

PUBLIC WORKS DEPARTMENT



Administrative pictured above (left to right):
Eric Stemen, Scott Cambensy, Tonya Beerman, Katie Burnette



Facilities Maintenance pictured above (left to right):
Jarrod Molise, Mark Romero, Barry Just, Carl Miller, Mike Sjolund



Equipment Maintenance pictured above (left to right): Al Wendrick, Lance Hopper, Duane Suckow, John Steadman, Eric Hinze, Tom Florek, Alex Hinze, Jim Tregear



Forestry pictured above (left to right): Chad Hightshoe, Paul Albert, Dan Carter



Sewer Maintenance pictured (left to right): kneeling – Dan Beerman, Larry Linna, Gerald Bartlett, Randy Paavola, John Dale, Pat Nordquist, Mike Schmeltzer



Street Maintenance pictured above (left to right): Dave Contois, Bridget Holm, John O'Neill, Dale Liljeroos (back row) Mark Brandel, Jim Fraley, Kyle Johnson, Mike Koval, Don Trezona, Mike Parsons, George LaFave, Kyle Johnson (not pictured Steve Matt)



Water Distribution pictured above (left to right): Dave Outinen, Art Carlson, Mark Trembath, Bruce Gauthier, Todd Brugman, Randy Bullock, Chris Tracy



PUBLIC WORKS DEPARTMENT

2012-2013 ANNUAL REPORT

In accordance with Section 2-80 of the City Code, listed below is a summary of activities for the Public Works Department for the 2012-13 fiscal year.

WATER TRANSMISSION & DISTRIBUTION

The City of Marquette Water Distribution Department maintenance crew consists of one supervisor, two meter technicians, one utility inspector, one special equipment operator, and three heavy equipment operators.

Distribution network infrastructure maintenance duties consist of replacing deteriorated service lines, repairing system failures, hydrant and valve maintenance, accurate metering of delivered services, customer service requests, maintenance records, protection from contamination, pumping requirements, control valve maintenance of the eight pressure districts, two (2) one million gallon reservoirs, three pump stations, and support of contracted construction of infrastructure replacement and improvements.

Along with maintaining the water distribution network, personnel from this crew supplement operations of the Street, Sewer, Engineering, and Parks Departments as work loads demand.

This past year, we spent considerable support time on the Street Improvement and Heavy Maintenance Project (SIMP) to replace the old water services in the construction areas. Water service lines dating back 60 years or more were replaced before pavement milling on these streets. The lines were identified to be galvanized and warranted replacement before resurfacing operations began this past construction season. Twenty-eight services were replaced on the 1700 and 1800 blocks of Fitch Avenue, the 500, 600 and 700 blocks of Norwood Street, and the 1900 and 2000 blocks of Neidhart Avenue. Also, when the contractor exposed galvanized water services in the trenches of the scheduled sewer lateral replacements, Water Department crews replaced the water services at the same time. Many of these lines were in very poor shape and were actually leaking when they were exposed. Crews also spent time on SIMP Project road work locating curb stop boxes and water main valves—cleaning and listening on these valves for possible leaks before construction began. The effort expended will hopefully minimize the potential of digging up these repaved roads in the near term.

With the development of new residential meter technology, this department began a complete change out incorporating the new technology. The new meters we have selected have a magnetic flow detection unit for measuring usage at increased accuracy. These meters have no moving parts and a projected life of 20 years. The meter life is dependent upon the life of the batteries which are internal and necessary for creating the magnetic field. This new technology is also capable of many new features that can help with identifying customer problems and usage trends. They are also compatible with automated meter reading systems (AMR), which we hope to start implementing this coming year. Last year we installed 660 new meters. This change out is projected to be completed in five years.

We continue to test our large meters by contract to outside vendors. This ensures that our large users and the City of Marquette are benefiting from accurately metered water consumption. Additionally, we are required by contract to annually test the meters delivering water to Marquette Township by an independent certified testing service. Completion of this year's testing found one of the 34 large meters tested not meeting the AWWA specification. The meter was repaired and put back into service.

To ensure water quality to our customers, maintenance crews flushed out water on the dead-end portions of the system. Annually, 150,000 gallons are used to accomplish the desired results of ensuring water quality. To document system performance, we include sampling of these areas to facilitate possible frequency increase if warranted. Another approximately 950,000 gallons were used to flush through a third of the water distribution network to clean our mains. Our annual goal of one third of the total distribution system was met this year.

Excavation required repairs by the Water Distribution Department included 20 water main repairs and eight service line repairs. The above mentioned projects all required the use of excavation equipment to accomplish the necessary work, along with the required restoration of surface features removed to facilitate repairs. Public Works street crews get involved extensively with the restoration of pavement surfaces.

Utility inspections are an important part of the protection of our drinking water quality. The Backflow Prevention Program is an integral part in the protection of the water distribution system against contamination. Our utility inspector has progressed well in the learning and operating of our software that monitors the program.

- Cross connection accounts—731
- Backflow devices in system—1,329
- Devices needing repair—14

One of the two high service pumps for the Grove Street Pumped Pressure District failed and required rebuilding. The pump was replaced with a backup in stock. The old pump was rebuilt and is ready for use when failure requires. Also, the Wilson Station Fire Pump was damaged by lightning and required minor electrical control repairs.

- Water main repairs–20
- Water service line repairs–8
- Water service line replacements–28
- Residential meter change-out–325
- Total cross connection accounts–710
- High hazard accounts (reinspected every 36 months)–459
- Low hazard accounts (reinspected every 72 months)–468
- New cross connection accounts–40
- High hazard reinspections completed–14
- Low hazard reinspections completed–2
- Cross connections found to exist during inspection–15
- Cross connections corrected of the newly found connections–15
- Cross connections corrective action in progress–0
- Backflow prevention devices in system–937
- Backflow devices tested–372
- Large meters tested–15
- Large meters not meeting AWWA specifications–0

* Statistics are for 2012 calendar year due to the time frame that is required by the Michigan Department of Natural Resources and Environment for the Water Supply Cross Connection Report that is due yearly.

STREET DIVISION

2012 marks the 20th consecutive year the City of Marquette has been awarded the “Safe and Sustainable Snow Fighting Award” by the Salt Institute.

Street Statistics

- Local Street Mileage–58.83
- Major Street Mileage–31.37
- Non-Motorized Mileage (Bikepath)– 17.6
- State Trunkline Mileage–1.95

Routine Maintenance

- Gallons of paint for pavement marking (Local Streets)–10
- Gallons of paint for pavement marking (Major Streets)–100
- Tons of blacktop used for Sewer restorations (Local Streets)–45
- Tons of blacktop used for Sewer restorations (Major Streets)–10
- Tons of blacktop used for Water restorations (Local Streets)–453
- Tons of blacktop used for Water restorations (Major Streets)–61
- Tons of blacktop used for Stormwater restorations (Local Streets)–31
- Tons of blacktop used for Stormwater restorations (Major Streets)–17
- Tons of blacktop used for street repair (Local Streets)–56
- Tons of blacktop used for street repair (Major Streets)–15

Winter Maintenance

- Cubic yards of snow removed (Local Streets)–6,000
- Cubic yards of snow removed (Major Streets)–9,000
- Tons of salt used for ice control (Local Streets)–541
- Tons of salt used for ice control (Major Streets)–1,000
- Tons of salt used for ice control (State Trunkline)–90.61
- Cubic yards of sand used for ice control (Local Streets)–2,105
- Cubic yards of sand used for ice control (Major Streets)–3,300
- Gallons of liquid calcium chloride used for ice control (Local Streets)–0
- Gallons of liquid calcium chloride used for ice control (Major Streets)–0

Sanitation

- Collection from approximately 6,000 residential units, 100 small commercial facilities, and 12 litter barrels throughout the City.
- Curbside contract service collection fee–\$8.21
- Other contract service collection fee–\$1.37
- City service collection fee–\$4.22
- Vehicles at Compost Site–Leaves/Grass – 6,597
- Vehicles at Compost Site–Brush – 2,930
- Vehicles at Rubbish Drop-Off Site–5,412
- Tons of Rubbish Collected–790
- Tons of Metal Collected–156
- Cubic yards of leaves collected curbside–9,000
- Cubic yards of brush collected curbside–1,100
- Cubic yards of yard waste collected curbside–6,000
- Estimated tons hauled directly to the Marquette County Landfill–13,142

SEWER DIVISION

The Sewer Maintenance Department focuses largely on sewer system cleaning and repairs for the sanitary and storm sewer systems.

The total replacement of sanitary sewer laterals for houses and businesses from the right-of-way to the sewer main is a large part of the department excavations due to the orangeburg sewer pipe that is failing at a rapid rate. Partial replacement of sewer main pipes and structures (such as manholes and catch basins on the sanitary and storm systems) also contribute to the excavation portion of the department's maintenance work.

Routine cleaning work that is scheduled annually in the department includes sanitary and storm main cleaning, which includes the removal of roots and grease, manhole and drainage structure cleaning, removing sediment and trash from ditches and retention basins.

Inspecting and locating services performed by the department includes televising of sanitary sewer laterals for residents as well as for the Engineering Department's SIMP projects to determine condition and location of pipes and location of utilities such as water distribution pipes, sanitary sewer pipes, storm sewer pipes and electrical lines for the Miss Dig system.

Preventative maintenance includes identifying locations in the sanitary sewer system with repeated problems for root control treatment contract, televising contract to check condition of sewer mains, the slip line contract to replace severely damaged pipe and working with residents with sanitary sewer back-up problems to find the cause and location of problem and assist them with the proper solution.

Training consists of confined space training and atmosphere testing along with rescue training in conjunction with the fire department, trenching and shoring, proper lifting procedures, working around electrical and utilities, working around heavy equipment, personal protection equipment, MSDS, Hazwoper training, blood borne pathogens, etc.

Sewer Operations Maintenance

- Sewer backups responded to—34 (4 due to issues in the City system)
- Sewer laterals televised—186
- Sewer main repairs—5
- Jet rodding (linear feet of sewer)— 98,207
- Root cutting (linear feet of sewer)—204,209
- Sanitary Sewer Overflows (SSO)—1
- Grease trap inspections—68

Sewer Capital Outlay

- Sewer lateral taps—3
- Sewer lateral replacements—11
- Manhole repairs—19

Stormwater Routine Maintenance

- Catch basin repair—46
- Catch basin replacement—2
- Storm point repairs—1
- Storm line thawing—0

FORESTRY DIVISION

In-House Planting

In-house planting efforts by the Arborist and Forestry Crew included the following:

- Three Austrian pines, one Norway spruce and one golden raindrops flowering crab were planted on City right-of-ways adjacent to the Great Lakes Recovery Center as Marquette's 2012 Arbor Day observance planting.

- One Ohio buckeye was planted along the Mattson Park bikepath in a continuing effort to both diversify the species composition of our urban forest and develop this area as an arboretum.
- Four large caliper disease-resistant elms and two autumn gold ginkgos were planted as street tree replacements.

Contractual Planting

The vast majority of street-side and park tree planting is administered by the Arborist and accomplished contractually. In 2012, 65 such trees were planted by A. Jacobson Landscaping of Gwinn. While a majority of this planting addressed adjacent property owner requests or provided replacements for recently removed street trees, the contract's second focus was the introduction of shade trees into areas along our bikepath system currently devoid of or lacking such features.

A second contractual effort concerned tree transplanting, where Coryell Nursery of Munising moved six existing trees to new locations.

- Two tamaracks and an upright white cedar were moved from a crowded location at the Baraga Avenue stormwater detention pond to the drainage swale in Mattson Park. This new grouping near the northwest corner of the Kids Kove Playground will provide both a splash of fall color and additional species diversity for our eventual arboretum.
- Two disease-resistant elms were moved from a formal landscape grouping along Wright Street to locations along the bikepath through the Pine Street triangle park.
- A harvest gold flowering crab was moved in Mattson Park to provide a more direct entry route into the park's interior for event support vehicles.

Forestry Statistics

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| • In-house tree planting—13 | • Large tree pruning—87 |
| • In-house transplanting—0 | • Tree removal—206 |
| • Contractual—71 | • Stump grinding—79 |
| • Small tree pruning—208 | |

PARK CEMETERY

SPECIAL PROJECTS

New Columbarium / North End Development

Cremation interments have increased steadily over the past 40 years:

1970	4% of 113 total interments
1980	10% of 90 total interments
1990	16% of 89 total interments
2000	26% of 76 total interments
2010	51% of 69 total interments
2012	65% of 83 total interments

Cremation urn interments have customarily been made within the cemetery's existing gravesite inventory, where policy allows up to two ash containers to be placed in a gravesite of 35 square feet. In 2001, a second "inurnment" option was provided as a preassembled, 48-niche columbarium was installed. By the end of 2012, 83% of the columbarium niches had been sold.

An expansion plan for the north end of the cemetery is currently being developed. In addition to traditional burial lots, three sites have been identified as applicable for future columbaria. The first site to be addressed is immediately north of the Pinelawn Plat's veterans section, and has been prepared for the spring 2013 placement of a round, granite-faced, 80-niche columbarium. In addition, two east/west roads have been (re)constructed as part of the north end development: one gravel road was built--along with a gravel parking area—adjacent to the columbarium site, and the northernmost road was raised and widened to facilitate year-round access.

Cemetery Lunch Room and Office

When not needed for snow clearing efforts, Street Division personnel spent part of the winter building a heated lunchroom for seasonal cemetery staff in the northernmost bay of the existing garage. The 10-foot square room required floor leveling, wall framing, insulation, drywall and paint. In addition, the cemetery office, constructed in-house in 2011, was completed as the rough concrete floor was painted.

Cemetery Statistics

- Traditional Burial—29
- Cremains Burial—54
- Columbarium Burial—3
- Grave Space Sale—56
- Cremains Space Sale—3
- Columbarium Sale—4
- Infant Space Sale—1
- Infant Burial—1
- Vault Storage—0
- Foundations—62
- Perpetual Care Collection—0

MOTOR VEHICLE EQUIPMENT DIVISION

We have implemented a Fleet Maintenance program which integrates with our fueling software program, Phoenix. We have developed a maintenance due report that runs every other shift. This report determines any future service needed. At the end of every shift, vehicle fuel tanks are filled at the Municipal Service Center fuel depot. The operator enters the mileage or hours used. Every 48 hours, a file is converted from Phoenix to Fleet Maintenance. From this data, a report is generated that indicates which vehicles are due for service. Maintenance work is then scheduled accordingly. This process has had a positive effect on the department. It saves on labor costs by eliminating the need for an employee to manually look at each piece of equipment. It also prevents equipment from going into an "over due" maintenance status. Timely vehicle maintenance is crucial, as it prolongs the life of expensive equipment. By being proactive in vehicle repair and maintenance, there has been a substantial decrease in equipment failure, thus decreasing vehicle downtime.

During the off season all of the plows come into the service garage. Each plow goes through a complete safety inspection and evaluation, all fluids and filters are replaced and oil samples are taken. They are sent to an independent lab and oil reports are sent back to the City where they are analyzed for premature failure and overall driveline component condition. Any needed repairs and suggestions by operators are made at this time to reduce downtime during the busy winter months. The main goal of the Motor Pool Division is to have its fleet ready for any crisis that may arise with very little or no downtime.

Equipment

- Small Equipment–166
- Sedan/Pickups–101
- Large Equipment–107

Maintenance

- Tune up–65
- Brakes–50
- Suspension work–52
- Drive Train–8
- Engine work–3
- Oil changes–360
- Restoration work (average restoration takes 120 hours)–3
- Equipment Painting–3
- Snow Plow under body changes–50
- Schedule Maintenance (above and beyond just oil change)–165
- New Equipment Outfitted–6

Fuel Usage

- Wastewater Treatment Plant–1,862 gallons
- Marquette Housing–948 gallons
- Downtown Development Authority (DDA)–2,122 gallons
- Lakeview Arena–1,187 gallons
- Motor Pool–111,388 gallons
- Marquette Area Public Schools (MAPS)–45,133
- Alger Marquette County Action Board (AMCAB)–4,073 gallons
- Powell Township–4,456 gallons
- Peter White Public Library (PWPL)–32 gallons

FACILITY MAINTENANCE DIVISION

Several bid specifications for various capital outlay building projects were devised in 2012, including building upgrades and maintenance for Lakeview Arena, Presque Isle and the Municipal Service Center.

The following list highlights some of the major projects and accomplishments that were either completed in the fiscal year or are near completion.

- Completed a major electrical upgrade to Lakeview Arena ice system to improve uptime and reduce energy consumption.
- Finished the two year DELEG grant for the Better Buildings for Michigan Program. Marquette was the most successful municipality in the state.
- Wrote the City's Safety and Health Management Policy and completed other safety abatements that stemmed from the Michigan Occupational Safety and Health Administration (MIOSHA) Construction Enforcement violations.
- Implemented a three-year contract for outside custodial services at City Hall.
- Implemented a yearly safety training program for all Public Works employees through the Northern Michigan Public Service Academy. Training topics have included general MIOSHA regulations as well as task-specific training such as chainsaw/chop saw training and safe lifting techniques.
- Coordinated MIOSHA training for the Municipal Service Center and Wastewater personnel in preparation for upcoming changes in Michigan's hazard communication laws.

PARKS AND RECREATION MAINTENANCE DIVISION

With last year's average snowfall, many of the winter park maintenance tasks were on par with previous winters. Winter work included ice rink maintenance and bikepath plowing. Plow drivers were also kept busy removing snow from the parking areas at Lakeview Arena, City Hall and the Municipal Service Center.

Staff has continued working to establish facility signs at various facilities across the City. The signs at Lakeview Arena, City Hall and the Municipal Service Center are in progress.

In addition to the weekly maintenance duties, staff converted a storage room in City Hall into a conference room and remodeled a storage area for Senior Center workers. With the addition of a newly hired carpenter on staff, maintenance workers were also able to paint the Cinder Pond Marina offices and customer area, and replace door hardware and rekey locks at the Municipal Service Center.

Park staff continues to struggle in keeping the large turf areas at Mattson Park in good condition. Due to the high volume of traffic and events held there each summer, the turf requires constant irrigation and attention to aerating and reseeding.

- Miles of trail plowed—182 (miles for the year)
- Dog boxes serviced—2,912 occurrences
- Toy repairs—34 occurrences
- Irrigation repairs—52 occurrences
- Drinking fountain repairs—17 occurrences
- Trash cans serviced—21,890 occurrences
- Cook stove cleaning—2,800 occurrences
- Gravel parking lot repair—36 occurrences
- Flag pole/flag maintenance—40 occurrences
- Outdoor ice rink flooding—40 occurrences
- Parking lot plowing—500 hours
- City Hall maintenance—400 hours
- Beach maintenance—74 hours