

11. Review and consideration of Irvin Street parking lot project costs and reimbursements to SkogenHeim, LLC
12. Review and consideration of Miscellaneous Engineering Services with Strand Associates, Inc. for 2018
13. Pay Estimates: Strand Associates, Pember Companies, Inc., L.W. Allen, La Crosse County Highway Department, Wisconsin Department of Transportation, and any other contractor/developer.
14. Adjournment

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #4

Project/Item Name: Holiday Heights reconstruction project

Location: Holiday Heights area

Requested Action: Public hearing on curb & gutter assessments

Staff Report/Description: Residents have been notified of the intent of the City of Onalaska to levy special assessments for the installation of curb & gutter within the Holiday Heights area. A public hearing will be held concerning the special assessments at the meeting. This item will then be acted upon under agenda item #5 regarding Final Resolution 1-2018.

Attachments: Preliminary Resolution 31-2017, assessment maps and assessment sheets

RESOLUTION 31 - 2017

PRELIMINARY RESOLUTION REGARDING ASSESSMENTS FOR CURB & GUTTER IN THE HOLIDAY HEIGHTS AREA ONALASKA, WISCONSIN

TO: THE HONORABLE MAYOR AND COUNCIL OF THE
CITY OF ONALASKA, WISCONSIN

RESOLVED, by the Common Council of the City of Onalaska, Wisconsin

- 1) The Common Council hereby declares its intention to exercise its police power under Section 66.0703, Wisconsin Statutes; to levy special assessments upon property within the following described area for benefits conferred upon such property by the following improvements:

Concrete Curb & Gutter,
which will be assessed on a lineal foot basis.

- 2) The property to be assessed lies within the following described assessment district:

Assessment District

The general area known as the Holiday Heights subdivision West of State Trunk Highway 16.
Including all frontages along Hoffman Place, East Young Drive, West Young Drive and Medary Lane.

- 3) The total amount assessed against the properties shall not exceed 100% of the total cost of the improvements.
- 4) The Common Council determines that the improvements constitute an exercise of the police power and the amount assessed shall be based upon the following:

Concrete curb & gutter

Assessments will be determined by the actual cost of installation of concrete curb and gutter for fronting property on a lineal foot basis with seven and one-half percent (7 ½ %) as a reasonable charge for the services administered by the City. Lots or parcels with unusual shapes or multiple frontages may be given special consideration by the Board of Public Works.

The Common Council determines the improvements constitute and exercise of the police power for the health, safety, and general welfare of the municipality and its inhabitants.

- 5) Once the amount of the special assessment for the improvement has been determined as to each parcel of real estate, a statement of all assessments will be placed on file with the City Clerk. The City proposes to collect the special assessment in equal installments, equivalent to the length of time that the bond issue is issued for these said projects, as provided for by Section 66.0715 of the Wisconsin Statutes. Interest shall be charged on said installments at the rates determined by the Common Council, uniform with other City special assessments, one percent (1%) over what the City borrows the money for. All assessments will be collected in installments as provided above except assessments on property where the owner files with the City Clerk within thirty (30) days from date of this notice a written notice

that the owner elects to pay the special assessment on the owner's property, describing the property, to the City Treasurer on or before the following November 1, unless the election is revoked. If after making the election, the property owner fails to make the payment to the City Treasurer, the City Clerk shall place the entire assessment on the following tax roll. The City Clerk shall publish a Class 1 notice under Ch. 985, Stats., pursuant to Section 66.0715, Stats.

- 6) The City Engineer is directed to prepare a report consisting of:
- a. Preliminary plans and specifications for said improvements
 - b. An estimate of the entire cost of the proposed improvements.
 - c. An estimate as to each parcel of property within the assessment district of the total assessments against each parcel affected.

Upon completing such report, the City Engineer is directed to file a copy thereof in the City Clerk's Office for public inspection.

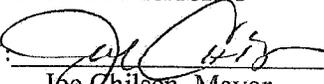
- 7) Upon receiving the report of the City Engineer, the Clerk is directed to give a Class 1 Notice of a Public Hearing before the Board of Public Works on such report as specified in Section 66.0703(7), Wisconsin Statutes, stating the nature of the proposed improvement, the general boundary lines of the proposed assessment district (including a small map thereof), the time and place at which the report may be inspected, and the time and place of the public hearing on the matters contained in the preliminary resolution and the report. The Clerk is also directed to mail a copy of the notice at least ten (10) days before the hearing to every interested party whose address is known or can be ascertained with reasonable diligence.
- 8) The hearing shall be held in the Council Chambers at Onalaska City Hall, 415 Main Street, Onalaska, Wisconsin, at a time set by the Clerk in accordance with Section 66.0703(7), Wisconsin Statutes.

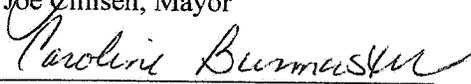
Dated this 12th day of 2017.



CITY OF ONALASKA

BY:

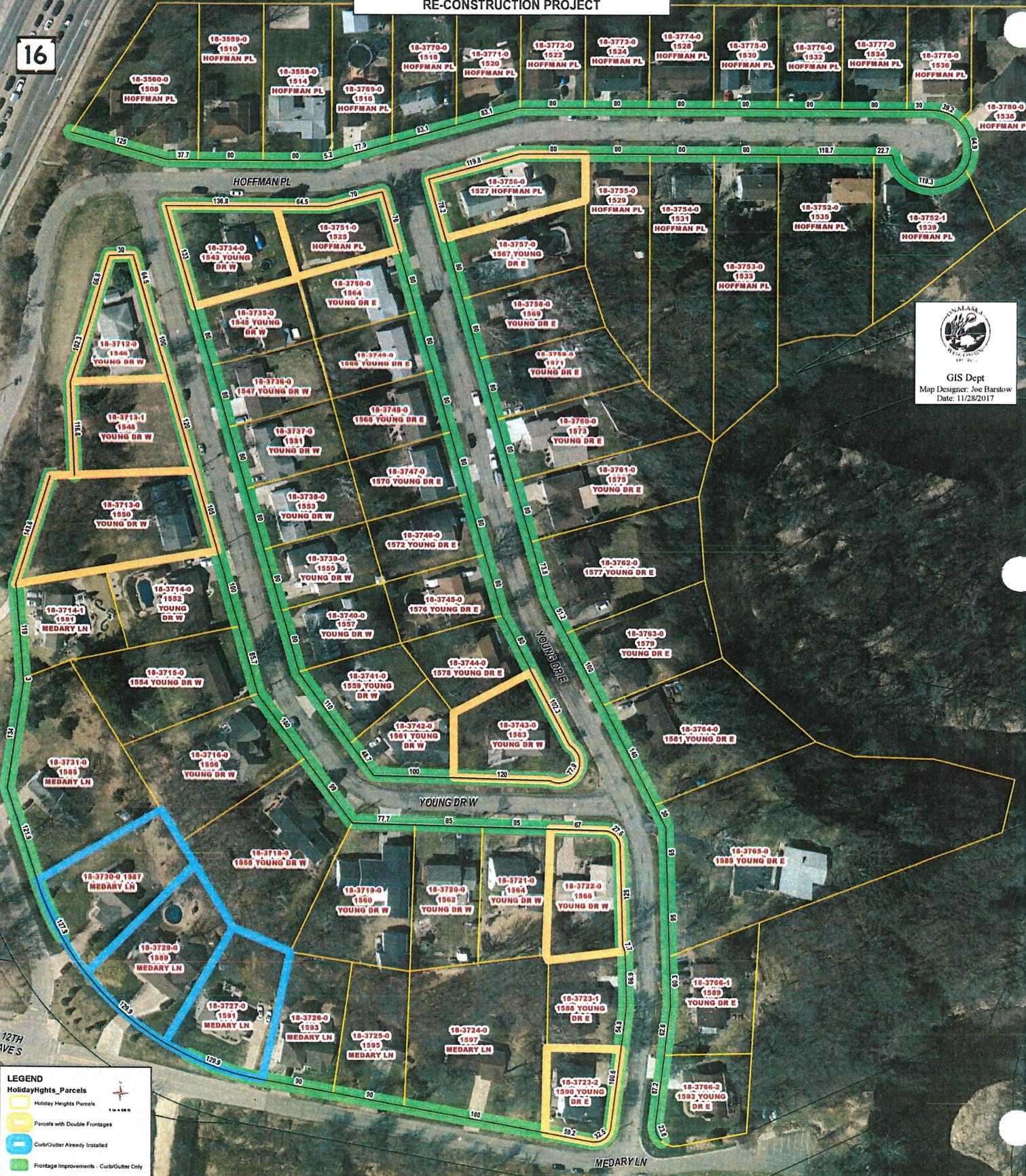

Joe Chilsen, Mayor


Caroline Burmaster, City Clerk

PASSED: 12/12/17
APPROVED: 12/12/17
PUBLISHED: 12/22/17

HOLIDAY HEIGHTS ROAD RE-CONSTRUCTION PROJECT

16



LEGEND

- Holiday Heights Parcels
- Parcels with Double Frontages
- Curb/Gutter Already Installed
- Frontage Improvements - Curb/Gutter Only



1 in = 40 ft

GIS Dept
Map Designer: Joe Barstow
Date: 01/02/2018

Right-of-Way
Purchased by
WIDOT

Area Deemed as
Un-Buildable
Parcel: 18-3731-0
1585 Medary Ln

1581

1580

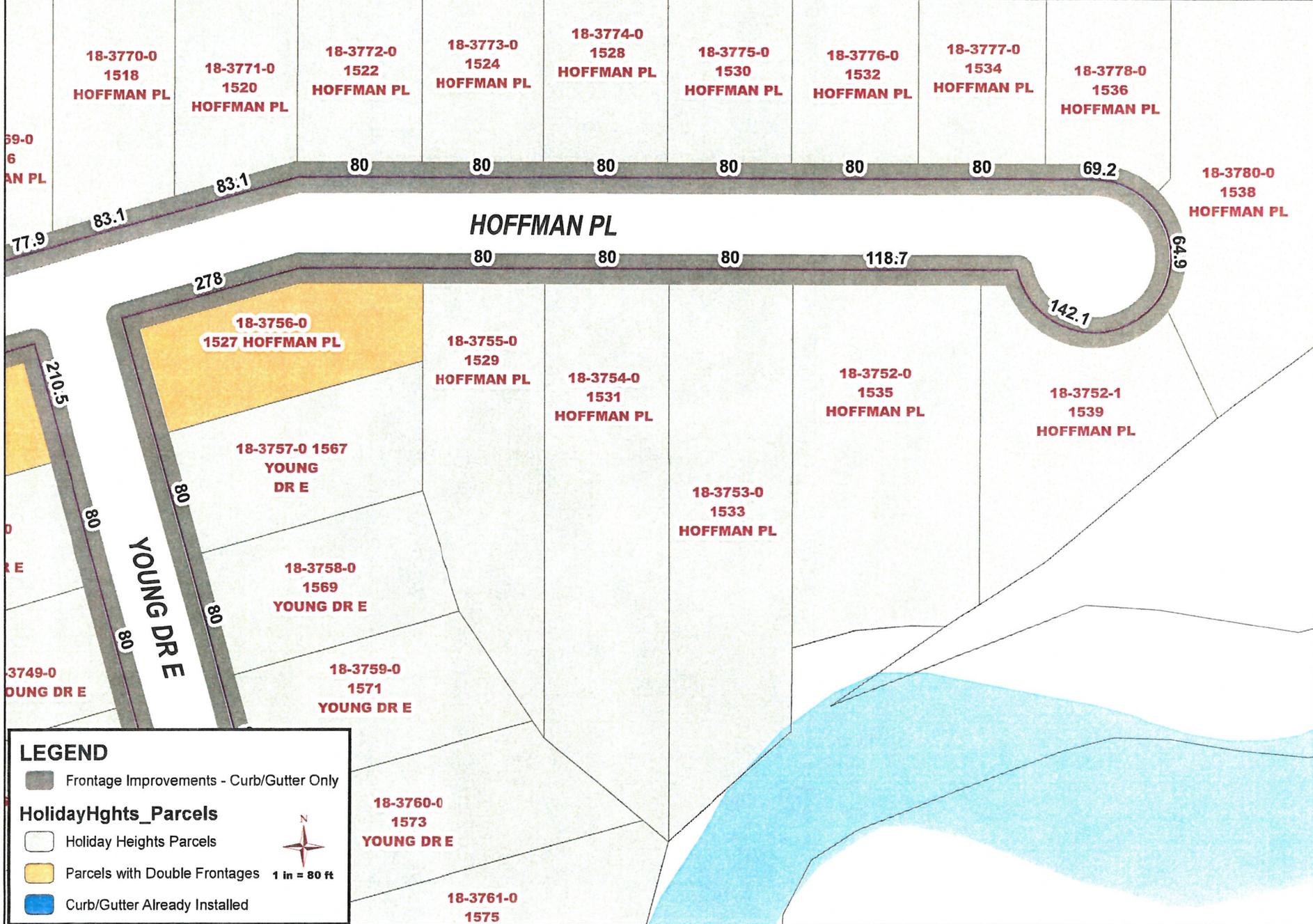
1585

MEDARY LN

This map is to be used for reference purposes only. Every effort has been made to make this map as accurate as possible.

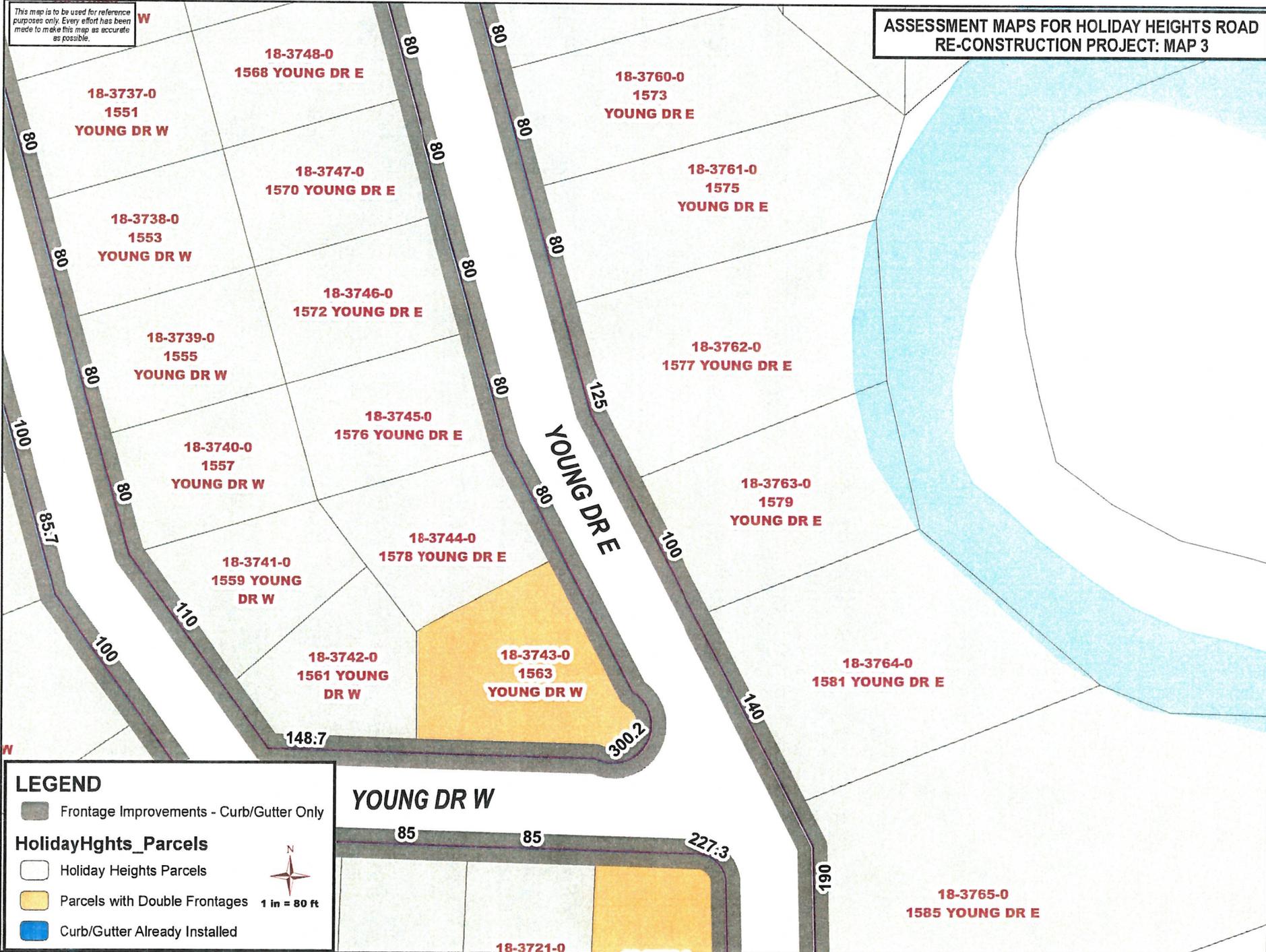
This map is to be used for reference purposes only. Every effort has been made to make this map as accurate as possible.

ASSESSMENT MAPS FOR HOLIDAY HEIGHTS ROAD RE-CONSTRUCTION PROJECT: MAP 2



This map is to be used for reference purposes only. Every effort has been made to make this map as accurate as possible.

ASSESSMENT MAPS FOR HOLIDAY HEIGHTS ROAD RE-CONSTRUCTION PROJECT: MAP 3



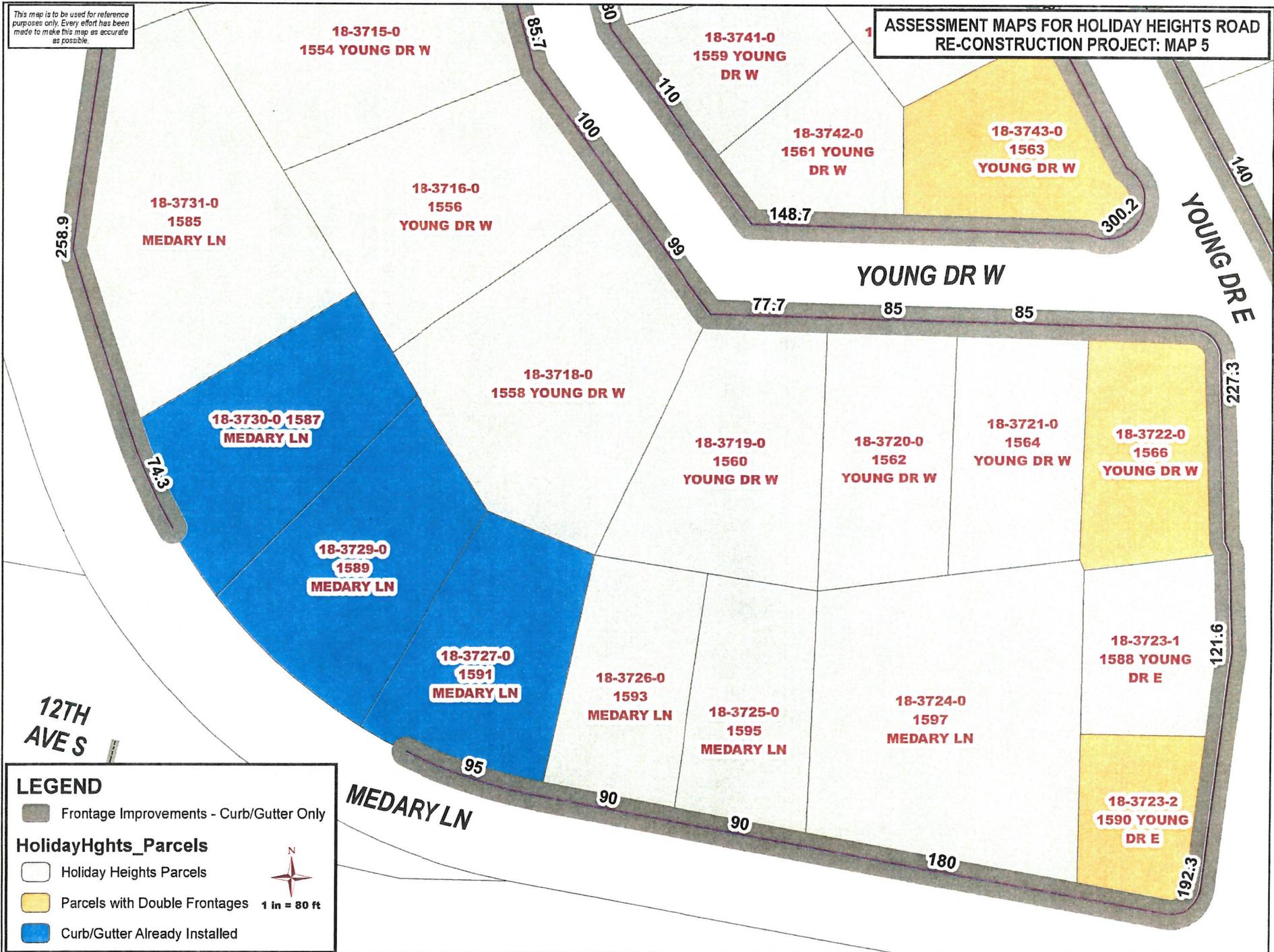
LEGEND

- Frontage Improvements - Curb/Gutter Only
- HolidayHghts_Parcels
- Parcels with Double Frontages
- Curb/Gutter Already Installed

1 in = 80 ft

This map is to be used for reference purposes only. Every effort has been made to make this map as accurate as possible.

ASSESSMENT MAPS FOR HOLIDAY HEIGHTS ROAD RE-CONSTRUCTION PROJECT: MAP 5



LEGEND

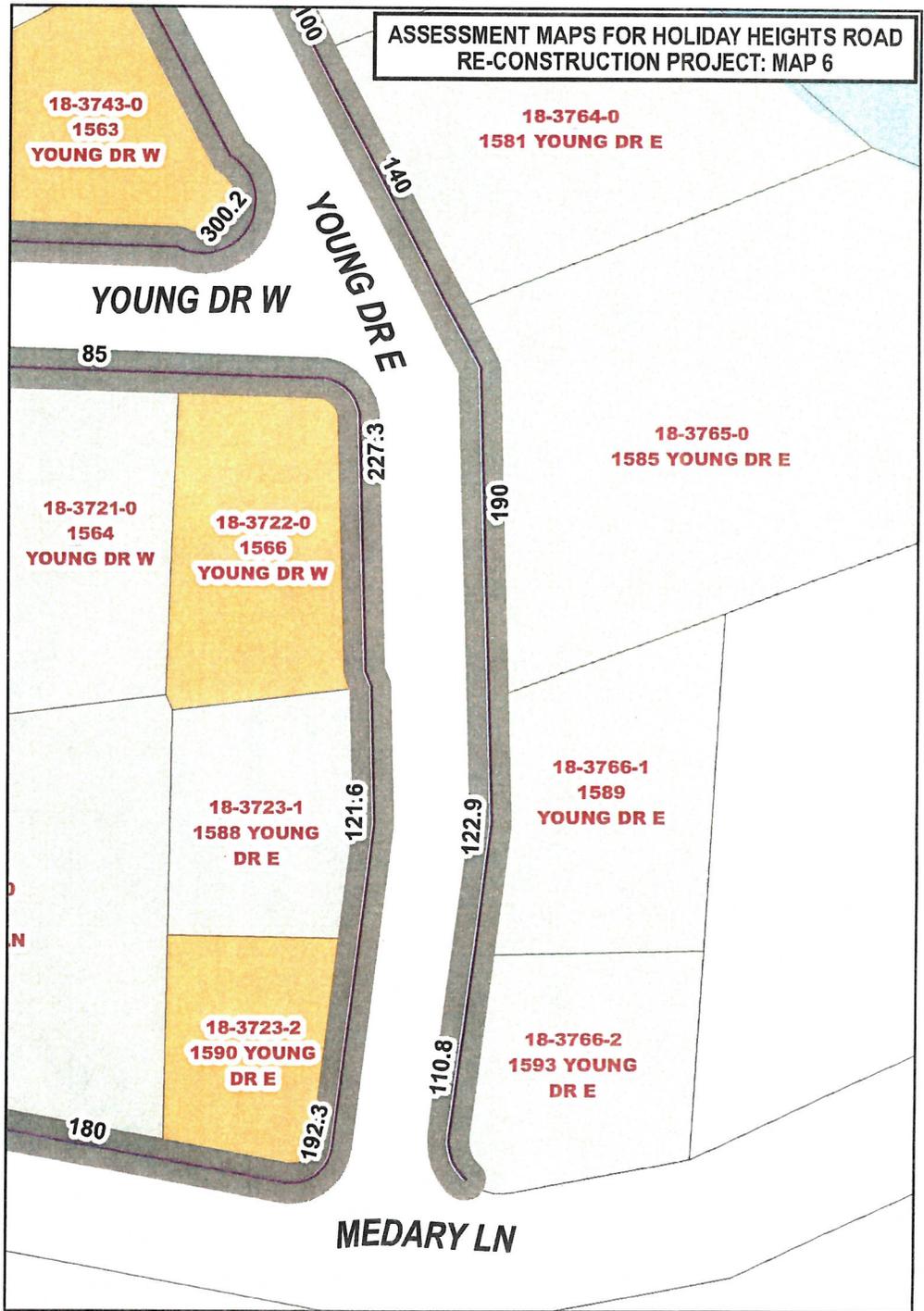
- Frontage Improvements - Curb/Gutter Only
- HolidayHghts_Parcels
- Parcels with Double Frontages
- Curb/Gutter Already Installed

1 in = 80 ft

This map is to be used for reference purposes only. Every effort has been made to make this map as accurate as possible.

LEGEND

-  Frontage Improvements - Curb/Gutter Only
- HolidayHghts_Parcels**
-  Holiday Heights Parcels
-  Parcels with Double Frontages
-  Curb/Gutter Already Installed




1 in = 80 ft

GIS Dept
Map Designer: Joe Barstow
Date: 11/27/2017

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

	Owner	Description	Number of Units	Unit Description	Cost Per Unit	SUBTOTAL	TOTAL COST TO PROPERTY
1	Samuel E Gondola 1543 West Young Drive Tax Parcel #18-3734-0 Mailing Address: 1543 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	201.4	Lineal Feet	\$11.29	\$2,273.81	
						TOTAL =	\$2,273.81
2	Jason G McCauley 1545 West Young Drive Tax Parcel #18-3735-0 Mailing Address: 1545 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
						TOTAL =	\$903.20
3	Steven F Zanter 1547 West Young Drive Tax Parcel #18-3736-0 Mailing Address: 1547 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
						TOTAL =	\$903.20
4	Mark R Brockberg 1551 West Young Drive Tax Parcel #18-3737-0 Mailing Address: 1551 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
						TOTAL =	\$903.20
5	Theodore A Wantoch Jr. 1553 West Young Drive Tax Parcel #18-3738-0 Mailing Address: 1553 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
						TOTAL =	\$903.20

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

6	Donald A Aspseter 1555 West Young Drive Tax Parcel #18-3739-0 Mailing Address: 1555 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
7	Thomas B Gilbertson 1557 West Young Drive Tax Parcel #18-3740-0 Mailing Address: 1557 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
8	Spencer R Funk 1559 West Young Drive Tax Parcel #18-3741-0 Mailing Address: 1559 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	110.0	Lineal Feet	\$11.29	\$1,241.90	
							TOTAL = \$1,241.90
9	Benjamin T Wizner 1561 West Young Drive Tax Parcel #18-3742-0 Mailing Address: 1561 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	148.7	Lineal Feet	\$11.29	\$1,678.82	
							TOTAL = \$1,678.82
10	Gerard R Cody 1563 West Young Drive Tax Parcel #18-3743-0 Mailing Address: 1563 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	229.6	Lineal Feet	\$11.29	\$2,592.18	
							TOTAL = \$2,592.18

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

11	Jerome Frigo 1578 East Young Drive Tax Parcel #18-3744-0 Mailing Address: 1578 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
12	Gary D Arenz 1576 East Young Drive Tax Parcel #18-3745-0 Mailing Address: 1576 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
13	John K Olson 1572 East Young Drive Tax Parcel #18-3746-0 Mailing Address: 1572 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
14	Kevin P Obrien 1570 East Young Drive Tax Parcel #18-3747-0 Mailing Address: 1570 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
15	Nicholas D Fell 1568 East Young Drive Tax Parcel #18-3748-0 Mailing Address: 1568 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

16	R&A Leibold Living Trust 1566 East Young Drive Tax Parcel #18-3749-0 Mailing Address: 1566 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
17	Melinda J Whitacre 1564 East Young Drive Tax Parcel #18-3750-0 Mailing Address: 1564 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
18	Sharrie J Lemke 1525 Hoffman Place Tax Parcel #18-3751-0 Mailing Address: 370 Lemke Road La Crescent, MN 55947	30" Curb & gutter	172.5	Lineal Feet	\$11.29	\$1,947.53		
							TOTAL =	\$1,947.53
19	Joan T Ekberg 1535 Hoffman Place Tax Parcel #18-3752-0 Mailing Address: 1535 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	118.7	Lineal Feet	\$11.29	\$1,340.12		
							TOTAL =	\$1,340.12
20	Jack F Moser 1539 Hoffman Place Tax Parcel #18-3752-1 Mailing Address: 1539 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	142.1	Lineal Feet	\$11.29	\$1,604.31		
							TOTAL =	\$1,604.31

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

21	Susan L Lewis 1533 Hoffman Place Tax Parcel #18-3753-0 Mailing Address: 1533 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
22	Leta L Johnson 1531 Hoffman Place Tax Parcel #18-3754-0 Mailing Address: 1531 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
23	Micah R Averbeck 1529 Hoffman Place Tax Parcel #18-3755-0 Mailing Address: 1529 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
24	Terry R Buege 1527 Hoffman Place Tax Parcel #18-3756-0 Mailing Address: 1527 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	238.9	Lineal Feet	\$11.29	\$2,697.18		
							TOTAL =	\$2,697.18
25	Rodger Mattson 1567 East Young Drive Tax Parcel #18-3757-0 Mailing Address: 1567 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

26	David J Hanson 1569 East Young Drive Tax Parcel #18-3758-0 Mailing Address: 1569 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
27	Anthony G Christoph 1571 East Young Drive Tax Parcel #18-3759-0 Mailing Address: 1571 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
28	Jamie R Eide 1573 East Young Drive Tax Parcel #18-3760-0 Mailing Address: 1573 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
29	Donna M Proudfit 1575 East Young Drive Tax Parcel #18-3761-0 Mailing Address: 1575 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20		
							TOTAL =	\$903.20
30	Marilyn J Hemker 1577 East Young Drive Tax Parcel #18-3762-0 Mailing Address: 1577 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	125.0	Lineal Feet	\$11.29	\$1,411.25		
							TOTAL =	\$1,411.25

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

31	Bryce A Richardson 1579 East Young Drive Tax Parcel #18-3763-0 Mailing Address: 1579 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	100.0	Lineal Feet	\$11.29	\$1,129.00	
							TOTAL = \$1,129.00
32	Joyce G Beilke 1581 East Young Drive Tax Parcel #18-3764-0 Mailing Address: 1581 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	140.0	Lineal Feet	\$11.29	\$1,580.60	
							TOTAL = \$1,580.60
33	Eric A Hayes 1585 East Young Drive Tax Parcel #18-3765-0 Mailing Address: 1585 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	190.0	Lineal Feet	\$11.29	\$2,145.10	
							TOTAL = \$2,145.10
34	Robert A Cree 1589 East Young Drive Tax Parcel #18-3766-1 Mailing Address: 1589 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	122.9	Lineal Feet	\$11.29	\$1,387.54	
							TOTAL = \$1,387.54
35	Patrick Lamke 1593 East Young Drive Tax Parcel #18-3766-2 Mailing Address: 1593 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	110.8	Lineal Feet	\$11.29	\$1,250.93	
							TOTAL = \$1,250.93

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

36	Katrina A Allen 1516 Hoffman Place Tax Parcel #18-3769-0 Mailing Address: 1516 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	77.9	Lineal Feet	\$11.29	\$879.49	TOTAL =	\$879.49
37	Lindsey M Schams 1518 Hoffman Place Tax Parcel #18-3770-0 Mailing Address: 1518 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	83.1	Lineal Feet	\$11.29	\$938.20	TOTAL =	\$938.20
38	David K Bakalars 1520 Hoffman Place Tax Parcel #18-3771-0 Mailing Address: 1520 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	83.1	Lineal Feet	\$11.29	\$938.20	TOTAL =	\$938.20
39	Jeremy L Eide 1522 Hoffman Place Tax Parcel #18-3772-0 Mailing Address: 1522 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	TOTAL =	\$903.20
40	Charles D Matthews 1524 Hoffman Place Tax Parcel #18-3773-0 Mailing Address: 1524 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	TOTAL =	\$903.20

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

41	Daniel R Kaczorowski 1528 Hoffman Place Tax Parcel #18-3774-0 Mailing Address: 1528 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
42	Nicholas A Devault 1530 Hoffman Place Tax Parcel #18-3775-0 Mailing Address: 1530 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
43	James R Fischer 1532 Hoffman Place Tax Parcel #18-3776-0 Mailing Address: 1532 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
44	Mary L Anderson 1534 Hoffman Place Tax Parcel #18-3777-0 Mailing Address: 1534 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
45	Kevin J Ruh 1536 Hoffman Place Tax Parcel #18-3778-0 Mailing Address: 1536 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	69.2	Lineal Feet	\$11.29	\$781.27	
							TOTAL = \$781.27

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

46	Dorothy E Erickson 1538 Hoffman Place Tax Parcel #18-3780-0 Mailing Address: 1538 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	64.9	Lineal Feet	\$11.29	\$732.72	
							TOTAL = \$732.72
47	Jeremiah J Schultz 1514 Hoffman Place Tax Parcel #18-3558-0 Mailing Address: 1514 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	85.2	Lineal Feet	\$11.29	\$961.91	
							TOTAL = \$961.91
48	Nicholas D Eastman 1510 Hoffman Place Tax Parcel #18-3559-0 Mailing Address: 1510 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	80.0	Lineal Feet	\$11.29	\$903.20	
							TOTAL = \$903.20
49	Mary L Sciborski 1508 Hoffman Place Tax Parcel #18-3560-0 Mailing Address: 1508 Hoffman Place Onalaska, WI. 54650	30" Curb & gutter	162.7	Lineal Feet	\$11.29	\$1,836.88	
							TOTAL = \$1,836.88
50	Mary Ann Luckerth 1546 West Young Drive Tax Parcel #18-3712-0 Mailing Address: 1546 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	179.5	Lineal Feet	\$11.29	\$2,026.56	
							TOTAL = \$2,026.56

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

51	Jeffrey M Williams 1550 West Young Drive Tax Parcel #18-3713-0 Mailing Address: 1550 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	105.0	Lineal Feet	\$11.29	\$1,185.45	
						TOTAL =	\$1,185.45
52	Patrick Lamke 1548 West Young Drive Tax Parcel #18-3713-1 Mailing Address: 1593 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	120.0	Lineal Feet	\$11.29	\$1,354.80	
						TOTAL =	\$1,354.80
53	Robert L Powell 1552 West Young Drive Tax Parcel #18-3714-0 Mailing Address: 1552 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	100.0	Lineal Feet	\$11.29	\$1,129.00	
						TOTAL =	\$1,129.00
54	William A Paisley 1581 Medary Lane Tax Parcel #18-3714-1 Mailing Address: 1581 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	119.0	Lineal Feet	\$11.29	\$1,343.51	
						TOTAL =	\$1,343.51
55	Richard J Poellinger 1554 West Young Drive Tax Parcel #18-3715-0 Mailing Address: 1554 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	85.7	Lineal Feet	\$11.29	\$967.55	
						TOTAL =	\$967.55

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

56	James G Sires 1556 West Young Drive Tax Parcel #18-3716-0 Mailing Address: 1556 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	100.0	Lineal Feet	\$11.29	\$1,129.00		
							TOTAL =	\$1,129.00
57	Belinda R Weinberg 1558 West Young Drive Tax Parcel #18-3718-0 Mailing Address: 1558 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	99.0	Lineal Feet	\$11.29	\$1,117.71		
							TOTAL =	\$1,117.71
58	Daniel C Kahler 1560 West Young Drive Tax Parcel #18-3719-0 Mailing Address: 1560 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	77.7	Lineal Feet	\$11.29	\$877.23		
							TOTAL =	\$877.23
59	Timothy R Kelemen 1562 West Young Drive Tax Parcel #18-3720-0 Mailing Address: 1562 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	85.0	Lineal Feet	\$11.29	\$959.65		
							TOTAL =	\$959.65
60	David Frey 1564 West Young Drive Tax Parcel #18-3721-0 Mailing Address: 1564 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	85.0	Lineal Feet	\$11.29	\$959.65		
							TOTAL =	\$959.65

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

61	Bruce A Warhanik 1566 West Young Drive Tax Parcel #18-3722-0 Mailing Address: 1566 West Young Drive Onalaska, WI. 54650	30" Curb & gutter	154.1	Lineal Feet	\$11.29	\$1,739.79
						TOTAL = \$1,739.79
62	Sharon M Kemp 1588 East Young Drive Tax Parcel #18-3723-1 Mailing Address: 1588 East Young Drive Onalaska, WI. 54650	30" Curb & gutter	121.6	Lineal Feet	\$11.29	\$1,372.86
						TOTAL = \$1,372.86
63	Susanne L Hayes 1590 East Young Drive Tax Parcel #18-3723-2 Mailing Address: 1590 East Young Drive Onalaska, WI. 54650	0.7	192.3	Lineal Feet	\$11.29	\$2,171.07
						TOTAL = \$2,171.07
64	Diane J Goodlund 1597 Medary Lane Tax Parcel #18-3724-0 Mailing Address: 1597 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	180.0	Lineal Feet	\$11.29	\$2,032.20
						TOTAL = \$2,032.20
65	Charles Bushek 1595 Medary Lane Tax Parcel #18-3725-0 Mailing Address: 1595 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	90.0	Lineal Feet	\$11.29	\$1,016.10
						TOTAL = \$1,016.10

Preliminary Assessments for Holiday Heights Reconstruction Project

Assessments for the construction of curb and gutter along Hoffman Place, West Young Drive, East Young Drive and Medary Lane

Updated 12-6-2017

66	James F Lamke 1593 Medary Lane Tax Parcel #18-3726-0 Mailing Address: 1593 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	90.0	Lineal Feet	\$11.29	\$1,016.10		
							TOTAL =	\$1,016.10
67	Lisa M Volden 1591 Medary Lane Tax Parcel #18-3727-0 Mailing Address: 1591 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	95.0	Lineal Feet	\$11.29	\$1,072.55		
							TOTAL =	\$1,072.55
68	Ryan E Stair 1587 Medary Lane Tax Parcel #18-3730-0 Mailing Address: 1587 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	74.3	Lineal Feet	\$11.29	\$838.85		
							TOTAL =	\$838.85
69	James Burchell 1585 Medary Lane Tax Parcel #18-3731-0 Mailing Address: 1585 Medary Lane Onalaska, WI. 54650	30" Curb & gutter	258.9	Lineal Feet	\$11.29	\$2,922.98		
							TOTAL =	\$2,922.98

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #5

Project/Item Name: Holiday Heights reconstruction project

Location: Holiday Heights area

Requested Action: Action on Final Resolution 1-2018

Staff Report/Description: Final Resolution 1-2018 if passed would move forward the installation of curb & gutter within the Holiday Heights neighborhood. City staff are recommending the installation of the curb & gutter to assist with drainage of the roadway surface.

Attachments: Final Resolution 1-2018

RESOLUTION 1 - 2018

FINAL RESOLUTION REGARDING ASSESSMENTS FOR CURB & GUTTER IMPROVEMENTS IN THE HOLIDAY HEIGHTS AREA IN THE CITY OF ONALASKA

WHEREAS, the Board of Public Works of the City of Onalaska, Wisconsin held a Public hearing at City Hall in the City of Onalaska at 6:30 PM on the 2ND day of January, 2018 for the purpose of hearing all interested persons concerning the Preliminary Resolution and Report of the City Engineer on the proposed improvement listed below and preliminary assessments against benefitted properties and heard all persons who desired to speak at the hearing with respect to the following improvements (collectively, the “Public improvements”):

Curb & Gutter Improvements in the general area known as the Holiday Heights subdivision West of State Trunk Highway 16, including all frontages along Hoffman Place, East Young Drive, West Young Drive and Medary Lane

AND WHEREAS, the Board of Public Works has heard all persons desiring audience at such hearing.

NOW, THEREFORE BE IT RESOLVED, by the Common Council of the City of Onalaska as follows:

- 1) That the Report of the City Engineer and the Board of Public Works pertaining to the construction of the Public Improvements (the “Project”), including plans, specifications and proposed assessments set forth therein, as modified, is hereby adopted and approved.
- 2) That the Board of Public Works is directed to advertise for bids and to supervise the construction of the Public Improvement in accordance with the report hereby adopted.
- 3) That payment for Public Improvements be made by assessing the cost of the Project to the property benefitted as indicated in said report pursuant to a lineal foot basis with seven and one-half percent (7.5%) as a reasonable charge for the services of the administrative staff of the City.
- 4) That benefits and damages shown on the Report as modified represent an exercise of the police power, are true and correct, and have been determined on a reasonable basis and are hereby confirmed.
- 5) That the assessments for all projects included in said Report are hereby combined as a single assessment, but any interested property owner shall be entitled to object to each assessment separately or all assessments jointly for any purpose.
- 6) Assessments shall be due within 45 days of billing date. Assessments may be paid in cash or in equal installments, equivalent to the length of time of any bond issue that is issued for this Project, together with interest at the rate determined by the Common Council, uniform with

other City special assessments, normally one percent (1%) over what the City borrows the money for.

7) The City Clerk is directed to publish this Final Resolution as a Class 1 Notice under Chapter 985, in the Coulee Courier and to mail a copy of this Resolution and a statement of the final assessment against each benefitted property owner; together with a notice of the installment payment privilege, to every property owner whose name appears on the assessment roll, whose post office address is known or can be ascertained with reasonable diligence.

Dated this day of , 2017.

CITY OF ONALASKA

By: _____
Name: Joe Chilsen
Title: Mayor

By: _____
Name: Caroline Burmaster
Title: City Clerk

PASSED:
APPROVED:
PUBLISHED:

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #6

Project/Item Name: East Main Street speed & vehicle study

Location: East Main Street

Requested Action: Approval of study

Staff Report/Description: Residents along East Main Street between Theater Road and STH 16 have voiced concerns over the current posted speed limit and the amount of trucks using the route. City staff has secured a proposal from SEH to perform a speed study and vehicle count. From the speed study and vehicle counts a recommendation will be given for any possible action in regards to the posted speed limit and vehicle usage.

Attachments: Proposal of services from SEH



Building a Better World
for All of Us®

December 22, 2017

RE: City of Onalaska
E. Main Street Traffic Study
SEH No. P-ONALA 14.00

Jarrod Holter, PE
City Engineer/Director of Public Works
Engineering Department
415 Main Street
Onalaska, WI 54650

Dear Mr. Holter

Short Elliott Hendrickson Inc. (SEH®) is pleased to respond to your request for a proposal to conduct a traffic study on E. Main Street. The limits of the study are between Theater Road and STH 16. SEH will provide a review of the current truck route on E. Main Street and provide recommendations on the continued use of the route. SEH also proposes to gather speed and traffic data at 2 locations. The first location is between Theater Road and Midwest Drive, and the second location is between Midwest Drive and STH 16. In addition to collecting speed and traffic data, we will also include a review of the crashes on the roadway segment using the past 5 years of crash data. The data and a summary of the findings will be included in a technical memorandum.

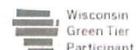
SCOPE OF WORK

SEH proposes the following Scope of Work for the project. All of this work will be summarized in one (1) technical memorandum:

- **Speed Study:** A minimum of 100 field measured speed readings in each direction of travel for a total of 200 to 215 total vehicle speed readings per location, utilizing a Kustom HR-12 laser gun. If 100 samples per direction are not collected within 1.5 hours, data collection will be stopped and SEH will request in writing to use the amount of samples collected within the 1.5 hour period. The speed study data collection is proposed to begin after January 8, 2018 in order to avoid any influences caused by changes in traffic patterns during the holidays. Field data collection can begin January 16th or within two weeks of notice to proceed, whichever date is later. Speed study data will be presented in the technical memorandum containing a brief narrative, site photographs, and WisDOT "Spot Speed Field Study" data sheets. Spot speed locations will be indicated on a project overview map attached to the technical memorandum.
- **Crash Analysis:** A crash analysis will be conducted to evaluate any potential safety concerns related to speed along the corridor. The crash analysis will evaluate the last five years of crashes along each segment of roadway. A table showing crash rates and a summary of the findings will be included in the technical memorandum.

Engineers | Architects | Planners | Scientists

Short Elliott Hendrickson Inc., 329 Jay Street, Suite 301, La Crosse, WI 54601-4034
SEH is 100% employee-owned | sehinc.com | 608.782.3161 | 888.908.8166 fax



- **Traffic Counts:** Hose counters will be placed at two locations along the study corridor. 48-hour class counts will be collected and analyzed. Average annual daily traffic (AADT) data will be included in the data set. A summary of the traffic data will be provided in the technical memorandum.
- **Truck Route Analysis:** The City's current truck route map will be reviewed. The technical memo will include a review of the existing truck route on E. Main Street and will provide a recommendation on whether or not the route should remain.

Proposed Schedule

- SEH will submit the technical memorandum and associated data within three weeks after the field data collection activities are complete. One electronic copy of said technical memorandum and supporting data will be provided.

Jeremy Tomesh, PE will serve as our team's Project Manager. Jeremy has 17 years of experience, including project management responsibilities, on numerous complex highway and bridge transportation projects, and also municipal public infrastructure projects. Located close to the project in SEH's La Crosse office, Jeremy will serve as your primary contact for the project and will be responsible for the project's overall success. He will proactively manage project administration, communications, schedule, and budget. Jeremy's current and recent work includes:

- **Theater Road & PH, Riders Club Road & East Ave. N Intersection Control Evaluation – City of Onalaska**
Project Manager for the design of the pavement replacement projects on Riders Club Road, Braund and PH. This project included two intersection control evaluations which involved data collection, review of safety data, traffic modeling, and preliminary design of intersection alternatives.
- **CTH FA Speed Study – La Crosse County Highway Department.**
Project Manager for the speed study located in the Town of Medary. Jeremy coordinated on-site data collection, report writing and review.
- **CTH HD Speed Study – La Crosse County; Village of Holmen, Wis.**
Project Manager for the speed study located in the Village of Holmen. Jeremy coordinated on-site data collection, report writing and review.

Josh Woller, PE will serve as our traffic engineer and prepare the technical memorandum for the project. Josh is a Professional Engineer with eleven years of experience specializing in traffic signal design and traffic analysis. Josh has a variety of experience in traffic engineering, including traffic signal design, signal investigation studies, traffic impact analyses, corridor modeling using Synchro/SimTraffic, speed studies, and data collection. He has worked with multiple governmental agencies including city, county, and state agencies. Josh's relevant experience includes:

- **Theater Road & PH, Riders Club Road & East Ave. N Intersection Control Evaluation – City of Onalaska**
Traffic engineer for the design of the pavement replacement projects on Riders Club Road, Braund and PH. Josh completed two intersection control evaluations which involved data collection, review of safety data, traffic modeling, and preliminary design of intersection alternatives.
- **Coulee Region Transportation Study, Planning and Environmental Linkages**
Traffic engineer responsible for the data collection and traffic modeling for this ambitious region wide planning and environmental linkages project. A crash analysis was performed that included all recordable crashes within the region over a five year period. The analysis also included identifying

intersections with crash issues. The project included reviewing traffic forecasts for 18 different alternatives and creating turning movement forecasts from that data. The forecasted data was then entered into Synchro/SimTraffic models to determine the operational improvements each alternative provided. Final deliverables included technical memos that summarized the impacts and benefits of each alternative.

- **CTH FA Speed Study – La Crosse County Highway Department.**
Traffic Engineer responsible for conducting a speed study at two locations within the Town of Medary. Josh reviewed the field data, performed the crash analysis, and prepared the final report with findings and recommendations.
- **CTH HD Speed Study – La Crosse County; Village of Holmen, Wis.**
Traffic Engineer responsible for conducting a speed study at two locations within the Village of Holmen. Josh reviewed the field data, performed the crash analysis, and prepared the final report with findings and recommendations.

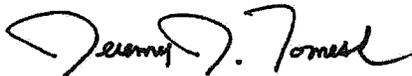
COST

SEH proposes to conduct the requested speed study, crash review, traffic count, and truck route memorandum on E. Main Street at two (2) locations for an actual cost, not-to-exceed amount of **\$3,900.00**.

We look forward to working with the City of Onalaska on this project. If you have any questions regarding our proposal, please do not hesitate to contact me at 608.498.4947 or jtomesh@sehinc.com.

Sincerely,

SHORT ELLIOTT HENDRICKSON INC.



Jeremy J. Tomesh, PE
Project Manager

JJT

Attachment.

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #7

Project/Item Name: Street light painting

Location: Main Street and 2nd Avenue

Requested Action: Approval of painting

Staff Report/Description: Quotes have been secured for the painting of street lights along Main Street and 2nd Avenue. Current street lights are showing signs of rust and deterioration which will be remedied with the street light painting project.

Attachments: Memo and proposals



MEMORANDUM

PUBLIC WORKS DEPARTMENT

TO: Board of Public Works

FROM: Jarrod Holter, City Engineer/Director of Public Works *yh*

DATE: December 14, 2017

CC:

RE: 2018 street light pole painting

Two quotes were received for the 2018 street light pole painting along Main Street and 2nd Avenue. The following prices were received:

- Davies Water painting \$350 / each
- Fairway Painting & Sandblasing painting \$525 / each

With the two quotes received I would recommend awarding the quote to Davies Water for the 2018 street light painting work at the above quoted price each pole painted. It is anticipated that 77 poles will be painted at a cost of \$26,950. This work is funded within the 2017 Capital Improvements budget.

DAVIES WATER

A division of



RE: Leak 5/31/17

Light pole Proposal. Onalaska , WI 2018

ATTN: John Wiatt

Dear John,

Below is the information you requested. Please let me know if you need any further information.

Note all access points must be clearly marked.

Scope of Work

- 
1. Sand blast bottom 5' of light pole prime with Zink primer.
 2. Hand prep light pole upper and prim entire pole with Devran 224 epoxy primer.
 3. Top coat entire pole with Devoe 379 UVA urethane.
 4. Cost \$ 350.00 each

1. Sandblast bumpers and beam to remove all yellow paint and rust.
2. Put rust killing pre prime on bumper near floor.
3. Coat with Zink primer.
4. Coat with Devran 224 epoxy.
5. Top coat with Devoe 379 UVA urethane.
6. Cost per set of 4 bumpers and beam 6 in total. \$ 450.00 each set.

Sincerely,

John Paalman
Division Manager
(920) 740-3131 - Cell

Fairway Painting & Sandblasting, Inc.

115 Union Street
Holmen, WI 54636

Quote

Date	Quote #
10/13/2017	1091

Name / Address
City of Onalaska 415 Main St. Onalaska, WI 54650

Description	Qty	Cost	Total
Light Poles Hwy 35 & Main St Onalaska 25 Light Poles with 2 10ft Blinking Lights and 52 Light Poles on Hwy 35 Power Tool Clean to Remove Rust and Loose Paint Spot Prime as Needed with Sherwin Williams Macropoxy 646 Apply 2 Coats Sherwin Williams High Solids Polyurethane Black Price is Good for Spring 2018	77	525.00	40,425.00

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #8

Project/Item Name: Urban forestry inventory

Location: Citywide

Requested Action: Discussion on Urban forestry inventory

Staff Report/Description: 2017 was the culmination of a three year update to the urban forestry inventory. Since the last update the removal of the Ash trees along with replanting of new replacement trees has been accomplished.

Attachments: 2017 urban forestry inventory update sheet



CITY OF ONALASKA

PLANNING/ZONING DEPARTMENT

PH: (608) 781-9590

FAX (608) 781-9506

415 MAIN STREET

ONALASKA, WI 54650-2953

<http://www.cityofonalaska.com>

Overall Analysis of Onalaska's 2015-2017 Urban Forestry Inventory of Public Trees

Important Points of the Urban Forestry Inventory of Public Trees Update:

- Inventory includes a total of 6,293 trees and 44 stumps.
 - 4,511 trees on City Boulevards,
 - 1,412 trees in City Parks, and
 - 414 trees in the City Cemetery.
- The top six (6) genus are: Maple, Linden, Oak, Pine, Elm, and Hackberry.
- The average tree diameter at breast height (DBH) is 8.71", indicating a young forest.

The last full Urban Forestry Inventory of Public Trees was completed in 2009 and noted 6,907 public trees in the City. Of those, 1,815 trees were black, white, or green ash, comprising 26 percent of the urban forest. From 2015-2017, City Staff removed all but 171 ash trees in City boulevards and parks (90% removal rate). The City has made an intensive effort to "re-tree" the City planting from 2014-2017 and installed 1,563 trees in boulevards, parks, and the City Cemetery which replaced 95% of the ash trees that were removed.

Tree Inventory Background. In winter 2015, 2016, and fall 2017 Bluestem Forestry Consulting, Inc. conducted street, park, and City Cemetery tree inventory updates for the City of Onalaska. All trees along the street right-of-ways and in parks within the City Center were inventoried not including wooded, natural, and undeveloped areas. The following data was collected: address, location, genus/species, common name, diameter at breast height, condition rating, clearance, obstruction, defects, maintenance activity, and priority rating, and comments. In addition, all trees received a GPS coordinate and a unique identification number.

Diversity. Fifty-six different species were inventoried within the City of Onalaska. This is a diverse number of species; however, 32.3% of the total population is in the maple genus. Ideally, the forest should be comprised of not more than 10% of any one species and 20% of any one genus. In Onalaska, Norway maple is the most heavily represented with 846 trees or 13.4% of the population. Limited species distribution may result in a population crash if an insect or disease were to attack any one particular species – which is what occurred most recently with Ash trees in Onalaska.

Tree Condition. Inventoried trees were classified as excellent, good, fair, poor, very poor and dead. Ideally, no street or park tree should be in a condition of less than fair and 329 trees (5.2%) are considered poor condition. City staff will continue to monitor these trees for future removals as needed. In winter 2017, the City's Department of Public Works and Parks & Recreation Department are removing all trees considered "very poor" and "dead", totaling 275 trees (4.3%). Most of the trees identified for removal have safety issues such as trunk cavity, trunk decay or major dieback. It is important to recognize that trees have a finite life span and they will eventually die. Onalaska's primary forestry goal is to provide a safe urban forest. To ensure a safe forest for residents and visitors it is necessary to remove trees when warranted.

While Onalaska does have tree removal needs, 31.6% of the population is in excellent condition, 31.9% is in good condition and 31% of the population is in fair condition. Overall, 94.5% of the population is in one of these three categories. This is a great overall condition percentage and is attributed to the relatively young age of Onalaska's forest. As these trees age and grow, maintenance needs will increase resulting in increased costs. As a result of rapid growth in the last two decades, the average tree diameter is 8.71", indicating a young and immature forest. Younger trees do not experience as many defects or problems that are more commonly associated with older, mature trees.

CITY OF ONALASKA - PLANNING / ZONING DEPARTMENT

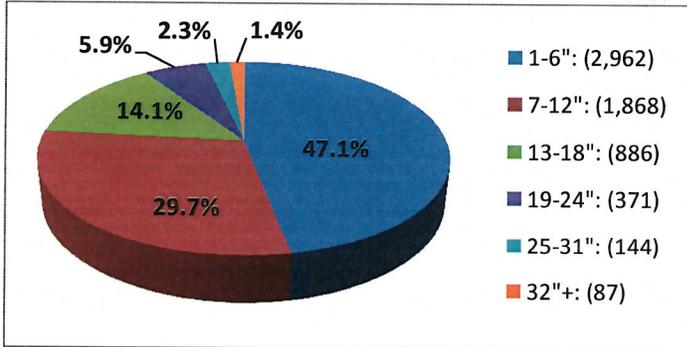
The following graphs provide a visual interpretation of the inventory results:

Top Ten Species Summary Tables.

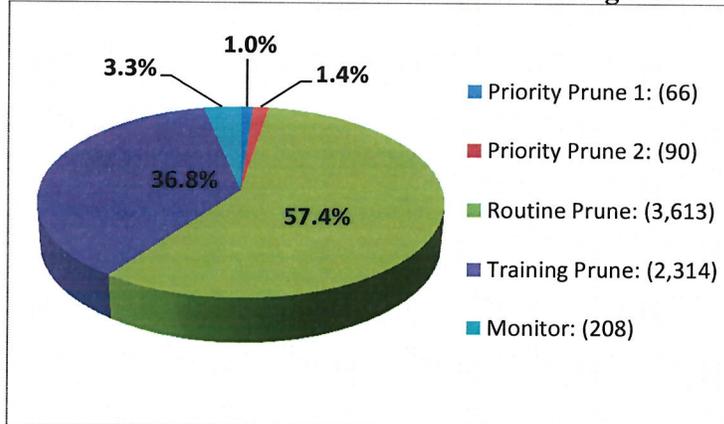
Boulevard Trees: Common Name	Tree Count	Percent of Population
<i>Norway Maple</i>	794	17.7%
Linden: (American & Littleleaf)	494	11.0%
<i>Autumn Blaze Maple</i>	377	8.4%
Honeylocust	345	7.7%
Elm: (American & Siberian)	322	7.2%
Hackberry	307	6.8%
Oak: (Multiple Species)	261	5.8%
<i>Red Maple</i>	219	4.9%
<i>Silver Maple</i>	192	4.3%
Crabapple	166	3.7%

Parks Trees: Common Name	Tree Count	Percent of Population
Red Pine	318	22.9%
Oak: (Multiple Species)	271	19.5%
Spruce: (Multiple Species)	147	10.6%
Hackberry	89	6.4%
Ash: (Green, Black, White)	77	5.5%
Elm: (American & Siberian)	74	5.3%
Silver Maple	53	3.8%
White Pine	52	3.7%
Crabapple	44	3.2%
Honeylocust	38	2.7%

Diameter Distribution of Boulevard and Park Trees.



Boulevard and Park Tree Maintenance/Pruning Needs.



**City on a 5-year routine prune maintenance schedule. Administer additional pruning when necessary.*

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #9

Project/Item Name: Water system Sanitary Survey

Location: Citywide

Requested Action: Discussion on Sanitary Survey

Staff Report/Description: The Wis. DNR water engineer recently completed the once every three year review of the City water system. The attached report outlines the findings of the Wis. DNR water engineer. I would refer to pages 30 to 35 that outlines deficiencies, non-conforming features and recommendations along with the conclusion of the report.

Attachments: 2017 Onalaska Waterworks Sanitary Survey



December 4, 2017

Ms. Cari Burmaster, City Clerk
City of Onalaska
415 Main Street
Onalaska, WI 54601

PWS ID# 63203272
Onalaska Waterworks
La Crosse County

Subject: Sanitary Survey of the Onalaska Waterworks
Notice of Noncompliance

Dear Mr. Burmaster:

I would like to thank Mr. Jim Prindle and his staff for their assistance on the November 8, 2017 sanitary survey of the City's drinking water system. The Department completes surveys on a 3-year schedule to meet federal requirements. The previous survey was completed on December 2, 2014. Since deficiencies were identified during the recent survey, the report also serves as a notice of non-compliance. A corrective action schedule is included in the findings.

The purpose of the sanitary survey is to evaluate water source, conveyance/storage/treatment facilities, operation and maintenance, and management and financial capability as related to providing safe drinking water. The survey is also an opportunity to update the Department's records, provide technical assistance, and identify potential risks that may adversely affect drinking water quality in your community. This report includes an overview of the system, key findings as related to specific requirements, and a brief summary that includes response criteria for correcting deficiencies.

SYSTEM OVERVIEW

From water source to delivery, drinking water systems consist of many components. This includes infrastructure as well as source-water characteristics, operation and maintenance practices, and managerial and fiscal aspects. This section is a detailed overview of the entire system of providing water to your customers.

Ownership, Service Area, Geography, Personnel

The City of Onalaska owns and operates a municipal, public water supply system, serving more than 25 year-round residents and more than 15 service connections. Residential service population of the City is 18,694 people (DOA estimate).

The City is located on the western boarder of La Crosse County. This is an area characterized by eroded, driftless topography, which is largely forested and urbanized outside City limits. The City itself sits on a glacial outwash, river valley prairie adjacent to Lake Onalaska. Elevation starts at about 700' MSL (mean

sea level) and rises to the reservoir overflow elevation of 883' MSL in the primary pressure zone and 1016' MSL overflow in the secondary pressure zone.

Onalaska Municipal Water Utility is governed by the Utility Commission which is chaired by Mr. Jim Olson. City Mayor is Mr. Joe Chilsen, Administrator is Mr. Eric Rindfleisch, Public Works Director is Mr. Jarrod Holter, Public Works Manager is Mr. Jim Prindle, and Assistant Public Works Manager is Mr. Shane Stoner. The utility has ten certified operators and about half have full certification. Davy Laboratories of La Crosse performs both the Safe Drinking Water Act (SDWA) and bacteriological testing.

System History

The City of Onalaska was incorporated in 1887. Private wells were used for drinking water while fire protection came from two cisterns located at 2nd & Main and 3rd & Main. It was not until 1894 that the City drilled its first municipal wells and constructed a 165,000 gallon steel standpipe on the bluff at 2nd and Locust Street. The wells (MW 1, 2, and 3) were deep artesian wells with iron related problems. MW1 was located at Green & Court while MW2 and MW3 were located in the basement of the old meter shop building at Main & Court.

In 1932, MW4 was constructed at the meter shop building. It was not used regularly due to iron related problems. MW5 was constructed in 1944 and served as the primary well. Additional capacity was added in 1962 with the construction of MW6. This well was replaced in 2007 when MW10 was constructed next to it to increase capacity and improve water quality.

The City had reoccurring bacteria problems that were addressed in 1966 with the construction of a 600,000 gallon replacement reservoir (South Well Street) and chlorine disinfection (at MW5 and MW6) in 1970. Disinfection was also installed at MW7 when it was constructed in 1971. It should be noted that bacteriological problems were persistent up until July 1994 when the City began continuous chlorination disinfection.

To satisfy growth, additional infrastructure was added in the 1970s and 1980s. MW8 was constructed in 1978, 600,000 gallon Hauser Farm reservoir in 1980, and MW9 and the 750,000 gallon reservoir (North Well Street) in 1986. The high iron wells (MW1, 2, 3, and 4) were formally abandoned in 1987. Fluoridation began in 1989 as interest in dental protection grew.

Booster stations and additional reservoirs were constructed in a period of rapid development. In 1991, the Elmwood booster station was constructed to support a subdivision. It was abandoned in 1998 when the 1,100,000 gallon Wild Rose reservoir and East Main (OS) booster station were constructed to serve a much broader area with commercial interests. About the same time, the 225,000 gallon County Club reservoir was constructed to serve the new East Main pressure zone service area. In 1999, the City constructed the Aspen Valley booster station to serve part of the Green Coulee service area. In 2011, the Coachlite booster station was replaced to increase fire protection.

MW9 had iron problems almost from the start. The city began phosphate sequestering at the well in 1991 and added it to MW7 in 1993. Sequestering effectiveness was menial and periodic complaints persisted. The City discontinued sequestering in December 2012 and constructed an iron removal plant at MW9 in 2016.

The City exceeded the copper standard in 1993 and obtained approval in 1994 for treatment using the same product as that was already being used for sequestering (ortho-polyphosphate blend). Continuous chlorine disinfection was required at the same time to prevent biofilm growth in the water system. While



January 2, 2018

Mr. Jim Prindle, Public Works Director
City of Onalaska
415 Main Street
Onalaska, WI 54601

PWS ID# 63203272
Onalaska Waterworks
La Crosse County

Subject: Corrosion Control

As discussed on the phone today and during the December sanitary survey, the Department recommends the City resume treatment for optimizing corrosion control. The reason for the recommendation is that your 90th percentile copper levels continue to be elevated and are close to the federal action level of 1300ug/l Cu. Improvements in your flushing and disinfection programs, while important, do not appear to have had an appreciable effect on reducing copper levels. It is unlikely the City will continue to remain below the action level without addressing uniform corrosion and addressing uniform corrosion would require treatment.

The Department is using recent EPA guidance in carrying out responsibilities related reviewing and approving optimization of corrosion control programs – “*Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems*” (2016). Voluntary water quality testing completed last year indicates that orthophosphate treatment may be appropriate in optimizing corrosion control in Onalaska. This appears to be supported by studies you have completed in the past.

The following information would be needed before you resume any treatment:

- Submit the *Corrosion Control Treatment Recommendation Packet* I emailed you today. Please include any corrosion control studies you performed in the past that would support the proposed treatment method. The Department reviews the information in the packet, proposed treatment method, and the target dose before approving it.
- While not a requirement, the City may want to consider a pilot study to determine whether orthophosphate would be effective at controlling copper corrosion. This could also help you to determine an appropriate chemical dose. If you decide to complete a pilot study, submit the results with the *Corrosion Control Treatment Recommendation Packet*.
- Feed system plan review would be required. If you are proposing orthophosphate treatment, the existing feed systems would likely remain the same. However, review is still needed to verify it can deliver the correct amount of chemical for the target dose and the feed pumps and solution containers are sized appropriately. Submit forms 3300-260 and 3300-227. Below are the links to the forms:

<http://dnr.wi.gov/files/PDF/forms/3300/3300-260.pdf>

<http://dnr.wi.gov/files/PDF/forms/3300/3300-227.pdf>

- Submit the material safety data sheet (MSDS) and national sanitation foundation (NSF) certification with the above plan review forms.
- Testing equipment is needed to ensure you maintain the correct target dose. You may already have that. If using ortho, the test method used must be for orthophosphate.
- When treatment begins, the Department will add reporting blocks in your monthly operating reports so you can report the test results. For orthophosphate treatment, entry point and distribution system testing will need to be completed twice weekly.

The Department is supportive of your consideration to resume treatment to optimize corrosion control. This should also allow you to meet newer federal requirements which may include monitoring at sites with new copper plumbing. If you have any questions, please contact me at (608)785-9013.

Sincerely,


Charlie Cameron, P.E.
Environmental Engineer

cc: DG Supervisor – WCR
Bureau of Drinking Water/Groundwater - DG/5

copper levels never dropped appreciably over the course of several years, they fell low enough to allow the City to operate under the status quo until rebounding in 1997.

Follow-up studies, commissioned by the City, demonstrated the ineffectiveness of the ortho-polyphosphate blend in controlling copper corrosion. Process Research Solutions recommended several approaches to control corrosion without phosphates. The Department required their implementation and asked the City to discontinue phosphate use in December 2012. Monitoring was completed in 2013, 2014, and 2015 to determine whether the strategy was effective. While the results proved effective in improving the management of corrosion without treatment, copper meets the federal standard even though levels did not drop appreciably.

Geological, Source Water Characteristics, Well Recharge Zone, Potential Contaminants

The City of Onalaska has four wells, with depths ranging from 160' to 169'. All four wells have grouted casings over 100' deep. The wells are drilled into glacial outwash material. This is a sand and gravel formation, alluvial in nature, formed after the last ice age. The aquifer is very permeable and capable of yielding large volumes of water with minimal drawdown. The unconsolidated wells are more susceptible to surface activities that can result in contamination. To illustrate the porosity of the geological unit, MW 9 and 10, had original well yields of about 125gpm per feet of drawdown.

Davy Engineering modeled the aquifer in 2002 using Modflow and revised the model in 2008 when MW10 was constructed. Capture zones were identified for each well on a one-year as well as a 5-year "time of travel" basis. As part of the La Crosse County Groundwater Study, the aquifer was also modeled in 2003 by the Wisconsin Geologic and Natural History Survey. The model incorporated USGS study results from their publication entitled "*Numerical Simulation of Ground-Water Flow in Onalaska County, Wisconsin, and into Nearby Pools of the Mississippi River*".

Modeling showed that some of the wells influence each other and share part of the same aquifer. This has not affected the quantity or quality of water. There are no other large capacity wells in the area to exert an influence on the municipal wells. All of the recharge zones are elliptical in geometry and predominantly pull from the north and east.

It is noted here that water characteristics of MW9 are different than the other wells. Being located closer to the La Crosse river valley, iron and manganese are high. The same problem was experienced by some of the City's older, abandoned wells and is the reason the City constructed the filtration plant at MW9.

To identify potential sources of contamination for a source-water vulnerability assessments (VA), the City completed a "Contaminant Use Inventory" (CUI) report in 2016. It provides information on potential contaminants and is used in the evaluation for granting monitoring waivers under the federal rule. It lists potential contaminants within the 5-year zone of contribution as shown by the blue lines below:



Most of the potential contaminants are spill/chemical release locations (WLS), properties that store petroleum/VOC materials (BFT and CSS), sewer lines (GLS), and stormwater ponds (WSW).

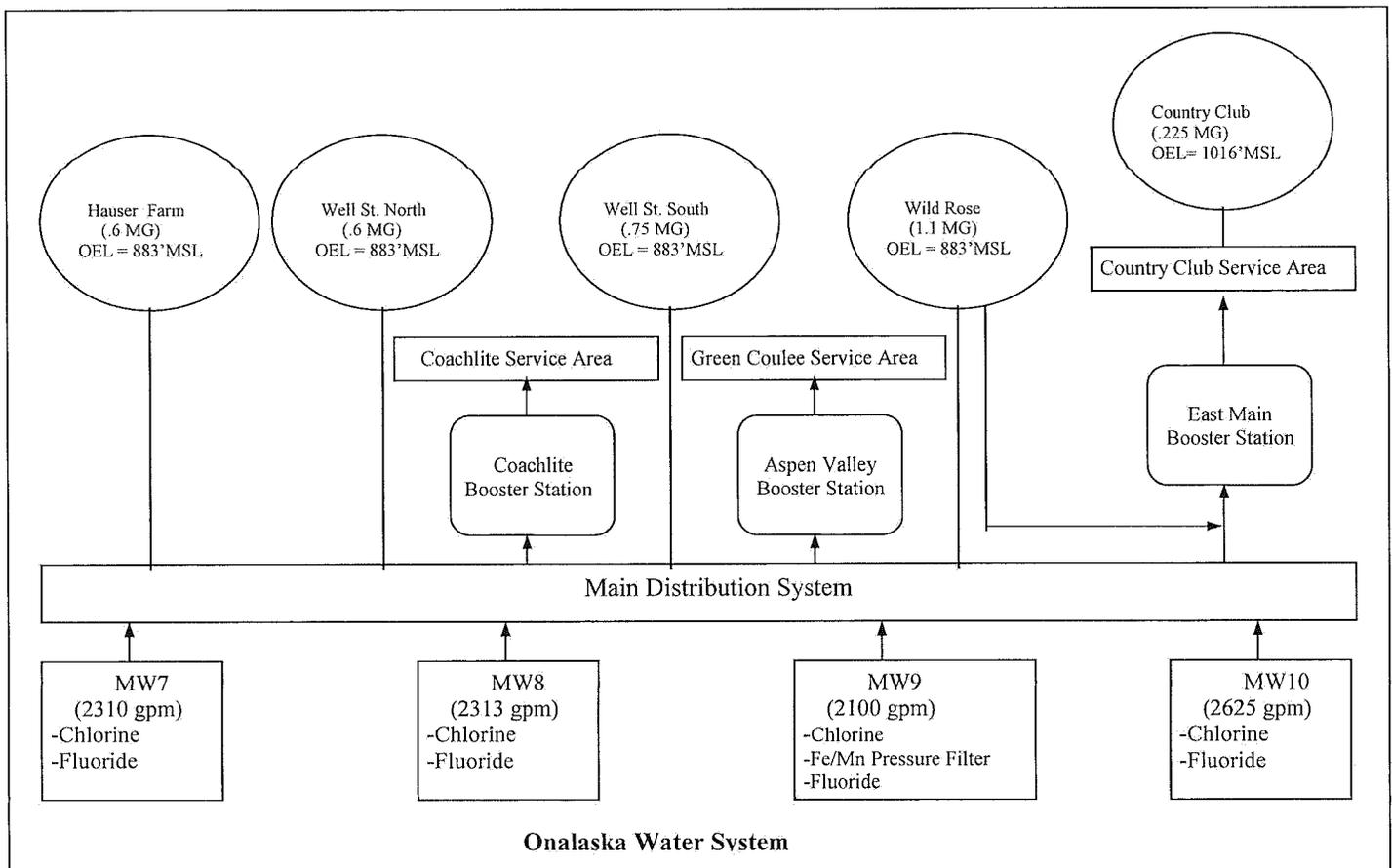
City wells do not meet the minimum setback criteria of 200' to the sanitary sewer collection system. This presents some vulnerability for virus contamination. The City recognized this and has lined some of the sanitary sewer lines over the years. Setbacks follow:

Well	Distance to Sewer System
MW7	155' to lined and 503' to unlined
MW8	72.5' to lined and 96' to unlined
MW9	55.5' to sanitary having water main class pipe
MW10	97' to lined and 189' to unlined

Code allows the separation distance to be less than 200' where sewer main is water main class material and pressure tested to meet AWWA C-600 criteria. Some of wells meet the variance. Updates are not mandatory where the requirement is not met since the older wells and sewer lines were constructed prior to the 1992 setback criteria. Since EPA's maximum contaminant level goal for viruses is zero (40 CFR Part 141 Section 141.52) and not required to be tested, the Department has encouraged the City on previous surveys to take voluntary action to reduce virus vulnerabilities until Federal/State legislation is enacted. Updating infrastructure around the wells to prevent sewage leaks, maintaining disinfection levels to achieve 4-log virus removal, and testing the water for virus' are all recommended practices.

Infrastructure

City infrastructure consists of 4 wells, chlorination and fluoridation chemical feed systems, iron/manganese pressure filter, 5 storage reservoirs, 3 booster stations, and a distribution system network. Configuration follows:



Well/Pump Facilities

Well pumps operate on daily basis and pump water directly into the main part of the distribution system. The pumps are controlled by water elevation in four of the five reservoirs. They can be operated individually, in tandem, and can be set as lead/lag.

The three booster stations (Coachlite, Green Coulee, and East Main) pump water from the main distribution system into their respective high service areas. All three high service areas are independent from one another.

MW7 was constructed in 1971 by Miller Well & Pump Company. Municipal Well & Pump pulled the well pump in 2015 to address bolt corrosion. Previous to this, the pump was pulled and the screen cleaned in 2008. Specific capacity (well yield) increased from 102 gpm per foot of drawdown to 107 gpm per foot of drawdown. Pumping rate at the end of the well test was reported to be 2142gpm @ 90' water elevation. Based on the current pumping rate of 2109gpm, yield is 117 gpm per foot of drawdown. This is better than that reported in 2008 and that following original construction.

MW8 was constructed in 1978 by Layne Northwest Company. Municipal Well & Pump pulled the unit in 2015 out of corrosion concerns. Previous to this, the pump was pulled in 2008 and the screen cleaned. Well yield went from 100 gpm per foot of drawdown to 120 gpm per foot of drawdown. Based on the current pumping rate of 2089gpm, yield is 149 gpm per foot of drawdown. This is better than that reported in 2008 and that following original construction.

MW9 was constructed in 1986 by Layne Northwest. The well has been subject to iron/manganese and biofouling problems since. Over the years, the City has used several strategies, with varying degrees of success, to address the problem.

Shock chlorination and phosphate injection were performed in December 1990. In May 1991, the Department approved AquaMag to sequester iron. In 1992, the Department granted a 6-month trial of anoxic blocking using CO₂. By April 1997, yield dropped to 26% of original yield. Air-bursting and chemical treatment restored it to 79% of original. This was repeated in March of 2000 and March 2004. Yield was measured by Municipal Well in 2007 and reported to be 59% of original. In June 2010, Water Well Solutions restored it back to the original yield using the HiRip rehabilitation process. They reported 113 gpm per foot of drawdown. As part of the rehabilitation project, Dr. Andrew Jacque was consulted about the ongoing well problems.

Dr. Jacque performed, water quality testing and microscopic analysis and found that there was some sort of surface water connection and biofouling. He advised the City to add chlorine to the well on a periodic basis to reduce biofouling and also to lower the pumping rate to reduce the likelihood of bringing in poor water quality. The City implemented the recommendations with some degree of success; however, oxidized material continued to increase over time. To address the problem on a long-term basis, the City made the decision to remove iron and manganese through pressure filtration. The treatment plant was constructed and placed into service in 2016.

As part of the filtration project, the City rehabilitated MW9 to restore lost production. This consisted of air bursting, bailing, chemical treatment (acid/bio-dispersant), surging, pumping to waste, and chlorination. The City discontinued well chlorination but is recently considering returning to the practice. It will consist of pouring ½ cup of 12.5% sodium hypochlorite solution into the well vent once a week.

The City is currently operating the well pump at 51 hertz operating speed using a VFD. Pumping rate ranges from 1575 to 2100gpm. At a pumping rate of 1650gpm, yield is 103 gpm per foot of drawdown.

This is about 9% less than that following the HiRip rehab process in 2010 and 18% of that following original construction. Pump speed could be increased if necessary; however, the iron filtration plant would not operate at peak efficiency.

MW10 was constructed in 2007 as a replacement well for MW6. Layne Christensen Company constructed the well. Municipal Well & Pump pulled the pump for service in October 2016. Based on the current pumping rate of 2578gpm, yield is 129 gpm per foot of drawdown. This is better than that following original construction.

The City tries to maintain a 10-year inspection schedule for servicing the well pumps but has pulled pumps sooner than this to address specific problems or concerns. Further well and pump information can be found in Table B of the Appendix.

Treatment Chemicals

The City chlorinates and fluoridates using NSF (National Sanitation Foundation) approved chemicals. Chemicals are purchased from and delivered by Hawkins Chemical of Minneapolis, MN. They are delivered monthly.

Chlorination began in 1970 for disinfection purposes; however, it was not used continuously until 1994 when phosphate treatment began. The City uses 100% chlorine gas contained in 150 lb cylinders. Force-Flow scales are used to measure the chemical gravimetrically to the two-tenth pound increment (one-tenth increment at MW8). The gas is introduced into potable carrier water and injected into the water main using approved nozzles.

All the chlorine rooms have gas alarms and automatic cylinder shutoffs in the event of gas leaks.

Fluoridation began in 1989 for dental purposes. The City uses 23% hydrofluorosilic acid containing 19.8% fluoride ions. Force-Flow scales are used to measure the chemical gravimetrically to the two-tenth pound increment. It is injected into the water main using approved nozzles.

It is noted here that chlorine and fluoride are stored in the same rooms at some of the well houses even though they belong to different compatibility groups (Group I Acids and Group VI Compressed Gases). EPA guidance provides stern warnings against such practices.

Further information on the chemical feed systems can be found in Table C of the Appendix.

Physical Treatment

A four cell, rapid rate, pressure filter is used to remove iron and manganese minerals at MW9. These minerals would otherwise increase chlorine demand, decrease the biostability of the water, and cause aesthetic problems.

Filtration relies on chemical oxidation of minerals prior to their removal. Chlorine gas, the oxidant, is injected prior to the pressure filter, and has an approved dose of 1.5mg/l total chlorine. To achieve effective treatment, the City feeds 2.84 mg/l of total chlorine and operates the well pump at a lower pumping rate than originally designed. Following oxidation, the filter media removes the oxidized minerals from the water.

The Tonka pressure filter is one cylindrical tank (10' diameter, 47' long) with four compartments. Total surface area is 460ft². Media was specified as LayneOx in a pilot study approved by the Department on June 27, 2013. It was included in the 2013 water study submitted toward the end of that year. It consists of 36" of ANSI/NSF certified, pyrolusite (manganese dioxide) supported by torpedo sand and gravel.

Pyrolusite functions as a catalyst, accelerating the oxidation process, and a filter to remove precipitates from solution. Besides iron and manganese, pyrolusite can also be used with other oxidants to remove hydrogen sulfide, arsenic, and radium. The design filtration rate is 6gpm/ft². This equates to a pumping rate of 2820gpm. However, the City has found that operating it at a lower filtration rate improves treatment efficiency. Given the current pumping rate of 1650 to 2100gpm, filtration rate is 3.6 to 4.6 gpm/ft². This is 58 to 75% of design.

Each filter cell is backwashed every 1 to 3 weeks depending on run time of the well. Total volume of water treated between backwash cycles is 2.2 MG. Backwash consists of a simultaneous backwash (air and water wash) followed by a water wash. Air is being supplied by a 576CFM, Sutorbuilt (model # GACLDRA) blower located in a dedicated room. Air is drawn from a dedicated vent on the side of the building and is protected by an approved hood and air filter. Filter servicing is being completed annually. The air distribution headers are located in the torpedo sand. Backwash water is potable and comes from the distribution system. Typical backwash sequence is as follows:

1. Drain filter cell
2. 7 minutes of simultaneous backwash (3scfm/ft² air and 6gpm/ft² water)
3. 2 minutes 6gpm/ft² water backwash
4. Re-Stratify Step (done quarterly)
5. Return to service

If necessary, the system is designed to handle a 3-minute, high-flow backwash at a rate of 28gpm/ft² of water.

Backwash water drops into a 96,000 concrete basin located under the floor of the well house. Backflow protection is provided by a backwash basin overflow line as well as a 2" anti-siphon line. Two submersible pumps (100gpm each) are used to pump backwash water to the sanitary sewer system.

Filter specifications are as follows:

Media	Dim.	Cells	Total Surface Area (ft ²)	Filter Rate (gpm/ft ²)	Backwash			
					Airwash (scfm/ft ²)	Backwash (gpm/ft ²)	Volume (gal)	Freq.
36"-.3 to .5mm pyrolucite 3"- .8mm torpedo sand 3"- ¼ to 1/8" gravel 3"- ½ to ¼" gravel 3"- ¾ to ½" gravel	10" diam. 47' long	4	460	6 (design) Operated at: 3.6 to 4.5	3	6	6210 per cell	Every 2.2MG

Since the filters have only been in operation since March 2016, they have not had an official 5-year service inspection yet. The City plans to have Tonka complete their first 5-year inspection in 2021.

Distribution, Booster Pumps, and Storage

The distribution system is a multi-pressure zone piping network that moves water from the wells and reservoirs to individual service customers. Reservoir level at Hauser, North Well Street, South Well Street, and Wild Rose Reservoirs control system pressure in the main section of the distribution system.

Three booster stations move water from the main distribution system into three separate high service areas (Coachlite, Aspen Valley, and Country Club). The East Main booster station supplies water to the Country Club high service zone; however, it does not maintain the pressure in this zone. Pressure is maintained by water level in the Country Club reservoir. Pressure in the other two high service zones is maintained by the pumps in the booster stations themselves.

Infrastructure is identified on a current distribution system map. The distribution system consists of 542,047 linear feet of water main, 1552 shutoff valves, 1008 fire hydrants, 0 flushing hydrants, three booster stations, five ground storage reservoirs, and 5826 service connections (2017 PSC Report). Additional distribution system facts follow:

- Total undersized (<6”) water main is 6,661’ or 1% of the system
- Dead-end water mains all have fire/flushing hydrants
- Onalaska serves limited areas of the City of La Crosse and Town of Medary; Onalaska owns, operates, and maintains this infrastructure
- 5 interconnections with privately looped distribution systems (Pralle Center, Corridor PH/STH 16 which is the Valley Square Shopping Center/Shopko strip mall, Crossing Meadows, Northwest Hardwoods which is now called Weyerauser Lumber Yard, and Menards); all have check-valves with shutoffs
- 2 interconnections with the City of La Crosse (South Kinney near Kwik Trip and George Street/2nd Ave. South across from Nutbush); both are protected by two shutoffs (kept in closed position) that are exercised annually when the line is flushed
- 2 private distribution systems are being served that are not looped back to the City (Lake Onalaska Mobile Home Park and Jack A. Edwards Mobile Home Park)
- 1 automatic flushing hydrant (South Kinney Coulee Road) operating 45min every 3 hours during the summer; discharge has a WPDES permit
- 1 surface water crossing (crossing under the Country Club pond)
- 1 loading station with backflow protection (located at well 10)
- No interconnections with privately owned wells
- No private booster pumps
- No pressure release valves
- No pressure sustaining valves
- No pressure reducing valves
- No asbestos-cement (transite) water main
- No lead water main pipe or lead sealed pipe
- No lead service line materials

Booster Stations move water from three locations in the main distribution system to higher elevation service areas. The high service areas are independent of one another. The SCADA system monitors and controls pump operation at each of the stations. Pressure switches are used to control booster pump operation at Aspen Valley and Coachlite while water level at the Country Club reservoir controls the East Main booster pumps. The auxiliary generators at the Aspen Valley and Coachlite booster stations run automatically in the event of a power outage. This feature is not necessary at the East Main booster station since the Country Club reservoir serves the boosted zone. Specifications are as follows:

Aspen Valley						
Pump	Rate (gpm)	TDH (feet)	Suction Shutoff (psi)	Outlet Set Points (psi)	Motor	Size (h.p.)
Aurora, Centrifugal	100	150	20	95 to 105	US Motors	10
Aurora, Centrifugal	350	150		86 to 131	US Motors	30
Aurora, Centrifugal	350	150		86 to 131	US Motors	30
Aurora, Centrifugal	1500	150		60 to 131	US Motors	100

Coachlite						
Pump	Rate (gpm)	TDH (feet)	Suction Shutoff (psi)	Outlet Set Points (psi)	Motor	Size (h.p.)
Berkeley (VFD)	100	140	30	112 to 117 psi	Baldor	7.5
Berkeley (VFD)	100	140		111 to 114 psi	Baldor	7.5
Berkeley (VFD)	700	200		98 to 140 psi	Baldor	50

East Main						
Pump	Rate (gpm)	TDH (feet)	Suction Shutoff (psi)	Outlet Set Points (psi)	Motor	Size (h.p.)
Aurora, Centrifugal	850	175	20	controlled by reservoir water level settings	Marathon	60
Aurora, Centrifugal	850	175			Marathon	60

Storage consists of five ground storage reservoirs located on the bluffs at various locations. Four of the reservoirs have the same overflow elevation and depth while the Country Club reservoir is constructed at a higher elevation to serve its own respective service area. A control valve is used to limit the fill rate of the Hauser reservoir to ensure it does not fill faster than the Well Street and Wildrose reservoirs. It opens at 13' and closes at 14' to prevent premature overflows. The reservoirs have pressure transducers that are tied into the SCADA system. The operators use the North or South Well Street reservoir as the control unit. Reservoir specifications follow:

Name	Volume (gal)	Size	Overflow	Settings	Working Volume (gal)	Working Volume (%)	Avg. Water Age (hrs)
Hauser	Design: 600,000 Operating: 355,377 to 473,836 Low Set Pt: 236,918	71' diam. 21' deep	21' @ 883' MSL	W: 8-12' S: 10-16'	118,459 to 177,689 gal	33 to 38%	43 to 58
N. Well St.	Design: 750,000 Operating: 451,183 to 601,577 Low Set Pt: 300,789	80' diam. 21' deep	21' @ 883' MSL		150,394 to 225,591 gal	33 to 38%	43 to 58
S. Well St.	Design: 600,000 Operating: 355,377 to 473,836 Low Set Pt: 236,918	71' diam. 21' deep	21' @ 883' MSL		118,459 to 177,689 gal	33 to 38%	43 to 58
Wildrose	Design: 1,100,000 Operating: 649,703 to 866,271 Low Set Pt: 433,136	96' diam. 21' deep	21' @ 883' MSL		216,568 to 324,852 gal	33 to 38%	43 to 58
Country C.	Design: 225,000 Operating: 132,183 to 205,617 Low Set Pt: 120,000	50' diam. 15' deep	15' @ 1016' MSL	W: 9-12' S: 10-14'	44,061 to 58,748 gal	25 to 29%	94 to 110 based on 45,000gpd

Note: Country Club water age is older than that shown. Water from the other reservoirs is provided to Country Club during draw down.

From a capacity standpoint, total operating, storage volume in the main distribution system is 1,811,641 gallons during the winter, 2,415,521 gallons during the summer, and 1,207,760 gallons at its minimum operating range which typically occurs during the winter.

The water main elevation at the highest service in the main distribution system is about 760' MSL and about 880' MSL in the Country Club service area. Corresponding pressures in these locations, when reservoir water level approaches empty, is 44psi and 53psi. This meets the minimum static pressure requirement of 35psi.

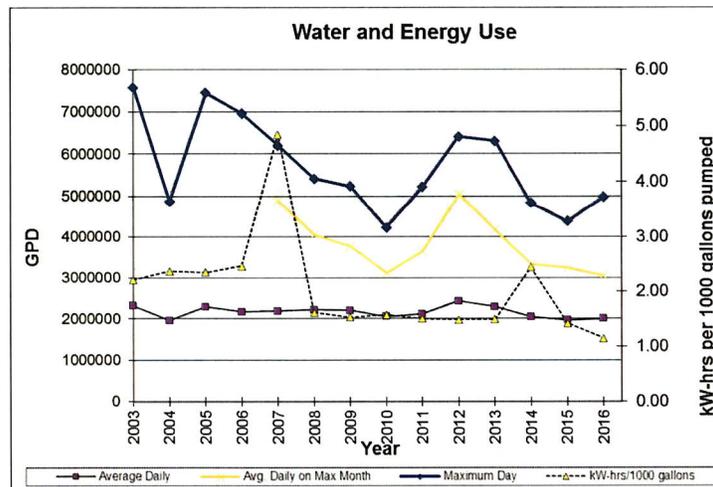
SEH completed a comprehensive “Water System Evaluation” in November 2013 that included a hydraulic model. The report described water age, hydraulic properties of the system, and provided recommendations to improve water quality. The City has implemented some of the recommendations (i.e. construct treatment at MW9).

Emergency Power

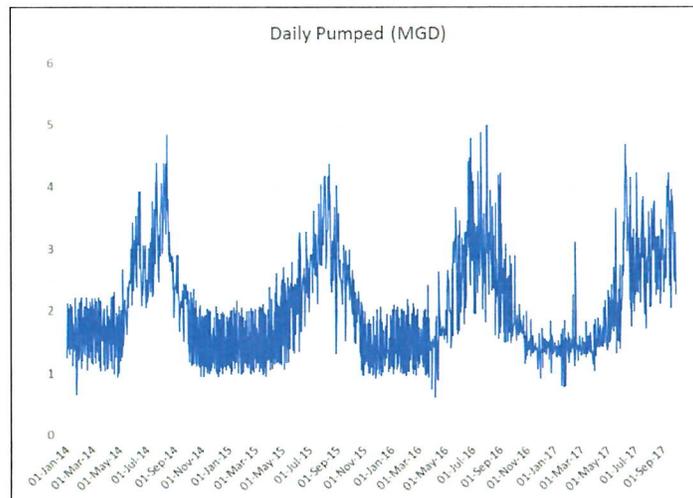
The City has axillary power for operating wells 8, 9, 10, and the booster stations. All the generators are located on-site. Diesel generators are used at MW8 and Aspen Booster while the other units are natural gas. Generators are exercised monthly under full load. This was last completed in October 2017.

Connections, Water Use and Demand, and System Capacity

Average and maximum water use and power consumption have decreased since the last survey as shown below (referenced from Table E in Appendix):



Average daily use has not changed much since the last survey and averaged about 2MGD. Water pumped during the highest use month (August 2014) averaged 3.3MGD. Maximum single day pumping was 5MG and occurred on July 20, 2016. Hot weather has a significant influence on pumping due to customer irrigation practices and results in a pronounced seasonal effect as shown below:



The City reported a decrease in energy recently. The PSC asked the City to report just the electric use from well/pump house buildings and equipment. With that in mind, electric use was 1.14 kw-hr per 1000 gallons pumped in 2016.

Total water loss averaged 6% the last three years and was 6% in 2016. Losses are likely leak related. Service line breaks (public and private side) doubled last year with an all-time high of 24. Water main breaks is constant at about 5 per year.

Onalaska Fire Department provides City fire protection. They have three pumper trucks capable of pumping 1000, 1500, and 2000gpm of water. The last ISO fire flow study was completed in 2017. Pressure and flow rate is reported to be (Coachlite is from the Fire Department):

Service Area	Static (psi)	Fire Flow (gpm) @ 20psi
Main System	54 - 96	2200 – 8900
Coachlite	110	725
Aspen Valley	54 - 108	4200 – 4300
Country Club	56 - 112	2500 – 4900

SEH Engineering evaluated fire flow performance in the 2013 report and determined that the system was well protected. The Department agrees. The system can provide fire flow rates of 3000 to 3500 gpm to most parts of the water system. Low flow areas are at higher elevations or near system extremities. SEH recommended looping the Aspen Valley and Country Club boosted zones in the future to add redundancy and improve hydraulics.

Apart from distribution system hydraulics, storage and pumping capacity is evaluated to determine whether the water system can provide adequate storage and pumping volume to meet average day, maximum day, peak hourly, fire flow, and emergency power demand. The analysis is performed with full capacity and firm capacity (loss of largest pumping unit). From design and water use data, several observations are made:

First, the system can meet the average day demand of 2MGD. Average run time for the pumps is about 3 hours over a 24-hour period or 5 hours with the largest pump out of service.

Second, the system can meet the maximum day demand of 5mgd. The pumps would run about 8 hours over a 24-hour period or 11 hours with the largest pump out of service.

Third, taking into consideration the worst-case scenario (high use day, 90% storage volume available, and 2-hour duration fire event of 2,500 gpm), the City has enough pumping and storage capacity to meet the demand.

Forth, the water system is capable of operating during a power outage to maintain service. On-site generation is available at three wells (MW8, MW9, and MW10) to deliver 7,613gpm of water and at each booster station to provide water to the high service areas. The well pumps would run 11 hours a day when water use is at its highest.

Summarizing the capacity evaluation, the City has adequate pumping and storage capacity to meet the service demands normally expected.

Water Quality Monitoring and Reporting

To satisfy SDWA requirements and protect public health, the City performs rigorous water quality testing of its drinking water. The City receives a monitoring schedule from the Department each year and

samples are collected by staff. Results are submitted to the Department electronically by the certified laboratory performing the analysis and summarized for the public in the Annual Consumer Confidence Report. Results are also available from the Department's website at:

[http://prodoasext.dnr.wi.gov/inter1/pws2\\$.startup](http://prodoasext.dnr.wi.gov/inter1/pws2$.startup)

Monitoring is discussed further in this section (reference Tables F and G in the Appendix for additional information).

Bacteriological Monitoring

Serving a total population of 18,694 people, the City is required to collect 20 bacteriological distribution system samples each month. An approved site plan is used to ensure monitoring is representative of the distribution system. Sites used the last 12 months are as follows:

Address	ID	Total	Sep	Oct	Nov	Dec	2016 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug
1000-1002 LAUDERDALE N.	D-27	11	1	1	1		1	1	1	1	1	1	1	1
1001 COMMERCIAL ST.	D-8	2			1	1								
1301 GREEN BAY ST.	D-43	8	1					1	1	1	1	1	1	1
1311 MAIN ST.	D-32	6		1			1			1	1	1		1
1501 WILSON ST.	D-7A	2			1	1								
1580 MEDARY LN	D-18	12	1	1	1	1	1	1	1	1	1	1	1	1
1831 EAST MAIN ST.	D-13	1				1								
1867 BEAR PAW PL	D-10	7	1	1	1	1	1	1			1			
1953 FRANKLIN ST.	D-34	9	1	1				1	1	1	1	1	1	1
2047 GRANDVIEW BLVD.	D-42	9	1		1	1	1	1		1	1	1	1	
2372 RYLLA ST.	D-21	8	1	1	1		1	1			1		1	1
2501 CEDAR CREEK LN	D-29	11	1	1	1		1	1	1	1	1	1	1	1
252 MASON ST.	D-33	11	1	1	1	1	1	1	1	1		1	1	1
255 RIDERS CLUB RD	D-3	4		1	1	1	1							
2600 CEDAR CREEK LN	D-1	1				1								
2858 MIDWEST DR.	D-14	9	1	1				1	1	1	1	1	1	1
300 COURT ST.	D-6	5			1	1	1		1	1				
3041 EAST MAIN ST.	D-15	6		1	1	1		1		1				1
3052 WILD ROSE LN	D-24	5	1		1				1		1		1	
3060 S. KINNEY COULEE RD	D-41	3				1	1	1						
3100 S. KINNEY COULEE	D-7	3			1	1	1							
3745 CRESTWOOD PL	D-17	11	1	1	1		1	1	1	1	1	1	1	1
4051 MARY DR	D-16	8	1	1					1	1	1	1	1	1
415 MAIN ST.	D-37	2				1	1							
419 SAND LAKE RD	D-9	7		1	1	1		1	1	1		1		
422 9TH AVE N	D-20	8	1	1				1	1		1	1	1	1
514 MONICA LN	D-36	2				1	1							
515 QUINCY ST	D-35	1			1									
601 GILSTER ST.	D-19	11	1	1	1		1	1	1	1	1	1	1	1
602 2ND AVE N.	D-31	10	1	1			1	1	1	1	1	1	1	1
6500 STATE RD 16	D-40	1				1								
700 WILSON ST.	D-5	2				1	1							
711 QUINCY ST.	D-4	1				1								
740 DOMKE ST.	D-26	10	1	1			1	1	1	1	1	1	1	1
784 STONEBRIDGE AVE	D-25	7	1					1	1		1	1	1	1
829 COUNTRY CLUB LN	D-22	10	1	1	1		1		1	1	1	1	1	1
906 ALPINE PL	D-23	5							1	1		1	1	1
9515 HWY 16	D-11	2			1	1								
MEIER FARM PARK	D-28	9	1	1				1	1	1	1	1	1	1
Total		240	20	20	20	20	20	20	20	20	20	20	20	20

The City collects the correct number of distribution system samples each month at geographically representative sites. Samples are collected each week to minimize the non-monitoring window.

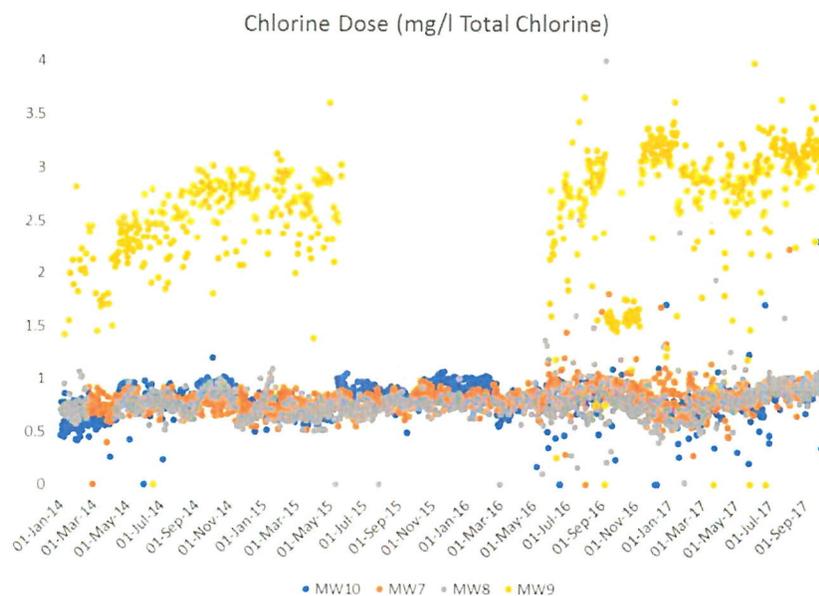
The City's last positive distribution system result occurred from a sample collected on January 18, 2017 (2047 Grandview Blvd.). Follow-up testing was negative. Prior to this, the 3745 Crestwood Place site had a positive result on September 20, 2010.

Raw water well samples are collected quarterly. There has only been one positive bacteria sample at the wells. MW9 had a positive result in May 2004. Follow-up results were negative

Chlorination

The City began chlorination disinfection in the 1970’s but only used it during bacteria contamination episodes. Continuous chlorination disinfection began in 1994 following the introduction of a phosphate treatment program. While phosphate was discontinued, the City continues to disinfect continuously to maintain the sanitary quality of the drinking water. Chlorination is a 100-year-old practice in the United States and has led to a significant reduction of waterborne illness in this country. While everyone benefits, those with weak or compromised immune systems (i.e. formula fed infants, elderly, and those with pre-existing illnesses) receive important public health protection from the practice.

Chlorine is injected into the water at each well house. If you were to exclude outliers (>4mg/l), dose averages .82mg/l at wells 7,8, 10, and 2.8mg/l at well 9 before the filter unit. Using the same results, dose variance increased over the last 18 months as shown below:

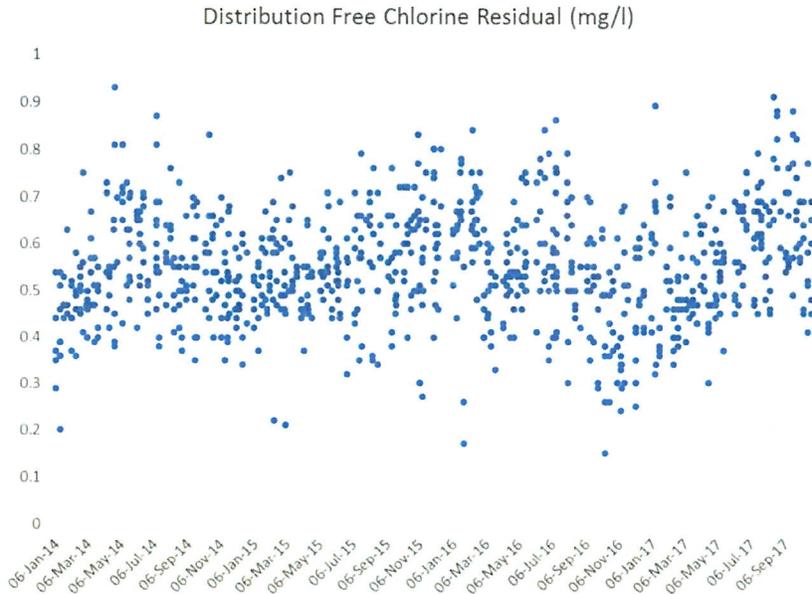


Variance is attributed to SCADA issues, sensitivity of the digital sensing equipment, actual equipment failure or leaks, and maintenance activities. For example, there were some days water was pumped but no chemical use was reported, some days chemical use was reported but no well water was pumped (most common), and other days the calculated dose was well above 4mg/l. When considering how much information and control the newer sensors and computerization has provided, the aforementioned problems are minor.

Staff closely review equipment use, feed rates, and dosing information daily and address issues as they arise. Reasons for anomalies are provided in the comment section of the monthly operating reports. It was my observation that staff are continuously looking for ways to improve and fine tune the newer sensor and information capture technology so information being reported is accurate.

More recently, month of September, variance was quite low (<10%) with the exception of chlorine dose at MW10. High variance (30%) was caused by a chlorine leak in one of the gas lines. It was repaired within a couple days.

Free chlorine residual is tested throughout the distribution system during bacteriological testing. All the service areas are being tested regularly. Residual averaged .58mg/l and had a maximum value of 1.04mg/l as shown below:



System residual is consistently above the Department’s recommended level of .2mg/l the majority of the time and always below the maximum contaminant level of 4mg/l.

Chlorine testing is completed by the operator using the DPD colorimeter test method, with a HACH digital colorimeter. The operator’s testing protocol satisfies requirements and is described below:

- Samples are tested at the monitoring site
- Glassware is clean, unstained, and not scratched
- Meter’s sample compartment and optics are clean
- Meter is being zeroed using tap water
- Meter is read within 1 minute of adding the test reagent
- Regents are within the expiration dates
- Meter is set up to read to the hundredth (.01) mg/l and reported as such
- Standards are being run weekly to verify accuracy and recorded on a log sheet
- Standards are within their expiration dates

Lead and Copper

Lead and copper monitoring began in 1992 under the SDWA. The original monitoring program was set up by the previous operator and reviewed by the Department during sanitary surveys. Initial monitoring consisted of 60 samples which was subsequently reduced to 30 samples.

The monitoring slots are filled with Tier 1 sites, copper plumbing with lead solder installed in the 1983/84 time-period. The City does not report having full or partial lead service line materials which would include lead goosenecks. As shown below, two historical sample results were above the lead action level of 15ug/l and one of the sites is still being used in the monitoring program:

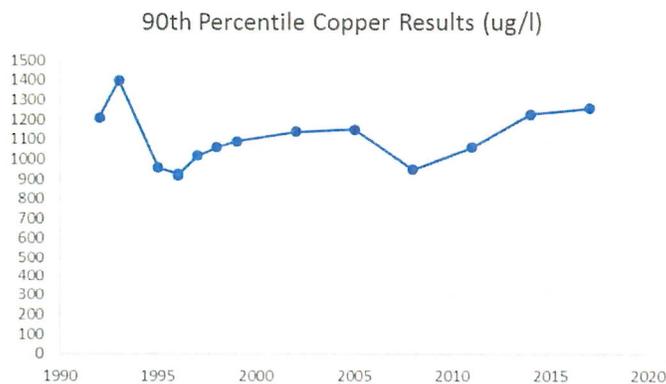
Sample Year	Results (ug/l)	DNR Site ID if Active	Street Address
2002	64.4	DG-18	1016 Sunrise CT.
2013	23.3	Not active, customer did not want to participate.	1012 Sunrise CT.

Several monitoring events have been completed since the rule took effect. 90th percentile monitoring results are as follows:

Sample Date	Copper (ug/l)	Lead (ug/l)
1992	1210	7
1993	1400	3
1995	960	0
June 1996	930	1.6
December 1996	920	1.6
1997	1020	1.96
1998	1060	1.53
1999	1090	2.91
2002	1140	2.2
2005	1150	2.06
2008	950	0.6
2011	1060	1.54
2014	1230	1.78
2017	1260	1.45
Action Level (ug/l)	1300	15

The most current monitoring results met the Federal action level for assessing corrosion and the City shares the results with the customers where monitoring was completed.

The City has been well below the lead action level over the years but exceeded the copper action level (1300ug/l) in the second monitoring round (1993). While the City met the copper standard since then, monitoring results have been on a consistent trajectory towards the action level over the last several years:



The City is somewhat concerned with the recent trend given the level of effort made over the year in improving its monitoring program and water quality.

Following the copper action level exceedance, the Department requested a formal response on April 19, 1993. The City submitted a “Desktop Evaluation” on corrosion control in June of the same year. The report recommended phosphate treatment with AquaMag. Ironically, the City was using phosphates at two of the wells leading up to the action level exceedance but was not practicing continuous chlorination disinfection. The report stated: “The Kjell Corporation plans on doing a comprehensive corrosion control study for the City to show the benefits of copper reduction with polyphosphate.” Kjell Corporation was the phosphate supplier.

On November 4, 1993, the Department approved the use of AquaMag on an interim basis until its effectiveness could be demonstrated. The approved dose was .75 mg/l orthophosphate and continuous chlorine disinfection was required. Treatment began in early 1994.

Kjell completed the study in May 1995 but did not submit it until requested by the Department in 2009. It consisted of coupon testing performed from July 1993 to May 1995 and had a flawed design. The analysis was not performed by a Wisconsin certified lab, results were difficult to interpret since they did not contain a description of the study design, monitoring locations were poorly described, and there were no test results for orthophosphate or polyphosphate at the monitoring locations during the test period. Dose appeared to be set at .5mg/l but was not verified through testing. The study said that lead and copper concentrations decreased about 50% between March and August 1994 and remained low for the next two monitoring events. Regulatory samples, collected in 1995 and 1996, appeared to agree with the study's findings ~ general reduction of about 30% in copper concentrations as measured by the 90th percentile results. Copper levels did not remain low though and began increasing towards the Federal action level during subsequent monitoring rounds.

Copper climbed during the next five monitoring rounds until reaching 1150ug/l in 2005. Orthophosphate was between 61% to a little over 100% of the target dose but did not appear to have much of an effect on reducing copper corrosion. Important questions were raised during the 2003 sanitary survey on whether phosphate was addressing corrosion or a contributory agent. The Department asked the City to re-evaluate its corrosion control program. The City hired Process Research Solutions (PRS) who published several reports.

First report was completed in May 2007 and contained a historical review of copper results and water quality monitoring. The report recommended a detailed study be carried out.

Second report was completed in March 2008 and included an evaluation on potential causes of elevated copper. This included distribution system dirt/scale, inadequate disinfection, and microbial induced corrosion (MIC). Recommendations included:

- Cleaning the distribution system (uni-direction flushing) and track cleanliness
- Increase chlorine residual
- Improve data management practices
- Complete a study on the effect of pH, nitrate and assimilative organic carbon, and phosphate.

Relating to treatment (ortho-polyphosphate), the findings were ambiguous.

The City implemented some of the recommendations in the report and continued treatment. A source of assimilative organic carbon (AOC) was eliminated when the City replaced MW6 with MW10. The City also minimized the use of MW9 so iron, manganese, nitrates, and iron/manganese bacteria were reduced. The City also began uni-directional flushing. These actions may have had a positive influence on reducing copper levels during the 2008 monitoring event since copper levels dropped below 1000ug/l for the first time since 1996.

Third report was released in March 2010 and included additional information from bench top pipe-flow studies. One of the findings stood out. Existing phosphate treatment was not effective in reducing corrosion. The report offered several recommendations:

- Keep MW9 off-line given its iron, manganese, and iron bacteria issues
- Switch to a less expensive corrosion control chemical (orthophosphate)

- Continue uni-direction flushing
- Improve disinfection practices to maintain consistent levels throughout the water system
- Improve chemical feed delivery to ensure consistent dose
- Lower phosphate over time (wean)
- Continue studying the effects of the changes on copper levels

The City implemented several of the recommendations, continued phosphate treatment, but copper levels jumped above 1000ug/l in 2011.

During the 2012 sanitary survey, the Department asked the City to discontinue ortho-poly phosphate treatment. Reasoning was that it was being used leading up to the action level exceedance in the early 1990's, the findings in the PRC reports did not see any benefit of its use, and it was a significant variable that could influence corrosion.

The City hired Hawkins Chemical Company to evaluate the corrosion potential of City water before implementing the request. Raw water was tested again and Langelier indexes were calculated:

Well	Langelier
MW7	0.1
MW8	0.12
MW9	0.1
MW10	0.23

The City's Langelier index was slightly above zero which indicates that minor scaling is expected. However, if scale was formed, it did not appear to be effective in reducing corrosion. The reason may be that the Langelier index analysis is an older corrosion evaluation test meant to determine whether calcium carbonate will precipitate from the water and form pipe-protecting scale. Researchers question the thesis since the lattice structure of the scale is porous.

The Department met with the City and Hawkins and explained that the information they provided had no evidence of the effectiveness of phosphate or descaling problems if it were removed. Polyphosphate, which makes up 75% of the phosphate product the City was using and is a sequesterant and de-scaler. This is confirmed by the operators who have reported clean water lines during main break repairs.

The City discontinued phosphate use on December 14, 2012 and began investigative monitoring. The 2013 investigative samples were high. The City interviewed homeowners and found that many of them had left their water stagnate for an unreasonable time frame (some over a week long). After instructing them to minimize stagnation times, copper levels dropped appreciably (30%). The City also discovered that some of the plumbing systems had electrical current and after the current was removed, copper levels dropped accordingly. Investigative samples collected in the first half of 2014, leading up to the summer compliance samples, also had some higher stagnation times and electrical current and both seemed to influence the results.

Compliance monitoring began in June 2014 and continued through September. Copper was still high (90th percentile = 1230 ug/l) but under the federal action level (1300ug/l). From discussions with City staff, high stagnation times appeared to influence results. With no additional changes, the 90th percentile dropped appreciably in the 2015 investigative monitoring event – 1040ug/l. The positive response was short lived though. Compliance samples collected in 2017 had a 90th percentile of 1260mg/l.

Forth report, published May 20, 2016 as a draft, was an exhaustive analysis of corrosion and water quality at a large utility customer (Mathy) who was experiencing pin-hole corrosion in copper pipe. The study looked at corrosion factors at three locations in the facility – City water entering the building, water in the domestic plumbing, and chiller water in the cooling equipment. Water quality factors affecting corrosion in the City water were said to be related to uniform corrosion from chloride and sodium with a slight microbiological influence. Narrative provided by Process Research, in an email sent to the City, suggested treating municipal water with a low dose of Clearitas to break up biofilm. Another email mentioned that nitrate can also influence corrosion in a similar manner as sodium and chloride. The report recommended that domestic hot water be softened, treated chemically, and flushed periodically to address scaling, metals accumulation, and biofilm issues. Recommendations for the chiller system included reducing the flow velocity of the water since it was causing erosion corrosion of the copper pipe.

The City is concerned with the variability of copper results and the fact that the 90th percentile is approaching the federal action level. During lead and copper monitoring this year, the City tested the suite of water quality parameters (WQP) required of larger utilities for determining optimal corrosion control. Results are as follows:

Well	Alkalinity (mg/l)	Aluminum (mg/l)	Calcium (mg/l)	Chloride (mg/l)	Total Chlorine (mg/l)	Free Chlorine (mg/l)	Conductivity (25°C-MHO)	Hardness (mg/l)	Iron (mg/l)	Manganese (mg/l)	Field pH (SU)	Sulfate (mg/l)	Temperature (°C)
MW7	240	0	83.6	53.4		.89	689	324	0	0.0261	7.5	17.3	13.4
MW8	259	0.196	106	62.6		.78	754	343	0	0.0101	7.4	20.1	12.9
MW9	272	0	86.4	82		.79	839	334	0	0.000299	7.4	15.7	12.8
MW10	253	0.101	84.3	38.9		.87	206	336	0	0.0147	7.5	20.1	13.6
DS (avg.)	255	0	85.25	55.4	.65	.67	731	361	0	0.00557	7.49	0	18.6

WQPs are used in determining whether scale will form on pipe surfaces. Type and amount of scale affect uniform corrosion of lead and copper. WQPs are also used in the selection of appropriate treatment option for creating and sustaining corrosion inhibiting scales. While factors affecting corrosion are difficult to determine, due to changing water quality conditions and interplay between different chemical and microbiological variables, successful treatment strategies have been standardized since the rule took effect in the early 1990’s.

Recent EPA guidance (2016 publication “Optimal Corrosion Control Treatment Evaluation Technical Recommendations for Primacy Agencies and Public Water Systems”) recommends orthophosphate as the best treatment option for copper corrosion given the City’s water quality characteristics. Process Research’s previous recommendations recommend orthophosphate as well. pH would not be appropriate given the high dissolved inorganic carbon. This would result in calcium carbonate scaling problems rather than forming a protective film on the pipe surface itself.

EPA is in the process of revising the lead and copper rule. For now, lead and copper monitoring will remain at the reduced schedule of 30 samples every 3 years. The next monitoring period is 2020.

Disinfection Byproducts - Trihalomethanes (TTHM) and Haloacetic Acids (HAA5)

Under the SDWA, the City began disinfection byproduct (DBP) monitoring in 2004. Quarterly samples were collected at four locations. Monitoring frequency was reduced to annual in 2005 and adjusted for Stage II DBP in 2014. Several monitoring events have been completed. The is meets DBP standards.

The highest HAA5 result on record (75.5ug/l) came from the Cedar Creek Lane on February 17, 2004. The average for that year was 39ug/l HAA5 and met the MCL requirement of 60ug/l on an annual average basis. The highest TTHM sample on record (11.655ug/l) was collected from 4051 Mary Drive on August 24, 2006. The average for that year was lower and met the MCL of requirement 80ug/l on an annual average basis. Under Stage II DBP monitoring requirements, the City began monitoring at two approved sites (3745 Crestwood Place and 4051 Mary Drive) in the 3rd quarter of 2014.

Since monitoring results continue to be “less than or equal to” 40ug/l TTHM and 30ug/l for HAA5, monitoring will remain on the reduced schedule of two samples per year during the 3rd quarter. The next monitoring round is scheduled for 2018.

Radiological (RAD)

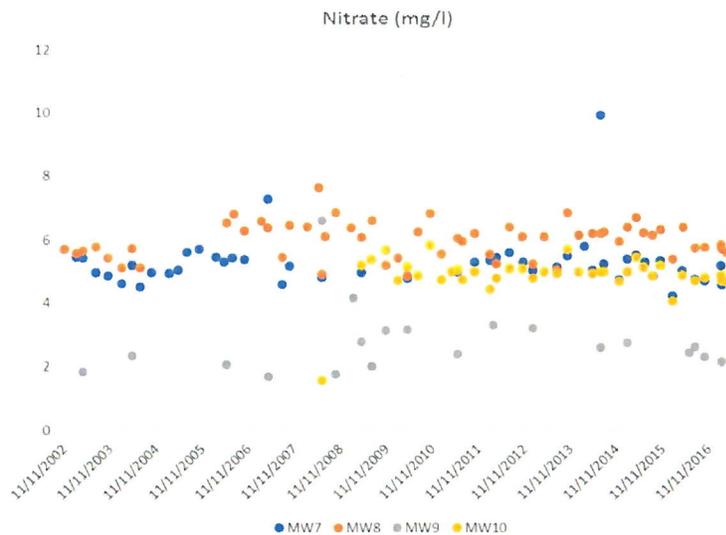
The City collected its first full round of radiological samples in 2008 for SDWA purposes. Radiological results have met Federal standards and are generally low.

Future monitoring frequency depends on levels found in previous monitoring events. Since radiological results were below half the MCL, monitoring is set at a 6-year frequency. The next monitoring event is scheduled for 2020 at wells 7, 8, 10, and 2023 for well 9.

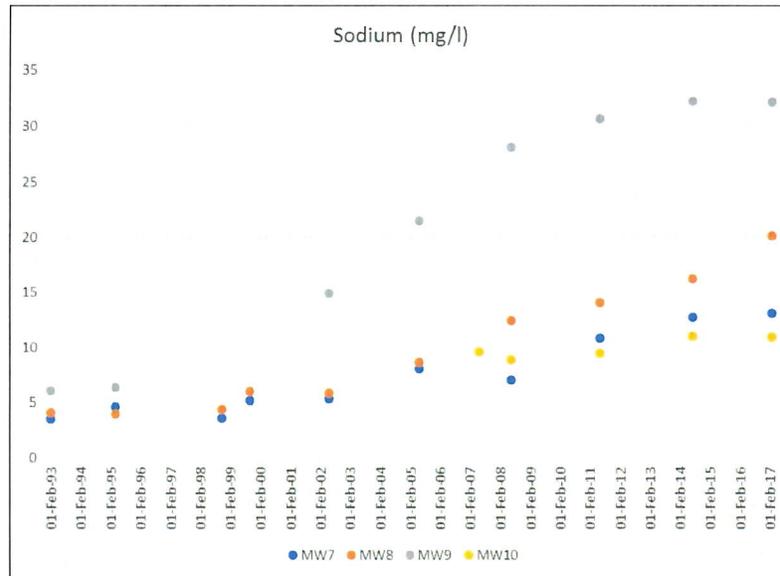
Inorganic Contaminants (IOC)

For SDWA purposes, IOC monitoring began in 1993. Several monitoring events have been completed to date. Although some inorganics are elevated, the City has met all the primary standards under the SDWA.

Nitrate levels are elevated at some of the wells and have reached the MCL (10mg/l) at MW7 in the past. Historically speaking, all the wells have been over half the MCL at some point in their history and were on quarterly monitoring. Monitoring is currently annual at MW9 and quarterly at MW7, MW8, and MW10. Quarterly monitoring is required when samples reach 5mg/l and will go back to annual monitoring when results are below this figure for four quarters. Results are trending slightly lower as shown below:



Sodium, and to a lesser extent, chlorides is a more recent concern. Both have been increasing at all the wells over the last couple decades as shown below:



Well 9 is above the lower threshold in EPA’s guidance as described as follows:

“For individuals on a very low sodium diet (500 mg/day), EPA recommends that drinking-water sodium not exceed 20 mg/L. In order to avoid adverse effects on taste, EPA recommends that sodium concentrations in drinking water not exceed 30 to 60 mg/L, a threshold for taste-sensitive segments of the population. Many individuals will not be able to detect the presence of sodium in this concentration range.”

The “taste-sensitive segments of the population” are typically those that are young. If sodium continues to increase, these customers may find it objectionable first.

Sodium and chloride is said to influence copper pipe corrosion in a uniform manner. This was pointed out by the City’s consultant, Process Research. As discussed previously, the City has had problems with copper corrosion for some time now. Given the rising trend of sodium and chlorides, one would expect to see a similar trend with copper levels. This has not been the case. Copper has always been elevated and is not in an upward trajectory as sodium and chloride. This does not mean they are not influencing copper corrosion though. Further evaluation may be necessary in this regard.

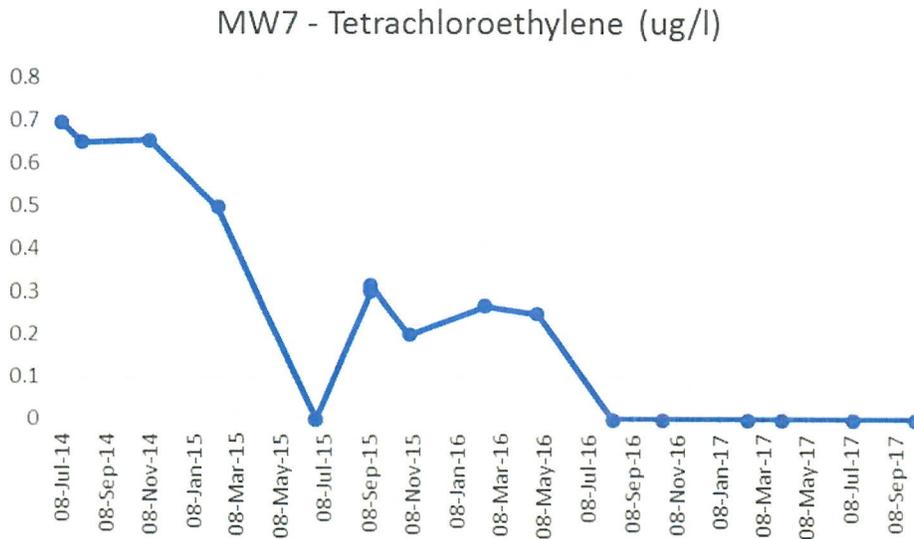
Sodium and chloride are commonly associated with de-icing chemicals – notably salt. Improper salt storage or impoundment, over application during inclement weather, and poor disposal practices of salt laden snow contribute to the rise in sodium chloride in the groundwater. Drinking water wells have been abandoned in some areas of Wisconsin due to salt contamination. Some communities, notably Madison, adopted a public education program to address salting practices that are impacting their well water.

IOC monitoring will remain on a 3-year monitoring schedule with the next monitoring event scheduled for 2020. Nitrate monitoring will be annual at MW9 and quarterly at the remaining wells.

Volatile Organic Contaminants

VOC testing began in 1992 under the Federal SDWA. Several monitoring events have been completed to date. One VOC chemical has been detected and this was at MW7.

The City had its first VOC detect on July 8, 2014. Tetrachloroethylene (PCE) was detected at MW7 and persisted for the next several monitoring rounds as shown below:



PCE is a dry-cleaning chemical and solvent. PCE could have been from solvents/paints used at the well in 2014; however, it persisted longer than that observed at other water systems in a similar situation. The results were well below the maximum contaminant level (MCLG) of 5ug/l and have since dropped to the MCL goal (MSLG) of zero. No daughter products (i.e. trichloroethylene) were detected.

Monitoring frequency is determined by previous monitoring results, well construction, and potential contaminant sources within the recharge zone. The City does not qualify for a “use waiver” because there are potential VOC contaminant sources within the recharge area of each well. Monitoring will remain on a three-year frequency for wells 8, 9, and 10 with the next monitoring event scheduled for 2020. Well 7 will be moved from quarterly to annual monitoring next year. If there are no VOC detects during the next three years, monitoring will be reduced to the 3-year schedule with the other wells.

Synthetic Organic Contaminants

SOC monitoring began in 1993 under the SDWA. Several monitoring events have been completed to date with the last being earlier this year. There has been one SOC detect in the past. Endothall was detected (.53 ug/l) at MW7 in 2005.

Endothall is used as a defoliant for a wide range of crops and as a herbicide for both terrestrial and aquatic weeds. It is used as a desiccant on Lucerne and potato, for the defoliation of cotton, to control aquatic weeds, and as an aquatic algaecide growth regulator. It has been used for sugar beets, turf, hops sucker suppression; alfalfa, clover desiccants; potato vine killers. The endothall concentration was too low to be quantified (<LOQ) and fell below the codified limit of detection (LOD 9ug/l). It has not been detected in subsequent monitoring events.

Monitoring waivers may be used to reduce the monitoring frequency. The Department granted a “use waiver” at the City wells. They have more than 60’ of grouted casing, have no potential contaminant sources, and there have been no SOC detects at three of the wells. The SOC detected at MW7 was not in the quantifiable range and not detected during subsequent testing. As such, monitoring is on the reduced, 6-year monitoring frequency. None of the wells qualify for a “susceptibility waiver” (9-year frequency) since the aquifer is unconfined. The next monitoring event is scheduled for 2023.

Aesthetics (Hardness, Color, Odor, Taste)

Aesthetic complaints in Western Wisconsin water systems are commonly associated with hardness, high iron/manganese minerals, and chlorine odors. A more detailed discussion related to these issues follows.

Hardness

The City’s drinking water is classified as “very hard”. Hardness ranges from 324 to 343 mg/l as CaCO₃.

Customers typically remedy hardness by softening their own water when it enters the home. This practice not only removes excess scale but also reduces soap and detergent use.

Iron/Manganese

Iron and manganese are naturally occurring minerals in well water. City water contains the following amounts of iron and manganese:

Well	Iron (mg/l)	Manganese (mg/l)
MW7	0	.026
MW8	0	.01
MW9	.54	.07
MW10	0	.005
Secondary MCL	.3	.05

Iron and manganese concentrations are above the secondary MCL at MW9 and almost non-existent at the other wells. The minerals are problematic at MW9 (drops well yield over time) and the water system in general (aesthetic complaints) until the construction of the treatment plant in 2016. While treatment does not slow or stop its effect on well yield, treatment removes almost all of these minerals before the water enters the distribution system.

As far as current water quality in the system, the operators no longer receive aesthetic complaints from the minerals.

Chlorine

Chlorine related aesthetics, commonly reported as odor or taste, typically occur when breakpoint chlorination is not achieved or when solids collect in stagnant zones and deplete chlorine concentration. Breakpoint chlorination occurs when adequate chlorine is added to the water to break the chlorine-ammonia molecular bond and satisfy demand of iron/manganese oxidation. Combined chlorine causes most taste and odor issues and is corrected by increasing and maintaining chlorine levels to break this chlorine-ammonia bond. While the City maintains very good disinfection levels, breakpoint chlorination determinations have not been carried out recently by the City. Anecdotally, the City reports about a handful of customer complaints each year.

Fluoridation

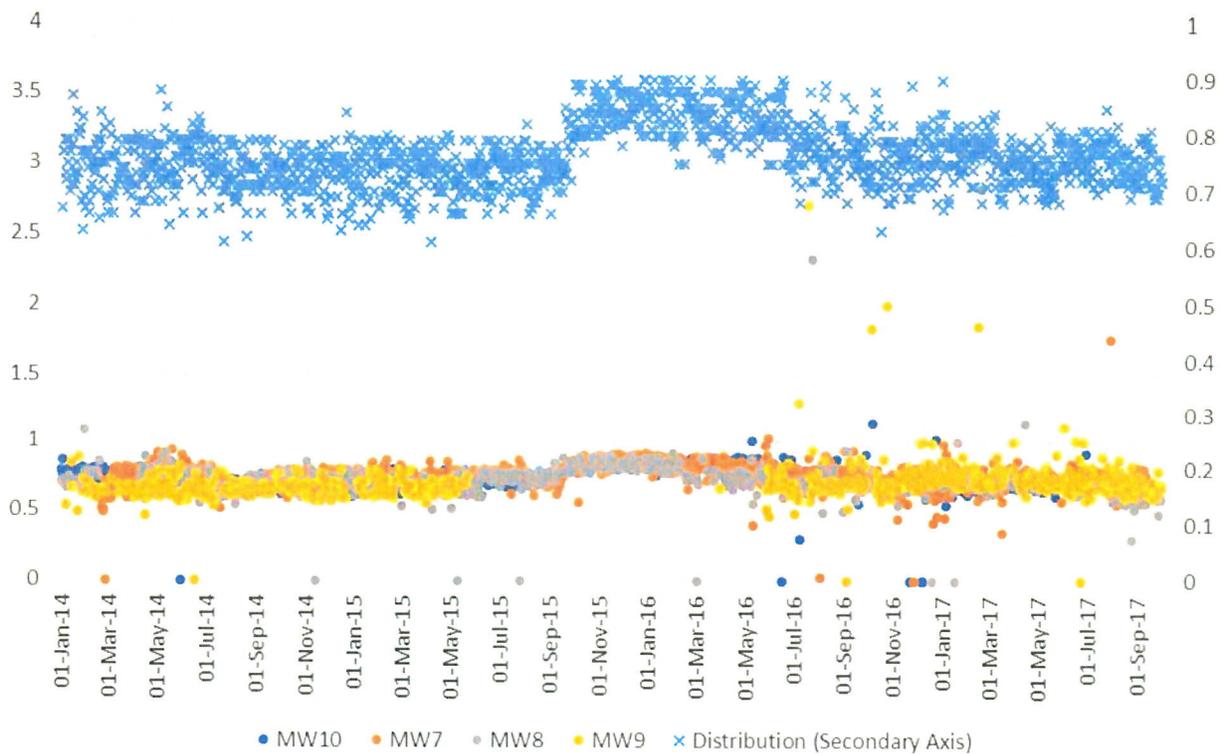
Public interest in water fluoridation began in the 1940’s as its dental benefit became widely known. In Wisconsin, fluoridation is a local decision and did not pick up traction in the City until the 1980’s. The City adopted fluoridation in 1989 and has been fluoridating since.

Studies confirm that optimizing fluoride levels in drinking water reduces dental cavities as well as short and long-term expenses associated with correcting tooth decay. Many communities throughout Wisconsin fluoridate. Since most municipal wells in Wisconsin lack enough natural fluoride for dental benefit, supplemental fluoridation is used. In Onalaska, natural fluoride is about .1 mg/l and provides only 14% of the recommended fluoride dose. Dental protection requires a fluoride dose of .7mg/l (WDHS revised

standard) with an acceptable range between .6 to .8mg/l. The City adds additional fluoride to the water to raise it to the optimal level for dental protection.

Fluoride is injected into the water at each well house at an average calculated dose of .75mg/l. This is the same as that tested at the entry point. While the entry point and distribution system test results are consistent, calculated dose can vary. Similar to chlorine dose, excluding outliers over 4mg/l, variance of the fluoride dose has been higher the last 18 months as shown below:

Fluoride Dose and Distribution System Fluoride (mg/l F)

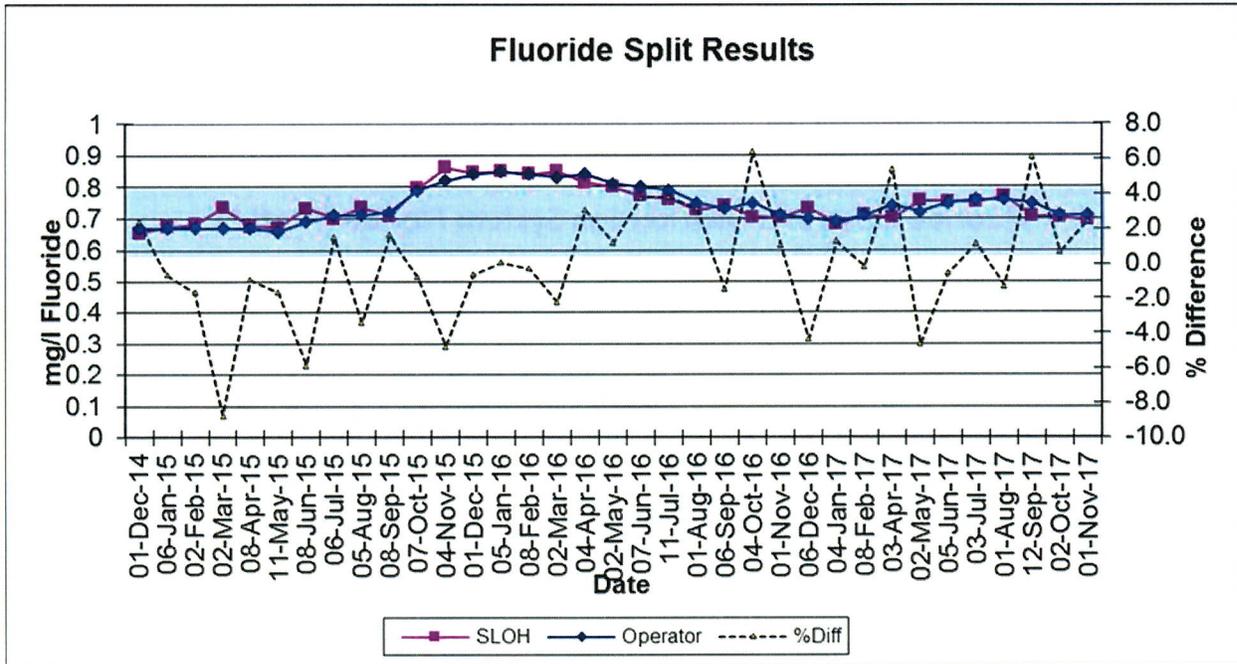


As mentioned previously, high variance is attributed to SCADA issues, sensitivity of the digital sensing equipment, actual equipment failure or leaks, and maintenance activities. There were some days water was pumped but no chemical use was reported, some days chemical use was reported but no well water was pumped (most common), and other days the calculated dose was well above 4mg/l. Staff closely review equipment use, feed rates, and dosing information daily and address issues as they arise. Reasons for anomalies are provided in the comment section of the monthly operating reports.

The City tests fluoride at the entry point as well as daily at the utility lab in the distribution system. Although a slight jump occurred in the distribution system toward the end of 2015 (blue x's in the above graph), levels were lowered and appear consistent. It averaged .76mg/l over the last 12 months and is typically within the optimal range for dental benefit (.6 to .8mg/l).

The State also evaluates the City's testing program by requiring the collection of a split sample once a month. The split is tested by the Wisconsin State Laboratory of Hygiene (SLOH). Sample results show

little variance between the testing agencies and, over the last year, are consistently within the recommended dental health range (.6 to .8 mg/l) as shown below:



Fluoride is also tested every three years at each entry point when inorganics are collected. Sample results from 2017 are as follows:

Well	Date	Result (mg/l F)	Percent of Target .7mg/l
7	2/21/2017	.65	93
8	2/21/2017	.71	101
9	2/22/2017	.08	11
10	2/22/2017	.62	89

The results meet both the primary (4mg/l) and secondary (2mg/l) maximum contaminant level; however, results reported for well 9 were low. The operator indicated that the IOC sample was mistakenly collected upstream of treatment rather than the entry point tap.

The City has an excellent fluoride testing program with very good quality control. Testing is carried out by the operator using the SPADNS test method with a HACH digital colorimeter. Observations of testing protocol follow:

- Reagent is measured with a pipette during the week and AccuVac on weekends
- SPADNS reagent is within its expiration date
- Lab grade deionized water is used
- Meter condition and optics compartment are in good condition
- Meter is set up to read to the tenth (.01) mg/l
- Operator runs the test when the sample is at room temperature which is correct for this test
- Standards are run weekly to verify meter/test method accuracy and recorded

- Standards are within their expiration date

Unregulated Contaminant Monitoring Rule (UCMR)

UCMR is used by the federal government to evaluate contaminants of interest for future regulatory action. Hundreds of water systems across the United States are required to participate in the program. Samples are collected by the water system and sent to a federal lab for analysis. USEPA coordinates the monitoring program directly and has selected the City to participate in the next UCMR event (UCMR4) scheduled for 2018 to 2020.

The City participated in UCMR3 between 2013 and 2015. Some contaminants were detected including chromium 6. Onalaska's chromium 6 results were deemed some of the highest in Wisconsin. It was detected at each well with the highest result being 1.4ug/l at MW7. Chromium 6 is prevalent in drinking water wells across the nation. It's a naturally occurring mineral and is used in the manufacturing, plating, and finishing of steel. The water industry is expecting USEPA to release a draft of its risk assessment soon.

Programs Administered

Implementation of several mandatory programs at the local level is required by code. The status of their implementation follows.

Vulnerability Assessment and System Security

Municipal water systems serving more than 3,300 people were required to have a vulnerability assessment completed by 2004. The City completed its assessment in 2004 and submitted a certification statement to the Department on March 2, 2004.

The City has completed "table top" security exercises in the past with the last being October 2012. A cursory review of security was carried out on the day of the inspection. Facilities were locked and relatively secure.

Emergency Planning

A copy of the City's emergency plan is on file with the Department but some of the contacts are outdated. Plan elements include:

- List of local and state emergency contacts.
- System for establishing emergency communications.
- Mutual aid agreements the utility may have with other communities for sharing personnel, equipment and other resources during an emergency.
- Standard procedures for emergency water production.

It is noted here that the fire department agreed to serve as the "first responder" for chlorine gas leaks (reference March 10, 2015 memo).

Wellhead Protection

Loss of a well due to groundwater contamination poses significant fiscal impacts on communities. Wellhead protection is a proactive tool for protecting the infrastructure investment by protecting source water quality. It does this by defining a well's recharge area, typically a 5-year recharge zone, and protecting the recharge zone through a local wellhead protection ordinance. The City has a wellhead protection plan and ordinance in place to enforce it.

Private Well Abandonment

The City has a current private well abandonment ordinance with a 5-year permit term. The City permits well owners if their property is in the City and has municipal water service. Permit stipulations are as follows:

- Meets Wisconsin's well/pump code,
- History of producing safe water evidenced by two bacteria samples collected two weeks apart,
- Well is not connected to the same plumbing as municipal water,
- Well has a functioning pumping system,
- Well shall be justified as reasonable in addition to water provided by the municipal system.

Owners not meeting the above requirements are required to abandon their wells.

There are 65 private wells located on properties with City water service. All but one of the well owners have a current permit. United Health plans to have their irrigation well inspected and tested next spring.

Cross-Connection Control

The City implements a comprehensive cross-connection inspection program that includes a local ordinance and written administrative plan. Implementation began in 2005 for the residential customers and 2010 for the non-residential customers.

Until recently, residential and low risk commercial customers were inspected at a 10-year frequency; however, this is changing to a 20-year inspection with new meter replacements. Inspections are currently being completed by City staff (Mr. Frank Fischer) during new meter installs. Mr. Fischer has appropriate training and experience to carry out inspections. Inspections include bath and kitchen areas and are documented on current inspection forms.

Implementation of the non-residential inspection program is a coordinated effort between the City and their contract inspection agent, HydroCorp. HydroCorp is a widely recognized provider of cross-connection inspection services. They signed a contract with the City in 2016 after Coulee Region Mechanical discontinued their inspection business. HydroCorp coordinates the scheduling of inspections, completes the initial inspection, and coordinates follow-up inspections with the City depending on scheduling and plumbing complexity. HydroCorp inspection software is used to document the results and track the status of compliance.

Non-residential inspections are completed on a 2 to 10-year schedule depending on similarity to residential plumbing. All the non-residential accounts have been inspected at least once over the last ten years. The high hazard non-residential customers, except for the La Crosse Country Club, have been inspected within the last two years. The Country Club was missed due to confusion between contract inspection agents. As part of the inspection, HydroCorp reviews the certification of all registered backflow protection devices and determines whether they meet the testing frequency requirement in the state plumbing code.

The City uses a 30-60-90 day stepped enforcement process to eliminate or resolve cross-connection, plumbing deficiencies. If a deficiency is not resolved within 90 days, the water service is shut off. The City reports that two customers have reached the service shut-off stage. Old Country Buffet's service has been disconnected and the irrigation system was shut down at a residential customer until that deficiency is resolved.

The City has been filing annual reports since 2011 summarizing inspection results. Inspections completed since program inception, excluding 2017, are as follows:

Status	Total Customers	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Residential & Multi-Family	5437	550	608	550	581	596	477	377	844	597	622
Low Risk Non-residential	384		8	15	38	76	55	21	60		24
High Risk Non-residential	176				93	89	85	99	51	48	84

Onalaska inspected all the residential (including multi-family) and low-risk, non-residential customers within the last 10 years. All but one high-risk, non-residential customer has been inspected within the last two calendar years (2015/2016). The La Crosse Country Club was not inspected at the two-year point.

There is one loading station and it is located at MW10. Backflow protection is provided by a registered RPZ valve.

Distribution System Maintenance Practices

The City has a preventative maintenance program for ensuring the distribution system is in good working order and to maintain water quality during conveyance. The City began using InfraMap in 2016 to catalogue assets electronically and track maintenance activities. This is a GIS, database.

Conventional flushing is performed annually through the whole system with the last being completed during the summer. Additional flushing at the dead-ends is performed as needed. Uni-directional flushing is also performed as needed. Flushing records are current and all the hydrants are reported to be functioning properly.

The City also administers a valve exercising program. Except for those located on stubbed water main (for future development/extensions), valves were exercised once during the last 5 years. Exercising records are current and being incorporated into InfraMap. The operator reports that all valves function properly.

Total water losses are less than the 15% allowed by the WDNR/PSC. Losses averaged 6% over the last 3 years with 6% in 2016. To control losses, the City subcontracts annual leak detection. About 6 to 8 leaks are usually identified.

All the water services are metered. Residential meters are replaced every 20 years using Sensus iPerl meters. Larger meters are tested by the City and are within the required testing frequency. The City replaces meters that do not meet standards and replacement is generally completed within a month of testing. Records are current.

All the well meters are magnetic and were removed and tested earlier this year.

Storage Maintenance Practices

Wildrose reservoir was cleaned (drain down) and inspected by Water Tower Clean and Coat on October 16, 2016. The roof and membrane passed soak down testing. Floor cracks were cleaned and sealed with an NSF approved product called Aquata-Poxy.

Well Street reservoirs were inspected by Water Tower Clean and Coat in 2013. North Well Street reservoir had cracks in the pre-stressed concrete roof panels with evidence of leaking. The south Well

Street reservoir's roof, expansion-joints failed and leaked. Cracks were confirmed following excavation. New membranes were installed over both reservoirs in 2014.

County Club and **Hauser** reservoirs were cleaned and inspected by Water Tower Clean and Coat in 2011. Country Club looked good. Pictures of Hauser showed spalling, failure of the control joints, and evidence of leaking. This was confirmed following excavation of the sod. A new membrane was installed over Hauser in 2013.

The City plans to inspect all the reservoirs next year using the complete drain down method.

Water Reports

The City submits monitoring and operating reports on a timely basis. The reports are completed correctly and submitted to the Department on time.

Consumer Confidence Reports (CCR)

The City publishes consumer confidence reports on an annual basis. The reports provide customers with general water system information and water quality results over the course of the year. Reports contain all the required information. The City makes the CCR available to customers by mailing it to customers.

Water System Operators

The City is required to have a water system "operator in charge" with "Grade 1" certification in groundwater, oxidation and filtration treatment, and distribution system. Mr. Jim Prindle, Public Works Manager, is the "operator in charge" (OIC) for groundwater and distribution while Mr. Dean Loeffler is the OIC for oxidation and filtration treatment. Jim was certified in 2002 for groundwater and distribution. Dean was certified in oxidation and filtration in May 2017. Both have their Grade 1 certifications in the subclasses they are responsible for.

Jim has a firm understanding of professional practices in the water industry and provides good oversight of the water system. Jim delegates key functions to staff including sampling and testing, maintenance, operations, implementation of cross-connection and private well permitting programs, and oversight of filtration. With several operators having full certification, Jim is able to delegate OIC supervisory responsibilities to others when he is away.

Dean has ramped up nicely with operating and overseeing the oxidation and filtration process at MW9. He understands the process well.

Staff have done an excellent job repairing or replacing critical equipment in a timely manner and have a good testing program. For a system of this size and complexity, very few deficiencies were noted during the survey. This speaks well of the water operators.

Fiscal Practices

The water utility's financial officer is the Financial Services Director/Treasurer, Mr. Fred Buhler. The utility maintains separate journals and has an annual budgeting process. Independent financial audits are performed annually by Hawkins Ash CPAs of La Crosse Wisconsin.

Outstanding debt service includes the following instruments:

Instrument	Issued	Matures	Interest (%)	Principle Remaining (\$)
2005 GO BONDS	4/1/2005	10/1/2025	4.12	8,912
2007 GO BONDS	4/2/2007	10/1/2026	4.12	17,433
2007 GO REFUNDING BONDS	1/5/2007	10/1/2021	3.97	22,914
2008 GO BONDS	4/2/2008	4/2/2027	3.4	97,592
2009 GO BONDS	4/2/2009	4/2/2028	2.96	185,442
2012 GO BONDS	4/1/2012	10/1/2031	2.98	490,000
2012 GO REFUNDING BONDS	7/2/2012	10/1/2023	2.98	16,046
2012 GO REFUNDING BONDS	12/27/2012	10/1/2027	2.98	64,381
2013 GO BONDS	4/1/2013	10/1/2032	2.99	36,154
2014 GO BONDS	4/1/2014	10/1/2033	3.00	439,694
2015 GO BONDS	4/1/2015	10/1/2034	3.00	342,522
2015 MRB	4/1/2015	5/1/2027	2.00	1,672,500
2016 GO BONDS	4/4/2016	10/1/2035	2.00	190,000
2016 GO REFUNDING BONDS	7/12/2016	10/1/2017	1.00	222,533
2016 Safe Drinking Water Loan	10/16/2016	5/1/2035	1.65	3,036,089

Including depreciation, the utility's net operating income has been positive the last few years with an ending balance of \$344,594 in 2016. Net rate base was 3.72%.

The last rate adjustment occurred on June 10, 2016. This was a full rate case. Current rates for a 3/4" service is \$16.50/quarter fixed and \$1.50/100ft³ volumetric charge for residentials, \$1.30/100ft³ for non-residentials, and \$2.15/100ft³ for irrigation customers. The City does its own meter reading and bills quarterly.

In terms of cost of water, the City is 8th lowest of 94 Wisconsin Class AB utilities.

Previous Enforcement Action

There have been two enforcement actions taken by the Department since the last survey and both relate to missing samples.

April 19, 2017 – Notice of Noncompliance for failure to submit a split fluoride sample to a certified laboratory during the month of March 2017. The City plans to include the public notice in the water bills this year.

July 15, 2016 – Notice of Noncompliance for failure to collect a quarterly raw bacteria sample for MW9 in the 3rd quarter of 2016. This was public noticed in the 2016 consumer confidence report.

SANITARY SURVEY FINDINGS

A lot of information is gathered and reviewed during the survey process. Since surveys are performed on a 3-year basis, it's important that the inspection be carried out successfully and clearly documented so that issues can be resolved by the community in a timely manner. The section on findings hopes to do just that. Findings include significant deficiencies, deficiencies, additional requirements, recommendations, accomplishments, and capacity development.

Type of Deficiencies

The survey process identifies code violations. These are problems in the drinking water system that cause or have the potential to cause operational problems, equipment failure, or short and long-term health risks depending on changing conditions. They indicate noncompliance with one or more of Wisconsin administrative code which are largely based on Federal or other state standards.

Violations may be classified as a deficiency, significant deficiency, or nonconforming feature (NCF). Nonconforming features are design deficiencies, non-significant in nature, that existed before the December 2010 code change (ch. NR811 Wis. Adm. Code) but identified afterwards. They are typically corrected when projects go through formal plan review. Some deficiencies may be significant in nature and are described as significant deficiencies under Federal Ground Water Rule (ch. NR809.04 Wisconsin Administrative code). They must be corrected in a timely manner; otherwise, USEPA is notified and public notification is required (ch. NR809.960 Wis. Adm. Code) every 90 days until resolved. Previous deficiencies that remain unresolved at the time of the survey are designated a “public water system management and operation” significant deficiency under ch. NR809.35(5g) Wis. Adm. Code.

The Department is listing significant deficiencies first followed by deficiencies, additional requirements, and non-conforming features.

Significant Deficiencies

1. La Crosse Country Club (300 Marcou Rd.) has not been inspected for cross-connections by the City within the last two calendar years. The last inspection on file was from 2014. Inspect their plumbing facilities by December 31, 2017. (ch. NR810.15 Wis. Adm. Code)
2. Country Club and Hauser water reservoirs have not been inspected during the last 5 years. The last inspections on file are from 2011. They must be inspected by May 1, 2018 and reports submitted by June 1, 2018. (ch. NR810.14 Wis. Adm. Code)

Please be reminded that both Well Street reservoirs are due for their 5-year inspection next year. You may want to inspect all your reservoirs at the same time so they are on the same schedule. These should be complete drain down inspections and include soak down testing to verify none of the roofs or membranes leak. Please be reminded that a 48-hour notice must be provided to the Department before commencing the inspection.

3. Well 9's 2" vacuum "T", on the backwash line, needs a 12" air break above the backwash tank grate as described in the March 20, 2015 plan approval letter. This needs to be corrected by December 31, 2017. (ch. NR811.49(1d15) and NR811.52(1d3g) Wis. Adm. Code)



Deficiencies

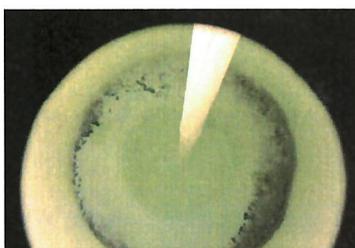
Several categories of deficiencies exist under the Federal groundwater rule. If they are not resolved in a timely manner, they become a “public water system management and operation” significant deficiency (ch. NR809.35(5g) Wis. Adm. Code).

Source Water, Pumping Facilities, and Treatment

4. MW9 air release needs to be screened with a 24-mesh screen. This needs to be resolved by December 31, 2017. (ch. NR811.37(5a) Wis. Adm. Code)
5. MW7 well vent needs to be screened with a 24-mesh screen. This needs to be resolved by December 31, 2017. (ch. NR810.13 and 811.36(1) Wis. Adm. Code)
6. Disconnect the unused chlorine lines from the water main at the Aspen Valley and East Main booster stations. Stagnant liquid in the line may harbor bacteria that could seed the water going past it. This needs to be resolved by December 31, 2017. (ch. NR810.13 Wis. Adm. Code)



7. Fluoride solution containers contain sediment or leftover media from carbon treatment by the supplier. Please clean the containers out by December 31, 2017. (ch. NR810.13 Wis. Adm. Code)



Storage

Reference significant deficiency section.

Distribution System

No distribution system deficiencies were noted.

Monitoring and Reporting

8. There have been several occasions where chemical use is being reported in the monthly operating reports when the well is not pumped. Apparently the SCADA system is populating the monthly report with this information. Please do not report chemical use if no chemical is being used. This may require additional logic in your SCADA system. Until then, you should review and correct your monthly operating reports manually beginning with the November 2017 report. (ch. NR810.07 and NR810.13 Wis. Adm. Code)
9. The 2017 IOC sample collected at MW9 was mistakenly collected upstream of treatment. IOC, RAD, SOC, and VOC samples must all be collected at locations representative of water going into the distribution system and that would be fully treated water at the entry point sample tap.

The deficiency is considered resolved. The City labeled the entry point sample taps and staff have been made aware of the correct sample locations.

System Management and Operator Compliance

10. United Health's irrigation well needs City permit. It will need to pass an inspection by a licensed pump installer or well construction contractor and a bacteria test. A City well permit or permanent abandonment is required by May 27, 2018. (ch. NR810.16 Wis. Adm. Code)
11. Please update your emergency plan to include current contacts. This needs to be completed by May 27, 2018. (ch. NR810.23(2) Wis. Adm. Code)

Fiscal

No fiscal deficiencies were noted.

Additional Requirements

There are additional requirements that need to be met as part of the sanitary survey. These are not classified as deficiencies at this point but will need to be satisfied within the allotted time frame to avoid being classified as a deficiency.

12. Please be reminded that the City will need to public notice the missed fluoride sample by April 2018. (ch. NR809.953 Wis. Adm. Code)
13. The City will need to complete a 5-year inspection on the Well Street reservoirs in 2018. (ch. NR810.14 Wis. Adm. Code)

Non-Conforming Features

Non-conforming features are non-significant design deficiencies present prior to the December 2010 code change but identified after the code change. While they are required to be corrected during reviewable projects, it is recommended that you address these items now. The correction of these deficiencies may be required when replacing existing equipment such as solution containers.

14. Generator located in MW8 is not in a dedicated room. (ch. NR811.27(1a) Wis. Adm. Code)

15. Fluoride solution containers at MW7 and MW8 are not located within a protective containment basin capable of receiving accidental spills, drainage, or overflows without an uncontrolled discharge outside of the containment basin. This is extremely important given the large volume of acid stored and its location next to chlorine gas. Double walled solution containers should be purchased the next time a solution containers are replaced. (ch. NR811.39(3d) Wis. Adm. Code)
16. MW7 and MW8 do not have separate fluoride and chlorine gas rooms. Fluoride solution and the feed pumps share the same room with the compressed chlorine gas. Fluoride is an acid and chlorine is a compressed gas. (ch. NR811.40(11) and .51(2a) Wis. Adm. Code)
17. Continue to eliminate dead ends where possible. These are usually addressed during other utility projects. (ch. NR 811.70(8) Wis. Adm. Code)
18. Continue to eliminate undersized water mains where possible. These are usually addressed during other utility projects. (ch. NR 811.70(5) Wis. Adm. Code)

Recommendations

During the course of the survey, several observations were made that are considered recommendations. They may hinder or prevent the utility in consistently providing safe drinking water to customers under certain circumstances or they may be related to safety concerns. They are usually based on industry standards in the drinking water field. The following recommendations are made:

1. The City may want to consider treatment for copper corrosion. Your 90th percentile copper results have increased incrementally the last three monitoring periods and is shy of the action level. Orthophosphate has been suggested by your consultant. The Department agrees that it should be considered. You may want to evaluate your treatment options and perform bench testing to demonstrate its effectiveness for addressing copper corrosion without affecting lead corrosion. Treatment would need to be approved by the Department prior to installing equipment.
2. It is highly recommended that the compressed chlorine gas and hydrofluorosilic acid have separate rooms. These are non-compatible chemicals. As described by USEPA guidance, "Each compressed gas should have its own separate storage/feed area. Chlorine and ammonia should be stored separately from each other, as well as from all other chemical groups. Storing incompatible chemicals together could create a hazardous reaction as the production of toxic gas, accelerated corrosion, or an exothermic reaction (a chemical reaction that releases heat), which could result in an explosion and/or fire. This reaction could be catastrophic, resulting in loss of life and rendering the water plant inoperable." To ensure the safety of personnel and the system itself, it is highly recommended that you store each incompatible chemical in a separate room or area.
3. The Department recommends that you evaluate salt storage, salt use, and snow disposal practices to determine sources that may influence groundwater quality affecting your wells. Then implement best management practices and public education programs to lower levels in the aquifer. If sodium levels continue to increase in your water at the current rate, customers could find the drinking water objectionable in a couple decades. Once you reach this point, you cannot reverse it at the same rate it increased and you may have to locate another source water.
4. It is recommended that you test air quality for radon at the well 9 pumphouse/treatment building. Radon may be released or vented inside the building through your treatment process and could create an unhealthy work environment for staff. You may want to complete testing during the winter when

the ground is frozen so radon from any building seepage is included in the results. Also, do so during normal operation of the well and treatment process include backwash events.

5. It is recommended that any temporarily appointed operator-in-charge (OIC) personal be certified at the proper grade level.
6. It is recommended that you calibrate all your chemical scales to read to the tenth pound rather than two tenths. This reduces error introduced into the calculated dose.

Accomplishments

The City has made several important improvements to the water system over the last few years. They have improved the efficiency and reliability and safety of your water. This includes:

1. Construction of a treatment plant to remove iron and manganese at well 9. This improved the quality of water pumped to the distribution system.
2. Collection of investigative samples from a large number of residences over the last few years to evaluate copper corrosion. In addition, the City tested water quality parameters at the wells and distribution system to evaluate those that may affect corrosion as well as an aid to determine future treatment strategies to reduce corrosion.
3. Staff began using a GIS database to track assets, their condition, and predictive maintenance.
4. Management hired new operators to fill vacancies over the last few years and more seasoned staff are being moved into other roles deemed critical to the success of the utility. Staff receive quality training and are given opportunities to use that training while closely supervised. The City has done a great job in developing staff and creating an outstanding work culture that promotes excellence and the adoption of best management practices used in the water industry.

Capacity Development

As required by Federal law (42 USC 300f to 300j-26), this survey serves as an evaluation of the capabilities of your water system. This is called "Capacity Development" assessment and is essentially a viability analysis. It's a determination of whether you have and can maintain adequate technical, managerial, and fiscal practices to deliver water to your customers that meets Safe Drinking Water Act requirements.

This system has adequate technical, managerial, and financial capacity to provide safe drinking water. The next capacity evaluation will be carried out during the next sanitary survey, scheduled for 2020.

CONCLUSION AND RESPONSE

The Department completed a sanitary survey of the City's water system on November 8, 2017. Overall, the water system is in good condition and water quality has been excellent. Given the complexity of the system, staff have done a remarkable job maintaining and operating it over the last three years. Utility staff are conscientious, diligent, and quick to address known deficiencies in a timely manner when it is in their power to do so. The utility excels in so many areas and this speaks volumes of an outstanding management team and the quality of personnel working there.

As would be expected with a large, complex water system such as Onalaska, deficiencies were identified and will need to be resolved. Many are minor in nature, but there were three significant deficiencies requiring close attention. The biggest concern was that two of the reservoirs do not appear to have been cleaned and inspected since 2011. Doing so at the 5-year interval prevents sediment from building up and shielding bacteria. It also reduces chlorine demand and aesthetic problems.

A corrective action plan or schedule was included with each deficiency. Please provide a written response within 45 days of receiving the survey report describing any corrective actions resolved or requests for extensions. As required by Federal and State code, the City needs to address all the significant deficiencies and deficiencies by the corrective action schedules established in the above report. Failure to do so will result in treatment technique (TTV) violation and further enforcement action including a public notification requirement.

Please be reminded that the City must notify the Department in writing when the significant deficiencies are resolved and we must receive it by the due date. Otherwise, a TTV is triggered. A letter, fax, or email will suffice for this purpose. If you are having difficulty meeting one or more deadlines, please notify the Department before the deadline to discuss an alternative schedule.

I encourage the City to consider the recommendations. Some of these are critical to your long-term success, safety of your employees, and protection of your property.

Thank you for your assistance during the inspection. I have enjoyed working with the City and your staff over the years. It's been rewarding to see the improvements you have made. I hope you find the above assessment a fair treatment of the issues facing your utility as well as providing solid guidance and a framework to move forward. Please feel free to contact me with any questions you may have. You may reach me at 608-785-9013 (charles.cameron@wisconsin.gov).

Sincerely,


Charlie Cameron, P.E.
Environmental Engineer

cc: WCR DG Supervisor
Bureau of Drinking Water/Groundwater - DG/5

APPENDIX

Table A: Certified Operators

Name	License	Expires
FRANCIS FISCHER	34280	11/01/2017
ANTHONY HENTGES	33360	05/01/2019
JASON HILTON	33313	05/01/2019
THOMAS JOSTAD	31918	12/01/2019
DEAN LOEFFLER	33669	11/01/2020
GLENN MILLER	24612	06/01/2020
JAMES PRINDLE	32282	05/01/2020
COLLIN RADKE	35735	11/01/2018
SHANE STONER	33563	05/01/2020
JOHN WIATT	34352	05/01/2020

Table B: Specification of Wells and Pumps

	MW7 (172BG)	MW8 (BG173)	MW9 (BG179)	MW10 (PG968)
Location	504 Monica Lane	Oak Ave N & Grove St.	840 11TH Ave S.	504 Vilas St.
Construction Date	1971	1978	1986	2007
Geological Formation	Sand/Gravel	Sand/Gravel	Sand/Gravel	Sand/Gravel
Borehole (size/depth)	42" - 0 to 160'	42" - 0 to 169'	54" - 0 to 160'	48" - 0 to 10' 42" - 10 to 165'
Casing	26" - 0 to 105' 16" - +2 to 110'	26" - 0 to 114' 16" - +1.6 to 119'	36" - 0 to 100 26" - 0 to 110	26" - +1.5 to 125'
Screen	16" - 110 to 160'	16" - 119 to 169'	26" - 110 to 160'	26" - 125 to 165'
Grout	0 to 105'	0 to 111'	0 to 100'	0 to 104'
Gravel Pack	Yes	Yes	100 to 160'	104 to 165'
Original Static WL	75.5'	78'	68'	69'
Current Static WL	77.5'	86'	72'	62'
Original Pumping WL	89.3' @ 1250 gpm	92' @ 1200 gpm	92' @ gpm	90' @ 2512 gpm
Current Pumping WL	95.5' @ 2109 gpm	100' @ 2089gpm	88' @ 1650gpm	82' @ 2578gpm
Original Specific Capacity	91gal/min/ft	86gal/min/ft	125 gal/min/ft	120 gal/min/ft
Current Specific Capacity	117 gal/min/ft	149 gal/min/ft	103 gal/min/ft	129 gal/min/ft
Top of Bowls	112.5'	120'	110'	100'
TDH	342'	330'	348'	330'
Last Rehab./Reconstruction	2008	2008	2015 (airburst)	
Distance to Gravity Sewer	147'	70'	48'	87' to lined sewer 158' to unlined
Pump Manufacturer	Layne	Layne	Layne	Layne
Type	VT	VT	VT	VT
Age (Installed)	2000	2002	1987	2008
Motor (hp)	250 hp GE Motor	250hp US Motor	300hp US Motor; VFD	300hp, US Motor
Current Capacity (gpm)	2109 gpm	2089 gpm	2100 gpm @ 51hertz	2578 gpm
Auxiliary Power	None	Diesel GenSet	Natural Gas GenSet	Diesel GenSet
Latest Inspection	2015	2015	2015	2016

Chlorination			
Disinfection purposes using 100% gas chlorine, gravimetric measurement			
Well	Pump Make/Model/Capacity	Pump Setting (% Stroke / Speed)	Solution Container Size (gal)
MW 7	Hydro Instruments, Series 300, 25 lbs/day	19 lbs/day	150
MW 8	Hydro Instruments, Series 300, 25 lbs/day	24 lbs/day	150
MW 9	Hydro Instruments, Series 300, 100 lbs/day	Flow Paced, Set at 2.95mg/l	150
MW 10	Hydro Instruments, Series 300, 100 lbs/day	29 lbs/day	150
Fluoridation			
Dental purposes using 23% hydrofluorosilic acid (H ₂ F ₆ Si), gravimetric measurement			
Well	Pump Make/Model/Capacity	Pump Setting (% Stroke / Speed)	Solution Container Size (gal)
MW 7	LMI, B111-91FS, 1.6 gph	34 / 35	210
MW 8	LMI, B111-490FI, 1.6 gph	40 / 40	210
MW 9	LMI, AD951-939SI, 1 gph	Flow Paced, set at .68mg/l	165
MW 10	LMI, B111-91FS, 1.6 gph	45 / 35	165

Table D: Summary of Services and Meter Statistics

Service Type	Services			Meters		
	2013	2016	% change	2013	2016	% change
Residential				5959	6071	2
Commercial				545	436	-20
Industrial				7	7	0
Public Authority				54	40	-26
Multi-Family					101	
Irrigation					135	
Wholesale				9	10	11
Inter-Departmental						
Utility						
Total	5817	5826	.2	6574	6800	3.4

Table E: Summary of Water Use Statistics

Year	Population (est. Cap)	Average (gpd)	Maximum (gpd)	Total Losses (%)	Energy (total kw/hr)
2014		2,050,236	4,829,000	8	1828472
2015		1,969,951	4,374,000	3	1017430
2016	18695	2,006,071	4,977,000	6	836141

Table F: Summary of Water Quality Compliance (Bacteriological)

Year	Missed Samples	Wells		Distribution	
		Negative	Positive	Negative	Positive
2017		16		199	1
2016		16		240	
2015		14		240	
2014		16		242	

Table G: Summary of Water Quality Compliance (Chemical and Radiological)

Sample Group	Year	Source ID	Samples Taken	Missed Samples	MCL Violations
2017	DBP		2	0	0
2017	PBCU RULE		1	0	0
2017	SOC	7	2	0	0
2017	IOC	7	1	0	0
2017	NITRATE	7	4	0	0
2017	VOC	8	1	0	0
2017	SOC	10	1	0	0
2017	VOC	10	1	0	0
2017	VOC	9	1	0	0
2017	IOC	8	1	0	0
2017	NITRATE	8	4	0	0
2017	SOC	7	2	0	0
2017	NITRATE	10	4	0	0
2017	FLUORIDE		9	2	0
2017	PBCU		30	0	0
2017	VOC	7	4	0	0
2017	IOC	9	1	0	0
2017	SOC	9	1	0	0
2017	RAD	9	1	0	0
2017	IOC	10	2	0	0
2016	DBP		2	0	0
2016	NITRATE	7	4	0	0
2016	NITRATE	9	2	0	0
2016	VOC	9	1	0	0
2016	NITRATE	8	4	0	0
2016	NITRATE	10	4	0	0
2016	FLUORIDE		12	0	0
2016	VOC	7	4	0	0
2016	IOC	9	1	0	0
2015	DBP		2	0	0

2015	NITRATE	7	5	0	0
2015	NITRATE	9	1	0	0
2015	NITRATE	8	5	0	0
2015	NITRATE	10	5	0	0
2015	FLUORIDE		12	0	0
2015	VOC	7	4	0	0
2014	DBP		2	0	0
2014	RAD	7	1	0	0
2014	RAD	8	1	0	0
2014	IOC	7	1	0	0
2014	NITRATE	7	4	0	0
2014	VOC	8	1	0	0
2014	RAD	10	1	0	0
2014	VOC	10	1	0	0
2014	VOC	9	1	0	0
2014	IOC	8	1	0	0
2014	NITRATE	8	4	0	0
2014	NITRATE	10	4	0	0
2014	FLUORIDE		12	0	0
2014	PBCU		30	30	0
2014	VOC	7	2	0	0
2014	IOC	9	1	0	0
2014	RAD	9	1	0	0
2014	IOC	10	1	0	0

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #10

Project/Item Name: 6th & Quincy lift station project

Location: 6th & Quincy Streets

Requested Action: Approval of engineering services

Staff Report/Description: Staff has received proposals from three engineering firms to provide services for the 6th & Quincy lift station design. Scoring evaluations and proposed fees will be distributed at the meeting for discussion and action.

Attachments: None

CITY OF ONALASKA

CONSULTANT SELECTION

6TH & QUINCY STREET LIFT STATION PROJECT

<i>Consultant</i>	<i>Projected Fee</i>	<i>Consultant Score</i>
Strand Associates	\$59,900	282
MSA	\$78,216	260
SEH	\$69,700	240

RECOMMEND AWARD PROJECT DESIGN TO: ___Strand Associates _____

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #11

Project/Item Name: Irvin Street Parking lot

Location: 2nd & Irvin Street

Requested Action: Approval of project costs and reimbursements

Staff Report/Description: Staff has reviewed project costs submitted by SkogenHeim, LLC for construction of the Irvin Street Parking lot. City staff feel the submitted cost to be true for the project and the reimbursement amount is within the scope of the original Development Agreement.

Attachments: Project cost outline

Subm. Hced 12/8/17

IRVING STREET PARKING LOT INVOICES

9/30/17	DBS DESIGN SERVICES	\$ 14,000.00	10/10/15	#1371
9/30/17	DBS CONSTRUCTION	\$ 41,409.00	10/10/17	#1373
10/31/17	DBS DESIGN SERVICES	\$ 3,500.00	11/14/17	1388
10/31/17	DBS CONSTRUCTION	\$ 146,686.00	11-14-17	1386
	CITY ONA COND USE PERMIT	\$ 250.00		
Nov-17	DBS Group LLC	\$ 41,026.00	9/30/17	1396
	Weld Riley-attorney fees	\$ 8,287.50		
	TOTAL PAID BY SKOGENS	\$ 255,158.50		

City of Onalaska Expenses \$ 200,000.00
plus change order \$ 4,160.00

total expense by City Onalaska \$ 204,160.00

Paid by Skogens \$ 255,158.50
City of Onalaska portion \$ (204,160.00)
Skogen cost \$ (50,000.00)
skogen cost \$ 998.50

amount due Skogen \$ 204,160.00

DEVELOPMENT AGREEMENT

THIS DEVELOPMENT AGREEMENT (this "*Agreement*") is made and entered into effective as of this 18th day of July, 2017 (the "*Effective Date*"), by and between SkogenHeim, LLC, a Wisconsin limited liability company (hereinafter "*Developer*"), and the City of Onalaska, a Wisconsin municipal corporation (hereinafter "*City*").

RECITALS:

A. Developer owns certain real property located at 214 Main Street in the City of Onalaska, Wisconsin, as more particularly described on Exhibit A attached hereto (the "*Developer Parcel*"), on which Developer intends to develop and construct a new restaurant facility (the "*Project*");

B. Development of the Project would make the Developer Parcel subject to City parking ordinances;

C. The Developer Parcel does not contain sufficient space to allow for on-site parking to meet City requirements in connection with the Project;

D. City owns certain unimproved real property at 110 Irvin Street in the City of Onalaska, Wisconsin, as more particularly described on Exhibit B attached hereto (the "*City Parcel*"), which is in close proximity to the Developer Parcel;

E. Developer desires to use the City Parcel to accommodate parking for the Project, and, in connection therewith, desires to lease the City Parcel and make certain improvements thereon to allow for the use of the City Parcel as a parking facility;

F. Wisconsin Statute §66.0829 provides that a city may construct, extend, improve, conduct, operate, rent from a lessor or rent to a lessee, a municipal parking system for the parking of vehicles, including parking lots and other parking facilities, upon its public streets or public grounds;

G. City desires to lease the City Parcel to Developer for parking purposes in consideration of the agreements herein;

H. Developer also owns certain real property located at the southeast corner of the intersection of Main Street and Second Avenue in the City of Onalaska, Wisconsin, as more particularly described on Exhibit C attached hereto, on which Developer intends to develop and construct a public park facility (the "*Park*");

I. City intends to own, manage and maintain the Park following dedication of the Park to the City; and

J. The parties desire to enter into this Agreement to set forth the terms and conditions of their agreement.

NOW, THEREFORE, in consideration of the foregoing Recitals, which are incorporated herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

1. **Lease of City Parcel to Developer.** City hereby leases to Developer the City Parcel to be used as a parking facility in connection with the operation of the Project, and consistent with the terms and conditions of this Agreement. Developer accepts such lease of the City Parcel according to the terms of this Agreement.

2. **Rent; Consideration for Lease.** As consideration for the lease of the City Parcel to Developer by City, Developer agrees to undertake the following actions:

a. **Construction of Parking Lot.** Developer shall cause the construction of a parking facility on the City Parcel, which parking facility shall be constructed as a flat surface, asphalt parking lot with approximately fifty-two (52) vehicle spaces, as generally depicted on the site plan attached hereto as Exhibit D (the "**Parking Lot**"). Developer shall be responsible for obtaining all permits and hiring and supervising of all contractors and suppliers necessary to construct the Parking Lot to those specifications mutually agreeable to City and Developer, and shall cause such construction to be completed on or before November 1, 2017. The parties agree that any delays in the construction of the Parking Lot caused by unforeseen soil conditions or other matters outside of Developer's control shall result in an extension in the period for Developer's performance of construction of the Parking Lot for a period equivalent to the period of such delay. The parties further agree that the design standards for the Parking Lot shall substantially conform to those design standards implemented by the City in the construction of the adjacent parking lot at City's Great River Landing project as well as the City's Uniform Development Code. Construction of the Parking Lot shall not commence until both parties have agreed to the final construction plans and specifications for such work.

b. **Dedication of Park.** Within seven (7) years of the Effective Date, Developer shall donate and/or dedicate the Park to the City. City shall accept such dedication, and shall thereafter maintain the Park as a public park for the benefit of the general public. At the time of dedication of the Park, Developer shall provide the City certain standards and/or programs desired by Developer for the continued use, maintenance and upkeep of the Park after Developer's dedication (the "**Park Standards**"). City will use reasonable efforts to maintain the Park Standards after Developer's dedication of the Park.

c. **Construction Cost Allocation.** The parties agree that Developer's cost related to the construction of the Parking Lot improvements shall be limited to Fifty Thousand and 00/100 Dollars (\$50,000.00), in the aggregate. As consideration for the dedication of the Park, set forth above, and the non-exclusive use of the Parking Lot during the lease term, set forth below, City agrees to reimburse Developer for any additional costs and expenses necessary in connection with the construction of the Parking Lot greater than \$50,000.00, provided that the City's portion shall not exceed

\$200,000.00 without the prior written consent of the City, which consent shall not be unreasonably withheld, conditioned or delayed. City shall pay Developer its portion (the "*City Payment*") within thirty (30) days of the happening of all of the following: (i) completion of the Parking Lot improvements by Developer; (ii) receipt by City of all invoices and other documentation evidencing the final costs and expenses related to construction of the Parking Lot; and (iii) receipt by City of all final lien waivers in connection with construction of the Parking Lot.

d. Park Maintenance Fund Contribution. Developer agrees to make a contribution of no less than \$25,000.00 to the City's Special Projects Fund for the restricted purpose of funding the maintenance, repair and programming at the Park during the City's ownership of the Park (the "*Maintenance Fund*"). City agrees that the Maintenance Fund shall be (i) held in an interest-bearing investment account, segregated from City's general funds; and (ii) used exclusively for the long-term maintenance, repair and programming of the Park, consistent with the Park Standards.

3. **Use of Parking Lot.**

a. Developer Use. Developer and any invitees, customers, guests, suppliers, employees or owners of the restaurant business at the Project shall have non-exclusive use of 52 spaces within the Parking Lot to satisfy City parking requirements for the restaurant business (the "*Parking Spaces*"). City acknowledges and agrees that Developer's rights to the Parking Spaces provided herein satisfies the City's parking ordinances and requirements applicable to the Project.

b. City Use. City shall have non-exclusive use of the remainder of the Parking Lot not reserved for Developer's use provided in Section 3(a) above. If City use of this Parking Lot temporarily renders the Parking Lot unusable by Developer, City shall provide Developer with reasonable alternative parking accommodations at no cost to Developer.

c. Enforcement. City and Developer shall jointly endeavor to enforce the parking rights contemplated in this Agreement. If the erection of signage is deemed mutually necessary by City and Developer, City and Developer shall mutually agree on the design and size of the signage to be provided. In such event, City shall order and install such signage at those locations and intervals deemed necessary and appropriate by City, and Developer shall reimburse City for City's reasonable costs and expenses incurred in connection with the purchase and installation of such signs within thirty (30) days of City providing an invoice to Developer detailing such costs and expenses. If deemed necessary by City, in its sole and absolute discretion, City may adopt an ordinance or ordinances to address any necessary enforcement of the parking rights contemplated herein.

4. **Term.** The term of this Agreement shall commence on the Effective Date and shall end on the earlier of: (a) the date that is twenty (20) years from the Effective Date; or (b) the date that Developer or City provides notice of termination as provided in Section 5 below.

5. **Termination.**

a. By Developer. Developer may terminate this Agreement, at any time, upon not less than thirty (30) days prior written notice to City.

b. By City. City may terminate this Agreement upon not less than thirty (30) days prior written notice to Developer after Developer's failure to cure any Events of Default (as defined herein) during any applicable cure period; provided, however, that City shall also provide notice of Developer's Events of Default to the operator of the restaurant business at the Project, and such operator shall have an additional thirty (30) days after Developer's cure period to address and cure any Events of Default by Developer before City may terminate this Agreement.

c. Effect of Termination. Upon termination of this Agreement by either party, Developer shall (i) dedicate the Park land as set forth in Section 2(b) and (ii) secure additional parking for the Project in compliance with City ordinances.

6. **Obligations of Developer.** Developer shall construct the Parking Lot and use the Parking Spaces as provided in this Agreement. Further, Developer shall comply with all laws, ordinances, orders and regulations affecting Developer's use of the City Parcel, and shall not allow the Parking Spaces to be used other than as provided in this Agreement without City's prior written consent.

7. **Obligations of City.** City shall at all times keep and maintain, or cause to be kept and maintained, the Parking Lot and related improvements in good condition and repair, in a safe, clean, and attractive condition, and free of all trash, litter, refuse and waste, and shall be responsible for the prompt removal of snow and ice therefrom. Further, City shall be responsible for the maintenance, repair and replacement of the Parking Lot, and any lighting, landscaping or other improvements associated therewith.

8. **Assignment and Sublease.** Developer may transfer or otherwise assign its interest in this Agreement, in whole or in part, in conjunction with a transfer or sale of the Developer Parcel upon receiving City's prior written consent, which consent shall not be unreasonably withheld, conditioned or delayed. After any such transfer or assignment, Developer shall be released from this Agreement and the transferee or assignee shall assume the obligations of this Agreement and be considered the "Developer" hereunder for all purposes. No part of the Parking Spaces may be subleased without the consent of City.

9. **Insurance.** Developer shall maintain and keep in force, at its expense, a single limit commercial general liability insurance policy covering Developer as insured and naming City, and its officers, officials, employees, and agents, as additional insured, which insurance shall initially have liability limits of at least One Million Dollars (\$1,000,000) for bodily injury, death and property damage in the aggregate, covering its, and its tenants, guests or invitees, activities on the Parking Lot. Such insurance shall be written by insurance companies licensed to do business in Wisconsin. Developer shall furnish to City certificates of insurance to the effect

that the policy or policies of insurance are in force and that same will not be cancelled without at least thirty (30) days' notice to City.

10. **Quiet Enjoyment.** City covenants that if Developer performs its obligations under this Agreement, Developer shall peaceably and quietly enjoy the City Parcel in accordance with the terms of this Agreement without any interruption or disturbance from City or any third party. City represents to Developer that it has the authority to lease the City Parcel to Developer on the terms herein and that City is the fee owner of the City Parcel, free from any lien or encumbrance.

11. **Events of Default.** The following are "*Events of Default*" by a party: The party's failure to perform any of the party's obligations or covenants contained in this Agreement at the time and in the manner stated, which failure continues for thirty (30) days after written notice of such is received by the party from the other party, provided that if such failure cannot reasonably be corrected within the thirty (30) day period, the party shall not be in default so long as the party promptly commences and continues such actions as are necessary to correct such failure within the earliest reasonable time.

12. **Notices.** Any notices required to be made by either party to the other shall be given in any of the following manners: (a) by U.S. Postal Service mail and shall be deemed to be given two (2) business days after delivery to the U.S. Postal Service, postage prepaid, for certified or registered delivery; (b) by reputable overnight courier and shall be deemed to be given one (1) business day after delivery to the courier; or (c) by personal delivery to a representative of the other, and shall be deemed to be given upon such personal delivery.

Any such notice shall be addressed as follows:

If to City: City of Onalaska
 415 Main Street
 Onalaska, Wisconsin 54650
 Attn: City Administrator

If to Developer: SkogenHeim, LLC
 3012 Wild Rose Lane
 Onalaska, Wisconsin 54650
 Attn: David Skogen

Either party may change its address by providing the other party with written notice thereof, which new address will be effective ten (10) days after notice is given by one of the methods set forth above.

13. **Binding Terms; Covenants Running with Land.** All the terms, conditions, limitations and covenants herein contained or implied by law are covenants running with the land and shall bind and attach and inure to the benefit of City and Developer and their respective successors and assigns.

14. **Authority.** Each of the parties represents and warrants that it has the full capacity, right, power and authority to execute, deliver and perform this Agreement, and all required actions, consents and approvals therefor have been duly taken and obtained.

15. **Counterparts.** This Agreement may be executed in one or more counterparts, all of which will be considered one and the same agreement and will become effective when one or more counterparts have been signed by each of the parties and delivered to the other party.

16. **Recording of Agreement.** Either party may record this Development Agreement or a Memorandum of this Agreement with the Register of Deeds for La Crosse County, Wisconsin. Upon request of either party, the other party shall execute and deliver to the requesting party any such Memorandum or any other document in connection with such recording.

17. **Force Majeure.** No party shall be responsible to any other party for any resulting losses and it shall not be a default hereunder if the fulfillment of any of the terms of this Agreement is delayed or prevented by revolutions or other civil disorders, wars, acts of enemies, strikes, fires, floods, acts of God, adverse weather conditions, legally required environmental remedial actions, industry-wide shortage of materials, or by any other cause not within the control of the party whose performance was interfered with, and which exercise of reasonable diligence, such party is unable to prevent, whether of the class of causes herein above enumerated or not, and the time for performance shall be extended by the period of delay occasioned by any such cause. The foregoing notwithstanding, a Force Majeure event may not be used to avoid an Event of Default if the delay caused by the Force Majeure event exceeds ninety (90) days from the date the event occurred.

18. **Governing Law.** The laws of the State of Wisconsin shall govern this Agreement.

19. **Severability.** If any provision of this Agreement is determined by a court of law to be invalid or unenforceable, the court may modify that provision to be within the limits of enforceability or validity, if feasible; however, if the offending provision cannot be so modified, it may be stricken and all other provisions of this Agreement in all other respects shall remain valid and enforceable.

[The remainder of this page is intentionally left blank.]

IN WITNESS WHEREOF, the parties hereto have entered into this Development Agreement as of the Effective Date.

CITY:

City of Onalaska,
a Wisconsin municipal corporation

Joe Chilsen
Joe Chilsen, Mayor

Caroline L. Burmaster
Caroline L. Burmaster, Clerk

ACKNOWLEDGEMENT

STATE OF WISCONSIN)
)ss.
COUNTY OF LA CROSSE)

Personally came before me on the 18th day of July, 2017, the above-named Joe Chilsen and Caroline L. Burmaster, being the Mayor and Clerk, respectively, of the City of Onalaska, to me known to be the person who executed the foregoing instrument and acknowledged the same.

JoAnn A. Maucon
JoAnn A. MAUCON, Notary Public
State of Wisconsin
My commission expires: 4/7/18

STAFF REVIEW SUMMARY

CITY OF ONALASKA BOARD OF PUBLIC WORKS

January 2, 2018

Agenda Item: #12

Project/Item Name: Miscellaneous Engineering Services

Location: Citywide

Requested Action: Approval of services

Staff Report/Description: Staff secures the services of Strand Associates on an as needed basis. Some of the previous work that has been accomplished includes Wis. DNR report generation, electrical issues at storm lift station, electrical issues at wells, starter replacement at wells, SCADA difficulties at all remote sites, etc. This work would only be performed as approved City Engineer on an as needed basis.

Attachments: Task Order 17-04



Strand Associates, Inc.[®]
 910 West Virginia Drive
 Madison, WI 53715
 (P) 608-251-4840
 (F) 608-251-8555

Task Order No. 17-04
 City of Onalaska (OWNER)
 and Strand Associates, Inc.[®] (ENGINEER)
 Pursuant to Technical Services Agreement dated December 19, 2014

Project Information

Services Name: Miscellaneous Engineering Services

Services Description: Provide engineering services on an as-needed basis when requested by OWNER.

Scope of Services

ENGINEER will provide miscellaneous engineering services as requested by OWNER. OWNER may request that ENGINEER establish a scope and fee for specific services for review and approval prior to starting services or may direct ENGINEER in writing to proceed with defined services without preset limits.

Compensation

OWNER shall compensate ENGINEER for Services under this Task Order on an hourly rate basis plus expenses an estimated fee of \$5,000.

Authorization and Commitment

OWNER's representative shall authorize services requested under the **Scope of Services**. ENGINEER agrees to provide the requested services upon receipt of authorization, scope, and fee limit, if any, from OWNER via e-mail or letter prior to starting the requested services.

Schedule

Services will begin upon execution of this Task Order, which is anticipated on December 12, 2017. Services are scheduled for completion on December 31, 2018.

TASK ORDER AUTHORIZATION AND ACCEPTANCE:

ENGINEER:

OWNER:

STRAND ASSOCIATES, INC.[®]

CITY OF ONALASKA

 Matthew S. Richards
 Corporate Secretary

Date

 Joe Chilsen
 Mayor

Date

 Caroline Burmaster
 City Clerk

Date

**BOARD OF PUBLIC WORKS
MONTHLY ESTIMATES
January 2, 2018**

<u>Contractor</u>	<u>Original Contract Amount</u>	<u>Change Orders</u>	<u>Paid to Date</u>	<u>Due this Estimate</u>
1. STRAND ASSOCIATES S Kinney Coulee Lift Station Construction Estimate #10	\$ 28,300.00	\$ -	\$ 13,462.23	\$ 944.96
2. PEMBER COMPANIES S Kinney Coulee Pumping Station Rehab Project Construction Estimate #4	\$ 345,000.00	\$ -	\$ 248,849.55	\$ 44,985.35
3. STRAND ASSOCIATES General Engineering Design Estimate #1	\$ 1,000.00	\$ -	\$ -	\$ 927.80
4. LA CROSSE COUNTY 2017 Chip Seal Construction Estimate #1	\$ 195,750.00	\$ -	\$ -	\$ 188,646.90
5. STATE OF WI DOT I-90/STH 35 Sanitary Sewer Install (Project #1071-06-89) Estimate #2	\$ 72,000.00	\$ -	\$ 40,301.22	\$ 57.00
6. STATE OF WI DOT STH 35 Watermain Installation (Project #7190-06-80) Estimate #4	\$ 153,000.00	\$ -	\$ 108,076.20	\$ 1.74
7. STATE OF WI DOT STH 35/I-90 Lighting/Enhancements (Project #7190-03-71) Estimate #2	\$ 50,000.00	\$ -	\$ 17,827.02	\$ 139.17

BOARD OF PUBLIC WORKS
MONTHLY ESTIMATES
January 2, 2018

8. **LW ALLEN**

Well #7
Starter Replacement
Estimate #1

\$	13,966.00	\$	-	\$	-	\$	13,966.00
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