



Village of Menomonee Falls
W156 N8480 Pilgrim Road
Menomonee Falls, WI 53051-3140
Telephone: (262) 532-4200

STORMWATER MANAGEMENT FACILITIES OPERATION AND INSPECTION REPORT

Quarter Section 15 SE Name of Business/Subdivision CENTRALIZED PUBLIC WORKS
Property Tax ID Number 0060968001 Address of Property FACILITY
N72W15920 GOOD HOPE RD
MENOMONEE FALLS, WI 53051

Dry Pond	
Wet Pond	X
Other	

Description: SWP15S004

Location Of Pond 560 FT WEST OF PILGRIM RD
NORTH OF GOOD HOPE RD

Year Pond Constructed 2016

Year of Last Certification 2016

Compliance Verification	Design	Actual	Compliant Yes	No	Comments (Condition of Structure)
Primary Outlet Pipe					Outlet Pipe Material
Opening Diameter (inches) (ST014911)	15" RCP	15" RCP	X		REINFORCED CONCRETE PIPE IN GOOD CONDITION
Upstream Invert	841.00	840.92	X		
Downstream Invert	839.80	839.76	X		
Length (feet)	77.0 FT	74.6 FT	X		
Slope (%)	0.26%	1.56%	X		
Secondary Outlet Pipe	(If Applicable)				Outlet Pipe Material
Opening Diameter (inches)					
Upstream Invert					
Downstream Invert					
Length (feet)					
Slope (%)					
Riser	(If Applicable)				Riser Material
Opening Diameter (inches)					
Elevation					
Upper Discharge Control	(If Applicable)				
Opening Diameter (inches)	12"	12"	X		
Elevation	843.50	840.43	X		

Compliance Verification	Design	Actual	Compliant Yes No		Comments	
Lower Discharge Control	(If Applicable)					
Opening Diameter (inches)	4"	4"	X			
Elevation	841.00	840.86	X			
Other (Description)						
Opening Type and Size (inches)	36"X36"	36"X36"	X			
Elevation	846.60	846.24	X			
Emergency Spillway						
Elevation	847.50	846.76	X			
Length of spillway (feet)	5' +	15.5'+	X			
Embankment	Present Yes No		Comments/Maintenance Requirements			
Unauthorized Plantings, trees, or woody vegetation	-	X	3 BURROWS FOUND, NW OF SW CORNER, NE OF SE CORNER, & SSE OF NE CORNER WITHIN 3 FT OF WTR			
Animal burrows or slope erosion	X	-				
Storm Sewer Outfalls	Type & Size		Location		Comments	
Outfall 1 (ST015931)	RCP – 12"		SW CORNER OF POND		CMP IN GOOD CONDITION	
Outfall 2 (ST015928)	RCP – 27"		W EMBANKMENT OF POND		CMP IN GOOD CONDITION	
Outfall 3 (ST015934)	RCP – 21"		NW CORNER OF POND		CMP IN GOOD CONDITION	
Outfall 4 (ST015941)	RCP – 18"		NE CORNER OF POND		CMP IN GOOD CONDITION	
Storage Properties	Design	Actual	Compliant Yes No		Not Applicable	Equipment Used
Normal Water Elevation (Wet Ponds)	841.00	842.10	X			GPS EQUIPMENT: GEOMAX ZENITH35 & CARLSON SURVEYOR2 WITH SURV CE v5.04
Design High Water Elevation	847.50	847.50	X			
Area at Normal Water Elevation (Ac) (Wet Ponds)	0.324 AC	0.306 AC	X			
Area at Design High Water Elevation (Ac)	0.666 AC	0.673 AC	X			
Active Storage Available (Ac-Ft)*	3.212 ACFT	4.054 ACFT	X			
Lowest Elevation at Top of Embankment (If Applicable)	848.50	846.74	X			
Average Elevation at Top of Embankment (If Applicable)	848.50	848.15	X			
Maximum Bottom Elevation	836.00	835.50	X			
Average Pond Bottom Elevation	836.00	835.55	X			
Pond Bottom Area (Ac)	0.141 AC	0.141 AC	X			
Maximum Pond Depth	11.5 FT	11.5 FT	X			
Average Pond Depth	11.0 FT	11.0 FT	X			
Average Permanent Pool Depth (Wet Ponds)	5.0 FT	5.0 FT	X			ELEVATIONS TO VARY SLIGHTLY FROM YEAR TO YEAR DUE TO GPS TECHNOLOGY

*To Determine Active Storage $V = \left(\left(\frac{H}{3} \right) \left(A1 + A2 + \left(\left(A1 + A2 \right)^{\wedge} \left(\frac{1}{2} \right) \right) \right) \right)$
 Wet Ponds Use H = Height of Section , $A1$ = area at normal water elevation, $A2$ =area at top section
 Dry Ponds Use H = Height of Section, $A1$ = pond bottom area, $A2$ =area at top section

Centralized Public Works Facility Retention Pond – SWP15S004

Overview



Storm Water Outlet ST015931



Storm Water Outlet ST015941



Centralized Public Works Facility Retention Pond – SWP15S004

Storm Water Outlet ST015934



Storm Water Outlet ST015928



Storm Water Overflow Structure ST014911



Centralized Public Works Facility Retention Pond – SWP15S004

Storm Water Overflow Structure ST014911 Interior



Emergency Spillway



Centralized Public Works Facility Retention Pond – SWP15S004

Repairs Needed (11/08/21)

Remove cattail debris from lower outlet hole in outlet structure.

Sketch Outlet

Place Photograph of Pond

Place Photograph of Pond

Inspection Firm: VILLAGE OF
MENOMONEE FALLS
Phone Number: (262) 532-4411
Address: VILLAGE OF
MENOMONEE FALLS
W156N8480 PILGRIM RD
MENOMONEE FALLS, WI
53051

Inspector Name: CHRISTOPHER M. GARIEPY

Inspection Date: NOVEMBER 8, 2021

Certifying

Professional Name: THOMAS M. HOFFMAN, P.E.

Phone Number: (262) 532-4415

Date:

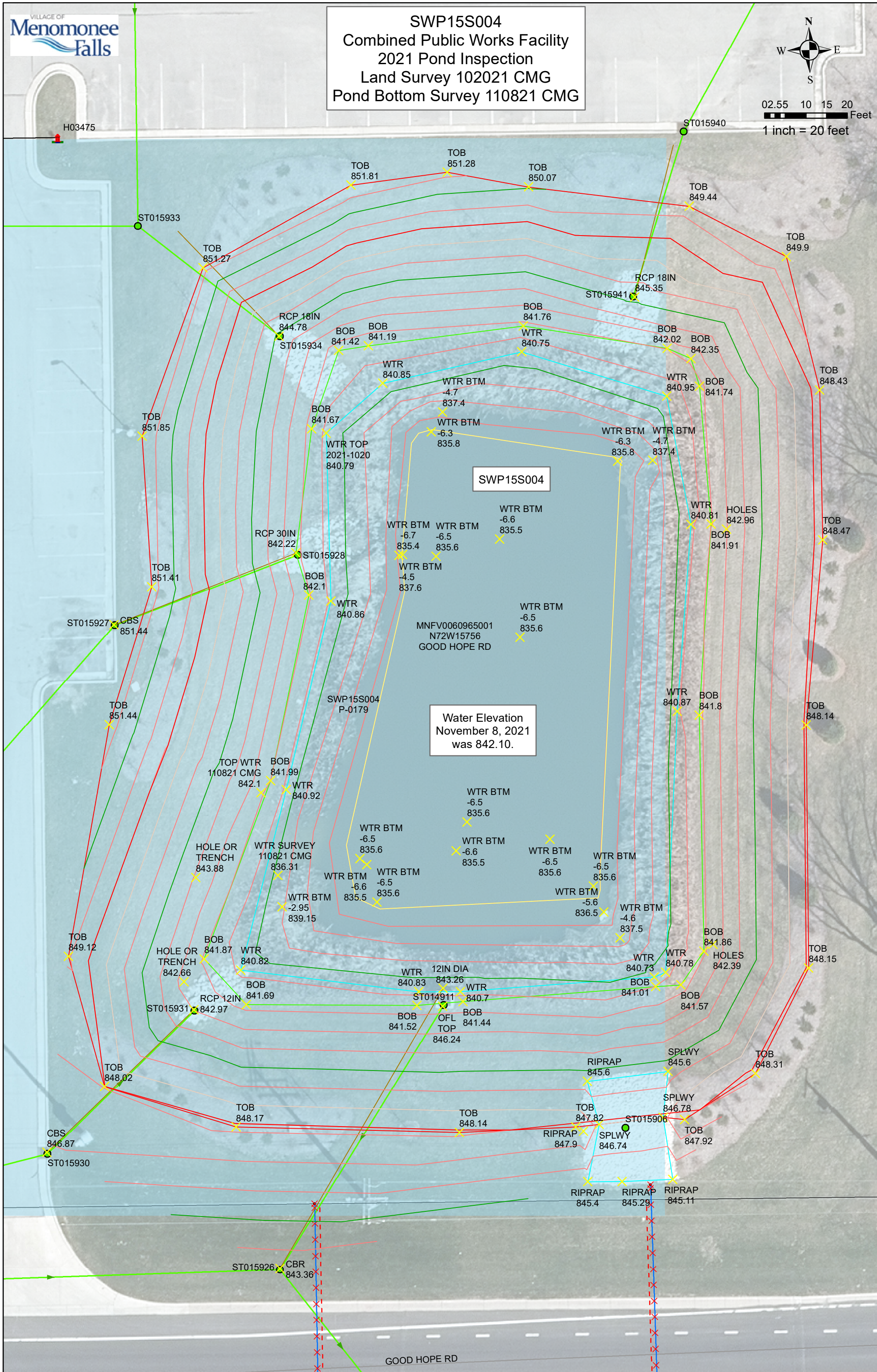
4/14/2022

Signature:





Affix Seal Here



Acre Feet pond storage volume calculations for:

Combined Public Works Facility - SE Pond
SWP15S004

Entered Value
Calculated Value
Description of Elevations Calculated

Year of Inspection: **2021**

Example: $H = H2 - H1$, where $H2 > H1$

H1 =	842.10	Lower Height Elevation in Feet (Pond Bottom for Dry Pond OR Top of Observed Water Level)
H2 =	847.50	Height at Bottom of Spillway (Wet or Dry)
H3 =	848.00	Higher Height Elevation in Feet (Top of Bank Around Pond - Wet or Dry)
H4 =	835.60	Bottom of Wet Pond Elevation in Feet (Wet Ponds Only)
	Sq.Ft.	Acres
Area 1 =	13,324.00	0.3059 Area of H1
		Area 1 = Area at Top of Observed Water Level
Area 2 =	29,302.00	0.6727 Area of H2
		Area 2 = Area at Bottom of Spillway
Area 3 =	32,022.00	0.7351 Area of H2
		Area 3 = Area at Top of Bank
Area 4 =	6,141.30	0.1410 Area of H3
		Area 4 = Area at Bottom of Pond

Equation to determine Volume (AcFt) of pond storage capacity from
Top of Water to Bottom of Spillway:

$$V = (((H2-H1)/3)(A1+A2 + (\sqrt{A1+A2})))$$

	Feet		Acres		Acres
V=	$((H2-H1)/3)$	x	$(A1+A2)$	+	$\sqrt{A1+A2}$
V=	1.8000	x	0.9786	+	0.9892
V=	1.8000	x	1.9678		
V=	3.5420	AcFt			

Equation to determine Volume (AcFt) of pond storage capacity from
Top of Water to Top of Bank at Spillway:

$$V = (((H3-H1)/3)(A1+A3 + (\sqrt{A1+A3})))$$

	Feet		Acres		Acres
V=	$((H3-H1)/3)$	x	$(A1+A3)$	+	$\sqrt{A1+A3}$
V=	1.9667	x	1.0410	+	1.0203
V=	1.9667	x	2.0613		
V=	4.0539	AcFt			

Equation to determine Volume (AcFt) of pond storage capacity from
Bottom of Pond to Top of Water:

$$V = (((H1-H4)/3)(A1+A4 + (\sqrt{A1+A4})))$$

	Feet		Acres		Acres
V=	$((H1-H4)/3)$	x	$(A1+A4)$	+	$\sqrt{A1+A4}$
V=	2.1667	x	0.4469	+	0.6685
V=	2.1667	x	1.1153		
V=	2.4166	AcFt			

Equation to determine Volume (AcFt) of pond storage capacity from
Bottom of Pond to Top of Bank at Spillway:

$$V = (((H3-H4)/3)(A3+A4 + (\sqrt{A3+A4})))$$

	Feet		Acres		Acres
V=	$((H3-H4)/3)$	x	$(A3+A4)$	+	$\sqrt{A3+A4}$
V=	4.1333	x	0.8761	+	0.9360
V=	4.1333	x	1.8121		
V=	7.4901	AcFt			