PLANNING & ZONING COMMISSION AGENDA

Date: June 10, 2024
Time: Following the adjournment of the Nicollet County Board of Adjustments and Appeals Meeting (doors open at 6:45)
Location: Emergency Operations Center - Government Center, 501 S. Minnesota Avenue, St. Peter

Copies of the meeting agenda and packet are available on the Nicollet County website at: mn-nicolletcounty.civicplus.com/AgendaCenter

Questions or comments regarding the meeting can be directed to the Nicollet County Property Services Department by calling 507-934-7070, or by email to niccopermitapps@co.nicollet.mn.us.

1. Call to Order
2. Roll Call
3. Silence Your Cell Phone
4. Review of Cancellations and Additions
5. Approval of Minutes: *April 15, 2024*
6. Public Appearances
7. **PUBLIC HEARING: PLN24-05**
   - Applicant: Andrew Lorentz of Lorentz Construction
   - Landowner: River Valley Enterprises LLC
   - Request: 3-year Mineral Extraction Conditional Use Permit renewal
   - Location: Part of the Western ½ of the Northwest ¼, Section 09-109-29, Courtland Township
   - Parcel Number: 04.309.0710
8. **PUBLIC HEARING: PLN24-08**
   - Applicant: Mark Seamon of Wolf River Electric Company
   - Landowner: Shane & Kimberly J. Wernsing
   - Request: After-the-fact Conditional Use Permit for Large Solar Energy System
   - Location: Part of the Southwest ¼ of the Southwest ¼, Section 01-109-27, Oshawa Township
   - Parcel Number: 10.301.1300
9. Review Permits
10. Old Business
11. Other Business
12. Communications
13. Adjourn

PLANNING COMMISSION
REGULAR MONTHLY MEETING MINUTES

APRIL 15, 2024	7:29 PM	E.O.C. CONFERENCE ROOM

ROLL CALL	COMMISSIONERS PRESENT	COMMISSIONERS ABSENT EXCUSED	NICOLLET COUNTY STAFF PRESENT
	☒ Lloyd Hoffmann ☒ Justin Laven ☒ Randy Schwab ☒ Jon Thoreson, *Vice Chair* ☒ Dave Ubel, *Chair* ☒ Kurt Zins, *Commissioner*	☐ Lloyd Hoffmann ☐ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*	☒ Spencer Crawford, Zoning Specialist (ZS) ☒ John Zehnder, Zoning Specialist (ZS) ☒ Michelle Zehnder-Fischer, County Attorney (CA) ☒ Crystal Madden, Recording Secretary ☒ Other Staff: Shana Jackson, County Assessor

REVIEW OF CANCELLATIONS & ADDITIONS	None.

APPROVAL OF FEBRUARY 26, 2024 MINUTES	MOTION	SECOND
APPROVE	☐ Lloyd Hoffmann ☐ Justin Laven ☒ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*	☐ Lloyd Hoffmann ☒ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*
VOTE TO APPROVE MINUTES	☒ PASS ☐ FAIL	VOTE: 6 - 0

PUBLIC APPEARANCES	None.

CONDITIONAL USE PUBLIC HEARINGS

PLN24-07	APPLICANT/LANDOWNER: Willis Walter
DESCRIPTION OF REQUEST	Three-year Mineral Extraction Conditional Use Permit renewal PID: 12.105.0200
CONFLICT OF INTEREST	None.
SITE VISIT & PUBLIC CONTACT	No Commissioner visited the site. There was no contact with Commissioners from members of the public.
STAFF REPORT PRESENTED BY	ZS Crawford
APPLICANT TESTIMONY	Present to represent the application was Willis Walter located at 40512 County Road 20, St. Peter.
PUBLIC TESTIMONY	No one was present to provide public testimony. No other correspondence was received.
COMMISSIONER DISCUSSION	Further discussion between the Applicant, Commission, and Staff took place. CA Zehnder-Fischer recommended Walter reach out to the Nicollet County Engineer, Seth Greenwood, and Staff concerning a ditch answer.

COMMISSION ACTION – MOTION	MOTION	SECOND
RECOMMEND DENIAL of the Conditional Use request	☐ Lloyd Hoffmann ☐ Justin Laven ☒ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*	☐ Lloyd Hoffmann ☒ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*

DRAFT

COMMISSION ACTION – VOTE ON MOTION			
RECOMMEND DENIAL of the Conditional Use request	☐ PASS	☒ FAIL	VOTE: 3 - 3
COMMISSIONER DISCUSSION	Discussion between the Applicant, Commission, and Staff took place. The Board further discussed a potential motion to continue or approve the request. CA Zehnder-Fischer recommended a motion to revisit Findings of Fact Criteria #5.		
COMMISSION ACTION – MOTION 2	**MOTION**		**SECOND**
Revisit Findings of Fact Criteria #5	☐ Lloyd Hoffmann ☐ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☒ Kurt Zins, *Commissioner*		☐ Lloyd Hoffmann ☒ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*
COMMISSION ACTION – VOTE ON MOTION 2			
Revisit Findings of Fact Criteria #5	☒ PASS	☐ FAIL	VOTE: 5 - 1

MEETING RECESS	A ten (10) minute meeting recess took place and the meeting resumed at 9:43 P.M.
AMENDED CONDITION #9	Amendment of Condition #9: The Applicant shall obtain a professional engineer determination of the fill needed to bring the property into compliance with the setbacks. Based upon that opinion, the Applicant shall demonstrate to County Staff a minimum of 20% compliance per year toward meeting the terms set forth in the variance denial of PLN20-31. The Applicant shall pay for the professional engineering costs, and the costs to verify progress toward compliance.

COMMISSION ACTION – MOTION 3	**MOTION**		**SECOND**
RECOMMEND APPROVAL with conditions, as amended	☐ Lloyd Hoffmann ☐ Justin Laven ☐ Randy Schwab ☒ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*		☐ Lloyd Hoffmann ☒ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*
COMMISSION ACTION – VOTE ON MOTION 3			
RECOMMEND APPROVAL with conditions, as amended	☒ PASS	☐ FAIL	VOTE: 6 - 0
COMMISSION ACTION – ADOPT FINDINGS	**MOTION**		**SECOND**
ADOPT THE FINDINGS OF THE FACT AS STATED	☒ Lloyd Hoffmann ☐ Justin Laven ☐ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*		☐ Lloyd Hoffmann ☐ Justin Laven ☒ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*
VOTE TO ADOPT THE FINDINGS OF FACT	☒ PASS	☐ FAIL	VOTE: 6 – 0

ADDITIONAL ITEMS

REVIEW ZONING PERMITS	The Commission had no questions for Staff.
OLD BUSINESS	ZA Crawford stated he is working on the accessory dwelling unit report for presentation at the next scheduled meeting.
OTHER BUSINESS	Chair Ubel mentioned concerns about road damage from a gravel pit in Courtland Township.
COMMUNICATIONS	None.

DRAFT

ADJOURN MEETING	MOTION		SECOND
9:55 PM	☐ Lloyd Hoffmann ☐ Justin Laven ☐ Randy Schwab ☒ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*		☐ Lloyd Hoffmann ☐ Justin Laven ☒ Randy Schwab ☐ Jon Thoreson, *Vice Chair* ☐ Dave Ubel, *Chair* ☐ Kurt Zins, *Commissioner*
VOTE TO ADJOURN MEETING	☒ CARRIED	☐ FAILED	VOTE: 6 – 0

SPENCER CRAWFORD, ZONING SPECIALIST		**DATE**	**6/10/2024**
DAVE UBEL, CHAIR		**DATE**	**6/10/2024**

DRAFT

CONDITIONAL USE PERMIT

MINERAL EXTRACTION
PERMIT RENEWAL

W. Lorentz & Sons Construction /
River Valley Enterprises LLC

PLN24-05

NICOLLET COUNTY
PLANNING & ZONING ADVISORY COMMISSION

SUBJECT	Conditional Use Permit PLN24-05
APPLICANT	Andrew Lorentz with W. Lorentz and Sons Construction Inc.
LANDOWNER	River Valley Enterprises, LLC
LOCATION	Part of the West ½ of the Northwest ¼ of Section 9-109-29 in Courtland Township
PARCEL NO	04.309.0710
EXISTING ZONING	Agricultural Preservation & Conservancy
HEARING DATE	06/10/24
COUNTY BOARD DATE	06/25/24
60 DAYS FROM REQUEST	07/08/24

REQUEST

The Applicant is requesting a three (3) year review of their Conditional Use Permit to mine, crush, and stockpile gravel.

ORDINANCE

Mineral extraction operations are required to renew their conditional use permit every three (3) years per Nicollet County Zoning Ordinance 724.2 (3).

EXISTING LAND USE

The 20.10-acre property is situated in the Minnesota River valley and contains a gravel pit and farmland. The gravel pit stretches from north to south along the eastern side of the property while the remaining farmland lies in the western half.

SURROUNDING LAND USE

The surrounding land use is a mix of agricultural, industrial, and residential. The property is approximately 525 feet east of the City of Courtland. However, the portion of the City that is closest to the property is used for industrial purposes. The nearest Courtland residential dwelling is 1,201 feet to the southwest.

Outside the city, the surrounding area has a number of gravel pits, as well as occasional home sites. The Ulland Pit No.1 is located directly to the west and the Drill pit is located directly to the southeast. Both pits are actively being used for mineral extraction. The nearest rural dwelling is located on an adjoining property immediately to the southwest. However, this home belongs to the same family that owns River Valley Enterprises, LCC. The next nearest rural dwelling is located 1,115 feet to the northeast.

PROJECT DESCRIPTION

Operations:

The property contains 20.10 acres, with 12.88 used for active mining purposes and 7.22 reserved for future mining phases. The pit was first permitted in 2021 and the Applicant states that in the past three (3) years they have removed 17,914.93 tons of material. The southernmost part of the active mining area had already been mined as part of the neighboring Drill pit and now serves as a materials storage area.

Operations include mining, crushing, stockpiling, and processing materials. Mining is carried out by end-loaders, scrapers, and excavators, while crushing is carried out by mobile temporary equipment. Mining will not occur in phases, but rather by continuous expansion to the west.

Access:

The site has direct access from the north via County Road 25, which was granted by Nicollet County Public Works on June 23rd, 2021.

Appearance:

The Applicant has constructed two berms seeded with grass to screen the property. One lies along the eastern edge of the property, while the other runs along the northern and western sides. The combination of the berms and sloping topography helps screen the mine from County Road 25. The site is not visible from the Minnesota River.

The Applicant has proposed mining up to the western property line adjacent to the Ulland Pit No. 1. Prior to this occurring, the Applicant would be required to submit verification from the adjacent land owner that states the Applicant is allowed to mine into the setback. If no agreement is reached, the 50-foot setback must be maintained.

Blasting:

No blasting occurs onsite.

Dust, Noise, and Odor Control:

The facility is ringed with berms to help control dust and noise. When needed, water is used to control dust on haul roads.

Hours of Operation:

The operation adheres to standard hours of operation, which are 7 a.m. to 7 p.m., Monday through Saturday. Operations outside of these hours require a separate conditional use permit. Exceptions to the permitted hours require approval from the Property Services Department and must pertain to operations of public interest that cannot occur during normal hours of operation.

Reclamation Plan:

The Applicant has submitted a reclamation plan. The proposed end use is wildlife habitat (grassland) or agricultural cropland. The plan proposes the removal of surrounding berms, regrading of pit walls to a three-to-one slope, and the creation of a pond at the pit's lowest point.

Setbacks:

The proposal meets all applicable setbacks for mineral extraction. There is a dwelling located on an adjoining property immediately southwest of the site. This structure is within the 500' residential setback for mineral extraction. However, the dwelling is owned by the owners of River Valley Enterprises. As such, the residential setback does not apply to this dwelling. The second closest dwelling is located more than 1,115 feet northeast of the proposed facility.

Setback	Required	Existing
Property Line	50'	65'
Right of Way	100'	140'
Neighboring Dwelling	500'	1,115'

Water:

The Applicant does not wash aggregate material and does not pump any water at the site. Rainfall in the pit drains to the lowest point of the mine where it can percolate naturally.

Waste Disposal:

As the site's equipment is temporary, no hazardous substances are stored on site.

Bond:

Per Section 724.2(4) of the Nicollet County Zoning Ordinance, the Applicant must maintain a bond in the amount of at least $5,000 per actively-mined and un-reclaimed acre. It must be valid for a period of not less than one year beyond the expiration date of the permit.

MINNESOTA POLLUTION CONTROL AGENCY STANDARDS

The Applicant holds a Nonmetallic Mining (MNG49) General Permit that was renewed on May 10, 2024.

NEIGHBOR NOTIFICATION

Property owners were notified of the request per the standards of Section 505 of the Zoning Ordinance and Minnesota State Statute 394.26.

CONDITIONAL USE PERMIT CRITERIA

1. **Given the nature of the land, the requested use is compatible with the general welfare, public health and safety.**

    - Mineral extraction is a conditionally permitted use in the Agricultural Preservation and

Conservancy zoning districts.

- The mine operation is typical of other mining operations within the County.
- The operation meets Sections 602.3, 603.3, and 724 of the Zoning Ordinance for mines in the Agricultural Preservation and Conservancy zoning districts.
- The pit must follow all local, state, and federal standards, including those from the Minnesota Pollution Control Agency.

2. The requested use will not create an unreasonably excessive burden on the existing roads or utilities.

- The existing infrastructure appears to be suited for mining operations.
- The size and function of the facility is not unreasonable for the location.
- The pit is accessed via County Road 25, which is a 10-ton road.
- Unreasonable utility usage does not occur.

3. The requested use is compatible with the surrounding area and will not significantly depreciate nearby properties.

- The facility is partially screened by two berms, as well as its topographic situation.
- The surrounding land use is predominantly agricultural, industrial, and natural environment.
- The mine is an existing land use as this is a permit renewal rather than new application.
- There are five other mines within one mile of the site.
- The Applicant has submitted a reclamation plan.

4. The structure and the use shall have an appearance that will not have an unreasonably adverse effect on nearby properties.

- The operation appears to be typical for mines within the county.
- The mine is partially screened from County Road 25 by two berms, as well as topography.
- Within one mile of the site there are five other mines.

5. The requested use is consistent with the Nicolet County Land Use Ordinances.

- The mine meets the applicable standards and requirements found in Sections 602, 603, and 724 of the Zoning Ordinance for mining operations in the Agricultural Preservation and Conservancy zoning districts.
- The request appears to meet the standards of Section 505 of the Zoning Ordinance, pertaining to the approval and issuance of conditional use permits.

6. The requested use is not in conflict with the Nicollet County Comprehensive Plan.

- The Applicant has submitted a reclamation plan. The proposed end use is wildlife habitat or cropland.
- The Comprehensive Plan states that the aggregate industry provides vital jobs for residents and revenue for local businesses.
- The Comprehensive Plan states that Nicollet County will continue to work with aggregate businesses, such as this one, to ensure that these operations can continue in a sustainable and environmentally friendly manner.

7. The requested use will not create an unreasonably adverse effect because of noise, odor, glare, or general unsightliness, for nearby property owners.

- The Applicant applies water to control dust.
- The mine is screened by two berms, as well as topography.
- No blasting occurs on site.

8. The requested use is reasonably related to the existing land use and environment.

- The mine is located in the Agricultural Preservation and Conservancy zoning districts, which allow mining as a conditional use.
- The mine is an existing land use as it has been in operation for three (3) years.
- There are five other mines within one mile of the site. The request does not increase the potential for land use conflict as the site is surrounded largely by agricultural, industrial, and natural environment land uses.
- The facility meets all applicable setbacks.

9. There are no apparent unreasonable health risks posed to neighbors or the public in general.

- The proposal meets the applicable county and state standards for mining operations.
- The mine is an existing land use as it has been in operation for three (3) years.
- The operation appears to be typical for mines within the county.
- The mine uses water to treat dust

10. The requested use will/will not have an adverse effect upon public health, safety, and welfare due to the following other factors:

- The request is a renewal, which does not appear to present any adverse effects to public, health, safety, and welfare.

RECOMMENDATIONS

Staff suggests that if the request is recommended for approval, the following conditions be attached:

1. The Applicant undertakes the project according to the plans and specifications submitted to the county with the application.

2. The conditional use permit will be periodically reviewed by the county to ensure compliance with the permit and permit conditions.

3. The county may enter onto the premises at reasonable times and in a reasonable manner to ensure the permit holder is in compliance with the conditions and all other applicable statutes, rules, and ordinances.

4. The conditional use permit to mine, crush, wash, process, and stockpile quartzite rock must be reviewed on a three (3) year basis (renewal required in May of 2027).

5. The Applicant shall conduct mining and extraction operations between 7 a.m. to 7 p.m., except with prior approval from the Property Services Department for operations of public interest that cannot occur during normal hours of operation.

6. Any increase in active mining areas will require an additional/amended bond covering the additional acreage to be submitted to Property Services.

7. A continuation certificate of the bond shall be sent to Property Services with no lapse in time during the course of this permit.

8. The Applicant shall maintain a Nonmetallic Mining (MNG49) General Permit with the MPCA for the duration of their conditional use permit.

9. The Applicant shall maintain a bond or letter of credit in the amount of $5,000 per actively mined but not yet reclaimed acre.

10. If consent is received from neighboring property owners allowing for mining to occur up to the property line, a signed copy of the written consent agreement shall be submitted to the Zoning Administrator.

11. Dust control measures shall be implemented, as needed.

Applicant: Andrew Lorentz
Landowner: River Valley Enterprises, LLC

PLN24-05

ATTACHMENT A	**Application**
ATTACHMENT B	**Location Map**
ATTACHMENT C	**Site Map**
ATTACHMENT D	**Site Photographs**
ATTACHMENT E	**Submitted by Applicant**
	E.1 Site Plan
	E.2 Reclamation Plan
	E.3 Access Permit
	E.4 MPCA Permit
ATTACHMENT F	**Neighbor Notification List**
ATTACHMENT G	**Criteria for Conditional Use Permit**

NICOLLET COUNTY EST. 1853

PROPERTY SERVICES DIVISION
501 S MINNESOTA AVENUE, SAINT PETER, MN 56082
507-934-7070

PLANNING & ZONING ADVISORY COMMISSION APPLICATION

TOTAL FEES: **$496.00**

Parcel#: 04.309.0710
Permit#: PLN24-05
Date: 5/3/2024

Applicant: Lorentz Construction
Telephone: 507 388 4182
Owner: RIVER VALLEY ENTERPRISES LLC
Property Address: 52631 475TH ST, COURTLAND, MN 56021
Abbreviated Legal Description: SW NW 9 109 29
Township: Courtland Township
Zoning District(s): AGRICULTURAL
Hearing Date:

Record Type: Conditional Use Permit
Subtype: Renewal
Category: Other
Description: Mineral Extraction renewal

ATTACHMENT A
Application

Copies of the meeting agenda and packet are available on the Nicollet County website: co.nicollet.mn.us/AgendaCenter
Questions regarding the hearing can be directed to: *John Zehnder*
john.zehnder@co.nicollet.mn.us
507-934-7076

Andrew Lorentz Andrew Lorentz (May 9, 2024 14:49 CDT)	May 9, 2024		5/9/24
APPLICANT SIGNATURE	**DATE**	**PROPERTY SERVICES**	**DATE**

PLN24-05 Permit Receipt Invoice

Final Audit Report 2024-05-09

Created:	2024-05-09
By:	John Zehnder (John.Zehnder@co.nicollet.mn.us)
Status:	Signed
Transaction ID:	CBJCHBCAABAAR1ggA-0H0aoyvryWWVGliwe9-BwbjgIE

"PLN24-05 Permit Receipt Invoice" History

Document created by John Zehnder (John.Zehnder@co.nicollet.mn.us)
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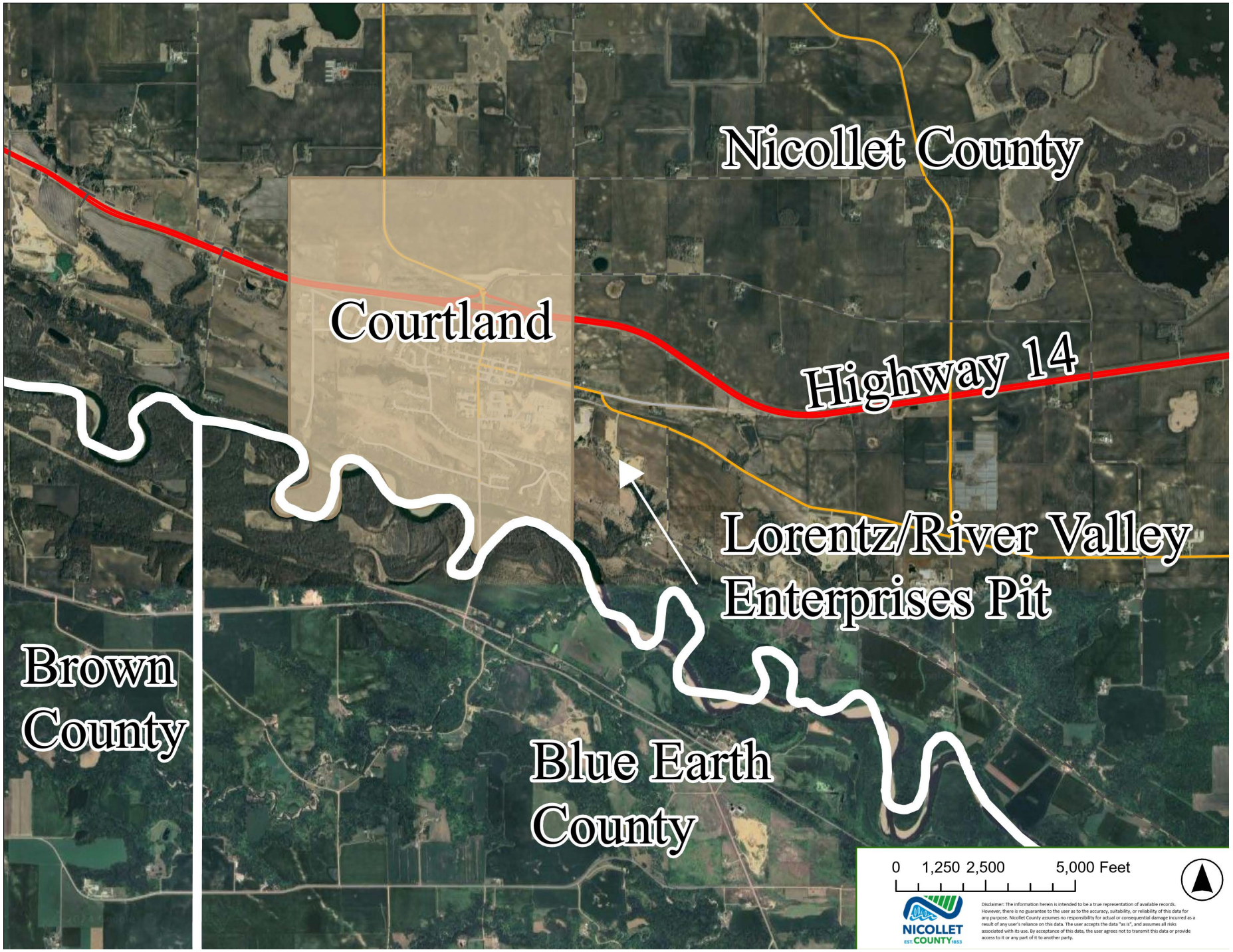
2024-05-09 - 6:49:52 PM GMT

Email viewed by andrew@wlorentzco.com
2024-05-09 - 7:39:34 PM GMT- IP address: 3.80.89.126

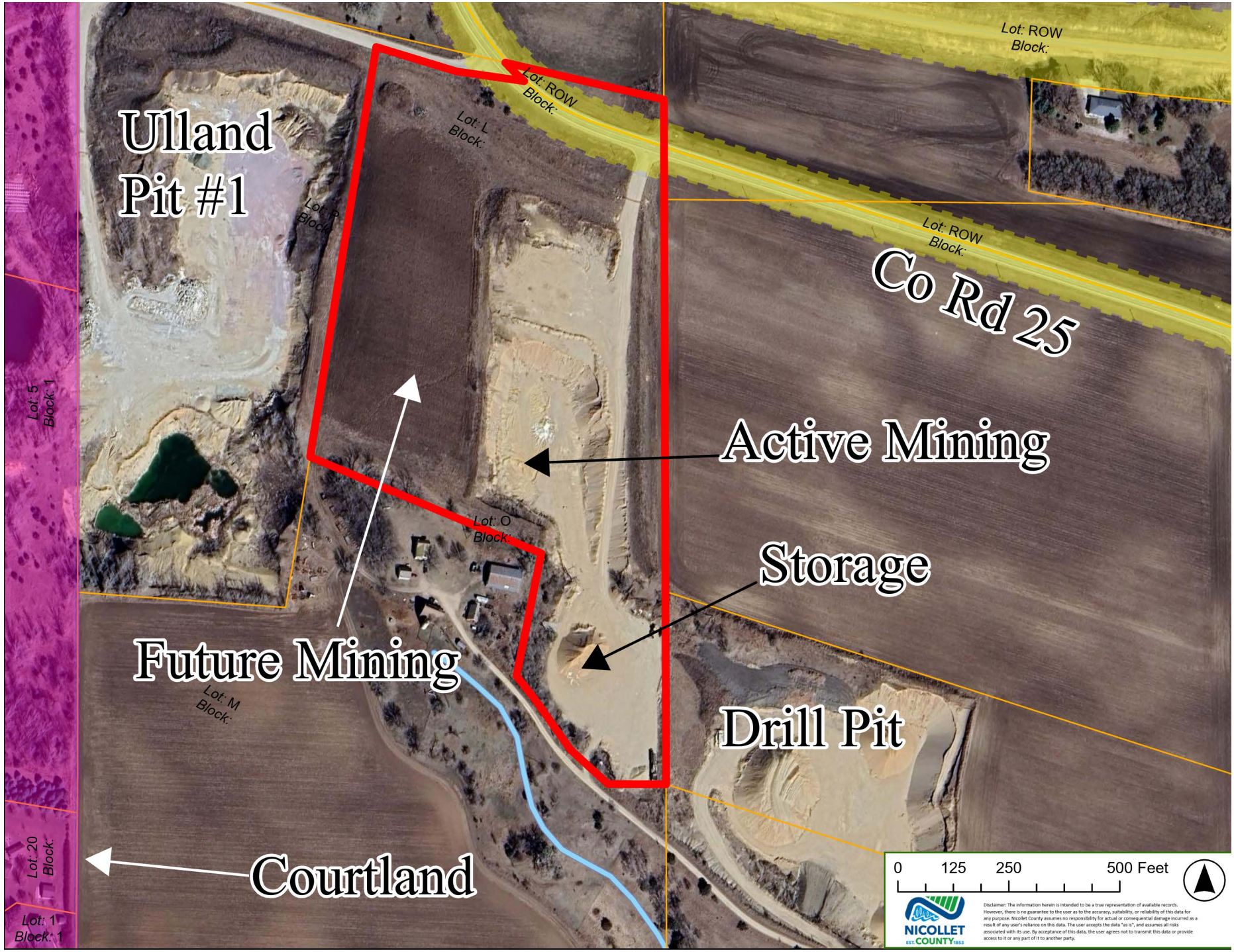
Signer andrew@wlorentzco.com entered name at signing as Andrew Lorentz
2024-05-09 - 7:49:03 PM GMT- IP address: 68.232.241.174

Document e-signed by Andrew Lorentz (andrew@wlorentzco.com)
Signature Date: 2024-05-09 - 7:49:05 PM GMT - Time Source: server- IP address: 68.232.241.174

Agreement completed.
2024-05-09 - 7:49:05 PM GMT



ATTACHMENT B
Location Map

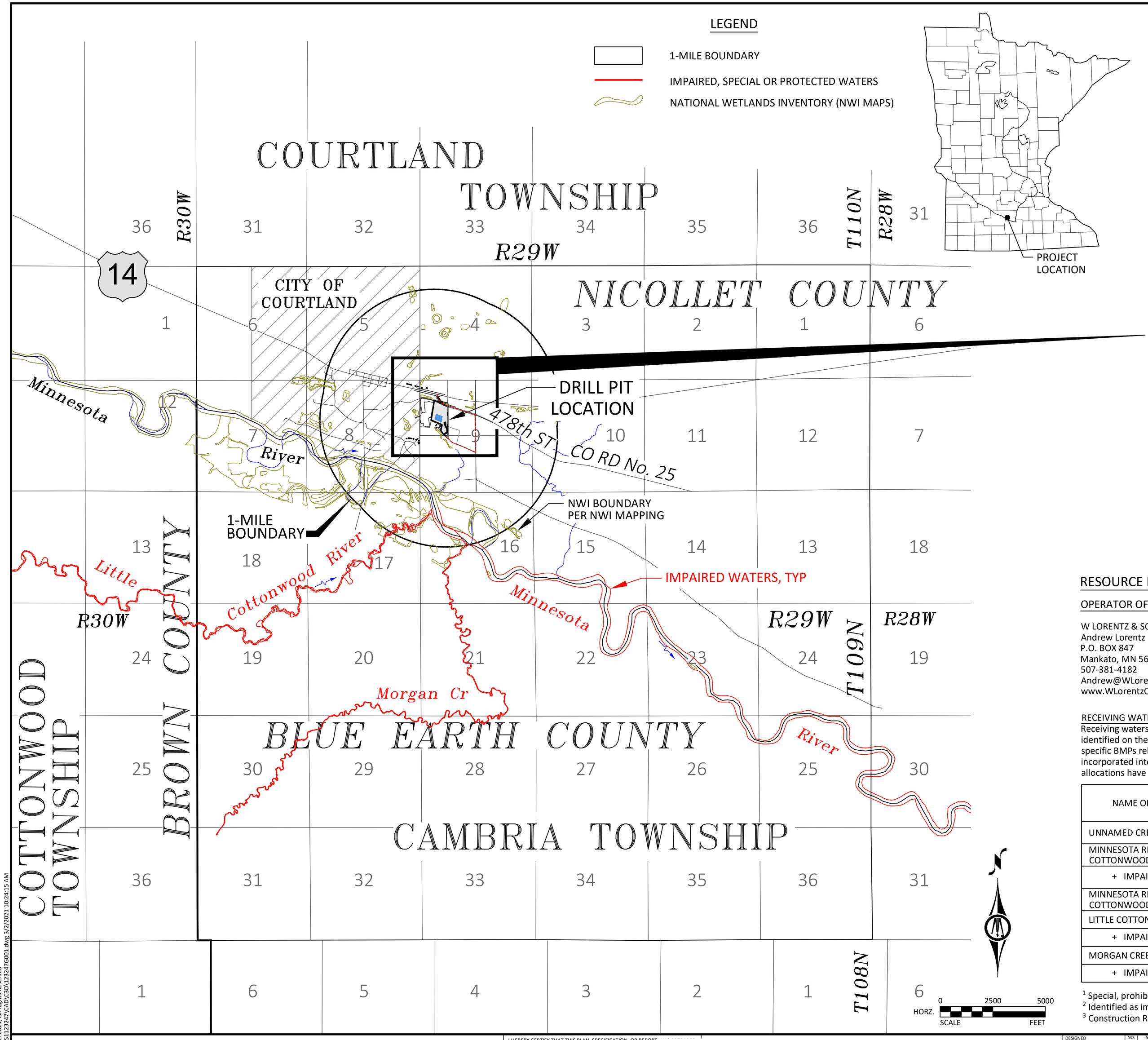


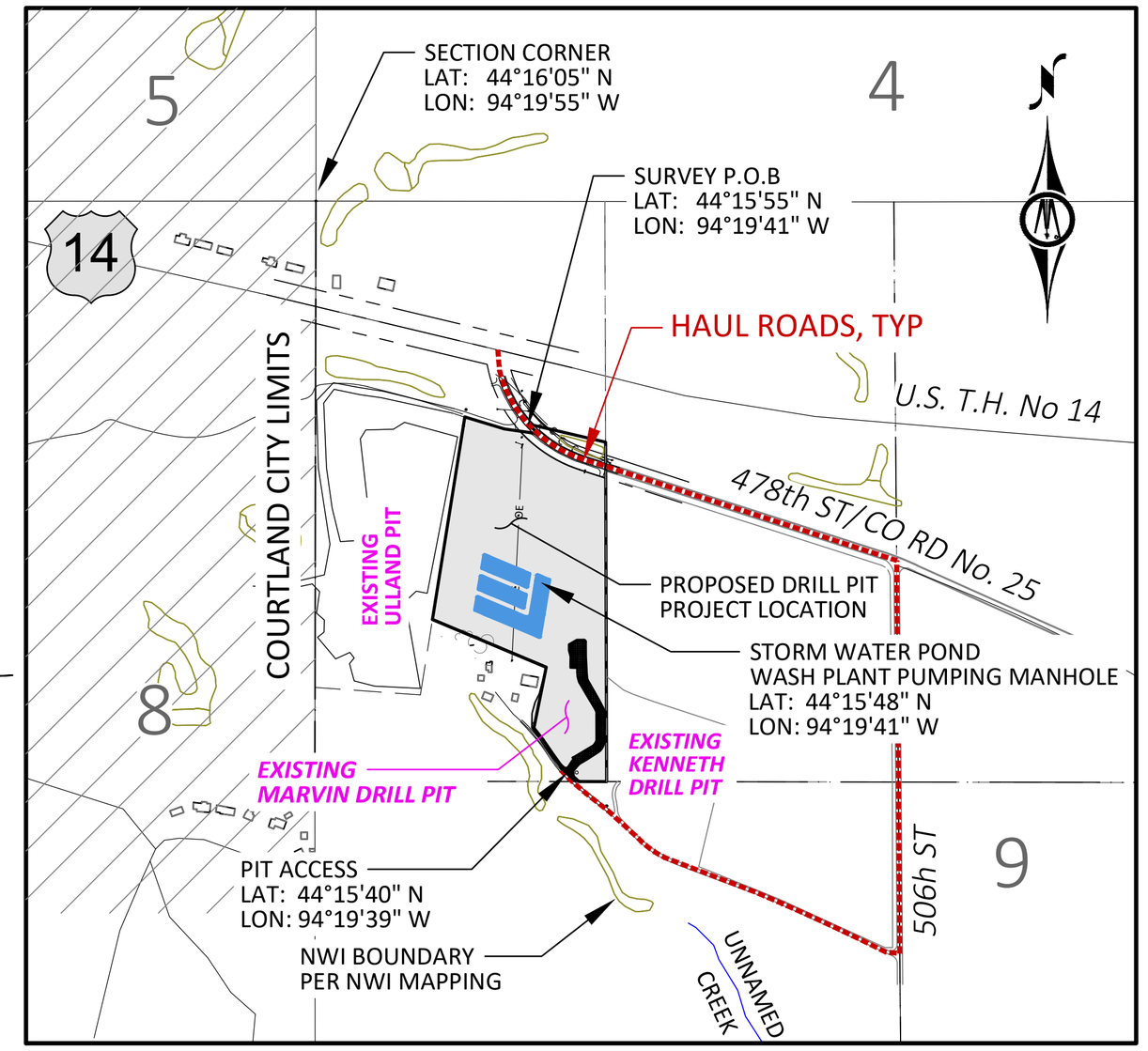
ATTACHMENT C
Site Map

ATTACHMENT D
Site Photographs

05 24 2024

05 24 2024





RESOURCE LIST

OPERATOR OF MINERAL EXTRACTION OPERATION

W LORENTZ & SONS CONST, INC
Andrew Lorentz
P.O. BOX 847
Mankato, MN 56001
507-381-4182
Andrew@WLorentzCo.com
www.WLorentzCo.com

OWNER/LESSOR OF MINERAL EXTRACTION SITE

Marvin & Lisa Drill
54 Roslyn Rd
New Ulm, MN 56073
507-766-4453
MDrill@Live.com

RECEIVING WATERS:
Receiving waters, including surface water, wetlands, Public Waters, and stormwater ponds, within 1-mile of the project boundary are identified on the USGS 7.5 min quad map above. Receiving waters that are impaired, the impairment, and WLA are listed as follows. All specific BMPs relative to construction activities listed in the permit for special, prohibited, restricted, or impaired have been incorporated into this plan. All specific BMPs listed in approved TMDLs and those BMPs listed for construction related waste load allocations have also been incorporated.

NAME OF WATER BODY	TYPE (ditch, pond, wetland, lake, etc.)	Special, Prohibited, Restricted Water [1]	Flows to Impaired Water Within 1-Mile [2]	USEPA Approved Construction Related TMDL [3]
UNNAMED CREEK	CREEK	N	Y	N
MINNESOTA RIVER- SE OF LITTLE COTTONWOOD RIVER	RIVER	N	Y	Y
+ IMPAIRMENTS: AQC, AQL, Hg-F, Hg-W, NUTRIENTS, PCB-F, BCB-W, TURBIDITY				
MINNESOTA RIVER- NW OF LITTLE COTTONWOOD RIVER	RIVER	N	Y	DELISTED 2002
LITTLE COTTONWOOD RIVER	RIVER	N	Y	N
+ IMPAIRMENTS: AQR, AQL, FECAL COLIFORM, INVERTEBRATE BIO, TURBIDITY				
MORGAN CREEK	CREEK	N	N	N
+ IMPAIRMENTS: AQR, AQL, E. COLI, FISHES BIO				

[1] Special, prohibited, and restricted waters are listed in Section 23 of the MN Construction Stormwater General Permit (MNR100001).
[2] Identified as impaired under section 303 (d) of the federal Clean Water Act for phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.
[3] Construction Related TMDLs include those related to: phosphorus, turbidity, TSS, dissolved oxygen, and/or aquatic biota.

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H:\WENDLORE_PR\0S1123247\CAD\C3D\1232476001.dwg 3/2/2021 10:24:15 AM

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.
David A Palm
DAVID A. PALM, P.E.
LIC. NO. 22574 DATE 03/02/21

ATTACHMENT E.1
Site Plan

FREET NE
SOTA 56085
'94-5541
ilton-menk.com
enk.com

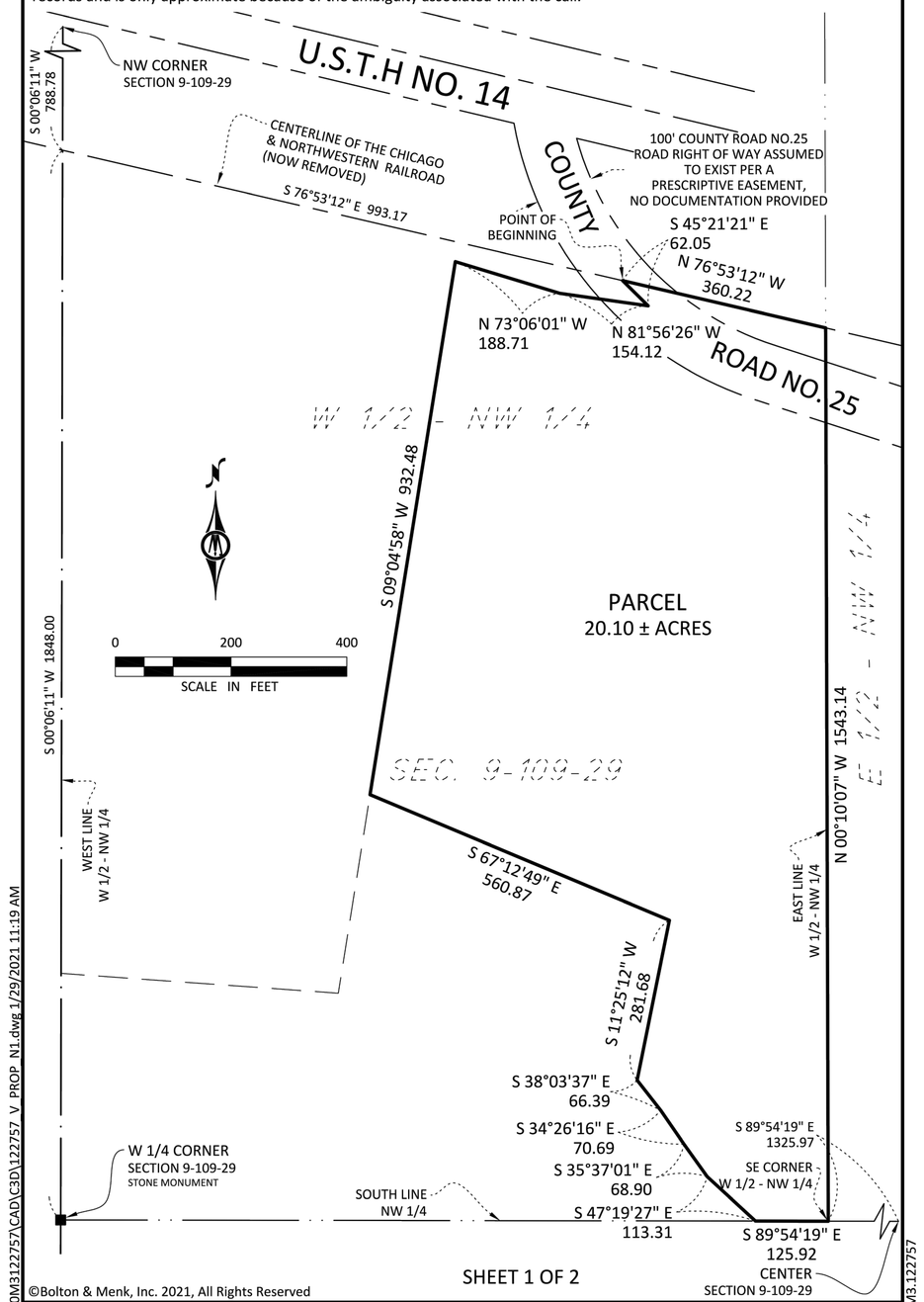
DESIGNED	DAP
DRAWN	sml
CHECKED	DAP
CLIENT PROJ. NO.	0S1.123247

NO.	ISSUED FOR	DATE

WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
PROJECT LOCATION MAP

SHEET G0.01

SURVEYOR'S NOTE: The existing legal description per Document 293990 defines the north boundary of subject property as being bound by the centerline of the main track (now removed) of the Chicago and Northwestern Railroad. Ambiguity exists to the physical location of the now removed railroad. The location shown on the survey map is based on historic survey records and is only approximate because of the ambiguity associated with the call.



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SHEET 1 OF 2

SKETCH OF DESCRIPTION
COURTLAND TOWNSHIP, NICOLLET COUNTY, MINNESOTA

THAT PART OF THE W 1/2 OF THE NW 1/4 OF SECTION 9, TOWNSHIP 109 NORTH, RANGE 29 WEST, COURTLAND TOWNSHIP, NICOLLET COUNTY, MINNESOTA

FOR: W LORENTZ COMPANY
ANDREW LORENTZ

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MINNESOTA 56001
(507) 625-4171

FIELD BOOK: SEE FILE | DRAWN BY: JLA | 2.0 S9-T109N-R29W | JOB NUMBER: 0M3.122757

H:\WENDLORE_PR\0M3122757\CAD\C3D\122757_V_PROP_N1.dwg 1/29/2021 11:19 AM

That part of the West Half of the Northwest Quarter of Section 9, Township 109 North, Range 29 West, Nicollet County, Minnesota, described as follows:

Commencing at the West Quarter Corner of Section 9; thence North 00 degrees 06 minutes 11 seconds East (bearings based on the Nicollet County Coordinate System NAD83, 1996 Adjustment) on the west line of said West Half, a distance of 1848.00 feet to the centerline of the Chicago and Northwestern Railroad, now removed; thence South 76 degrees 53 minutes 12 seconds East on said centerline, a distance of 993.17 feet to the point of beginning; thence South 45 degrees 21 minutes 21 seconds East, a distance of 62.05 feet; thence North 81 degrees 56 minutes 26 seconds West, a distance of 154.12 feet; thence North 73 degrees 06 minutes 01 seconds West, a distance of 188.71 feet; thence South 09 degrees 04 minutes 58 seconds West, a distance of 932.48 feet; thence South 67 degrees 12 minutes 49 seconds East, a distance of 560.87 feet; thence South 11 degrees 25 minutes 12 seconds West, a distance of 281.68 feet; thence South 38 degrees 03 minutes 37 seconds East, a distance of 66.39 feet; thence South 34 degrees 26 minutes 16 seconds East, a distance of 70.69 feet; thence South 35 degrees 37 minutes 01 seconds East, a distance of 68.90 feet; thence South 47 degrees 19 minutes 27 seconds East, a distance of 113.31 feet to the south line of said Northwest Quarter; thence South 89 degrees 54 minutes 19 seconds East on said south line, a distance of 125.92 feet to the Southeast Corner of said West Half of the Northwest Quarter; thence North 00 degrees 10 minutes 07 seconds West on the east line of said West Half of the Northwest Quarter, a distance of 1543.14 feet to the centerline of said Chicago and Northwestern Railroad, now removed; thence North 76 degrees 53 minutes 12 seconds West on said centerline, a distance of 360.22 feet to the point of beginning.

SURVEYOR'S CERTIFICATION

I hereby certify that this survey, plan, or report was prepared by me or under my direct supervision and that I am a duly Licensed Land Surveyor under the laws of the State of Minnesota.

Janele Fowlds — 09/18/2020
Janele Fowlds
License Number 26748

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SHEET 2 OF 2

SKETCH OF DESCRIPTION
COURTLAND TOWNSHIP, NICOLLET COUNTY, MINNESOTA

THAT PART OF THE W 1/2 OF THE NW 1/4 OF SECTION 9, TOWNSHIP 109 NORTH, RANGE 29 WEST, COURTLAND TOWNSHIP, NICOLLET COUNTY, MINNESOTA

FOR: W LORENTZ COMPANY
ANDREW LORENTZ

BOLTON & MENK
1960 PREMIER DRIVE
MANKATO, MINNESOTA 56001
(507) 625-4171

FIELD BOOK: SEE FILE | DRAWN BY: JLA | 2.0 S9-T109N-R29W | JOB NUMBER: 0M3.122757

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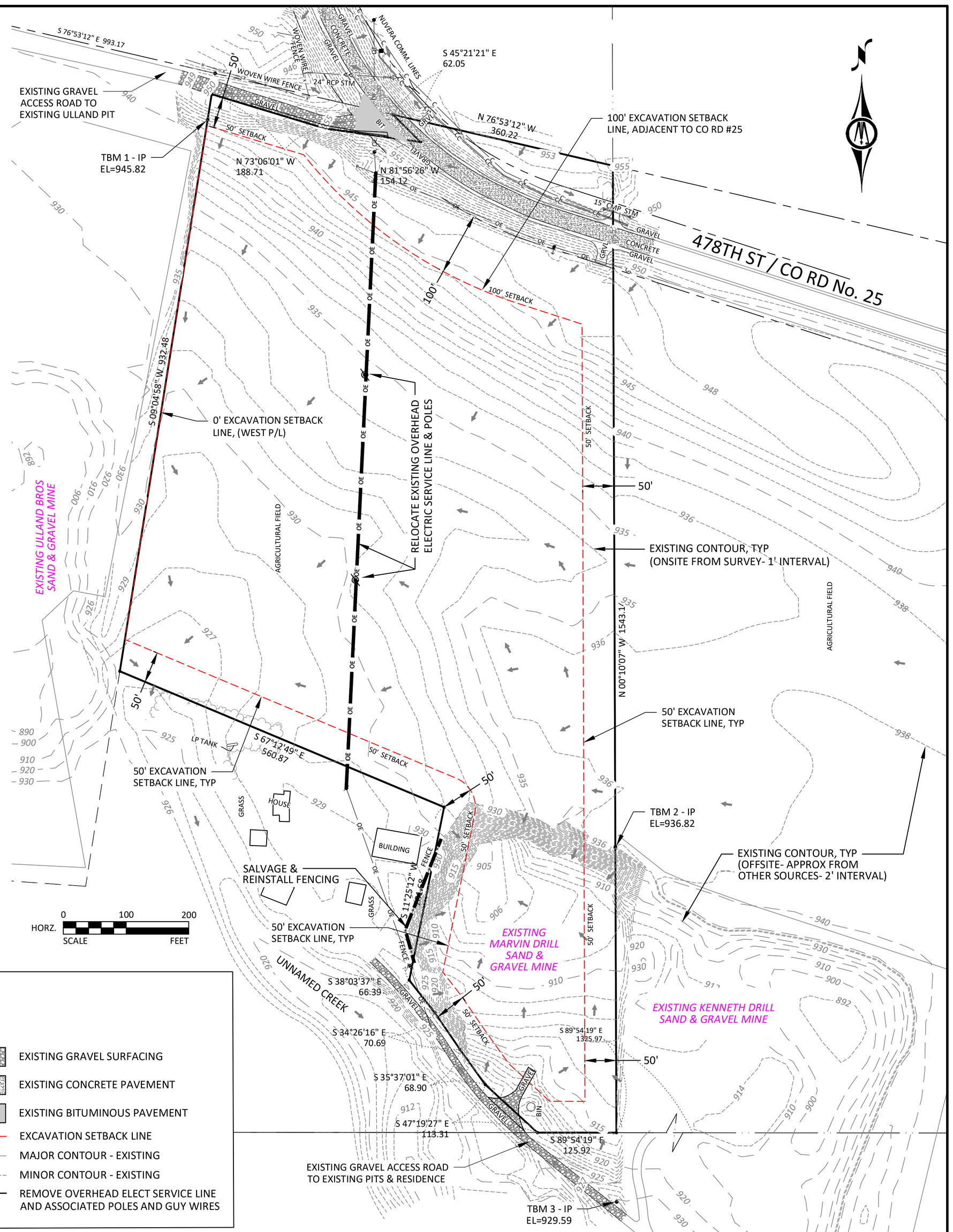

Horizontal Datum: HARN 2011 Nicollet County Coordinate System
Vertical Datum: NAVD 1988 In Feet

TBM 1 - IP
EL=945.82
LOCATED APPROX 341' WEST OF INTERSECTION ACCESS RD & CO RD No. 25

TBM 2 - IP
EL=936.82
LOCATED APPROX 1352' SOUTH OF CO RD No. 25 ALONG THE PROPERTY LINE BEING THE EAST LINE, WEST 1/2-NW 1/4

TBM 3 - IP
EL=929.59
LOCATED APPROX 110' SOUTH AND 167' SOUTHEAST OF THE TWO SOUTH PROPERTY CORNERS ON THE SOUTH LINE OF THE NW 1/4, ALONG NORTHERLY EDGE OF THE GRAVEL ACCESS ROAD TO EXISTING PITS & RESIDENCE

LEGEND

- IRON PIPE MONUMENT SET
- MONUMENT FOUND
- CULVERT END
- FLARED END / APRON
- GUY WIRE ANCHOR
- PEDESTAL-COMMUNICATION
- POLE-UTILITY
- COMMUNICATION UNDERGROUND
- OVERHEAD ELECTRIC
- FENCE
- STORM SEWER
- EDGE OF TREES
- EXISTING GRAVEL SURFACING
- EXISTING CONCRETE PAVEMENT
- EXISTING BITUMINOUS PAVEMENT
- EXCAVATION SETBACK LINE
- MAJOR CONTOUR - EXISTING
- MINOR CONTOUR - EXISTING
- REMOVE OVERHEAD ELECT SERVICE LINE AND ASSOCIATED POLES AND GUY WIRES

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David A Palm
DAVID A. PALM, P.E.
LIC. NO. 22574 DATE 03/02/2021

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www.bolton-menk.com

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DRAWN	sml
CHECKED	DAP
CLIENT PROJ. NO.	0S1.123247

NO.	ISSUED FOR	DATE

WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
EXISTING CONDITIONS & REMOVALS PLAN

SHEET C0.01

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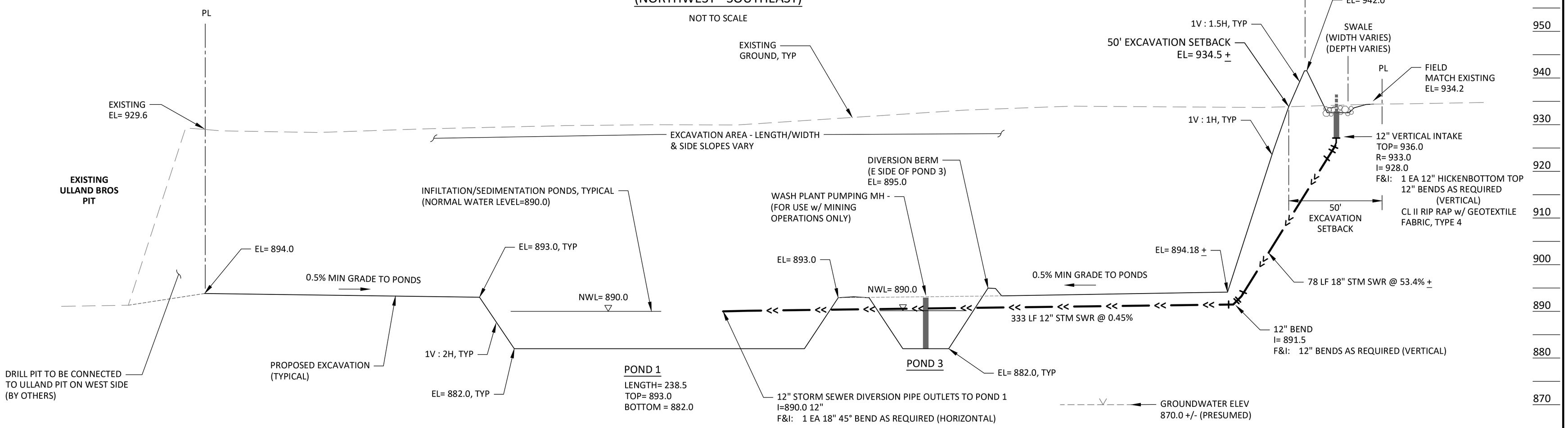
A

DRILL PIT CROSS SECTION A-AA

(NORTHWEST - SOUTHEAST)

NOT TO SCALE

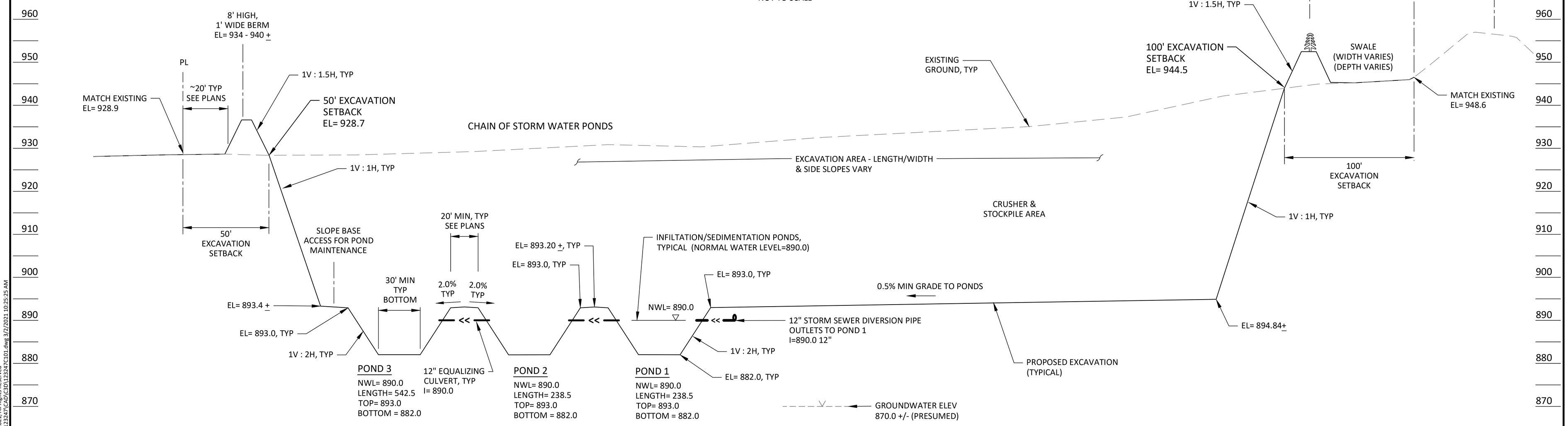


B

DRILL PIT CROSS SECTION B-BB

(SOUTH - NORTH)

NOT TO SCALE



NOTE: DETAILS ARE NOT TO SCALE

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WENDELL LORENTZ & SONS CONSTRUCTION

DRILL PIT - NICOLLET COUNTY, MN

DRILL PIT CROSS SECTIONS

SHEET C1.01

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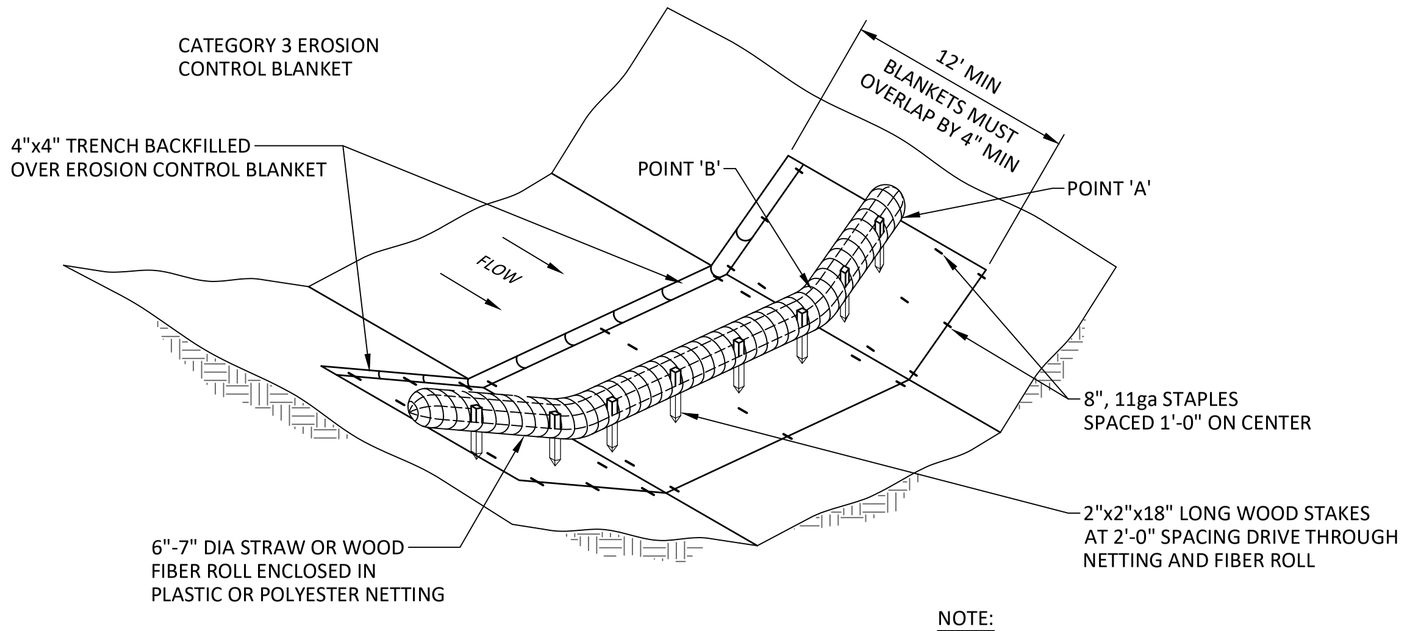
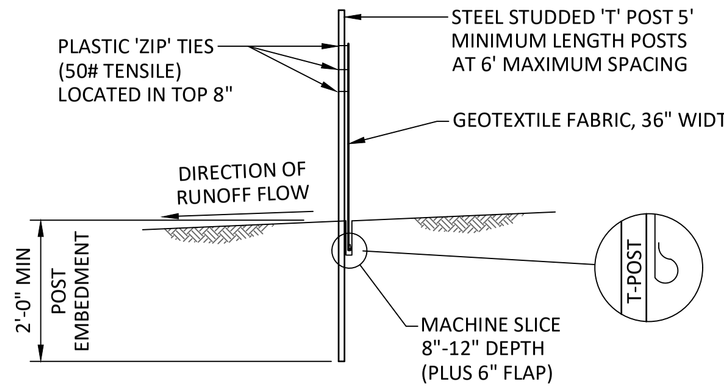


DITCH CHECK - BIOROLL

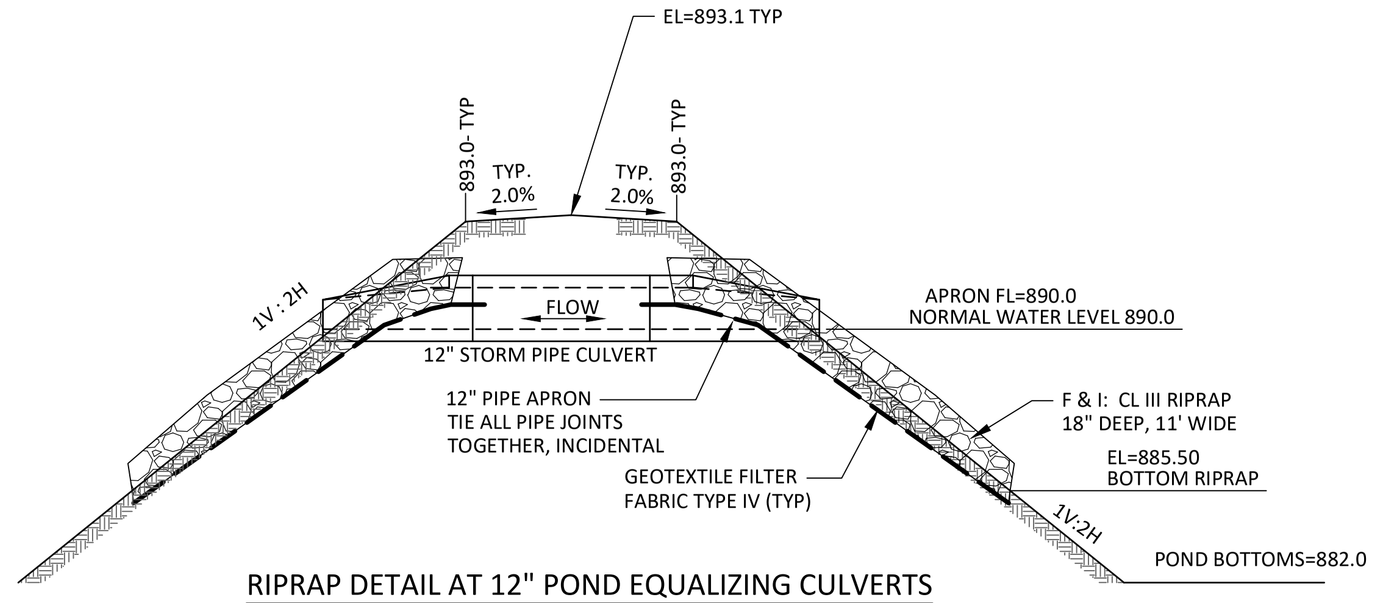
NOT TO SCALE

NOTE:
POINT 'A' MUST BE 1'-0" MIN HIGHER THAN POINT 'B' TO ENSURE THAT WATER FLOWS OVER THE DITCH CHECK AND NOT AROUND THE ENDS



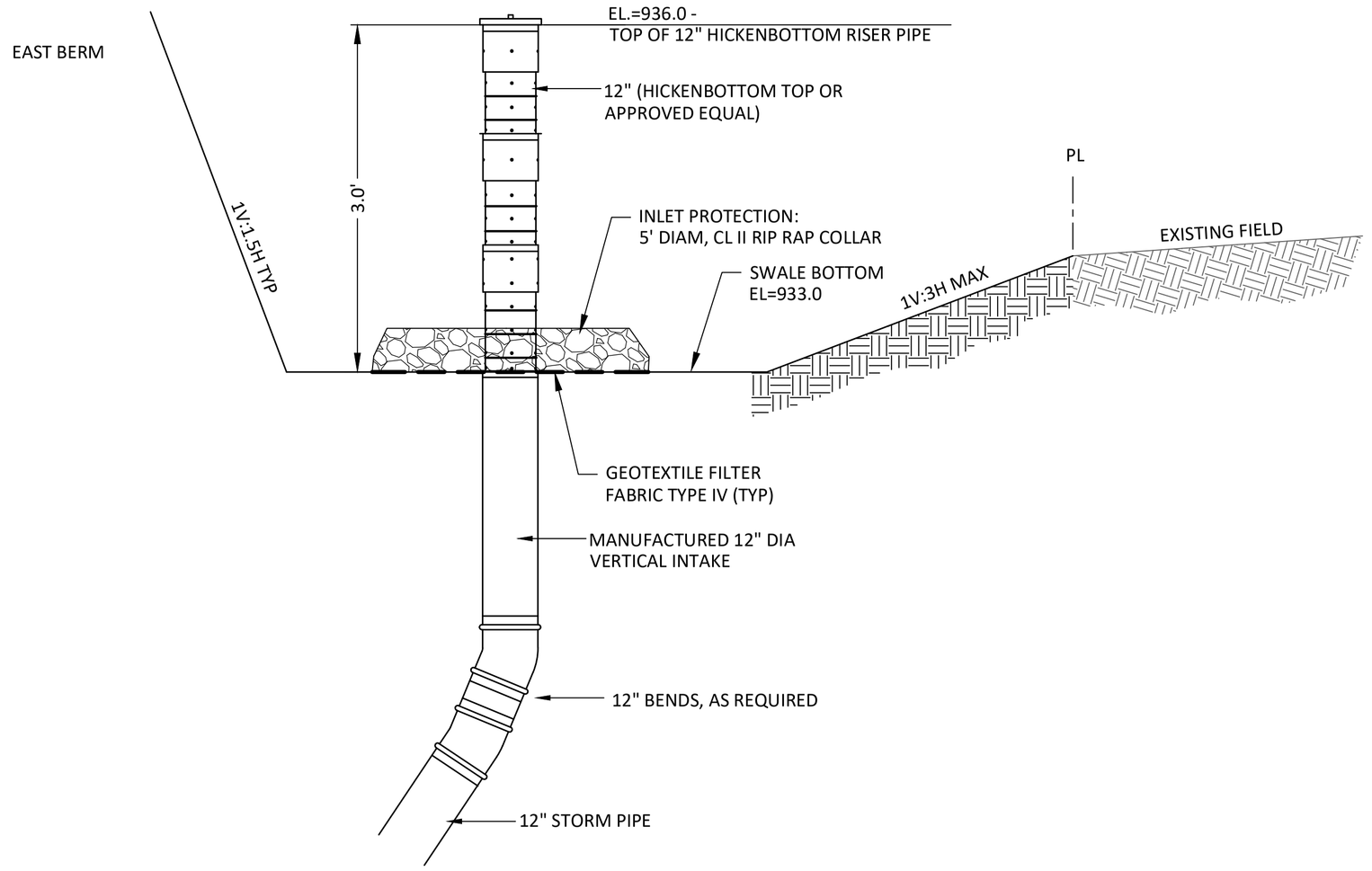
SILT FENCE - MACHINE SLICED

NOT TO SCALE



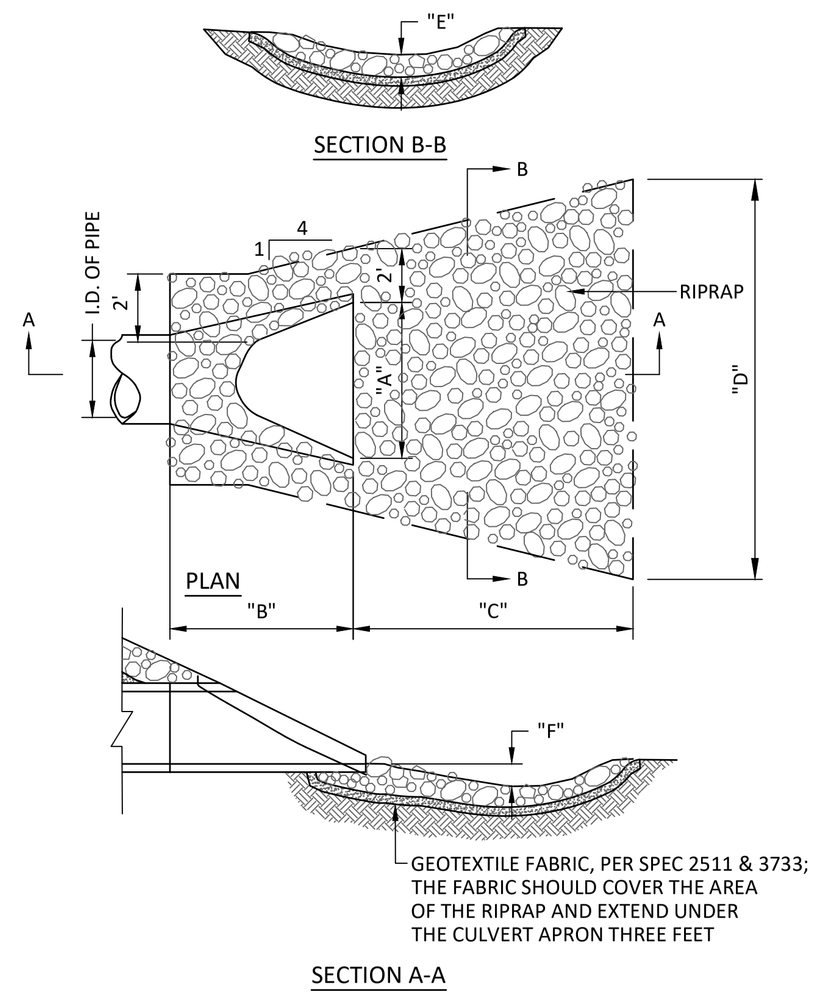
RIPRAP DETAIL AT 12" POND EQUALIZING CULVERTS

NOT TO SCALE



STORM SURFACE WATER INTAKE RISER

NOT TO SCALE



RIPRAP AT STORM CULVERT END

NOT TO SCALE

		CLASS II d50=6"	CLASS III d50=9"	CLASS IV d50=12"
DIA OF ROUND PIPE (IN)	L (FT)	12" DEPTH RIPRAP (CU YD)	18" DEPTH RIPRAP (CU YD)	24" DEPTH RIPRAP (CU YD)
12	8	5	8	10
18	10	5	8	10

NOTE: RIP RAP DIMENSIONS IN TABLE ARE MINIMUM REQUIREMENTS. SEE DETAILS & PLANS FOR MODIFIED DIMENSIONS

RIPRAP TABLE

I.D. OF PIPE	A	B	C	D	E	F
12"	30"	6'	8'	11'	1'	1'
18"	36"	6'	10'	11'	1'	1'

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David A Palm

DAVID A. PALM, P.E.

LIC. NO. 22574 DATE 03/02/2021

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WENDELL LORENTZ & SONS CONSTRUCTION

DRILL PIT - NICOLLET COUNTY, MN

DETAILS

SHEET C1.02

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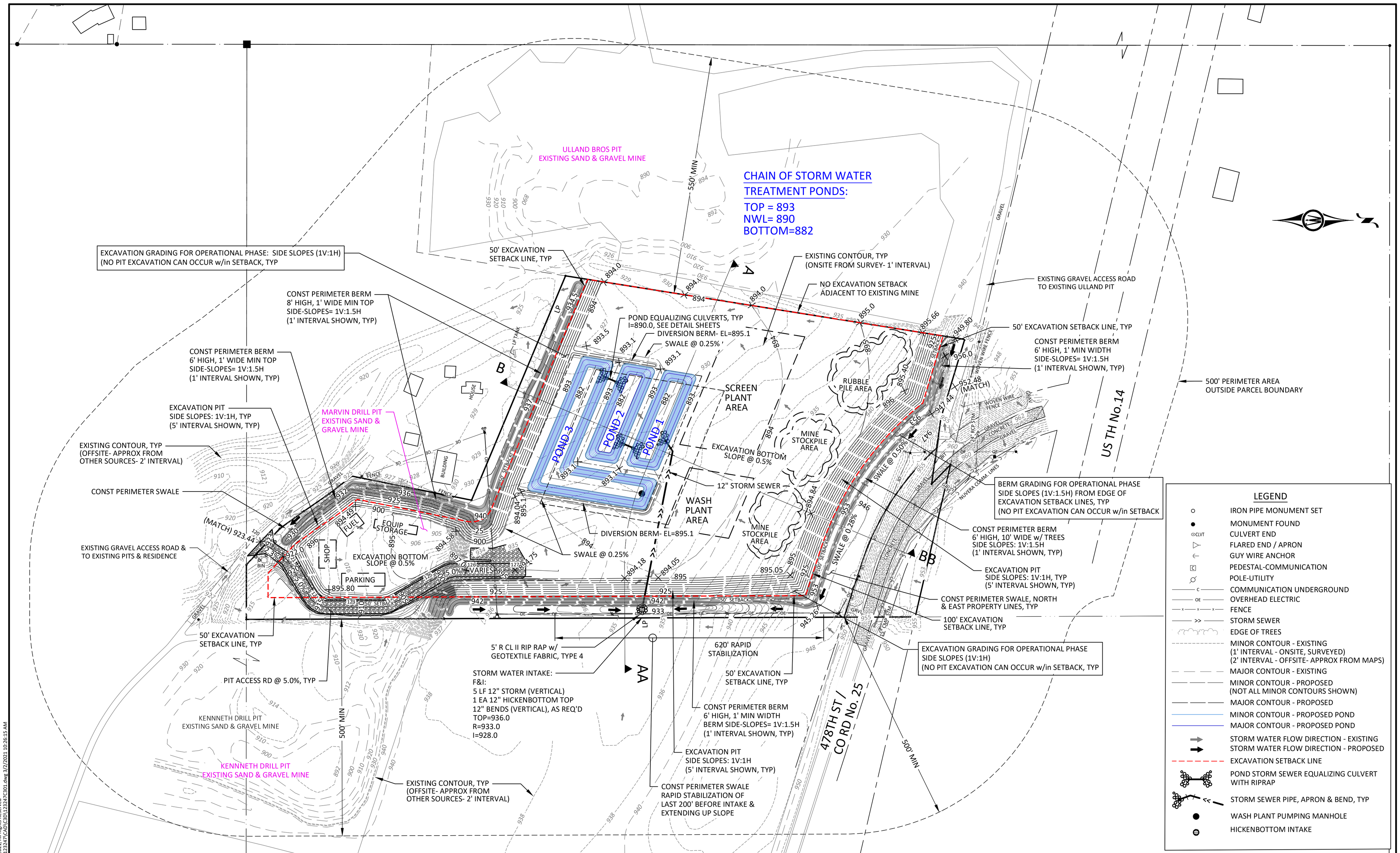

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HORZ. SCALE 0 100 200 FEET

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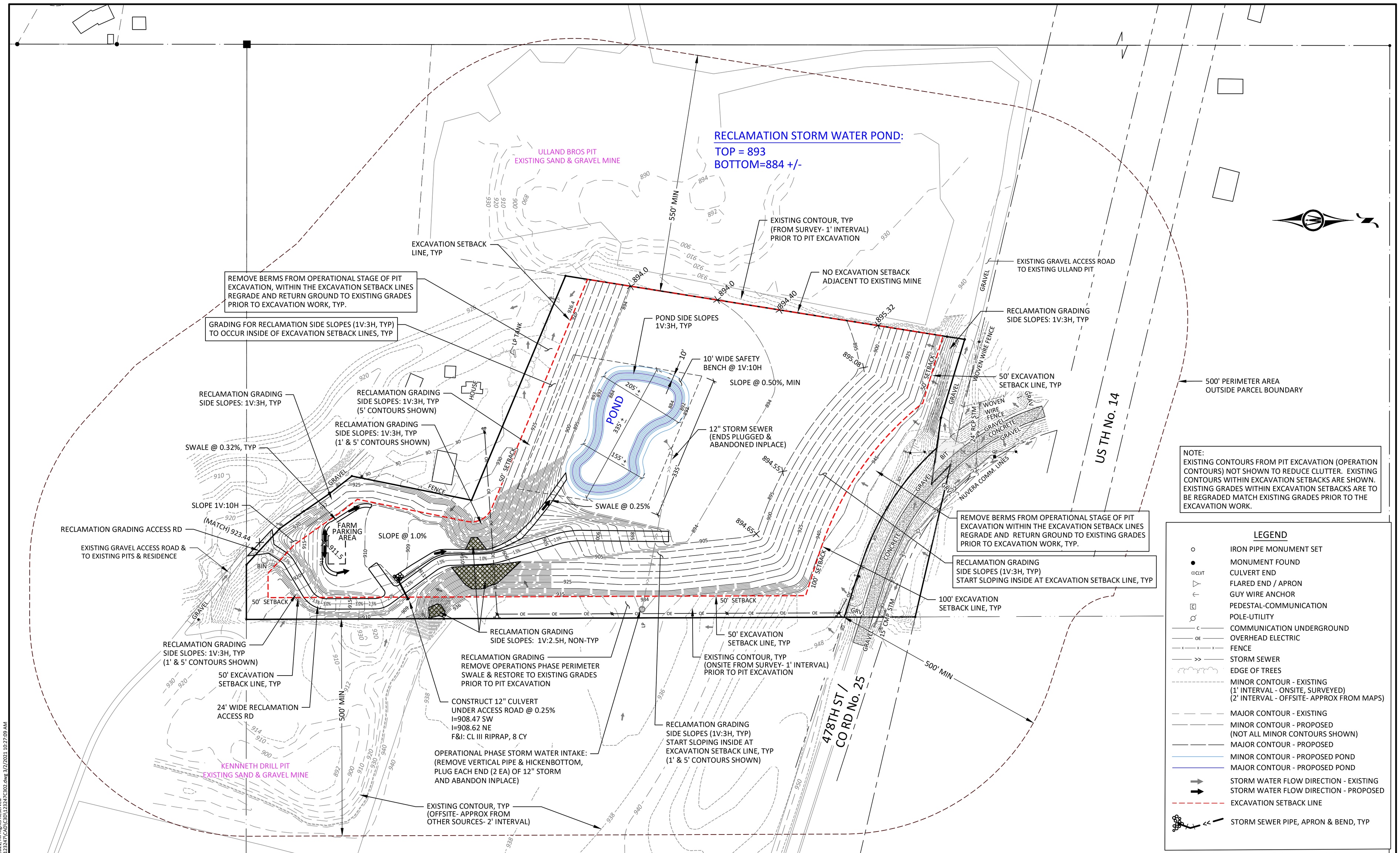
WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
OPERATIONS GRADING PLAN

SHEET C3.01



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David A Palm

DAVID A. PALM, P.E.
LIC. NO. 22574 DATE 03/02/2021

ATTACHMENT E.2
Reclamation Plan

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WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
RECLAMATION GRADING PLAN

SHEET C3.02

SEEDING & GROUND STABILIZATION CONSTRUCTION NOTES:

1. SEED & HYDROMULCH OR CONTROL BLANKET ALL BERM TOP & SLOPES NOT COVERED WITH GRAVEL BASE OR RIPRAP.
2. SEED & HYDROMULCH OR CONTROL BLANKET ALL POND SLOPES NOT COVERED WITH GRAVEL BASE OR RIPRAP.
3. SEED & HYDROMULCH OR CONTROL BLANKET ALL PERIMETER SLOPES.
4. DURING CONSTRUCTION OF PERIMETER BERM & INFILTRATION/SEDIMENTATION PONDS, PERIMETER SILT FENCE & INLET PROTECTION SHALL BE FURNISHED, INSTALLED AND MAINTAINED UNTIL TURF ESTABLISHMENT IS COMPLETE ON ALL EXPOSED SURFACES & THE PONDS ARE IN-USE.
5. PERMANENT SEED SHALL BE MNDOT 25-141 (MESIC GENERAL ROADSIDE).

ULLAND BROS PIT
EXISTING SAND & GRAVEL MINE

CHAIN OF STORM WATER TREATMENT PONDS:
TOP = 893
NWL= 890
BOTTOM=882

550' MIN

US TH No. 14

NO EXCAVATION SETBACK ADJACENT TO EXISTING MINE

EXCAVATION GRADING FOR OPERATIONAL PHASE: SIDE SLOPES (1V:1H) (NO PIT EXCAVATION CAN OCCUR w/in SETBACK, TYP

BERM GRADING FOR OPERATIONAL PHASE (8' HIGH MIN, 1' WIDE MIN TOP) SIDE-SLOPES (1V:1.5H) FROM EDGE OF EXCAVATION SETBACK LINES, TYP 50' EXCAVATION SETBACK - (NO PIT EXCAVATION FOR MINING OF MATERIAL CAN OCCUR WITHIN SETBACK AREA)

FILL IN AREA FOR CONSTRUCTION OF BERM FROM PROPERTY LINE

SALVAGE & REINSTALL FENCING

BERM GRADING FOR OPERATIONAL PHASE (6' HIGH MIN, 1' WIDE MIN TOP) SIDE-SLOPES= 1V:1.5H

LOCKING GATE FOR ACCESS ROAD

"DRILL PIT" SIGNAGE

EXISTING GRAVEL ACCESS ROAD & TO EXISTING PITS & RESIDENCE

50' EXCAVATION SETBACK LINE, TYP

EXISTING & PROPOSED HAUL ROAD

KENNNETH DRILL PIT
EXISTING SAND & GRAVEL MINE

BERM GRADING FOR OPERATIONAL PHASE (6' HIGH MIN, 1' WIDE MIN TOP) SIDE-SLOPES (1V:1.5H) FROM EDGE OF EXCAVATION SETBACK LINES, TYP 50' EXCAVATION SETBACK - (NO PIT EXCAVATION FOR MINING OF MATERIAL CAN OCCUR WITHIN SETBACK AREA)

30' WIDE PIT ACCESS DRIVE

RELOCATION OF OVERHEAD ELEC, COORDINATE w/ UTILITY CO. FOR ALIGNMENT & POLE PLACEMENT

SEEDING OF GENERAL DISTURBANCE AREAS

TOP OF BERM, TYP

CONSTRUCT STORM WATER INTAKE

620' RAPID STABILIZATION

SLOPES = 1V:1H, TYP

CONST PERIMETER SWALE RAPID STABILIZATION OF LAST 200' BEFORE INTAKE & EXTENDING UP SLOPE

AGRICULTURAL FIELD

DIVERSION BERM
DIVERSION SWALE

POND 1
POND 2
POND 3

SCREEN PLANT AREA

EXCAVATION AREA

WASH PLANT AREA

MINE STOCKPILE AREA 60' HEIGHT +/-

RUBBLE PILE AREA

FUEL
EQUIPMENT STORAGE
SHOP
PARKING
BUILDING
HOUSE
GRASS
LP TANK
FENCE
GRAVEL
BIN

12" STM SWR

NO EXCAVATION SETBACK ADJACENT TO EXISTING MINE

EXISTING GRAVEL ACCESS ROAD TO EXISTING ULLAND PIT

500' PERIMETER AREA OUTSIDE PARCEL BOUNDARY

WOVEN WIRE FENCE

BERM GRADING FOR OPERATIONAL PHASE (6' HIGH BERM, 1' MIN TOP) SIDE-SLOPES = 1V:1.5H 50' EXCAVATION SETBACK. NO EXCAVATION FOR MINING OF MATERIAL CAN OCCUR WITHIN SETBACK AREA ALONG GRAVEL ROAD ACCESS

TOP OF BERM, TYP

SEEDING OF GENERAL DISTURBANCE AREAS

BERM GRADING FOR OPERATIONAL PHASE (6' HIGH MIN, 10' WIDTH MIN TOP w/ 10' + HEIGHT EVERGREEN TREES @ 10' O.C.) SIDE SLOPES (1V:1.5H) FROM EDGE OF EXCAVATION SETBACK LINES, TYP (NO PIT EXCAVATION CAN OCCUR w/in SETBACK)

100' EXCAVATION SETBACK LINE, TYP

CONNECT RELOCATED OVERHEAD ELEC TO EXISTING ELECTRIC (COORD WITH UTILITY COMPANY)

CONST PERIMETER SWALE, NORTH & EAST PROPERTY LINES, TYP

EXCAVATION GRADING FOR OPERATIONAL PHASE SIDE SLOPES (1V:1H) (NO PIT EXCAVATION CAN OCCUR w/in SETBACK, TYP)

500' MIN

478TH ST / CO RD No. 25

PROPOSED HAUL ROAD

NOTE: AREAS DISTURBED OUTSIDE MINE AREA ARE TO BE SEEDED, INCLUDING BERMS, GENERAL DISTURBANCE AREAS AND SWALES. RAPID STABILIZATION (EROSION CONTROL BLANKET) TO BE USED IN SWALE 200' EACH WAY OF STORM INTAKE ON EAST PROPERTY LINE.

NOTE: STOCKPILE LOCATIONS WILL VARY THROUGHOUT THE MINING PROCESS.

LEGEND

- EXISTING CONCRETE PAVEMENT
- EXISTING BITUMINOUS PAVEMENT
- EXCAVATION SETBACK LINE
- PONDING AREA
- SWALE AREA
- SEEDING AREA- w/ RAPID STABILIZATION IN SWALE
- SEEDING AREA- GENERAL DISTURBANCE
- PIT EXCAVATION - BOTTOM
- PIT AMENITY AREAS
- PIT ACCESS DRIVE
- 6' HIGH BERM, 10' WIDTH MIN TOP w/ TREES
- 6' HIGH BERM, 1' WIDTH MIN TOP
- 8' HIGH BERM, 1' WIDTH MIN TOP
- 1V:1H SLOPES, TYP
- 1V:1.5H SLOPES, TYP
- POND STORM SEWER EQUALIZING CULVERT
- STORM SEWER PIPE OUTLET & BEND
- POND PUMPING MANHOLE
- HICKENBOTTOM INTAKE
- STORM SEWER PIPE
- PROPOSED HAUL ROADS
- DIRECTION OF FLOW - SWALES

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WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
OPERATIONS SITE PLAN

SHEET C6.01

SEEDING & GROUND STABILIZATION CONSTRUCTION NOTES:

1. RESPREAD ALL SALVAGED TOPSOIL UNIFORMILY OVER ALL DISTURBED AREAS. (3" MINIMUM, IF AVAILABLE).
2. SEED ALL DISTURBED AREAS WITH MNDOT 25-141 SEED MIX (MESIC GENERAL ROADSIDE).
3. USE HYDROMULCH OR STRAW MULCH ON ALL SEEDED AREAS (EXCEPT EROSION CONTROL AREAS).
4. EROSION CONTROL AREAS: ALL SWALES AND SLOPE AREAS 1V:4H OR STEEPER SHALL RECEIVE SLOPE STABILIZATION/EROSION CONTROL BLANKET.

ULLAND BROS PIT
EXISTING SAND & GRAVEL MINE

550' MIN

RECLAMATION STORM WATER POND:
TOP = 893
BOTTOM=884 +/-

EXISTING GRAVEL ACCESS ROAD TO EXISTING ULLAND PIT

RECLAMATION SIDE SLOPES: 1V=3H, TYP

RECLAMATION SIDE SLOPES: 1V=4.5H

NO EXCAVATION SETBACK ADJACENT TO EXISTING MINE

500' PERIMETER AREA OUTSIDE PARCEL BOUNDARY

50' EXCAVATION SETBACK. NO EXCAVATION FOR RECLAMATION OF MINING AREA CAN OCCUR WITHIN SETBACK AREA

50' EXCAVATION SETBACK. NO EXCAVATION FOR RECLAMATION OF MINING AREA CAN OCCUR WITHIN SETBACK AREA

POND SIDE SLOPES 1V:3H, TYP

10' WIDE SAFETY BENCH @ 1V:10H (BENCH AREA TO BE SEEDED)

POND

205' ±

335' ±

155' ±

OPERATIONAL PHASE
12" STORM SEWER
REMOVE CULVERT END & PLUG END OF STORM SEWER TO ABANDON INPLACE

MAINTAIN AREA FILLED IN FOR CONSTRUCTION OF BERM FOR OPERATIONAL SITEWORK

RECLAMATION SIDE SLOPES: 1V=3H, TYP

RECLAMATION SIDE SLOPES: 1V=10H

RECLAMATION SIDE SLOPES: 1V=3H, TYP

SWALE @ 0.25%

24'

FARM PARKING AREA

EXISTING GRAVEL ACCESS ROAD & TO EXISTING PITS & RESIDENCE

REMOVE BERMS FROM OPERATIONAL STAGE OF PIT EXCAVATION, WITHIN THE EXCAVATION SETBACK LINES REGRADE AND RETURN GROUND TO EXISTING GRADES PRIOR TO EXCAVATION WORK, TYP.

GRADING FOR RECLAMATION SIDE SLOPES (1V:3H, TYP) TO OCCUR INSIDE OF EXCAVATION SETBACK LINES, TYP

100' EXCAVATION SETBACK LINE, TYP

PROPOSED GRAVEL SURFACE WIDENING AT ENTRANCE

MTH #14

50' EXCAVATION SETBACK LINE, TYP

50' EXCAVATION SETBACK LINE, TYP

MAINTAIN RELOCATED OVERHEAD ELEC

RECLAMATION SIDE SLOPES: 1V:2.5H, NON-TYP

REMOVE VERTICAL STORM WATER INTAKE PLUG END OF STORM SEWER & ABANDON INPLACE

RECLAMATION SIDE SLOPES: 1V=3H, TYP

12" CULVERT UNDER ACCESS ROAD
F&I: CL III RIPRAP, 8 CY

24' WIDE RECLAMATION ACCESS RD

50' EXCAVATION SETBACK. NO EXCAVATION FOR RECLAMATION OF MINING AREA CAN OCCUR WITHIN SETBACK AREA

AGRICULTURAL FIELD

KENNNETH DRILL PIT
EXISTING SAND & GRAVEL MINE

500' MIN

500' MIN

CO RD #25
478TH ST

LEGEND

- EXISTING CONCRETE PAVEMENT
- EXISTING BITUMINOUS PAVEMENT
- RECLAMATION ACCESS DRIVE
- EXCAVATION SETBACK LINE
- PONDING AREA
- SWALE AREA w/ EROSION CONTROL BLANKET & SEEDED
- RECLAMATION SLOPE AREA- 1:3 MAX, TYP w/ EROSION CONTROL BLANKET
- RECLAMATION STEEP SLOPE- 1:2.5 MAX w/ EROSION CONTROL BLANKET
- SEEDING AREAS- ALL DISTURBED AREA 3" MIN TOPSOIL &/OR ALL EXISTING TOPSOIL FROM ONSITE
- STORM SEWER PIPE, APRON & BEND, TYP

HORZ. SCALE: 0 100 200 FEET

I HEREBY CERTIFY THAT THIS PLAN, SPECIFICATION, OR REPORT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF MINNESOTA.

David A Palm

DAVID A. PALM, P.E.
LIC. NO. 22574 DATE 03/02/2021

BOLTON & MENK
1243 CEDAR STREET NE
SLEEPY EYE, MINNESOTA 56085
Phone: (507) 794-5541
Email: SleepyEye@bolton-menk.com
www.bolton-menk.com

DESIGNED	DAP
DRAWN	sml
CHECKED	DAP
CLIENT PROJ. NO.	0S1.123247

NO.	ISSUED FOR	DATE

WENDELL LORENTZ & SONS CONSTRUCTION
DRILL PIT - NICOLLET COUNTY, MN
RECLAMATION SITE PLAN

SHEET C6.02

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Part of Permit A21-2

NICOLLET EST. COUNTY 1853

Nicollet County Public Works Department

Highway Field Entrances/Conversion of Use

Application to Convert a Farm-Field Entrance to any Higher Traffic Use

(Please note: this is NOT a permit for access construction or reconstruction)

Highway No.: 25

Location Description: 04.309.0710 Quarter of Section 09, T 109 N-R 029 W

Approximate Location from known intersection: 730 ft.

Applicant's Name: W Lorentz & Sons Construction, Inc.

Applicant's Current Address: PO Box 847

Mankato, MN 56002

Applicant's Phone No.: (507) 388-4182

Applicant's Signature:

Date: 6-7-2021

****

Public Works Department Review and Comments:

Approved for conversion: (signature) Date 6-23-2021

Cannot be converted: (signature) Date

Comments: Applicant must submit a Nicollet County "Application for Access Driveway Permit" as additional modifications are required at this farm/field entrance.

NCPD to submit the completed form to Property Services prior to the issuance of any land use authorization that involves using an inplace field entrance for access to & from a roadway of Nicollet County jurisdiction. Approved conversion must be implemented within one year or this form is VOID.

ATTACHMENT E.3
Access Permit

Nicollet County Highway Department
1700 Sunrise Drive St. Peter, MN 56082
Phone 507-931-1760 Fax 507-931-6978

Application for Access Driveway Permit #A21-2

Name of Applicant W Lorentz & Sons Construction, Inc.
Address PO Box 847 Mankato MN 56002
Phone (507) 388-9182
Name of Property Owner River Valley Enterprises LLC
Address 506 4th St Courtland MN 56021
Phone (507) 766-4453
Road Number 25 Township 109
Section 09 , , Range 029
Location/description of proposed driveway

Existing Farm-Field Entrance Approx. 730ft. from Hwy 14 intersection

Number of present driveways to the property 1 (via unrecorded prescriptive easement)
Date proposed driveway will be needed ASAP

I, the undersigned, shall indemnify & save harmless the County of Nicollet, its officers & employees from all suits, actions & claims of any character brought because of injuries or damages received or sustained by any person, persons or property on account of the operations of said driveway construction; or on account of or in consequence of any neglect in safeguarding the work; the work, operations or activities being inclusive of, but not limited to the construction of this driveway culvert & the construction of the driveway.

I, the undersigned, herewith make application for permission to construct the above access driveway in conformance with the below requirements of Nicollet County, as well as, any special provisions included in the permit. It is agreed that no work will be started until the permit is issued & that all work will be done to the satisfaction of the Nicollet County Highway Engineer.

Signature of Applicant — Date: 6-7-2021

AUTHORIZATION NOT COMPLETE UNTIL SIGHED BY COUNTY ENGINEER

1. No work under this application is to be started until application is approved & the permit issued.
2. Where work on traveled roadway in necessary, traffic must be protected: flags, flares & proper barricades must be placed in accordance with the standards of the MN Dept. of Transportation.
3. No foreign material such as dirt, gravel or bituminous material shall be left or deposited on the road during the construction of driveway or installation of drainage facilities.
4. Roadside must be cleaned up after work is completed.
5. After driveway construction is completed, the permit holder shall notify the County Engineer's office that the work has been completed & is ready for final inspection & approval by the County Highway Department.
6. No changes or alterations in entrances may be made at any time without written permission from the County.
7. Driveway fill slopes shall be constructed 4:1 (4' horizontal to 1' vertical) where existing roadside slopes are 4:1 or better & shall be hand finished & seeded.
8. Driveways shall be so constructed as to slope down & away from the shoulder line of the county highway for a distance of at least 15 feet with a fall of at least 3 inches but not more than 6 inches.
9. Special provisions See attachments.

THIS APPLICATION MAY BE DENIED DUE TO SAFETY CONSIDERATIONS, SUCH AS, POOR SIGHT DISTANCE OR POOR SLOPE TO THE SHOULDER LINE.

All work to be completed by 09-30-2021 Applicant to purchase N/A x N/A culvert N/A aprons & N/A bands. $ N/A

Date: 6-23-2021 County Highway Engineer: Jeff Tacheuchi

LANDOWNER CONSENT
TO ACCESS DRIVEWAY PERMIT

This Landowner Consent to Access Driveway Permit is dated June 4, 2021 and is made by Landowner River Valley Enterprises, LLC (***"Landowner"***).

WHEREAS Landowner and W. Lorentz and Son Construction Inc., (***"Lessee"***) have entered into a Lease Agreement dated October 1, 2020, (the ***"Lease"***) for property own by Landowner which is situated on Parcel ID 04.309.0710 in Nicollet County, Minnesota (***"Property"***);

WHEREAS Lessee has made application to Nicollet County for an Access Driveway Permit for the Property to access Nicollet County Road 25;

NOW THEREFORE, the Landowner expressly affirms the right of the Lessee to make such application for an Assess Driveway Permit for the Property under the terms of the Lease, subject to Lessee's obligations under said Lease, and Landowner affirms to Nicollet County its Consent to the actions of Lessee in makings such application to access Nicollet County Road 25.

RIVER VALLEY ENTERPRISES, LLC
Marvin Drill

By: Marvin Drill
Its: Chief Manager

NICOLLET COUNTY EST. 1853

Office of Public Works
Highways and Parks
Drainage Systems and Agricultural Inspection

Seth M. Greenwood, P.E.
Public Works Director/County Engineer

Access Permit #A21-2
Special Provisions

1. Driveway shall be constructed in accordance with the attached "Entrance Typical"

2. Driveway will be paved with a minimum of 6 inches of bituminous that meets MnDOT mix design SPWEA340B. Driveway will have a minimum of 12 inches of MnDOT Class 5 gravel under the bituminous surfacing. Bituminous surfacing will be kept in good condition and any future maintenance or replacement of the bituminous surfacing will be the responsibility and sole expense of the Applicant.

3. Applicant will maintain, at its expense, statutory worker's compensation insurance coverage, automobile liability insurance, commercial general liability insurance and professional liability coverage for claims arising from bodily injury, death or property damage which may arise from the negligent performance from Applicant or its employees. Applicant will maintain the following applicable insurance coverages and obligations:

   Commercial General Liability Insurance:
   - $1,500,000 general aggregate
   - $1,000,000 personal injury and advertising injury
   - $1,500,000 each occurrence
   - $5,000 medical expense

   Automobile Liability Insurance:
   - $1,500,000 bodily injury- combined single limit
   - $ 500,000 bodily injury - per claimant

   Worker's Compensation Insurance:
   - Statutory obligations

   The following additional terms shall apply regarding each type of insurance:
   - Nicollet County shall be named as an additional insured on each policy, except Worker's Compensation and Professional Liability Insurance.
   - The insurance carried by Applicant shall be primary insurance and not excess coverage.
   - The insurance specified above shall remain in full force during the complete term of this permit. Applicant shall give the County written notice 30 days prior to any change in or cancellation of any insurance policy.

   Applicant will, upon request, furnish Certificates of Insurance documenting terms of coverages.

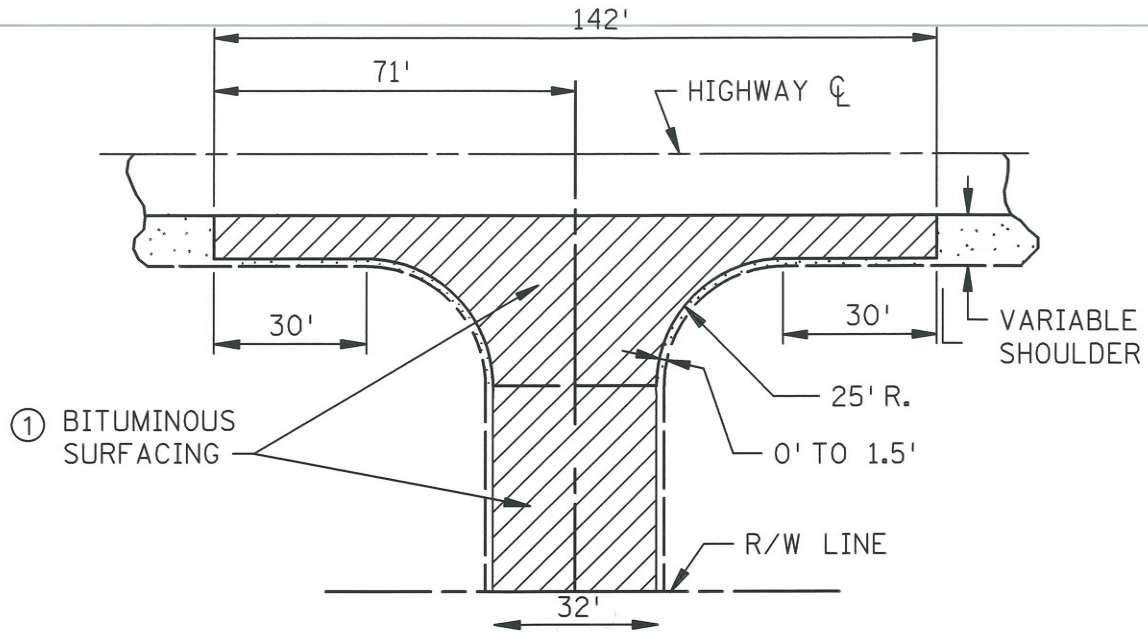
4. Applicant shall submit a traffic control plan for the County Engineer's review and approval before work commences on how CSAH 25 traffic will be protected during the modification/construction of this access. The traffic control plan shall be in conformance with the Mn Manual on Uniform Traffic Control Devices.

5. All disturbed areas shall have a minimum of 6" of topsoil place, be seeded, covered with erosion control blanket, and maintained until turf is established.

6. Any damage to the CSAH 25 concrete pavement will be repaired at the Applicant's sole expense. The County Engineer will determine what the repair will be.

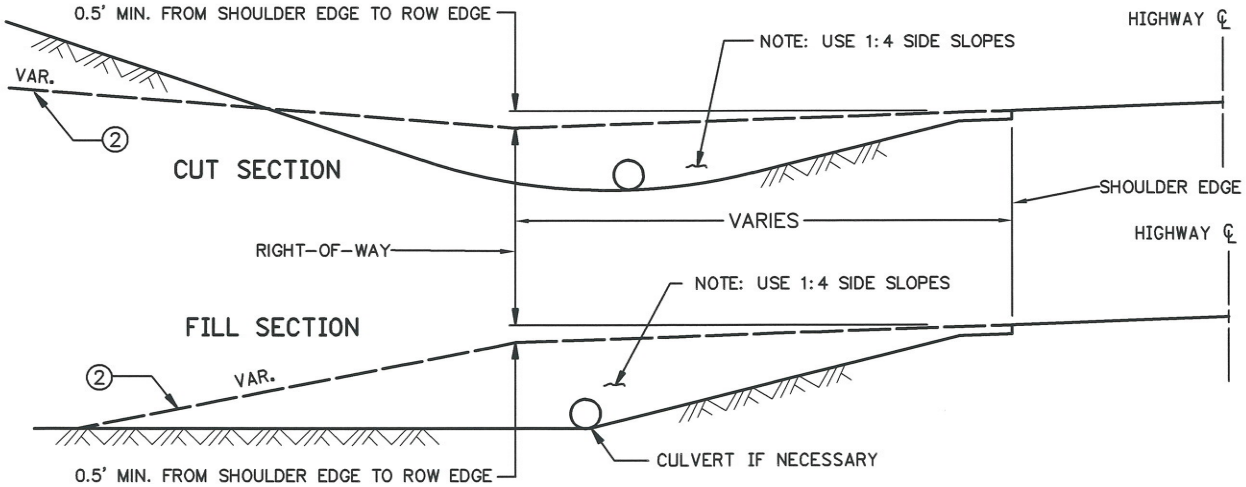
7. Applicant shall notify Nicollet County Public Works Department when work commences.

8. Applicant shall submit a $30,000 deposit to Nicollet County Public Works. Permit is not valid until the deposit is received. Applicant shall notify the Nicollet County Public Works Department when all work is completed so that a final inspection can be made. Upon a successful final inspection, and that it has been determined that the applicant has complied with all terms and conditions of the permit, the $30,000 deposit shall be returned to the applicant.



COMMERCIAL - INDUSTRIAL - ENTRANCES

① BITUMINOUS SURFACING SHALL BE A MINIMUM OF 6" THICK.
② 8% MAXIMUM COMMERCIAL AND INDUSTRIAL.

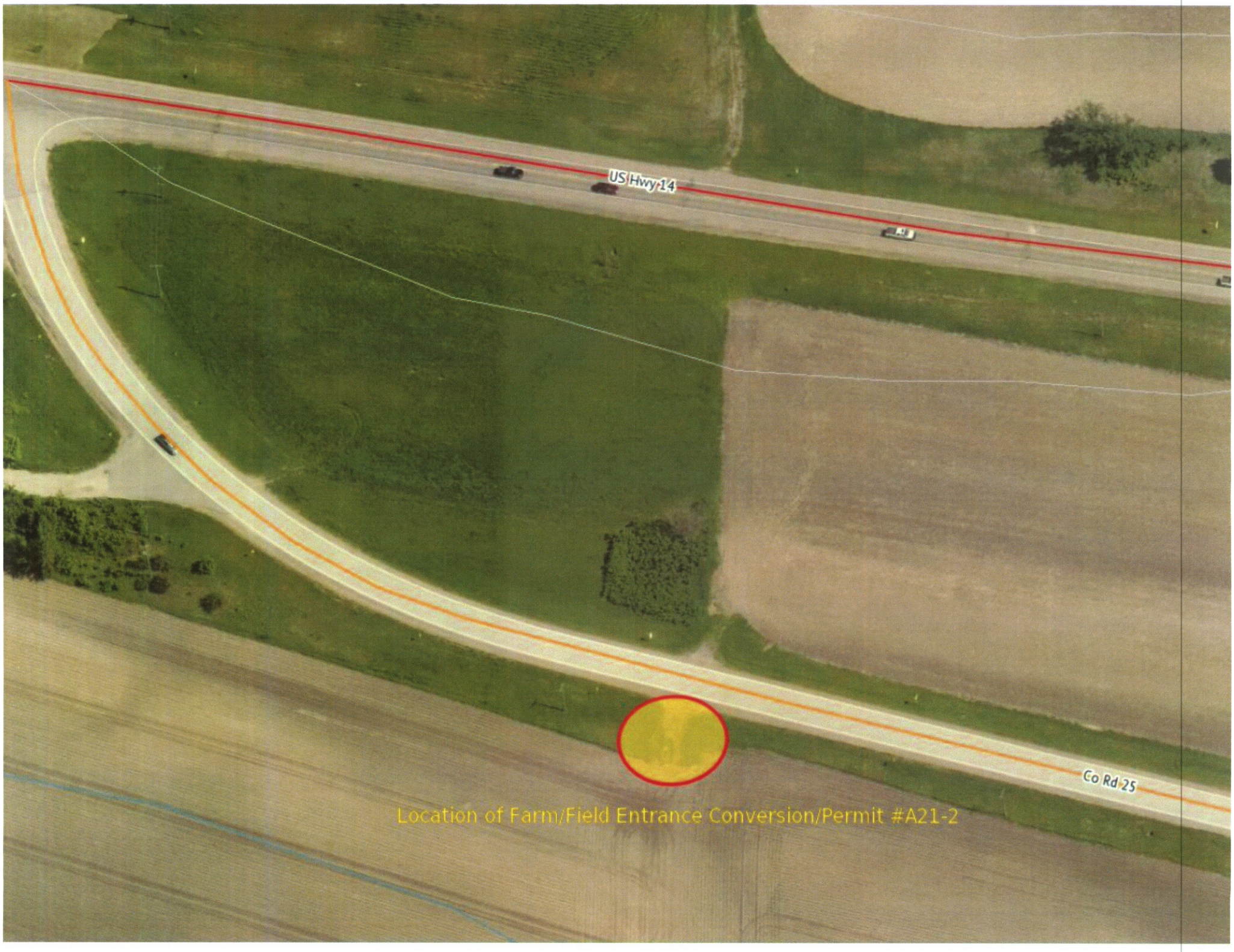


CROSS SECTIONS

NICOLLET EST. COUNTY 1853

ENTRANCE TYPICAL

MAY 2021


US Hwy 14
Co Rd 25
Location of Farm/Field Entrance Conversion/Permit #A21-2

MINNESOTA POLLUTION CONTROL AGENCY

520 Lafayette Road North | St. Paul, Minnesota 55155-4194 | 651-296-6300

800-657-3864 | Use your preferred relay service | info.pca@state.mn.us | Equal Opportunity Employer

May 10, 2024

VIA EMAIL

NICHOLAS LORENTZ
W LORENTZ & SONS CONSTRUCTION
PO BOX 847
MANKATO MN 56001

RE: Final NPDES/SDS Permit - W Lorentz & Sons Construction
Permit No. MNG490596
Courtland Township, Nicollet County, Minnesota

Dear Nicholas Lorentz:

Enclosed is the revised Notice of Coverage for the facility identified above. The Minnesota Pollution Control Agency (MPCA) has prepared this permit in accordance with Minn. Stat. chs. 115, 115A, and 116, and Minn. R. chs. 7000, 7001, and 7035.

The permit has been modified to add coverage for the following site:

LA 005	MNG49 Wastewater	Komatz Pit (J1-1442)	T109N, R26W, S04, SW Quarter

If you have any questions regarding any of the terms and conditions of the final permit, please contact Katherine Kurland at 218-302-6674 or by email at katherine.kurland@state.mn.us.

Sincerely,

Theresa Haugen

Theresa Haugen, Manager
Water and Mining Section
Industrial Division

TH/KK:bg

cc: Medea Myrha, MPCA
Brooke Muhlack, Braun Intertec
Andrew Lorentz, W Lorentz and Sons Construction

ATTACHMENT E.4
MPCA Permit

MINNESOTA POLLUTION CONTROL AGENCY

National Pollutant Discharge Elimination System/State Disposal System

MNG490596

Permittee:	W Lorentz & Sons Construction Inc
Facility name:	W Lorentz Construction
City or Township:	Mankato, **County:** Blue Earth
Issuance date:	June 25, 2021
Expiration date:	May 31, 2027
Modification date:	May 10, 2024

The state of Minnesota, on behalf of its citizens through the Minnesota Pollution Control Agency (MPCA), authorizes the Permittee to operate a disposal system at the facility named above and in accordance with the requirements of this permit.

The goal of this permit is to reduce pollutant levels in point source discharges and protect water quality in accordance with the U.S. Clean Water Act, Minnesota statutes and rules, and federal laws and regulations.

This permit is effective on the issuance date identified above. This permit expires at midnight on the expiration date identified above.

Signature: Theresa Haugen

This document has been electronically signed.

Theresa Haugen, Manager
Water and Mining Section
Industrial Division

for the Minnesota Pollution Control Agency

Submit eDMRs
Submit via the MPCA e-Services at
https://rsp.pca.state.mn.us/TEMPO_RSP/Orchestrate.do?initiate=true

Submit WQ reports to:
Electronically: wq.submittals.mpca@state.mn.us
Include *Water quality submittals form:*
https://www.pca.state.mn.us/sites/default/files/wq-wwprm7-71.docx

Questions on this permit?

- For eDMR and other permit reporting issues, use the directory listed at the bottom of the DMR page: https://www.pca.state.mn.us/business-with-us/discharge-monitoring-reports
- For specific permit requirements, contact your compliance staff: https://www.pca.state.mn.us/business-with-us/wastewater-compliance-and-enforcement-staff
- Wastewater Permit Program general questions, contact: MPCA, 651-282-6143 or 800-657-3938

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1. Summary of stations and station locations

Station	Type of station	Local name	PLS location
LA 001	MNG49 Dewatering, Non-discharging	Drill Pit (J1-1442)	T109N, R29W, S09, NW Quarter
LA 002	MNG49 Wastewater	Brostrom Pit (J1-1442)	T111N, R26W, S32, SE Quarter
LA 003	MNG49 Wastewater	Nelson Pit (J1-1442)	T107N, R27W, S06, NW Quarter
LA 004	MNG49 Wastewater	Gulf Shore Pit (J1-1442)	T110N, R26W, S05, NE Quarter
LA 005	MNG49 Wastewater	Komatz Pit (J1-1442)	T109N, R26W, S04, SW Quarter

2. Permit requirements

MNG490596	W Lorentz & Sons Construction, Inc	
		Non-Metallic Mining and Associated Activities General Permit Requirements
	2.1.1	**Applicability**. [Minn. R. 7001]
	2.1.2	This permit authorizes stormwater discharges associated with the following industrial activities: a. Construction sand and gravel (Standard Industrial Classification [SIC] Code 1442) and industrial sand mining areas (SIC Code 1446) - hereinafter Subsector J1. b. Dimension stone (SIC Code 1411), crushed and broken limestone (SIC Code 1422), crushed and broken granite (SIC Code 1423), crushed and broken stone (not elsewhere classified, SIC Code 1429) mining and quarrying areas - Subsector J2. c. Asphalt production areas, also known as asphalt paving mixtures and blocks (SIC Code 2951), including portable asphalt plants - Subsector D1. d. Concrete block and brick (SIC Code 3271), concrete products other than block and brick (SIC Code 3272), and ready-mix concrete (SIC Code 3273), including portable concrete plants - Subsector E2. e. Recycling and storage of materials approved in Minn. R. 7035.2860 (Beneficial Use of Solid Waste) at sites engaged in facility activities associated with all SIC Codes listed in a. through d. above. f. Activities associated with the above facilities noted, including maintenance activities and facilities, unless otherwise prohibited in this permit. This Permit authorizes stormwater discharges associated with construction activity and small construction activity, as defined in 40 CFR parts 122.26(b)(14)(x) and (b)(15), respectively. The Permittee shall comply with the "Stormwater Discharge Design Requirements" chapter and the "Construction Activity Requirements" chapter of the MPCA Construction Stormwater (CSW) NPDES general permit (https://www.pca.state.mn.us/sites/default/files/wq-strm2-68a.pdf) when conducting construction activity and small construction activity. Earth disturbing activities conducted as a normal part of post-construction use of the permitted facility do not trigger the need for CSW permit coverage. The earth disturbing activity has to be part of a project to build, demolish, or replace a structure (e.g., building, road, pad, pipeline, transmission line) to trigger the need to comply with the CSW permit. Earth disturbance that is a normal part of the long-term use or maintenance of the property is not "active construction" and does not trigger the need for CSW permit coverage. [Minn. R. 7001]
	2.1.3	This permit authorizes non-stormwater discharges to surface waters of the state from dewatering of mine or quarry areas at J1 and J2 Subsectors that meet the effluent limits and requirements in this permit. [Minn. R. 7001]
	2.1.4	This permit authorizes non-stormwater discharges that do not discharge to a surface water of the state provided these discharges are not already authorized in a separate NPDES/SDS permit. Non-stormwater that co-mingles with stormwater is considered a non-stormwater discharge (wastewater) and must be managed compliant with this Permit. To be authorized under this permit, the following discharges must be collected, contained or infiltrate into the ground and Best Management Practices must be implemented to prevent contamination of groundwater: a. Aggregate wash water from Subsector J1 and J2 facilities. b. Dredging operations from Subsector J1 and J2 facilities. c. Installation, construction, and operation of wet scrubbers at asphalt production areas, including portable asphalt plants (Subsector D1). d. Washing trucks, mixers, transport buckets, forms and/or other equipment at concrete block

		and brick, concrete products other than block and brick, and ready-mix concrete facilities (Subsector E2). e. Uncontaminated scale deck wash water that does not use detergents, solvents, or degreasers. f. Stormwater and deck wash water collected in holding tanks under scales. g. Wash water associated with cleaning of mobile equipment that does not use detergents, solvents, or degreasers. h. Waters used for sawing stone or dust control on crushers, conveyors, associated equipment, stockpiles, and site roadways. i. Boiler blowdown and reverse osmosis reject. j. Low or high pressure steam curing. k. Noncontact cooling water used for dryer, pump and air compressor cooling. For wastewater discharges listed above, see the Technology Based Effluent Limits - Non-Stormwater Discharges section of this permit for Wastewater Basin Design and Construction Requirements for newly constructed basins as of the issuance date of this permit. [Minn. R. 7001]
	2.1.5	This permit authorizes non-stormwater discharges provided these discharges are not already authorized in a separate NPDES/SDS permit and that appropriate Best Management Practices are utilized to minimize erosion and the discharges of sediment when necessary: a. Emergency fire-fighting activities. b. Fire hydrant and fire suppression system flushing. c. Potable water line flushing. d. Uncontaminated condensate from air conditioners, coolers, and other compressors and from the outside storage of refrigerated gases or liquids. e. Landscape watering provided all pesticides, herbicides and fertilizers have been applied in accordance with manufacturer's instructions. f. Pavement wash waters where no detergents are used and no spills or leaks of potential pollutants such as fertilizers, salts, or toxic and hazardous materials have occurred unless all spilled material has been removed. g. Routine external building wash down that does not use detergents, solvents, or degreasers. h. Uncontaminated groundwater or spring water. i. Foundation or footing drains where flows are not contaminated. j. Incident windblown mist from cooling towers that collects on rooftops or adjacent portions of the facility, but not intentional discharges from the cooling tower (e.g. 'piped' cooling tower blowdown or drains). [Minn. R. 7001]
	2.1.6	Not all activities covered by this permit will be conducted at each site covered under this permit. Therefore, only those provisions of this permit that address activities occurring at a particular site are applicable to that site. [Minn. R. 7001]
	2.1.7	**Activities Not Covered/Limitations on Coverage**. [Minn. R. 7001]
	2.1.8	This permit does not authorize the discharge from the following activities except as authorized in the Applicability Section of this permit: a. Dewatering of mine or quarry areas other than those under Subsector J1 and J2. b. Surface water discharges of scrubber or other air emissions control wastewater, cooling or boiler wastewater, floor drains from process areas, equipment/vehicle washing, cleaning and maintenance wastewaters, and sewage. c. Contaminated groundwater discharges. d. Petroleum refinement. e. Manufacturing of asphalt or asphalt emulsions. f. Industrial sand mines (SIC 1446) that utilize HF flotation. g. Dredging or filling of wetlands or other surface waters of the state. h. Discharges of hazardous substances, lubricants, fuel leaks, or fuel spills.

		i. Sites for which Environmental Assessment Worksheets or Environmental Impact Statements are required by Minn. R. ch. 116D and/or 42 U.S.C. Sec 4321 - 4370f, until that environmental review is completed. [Minn. R. 7001]
	2.1.9	This permit does not authorize new or expanded discharges that may cause or contribute to a violation of water quality standards unless it meets the requirements of 40 CFR 122.4(i). [40 CFR 122.4(i)]
	2.1.10	This permit does not authorize existing discharges that the MPCA determines will cause or contribute to a violation of water quality standards unless it meets the requirements of 40 CFR 122.44. [40 CFR 122.44]
	2.1.11	This permit does not authorize discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species or adversely modify a designated critical habitat. This permit does not replace or satisfy any review requirements for endangered or threatened species, from new or expanded discharges that adversely impact or contribute to adverse impacts on a listed endangered or threatened species or adversely modify a designed critical habitat. The owner must conduct any required review and coordinate with appropriate agencies for any project with the potential of affecting endangered or threatened species, or their critical habitat. [Minn. R. 7001]
	2.1.12	This permit does not authorize discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites. This permit does not replace or satisfy any review requirements for historic places or archeological sites, from new or expanded discharges which adversely affect properties listed or eligible for listing in the National Register of Historic Places or affecting known or discovered archeological sites. The owner must be in compliance with the National Historic Preservation Act and conduct all required review and coordination related to historic preservation, including significant anthropological sites and any burial sites, with the Minnesota Historic Preservation Officer. [Minn. R. 7001]
	2.1.13	This permit does not authorize discharges to calcareous fens listed in Minn. R. 7050.0335. [Minn. R. 7050.0335]
	2.1.14	Mine site dewatering discharges from Subsectors J1 and J2 to the following receiving waters are not authorized by this permit: a. Outstanding Resource Value Waters (ORVWs) as defined by Minnesota Rules 7050.0335 and as listed in Minnesota Rules 7050.0470; b. Department of Natural Resources (DNR)-designated trout waters (trout waters are designated in Minn. R. 6264.0050, subp. 2 and 4); and c. DNR-posted fish-spawning areas. [Minn. R. 6264.0125]
	2.1.15	**Authorization**. [Minn. R. 7001]
	2.1.16	Permit Application. Owners and operators of a site or sites with covered facility activities identified in this permit, and who provide a complete and approvable application for a permit, are eligible for coverage under this permit for those activities. [Minn. R. 7001]
	2.1.17	**Notice of Coverage**. [Minn. R. 7001]
	2.1.18	Permittees requesting initial coverage are covered under this permit when the MPCA notifies them in writing of this coverage. [Minn. R. 7001]
	2.1.19	Additional sites may be covered under this permit provided that the new site(s) meet all applicability criteria in of this permit and that all information required by the Site Inventory Report Form is submitted to the MPCA at least 10 days prior to initiation of land-disturbing activities at the new site(s) or initiation of operation at a previously developed site. [Minn. R. 7001]
	2.1.20	**Requiring an Individual Permit**. [Minn. R. 7001]
	2.1.21	If the MPCA finds that the facility site of a permit applicant or a Permittee covered under this permit would be more appropriately covered under an individual permit, the MPCA may require an individual permit for the applicant or the Permittee, in accordance with Minn. R. 7001.0210, subp. 6. In considering whether it is appropriate to issue an individual permit for a site, the MPCA will consider whether the site is contributing, or may contribute,

		to a water quality standard violation. [Minn. R. 7001]
	2.1.22	This general permit does not cover activities or discharges covered under a pre-existing individual permit unless the MPCA has specifically revoked or terminated that individual permit. [Minn. R. 7001]
	2.1.23	This general permit does not cover industrial sand mining activities (SIC Code 1446) that: a. Meet or exceed the thresholds for mandatory environmental review and the agency determines the operations, emissions, activities, discharges, or facilities of the permit applicant or permittee have characteristics creating the potential for significant environmental effects; or b. The agency determines the need for site-specific permit requirements including, but not limited to, groundwater monitoring, additional surface discharge monitoring, hydrogeological study, etc. which are beyond those contained in this permit in order to protect waters of the state. If the agency determines that a or b apply, a permit applicant or Permittee shall obtain coverage under an individual permit for the facility site. Sites that are required to obtain individual permit coverage, at the Permittee's request, may be reviewed for general permit eligibility following the first full term of individual permit coverage. [Minn. R. 7001]
	2.1.24	**Notice of Temporarily Inactive Site(s)**. [Minn. R. 7001]
	2.1.25	The Permittee(s) must ensure that permanent stormwater BMPs are in place if the site is temporarily inactive. [Minn. R. 7001]
	2.1.26	During the temporarily inactive period, intervention limit monitoring is not required, but the Permittee must indicate on the Comments field of the Discharge Monitoring Report the inactivity. Should the site become active, the Permittee is required to sample in accordance with the Monitoring Requirements section of the permit for the calendar year the site becomes active. [Minn. R. 7001]
	2.1.27	**Notice of Inactive Site(s)**. [Minn. R. 7001]
	2.1.28	The Permittee(s) must ensure stabilization of the site upon cessation of mining activities. Stabilization shall be initiated immediately after the termination of the mining operation and upon completion the area shall be restored to its intended state. [Minn. R. 7001]
	2.1.29	The Permittee(s) must complete the following to achieve final stabilization: a. The drainage ways that leave the site must be stabilized to prevent erosion with riprap or other protective material. b. All soils must be stabilized by a uniform perennial vegetative cover with a density of 70 percent over the entire pervious surface area, or other equivalent means necessary to prevent soil failure under erosive conditions. c. Temporary BMPs for erosion prevention, such as synthetic liners and silt fences, must be removed. BMPs designed to decompose on site (such as some compost logs) may be left in place. d. All sediment must be removed from conveyances and from temporary sedimentation basins that are to be used as permanent water quality management basins in order to sufficiently return the basin to design capacity. Sediment must be stabilized to prevent it from being washed back into the basin, conveyances or drainage-ways discharging off-site or to surface waters. e. Other BMPs as necessary must be implemented so as to prevent erosion from the site excavation areas and stockpiles that have been used by the Permittee. [Minn. R. 7001]
	2.1.30	In order to have permit coverage terminated and have the Permittee released from inspection, recording and reporting requirements, the Permittee shall ensure and certify on the Site Inventory Form for site(s) where the Permittee no longer conducts the activities authorized by this permit that: a. The site closure achieves final stabilization requirements, or b. There is no longer a discharge of pollutants to waters of the state, including groundwater,

		from activities covered by this permit; or c. The Permittee supplies the name and contact information for the new owner or operator that is responsible for the site. [Minn. R. 7001]
	2.1.31	**Water Quality Based Effluent Limits**. [Minn. R. 7001]
	2.1.32	A wastewater discharge shall not cause or contribute to a violation of water quality standards unless the discharge meets all requirements of 40 CFR 122.44. [40 CFR 122.44]
	2.1.33	The Permittee shall operate and maintain the facility and shall control runoff, including stormwater, from the facility to prevent the exceedance of water quality standards specified in Minnesota Rules, chs. 7050 and 7060. [Minn. R. 7050, Minn. R. 7060]
	2.1.34	The Permittee shall limit and control the use of materials at the facility that may cause exceedances of surface water and groundwater standards specified in Minnesota Rules, chs. 7050 and 7060. These materials include, but are not limited to, detergents and cleaning agents, solvents, chemical dust suppressants, lubricants, fuels, drilling fluids, oils, fertilizers, explosives and blasting agents. [Minn. R. 7050, Minn. R. 7060]
	2.1.35	The MPCA may modify this permit, require corrective actions or take other actions if it determines that a discharge authorized by this permit is causing or contributing to a violation of water quality standards. [Minn. R. 7001]
	2.1.36	Floating solids or visible foam shall not be discharged in other than trace amounts. [Minn. R. 7001]
	2.1.37	Oil or other substances shall not be discharged in amounts that create a visible color film. [Minn. R. 7001]
	2.1.38	Any outlet pipe, culvert or hose outlets for the discharge shall be located on the ground. The Permittee shall install and maintain outlet protection measures, such as properly sized riprap, splash pads or gabions at the discharge stations (outlets) to prevent erosion. [Minn. R. 7001]
	2.1.39	All water from dewatering or basin draining activities must be discharged in a manner that does not cause nuisance conditions, flooding on nearby properties, erosion in receiving channels or on downslope properties, or inundation in a wetland causing adverse impact to the wetland. [Minn. R. 7001]
	2.1.40	**Special Requirements**. [Minn. R. 7001]
	2.1.41	For stormwater discharges with a discharge location that flows to and is within one mile of Outstanding Resource Value Waters (ORVWs) as defined in Minn. R. 7050.0335, subp. 1, 2, 3, and 4 (not including calcareous fens listed in Minn. R. 7050.0335 & Minn. R. 7050.0470) and trout waters as listed in Minn. R. 6264.0050, subp. 2 and 4: a. the Permittee shall develop and implement stormwater control measures, including BMPs that restrict the facility industrial stormwater discharges to the extent necessary to preserve the existing high quality, or to preserve the wilderness, scientific, recreational, or other special characteristics that make the water an Outstanding Resource Value Water. In addition, a stormwater intervention limit value of 65 mg/L for Solids, Total Suspended (TSS) applies to the discharge at a stormwater monitoring location, instead of 100 mg/L as specified in the 'Stormwater Limits and Monitoring Intervention Limits' section of this Permit. If the Permittee has a waiver from the requirements to conduct benchmark monitoring in accordance with the Technology Based Effluent Limits - Stormwater Discharges section of this permit, the benchmark value does not apply. b. if the discharge is to a trout stream, BMPs shall also be designed and implemented to protect the water quality from excess temperature increases. c. if the discharge is to a trout lake, BMPs shall also be designed and implemented to protect the water quality from excess phosphorus increases. d. if the discharge is to a wetland, the Permittee shall also comply with the requirements of Minn. R. 7050.0186 WETLAND STANDARDS AND MITIGATION. [Minn. R. 7050]
	2.1.42	If the site has any stormwater discharges with the potential for significant adverse impacts to a wetland (e.g., conversion of a natural wetland to a stormwater pond), the Permittee must demonstrate that the wetland mitigative sequence has been followed. [Minn. R. 7001]

	2.1.43	If the potential adverse impacts to a wetland on a specific site have been addressed by permits or other approvals from an official statewide program (U.S. Army Corps of Engineers 404 program, Minnesota Department of Natural Resources, or the State of Minnesota Wetland Conservation Act) specifically for the site, the Permittee may use that permit or other determination issued by these agencies to show that the potential adverse impacts have been addressed. For the purposes of this permit, de minimis actions are determinations by the permitting agency that address the site impacts, whereas a non-jurisdictional determination does not address site impacts. [Minn. R. 7001]
	2.1.44	If there are impacts from the site that are not addressed in one of the permits addressed in the Special Requirements section of this permit or other determinations (e.g., permanent inundation or flooding of the wetland, significant degradation of water quality, excavation, filling, draining), the Permittee must minimize all adverse impacts to wetlands by utilizing appropriate measures. Measures used must be based on the nature of the wetland, its vegetative community types and the established hydrology. These measures include in order of preference: a. Avoid all significant adverse impacts to wetlands from site discharges. b. Minimize any unavoidable impacts to wetlands from site discharges. c. Provide compensatory mitigation when the Permittee determines that there is no reasonable and practicable alternative to having a significant adverse impact on a wetland. For compensatory mitigation, wetland restoration or creation shall be of the same type, size and whenever reasonable and practicable in the same watershed as the impacted wetland. [Minn. R. 7001]
	2.1.45	If a site discharges to a water of the state that appears on the current U.S. Environmental Protection Agency (USEPA) approved list of impaired waters under Section 303 (d) of the Clean Water Act (33 U.S.C. Sec 303 (d)), the Permittee must review whether changes may be warranted in the site's Pollution Prevention Plan (Plan) to reduce the impact of the discharge. If an USEPA approved Total Maximum Daily Load (TMDL) has been developed, the Permittee must review the adequacy of the Plan to meet the TMDLs Waste Load Allocation. [Minn. R. 7001]
	2.1.46	**Technology Based Effluent Limits - Stormwater Discharges**. [Minn. R. 7001]
	2.1.47	**Stormwater Management Devices**. [Minn. R. 7001]
	2.1.48	The Permittee is authorized to use industrial stormwater ponds, sedimentation basins and/or infiltration devices for stormwater management. [Minn. R. 7001]
	2.1.49	Industrial stormwater ponds, sedimentation basins and/or infiltration devices shall not be located in areas that receive direct discharges from permanent or stationary vehicle fueling tanks (aboveground or underground storage tanks) and maintenance activity areas (shops), except where adequate secondary containment is provided as required under the SPCC Rule, and/or the basin is designed specifically to satisfy the federal SPCC Rule. Spill prevention and response BMPs shall be implemented in areas where mobile refuelers transfer product. [Minn. R. 7001]
	2.1.50	When wastewater from authorized activities is co-mingled with stormwater, it is considered wastewater, and a surface water discharge is not authorized under this permit. This does not include stormwater co-mingling with mine dewatering from Subsector J1 and J2 facilities, which is approved for a surface water discharge under this permit. [Minn. R. 7001]
	2.1.51	If the Permittee provides documentation to MPCA that the stormwater management device was designed by a registered professional engineer to control a 10-year, 24-hour storm event (based on National Oceanic and Atmospheric Administration Atlas 14, Volume 8 (NOAA Atlas 14, Volume 8)), then no sampling of a discharge is required upon MPCA approval. If the stormwater management device is already in place at an existing facility, the sizing of the device shall be confirmed by a registered professional engineer before the sampling requirement is waived. This does not include unauthorized non-stormwater discharges to surface waters. This waiver is for monitoring only; effluent limits still apply to the discharge and

		Permittees must maintain compliance with the limits. This waiver is only effective for the term of the permit. Permittees must reapply for the waiver every permit term. [Minn. R. 7001]
	2.1.52	**Erosion and Sediment Control Practices**. [Minn. R. 7001]
	2.1.53	Sediment control practices must be established on all down-gradient perimeters and be located up-gradient of any buffer zones. The perimeter sediment control practice must be in place before any up-gradient land disturbing activities begin. Use a range of erosion controls within the broad categories of flow diversion (e.g. swales, berms) and structural controls (e.g. sediment traps, dikes, silt fences). These practices shall remain in place until the site has been stabilized. [Minn. R. 7001]
	2.1.54	The Permittee shall re-install all sediment control practices that have been adjusted or removed to accommodate short-term activities such as clearing or grubbing, or passage of vehicles, immediately after the short-term activity has been completed. Short-term activities shall be completed as quickly as possible. Re-installation of sediment control practices shall be completed no later than the next precipitation event, even if the short-term activity is not complete. [Minn. R. 7001]
	2.1.55	The Permittee(s) shall plan for and implement appropriate BMPs such as construction phasing, vegetative buffer strips, horizontal slope grading, and other construction practices that minimize erosion. The location of areas not to be disturbed shall be delineated (e.g. with flags, stakes, signs, silt fence etc.) on the project site before work begins. [Minn. R. 7001]
	2.1.56	Temporary stockpiles or stripping/overburden stored outside the pit shall have sediment control mechanisms in place until the material is completely removed. Materials shall not be placed in any natural buffers, surface water, or stormwater conveyances such as curb and gutter systems, or conduits and ditches. [Minn. R. 7001]
	2.1.57	Vehicle Tracking. Vehicle tracking of sediment onto paved surfaces from the site or operation must be minimized by BMPs such as stone pads, concrete or steel wash racks, or equivalent systems. Street sweeping must be used if such BMPs are not adequate to prevent sediment from being tracked onto the street. The MPCA Vehicle Tracking factsheet may be used as guidance in BMP development: http://www.pca.state.mn.us/index.php/view-document.html?gid=7419. [Minn. R. 7001]
	2.1.58	Good Housekeeping. Permittees conducting the industrial activities described in this permit shall keep exposed areas that may contribute pollutants to stormwater sufficiently clean to reduce or eliminate contaminated stormwater runoff. [Minn. R. 7001]
	2.1.59	**BMP Maintenance**. [Minn. R. 7001]
	2.1.60	The Permittee shall maintain all BMPs identified in the Pollution Prevention Plan (Plan) and implemented at the facility, to ensure BMP effectiveness. [Minn. R. 7001]
	2.1.61	The Permittee shall develop a schedule for preventive maintenance of all BMPs. The schedule shall be stored with the Plan. [Minn. R. 7001]
	2.1.62	If the Permittee identifies BMPs that are not functioning properly, the Permittee shall replace, maintain, or repair the BMPs within seven (7) calendar days of discovery. If BMP replacement, maintenance, or repair cannot be completed within seven (7) calendar days, the Permittee shall implement effective backup BMPs (temporary or permanent) until effectiveness of the original BMPs can be restored. The Permittee shall document the justification for an extended replacement, maintenance, or repair schedule of the failed BMPs, and store it with the Plan. [Minn. R. 7001]
	2.1.63	The Permittee shall record dates of all maintenance and repairs. The Permittee shall store these records with the Plan. [Minn. R. 7001]
	2.1.64	All silt fences must be repaired, replaced, or supplemented when they become nonfunctional or the sediment reaches 1/2 of the height of the device. These repairs must be made within 24 hours of discovery, or as soon as field conditions allow access. [Minn. R. 7001]
	2.1.65	If sediment escapes the facility, off-site accumulations of sediment must be removed in a manner and at a frequency sufficient to minimize off-site impacts (e.g., fugitive sediment in streets could be washed into storm sewers by the next rain and/or pose a safety hazard to users of public streets). [Minn. R. 7001]

	2.1.66	Temporary and permanent sedimentation basins must have the sediment removed once the depth of sediment collected in the basin reaches 1/2 the storage volume. Removal must be completed within 72 hours of discovery, or as soon as field conditions allow access. [Minn. R. 7001]
	2.1.67	**Spills and Leaks**. [Minn. R. 7001]
	2.1.68	The Permittee shall develop and implement a spill prevention and response procedure. If the site already has a separate plan (e.g. Prevention and Response Plan as required by Minn. Stat. 115E, or Spill Prevention Control and Countermeasure Plan as required by Federal Law), that plan can be incorporated by reference into the Pollution Prevention Plan (Plan). In either case, a minimum of the following components shall be included with the Plan, or in a separate document: a. The Permittee shall report and document spills or leaks (as defined in Minn. Stat. Section 115.061) that occur in exposed areas, or that drain to a monitoring location. b. Material handling procedures, storage requirements, and cleanup equipment/materials and procedures necessary to recover as rapidly and thoroughly as possible spills or leaks pursuant to Minn. Stat. Section 115.061. All methods and procedures must be made available to appropriate site personnel. c. Contact information for individuals and emergency and regulatory agencies that must be notified in the event of a spill. When a spill or discharge of a potentially polluting material occurs, the Permittee shall immediately notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 (toll free) or 651-649-5451 (metro area) per Minn. Stat. Section 115.061. [Minn. Stat. ch. 115]
	2.1.69	**Subsector D1 - Asphalt Production - Additional Spills and Leaks Requirements**. [Minn. R. 7001]
	2.1.70	In addition to the requirements in this Section, the Permittee shall use drip pans and splash guards where spills frequently occur at Subsector D1 facilities. [Minn. R. 7001]
	2.1.71	**Subsector E2 - Ready-Mix and Other Concrete Operations - Additional Spills and Leaks Requirements**. [Minn. R. 7001]
	2.1.72	In addition to the requirements in this Section, the Permittee shall prevent or minimize the discharge of spilled cement, aggregate (including sand or gravel), kiln dust, fly ash, or settled dust from paved portions of the facility that are exposed to stormwater at Subsector E2 facilities. [Minn. R. 7001]
	2.1.73	The Permittee shall determine the frequency of sweeping or equivalent by the amount of industrial activity occurring at Subsector E2 facilities and the frequency of exposure to stormwater, but it shall be performed at least once per week if cement, aggregate, kiln dust, fly ash, or settled dust are being handled or processed and materials are present on paved surfaces. [Minn. R. 7001]
	2.1.74	The Permittee shall also prevent the exposure of fine granular solids (cement, fly ash, kiln dust, etc.) to stormwater, where practicable, by storing these materials in enclosed silos, hoppers, buildings, and under other coverings. [Minn. R. 7001]
	2.1.75	The Permittee shall include measures in the Plan to ensure that process wastewater resulting from washing trucks, mixers, transport buckets, forms, or other equipment are discharged in accordance with applicable parts of this permit for Subsector E2 facilities. [Minn. R. 7001]
	2.1.76	**Technology Based Effluent Limits - Non-Stormwater Discharges**. [Minn. R. 7001]
	2.1.77	**Wastewater Basin Design and Construction Requirements**. [Minn. R. 7001]
	2.1.78	When constructing new (as of the issuance date of this permit) containment basins to infiltrate authorized non-stormwater discharges, not including uncontaminated scale deck wash water that does not use detergents, solvents, or degreasers, wash water associated with cleaning of mobile equipment that does not use detergents, solvents, or degreasers and/or waters used for sawing stone or dust control on crushers, conveyors, associated equipment, stockpiles, and site roadways, of this permit from Subsector J1 and J2 activities, it shall: a. Have at least sufficient capacity to contain all wastewater discharges so as to prevent overflow.

		b. Be constructed to contain the bounce from precipitation and stormwater runoff resulting from a 10-year, 24 hour storm event. Any overflow of the basin shall not discharge to surface water or any storm sewer system. c. Not be constructed in areas that receive direct discharges from permanent or stationary vehicle fueling tanks (underground or aboveground storage tanks) and maintenance activity areas (shops). Spill prevention and response BMPs shall be implemented in areas where mobile refuelers transfer product. [Minn. R. 7001]
	2.1.79	When constructing new (as of the issuance date of this permit) containment basins to infiltrate authorized non-stormwater discharges from Subsector E2 activities, it shall: a. Be designed consistent with accepted engineering practices. Designs shall be approved by a professional engineer or other licensed professional. b. Be constructed and maintained to allow for infiltration of wastewater. Long term soil infiltration rates for new infiltration devices shall not be greater than 1.63 inches per hour unless pretreatment practices are implemented prior to infiltration. c. Be constructed to allow for maximum separation distance from groundwater with a minimum of 3 feet between the bottom of the impoundment and the seasonal high water table. d. Have at least sufficient capacity to contain all wastewater discharges so as to prevent overflow. e. Be constructed to contain the bounce from precipitation and stormwater runoff resulting from a 10-year, 24 hour storm event. Any overflow of the basin shall not discharge to surface water or any storm sewer system. f. Not be constructed in areas with standing water or areas that receive direct discharges from permanent or stationary vehicle fueling tanks (underground or aboveground storage tanks) and maintenance activity areas (shops). Spill prevention and response BMPs shall be implemented in areas where mobile refuelers transfer product. The Permittee shall maintain design documentation to demonstrate containment basins meet the requirements of a-f. [Minn. R. 7001]
	2.1.80	When constructing new (as of the issuance date of this permit) containment basins to infiltrate authorized non-stormwater discharges from Subsector E2 activities, it shall: a. Be designed consistent with accepted engineering practices. Designs shall be approved by a professional engineer or other licensed professional. b. Be constructed and maintained to allow for infiltration of wastewater. Long term soil infiltration rates for new infiltration devices shall not be greater than 1.63 inches per hour unless pretreatment practices are implemented prior to infiltration. c. Be constructed to allow for maximum separation distance from groundwater with a minimum of 3 feet between the bottom of the impoundment and the seasonal high water table. d. Have at least sufficient capacity to contain all wastewater discharges so as to prevent overflow. e. Be constructed to contain the bounce from precipitation and stormwater runoff resulting from a 10-year, 24 hour storm event. Any overflow of the basin shall not discharge to surface water or any storm sewer system. f. Not be constructed in areas with standing water or areas that receive direct discharges from permanent or stationary vehicle fueling tanks (underground or aboveground storage tanks) and maintenance activity areas (shops). Spill prevention and response BMPs shall be implemented in areas where mobile refuelers transfer product. The Permittee shall maintain design documentation to demonstrate containment basins meet the requirements of a-f. [Minn. R. 7001]
	2.1.81	**Karst Topography**. [Minn. R. 7001]

	2.1.82	New Basins. New infiltration devices for authorized non-stormwater discharges are prohibited within 1000 feet up-gradient or 100 feet downgradient of active karst features. [Minn. R. 7001]
	2.1.83	Existing Basins. The design and construction of containment basins shall include additional or different measures as necessary (e.g. impervious liner in pond bottom) to assure compliance with surface and groundwater standards in Minn. R. chs. 7050 and 7060 and to ensure protection of drinking water supply management areas (see Minn. R. 4720.5100, subp. 13). These measures shall be identified in the Pollution Prevention Plan. [Minn. R. 7001]
	2.1.84	**Subsector J1 and J2 - Mine Pit Dewatering to Surface Waters**. [Minn. R. 7001]
	2.1.85	Permittees are authorized to discharge mine site dewatering flow to surface waters if the following conditions are met: a. Discharges only from Subsector J1 and J2 facilities. b. Discharges meet the effluent limits applied in this permit. c. The dewatering discharges do not co-mingle with other process wastewater. d. The dewatering discharges are not to ORVWs, DNR-designated trout waters, and/or DNR-posted fish-spawning areas. e. The Permittee has documented in their Pollution Prevention Plan location and initial flow estimates for surface discharge stations. [Minn. R. 7001]
	2.1.86	Dewatering or basin draining must be discharged to a control device on the project site whenever possible, such as a temporary or permanent sedimentation basin or infiltration device. Discharge from the control device must be visually checked to ensure adequate treatment is obtained and that nuisance conditions (see Minn. R. 7050.0210, subp. 2) will not result from the discharge. [Minn. R. 7001]
	2.1.87	If the Permittee provides documentation to MPCA that the control device was designed by a registered professional engineer to control a 10-year, 24-hour storm event, then no sampling of a discharge is required upon MPCA approval. If the control device is already in place at an existing facility, the sizing of the control device shall be confirmed by a registered professional engineer before the sampling requirement is waived. This includes overflows caused solely by direct rainfall and groundwater seepage. This does not include unauthorized non-stormwater discharges to surface waters. This waiver is for monitoring only; effluent limits still apply to the discharge and Permittees must maintain compliance with the limits. This waiver is only effective for the term of the permit. Permittees must reapply for the waiver every permit term. [Minn. R. 7001]
	2.1.88	If the water cannot be discharged to a control device prior to entering the surface water, it must be treated with the appropriate BMPs, such that the discharge does not adversely affect the receiving water or downstream landowners. [Minn. R. 7001]
	2.1.89	The Permittee(s) must ensure that discharge points are adequately protected from erosion and scour. The discharge must be dispersed over natural riprap, sand bags, plastic sheeting, or other accepted energy dissipation measures. Adequate sedimentation control measures are required for discharge water that contains suspended solids. [Minn. R. 7001]
	2.1.90	Any inlet pipe, culvert or hose for the discharge shall be raised above the ground so that the discharge flow does not draw in and transport solids from the sump area. [Minn. R. 7001]
	2.1.91	**Subsector D1 -Asphalt - BMPs for Wet Scrubber Wastewater**. [Minn. R. 7001]
	2.1.92	This permit authorizes stormwater discharges from asphalt production areas (SIC Code 2951) and/or stormwater discharges from the installation, construction, and/or operation of wet scrubbers at asphalt production plants. This permit does not authorize the discharge of asphalt production wet scrubber wastewater to surface waters or to groundwater. Any discharge to surface water will require an individual NPDES permit. [Minn. R. 7001]
	2.1.93	Wastewater from asphalt production wet scrubbers shall be held within pipes, aboveground tanks or lined impoundments. Pipes and tanks shall be operated and maintained to prevent leaks. Cracks or other failures in pipes or tanks shall be repaired immediately. If pipes are buried, or pipes or tanks are in contact

		with the land surface, they shall be inspected at least once before each operating year to locate and repair cracks or other failures. [Minn. R. 7001]
	2.1.94	An impoundment for containment of wet scrubber wastewater shall meet the design criteria specified in this section. Impoundments that do not meet the criteria in this part may be authorized if requested in writing by the Permittee, and approved in writing by the MPCA, at least 90 days before construction of the impoundment begins. [Minn. R. 7001]
	2.1.95	Construction of impoundments in close proximity to drinking water supplies and other areas subject to contamination should be avoided. A minimum separation of four feet between the top of the impoundment seal and the seasonal high water table shall be maintained. Drain tile under the impoundment shall not be used to permanently lower the water table. A minimum separation of ten feet between the top of the impoundment seal and bedrock formations shall be maintained. Impoundments shall not be constructed on locations with karst topography. [Minn. R. 7001]
	2.1.96	Impoundments shall be constructed utilizing at least a 30-mil-thick continuous Polyvinyl Chloride (PVC) or High Density Polyethylene (HDPE) liner, or a reinforced Portland cement concrete liner. A PVC or HDPE liner, not replaced on an annual basis, shall be covered with at least one-foot depth of finely textured soil. Liquid depths for impoundments shall be designed for a maximum of six feet. [Minn. R. 7001]
	2.1.97	PVC and HDPE liner systems shall be designed and installed in general accordance with the most recent version of MPCA guidance documents High Density Polyethylene Liner Guidance (June 2011) or Polyvinyl Chloride Liner Guidelines (May 2011). [Minn. R. 7001]
	2.1.98	No PVC or HDPE liner panels shall be used at more than one site without the prior written approval of the MPCA. The Permittee shall remove and properly dispose of used PVC and HDPE liner materials in accordance with applicable solid waste statutes and rules. [Minn. R. 7001]
	2.1.99	The subsoil bed for a PVC or HDPE liner shall be sufficiently prepared to ensure that all holes, rocks, stumps and other debris are eliminated. The subsoil shall be sieved or the area raked after grading to provide a smooth, flat surface free of stones and other sharp objects. The subsoil bed shall be sloped at least 1% upward toward the dike, so as to reduce gas and hydrostatic pressures, and to facilitate pumping of the impoundment. [Minn. R. 7001]
	2.1.100	PVC and HDPE liner panels shall be laid out to minimize seams, with an overlap of four to size inches. The PVC or HDPE liner anchor trench shall have a minimum six inch depth and be placed at least nine to twelve inches beyond the slope break at the dike. PVC and HDPE liners shall be installed under the direct supervision of a person experienced in the proper installation of such liners. This person shall inspect all seams on-site for their acceptability prior to the construction certification. [Minn. R. 7001]
	2.1.101	The design of a reinforced Portland cement concrete liner shall be in accordance with the American Concrete Institute (ACI) Manual of Concrete Practice. [Minn. R. 7001]
	2.1.102	The Permittee shall inspect each impoundment for cracks or other failures, at least once each operating year. This inspection shall be conducted after the spring thaw and before the start of the asphalt plant operating season. In addition: a. PVC and HDPE lined impoundments shall complete a water balance test annually after the spring thaw and before the start of the asphalt plant operating season. The water balance test shall be completed in accordance with the MPCA "Prefill and Water Balance Criteria" (December 2010). b. Concrete lined impoundments shall complete water tightness testing at least once per 5 years (once per permit cycle). Water tightness testing for concrete impoundments shall be completed in accordance with the most recent version of ACI 350.1 "Specification for Tightness Testing of Environmental Engineering Concrete Containment Structures." Impoundments that do not pass the water balance or tightness testing may not be placed into service until a passing result is achieved; this may require identifying and repairing problem areas of the impoundment and repeating the testing. The inspector shall prepare a written

		report of each water balance and inspection. Any cracks or other failures shall be repaired immediately, and certified by an engineer registered in Minnesota. [Minn. R. 7001]
	2.1.103	The Permittee shall keep signed copies of the impoundment design plans and specifications, construction certifications, water balance and inspection reports, and repair certifications with the asphalt plant at all times. [Minn. R. 7001]
	2.1.104	The Permittee shall divert surface water runoff around impoundments, prevent erosion, and protect the structural integrity of exterior embankments from failure. [Minn. R. 7001]
	2.1.105	The Permittee shall maintain impoundments during the winter so that ice layers and frost action do not damage the liner effectiveness and integrity. [Minn. R. 7001]
	2.1.106	Sediments that accumulate in asphalt production wet scrubber wastewater containment structures shall be removed in a manner so as to not damage the integrity and effectiveness of the containment structure. The Permittee may dispose of these sediments at a permitted sanitary landfill, through use as road base or subgrade, or through blending into the paving asphalt mixture. The Permittee may use one of the following options for sediment disposal if the MPCA authorizes this specific in writing: a. Leave in-place, b. Use as clean fill, or c. Land spread. The Permittee shall record in writing the volume of sediments removed from asphalt production scrubber disposal systems, and the method and location of the disposal of such materials. [Minn. R. 7001]
	2.1.107	The Permittee may dispose of asphalt production wet scrubber wastewater for the purposes of roadbed preparation or dust control, and in accordance with the following requirements: a. Wastewater may be applied to the surface of unpaved roads or roadbeds only if the asphalt plant is in the process of relocating, has ceased operation for the remainder of the year, or if alterations to the impoundment are needed. b. Wastewater may be applied to the surface of unpaved roads or roadbeds only if that road or roadbed is dry. c. Application to haul roads shall be conducted in such a manner to prevent runoff or prolonged ponding. d. Only the amount of water needed to control or prevent a dust problem may be applied. e. Wastewater used for dust control shall not enter any road ditch, surface water, or wetland. f. Wastewater shall not be applied at a rate greater than one gallon per square yard per year. [Minn. R. 7001]
	2.1.108	Asphalt Ingredients, Burner Fuels and Chemical Additives. If the Permittee proposes to use asphalt ingredients, burner fuels and/or chemical additives other than those designated below, at an asphalt production plant with a wet scrubber, the Permittee shall apply in writing to the MPCA for such approval, no later than 60 days before the planned date of utilization of the non-designated material. The Permittee may use these non-designated materials only with the written approval of the MPCA. The designated materials are: a. Clay, silt, sand, gravel and crushed stone produced from naturally occurring geologic formations, and without chemical additives. b. Recycled asphalt. c. Recycled asphalt saturated felt materials. d. Natural gas, butane, propane and methane. e. Gasoline, kerosene, diesel fuel, jet fuel and fuel oils (No. 1, No. 2, No. 3, No. 4, No. 5, No. 6). f. Petroleum derived waste oil as defined in Minn. R. 7045.0020. g. On-specification used oil fuel, as defined in Minn. R. pt. 7045.0020, except that total halogens shall not exceed 1,000 parts per million in the used oil fuel. h. Asphalt cement (AC).

		i. Hydrated lime. j. Anti-stripping agents approved by the MPCA under this permit. k. Aluminum chloride flocculants. l. Freemont 8201 and anionic polyacrylamide flocculants of similar chemical composition. m. Any mixture of the materials listed in subitems (a) through (l). n. Portland cement concrete. o. Recycled sediments from asphalt plant scrubber operations. p. Fines from asphalt fabric filter operations. q. Silicone. [Minn. R. 7001]
	2.1.109	**Subsector E2 - Ready-Mix and Other Concrete Operations Discharges to Groundwater**. [Minn. R. 7001]
	2.1.110	This permit section is intended to cover process wastewater discharges from concrete product operations. Authorized discharges to groundwater specified in the Applicability Section of this permit are covered under this permit. Any discharge to surface water will require an individual NPDES permit. Wastewater discharges from facilities described by the following Standard Industrial Classification (SIC) codes are authorized: a. Concrete Block and Brick (SIC 3271) b. Concrete Products, N.E.C. (Not Elsewhere Covered) (SIC 3272) c. Ready-Mix Concrete (SIC 3273). [Minn. R. 7001]
	2.1.111	Containment basins shall be constructed in compliance with this permit. [Minn. R. 7001]
	2.1.112	Authorized E2 activity discharge to new containment basins (as of the issuance date of this permit) must meet the following conditions: a. be constructed to allow for maximum separation distance from groundwater with a minimum of 3 feet between the bottom of the impoundment and the seasonal high water table. b. If the wastewater pH of authorized discharges from E2 activities is outside the range of 6.0-9.0 Standard Units (SU), the wastewater must also be passed through an extra soil zone, mixed with other authorized process waters or rinse waters, or held in a lined or sealed basin to prevent infiltration in order to bring the pH within the range of 6.0-9.0 SU before the wastewater mixes with groundwater. [Minn. R. 7001]
	2.1.113	Authorized E2 activity discharge to existing containment basins must meet the following conditions: a. If the wastewater pH of authorized discharges from E2 activities is outside the range of 6.0-9.0 Standard Units (SU), the wastewater must also be passed through a soil zone, mixed with other authorized process waters or rinse waters, or held in a lined or sealed basin to prevent infiltration in order to bring the pH within the range of 6.0-9.0 SU before the wastewater mixes with groundwater. [Minn. R. 7001]
	2.1.114	**Pollution Prevention Plan (Plan)**. [Minn. R. 7001]
	2.1.115	The Permittee shall develop and implement a Pollution Prevention Plan (Plan) to address the specific conditions at the site. The goal of the Plan is to eliminate or minimize contact of stormwater with significant materials that may result in pollution of the runoff, as well as identify and correctly manage non-stormwater discharges. [Minn. R. 7001]
	2.1.116	A Plan shall be developed, implemented, and maintained for each site authorized by this permit. A Plan shall be prepared and maintained in an appropriate and functional manner in accordance with relevant manufacturer specifications and accepted engineering practices. [Minn. R. 7001]
	2.1.117	A Plan shall be completed prior to submitting the permit application for authorization of activities by this permit. Permittees authorized under the previous version of this permit shall modify the Plan to comply with the requirements of this permit prior to submitting the permit application. [Minn. R. 7001]

	2.1.118	A Plan shall be used by the Permittee to document all BMPs used to comply with all control measures required in the Technology Based Effluent Limits sections of this permit. BMPs shall be designed and implemented to address the potential pollutants associated with the activities and materials identified by the Permittee. The documentation shall include a list of all structural and non-structural BMPs designed and implementation at the site. [Minn. R. 7001]
	2.1.119	The Plan shall include documentation of an assessment and inventory/list of materials handled and activities conducted at the site that can potentially be a source of pollutants to stormwater discharges. The assessment shall include but is not limited to the materials and activities identified below: a. Excavation. b. Crushing/Screening. c. Overburden, waste and products stockpiles. d. Raw material and final product storage. e. Waste products. f. Sediment washing. g. Material loading/unloading. h. Areas where spills and leaks may potentially contribute pollutants to stormwater. i. Vehicle and equipment maintenance, washing, and fueling. j. Chemical additives/dust suppressant use. [Minn. R. 7001]
	2.1.120	The Plan for each site shall include an inventory of all chemical additives currently used to treat wastewater and/or stormwater including chemical dust suppressants. This inventory shall include: a. The name of the additive. b. The process for which the additive will be used. c. The proposed method of application, application frequency, and daily average and maximum rates of use. d. The date of MPCA approval. MPCA approval is required for any additives that are new, increasing in usage, or not previously approved. See the Total Facilities Requirements section of this permit and go to the chemical additive webpage at http://www.pca.state.mn.us/index.php/water/water-types-and-programs/wastewater/wastewater-technical-assistance/chemical-additive-approvals.html to find the documents necessary to complete the approval process. [Minn. R. 7001]
	2.1.121	The Plan for each site shall include a site map, which does not need to be a surveyed map, at least to the level of detail indicated on a 7.5-minute U.S. Geological Survey quadrangle map, which identifies: a. Location of the site in relation to surface waters (including the name of the surface water; if the name is not known, indicate that on the map). b. Location of all impaired waters within one mile. The Permittee shall include the name of the impaired water and the impairment (e.g. impaired for biota fish, turbidity, nutrients, etc.). c. Location of all ORVWs, designated trout waters, and wetlands within one mile of the site (Minn. R. 7050.0335, 6264.0050, and 7050.0420). d. Directions of stormwater flow indicated by arrows (including stormwater that is contained/infiltrated on site). e. Location of all discharge points. f. Location of all overflow points from control devices. g. Topography of the area. h. Location of all activities and materials. i. Location of all structural BMPs. j. Location and description of any non-stormwater discharges. k. Dewatering points.

		l. Water supply wells. m. Surface water supply intakes. Portable sites can meet the requirements of g. through m. above by developing general plant configuration maps. [Minn. R. 7001]
	2.1.122	The Plan for each site shall include a site map, which does not need to be a surveyed map, at least to the level of detail indicated on a 7.5-minute U.S. Geological Survey quadrangle map, which identifies: a. Location of the site in relation to surface waters (including the name of the surface water; if the name is not known, indicate that on the map). b. Location of all impaired waters within one mile. The Permittee shall include the name of the impaired water and the impairment (e.g. impaired for biota fish, turbidity, nutrients, etc.). c. Location of all ORVWs, designated trout waters, and wetlands within one mile of the site (Minn. R. 7050.0335, 6264.0050, and 7050.0420). d. Directions of stormwater flow indicated by arrows (including stormwater that is contained/infiltrated on site). e. Location of all discharge points. f. Location of all overflow points from control devices. g. Topography of the area. h. Location of all activities and materials. i. Location of all structural BMPs. j. Location and description of any non-stormwater discharges. k. Dewatering points. l. Water supply wells. m. Surface water supply intakes. Portable sites can meet the requirements of g. through m. above by developing general plant configuration maps. [Minn. R. 7001]
	2.1.123	The Permittee shall review the Plan at least annually and modify the Plan, if: a. There is construction or a change in design, operation, or maintenance at the facility that affects stormwater and wastewater management or compliance with this permit. b. The Permittee has identified a monitoring location from which the discharge flows to, and is within one mile of, an impaired water. c. A routine inspection, compliance evaluation, or visual inspection identified deficiencies in the Plan and/or BMP. d. Additional stormwater and/or wastewater control measures and BMPs are necessary to meet applicable water quality standards or to address exceedances of intervention limits. e. There is an unauthorized discharge from the facility. If the Plan modification is based on a release or unauthorized discharge, include in the modified Plan a description and date of the release, the circumstances leading to the release, actions taken in response to the release, and measures to prevent the recurrence of such releases. Unauthorized releases and discharges are subject to the reporting requirements in the Total Facilities Requirements section of this permit. [Minn. R. 7001]
	2.1.124	The Plan must be kept at the site when the site is Active. If there is no office located on-site, electronic access of the Plan is acceptable. The Plan must be available to the Agency within 72 hours of a request for review. [Minn. R. 7001]
	2.1.125	The Plan shall identify the individual(s) responsible for managing, implementing, maintaining, modifying, and ensuring compliance with the site's Plan, as well as personnel responsible for managing and implementing the Plan. [Minn. R. 7001]
	2.1.126	The Permittee must develop and implement an employee training program to inform appropriate personnel of the components and goals of the Plan. The Plan must also identify periodic dates for such training. [Minn. R. 7001]

	2.1.127	Records of all inspections conducted in accordance with permit requirements shall be maintained within the Plan. [Minn. R. 7001]
	2.1.128	**Subsector D1 - Asphalt - Additional Plan Requirements**. [Minn. R. 7001]
	2.1.129	Asphalt facilities (Subsector D1) must also identify: a. Petroleum storage. b. Fuel Storage. c. Recycled Asphalt Pavement Storage. d. Aggregate Storage. e. Recycled concrete, concrete block and brick crushing and storage. f. Cold Patch Storage. g. Release agent storage and application. [Minn. R. 7001]
	2.1.130	**Subsector E2 - Ready-Mix Operations - Additional Plan Requirements**. [Minn. R. 7001]
	2.1.131	Ready-Mix Operations (Subsector E2) must also identify: a. Bag house or other dust control device. b. Recycle/sediment pond, clarifier, or other device used for the treatment of process wastewater. c. The areas that drain to the treatment device. d. Description of multiple locations of ready-mix and other concrete operations, if applicable. [Minn. R. 7001]
	2.1.132	**Inspection Reports**. [Minn. R. 7001]
	2.1.133	The Permittee shall develop and implement an inspection schedule that includes a minimum of one site inspection per calendar month that the site is an Active Site and staffed. A minimum of one inspection per calendar year shall be conducted during a runoff event. [Minn. R. 7001]
	2.1.134	If the site is Inactive and unstaffed, Temporarily Inactive and unstaffed as defined, or is a site undergoing final stabilization, the Permittee is waived from the requirement to conduct monthly site inspections, but BMPs must be maintained. [Minn. R. 7001]
	2.1.135	All inspections and resulting maintenance must be recorded and retained within the Plan. Records of each inspection and maintenance activity shall include: a. Date and time of inspections. b. Name of person(s) conducting inspections. c. An evaluation of the facility to determine that the Plan accurately reflects conditions as described in the Pollution Prevention Plan. At a minimum, the Permittee shall inspect storage tank areas, waste disposal areas, maintenance areas, loading/unloading areas, and raw material, intermediate product, by-product and final product storage areas. d. An evaluation of all structural and non-structural BMPs to determine effectiveness and proper function. e. An evaluation of the facility to determine whether new exposed significant materials or activities have been added to the site since completion of the Plan. f. Findings of inspections, including recommendations for corrective actions. g. Corrective actions taken (including dates, times, and party completing maintenance activities). [Minn. R. 7001]
	2.1.136	In addition to the inspection requirements of this Section, separately from the required annual runoff event inspection, the Permittee shall ensure that one of the required monthly inspections occurs during a snow melt event. The inspection shall include a visual assessment of the runoff to identify any visible sheens or films that indicate the presence of oil or grease in the discharge. If sheens are present in surface discharges, corrective actions to prevent sheen shall be implemented and documented in the Plan. [Minn. R. 7001]
	2.1.137	**Subsector D1 - Asphalt - Additional Inspection Reports Requirements**. [Minn. R. 7001]
	2.1.138	The operator of an Asphalt Facility shall also inspect the following areas: a. Material storage and handling areas;

		b. Liquid storage tanks; c. Hoppers and silos; d. Vehicle and equipment maintenance, cleaning, and fueling areas; and e. Material handling vehicles, equipment, and processing areas. Ensure that appropriate action is taken in response to the inspection by using follow-up procedures. Document in the Plan the inspections and follow up actions. [Minn. R. 7001]
	2.1.139	**Subsector E2 - Ready-Mix and Other Concrete Operations - Additional Inspection Reports Requirements**. [Minn. R. 7001]
	2.1.140	Dust collection and containment systems shall be included in the site inspections. [Minn. R. 7001]
	2.1.141	**Monitoring Requirements**. [Minn. R. 7001]
	2.1.142	**Stormwater Monitoring**. [Minn. R. 7001]
	2.1.143	Stormwater Monitoring. [Minn. R. 7001]
	2.1.144	The Permittee shall monitor each outfall for all parameters specified in the Limits and Monitoring Section of this permit during stormwater runoff from active site operations. The Permittee shall submit the results of intervention limit monitoring required by this permit on the Discharge Monitoring Report form provided by the Agency. The information must be recorded in the specified areas on the form and in the unit specified. [Minn. R. 7001]
	2.1.145	Two samples shall be collected at each monitoring outfall and analyzed for each intervention limit parameter in a calendar year in order to determine an annual average concentration for each intervention limit parameter. The two samples shall be collected on two separate runoff events, one in the spring and one in the fall, if possible, each calendar year the Permittee is authorized to discharge under this permit. At the Permittee's discretion, more than two samples may be taken during separate runoff events and used to determine the annual average intervention limit(s). For averaging purposes, use a value of zero for any individual sample parameter which is determined to be less than the method detection limit. [Minn. R. 7001]
	2.1.146	If the Permittee is unable to obtain a minimum of two samples, less than two samples may be used to determine the annual average intervention limit(s) for the discharges during the year. However, for each sample that could not be obtained due to weather conditions and/or soil characteristics, the Permittee shall provide an explanation in the Comments section of the Discharge Monitoring Report and submit it to the Agency. [Minn. R. 7001]
	2.1.147	Samples shall be collected during the first 30 minutes of a measurable runoff event at a monitoring outfall and sampling events shall be at least 72 hours apart, to the extent feasible. [Minn. R. 7001]
	2.1.148	The intervention limit monitoring location(s) selected by the Permittee shall be in a location that: a. Is below the most down-gradient BMP from the source of industrial activity or significant materials, but prior to discharging from the Permittee's operational control. b. Minimizes or eliminates sampling of stormwater from off-site sources (run-on). c. Yields a sample that best represents the contribution of pollutants the Permittee is required to monitor for in accordance with this permit and that receives discharge from an area of industrial activities, processes, and significant materials exposed to stormwater. [Minn. R. 7001]
	2.1.149	If the Permittee has identified multiple, but separate, stormwater discharges and each area of discharge is substantially similar in terms of exposure, BMPs, and pollutants discharged, the Permittee may choose one intervention limit monitoring location that is most representative and best allows for obtaining a sample. This is applicable to a single site only. Multiple sites may only choose a substantially similar outfall at a single site. [Minn. R. 7001]
	2.1.150	An exceedance of an applicable annual average intervention limit does not constitute a violation under this permit. However, the Permittee is required to perform any necessary corrective action(s) to address stormwater control measures, including the maintenance or implementation of BMPs, when an exceedance of an applicable intervention limit occurs as

		described below. Failure to respond to an intervention limit exceedance is a violation of the permit. If an exceedance of an intervention limit occurs, modify the Plan and document all corrective actions, including improvements to BMPs, necessary to meet the applicable intervention limits. Modifications and upgrades of the Plan and BMPs shall be initiated immediately, but no later than 14 days beyond discovery of an intervention limit exceedance. The Permittee must install a new or modified control and make it operational as soon as possible. If it is infeasible to complete the installation of a new or modified BMP within 14 calendar days, the Permittee must document why it is infeasible to complete the installation or repair within the 14-day timeframe. The Permittee must also outline a schedule for completing the work, and documentation must be completed as soon as practicable after the 14-day timeframe but no longer than 45 days after discovery. If 45 days is infeasible, the Permittee must complete the installation or repair as soon as practicable and document the reason for delay. All documentation shall be contained within or as an attachment to the Plan. [Minn. R. 7001]
	2.1.151	If the site is Temporarily Inactive during a monitoring permit, intervention limit monitoring is not required, but the Permittee shall indicate on their DMR the inactivity and indicate that permanent stormwater BMPs remain in place. Should the site become active, the Permittee is required to sample in accordance with this Section of the permit for the year the site became active. [Minn. R. 7001]
	2.1.152	If stormwater does not discharge to surface waters, no monitoring is required. If there is no discharge during the sampling period, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report Form. [Minn. R. 7001]
	2.1.153	If the Permittee submits documentation in compliance with this permit and receives approval from MPCA, discharges from the mine dewatering control devices are not required to be sampled. This shall include overflows caused solely by direct rainfall and groundwater seepage. [Minn. R. 7001]
	2.1.154	Stormwater Limits and Monitoring Intervention Limits a. Subsectors J1, J2, D1, and E2: Total Suspended Solids, 100 mg/L. b. Subsector E2: Iron, 1.0 mg/L. [Minn. R. 7001]
	2.1.155	**Mine Dewatering to Surface Waters - Effluent Limit Monitoring**. [Minn. R. 7001]
	2.1.156	If dewatering flows do not discharge to surface waters, no monitoring will be required. If there is no discharge during the sampling period, the Permittee shall check the "No Flow" box and note the conditions on the Discharge Monitoring Report Form. [Minn. R. 7001]
	2.1.157	If the Permittee submits documentation in compliance with this permit and receives approval from MPCA, overflows from the mine pit dewatering control devices are not required to be sampled. This shall include overflows caused solely by direct rainfall and groundwater seepage. [Minn. R. 7001]
	2.1.158	One sample shall be collected quarterly from each monitoring outfall identified and analyzed for each required effluent limit parameters specified in the Limits and Monitoring Section of this permit. The sample(s) shall be collected each calendar quarter the Permittee is authorized to discharge under this permit. [Minn. R. 7001]
	2.1.159	For active mine dewatering, samples shall be representative of the discharge and collected during any measurable event at an outfall. Flow monitoring shall be monitored using a continuous flow monitor or pump-run times. [Minn. R. 7001]
	2.1.160	If the discharge event is an overflow caused by a rainfall event, the sample(s) shall be collected within the first 30 minutes of the measurable runoff event. If it is not possible to collect the sample(s) within the first 30 minutes, the sample(s) shall be collected as soon as practicable after the first 30 minutes and documentation must be included with the Comments field of the Discharge Monitoring Report Form that explains why it was not possible to collect the sample(s) within the first 30 minutes. [Minn. R. 7001]

	2.1.161	Mine Dewatering to Surface Waters - Monitoring for Permit Reissuance. The following parameters shall be sampled and analyzed prior to permit expiration and submitted with the application for permit re-issuance. Samples shall be representative of mine dewatering discharge activity, and must comply with the Total Facilities Requirements section of this permit: a. Total Dissolved Solids. b. Hardness. c. Oil & Grease and surfactants. d. Antimony, arsenic, beryllium, cadmium, chromium, copper, lead, nickel, selenium, silver, thallium, and zinc. e. Aluminum, barium, boron, cobalt, iron, magnesium, manganese, molybdenum, total tin, and total aluminum. [Minn. R. 7001]
	2.1.162	**Total Facilities Requirements**. [Minn. R. 7001]
	2.1.163	Definitions. Refer to the 'Permit Users Manual' found on the MPCA website (www.pca.state.mn.us) for standard definitions. [Minn. R. 7001]
	2.1.164	Incorporation by Reference. The following applicable federal and state laws are incorporated by reference in this permit, are applicable to the Permittee, and are enforceable parts of this permit: 40 CFR pts. 122.41, 122.42, 136, 403 and 503; Minn. R. pts. 7001, 7041, 7045, 7050, 7052, 7053, 7060, and 7080; and Minn. Stat. ch. 115 and 116. [Minn. R. 7001]
	2.1.165	Permittee Responsibility. The Permittee shall perform the actions or conduct the activity authorized by the permit in compliance with the conditions of the permit and, if required, in accordance with the plans and specifications approved by the Agency. [Minn. R. 7001]
	2.1.166	Toxic Discharges Prohibited. Whether or not this permit includes effluent limitations for toxic pollutants, the Permittee shall not discharge a toxic pollutant except according to Code of Federal Regulations, Title 40, sections 400 to 460 and Minnesota Rules 7050, 7052, 7053 and any other applicable MPCA rules. [Minn. R. 7001]
	2.1.167	Nuisance Conditions Prohibited. The Permittee's discharge shall not cause any nuisance conditions including, but not limited to: floating solids, scum and visible oil film, acutely toxic conditions to aquatic life, or other adverse impact on the receiving water. [Minn. R. 7050.0210, Subp. 2]
	2.1.168	Property Rights. This permit does not convey a property right or an exclusive privilege. [Minn. R. 7001]
	2.1.169	Liability Exemption. In issuing this permit, the state and the MPCA assume no responsibility for damage to persons, property, or the environment caused by the activities of the Permittee in the conduct of its actions, including those activities authorized, directed, or undertaken under this permit. To the extent the state and the MPCA may be liable for the activities of its employees, that liability is explicitly limited to that provided in the Tort Claims Act. [Minn. R. 7001]
	2.1.170	The MPCA's issuance of this permit does not obligate the MPCA to enforce local laws, rules, or plans beyond what is authorized by Minnesota Statutes. [Minn. R. 7001]
	2.1.171	Liabilities. The MPCA's issuance of this permit does not release the Permittee from any liability, penalty or duty imposed by Minnesota or federal statutes or rules or local ordinances, except the obligation to obtain the permit. [Minn. R. 7001]
	2.1.172	The issuance of this permit does not prevent the future adoption by the MPCA of pollution control rules, standards, or orders more stringent than those now in existence and does not prevent the enforcement of these rules, standards, or orders against the Permittee. [Minn. R. 7001]
	2.1.173	Severability. The provisions of this permit are severable and, if any provisions of this permit or the application of any provision of this permit to any circumstance are held invalid, the application of such provision to other circumstances and the remainder of this permit shall not be affected thereby. [Minn. R. 7001]

	2.1.174	Compliance with Other Rules and Statutes. The Permittee shall comply with all applicable air quality, solid waste, and hazardous waste statutes and rules in the operation and maintenance of the facility. [Minn. R. 7001]
	2.1.175	Inspection and Entry. When authorized by Minn. Stat. ch. 115.04; 115B.17, subd. 4; and 116.091, and upon presentation of proper credentials, the agency, or an authorized employee or agent of the agency, shall be allowed by the Permittee to enter at reasonable times upon the property of the Permittee to examine and copy books, papers, records, or memoranda pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit; and to conduct surveys and investigations, including sampling or monitoring, pertaining to the construction, modification, or operation of the facility covered by the permit or pertaining to the activity covered by the permit. [Minn. R. 7001]
	2.1.176	Control Users. The Permittee shall regulate the users of its wastewater treatment facility so as to prevent the introduction of pollutants or materials that may result in the inhibition or disruption of the conveyance system, treatment facility or processes, or disposal system that would contribute to the violation of the conditions of this permit or any federal, state or local law or regulation. [Minn. R. 7001]
	2.1.177	**Sampling**. [Minn. R. 7001]
	2.1.178	Representative Sampling. Samples and measurements required by this permit shall be conducted as specified in this permit and shall be representative of the discharge or monitored activity. [40 CFR 122.41(j)(1)]
	2.1.179	Additional Sampling. If the Permittee monitors more frequently than required, the results and the frequency of monitoring shall be reported on the Discharge Monitoring Report (DMR) or another MPCA-approved form for that reporting period. [Minn. R. 7001]
	2.1.180	Certified Laboratory. A laboratory certified by the Minnesota Department of Health and/or registered by the MPCA shall conduct analyses required by this permit. Analyses of dissolved oxygen, pH, temperature, specific conductance, and total residual oxidants (chlorine, bromine) do not need to be completed by a certified laboratory but shall comply with manufacturers specifications for equipment calibration and use. [Minn. R. 4740.2010, Minn. R. 4740.2050 through 2120]
	2.1.181	Sample Preservation and Procedure. Sample preservation and test procedures for the analysis of pollutants shall conform to 40 CFR Part 136 and Minn. R. 7041.3200. [40 CFR 136, Minn. R. 7041.3200]
	2.1.182	Equipment Calibration: Flow meters, pumps, flumes, lift stations or other flow monitoring equipment used for purposes of determining compliance with permit shall be checked and/or calibrated for accuracy at least twice annually. [Minn. R. 7001]
	2.1.183	Maintain Records. The Permittee shall keep the records required by this permit for at least three years, including any calculations, original recordings from automatic monitoring instruments, and laboratory sheets. The Permittee shall extend these record retention periods upon request of the MPCA. The Permittee shall maintain records for each sample and measurement. The records shall include the following information: a. the exact place, date, and time of the sample or measurement; b. the date of analysis; c. the name of the person who performed the sample collection, measurement, analysis, or calculation; d. the analytical techniques, procedures and methods used; and e. the results of the analysis. [Minn. R. 7001]
	2.1.184	Completing Reports. The Permittee shall submit the results of the required sampling and monitoring activities on the forms provided, specified, or approved by the MPCA. The information shall be recorded in the specified areas on those forms and in the units specified. Required forms may include DMR Supplemental/Sample Value Form Individual values for each sample and measurement shall be recorded on the DMR Supplemental/Sample Value Form

		which, if required, will be provided by the MPCA. DMR Supplemental/Sample Value Forms shall be submitted with the appropriate DMRs. You may design and use your own supplemental form; however it shall be approved by the MPCA. Note: Required summary information shall also be recorded on the DMR. Summary information that is submitted ONLY on the DMR Supplemental/Sample Value Form does not comply with the reporting requirements. [Minn. R. 7001]
	2.1.185	Submitting Reports. DMRs, DMR supplemental forms and related attachments must be electronically submitted via the MPCA Online Services Portal after authorization is approved. DMRs and DMR Supplemental Forms shall be electronically submitted by the 21st day of the month following the sampling period or as otherwise specified in this permit. Electronic DMR submittal shall be complete on or before 11:59 PM of the 21st day of the month following the sampling period or as otherwise specified in this permit. A DMR shall be submitted for each required station even if no discharge occurred during the reporting period. Other reports required by this permit shall be postmarked by the date specified in the permit to: MPCA, Attn: WQ Submittals Center, 520 Lafayette Road North, St Paul Minnesota 551554194. [Minn. R. 7001]
	2.1.186	Incomplete or Incorrect Reports. The Permittee shall immediately submit an electronically amended report or DMR to the MPCA upon discovery by the Permittee or notification by the MPCA that it has submitted an incomplete or incorrect report or DMR. The amended report or DMR shall contain the missing or corrected data along with a cover letter explaining the circumstances of the incomplete or incorrect report. If it is impossible to electronically amend the report or DMR, the Permittee shall immediately notify the MPCA and the MPCA will provide direction for the amendment submittals. [Minn. R. 7001]
	2.1.187	Required Signatures. All DMRs, forms, reports, and other documents submitted to the MPCA shall be signed by the Permittee or the duly authorized representative of the Permittee. Minn. R. 7001.0150, subp. 2, item D. The person or persons that sign the DMRs, forms, reports or other documents shall certify that he or she understands and complies with the certification requirements of Minn. R. 7001.0070 and 7001.0540, including the penalties for submitting false information. Technical documents, such as design drawings and specifications and engineering studies required to be submitted as part of a permit application or by permit conditions, shall be certified by a registered professional engineer. [Minn. R. 7001]
	2.1.188	Detection Level. The Permittee shall report monitoring results below the reporting limit (RL) of a particular instrument as "<" the value of the RL. For example, if an instrument has a RL of 0.1 mg/L and a parameter is not detected at a value of 0.1 mg/L or greater, the concentration shall be reported as "<0.1 mg/L." "Non-detected," "undetected," "below detection limit," and "zero" are unacceptable reporting results, and are permit reporting violations. Where sample values are less than the level of detection and the permit requires reporting of an average, the Permittee shall calculate the average as follows: a. If one or more values are greater than the level of detection, substitute zero for all nondetectable values to use in the average calculation. b. If all values are below the level of detection, report the averages as "<" the corresponding level of detection. c. Where one or more sample values are less than the level of detection, and the permit requires reporting of a mass, usually expressed as kg/day, the Permittee shall substitute zero for all nondetectable values. [Minn. R. 7001]
	2.1.189	Records. The Permittee shall, when requested by the Agency, submit within a reasonable time the information and reports that are relevant to the control of pollution regarding the construction, modification, or operation of the facility covered by the permit or regarding the conduct of the activity covered by the permit. [Minn. R. 7001]

	2.1.190	Confidential Information. Except for data determined to be confidential according to Minn. Stat. ch. 116.075, subd. 2, all reports required by this permit shall be available for public inspection. Effluent data shall not be considered confidential. To request the Agency maintain data as confidential, the Permittee shall follow Minn. R. 7000.1300. [Minn. R. 7000.1300]
	2.1.191	**Noncompliance and Enforcement**. [Minn. R. 7001]
	2.1.192	Subject to Enforcement Action and Penalties. Noncompliance with a term or condition of this permit subjects the Permittee to penalties provided by federal and state law set forth in section 309 of the Clean Water Act; United States Code, title 33, section 1319, as amended; and in Minn. Stat. ch. 115.071 and 116.072, including monetary penalties, imprisonment, or both. [Minn. R. 7001]
	2.1.193	Criminal Activity. The Permittee may not knowingly make a false statement, representation, or certification in a record or other document submitted to the Agency. A person who falsifies a report or document submitted to the Agency, or tampers with, or knowingly renders inaccurate a monitoring device or method required to be maintained under this permit is subject to criminal and civil penalties provided by federal and state law. [Minn. R. 7001.0150, Subp. 3(G), Minn. R. 7001.1090, Subp. 1(G and H), Minn. Stat. ch. 609.671, Subp. 1]
	2.1.194	Noncompliance Defense. It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit. [40 CFR 122.41(c)]
	2.1.195	Effluent Violations. If sampling by the Permittee indicates a violation of any discharge limitation specified in this permit, the Permittee shall immediately make every effort to verify the violation by collecting additional samples, if appropriate, investigate the cause of the violation, and take action to prevent future violations. If the permittee discovers that noncompliance with a condition of the permit has occurred which could endanger human health, public drinking water supplies, or the environment, the Permittee shall within 24 hours of the discovery of the noncompliance, orally notify the commissioner and submit a written description of the noncompliance within 5 days of the discovery. The written description shall include items a. through e., as listed below. If the Permittee discovers other non-compliance that does not explicitly endanger human health, public drinking water supplies, or the environment, the non-compliance shall be reported during the next reporting period to the MPCA with its Discharge Monitoring Report (DMR). If no DMR is required within 30 days, the Permittee shall submit a written report within 30 days of the discovery of the noncompliance. This description shall include the following information: a. a description of the event including volume, duration, monitoring results and receiving waters; b. the cause of the event; c. the steps taken to reduce, eliminate and prevent reoccurrence of the event; d. the exact dates and times of the event; and e. steps taken to reduce any adverse impact resulting from the event. [Minn. R. 7001]
	2.1.196	Upset Defense. In the event of temporary noncompliance by the Permittee with an applicable effluent limitation resulting from an upset at the Permittee's facility due to factors beyond the control of the Permittee, the Permittee has an affirmative defense to an enforcement action brought by the Agency as a result of the noncompliance if the Permittee demonstrates by a preponderance of competent evidence: a. the specific cause of the upset; b. that the upset was unintentional; c. that the upset resulted from factors beyond the reasonable control of the Permittee and did not result from operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventative maintenance, or increases in production which are beyond the design capability of the treatment facilities; d. that at the time of the upset the facility was being properly operated;

		e. that the Permittee properly notified the Commissioner of the upset in accordance with Minn. R. 7001.1090, subp. 1, item I; and f. that the Permittee implemented the remedial measures required by Minn. R. 7001.0150, subp. 3, item J. [Minn. R. 7001]
	2.1.197	**Release**. [Minn. R. 7001]
	2.1.198	Unauthorized Releases of Wastewater Prohibited. Except for discharges from outfalls specifically authorized by this permit, overflows, discharges, spills, or other releases of wastewater or materials to the environment, whether intentional or not, are prohibited. However, the MPCA will consider the Permittee's compliance with permit requirements, frequency of release, quantity, type, location, and other relevant factors when determining appropriate action. [40 CFR 122.41, Minn. Stat. ch. 115.061]
	2.1.199	Discovery of a release. Upon discovery of a release, the Permittee shall: a. Take all reasonable steps to immediately end the release. b. Notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 or 651-649-5451 (metro area) immediately upon discovery of the release. You may contact the MPCA during business hours at 800-657-3864 or 651-296-6300 (metro area). c. Recover as rapidly and as thoroughly as possible all substances and materials released or immediately take other action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If the released materials or substances cannot be immediately or completely recovered, the Permittee shall contact the MPCA. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies (such as the Minnesota Department of Natural Resources and/or the Wetland Conservation Act authority) for implementation of additional clean-up or remediation activities in wetland or other sensitive areas. [Minn. R. 7001]
	2.1.200	Sampling of a release. Upon discovery of a release, the Permittee shall: a. Collect representative samples of the release. The Permittee shall sample the release for parameters of concern immediately following discovery of the release. The Permittee may contact the MPCA during business hours to discuss the sampling parameters and protocol. In addition, Fecal Coliform Bacteria samples shall be collected where it is determined by the Permittee that the release contains or may contain sewage. If the release cannot be immediately stopped, the Permittee shall consult with MPCA regarding additional sampling requirements. Samples shall be collected at least, but not limited to, two times per week for as long as the release continues. b. Submit the sampling results on the Release Sampling Form (http://www.pca.state.mn.us/index.php/view-document.html?gid=18867). The Release Sampling Form shall be submitted to the MPCA with the next DMR or within 30 days whichever is sooner. [Minn. R. 7001]
	2.1.201	**Bypass**. [Minn. R. 7001]
	2.1.202	Anticipated bypass. The permittee may allow any bypass to occur which does not cause effluent limitations to be exceeded, but only if the bypass is for essential maintenance to assure efficient operation of the facility. The permittee shall submit prior notice, if possible at least ten days before the date of the bypass to the MPCA. The notice of the need for an anticipated bypass shall include the following information: a. the proposed date and estimated duration of the bypass; b. the alternatives to bypassing; and c. a proposal for effluent sampling during the bypass. Any bypass wastewater shall enter waters of the state from outfalls specifically authorized by this permit. Therefore, samples shall be collected at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent. [40 CFR 122.41(m)(2 and 3), Minn. R. 7001.1090, 1(J)]

	2.1.203	All other bypasses are prohibited. The MPCA may take enforcement action against the Permittee for a bypass, unless the specific conditions described in Minn. R. Ch. 7001.1090 subp. 1, K and 122.41(m)(4)(i) are met. In the event of an unanticipated bypass, the permittee shall: a. Take all reasonable steps to immediately end the bypass. b. Notify the Minnesota Department of Public Safety Duty Officer at 800-422-0798 or 651-649-5451 (metro area) immediately upon commencement of the bypass. You may contact the MPCA during business hours at 800-657-3864 or 651-296-6300 (metro area). c. Immediately take action as may be reasonably possible to minimize or abate pollution to waters of the state or potential impacts to human health caused thereby. If directed by the MPCA, the Permittee shall consult with other local, state or federal agencies for implementation of abatement, clean-up, or remediation activities. d. Only allow bypass wastewater as specified in this section to enter waters of the state from outfalls specifically authorized by this permit. Samples shall be collected at the frequency and location identified in this permit or two times per week for as long as the bypass continues, whichever is more frequent. The permittee shall also follow the reporting requirements for effluent violations as specified in this permit. [40 CFR 122.41(m)(4)i, Minn. R. 7001.1090, 1(K), Minn. Stat. ch. 115.061]
	2.1.204	**Operation and Maintenance**. [Minn. R. 7001]
	2.1.205	The Permittee shall at all times properly operate and maintain the facilities and systems of treatment and control, and the appurtenances related to them which are installed or used by the Permittee to achieve compliance with the conditions of the permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance procedures. The Permittee shall install and maintain appropriate backup or auxiliary facilities if they are necessary to achieve compliance with the conditions of the permit and, for all permits other than hazardous waste facility permits, if these backup or auxiliary facilities are technically and economically feasible Minn. R. 7001.0150. subp. 3, item F. [Minn. R. 7001]
	2.1.206	In the event of a reduction or loss of effective treatment of wastewater at the facility, the Permittee shall control production or curtail its discharges to the extent necessary to maintain compliance with the terms and conditions of this permit. The Permittee shall continue this control or curtailment until the wastewater treatment facility has been restored or until an alternative method of treatment is provided. [Minn. R. 7001]
	2.1.207	Solids Management. The Permittee shall properly store, transport, and dispose of biosolids, septage, sediments, residual solids, filter backwash, screenings, oil, grease, and other substances so that pollutants do not enter surface waters or ground waters of the state. Solids should be disposed of in accordance with local, state and federal requirements. [40 CFR 503, Minn. R. 7041]
	2.1.208	Scheduled Maintenance. The Permittee shall schedule maintenance of the treatment works during non-critical water quality periods to prevent degradation of water quality, except where emergency maintenance is required to prevent a condition that would be detrimental to water quality or human health. [Minn. R. 7001]
	2.1.209	Control Tests. In-plant control tests shall be conducted at a frequency adequate to ensure compliance with the conditions of this permit. [Minn. R. 7001]
	2.1.210	**Changes to the Facility or Permit**. [Minn. R. 7001]
	2.1.211	Permit Modifications. Except as provided under Minnesota Statutes, section 115.07, subdivisions 1 and 3, no person required by statute or rule to obtain a permit may construct, install, modify, or operate the facility to be permitted, nor shall a person commence an activity for which a permit is required by statute or rule until the agency has issued a written permit for the facility or activity. Permittees that propose to make a change to the facility or discharge that requires a permit

		modification shall follow Minn. R. 7001.0190. If the Permittee cannot determine whether a permit modification is needed, the Permittee shall contact the MPCA prior to any action. It is recommended that the application for permit modification be submitted to the MPCA at least 180 days prior to the planned change. [Minn. R. 7001]
	2.1.212	Plans, specifications and MPCA approval are not necessary when maintenance dictates the need for installation of new equipment, provided the equipment is the same design size and has the same design intent. For instance, a broken pipe, lift station pump, aerator, or blower can be replaced with the same design-sized equipment without MPCA approval. If the proposed construction is not expressly authorized by this permit, it may require a permit modification. If the construction project requires an Environmental Assessment Worksheet under Minn. R. 4410, no construction shall begin until a negative declaration is issued and all approvals are received or implemented. [Minn. R. 7001]
	2.1.213	Report Changes. The Permittee shall give advance notice as soon as possible to the MPCA of any substantial changes in operational procedures, activities that may alter the nature or frequency of the discharge, and/or material factors that may affect compliance with the conditions of this permit. [Minn. R. 7001]
	2.1.214	Chemical Additives. The Permittee shall receive prior written approval from the MPCA before increasing the use of a chemical additive authorized by this permit, or using a chemical additive not authorized by this permit, in quantities or concentrations that have the potential to change the characteristics, nature and/or quality of the discharge. The Permittee shall request approval for an increased or new use of a chemical additive at least 60 days, or as soon as possible, before the proposed increased or new use. This written request shall include at least the following information for the proposed additive: a. The process for which the additive will be used; b. Safety Data Sheet (SDS) which shall include aquatic toxicity, human health, and environmental fate information for the proposed additive. The aquatic toxicity information shall include at minimum the results of: a) a 48-hour LC50 or EC50 acute study for a North American freshwater planktonic crustacean (either Ceriodaphnia or Daphnia sp.) and b) a 96-hour LC50 acute study for rainbow trout, bluegill or fathead minnow or another North American freshwater aquatic species other than a planktonic crustacean; c. a complete product use and instruction label; d. the commercial and chemical names and Chemical Abstract Survey (CAS) number for all ingredients in the additive (If the MSDS does not include information on chemical composition, including percentages for each ingredient totaling to 100%, the Permittee shall contact the supplier to have this information provided); and e. The proposed method of application, application frequency, concentration, and daily average and maximum rates of use. Upon review of the information submitted regarding the proposed chemical additive, the MPCA may require additional information be submitted for consideration. This permit may be modified to restrict the use or discharge of a chemical additive and include additional influent and effluent monitoring requirements. Approval for the use of an additive shall not justify the exceedance of any effluent limitation nor shall it be used as a defense against pollutant levels in the discharge causing or contributing to the violation of a water quality standard. [Minn. R. 7001]
	2.1.215	MPCA Initiated Permit Modification, Suspension, or Revocation. The MPCA may modify or revoke and reissue this permit pursuant to Minn. R. 7001.0170. The MPCA may revoke without reissuance this permit pursuant to Minn. R. 7001.0180. [Minn. R. 7001]
	2.1.216	TMDL Impacts. Facilities that discharge to an impaired surface water, watershed or drainage basin may be required to comply with additional permits or permit requirements, including additional restriction or relaxation of limits and monitoring as authorized by the CWA

		303(d)(4)(A) and 40 CFR 122.44.l.2.i., necessary to ensure consistency with the assumptions and requirements of any applicable US EPA approved wasteload allocations resulting from Total Maximum Daily Load (TMDL) studies. [40 CFR 122.44(l)(2)i]
	2.1.217	Permit Transfer. The permit is not transferable to any person without the express written approval of the Agency after compliance with the requirements of Minn. R. 7001.0190. A person to whom the permit has been transferred shall comply with the conditions of the permit. [Minn. R. 7001]
	2.1.218	Facility Closure. The Permittee is responsible for closure and post-closure care of the facility. The Permittee shall notify the MPCA of a significant reduction or cessation of the activities described in this permit at least 180 days before the reduction or cessation. The MPCA may require the Permittee to provide to the MPCA a facility Closure Plan for approval. Facility closure that could result in a potential long-term water quality concern, such as the ongoing discharge of wastewater to surface or ground water, may require a permit modification or reissuance. The MPCA may require the Permittee to establish and maintain financial assurance to ensure performance of certain obligations under this permit, including closure, post-closure care and remedial action at the facility. If financial assurance is required, the amount and type of financial assurance, and proposed modifications to previously MPCA-approved financial assurance, shall be approved by the MPCA. [Minn. Stat. ch. 116.07, Subp. 4]
	2.1.219	Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for permit reissuance: Due by 180 days prior to permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration. If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160): a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit; b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit; c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies. [Minn. R. 7001]
	2.1.220	**Permit Specific Definitions**. [Minn. R. 7001]
	2.1.221	"Active Facility" means a place where work or other activity related to the production of asphalt and ready-mix / concrete products and extraction, removal, or recovery of nonmetallic minerals is being conducted. For surface mines, this definition does not include any land where grading has returned the earth to desired contour and stabilization has begun. This definition is derived from the definition of 'active mining area' found at 40 CFR pt. 440.132(a). [40 CFR 440.132(a), State Definitions]
	2.1.222	"Asphalt cement" means fluxed or unfluxed asphalt specially prepared for direct use in the manufacture of asphalt pavements. [State Definitions]
	2.1.223	"Asphalt Emulsion" means a mixture of asphalt cement, chemical, and water solution. Asphalt emulsions are produced by adding an emulsifying agent to asphalt and water. [State Definitions]
	2.1.224	"Asphalt pavement" means a mixture of asphalt cement (asphalt binder), aggregate, and other additives; may also be referred to as asphalt concrete (AC), bituminous mix (BM), and sometimes asphaltic concrete (HMAC). [State Definitions]
	2.1.225	"Effluent Monitoring Location" for the purposes of this permit means the location(s) within the boundary of the facility where the Permittee will collect mine dewatering and/or authorized non-stormwater discharges. The effluent monitoring location(s) selected by the Permittee shall

		be in a location that: a. Is immediately below the most down-gradient BMP from the specific industrial activity that has a numeric effluent limit, but prior to where the discharge co-mingles with stormwater from other sources. b. Yields a sample that represents the contribution of the pollutants for which the Permittee is required to monitor. [State Definitions]
	2.1.226	"Energy Dissipation" means methods employed at pipe outlets to prevent erosion. Examples include, but are not limited to: concrete aprons, riprap, splash pads, and gabions that are designed to prevent erosion. [State Definitions]
	2.1.227	"Facility" for the purposes of this permit, means land that shares a common border and that has a stormwater discharge associated with industrial activity as defined by 40 CFR Part 122.26(b)(14) with the discharge having a common owner/operator. [40 CFR 122.26(b)(14), State Definitions]
	2.1.228	"Impaired Water" means waters identified as impaired by the Agency, and approved by the USEPA, pursuant to section 303(d) of the Clean Water Act (33 U.S.C. Section 303(d)). [CWA Sect. 303.d, State Definitions]
	2.1.229	"Impoundments" mean topographic depressions designed to hold liquid. [State Definitions]
	2.1.230	"Inactive Facility" means a site or portion of a site where nonmetallic mineral mining and/or milling, asphalt reduction and ready-mix concrete production occurred in the past but is not an Active Facility. The Permittee does not anticipate mining and/or associated activities to occur in the foreseeable future, has requested the permit coverage at this inactive portion be terminated, and the inactive portion is no longer covered by an active mining permit. [State Definitions]
	2.1.231	"Infeasible" means not technologically possible or not economically practicable and achievable in light of the best industry practices. [State Definitions]
	2.1.232	"Infiltration Device" for purposes of this permit, means a device to which industrial stormwater runoff is diverted, collected, or conveyed for the purpose of infiltration. This includes all man-made and natural infiltration areas to which runoff are diverted. An infiltration device does not include the parts of the system that diverts, collects, or conveys stormwater. Incidental infiltration from conveyances such as swales or ditches, including those with erosion prevention devices such as vegetation, silt fence, or fiber bails, is not an infiltration device. However, swales, ditches, or similar devices constructed with stop logs, ditch excavation for storage or other retention devices, which are for the purpose of increased infiltration, are infiltration devices. Wetlands (including types 1 through 8) and other natural surface water bodies are not infiltration devices or parts of infiltration device systems, and cannot be used as infiltration devices, unless mitigated in accordance with applicable state rules. [State Definitions]
	2.1.233	"Karst topography" means an area underlain by fractured carbonate bedrock in which erosion has produced geological characteristics such as: sinkholes; springs, subsurface drainage; caves; sinking streams; dissolutionally enlarged joints (grikes) or bedding planes, and bedrock surface channels (karren). Counties known for karst features include parts of Dakota, Rice, Dodge, and Mower, and most of Goodhue, Olmsted, Winona, Wabasha, Houston and Fillmore. [State Definitions]
	2.1.234	"Mine Pit Dewatering" means any water that is impounded or that collects in the mine and is pumped, drained or otherwise removed from the mine through the efforts of the mine operator. Uncontaminated groundwater and stormwater collecting in a low area in which there is already an existing stormwater outlet for stormwater/seepage by gravity overflow shall not be considered mine pit dewatering. However, if a mine is also used for treatment of process generated wastewater, discharges of commingled water from the facilities shall be deemed discharge of process generated wastewater. [State Definitions]
	2.1.235	"Non-Stormwater Discharge" means any discharge not comprised entirely of stormwater. [State Definitions]

	2.1.236	"Operator" is the person responsible for the overall operation of an industrial facility under Minn. R. pt. 7090.3000. [Minn. R. 7090.3000, State Definitions]
	2.1.237	"Owner" is the person who owns an industrial facility or part of an industrial facility under Minn. R. pt. 7090.3000. [Minn. R. 7090.3000, State Definitions]
	2.1.238	"Person" means any human being, any municipality or other governmental or political subdivision or public agency, any public or private corporation, any partnership, firm, association, or other organization, any receiver, trustee, assignee, agent, or other legal representative of any of the foregoing, or any other legal entity, but does not include the MPCA. [State Definitions]
	2.1.239	"Pipes" mean hollow cylinders or tubes constructed of non-earthen materials. [State Definitions]
	2.1.240	"Pollution Prevention Plan" (Plan) means a plan for stormwater and non-stormwater discharges that include facility-specific activities and actions to, first, identify sources of pollution or contamination at the facility, and second, select and implement BMPs to eliminate or reduce contact of stormwater with significant materials and non-stormwater discharges that may result in polluted runoff from the facility. [State Definitions]
	2.1.241	"Primary Standard Industrial Classification (SIC) Code" for the purposes of this permit, is the SIC code associated with the industrial activity that generates the greatest revenue. If revenue data is not available, the owner/operator shall base the determination on the number of employees engaged in the industrial activity. If it is not possible to determine the primary SIC code using either of these two methods, the owner/operator shall base the determination on the SIC code with the greatest production. The industrial activity that generates the greatest revenue, employs the most personnel, or has the greatest production, is the industrial activity assigned the primary SIC code. [State Definitions]
	2.1.242	"Reclamation" means activities undertaken in compliance with applicable mined land reclamation requirements following the cessation of activities associated with extraction, removal and recovery of nonmetallic minerals, intended to return the land to an appropriate post-mining land use. [State Definitions]
	2.1.243	"Seasonal High Water Table" means the highest level the water table reaches during a given year. Methods of determining the seasonal high water table are given in part 7041.3400, subpart 3. [Minn. R. 7041.0100, Subp. 48]
	2.1.244	"Sediment Control" means methods employed to prevent sediment from leaving the site. Sediment control practices include silt fences, sediment traps, earth dikes, drainage swales, check dams, subsurface drains, pipe slope drains, storm drain inlet protection, and temporary or permanent sedimentation basins. [Minn. R. 7041.0100, Subp. 48, Minn. R. 7041.3400, Subp. 3, State Definitions]
	2.1.245	"Significant Materials" includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under Section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); any chemical the facility is required to report pursuant to Section 313 of the Emergency Planning and Community Right-to-Know Act (EPCRA); fertilizers; pesticides; and waste products such as ashes, slag, and sludge that have the potential to be released with stormwater discharges. When determining whether a material is significant, the physical and chemical characteristics of the material should be considered (e.g. the material's solubility, transportability, and toxicity characteristics) to determine the material's pollution potential. [40 CFR 122.26(b)(12)]
	2.1.246	"Small Construction Activity" means small construction activity as defined in 40 C.F.R. part 122.26(b)(15). Small construction activities include clearing, grading and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. [State Definitions]

	2.1.247	"Stormwater Pond" for purposes of this permit means constructed detention or retention facilities for the treatment of stormwater runoff under the requirements of this permit. This includes permanent ponds, dry ponds, flow equalization ponds (followed by other BMPs), and constructed wetlands. However, natural wetlands (including types 1-8) and other natural surface water bodies are not industrial stormwater ponds, parts of ponds or pond systems, and cannot be used as BMPs for stormwater treatment unless mitigated in accordance with applicable state rules. [State Definitions]
	2.1.248	"Structural BMPs" refers to the installation of devices that will reduce or eliminate pollutants to stormwater through installation of permanent structural devices to treat or control runoff. Examples of structural BMPs include but are not limited to installation of stormwater diversion berms or channels; sedimentation basins (retention or detention basins); oil/water separators; grit chambers; roofs, awnings, or buildings to cover significant material. [State Definitions]
	2.1.249	"Tanks" means a container, vessel, or enclosure designed to contain substances and is constructed of materials such as concrete, steel, plastic, or fiberglass reinforced plastic, and provides structural support. [State Definitions]
	2.1.250	"Temporarily Inactive Facility" means a site or portion of a site where nonmetallic mineral mining and/or milling, asphalt production and ready-mix concrete production occurred in the past but currently are not being actively undertaken and permit coverage is being maintained for the possibility of mining and/or associated activities in the foreseeable future. [State Definitions]
	2.1.251	"Treatment Works" means any plant, disposal field, lagoon, dam, pumping station, constructed drainage ditch or surface water intercepting ditch, or other works not specifically mentioned herein, installed for the purpose of treating, stabilizing or disposing of sewage, industrial waste, or other wastes. For the purposes of this permit, this includes stormwater ponds, sedimentation basins and/or infiltration devices for stormwater management. [Minn. Stat. ch. 115.01, Subd. 21, State Definitions]
	2.1.252	"Water Quality Standards" means those provisions contained in Minn. R Chapters 7050 and 7052. [Minn. R. 7050, Minn. R. 7052, State Definitions]
	2.1.253	"Wetlands" means those areas that are inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas. Constructed wetlands designed for wastewater treatment are not waters of the state. Wetlands must have the following attributes: a. a predominance of hydric soils; b. inundated or saturated by surface water or groundwater at a frequency and duration to support a prevalence of hydrophytic vegetation typically adapted for life in a saturated soil condition; and, c. under normal circumstances support a prevalence of such vegetation. [Minn. R. 7050.0186, Subp. 1(a)B, State Definitions]

3. Submittal action summary

MNG490596	W Lorentz & Sons Construction, Inc	
		Non-Metallic Mining and Associated Activities General Permit Requirements
	3.1.1	Permit Reissuance. If the Permittee desires to continue permit coverage beyond the date of permit expiration, the Permittee shall submit an application for permit reissuance: Due by 180 days prior to permit expiration. If the Permittee does not intend to continue the activities authorized by this permit after the expiration date of this permit, the Permittee shall notify the MPCA in writing at least 180 days before permit expiration. If the Permittee has submitted a timely application for permit reissuance, the Permittee may continue to conduct the activities authorized by this permit, in compliance with the requirements of this permit, until the MPCA takes final action on the application, unless the MPCA determines any of the following (Minn. R. 7001.0040 and 7001.0160): a. The Permittee is not in substantial compliance with the requirements of this permit, or with a stipulation agreement or compliance schedule designed to bring the Permittee into compliance with this permit; b. The MPCA, as a result of an action or failure to act by the Permittee, has been unable to take final action on the application on or before the expiration date of the permit; c. The Permittee has submitted an application with major deficiencies or has failed to properly supplement the application in a timely manner after being informed of deficiencies. [Minn. R. 7001]

4. Limits and monitoring

Subject item	Parameter	Discharge limitations							Monitoring requirements			Notes
		Quantity /Loading avg.	Quantity /Loading max.	Quantity /Loading units	Quality /Conc. min.	Quality /Conc. avg.	Quality /Conc. max.	Quality/ Conc. units	Frequency	Sample type	Effective period	

DISPLAYNAME	MAILINGADDR	MAILINGCITYSTATEZIP
JAMES M & JESSICA A MORRISON	101 HIGH VIEW CT	COURTLAND MN 56021
JAY JANOWSKI	103 HIGH VIEW CT	COURTLAND MN 56021
TIMOTHY C & AMBER E WAIBEL	105 HIGH VIEW CT	COURTLAND MN 56021
DAVID L & BECKY A WILFAHRT	107 HIGH VIEW CT	COURTLAND MN 56021
DEBRA A PIERSON & BRYAN D CLANCY	109 HIGH VIEW CT	COURTLAND MN 56021
DALE M & BETTY M BRAUN	113 HIGH VIEW CT	COURTLAND MN 56021
RALPH W & CAROL A BENTS	116 HIGH VIEW CT	COURTLAND MN 56021
W LORENTZ CONSTRUCTION	125 KINGSWOOD DR	MANKATO MN 56001
JAMES C STOLZ	16 FIEMEYER DR	COURTLAND MN 56021
ULLAND BROTHERS INC	1634 HWY 210	CARLTON MN 55718
DARLENE J BERANEK	166 531ST AVE	COURTLAND MN 56021
HANCOCK CONCRETE PRODUCTS LLC	17 ATLANTIC AVE	HANCOCK MN 56244
SETH GREENWOOD	1700 SUNRISE DRIVE	ST PETER MN 56082
KENNETH A & JANICE E DRILL	28 FIEMEYER DR	COURTLAND MN 56021
BONNIE L BODE REVOCABLE TRUST	4 FIEMEYER DR	COURTLAND MN 56021
TIM HARMENING - COURTLAND TWP	43370 541ST AVE	COURTLAND MN 56021
TAMMY L WILLS	45395 STATE HIGHWAY 99	NICOLLET MN 56074
EVELINE - LE DRILL	52497 US HIGHWAY 14	COURTLAND MN 56021
DARIN & KRISTEN DRILL	52605 506TH ST	COURTLAND MN 56021
CAROL FOLSOM	53038 US HIGHWAY 14	COURTLAND MN 56021
MARVIN R & LISA A DRILL	54 ROSYLN RD	NEW ULM MN 56073
RIVER VALLEY ENTERPRISES LLC	54 ROSYLN RD	NEW ULM MN 56073
LAURA B GROSSMANN	8 FIEMEYER DR	COURTLAND MN 56021
MINNESOTA HARDWOODS LLC	PO BOX 10	COURTLAND MN 56021

ATTACHMENT F
Neighbor Notification List

PLANNING COMMISSION
CRITERIA FOR GRANTING A CONDITIONAL USE PERMIT

Name of Applicant	Andrew Lorentz	**Hearing**	June 10, 2024
Property Owner	River Valley Enterprises, LLC	**Continuation**	N/A
File	PLN24-05	**Commission Member**	_____

Use Request 3-year Mineral Extraction Conditional Use Permit renewal

FINDINGS OF FACT

Authority for issuance of conditional use permits is derived from Minnesota State Statute §394.301 and Nicollet County Zoning Ordinance, Section 505. The conditional use must maintain the health, safety, morals, and general welfare of the community.

1. Given the nature of the land, the requested use is compatible with public health, safety, and general welfare.

YES ☐ NO ☐ REASON: _____

_____

_____

2. The requested use will not create an unreasonably excessive burden on the existing roads or other utilities.

YES ☐ NO ☐ REASON: _____

_____

_____

3. The requested use is compatible with the surrounding area and will not significantly depreciate nearby properties.

YES ☐ NO ☐ REASON: _____

_____

_____

4. The structure and the use shall have an appearance that will not have an unreasonably adverse effect on nearby properties.

YES ☐ NO ☐ REASON: _____

_____

_____

ATTACHMENT G
Criteria for Conditional Use Permit

5. The requested use is consistent with the County Zoning Ordinance.

YES ☐ NO ☐ REASON: _____

_____

_____

6. The requested use is not in conflict with the County Comprehensive Plan.

YES ☐ NO ☐ REASON: _____

_____

_____

7. The requested use will not create an unreasonably adverse effect because of noise, odor, glare, or general unsightliness, for nearby property owners.

YES ☐ NO ☐ REASON: _____

_____

_____

8. The requested use is reasonably related to the existing land use and environment.

YES ☐ NO ☐ REASON: _____

_____

_____

9. There are no apparent unreasonable health risks posed to neighbors or the public in general.

YES ☐ NO ☐ REASON: _____

_____

_____

10. The requested use [<u>will/will not</u>] have adverse effect upon public health, safety and welfare due to the following other factors.

YES ☐ NO ☐ REASON: _____

_____

_____

THE NICOLLET COUNTY PLANNING COMMISSION

☐ RECOMMENDS APPROVAL OF THE REQUEST ☐ RECOMMENDS DENIAL OF THE REQUEST

THIS DECISION WAS BASED UPON

☐ Application ☐ Site visit ☐ Staff Report ☐ Photographs
☐ Information received at public hearing

SPECIAL CONDITIONS ARE LISTED ON THE RECORDED CONDITIONAL USE AND IN THE RECORD.

FACTS SUPPORTING THE ANSWER TO EACH QUESTION ABOVE ARE HEREBY CERTIFIED AS THE FINDINGS OF THE NICOLLET COUNTY PLANNING COMMISSION.

Date: _____ Commission Member: _____

CONDITIONAL USE PERMIT

TO ESTABLISH A LARGE SOLAR ENERGY SYSTEM

Wolf River Electric Company/ Shane & Kimberly J. Wernsing

PLN24-08

NICOLLET COUNTY
PLANNING & ZONING ADVISORY COMMISSION

SUBJECT	Conditional Use Permit; PLN24-08
APPLICANT	Mark Seamon with Wolf River Electric Company
LANDOWNER	Shane & Kimberly J. Wernsing
LOCATION	Southwest ¼ of the Southwest ¼ of 01-109-27 in Nicollet Oshawa Township, located along 475th 381st Ave
PARCEL NO	10.301.1300
EXISTING ZONING	Agricultural Preservation & Conservancy
HEARING DATE	06/10/24
COUNTY BOARD DATE	06/25/24
60 DAYS FROM REQUEST	07/07/24

REQUEST

The Applicant has submitted an after-the-fact request for a conditional use permit to allow a 41,080kW large solar energy system covering 2,288 sq. ft. of land.

EXISTING LANDUSE

The property mostly contains forest and meadow, with a dwelling at the center. Most of the area (including the solar building site) falls into the Agricultural Preservation Zoning District while the eastern and western fringes include the Conservancy Zoning District. The site does not include any naturally occurring wetlands.

SURROUNDING LAND USE

The proposed solar energy system is 2.9 miles southwest of the City of St. Peter and is surrounded by agricultural land and forest. The property abuts Seven-Mile Creek County Park to the south and west. Across 381st Avenue/Oshawa Township 199 to the east, there are three homes on neighboring properties, the nearest of which is located at a distance of 948 feet.

PROJECT DESCRIPTION

Proposal:

The Applicant is seeking an after-the-fact Conditional Use Permit for a 41,080kW large solar energy system location on 2,288 sq. ft. of land. The system was constructed on June 29, 2023 and is intended to be operated indefinitely. The system includes two arrays, totaling 104 mono half-cell black solar modules that each generate 395 Watts. The power generated will supply the property owners' home, with any excess electricity sold directly to BENCO's electrical grid to help power neighboring homes.

Equipment and Proposed Improvements:

- Solar modules
- Microinverter modules
- Support poles
- Switchgear
- Buried cables

Ordinance:

Per the Nicollet County Renewable Energy Ordinance Section 5, the project is considered to be a large, accessory solar energy system. The ordinance defines a large system as having a production capacity of 40 kilowatts or more. The ordinance defines an accessory use system as a system that is secondary to a primary land use on its parcel. Such a system is directly connected to or designed to serve the energy needs of the primary use, but its excess power may be sold to a power company. Decommissioning must occur within 60 days from the end of the system's serviceable life, or if the system becomes discontinued. A system is considered a discontinued use after one year without energy production.

Access:

Access occurs via an existing residential driveway off of Oshawa Township 199/381st Avenue.

Construction:

Construction occurred on June 29, 2023.

Decommissioning:

The arrays do not have a set end of life. Panels will be replaced as needed while support posts will remain the same. If the foundation ever required removal, the Applicant would use a skid steer to remove the support posts. Any future waste material will be collected by Wolf River Electric, who will then send it back to the manufacturer for disposal. The modules' manufacturer, JA Electric Holdings, states in their 2022 Sustainability Report that they disassemble and recycle their waste modules. After decommissioning, any disturbed soil would be replaced with black dirt and grass seed. A decommissioning would cost between 500 and 2,000 dollars.

Design:

The arrays do not include any impervious surface as they are supported by auger posts drilled into the ground. The auger posts were designed for weak to moderate strength soils with high water tables. Above ground, each array is supported by a rows of posts with differing height to achieve an inclines of 35 degrees. The highest side of the panels remains under the 20-foot standard established in Section 903 of the Renewable Energy Ordinance. The system will continue to meet this standard as it is stationary and does not shift its tilt. Each solar module relies on its own microinverter module to convert electricity from direct current to indirect current.

The switchgear for the system is located on the wall of the primary residence and receives electricity from the arrays via two buried cables. The system has a built-in rapid shutdown function with multiple disconnection switches at ground level as well as fuses to prevent current overload.

Groundcover and Ground Maintenance:

Aerial imagery from June of 2023 indicates that the project's installation generated relatively little ground disturbance. Since support rests on dispersed posts without any kind of cement slab, the area under the panels has maintained the prairie grasses found on the surrounding property. Groundcover would be reseeded with grass in the event of any future decommissioning.

Drainage:

Drainage issues are not anticipated as the auger post support system means the system has minimal impervious surface. The total area of the two arrays is only 2,288 sq. ft., or approximately 0.05 acre, which is well under the 1 acre threshold that would have required a MPCA Construction Permit. The parcel characteristics also reduce runoff as the building site is fairly flat with established prairie grass assisting water absorption. The nearest bluff is located at a distance of over 320 feet. A nearby manmade pond also has the potential to retain any excess runoff.

Utility Inter connection:

The Applicant has provided staff with a copy of their interconnection agree with BENCO Electric, which states that the system was tested and found to be in compliance with BENCO's requirements, granting it the ability run in extended parallel with BENCO. The diagram shows the utility disconnects where the solar system connects with BENCO's system in the switchgear. The plans also state that BENCO has 24-hour keyless access to utility equipment and that equipment spacing meets their 10-foot accessibility standard.

Operations and Maintenance:

Maintenance is anticipated to be minimal as the Applicant states that panels are highly durable. System specifications show that panels will only lose 15.2% of their productive capacity over 25-years.

Parking:

Any parking for future maintenance would take place on property owner's existing parking area or driveway.

Screening:

No screening is proposed at this time. Section 909.6 of the Renewable Energy Ordinance states that vegetative screening may be required as a part of the conditions for approval. However, in this

case, the panels are located 948 feet from the nearest neighboring dwelling. The panels are also surrounded by prairie grasses that somewhat reduce their conspicuousness.

Setbacks:

Setback	Required	Proposed
Northern Front Yard	35’	740’
Eastern Front Yard	20’	557’
Western Side Yard	20’	502’
Southern Side Yard	20’	557’
Bluff	30’	326’

Wetlands:

The National Wetland Inventory does depict any wetlands on the property and Nicollet County’s Environmental Specialist has confirmed that the property’s current ponds are manmade.

MINNESOTA POLLUTION CONTROL AGENCY

The Applicant would not have been required will be required to obtain an MPCA Construction Stormwater Permit because the system does not results in the creation of one or more acres of impervious surface.

NEIGHBOR NOTIFICATION

Property owners were notified of the request per the standards of Section 505.3 of the Zoning Ordinance and Minnesota State Statute 394.26.

CONDITIONAL USE PERMIT CRITERIA

1. **Given the nature of the land, the requested use is compatible with the general welfare, public health and safety.**

    - Large solar energy systems are a conditionally permitted use in the Agricultural Preservation Zoning District.
    - The proposal meets the applicable setbacks and standards of both the Renewable Energy Ordinance and the Zoning Ordinance.

2. **The requested use will not create an unreasonably excessive burden on the existing roads or utilities.**

    - The size and function of the system is not unreasonable for the proposed location.
    - It appears the burden on public infrastructure is negligible.
    - The facility utilizes existing BENCO infrastructure.
    - The site’s minimal maintenance means that it will not generate regular trips on 381st Avenue.
    - The property has room for any future maintenance vehicle to park.

- The facility does not require sewer or water services.

3. **The requested use is compatible with the surrounding area and will not significantly depreciate nearby properties.**

    - The proposal meets the minimum setback requirements.
    - The system meets the height standard
    - The proposal's setbacks and existing grassland reduce its visibility from neighboring properties.

4. **The structure and the use shall have an appearance that will not have an unreasonably adverse effect on nearby properties.**

    - The system will produce no noxious odors or noises and no harmful byproducts.
    - The modules are designed to absorb rather than reflect sunlight.
    - The construction of the site left existing ground cover intact.
    - The arrays have a lot profile that helps reduce their visibility.

5. **The requested use is consistent with the Nicollet County Land Use Ordinances.**

    - Section 602.3 of the Zoning Ordinance states large solar energy systems are a conditional use in the Agricultural Preservation zoning district.
    - The proposal meets the setbacks and standards of Sections 7 and 9 of the Renewable Energy Ordinance.

6. **The requested use is not in conflict with the Nicollet County Comprehensive Plan.**

    - The Applicant has provided a decommissioning plan.
    - Following decommissioning the project site can easily restored to its former meadow condition as the support system resulted in minimal impact.
    - There is reference to solar in the comprehensive plan.

7. **The requested use will not create an unreasonably adverse effect because of noise, odor, glare, or general unsightliness, for nearby property owners.**

    - The facility has maintained existing turf cover underneath the panels.
    - The system will not produce any odors, noises, or harmful byproducts.
    - Glare is expected to be minimal as the modules are designed to absorb rather than reflect sunlight.
    - The system meets the height standard
    - The panels are situated a significant distance from property lines, which helps reduce their visibility.

8. **The requested use is reasonably related to the existing land use and environment.**

    - In the Agricultural Preservation zone, large solar energy systems are a conditional use.

9. **There are no apparent unreasonable health risks posed to neighbors or the public in general.**

    - The system will produce no noxious odors or noises, and no harmful byproducts.
    - Power lines are located underground between the utility pad and the panels.
    - The system is passive and requires minimal maintenance.
    - The proposal meets the applicable setbacks.
    - The system has built-in protections to shut down in the event of a power surge.
    - The system has multiple switches to shut down in case of emergency.

10. **The requested use will/will not have an adverse effect upon public health, safety and welfare due to the following other factors:**

    - The request is proposed to meet county standards, with no apparent adverse effects to the public health, safety, and welfare.

RECOMMENDATIONS

It appears the request meets all ten conditional use permit criteria. The granting of a conditional use permit from Sections 505 and 602.3 of the Zoning Ordinance, and from Sections 7 and 9 of the Renewable Energy Ordinance, would seem to meet the necessary requirements set forth in Section 505.1, Criteria for Granting Conditional Use Permits.

1. The Applicant will maintain the project according to the plans and specifications submitted to the county with the application.

2. The Applicant will obtain an after-the-fact zoning permit.

3. The property owner will obtain a septic compliance inspection, per Zoning Ordinance 734.8, by July 8, 2024.

4. The conditional use permit will be periodically reviewed by the county to assure compliance with the permit and permit conditions.

5. The county may enter onto the premises at reasonable times and in a reasonable manner to ensure the permit holder is in compliance with the conditions and all other applicable statutes, rules, and ordinances.

6. Parking and/or material storage is prohibited within the right-of-way.

7. Future maintenance or decommissioning activities shall not result in debris, mud, or other materials accumulating on public roadways. Any such accumulation shall be removed immediately by the Applicant.

8. Any structural alteration, expansion, intensification of use, or similar change shall be treated in the same manner as a request for a new conditional use permit.

9. The existing groundcover of prairie grasses must be maintained by the Applicant, or their successors, throughout the lifespan of the system.

10. The project must comply with the Minnesota Noxious Weed Law, Minnesota Statues, Chapter 18, Section 18.75 through 18.88.

11. The disposal of solid waste associated with the construction of the solar energy system must meet all applicable regulations, including the Nicollet County Solid Waste Ordinance and Minnesota Pollution Control Agency Rules.

12. The Applicant must submit a formal version of its decommissioning plan by July 8, 2024.

13. Decommissioning of the system must occur within 60 days from either the end of the system's serviceable life, or the point at which the system becomes a discontinued use, per Section 909 of the Renewable Energy Ordinance.

Applicant: Mark Seamon
Landowner: Shane E. & Kimberly J. Wernsing

PLN24-05

ATTACHMENT A	**Application**
ATTACHMENT B	**Location Map**
ATTACHMENT C	**Site Map**
ATTACHMENT D	**Site Photographs**
ATTACHMENT E	**Submitted by Applicant**
ATTACHMENT F	**Criteria for Conditional List**
ATTACHMENT G	**Criteria for Conditional Use Permit**

NICOLLET COUNTY EST. 1853

PROPERTY SERVICES DIVISION
501 S MINNESOTA AVENUE, SAINT PETER, MN 56082
507-934-7070

PLANNING & ZONING ADVISORY COMMISSION APPLICATION

TOTAL FEES: **$1,296.00**

Parcel#: 10.301.1300
Permit#: PLN24-08
Date: 4/29/2024

Applicant: Mark Seamon
Telephone: 612-615-9887
Owner: SHANE E & KIMBERLY J WERNSING
Property Address: 46672 381ST AVE,SAINT PETER, MN 56082
Abbreviated Legal Description: SW 1/4 OF SW 1/4 "EX PT LYING E OF RD"
Township: Oshawa Township
Zoning District(s): AGRICULTURAL
Hearing Date:

Record Type: Conditional Use Permit
Subtype: New
Category: Solar Energy System - Large
Description: 41 KW SOLAR ENERGY SYSTEM

ATTACHMENT A
Application

Copies of the meeting agenda and packet are available on the Nicollet County website: co.nicollet.mn.us/AgendaCenter
Questions regarding the hearing can be directed to: *John Zehnder, Zoning Specialist*
507-934-7076
john.zehnder@co.nicollet.mn.us

Mark Seamon	May 8, 2024		4/29/24
APPLICANT SIGNATURE	**DATE**	**PROPERTY SERVICES**	**DATE**

PLN24-08 Application

Final Audit Report 2024-05-08

Created:	2024-04-29
By:	John Zehnder (John.Zehnder@co.nicollet.mn.us)
Status:	Signed
Transaction ID:	CBJCHBCAABAAp3_RxrCwzYZEnT0K8mugya8YXBE8Fm-A

"PLN24-08 Application" History

Document created by John Zehnder (John.Zehnder@co.nicollet.mn.us)
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Document emailed to Mark Seamon (mark.s@wolfriverelectric.com) for signature
2024-04-29 - 8:49:11 PM GMT

Email viewed by Mark Seamon (mark.s@wolfriverelectric.com)
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Document e-signed by Mark Seamon (mark.s@wolfriverelectric.com)
Signature Date: 2024-05-08 - 8:41:01 PM GMT - Time Source: server- IP address: 98.97.12.67

Agreement completed.
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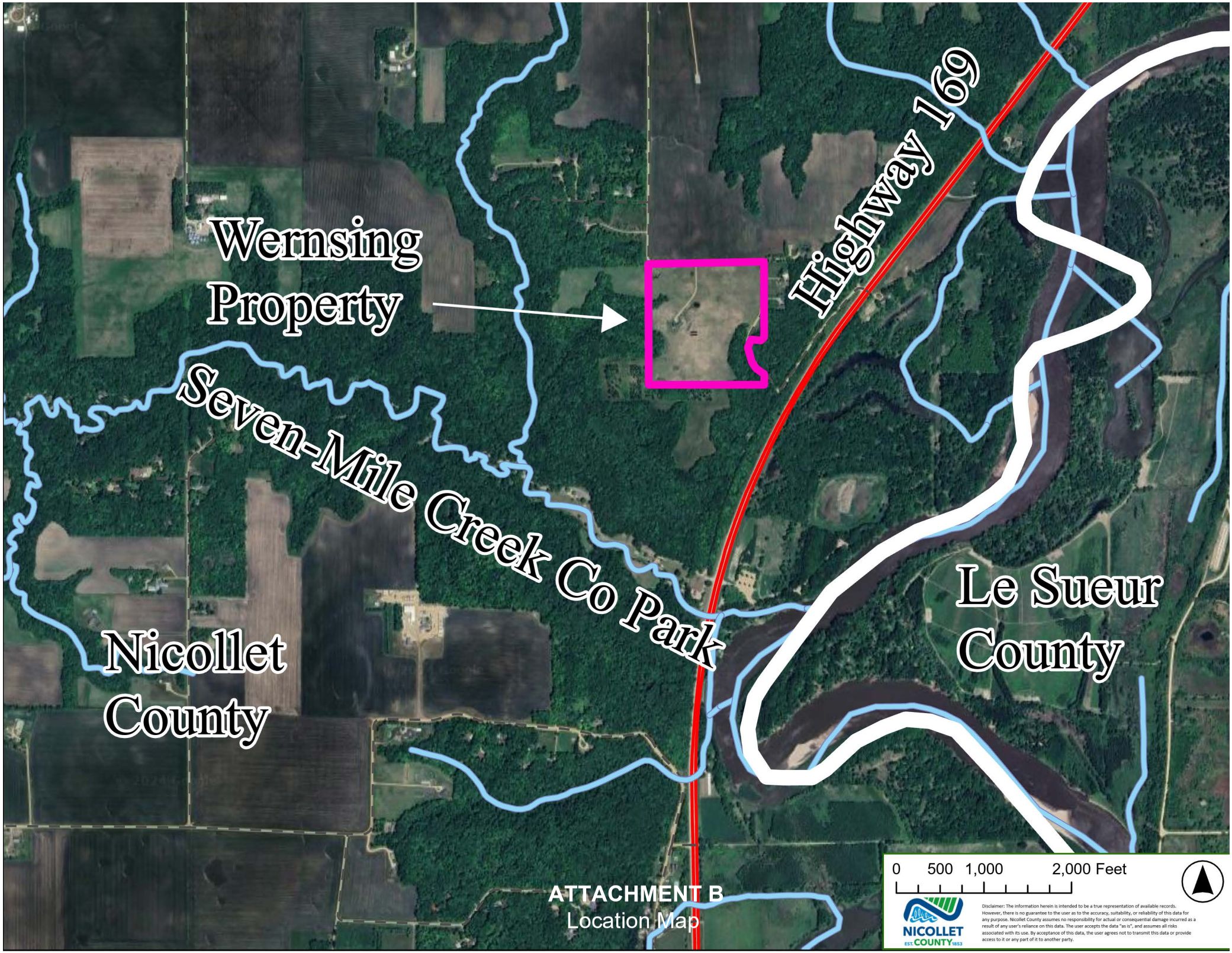
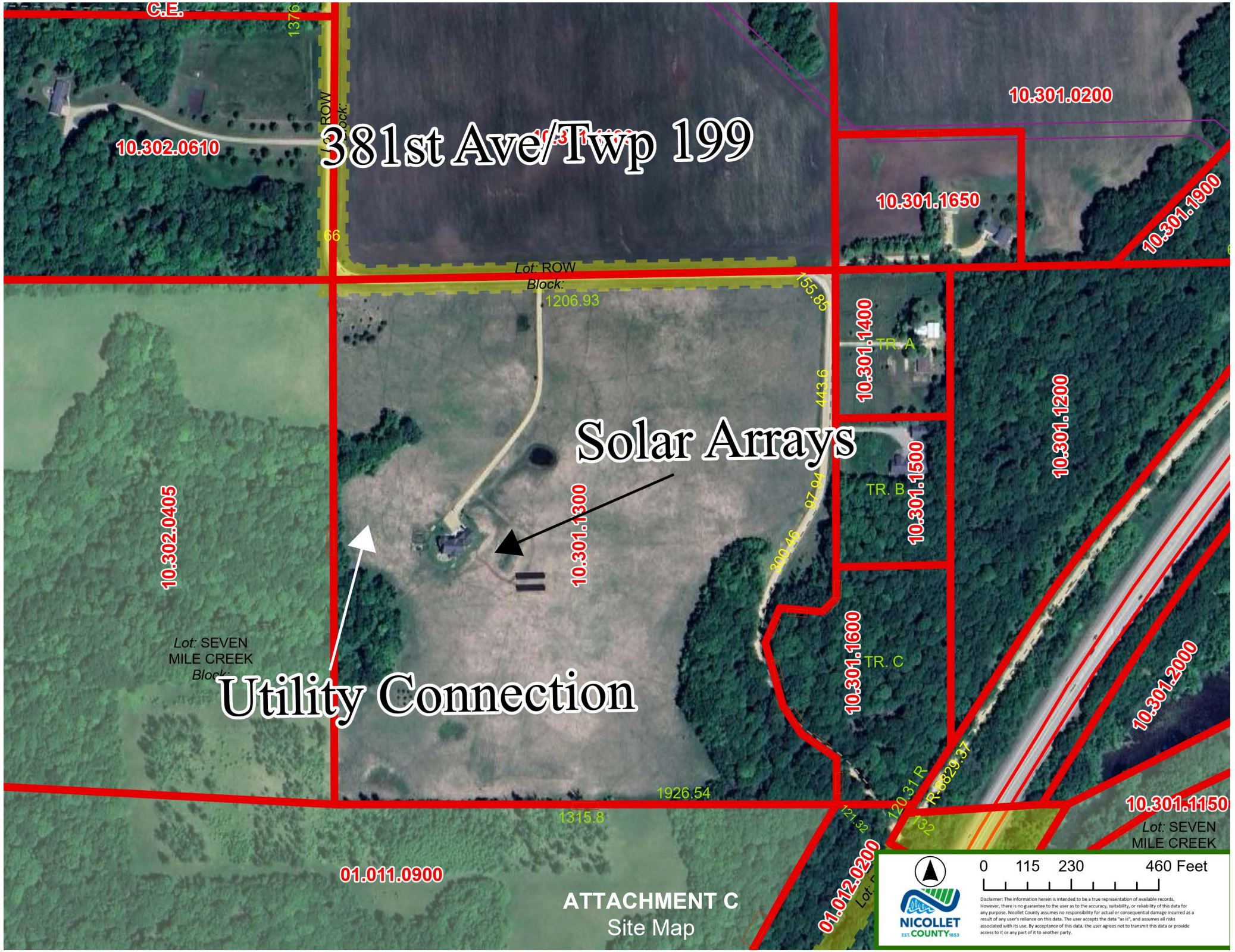


ATTACHMENT B
Location Map

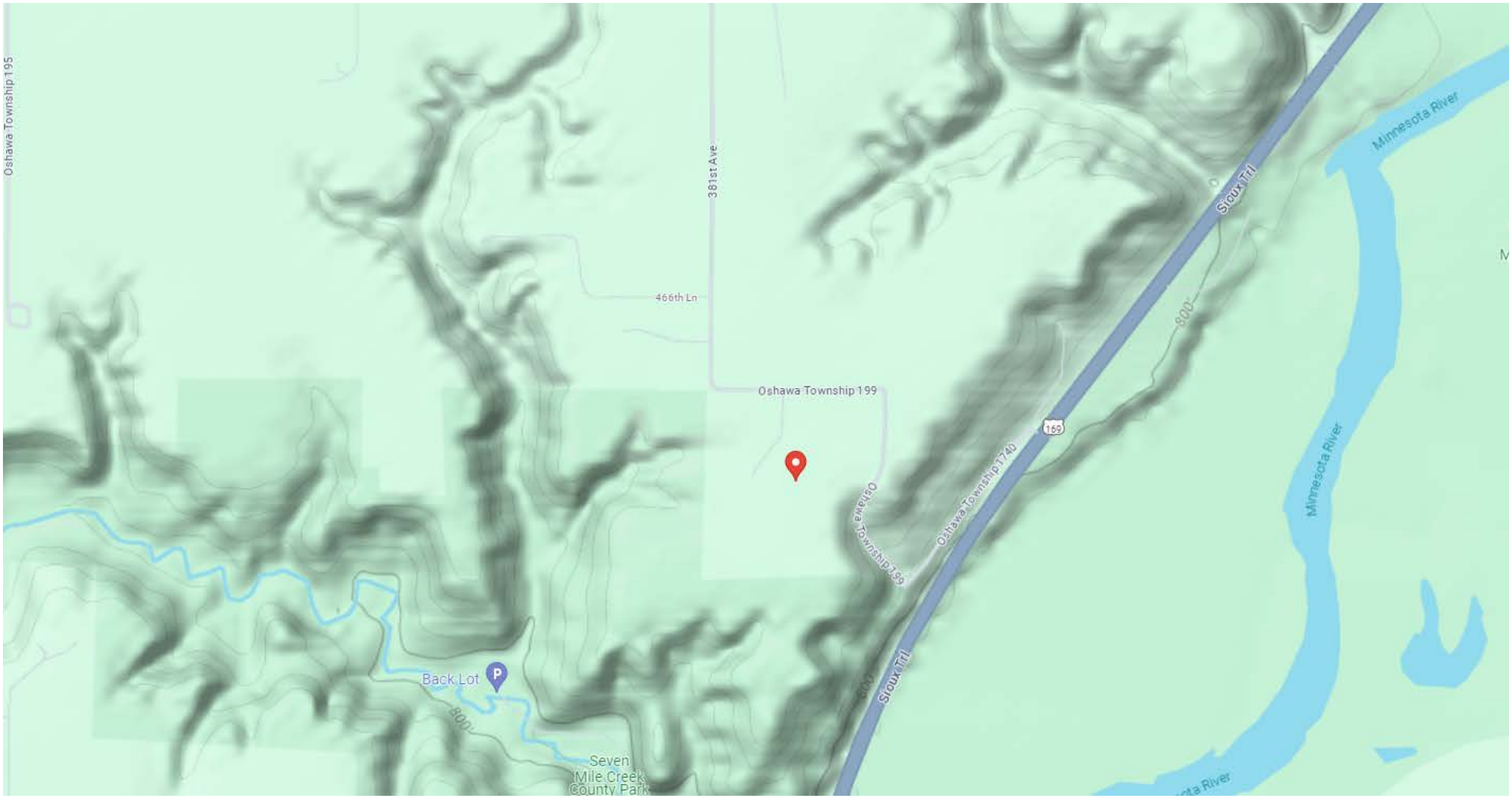


ATTACHMENT C
Site Map

ATTACHMENT D
Site Photographs

05 24 2024

05 24 2024



ATTACHMENT E
Submitted by Applicant

Message Content

×

Shane,

BENCO completed a commissioning test on your DER (Solar) system. The DER was found to be in compliance with BENCO's requirements. You have approval to operate your DER system in extended parallel with BENCO per the contract.

Please let me know if you have any questions.

Thank you,

Jon Wheelock
(507) 779-7272
BENCO Electric Cooperative

Close

GENERAL NOTES

1. *All electrical materials shall be new and listed by recognized electrical testing laboratory*
   Custom made equipment shall have complete test data submitted by the manufacturer attesting to its safety
2. *Outdoor equipment shall be NEMA 3R rated or equivalent*
3. *All metallic equipment shall be grounded*
4. *Contractor shall obtain electrical permits prior to installation and shall coordinate all inspections, testing commissioning and acceptance with the client,*
   utility co. and city inspectors as needed.
5. *The electrical contractor shall verify the exact locations of service points and service sizes with the serving utility company and comply with all utility companies requirements.*
6. *Drawings are diagrammatic only, routing of raceways shall be option of the contractor unless otherwise noted and shall be coordinated with other trades.*
7. *If the roof material or the roof structure not adequate for PV installation, call the engineer of record prior to installation. The contractor is responsible to verify that the roof is capable of withstanding the extra weight.*
8. *If the distances for cable runs are different than shown, the contractor shall notify the electrical engineer to validate the wire size. Final drawings will be red-lined and updated as appropriate.*
9. *Whenever a discrepancy in quality of equipment arises on the drawing or specifications, the contractor shall be responsible for providing and installing all materials and services required by the strictest conditions noted on the drawings or in the specifications to ensure complete compliance and longevity of the operable system required by the engineer of record.*

PHOTOVOLTAIC NOTES:

1. *Ground mounted photovoltaic panels and modules shall be tested, listed and identified by recognized testing laboratory*
2. *Solar system shall not cover any plumbing or mechanical vents*
3. *Modules and support structures shall be grounded unless racking has integrated ground.*
4. *Removal of an interactive inverter or other equipment shall not disconnect the bonding connection between the grounding electrode conductor and the photovoltaic source and/or output circuit grounded conductors.*
5. *All PV modules and associated equipment and wiring shall be protected from physical damage.*
6. *Live parts of PV source circuits and PV output circuits over 150v to ground shall not be accessible to other than qualified persons while energized.*
7. *Inverter is equipped with integrated DC disconnect, thus providing ground fault protection*
8. *All conductors shall be copper and 75 deg rated*
9. *A single conductor shall be permitted to be used to perform the multiple functions of dc grounding, AC grounding and bonding between AC and DC systems.*
10. *Non-current carrying metal parts of equipment shall be effectively bonded together. Bond both ends of raceways.*

SHEET INDEX

SITE MAP & PV LAYOUT ____ PV 1.0
ELECTRICAL 1-LINE DIAGRAM ____ PV 2.1
WIRE SIZE CALCULATION ____ PV 2.2
SYSTEM LABELING DETAIL ____ PV 3.1
PLACARD ____ PV 3.2
PROPERTY PLAN ____ PV 4.0
ATTACHMENT LAYOUT ____ PV 5.0
INVERTER DATA SHEET ____ D 6.0
ENPHASE RAPID SHUTDOWN ____ D 7.0
MODULE DATA SHEET ____ D 8.0
RACKING DATA SHEET ____ D 9.0
ATTACHMENT DATA SHEET ____ D 10.0
INVERTER CERTIFICATION ____ D 11.0
SURGE PROTECTION ____ D 12.0
PV INSPECTION CHECKLIST ____ D 13.0
CONTROLLER 2 DATA SHEET ____ D 14.0
BATTERY DATA SHEET ____ D 15.0
ENPHASE AC COMBINER BOX ____ D 16.0

GOVERNING CODES

THE INSTALLATION OF SOLAR ARRAYS AND PHOTOVOLTAIC POWER SYSTEMS SHALL COMPLY WITH THE FOLLOWING CODES:

- *2023 National Electrical Code*
- *2018 International Building Code*
- *2018 International Residential Code*
- *2020 Minnesota Residential Code*
- *2020 Minnesota Building Code*
- *2020 Minnesota Energy Code*
- *2020 Minnesota Accessibility Code*
- *2020 Minnesota State Fire Code*
- *2018 International Fire Code*
- *2018 International Energy Conservation Code*
- *2018 Mechanical Code*

AS ADOPTED BY THE STATE OF MINNESOTA
ALL OTHER ORDINANCE ADOPTED BY THE LOCAL GOVERNING AGENCIES

SYSTEM RATING

Generating DER Rating DC: 41.08 KW DC
Generating DER Rating AC: 28.34 KW AC
Battery Storage Continius Rating: 7.68 KW AC
Battery Storage Peak Rating (10sec):11.4 KW AC

EQUIPMENT SUMMARY

104 JA SOLAR 395 WATT MODULES
WITH 52 IQ8+ & 52 IQ8 MICROINVERTERS
IQ CONTROLLER 2, 2X ENCHARGE BATTERY

ELECTRICAL INFORMATION

EXISTING
MAIN SERVICE PANEL BUS SIZE:**200A**
MAIN SERVICE BREAKER SIZE: **200A**
MOUNTING SYSTEM: SUNMODO GROUND MOUNT

BUILDING INFORMATION

CONSTRUCTION TYPE: V-B
OCCUPANCY: R3

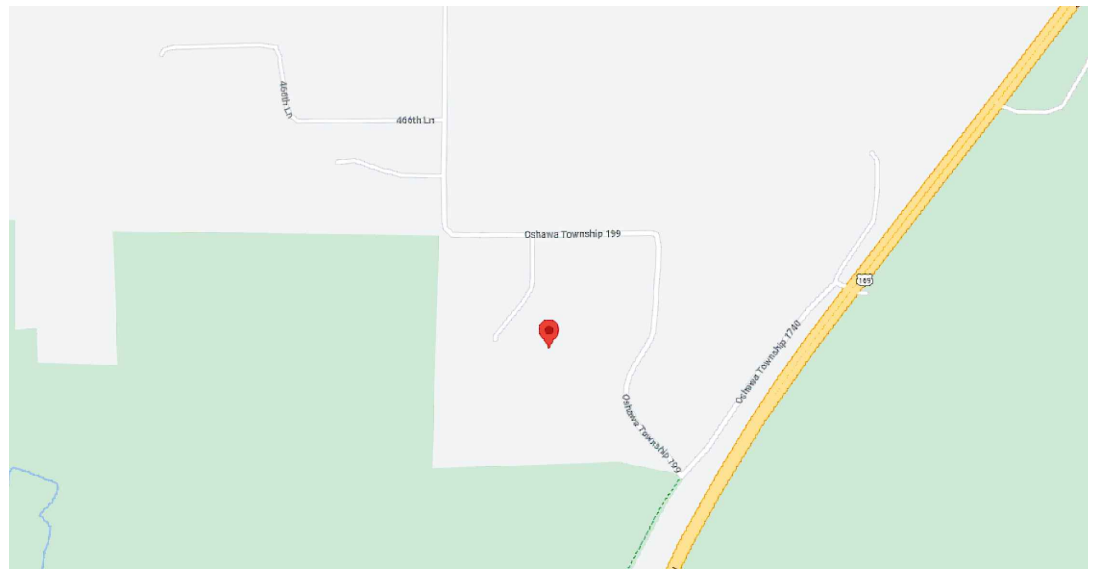
CONTRACTOR

Address:101 Isanti Parkway
NE, Isanti, MN 55040
Phone number: (763) 229-6662
E-mail: contact@wolfriverelectric.com

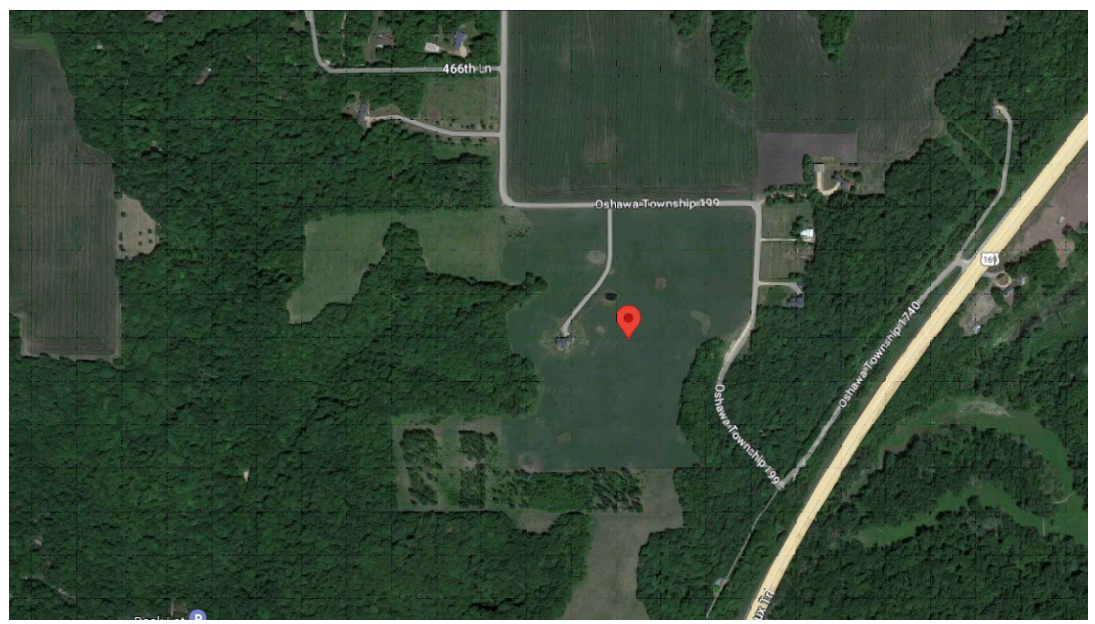
WOLF RIVER ELECTRIC

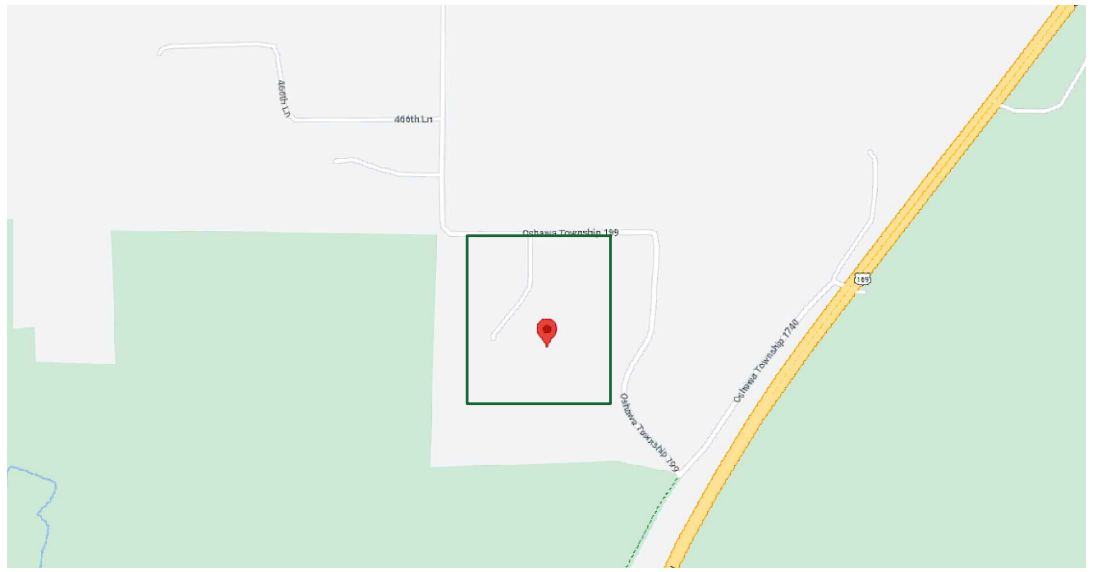
Owner: Shane Wernsing
Property Address: 46672 381st Ave, St Peter, MN 56082
Property Type: Single Family Residence
Drawn by: New@engineerinc.io
Date: *10/26/2023*

VICINITY MAP (SCALE: NTS)

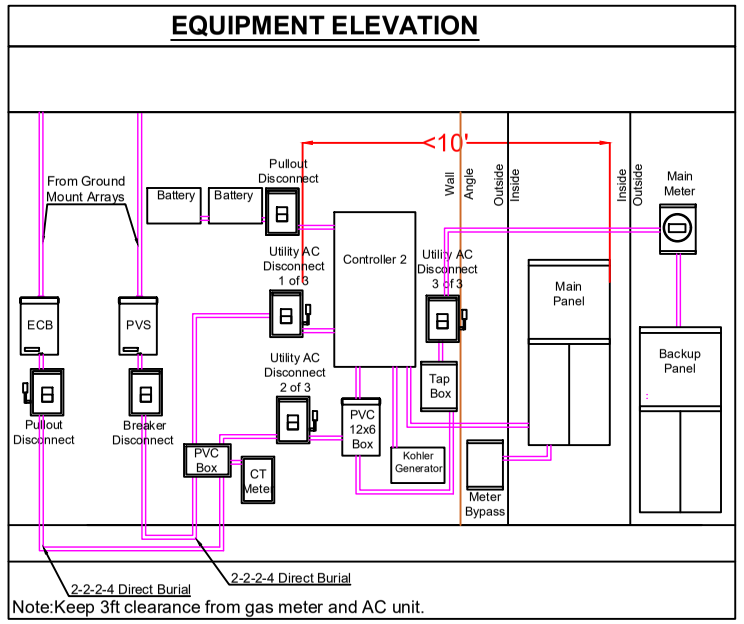


SATELLITE VIEW (SCALE: NTS)





EQUIPMENT ELEVATION



Note:Keep 3ft clearance from gas meter and AC unit.

SOLAR MODULES

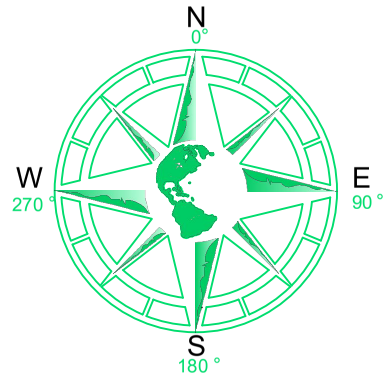
104 JA Solar 395 Watt
Model #JAM54S31 395MR/1000V

INVERTER

INVERTER TYPE: Micro:
52 Enphase IQ8PLUS
Model # IQ8PLUS-72-2-US(240V)

INVERTER

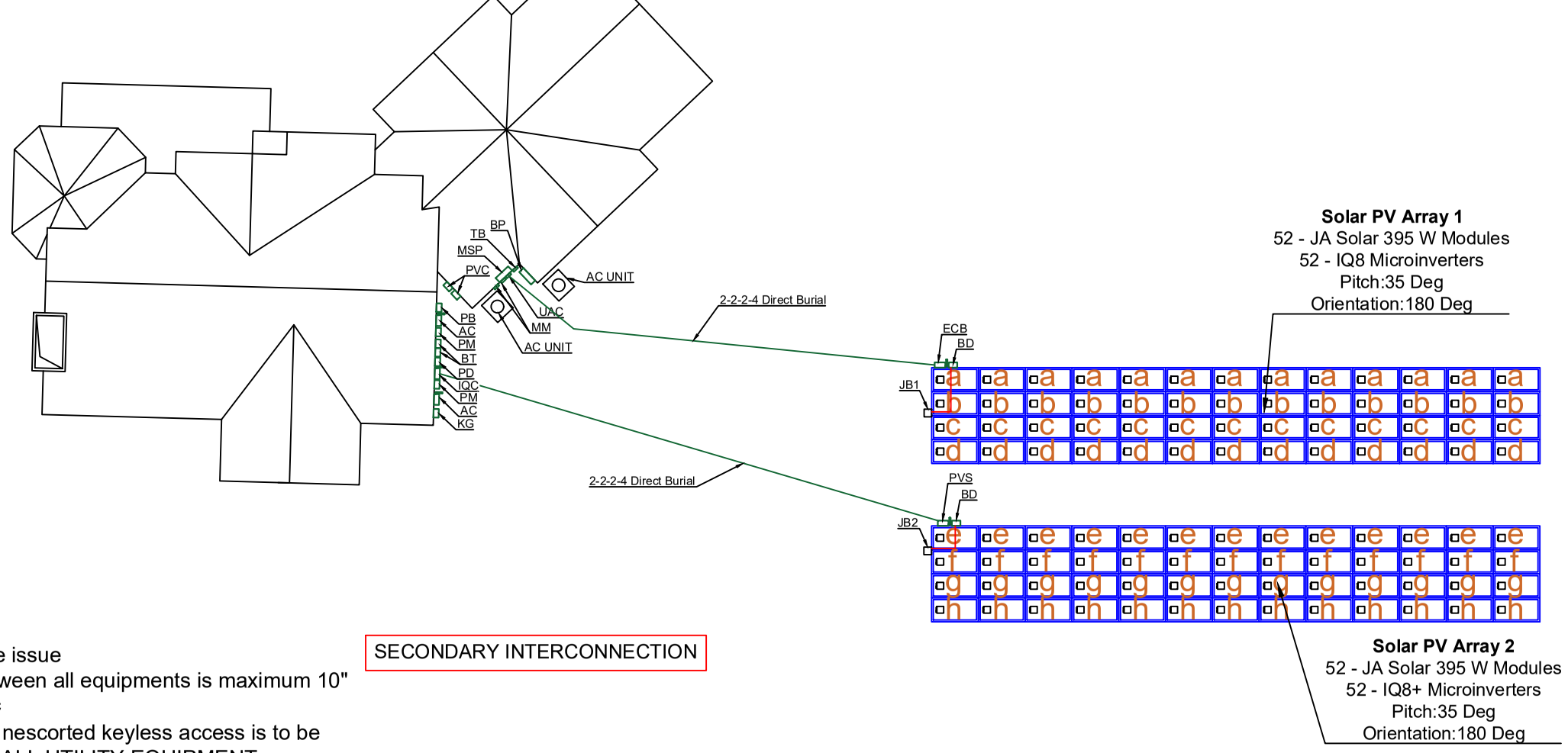
INVERTER TYPE: Micro:
52 Enphase IQ8
Model # IQ8PLUS-60-2-US(240V)



SCALE: 1/32" = 1'-0"

INDEX

MSP (E) **200A** Main Service Panel
MM .....(E) CL 20 Meter
TB .....(N) Tap Box
PVS.....(N)125A PV Sub Panel
ECB.....(N)Enphase Combiner Box
UAC (N)2x100A Utility AC Disconnect
UAC.. (N)200A Utility AC Disconnect
PD ..... (N)60A Pullout Disconnect
BD.....(N) 100A Breaker Disconnect
BT..... (N) 2xBattery
PB.....(N) PVC Box
IQ2.....(N) IQ Controller 2
KG.....(E)Kohler Generator
BP.....(E) Backup Panel
JB .....(N) Junction Box
.....(N) Microinverter
..... Solar Module
..... EMT type Conduit



NOTE: No clearance issue
Distance between all equipments is maximum 10"
Benco Electric
Note: 24/ 7 Unescorted keyless access is to be provided for ALL UTILITY EQUIPMENT

SECONDARY INTERCONNECTION

CONTRACTOR

WOLF RIVER ELECTRIC

Wolf RIver Electirc
Address:101 Isanti Parkway
NE, Isanti, MN 55040
Phone number: (763) 229-6662
E-mail: contact@wolfriverelectric.com

SITE MAP & PV LAYOUT

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/ 26/2023

Project Name:
Shane Wernsing
Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

PV 1.0

Note:Battery will be programmed to non-export.

Note: Install Battery inside away from cold and harsh weather.

REFERENCE POINT OF APPLICABILITY

SECONDARY INTERCONNECTION

Note:Keep 3ft clearance from gas meter and AC unit.

Generating DER Rating DC: 41.08 KW DC
Generating DER Rating AC: 28.34 KW AC
Battery Storage Continius Rating: 7.68 KW AC
Battery Storage Peak Rating (10sec):11.4 KW AC

BRANCH CIRCUIT-E
BRANCH CIRCUIT-F
BRANCH CIRCUIT-G
BRANCH CIRCUIT-H
1 2 13

15.73A

52 JA SOLAR 395 WATT MODULES
52 ENPHASE IQ8PLUS MICROINVERTERS

ENPHASE Q CABLE
(2) #12 AWG PV WIRE
(1) #6 AWG EGC
FREE IN THE AIR

J BOX1
NEMA3R

INSTALL (4)20A PV
2-POLE C/B

125A PV SUB PANEL

Surge Protection
MNSPD-300-AC

(8) #12 AWG THWN/THWN-2
(1) #12 AWG GND
3/4" EMT, 7 FEET

(3) #2 AWG AL THWN/THWN-2
(1) #6 AWG GND
1-1/4 SCH 80 PVC

100A BREAKER
DISCONNECT

62.92A

2-2-2-4 Direct Burial

(3) #2 AWG AL THWN/THWN-2
(1) #6 AWG GND
1-1/4 SCH 80 PVC

PV MONITORING DEVICE
(2) #12 AWG THWN/ THWN-2
(1) #12 AWG GND

20A 2-POLE

Cell Kit

(2) #8 AWG THWN/THWN-2
(1) #8 AWG GND
3/4" EMT, 2 FEET

Encharge-10-1P-NA
[240][SI1-JUN20]

60A NON-FUSED PULLOUT
DISCONNECT,
NEMA3R 120 / 240V 1P 3W

(3) #2 AWG AL THWN/THWN-2
(1) #6 AWG GND
1-1/4 SCH 80 PVC

100A NON-FUSED AC
DISCONNECT,
UTILITY AC DISCONNECT
1 OF 2 VISIBLE-OPEN
LOCKABLE, READILY
ACCESSIBLE
NEMA3R 120 / 240V 1P 3W

Utility CT
Meter

4/0-4/0-4/0 AL THHN
2" SCH 80 PVC

Zigbee Wireless Extender

IQ System Controller 2

Wireless Comms

40A
IQ Battery 80A
Autotransformer 80A
IQ Combiner
Generator

Auxiliary Contact
NO1 NC2 NC1 NC2 NC3 NC4 NO3

Lug Terminals

Rapid Shutdown
Switch

200A FUSED AC
DISCONNECT,
WITH 200A FUSES
UTILITY AC DISCONNECT
3 OF 3 VISIBLE-OPEN
LOCKABLE, READILY
ACCESSIBLE
NEMA3R 120 / 240V 1P 3W

(E) 320A
Main Meter
120/240V,
1P, 3W

4/0-4/0-4/0 AL THHN
#6 CU GND
2" SCH 80 PVC

12x6 PVC
TAP BOX

NON CENTER **200A**
MAIN C/B

EXISTING
200A
SERVICE
SUB
PANEL
120/240V,
1P, 3W

EXISTING
200A
NON
BACKUP
PANEL
120/240V,
1P, 3W

240V for Utility Sens

120V Power Supply

Power Envoy from
Backup Panel

100A FUSED AC DISCONNECT,
WITH 70A FUSES
UTILITY AC DISCONNECT
2 OF 2 VISIBLE-OPEN
LOCKABLE, READILY
ACCESSIBLE
NEMA3R 120 / 240V 1P 3W

Meter Bypass
Plate
(E) D Meter

(E) Kohler
Generator

Enphase Comm Kit

Cell Kit

PVC 12x6 Box

Production CTS

Consumption CTS

(3) #2 AWG AL THWN/THWN-2
(1) #6 AWG GND
1-1/4 SCH 80 PVC

(2) #12 AWG THWN/ THWN-2
(1) #12 AWG GND
3/4" SCH 80 PVC

52A

12 x 6 PVC

ENPHASE
LINE FILTER

ENPHASE IQ COMBINER 4/4C
120/240V, NEMA 3R

(8) #12 AWG THWN/THWN-2
(1) #12 AWG GND
3/4" EMT, 7 FEET

Surge Protection
MNSPD-300-AC

(3) #2 AWG AL THWN/THWN-2
(1) #6 AWG GND
1-1/4 SCH 80 PVC

(3) #2 AWG THWN/THWN-2
(1) #6 AWG GND
1 1/4" SCH 80 PVC, 2 FEET

120/12 Power Supply
Meanwell
APV-12-12

NC Power Relay

Fuse Holders

13A

J BOX3
NEMA3R

INSTALL (4)20A PV
2-POLE C/B

52 JA SOLAR 395 WATT MODULES
52 ENPHASE IQ8 MICROINVERTERS

ENPHASE Q CABLE
(2) #12 AWG PV WIRE
(1) #6 AWG EGC
FREE IN THE AIR

ENPHASE IQ8PLUS MICROINVERTERS
1 PHASE 300VA
MAXIMUM OUTPUT CURRENT 1.21A
AC PORT BACKFEED CURRENT 0A
DC SHORT CIRCUIT CURRENT 15A

ENPHASE IQ8 MICROINVERTERS
1 PHASE 245VA
MAXIMUM OUTPUT CURRENT 1A
AC PORT BACKFEED CURRENT 0A
DC SHORT CIRCUIT CURRENT 15A

SYSTEM RATING AND DER POWER OUTPUT
Generating DER Rating DC: 41.08 KW DC
Generating DER Rating AC: 28.34 KW AC
Battery Storage Continius Rating: 7.68 KW AC
Battery Storage Peak Rating (10sec):11.4 KW AC
INVERTER:ENPHASE IQ8PLUS-72-2-US
INVERTER MAXIMUM CONTINUOUS OUTPUT:290VA
INVERTER:ENPHASE IQ8-60-2-US
INVERTER MAXIMUM CONTINUOUS OUTPUT:240VA
SYSTEM POWER OUTPUT:(52 x 300)+(52 x 245)+(2 x 5700) =39740

Benco Electric

Note: 24/ 7 Unescorted keyless access is to be provided for ALL UTILITY EQUIPMENT
Design meet National Electric Code(NEC codes)

NOTE: AC DISCONNECT VISIBLE AND LOCKABLE

Note: Relocate Envoy from
IQ Combiner to the panel with loads

CONTRACTOR

WOLF RIVER ELECTRIC

Wolf RIver Electirc
Address:101 Isanti Parkway
NE, Isanti, MN 55040
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ELECTRICAL 1-LINE DIAGRAM

ENGINEERINC
Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing
Property Adress:
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St Peter, MN 56082

Project:
PV SYSTEM
Scale:
AS INDICATED

PV 2.1

PV ARRAY RATING

BRANCH CIRCUIT-A							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8 Microinverters		IQ8-60-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - B							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8 Microinverters		IQ8-60-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - C							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8 Microinverters		IQ8-60-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - D							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8 Microinverters		IQ8-60-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
FROM JBOX TO PV SUB PANEL							
Maximum Continius Current (A)	19.66	More Than 3 CCC Adjist. Factor			0.7		
Raceway Height From Roof (Temp 39+22=61C)	3 1/2"	# of wire(# BC *2)			8		
Temp. Derate Factor (max. continous current divided ambient tem. Factor (A)					28.09 / 0.71 = 39.56		
FROM PV SUB PANEL IQ CONTROLLER 2							
Total Number Of Microinverters	52	Total Amps From All Microinverters (A)			52 * 1.21 = 62.92		
Temp. Derate Factor(0.91 at wall of the Building) (A)					78.65 / 0.91 = 86.43		
Ambiend Tem Factor Per NEC Table 310.15(b)(2)(a)					0.91		

WIRE SIZE CALCULATION

BRANCH CIRCUIT E	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1
Branch Circuit Total Current (A)	13 * 1 * 1.25 = 16.25
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - F	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1
Branch Circuit Total Current (A)	13 * 1 * 1.25 = 16.25
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - G	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1
Branch Circuit Total Current (A)	13 * 1 * 1.25 = 16.25
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - H	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1
Branch Circuit Total Current (A)	13 * 1 * 1.25 = 16.25
Breaker Size Per Branch Circuit (A)	20
Adjusted Conductor Ampacity(A)	19.66 / 0.7 = 28.09
Ambiend Tem Factor Per NEC Table 310.15(b)(2)(a)	0.71
Wire Size from NEC Table 310.15(b)16	12 AWG
Consider Continuous (A)	62.92 * 1.25 = 78.65
Wire Size from NEC Table 310.15(b)16	2 AWG AL

PV ARRAY RATING

BRANCH CIRCUIT-E							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8+ Microinverters		IQ8PLUS-72-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - F							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8+ Microinverters		IQ8PLUS-72-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - G							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8+ Microinverters		IQ8PLUS-72-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
BRANCH CIRCUIT - H							
Number Modules	13	Type	JAM54S31 395MR/1000V		JA SOLAR 395 Watt		
Number MicroInverters	13	Type	Enphase IQ8+ Microinverters		IQ8PLUS-72-2-US(240V)		
Total DC Wattage (Watts)	Watts STC, (Watts/Module) 13*395=5135						
Array Currents	I-SC	13.7	A	I-MP	12.81	A	
Module Voltage	V-OC	36.98	V	V-MP	30.84	V	
FROM JBOX TO ENPHASE COMBINER BOX							
Maximum Continius Current (A)	19.66	More Than 3 CCC Adjist. Factor			0.7		
Raceway Height From Roof (Temp 39+22=61C)	3 1/2"	# of wire(# BC *2)			8		
Temp. Derate Factor (max. continous current divided ambient tem. Factor (A)					28.09 / 0.71 = 39.56		
FROM ENPHASE COMBINER BOX TO MAIN PANEL							
Total Number Of Microinverters	52	Total Amps From All Microinverters (A)			52 * 1.21 = 62.92		
Temp. Derate Factor(0.91 at wall of the Building) (A)					78.65 / 0.91 = 86.43		
Ambiend Tem Factor Per NEC Table 310.15(b)(2)(a)					0.91		

WIRE SIZE CALCULATION

BRANCH CIRCUIT E	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1.21
Branch Circuit Total Current (A)	13 * 1.21 * 1.25 = 19.66
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - F	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1.21
Branch Circuit Total Current (A)	13 * 1.21 * 1.25 = 19.66
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - G	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1.21
Branch Circuit Total Current (A)	13 * 1.21 * 1.25 = 19.66
Breaker Size Per Branch Circuit (A)	20
BRANCH CIRCUIT - H	
Number OF Microinverters in Circuit	13
Microinverter Maximum Output Current (A)	1.21
Branch Circuit Total Current (A)	13 * 1.21 * 1.25 = 19.66
Breaker Size Per Branch Circuit (A)	20
Adjusted Conductor Ampacity(A)	19.66 / 0.7 = 28.09
Ambiend Tem Factor Per NEC Table 310.15(b)(2)(a)	0.71
Wire Size from NEC Table 310.15(b)16	12 AWG
Consider Continuous (A)	62.92 * 1.25 = 78.65
Wire Size from NEC Table 310.15(b)16	2 AWG AL

CONTRACTOR

WOLF RIVER ELECTRIC

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NE, Isanti, MN 55040
Phone number: (763) 229-6662
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WIRE SIZE CALCULATION

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

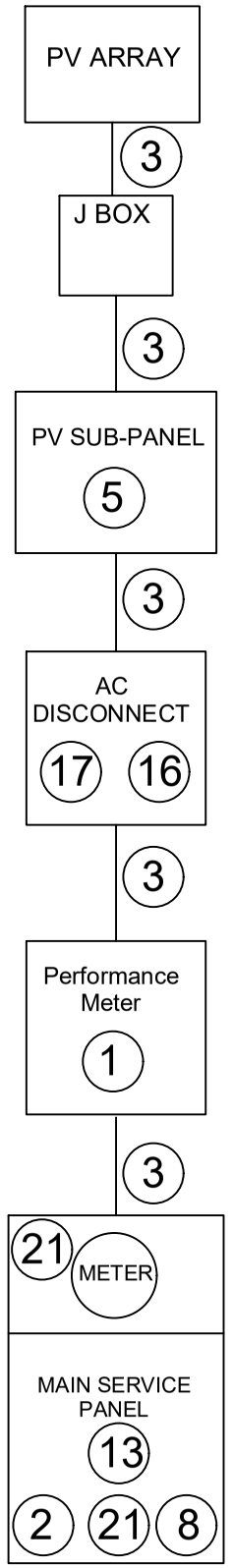
Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

PV 2.2



LABEL 1

Production Meter

LABEL 2

Photovoltaic Power Source

LABEL 3

CAUTION: SOLAR CIRCUIT

LABEL 4

WARNING

ELECTRIC SHOCK HAZARD

THE DC CONDUCTORS OF THIS PHOTOVOLTAIC SYSTEM ARE UNDERGROUND AND MAY BE ENERGIZED

LABEL 5

WARNING

ELECTRIC SHOCK HAZARD

IF GROUND FAULT IS INDICATED NORMALLY GROUNDED CONDUCTORS MAY BE UNDERGROUND AND ENERGIZED

LABEL 6

WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

LABEL 7

WARNING

ELECTRIC SHOCK HAZARD

DO NOT TOUCH TERMINALS TERMINALS ON BOTH LINE AND LOAD SIDES MAY BE ENERGIZED IN THE OPEN POSITION

DC VOLTAGE IS ALWAYS PRESENT WHEN SOLAR MODULES ARE EXPOSED TO SUNLIGHT

LABEL 8

WARNING

TURN OF PHOTOVOLTAIC AC DISCONNECT PRIOR TO WORKING INSIDE PANEL

LABEL 9

DO NOT DISCONNECT UNDER LOAD

LABEL 10

MAIN PV SYSTEM DISCONNECT

LABEL 11

MAIN PV SYSTEM AC DISCONNECT

LABEL 12

SOLAR DISCONNECT

LABEL 13

CAUTION

SOLAR ELECTRIC SYSTEM CONNECTED

LABEL 14

WARNING-DUAL POWER SOURCE SECOND SOURCE IS PV SYSTEM

LABEL 15

CAUTION

PHOTOVOLTAIC SYSTEM CIRCUIT IS BACKFED

LABEL 16

PHOTOVOLTAIC AC DISCONNECT

MAXIMUM AC OPERATING CURRENT 114.92A

MAXIMUM AC OPERATING CURRENT 240V

LABEL 17

PHOTOVOLTAIC

UTILITY AC DISCONNECT

LABEL 18

PHOTOVOLTAIC

DC DISCONNECT

LABEL 19

NOMINAL OPERATING AC VOLTAGE

NOMINAL OPERATING AC FREQUANCY

MAXIMUM AC POWER

MAXIMUM AC CURRENT

MAX OCERCURRENT DEVICE RATING FOR AC MODULE PROTECTION

LABEL 20

PV SYSTEM DC DISCONNECT

OPERATING CURRENT

OPERATING VOLTAGE

MAXIMUM SYSTEM VOLTAGE

SHORT CIRCUIT CURRENT

LABEL 21

RATED MAX POWER-FONT CURRENT

RATED MAX POWER-FONT VOLTAGE

MAXIMUM SYSTEM VOLTAGE

SHORT CIRCUIT CURRENT

MAX RATED OUTPUT CURRENT OF THE CHARGE CONTROLLER IF INSTALLED

SOLAR PV SYSTEM EQUIPPED WITH RAPID SHUTDOWN

TURN RAPID SHUTDOWN SWITCH TO THE "OFF" POSITION TO SHUT DOWN PV SYSTEM AND REDUCE SHOCK HAZARD IN THE ARRAY

Note: LABELS SHALL COMPLY WITH NEC 690

"Labels shall be weatherproof, durable and permanently mounted"

*** ALL LABELS = RED THERMOPLASTIC/REFLECTIVE , Permanently mounted

CONTRACTOR

WOLF RIVER ELECTRIC

Wolf RIver Electirc
Address:101 Isanti Parkway
NE, Isanti, MN 55040
Phone number: (763) 229-6662
E-mail: contact@wolfriverelectric.com

SYSTEM LABELING DETAIL

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
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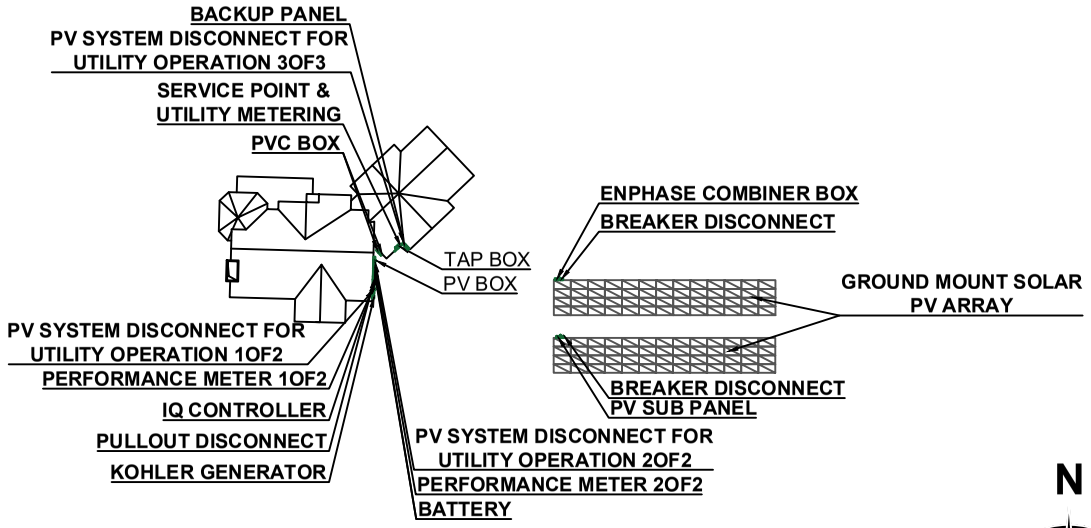
Project:
PV SYSTEM

Scale:
AS INDICATED

PV 3.1

CAUTION

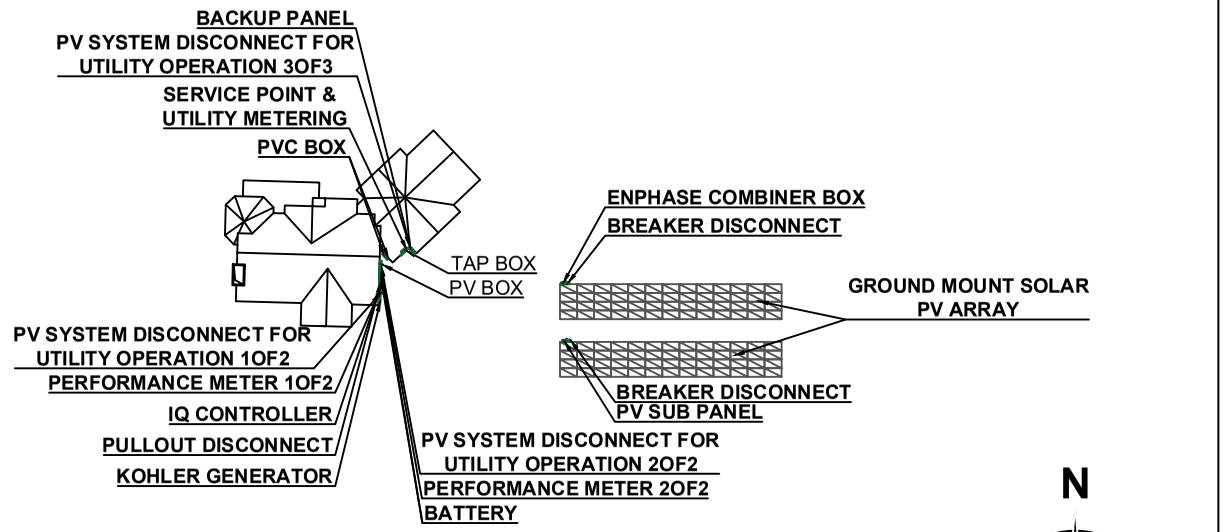
POWER TO THIS BUILDING IS ALSO SUPPLIED
FROM THE FOLLOWING SOURCES WITH
DISCONNECTS LOCATED AS SHOWN:
SERVICE 1 OF 2



46672 381st Ave,
St Peter, MN 56082

CAUTION

POWER TO THIS BUILDING IS ALSO SUPPLIED
FROM THE FOLLOWING SOURCES WITH
DISCONNECTS LOCATED AS SHOWN:
SERVICE 2 OF 2



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CONTRACTOR

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PLACARD

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
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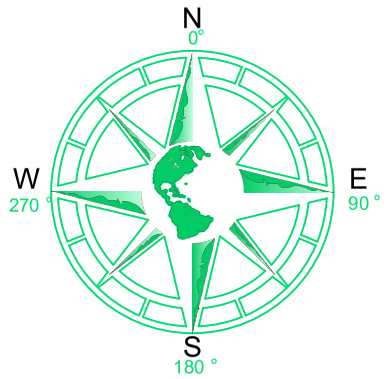
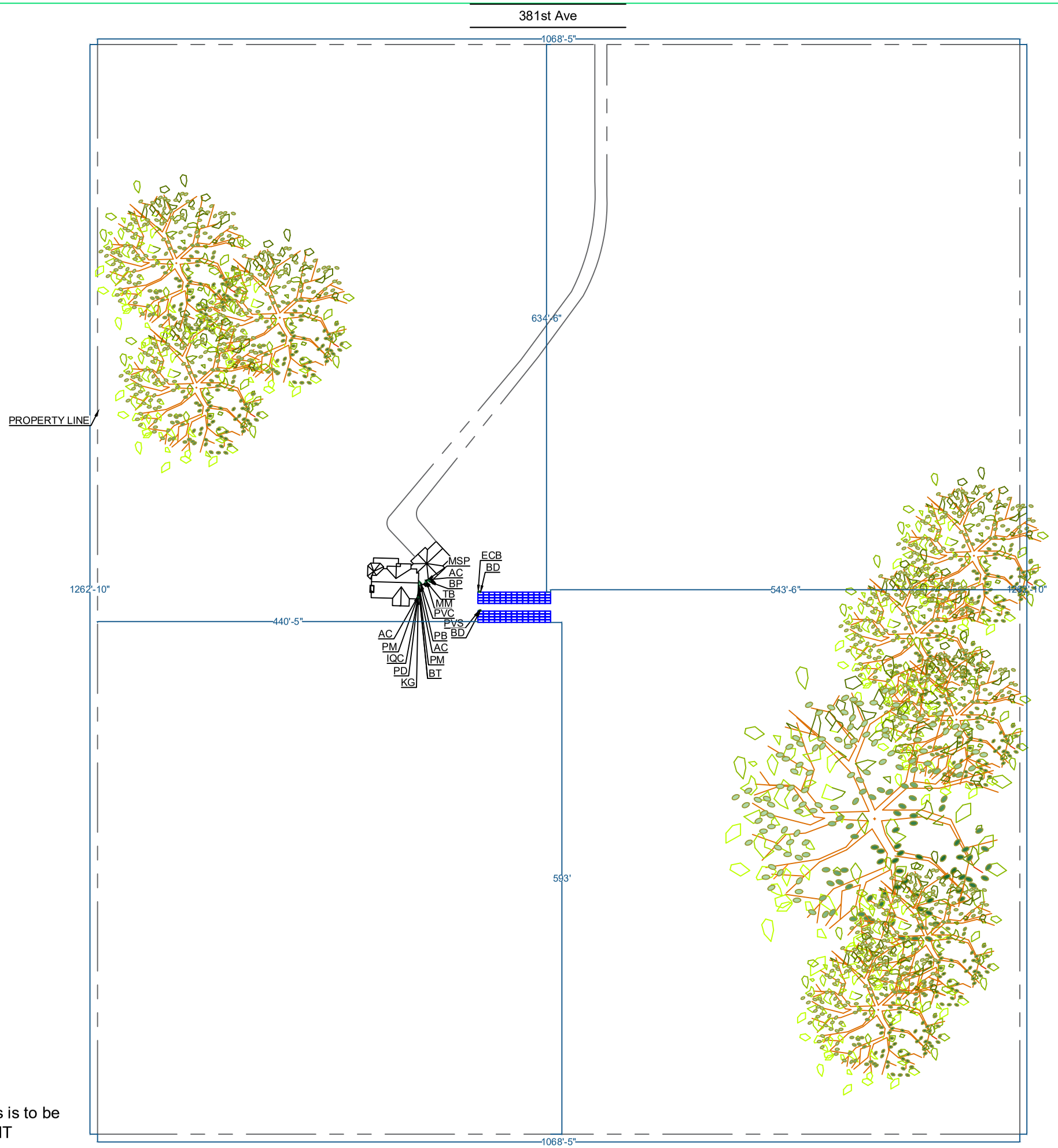
St Peter, MN 56082

Project:	Scale:
PV SYSTEM	AS INDICATED

PV 3.2



SCALE: 1/64" = 1'-0"



LEGEND

MSP..... Main Service Panel
MM ..... CL 20 Meter
PVS.....PV Sub Panel
PB.....PVC Box
IQ2.....IQ Controller 2
UAC .....Utility AC Disconnect
ECB..... Enphase Combiner Box
AC .....AC Disconnect
TB ..... Tap Box
PD ..... Pullout Disconnect
BT .....Battery
BD.....Breaker Disconnect
KG.....(E)Kohler Generator
BP.....(E) Backup Panel

Benco Electric
Note: 24/ 7 Unescorted keyless access is to be provided for ALL UTILITY EQUIPMENT

CONTRACTOR

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PROPERTY PLAN

ENGINEERINC

Drawn by:New@engineerinc.io
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PV SYSTEM	AS INDICATED

PV 4.0

ATTACHMENT

RAIL

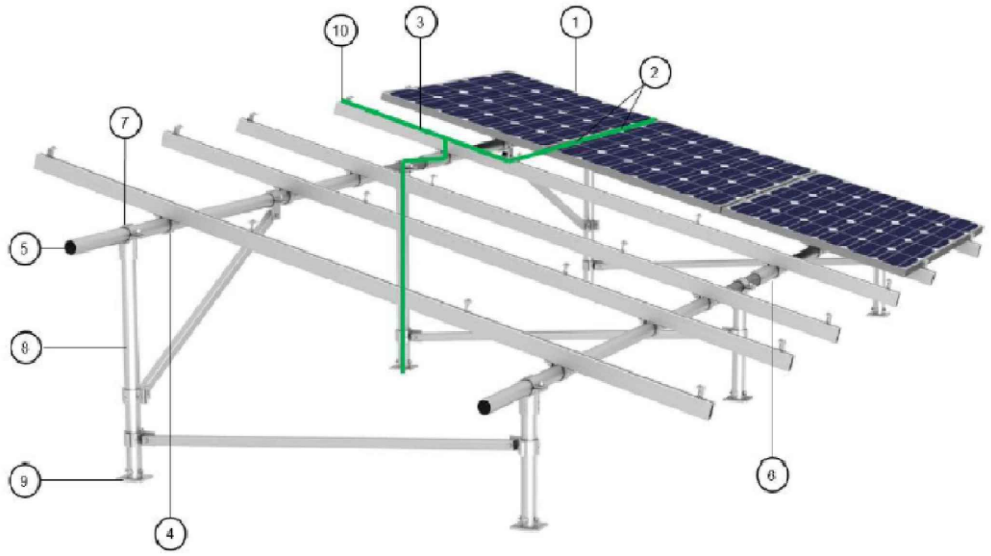
2" HORIZONTAL PIPE

Benco Electric

Note: 24/ 7 Unescorted keyless access is to be provided for ALL UTILITY EQUIPMENT

POINT LOAD CALCULATION PER ARRAY	
Module Weight (lbs)	47.39
# Of Modules	104
Total Module Weight (lbs)	4928.56
Rack Weight (lbs)	985.712
MicroInverters Weight (lbs)	247.52
Total System Weight (lbs)	6161.76
# Of Standoffs	44
Max Span Between Standoffs (in)	96
Loading Per Standoff (lbs)	140.04
Total Area (sq.ft.)	2288
Loading (PSF)	2.69

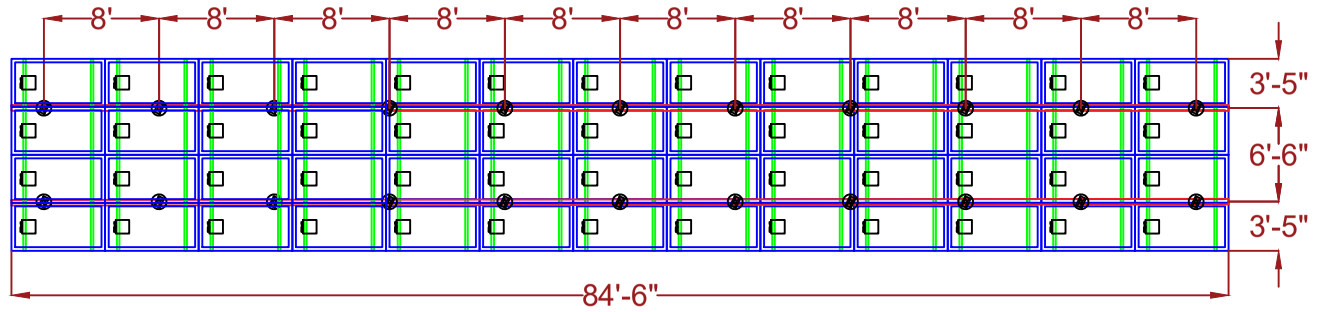
Fault Current Path Diagram

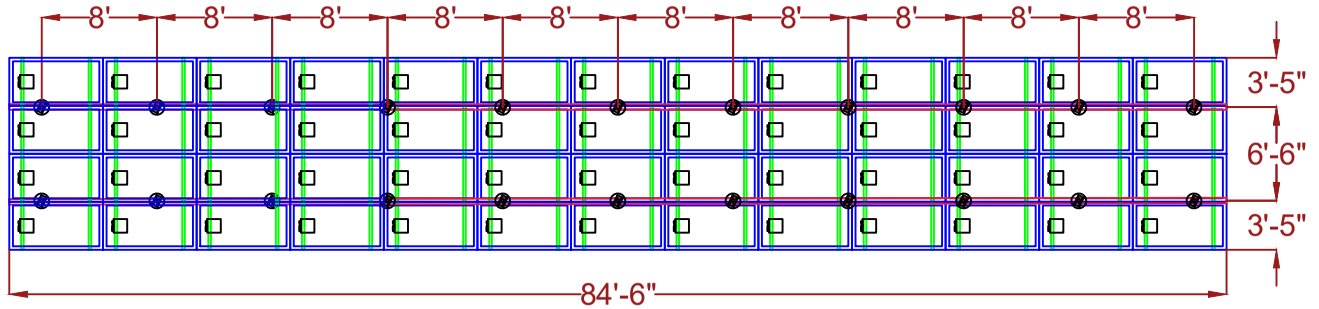


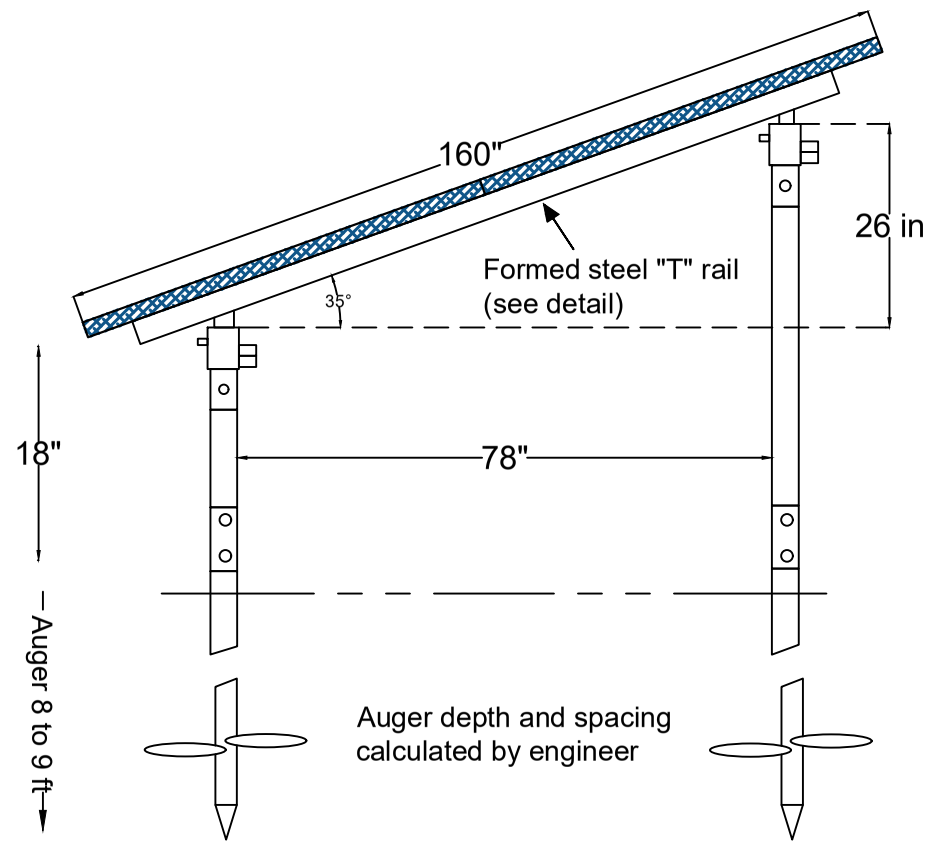
Items are listed in the fault current path in order from the PV Panel to the Post Base

1. PV Panel
2. Grounding Mid Clamp Kit
3. Helio Rail
4. 2" Aluminium Pipe Clamp Kit with PVC insulator
5. Horizontal Steel Post
6. 2" Pipr Splice Kit (configuration dependent)
7. 2" T Pipe Cap Kit
8. Vertical Post
9. 2" Post Base Kit
10. Grounding Lug

Fault Current Path







CONTRACTOR

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ATTACHMENT LAYOUT

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Drawn by:New@engineerinc.io
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PV SYSTEM	AS INDICATED

PV 5.0

ENPHASE

DATA SHEET

IQ8 and IQ8+ Microinverters

Our newest IQ8 Microinverters are the industry's first microgrid-forming, software-defined microinverters with split-phase power conversion capability to convert DC power to AC power efficiently. The brain of the semiconductor-based microinverter is our proprietary application-specific integrated circuit (ASIC) which enables the microinverter to operate in grid-tied or off-grid modes. This chip is built in advanced 55nm technology with high speed digital logic and has super-fast response times to changing loads and grid events, alleviating constraints on battery sizing for home energy systems.

Part of the Enphase Energy System, IQ8 Series Microinverters integrate with the Enphase IQ Battery, Enphase IQ Gateway, and the Enphase App monitoring and analysis software.

Enphase 25 year limited warranty

IQ8 Series Microinverters redefine reliability standards with more than one million cumulative hours of power-on testing, enabling an industry-leading limited warranty of up to 25 years.

Connect PV modules quickly and easily to IQ8 Series Microinverters using the included Q-DCC-2 adapter cable with plug-n-play MC4 connectors.

UL CERTIFIED SAFETY

IQ8 Series Microinverters are UL Listed as PV Rapid Shut Down Equipment and conform with various regulations, when installed according to manufacturer's instructions.

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IQ8SP-DS-0002-01-EN-US-2021-10-19

Easy to install

- Lightweight and compact with plug-n-play connectors
- Power Line Communication (PLC) between components
- Faster installation with simple two-wire cabling

High productivity and reliability

- Produce power even when the grid is down
- More than one million cumulative hours of testing
- Class II double-insulated enclosure
- Optimized for the latest high-powered PV modules

Microgrid-forming

- Complies with the latest advanced grid support
- Remote automatic updates for the latest grid requirements
- Configurable to support a wide range of grid profiles
- Meets CA Rule 21 (UL 1741-SA) requirements

IQ8 and IQ8+ Microinverters

INPUT DATA (DC)		IQ8-60-2-US	IQ8PLUS-72-2-US
Commonly used module pairings[1]	W	235 – 350	235 – 440
Module compatibility		60-cell/120 half-cell	60-cell/120 half-cell and 72-cell/144 half-cell
MPPT voltage range	V	27 – 37	29 – 45
Operating range	V	25 – 48	25 – 58
Min/max start voltage	V	30 / 48	30 / 58
Max input DC voltage	V	50	60
Max DC current[2] [module Isc]	A	15	
Overvoltage class DC port		II	
DC port backfeed current	mA	0	
PV array configuration		1x1 Ungrounded array; No additional DC side protection required; AC side protection requires max 20A per branch circuit	
OUTPUT DATA (AC)		**IQ8-60-2-US**	**IQ8PLUS-72-2-US**
Peak output power	VA	245	300
Max continuous output power	VA	240	290
Nominal (L-L) voltage/range[3]	V	240 / 211 – 264	
Max continuous output current	A	1.0	1.21
Nominal frequency	Hz	60	
Extended frequency range	Hz	50 – 68	
Max units per 20 A (L-L) branch circuit[4]		16	13
Total harmonic distortion		<5%	
Overvoltage class AC port		III	
AC port backfeed current	mA	30	
Power factor setting		1.0	
Grid-tied power factor (adjustable)		0.85 leading – 0.85 lagging	
Peak efficiency	%	97.5	97.6
CEC weighted efficiency	%	97	97
Night-time power consumption	mW	60	
MECHANICAL DATA			
Ambient temperature range		-40°C to +60°C (-40°F to +140°F)	
Relative humidity range		4% to 100% (condensing)	
DC Connector type		MC4	
Dimensions (HxWxD)		212 mm (8.3") x 175 mm (6.9") x 30.2 mm (1.2")	
Weight		1.08 kg (2.38 lbs)	
Cooling		Natural convection – no fans	
Approved for wet locations		Yes	
Acoustic noise at 1m		<60 dBA	
Pollution degree		PD3	
Enclosure		Class II double-insulated, corrosion resistant polymeric enclosure	
Environ. category / UV exposure rating		NEMA Type 6 / outdoor	
COMPLIANCE			
Certifications		CA Rule 21 (UL 1741-SA), UL 62109-1, UL1741/IEEE1547, FCC Part 15 Class B, ICES-0003 Class B, CAN/CSA-C22.2 NO. 107.1-01 This product is UL Listed as PV Rapid Shut Down Equipment and conforms with NEC 2014, NEC 2017, and NEC 2020 section 690.12 and C22.1-2018 Rule 64-218 Rapid Shutdown of PV Systems, for AC and DC conductors, when installed according to manufacturer's instructions.	

(1) No enforced DC/AC ratio. See the compatibility calculator at https://link.enphase.com/module-compatibility (2) Maximum continuous input DC current is 10.6A (3) Nominal voltage range can be extended beyond nominal if required by the utility. (4) Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

IQ8SP-DS-0002-01-EN-US-2021-10-19

CONTRACTOR

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Phone number: (763) 229-6662
E-mail: contact@wolfriverelectric.com

INVERTER DATA SHEET

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:	Scale:
PV SYSTEM	AS INDICATED

D 6.0

Enphase® Energy // Rapid Shutdown

Rapid shutdown is built-in

The 2014 edition of the National Electrical Code (NEC 2014) added new rapid shutdown requirements for PV systems installed on buildings. Enphase Microinverters fully meet rapid shutdown requirements in the new code without the need to install any additional electrical equipment.

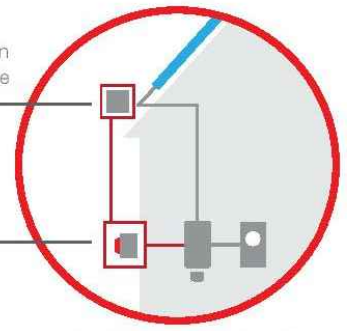
What's new in NEC 2014?
NEC 2014, Section 690.12 applies to PV conductors over 10 feet from the PV array and requires that the conductors power down to 30 volts and 240 volt-amperes within 10 seconds of rapid shutdown initiation.

String inverters require work arounds for rapid shutdown

Work around.
Specialized Rapid Shutdown electrical box installed on the roof within 10 feet of array.

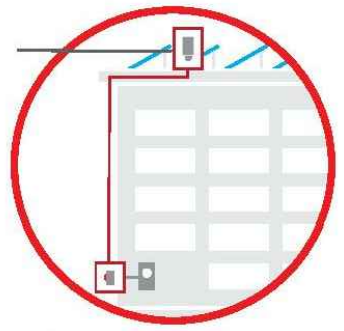
Work around.
Shutoff switch that is easily accessible to first responders on the ground.

Work around.
Extra conduit in installation.



Residential String Inverter

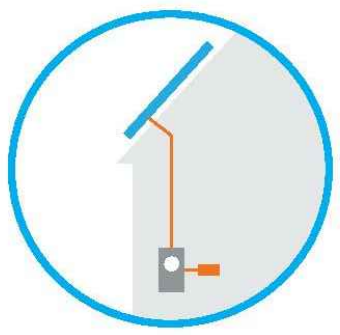
Work around.
String inverter installed on roof, a hostile environment that string inverters are not built to live in.



Commercial String Inverter

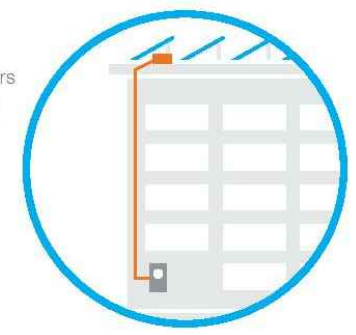
Enphase comes standard with rapid shutdown capability

All Enphase microinverters, even those that were previously installed, inherently meet rapid shutdown requirements, no additional equipment or workarounds needed



Residential Microinverter

Enphase microinverters can safely shut down automatically, leaving only low-voltage DC electricity isolated to the PV module



Commercial Microinverter

To learn more, visit enphase.com

enphase ENERGY

QUICK **INSTALL** GUIDE

ENPHASE.

Install the **Enphase IQ8 Series** Microinverter

To install Enphase IQ8 Series Microinverters, read and follow all warnings and instructions in this guide and in the *Enphase IQ8 Series Microinverter Installation and Operation Manual* at enphase.com/support. Safety warnings are listed on the back page of this guide.

The Enphase Microinverter models listed in this guide do not require grounding electrode conductors (GEC), equipment grounding conductors (EGC), or grounded conductor (neutral). The microinverter has a Class II double-insulated rating, which includes ground fault protection (GFP). To support GFP, use only PV modules equipped with DC cables labeled ***PV Wire*** or ***PV Cable***.

IMPORTANT: Enphase IQ8 Series Microinverters require the IQ Cable. An IQ Gateway is required to monitor performance of the IQ Microinverters. The Q Accessories work only with Enphase IQ8 Series Microinverters.

Note: After you log in to your Enphase Installer Platform account from Enphase Installer app, Scan the microinverter QR code and connect to the Enphase IQ Gateway to track the system installation progress.

PREPARATION

A) Download the Enphase Installer App and open it to log in to your Enphase Installer Platform account. With this app, **scan the microinverter QR code** and connect to the Enphase IQ Gateway to track system installation progress. To download, go to enphase.com/toolkit or scan the QR code at right.

B) Refer to the following table and check PV module electrical compatibility at: enphase.com/en-us/support/module-compatibility.

Model	DC connector	Typical PV module* cell count
IQ8-60-2-US	MC-4 locking type	Pair with 60 cell /120-half-cell modules
IQ8PLUS-72-2-US	MC-4 locking type	Pair with 60 cell / 120-half-cell, 66
IQ8M-72-2-US IQ8A-72-2-US		cell, or 72 cell / 144-half-cell
IQ8H-240-72-2-US IQ8H-208-72-2-US	MC-4 locking type	Pair with 60 cell /120-half-cell, 66 cell, or 72 cell / 144-half-cell

* Enphase IQ8 Series Microinverters are compatible with bi-facial PV modules if the temperature adjusted electrical parameters (maximum power, voltage and current) of the modules, considering the front side electrical parameters (i.e., 0% back side gain), are within the allowable microinverter input parameters range.

C) In addition to the Enphase Microinverters, PV modules and racking, you will need these **Enphase IQ8 Series Microinverters**:

- Enphase IQ Gateway (model ENV-IQ-AM1-240) communications gateway or Enphase IQ Combiner (check enphase.com for models): is required to monitor solar production.
- Tie wraps or cable clips (Q-CLIP-100)
- Enphase Sealing Caps (Q-SEAL-10): for any unused connectors on the Enphase IQ Cable
- Enphase Terminator (Q-TERM-10): one needed at the end of each AC cable segment
- Enphase Disconnect Tool (Q-DISC-10)
- Enphase IQ Cable:

Cable model	Connector spacing*	PV module orientation	Connectors per box
Q-12-10-240	1.3m	Portrait (all)	240
Q-12-17-240	2.0m	Landscape (60- and 66-cell)	240
Q-12-20-200	2.3m	Landscape (72-cell)	200

*Allows for 30cm of cable slack

D) Check that you have these other items:
- AC junction box.
- Tools: screwdrivers, wire cutter, voltmeter, torque wrench, sockets, and wrenches for mounting hardware

E) Protect your system with lightning and/or surge suppression devices. It is also important to have insurance that protects against lightning and electrical surges.

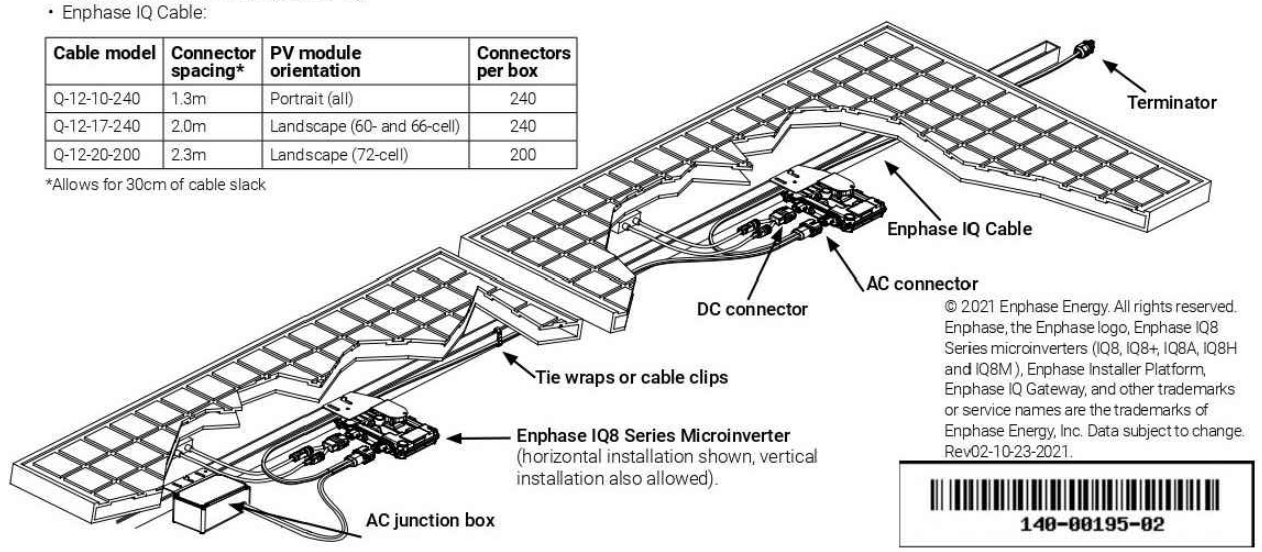
F) Plan your AC branch circuits to meet the following limits for maximum number of microinverters per branch when protected with a 20-amp over-current protection device (OCPD).

Maximum* IQ8 Series Microinverters per AC branch circuit (single-phase)		
IQ8 (240V)	IQ8+ (240V)	IQ8M (240V)
16	**13**	**11**
IQ8A (240V)	IQ8H (240V)	IQ8H (208V)
11	**10**	**9**

* Limits may vary. Refer to local requirements to define the number of microinverters per branch in your area.

G) Size the AC wire gauge to account for voltage rise. Select the correct wire size based on the distance from the beginning of the Enphase IQ Cable to the breaker in the load center. Design for a voltage rise total of less than 2% for these sections. Refer to the Voltage Rise Technical Brief at enphase.com/support for more information.

Best practice: Center-feed the branch circuit to minimize voltage rise in a fully-populated branch.



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Rev02-10-23-2021.
140-00195-02

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ENPHASE RAPID SHUTDOWN, COMPATIBILITY WITH PV

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing
Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

D 7.0

Introduction

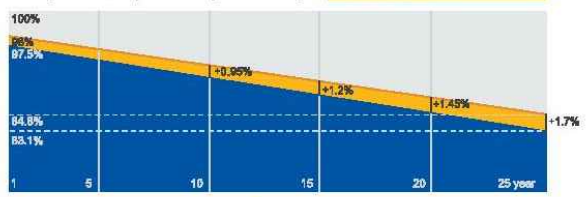
Assembled with 11BB PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.

- Higher output power
- Lower LCOE
- Less shading and lower resistive loss
- Better mechanical loading tolerance

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty

0.55% Annual Degradation Over 25 years



New linear power warranty ■ Standard module linear power warranty

Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- ISO 45001: 2018 Occupational health and safety management systems

JA SOLAR

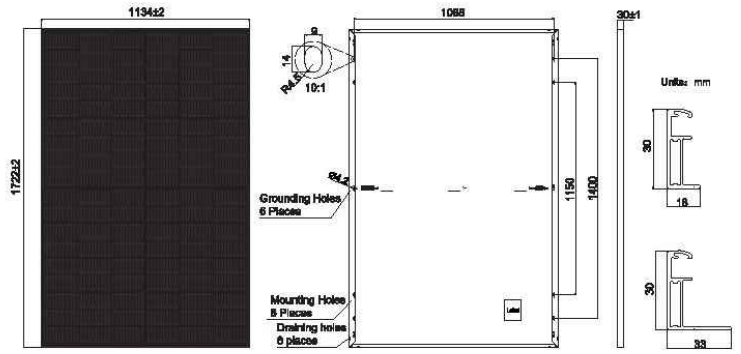
www.jasolar.com

Specifications subject to technical changes and tests.
JA Solar reserves the right of final interpretation.
Shanghai JA Solar Technology Co., Ltd.

JA SOLAR

JAM54S31 380-405/MR/1000V Series

MECHANICAL DIAGRAMS



Remark: customized frame color and cable length available upon request

SPECIFICATIONS

Cell	Mono
Weight	21.5kg±3%
Dimensions	1722±2mm×1134±2mm×30±1mm
Cable Cross Section Size	4mm² (IEC), 12 AWG(UL)
No. of cells	108(6x18)
Junction Box	IP68, 3 diodes
Connector	Genuine MC4 QC4.10
Cable Length (Including Connector)	Portrait: 300mm(+)/400mm(-); Landscape: 1200mm(+)/1200mm(-)
Country of Manufacturer	China/Vietnam

ELECTRICAL PARAMETERS AT STC

TYPE	JAM54S31 -380/MR/1000V	JAM54S31 -385/MR/1000V	JAM54S31 -390/MR/1000V	JAM54S31 -395/MR/1000V	JAM54S31 -400/MR/1000V	JAM54S31 -405/MR/1000V
Rated Maximum Power(Pmax) [W]	380	385	390	395	400	405
Open Circuit Voltage(Voc) [V]	36.58	36.71	36.85	36.98	37.07	37.23
Maximum Power Voltage(Vmp) [V]	30.28	30.48	30.64	30.84	31.01	31.21
Short Circuit Current(Isc) [A]	13.44	13.52	13.61	13.70	13.79	13.87
Maximum Power Current(Imp) [A]	12.55	12.64	12.73	12.81	12.90	12.98
Module Efficiency [%]	19.5	19.7	20.0	20.2	20.5	20.7
Power Tolerance	0~+5W					
Temperature Coefficient of Isc(α_Isc)	+0.045%/℃					
Temperature Coefficient of Voc(β_Voc)	-0.275%/℃					
Temperature Coefficient of Pmax(γ_Pmp)	-0.350%/℃					
STC	Irradiance 1000W/m², cell temperature 25°C, AM1.5G					

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.
Measurement tolerance at STC: Pmax ±3%, Voc ±3% and Isc ±4%.

ELECTRICAL PARAMETERS AT NOCT

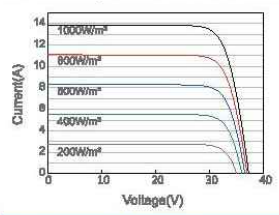
TYPE	JAM54S31 -380/MR/1000V	JAM54S31 -385/MR/1000V	JAM54S31 -390/MR/1000V	JAM54S31 -395/MR/1000V	JAM54S31 -400/MR/1000V	JAM54S31 -405/MR/1000V
Rated Max Power(Pmax) [W]	286	290	294	298	302	306
Open Circuit Voltage(Voc) [V]	34.36	34.49	34.62	34.75	34.88	35.12
Max Power Voltage(Vmp) [V]	28.51	28.68	28.87	29.08	29.26	29.47
Short Circuit Current(Isc) [A]	10.75	10.82	10.89	10.96	11.03	11.10
Max Power Current(Imp) [A]	10.03	10.11	10.18	10.25	10.32	10.38
NOCT	Irradiance 800W/m², ambient temperature 20°C, wind speed 1m/s, AM1.5G					

OPERATING CONDITIONS

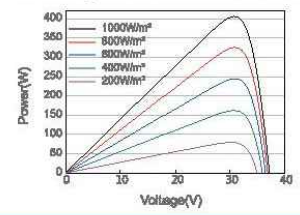
Maximum System Voltage	1000V DC(IEC)
Operating Temperature	-40℃~+85℃
Maximum Series Fuse Rating	25A
Maximum Static Load,Front* Maximum Static Load,Back*	3600Pa, 1.5 1600Pa, 1.5
NOCT	45±2℃
Safety Class	Class Ⅱ
Fire Performance	UL Type 1

CHARACTERISTICS

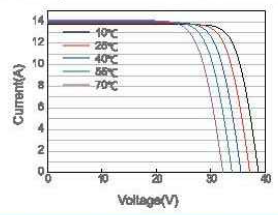
Current-Voltage Curve JAM54S31-405/MR/1000V



Power-Voltage Curve JAM54S31-405/MR/1000V



Current-Voltage Curve JAM54S31-405/MR/1000V



Premium Cells, Premium Modules Version No. : Global_EN_20210608A

CONTRACTOR

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MODULE DATA SHEET

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

D 8.0

SUNMODO

GO BIG ON TURF

SunTurf™ Ground Mount System

SunModo offers the next generation Ground Mount System with SunTurf™. The streamlined design combines the strength of Helio Rails with steel pipes to create the perfect ground mount solution.

SurTurf™ is ideal for solar installers looking for a durable and cost-effective system that can accommodate a wide variety of soil conditions.

The SunTurf™ Ground Mount Advantage

- ✓ Easily scalable from kilowatts to multimegawatts PV Arrays.
- ✓ Foundation design solution for every soil condition.
- ✓ Online configuration tool available to streamline design process.
- ✓ Components optimized for strength, durability and fast installation.
- ✓ UL 2703 Listed by Intertek.

Key Features of SunTurf™ Ground Mount System

SUNMODO
We've Got Your Rack!

SunTurf™ Ground Mount System easily integrate Helio Rails with Schedule 40 steel pipes. No drilling is required to attach the aluminum rails to the horizontal pipe. Optional bracing can provide additional structural rigidity for sites with high snow or wind load conditions. Anchor any ground mount installation using one of our fountain types including helical piles, precast ballasts and concrete piers.

Augers and Ground Screws

Our augers are suitable for use in weak to moderate strength soils and areas with a high-water table. Our ground screws are ideal for use in hard packed earth or soils with large amounts of cobble and gravel.

Ground Screw

Earth Auger

Technical Data

Application	Ground Mount
Material	High grade aluminum, galvanized steel and 304 stainless steel hardware
Module Orientation	Portrait and Landscape
Tilt Angle	Range between 10 to 50 degrees
Foundation Types	Post in concrete, helical earth auger, ground screw anchor and ballast
Structural Integrity	Stamped engineering letters available
Certificate	UL2703 listed by ETL
Warranty	25 years

SunModo, Corp. Vancouver, WA., USA • www.sunmodo.com • 360.844.0048 • info@sunmodo.com

CONTRACTOR

WOLF RIVER ELECTRIC

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RACKING DATA SHEET

ENGINEERINC
Drawn by:New@engineerinc.io
DATE: 10/26/2023

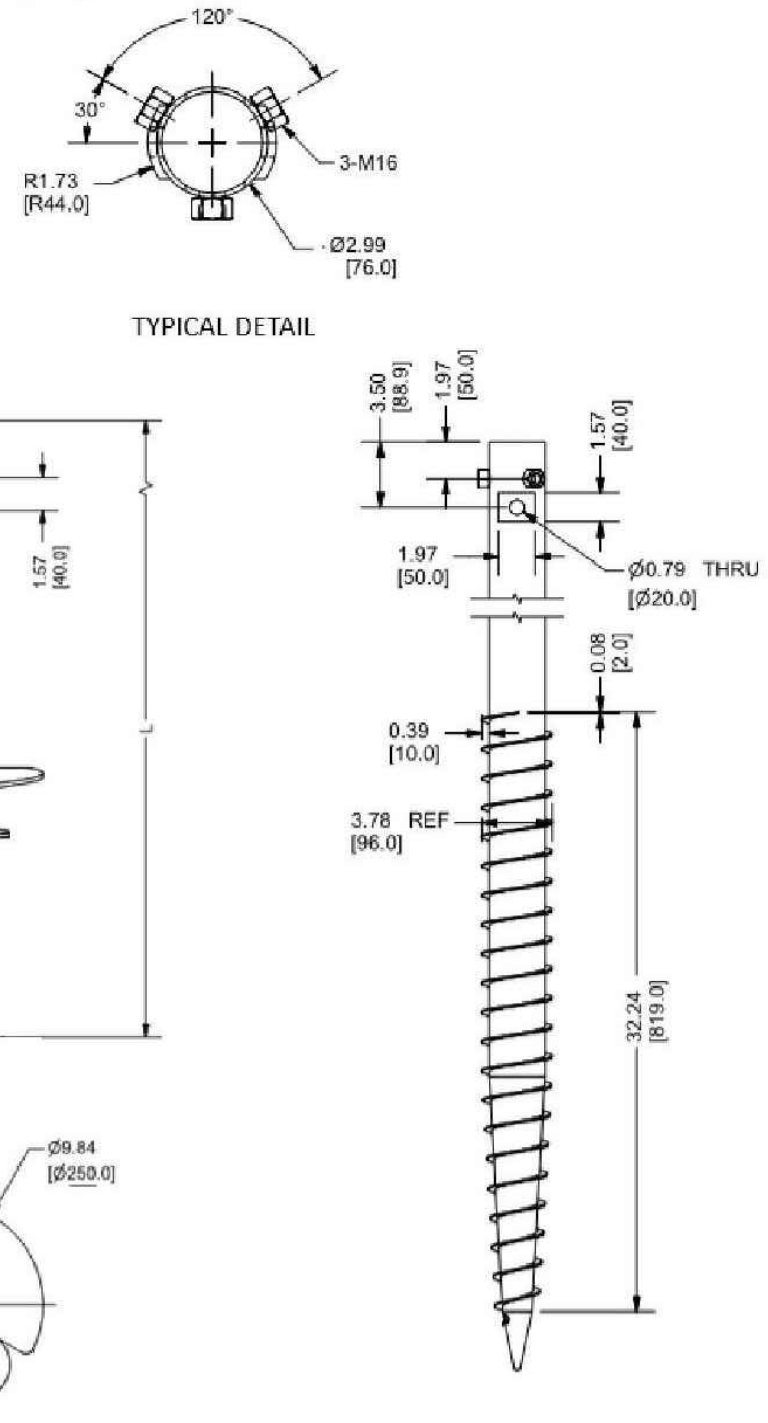
Project Name:
Shane Wernsing
Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project: PV SYSTEM
Scale: AS INDICATED

D 9.0

BASIC INFORMATION	
Part Number	A21146-XXX
Description	10” Helix Blade Auger
Lengths (-063 | -080)	63 inches | 80 inches
Auger Outside Diameter	76mm
Attachment Hardware	3X M16 Set Screws
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	8,2 kg | 10,5 kg

BASIC INFORMATION	
Part Number	A21147-XXX
Description	Screw Anchor
Lengths (-063 | -080)	63 inches | 80 inches
Auger Outside Diameter	76mm
Attachment Hardware	3X M16 Set Screws
Material	#45 Structural Carbon Steel
Finish	Hot Dip Galvanized
Approximate Weight	8,2 kg | 10,5 kg



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ATTACHMENT DATA SHEET

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Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

D 10.0

CERTIFICATE OF COMPLIANCE

Certificate Number	20180530-E341165
Report Reference	E341165-20171030
Issue Date	2018-MAY-30

Issued to: ENPHASE ENERGY INC
1420 N McDowell Blvd
Petaluma CA 94954-6515

This is to certify that representative samples of STATIC INVERTERS, CONVERTERS AND ACCESSORIES FOR USE IN INDEPENDENT POWER SYSTEMS; PHOTOVOLTAIC RAPID SHUTDOWN SYSTEM EQUIPMENT
See Addendum

Have been investigated by UL in accordance with the Standard(s) indicated on this Certificate.

Standard(s) for Safety: See Addendum

Additional Information: See the UL Online Certifications Directory at www.ul.com/database for additional information

Only those products bearing the UL Certification Mark should be considered as being covered by UL's Certification and Follow-Up Service.

Look for the UL Certification Mark on the product.

Bruce Mahrenholz, Director North American Certification Program
UL LLC

Any information and documentation involving UL Mark services are provided on behalf of UL LLC (UL) or any authorized licensee of UL. For questions, please contact a local UL Customer Service Representative at http://ul.com/aboutul/locations/

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CERTIFICATE OF COMPLIANCE

Certificate Number	20180530-E341165
Report Reference	E341165-20171030
Issue Date	2018-MAY-30

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements.

Permanently-connected, Grid Support utility Interactive, 208V single-phase, 240V single phase evaluated for use on a split phase system, distributed resource power system.

Models IQ7-60, IQ7PLUS-72, and IQ7X-96, followed by -2, -5, -B, or -ACM, followed by -US+. Models IQ7PD-72-2-US and IQ7PD-84-2-US.

USL/CNL – Photovoltaic Rapid Shutdown Equipment.

Models IQ7-60, IQ7PLUS-72, and IQ7X-96, followed by -2, -5, -B, or -ACM, followed by -US+. Models IQ7PD-72-2-US and IQ7PD-84-2-US.

+ may be followed by additional characters not affecting safety

Standard(s) for Safety:

UL 62109-1, SAFETY OF POWER CONVERTERS FOR USE IN PHOTOVOLTAIC POWER SYSTEMS - PART 1: GENERAL REQUIREMENTS

CSA C22.2 NO. 107.1-01, GENERAL USE POWER SUPPLIES

IEEE 1547 INTERCONNECTING DISTRIBUTED RESOURCES WITH ELECTRIC POWER SYSTEMS

IEEE 1547.1 IEEE STANDARD CONFORMANCE TEST PROCEDURES FOR EQUIPMENT INTERCONNECTING DISTRIBUTED RESOURCES WITH ELECTRIC POWER SYSTEMS

UL 1741, INVERTERS, CONVERTERS, CONTROLLERS AND INTERCONNECTION SYSTEM EQUIPMENT FOR USE WITH DISTRIBUTED ENERGY RESOURCES

CEC-300-2011-005,-CMF GUIDELINES FOR CALIFORNIA'S SOLAR ELECTRIC INCENTIVE PROGRAMS PURSUANT TO SENATE BILL 1

Bruce Mahrenholz, Director North American Certification Program
UL LLC

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INVERTER CERTIFICATION

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project: PV SYSTEM

Scale: AS INDICATED

D 11.0

MIDNITE SOLAR INC.

Surge Protection

Surge Protection You Can Count On!

MidNite Solar Surge Protection Devices are type 1 devices, designed for indoor and outdoor applications. Engineered for both AC and PV DC electrical systems, they provide protection to service panels, load centers or electronic devices that are directly connected to a MidNite Surge Protection Device (SPD).

MidNite's SPDs are offered in four models to protect a variety of different voltage ranges. They achieve this protection by clamping surge voltage to a level that your system can sustain without damaging the components of the system.

Compare our SPDs against other surge protection devices. You will see there is no comparison in both our price and features. All our SPDs are made in the USA and have a 5 year warranty.

With lightning you only get one chance, so get the best!

www.midnitesolar.com/spd
17722 67th Ave. NE., Arlington, WA. 360-403-7207 FAX: 360-691-6862

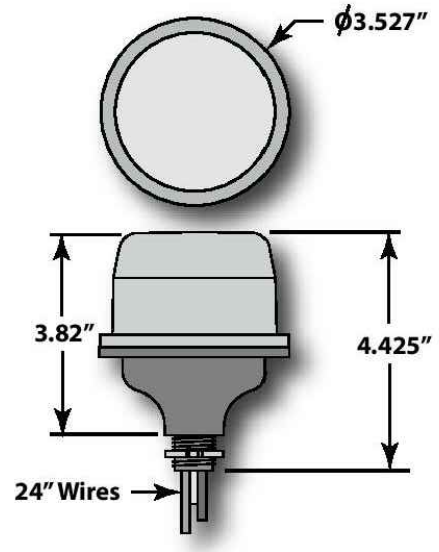
MNSPD300ACFM (Cut-in box)
(MNSPD-300-AC included)

Four Models:

MNSPD-115
MNSPD-300-AC
MNSPD-300-DC
MNSPD-600

MidNite Surge Protection Devices

PART NUMBER	MNSPD-115	MNSPD-300-AC	MNSPD-300-DC	MNSPD-600
Nominal Voltage	0 to 90 VAC 0 to 115 VDC	0 to 250 VAC	0 to 300 VDC	0 to 480 VAC 0 to 600 VDC
MCOV	180V	470V	470V	780V
VPR Line to Ground	600V	1200V	1200V	1800V
Suggested Placement	Up to 90VAC circuits, 12V, 24V, 48VDC battery circuits	120/240 VAC circuits	Off-grid PV combiners Charge controller inputs up to 300VDC	316V/480 VAC circuits Grid-tie PV combiners Grid-tie inverter input Non-Isolated Inverters
Type	UL1449 4th Ed. Type 1	UL1449 4th Ed. Type 1	UL1449 4th Ed. Type 1	UL1449 4th Ed. Type 1
Diagnostic Blue LED	MNSPD-300-AC LED indicates when voltage is present between L1 + ground and L2 + ground MNSPD-115, MNSPD-300-DC and MNSPD-600: LED indicates when voltage is present between L1 + L2 (PV+ PV-)			
Thermal Disconnector	Internal Fuse			
Response Time	<1 micro sec.			



Performance	
Surge Current Rating per Phase	80kA
Short Circuit Current Rating	10kA
Fusing	Individually fused MOVs
Thermal Fusing	Yes
Over current Fusing	Yes
Operating Frequency	0 to 500 Hz
Mechanical Description	
Enclosure	Polycarbonate UL94V-0
Environmental Rating	Type 4X
Connection Method	#12 AWG
Weight	1 lb.
Mounting Method	1/2" Conduit Knockout
Operating Altitude	Sea Level – 12,000' (3,658 Meters)
Storage Temp	-40° F to +185° F (-40° C to +85° C)
Operating Temp	-40° F to +185° F (-40° C to +85° C)
Diagnostics	
Blue status LED, one per leg	
Listings and Performance	
UL Standard for Safety, UL 1449 Surge Protective Devices-Fourth Edition	
CSA C22.2 No. 8-M1986 Electromangetic Interference (EMI) Filters, Fourth Edition	

Model No.	Max Operating Voltage	Surge Current per Phase	Configuration	MCOV	SCCR	VPR 600V/3kA L_G
MNSPD-115	100 VAC/150VDC	80kA	1Ø, 3-wire (2 Legs)	180V L-N	10kA	600V
MNSPD-300-AC	300VAC	80kA	1Ø, 3-wire (2 Legs)	470V L-N	10kA	1200V
MNSPD-300-DC	385VDC	80kA	1Ø, 3-wire (2 Legs)	470V L-N	10kA	1200V
MNSPD-600	480VAC/600VDC	80kA	1Ø, 3-wire (2 Legs)	780V L-N	10kA	1800V

www.midnitesolar.com/spd
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SURGE PROTECTION

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
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St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

D 12.0

DEPARTMENT OF LABOR AND INDUSTRY

Solar PV Inspection Checklist

Solar PV Inspection Checklist for REI #ELE- _____ Installer Wolf RIver Electric
Job Address 46672 381st Ave _____ City/Township St Peter, MN 56082

Required Documentation
- Manufacturer's specifications for the inverter
- Manufacturer's specifications for the module
- Manufacturer's specifications for the optimizer (if used)
- Verification that the racking system grounding and bonding is listed

PV Inverter

- [ ] Is the PV system utility-interactive, stand alone or multimode? 690.2
- [ ] Is all the equipment listed for PV application? 690.4
- [ ] Is the system grounded, ungrounded or (functionally grounded)? 690.2 and 690.41
- [ ] Has DC Ground-Fault Protection been provided and properly labeled? 690.41(B)?
- [ ] What is the maximum PV system voltage? 690.7
- [ ] Is all listed equipment rated for the maximum voltage? 690.7
- [ ] Determine the maximum circuit current for the PV Source and Output Circuit; Inverter Output Circuit; Inverter Input Circuit; and DC to DC Converter Output (refer to inverter documentation). 690.8

System Grounding

- [ ] Are all exposed non-current carrying metal parts of the PV system grounded? 690.43 and 690.47
- [ ] Are the mounting structures or systems used for equipment grounding? 690.43
- [ ] Are the interconnecting devices used for equipment grounding listed and identified? 690.43
- [ ] Are the EGC properly sized and protected if exposed and not smaller than #6? 690.45, 690.46, 690.50, 250.122, 250.120(C)
- [ ] Has the grounding electrode system been installed? 690.47
- [ ] If both are present, has the DC grounding electrode system been bonded to the AC GES? 690.47(A)

Wiring Methods and Disconnecting Means

- [ ] Are the conductor and cable ampacities determined at 125% before adjustment factors? 690.8 (B)
- [ ] How are the PV Source and Output Circuit protected from overcurrent? 690.9
- [ ] Do AC or DC OCPD's have the appropriate voltage, current and interrupt ratings? 690.9
- [ ] Has arc-fault circuit protection been provided for DC source and/or output circuits? 690.11
- [ ] Is a rapid shutdown required and if so, how is it accomplished and identified? 690.12 & 690.56(C)
- [ ] Is the PV disconnect permanently marked and installed in a readily accessible location? 690.13
- [ ] Are the Isolating devices or equipment disconnecting means installed in circuits connected to equipment at a location within the equipment, or within sight and 10 feet of the equipment? (Where the maximum circuit current is greater than 30 amperes an equipment disconnecting means shall be provided for isolation.) 690.15
- [ ] Has the fuse disconnecting means, if required, been installed? 690.15 and 240.40
- [ ] Are PV source or output circuits > 30 volts in a raceway or guarded if readily accessible? 690.31
- [ ] Is single conductor cable used outdoors Type USE-2 or listed & labeled PV wire? 690.31
- [ ] Are PV source or output circuits on or inside a building in a metal raceway and marked? 690.31

Interconnection

- [ ] Has a plaque or directory been installed at each disconnecting means (capable of interconnection) denoting all electric power sources & power production sources? 705.10
- [ ] Has the point of connection to other sources been installed per 705.12?
- [ ] Is the supply side disconnect readily accessible and within 10' of the connection point? 705.11
- [ ] Are the utility interactive inverters connected to the system through a dedicated circuit breaker or fusible disconnecting means? 705.12
- [ ] Does the bus or conductor ampacity comply with 705.12?
- [ ] Have all the required labels been applied? (See separate label list.)

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PV INSPECTION CHECKLIST

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing

Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project:
PV SYSTEM

Scale:
AS INDICATED

D 13.0

Data Sheet
Enphase Energy System

Enphase IQ System Controller 2

The **Enphase IQ System Controller 2** connects the home to grid power, the IQ Battery system, and solar PV. It provides microgrid interconnection device (MID) functionality by automatically detecting and seamlessly transitioning the home energy system from grid power to backup power in the event of a grid failure. It consolidates interconnection equipment into a single enclosure and streamlines grid independent capabilities of PV and storage installations by providing a consistent, pre-wired solution for residential applications.

Reliable

- Durable NEMA type 3R enclosure
- Ten-year limited warranty

Smart

- Controls safe connectivity to the grid
- Automatically detects grid outages
- Provides seamless transition to backup

Simple

- Connects to the load or service equipment[1] side of the main load panel
- Centered mounting brackets support single stud mounting
- Supports conduit entry from the bottom, bottom left side, and bottom right side
- Supports whole home and partial home backup and subpanel backup
- Up to 200A main breaker support
- Includes neutral-forming transformer for split phase 120/240V backup operation
- IQ System Controller supports backward compatibility with older generation of PV microinverters (M215, M250 and S series), making it simple for home owners to upgrade their systems
- Easy integration with generator from major manufacturers

1. IQ System Controller 2 is not suitable for use as service equipment in Canada.

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

Enphase IQ System Controller 2

MODEL NUMBER		
EP200G101-M240US01	Enphase IQ System Controller 2 with neutral-forming transformer (NFT), Microgrid Interconnect Device (MID), breakers, and screws. Streamlines grid-independent capabilities of PV and battery installations.	
ACCESSORIES and **REPLACEMENT PARTS**		
EP200G-NA-XA-E3	Replacement IQ System Controller 2 printed circuit board	
EP200G-NA-HD-200A	Eaton type BR circuit breaker hold-down screw kit, BRHDK125	
CT-200-SPLIT	200 A split core current transformers for Generator metering (+/- 2.5%)	
Circuit breakers (as needed)[2,3]	Not included, must order separately:	
• BRK-100A-2P-240V : Main breaker, 2 pole, 100A, 25kAIC, CSR2100	• BRK-20A-2P-240V-B: Circuit breaker, 2 pole, 20A, 10kAIC, BR220B	
• BRK-125A-2P-240V: Main breaker, 2 pole, 125A, 25kAIC, CSR2125N	• BRK-30A-2P-240V: Circuit breaker, 2 pole, 30A, 10kAIC, BR230B	
• BRK-150A-2P-240V: Main breaker, 2 pole, 150A, 25kAIC, CSR2150N	• BRK-40A-2P-240V: Circuit breaker, 2 pole, 40A, 10kAIC, BR240B	
• BRK-175A-2P-240V: Main breaker, 2 pole, 175A, 25kAIC, CSR2175N	• BRK-60A-2P-240V: Circuit breaker, 2 pole, 60A, 10kAIC, BR260	
• BRK-200A-2P-240V: Main breaker, 2 pole, 200A, 25kAIC, CSR2200N	• BRK-80A-2P-240V: Circuit breaker, 2 pole, 80A, 10kAIC, BR280	
EP200G-HNDL-R1	IQ System Controller 2 installation handle kit (order separately)	
EP200G-LITKIT	IQ System Controller 2 literature kit, including labels, feed-through headers, screws, filler plates, and QIG	
BRK-20A40A-2P-240V	2 pole, 20A/40A, 10kAIC, BQC220240	
ELECTRICAL SPECIFICATIONS		
Assembly rating	Continuous operation at 100% of its rating	
Nominal voltage / range (L-L)	240 VAC / 100 - 310 VAC	
Voltage measurement accuracy	±1% V nominal (±1.2V L-N and ±2.4V L-L)	
Auxiliary contact for load control, excess PV control, and generator two-wire control	24V, 1A	
Nominal frequency / range	60 Hz / 56 - 63 Hz	
Frequency measurement accuracy	±0.1 Hz	
Maximum continuous current rating	160A	
Maximum input overcurrent protection device	200A	
Maximum output overcurrent protection device	200A	
Maximum overcurrent protection device rating for Generator circuit[4]	80A	
Maximum overcurrent protection device rating for storage branch circuit[4] (the storage branch circuit can be replaced with PV)	80A	
Maximum overcurrent protection device rating for IQ8 PV combiner branch circuit[4]	80A	
Neutral Forming Transformer (NFT)	• Breaker rating (pre-installed): 40A between L1 and Neutral; 40A between L2 and Neutral • Continuous rated power: 3600VA • Maximum continuous unbalance current: 30A @ 120V • Peak rated power: 8800VA for 30 seconds • Peak unbalanced current: 80A @ 120V for 30 seconds	
MECHANICAL DATA		
Dimensions (WxHxD)	50cm x 91.6cm x 24.6cm (19.7 in x 36 in x 9.7 in)	
Weight	39.4 kg (87 lbs)	
Ambient temperature range	-40º C to +50º C (-40º F to 122º F)	
Cooling	Natural convection, plus heat shield	
Enclosure environmental rating	Outdoor, NEMA type 3R, polycarbonate construction	
Altitude	To 2500 meters (8200 feet)	
WIRE SIZES		
Connections (All lugs are rated to 90C)	• Main lugs and backup load lugs • CSR breaker bottom wiring lugs • BR breakers (wire provided) • AC combiner lugs, Encharge lugs, and generator lugs • Neutral (large lugs)	Cu/Al: 1 AWG – 300 KCMIL Cu/Al: 2 AWG – 300 KCMIL 6 AWG 14 AWG – 2 AWG Cu/Al: 6 AWG - 300 KCMIL
Neutral and ground bars	Large holes (5/16-24 UNF) Small holes (10-32 UNF)	14 AWG – 1/0 AWG 14 AWG – 6 AWG
COMPLIANCE		
Compliance	UL 1741, UL 1741 SA, UL 1741 PCS, UL1998, UL869A[5], UL67[5], UL508[5], UL50E[5] CSA 22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003, AC156. IQ System Controller 2 is approved for Use as Service Equipment in the United States[2].	

2. Compatible with BRHDK125 Hold-Down Kit to comply with 2017 NEC 710.15E for back-fed circuit breakers.
3. The IQ System Controller 2 is rated 22 kAIC
4. Not included. Installer must provide properly rated breaker per circuit breaker list above.
5. Sections from these standards were used during the safety evaluation and included in the UL 1741 listing.

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE

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CONTROLLER 2 DATA SHEET

ENGINEERINC

Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
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Project:
PV SYSTEM

Scale:
AS INDICATED

D 14.0

PRELIMINARY

Enphase Encharge 10

The **Enphase Encharge 10™** battery is **reliable**, **smart**, **simple**, and **safe**. It provides the lowest lifetime energy costs with backup capability for both new and retrofit solar customers. As an installer, you can quickly design the right system size to meet the needs of the homeowner.

Reliable

- Proven high reliability IQ Series Microinverters
- Ten-year limited warranty
- Extensive testing
- Passive cooling (no moving parts/fans)

Smart

- Utility TOU optimization
- Self consumption
- Remote upgrade
- Mobile app-based monitoring
- Grid-forming capability for backup operation

Simple

- Fully integrated AC battery system
- Quick and easy plug-and-play installation
- Interconnects with standard household AC wiring

Safe

- Cells safety tested
- Lithium iron phosphate (LFP) chemistry for maximum safety and longevity

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE.

PRELIMINARY

Enphase Encharge 10

MODEL NUMBER	
ENCHARGE-10-1P-NA	Encharge 10 battery storage system with integrated Enphase Microinverters and BMU. Includes: - Three Encharge 3.36kWh base units (B10-A01-US00-1-3) - One Encharge 10 cover kit with cover, mounting bracket, and watertight conduit hubs (B10-C-1050-O) - Interconnect kit for wiring between batteries (B10-W-AWG08-0700-O)
ACCESSORIES	
B10-W-AWG08-0700-O	Connection cable
OUTPUT (AC)	**@ 240 VAC[1]**
Rated (continuous) output power[2]	3.84 kVA
Peak output power	5.7 kVA (10 seconds)
Nominal voltage / range	240 / 211 – 264 VAC
Nominal frequency / range	60 / 57 – 61 Hz
Rated output current	16 A
Power factor (adjustable)	0.85 leading ... 0.85 lagging
Maximum units per 20 A branch circuit	1 unit (single phase)
Interconnection	single-phase
Round trip efficiency[2]	89%
BATTERY	
Total capacity	10.5 kWh
Usable capacity	10.08 kWh
Round trip efficiency	96%
Maximum DC voltage	73.5 V
Ambient operating temperature range	-15° C to 55° C (5° F to 131° F) non-condensing
Optimum operating temperature range	0° C to 30° C (32° F to 86° F)
Chemistry	Lithium iron phosphate (LFP)
MECHANICAL DATA	
Dimensions (WxHxD)	1070 mm x 664 mm x 319 mm (42.13 in x 26.14 in x 12.56 in)
Weight	Three each 44.2 kg (97.4 lbs) base units plus 24.4 kg (53.8 lbs) cover and mounting bracket; total 156.9 kg (346 lbs)
Enclosure	Outdoor – NEMA 3R
Cooling	Natural convection – No fans
Altitude	Up to 2500 meters (8200 feet)
Mounting	Wall mount
FEATURES AND COMPLIANCE	
Compatibility	Compatible with grid-tied PV systems. Compatible with Enphase IQ Series Micros, Enphase Enpower, and Enphase IQ Envoy for backup operation.
Communication	Wireless 2.4 GHz and 915 MHz
Services	Backup, self-consumption, TOU, Demand Charge, NEM Integrity
Monitoring	Enlighten Manager and MyEnlighten monitoring options; API integration
Compliance	This product will comply with all the required regulatory certifications in the North American markets before launch. Details will be provided in the final data sheet.
LIMITED WARRANTY	
Limited Warranty[3]	>70% capacity, up to 10 years or 4000 cycles

1. Supported in backup/off grid operations
2. AC to Battery to AC
3. Whichever occurs first. Restrictions apply.

To learn more about Enphase offerings, visit **enphase.com**

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2019-11-04

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BATTERY DATA SHEET

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PV SYSTEM

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AS INDICATED

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Data Sheet
Enphase Networking

Enphase IQ Combiner 4/4C

X-IQ-AM1-240-4
X-IQ-AM1-240-4C

X-IQ-AM1-240-4C

X-IQ-AM1-240-4

The **Enphase IQ Combiner 4/4C** with Enphase IQ Gateway and integrated LTE-M1 cell modem (included only with IQ Combiner 4C) consolidates interconnection equipment into a single enclosure and streamlines IQ microinverters and storage installations by providing a consistent, pre-wired solution for residential applications. It offers up to four 2-pole input circuits and Eaton BR series busbar assembly.

Smart

- Includes IQ Gateway for communication and control
- Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), included only with IQ Combiner 4C
- Includes solar shield to match Enphase IQ Battery aesthetics and deflect heat
- Flexible networking supports Wi-Fi, Ethernet, or cellular
- Optional AC receptacle available for PLC bridge
- Provides production metering and consumption monitoring

Simple

- Centered mounting brackets support single stud mounting
- Supports bottom, back and side conduit entry
- Up to four 2-pole branch circuits for 240 VAC plug-in breakers (not included)
- 80A total PV or storage branch circuits

Reliable

- Durable NRTL-certified NEMA type 3R enclosure
- Five-year limited warranty
- Two years labor reimbursement program coverage included for both the IQ Combiner SKU's
- UL listed

UL LISTED

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE.

Enphase IQ Combiner 4/4C

MODEL NUMBER	
IQ Combiner 4 (X-IQ-AM1-240-4)	IQ Combiner 4 with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes a silver solar shield to match the IQ Battery system and IQ System Controller 2 and to deflect heat.
IQ Combiner 4C (X-IQ-AM1-240-4C)	IQ Combiner 4C with Enphase IQ Gateway printed circuit board for integrated revenue grade PV production metering (ANSI C12.20 +/- 0.5%) and consumption monitoring (+/- 2.5%). Includes Enphase Mobile Connect cellular modem (CELLMODEM-M1-06-SP-05), a plug-and-play industrial-grade cell modem for systems up to 60 microinverters. (Available in the US, Canada, Mexico, Puerto Rico, and the US Virgin Islands, where there is adequate cellular service in the installation area.) Includes a silver solar shield to match the IQ Battery and IQ System Controller and to deflect heat.
ACCESSORIES AND REPLACEMENT PARTS	(not included, order separately)
Ensemble Communications Kit COMMS-CELLMODEM-M1-06 CELLMODEM-M1-06-SP-05 CELLMODEM-M1-06-AT-05	- Includes COMMS-KIT-01 and CELLMODEM-M1-06-SP-05 with 5-year Sprint data plan for Ensemble sites - 4G based LTE-M1 cellular modem with 5-year Sprint data plan - 4G based LTE-M1 cellular modem with 5-year AT&T data plan
Circuit Breakers BRK-10A-2-240V BRK-15A-2-240V BRK-20A-2P-240V BRK-15A-2P-240V-B BRK-20A-2P-240V-B	Supports Eaton BR210, BR215, BR220, BR230, BR240, BR250, and BR260 circuit breakers. Circuit breaker, 2 pole, 10A, Eaton BR210 Circuit breaker, 2 pole, 15A, Eaton BR215 Circuit breaker, 2 pole, 20A, Eaton BR220 Circuit breaker, 2 pole, 15A, Eaton BR215B with hold down kit support Circuit breaker, 2 pole, 20A, Eaton BR220B with hold down kit support
EPLC-01	Power line carrier (communication bridge pair), quantity - one pair
XA-SOLARSHIELD-ES	Replacement solar shield for IQ Combiner 4/4C
XA-PLUG-120-3	Accessory receptacle for Power Line Carrier in IQ Combiner 4/4C (required for EPLC-01)
XA-ENV-PCBA-3	Replacement IQ Gateway printed circuit board (PCB) for Combiner 4/4C
X-IQ-NA-HD-125A	Hold down kit for Eaton circuit breaker with screws.
ELECTRICAL SPECIFICATIONS	
Rating	Continuous duty
System voltage	120/240 VAC, 60 Hz
Eaton BR series busbar rating	125 A
Max. continuous current rating	65 A
Max. continuous current rating (input from PV/storage)	64 A
Max. fuse/circuit rating (output)	90 A
Branch circuits (solar and/or storage)	Up to four 2-pole Eaton BR series Distributed Generation (DG) breakers only (not included)
Max. total branch circuit breaker rating (input)	80A of distributed generation / 95A with IQ Gateway breaker included
Envoy breaker	10A or 15A rating GE/Siemens/Eaton included
Production metering CT	200 A solid core pre-installed and wired to IQ Gateway
Consumption monitoring CT (CT-200-SPLIT)	A pair of 200 A split core current transformers
MECHANICAL DATA	
Dimensions (WxHxD)	37.5 x 49.5 x 16.8 cm (14.75" x 19.5" x 6.63"). Height is 21.06" (53.5 cm) with mounting brackets.
Weight	7.5 kg (16.5 lbs)
Ambient temperature range	-40° C to +46° C (-40° to 115° F)
Cooling	Natural convection, plus heat shield
Enclosure environmental rating	Outdoor, NRTL-certified, NEMA type 3R, polycarbonate construction
Wire sizes	• 20 A to 50 A breaker inputs: 14 to 4 AWG copper conductors • 60 A breaker branch input: 4 to 1/0 AWG copper conductors • Main lug combined output: 10 to 2/0 AWG copper conductors • Neutral and ground: 14 to 1/0 copper conductors Always follow local code requirements for conductor sizing.
Altitude	To 2000 meters (6,560 feet)
INTERNET CONNECTION OPTIONS	
Integrated Wi-Fi	802.11b/g/n
Cellular	CELLMODEM-M1-06-SP-05, CELLMODEM-M1-06-AT-05 (4G based LTE-M1 cellular modem). Note that an Enphase Mobile Connect cellular modem is required for all Ensemble installations.
Ethernet	Optional, 802.3, Cat5E (or Cat 6) UTP Ethernet cable (not included)
COMPLIANCE	
Compliance, IQ Combiner	UL 1741, CAN/CSA C22.2 No. 107.1, 47 CFR, Part 15, Class B, ICES 003 Production metering: ANSI C12.20 accuracy class 0.5 (PV production) Consumption metering: accuracy class 2.5
Compliance, IQ Gateway	UL 60601-1/CANCSA 22.2 No. 61010-1

To learn more about Enphase offerings, visit **enphase.com**

ENPHASE.

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CONTRACTOR

WOLF RIVER ELECTRIC

Wolf RIver Electirc
Address:101 Isanti Parkway NE, Isanti, MN 55040
Phone number: (763) 229-6662
E-mail: contact@wolfriverelectric.com

ENPHASE IQ COMBINER DATASHEET

ENGINEERINC
Drawn by:New@engineerinc.io
DATE: 10/26/2023

Project Name:
Shane Wernsing
Property Adress:
46672 381st Ave,
St Peter, MN 56082

Project: PV SYSTEM
Scale: AS INDICATED

D 16.0

DISPLAYNAME	MAILINGADDR	MAILINGCITYSTATEZIP
DARREN G BODE	38226 466TH LN	SAINT PETER MN 56082
AARON K & SARA A BURROUGHS	46560 381ST AVE	SAINT PETER MN 56082
WAYNE R & GWENDOLYNN CATTRYSSE	46828 381ST AVE	SAINT PETER MN 56082
LARRY GUENTZEL & TAMELA TOLZMANN	1768 STEWART RIVER RD	TWO HARBORS MN 55616
DANIEL & WHITNEY HOLZ	38194 466TH	SAINT PETER MN 56082
DAVID C & JAN M JOHNSON	46620 381ST AVE	SAINT PETER MN 56082
MICHAEL A & JODI E KMETT	PO BOX 533	SAINT PETER MN 56082
MARK M OSBORNE FAMILY TRUST	36995 351ST LN	SAINT PETER MN 56082
DARBY & REBECCA RASMUSSEN	46821 US HIGHWAY 169	SAINT PETER MN 56082
SCOTT D & RITA Y RASSBACH	46739 381ST AVE	SAINT PETER MN 56082
CAIN & EMMALEE SIMS	46717 381ST AVE	SAINT PETER MN 56082
GALEN L & DEBRA L SMITH	38230 466TH LN	SAINT PETER MN 56082
DAVID R STOLT	46983 381ST AVE	SAINT PETER MN 56082
JOHN WATTLEWORTH & DEBORAH JOHNSON	46797 381ST AVE	SAINT PETER MN 56082
SHANE E & KIMBERLY J WERNSING	PO BOX 478	SAINT PETER MN 56082
JOSHUA K WINKLER	46729 381ST AVE	SAINT PETER MN 56082
SETH GREENWOOD	1700 SUNRISE DR	SAINT PETER MN 56082
PAUL VANZEE - OSHAWA TWP	46301 COUNTY Rd 13	SAINT PETER MN 56082
MARL SEAMON	101 ISANTI PKWY NE, STE G	ISANTI MN 55040

ATTACHMENT F
Neighbor Notification List

PLANNING COMMISSION
CRITERIA FOR GRANTING A CONDITIONAL USE PERMIT

Name of Applicant	Mark Seamon, Wolf River Electric Company	**Hearing**	June 10, 2024
Property Owner	Shane & Kimberly Wernsing	**Continuation**	N/A
File	PLN24-08	**Commission Member**	_____
Use Request	After-the-fact Conditional Use Permit for Large Solar Energy System		

FINDINGS OF FACT

Authority for issuance of conditional use permits is derived from Minnesota State Statute §394.301 and Nicollet County Zoning Ordinance, Section 505. The conditional use must maintain the health, safety, morals, and general welfare of the community.

1. Given the nature of the land, the requested use is compatible with public health, safety, and general welfare.

YES ☐ NO ☐ REASON: _____

_____

_____

2. The requested use will not create an unreasonably excessive burden on the existing roads or other utilities.

YES ☐ NO ☐ REASON: _____

_____

_____

3. The requested use is compatible with the surrounding area and will not significantly depreciate nearby properties.

YES ☐ NO ☐ REASON: _____

_____

_____

4. The structure and the use shall have an appearance that will not have an unreasonably adverse effect on nearby properties.

YES ☐ NO ☐ REASON: _____

_____

_____

ATTACHMENT G
Criteria for Conditional Use Permit

5. The requested use is consistent with the County Zoning Ordinance.

YES ☐ NO ☐ REASON: _____

_____

_____

6. The requested use is not in conflict with the County Comprehensive Plan.

YES ☐ NO ☐ REASON: _____

_____

_____

7. The requested use will not create an unreasonably adverse effect because of noise, odor, glare, or general unsightliness, for nearby property owners.

YES ☐ NO ☐ REASON: _____

_____

_____

8. The requested use is reasonably related to the existing land use and environment.

YES ☐ NO ☐ REASON: _____

_____

_____

9. There are no apparent unreasonable health risks posed to neighbors or the public in general.

YES ☐ NO ☐ REASON: _____

_____

_____

10. The requested use [<u>will/will not</u>] have adverse effect upon public health, safety and welfare due to the following other factors.

YES ☐ NO ☐ REASON: _____

_____

_____

THE NICOLLET COUNTY PLANNING COMMISSION

☐ RECOMMENDS APPROVAL OF THE REQUEST ☐ RECOMMENDS DENIAL OF THE REQUEST

THIS DECISION WAS BASED UPON

☐ Application ☐ Site visit ☐ Staff Report ☐ Photographs
☐ Information received at public hearing

SPECIAL CONDITIONS ARE LISTED ON THE RECORDED CONDITIONAL USE AND IN THE RECORD.

FACTS SUPPORTING THE ANSWER TO EACH QUESTION ABOVE ARE HEREBY CERTIFIED AS THE FINDINGS OF THE NICOLLET COUNTY PLANNING COMMISSION.

Date: _____ Commission Member: _____

NICOLLET COUNTY EST. 1853

04/01/2024 - 05/29/2024 Permit Form

RECORD ID	RECORD TYPE	DESCRIPTION	ADDRESS	OWNER NAME	PARCEL ID
SPT24-03	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	66251 340TH ST, GIBBON, MN 55335	SEARLES WELL	13.006.0400
BLD24-17	STRUCTURE PERMIT	REASSEMBLED 40 X 40' STEEL STRUCTURE	56033 350TH ST, LAFAYETTE MN 56054	TANYA & CHAD HOFFMANN	06.012.0105
BLD24-18	STRUCTURE PERMIT	36' X 115' DAIRY BARN EXTENSION	43145 CO RD 13, SAINT PETER, MN 56082	PETER SEITZER	10.120.0205
BLD24-19	STRUCTURE PERMIT	40' X 60' NEW SHED, MOVE EXISTING SHED	63259 388TH LN, NEW ULM, MN 56073	KEVIN REINHART	13.027.3300
SPT24-07	SSTS PERMIT	TANK REPLACEMENT FOR A 4 BEDROOM HOUSE	52899 MINNEWAUKON CT, N. MANKATO, MN 56003	JADD SEPPMANN AND SONS	01.642.0010
BLD24-20	STRUCTURE PERMIT	NEW 3,282 SQ FT DWELLING & 40' X 70' DETACHED SHED	TBD	SANTIAGO TOPETE ARCE	01.011.0300
SPT24-08	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	40010 STATE HWY 22, ST PETER, MN 56082	ST PETER WELL	07.131.0860
SPT24-09	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	34260 348TH ST, LE SUEUR, MN 56058	ST PETER WELL	07.104.0700
BLD24-21	STRUCTURE PERMIT	NEW GARAGE >1000 SQ/FT	46126 571ST LN, NEW ULM, MN 56073	DENNIS LEGARE	04.202.0400
BLD24-23	STRUCTURE PERMIT	SHED LEAN-TO JULY 23	37477 345TH LN, ST. PETER, MN 56082	JOHN ZIEGLER	07.121.1415
BLD24-24	STRUCTURE PERMIT	BACKYARD DECK	52547 RAVINE RD, N. MANKATO MN 56003	CHAD & MICHELLE BERGER	01.682.0100
PLN24-08	CONDITIONAL USE PERMIT	41 KW SOLAR ENERGY SYSTEM	46672 381ST AVE, SAINT PETER, MN 56082	MARK SEAMON	10.301.1300
BLD24-25	STRUCTURE PERMIT	40 X 40 REPLACEMENT SHED	62579 346TH LN, GIBBON MN 55335	LEON MATTIES	13.002.0300
SPT24-12	SSTS PERMIT	REPLACEMENT SEPTIC SYSTEM	42389 KERNS DR, NORTH MANKATO, MN 56003	JADD SEPPMANN AND SONS	01.592.0040
BLD24-26	STRUCTURE PERMIT	40 X 56 MACHINE SHED FOR PERSONAL COLD STORAGE	47166 481ST AVE, NICOLLET MN 56074	JOSEPH WEBER	09.007.0200
BLD24-27	STRUCTURE PERMIT	16 X 30 ATTACHED GARAGE ADDITION	40910 JUDSON BOTTOM RD	CHRIS CARNAHAN	01.109.1800
BLD24-28	RENEWABLE ENERGY PERMIT	RESIDENTIAL ROOF MOUNTED 8.01KW SOLAR PANNELS	52900 MINNEWAUKON DR, N. MANKATO, MN 56003	SKYLINE SOLAR	01.741.0045
BLD24-29	STRUCTURE PERMIT	3279 SF NEW DWELLING	TBD	LAGER CONSTRUCTION	07.121.1405
SPT24-13	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	51731 COUNTY ROAD 21, COURTLAND, MN 56021	SEARLES WELL	04.134.0910
BLD24-30	LAND ALTERATION PERMIT	RIVER ROCK PAD FOR 2 NEW CAMP SITES	33952 348TH ST, LE SUEUR, MN 56058	JOHN & KAREN BRANCAMP	07.103.0600
SPT24-14	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	61794 SUNSET LN, NEW ULM, MN 56073	SEARLES WELL	13.743.0010
BLD24-31	STRUCTURE PERMIT	15' X 15' OFFICE ADDITION TO SHED	45919 381ST AVE, SAINT PETER MN 56082	JENNIFER YOST	10.136.1300
BLD24-32	STRUCTURE PERMIT	20' X 30' GARAGE ADDITION	44607 367TH AVE, SAINT PETER MN 56082	TREVOR ROBB	10.230.0710
BLD24-33	STRUCTURE PERMIT	16' X 22' DECK	42111 KERNS DR, NORTH MANKATO, 56003	BETSY DALLUGE	01.593.0040
SPT24-15	SSTS PERMIT	REPLACEMENT SYSTEM FOR A 4 BEDROOM HOUSE	45408 551ST AVE, COURTLAND, MN 56021	SEARLES WELL	04.036.0600
SPT24-16	SSTS PERMIT	NEW SYSTEM FOR A NEW 3 BEDROOM HOUSE	58167 428TH LN, NEW ULM, MN 56073	SEARLES WELL	06.116.1100
BLD24-35	STRUCTURE PERMIT	NEW 3,400 SQ FOOT DWELLING	45178 STATE HWY 111, NICOLLET MN 56074	RANDY DORN	05.033.0210
PLN24-9	VARIANCE	FRONT YARD VAR REQUEST	46255 380TH ST, NICOLLET MN 56074	TRAVIS ZIMMERMAN	08.028.0205
BLD24-36	STRUCTURE PERMIT	SPLIT 8' X 16' DECK AND MOVE TO 2 NEW LOCATIONS	47052 435TH AVE, NICOLLET MN 56074	TYLER THOMPSON	09.012.0200 09.012.0100
SPT24-17	SSTS PERMIT	REPLACEMENT SEPTIC FOR A 3 BEDROOM HOUSE	44499 443RD LN, NORTH MANKATO, MN 56003	JOEL SHULT	09.026.0800
BLD24-37	STRUCTURE PERMIT	48' D 54.5' H GRAIN BIN	41416 403RD AVE	KEVIN WENNER	12.009.0110
BLD24-38	STRUCTURE PERMIT	10 X 15 & 30 X 34 HOME ADDITION	56862 350TH ST, LAFAYETTE MN 56054	ANDREW KAMM	06.002.0400
BLD24-39	STRUCTURE PERMIT	NEW 7' X 30' PORCH	45919 381ST AVE, SAINT PETER MN 56082	JENNIFER YOST	10.136.1300
BLD24-40	FEEDLOT CONSTRUCTION PERMIT	102' 2" X 96' BARN ADDTION & 736,427 SF^3 LMSA. APPROVED VIA PLN23-04	38171 403RD AVE, SAINT PETER MN 56082	MIKE ANNEXSTAD	07.028.0415
BLD24-41	STRUCTURE PERMIT	40' X 40' SHED	50860 CO RD 15, NICOLLET MN 56074	WADE KARSTAD	02.026.0100
BLD24-42	STRUCTURE PERMIT	80' X 100' BARN	45711 380TH ST, NICOLLET MN 56074	DAVID HANSON	08.027.0300
BLD24-45	STRUCTURE PERMIT	NEW 48' GRAIN BIN	64008 FORT RD, NEW ULM MN 56073	MICHAEL BASTIAN	13.027.0100
BLD24-46	STRUCTURE PERMIT	2860 SQ FT REAPLACEMENT DWELLING	58167 428TH LN, NEW ULM, MN 56073	KEVIN FINSTAD	06.116.1100