical Society facilities, four Fire Stations, Senior Center, and the Downtown Train Station.
- Unit personnel oversees one custodial maintenance contract for (8) Village-owned buildings, one HVAC maintenance contract, and one elevator maintenance contract. These services have been privatized to relieve the workload of Unit personnel.
- The Unit provides event and meeting set-ups for benefit fairs, health clinics, blood drives, and other special events, including Village Hall Holiday Luncheon, song and dance programs, and housing summits.

ACCOMPLISHMENTS

- Beam clamps and fall protection equipment was installed at the Public Works facility. Our internal safety committee identified the areas that required fall protection (Main Garage Mezzanine, the Garage 3 Mezzanine, and the Storeroom Mezzanine) during their monthly IRMA facility inspection.
- All Village facilities with fire pumps were tested for serviceability. The annual fire pump inspection ensures

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF SIX (6) FULL-TIME EMPLOYEES. THIS UNIT IS RESPONSIBLE FOR THE MAINTENANCE, MANAGEMENT, AND GENERAL CONDITIONING OF FOURTEEN (14) DIFFERENT MUNICIPAL BUILDINGS. THEY INCLUDE:

FOREMAN 1
Responsible for the supervision of the Building Maintenance Unit. This position leads Unit activities related to; budget management, capital planning efforts, and employee development and engagement.

MAINTENANCE MECHANIC II 2
Provides an in-house skilled labor force for the Village with carpentry, HVAC, and plumbing services. Highly skilled in-house labor force is critical to the smooth operation of Village facilities.

MAINTENANCE MECHANIC I 1
Assists with skilled labor tasks and is responsible for general building maintenance duties at Village-owned buildings.

CUSTODIAN 3
Performs custodial tasks at the Police Building, Fire Buildings, Municipal Building, Senior Center, Train Stations, and the Metropolis Performing Arts Center.

that water supply will be available in an emergency. All facilities tested passed without deficiencies.

- The staff replaced the outdated furnace located in the attic of the historic Banta House. The new furnace is energy efficient and will help control the fluctuating humidity levels, ensuring that the building materials remain resistant to damages caused by the atmosphere. Additionally, the staff fabricated a two-piece plenum to connect the furnace to the existing ductwork.
- The old crank-style wooden windows in the bunkhouse of Fire Station 3 were replaced with custom-crafted aluminum frames. These new windows have a simple tilt mechanism that makes them easy to operate safely. The previous windows had wooden frames that shifted within the brick structure, making them difficult and sometimes dangerous to open or close. The new frames have few moving parts and are much more secure and reliable.
- The sump pump and controller installed at Fire Station 3 in 1968 have been replaced. Since the usual lifespan of such a system is fifteen years, the staff believed a complete replacement was necessary. To minimize labor costs and ensure proper installation, Public Works staff teamed with a contractor to complete this project.
- The Village Hall Third Floor Parking Garage Vestibule underwent restoration. The project included cement re-grading, new tile, rust removal and metal replacement of the door frame, replacement door closer, interior drywall repairs, and paint
- The hallways of the Senior Center received a refresh of paint to match the newly replaced floors. The interior awnings were removed, and the walls were patched and brightened with a fresh coat of paint.
- The 5th floor of the Vail Parking Garage was uneven and had several broken tiles. The floor was leveled, and the tile and grout were replaced, providing a safer pedestrian walkway and a rejuvenated appearance
- The rooftop units were replaced at Fire Station 2 and received a full load and balance calculation of the building's internal HVAC devices. This study addresses the output of the rooftop top units to the fan boxes in the occupied areas. Every function of the units was addressed, and we now have an accurate list of minor repairs and calibrations to make sure that the new units are operating at the greatest efficiency.
- Fire Station 1 replaced its complete roofing system while correcting other design issues to improve the building envelope's longevity. The scupper and downspout located above the rear man door of the apparatus bay that has a history of ice damming will be resized and appropriately sloped, the roofing ice melt system was replaced and expanded to prevent freezing and proper drainage, and the gutter system along Sigwalt Street will be upgraded to avoid landscape washout.
- The Historical Campus water intrusion project was completed. Work accomplished to keep moisture out and restore existing damages were roofing capstone removal/re-seal and wall, flooring, and ceiling replacement in the meeting room storage area.
- Staff rebuilt the front porch of the Historical Complex's Banta House with period-correct Douglas Fur lumber. Staff utilized a shaper tool donated by Churchill Downs to mill tongue and groove joints for an aesthetically pleasing finish look and solid fitment
- The Building Maintenance function in the Fire 3 kitchen remodel was completed. New plumbing and cabinetry rough-ins were finished, along with wall repair and drop ceiling replacement
- Staff managed the completion of façade repairs at the Downtown Metra Station, including, all brick planter boxes, and the primary bike rack.
- The Village Hall Seigel Room underwent some upgrades to its audio-visual equipment. As part of the upgrade, the old equipment was removed, and new mounting hardware was installed. All power and AV cabling were added, and the walls were repaired and repainted to give the room a fresh look. Additionally, the furniture was reconfigured to a more aesthetically pleasing symmetrical layout, adding to the room's overall ambiance.
- The Public Works Annex property at 2101 E Davis Street underwent multiple improvements. Two gas-fired heating units were replaced, along with all overhead doors and the automatic chain link gate that serves as an entrance/ exit were serviced to increase security, operator safety, and thermal intrusion.
- Major upgrades to the audiovisual equipment were installed in the Village Hall Board Room, Buechner Room, Community Room, and the Police Department Special Operations Room. The upgrades were significant enough to require the internal framing of the walls to be fortified. The drywall was removed, all power and AV cabling was installed, and the walls were replaced and repainted.
- Staff performed rehabilitation work on the clock tower east of the Downtown Metra station , and a painting firm coated the aluminum with a primer and finished it with a black gloss base.



VILLAGE-OWNED BUILDINGS

The Village-owned facilities and square footage maintained are listed in the following table. The Building Unit is responsible for the maintenance of these facilities, which is inclusive of 244 major and 66 minor pieces of HVAC equipment, not including plumbing, electrical, masonry, and other related responsibilities, including custodial services required to maintain the properties at operational capacities.

VILLAGE HALL
33 S. Arlington Heights Rd.
88,000 SF

POLICE BUILDING
200 E. Sigwalt St.
45,000 SF

PUBLIC WORKS
222 N. Ridge Ave.
146,175 SF

FIRE STATION #1
300 E. Sigwalt St.
16,000 SF

FIRE STATION #2
1150 N. Arlington Heights Rd.
32,063 SF

FIRE STATION #3
2000 S. Arlington Heights Rd.
9,258 SF

FIRE STATION #4
3030 N. Arlington Heights Rd.
9,478 SF

HISTORICAL SOCIETY – POP FACTORY
110-112 W. Fremont St.
8,967 SF

HISTORICAL SOCIETY – COACH HOUSE
106 W. Fremont St.
3,016 SF

HISTORICAL SOCIETY – MÜLLER HOUSE
500 N. Vail Ave.
1,968 SF

HISTORICAL SOCIETY – BANTA HOUSE
514 N. Vail Ave.
2,312 SF

SENIOR CENTER
1801 W. Central Rd.
41,392 SF

DOWNTOWN TRAIN STATION
45 W. Northwest Hwy.
7,700 SF

ARLINGTON PARK TRAIN STATION
2121 W. Northwest Hwy.
1,820 SF

WELL NO. 9
2302 N. Arlington Heights Rd.
902 SF

WELL NO. 11
1200 E. Hintz Rd.
505 SF

WELL NO. 13
3702 N. Kennicott Ave.
1,504 SF

WELL NO. 16 (3 BUILDINGS)
1405 W. Kirchoff Rd.
3,972 SF

MOUNT PROSPECT LIFT STATION
1330 W. Central Rd.
700 SF

HAPPFIELD LIFT STATION
333. W. Happfield Dr.
200 SF

WELL NO. 17 (2 BUILDINGS)
222 N. Ridge Ave.
3,724 SF

ANNEX
2101 E. Davis St.
3,724 SF

POLICE ANNEX
3700 N. Kennicott Ave.
2,800 SF

METROPOLIS
111 W Campbell St.
82,080 SF

ENGINEERING DIVISION

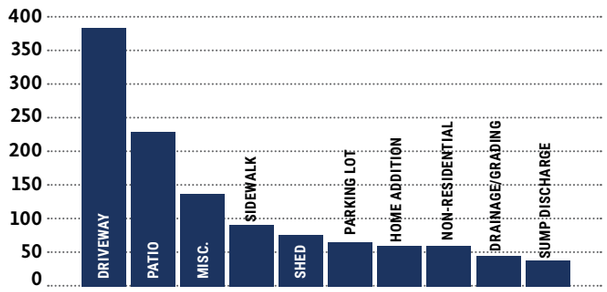




PLAN REVIEWS AND INSPECTIONS

The Engineering staff is tasked with many different responsibilities both within and outside the department. Staff serves as the department's primary liaisons for agencies, such as; the Metropolitan Water Reclamation District (MWRD), the Illinois Department of Transportation (IDOT), and the Illinois Environmental Protection Agency (IEPA). Staff serves the Development Committee and Plan Commission as well, and performs reviews for new development proposed in the community. Staff reviews permit plan reviews and inspections for Building and Engineering permit plan reviews and inspections, along with a variety of other different service requests.

TOP ENGINEERING PLAN REVIEW CATEGORIES



The Engineering Team works with residents to resolve a variety of engineering related matters, including; drainage issues, sump pump issues, sidewalk and roadway issues, traffic related matters, and site obstruction issues.

Included in these responsibilities are numerous major annual construction programs, including; the Street Reconstruction Program, the Street Resurfacing Programs, the Backyard Drainage Program, and the Brick Paver Sidewalk Improvement Program.

The engineering operation of Public Works completed 1,958 permit plan reviews in 2023, which generated 1,683 site inspections.

Here are the 5-year numbers for plan reviews and inspections:

YEAR	2019	2020	2021	2022	2023
PLAN REVIEWS	1,733	1,868	2,337	2,042	1,958
INSPECTIONS	1,762	1,746	2,319	2,278	1,683

Plan reviews are categorized to understand where resources are typically needed. This information can help the department strategize how better to serve our customers. For example, in the "Top Plan Review" table, driveways are the top category of reviews. Understanding this, our team can enhance permit information, streamline driveway permit processes, and generate "how-to" information on submitting a permit to a targeted permit type.

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF TEN (10) FULL-TIME EMPLOYEES. THEY INCLUDE:

VILLAGE ENGINEER 1
Manages the Engineering Staff and operations. Responsible for managing engineering budget and capital planning efforts, employee development and personnel duties, regulatory responsibilities and training.

SENIOR ENGINEER 1
Oversees Traffic Engineering and Private Development. Responsible for ADA Compliance, Plan Commission and permit reviews for Engineering.

CIVIL ENGINEER II 3
CIVIL ENGINEER I 1
Responsible for the design and contract management of major capital projects, including the Village's Street Reconstruction and Resurfacing Programs, implementing the Bicycle and Pedestrian Plan, all traffic analysis and reviews, all drainage service request analysis and reviews, and conducting permit reviews.

ENGINEERING INSPECTOR 1
Responsible for all Engineering-related private development permit inspections for private site improvements and privately constructed public infrastructure improvements.

ENGINEERING DATA COORDINATOR 1
Responsible for collection of all Engineering data for traffic analysis, line of site and school zone assessments.

ENGINEERING TECHNICIAN 1
Responsible for preparing drawings for the Public Works Department, including road construction, utility information, surveying and preparing plats, and backyard drainage documentation.

ADMINISTRATIVE ASSISTANT 1
Responsible for all communications and Front Office tasks required for the Engineering Operation at Village Hall.

TRAFFIC STUDIES AND LINE OF SIGHT OBSTRUCTIONS

The Public Works Department receives numerous requests throughout the year related to traffic management matters. In 2023, staff received 89 requests to evaluate traffic conditions throughout the community. Requests related to speed limits, parking limitations, signage requirements and other traffic related matters generate engineering studies, review of police accident records, site condition surveys and other various activities, based on the request made. Engineering operations are also responsible for line-of-site obstructions, primarily caused by unmaintained vegetation at intersections. Staff enforces regulations that require residents and business owners maintain a clear line-of-sight to provide a safe environment for motorists and pedestrians. In 2023, staff worked on 70 line-of-site obstruction cases.

BICYCLE/PEDESTRIAN CROSSING IMPROVEMENTS

As a liaison to both the Northwest Municipal Conference Bike and Pedestrian Committee and the Village's Bicycle and Pedestrian Advisory Committee, the Engineering Staff advocates and provides insight for both regional and local bike and pedestrian initiatives to ensure the Village is aware of all potential funding opportunities and regional projects to leverage collaborative efforts that can improve this critical infrastructure.

The Village programs pavement marking for most path systems in the Village. Pavement striping for the shared parking/bike lane was completed on White Oak Street between New Wilke Road and Arlington Heights Road, meeting one of the Village's strategic goals to make the community more livable by increasing bicycle options for residents.

During the summer months, staff regularly collects and evaluates field data related to sidewalk ramps at public street intersections. The Americans with Disabilities Act (ADA) requires all municipalities to have an updated ADA Transition Plan, and this data will enable compliance with the required self-evaluation component of the plan.

2023 RECLAMITE PAVEMENT PRESERVATION

All streets resurfaced and reconstructed are treated on one- and five-year cycles with Reclamite, which is a rejuvenating agent designed to extend the life of asphalt pavements by sealing the pavement from the elements. This pavement maintenance strategy has proven beneficial since the program's inception in 2017. This year began the second cycle of re-treatment to fully realize the benefits and effectiveness of this strategy.

2023 BACKYARD DRAINAGE IMPROVEMENT PROGRAM

The Backyard Drainage Improvements program constructs public storm sewer improvements to address areas of chronic flooding. Locations where flooding directly impacts homes and other structures are prioritized over nuisance flooding. Most cases that address backyard flooding require the homeowner to construct a connection on their property from the backyard to the new sewer. The 2023 program included 9 locations throughout the Village installing over 1,100 feet of storm sewer at a total cost of $485,000.

GRANT FUNDING

The Public Works and Engineering Department aggressively pursues State, Federal, and other program funding for capital projects and initiatives related to public infrastructure. Staff regularly pursues a variety of agency funding sources that are available annually, including the Illinois Department of Commerce and Economic Opportunity (DCEO), the Illinois Emergency Management Agency (IEMA), the Chicago Metropolitan Agency for Planning (CMAP), the Illinois Transportation Enhancement Program, the Metropolitan Water Reclamation District (MWRD), the Illinois Department of Transportation Highway Safety Improvement Program (HSIP) (and other various programs), and the Illinois Environmental Protection Agency (IEPA)

Staff regularly seeks funding from these and other grant opportunities as they arise to leverage Village funds toward vital infrastructure improvement projects. Examples of some of those funding efforts are provided below.

- Worked with the Illinois Department of Commerce and Economic Opportunity (DCEO) on grant applications for various upcoming public works projects, including the "Evergreen-Maude Storm Sewer Improvements" project, the "Forrest Avenue Stormwater Improvements" project, and the "Rockwell Street Rehabilitation" project.
- Managed grant awards from the Illinois Department of Commerce and Economic Opportunity (DCEO) associated with the "Evergreen-Maude Storm Sewer Improvements" project.
- Worked with Cook County Department of Transportation and Highways (CCDOTH) and the City of Rolling Meadows, as a project lead for the Euclid Avenue Resurfacing project that secured over $2 million in funding.
- Continued working on the Phase 1 study for a multi-use path through the existing ComEd ROW, resulting from funding received through the Community Project Funding through Congressman Quigley's office.
- Submitted applications to numerous different funding sources to assist in the completion of multiple capital project needs.







FLEET SERVICES

RESPONSIBILITIES

- Responsible for the acquisition, fueling, maintenance, repair, and disposal of all vehicles and pieces of equipment in the Village fleet
- Responsible for the management of the Village's fuel storage and dispensing system located at the L.A. Hanson Center. The system includes three 12,000-gallon underground storage tanks (1 diesel and 2 unleaded gasoline), and the "Fuel Master Fuel Key System".
- The services provided by this Unit are recognized as an internal service fund and all services provided are charged back to the appropriate Departments.
- Our Team strives to maintain a professional relationship with vendors and suppliers and provide the highest level of service possible to our customers.
- Support all levels of leadership to accomplish the objectives of the Village of Arlington Heights.
- Our team conducts business in a collaborative manner and follows the Village's policies and procedures that govern our activities.
- We promote employee development and growth and support staff engagement with outside agencies and professional organizations.
- Develop and manage the budget in a cost-effective manner in terms of equipment and employee scheduling, outsourcing, purchasing, servicing, and repairs.
- Develop and manage short and long-term capital improvement purchases to ensure balanced and responsible expenditures.

ACCOMPLISHMENTS

- Fleet purchased a total of nine (9) electric vehicles in 2023 to be used in various Departments throughout the Village.
- The Fleet Unit acquired seven (7) Dodge Charger squad cars for the Police Department. With delays in ordering vehicles, this was a great opportunity found, and avoided issues in obtaining replacement squads.
- In order to avoid delays, other critical future purchases were evaluated and orders were placed for the vehicles with extended lead times, i.e., ambulance (36 months), Fire aerial truck (40 months), and a hydro-excavator (18 months) for Public Works.
- Fleet successfully recruited a new employee to fill an open position due to an unexpected resignation. Staff worked closely with the Human Resources Department to select a highly qualified person from a great pool of candidates.
- During 2023, the Unit completed 1,239 repair orders with 2,497 jobs associated to those work orders for a total 7,619 hours charged back to Departmental customers. Productivity is measured by the number of hours that can be billed to repairs versus total hours available to work. Staff uses these productivity standards against labor hour charges based on actual time spent on repair operations. This measurement provides insight to the efficiency and effectiveness of the Fleet Services operation.

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF TEN (10) FULL-TIME EMPLOYEES AND ONE (1) PART-TIME EMPLOYEE THAT MAINTAINS THE VILLAGE'S FLEET OF MORE THAN 320 VEHICLES AND EQUIPMENT USED TO PROVIDE SERVICES TO THE COMMUNITY. THEY INCLUDE:

FOREMAN 1
Responsible for supervision and operation of the Unit. This includes the repair and maintenance of all Village-owned vehicles and equipment, including the Public Safety fleet serving the Police and Fire Departments. The Unit also maintains nine Wheeling Township and Pace buses, the Arlington Heights Bookmobile, and the Village's vehicle and equipment Fuel Inventory System.

LEAD TECHNICIAN 1
Responsible for technical support and daily workflow of activity in the maintenance shop.

AUTO TECHNICIAN 5
Perform all heavy truck, emergency vehicle, light truck, passenger car and equipment maintenance and repair activities for Village-owned vehicles and equipment.

WELDER 1
Performs all specialized repairs that require welding, fabricating or other metalwork.

STOREKEEPER SUPERVISOR 1
Oversee inventory of all fleet maintenance parts and supplies. Processes billing for inventory and monitors service contracts.

STOREKEEPER 1
Responsible for shipping and receiving, stocking all fleet maintenance parts and supplies for the Department. Consumables for other Village Departments are also channeled through the Fleet Service facility.

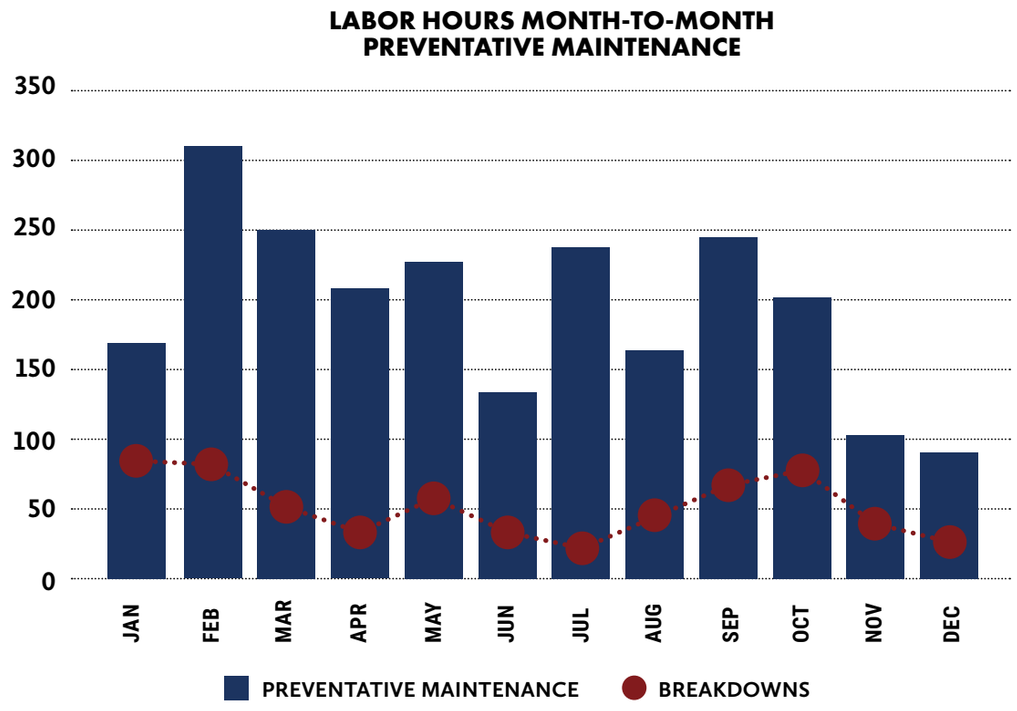
STORE CLERK .5
Assists with pickup, delivery, shipping and receiving, and stocking all fleet maintenance parts and supplies for the Department.

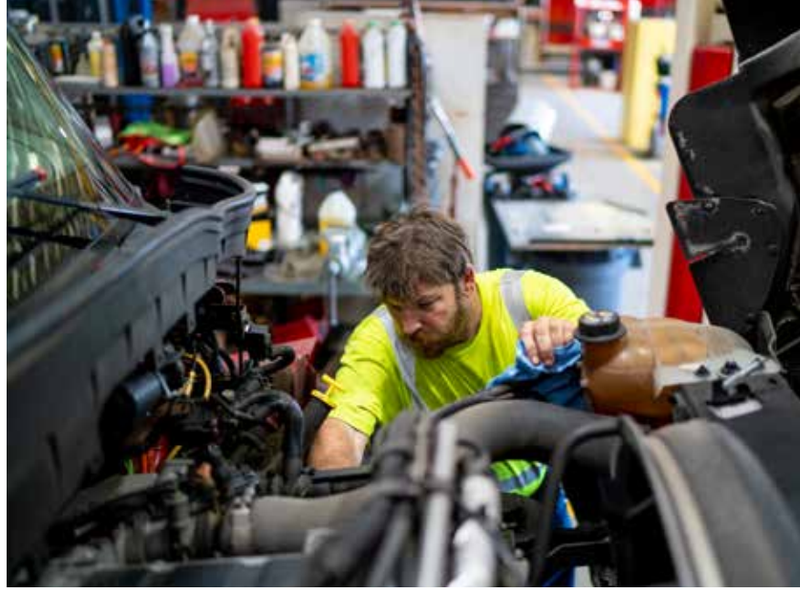
SPECIAL PROJECTS

- Changes to Chapter 13 of the Illinois Vehicle Code made January 1, 2019, established a new mandate requiring vehicles with a gross weight of more than 10,000 pounds to be inspected every six months and receive a Certificate of Safety. In 2023, 116 of these inspections were successfully completed on the required vehicles in the Village fleet. In 2023, the Fleet Service Unit became certified as a private test lane with the Illinois Department of Transportation allowing staff to perform required inspections in-house, resulting in significant time-savings and the ability to reallocate resources to other pressing needs.
- National Fire Protection Association (NFPA) 1914, Standard for Testing Fire Department Aerial Devices-1997, mandates annual testing. This helps to ensure the safety and dependability of these devices in emergency situations. Both Fire Department aerial rigs were re-certified for 2023.
- For the reasons stated above, the Village also certifies thirteen (13) aerial devices utilized by the Public Works Department. These units were all re-certified in 2023 as well.
- The vehicle lifting equipment and overhead crane used for the repair and maintenance of the fleet were also safety tested and certified. This is done annually for the safety of the staff and Village equipment.
- The annual Underground Storage Tank (UST) safety compliance testing required by the Office of the Illinois State Fire Marshall was successfully completed on the Village's fuel storage and dispensing devices.
- The Fleet Services Unit achieved a Blue Seal of Excellence recognition in 2023 and has done so every year since 2002. The National Institute for Automotive Service Excellence (ASE) is an independent non-profit organization that has worked to improve the quality of vehicle repair and service by testing and certifying automotive professionals. ASE administers this recognition, which requires at least 75% of technicians to be ASE certified with at least one technician certified in each area of service provided.

UNIT TRAINING

- Staff attended training to learn about Elgin Pelican Street Sweepers generally utilized by the Public Works Streets Maintenance staff.
- Staff responsible for maintaining fire equipment attended three days of fire apparatus engineer training provided by the Village of Arlington Heights Fire Department.
- In an effort to promote employee development and growth, staff attended various training throughout the year, including attendance at the Midwest Advance Public Service Institute (MAPSI). MAPSI is an ongoing leadership training program that provides advanced instruction expressly designed for Public Service Upper-Level Managers, Administrators, Supervisors, and Leaders



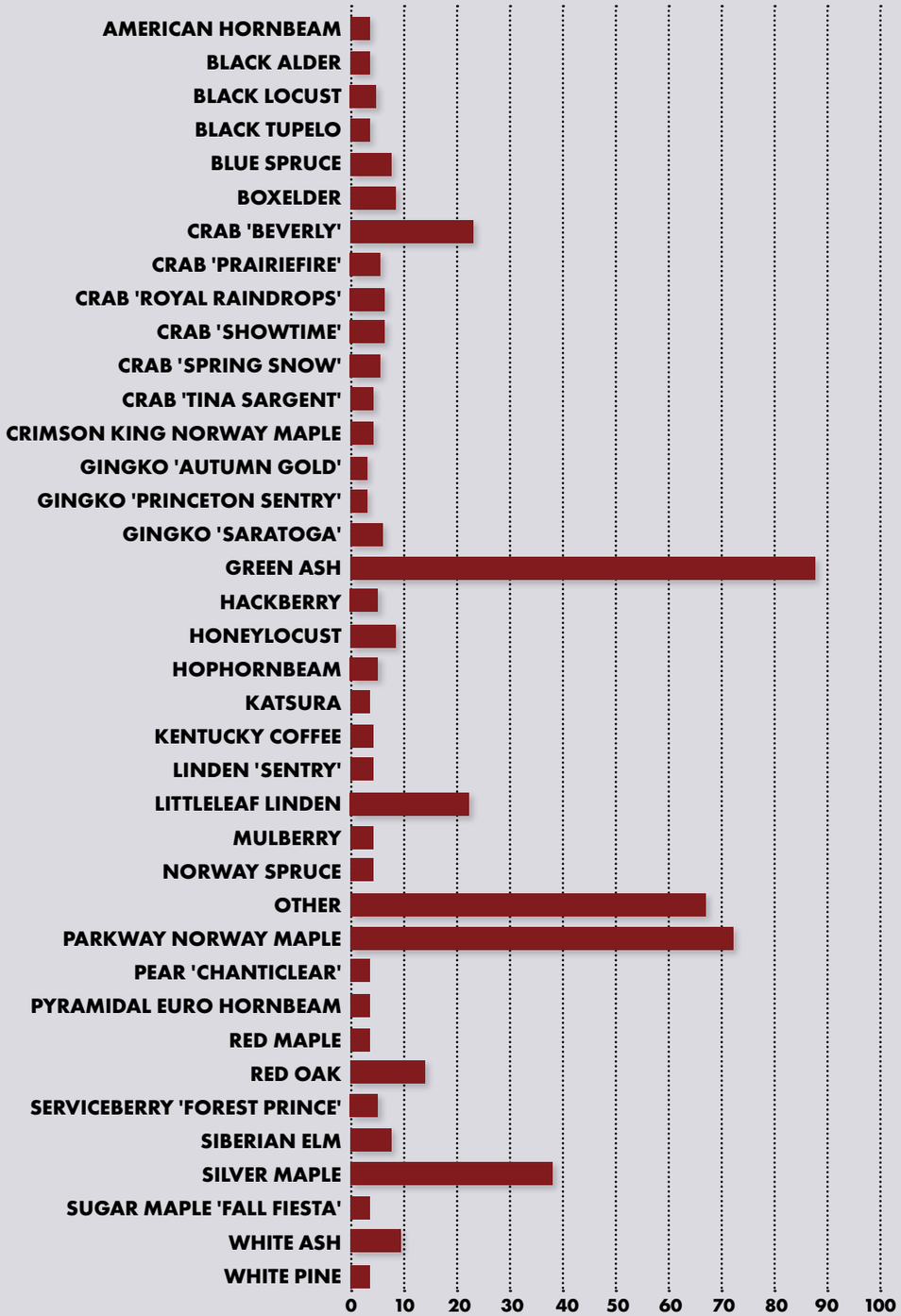






FORESTRY AND GROUNDS UNIT

REMOVAL BY TREE TYPE



RESPONSIBILITIES

The Forestry and Grounds Unit performs the following general duties on the 36,000 Village-owned trees and maintains approximately 110 acres of public property:

- Respond to resident requests for parkway tree pruning, branch pickups, and broken and hanging branches
- Perform annual Village-wide inspection to identify parkway trees requiring maintenance or removal
- Collect tree data and update Village tree inventory.
- Perform parkway tree inspections to diagnose tree health issues and diseases
- Manage contractual projects and programs for tree planting, tree pruning, tree removal, stump removal, irrigation, mowing and landscape maintenance of Village properties
- Plant and maintain annual flowerbeds and urns at Village owned parks and buildings, including Alfresco dining perimeter
- Maintain natural areas including Village-owned wet bottom retention basins and wetlands
- Restore parkways damaged by tree removal or Village utility excavations
- Manage and perform decorative boulevard banner installations at major intersections quarterly
- Install and maintain downtown holiday décor, parkway tree lighting, and two holiday trees decorated for the annual holiday tree lighting ceremony
- Perform and manage irrigation system repairs, operation, and maintenance
- Install, maintain, and manage downtown inventory of decorative benches, bicycle racks, and trash/recycling receptacles
- Assist with Department snow and ice control operations, with focus on sidewalk snow operations in Downtown District and at Village-owned properties
- Participate in the coordination, set-up, and operation of special events such as Harmony Fest, Tree Lighting, National Night Out, and Trunk-or-Treat
- Participate in Department initiatives related to community outreach through events, such as World of Work, Career Fairs, TreeU, Earth Day, and Arbor Day. Provide educational presentations to residents on topics such as tree health, invasive insects, and proper tree maintenance

URBAN FOREST ACTIVITIES

DEAD TREE SURVEY

Each year, a Village-wide dead tree survey is completed for all parkway trees. Staff identified 466 parkway trees requiring removal in the next year. Of this total, Village crews plan to remove 419 of these trees with in-house crews. More than one-fifth of the trees marked for removal were diseased ash trees that had finally succumbed to the emerald ash borer, and fifteen percent of the removals were declining Norway maple trees. This species is susceptible to many root issues such as girdling roots and surface compaction due to utility work. The Village will utilize its tree removal contractor to take down at least 49 trees that are adjacent to overhead utility lines, along busy roads, or other complicating factors.

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF NINE (9) FULL-TIME EMPLOYEES AND ONE (1) PART-TIME INTERN. THEY INCLUDE:

VILLAGE FORESTER 1
Responsible for supervision and operation of the Forestry and Grounds Unit. Oversees all maintenance of an estimated 36,000 parkway trees and 75 acres of public owned property.

CREW CHIEF 1
Responsible for supervision of Forestry and Grounds crews and contractors performing tree, landscape and lawn work.

MAINTENANCE WORKER II 7
Operate specialty equipment and perform tree and landscape related duties for all Village-owned trees and properties.



CONTRACTUAL TREE PRUNING

TOTAL TREES PRUNED BY CONTRACTOR: **6,023**

A vital aspect of our goal to build a resilient urban forest is maintenance. Proper tree pruning ensures not only a trees' health but also protects the community from possible hazards. To this effort, the Forestry Unit worked closely with the Village's tree pruning contractor on their pruning practices. One of the major objectives of the contractual pruning program is selecting and training younger trees in order to establish a central leader, where possible. Aesthetics and proper site clearance are also taken into consideration during pruning to help eliminate any site obstructions. The extra effort spent properly pruning these younger trees help protect the Village's urban forest for future generations.

Staff provided traffic control assistance on Euclid Avenue to allow the Village's pruning contractor to trim the parkway trees. Closing the road allowed the contractor to be more thorough and eliminate any vehicular safety concerns. During the road closures, in-house crews also removed two hazardous parkway trees. The contractor pruned 202 trees during this project.

IN-HOUSE TREE PRUNING

The Unit completed nearly 950 service requests for parkway tree pruning in 2023. Service requests are received from residents whose parkway trees require attention before the next planned pruning cycle is due to occur. Parkway trees are fine pruned during trimming performed by Village staff, which is slightly different from contractual cycle pruning. During fine pruning, arborists removed all deadwood that is ¼ inch in diameter and larger compared to only ½ inch and larger completed as part of cycle pruning.

In anticipation of Frontier Days, staff trimmed approximately 166 parkway trees in the neighborhood surrounding Recreation Park. Crews cleared 15 street or stop signs and worked with the Engineering staff to address areas where private landscaping was obstructing the public sidewalks.

Crews took advantage of mild weather and pruned 469 parkway oak trees. Oak trees should only be pruned during the winter, when insects that commonly carry the fungus that causes oak wilt are also dormant. The majority of the oak trees requiring pruning were able to be pruned from the ground. This time was also utilized to train newer employees on proper pruning techniques.

GROUNDS MAINTENANCE

LANDSCAPING

- The Unit applied an all-natural product called C20 Soil Builder to improve the turf at Harmony Park. C20 Soil Builder is an all-natural product that is made from recycled rice hulls and ethanol by-products. C20 works by feeding the soil microorganisms which reduces the bulk density of the soil to increase soil porosity and water holding capacity while decreasing soil compaction creating a better plant-root growth and proliferation. This product allows less mechanical work like core aeration, which saves staff time as well as shortens the amount of time the park needs to be closed.
- Annual tulip bulbs and hardy mums were planted at Friendship Park, Downtown Metra Station, Village Hall, Public Works, and Harmony Park. Annual flowers were also installed in the decorative urns, flower pots, and sixteen different Alfresco planters.
- Harmony Park Fountain – Staff, along with a contractor, worked to perform much needed maintenance on the fountain. A contractor installed a new waterproof liner, LED color-changing lights, and updated control panel. The existing liner and lights were original to when the fountain was built more than 15 years ago, and the fountain bowl was repainted.
- Snowplow Damage Parkway Cleanup – Team members organized a weeklong taskforce for snowplow drivers to check their routes for any sod damage. Crews were instructed to pick up any lose sod and create a CityWorks service request to complete any further parkway restoration work. The taskforce generated 38 parkway restorations requests.





GREEN INITIATIVES

- The Unit is responsible for overseeing the maintenance of numerous natural areas, including: a US Army Corps of Engineers delineated wetland, three wet-bottom retention basins, and the native prairie on West Northwest Highway. Staff continues its efforts to replace non-native landscaping and annual flower beds with more sustainable native, perennial plants.
- Somerset Court Wetland Controlled Burn – the Village's maintenance contractor performed a controlled burn on the native prairie slopes surrounding the detention basin. The burn was supposed to occur last fall but had to be delayed until spring due to unfavorable weather. Prescribed burning is an important part of the natural plant community in order to help native wetland and prairie plants establish. The last burn took place in 2015.
- Public Works Butterfly Garden – Staff installed a native pollinator garden in front of the Public Works Building. Approximately 500 native plants were selected and installed and will serve as host plants for local butterflies, bees, and other important insects. Staff hopes this area acts as a model for residents who are interested in installing similar gardens in their yards.
- Staff designed new native, drought tolerant landscape plans for the north half of Parking Lot S & the municipal parking lot across from Fire Station #1. In preparation of new plantings, evergreen shrubs were removed and the soil was prepared. The old shrubs caused issues for sidewalk snow removal and landscape maintenance due to their overgrown nature. A contractor installed the native plant material in June. Similarly, the old, dying landscaping was removed at Fire Station #4 and replaced with new drought tolerant perennials, grasses, and shrubs.

HOLIDAY DECORATIONS

One of the primary responsibilities of the Unit is the planning, maintenance, and installation of the holiday lights and décor in the downtown. This operation begins in September with crews removing and replacing the LED holiday lights in 240 parkway trees. There are over 2,700 sets of lights (99% LED) in the Downtown Business District, which are replaced every two years. Additionally, staff is responsible to install, LED decorations on the two raised pedestrian walkways, 55 artificial holiday wreaths, holiday themed figurines at Harmony Park, and 84 boulevard banners.

In November, Public Works staff teamed up to install and decorate the holiday trees at Harmony Park and North School Park. The spruce trees are annually donated from residents' property to be used for the holiday season. This year, the Harmony Park tree was donated by a resident on North Chestnut Avenue. The North School Park spruce tree was donated from East Rosehill Drive. New in 2023, Public Works requested traffic control assistance from the Police Department, as the North School Park tree blocks two lanes of traffic while traveling. The Police Department responded with great support and had numerous squad cars, motorcycles, and even the Fire Department's ladder truck present for a "parade" to escort the tree to North School Park.

TRAINING & CONTINUING EDUCATION

- The Unit continued its regular monthly Tailgate Safety meetings. These meetings are based on the Tree Care Industry Association's safety manual. A specific topic is covered each meeting and presented through real-life examples, handouts, illustrations, and quizzes.
- Staff attended the Illinois Arborist Association annual conference to obtain required CEU's to maintain their Certified Arborist credentials and to stay current on industry practices and topics.
- All unit members attended the three-day iLandscape show to attend educational sessions on topics such as disease management, new available species, and pruning methods.

- One of our Certified Arborists attended the Iowa State University Shade Tree Short Course. This two-day conference includes presentations from some of the top experts in the industry.
- All arborists maintained their certifications as International Society of Arboriculture (ISA) certified arborists, with one new employee preparing for the Certified Arborist Exam in 2024.
- Arlington Heights worked with the Illinois Arborist Association to conduct an aerial lift training session for all PW employees who operate lift vehicles. The full-day course included classroom and field demonstrations. The trainers also tested fall arrest devices and safety equipment during the session.

ACCOMPLISHMENTS & RECOGNITIONS

- Arlington Heights received its 38th designation as a Tree City USA and its 11th year receiving the Growth Award. The Tree City USA awards are then presented to Village officials at the annual Arbor Day celebration.
- In an effort to stay active in professional development organizations, the Forestry and Grounds Crew Chief continued to fulfill the role of Vice President of the Suburban Tree Consortium Board of Directors.
- The Public Works Department was awarded a $100,000 grant from the USDA Forest Service Urban and Community Forestry Program, Inflation Reduction Act. The Forestry Unit plans to use the grant to update the Village's parkway tree inventory, develop an Urban Forest Management Plan, and remove and replace dead or dying trees in disadvantaged areas of the community.
- The Village Forester served as a grant application reviewer for the Chicago Region Tree Initiative's Urban and Community Forestry Grant program.

SPECIAL PROJECTS

- The Village and Park District split the cost to rent a wood processing machine that recycles unground branches and logs into woodchips. The newly recycled woodchips, along with all of the other woodchips generated by forestry activities during the year, are double ground into landscape grade wood mulch. Both entities utilize the wood mulch in landscape beds and tree rings throughout the Village. The wood recycling program generated approximately 10,000 cubic yards of mulch, that stays within the Village.
- The Unit works closely with all of the Utility Units to assist with emergency repair restorations. Of specific note, staff coordinates a plan annually with the Water Distribution Unit to assist with their Lead Service Line Replacement Program. This is a significant program that is anticipated to last over a decade. In 2023, Staff restored 135 excavations in addition to the normally scheduled parkway restorations.
- Crews performed root pruning in numerous locations where new water service connections were being made after water main installation. Staff utilized a stump grinding wheel to root prune 27 trees in an effort to minimize the damage caused by water utility excavations. Numerous tree failures are still expected to occur.
- Hydrant Flushing Assistance – a member of the Unit assisted with the hydrant flushing operation for two weeks. Interdepartmental cooperation is critical during emergencies, and these high-demand programs.





IN 2023 THE FORESTRY AND GROUNDS UNIT COMPLETED:

604 PARKWAY TREES REMOVED

588 PARKWAY TREES PLANTED

1,096 PARKWAY RESTORATIONS

1,209 BRANCH PICKUPS

353 BRANCH CRACKED AND HANGING

392 TREE INSPECTIONS

SEWER UNIT



RESPONSIBILITIES

- Clean and repair all Village-owned and operated storm sewer drainage structures
- Manage and implement maintenance programs for storm sewer, sanitary sewer, and combination sewer systems, such as; root cutting, televising, lining, and emergency response
- Responsible for managing capital projects related to improving sanitary and systems performance
- Responsible for updating and refining utility data in the Village GIS system
- Responsible to prepare and submit mandated Metropolitan Water Reclamation District reporting
- Clean and repair all Village sanitary sewer and combination sewer main line and manhole structures
- Manage consultant activities needed to collect data and reporting required to meet IEPA required permitting (MS-4) and (NPDES-2) submitted annually
- Maintain and manage programs to ensure proper function of the storm inlet(s) and outlet(s) at Lake Arlington
- Maintain and clean all Village associated storm water tributaries and creeks within the Village boundaries
- Perform scheduled and emergency utility locates
- Assist in the cleaning and maintenance of storm sewer and sanitary sewer lift stations
- Manage and organize material storage and activities at the Department Annex Yard
- Assist with the Snow and Ice Control operations
- Manage and maintain activities required for Village-owned detention and/or retention areas

ACCOMPLISHMENTS

SEWER MAIN FLUSHING/ROOT CUTTING

The Sewer Unit is responsible for the maintenance and repair of all Village-owned sewer systems; sanitary, combined and storm. Routine maintenance is essential to help ensure these systems are properly functioning. The most important function in helping to ensure these sewer mains are functioning properly is through routine sewer flushing and root cutting. Performing these activities ensures sewer mains are free from debris and obstructions lessen the potential sewer backups. These operations depend solely on the use of the Village Jetter/Ramjet trucks.

THE SEWER UNIT MAINTAINS THE VILLAGE'S SANITARY, STORM AND COMBINED SEWER SYSTEMS. THE VILLAGE HAS 2,700,000 LINEAR FEET OF SEWER THAT REQUIRES ROUTINE MAINTENANCE. THIS UNIT HAS A PERMANENT STAFFING LEVEL OF 12 FULL-TIME EMPLOYEES. THEIR RESPONSIBILITIES INCLUDE: CLEANING, REPAIRING AND INSTALLING NEW SEWER PIPE AND SEWER STRUCTURES TO ALLOW FOR PROPER STORM AND SANITARY DRAINAGE.

SEWER FOREMAN 1
Responsible for supervision and operation of the Unit activities and personnel. This Unit performs all maintenance and repair on the Village's storm, combined and sanitary sewer systems as well as detention and retention basins.

CREW CHIEF 1
This individual supervises the activities of Sewer Unit work crews.

MAINTENANCE WORKER II 7
Responsible for all necessary skilled equipment operation and sewer system related repairs and maintenance tasks.

MAINTENANCE WORKER I 3
Responsible for assisting with maintenance related tasks.

These trucks are outfitted with hoses and couplings for either root cutting motor/blade assemblies or simple flusher nozzles. The water pressure generated from the truck's onboard pressure pumps propels these assemblies down the sewer pipes to perform the cleanings. As these trucks are hydro-powered, operations in low temperatures present freezing risks. Running this equipment in below freezing conditions can have catastrophic consequences. Expensive valves and pumps are prone to damage if exposed to below freezing temperatures for extended periods of time. These trucks are only dispatched during these extreme temperatures if a sewer block is discovered.

At the beginning of each year, the Unit discusses and establishes annual goals and benchmarks we hope to achieve. Typically, competing priorities, Capital Projects, inter-departmental assistance, and emergency response can play a role in disrupting those goals, However, the team is proud of what was accomplished this past year. During 2023, the Sewer Unit completed both root cutting as well as flushing activities on both sanitary and storm sewer systems on the total linear footage listed below:

45,506 LF OF SANITARY SEWER MAIN LINE CLEANING

9,323 LF OF SANITARY CAST-IN PLACE PIPE (CIPP) LINING

32 INDIVIDUAL SEWER MANHOLES WERE EPOXY COATED FOR A COMBINED 240 VERTICAL FEET

50,800 LF OF CCTV TELEVISING OF SANITARY AND COMBINED SEWER MAIN

83 TOTAL CATCH BASIN AND MANHOLE REPAIRS

1,556 TOTAL CATCH BASINS WERE CLEANED IN 2023



SEWER MAIN REPAIR

25 SANITARY AND STORM MAIN REPAIRS PERFORMED.

CATCH BASIN/MANHOLE CLEANING AND REPAIR

Catch basin cleaning is an ongoing activity that is consistently performed by the Sewer Unit. As debris gathers in curb lines, it eventually makes its way into the thousands of catch basins that service the village. The sole purpose of these catch basins is to gather and prevent this debris from actually making its way into the storm sewer pipes. If debris does enter into these storm sewers, the likelihood for a storm sewer not draining properly increases. These efforts help to ensure proper drainage especially during times of heavy rainfall in the spring/summer/fall months, as well as snow/ice thaw events in the winter months.

Catch basin and manhole repairs are essential as these structures weaken/deteriorate over time. Sinkholes around structures can develop due to harsh winter freeze/thaw conditions, and is an indication that a structure is failing. Excessive infiltration from groundwater can increase deterioration and ultimately result in failure. By re-establishing structural integrity to each basin by performing these repairs, system service integrity is preserved.

1,556 CATCH BASINS WERE CLEANED

35 CATCH BASINS WERE REPAIRED

48 MANHOLES WERE REPAIRED



SANITARY SEWER TELEVISING

Sewer televising is important in identifying problematic areas before resulting in an emergency. Whether finding unknown obstructions in a main sewer, or looking at the overall condition of a sewer pipe, the televising equipment is invaluable to managing a sewer utility. The camera provides the ability to identify areas where pipe sections are starting to show signs of deterioration, need for replacement, or offset pipe joints, which can impact sewer rates and service.

38,460 LINEAR FEET OF SANITARY SEWER TELEVISED

STORM/SANITARY LIFT STATION CLEANING

The Unit assists with lift station cleaning duties as needed. This inter-departmental operation leverages necessary equipment and properly experienced and trained personnel to aid in the cleaning efforts.

TRAINING

The Sewer Unit staff took part in multiple training courses during the year. These courses included trenching and shoring, confined space, and MS4 storm water discharge for snow day. Each year Sewer Unit employees are responsible for completing the target solutions training courses which cover P.P.E, jobsite hazards, chemicals etc. One member attended the Illinois Public Service Institute (IPSI) management course.

EMERGENCY SEWER BACKUP RESPONSE

The Public Works Department takes emergency response very seriously, which includes responses to issues related to flooding, sanitary sewer backups and overflows, and other sewer related issues. Each call is properly documented and thoroughly investigated. If a blockage is found in a Village sewer main, the obstruction is flushed or root cut to re-establish flow. If it is determined that the blockage is the responsibility of the property owner, Staff advises them of the need to have their sewer line serviced and provides as much support as possible.

STORM SEWER TELEVISING

Due to the number of drainage concerns the Department receives each year, the need to investigate situations by using televising technology is significant. Staff performs pole camera operations when the need to investigate catch basins arise, but when a full-depth investigation is not warranted. This involves utilizing a camera mounted on a fiberglass pole, and a small video recorder that is controlled via a cable by the operator. It is very useful, improves safety, and eliminates the need for a confined space entry.

1471 LINEAR FEET OF STORM SEWER TELEVISED.

ANNEX SITE MANAGEMENT

Members are primarily responsible for all Annex housekeeping and supply duties. The Annex is a Public Works auxiliary yard that allows for the storing, staging, and hauling of material during emergencies and other significant operations. The handling of excavation-generated spoils, wood chips, leaves, diseased trees, concrete and asphalt are all part of the required tasks. As debris is being loaded out, material is brought back to the Annex in the forms of sand, gravel, asphalt grindings and black dirt to be used for future Public Works operations. Village staff loaded out 850 tons of leaves alone this year. The Annex is also used for snow storage from the Downtown. At different times of the year, because of the amount of activity happening in the community, a member of our team is required to be on-site on a full-time basis.

LAKE ARLINGTON INLETS AND OUTLETS CLEANING

The inlets and outlet at Lake Arlington are monitored before and after rain/flooding events. Lake Arlington provides drainage capacity for the northern part of Arlington Heights. Therefore, it is essential that water drains appropriately via the inlets and flow out just as efficiently through the outlet. Debris that gathers at both inlets and outlets are regularly cleaned of large branches, brush, and general debris. Generally, inlets and outlet are cleaned twice a month when the potential for inclement weather is eminent and after an event.

DETENTION/RETENTION POND MAINTENANCE

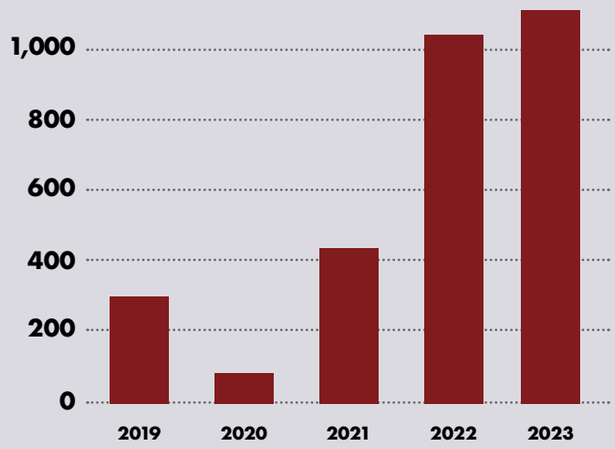
Like Lake Arlington, the Village has numerous detention and retention basins throughout the community. Inspections are conducted throughout the year by utilizing the Department's asset management software, Cityworks. The Metropolitan Water Reclamation District (MSRD) requires that 10% of all facilities to be inspected every year, as part of the Village's operating permit.

UTILITY MAPPING

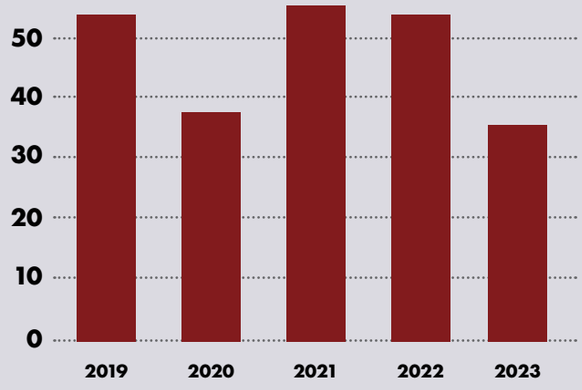
Our staff is regularly very involved in the constant updating and management of utility related information. We regularly work with the Department and Village Geographic Information Systems (GIS) Specialists to update inaccuracies and data related to recent improvements for projects performed throughout the year. Additionally, maintenance program data is recorded, including; the Sanitary Sewer Lining and Manhole Rehabilitation Programs. Data collection is essential to maintain the current infrastructure system, which help in Capital Planning and decision-making efforts.

5-YEAR METRICS

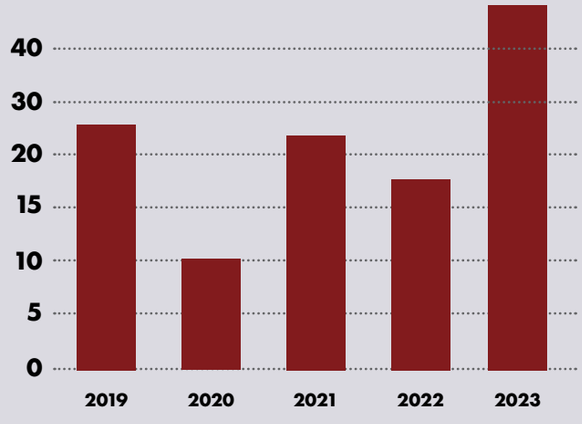
CATCH BASINS CLEANED



CATCH BASINS REPAIRED



MANHOLES REPAIRED



STREET UNIT





RESPONSIBILITIES

- Responsible for annual street cleaning programs with sweeping equipment.
- Manage and implement in-house and contractual street maintenance programs, such as; crack-sealing, Reclamite surface treatment, curb and gutter repair and replacement, and asphalt patching.
- Responsible for managing capital projects related to improving roadway and pedestrian systems from a maintenance stand-point.
- Manage and implement in-house and contractual sidewalk maintenance programs, such as; grinding and sidewalk repair and replacement.
- Responsible for updating and refining street and sidewalk maintenance data for use in the Village GIS system
- Responsible for managing and performing snow and ice control operations for the entire department, including salt and liquid material management.
- Manage and monitor weather activities for department and Village related activities, including; snow and ice events, special events, wind and rain storms, and provide reporting on the same, as required.
- Maintain and manage maintenance activities related to the Village-owned parking garages, including daily cleaning and monitoring, snow removal, annual cleaning, and major capital project.
- Manage and staff all traffic control measures needed at all special events, including Alfresco, parades, Village-events, Harmony fest, etc.
- Assist in the cleaning and maintenance of various Public Works facilities.
- Assist in the management and organization of material storage and activities at the Department Annex Yard

ACCOMPLISHMENTS

SNOW AND ICE CONTROL OPERATIONS

The 2023 snow season salt usage totaled 4,041 tons of salt used over the course of 12 events in the 2023 calendar year. The data collected to manage the Village's salt usage and tracking continued to improve in accuracy as new and improved equipment have been implemented and incorporated into our regular operations. The Load-Rite scale system has been key to accurate tracking.

The snow fleet traveled a total of 22,254 miles during the 2023 season. This information is critically important to our operation to manage costs related to fuel, vehicle depreciation, and other associated costs.

Due to irregular weather patterns over the 2023 winter season, staff was forced to refocus their efforts on street maintenance. Significant shifts in temperature resulted in greater than normal pot holes throughout the Village roadway system. Additionally, due to the warmer winter temperatures, staff was able to continue street sweeping efforts well into December, which results in reduced debris into storm sewer systems. These hybrid efforts reduce the potential for storm sewer and combination sewer backups in the spring.

The snow fighting fleet consist of the following.

20 – 2 ½ TON DUMP TRUCKS

2 – 5-TON DUMP TRUCKS

2 – 1 TON DUMP TRUCKS

13 – PICK-UP TRUCKS

During a major snow event, the Arlington Heights Snow Fighting Team consists of two crews of 34 members to clear the 260 miles of Village streets, parking lots and parking garages. Most of those miles require four to

THE STREET UNIT HAS A PERMANENT STAFFING LEVEL OF FIFTEEN (15) FULL-TIME EMPLOYEES, AND ARE RESPONSIBLE FOR THE MAINTENANCE OF OVER 250 CENTERLINE MILES OF ROADWAY. THEIR RESPONSIBILITIES ALSO INCLUDE:

FOREMAN 1
Responsible for supervision and operation of all activities and employees within the Unit. Oversight of the Village's street maintenance and snow and ice control operations and other activities associated with Village streets and rights-of-way.

CREW CHIEF 2
Responsible for the daily supervision and oversight of all street maintenance personnel and activities.

MAINTENANCE WORKER II 9
Operate construction equipment and perform asphalt, concrete, paver brick, street sweeping, snow plowing, and other street related maintenance duties. The employees in this position has attained advanced skill levels in performing Street Unit tasks.

MAINTENANCE WORKER I 3
Responsible for assisting with maintenance related tasks.

six passes to fully clear the snow from the roadway, ensuring a safe driving environment and preparing the roadway for future storm events. A four-person mechanic crew is also necessary to provide emergency truck repairs. Snow storms that produce 3 inches of snow or greater, initiates a more aggressive response, requiring an additional 10-member team for clearing snow from over 300 Village cul-de-sacs.

The Village is divided into 19 zones for snow and ice control. Each zone is assigned an A Team and B Team driver to cover responses 24 hours a day, 7 days a week throughout the winter months. C Team drivers clear the 10 different cul-de-sac zones containing over 300 cul-de-sacs in total.

ASPHALT AND PAVEMENT PRESERVATION MAINTENANCE PROGRAMS

The Streets Team was able to complete the full array of maintenance activities that make up the Unit's Pavement Maintenance Program during the 2023 season. Roadway maintenance is critically important to extending the life of this necessary component of the Village's infrastructure.

To correctly implement pavement management strategies, Administration, Operations, and Engineering work cooperatively to choreograph a variety of different maintenance methods throughout the Village's roadway network. Crack sealing, pavement rejuvenation, patching, edge grinding, and resurfacing are all methods the Village uses at different maintenance intervals to extend the roadways useful life for as long as possible.

EDGE GRINDING

One of our most important maintenance activities is the Edge Grinding Program. This program provides improvements to the pavement edges where the asphalt meets the curb. These improvements allow rain runoff access to the flow line of the curb, rather than pooling in front of the curb causing further structural damage to the street edges where buses, garbage trucks, and other heavy vehicles can exacerbate roadway damage.

This program is normally completed in two (2) phases throughout the spring and summer months. We work as a team to comprehensively plan the best areas for this program and ensure efforts are maximized as part of the greater pavement maintenance program. Totals for the months of April and August was nearly 35,850 square yards, which results in approximately 3,815 tons of asphalt placed.

PHASE 1: **17,628 YD²**

PHASE 2: **18,222 YD²**

ASPHALT PATCHING

The Street Unit performs hot and cold mix asphalt repairs throughout the year. During the winter months water main breaks and potholes are repaired using cold mix asphalt, as a temporary repair until warmer weather allows for a more permanent restoration. The freeze thaw cycle can have a significant impact on the number and severity of instances for both of these winter time nuisances. The Public Works Department has four heated cold mix asphalt outfitted vehicles available for these repairs. Post winter, Staff inspects all 19 plow zones throughout the Village, making every effort to address any open potholes before moving into summer operations.

During the summer months we focus on permanent asphalt repairs caused by winter time water main breaks, storm sewer basin repairs and other needed roadway repairs.

STREET SWEEPING

Another important maintenance activity performed by the Street Unit is street sweeping, which utilizes three street sweepers that run (generally daily) from April 1st to November 30th, depending on the weather. A sweeper will average from 20 to 30 miles on a typical day. It takes on average 3.5 weeks to cycle through all of the 19 Village zones, depending on the time of year and sweeper availability.

Although performed by the Street Unit personnel, this program is critical to protecting the Village's storm water facilities and storm sewer systems throughout the Village. By regularly cleaning Village streets of leaves and other debris, staff contains this material and keeps it out of storm water system, which helps protect against flooding issues. The Village's Leaf Sweeping Program operates during October and November, and requires participation from other Public Works staff for leaf hauling operations. In 2023, the Street Unit swept 11,416 miles of Village roadway.

Street sweepers are also utilized to assist in clean-up operations with programs such as the Crack Sealing Program. Staff assists contractors performing maintenance and capital projects for the Village when necessary. Each winter, staff keeps one sweeper in service in the event of emergency situations, while the others are put away for the season.

PARKING GARAGE MAINTENANCE

Staff is responsible for the maintenance and upkeep of the Village's four (4) parking garages. The Village parking garages are washed down every spring and fall in order to facilitate a cleaner and more user-friendly environment for parking garage patrons. The spring parking garage wash down is also very important in removing residual salt deposits carried into the garage via vehicle traffic during the winter months, which helps to protect the integrity of the structures and increase their lifespan.

ARLINGTON ALFRESCO

Staff begins in late April each year to transform the Village's downtown into the new Arlington Alfresco. The Alfresco setup requires over 250 fence sections with additional weights (to combat high wind), 50 water barriers, 12 concrete barriers, 150 delineators and rope to separate areas for each of the many businesses to safely participating in the event.

HARMONY FEST

At the end of the Alfresco season, the annual Village Harmony Fest event occurs. An evening that is filled with food from local businesses and live music, that brings a close to the summer-long Alfresco atmosphere. This event requires participation from the entire Public Works Department. The team worked together to develop changes in the way the event is set-up that better accommodated the event's food tents and music stages. The entire Public Works Team helped with the 2-day event to keep things clean, organized, and running smoothly.

Final clean-up of the event was performed the morning of October 1, 2023. After roadways are opened, cleanup continues through the next several days with the collection of barricades, signs, and water barriers that are cleaned, consolidated, and moved off-site and stored in storage containers for the season.

SPECIAL EVENTS

This Unit specifically has a significant role in providing support for many of the annual special events held by, and in conjunction with the Village, including; the Memorial Day parade, the Stampede Run, the Frontier Day Festival, the July 4th Parade, the Irish Fest, the Dryden School Block Party, residential block parties, and several Sounds of Summer concerts at Harmony Park. Some of the efforts and responsibilities include: race set-up, barricade delivery, road closures, float preparation and driving, and post event cleanup.

CONTRACTUAL REPAIR PROGRAMS

Another responsibility of this Unit is the implementation and management of numerous contractual repair programs related to; sidewalk maintenance, asphalt maintenance, asphalt repair, brick maintenance and pedestrian facility maintenance.

In 2023, these projects covered 750 plus separate locations that replaced the following:

3,800 YD² CONCRETE REPAIRS

11,500 YD² ASPHALT REPAIRS

1,000 SIDEWALK OFFSETS ADDRESSED

123,500 LBS. CRACK SEALANT APPLIED

335 YD² OF BRICKS REPAIRED/REPLACED



TRAFFIC UNIT



REPAIR/INSTALLATION TASKS & REQUEST RESPONSE

- Traffic signal maintenance
- Street light maintenance
- Electrical maintenance in 17 Village-owned buildings
- Warning siren maintenance
- Sign manufacturing
- Sign maintenance
- Pavement striping
- Holiday lighting
- Graffiti removal
- Special Events
- Utility Locate
- Snow and Ice Removal

In addition to the items listed below, this Unit is tasked with maintaining approximately four thousand (4,000) street lights throughout the entire Village. This includes the lighting foundational systems, structural components, and all of the associated wiring systems. Fifteen (15) signalized intersections, seventeen (17) municipal buildings, and approximately thirteen thousand (13,000) regulatory roadway signs.

HIGHLIGHTS – TRAFFIC AND ELECTRICAL

- The Unit installed a new traffic signal pole at the intersection of S Arlington Heights Road and E Park Street, the existing pole had been hit by a vehicle.
- Assisted the Fire Department with the installation of new smoke detectors in resident homes.
- Staff relocated the electrical feed from Com Ed for the traffic signals at the intersection of S Dryden Place and E Kensington Road. Com Ed was replacing their utility poles, and staff needed to relocate the service from the old pole location to the new pole location.
- The Traffic team installed conduit and wiring to supply power for three new electric vehicle charging ports in the garage at the Municipal Complex. These charging ports will service electric vehicles being purchased by the village.
- Staff poured a new concrete foundation, and installed a new street lighting cabinet in the Hasbrook neighborhood.
- Staff completed numerous electrical upgrades in the Community Room, and Village Board Room on the third floor, and in the Buechner Room on the first floor. The project required conduit and box installations for the audio/visual system upgrades
- The municipal parking garage multi-year LED lighting upgrade project was completed. Staff installed two-hundred fourteen fixtures in the north garage.
- As part of the special event set-ups, staff completed the required electrical work for Harmony Fest, and the Taste of Arlington Heights. Staff provided power for stage sound and lighting, power for the sixteen restaurants in attendance, and tent lighting and power for the vendors.
- Staff worked to assist in the completion of the remodeling project for the Building and Life Safety Department at Village Hall.

STREET LIGHT REPAIRS BY MONTH

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
60	216	81	95	119	139	228	85	57	48	117	60

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF SEVEN (7) FULL-TIME EMPLOYEES. THEY INCLUDE:

FOREMAN 1
Responsible for the supervision and operation of the Unit. This Unit maintains all Village-owned streetlights, street and traffic control signs, traffic signals, and building electrical systems.

CREW CHIEF 1
Responsible for supervision of Traffic Unit work crews.

ELECTRICIAN II 3
Performs maintenance and repair tasks on Village's electrical systems including streetlights, traffic signals, building electric systems and all other Village electric systems.

MAINTENANCE WORKER II 2
Fabricates, installs, and replaces Village traffic control signs, street signs, and pavement markings.

- The team also assisted with the completion of a kitchen remodeling project at Fire Station # 3, which included the demolition of old electrical systems, installation of new conduit and wiring for new systems, as well as lighting upgrades.
- Our team completed the 2023 portion of the multi-year LED Street Lighting Upgrade Project. Staff installed four-hundred nine fixtures in total. Existing high pressure sodium fixtures are being replaced with light emitting diode (LED) type fixtures, these fixtures run on less current and by doing so ensure the Village's commitment to being environmentally, and fiscally responsible.

HIGHLIGHTS - SIGNAGE

- Personnel fabricated and installed signage for the new electric vehicle parking spots at the Vail Avenue parking garage. Staff also applied pavement markings to easily identify these designated locations.
- Several stop signs were replaced in the downtown Alfresco area. The existing signs had been vandalized with graffiti and decals.
- New infrastructure improvement signage was fabricated and installed in the area near Hersey High School notifying residents of the ongoing Village improvement projects going on over the summer.
- Staff dedicates significant time to the fabrication and installation of all of the Alfresco related signage prior to the start of the annual season. A total of two-hundred five signs and bases were deployed, and were removed at the conclusion of the outdoor dining season.
- New signage was fabricated and installed specifically dedicated for Dunton Tower parking in the Vail Avenue parking garage. The existing spots had to be relocated to accommodate the new electric vehicle charging stations.
- Staff installed three-hundred fifteen temporary signs for Frontier Days Festival. The signs were needed to establish new traffic flow patterns, no park zones, handicap parking zones, and shuttle bus route signage. All of the signs were then removed at the conclusion of the fest.
- Seven new stop signs were installed on Olive from Ridge to Vail per new traffic ordinance. Temporary flags were put on top of the stop sign to draw more attention to them.
- Staff replaced all the signs on Maude Avenue from Highland Avenue to Arlington Heights Road. After the completion of a road reconstruction project, the existing signage was evaluated and was found to no longer meet retro reflectivity standards. This prompted the fabrication, and installation of the new signage.

TRAINING/CONTINUING EDUCATION

- The Unit continue to hold weekly safety training meetings (tailgate talks) to discuss various safety related topics ranging from upcoming projects involving staff, to basic safety practices for all types of situations. The benefits of these meetings are that they identify potential hazards our staff may be faced with during a regular so that safe practices are always at the forefront.
- Employees in the Traffic Unit are electricians that regularly participate in continued education classes to maintain and hone their skills.
- Additionally, Staff regularly participates in continuing education in order to maintain International Municipal Signal Association (IMSA) certifications, which are required to work on traffic signals, roadway signs, and pavement markings.

1367 STREET LIGHT REPAIRS ANNUAL AVERAGE

95 TRAFFIC SIGNAL REPAIRS ANNUAL AVERAGE

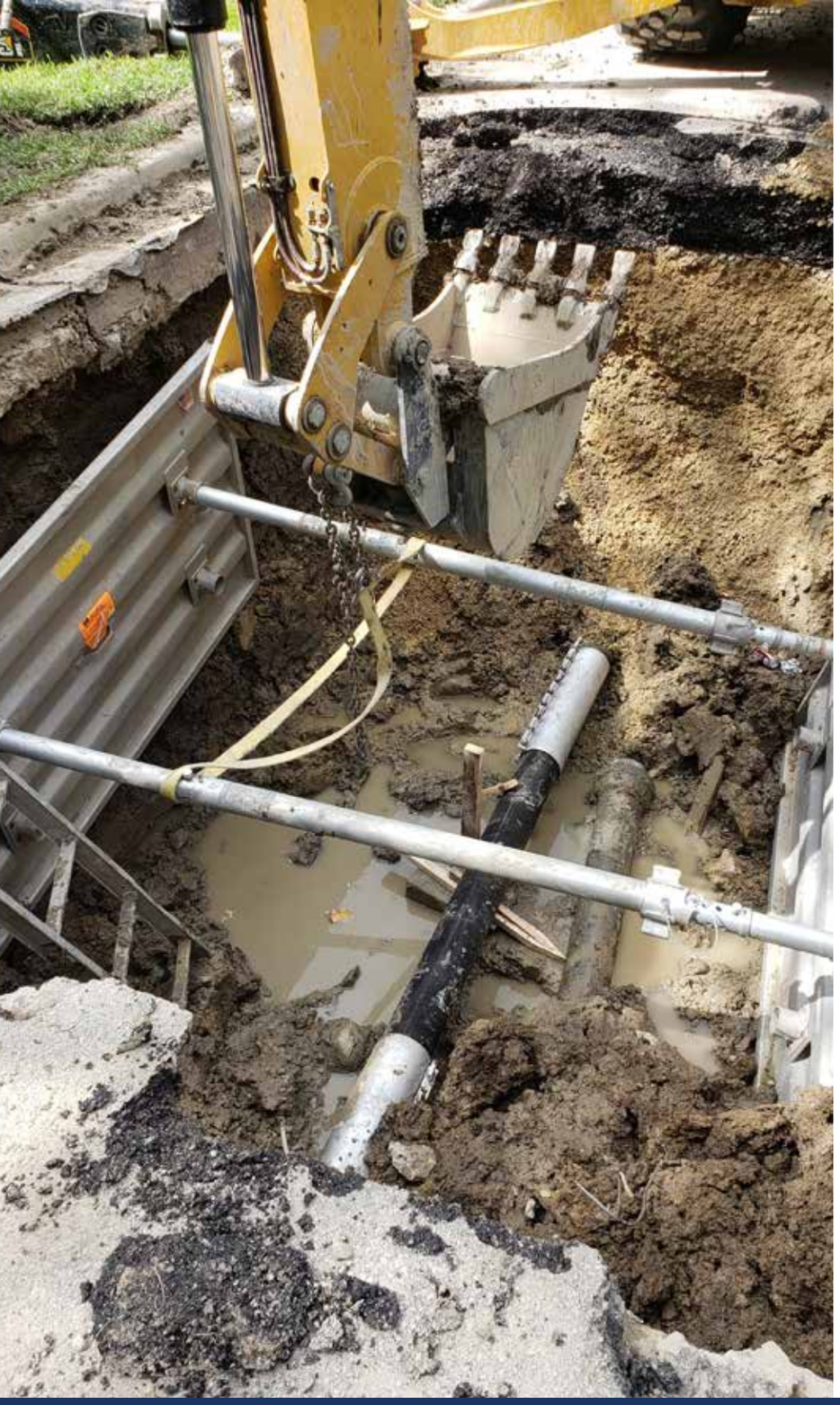
561 BUILDING ELECTRICAL REPAIRS ANNUAL AVERAGE

2429 SIGN MAINTENANCE / REPAIRS ANNUAL AVERAGE









WATER DISTRIBUTION UNIT

RESPONSIBILITIES

- Water Main Repairs
- Main Water Valve Exercise, Repair, and Replacement
- Fire Hydrant Flushing, Repair, and Replacement
- New Water Service Line Repair/Replacement
- Customer Water Shut Offs
- Water Billing Shut Offs
- Buffalo Box Repair/Replacement
- Water Utilities Locates
- Snow and Ice Removal

The Water Distribution Unit is responsible for performing all required maintenance and repairs on Village-owned water mains (a total of 232 miles within the Village limits). The Unit is responsible for all residential water service taps to ensure a compliant connection to the Village's water system. They are also responsible for keeping an estimated 4,350 fire hydrants and 3,400 main line valves throughout the Village in working condition, through performing and managing annual maintenance programs.

As water main breaks are inevitable, the Village of Arlington Heights worked with the Village of Mount Prospect repair a water main brake at the corner of Central Rd. and Arthur Ave. This water main break occurred while preforming a test on the inter connect between the two communities. This inter connect is crucial to the needed repairs of the JAWA (Joint Action Water Agency) feeder main for Mount Prospect this upcoming year.

ACCOMPLISHMENTS

- The Water Distribution Unit responded to and repaired 232 water main breaks in 2023, with just approximately 33% of them being after hour emergency responses.
- Staff managed the annual leak detection contract that surveys the Village's water system and to locate water main leaks, hydrant leaks, and service leaks that are either hiding underground or to assist in pinpointing the locations of leaks that show up on the surface.
- Staff replaced twelve (24) water services, requiring the excavation of both the water main and buffalo box. During these projects, lead water services are always replaced with new copper services.
- Twenty-six (22) new water services were installed for new construction projects throughout the Village.
- In April and early May, the unit completed the annual Fire Hydrant Flushing Program. Hydrant flushing is done to ensure fresh clean water in the system. At the same time, staff inspects each hydrant, both public and private, to verify they are in good working order.
- Annually, the Village contracts a private company to paint fire hydrants. As part of their work, they strip all old paint by sand-blasting, prime, and then paint the hydrant. This method provides a better, more reliable result than the previous practice of utilizing seasonal employees, which resulted in paint build-up that affected hydrant operation.
- During hydrant flushing, eighty-seven (87) hydrants repairs were completed and three (3) were completely replaced. This season there was only one water main break caused from hydrant flushing, which is a reflection on well-trained, cognizant staff efforts.

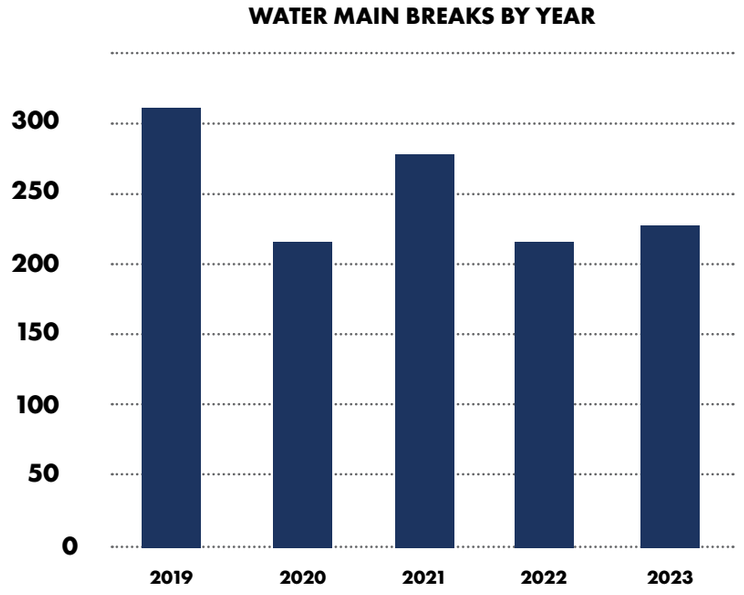
THIS UNIT HAS A PERMANENT STAFFING LEVEL OF ELEVEN (11) FULL-TIME EMPLOYEES OUTLINED BELOW, RESPONSIBLE FOR EMERGENCY RESPONSE AND MAINTENANCE OF THE VILLAGE'S POTABLE WATER DISTRIBUTION SYSTEM. THEY INCLUDE:

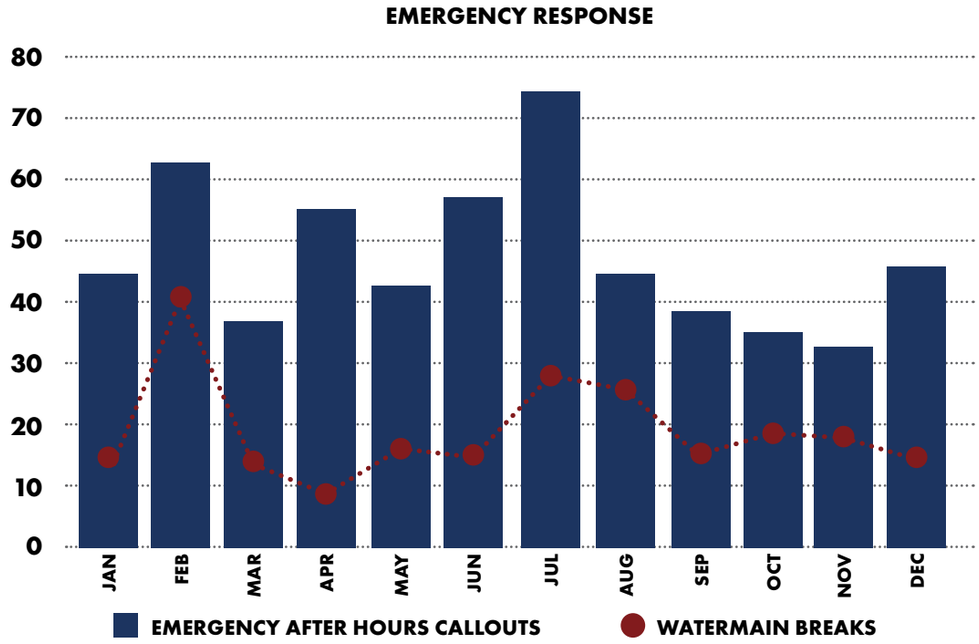
FOREMAN 1
Responsible for the supervision and operation of the Unit. This Unit performs all maintenance and repairs on the Village's potable water distribution system including water mains, fire hydrants, valves and vaults, buffalo boxes and other water system related appurtenances.

CREW CHIEFS 2
These individuals supervise the activities of work crews.

MAINTENANCE WORKER II 2
Responsible for all required equipment operation and maintenance related tasks.

MAINTENANCE WORKER I 6
Responsible for assisting with all maintenance related tasks.





- During the flushing season, crews flush approximately 3,320 public hydrants and 850 private hydrants. The Water Unit manages this inter-department operation that takes about 10 days of crews working back-to-back 12-hour shifts.
- Due to an increase in water main breaks on private property this past year. Staff assisted numerous contractors in shutting down and locating water mains and valves to allow repairs to be completed.
- The Unit responded to 142 emergency water service shut offs for both public and private repairs.
- Working with the Meter Unit and Finance Department, our team performed 293 non-payment water shut-offs.
- Our unit worked in collaboration with other departments in the side walk wading project.
- In response to the Lead service replacement program mandated by the State, we began a program that sought to replace 100 water services. That goal was met and exceeded expectations, as the unit was able complete 109 service improvements in 2023.
- Our unit installed 200 feet of C909 at N. Dover Ln and E. Avon Court; this was the final connection completed the water main replacement in the Sherwood subdivision.
- This year's water main replacement program consisted of 13,768.2 feet of C909 (Molecularly oriented polyvinyl chloride) ranging from 6",8", and 12" in Diameter, and 325 feet of 12" HDPE (high-density polyethylene). HTPE and C909 (heavy walled plastic piping) was chosen to extends the life span of the infrastructure, and reduce the number of repairs due to water main breaks.
- Staff worked with contractors installing new water main at Arlington Heights Rd and Old Arlington Heights Rd. This will add redundancy to the area to ensure no water disruption in the event of a water main break.
- Our unit located and collected data related to b-boxes in the Vista subdivision for the upcoming 2024 water main replacement program.
- The Staff met with the Village's consulting engineer to finalize water main installation plans for the 2024 Water Main Replacement Project, planned for Vista Subdivision.
- This past year Water Distribution participated in a number of community outreach events including the 4th of July Parade, Touch A Truck, and the Village's Public Safety open house.









WATER METERS UNIT

RESPONSIBILITIES

The Water Meter Services Unit is responsible for maintaining and reading over 21,191 water meters every other month. The Unit obtains hundreds of final meter readings during the year, which are related to real estate sales and closings. The Unit members also participate in Public Works Department Snow and Ice Operations.

MAJOR PROJECTS AND ACCOMPLISHMENTS

COMMERCIAL METERS

Many legacy commercial compound meters have become obsolete as their dated models get discontinued. This left staff with few options while waiting for new ultrasonic meters to become available and affordable. Legacy meters were retrofitted with disc or turbine meters that sacrificed accuracy on either high or low flow measurements. As the new ultrasonic meters arrive, Staff is revisiting those retrofitted meters and replacing them with ultrasonic meters. Ultrasonic meters are not new but the current models boast accuracy at both high and low flows. Staff still manages delays of up to eight (8) months as the manufacturer continues to try to keep up with order demands.

The Village funds a program to systematically replace commercial meters as they begin to exceed their useful life. The Village has approximately 3,000 commercial meters, which are read and maintained by Village Staff. In the past, the Village was not different from most communities and used conventional compound meters. These meters were generally reliable and were the industry standard for meters used in commercial applications. While meter technology improved over the years, staff continued to use compound meters, because they measured accurately both high and low water flows, and now, when compatible with the new Automated Meter Reading (AMR) technologies.

As a result, staff began adding AMR technology to existing meters to improve meter reading accuracies and provide more efficient service. Unfortunately, in the last few years, these meters no longer support AMR technologies. Coincidentally, right when the Village was starting to be impacted by this change in meter technology, the meter industry refined a superior type of meter that can be used in commercial applications. These meters are called ultrasonic meters. These meters not only read water usage more accurately, but they are also more compatible with new technologies. As a result, staff has been working toward replacing these older meters to commercial ultrasonic meters.

COMMUNITY OUTREACH

As the opportunities to engage with the public begin to return and increase, staff appreciates the new consolidated approach of various Departments being represented at the Open House events. Participation in outreach efforts with all Village departments at Alfresco, the open house, and other events and downtown festivals has resulted in great customer feedback. This friendly rivalry and interaction between Units and Departments creates a positive experience and motivates staff to continue to upgrade our operations and displays for the public.

The staff appreciates the opportunity to enhance their visual displays, which have recently been combined with the Water Distribution exhibits to show the public the journey of water from the water main to the residential home. The leaking toilet display has become so popular other municipalities have visited to copy the design for their own open house displays. We are always working on new ways to engage the public and teach them at the same time.

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF THREE (3) FULL-TIME EMPLOYEES AND ONE (1) PART-TIME EMPLOYEE.

WATER SERVICE SUPERVISOR 1
Responsible for supervision and operation of the Unit including all potable water meter related maintenance and customer contact.

WATER METER TECHNICIANS 2
Responsible for commercial reading and repair of residential and commercial water meters and related devices.

PART-TIME METER READER 1
Responsible for reading water meters, refurbishing meters, and data entry.





RESIDENTIAL METER REPLACEMENT PROJECT

The replacement program was delayed until March, 2024, due to the implementation of the Village's new ERP – Utility Billing computer system. The new water billing software will allow meter changeouts to be imported in batches instead of tedious hand data entry. By waiting, staff in Public Works and the Finance Department were able to manage the system changes while keeping account records accurate.

During 2023, residential meter supply chain issues were finally able to catch up with demands. Staff has been able to secure a great deal of the supplies required for the project, allowing for the them to fit the water meters with AMR radios and spot check for defects. Staff was able to prepare over 6,000 meters, which are now ready to be installed. This out-of-the-box thinking by our staff has resulted in a significant saving of time and enabled other department staff to assist in an "assembly-line" system to expedite these meter assemblies.

The Residential Meter Replacement Project scheduled to start in 2023 is going to require a great deal of communication and customer interaction. As a result, staff has been very proactive in getting the message out to residents, in preparation of the program start date.

ROUTINE METER REPLACEMENTS AND SERVICE

Staff used customer service calls as an opportunity to make headway with the meter replacement program. Staff was able to systematically change out 423 old meters with the new meters, as part of regular appointments. Anytime staff was able to access a residential meter during routine appointments staff evaluated whether a new meter was appropriate. For example: staff used opportunities presented during over 805 high bill complaints to replace old meters with new ones.

While staff's objective was always to assist with the initial call, they used the opportunity to make the change. During these types of appointments, customers that are able to get their meter changed out and are pleased that the old meter would be tested at no charge to them. This validates for the customer whether or not the meter was working properly. Staff also helps residents inspect for leaks, and commonly a leaking toilet is found or overwatering landscaping is stopped, which helps the water bill returned to an expected amount.

WATER METER APPOINTMENTS BY MONTH											
JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
103	93	66	106	114	94	67	95	68	66	50	43

21,191
METER ACCOUNTS

119,580
RESIDENTIAL METER READINGS FOR BILLING

7,566
COMMERCIAL METER READINGS FOR BILLING

423
METERS CHANGED

200 µ
VACANT HOMES MONITORED FOR CHANGES AND OCCUPANCY

70 µ
HOUSES UNDER SOME FORM OF CONSTRUCTION









WATER PRODUCTION UNIT

RESPONSIBILITIES

- Maintaining, monitoring, interpretation, and operation of the Supervisory, Control and Data Acquisition (SCADA) system.
- Water sampling and certified lab testing.
- Record keeping and submittal to meet Illinois Environmental Protection Agency (IEPA) reporting requirements.
- Monitoring and maintaining automatic chlorine dosage equipment.
- Pump and valve maintenance and repair.
- Daily monitoring, maintenance, and cleanup of twenty-one water, storm, and sewage pumping stations.
- Timely response to citizen inquiries regarding water quality.
- Maintenance, troubleshooting and weekly exercise of twenty-four emergency backup generators for Village facilities.
- First responders for Public Works "after-hours" emergency service requests.

Water Production Unit's Pump Operators are Illinois Environmental Protection Agency (IEPA) Certified Class "C" Water Operators. Water samples are collected weekly and in conjunction with IEPA ordered mandates throughout the Village, and then analyzed at an Illinois Department of Public Health (IDPH) certified laboratory. Reports are then forwarded to the IEPA as required by law.

ADDITIONAL RESPONSIBILITIES INCLUDE THE OPERATION AND MAINTENANCE OF THE FOLLOWING:

- The municipal telephone and voice mail systems including eight (8) phone systems, two (2) voice-mail systems and two (2) call accounting systems that support over 700 telephones and lines. These systems provide service for the Municipal Building, Police Building, Public Works complex, Senior Center, four (4) Fire Stations and three (3) parking garages.
- Audio/video, CATV, computer, surveillance camera, door access, alarm, master antenna, and other electronic systems throughout the Municipal Buildings.
- Twenty-four (24) emergency electrical generators at municipal buildings and pump stations. These standby generators range in size from 10,000 watts to 675,000 watts.
- The portable sound system that is used at public events such as the Holiday Tree Lighting ceremony, Holiday Happenings, Autumn Harvest Festival, Independence Day Parade, Memorial Day Ceremony, National Night Out and large public meetings. This sound system is housed and transported in its own 14-foot trailer and is large enough to handle events for several hundred people.
- Staff manages additional systems including CO detection systems, security systems, two-way radios, pagers and cell phones.
- Door access controls at Village Hall, Public Works and the Annex. Duties include installation of control panels and card readers, creation/issuance of keycards to employees, and weekly schedule programming/backups of the systems.
- Responsibilities include the installation and maintenance of all low and high voltage electrical and electronic equipment at all utility-related facilities.

THIS UNIT HAS A PERMANENT STAFFING LEVEL OF EIGHT (8) FULL-TIME EMPLOYEES.

FOREMAN 1
Responsibilities include supervision of the Water Production and Electronic Systems Unit members, and supervision/operation of the potable, storm and waste water systems. The Foreman is also classified as the "Responsible Operator in Charge" of the Village's Water System with the Illinois Environmental Protection Agency (IEPA).

PUMP OPERATORS 6
Responsibilities include the oversight and repair of potable, storm and wastewater pumping facilities including tanks, pumps and wells. The Pump Operators also serve as the after hour's "Duty Men" which are the first responders for Public Works to emergency callouts.

ELECTRONICS TECHNICIAN 1
Responsibilities include the maintenance, installation and repair of low and high voltage Village systems. These responsibilities are shared with the Electrician II.

ACCOMPLISHMENTS

- Staff performs daily rounds of twenty-one potable water, sewer and storm water pumping stations, including chlorination systems to ensure proper operation of system equipment.
- Crews scrubbed and power washed the east 1-million-gallon ground storage tank at Station 17.
- Crews drained the East six-million-gallon ground storage tank at Station 16 and thoroughly cleaned the floor to accommodate the relocation of the Northwest Water Commission (NWWC) fill tube inside the tank. The cathodic protection system was changed to a system that eliminates the chance of ice damage to the protection system.
- Pump Operators scraped, sanded, primed and painted pumps and valves at Stations 13, 16 and 17 and Wilke 2. Crews also painted the walls and ceiling inside Station 17 pump room and its chlorine room.
- The outdated programmable logic controllers (PLCs) at our Regent Park, Well 11, Lynnwood, Salt Creek, Honeywell and Locascio pumping stations were upgraded as part of regular system improvements needed for the Supervisory Control And Data Acquisition (SCADA) system.
- Defective electric unit heaters and thermostats were replaced at various pump stations.
- Our program to incorporate energy efficient LED lighting at all utility facilities continued this year. Upgraded fixtures were installed at the Hydropillar, Station 13, Station 16
- Crews replaced the plumbing in the pipe galleries, chlorine rooms and analyzer rooms at Stations 13 and 16.
- Defective submersible pumps were replaced at Happ Farm and Lynnwood sanitary pumping stations and repaired.
- The pond aeration pump was rebuilt at our Hasbrook storm water monitoring station.
- A motor and a motor/pump were replaced with models that are specifically rated to be used with variable frequency drives (VFDs). This continued the replacement program derived from the “Pump and Motor Study”.
- Air release valves, quarter-turn isolation valves and associated plumbing were removed, cleaned, and reinstalled on all thirteen potable water booster pumps. Air release valves and associated piping were replaced on two deep-well pumps and one storm water pump.
- Defective level transducers were replaced at Wilke 2 storm pumping stations.
- Replacement chlorine and pH sensors were installed when the test results reported that they were out of tolerance.
- The chlorine tank tubing was replaced at all stations. This is maintenance activity performed annually as a safety precaution.
- Biennial preventative maintenance was performed on eighteen of our emergency standby power generators, and battery replacements were performed on six of the units.
- Team members performed twenty-one troubleshooting and repairs on the generators for items such as: radiator, gas solenoid, fuel metering module, block heater, coolant level sensor, belts and hoses.
- Staff worked to replace several critical deep well valves that were not working properly at stations 11, 13, and 16.
- Staff also performed pressure washing of the water supply tanks located at the Public Works Facility.

In addition to the potable water supply, Water Production personnel maintain seven sanitary lift stations and six storm water pumping stations. All of these stations require removal of mud, stone and other debris that continually builds up in the bottom of the wet wells. Proper safety procedures are of utmost importance to ensure crews safety when shoveling and vacuuming out the debris from wet wells that range from twenty (20) to forty (40) feet below grade. This procedure occurs two to three times a year at each Station. Additional debris removal occurs occasionally when pump repairs or heavy rain conditions dictate the need. The removal of debris is accomplished with coordinated efforts between Water Production and Sewer Unit personnel and equipment.

- Forty-eight pump failures were investigated and repaired at the Village’s sanitary pumping stations.
- The Sewer Unit assisted our crews in the cleaning of twelve storm water and sanitary pumping station wet wells, including storm water inlets and wing walls.
- Two defective pumps were replaced at Lynnwood sanitary pumping station and one defective pump was replaced at Happ Farm sanitary pumping station.

MONTHLY CALLOUTS											
JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC
44	61	36	56	43	57	74	44	39	35	35	45











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