Public Works Department Mission Statement

To promote the safety and public welfare of the community.
Strive to promote a positive impact on the quality of life for all people.

2015 ANNUAL REPORT

CITY OF ONALASKA

PUBLIC WORKS DEPARTMENT

City of Onalaska Common Council
April 2016

DEPARTMENTS

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Message from the City Engineer

To Mayor, Common Council & Residents,

On behalf of the Public Works Department I would like to thank the Mayor, Common Council and Residents for the opportunity to present the 2015 Public Works Department Annual Report. Staff is committed to carrying out the department's mission: *"To promote the safety and public Welfare of the community. Strive to promote a positive impact on the quality of life for all people"*. Many of the ways that resident's lives are impacted every day often go unseen, from delivering quality drinking water to providing compassionate service in the City cemetery. The 2015 Annual Report highlights the many areas that affect the public each and every day.

The 2016 the Capital Improvements budget includes investments in City infrastructure along with the first phase of the Great River Landing. With paving of nearly five miles of City streets, water & sanitary sewer improvements, Great River Landing project and the Wisconsin Department of Transportation projects on all sides of the City it will be a busy year for the Public Works Department. I would like to acknowledge the support of the elected officials and residents of the City of Onalaska who continue to invest in the City's infrastructure and supporting the mission of the Public Works Department.

Please take time to review the accomplishments and services included in the 2015 annual report and contact me if you have questions, comments or concerns. I hope the Public Works Department continues to have a positive impact for the residents of the City of Onalaska in 2016.

C. Jarrod Holter, P.E.
City Engineer/Director of Public Works

CAPITAL PROJECTS

Capital Projects

Every year the City of Onalaska completes projects to maintain the City's infrastructure and welfare, and ensure public safety called Capital Projects. The Engineering Department, with assistance from the Street and Utility Departments, provides various degrees of management on the design, bidding, and construction administration phases of each Capital Project. The Capital Projects completed in 2015 are listed below:

Project Name	Construction Costs
• 2015 Utility Project[1]	$759,539.03
• 2015 Paving Project[1]	$511,156.21
• State Highway 16 Left Turn Lane Extension[2]	$170,533.44
• 2015 Spring Tree Planting Project[1]	$137,870.00
• 2015 Miscellaneous Concrete[1]	$86,262.80
• 2015 Pond #17 Reconstruction[1]	$53,829.10
• 2015 Stump Grinding[1]	$38,022.75
• Pavement Maintenance	$234,234.81
	Total Construction Costs = $1,991,448.14

The Capital Projects all have their own unique impediments and difficulties which are not always apparent to the general public, but can inconvenience many residents. These items can include interruption of utility services, temporary closures of City streets, and irregular access to private driveways. The Public Works Department endeavors to minimize the disturbance to the residents that may live along or near a Capital Project location and the general public. The ensuing pages contain descriptions and photographs of the 2015 Capital Projects.

1) Designed, bid and construction administration by the Public Works Department
2) Bid and construction administration by the Public Works Department

2015 Utility Project

The 2015 Utility Project replaced aging utilities, reconstructed roadways, and site restoration on 3rd Avenue South (Main Street to Oak Forest Drive), Pearl Street (4th Avenue North to 6th Avenue North), and Saint Paul Street (Saint Paul Street Cul du Sac to Great River State Trail).

3rd Avenue South replaced pre-1950's sewer main from Main St to Green St, installed new storm sewer main and structures on 3rd Avenue and Hickory St, and replacement of water main valves. The project reconstructed the roadways, including thickened crushed aggregate base coarse and new curb and gutter, of 3rd Avenue South (Main to Green), and Irvin St and Hickory St (3rd to 4th Avenues North). Lastly, this portion of the project installed new dedicated bike lanes in both the northbound and southbound directions from Main St to Oak Forest DR.

The Pearl Street portion of the project replaced an undersized four inch water main with a new six inch water main from 4th Avenue to 6th Avenue North. It replaced all the existing sanitary sewer and storm sewer mains, manholes , and structures. Additionally 75 feet of sewer main and a new manhole were installed for better inspection and maintenance. It finally reconstructed the roadway with an increased crushed aggregate base course, new concrete curb and gutter, spot concrete sidewalk repair, and sod restoration.

Saint Paul Street portion of the project installed a new water main distribution loop from the end of the Saint Paul Street cul du sac east to the Great River State Trail. The first portion of the new loop (CTH SS to north of Interstate I-90 along the Trail) was installed under a Wisconsin Department of Transportation project in 2014 and this portion of the project placed the final 250 linear feet of eight inch water main to provide a need loop in the water main distribution system in the southwestern area of the City.

New dedicated bike lanes on 3rd Avenue Portion of the 2016 Utility Project

Archeological monitoring was required by permit for the 3rd Avenue portion of the project from Main Street to Green Street.

2015 Utility Project

Six inched ductile iron water main , valves, and fittings being installed on the Pearl Street portion of the project.

A sanitary sewer manhole installed on 3rd Avenue.

Sanitary sewer lateral and water main service being installed on 3rd Avenue between Hickory Street and Green Street.

Storm sewer main being installed behind Festival Foods Support Center on Hickory Street.

Asphalt pavement installed at the intersection of 3rd Avenue and Green Street.

Roadway coring for manhole casting adjustment at Pearl Street and 6th Avenue North.

State Trunk Highway 16 Left Turn Extension

The State Trunk Highway 16 Left Turn Extension completed the requirements of Transportation Economic Assistance (TEA) grant the City of Onalaska received for roadway improvements for the construction of the Gundersen Health Onalaska Campus on South Kinney Coulee Road in the early 2000's. The project extended the left turn lane from westbound STH 16 onto South Kinney Coulee Road east 630 feet. The project was constructed at night under traffic with lane closures. Project was allowed to close one lane of traffic in each direction on STH 16 from 7:00 PM to 6:00 am Sunday to Thursday nights. Project was began and finished in September of 2015 with no injuries or accidents to construction workers or motorist on STH 16.

New storm sewer main and inlet structures.

Backfilling around storm sewer main and structures.

Installation of new concrete pavement for extended left turn lane on STH 16 at night under traffic with lane closures.

Project overview looking west during construction. Installation of new light pole bases were occurring in photo.

2015 Pond #17 Reconstruction

The 2015 Pond #17 Reconstruction project expanded the existing pond 40 feet north to increase pond size to accurately treat increased storm water runoff that was created from projects on Marcou Road in 2013 and at the intersection of Midwest Drive and Theater Road in 2014. The project also removed accumulated sediment that had been deposited at the bottom of the pond since the last pond cleaning. Pond #17 is a storm water treatment pond that is located off of South Kinney Coulee Road behind the Stoney Creek Hotel and Convention Center. As part of the project the existing pond outlet pipe was extended, with the new extend pipe being perforated and covered with pea gravel and washed stone to help lower the velocity of the storm water leaving the pond which would promote increase particle settling, thus producing a cleaner storm water being discharged from the pond.

Removal of existing sediment from Pond #17.

Outlet pipe extension and pea gravel installation.

Expansion of the pond 40 feet north to provide necessary treatment for additional storm water flow directed to the pond during construction in 2013 and 2014.

Project restoration including erosion control matting on pond banks and straw wattles in pond bottom to limit off site sediment transport until new vegetation is established.

2015 Spring Tree Planting Project

2015 Spring Tree Planting project was completed to reestablish the urban forestry tree stock in the City of Onalaska from the planned removal of ash trees within the City. In 2014 the City Common Council directed the removal of the existing urban forest (trees located in City owned property like boulevards, parks, and building landscapes) ash trees to combat the invasion of the emerald ash bore beetle that feeds and kills ash trees. During the Fall of 2014 and early Spring of 2015 the Street Department removed the first third (approximately 475) of ash trees planned for removal from the City's urban forest. The 2015 Stump Grinding project was a companion project that ground out the stumps left by the Street Department from ash tree removal prior to the installation of the new tress in the planting project. The Spring Tree Planting project installed 345 trees (Elm, Hackberry, Honeylocust, Linden, Oak, Kentucky Coffee) to replace the ash trees removed, along with an additional 21 for city wide plantings, and 29 for landfill screening. The City received grants for the project to assists with costs for ash tree replantings, including a grant from the Wisconsin Department of Natural Resources.

Excavation for a new tree to be placed in a city boulevard.

Installation of a mulch ring for a newly planted tree in the City boulevard.

Completed installation of a new city boulevard tree. Behind the tree in the picture is a full restore tree stump location from the 2015 Stump Grinding with erosion control mat for final restoration over black dirt and seed.

Pavement Maintenance

The pavement maintenance program is completed every year as part of the Capital Projects. In 2015, the pavement maintenance program included chip sealing, crack filling and saw & seal. Crack filling applies specialized asphalt into and above existing pavement cracks to prevent the intrusion of water. Saw & Seal is the process of cutting and filing control joints into new asphalt pavement to help prevent random cracks from forming. Chip sealing is placement of asphalt emulsion on the roadway followed by fine rock chips.

Chip sealing asphalt emulsion being placed.

One lane of roadway is completely chip sealed and other lane receives asphalt emulsion.

Placement of rock chips over asphalt emulsion.

Rock chips are compacted into asphalt emulsion.

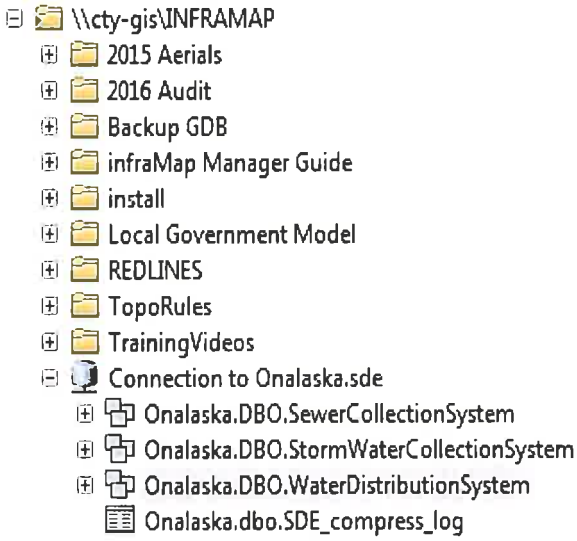
Geographical Information System (GIS)

The *Engineering Department* receives continual support from GIS Technician, Joe Barstow. Some various duties and support efforts during 2015 were as follows:

- ▷ Maintaining GIS data for the Engineering Department which also includes both the Street and Utility Departments. This data includes and not limited to:
  - ▶ Cemetery ▶ Boulevard Trees ▶ Street Maintenance
  - ▶ Water, Sewer, & Stormwater Infrastructure ▶ EAB Management
- ▷ Assist Engineering with the automated refuse and recycling cart pickup; created & audits an Excel workbook
- ▷ Managed updated county and city base layers for Engineering needs
- ▷ Assists staff with hardware/software issues
- ▷ Assist with GIS data integration into SDE & troubleshooting issues with the InfraMAP software
- ▷ Created reports or spreadsheet data for calculating future needs analysis
  - ▶ (2015 WISLR road pavement report)
- ▷ Assists Engineering staff with departmental needs and maps for the city website
- ▷ Provide survey assistance for future projects
- ▷ Erosion Control: Provided permit application review, field inspections, and enforcement of commercial construction sites
- ▷ Storm Water: Permit review, audits impervious square feet totals from as-built information for commercial projects, and inspections
- ▷ Assisted with miscellaneous requests from the public and staff for both printed/digital layouts and tabular data
- ▷ Integrate as-built data from public, and commercial projects into the City's GIS layers
- ▷ Maintains the Locate (tap/wye) Database, and assist Finance with PSC Reports
- ▷ Acts as a liaison with County, State, Regional, & Federal agencies including private consultants
- ▷ Integrated the new 2015 Aerial Photos into the City GIS

Erosion Control:

InfraMap SDE Geodatabase:



Street Department

The Onalaska Street Department performs many regular tasks throughout the year while providing assistance to various other departments. The Street Department has nine full-time employees and 1 part-time employee to assist in various duties. In 2015 the Street Department removed existing asphalt pavement for the 2015 Paving project, removed 441 ash trees from City boulevards and parks to fight the spread of the Emerald Ash Bore. This was the second of three planned years for ash tree removal by the Street Department. The following pages describe common Street Department activities done in 2015.

Snow/Ice Removal

From January-December 2015, the City of Onalaska received various snowfall events. Crews are often required to work overtime depending upon the timing of the event to ensure streets are cleared for peak traffic times. Street crews used 1,800 tons of salt, 515 tons of sand/salt, and 10,800 gallons of salt brine during 2015 for removal of snow/ice from city streets. The anti-icing system allows for the treatment of street surfaces prior to storm events and results in reductions of sand/salt usage during/after storms. With rapidly rising costs of salt due to shortages throughout the Mid-west, crews make every effort to save on materials while not compromising the safety of the public. After enough snow accumulates, the department is required to perform night-time snow removal operations to remove the excess snow.

Mowing Route/Tree Removal/Trimming

Street crews performed tree trimming on 1,500 City-owned trees and hauled brush from approximately 261 locations throughout the City. Tree removals were performed on numerous occasions for the Parks and Planning/Zoning Departments. Crews performed monthly curbside brush pickup for residential properties. In all, over 98 tons of material were generated from tree removal/trimming/brush pick-up operations during 2015.

2015 saw the continuation of a program utilizing City staff to remove 1/3 of the ash trees on City right-of-way and parks. 2015 was the second year for ash tree removal and by the end of 2015 2/3's of the ash trees in the City had been removed. Ash tree removal utilized the entire Street Department staff for approximately 18 days in the fall of 2015. Street Department cut down 441 trees that produced 840 tons of wood chips and 400 tons of wood.

Fleet Maintenance

The Street Department employs one mechanic to service and maintain all 128 City-owned vehicles and 54 miscellaneous pieces of equipment. In 2015, there were 652 services/repairs and numerous squad car/vehicle washings.

Street crew removes ash trees from City Hall grounds.

Street Department working for burial preparations.

Street Department

Storm Sewers & Storm Water Detention Areas
52 catch basins and manholes were repaired during 2015 which required follow-up work from the Street Department. Follow-up work includes street patching, placement of fill and black dirt, seeding & mulching, miscellaneous concrete work, traffic control set-up & take down, and street sweeping. The Street Department also maintained several outfalls throughout the year. Each of the City-maintained storm water detention ponds require maintenance each year including mowing, trimming and outlet repair/inspection. Crews also coordinated work with contractors to control spray for brush/trees at numerous pond locations.

Street Sweeping
Beginning in March, crews began street sweeping operations and continued into December. Over 935 tons of material was collected in 2015 from street sweeping. In addition, street sweeping crews generated large amounts of leaves from sweeping operations in the months of October-December. Leaf refuse was hauled by City crews to a disposal site in Holmen. 158 tons of leaf refuse was hauled in 2015.

Street Opening Permits
There were 88 street openings monitored by the Street Department in 2015. Street openings are sometimes required for excavations, borings, and utility connections.

Traffic Signals & Street Signs
On 22 occasions, the Street Department repaired or serviced various traffic signals throughout the City. 157 street light outages were also serviced/repaired in 2015. Various traffic signs were replaced based upon age and condition throughout the City.

Pavement Markings
Pavement markings are renewed each year by street crews to enhance safety at intersections and the safety of the traveling public in general. Centerlines, lane lines, edge lines, turn lanes, arrow symbols, school symbols and crosswalks were renewed at various locations throughout 2015. Crews used over 155 gallons of paint to renew existing pavement markings.

Street Department replaces damaged concrete curb and gutter in front of a storm water inlet.

Street Department assists with a City park project.

Street Department

Transportation of Materials
For many of the tasks performed by the Street Department, bulk materials are often required consisting of one or more of the following: hot-mix asphalt, cold mix asphalt, crushed aggregate base, breaker run base, black dirt, clean sand, cold mix (patch mix) and miscellaneous fill. Crews are required to haul these materials using City dump trucks to the job site. The following quantities were used by the Street Department in 2015:

Salt Brine - 10,800 gallons
Hot Mix Asphalt - 162 tons
Black dirt – 63 cubic yards
Misc. fill - 110 cubic yards
Leaf Refuse - 158 tons

Salt Sand Mix - 382 tons
Crushed Agg./breaker run - 121 tons
Clean sand - 316 cubic yards
Cold mix patch material - 25 tons

Civic Events
The Street Department assisted various departments/groups during 16 events in 2015. Some events included parades, run-walks, and festivals. Assistance provided included traffic control set-up and take down.

Miscellaneous Activities
The Street Department assisted in the 2015 Capital Projects in various capacities. Much of this assistance was provided to the Engineering Department. In addition, the Street Department provided over 1,750 man hours to other City of Onalaska departments and miscellaneous resident requests throughout 2014. Some of the miscellaneous activities provided to the other departments were leaf and trash pick-up, traffic counts, street and alley maintenance, parts ordering, community service programs, fabrication, concrete and bituminous asphalt repairs, voting, and on-call duties.

Cemetery
Approximately 1,6,49 man hours were dedicated to the cemetery in 2015 by the Street Department. 55 burials were conducted that included 28 full grave openings and 27 ash burials. Other cemetery duties include staking for headstones (38), approval of headstones, appointments for grave sales, staking block corners, tree planting and trimming, grass mowing, refuse removal, and infrastructure maintenance and repair, which included repairs of two water leaks in 2015.

Street Department performs maintenance of a City fleet vehicle.

Street Department removes existing pavement to help reduce construction costs for the 2015 Paving project.

Utility Department

The Onalaska Utility Department maintains the City's water distribution and sanitary sewer collection systems, and assists with the storm sewer system to safeguard that the City's utility infrastructure operates in a safe and efficient manner. The Utility Department maintains water distribution system with approximately 107 miles of water mains varying in size from 4-inch to 16-inch diameter, four potable water high capacity wells, five water storage reservoirs, and three booster stations. In addition, they manage a sanitary sewer system with over 86 miles of sanitary sewer mains ranging from 2-inch to 30-inch diameter, nine lift stations, siphon, and meter pit. The Utility Department continues to achieve recognition for having an outstanding system as given by the Wisconsin Department of Natural Resources and peers within the industry. The following describe some of the specific duties performed annually by the Utility Department.

Valve Maintenance

The City of Onalaska has over 1,390 distribution valves in operation throughout its water distribution system. The Public Service Commission requires the City to exercise each distribution valve every 2-5 years and each fire hydrant valve every 5-7 years at a minimum. By routinely checking each valve, the system can be properly flushed and isolated, and therefore provide better quality water to City of Onalaska residents. This routine maintenance allows the City to keep a better inventory of these valves and replace faulty valves when necessary. In 2015, the Utility Department exercised 302 valves in the water distribution system and 157 fire hydrant valves.

Water System Flushing

The City of Onalaska Utility Department routinely flushes fire hydrants for preventative maintenance and water quality. Hydrant flushing began in early April and was completed by the 1st of August in 2015. Many of these hydrants are located on dead-ends, which require more frequent flushing. A new automatic flushing station was installed on Beverly Drive to help maintain water quality and chlorine residual in a known problematic area in the distribution system.

Fire Hydrant Maintenance

The Utility Department regularly maintains its inventory of fire hydrants. Some maintenance duties include painting, replacement of worn parts, installing extensions, and full replacements. During 2015, 120 hydrants were repaired and 236 hydrants were painted.

Utility Department installs a water system sampling hydrant and yard hydrant at the Franklin Street sanitary sewer lift station.

Utility Department staff places new piping for a water system flushing hydrant.

Utility Department

Lab Testing

The City of Onalaska, as required by the Wisconsin Department of Natural Resources, performs frequent testing of the public water supply. A mandated Consumer Confidence Report (CCR) is compiled annually, detailing the source of the water, the types of treatment used, what contaminants have been found and at what levels. Lab functions also include the maintenance of all LMI pumps, chlorinators, chemical lines, check valves and ordering of the chemicals at well sites. The lab staff also handle all consumer complaints regarding water quality. The Utility Department performs a variety of mandated testing (results of which are outlined in the CCR) along with quality testing of the water system. The following were the responsibility of the Lab for 2015.

- 20 State coliform bacteriological tests/month
- 9 bacteriological tests of new construction
- 12 State split fluoride samples
- 4 Quarters of Nitrate samples
- 4 TTHM samples (disinfection byproducts)
- 4 HAA5 samples (disinfection byproducts)
- 4 raw samples/quarter (Well sites)
- 30 Investigation / 30 Compliance Lead & copper samples (corrosion control)
- Fluoride, chlorine, phosphate, Fe, Mn, Temperature and hardness sampling daily
- Lab personnel also monitored 28 random sites as a proactive program each month
- Hydrant flushing for maintenance of the mains and better water quality
- Entry point sampling twice a week (wells)
- 4 Quarterly Volatile Organic sampling
- 4 Radioactivity (grab) samples
- EMOR (Electronic Monitoring Operating Report) each month of pumping and water quality data submitted to Wisconsin DNR

Utility Locates

The City of Onalaska is required by Digger's Hotline of Wisconsin to locate all water, sanitary sewer, and storm sewer lines within the City Right-of-Way when a locate is called in for any reason. The Utility Department annually performs a few thousand locate requests.

Utility Department saw cuts asphalt pavement to access a water leak.

Utility Department works on fixing a water main leak at the intersection of Main St and 14th Avenue North.

Utility Department

Utility Billing
The Utility Department Billing Administrator is responsible for water and sewer billing for over 6,200 customers read on a quarterly basis. In addition to regular billing reads the duties also include the following:

- Coordination and billing of final water reads for residents moving in/out of properties
- Responsible for tracking and maintaining private well data for approximately 100 residents
- Tracking/billing/coordination of hydrant meter rentals distributed for commercial and residential properties
- Provide statistical monthly reports to the WI DNR
- Provide financial and statistical information to City Finance Director
- Track information regarding bankruptcies/foreclosures as they pertain to City utility billing
- Started conversion of City Utility billing software to updated version

Cross Connection Inspections
The City of Onalaska performed 656 cross connection property inspections throughout the community in 2015. All residential inspections were performed by the Utility Department. Cross connection inspections are performed to ensure that no unwanted connections are present that may allow non-potable water (potentially contaminated) to infiltrate into the potable water (drinking water) supply. Utility staff found 163 potential hazards during inspections. Cross connection inspections are mandated by the Wisconsin Department of Natural Resources on a ten-year basis to ensure the safety of the drinking water.

Meter Program
In 2015, the Utility Department performed testing on 636 water meters throughout the system. After testing, any faulty meters were serviced and or repaired. Utility staff exchanged 690 meters and installed 104 new meters for recently built structures. Water meters vary in size from 5/8" to 4".

Utility staff performs monthly readings (all meters for maintenance), quarterly readings (all meters for billing), and weekly readings for finals (move in/move out). They also provide maintenance of stopped meters and faulty meters, and setup construction and hydrant meters.

Repairs
During 2015, the Utility Department performed various repairs throughout the City's Storm, Sanitary and Water distribution systems. Throughout each construction season, aging manholes require repairs that can range from replacing worn adjusting rings to a complete remove/replacement. Utility staff also repairs and cleans water main valve box and curb box extensions.

Utility Department

Sewer Cleaning/Inspections
The Utility Department used its televising equipment to inspect sewers in various locations throughout the City. All new construction and various problem areas are inspected and televised throughout the year. Sewer jetting (cleaning) was performed on 568 sewer mains throughout the City. Additionally, eight sanitary sewer lift stations and one storm sewer lift station are cleaned three times per year. Cleaned 104,500 feet of main and each of the nine lift stations twice.

Additional Winter Duties
Additional duties during the winter months include assisting the Street Department in snow/ice removal. Typically, Utility Department personnel assist by removing snow and ice at City owned buildings and plowing the 103 cul-de-sacs located in the City of Onalaska. During 2015, the City continued to implement the use of rental wheel loaders equipped with plow blades to complete snow removal on cul-de-sacs. This has greatly improved the efficiency of cul-de-sac snow removal and helped to reduce resident complaints on this subject.

Utility Department repairs a water service leak in winter to a business on STH 35.