AGENDA
Board of Public Works Meeting
Tuesday, November 25, 2014 – 7:00 P.M.
Jackson Village Hall
N168W20733 Main Street

1. Call to Order and Roll Call.

2. Approval of Minutes for October 28, 2014, meeting.

3. Final Pay Request - Shared Use Path Apple Lane & CTH P – Denny Rahn

4. Review of replacing Bobcat Skid-Steer Loader at WWTP

5. Verizon Wireless Antenna Modification Project – White Water Tower.

6. Notification of Request for MS4 General Permit for Village of Jackson.

7. Adverse Possession Against the Government.

8. Director of Public Works Report.

9. Citizens/Village Staff to address the Board.

10. Adjourn.

Persons with disabilities requiring special accommodations for attendance at the meeting should contact the Village Hall at least one (1) business day prior to the meeting.

It is possible that members of the Village Board may attend the above meeting. No action will be taken by any governmental body at this meeting other than the governmental body specifically referred to in this meeting notice. This notice is given so that members of the Village Board may attend the meeting without violating the open meeting law.

Public Works Report
November 25, 2014

Treatment Plant - Designed Capacity – 1.25 million gallons per day
Peak Flow Capacity – 6.0 million gallons per day

Year 2012

January	Avg. Flow 825,741 g.p.d.	Min. Flow 692,000 g.p.d.	Max. 1.001 MGD
February	Avg. Flow 860,207 g.p.d.	Min. Flow 735,000 g.p.d.	Max. 1.392 MGD
March	Avg. Flow 1.115 MGD	Min. Flow 820,000 g.p.d.	Max. 1.753 MGD
April	Avg. Flow 890,733 g.p.d.	Min. Flow 710,000 g.p.d.	Max. 1.247 MGD
May	Avg. Flow 941,258 g.p.d.	Min. Flow 700,000 g.p.d.	Max. 1.632 MGD
June	Avg. Flow 645,267 g.p.d.	Min. Flow 530,000 g.p.d.	Max. 722,000 g.p.d.
July	Avg. Flow 614,710 g.p.d.	Min. Flow 496,000 g.p.d.	Max. 1.077 MGD
August	Avg. Flow 638,387 g.p.d.	Min. Flow 545,000 g.p.d.	Max. 859,000 g.p.d.
September	Avg. Flow 560,867 g.p.d.	Min. Flow 473,000 g.p.d.	Max. 637,000 g.p.d.
October	Avg. Flow 770,161 g.p.d.	Min. Flow 536,000 g.p.d.	Max. 1.336 MGD
November	Avg. Flow 539,600 g.p.d.	Min. Flow 452,000 g.p.d.	Max. 661,000 g.p.d.
December	Avg. Flow 790,645 g.p.d.	Min. Flow 572,000 g.p.d.	Max. 1.393 MGD

Year 2013

January	Avg. Flow 944,193 g.p.d.	Min. Flow 699,000 g.p.d.	Max. 2.054 MGD
February	Avg. Flow 845,179 g.p.d.	Min. Flow 697,000 g.p.d.	Max. 1.394 MGD
March	Avg. Flow 1.028 MGD	Min. Flow 637,000 g.p.d.	Max. 1.028 MGD
April	Avg. Flow 1.473 MGD	Min. Flow 934,000 g.p.d.	Max. 3.042 MGD
May	Avg. Flow 1.167 MGD	Min. Flow 932,000 g.p.d.	Max. 1.908 MGD
June	Avg. Flow 1.1207 MGD	Min. Flow 859,000 g.p.d.	Max. 1.791 MGD
July	Avg. Flow 777,097 g.p.d.	Min. Flow 643,000 g.p.d.	Max. 1.337 MGD
August	Avg. Flow 673,677 g.p.d.	Min. Flow 551,000 g.p.d.	Max. 1.148 MGD
September	Avg. Flow 629,533 g.p.d.	Min. Flow 532,000 g.p.d.	Max. 761,000 g.p.d.
October	Avg. Flow 688,064 g.p.d.	Min. Flow 600,000 g.p.d.	Max. 884,000 g.p.d.
November	Avg. Flow 763,800 g.p.d.	Min. Flow 660,000 g.p.d.	Max. 1.122 MGD
December	Avg. Flow 697,677 g.p.d.	Min. Flow 564,000 g.p.d.	Max. 802,000 g.p.d.

Year 2014

January	Avg. Flow 695,355 g.p.d.	Min. Flow 626,000 g.p.d.	Max. 822,000 g.p.d.
February	Avg. Flow 659,286 g.p.d.	Min. Flow 581,000 g.p.d.	Max. 874,000 g.p.d.
March	Avg. Flow 941,613 g.p.d.	Min. Flow 611,000 g.p.d.	Max. 1.285 MGD
April	Avg. Flow 1.172 MGD	Min. Flow 814,000 g.p.d.	Max. 3.188 MGD
May	Avg. Flow 947,322 g.p.d.	Min. Flow 688,000 g.p.d.	Max. 1.474 MGD
June	Avg. Flow 1.199 MGD	Min. Flow 732,000 g.p.d.	Max. 2.223 MGD
July	Avg. Flow 846,226 g.p.d.	Min. Flow 670,000 g.p.d.	Max. 1.646 MGD
August	Avg. Flow 743,322 g.p.d.	Min. Flow 603,000 g.p.d.	Max. 1.039 MGD
September	Avg. Flow 646,567 g.p.d.	Min. Flow 532,000 g.p.d.	Max. 759,000 g.p.d.
October	Avg. Flow 707,484 g.p.d.	Min. Flow 584,000 g.p.d.	Max. 898,000 g.p.d.

Years Summary of Water Consumption

2000 Total Pumpage 180,485,400 gallons	2001 Total Pumpage 184,613,300 gallons
2002 Total Pumpage 200,630,000 gallons	2003 Total Pumpage 278,246,000 gallons
2004 Total Pumpage 216,055,000 gallons	2005 Total Pumpage 223,215,000 gallons
2006 Total Pumpage 207,719,000 gallons	2007 Total Pumpage 217,224,000 gallons
2008 Total Pumpage 229,613,000 gallons	2009 Total Pumpage 231,160,000 gallons
2010 Total Pumpage 239,326,000 gallons	2011 Total Pumpage 240,268,000 gallons
2012 Total Pumpage 253,492,000 gallons	2013 Total Pumpage 235,686,000 gallons

Year 2012

Jan.	Avg.	574,550 g.p.d.	Highest Day 872,000 gal.	Total	17,811,000 gallons
Feb	Avg	551,100 g.p.d.	Highest Day 712,000 gal	Total	15,982,000 gallons
March	Avg.	551,480 g.p.d.	Highest Day 762,000 gal	Total	17,096,000 gallons
April	Avg.	624,700 g.p.d.	Highest Day 1.033 MGD	Total	18,741,000 gallons
May	Avg.	660,940 g.p.d.	Highest Day 1.115 MGD	Total	20,489,000 gallons
June	Avg.	967,300 g.p.d.	Highest Day 1.337 MGD	Total	29,019,000 gallons
July	Avg.	1.016 MGD	Highest Day 1.322 MGD	Total	31,510,000 gallons
August	Avg.	750,810 g.p.d	Highest Day 1.127 MGD	Total	23,275,000 gallons
Sept	Avg.	713,970 g.p.d.	Highest Day 1.031 MGD	Total	21,419,000 gallons
October	Avg.	681,610 g.p.d.	Highest Day 1.218 MGD	Total	21,130,000 gallons
Nov	Avg.	599,730 g.p.d.	Highest Day 874,000 gal.	Total	17,992,000 gallons
Dec	Avg.	613,810 g.p.d.	Highest Day 838,000 gal.	Total	19,028,000 gallons

Year 2013

Jan.	Avg.	562,000 g.p.d.	Highest Day 837,000 gal.	Total	17,422,000 gallons
Feb	Avg	549,820 g.p.d.	Highest Day 718,000 gal	Total	15,395,000 gallons
March	Avg.	540,520 g.p.d.	Highest Day 725,000 gal	Total	16,756,000 gallons
April	Avg.	585,170 g.p.d.	Highest Day 981,000 gal	Total	17,555,000 gallons
May	Avg.	595,810 g.p.d.	Highest Day 752,000 gal.	Total	18,470,000 gallons
June	Avg.	681,400 g.p.d.	Highest Day 914,000 gal.	Total	20,442,000 gallons
July	Avg.	787,230 g.p.d.	Highest Day 1.039 MGD	Total	24,404,000 gallons
August	Avg.	796,580 g.p.d.	Highest Day 1.107 MGD	Total	24,694,000 gallons
Sept	Avg.	631,500 g.p.d.	Highest Day 838,000 gal.	Total	18,945,000 gallons
Oct	Avg.	850,000 g.p.d.	Highest Day 1.13 MGD	Total	26,310,000 gallons
Nov	Avg.	568,600 g.p.d.	Highest Day 731,000 gals.	Total	17,058,000 gallons
Dec	Avg.	588,230 g.p.d.	Highest Day 701,000 gals.	Total	18,235,000 gallons

Year 2014

Jan.	Avg.	620,550 g.p.d.	Highest Day 789,000 gals.	Total	19,237,000 gallons
Feb.	Avg.	612,390 g.p.d.	Highest Day 717,000 gals.	Total	17,147,000 gallons
March	Avg.	603,710 g.p.d.	Highest Day 678,000 gals.	Total	18,715,000 gallons
April	Avg.	602,600 g.p.d.	Highest Day 1.037 MGD	Total	18,078,000 gallons
May	Avg.	599,290 g.p.d.	Highest Day 729,000 gals.	Total	18,578,000 gallons
June	Avg.	658,000 g.p.d.	Highest Day 815,000 gals.	Total	19,740,000 gallons
July	Avg.	684,320 g.p.d.	Highest Day 881,000 gals.	Total	21,214,000 gallons
August	Avg.	703,320 g.p.d.	Highest Day 1.019 MGD	Total	21,803,000 gallons
Sept	Avg.	639,170 g.p.d.	Highest Day 747,000 gals.	Total	19,275,000 gallons
October	Avg.	658,940 g.p.d.	Highest Day 1.042 MGD	Total	20,427,000 gallons

Pump Capacity - Well #1- 400 g.p.m. Well #2 - abandon; Well #3 -900 g.p.m.Well #4 - 1200 g.p.m. Well #5 – 1,100 g.p.m. Well #6 – 800 g.p.m.

WWTP – Holding & Septage Receiving

2005	$ 87,562.01	**2007**	$152,201.07	**2009**	$183,815.34	**2011**	$220,576.28
2006	$101,115.11	**2008**	$210,441.47	**2010**	$197,653.66	**2012**	$236,224.70

2012	**Holdings (gals)**	**Grease (gals)**	**G Decant (gals)**	**Septage (gals)**	**S Decant (gals)**	**Total Billings**
Jan	1,402,300	30,600	23,000	12,200	12,200	$15,188.15
Feb	1,331,200	46,200	26,000	15,300	51,950	$15,083.05
March	1,509,600	46,100	44,250	29,000	79,100	$18,373.15
April	1,330,150	42,600	12,000	60,200	178,200	$19,300.03
May	1,440,500	42,300	25,200	86,250	201,850	$22,274.95
June	1,293,750	47,600	31,300	81,900	187,550	$21,133.28
July	1,290,750	55,400	38,300	58,900	156,700	$20,062.23
August	1,366,250	42,100	27,000	63,300	168,750	$20,035.28
September	1,155,650	42,300	21,500	115,950	204,750	$21,251.08
October	1,363,500	49,500	12,000	149,300	307,750	$26,673.75
November	1,335,027	34,100	3,500	64,200	245,710	$20,449.10
December	1,342,050	51,200	23,500	22,900	84,750	$16,420.93

2013	**Holdings (gals)**	**Grease (gals)**	**G Decant (gals)**	**Septage (gals)**	**S Decant (gals)**	**Total Billings**
Jan	1,573,249	44,300	8,000	8,050	52,800	$15,821.33
Feb	1,403,100	47,400		6,450	46,300	$14,142.85
March	1,518,450	43,800	28,500	7,250	84,100	$16,957.58
April	1,764,000	68,200	28,500	38,300	294,900	$26,445.80
May	1,666,950	17,700	9,800	74,900	182,000	$21,263.19
June	1,432,600	11,400	4,000	85,750	193,200	$19,694.61
July	1,549,200	19,800		71,300	166,750	$19,560.46
August	1,483,850	13,900	24,000	64,300	170,100	$19,559.73
September	1,306,600	33,200	8,000	69,750	208,200	$19,658.31
October	1,441,750	52,900	17,000	95,550	335,550	$26,163.73

2014	**Holdings (gals)**	**Grease (gals)**	**G Decant (gals)**	**Septage (gals)**	**S Decant (gals)**	**Total Billings**
Jan	1,298,100	26,700	8,000	2,000	40,000	$12,377.30
Feb	1,214,100	42,400	8,000	9,450	16,250	$12,181.61
March	1,411,000	43,200	5,000	10,300	57,200	$14,633.31
April	1,634,000	21,800		39,350	191,100	$19,620.21
May	1,451,750			63,500	199,450	$18,414.39
June	1,553,200			30,900	253,600	$19,225.00
July	1,474,650			40,400	205,450	$17,812.13
August	1,344,650			35,250	187,250	$16,176.13
September	1,308,700		3,500	54,650	246,050	$18,292.51

Cranberry Creek Phase 4
The Development Agreement has been approved by the Village Board. Staff is working with the Developer to finalize the utility plans, and the necessary DNR submittals. Once the documents have been completed, the plans will be on the Board of Public Works agenda for review and approval. The project is planned to start sometime in 2015.

Stonewall Ridge Development
The Village is waiting for the developer to propose a new site plan. We will require the final lift of asphalt in the spring of 2015.

Rosewood Drive/TIF #4 Expansion Project
The property is being advertised for sale.

Laurel Springs Subdivision
The installation of street trees and final lift of asphalt remain to complete the subdivision. The developer was planning on installing trees this Fall, but winter showed up. We will require the final lift of asphalt in the spring of 2015.

English Oaks Subdivision
We will require the final lift of asphalt in the spring of 2015.

CMAQ Grant – Park-n-Ride Lot and Shared Use Path along CTH P
We are still waiting on the Real Estate reimbursement.

GIS Program
We are continuing to make changes to the mapping. We are working with Mpower for the Integrator upgrade. Major changes to the program are coming. Other items have taken precedence over this project.

Digester Upgrade project
The pumps are scheduled to be delivered in February 2015. We are receiving the piping next week, and will start the piping installation. We were able to haul the sludge out of the blue tank so we can take down the one digester to install the piping. Once the digester is emptied we will inspected the tank's cover.

Corridor Study 2040 of STH 60
There has been no new information or a meeting set for the study.

West Shore Pipeline Break
The Jackson Water Expansion Project for the Town of Jackson continues to have weekly construction meetings. The plumber (Horsch & Miller) is completing the permanent connection, and the Jackson Water Utility is working with the plumber to installation the water meter. All the water services are installed, and 112 services completed with water meters out of 122. The first lift of asphalt has been installed. The Smart flushing system will be delivered next week. For continued updates of the project please visit the Facebook or the link can be place a web browser to access the page: https://www.facebook.com/pages/Jackson-Water-System-Expansion/651657821536857

Respectfully submitted, Brian W. Kober, P.E.

DRAFT MINUTES
Board of Public Works Meeting
Tuesday, October 28, 2014 – 7:00 P.M.
Jackson Village Hall
N168W20733 Main Street

1. Call to Order and Roll Call.

Chairman Tr. Don Olson called the meeting to order at 7:00 p.m.
Members present: Tr. Jack Lippold, Tr. Scott Mittelsteadt, Brian Heckendorf, Scott Thielmann, Corinne Benson, Linda Granec.
Members excused:
Staff present: Brian Kober and John Walther.

2. Approval of Minutes for September 30, 2014, meeting.

Motion by Corinne Benson, second by Tr. Lippold to approve the minutes of the September 30, 2014, Board of Public Works meeting.
Vote: 7 ayes, 0 nays. Motion Carried unanimously.

3. Pay Request #1 – Digester Improvement Project – Sabel Mechanical, LLC.

Director of Public Works, Brian Kober, presented information on the item. Motion by Brian Heckendorf, second by Linda Granec to Recommend the Village Board Approve Pay Request #1 – Digester Improvement Project – Sabel Mechanical LLC, in the amount of $14,674.29.
Vote: 7 ayes, 0 nays. Motion Carried unanimously.

4. Purchase of IPMC Scada Software for WWTP – Intellisys Proposal.

Brian Kober presented information on the item. This was going to be a 2015 budget item but the computers are now changed to a server system. The software that oversees the module at the plant had glitches. Replacement system money would be used. Motion by Corinne Benson, second by Tr. Mittelsteadt to Recommend the Village Board Approve the IPMC Scada Software for WWTP – Intellisys.
Vote: 7 ayes, 0 nays. Motion Carried unanimously.

5. Sweet Water Financial Support Request.

Brian Kober presented information on the item. Motion by Scott Thielmann, second by Corinne Benson to Recommend the Village Board Approve the Request of $313.16 to Sweet Water.
Vote: 7 ayes, 0 nays. Motion Carried unanimously.

6. Request for connection to the Jackson Water System – 2321 Western Avenue.

Brian Kober presented information on the item. Property owner, Scott Sullivan, was present. This is outside the special casing area. After discussion motion by Tr. Olson, second by Linda Granec to refer the item to a future meeting until the 2015 boundary agreement is taken care of.
Vote: 7 ayes, 0 nays. Motion Carried unanimously.

DRAFT

7. Review of RFP for Georgetown Drive Construction Project.

Brian Kober reported that he will sign the contracts this week. The Village Board did award the bid to GAI Consultants.

8. Director of Public Works Report.

Brian Kober reviewed the Public Works Report.
Motion by Tr. Lippold, second by Corinne Benson to place the report on file.
Vote: 7 ayes, 0 nays. Motion carried unanimously.

9. Citizens/Village Staff to address the Board.

Linda Granec pointed out a typo on the agreement. Town is spelled as tow.

Linda also questioned when the final lifts for asphalt are scheduled for new subdivisions.

Brian Kober commented that the extension of the water main will come at the next meeting for Cranberry Creek.

Tr. Lippold commented that the business park sign is working and there is nothing wrong with it.

Brian Kober commented that manhole covers are being repaired.

The no parking signs on Stonewall are working.

10. Adjourn.

Motion by Corinne Benson, second by Scott Thielmann to adjourn at 7:32 p.m.
Vote: 7 ayes, 0 nays. Motion carried unanimously.

DRAFT

Respectfully submitted by: Deanna L. Boldrey

DENNY RAHN EXCAVATING, INC.
103 JENNIFER LANE
P.O. BOX 360
EDEN, WI 53019-0360

Phone: (920) 477-4484
Fax: (920) 477-2418
Email: denny@rahnexc.com

STATEMENT

Statement Date: Oct 1, 2014
Customer Account ID: JACKSON

To:

VILLAGE OF JACKSON
VILLAGE OF JACKSON
N168 W20733 MAIN STREET
JACKSON, WI 53037

Amount Enclosed
$ _____

Date	Due Date	Reference	Paid	Description	Amount	Balance
10/24/13	11/23/13	1893	Part		1,000.00	1,000.00
					BALANCE	**1,000.00**

Current	1-30	31-60	Over 60 days
0.00	0.00	0.00	1,000.00

THANK YOU FOR YOUR BUSINESS. HAVE A GREAT DAY!!

Product Quotation

Quotation Number: 22416D022477
Date: 2014-11-14 08:55:23

Ship to	Bobcat Dealer	Bill To
Village of Jackson N168 W20733 Main Street Jackson, WI	Bobcat Plus, Inc,Butler,WI 12411 WEST SILVER SPRING DRIVE BUTLER WI 53007-1002 Phone: (262) 781-1199 Fax: (262) 781-0735 ---------- Contact: Adam Forstner Phone: 262-781-1178 Fax: 262-781-0735 Cellular: 262-617-6358 E Mail: aforstner@bobcatplus.com	Village of Jackson N168 W20733 Main Street Jackson, WI

Description	Part No	Qty	Price Ea.	Total
S590 T4 Bobcat Skid-Steer Loader 66.0 HP Tier 4 Turbo Diesel Engine Auxiliary Hydraulics: Variable Flow Backup Alarm Bob-Tach Bobcat Interlock Control System (BICS) Controls: Bobcat Standard Engine/Hydraulic Systems Shutdown Glow Plugs (Automatically Activated) Horn Instrumentation: Engine Temperature & Fuel Gauges, Hourmeter, RPM and Warning Lights Lift Arm Support Lift Path: Vertical Lights, Front & Rear Operator Cab Includes: Adjustable Cushion Seat, Top & Rear Windows, Parking Brake, Seat Bar & Seat Belt Roll Over Protective Structure (ROPS) meets SAE-J1040 & ISO 3471 Falling Object Protective Structure (FOPS) meets SAE-J1043 & ISO 3449, Level I; (Level II is available through Bobcat Parts) Spark Arrestor Exhaust System Tires: 31 x 12-16.5, 10 PR, Bobcat Heavy Duty Warranty: 12 Months, Unlimited Hours	M0261	1	$26,317.08	$26,317.08
A51 Option Package Cab Enclosure with Heat and AC Suspension Seat Power Bob-Tach Cab Accessories Package	M0261-P01-A51	1	$2,908.16	$2,908.16
High Flow Hydraulics, Two Speed, Hydraulic Bucket Positioning, Engine Block Heater	M0261-P03-F50	1	$2,208.64	$2,208.64
10-16.5, 10 PR, Severe Duty Tires	M0261-R09-C04	1	$419.20	$419.20
Attachment Control	M0261-R28-C02	1	$124.80	$124.80
Strobe Light Kit, Amber	7129301	1	$169.60	$169.60
68" Low Profile Bucket	6731418	1	$697.05	$697.05
--- Bolt-On Cutting Edge, 68"	6718006	1	$153.76	$153.76

Total of Items Quoted		**$32,998.29**
Trade-in	Trade In of 763H	**($9,000.00)**
Quote Total - US dollars		**$23,998.29**

Notes:

All prices subject to change without prior notice or obligation. This price quote supersedes all preceding price quotes. Customer must exercise his purchase option within 30 days from quote date.

Customer Acceptance: Purchase Order: _____

Authorized Signature:

Print:_____ **Sign:**_____ **Date:** _____

Skid-Steer Loader Model Comparison

MFG: Model:	Bobcat S590 T4
Engine	
Engine Model	2.4L Bobcat Engine
Engine Make	Bobcat
Emissions Tier (EPA)	Tier 4
Horsepower	66 HP, 49.2 kW
Displacement	146 cubic in, 2.4 L
Number of Cylinders	4
Turbocharged Engine	Yes
Performance	
Rated Operating Capacity (SAE)	2100 lbs, 952 kg
Tipping Load	4200 lbs, 1905 kg
Operating Weight	6593 lbs, 3126 kg
Travel Speed	7.4 mph, 11.8 kmh
Travel Speed (2-speed option)	11 mph, 17.3 kmh
Capacities	
Fuel Tank	24.75 gal, 93.7 L
Hydraulic System	
System Relief @ Quick Couplers	3500 psi, 24200 kPa
Auxiliary Std Flow	17.1 GPM, 64.7 L/min
Auxiliary High Flow	26.7 GPM, 101.1 L/min
Dimension	
Length without Attachment	104.6 in, 2657 mm
Length with Standard Bucket	133 in, 3378 mm
Width	65.2 in, 1656 mm
Width (with bucket)	68 in, 1727 mm
Height with Operator Cab	77.8 in, 1972 mm
Height to Bucket Hinge Pin	119 in, 3023 mm
Dump Angle @ Maximum Height	42 deg
Reach @ Maximum Height	32.6 in, 828 mm
Ground Clearance	7.3 in, 185 mm
Wheelbase	42.6 in, 1082 mm
Controls	
Vehicle Steering	Dual Levers
Hydraulic (Lift and Tilt)	Dual Pedals
Control Option	ACS, SJC
Auxiliary Hydraulics	Finger Tip Control
Features	
Joystick Control	opt
Air Conditioning	opt
Two Speed Travel	opt
Deluxe Instrumentation	opt
Engine Shutdown	std
Hydraulic Bucket Positioning	opt
High Flow Option	opt
Power Bob-Tach	opt
Ride Control	opt
Drive System	
Chain Size Final	-
Price	
Price	-
Standard Tires	31 x 12-16.5 10PR
Standard Tire SLP	-

(-) Information is unknown, (n/a) Feature is not available on this model

MILLER-BRADFORD & RISBERG, INC.
www.miller-bradford.com

Corporate Office:
W250 N6851 Hwy 164
P.O. Box 904
Sussex, WI 53089

Sussex, WI	Madison, WI	De Pere, WI	Negaunee, MI
1-800-242-3115	1-800-585-7219	1-800-638-7448	1-800-562-9770

Eau Claire, WI	Abbotsford,WI	Rockford, IL
1-800-585-7232	1-888-886-4410	1-800-585-7231

Distributors of Equipment and Supplies for ■ Construction ■ Forestry ■ Industry ■ Government

TO: Village of Jackson DATE: October 28,2014

ATTN: Brian and Russ REFERENCE:

WE SUBMIT THE FOLLOWING PROPOSAL:

QUANTITY	DESCRIPTION	AMOUNT
	2015 Case SV185	
	Hi-Flow Hydraulics with Ride Control and Self Leveling	
	Air Suspension Seat	
	Cab with Heat and A/C, Block Heater	
	10X16.5 Galaxy Hulk Tires	$38,000.00
	66" Lo Profile Extended Bucket(15.5 CuFt) With BOE	
	Radio, Prewired for Beacon, Extra front Lights(Standard)	
	Hydraulic Bucket Coupler tire swap	$400.00
		$38,400.00
	Bobcat Trade	$8,500.00
	Total	$29,900.00
	Machine if ordered before Dec 31, 2105 will have a 3yr/3000Hr Warranty	

TERMS: Net Due upon Delivery F.O.B.: MBR-Sussex
DELIVERY:

WE THANK YOU FOR THE OPPORTUNITY TO QUOTE ON THIS EQUIPMENT

QUOTATIONS SUBJECT TO CHANGE IN PRICE PRIOR TO SHIPMENT. ALL AGREEMENTS CONTINGENT UPON STRIKES, ACCIDENTS, AND UNAVOIDABLE DELAYS BEYOND OUR CONTROL.

Miller-Bradford & Risberg, Inc.

SIGNED _____

WRITTEN COPY

Thomas G Klink
Territory Manager
tklink@miller-bradford.com
262-443-2260

October 24, 2014

Village of Jackson
P.O. Box 147
N168 W20733 Main Street
Jackson, WI 53037
Attn.: Village Manager

RE: Tower/Land Lease Agreement dated March 11, 1997, as amended by Amendment To Land Lease Agreement dated June 12, 2008, as further amended by Second Amendment To Tower/Land Lease Agreement dated January 28, 2013 (collectively, "Agreement"), between Village of Jackson, a Wisconsin corporation ("Lessor"), and Verizon Wireless Personal Communications LP, d/b/a Verizon Wireless ("Lessee").

Verizon Wireless Site Name: Jackson WT
Site Address: W227 N16551 Cedar Parkway, Jackson, WI 53037

To Whom It May Concern,

Pursuant to the above referenced Agreement, Verizon Wireless, successor in interest to Verizon Wireless Personal Communications LP, is hereby requesting your consent to a change in the site configuration at the above referenced site.

Verizon Wireless is in the process of upgrading their wireless network to incorporate technology known as "AWS" (Advanced Wireless Services). As technology advances, it is necessary for Verizon Wireless to upgrade their equipment, which will consist of swapping three (3) antennas, adding three (3) radio heads and appurtenances at the site. The enclosed construction drawings outline the specifics of this modification.

Please indicate your consent by signing below and return this letter back to me as soon as possible. Do not hesitate to contact me at Thomas.laforce@sacw.com or 847-466-3521 with any questions or concerns you may have.

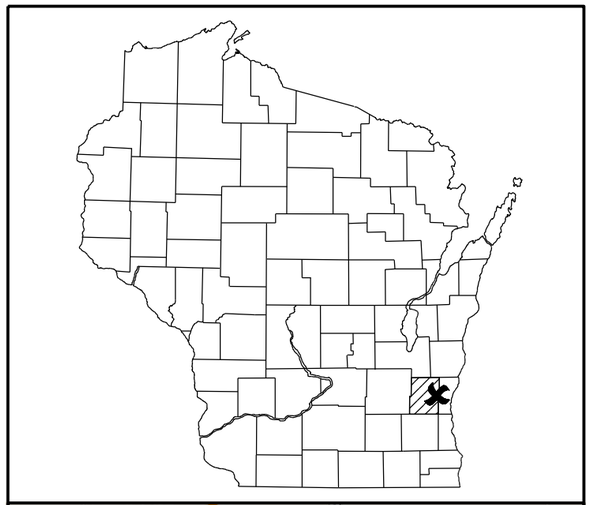
Sincerely,

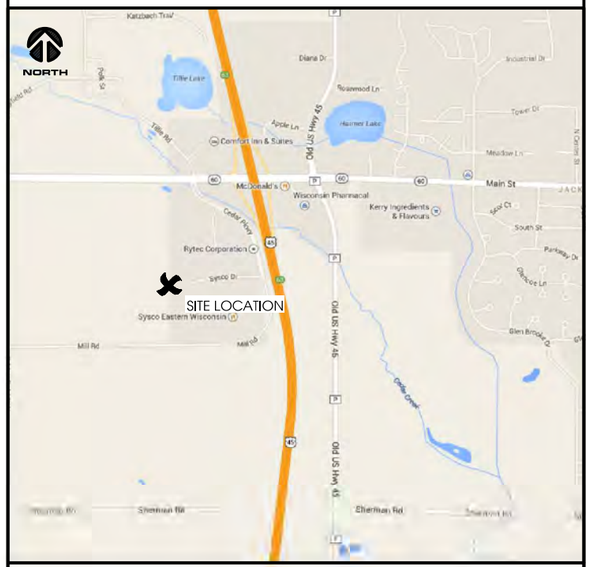
Thomas LaForce
Site Development Specialist
SAC Wireless
1501 E. Woodfield Road, Suite 300E, Schaumburg, IL 60173
O: 847-466-3521
Thomas.laforce@sacw.com

Approved by: _____

Print Name: _____

Date: _____





SITE LOCATION MAPS

VERIZON WIRELESS
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN
AWS ANTENNA MOD DRAWINGS

155' ± WATER TOWER
AUGUST 2014

SHEET INDEX:

NO.:	PAGE TITLE:
T-1	TITLE SHEET
C-1	COMPOUND PLAN
C-2	EQUIP. SHELTER INTERIOR
A-1	TOWER ELEVATION
A-2	ANTENNA CONFIGURATION
A-3	INSTALLATION DETAILS
A-4	INSTALLATION DETAILS
A-5	COAX DETAILS
A-6	COAX DETAILS

PROJECT DESCRIPTION:

PROJECT TYPE: 155'± WATER TOWER
PRO. ANTENNA C/L: 159'-6" ABOVE T.O.C.
ANTENNAS: 6 EXIST. PCS ANT. TO BE REMOVED
3 EXISTING LTE ANT. TO BE REMOVED
3 PRO. AWS/LTE ANT.
3 PRO. PCS/LTE/AWS ANT.
TRANS LINES: 6 EXIST. 1-5/8" LINES TO REMAIN
6 PRO. 1-5/8" LINES
1 PRO. AWS/LTE HYBRID CABLE
TOWER AWS EQUIPMENT:
1 PRO. SURGE PROTECTOR
3 PRO. AWS REMOTE RADIO UNITS
3 PRO. A2 REMOTE RADIO UNITS
6 PRO. 700 MHZ TMAS
6 EXIST. DIPLEXERS TO REMAIN
EQUIPMENT: INSIDE EXIST. EQUIPMENT SHELTER
GENERATOR: EXIST. EXTERIOR GENERATOR
SPECIAL REQUIREMENTS:
-NEW BURIED COAX CONDUIT REQUIRED
-NEW TOWER BELL PENETRATION REQUIRED
-NEW ACCESS TUBE PENETRATION REQUIRED
CONTRACTOR TO VERIFY AWS EQUIPMENT, LINES & ANTENNAS W/ ECR

PROJECT DIRECTORY:

CLIENT:
VERIZON WIRELESS
1515 E. WOODFIELD ROAD
10TH FLOOR
SCHAUMBURG, IL 60173
CONTACT: BRYAN LAZUKA
PHONE: 847.833.1154

ENGINEER:
EDGE CONSULTING ENGINEERS, INC.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
CONTACT: PAUL MOLITOR
PHONE: 608.644.1449

SITE ACQUISITION:
SAC WIRELESS, INC.
1501 E. WOODFIELD ROAD
SUITE 300 E
SCHAUMBURG, IL 60137
CONTACT: DAN POKORNY
PHONE: 608.698.3732

PROJECT INFO:

SITE LOCATION:
MILL RD. & CEDAR CREEK PARKWAY
JACKSON, WISCONSIN 53037

PROPERTY/TOWER OWNER:
VILLAGE OF JACKSON
P.O. BOX 147
N168 W20733 MAIN STREET
JACKSON, WI 53037

1A INFORMATION (NAD 1983/91)
-TOWER BASE- (PER PREVIOUS SURVEY)
LAT: 43° -19' -12.5"
LONG: 88° -11' -28.0"
GROUND ELEVATION (NGVD 29): 918.2'

STRUCTURAL REVIEW NOTE:

STRUCTURAL ANALYSIS COMPLETED BY OTHERS:
TOWER STRUCTURAL:
XXXX
REPORT #: (#), DATE ??/??/??
MOUNT STRUCTURAL:
XXXX
REPORT #: (#), DATE ??/??/??

VERIFY W/ FINAL STRUCTURAL ANALYSIS

CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER AND CLIENT AND BE RESOLVED PRIOR TO CONSTRUCTION.

ENGINEER SEAL:

PRELIMINARY - NOT FOR CONSTRUCTION

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

Signature: _____

Date: _____

Edge Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

SHEET TITLE:
TITLE SHEET
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS
CHECKED BY: DAB
PLOT DATE: 8/29/2014
PROJECT #: 10996
FILE NAME: T-1.dgn

SHEET NUMBER:
T-1

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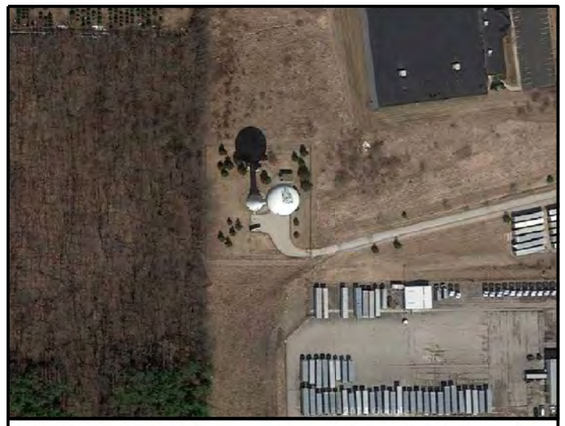
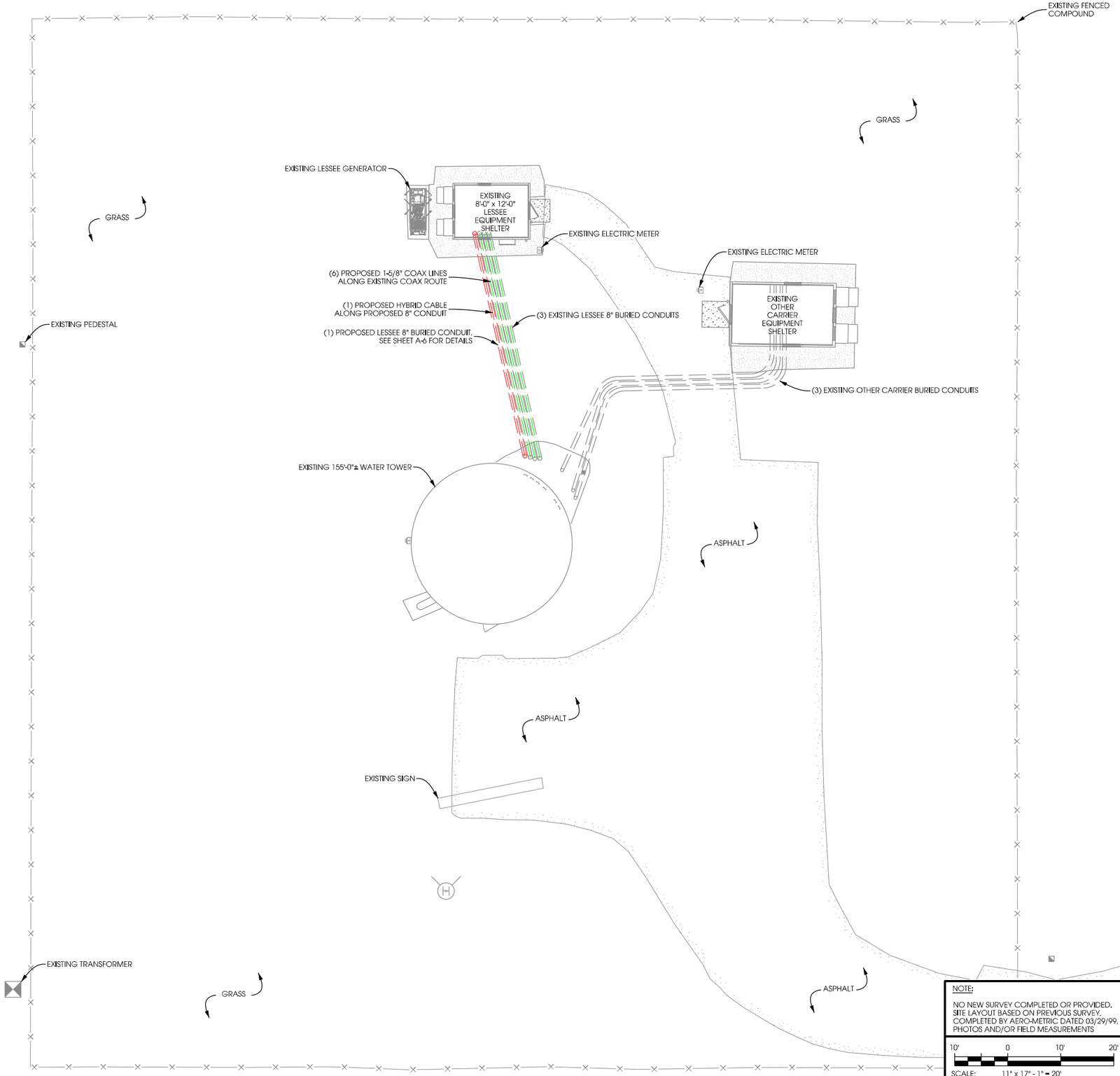
NORTH



AERIAL OVERVIEW OF SITE

SITE OVERVIEW [LOOKING NORTH]



NOTE:

NO NEW SURVEY COMPLETED OR PROVIDED. SITE LAYOUT BASED ON PREVIOUS SURVEY COMPLETED BY AERO-METRIC DATED 03/29/99, PHOTOS AND/OR FIELD MEASUREMENTS

10' 0 10' 20'

SCALE: 11" x 17" - 1" = 20'
22" x 34" - 1" = 10'

Edge
Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

COMPOUND PLAN
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

SHEET TITLE:

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY:	CJS
CHECKED BY:	DAB
PLOT DATE:	8/29/2014
PROJECT #:	10996
FILE NAME:	C-1.dgn
SHEET NUMBER:	C-1

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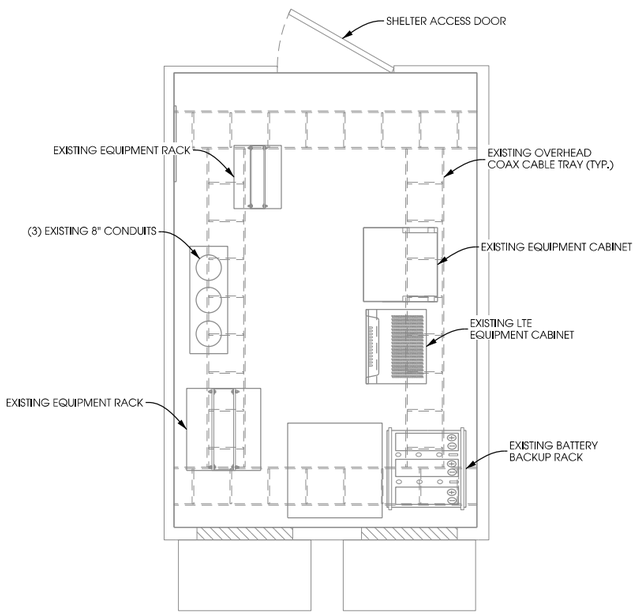
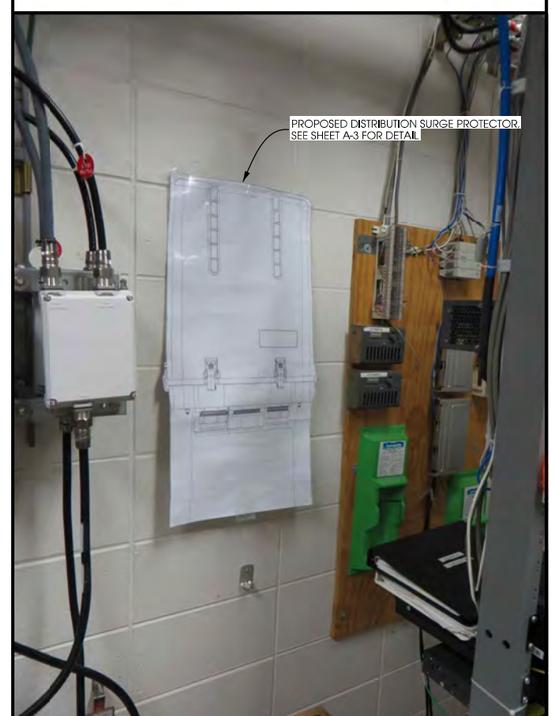
NORTH



A EXISTING SHELTER INTERIOR

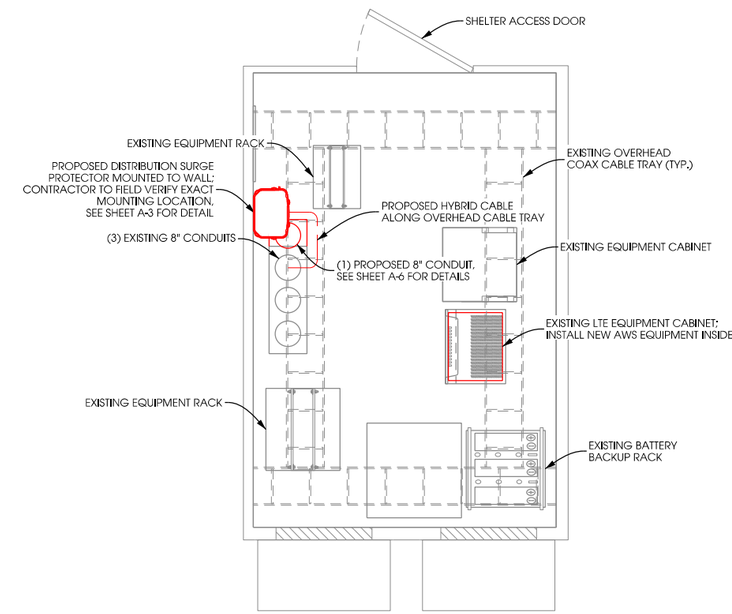
SCALE: 11 x 17 - 1/4" = 1'-0"
22 x 34 - 1/2" = 1'-0"

EXISTING LTE EQUIPMENT CABINET



PROPOSED LOCATION OF DISTRIBUTION SURGE PROTECTOR

NORTH



B PROPOSED SHELTER INTERIOR

SCALE: 11 x 17 - 1/4" = 1'-0"
22 x 34 - 1/2" = 1'-0"

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624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

SHEET TITLE:

EQUIP. SHELTER INTERIOR
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS
CHECKED BY: DAB
PLOT DATE: 8/29/2014
PROJECT #: 10996
FILE NAME: C-2.dgn
SHEET NUMBER: C-2

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HYBRID CABLE INFO	
QUANTITY FROM COAX PORT	1
LENGTH FROM SHELTER SURGE PROTECTOR TO ENTRY PANEL	10'±
LENGTH FROM ENTRY PANEL TO TOWER	55'±
LENGTH FROM T.O.C. TO TOWER SURGE PROTECTOR C/L	160'±
HORIZONTAL LENGTH	30'±
TOTAL HYBRID CABLE LENGTH	255'±

NOTES:

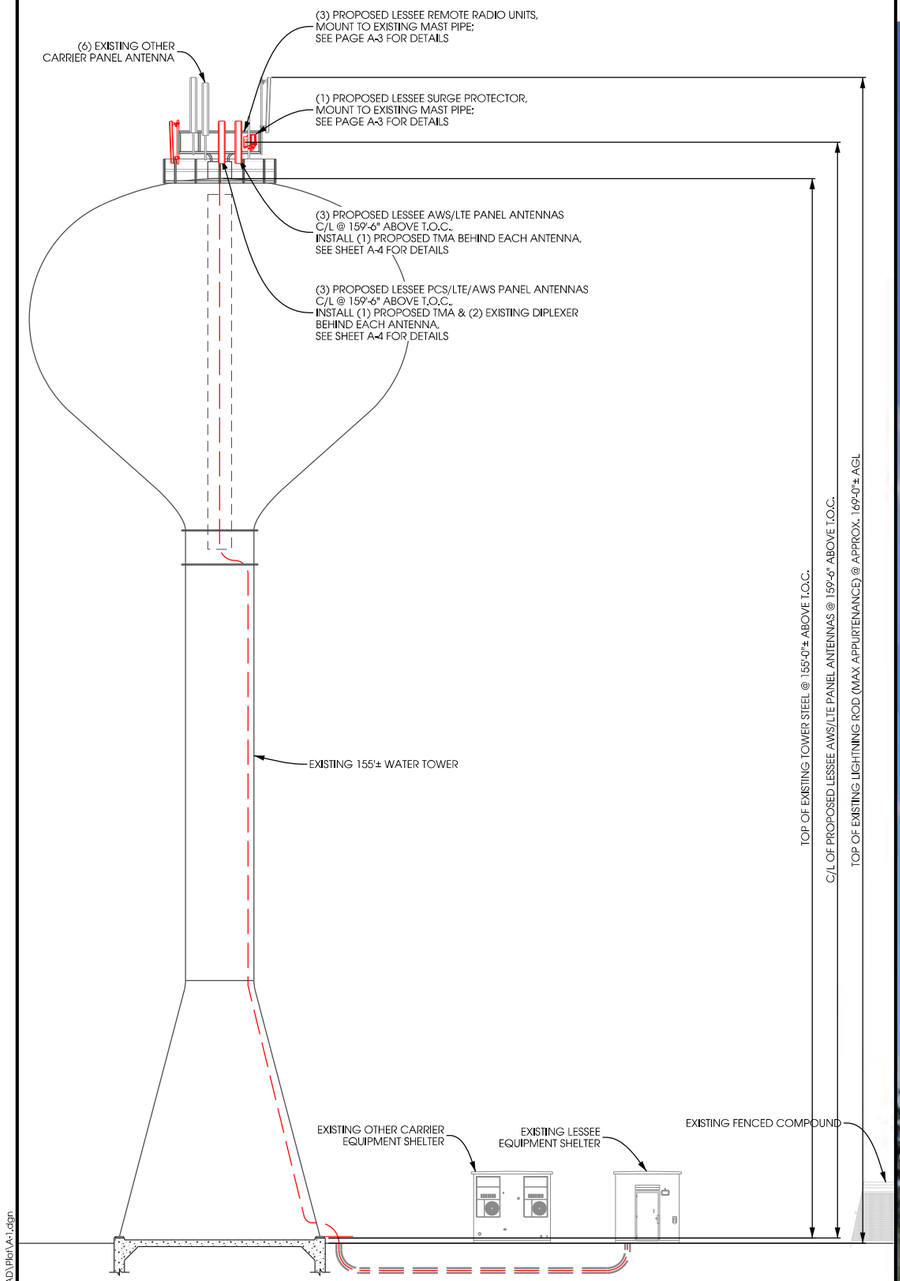
1.) CONTRACTOR TO VERIFY HEIGHT AND DIRECTION OF ANTENNA WITH PROJECT MANAGER & FINAL RF DESIGN.

2.) REFER TO STRUCTURAL REVIEW NOTE ON T-1.

3.) HYBRID CABLE LENGTH NOT TO EXCEED 367'.

4.) HYBRID JUMPER CABLE LENGTH NOT TO EXCEED 30'.

5.) IF CABLING LENGTH EXCEEDS MAXIMUM ALLOWED CONTRACTOR SHALL CONTACT CLIENT AND ENGINEER TO RESOLVE PRIOR TO CONSTUCTION



A **TOWER PROFILE (EAST ELEVATION)**

SCALE: NTS

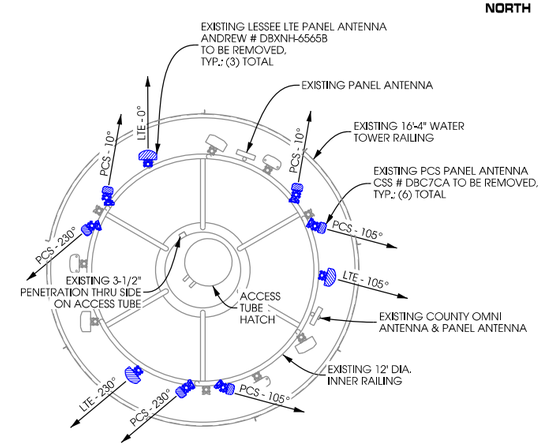
EXISTING TOWER PROFILE (LOOKING NORTH)

ANTENNA LEGEND:

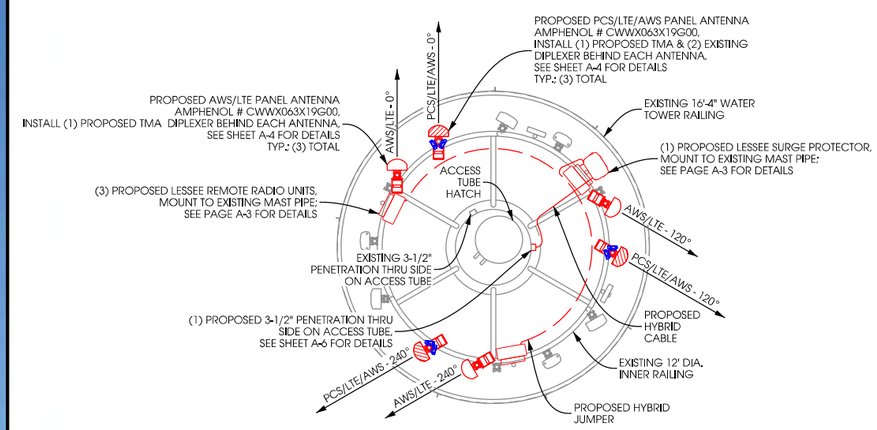
- EXISTING PCS ANTENNA (TO BE REMOVED)
- EXISTING LTE ANTENNA (TO BE REMOVED)
- EXISTING OTHER CARRIER ANTENNA (TO REMAIN)
- EXISTING OTHER CARRIER ANTENNA (TO REMAIN)
- PROPOSED AWS/LTE ANTENNA
- PROPOSED PCS/LTE/AWS ANTENNA
- EXISTING DIPLEXER TO REMAIN
- PROPOSED 700 MHZ TMA
- PROPOSED AWS/A2 REMOTE RADIO UNIT
- PROPOSED DISTRIBUTION SURGE PROTECTOR

NOTE:

ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.



EXISTING ANTENNA ORIENTATION



PROPOSED ANTENNA ORIENTATION

NOTES:

1.) ALL ANTENNA AZIMUTHS REFERENCED FROM TRUE NORTH.

2.) SEE SHEET A-3 AND A-4 FOR INSTALLATION REQUIREMENTS OF ANTENNAS AND EQUIPMENT.

3.) CONTRACTOR TO ROTATE ANTENNAS AS NECESSARY TO MATCH PROPOSED ANTENNA ORIENTATION

B **ANTENNA & EQUIPMENT ORIENTATION**

SCALE: NTS

Edge Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

TOWER ELEVATION
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

SHEET TITLE:

PRELIMINARY CDs:

PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS

CHECKED BY: DAB

PLOT DATE: 8/29/2014

PROJECT #: 10996

FILE NAME: A-1.dgn

SHEET NUMBER: **A-1**

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EQUIPMENT CHANGE REQUEST FORM- ECR

Cell Name	Jackson WT			Cell ID	748
Location Number	113385	RF Engineer	Chris Jennings	Address	7227 N16551 Cedar Parkwa
Date of Request	7/9/2014	Market	Milwaukee	City/State/Zip	Jackson, WI

EXISTING CONFIGURATION

Sector	Pos	Antenna Port	Antenna RF Path	Antenna Manufacturer	Antenna Model	Centerline	Azimuth	Variable Tilt	Mechanical Tilt
Alpha	A1	L1	Unused at this time	Scala	P1790_4	161	10	-	3
		L2	Unused at this time					-	
		H1	PCS - RxTx0						
		H2	Unused at this time						
	A2	L1	LTE C - RxTx0	Andrew	DBXNH-6565B	161	0	0	0
		L2	LTE C - RxTx1						
		H1	PCS - RxTx1					3	
		H2	Unused at this time						
	A3	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						
	A4	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						
Beta	B1	L1	Unused at this time	Scala	P1790_4	161	105	-	1
		L2	Unused at this time					-	
		H1	PCS - RxTx0						
		H2	Unused at this time						
	B2	L1	LTE C - RxTx0	Andrew	DBXNH-6565B	161	105	0	0
		L2	LTE C - RxTx1						
		H1	PCS - RxTx1					1	
		H2	Unused at this time						
	B3	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						
	B4	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						
Gamma	G1	L1	Unused at this time	Scala	P1790_4	161	230	-	3
		L2	Unused at this time					-	
		H1	PCS - RxTx0						
		H2	Unused at this time						
	G2	L1	LTE C - RxTx0	Andrew	DBXNH-6565B	161	230	0	0
		L2	LTE C - RxTx1						
		H1	PCS - RxTx1					3	
		H2	Unused at this time						
	G3	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						
	G4	L1	Unused at this time						
		L2	Unused at this time						
		H1	Unused at this time						
		H2	Unused at this time						

EXISTING ANTENNA CONFIGURATION

CONTRACTOR TO VERIFY W/ VERIZON CONSTRUCTION MANAGER A MORE RECENT ECR IS NOT AVAILABLE

Existing					
Diplexer	Location	Diplexer Manufacturer	Diplexer Model	Count	
	Top (Platform)	CSS	DBC-7CAP	6	
	Bottom (Shelter)	Andrew	CBC-721DF (Diplexer)	6	
Coax	Sector	Coax Manufacturer	Type	Size	Count
	Alpha			1 5/8	2
	Beta			1 5/8	2
	Gamma			1 5/8	2

Proposed					
Passive Components	Location	Manufacturer	Component Model	Count	Action
	Top (Platform)				
	Top (Platform)	Ericsson	RRUS 12 - AWS	3	Install
	Top (Platform)	Ericsson	A2	3	Install
	Top (Platform)	Westell	AWC-TTMA-700C-VG	6	Install
	Top (Platform)	Raycap	RCMDC-3315-PF-48	1	Install
	Top (Platform)	CSS	DBC-7CAP	6	Existing
	Bottom (Shelter)	Raycap	RCMDC-3315-PF-48	1	Install
	Bottom (Shelter)	Andrew	CBC-721DF (Diplexer)	6	Existing
	Bottom (Shelter)				
Coax	Sector	Coax Manufacturer	Type	Size	Count	Action
	Alpha	Andrew	AVA7-50	1 5/8	4	Update
	Beta	Andrew	AVA7-50	1 5/8	4	Update
	Gamma	Andrew	AVA7-50	1 5/8	4	Update
	AWS	Andrew	HFT1206-24S26	1	1	Install

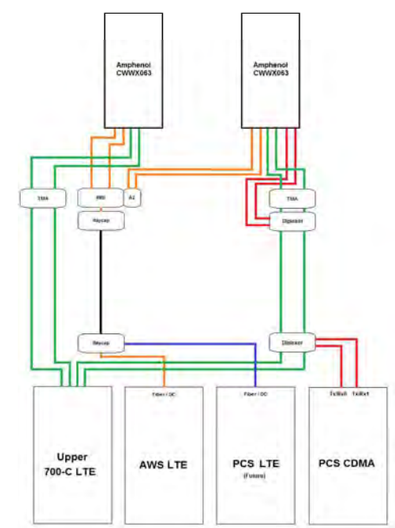
COMBINER CABLE DATA INFORMATION

EQUIPMENT CHANGE REQUEST FORM- ECR

Cell Name	Jackson WT			Cell ID	748
Location Number	113385	RF Engineer	Chris Jennings	Address	7227 N16551 Cedar Parkwa
Date of Request	7/9/2014	Market	Milwaukee	City/State/Zip	Jackson, WI

PROPOSED CONFIGURATION

Sector	Pos	Antenna Port	Antenna RF Path	Antenna Manufacturer	Antenna Model	Centerline	Azimuth	Variable Tilt	Mechanical Tilt	Action
Alpha	A1	H1 (-45)	Unused at this time	Amphenol	CWWX063X19G00	161	0	-	0	Change- Install
		H2 (+45)	Unused at this time							
		L1 (-45)	LTE C - RxTx0					2		
		L2 (+45)	LTE C - RxTx1							
		H1 (-45)	AWS - RxTx0					2		
		H2 (+45)	AWS - RxTx1							
	A2	H1 (-45)	PCS - RxTx0	Amphenol	CWWX063X19G00	161	0	3	0	Change- Install
		H2 (+45)	PCS - RxTx1							
		L1 (-45)	LTE C - Rx--3					2		
		L2 (+45)	LTE C - Rx--4							
		H1 (-45)	AWS - Rx--3					2		
		H2 (+45)	AWS - Rx--4							
Beta	B1	H1 (-45)	Unused at this time	Amphenol	CWWX063X19G00	161	120	-	0	Change- Install
		H2 (+45)	Unused at this time							
		L1 (-45)	LTE C - RxTx0					2		
		L2 (+45)	LTE C - RxTx1							
		H1 (-45)	AWS - RxTx0					2		
		H2 (+45)	AWS - RxTx1							
	B2	H1 (-45)	PCS - RxTx0	Amphenol	CWWX063X19G00	161	120	1	0	Change- Install
		H2 (+45)	PCS - RxTx1							
		L1 (-45)	LTE C - Rx--3					2		
		L2 (+45)	LTE C - Rx--4							
		H1 (-45)	AWS - Rx--3					2		
		H2 (+45)	AWS - Rx--4							
Gamma	G1	H1 (-45)	Unused at this time	Amphenol	CWWX063X19G00	161	240	-	0	Change- Install
		H2 (+45)	Unused at this time							
		L1 (-45)	LTE C - RxTx0					2		
		L2 (+45)	LTE C - RxTx1							
		H1 (-45)	AWS - RxTx0					2		
		H2 (+45)	AWS - RxTx1							
	G2	H1 (-45)	PCS - RxTx0	Amphenol	CWWX063X19G00	161	240	3	0	Change- Install
		H2 (+45)	PCS - RxTx1							
		L1 (-45)	LTE C - Rx--3					2		
		L2 (+45)	LTE C - Rx--4							
		H1 (-45)	AWS - Rx--3					2		
		H2 (+45)	AWS - Rx--4							



PROPOSED ANTENNA CONFIGURATION

Edge Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

SHEET TITLE:

ANTENNA CONFIGURATION
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS
CHECKED BY: DAB
PLOT DATE: 8/29/2014
PROJECT #: 10996
FILE NAME: A-2.dgn
SHEET NUMBER: A-2

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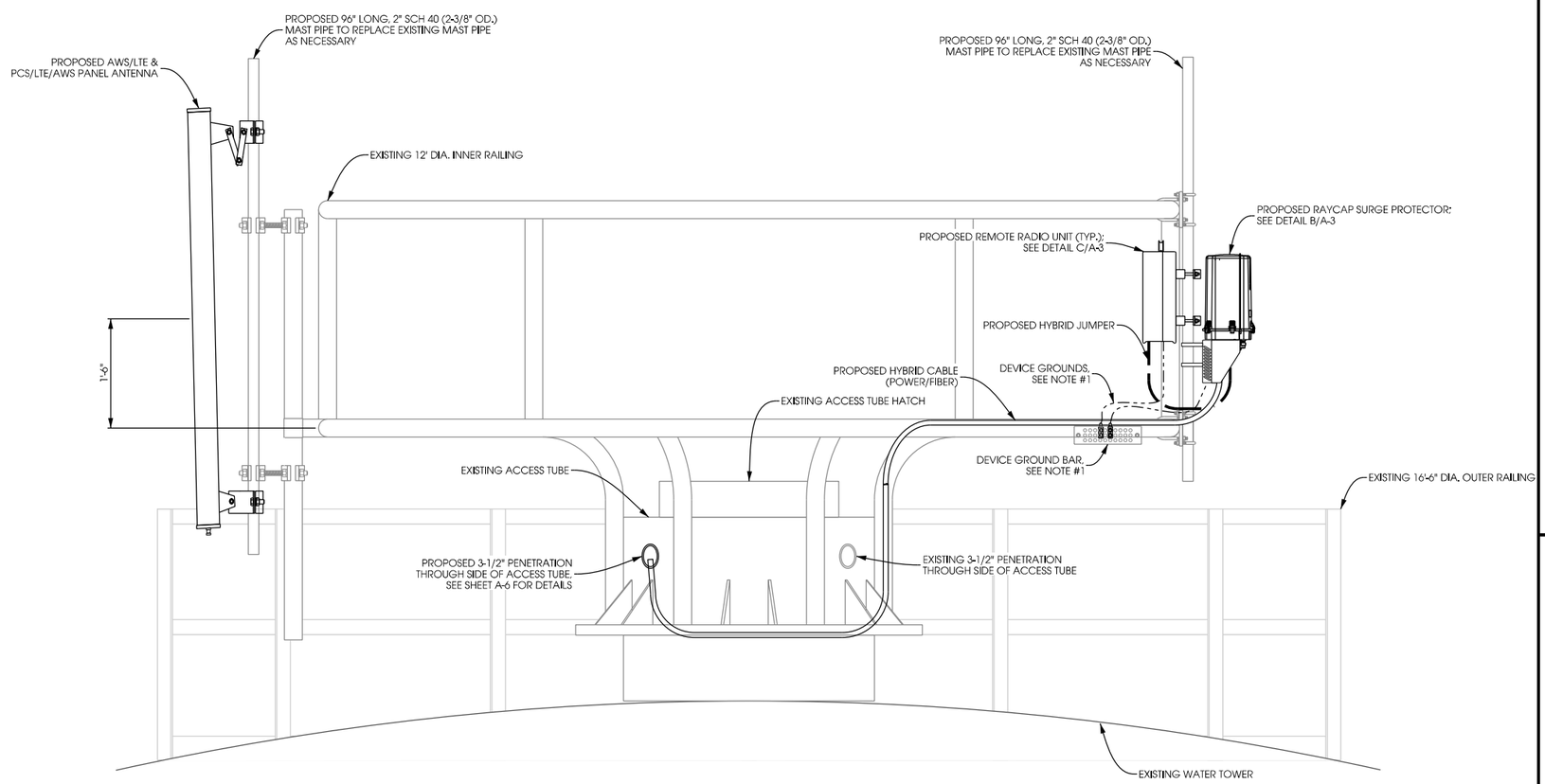


NOTES:

1.) ALL INSTALLED DEVICES TO BE GROUNDED TO ANTENNA/DEVICE GROUND BAR WITH # 2 STRANDED INSULATED GROUND LEAD.

2.) CONTRACTOR TO VERIFY EXISTING ANTENNA/DEVICE GROUND BAR IS BONDED TO TOWER STEEL WITH UL APPROVED BONDING CLAMP. MAKE CONNECTION IF NOT PRESENT.

3.) CONTRACTOR TO VERIFY EXISTING AIR TERMINAL EXTENDS 2' MIN. ABOVE ALL ANTENNAS & EQUIPMENT CONTRACTOR TO RAISE IF NECESSARY.

A **ANTENNA & EQUIPMENT MOUNTING**

SCALE: NTS

DISTRIBUTION SURGE PROTECTOR:

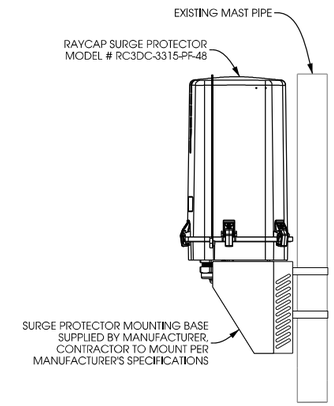
RAYCAP PART # RC3DC-3315-PF-48

DC SURGE PROTECTION FOR RRH/INTEGRATED ANTENNA RADIO HEAD

TOWER, BASE, ROOFTOP, & ROOFTOP DISTRIBUTION MODELS

DIMENSIONS: 19.18" x 15.73" x 10.25" (H x W x D)

WEIGHT: 32 LBS (14.51 kg)



B **DISTRIBUTION SURGE PROTECTOR**

SCALE: NTS

REMOTE RADIO UNIT :

ERICSSON PART # RRUS 12

DIMENSIONS: 20.4" x 18.6" x 7.4" (H x W x D)

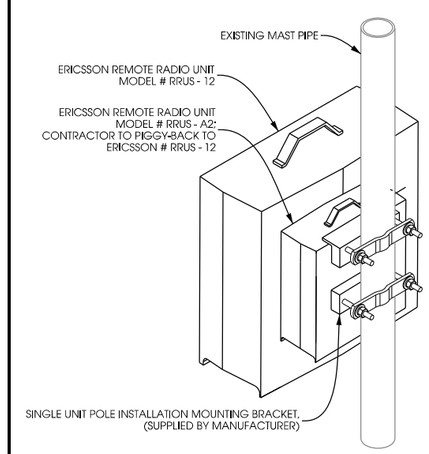
WEIGHT: 57.9 LBS

REMOTE RADIO UNIT A2:

ERICSSON PART # RRUS - A2

DIMENSIONS: 16.5" x 15.1" x 3.3" (H x W x D)

WEIGHT: 22 LBS



C **REMOTE RADIO UNITS**

SCALE: NTS

Edge Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

INSTALLATION DETAILS
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

SHEET TITLE:

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY:	CJS
CHECKED BY:	DAB
PLOT DATE:	8/29/2014
PROJECT #:	10996
FILE NAME:	A-3.dgn

SHEET NUMBER:

A-3

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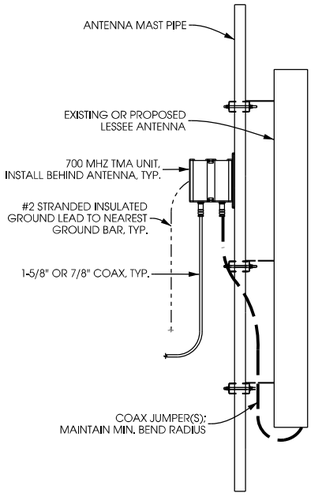
TOWER MOUNTED AMPLIFIER (TMA):

WESTELL PART # AWC-TTMA-700C-VG

DIMENSIONS: 9" x 6.7" x 8.9" (H x W x D)

WEIGHT: 28 LBS



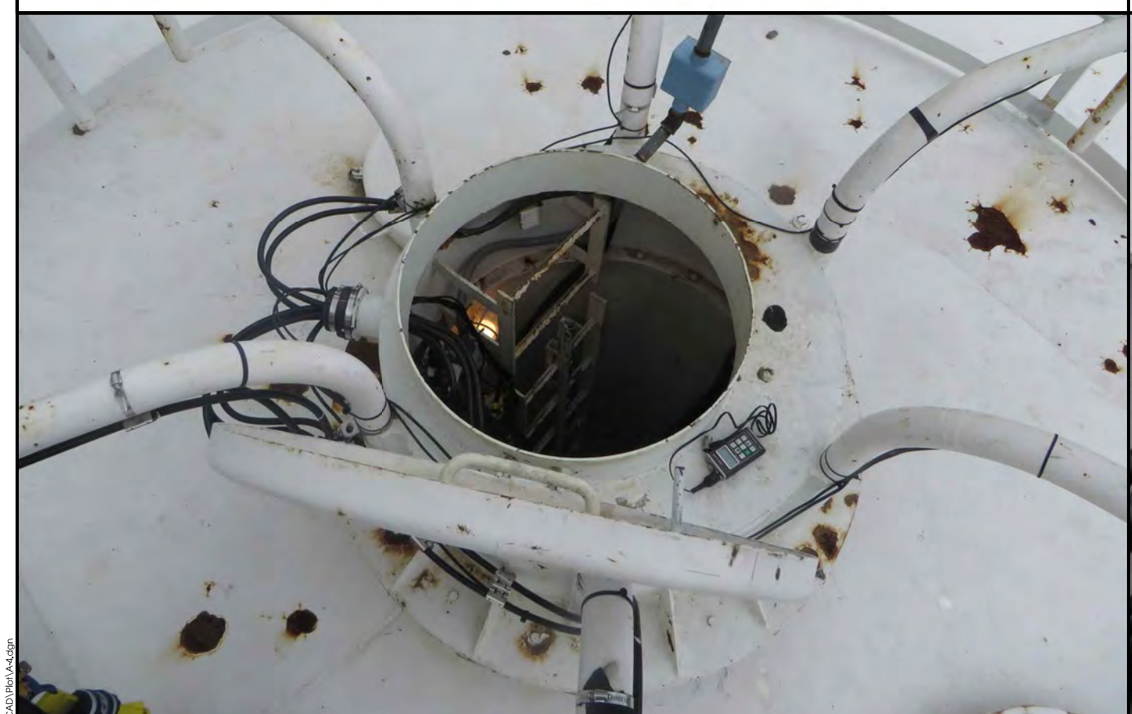
NOTE:

THIS DETAIL SHOWN FOR SCHEMATIC PURPOSES ONLY; SEE PAGE A-2 FOR ANTENNA CONFIGURATION.

A **TOWER MOUNTED AMPLIFIER**

SCALE: NTS

EXISTING LESSEE PANEL ANTENNAS



EXISTING COAX ROUTING

EXISTING COAX ROUTING

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INSTALLATION DETAILS
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JACKSON VILLAGE, WISCONSIN

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PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS

CHECKED BY: DAB

PLOT DATE: 8/29/2014

PROJECT #: 10996

FILE NAME: A-4.dgn

SHEET NUMBER: **A-4**

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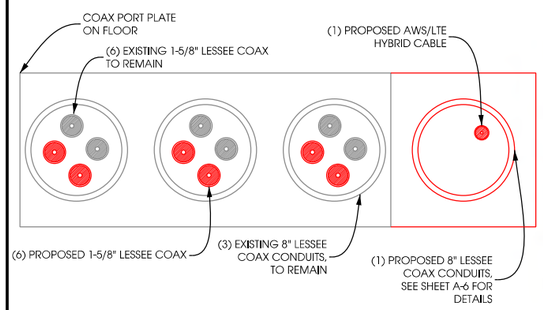
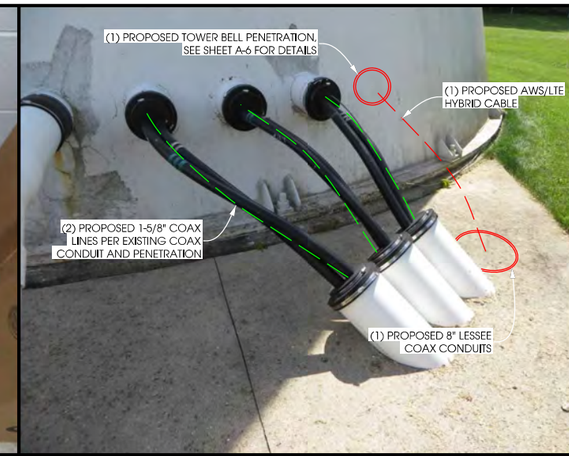


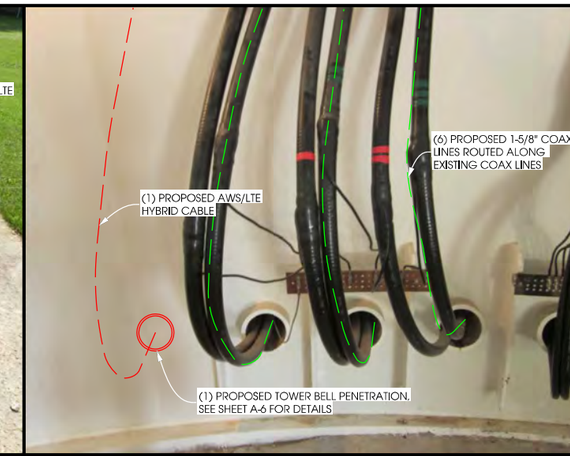
A **ENTRY PANEL LAYOUT**

SCALE: NTS

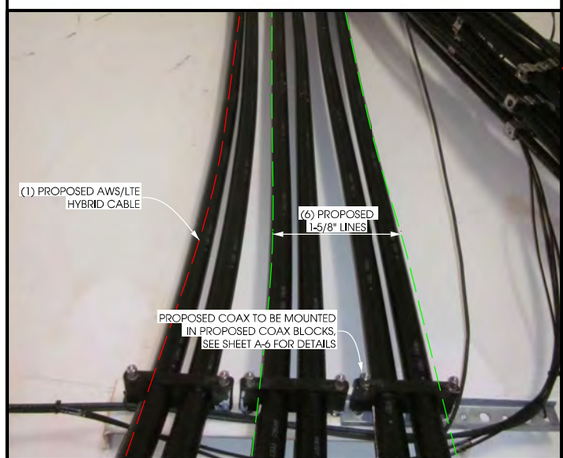
1 **EXISTING SHELTER CONDUITS**



2 **BELL PENETRATIONS**



3 **BELL PENETRATIONS**

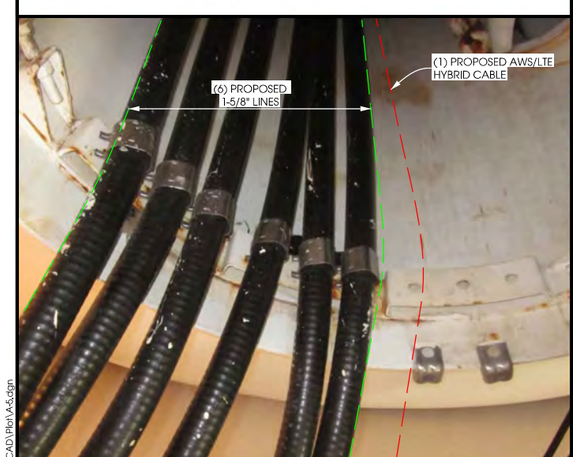


4 **EXISTING COAX ROUTING**

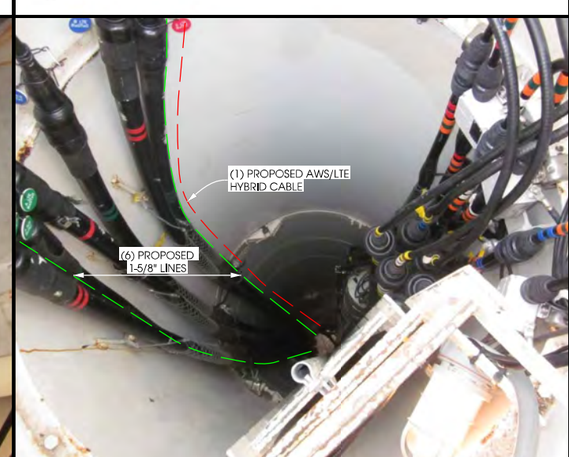
5 **FIRST PLATFORM**

6 **SECOND PLATFORM**

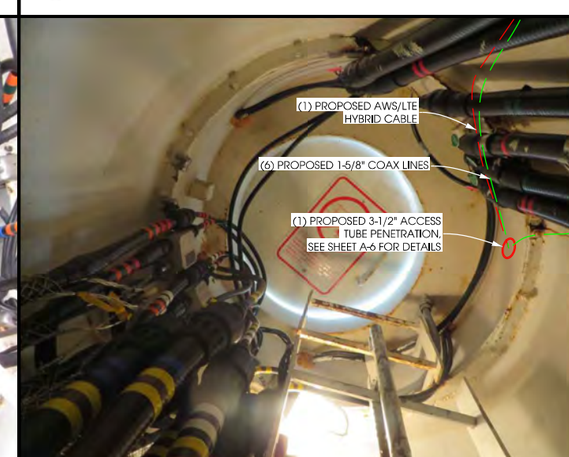
7 **ACCESS TUBE COAX ROUTING**



8 **ACCESS TUBE COAX ROUTING**



9 **ACCESS TUBE COAX ROUTING**



10 **ACCESS TUBE PENETRATIONS**

11 **EXISTING LESSEE COAX ROUTING**

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Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

COAX DETAILS
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

SHEET TITLE:

PRELIMINARY CDs:
PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY:	CJS
CHECKED BY:	DAB
PLOT DATE:	8/29/2014
PROJECT #:	10996
FILE NAME:	A-5.dgn

SHEET NUMBER:

A-5

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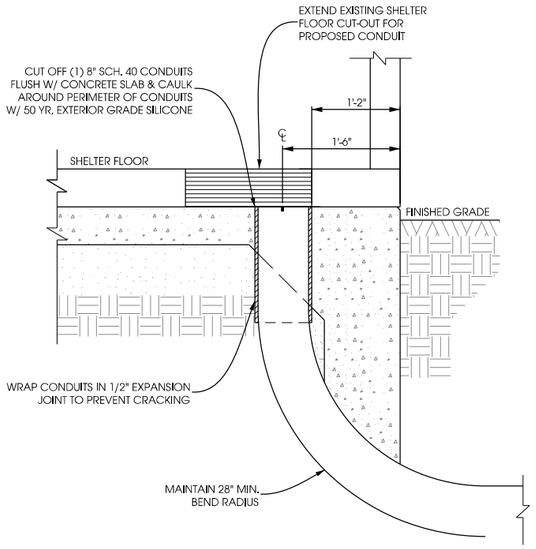


A CONDUIT STUB-UP DETAIL

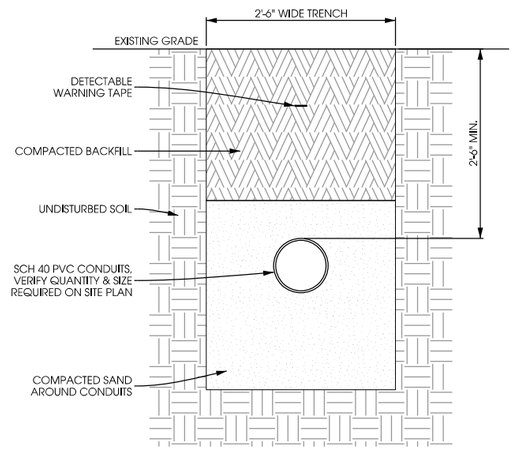
SCALE: NTS

CONDUIT NOTES:

- MINIMUM ALLOWABLE SWEEP - 28" RADIUS
- CUT OFF TOP OF CONDUIT AT 6" AGL

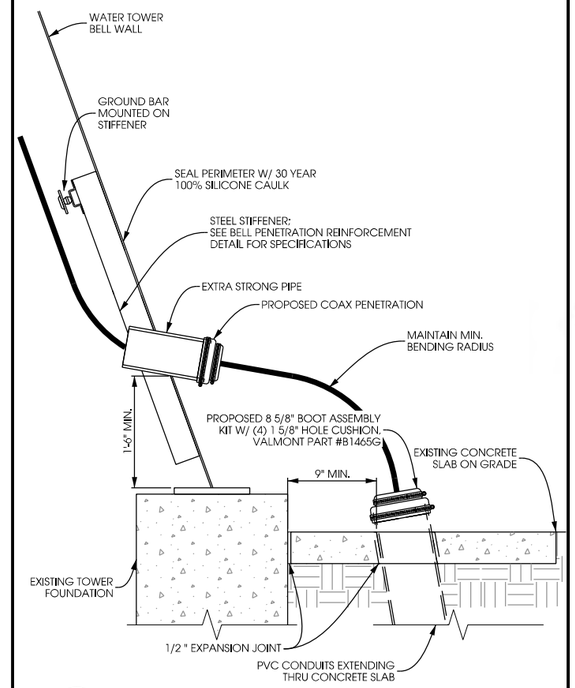
- SCH 40, 90° LONG SWEEP ELBOW FROM CARLON, OR EQUIV. www.carlon.com

6" DIA. CONDUIT, 48" RAD. - PART # UA9HRB
8" DIA. CONDUIT, 48" RAD. - PART # UA9HT



B COAX TRENCH DETAIL

SCALE: NTS



C COAX ENCLOSURE ELEVATION

SCALE: NTS

COAX BLOCK:

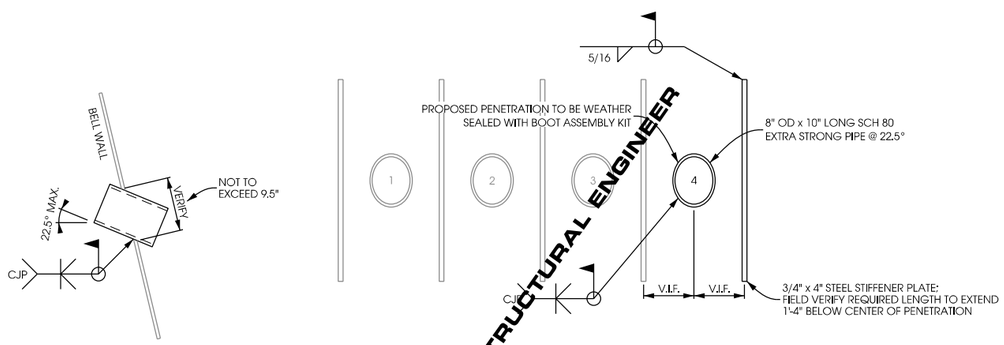
SITE PRO 1 PART # CXB114

STACKABLE TO ALLOW UP TO SIX RUNS OF CABLE PER TOWER ATTACHMENT. DOES NOT INCLUDE 3/8" HARDWARE.

NOMINAL SIZE: 1-1/4"

D COAX BLOCK

SCALE: NTS



TO BE VERIFIED BY STRUCTURAL ENGINEER

NOTES

- ALL WELDING TO WATER TANK SHALL BE IN ACCORDANCE W/ AWWA D100 BY APPROPRIETLY CERIFIED WELDER
- ALL PIPE PENETRATIONS MUST CLEAR EXISITING TANK WELD SEAMS BY AT LEAST 1' (VERT. & HORZ.).
- WATER LEVEL MUST BE LOWERED TO 50% OF MAXIMUM CAPACITY AND STIFFENERS ADDED BEFORE OPENEINGS ARE CUT. WATER LEVEL REDUCTION TO BE SCHEDULED AT MUNICIPALITY'S CONVENIENCE TO MATCH WATER DEMAND.
- WELD STIFFENER PLATES BEFORE ANY PENETRATIONS
- IF PENETRATIONS ARE PERFORMED DURING FREEZING CONDITIONS, CHECK TANK FOR ICE BUILD-UP PRIOR TO DE-PLATING, AVOID FALLING ICE DAMAGE.

E BELL PENETRATION REINFORCEMENT DETAIL

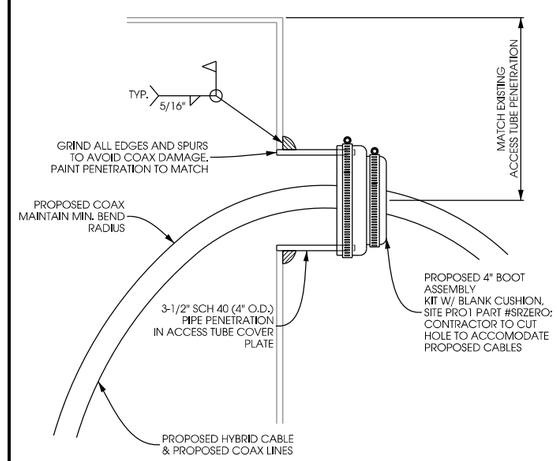
SCALE: NTS

GENERAL WELDING NOTES:

1. ALL WELDING SHALL BE PERFORMED BY AN AWS CERTIFIED WELDER & SHALL BE INSPECTED BY AN AWS CERFIFIED WELDING INSPECTOR.
2. COMPLY WITH THE AWS D1.1 STRUCTURAL WELDING CODE, ANSI/AWWA D100-96 (LATEST EDITION THEREOF), "AWWA STANDARD FOR WELDED STEEL TANKS FOR WATER "STORAGE" AND FEDERAL, STATE AND LOCAL CODES, DURING CONSTRUCTION DESIGN AND FABRICATION.
3. MAKE ALL WELDS TO THE TANK WALL WITH E7018 LOW HYDROGEN ROD. WELD SMOOTH AND AVOID UNDERCUTS AND BURRS. GRIND ALL WELDS SMOOTH SO THAT NO SHARP PROTRUSIONS REMAIN. SMOOTH IS DEFINED AS: "NO CUTS OR ABRASIONS OCCUR WHEN RUBBING YOUR HAND OVER WELD." UNACCEPTABLE WELDS SHALL BE REPAIRED AS REQUIRED TO MEET AWWA D100 REQUIREMENTS.
4. NO WELDING SHALL BE DONE WHEN THE AMBIENT TEMPERATURE IS BELOW 32 DEGREES FAHRENHEIT UNLESS THE REQUIREMNTS OF AWWA D100, SEC 10.2.1 ARE MET.
5. WELDING TO THE TANK OR ACCESS TUBE OPPOSITE THE WATER LEVEL IS NOT PERMITTED. THE WATER LEVEL SHALL BE DRAWN DOWN TO A LEVEL TWO FEET BELOW THE POINT OF WELDING.
6. WELDING MAY CAUSE BLISTERING OF THE INTERIOR PAINT OPPOSITE THE WELD. ALL DAMAGED PAINT SURFACES INSIDE AND OUT SHALL BE REPAIRED. EXTERIOR PAINT DAMAGE SHALL BE REPAIRED AFTER COMPLETION OF THE ANTENNA INSTALLATION. CONTRACTOR IS TO COORDINATE WITH TOWER OWNER ON EXISTING PAINT SYSTEM.
7. GALVANIZED COMPONENTS SHALL NOT BE WELDED DIRECTLY TO THE TANK SURFACE. OTHER GALVANIZED SURFACES SHALL BE GROUND FREE OF GALVANIZING BEFORE WELDING.

NOTES

- ALL WELDING TO WATER TANK SHALL BE IN ACCORDANCE W/ AWWA D100 BY APPROPRIETELY CERIFIED WELDER
- ALL PIPE PENETRATIONS MUST CLEAR EXISITING TANK WELD SEAMS BY AT LEAST 6" (VERT. & HORZ.).
- WATER LEVEL MUST BE LOWERED TO 50% OF MAXIMUM CAPACITY AND STIFFENERS ADDED BEFORE OPENINGS ARE CUT. WATER LEVEL REDUCTION TO BE SCHEDULED AT MUNICIPALITY'S CONVENIENCE TO MATCH WATER DEMAND.
- WELD 3/4" X4" STIFFENER PLATES BEFORE ANY PENETRATIONS
- CUT SLEEVE HOLE AND WELD PIPE SLEEVE IN PLACE BEFORE REPEATING FOR ADDITIONAL HOLES
- IF PENETRATIONS ARE PERFORMED DURING FREEZING CONDITIONS, CHECK TANK FOR ICE BUILD-UP PRIOR TO DE-PLATING, AVOID FALLING ICE DAMAGE.



F ACCESS TUBE PENETRATION DETAIL

SCALE: NTS

Edge Consulting Engineers, Inc.
624 Water Street
Prairie du Sac, WI 53578
608.644.1449 voice
608.644.1549 fax
www.edgeconsult.com

COAX DETAILS
JACKSON WT [113385]
JACKSON VILLAGE, WISCONSIN

SHEET TITLE:

PRELIMINARY CDs:

PRELIM. ANTENNA MOD. - 08/29/14

STAMPED FINALS:

DRAWN BY: CJS

CHECKED BY: DAB

PLOT DATE: 8/29/2014

PROJECT #: 10996

FILE NAME: A-6.dgn

SHEET NUMBER: A-6

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State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703 **or**
P.O. Box 7921
Madison Wi 53707-7921

Urban Nonpoint Source & Storm Water (UNPS&SW)Program Planning Grant Application

Form 8700-299A (R 1/14)

Notice: This application form template was created by the Wisconsin Department of Natural Resources. Application is hereby made to the Wisconsin Department of Natural Resources, Bureau of Watershed Management, for grant assistance consistent with s. 281.66, Wis. Stats., and Chapters NR 151, 154, and 155, Wis. Adm. Code. Collection of this information is authorized under the authority of s. 281.66, Wis. Stats. Personal information collected will be used for administrative purposed and may be provided to requesters to the extent required by Wisconsin's Open Records Law [ss. 19.31 - 19.39, Wis. Stats.]. *Unless otherwise noted, all citations refer to Wisconsin Administrative Code.*

Please read the instructions prior to completion of this form. Complete all sections as applicable. Tab to each section or click in answer spaces.

Applicant Information

Calendar Year of Grant Start: 2015

Project Name: Village of Jackson, WI-WPDES Stormwater-NR 216 Administration

Applicant (governmental unit applying; name and type, e.g. Madison, City of): Jackson, Village of

Name of Government Official - Authorized Signatory (First Last)	Name of Government Official - Grant Contact Person (First Last)
Brian Kober, P.E.	Brian Kober, P.E.
Title: Director of Public Works/Village Engineer	Title: Director of Public Works/Village Engineer
Area Code + Phone Number: (262) 677-9001	Area Code + Phone Number: (262) 677-9001
E-Mail Address: dirpubwks@villageofjackson.com	E-Mail Address: dirpubwks@villageofjackson.com
Mailing Address - Street or Route: N168 W20733 Main Street	Mailing Address - Street or Route: N168 W20733 Main Street
City: Jackson; State: WI; ZIP Code: 53037	City: Jackson; State: WI; ZIP Code: 53037

Project Information

A. Location of Project

County: Washington

State Senate District number: 20

State Assembly District number: 60

Minor Civil Division (city, town, village, *e.g.*, Wrightstown, Village of)	Township (N)	Range	E or W	Section	Quarter	Quarter-Quarter	Latitude (North, 4 to 7 decimal places)	Longitude (West, 4 to 7 decimal places)
Jackson, Village of	10 N	19	E	19	NE	NE	43.3239	-88.1624
	N							
	N							

Method for Determining Latitude & Longitude (check one)

- ○ GPS
- ◉ DNR Surface Water Data Viewer (http://dnrmaps.wi.gov/SL/?Viewer=SWDV)
- ○ Other (specify):

B. Project Summary and Description. Use this space for the project summary and description, not an attachment.

The Village of Jackson, as a new MS4 Permittee, will be developing and administrating as part of it's anticipated NR 216 Permit, programs in support of the anticipated permit such as Information and Education, Illicit Discharge Program, Pollutant Loading Calculations, and Catch Basin Cleaning Program, etc. The Village of Jackson will also be updating their Village Stormwater Management Plan and related ordinances. The Village supports the need to address the quality of stormwater runoff throughout the community.

The Village also desires to set baseline sediment removal and other requirements for privately owned Stormwater Management facilities.

Jackson is within the Milwaukee River Watershed and has Jackson Creek and Cedar Creek flowing through it. This project will be targeting Total Suspended Solids (TSS) and Total Phosphorus (TP) consistent with the requirements of the Milwaukee River TMDL which will be released in the near future.

C. Watershed, Waterbody and Pollutants (see Attachment A and http://dnrmaps.wi.gov/SL/?Viewer=SWDV).
Note: Planning areas may encompass several square miles and may affect multiple watersheds.

Watershed Name	Watershed Code	12-digit Hydrologic Unit Code (HUC)	% of Project Area	Nearest Waterbody Name
Cedar Creek	MI04	040400030303	100	Cedar Creek

Nonpoint Source Pollutant(s) Controlled by the Project

☒ Nutrients ☒ Sediment ☒ Other, specify: Total Phosphorus

Part I. Screening Requirements

A. Maps and Photographs

Yes

☒ An 8.5" x 11" map from the DNR data/map viewers, showing the project area, is attached (link to http://dnrmaps.wi.gov/SL/?Viewer=SWDV).

☒ Aerial photo maps and project area photos are also included.

B. Filters *Note: The applicant must be able to check "Yes" to questions 1 through 8 below to be eligible for a grant. Check "Yes" to question 9 , if applicable.*

Yes

☒ 1. Project is in an area that is urban or will be urban within 20 years (see Attachment B).

☒ 2. Project will be completed within 24 months of the start of the grant period.

☒ 3. Staff and consultants designated to work on this project have adequate training, knowledge, and experience to implement the proposed project.

☒ 4. Staff or contractual services, in addition to those funded by this grant, will be provided if needed.

☒ 5. Planning products prepared under this grant will not work at cross-purposes to (are consistent with) the non-agricultural performance standards under ch. NR 151 (see Attachment D).

☒ 6. The local DNR District Nonpoint Source Coordinator has been contacted and the project was discussed. See contacts at: http://dnr.wi.gov/topic/nonpoint/NPScontacts.html.

Name of the District Nonpoint Source Coordinator Contacted	Date Contacted	Subject of Contact
Jamie Lambert	03/27/2014	Meeting with Jamie to discuss project and application.

☒ 7. The applicant can declare that **one** of the two statements below is TRUE.

◉ a. Statement A: The grant application is for a local governmental unit that has jurisdiction over the project area. (Jurisdiction over the project area means that the governmental unit has control over whether the planning recommendations are carried out.)

○ b. Statement B: The applicant does not have jurisdiction over the project area; however conditions "i" and "ii" or "i" and "iii" are met

☐ i. The applicant is required to obtain a permit under subchapter I. of ch. NR 216; **and**

○ ii. In addition, Inter-Governmental Agreements (IGAs) are in place,

○ iii. **or**, will be put in place prior to the commencement of the grant period, to assure urban best management practices included on the grant are installed and maintained (see Attachment G).

☒ 8. The applicant can declare that **one** of the two statements below is TRUE.

◉ a. Statement A: The applicant is not the University of Wisconsin Board of Regents.

○ b. Statement B: The applicant is the University of Wisconsin Board of Regents **and** the project will develop recommendations for a UW Campus area located in a municipality that meets **both** of the following criteria:

☐ i. The municipality is required to obtain a municipal storm water permit under ch. NR 216 **and**

☐ ii. The municipality is located either in a priority watershed or lake area identified under s. 281.65, Wis. Stats., or in an area of concern as identified by the International Joint Commission under the Great Lakes Water Quality Agreement.

☐ 9. This application is a joint application among local units of government, and

☐ If yes, the required Inter-Governmental Agreement (maybe a DRAFT) is attached (see Attachment G).

If the applicant answered "No" to any of the items in 1-8, above, stop here. This project is ineligible.

Part II. Competitive Elements

Question 1. Fiscal Accountability

A. Timeline and Source of Staff
For each applicable milestone listed below, fill in the appropriate data.

Milestone	Target Completion Date (month/year)	Source(s) of Staff
Basic Milestones		
Prepare preliminary scope of services and discuss with DNR NPS Coordinator	09/2014	WDNR, Municipal Staff
Prepare Request for Proposal	09/2014	Municipal Staff
Select Consultant	10/2014	Municipal Staff
Finalize Scope of Service and Professional Services Contract	11/2014	Consultant, Municipal Staff
Get DNR approval of Professional Services Contract	11/2014	Consultant, Municipal Staff, WDNR
Hold "kick-off" meeting	12/2014	Consultant, Municipal Staff
Interim meeting with DNR	02/2015	Consultant
Presentation to Municipal Council	01/2016	Consultant
Submit project and final report to DNR	03/2016	Consultant
Additional Milestones (list below)		

B. Adequate Financial Budget
Provide information about project activities. Please note: the state share may not exceed 70% of eligible costs. The grant amount is capped at $85,000 for the eligible planning activities.

B.1. Financial Budget Table - Planning Activities

A	B	C
Project Activity for Which DNR Funding is Requested Use this space, not an attachment.	**Estimated Total Cost ($)**	**Amount from Column B Eligible for DNR Cost Sharing ($)**
Project Management	3,930	3,930
Public Education and Outreach	3,750	3,750
Public Involvement and Participation	3,750	3,750
Illicit Discharge Detection and Elimination	4,775	4,775
Construction Site Pollutant Control	1,904	1,904
Post-Construction Storm Water Management	1,904	1,904
Pollution Prevention	4,676	4,676
Storm Water Quality Management	12,170	12,170
Storm Sewer System Map	1,148	1,148
Annual Report	1,546	1,546
Cooperation	262	262
Private Stormwater Facility Baseline and Maintenance Program	49,396	49,396
Update Existing SWMP	4,956	4,956
Update Existing Ordinances	524	524
Final Report	4,004	4,004
1. Total	98,695	98,695

B.1. (continued) Cost Sharing Worksheet

Eligible Costs:	
2. 70% of Column C Total Row 1 above	$ 69,087
Cap Test:	
3. Maximum State Share Row 2 or $85,000, whichever is less	$ 69,087
State and Local Share:	
4. Requested State-Share Amount (= Requested Grant Amount)	$ 63,695
5. Local-Share Amount (Total of Row 1 Column B less Row 4)	$ 35,000

B.2. Cost Estimate Quality Describe the quality of cost estimates including whether the cost estimate is based on a competitive bid, scope of services, similar projects conducted locally, similar projects conducted elsewhere in the state or region, or other more generalized data. Provide documentation.

The quality of this estimate is based on a scope of services. Please see the attached documentation for further details.

Identify the source of the local share:
Village of Jackson General Fund

Question 2. Project Evaluation Strategy
Information that will be developed and presented to DNR to evaluate the environmental benefits of completing this project. Check all that apply.

☒ A. Information that quantifies how project implementation is projected to decrease storm water impacts on state waters will be provided to the DNR. The information may be provided as part of the planning product *(e.g.*, storm water plan, I&E plan) or in the Final Report.

☒ B. Information that tracks progress in carrying out recommendations of this project will be provided to the Department for one or two years after the project is completed. Specify if it is going to be one or two years that tracking information will be provided and describe how this annual post-project tracking process will work:

Once the Final Report is submitted to WDNR; the tracking process will begin and it will be a two-year process. The Annual Report for the MS4 Permit will be used to report on the detailed progress that the Village is making in regards to the administration of its permit and recommendations of the Village's Stormwater Management Plan.

Question 3. Evidence of Local Support
For A. and B., check the applicable situation that exists at the time of application. Include attachments, if applicable.

A. Government

○ 1. The local-share funds for the project expenses are already included specifically in an **adopted** budget.
Describe the document and list date of adoption:

⦿ 2. The local-share funds for the project expenses are or will be included in a **proposed** budget.
Describe the document and list date of adoption:
Village of Jackson-2015 General Budget; this will be adopted in the Summer of 2014.

B. Community

⦿ 1. There is community support specifically for the project in this application.

☒ Evidence of this support is included with the application submittal.

○ 2. There is community support for addressing general water resource needs in the community, even though there may not be evidence of support for this specific project.

☐ Evidence of this support is included with the application submittal.

Question 4. Water Quality Needs

The project must be consistent with at least one of the following seven watershed priorities. For each watershed in the project area, identify the category that best identifies the project goals. If more than one category is checked (because the project area contains more than one watershed), estimate the portion of the project area to be assigned to each category.

Note: For border waters where a State of the Basin Report does not exist, another governmental document acceptable to the District NPS Coordinator may be used to identify the water quality need.

	Percent of Project Area (Total should equal 100%)	Surface Water Considerations
☒	45	**A. Clean Water Act section 303(d) List of Impaired Waters** Project with water quality goals directly dealing with a water body (lake or stream) on the latest Clean Water Act (CWA) s. 303(d) List of Impaired Waters, where the cause of the impairment is nonpoint source pollution and this project will reduce the type of nonpoint pollutants for which the water is listed (see Attachment A and http://dnrmaps.wi.gov/SL/?Viewer=SWDV). **Name of Applicable Impaired Water:** Jackson Creek **Name of Pollutant Causing Impairment:** Total Suspended Solids-Total Phosphorus
☒	55	**B. Outstanding or Exceptional Resource Waters or Other Areas of Special Natural Resource Interest** Prevention of degradation due to nonpoint sources of outstanding resource waters (ORW) (per s. NR 102.10) or exceptional resource waters (ERW) (per s. NR 102.11) or other areas of special natural resource interest (ASNRI). To locate ORW/ERW and other ASNRIs see Attachment A and go to DNR's Surface Water Data Viewer Designated Waters Theme at http://dnrmaps.wi.gov/SL/Viewer.html?Viewer=SWDV&runWorkflow=DesignatedWaters. **Name of Applicable ORW/ERW or ASNRI:** Cedar Creek
☐		**C. Not Fully Supporting Uses or NPS Ranking of High or Medium** A water body (lake or stream) identified in a DNR-approved Basin/Watershed Plan as not supporting designated uses due to nonpoint sources, but is not on the section 303(d) List. In newer plans, these waters are categorized as "supporting" (as opposed to "fully supporting") designated uses; in plans prior to 2010 they were labeled as "partially meeting" designated uses. Or, the project is located in watershed, lake watershed, or other area ranked high or medium on the NPS Rankings List, where the goals of the project are directly associated with the reason for the ranking on the NPS Rankings List.
☐		**D. Surface Water Quality** Prevention of degradation of surface water quality due to nonpoint sources
		Groundwater Considerations For assistance with this section, please consult the DNR District Drinking Water and Groundwater Specialist at: http://dnr.wi.gov/topic/drinkingwater/contact.html or the County Extension office .
☐		**E. Exceeds Groundwater Enforcement Standard** Groundwater within the project area where representative information indicates that stormwater pollutants in groundwater exceed the Enforcement Standard (ES).
☐		**F. Exceeds Groundwater Preventive Action Limit** Groundwater within the project area where representative information indicates that storm water pollutants in groundwater exceed the Preventative Action Limit (PAL).
☐		**G. Groundwater Quality** (see Attachment F) The project area is within a geological area defined in Attachment F as susceptible to groundwater contamination.

Total:
100

Drinking Water Bonus Points (see Attachment E)

Yes ☒ Check this box if the project water quality goals identified above relate to the reduction of nonpoint source contaminants in community or non-community public drinking water supplies. This includes any of the following: Municipal supplies governed by chs. NR 809 and 811; Other-Than-Municipal (OTM) water supplies governed by chs. NR 809 and 811; Non-Transient water supplies governed by chs. NR 809 and 811; Transient water supplies governed by chs. NR 809 and 812.

1. If "Yes," **and** you checked boxes **E, F, or G, above**, then mark a, b, or c, below and move on to question 6. (You will need assistance from your DNR District NPS Coordinator at http://dnr.wi.gov/topic/nonpoint/NPSContacts.html or Water Supply Specialist at http://dnr.wi.gov/topic/drinkingwater/Contact.html to answer.)

○ a. Check this box if the project is located: within the wellhead protection area of a municipal well; or within 1,200 feet of a municipal well for which a wellhead protection area is not delineated; or within 1,200 feet of an Other-Than-Municipal (OTM) water supply well; or within 1,200 feet of a Non-Transient water supply well.

○ b. Check this box if the project is located within 200 feet of a Transient water supply well.

○ c. Check this box if **neither** a nor b applies

2. If "Yes," and you checked box **A, B, or C or D above**, then place a check mark next to the appropriate drainage area where the project is located. If the project is in more than one drainage area, enter the appropriate percentages in the boxes provided. (See Attachment E .)

Source Water Drainage Area		Portion of Project in Assessment Area (%)
☐	Pike River and Creek	
☐	Root River	
☐	Oak Creek	
☒	Milwaukee River	100
☐	Sauk Creek	
☐	Sheboygan and Onion Rivers	
☐	Manitowoc River	
☐	Twin Rivers	
☐	Kewaunee and Ahnapee Rivers	
☐	Menominee River	
☐	Fish Creek	
☐	St. Louis and Nemadji Rivers	
☐	Lake Winnebago	

Question 5. Project Activities and Extent of Pollutant Control
A project can consist of one or more of the following planning activity categories (A through F). For each category below, check the boxes that describe the work products which will be produced under **this** grant. **Do not check boxes based on prior work.**

A. Ordinance Preparation

Develop New / Update Existing — The project is to develop or update one or more of the following ordinances (must be the applying Governmental Unit's ordinances), including associated information, education and public participation activities. Check all that apply.

Develop New	Update Existing	
☐	☒	1. Construction erosion control ordinance including all the requirements of s. NR 151.11.
☐	☒	2. Storm water ordinance for new development and re-development including all the requirements of ss. NR 151.12, NR 151.121-128, and NR 151.241-249. (See NR 151 at: http://docs.legis.wi.gov/code/admin_code/nr/100/151.pdf#page=1.)

☐	☐	3. Low impact development/conservation subdivision ordinances.
☒	☐	4. Other ordinances such as an illicit discharge ordinance, storm water ordinances affecting runoff from developed urban areas (*e.g.*, pet waste management ordinances, nutrient management ordinances), or ordinances that regulate the application of fertilizers to non-municipal properties in accordance with s. NR 151.14.

B. Financing Mechanisms

Develop New / Update Existing — The project will evaluate financing mechanisms for storm water management, including associated information, education and public participation activities. Recommendations will be presented to the governing board for approval and DNR will be notified of the governing board's action. Check **one** of the following:

☐	☐	1. The project develops a dedicated revenue source, such as a storm water utility, to implement a storm water program focusing on implementation of performance standards in Subchapter III of ch. NR 151.
		OR
☐	☒	2. The project is a general feasibility analysis of alternative funding mechanisms

C. Storm Water Plan for Developed Urban Areas (includes redevelopment)

Develop New / Update Existing — The project is to develop or update a storm water management plan for developed urban areas, including redevelopment, which addresses all applicable performance standards under NR 151 including associated information, education and public participation activities.
Check **one** of the following

☐	☒	1. This project will cover the entire geographic area of the governmental unit.
		OR
☐	☐	2. This project will cover only part of the geographic area of the governmental unit.

D. Storm Water Plan for New Development

Develop New / Update Existing — The project will develop or update a storm water management plan for new development that addresses all of the performance standards under ss. NR 151.12, NR 151.121-128, and NR 151.241-249, including associated information, education and public participation activities. Check **one** of the following:

☐	☒	1. This project will cover the entire geographic area of the governmental unit.
		OR
☐	☐	2. This project will cover only part of the geographic area of the governmental unit.

E. Comprehensive Storm Water Information and Education Program

☐ Check this box if the project will develop and/or implement a comprehensive storm water information and education program.
Note: This category may **not** be checked if any boxes in categories A through D, above, have been checked.

Information and education activities are expected to be included as necessary components of projects under categories A through D.

F. Inter-Municipal and Watershed-based Cooperation (bonus)

☐ Check this box if this project is being conducted as part of an inter-governmental storm water management strategy for a common water resource. This also includes entering into a Watershed-based Storm Water Management Permit with other municipalities.
Note: *If more than one local unit of government is joining in this project application (a "joint application"), then an Inter-Governmental Agreement (IGA) meeting the requirements of Attachment G must be submitted with this application.*

Provide a description of the inter-governmental effort that will be used to complete the project.

Question 6. Plans and Regulations

A. Consistency With Resource Management Plans

☒ Check this box if the proposed project focuses on plans to implement a water quality recommendation from a locally-approved resource management plan. Examples include Smart Growth plans, Legacy Community plans, Water Star plans, local Storm Water Management plans, wellhead protection, lake management, regional water quality plans, Remedial Action plans and other watershed-based nonpoint source control plans.

(This question does not include a TMDL report, TMDL implementation plan, or County Land and Water Resource Management Plan.)

If Yes, summarize the water quality recommendation and describe how it relates to the goals of this proposed project. Cite the title, author and date(s) of publication of the resource management plan. Attach pertinent page(s) or provide URL and page numbers.

Village of Jackson-Storm Water Management Guide-1997-Please the attached documentation. The following are goals as described within the guide:

-To develop a program to ensure the successful operation of the storm drainage system.

-To promote the reduction of phosphorus and other pollutants loading to water bodies by regulation, municipal management activities and public education.

-To evaluate water quality and update stormwater management practices. (Please see the attached documentation)

B. Supporting Regulations

Check the box for the statement(s) that applies to this project. The project is located within an area which has:

☒ **1.** The applicant (applying governmental unit) has regulations in place to administer and enforce construction erosion controls in the governmental unit that are consistent with the non-agricultural performance standards in s. NR 151.11

Include the web site where the regulation can be found (most direct web page URL) and page number(s).

http://www.villageofjackson.com/vertical/sites/%7BD4E639E0-08E4-4DA7-8985-CD98B86913E8%7D/uploads/%7BAEBDF1B8-D53D-4282-A0F0-30C565DFD816%7D.PDF (Pages 35-40)

☐ Or check the box if a copy of the regulation is attached to this application.

☐ **2.** The applicant (applying governmental unit) has regulations in place to administer and enforce post-construction runoff for areas of new development and redevelopment in the governmental unit consistent with the non-agricultural performance standards in s. NR 151.12.

Include the web site where the regulation can be found (most direct web page URL) and page number(s).

☒ Or check the box if a copy of the regulation is attached to this application.

Question 7. Use of Additional Funding

☒ Check this box if the applicant is requesting less state share than the 70% rate and below the $85,000 cap.

Question 8. City of Racine

☐ Check this box if this is an application from the City of Racine for a project that is necessary for the city to comply with state storm water permitting requirements.

Part III. Eligibility for Multipliers

Completion of this part of the application is optional. However, an applicant can increase the final project score by qualifying for a project multiplier.

Local Implementation Program (select all that are in place as of the application submittal date)

☒ A. The governmental unit is implementing a pollution prevention information and education program targeted for property owners and other residents.

☒ B. The governmental unit is tracking storm water permitting activity (construction and post-construction) in the governmental unit and can make summary information available to the DNR upon request.

Optional Additional Information

Carefully review the answers to all of the questions above. Is there additional information that will add to the understanding of thisroject? If so, describe here.

The Village of Jackson, as part of the MS4 permit they will be required to comply with in the near future, will be developing the mandatory programs such as Illicit Discharge, Information and Education, etc., and will be describing these programs in detail as part of the Annual Reporting process. These programs will be invaluable to Jackson as they desire to do everything they can to comply with the requirements of the Milwaukee River TMDL; once published.

The Village would also like to provide certifications of three stormwater ponds that they own, to ensure that these facilities are functioning as intended.

Applicant Certification

A Responsible Governmental Official (authorized signatory) must sign and date the application form prior to submittal to the DNR. All four copies must include the signature of the Responsible Governmental Official.

Signature of Government Official - Authorized Signatory	Date Signed 4/14/2014
Name (*Please Print*) Brian Kober, P.E.	Title Director of Public Works/Village Engineer

☐ Check this box if the required, completed Governmental Responsibility Resolution (see Attachment H) is attached

Submittal Directions

To be considered for funding, provide the following for each application submitted:

- One hard copy of the completed application form [DNR Form 8700-299A (R 1/14) with original signature in blue ink and all attachments.
- Three additional hard copies of the completed, signed application form and all attachments.
- One electronic copy of the completed application form (this saved application form) in **PDF format only** plus all attachments on CD.

All application materials must be postmarked by midnight **April 15 of the same calendar year**.

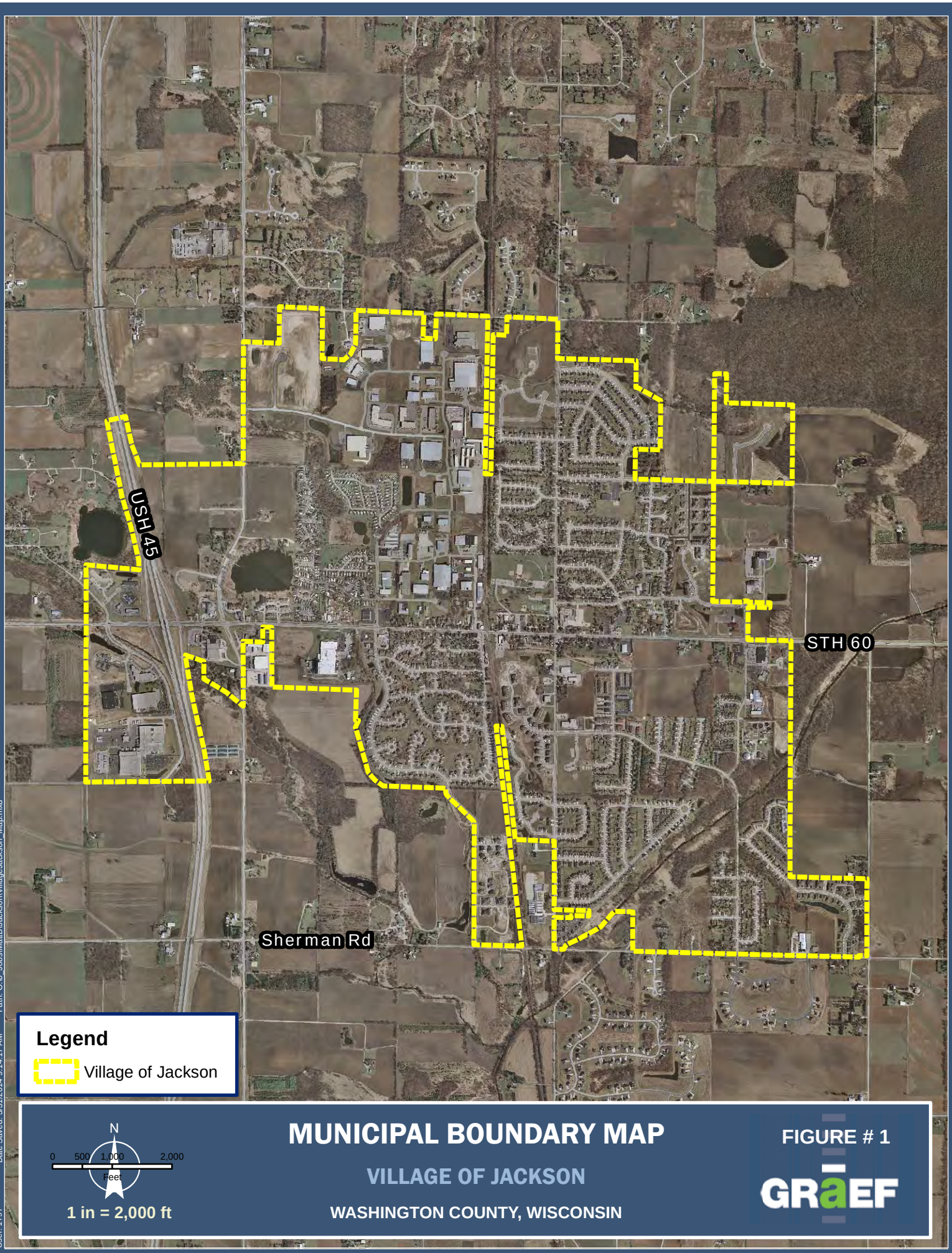
Mail to: State of Wisconsin
Runoff Management Section-WT/3
Department of Natural Resources
101 South Webster Street
Madison, WI 53703

or PO Box 7921
Madison WI 53707-7921

You created this PDF from an application that is not licensed to print to novaPDF printer (http://www.novapdf.com)

Please use this page to write any constructive comment(s) you might have to improve this application.
Thank you.

This project relates to a pending NR 216 permit as a new MS4. It also relates to the pending Milwaukee River TMDL. The Village of Jackson would like to stay ahead of the permit by receiving this grant. Cedar Creek in which the Village is tributary to, is pending on the 303(d) list; Jackson Creek is already on the list. These proposed stormwater management activities are related to water quality only; not localized flooding. There are many community groups and organizations that are in favor of improving the quality of waterways within the Village. The Village as a whole would like to do anything they can to meet the requirements of the Milwaukee River TMDL. The Village understands that for the quality of its waterways to be strong for future generations, work needs to be done now.



MUNICIPAL BOUNDARY MAP

VILLAGE OF JACKSON

WASHINGTON COUNTY, WISCONSIN

FIGURE # 1

GRAEF

Path: O:\0_Jobs\MattB\Jackson\VillageJackson_Map.mxd

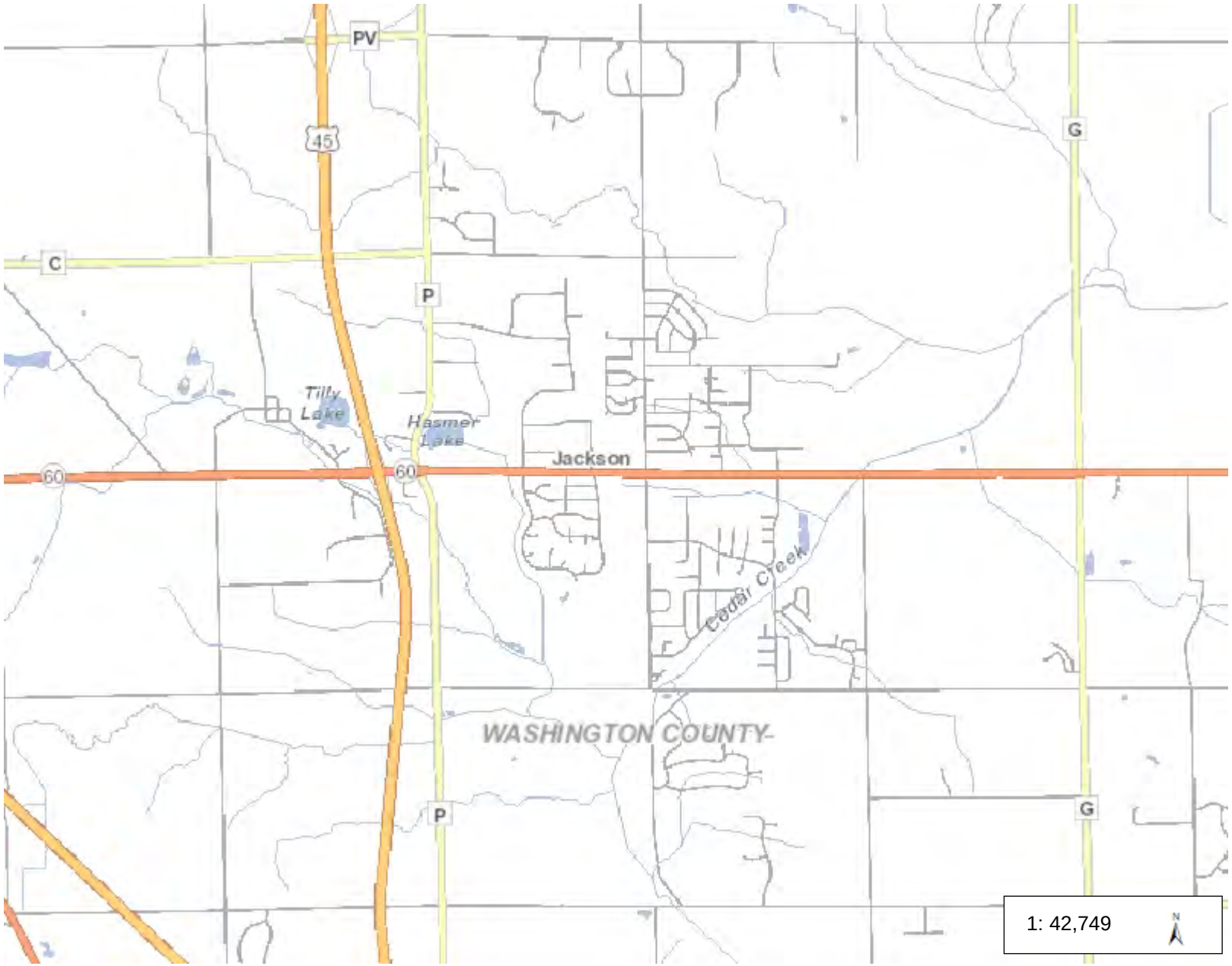
Date Saved: 3/31/2014 9:14:17 AM

User: 1797

Proj. Number:

Source: SEWRPC 2010 Digital Orthophotography

Village of Jackson, Wisconsin



Legend

- Rivers and Streams
- Open Water

1: 42,749

N

Notes

1.3 0 0.67 1.3 Miles

NAD_1983_HARN_Wisconsin_TM

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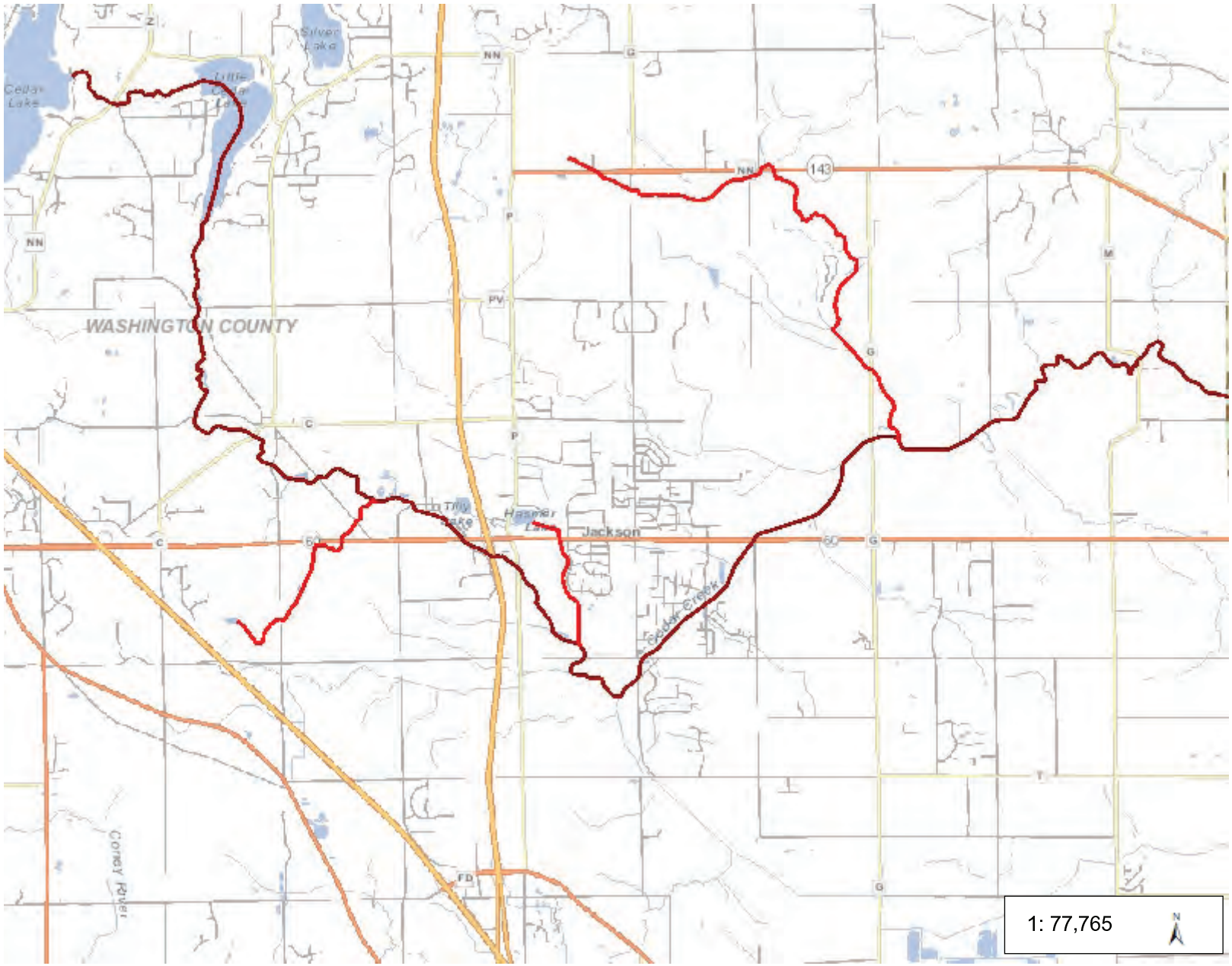
		Bednarski	Kloth	Sisel	Huebner	Peterson	Lozano	Survey	Hours		Fee	
		$ 131.00	$ 107.00	$ 99.00	$ 64.00	$ 73.00	$ 60.00	$ 165.00				
1	Project Management	30							30	$	3,930.00	
2	Public Education and Outreach	10	10		10	10			40	$	3,750.00	
3	Public Involvement and Participation	10	10		10	10			40	$	3,750.00	
4	Illicit Discharge Detection and Elimination	5	20	20					45	$	4,775.00	
5	Construction Site Pollutant Control	8	8						16	$	1,904.00	
6	Post-Construction Storm Water Management	8	8						16	$	1,904.00	
7	**Pollution Prevention**	**4**	**24**	**16**					**44**	**$**	**4,676.00**	
8	Storm Water Quality Management	10		100			16		126	$	12,170.00	
9	Storm Sewer System Map		4				12		16	$	1,148.00	
10	Annual Report	2	12						14	$	1,546.00	
11	Cooperation	2							2	$	262.00	
12	Private Stormwater Facility Baseline and Maintenance Program	2	12					290	304	$	49,396.00	43 Ponds
13	Update Existing SWMP	16	24			4			44	$	4,956.00	
14	Update Existing Ordinances	4							4	$	524.00	
15	Final Report	12	20			4			36	$	4,004.00	
		123	**152**	**136**	**20**	**28**	**28**	**290**	**777**	**$**	**98,695.00**	
										$	63,658.28	
										$	35,036.73	

Village of Jackson, WI-WPDES Stormwater-NR 216 Administration-Impaired Waters



Legend

- Impaired Rivers and Streams
- Impaired Lakes
- Pending 303(d) Stream Chang
  - Other
  - Proposed for List
  - Addition
  - Deletion
  - Delist
- Pending 303(d) Lake Changes
  - Other
  - Proposed for List
  - Addition
  - Deletion
  - Delist
- Rivers and Streams
- Open Water

Notes

2.5 0 1.23 2.5 Miles

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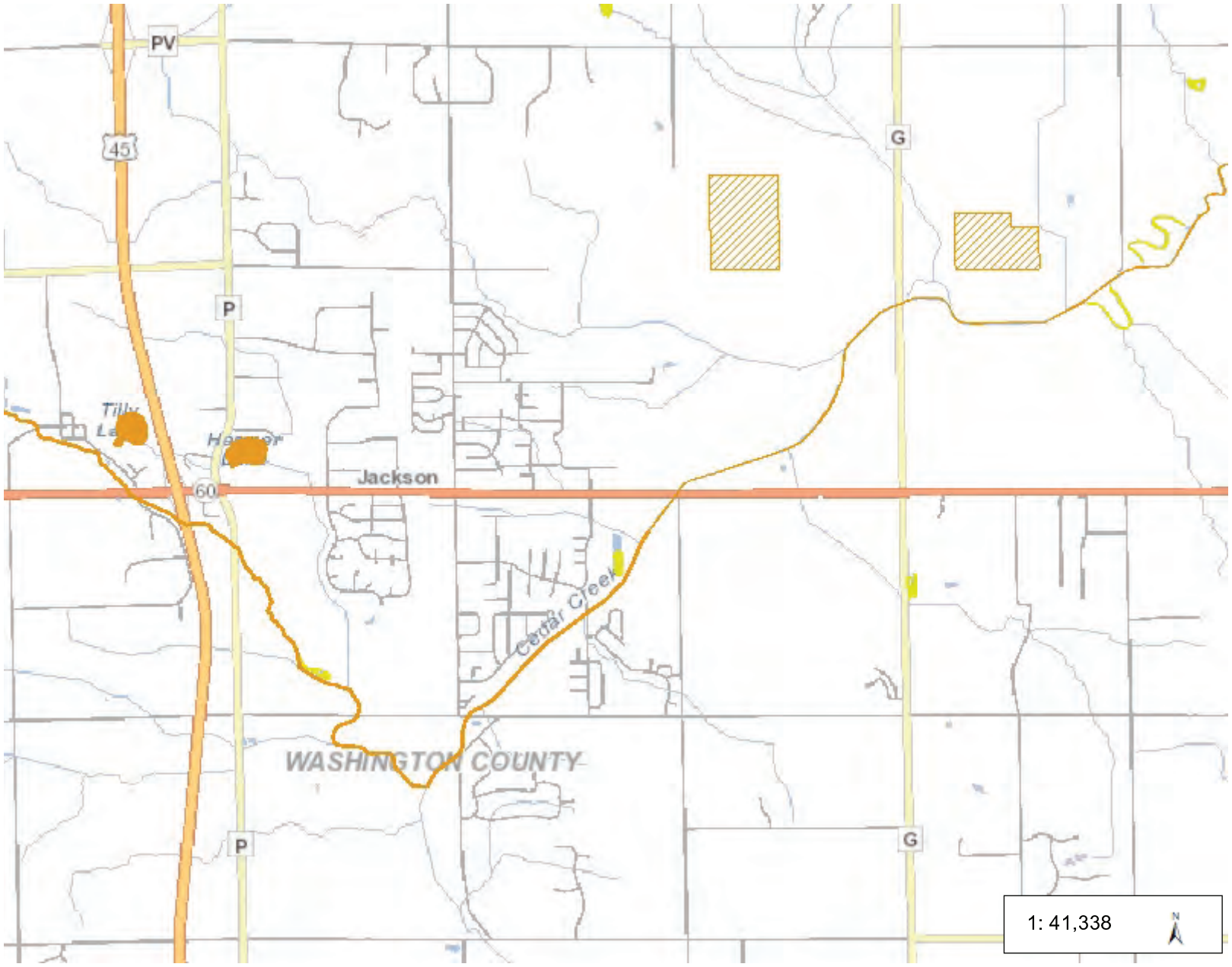
Village of Jackson, WI



Legend

- PRF Sensitive Rivers
- PRF Other River Public Rights
- PRF Sensitive Areas of Lakes
- PRF Other Public Rights Featu
- ASNRI Wild and Scenic Rivers
- ASNRI Outstanding and Excep
- ASNRI Trout Streams
- ASNRI Wild Rice Streams
- ASNRI Quality Wetland Strean
- ASNRI Endangered Threatene Concern Waters
- ASNRI Outstanding and Excep
- ASNRI Quality Wetland Areas
- ASNRI Wild Rice Areas
- ASNRI Trout Spring Ponds
- ASNRI Endangered Threatene Concern Lakes
- State Natural Areas
- PNW Musky Streams
- PNW Sturgeon Streams
- PNW Perennial Trout Stream T
- PNW Musky Areas
- PNW Sturgeon Areas
- PNW Walleye Areas
- PNW Lakes Less Than 50 Acr
- Rivers and Streams
- Open Water

Notes

1.3 0 0.65 1.3 Miles

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VILLAGE

OF

JACKSON

STORM WATER MANAGEMENT GUIDE

1997

JACKSON STORMWATER MANAGEMENT GUIDE

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STORMWATER MANAGEMENT POLICIES

I. GOAL **To provide 100 year flood protection for all resident and structures.**

Policy 1 Detention ponds will be used to reduce rates of storm water discharge from developed areas to match the capacity of the existing natural system. As an approximation, the 100 year storm runoff rate from developed property shall not exceed the two year runoff rate under predevelopment conditions.

Policy 2 Final high water levels governing building elevations adjacent to ponding areas and flood plains be established as an area develops or when drainage facilities are constructed for an area. A freeboard of 2 feet is mandatory, for new developments in compliance with the Wisconsin Flood Plain Management Program (NR 116).

Policy 3 Establish and maintain mandatory overflow routes to provide relief during storm conditions which exceed design conditions.

Policy 4 Establish and maintain emergency pond overflow routes whenever possible.

Policy 5 Require from new developments the construction of detention, retention, aquifer recharge and water quality type ponds.

Policy 6 Storm sewers shall be designed for a minimum of a 10 year storm with systems on arterial streets at 50 year storms and freeways at 100 year storms.

II. GOAL **To develop a program to ensure the successful operation of the storm drainage system.**

Policy 1 The Stormwater system shall be properly operated and maintained.

Policy 2 Skimmers, or other outlet controls and siltation basins and improved water quality efficiencies shall be provided in ponds located upstream of Classification Group A water bodies. This will prevent floating debris and undesirable pollutants from reaching these important water bodies.

Policy 3 The current street sweeping maintenance program will be continued and improved particularly in the areas undergoing extensive development.

Policy 4 Establish and enforce an erosion and sediment control policy.
Policy 5 Access for maintenance of all water bodies shall be provided.

III GOAL To promote the reduction of phosphorus and other pollutants loading to water bodies by regulation, municipal management activities and public education.

Policy 1 Each water body in Jackson's stormwater management system will be categorized according to the classification system and managed to best meet the standards of the classification criteria.

Policy 2 The Village of Jackson will require erosion and sediment control on all construction sites in accordance with Village Ordinances.

IV GOAL To evaluate water quality and update stormwater management practices.

Policy 1 The Village of Jackson will evaluate the long-term water quality trends on priority water bodies.

Policy 2 The Village of Jackson will focus management activities and capital improvements based on a priority ranking scheme.

Policy 3 The Village of Jackson shall establish the phosphorous loading values and stormwater runoff coefficients used in the Walker POND NET model based on the best available literature values, and/or from significant data collected.

V GOAL To limit phosphorus and other pollutant levels from development areas to the natural concentrations (approximately 200 ppb annual budget).

Policy 1 All new developments shall be required to pay the prorated cost to provide land and construct water quality ponds for the purpose of treating increased phosphorous and pollutant runoff generated by the subject development.

Policy 2 Sizing and design of the nutrient pond shall be based on the Walker Pond Net model and shall provide for a minimum of 60 % phosphorous nutrient assimilation. SLAMM, DET POND, or other appropriate water quality models may also be used.

Policy 3 The Village may, at its own discretion, require the construction of one or more ponds even when such ponds do meet the 60 % phosphorous removal efficiency criteria. The Village shall require said ponds when it is determined that they are necessary to maintain the integrity of water quality in downstream priority water bodies. In priority districts, additional water quality treatment (2-3 cell) ponds may be required if necessary to maintain the integrity of the downstream priority water body.

Policy 4 In addition to providing proper ponding, new developments shall also be

required to provide mitigative measures if the development results in an increase in the phosphorous concentration of downstream priority water bodies.

VI GOAL To equitably finance the construction and maintenance of the stormwater management system.

Policy 1 If the Village determines that on-site ponding is not feasible due to site or efficiency limitations, the developer will be responsible for a cash dedication equal to the cost of land and pond volume needed to reduce phosphorous export to undeveloped conditions.

Policy 2 In the areas undergoing development activities, the cost of sweeping sediment from the streets shall be borne by the owners of the development.

Policy 3 A Stormwater management financing system based on special assessments, user fees, impact fees or a Stormwater Utility will be developed.

VII GOAL To prevent hazardous wastes from entering the stormwater drainage system.

Policy 1 The Village will prohibit the unnatural discharge of foreign material into the stormwater system. Such material shall include, but not be limited to waste oil, paint, grass clippings, leaves, household cleaner, salt, lawn fertilizers and herbicides.

Policy 2 The Village will develop a spill response program for the Village personnel to prevent discharge of spilled materials into the storm sewer system. The response program should focus on containing, neutralizing and properly disposing of spilled materials. The Fire Department, Police department, and Public Works department should have a readily available supply of response material including oil absorbing pads.

E. DESIGN CRITERIA

1. Storm Sewers / Culverts

a. Village Streets - 10 year storm.
b. Arterial Streets - 50 year storm.
c. Freeways - 100 year storm.
d. Mannings n = 0.013
e. Maximum Inlet / Manhole spacing = 400 ft.
f. Maximum Gutter Flow = 400 ft.
g. Inlet Grate Capacity = Assume 33 % blockage of grate.
h. Minimum Pipe Velocity = 2.5 feet per second.

2. Open Channels / Streams

a. 100 year storm.
b. Maximum velocities dependent on soils / cover.
c. Minimum slope on backyard swales = 1.5%.

3. Erosion Control

See Village Ordinance.

4. Stormwater Quantity Ponds

a. Initial to 5 year event - Release 2 year predeveloped condition.
-Storage 5 year postdevelopment condition.
5year event to 100 year event
-Release rate 5 year predeveloped condition.
-Storage 100 year postdeveloped condition.
Hydro CAD, Pond Pac, TR-55, TR-20 or other Village Staff approved method.
b. Pond side slopes below normal water level = maximum of 6:1 slope for first 2' of depth.
c. Side slope between normal and high water level = maximum of 4:1 slope.
d. Free board = 2' between 100 year level and lowest structure opening.
e. Attempt to keep lowest structure level below normal water level.
f. Provide data on 10 and 50 year storm events.

5. Stormwater Quality Ponds

a. Phosphorus removal = 60% (Walker Pond Net or other approved method).
b. Pond bench = 6:1 maximum slope to 2 ft. of depth.
c. Minimum average mean depth = 4 ft.
d. Pond configuration to allow maximum distance between inlet and outlet.
e. Provide wetland vegetation on pond bench.
f. Maximum depth = 10 ft.
g. Skimmer maximum velocity = 1 foot per second for 2 year storm.
h. Utilize other practices when available (grassed swales, infiltration, roof drains).

DESIGN AND DRAFTING HANDBOOK

UTILITY SPECIFICATIONS

VILLAGE CODE: CHAPTER 15

LAND DIVISION & SUBDIVISION ORDINANCE

Revised: March 28, 2008

SECTIONS

I. DESIGN AND DRAFTING HANDBOOK

II. SANITARY SEWER SPECIFICATIONS (green)

III. WATER SPECIFICATIONS (blue)

IV. STORM SEWER SPECIFICATIONS (yellow)

V. VILLAGE CODE CHAPTER 15: (red)
Land Division & Subdivision Ordinance

D E S I G N A N D D R A F T I N G

H A N D B O O K

ENGINEERING DEPARTMENT

Revised: March 28, 2008

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I. DRAFTING STANDARDS

A. OVERVIEW

GENERAL

1. Plans shall be prepared as standard “D” size drawing, with a maximum size of 36" by 24" unless otherwise specified under plan preparation standards.

2. Plans shall be easily readable and shall include only that information required by these standards and necessary for construction.

3. Title blocks conforming to the Plan and Detail Standard shall be located in the lower right hand corner of the plan section, and readable from the 36" side of the sheet.

4. Seal and signature of the professional engineer who prepared the plans shall be affixed immediately to the left of the title block. Signature shall be through the seal.

5. Profile view shall be located below the plan view on plan/profile drawings and the two views should be in alignment vertically.

6. North direction shall be to the top or to the right of the sheet and indicated by an arrow and the letter "N".

7. Scale of construction plans shall be 1" = 40' horizontal and 1" = 4' vertical. Schematic System plans and cover sheets may be 1" = 100'. Separate detail drawings shall be 1" = 20' or larger.

8. Stationing shall be at 100' intervals from South to North or West to East and shall be indicated on plan and profile. Every 100' station shall be noted.

9. Date of drawing and dates of all revisions shall be shown.

PLAN VIEW

1. Lot, block, street, property, $^{1}/_{4}$ section, and easement line shall be shown.

2. Lot and block numbers, subdivision name, and existing physical features shall be shown.

3. Lot or property frontage, street width and easement dimensions shall be indicated.

4. Street names shall be shown.

5. Street centerline shall be indicated.

6. Erosion control measures shall be noted on each plan sheet.

7. Diggers Hotline sticker with telephone numbers shall be noted on each plan sheet.

PROFILE VIEW

1. Elevations shall be based on the Village of Jackson datum (USGS) and given to the nearest 0.01 of a foot. Benchmarks used shall be indicated on the plans.

B. MASTER GRADING PLAN

GENERAL

1. All master grading plan sheets shall be bound in a set.

2. The name, seal and signature of the landscape architect and/or professional engineer who prepared the plans shall be affixed immediately to the left of the title block. Signature shall be through the seal.

3. Scale of the plans shall be 1" = 100' for the master plan and 1" = 40' for individual plan sheets.

4. All requirements of the Village of Jackson Land Division Ordinance shall be met.

5. All requirements of the Village of Jackson Erosion Control Ordinance shall be met.

PLAN VIEW

1. All pertinent information shall be shown, whether within the boundaries of the development or adjacent to the development.

2. Existing 2' contour lines shall be shown as ——860—— with 10’ increments in boldface.

3. Proposed 2' contour lines where different from existing shall be shown as - - -860- - - with 10’ increments in boldface.

4. Proposed final building elevation (Yard or Building Pad) shall be indicated at the building setback line.

5. Proposed lot corner elevations shall be indicated.

6. Finished street centerline elevations shall be indicated at 100' stations, all intersections, cul-de-sacs, and other changes in slope. At vertical curves, elevations must be shown at P.V.C., P.O.C., P.V.T. and at 25' intervals for curves 100' long or less. For vertical curves over 100' long, elevations at 50' intervals along the V.C., plus the P.O.C. and P.V.I.

7. Channel or swale flow-line elevations shall be indicated every 100' within public land or easement.

8. Arrows indicating path and direction of sheet flow shall be shown for each proposed lot.

9. All catch basins shall be shown.

10. Detention basins and appurtenances, outlet structures shall be shown and detailed. This includes post-developed 50-year maximum water surface elevations. See also stormwater management guidelines.

11. Mapped wetland boundaries and 100 year floodplain shall be delineated.

12. Appropriate erosion control devices shall be shown on a separate erosion and sediment control plan. Affix to the plans, a note requiring the grading contractor to obtain a permit before commencing work. See also Erosion Control Ordinance.

13. Offsite borrow areas to be included in set.

14. Other information pertinent to grading shall be shown and labeled. This includes field shots on abutting parcels.

15. After finished grading is accomplished, a grading record drawing shall be accomplished to verify conformance with the approved grading plan. The drawing shall consist of the following:

    a. Use approved grading plan as the base sheet. Denote "record drawing" in bold letters at the top and specify the firm doing the as-built. Cross out the name of the design firm if different than firm doing record drawing. Drawings should denote a Record Drawing (As-built) Date.

    b. Spot elevations in the center of all lot building pads to the nearest tenth of a foot.

    c. Spot elevations at all property corners to the nearest tenth of a foot.

    d. Crossroad culvert invert elevations to the nearest hundredth of a foot.

    e. Flowline ditch elevations at every even station to the nearest tenth of a foot.

    f. Berm elevations to the nearest tenth of a foot.

    g. Spot elevations at all high and low points to the nearest tenth of a foot.

h. Verify topo lines as directed by the Village Engineer.

i. Field Inlet grate elevations.

C. STORM SEWER AND STREET DESIGN

GENERAL

1. Storm sewer and street design may be shown on the same sheets and bound in one set.

2. All construction plans shall include a cover sheet incorporating the proposed development with tentative lot layout and dimensions, road right-of-way and proposed storm drainage system. In addition, this sheet shall also show the following:

   a. Proposed storm sewer manholes, distance between manholes, inlets, pipe sizes and rim and invert elevations.

   b. Delineated sub-basin areas to be drained by the storm system.

   c. All existing drainage facilities.

3. Storm sewers shall generally be located 10' south or west of proposed street centerline.

4. Typical street cross-sections shall be as shown on the Plan and Detail Standard.

5. Elevations shall refer to:

   a. Storm Sewer - Flow-line or invert of pipe.

   b. Street Design - Finished centerline grade.

6. Inlets at intersections shall be located at the end of the curb and gutter radius.

7. Each set of plans shall state that storm sewer construction shall be according to Standard Specifications for Sewer and Water construction in Wisconsin, and Special Provisions of the Village of Jackson, all as latest revised. Paving construction shall be according to WIS DOT Standard Specifications for Road and Bridge Construction, Latest Edition.

PLAN VIEW – STORM SEWER

1. Pipe diameters and lengths center-center of manholes and/or catch basins shall be dimensioned.

2. Concrete cradles shall be drawn and dimensioned where needed.

3. Manholes, catch basins, length, slope and size of leads, shall be shown in accord with the Plan and Detail Standard.

PLAN VIEW – STREET DESIGN

1. Stations shall be indicated by tick marks along the centerline and every station shall be labeled.

2. Curb radii shall be dimensioned to the back of curb (25 ft. radius is the minimum acceptable).

3. Flange lines and back-of-curb lines shall be drawn.

4. Flange elevations shall be shown at the beginning, end, and change of slope, at all curb and gutter sections, cul-de-sacs, and warped pavement sections. Length of curve and slope shall also be shown.

PLAN VIEW – OTHER IMPROVEMENTS

1. Existing underground improvements shall be indicated in accord with the Plan and Detail Standard and the size and location labeled.

2. Existing pavement shall be shown in accord with the Plan and Detail Standard and the type labeled.

PROFILE VIEW – STORM SEWER

1. Draw pipe as two lines indicating arch and flow-line of pipe.

2. Flow-line elevations shall be shown at manholes, inlets, and outfalls.

3. Slopes shall be indicated in feet per foot to the nearest 0.0001 ft./ft.

4. Pipe diameter and manhole center-to-center length shall be dimensioned.

5. All storm sewer pipes that are located in the right-of-way shall be Class III minimum ASTM C-76 reinforced concrete pipe. Sewer pipe strength class shall be labeled. Minimum diameter shall be 12".

6. Elevations of manhole rim and inlet flange shall be indicated.

7. Areas of spoil and gravel backfill shall be dimensioned and labeled.

PROFILE VIEW – STREET DESIGN

1. All stations shall coincide with accented vertical lines.

2. Proposed finished centerline grade shall be drawn as a heavy line.

3. Proposed grades and stationing shall be shown at each station, at intersections, at street lines extended and at 25' intervals, P.C., P.T. and P.I., of vertical and horizontal curves.

4. Slopes shall be indicated as plus or minus foot per foot to the nearest 0.0001.

PROFILE VIEW – OTHER IMPROVEMENTS

1. Storm sewer crossings with existing or proposed underground improvements shall be drawn with the name, diameter, elevations and station indicated.

PROFILE VIEW – EXISTING FEATURES

1. Grade profiles shall be shown at street right-of-way lines and centerlines provided that an acceptable master-grading plan has been submitted and approved. Otherwise grade profiles at the building setback line shall also be shown.

C. SANITARY SEWER AND WATER MAIN

GENERAL

1. Sanitary sewer and water main may be shown on the same sheet and bound in one set.

2. All construction plans shall include a cover sheet incorporating the proposed development with tentative lot layout and dimensions road right-of-way and all proposed sanitary sewer and water improvements. In addition, this sheet shall show the following:

    a. Proposed sanitary sewer manholes, pipe slopes and distances between manholes, pipe sizes, and rim and invert elevations.

    b. All existing sanitary facilities on, or adjacent to, the development.

    c. Proposed water main pipe sizes, hydrant and valve locations.

    d. All existing water facilities on, or adjacent to, the development.

3. Each set of plans shall state that construction shall be according to Standard Specifications for Sewer and Water Construction in Wisconsin; Project Specifications and Special provisions of the Village of Jackson; all, as latest revised.

4. Sanitary sewers shall generally be located at centerline of street. Water mains shall be located 10' to the north or east of centerline of the street unless otherwise directed by the Village Engineer.

5. Elevations of sewer and water shall refer to flowline or invert of pipe.

PLAN VIEW - SANITARY SEWER AND WATER MAIN

1. Pipe diameter, center-to-center length between manholes and lateral distances from downstream manholes shall be dimensioned.

2. Show proposed sewer and water mains as solid heavy lines.

3. Table and tie-in all water main fittings to centerline stationing or lot lines and provide offset distances from centerline of street.

PLAN VIEW – OTHER IMPROVEMENTS

1. Existing underground improvements shall be indicated in accord with the Plan and Detail Standard and the size and location labeled.

2. Existing surface improvements shall be indicated with a solid light line and labeled.

3. Proposed other underground improvements shall be indicated with dashed lines and labeled.

4. Sanitary manholes to be located on centerline to a maximum of 5 ft. offset.

5. Erosion Control measures and/or devices shall be indicated and labeled.

PROFILE VIEW - SANITARY SEWER AND WATER MAIN

1. Draw pipe as two lines indicating arch and flowline of pipe.

2. Flowline elevations shall be shown at sewer manholes, at water main breaks in slope and at water main tees, crosses and bends.

3. Slopes shall be indicated as plus or minus foot per foot to the nearest 0.0001.

4. Pipe diameter, manhole or fitting center-to-center length and riser length shall be dimensioned.

5. Sewer pipe strength class shall be labeled, if different from the standard class.

6. Elevations of manhole rim, center of hydrant nozzle, and hydrant shoe elevations shall be indicated.

7. Sanitary sewer dimensions, elevations and notes shall be shown below pipe profile. Water main dimensions, elevations and notes shall be shown above pipe profile.

8. Areas of spoil and gravel backfill shall be dimensioned and labeled.

9. Areas of concrete cradle and envelope shall be dimensioned and labeled.

PROFILE VIEW – OTHER IMPROVEMENTS

1. Proposed street centerline grade shall be drawn as a heavy line.

2. Crossings with existing or proposed underground improvements shall be drawn with the name, diameter, elevation and station indicated.

PROFILE VIEW – EXISTING FEATURES

1. Existing street centerline profile shall be drawn as a dashed line.

II. DESIGN PARAMETERS

A. OVERVIEW

GENERAL

1. All improvements shall be designed according to parameters incorporated in the Village of Jackson Land Division Ordinance.

2. In particular, the design criterion herein outlined shall be adhered to.

3. Vertical clearance between all underground structures and/or utilities shall be a minimum of 6", except 18" for water main under sewers (unless pressure pipe is used for sanitary sewer).

4. Service laterals shall be extended from "Mains" to property lines. Water services shall terminate with a "curb-stop" valve and box zero to 3' inside lot line; sanitary and storm sewer services shall terminate with removable, rubber compression gasketed plugs, marked with a 2 x 4 hardwood timber extending from the terminus to 2 ft. above ground, perpendicular to ground surface. The timber shall be painted green for sanitary sewer and blue for water.

5. Design widths:

TYPE OF STREET	MINIMUM RIGHT-OF-WAY WIDTH TO BE DEDICATED	PAVEMENT WIDTH – URBAN TYPE	PAVEMENT WIDTH – RURAL TYPE
Standard Arterial Streets	100 feet	48'face to face of curbs. 5' sidewalk at 1'inside right-of-way	40' edge to edge of pavement
Collector Streets	80 feet	40'face to face of curbs. 5' sidewalk at 1' inside right-of-way	32' edge to edge of pavement
Local Streets	66 feet	36' face to face of curbs. 5' sidewalk at 1' inside right-of-way	24' edge to edge of pavement
Alleys	22 feet	2' edge to edge of pavement	
Pedestrian ways	10 feet	5' edge to edge of pavement	

GRADING

1. Minimum channel or swale slope in earth or sod shall be 0.015 ft/ft (1.5%).

2. All necessary culverts for drainage must be installed prior to construction.

STREET DESIGN

1. Minimum road grade shall be 0.0060 ft/ft. Minimum gutter grade, including cul-de-sacs, shall be 0.0060 ft/ft.

2. The maximum centerline grade of any street or public way shall not exceed:

   6% Arterial

   8% Collector

   10% Minor

3. Cul-de-sacs or streets to have one end permanently closed shall not exceed 500 feet in length and shall terminate in a circular turn-around having a minimum right-of-way radius of 60 feet.

4. Temporary termination of streets at the boundary of a subdivision intend to be extended at a later date shall have either a cul-de-sac or temporary "T" turnaround.

5 a. The minimum design length of a vertical curve is based on the formula L = KA (where A is the Algebraic difference in percent, of the two grades).

   b. For Crest Vertical Curves, the rate of Vertical Curvature (K) shall be a minimum of 20 (based upon 25 mph Design Speed).

   c. For Sag Vertical Curves, the rate of Vertical Curvature (K) shall be a minimum of 30 (based upon 25 mph Design Speed).

B. SANITARY SEWER

GENERAL

1. The following flow co-efficients shall be used in design of sanitary sewer lines:

   a. For a proposed subdivision sewer extension; Design Flow (Q) = (Number of lots)(3.5 people per lot)(125gpcd)(Peak Factor of 5).

   b. Sanitary sewer system map design co-efficients

Zoning District	Density	Design Co-efficient C.F.S./Acre	Population Density People/Acre
R-1	Medium	0.010	9.5
R-2		0.015	10.8
R-3	Medium-High	0.020	12.6
R-4		0.020	15.4
R-5		0.030	18.9
R-6		0.040	25.2
R-7	High	0.040	30.0
R-8		0.040	31.0
R-9		0.040	31.0
Business		0.025	
Industrial		0.025	
Commercial		0.025	

2. Minimum sanitary sewer size shall be 8" except for service laterals to lot lines, which shall be a minimum of 6". Materials shall be approved by the Village Engineer.

3. Sanitary manholes shall generally be located on centerline with a maximum offset of 5 (five) feet, unless approved in writing by the Village Engineer

4. Minimum slopes for mains shall be as follows:

8-inch → .4%	10-inch → .28%	12-inch → .22%
15-inch → .15%	18-inch → .12%	21-inch → .10%

The preferred minimum slope for 8" diameter mains is 0.5%, particularly on dead-end mains.

5. Minimum cover for mains shall be ten (10) feet from centerline grade to top of pipe. This shall also apply to sanitary lateral risers.

C. WATERMAIN

GENERAL

1. Minimum water main size shall be 8”. House services shall be 1" minimum.

2. Depth minimum for water main shall be 7' to top of pipe from finished grade.

3. Water appurtenance locations shall be as follows:

   Hydrants:

   a. 2.5 feet behind back of curb (existing or future)
   b. at intersections
   c. at far end of cul-de-sac at a lot line extended
   d. mid-block locations at lot line extended
   e. maximum spacing shall be 500', 250' for industrial and/or commercial area
   f. at high point in water main

   Valves:

   a. at intersections at three feet off of Tee or Cross
   b. at mid-block where block length exceeds 800'
   c. on hydrant branches (see standard detail)

   Air Vents:

   a. at temporary ends of water main
   b. at high points in line when no hydrant is present
   c. hydrants are preferred, air vents will only be allowed under extreme conditions.

4. Center of hydrant nozzle shall be a minimum of 16" and a maximum of 24" above curb grade. No hydrant extensions will be permitted.

5. All tapping sleeves shall be of stainless steel composition.

6. Deflections greater than 1% must be made with a mechanical fitting.

D. STORM SEWER

GENERAL

1. Design storm for sewers and swales shall be the 10-year Southeastern Wisconsin Regional Planning Commission curve (See attached spread sheet on page 15).

2. Inlet time of concentration (T_c) shall be 10 minutes or can be computed in accordance with the Kinematic wave equation as presented on page 87 of the ASCE M.O.P. 77, "Design and Construction of Urban Stormwater Management Systems".

$$t_c = 0.938 \frac{n^{0.6} L^{0.6}}{i^{0.4} S^{0.3}}$$

3. Channels and swales shall be designed for 100-year storm.

4. Minimum depth for main line storm sewer in roadways shall be 4' to inside arch of pipe from finished grade.

5. Catch basin laterals - minimum 12" diameter and 3' to inside arch of pipe from finished grade of grate.

6. Catch basin spacing - maximum of 400' of street pavement to be drained, with no more than 3 (three) catch basins on a storm sewer lead.

   a. Catch basin - See detail: Exhibit of booklet.

   b. Catch basin frames: Vertical Face Curb - Neenah Foundry R-3246A, Roll Face Curb - Neenah Foundry R-3501R - Grates shall be type "C". Field grates shall be Neenah Foundry R-3227.

7. Manhole spacing - maximum of 400'.

8. Catch basins shall be designed to provide complete internal site drainage. This item may be waived at the discretion of the Village Engineer.

9. "C" Factors shall be determined with weighted runoff co-efficients. The following minimum shall be utilized:

Zoning	"C"
R-1	.30
R-2	.35
R-3	.35
R-4	.40
R-5	.45
R-6	.45
R-7	.45
R-8	.45

Commercial and Industrial areas shall be determined by special study and consideration of pervious and impervious areas.

Parks, gardens, lawns and meadows depending on surface slope and character of soil; "C" = 0.05 to 0.25. All right-of-way areas with a width greater than 90 feet shall be considered separately with a "C" factor of 0.70. SEWRPC Technical Report Vol: 2, No. 4, April-May, 1965 can be used as a reference.

Rational Formula

Q = C.i.A.
Q = runoff in cfs

C = co-efficient of runoff as a function of impermeable areas

i = intensity as function of recurrence interval and t_c (time of concentration)

A = area tributary to point, Ac.

t_c = time, minutes, required from most remote hydraulic point to point of design

Point Rainfall Intensity-Duration-Frequency Equation
Developed by SEWRPC March 1988
10-year Curve: 5 min. to 59.8 min.: I=143.0/(17.8 + T)

T(min)	I	T(min)	I	T(min)	I	T(min)	I	T(min)	I	T(min)	I
5.0	6.27	14.2	4.47	23.4	3.47	32.6	2.84	41.8	2.40	51.0	2.08
5.2	6.22	14.4	4.44	23.6	3.45	32.8	2.83	42.0	2.39	51.2	2.07
5.4	6.16	14.6	4.41	23.8	3.44	33.0	2.81	42.2	2.38	51.4	2.07
5.6	6.11	14.8	4.39	24.0	3.42	33.2	2.80	42.4	2.38	51.6	2.06
5.8	6.06	15.0	4.36	24.2	3.40	33.4	2.79	42.6	2.37	51.8	2.05
6.0	6.01	15.2	4.33	24.4	3.39	33.6	2.78	42.8	2.36	52.0	2.05
6.2	5.96	15.4	4.31	24.6	3.37	33.8	2.77	43.0	2.35	52.2	2.04
6.4	5.91	15.6	4.28	24.8	3.36	34.0	2.76	43.2	2.34	52.4	2.04
6.6	5.86	15.8	4.26	25.0	3.34	34.2	2.75	43.4	2.34	52.6	2.03
6.8	5.81	16.0	4.23	25.2	3.33	34.4	2.74	43.6	2.33	52.8	2.03
7.0	5.77	16.2	4.21	25.4	3.31	34.6	2.73	43.8	2.32	53.0	2.02
7.2	5.72	16.4	4.18	25.6	3.29	34.8	2.72	44.0	2.31	53.2	2.01
7.4	5.67	16.6	4.16	25.8	3.28	35.0	2.71	45.0	2.28	53.4	2.01
7.6	5.63	16.8	4.13	26.0	3.26	35.2	2.70	45.2	2.27	53.6	2.00
7.8	5.59	17.0	4.11	26.2	3.25	35.4	2.69	45.4	2.26	53.8	2.00
8.0	5.54	17.2	4.09	26.4	3.24	35.6	2.68	45.6	2.26	54.0	1.99
8.2	5.50	17.4	4.06	26.6	3.22	35.8	2.67	45.0	2.28	54.2	1.99
8.4	5.46	17.6	4.04	26.8	3.21	36.0	2.66	45.2	2.27	54.4	1.98
8.6	5.42	17.8	4.02	27.0	3.19	36.2	2.65	45.4	2.26	54.6	1.98
8.8	5.38	18.0	3.99	27.2	3.18	36.4	2.64	45.6	2.26	54.8	1.97
9.0	5.34	18.2	3.97	27.4	3.16	36.6	2.63	45.8	2.25	55.0	1.96
9.2	5.30	18.4	3.95	27.6	3.15	36.8	2.62	46.0	2.24	55.2	1.96
9.4	5.26	18.6	3.93	27.8	3.14	37.0	2.61	46.2	2.23	55.4	1.95
9.6	5.22	18.8	3.91	28.0	3.12	37.2	2.60	46.4	2.23	55.6	1.95
9.8	5.18	19.0	3.89	28.2	3.11	37.4	2.59	46.6	2.22	55.8	1.94
10.0	5.14	19.2	3.86	28.4	3.10	37.6	2.58	46.8	2.21	56.0	1.94
10.2	5.11	19.4	3.84	28.6	3.08	37.8	2.57	47.0	2.21	56.2	1.93
10.4	5.07	19.6	3.82	28.8	3.07	38.0	2.56	47.2	2.20	56.4	1.93
10.6	5.04	19.8	3.80	29.0	3.06	38.2	2.55	47.4	2.19	56.6	1.92
10.8	5.00	20.0	3.78	29.2	3.04	38.4	2.54	47.6	2.19	56.8	1.92
11.0	4.97	20.2	3.76	29.4	3.03	38.6	2.54	47.8	2.18	57.0	1.91
11.2	4.93	20.4	3.74	29.6	3.02	38.8	2.53	48.0	2.17	57.2	1.91
11.4	4.90	20.6	3.72	29.8	3.00	39.0	2.52	48.2	2.17	57.4	1.90
11.6	4.86	20.8	3.70	30.0	2.99	39.2	2.51	48.4	2.16	57.6	1.90
11.8	4.83	21.0	3.69	30.2	2.98	39.4	2.50	48.6	2.15	57.8	1.89
12.0	4.80	21.2	3.67	30.4	2.97	39.6	2.49	48.8	2.15	58.0	1.89
12.2	4.77	21.4	3.65	30.6	2.95	39.8	2.48	49.0	2.14	58.2	1.88
12.4	4.74	21.6	3.63	30.8	2.94	40.0	2.47	49.2	2.13	58.4	1.88
12.6	4.70	21.8	3.61	31.0	2.93	40.2	2.47	49.4	2.13	58.6	1.87
12.8	4.67	22.0	3.59	31.2	2.92	40.4	2.46	49.6	2.12	58.8	1.87
13.0	4.64	22.2	3.58	31.4	2.91	40.6	2.45	49.8	2.12	59.0	1.86
13.2	4.61	22.4	3.56	31.6	2.89	40.8	2.44	50.0	2.11	59.2	1.86
13.4	4.58	22.6	3.54	31.8	2.88	41.0	2.43	50.2	2.10	59.4	1.85
13.6	4.55	22.8	3.52	32.0	2.87	41.2	2.42	50.4	2.10	59.6	1.85
13.8	4.53	23.0	3.50	32.2	2.86	41.4	2.42	50.6	2.09	59.8	1.84
14.0	4.50	23.2	3.49	32.4	2.85	41.6	2.41	50.8	2.08		

Compiled By: J. S. Nettesheim, PE

E. STORMWATER MANAGMENT DESIGN REPORT GUIDELINES

GENERAL

1. All stormwater management measures shall be designed in accordance with the Jackson Stormwater Management Guide.

2. Onsite detention shall be required to provide sufficient storage to control stormwater runoff events on all parcels larger than five acres. The detention basin shall be designed to restrict the runoff peak-flow from a 100-year recurrence interval event of 24-hour duration from the fully developed site. The peak discharge rate from the aforementioned 100-year storm shall not exceed the peak discharge rate of the pre-developed site from a 2-year for 5 year event and 5-year for 100 year event recurrence interval event of 24 hour duration.

3. The hydrology methodology shall be Technical Release No. 55 "Urban Hydrology for Small Watersheds", SCS, USDA.

4. Detention basin design shall include a report of water surface elevations, discharge rates and volumes due to runoff from the post-developed 10, 50 and 100-year events. Also, respective inflow and outflow hydrographs shall be submitted.

5. The design shall include detention basin site configuration and details of all structures including emergency overflow provisions for the Stormwater Management system. A two (2) foot freeboard shall be included in the design. A paved invert for low flows may be required.

6. Stormwater quality measures will be required. See the aforementioned Jackson Stormwater Management Guide for details. A report of the effectiveness shall be included.

7. A final analysis and report encompassing all the guidelines listed above shall be submitted for approval. The report shall include design assumptions, computations, conclusions and solutions. Also, flows for each stormwater discharge point shall be summarized in a table. The submittal shall coincide with the submittal of the grading plan.

F. EROSION CONTROL METHODS

GENERAL

1. All contractors installing underground pipeline shall obtain an Erosion Control Permit from the Village of Jackson Building Inspection Department

2. All erosion and sediment control measures should be constructed and maintained in accordance with the Wisconsin Construction Site Best Management Practice Handbook.

3. All sediment control measures should be adjusted to meet field conditions at the time of construction and installed prior to any grading or disturbance of existing surface material.

4. Maintenance of all sediment control structures shall be provided to ensure intended purpose is accomplished. Sediment control measures are to be in working condition at the end of each working day.

5. After any significant rainfall, sediment control structures shall be inspected for integrity. Any damaged structures shall be corrected for integrity.

6. Sediment control measures shall not be removed until the areas served have established vegetative cover.

7. Gravel mats should be installed at all construction site exits to prevent tracking of soil.

8. Tracked soil shall be collected from paved roads located near the construction site at the end of each working day.

9. All trench water should be discharged into a settling basin or filtering devise prior to release into storm sewers.

10. Storm inlets should be protected from runoff by enclosing inlets with straw bale or fabric filter fencing.

11. Overland flow should be prevented from leaving the work site by installing straw bales or fabric filter fencing parallel to the contours located downhill from the work area.

12. Sediment control for pipeline construction:

    a. Excavated trench material shall be placed on the high side of the trench.

    b. All trenches should be backfilled, compacted and stabilized by the end of each working day.

III. PLAN SET SUBMITTAL SCHEDULE

A. VILLAGE OF JACKSON CONSTRUCTION PLAN SUBMITTAL

When submitting plans to the Village for: sanitary sewer, water main, storm sewer, street design, grading and erosion control, please provide the following number of plans sets:

1. For the FIRST submittal, two (2) copies of each plan set (this includes the appropriate system map).

2. For each SUBSEQUENT submittal, two (2) copies of each plan set. Also, the previously reviewed submittal copies shall be returned.

3. For the FINAL submittal, five (5) copies of each plan set. Also, the previously reviewed submittal copies shall be returned.

B. SANITARY SEWER PLAN SUBMITTALS TO DNR

1. DNR `Fast-Track'

   -Three (3) sets of construction plans
   -Two (2) sets of sewer system map
   -Two (2) copies of DNR Form 3400-59, `208' letter
   -One (1) copy of DNR Form 3400-95 and 3400-160
   -One transmittal letter/owner approval letter

2. Projects not eligible for `Fast-Track'

   -Five (5) sets of construction plans
   -Two (2) sets of sewer system map
   -Two (2) copies of DNR Forms 3400-59, 3400-95 and 3400-105
   -Two (2) copies of `208' letter
   -One transmittal/owners approval letter

3. Please note, any additional data or documents required by DNR shall be furnished by the Consulting Engineer/Developer.

C. WATER MAIN PLAN SUBMITTALS TO DNR

1. Revised Process

   -Two (2) sets of construction plans
   -Two (2) sets of system map
   -Two (2) copies of DNR Form 3300-66 and 3400-105
   -One transmittal/owner approval letter

2. Please note, any additional data or documents required by DNR shall be furnished by the Consulting Engineer/Developer.

D. MASTER GRADING PLAN

1. Once approved, a reproducible Mylar copy of the grading plan shall be provided to the Village by the consulting engineer.

E. RECORD DRAWINGS (AS-BUILTS)

The following plan sets shall be furnished to the Village of Jackson in reproducible Mylar form and an AutoCAD file, supplied on a 3.5" disc or CD.

1. Sanitary sewer
2. Water main
3. Storm sewer
4. Street design
5. Master grading (see the section on Master Grading Plan for details)

NOTE: The record drawings shall have pertinent as-built information, including "Record Drawing" date, dimensions and inspectors notes included. The final approved water main, sanitary, street design, storm sewer and master grading construction plan sheets may be used as a base sheet for the record drawings. Superseded information shall be crossed out on the drawing.

F. CONSTRUCTION PLAN SHEETS

1. The consulting engineer shall provide ALL required Construction plan copies for, but not limited to, contractors, inspectors and private utilities.

EXHIBITS

G. STORM SEWER FACILITIES.

1. The sub-divider shall construct storm water drainage facilities, which may include storm water retention/detention ponds, curbs and gutters, catch basins and inlets, storm sewers, road ditches, culverts and open channels, as may be required. The size, type grade, and installation of all storm water facilities proposed to be constructed shall be in accordance with design criteria, plans and standard specifications as approved by the Village. Storm sewer shall not be less than fifteen (15) inches in diameter. Storm sewer leads connecting the catch basin to the storm sewer shall not be less than twelve (12) inches in diameter. (#97-02)

2. The sub-divider shall assume the cost of all storm water facilities within the proposed subdivision.

3. The sub-divider shall be required to provide sump pump drain laterals for each lot, from the storm sewer to the lot line for the purpose of receiving sump pump discharge. Laterals shall be a minimum of four (4) inches in diameter.

4. All sump pumps, including existing pumps, shall be connected to and discharge into storm sewer facilities when facilities are available.

5. Gravel or granular backfill shall be used for all trenches dug within a proposed or existing street right-of-way, including trenches dug under a proposed or existing sidewalks.

H. CURB AND GUTTER. After installation of all underground utilities and improvements required by the Village, the sub-divider shall construct concrete curb and gutter in accordance with the standard specifications on file with the Village Engineer. Curb and gutter standards shall provide for the construction of concrete curb and gutter, using a thirty (30) inch curb and gutter specification.

I. RURAL STREET SECTIONS. When rural street sections have been approved by the Village Board, the sub-divider shall finish grade all shoulders and ditches, install all necessary culverts to prevent erosion and sediment in accordance with plans and standard specifications by the Village Engineer.

J. SURFACING. After the installation of all utility, sanitary sewer, storm sewer, water mains and other improvements, the sub-divider shall surface all roadways in streets proposed to be dedicated, to the widths prescribed by these regulations and shall be constructed in accordance with the standard specifications of the Village of Jackson which are on file with the Village Engineer. Street surfacing standards shall provide for requirements no less stringent than the following:

1. Streets shall have a base of one and one-half (1½) inch size crushed limestone or crushed gravel that shall not be less than five (5) inches thick, after being rolled and compacted. This shall be followed by three-quarter

"Business Leaders Serving the Business Community"

April 14, 2014

To whom it mat concern,

The Greater Jackson Business Alliance supports the need to address the quality of storm water runoff throughout our community, the Village of Jackson. Jackson is located within the Milwaukee River Drainage, with two main water bodies flowing through the Village. As citizens and business owners of the Village, we see firsthand, the damaged and degraded water bodies that flow through and around the Village. We also experience the frustration of other residents in the Village with respect to water quality.

We support the Village's desire to create a water quality initiative through the development of programs such as Illicit Discharge Detention and Elimination, Information and Education, Water Quality Monitoring, and other goals of NR 216. The Greater Jackson Business Alliance is committed to looking into ways we can assist the Village in this effort. Creative and effective ways to manage our storm water is critical.

Sincerely,

Scott Mittelsteadt
Greater Jackson Business Alliance
President

State of Wisconsin
DEPARTMENT OF NATURAL RESOURCES
101 S. Webster Street
Box 7921
Madison WI 53707-7921

Scott Walker, Governor
Cathy Stepp, Secretary
Telephone 608-266-2621
Toll Free 1-888-936-7463
TTY Access via relay - 711

October 28, 2014

Ms. Wendy Kannenberg, President
Village of Jackson
N168 W20733 Main Street
Jackson, WI 53037

DNR Region: SE County: Washington

Subject: Notification of Request to Apply for Municipal Separate Storm Sewer System General Permit Coverage

Dear Ms. Kannenberg:

The Department of Natural Resources has made a preliminary determination that the Village of Jackson owns or operates a municipal separate storm sewer system (MS4) that requires coverage under Wisconsin Pollutant Discharge Elimination System (WPDES) MS4 General Permit No. WI-S050181-1. Under federal law (40 CFR § 122.32(a)(1) and (2)) and state law (sections NR 216.02(3) and (4), Wis. Adm. Code), municipalities with an MS4 within an "urbanized area" or serving a population of 10,000 or more with a population density of 1,000 or more per square mile are required to obtain WPDES MS4 storm water permit coverage. "Urbanized area" means a place and the adjacent densely settled surrounding territory that together have a minimum population of 50,000 people, as determined by the U.S. Bureau of the Census based on the latest decennial federal census. Based upon the 2010 decennial federal census, the Village of Jackson is either within a federally defined urbanized area or has a population of 10,000 or more.

The enclosed WPDES MS4 General Permit No. WI-S050181-1 is the means by which the Village of Jackson will be required to implement storm water management programs and control measures to improve urban water quality. The enclosed Notice of Intent (NOI) application form (Form 3400-191) is used to apply for coverage under the MS4 general permit.

The Village of Jackson will have 90 days from the date of this letter, January 26, 2015, to complete the NOI application form and submit it to the Department. The Department will hold an informational webinar to explain the MS4 general permit and help guide you through the application process from 1:30 to 3:30 p.m. on Thursday, November 20, 2014. The webinar is free of charge and representatives of municipalities receiving this letter are highly encouraged to participate. To register for the webinar, go to:
https://www1.gotomeeting.com/register/519351088

The MS4 general permit, the NOI application Form 3400-191, a list of the municipalities receiving this letter, and information about the November 13 webinar are also available on the Department's website at **http://dnr.wi.gov/topic/stormwater/municipal/** or by going to the Department's website at **www.dnr.gov** and searching for **municipal storm water.** Please be aware that there are website links on the NOI application Form 3400-191 that can be accessed from the PDF of the form posted on the Department's website.

Thank you for your cooperation with the Department's MS4 permit program. If you have any questions about this letter or the MS4 permit program in general, please contact the Department's storm water staff person assigned to your area, Brooke Yanke, (414) 263-8535, Brooke.Yanke@wisconsin.gov.

Sincerely,

Mary Anne Lowndes

Mary Anne Lowndes, Chief
Runoff Management Section
Bureau of Watershed Management

Enclosures: Notice of Intent application, Form 3400-191
WPDES MS4 General Permit No. WI-S050181-1

cc (letter only): Brian Kober, Engineer

Local government officials, departmental managers, and staff are encouraged to subscribe to the free GovDelivery notification service used to keep Wisconsin citizens informed about important activities of the Department. To sign up for the MS4 topic, go to dnr.wi.gov and click on the red envelop icon at the lower right corner of the webpage. Follow the instructions to sign up and check the box for "Municipal Separate Storm Sewer System (MS4)" under the "Water" topic. The Department will use the GovDelivery notification service to send out important notices and updates on the MS4 program including future outreach and training opportunities, webinars, guidance, and technical resources.

WPDES MS4 General Permit No. WI-S050075-2: What Covered Municipalities Need to Know

Jim Bertolacini
WDNR Storm Water Program Coordinator
608/264-8971
jim.bertolacini@wisconsin.gov

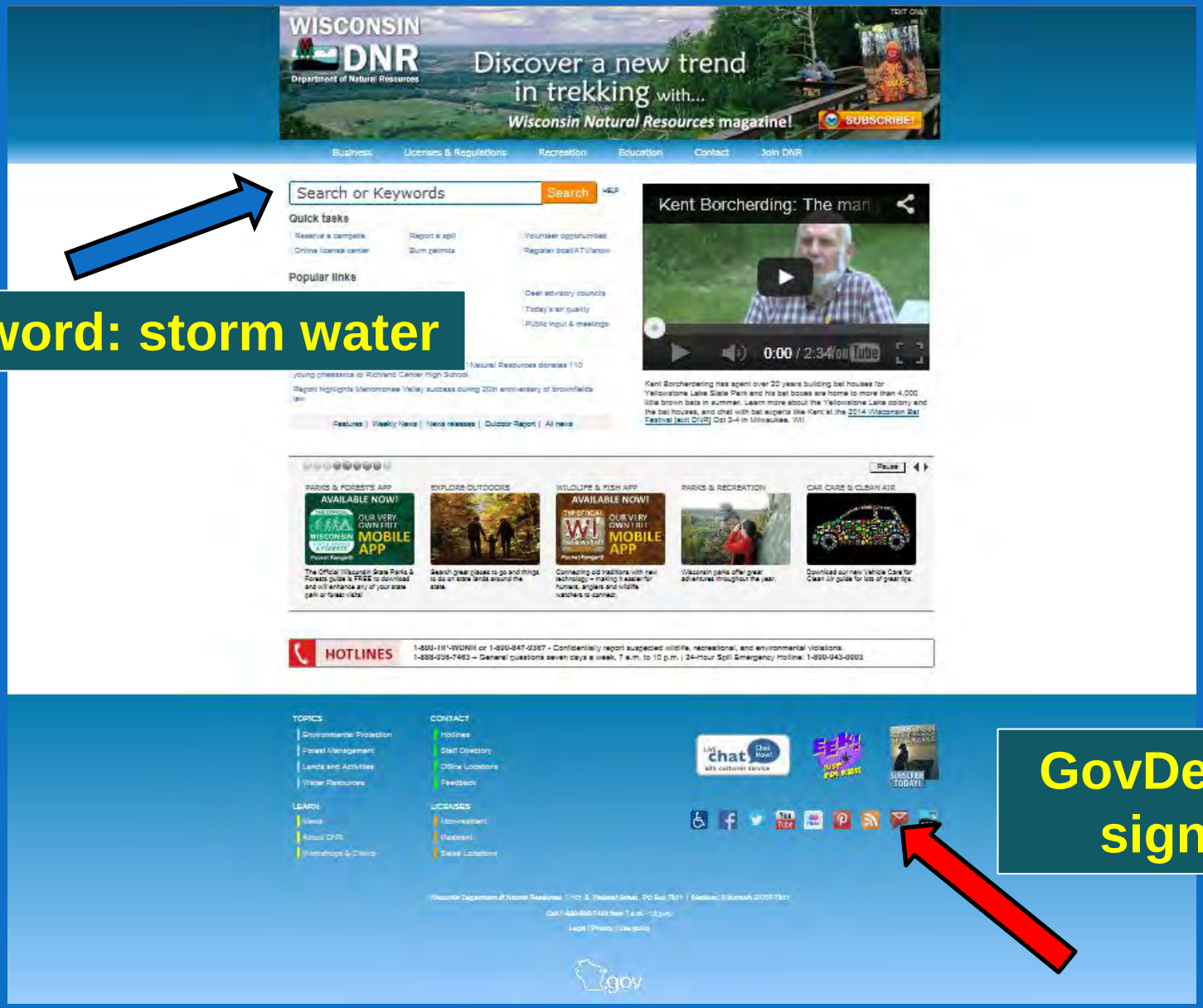
WISCONSIN
DEPT. OF NATURAL RESOURCES

This document is intended solely as guidance, and does not contain any mandatory requirements except where requirements found in statute or administrative rule are referenced. This guidance does not establish or affect legal rights or obligations, and is not finally determinative of any of the issues addressed. This guidance does not create any rights enforceable by any party in litigation with the State of Wisconsin or the Department of Natural Resources. Any regulatory decisions made by the Department of Natural Resources in any matter addressed by this guidance will be made by applying the governing statutes and administrative rules to the relevant facts.

Topics for Today

- Purpose of today's presentation and background information
- Overview of the general permit
- New requirements/significant changes from previous version of general permit
- Compliance schedule
- Questions

dnr.wi.gov



Keyword: storm water

GovDelivery sign up

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Storm water runoff permits

Construction

Industrial

Municipal

Storm water permits, forms, and other information

Urban storm water runoff contains pollutants from roads, parking lots, construction sites, industrial storage yards and lawns. The Storm Water Program regulates storm water discharges from construction sites, industrial facilities and municipalities. These web pages provide program news, permit forms, permit data and technical assistance.

Learn more

- What is storm water
- Problems
- Regulations
- Pollution prevention
- Photo gallery
- Frequently Asked Questions

Technical standards

- Construction standards
- Post-construction standards
- Turf nutrient management
- ELAMM and P-8 Models
- Recarga Model
- MS4 modeling guidance
- Groundwater mounding calc.
- West Nile Virus

Guidance & resources

- Publications
- Industrial sites
- Contacts
- Links
- Disclaimer

Construction permits

- Permit overview
- Erosion control and storm water management plans
- Permit forms
- Permit data
- Practices and information

Industrial permits

- Permit overview
- Permit forms
- Permit data
- No Exposure certification
- SIC codes in NR 216

Municipal permits

- Permit overview
- Municipal permittees
- Presentations and fact sheets
- Whose pond is it anyway?

Last revised: Friday May 09 2014

MS4 General Permits

Important information concerning the DNR's MS4 General Permits

- Read important information concerning the DNR's MS4 General Permits

Grant programs

- Targeted Runoff Management
- Urban Nonpoint Source & Storm Water Management

Contact information

For information on this page, contact:

Jim Bartolacini
Storm Water Program Coordinator

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Municipal storm water permits

Important information concerning the DNR's MS4 General Permits

Effective May 1, 2014, the DNR has issued WPDES MS4 general permits WI-S050075-2 and WI-S050181-1.

- WPDES General Permit WI-S050075-2 [PDF]
- WPDES General Permit WI-S050181-1 [PDF]
- DNR response to comments [PDF]
- List of municipalities covered under WPDES General Permit WI-S050075-2 [PDF] (updated Wednesday September 10 2014)

Webinar announcement

Date/time	Thursday, October 9, 2014, 1:30 p.m. – 3:30 p.m.
Title	WPDES MS4 General Permit No. WI-S050075-2: What Covered Municipalities Need to Know
Description	In May 2014 the Wisconsin Department of Natural Resources reissued Municipal Separate Storm Sewer System (MS4) General Permit No. WI-S050075-2 [PDF]. This MS4 General Permit covers storm water discharges to waters of the state from 142 municipalities statewide. This webinar will provide an overview of the MS4 General Permit, the changes from the previous version, and the compliance schedule. Time for questions will be provided. This webinar is intended for the municipalities covered under MS4 General Permit No. WI-S050075-2. However, the webinar is open to all who are interested.
Registration	The webinar is free of charge and representatives of municipalities covered under MS4 General Permit No. WI-S050075-2 are highly encouraged to participate. » Register [exit DNR]

More than two hundred municipalities in Wisconsin that include cities, villages, towns and counties within urbanized areas are required to have Municipal Separate Storm Sewer System (MS4) permits under NR 216, Wis. Adm. Code [exit DNR]. Use the links below to find out who is affected, how municipalities comply with permit requirements,

Storm water runoff

Learn more
about storm water runoff

Plan
with technical standards

Municipal permits

- Permit overview
- Municipal permittees
- Presentations and fact sheets
- Whose pond is it anyway?

Related links

- Learn more
- Construction permits
- Industrial permits
- Technical standards
- Guidance & resources

Contact information
For information on this page, contact:

Jim Bertolacini
Storm Water Program Coordinator

Sign up for GovDelivery at dnr.wi.gov

- Click on red envelop icon
- Enter e-mail and click on submit to sign up for e-mail updates
- Select topics of interest from list and click on submit

Purpose or today's presentation and background information

- Permit No. WI-S050075-2 reissued May 1, 2014
- Provides continuity of coverage for 142 MS4 general permittees (see list on DNR website)
- MS4 permittees need to know what the general permit requires and the compliance schedule
- Separate track for Permit No. WI-S050181-1

Brief history and overview of MS4 program

- Certain storm water discharges require a permit under Federal Clean Water Act. Storm water discharge permitting delegated to Wisconsin.
- Wisconsin law under s. 283.33 stats. authorizes DNR to promulgate rules for storm water discharges. Section 281.16(2) stats. authorizes DNR to promulgate rules for non-agricultural performance standards.
- Storm water permits administered under NR 216 and performance standards of NR 151 implemented through permit program.

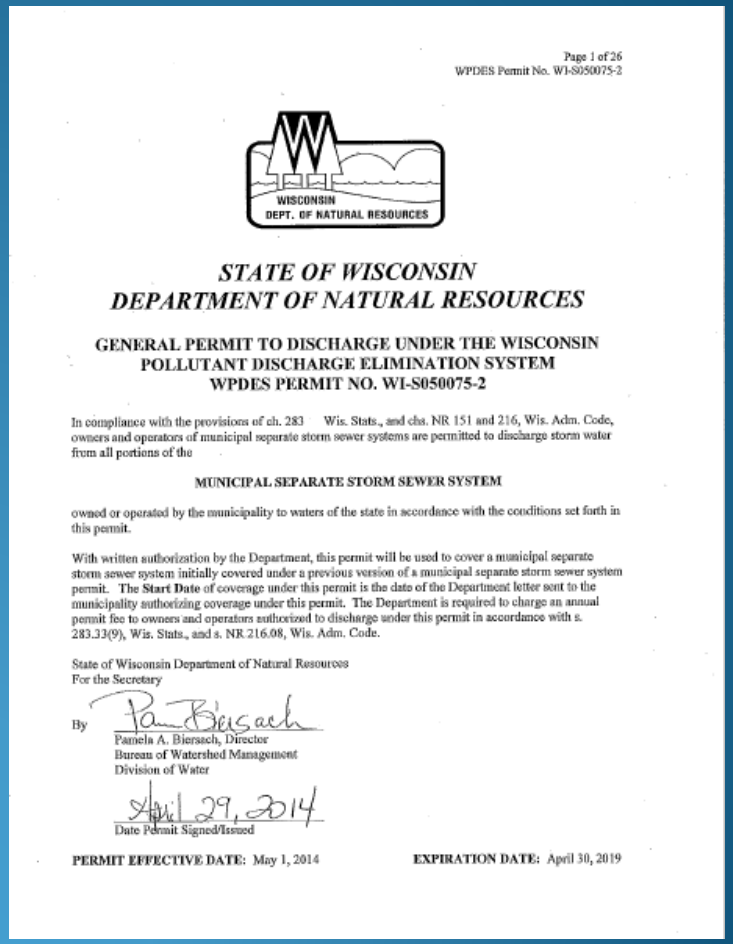
Subchapter I of NR 216

- Addresses storm water quality concerns associated with urban runoff
- Prevent the discharge of pollutants from MS4s to waters of the state
- Identifies municipalities requiring coverage under an MS4 permit
- Specifies permit requirements

Overview of the general permit

- Retains the overall structure and requirements of the previous version of the general permit:
  - Section 1 – Applicability Criteria
  - Section 2 – Permit Conditions
  - Section 3 – Standard Conditions
  - Section 4 – Definitions Used in the Permit

MS4 general permit no. WI-S050075-2



Page 1 of 26
WPDES Permit No. WI-S050075-2

WISCONSIN
DEPT. OF NATURAL RESOURCES

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

GENERAL PERMIT TO DISCHARGE UNDER THE WISCONSIN POLLUTANT DISCHARGE ELIMINATION SYSTEM
WPDES PERMIT NO. WI-S050075-2

In compliance with the provisions of ch. 283 Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, owners and operators of municipal separate storm sewer systems are permitted to discharge storm water from all portions of the

MUNICIPAL SEPARATE STORM SEWER SYSTEM

owned or operated by the municipality to waters of the state in accordance with the conditions set forth in this permit.

With written authorization by the Department, this permit will be used to cover a municipal separate storm sewer system initially covered under a previous version of a municipal separate storm sewer system permit. The **Start Date** of coverage under this permit is the date of the Department letter sent to the municipality authorizing coverage under this permit. The Department is required to charge an annual permit fee to owners and operators authorized to discharge under this permit in accordance with s. 283.33(9), Wis. Stats., and s. NR 216.08, Wis. Adm. Code.

State of Wisconsin Department of Natural Resources
For the Secretary

By Pam Biersach
Pamela A. Biersach, Director
Bureau of Watershed Management
Division of Water

April 29, 2014
Date Permit Signed/Issued

PERMIT EFFECTIVE DATE: May 1, 2014 **EXPIRATION DATE:** April 30, 2019

- 2.1 – 2.6 Six minimum control measures
  - Public Education and Outreach
  - Public Involvement and Participation
  - Illicit Discharge Detection and Elimination
  - Construction Site Pollutant Control
  - Post-Construction Storm Water Management
  - Pollution Prevention

Permittees are required to maintain and continue to implement the six minimum control measures

- 2.7 Storm Water Quality Management
- 2.8 Storm Sewer System Map
- 2.9 Annual Report

New requirements/significant changes

- 1.5 Impaired Waterbodies and Total Maximum Daily Load Requirements
- Illicit Discharge Detection and Elimination: 2.3.2 On-going dry weather field screening
- Construction Site Pollutant Control: 2.4.1 Erosion and sediment control ordinance
- Post-Construction Storm Water Management: 2.5.1 Post-construction storm water ordinance

New requirements/significant changes (cont.)

- Pollution Prevention: 2.6.1 Inventory of municipally owned or operated structural storm water management facilities
- Pollution Prevention: 2.6.5 Deicing activities
- Pollution Prevention: 2.6.7 Storm water pollution prevention for municipal facilities
- Storm Water Quality Management: 2.7.1 Total suspended solids reduction

New requirements/significant changes (cont.)

- 2.9 Annual Report
- 2.10 Cooperation
- 2.11 Compliance Schedule for New and Updated Permit Requirements
- 3.8 Bypass

1.5 Impaired Water Bodies and Total Maximum Daily Load Requirements

- 1.5.1 – Timeframes for permittee to determine discharges to impaired water: Within 90 days after the start date of permit coverage under this permit and by March 31 of each odd-numbered year thereafter

- 1.5.4 – Implementation of an approved TMDL

1.5.4 – Implementation of an approved TMDL

- Sections 1.5.4.1 and 1.5.4.2 – Compliance schedule for meeting TMDL implementation provisions based on when TMDL approved
- Section 1.5.4.3 – Update storm sewer system map, identify areas to exclude
- Section 1.5.4.4 – Tabular summary of modeling analysis, existing storm water controls
- Written plan if not achieving waste load allocation

Illicit Discharge Detection and Elimination: 2.3.2 On-going dry weather field screening

- Focuses on ongoing dry weather field screening for priority outfalls
- Priority outfalls screened once per year
- All major outfalls screened at least once during the permit term
- General permit references the DNR's IDDE guidance

2013 Wisconsin Act 20

- All previous references in s. 281.33 (3) changed from “minimum” standards to “uniform statewide” standards
- DNR shall require a municipality to comply with uniform statewide standards for ordinances enacted by a municipality
- DNR is authorized to determine that the performance standards in NR 151 satisfy the requirement for the DNR to establish the uniform statewide standards
- Section 281.33(6): Municipalities have the authority to adopt ordinances with stricter provisions than the uniform statewide standards to control storm water quantity or control flooding, or to comply with federally approved TMDL requirements; or for existing development or redevelopment
- Uniform statewide standards guidance

Construction Site Pollutant Control: 2.4.1 Erosion and sediment control ordinance

- Section 2.4.1.3
  - Within 24 months, update erosion and sediment control ordinance to contain construction site performance standards equivalent to ss. NR 151.11(6m) [*non-agricultural*] and 151.23(4m) [*transportation facility*]
    - Post-January 1, 2011 performance standards for construction sites of one acre or more of land disturbance:
      - Erosion and sediment control practices
      - Sediment performance standards
      - Preventive measures

Post-Construction Storm Water Management: 2.5.1 Post-construction storm water ordinance

- Section 2.5.1.3 – New Development and Infill
  - Within 24 months, update post-construction storm water ordinance to contain post-construction performance standards equivalent to ss. NR 151.122 through 151.126 [*non-agricultural*] and 151.242 through 151.246 [*transportation facility*]
  - Post-construction performance standards, New Development and Infill:
    - Total suspended solids
    - Peak discharge
    - Infiltration
    - Protective areas
    - Fueling and vehicle maintenance areas

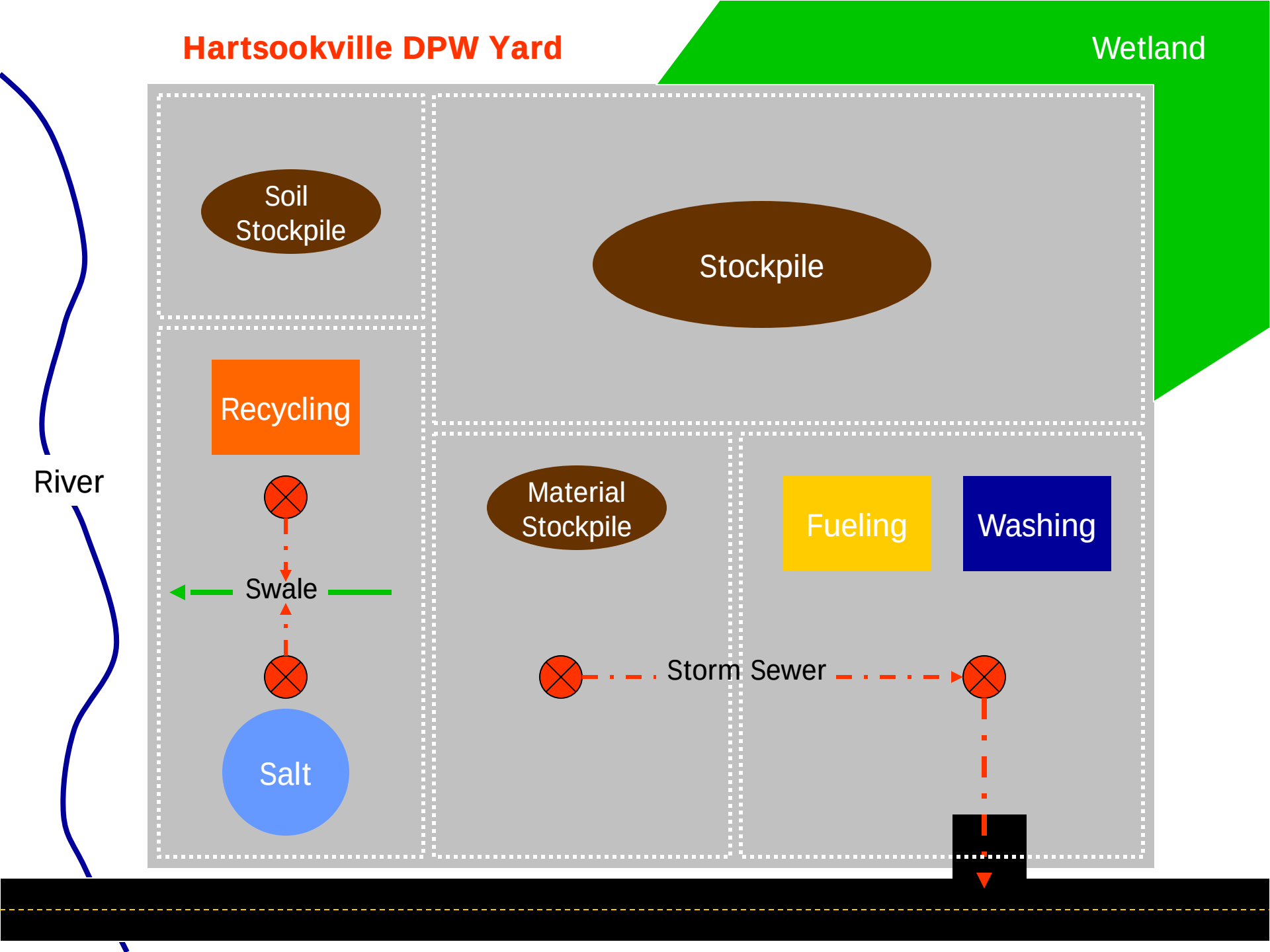
- Section 2.5.1.4 – Redevelopment
  - Within 24 months, update post-construction storm water ordinance to contain post-construction performance standards equivalent to or more restrictive than those in ss. NR 151.122 through 151.126 [*non-agricultural*] and 151.242 through 151.246 [*transportation facility*]

  - Post-construction performance standards, Redevelopment:
    - Total suspended solids
    - Peak discharge
    - Infiltration
    - Protective areas
    - Fueling and vehicle maintenance areas

Pollution Prevention

- 2.6.1 Inventory of municipally owned or operated structural storm water management facilities
- 2.6.5 Submittal of information on deicing activities and management of snow and ice
- 2.6.7 Storm water pollution prevention planning for municipal garages, storage areas, and other municipal facilities

Hartsookville DPW Yard

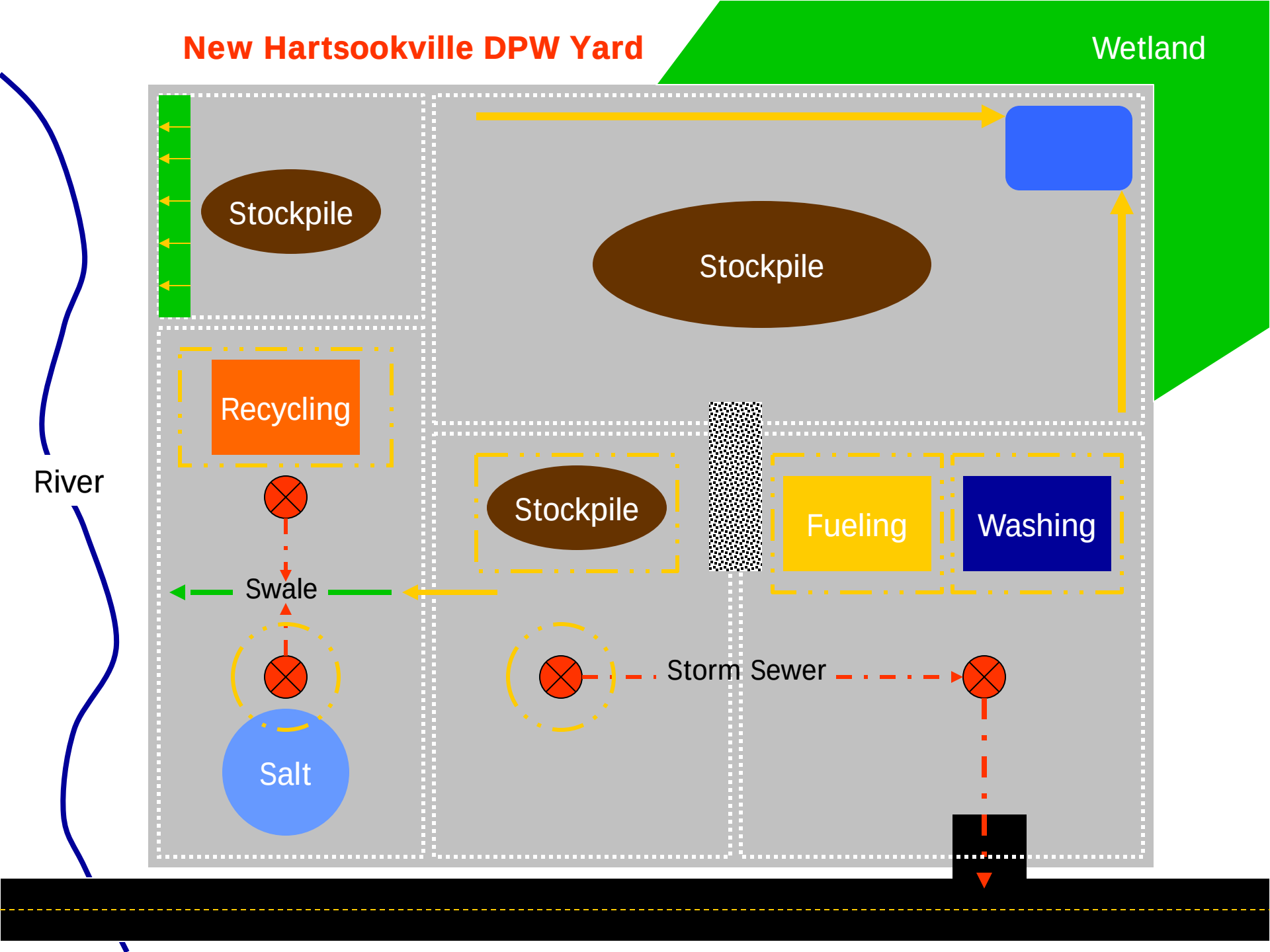


Fueling Island

Material Storage

Recycling Storage

New Hartsookville DPW Yard



SC

Fuel Island Canopy

SC

No Exposure

SC

No Exposure

Storm Water Quality Management: 2.7.1 Total suspended solids reduction

- Implements changes to developed urban area performance in standard due to 2011 Wisconsin Act 32. Meet the more restrictive of either:

- Maintain controls, facilities, practices implemented on or before July 1, 2011 to achieve a reduction of 20% or more of total suspended solid; or

- A 20% reduction in the annual average mass of total suspended solids. Controls, facilities, and practices implemented shall be maintained.

- 2.9 Annual Report
  - Request for additional information
    - Evaluation of program compliance
    - Appropriateness of identified best management practices
    - Progress towards achieving identified measurable goals

- Section 2.10 Cooperation
  - Conditions under which a permittee may rely on another municipality or contract with another entity to satisfy a permit condition

- 2.11 Compliance Schedule
  - Updated compliance schedule for new and updated permit requirements

PERMIT SECTION	ACTIVITY	COMPLIANCE DATE	COMMENTS
Section 1.5.1	Discharges to an impaired waterbody	Within 90 days of start date and by March 31 of each odd-numbered year thereafter	All permittees.
Section 1.5.4.3	Updated storm sewer system map and excluded areas	TMDL approved prior to the effective date of this permit: March 31, 2015 ★ TMDL approved after the effective date of this permit: Within 24 months of date of approval of TMDL	Applies to a permittee that discharges to an impaired waterbody with an approved TMDL that assigns the permittee a wasteload allocation.
Section 1.5.4.4	Tabular summary	TMDL approved prior to the effective date of this permit: March 31, 2018 TMDL approved after the effective date of this permit: Within 48 months of date of approval of TMDL	Applies to a permittee that discharges to an impaired waterbody with an approved TMDL that assigns the permittee a wasteload allocation.
Section 1.5.4.5	Written plan	TMDL approved prior to the effective date of this permit: March 31, 2018 TMDL approved after the effective date of this permit: Within 48 months of date of approval of TMDL	Applies to a permittee not meeting all its wasteload allocations.
Section 2.4.1.3	Updated construction site pollutant control ordinance	Within 24 months of date of notification of coverage under this permit	All permittees.
Sections 2.5.1.3 and 2.5.1.4	Updated post-construction storm water management ordinance	Within 24 months of date of notification of coverage under this permit	All permittees.
Section 2.6.5	Information on deicing activities	With annual report due March 31, 2016 and annually thereafter	All permittees.
Section 2.6.7	Storm water pollution prevention planning for municipal facilities	With annual report due March 31, 2016 and annually thereafter	All permittees.
Section 2.9	Annual report	March 31 of each year reporting on previous calendar year	All permittees.

- Section 3.8 – Bypass
  - USEPA requested clarification of the bypass language in the current version of the MS4 general permit

Reminder…

2.3.3 Procedures for responding to known or suspected illicit discharges. At a minimum, procedures shall be established for: …

2.3.3.6 Providing the Department with advance notice of the time and location of dye testing within an MS4. Department notification prior to dye testing is required due to the likelihood that dye observed in waterways will be reported to the Department as an illicit discharge or spill.

Wrap Up…

- Table 1 - Compliance Schedule (page 20 of general permit)
- Additional Resources
  - TMDL Guidance for MS4 Permits (final pending)
  - Illicit Discharge Detection and Elimination Guidance
  - Uniform Statewide Standards Guidance (final pending)
- Possible Future Outreach
  - Feedback at end of presentation

- Urban Nonpoint Source & Storm Water Management Grant Program: search “nonpoint grant” at dnr.wi.gov

- Sign up for GovDelivery at dnr.wi.gov

Questions?

Jim Bertolacini
Storm Water Program Coordinator
Wisconsin DNR – WT/3
P.O. Box 7921
Madison, WI 53707-7921
(608) 264-8971
jim.bertolacini@wisconsin.gov

Notice of Intent to Apply for Coverage Under WPDES MS4 General Permit No. WI-S050181-1

Notice: Pursuant to ss. 283.33 and 283.37, Wis. Stats., and chs. NR 151 and 216, Wis. Adm. Code, this form is used to apply for coverage under Wisconsin Pollutant Discharge Elimination System (WPDES) Municipal Separate Storm Sewer System (MS4) General Permit No. WI-S050181-1. This form and any required attachments constitute the permit application. Personal information collected will be used for administrative purposes and may be provided to requesters to the extent required by Wisconsin's Public Records Laws (ss. 19.31-19.39, Wis. Stats.).

Instructions: Complete all sections of this permit application. If additional space is needed to respond to a question, attach additional pages. Provide descriptions below that explain the program activities that you expect to develop and implement to comply with the MS4 general permit. Information on the MS4 general permit and the MS4 storm water program are available at: http://dnr.wi.gov/topic/stormwater/municipal/. Section 3 of the MS4 general permit contains the compliance schedule that directs when the individual program activities need to be developed and submitted to the Department for review. The detailed programs that are developed and submitted to the Department for review may deviate from the program activities described below if necessary. The descriptions provided below are necessary for the Department to verify that the municipality's program activities comply with the permit.

Section I: Applicant Information

Name of Municipality			
Village of Jackson			
Mailing Address	**City**	**State**	**ZIP Code**
PO Box 637	Jackson	WI	53037
County(s) in which Applicant is located	**Type of Municipality: (check one)**		
Washington	☐ County ☐ City ☒ Village ☐ Town ☐ Other (specify)		

Section II: Local Contact Information

Name of Municipal Contact Person		Title	
Brian W. Kober, P.E.		Director of Public Works	
Mailing Address	**City**	**State**	**ZIP Code**
PO Box 637	Jackson	WI	53037
Email address	**Phone Number (incl. area code)**	**Website address, if available**	
dirpubwks@villageofjackson.com	262-677-9001	www.villageofjackson.com	

Section III: Water Quality Concerns

Yes	No	
☐	☒	Does any part of the MS4 discharge to an outstanding resource water (ORW) or exceptional resource water (ERW) listed under s. NR 102.10 or 102.11, Wis. Adm. Code? (A list of ORWs and ERWs may be found on the Department's Internet site at: http://dnr.wi.gov/topic/surfacewater/orwerw.html)
☒	☐	Does any part of the MS4 discharge to an impaired waterbody listed in accordance with section 303(d)(1) of the federal Clean Water Act, 33 USC § 1313(d)(1)(C)? (A list of Wisconsin impaired waterbodies may be found on the Department's Internet site at: http://dnr.wi.gov/topic/impairedwaters/)

Section IV: Potential Permit Exemption

Yes	No	Section NR 216.023, Wis. Adm. Code, allows certain MS4s that have less than 1000 people residing in an urbanized area to be waived from municipal storm water permit coverage.
☐	☒	Do you believe that the MS4 may be eligible for this potential exemption as described in s. NR 216.023, Wis. Adm. Code?

If yes, please provide documentation supporting a permit exemption including the following (Attach additional pages if necessary):

Total municipal area in square miles

Total municipal population (2010 U.S. census)

MS4 service area within Urbanized Area in square miles

Municipal population within Urbanized Area (2010 U.S. census)

Additional information supporting an exemption under s. NR 216.023, Wis. Adm. Code

Note: Urbanized Area information is available from the USEPA at:

http://water.epa.gov/polwaste/npdes/stormwater/Urbanized-Area-Maps-for-NPDES-MS4-Phase-II-Stormwater-Permits.cfm

Section V: Summary of Municipal Storm Water Program Activities

Describe the programs or activities the municipality is doing or will do to comply with the requirements of the MS4 general permit. Attach additional pages if necessary.

A. Public Education and Outreach

Describe the public education and outreach program activities that the municipality will implement to comply with section 2.1 of the MS4 general permit.

B. Public Involvement and Participation

Describe the public involvement and participation program activities that the municipality will promote to comply with section 2.2 of the MS4 general permit.

C. Illicit Discharge Detection & Elimination

Describe the illicit discharge detection and elimination program authority and activities that the municipality will develop and implement to comply with section 2.3 of the MS4 general permit.

D. Construction Site Pollution Control

Describe the construction site pollutant control program authority and activities that the municipality will develop and implement to comply with section 2.4 of the MS4 general permit.

E. Post-Construction Site Storm Water Management

Describe the post-construction storm water management program authority and activities that the municipality will develop and implement to comply with section 2.5 of the MS4 general permit.

F. Pollution Prevention

Describe the pollution prevention program activities that the municipality will implement to comply with section 2.6 of the MS4 general permit.

Section VI: Certification

I hereby certify that I am an authorized representative of the municipality that is the subject of this application for general permit coverage, and that the information provided is true and complete, to the best of my knowledge. I understand that Wisconsin law provides severe penalties for submitting false information.

Authorized Representative Name	Title
Brian W. Kober, P.E.	Director of Public Works

Signature	Date Signed

Email address	Phone Number (incl. area code)
dirpubwks@villageofjackson.com	262-677-9001

Return this completed form to: Wisconsin Department of Natural Resources
Storm Water Program – WT/3
PO Box 7921
Madison, WI 53707-7921

Adverse Possession Against the Government: Fact Sheet

Adverse possession is an ancient legal doctrine that allows a party holding another's land to obtain title to that land if certain requirements are met. As a general rule, adverse possession may be met if the party holding land can show the following:

- That they have exclusive, uninterrupted and continuous use of the land of another;
- The use of the land was hostile;
- There was open and notorious actual occupancy of the land; and,
- The person can satisfy the statutory period of possession.

Adverse possession is not allowable against the property of the United States, or against the property of most other States and their subunits. Indeed, this was also the case in Wisconsin until 1931. However, in 1931, the State enacted a new statute that generally allowed adverse possession against governmental entities, provided that the person claiming adverse possession could show 40 years of adverse possession/use. Hence, beginning in 1971, property owners could begin to make claims of adverse possession against government owned lands, except for certain lands held in trust by the State.

On May 20, 1980, the legislature shortened the statutory period for adverse possession against government units to 20 years. Adverse possession laws are only applied prospectively—meaning that this shortened time period could not be applied retroactively to claims that started before 1980. For those claims, the 40 year period still applies, and continues to run to this day.

On March 28, 1984, the legislature specifically exempted lands held for highway purposes from adverse possession, along with State acquired abandoned railroads. In light of these law changes, an adverse possession claim against highway right-of-way only exists if the adverse possession/use commenced prior to March 28, 1944 and continued uninterrupted for forty years through no later than March 27, 1984.

In the 1990s, legislative efforts were commenced to end adverse possession against all government units. These efforts were initially resisted, but eventually 1997 Senate Bill 124 was passed by the Senate. This bill originally prevented adverse possession against the state and governmental units, and because adverse possession was being eliminated, the existing exceptions to this statute were repealed by the bill. However, the original bill was amended to add in language that allows adverse possession against all government property if it is based upon a continuously maintained fence line. Unfortunately, this amended version did not restore the highway exception to the law, thereby making right-of-way once again subject to adverse possession. The law has not been amended since and currently reads as follows:

> **893.29 No adverse possession against the state or political subdivisions. (1)** No title to or interest in real property belonging to the state or a city, village, town, county, school district, sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 unless the adverse possession, prescription or user continues uninterruptedly for more than 20 years and is based upon a continuously maintained fence line which has been mutually agreed upon by the current landowners.
> **(2m)** Subsection (1) does not affect title to or interest in real property obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 before April 29, 1998.

Unless the current laws change, adverse possession claims against right-of-way, not founded upon claims that commenced prior to 1944, will begin to ripen on April 29, 2018 if they are founded on a "continuously maintained fence line which has been mutually agreed upon". In addition, claims against certain lands held in trust by the State, such as University of Wisconsin lands, along with abandoned rail corridors, will be subject to adverse possession beginning in 2018. Finally, adverse possession continues to be available against other government owned lands, both under the old statutes and the new one.

Adverse possession continues to be a threat against government lands. By amending Wis. Stat. Sec. 893.29 to eliminate adverse possession against government lands prior to 2018, the property interests of all governmental entities will be protected. In addition, governmental entities will not have to take actions to force property owners to move otherwise benign fences and buildings from right-of-ways and other government lands.

Model Legislation

Repeal and recreate Sec. 893.29 as follows:

893.29 No adverse possession against the state or political subdivisions. (1) No title to or interest in real property belonging to the state or a city, village, town, county, school district, sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 ~~unless the adverse possession, prescription or user continues uninterruptedly for more than 20 years and is based upon a continuously maintained fence line which has been mutually agreed upon by the current landowners~~.
(2~~m~~) Subsection (1) does not affect title to or interest in real property obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 before ~~April 29, 1998~~ **[insert effective date of legislation]. Subsection (1) does extinguish any claim of adverse possession, prescription or user against the real property identified in Subsection (1) that commenced before [insert effective date of legislation] and was not satisfied prior to [insert effective date of legislation].**

ADVERSE POSSESSION AGAINST THE GOVERNMENT

Current Laws

893.29 No adverse possession against the state or political subdivisions. (1) No title to or interest in real property belonging to the state or a city, village, town, county, school district, sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28unless the adverse possession, prescription or user continues uninterruptedly for more than 20 years and is based upon a continuously maintained fence line which has been mutually agreed upon by the current landowners.

(2m) Subsection (1) does not affect title to or interest in real property obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 before April 29, 1998.

893.25 Adverse possession, not founded on written instrument. (1) An action for the recovery or the possession of real estate and a defense or counterclaim based on title to real estate are barred by uninterrupted adverse possession of 20 years, except as provided by s. 893.14 and 893.29. A person who, in connection with his or her predecessors in interest, is in uninterrupted adverse possession of real estate for 20 years, except as provided by s. 893.29, may commence an action to establish title under ch. 841.

(2) Real estate is possessed adversely under this section:

(a) Only if the person possessing it, in connection with his or her predecessors in interest, is in actual continued occupation under claim of title, exclusive of any other right; and

(b) Only to the extent that it is actually occupied and:

1. Protected by a substantial enclosure; or
2. Usually cultivated or improved.

Legal Notes:

To make a showing of adverse possession, person claiming title by adverse possession must show:

- Exclusive, uninterrupted and continuous use of the land;
- The use of the land was hostile;
- There was open and notorious actual occupancy of the land; and,
- The person can satisfy the statutory period of possession.

Once the statutory period is met, the holder of the land, or his/her successors in title, have established title to the land in question, even if they have not yet cleared up the title on the property. The inability to timely act on this claim does not alter the title as they are as already considered to own it as a matter of law upon meeting the statutory requirements in place at the time.

These same requirements apply to prescriptive easements (essentially the adverse possession of easement rights) against government owned lands.

Prospective application of adverse possession laws.

- The case law generally holds that when adverse possession laws change, they are prospective only.[1] This means that a new law only applies forward from its creation.

Any legislative changes must expressly terminate prior claims, or they continue to run.

- The 1998 repeal and recreate has been held not to have terminated claims that started before 1998 because the legislature did not include an express statement in the act that would terminate such claims.[2]

A building has been suggested to be the same as a mutually agreed upon fence line, although that statement has not been directly litigated. [3]

[1] *Petropoulos v. City of West Allis*, 148 Wis.2d 762 (Ct. App. 1989).
[2] *Wisconsin DNR v. Building and All Related and Attached Structures Encroaching on the Lake Noquebay Wildlife Area*, 2011 WI App 119, ¶ 17-18 (Wis. Ct. App. 2011).
[3] *Id.* at FN3.

Legislative History:

May 3, 1931: Sec. 330.10 amended to allow adverse possession against the state with a 40 year statutory period.[4]

June 19, 1957: Exceptions added into adverse possession law for certain lands held in trust by the State.[5]

May 26, 1966: Sec. 330.10 renumbered to Sec. 893.10.[6]

April 25, 1974: Sec. 893.10 renumbered to Sec. 893.10(1).[7]

May 20, 1980: Ch. 893 repealed and recreated. Language from 893.10(1) relocated to new 893.29. Statutory period reduced to 20 years. Also, other governmental units specifically added into statute.[8]

March 28, 1984: Existing language placed into new Subsection 893.29(1); Subsection 289.29(2) created, with state trust lands exception[9] relocated from sub (1), and new exceptions to adverse possession created for abandoned railroads acquired by the State under Sec. 85.09, and real property of a highway as defined in Sec. 340.01(22) and lands held by governmental entities for highway purposes.[10]

- ***No published case law on whether this new highway exception precludes all claims against ROW based upon possession starting after 1944. But, all unpublished cases support the argument that claims must have been satisfied before this change in law.[11]

April 29, 1998-Present: Title to Sec. 293.29 changed to "No Adverse Possession Against the State or Political Subdivisions."; all exceptions in Sub. (2) are eliminated; and new fence line requirement is added.[12]

- Requires 20 years of uninterrupted adverse possession/prescription/use and it is based upon a continuously maintained fence line, mutually agreed upon by the landowners
- This new requirement does not affect title or interest in property obtained by adverse possession before April 28, 1998.
- Highway lands are now subject to adverse possession.

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[4] 1931 Ch. 79, s. 34.
[5] 1957 Ch. 192, s. 2.
[6] 1966 Ch. 66, s.2.
[7] 1973 Ch. 189, s. 19.
[8] 1979 Ch. 323, s. 28.
[9] 1983 Act 189, s. 329(16) updated the statutory references to this state trust land exception in Sec. 24.01.
[10] 1983 Act 178. Also, the highway exemption was created in response to *State of Wisconsin Department of Transportation v. Black Angus Steak House, Inc.*, 111 Wis.2d 342 (Ct. App. 1983), which decision found adverse possession against state highway land due to a building that was in existence since 1925.
[11] See, e.g., *Vogel v. Town of Farmington*, 198 Wis.2d 387, 1995 Wis. App. LEXIS 1638 (Ct. App. 1995), and *Reynolds v. State of Wisconsin Department of Transportation*, 2004 WI App 37, ¶ 8, 2004 Wisc. App. LEXIS 54 (Ct. App. 2004).
[12] See 1997 Act 108. 1997 SB 124 contains the legislative history for this act (the assembly version is 1997 AB 391). Following prior unsuccessful efforts to eliminate/modify adverse possession against the government (1995 SB 123/1995 AB 401), a new bill was introduced to eliminate all adverse possession against the government (hence the amendment to the title and the elimination of the exceptions). However, Sen. Welch (R-Red Granite) obtained an amendment that added in the fence language. After the amended version was passed by the Senate, the Assembly passed the original version, removing Sen. Welch's amendment. However, the Assembly ultimately receded from its position and the amended version was enacted.

Statutory Language Over Time:

May 3, 1931-June 18, 1957[13]:

> **330.10 Action barred by adverse possession, when.** An adverse possession of ten years under sections 330.06 and 330.07 or of twenty years under sections 330.08 and 330.09 shall constitute a bar to an action for the recovery of such real estate so held adversely or of the possession thereof. But no person can obtain title to real property belonging to the state by adverse possession, prescriptions or user unless such adverse possession, prescription or user shall have been continued uninterruptedly for more than forty years.

June 19, 1957-May 25, 1966[14]:

> **330.10 Action barred by adverse possession, when.** An adverse possession of 10 years under ss. 330.06 and 330.07 or of 20 years under ss. 330.08 and 330.09 shall constitute a bar to an action for the recovery of such real estate so held adversely or of the possession thereof. No title to real property belonging to the state shall be obtained by adverse possession, prescription or user unless such adverse possession, prescription or user has been continued uninterruptedly for more than 40 years. No title to real property held in trust by the state under s. 24.01 (2) to (6) shall be obtained by adverse possession, prescription or user.

May 26, 1966-April 24, 1974[15]:

> **893.10 Action barred by adverse possession, when.** An adverse possession of 10 years under ss. 330.06 and 330.07 or of 20 years under ss. 330.08 and 330.09 shall constitute a bar to an action for the recovery of such real estate so held adversely or of the possession thereof. No title to real property belonging to the state shall be obtained by adverse possession, prescription or user unless such adverse possession, prescription or user has been continued uninterruptedly for more than 40 years. No title to real property held in trust by the state under s. 24.01 (2) to (6) shall be obtained by adverse possession, prescription or user.

April 25, 1974-May 19, 1980[16]:

> **893.10 Action barred by adverse possession, when. (1)** An adverse possession of 10 years under ss. 330.06 and 330.07 or of 20 years under ss. 330.08 and 330.09 shall constitute a bar to an action for the recovery of such real estate so held adversely or of the possession thereof. No title to real property belonging to the state shall be obtained by adverse possession, prescription or user unless such adverse possession, prescription or user has been continued uninterruptedly for more than 40 years. No title to real property held in trust by the state under s. 24.01 (2) to (6) shall be obtained by adverse possession, prescription or user.

May 20, 1980-March 27, 1984[17]:

> **893.29 Adverse possession against the state or political subdivisions, special provision.** Title to or interest in real property belonging to the state or a city, village, town, county, school district,

[13] 1941-1942 Stats.
[14] 1957-1958 Stats.
[15] 1965-1966 Stats.
[16] 1977-1978 Stats.
[17] 1981-1982 Stats.

sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or, user under s. 893.25, 893.26, 893.27 or 893.28 only if the adverse possession, prescription or user continues uninterruptedly for more than 20 years. No title to real property held in trust by the state under s. 24.01 (2) to (6) shall be obtained by adverse possession, prescription or user.

March 28, 1984-April 28, 1998[18]:

893.29 Adverse possession against the state or political subdivisions, special provision. (1) Title to or interest in real property belonging to the state or a city, village, town, county, school district, sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 only if the adverse possession, prescription or user continues uninterruptedly for more than 20 years.
(2) Notwithstanding sub. (1), no title to or interest in any of the following property shall be obtained by adverse possession, prescription or user:
(a) Real property held in trust by the state under s. 24.01 (1), (5), (7), (9) and (10).
(b) Real property of an abandoned railroad acquired by the state under s. 85.09.
(c) Real property of a highway as defined in s. 340.01 (22) and including property held by the state or a political subdivision for highway purposes, including but not limited to widening, alteration, relocation, improvement, reconstruction and construction.

April 29, 1998-Present[19]

893.29 No adverse possession against the state or political subdivisions. (1) No title to or interest in real property belonging to the state or a city, village, town, county, school district, sewerage commission, sewerage district or any other unit of government within this state may be obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 unless the adverse possession, prescription or user continues uninterruptedly for more than 20 years and is based upon a continuously maintained fence line which has been mutually agreed upon by the current landowners.
(2m) Subsection (1) does not affect title to or interest in real property obtained by adverse possession, prescription or user under s. 893.25, 893.26, 893.27 or 893.28 before April 29, 1998.

[18] 1995-1996 Stats.
[19] 2011-2012 Stats.

Claim Periods

Assuming that all elements of adverse possession can be met (i.e., the use was continuous and exclusive for the entire statutory period), the following periods represent when a claim against a governmental entity could have begun and when the claim would ripen:

Highway Right-of-Way and Abandoned Railroads: Two periods

- Pre-March 28, 1944:
  - Claim must have commenced before March 28, 1944; and,
  - Continued exclusively and uninterrupted use for 40 years, with the clock starting no earlier than May 3, 1931.
  - Earliest a claim could ripen would be May 3, 1971; latest is March 27, 1984.
- April 29, 1998-Present:
  - Claim first begins accruing on April 29, 1998;
  - Must be based upon a continuously maintained fence line;
  - Requires 20 years of continuous and uninterrupted possession.
  - Earliest a claim could ripen would be April 29, 2018.

Property Held in Trust by the State[20]:

- April 29, 1998-Present:
  - Claim first begins accruing on April 29, 1998;
  - Must be based upon a continuously maintained fence line;
  - Requires 20 years of continuous and uninterrupted possession.
  - Earliest a claim could ripen would be April 29, 2018.

General Public Lands (everything except for highways, abandoned railroads and land held in trust by the State):

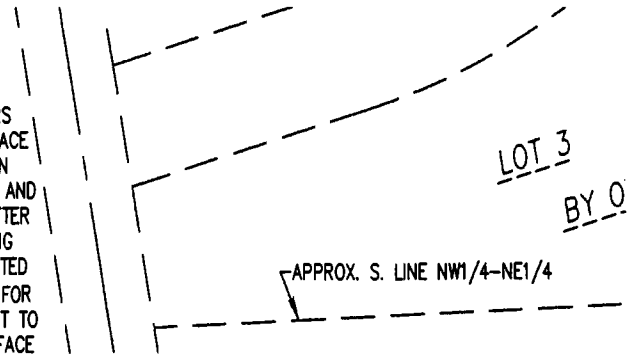
- Pre-May 20, 1980:
  - Continued exclusively and uninterrupted use for 40 years, with the clock starting no earlier than May 3, 1931.
  - Earliest a claim could ripen would be May 3, 1971; latest is May 19, 2020.
- May 20, 1980-April 28, 1998:
  - Continued exclusively and uninterrupted use for 20 years, with the clock starting no earlier than May 20, 1980.
  - Earliest a claim could ripen would be May 20, 2000; latest is April 28, 2018.
- April 29, 1998-Present:
  - Claim first begins accruing on April 29, 1998;
  - Must be based upon a continuously maintained fence line;
  - Requires 20 years of continuous and uninterrupted possession.
  - Earliest a claim could ripen would be April 29, 2018.

[20] As set forth in Wis. Stat. Sec 24.01 (1), (5), (7), (9) and (10), these lands held in trust by the State are limited to the lands originally granted to the State by the United States for the University of Wisconsin system schools and swamp land reclamation, as well as lands purchased from the "school fund" as provided for in Art. X, Sec. 2 of the Wisconsin Constitution.

ATTENTION

KEEPERS OF THE EASEMENTS

It has recently been brought to our attention that utility companies are adding language after a plat has been reviewed by a municipality that gives all utilities superior rights within the Right-of-Ways. Please review your plats to make sure the additional language is not present. The additional language states that the utility company has the right to use streets and alleys as they wish. <u>This could mean that any future utility relocations have to be paid for by the city.</u>



NOTE: AN EASEMENT FOR ELECTRIC AND COMMUNICATION FACILITIES IS HEREBY GRANTED BY BLAYDE ELERT, THE GRANTOR, TO WISCONSIN POWER AND LIGHT COMPANY AND ALLIANT ENERGY, THE GRANTEES, THEIR RESPECTIVE SUCCESSORS AND ASSIGNS, TO CONSTRUCT, INSTALL, OPERATE, REPAIR, MAINTAIN AND REPLACE FROM TIME TO TIME, SAID FACILITIES AND ASSOCIATED APPURTENANCES USED IN CONNECTION WITH OVERHEAD AND UNDERGROUND DISTRIBUTION OF ELECTRICITY AND ELECTRIC ENERGY FOR SUCH PURPOSES AS THE SAME IS NOW OR MAY HEREAFTER BE USED AND FOR SOUNDS AND SIGNALS. ALL IN OVER, UNDER, ACROSS, ALONG AND UPON THE PROPERTY SHOWN WITHIN THOSE AREAS ON THE PLAT DESIGNATED AS "UTILITY EASEMENT AREAS" AND THE PROPERTY DESIGNATED ON THE PLAT FOR STREETS AND ALLEYS, WHETHER PUBLIC OR PRIVATE, TOGETHER WITH THE RIGHT TO INSTALL SERVICE CONNECTIONS UPON, ACROSS, WITHIN AND BENEATH THE SURFACE OF EACH LOT TO SERVE IMPROVEMENTS THEREON, OR ON ADJACENT LOTS: ALSO THE RIGHT OF ACCESS TO THE EASEMENT; ALSO THE RIGHT TO TRIM AND CUT DOWN TREES, BRUSH AND ROOTS AS MAY BE REASONABLY REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN; ALSO THE RIGHT TO REMOVE AND CLEAR ALL OBSTRUCTIONS FROM THE SURFACE AND SUBSURFACE AS MAY BE REASONABLE REQUIRED INCIDENT TO THE RIGHTS HEREIN GIVEN. THE GRANTEES AGREE TO RESTORE OR CAUSE TO HAVE RESTORED, THE PROPERTY, AS NEARLY AS IS REASONABLY POSSIBLE, TO THE CONDITION EXISTING PRIOR TO SUCH ENTRY BY THE GRANTEES OR THEIR AGENTS. THE

The example above is from a recent plat in the City of Madison