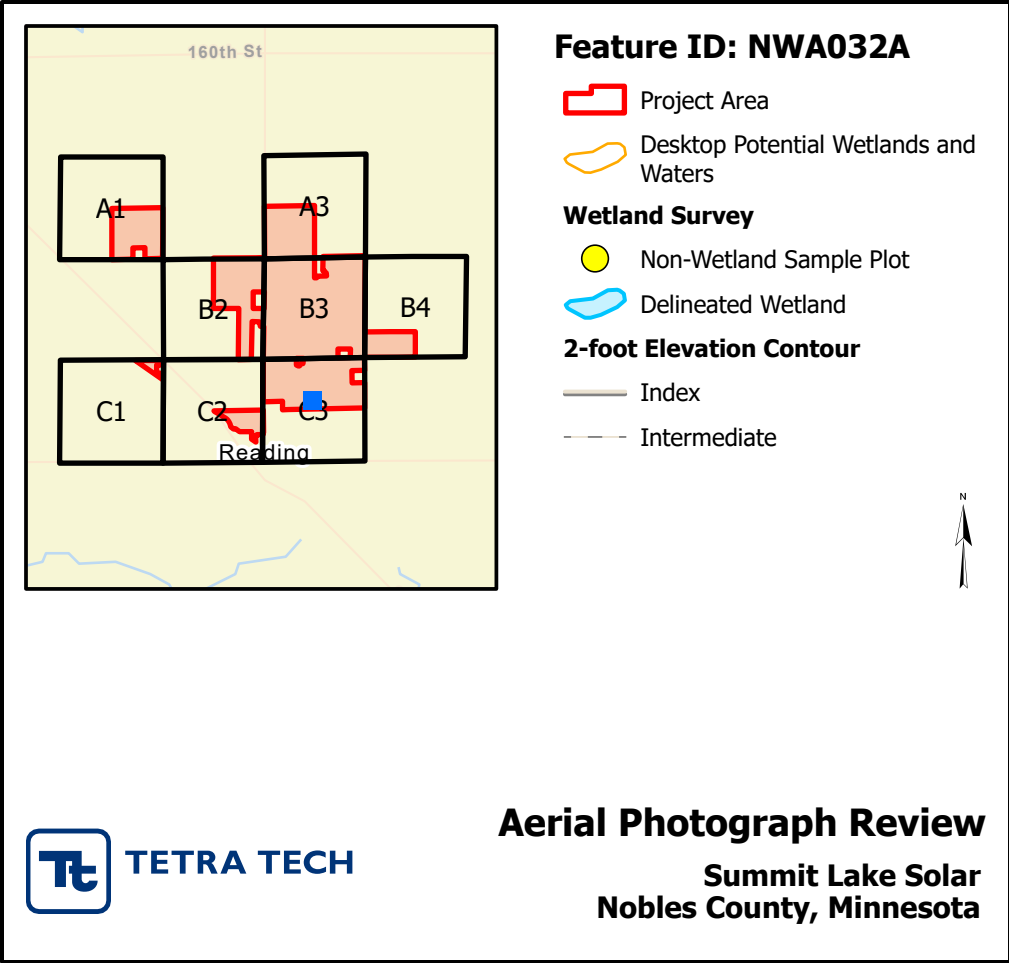
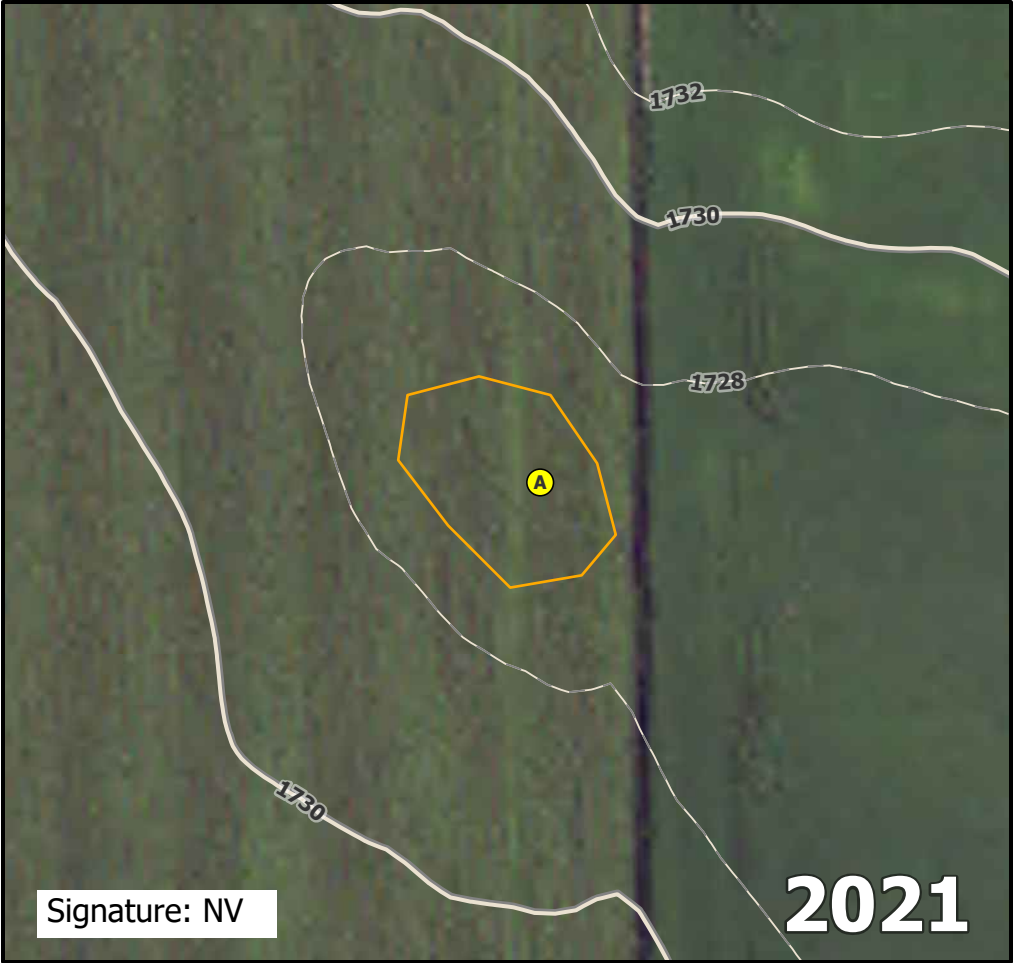
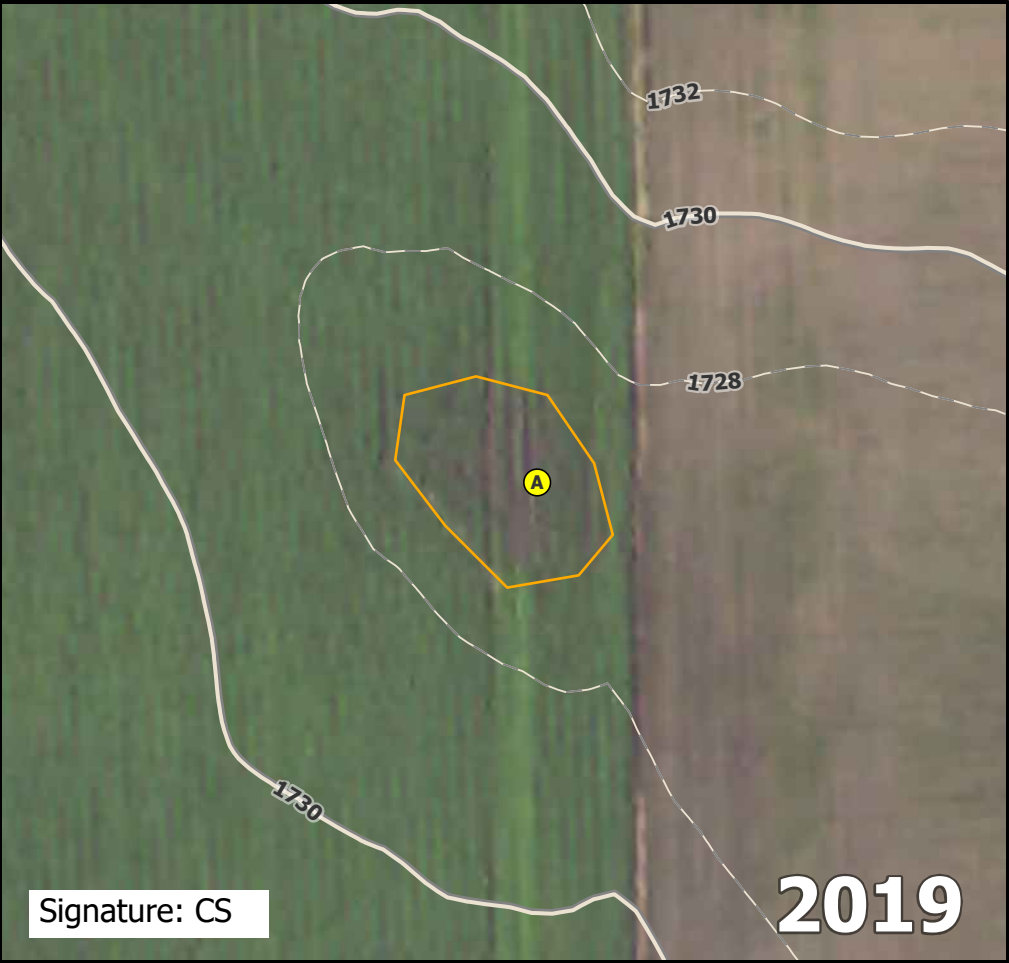
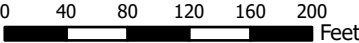
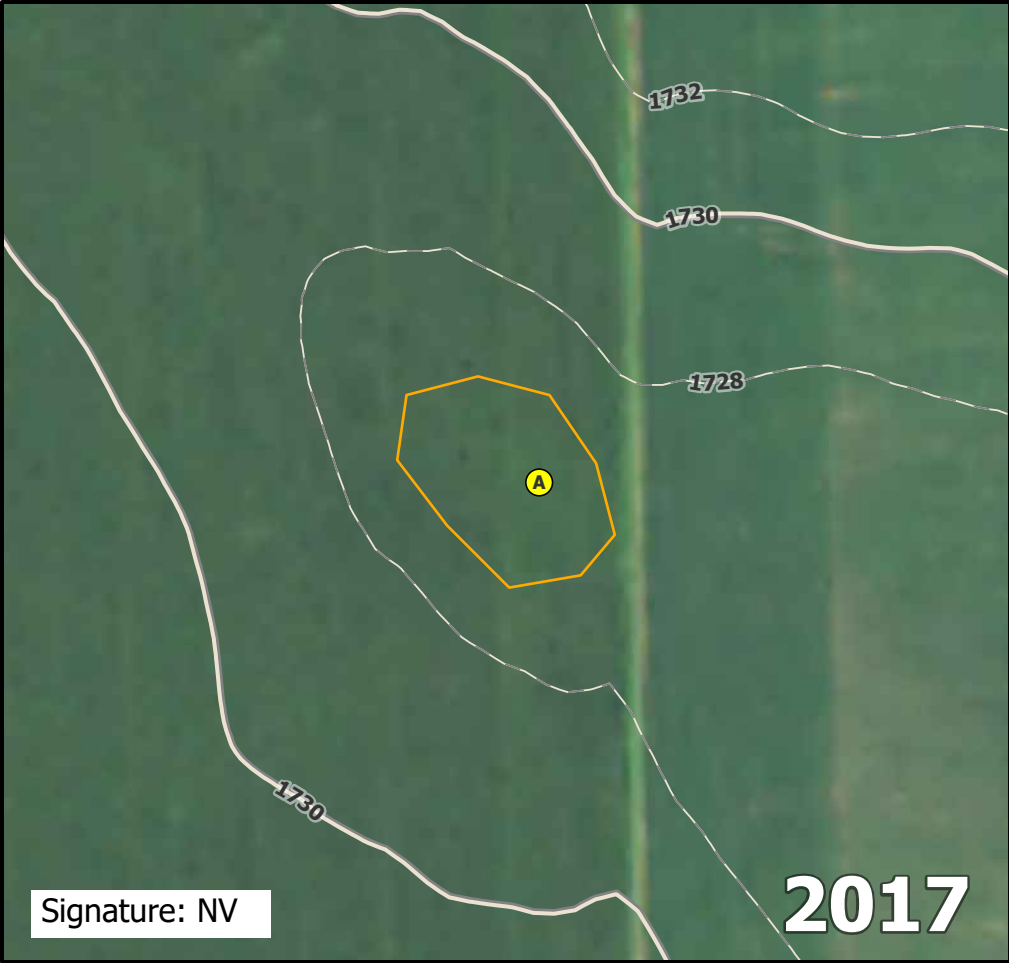
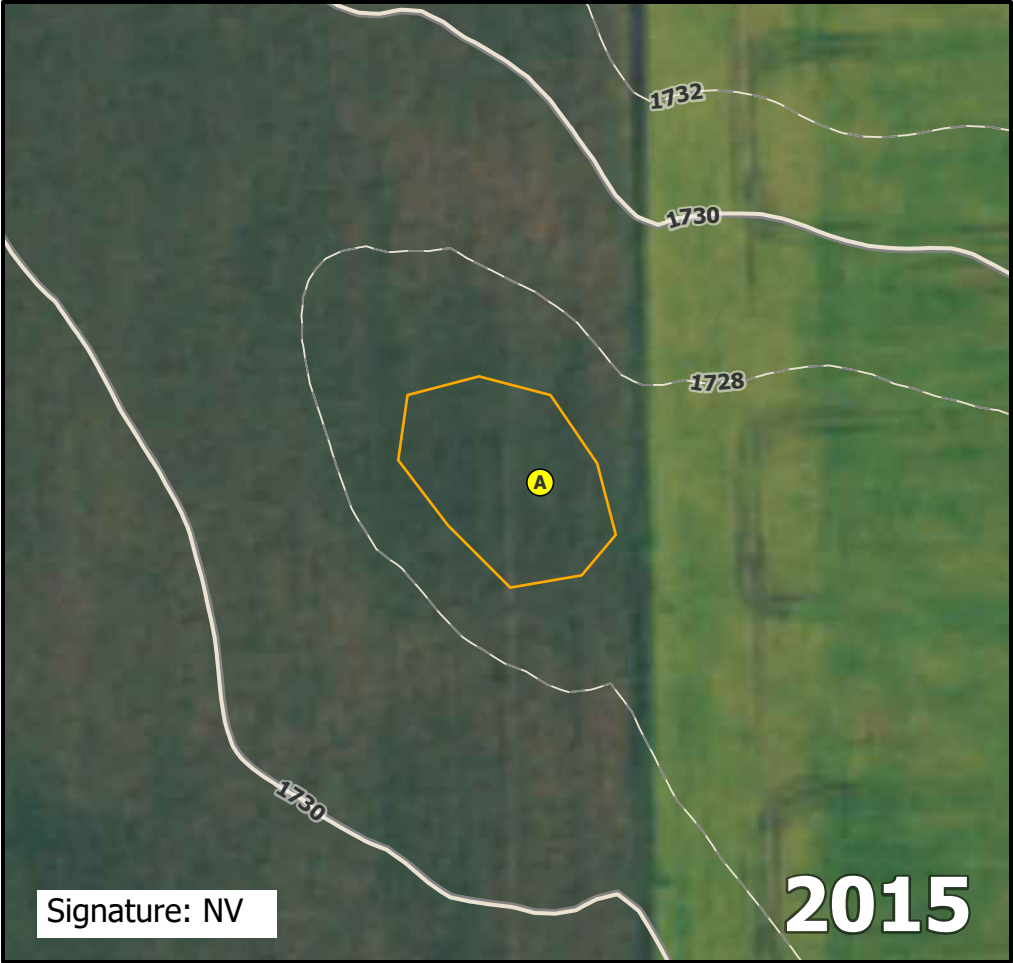
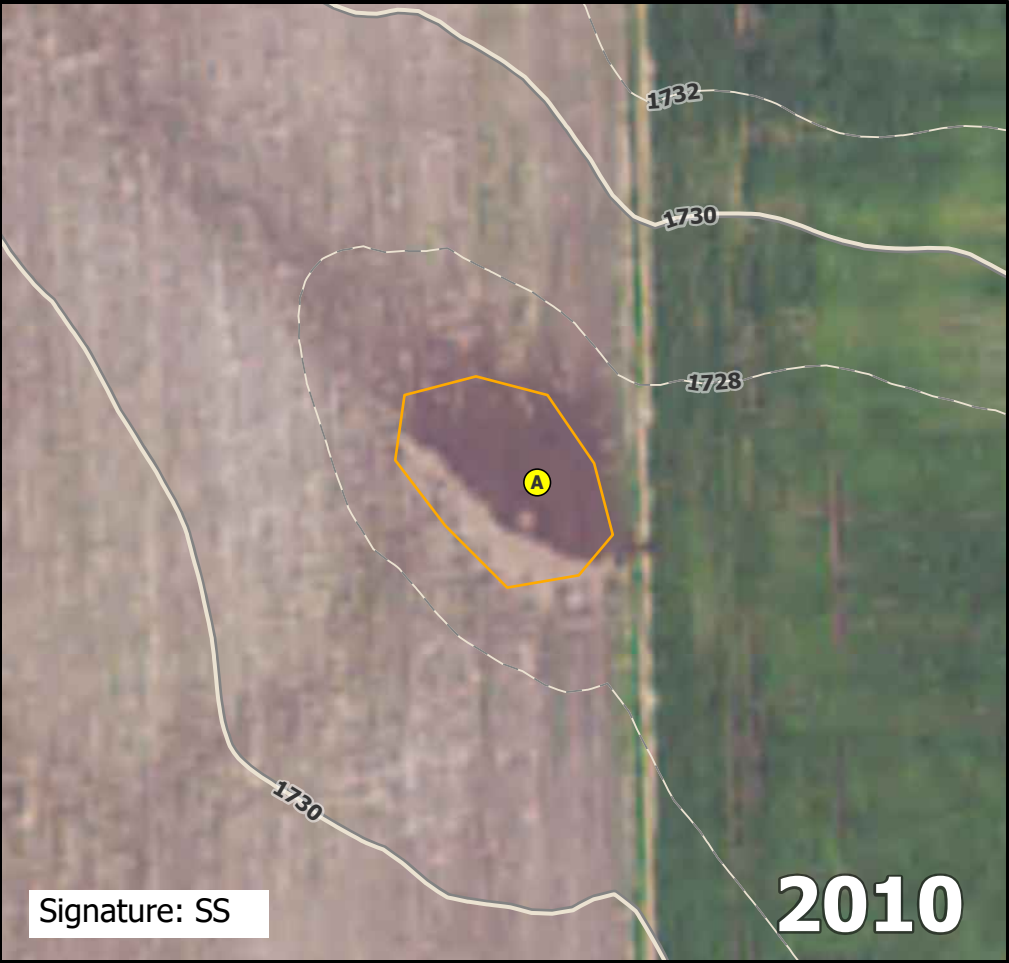




Overview of upland sample point NWA032A.

Direction: South	Photo ID: delin_photo-20221012-135001.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA032	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA034

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA034A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71448 Long: -95.69457 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field. Very weak topography.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA034A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Clay Loam	
12-24	10YR 3/2	95	2.5Y 4/4	5	C	PL/M	Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

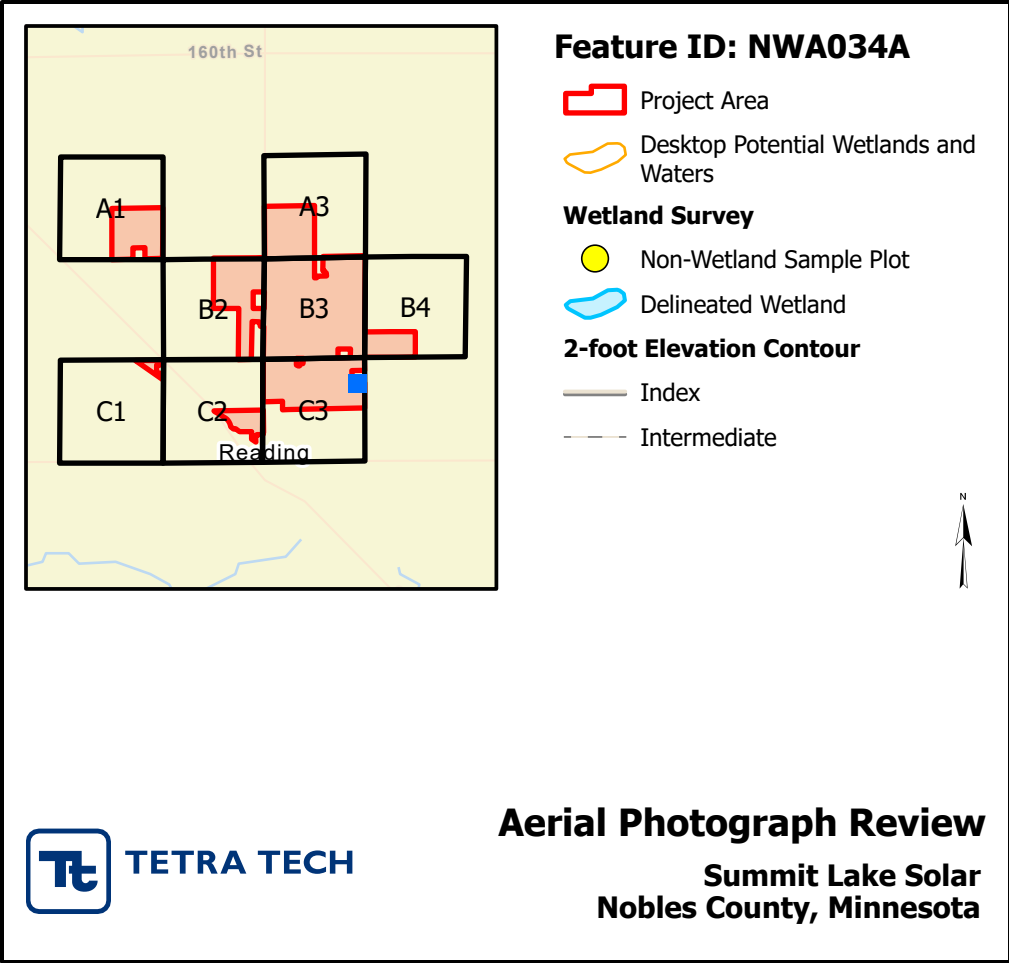
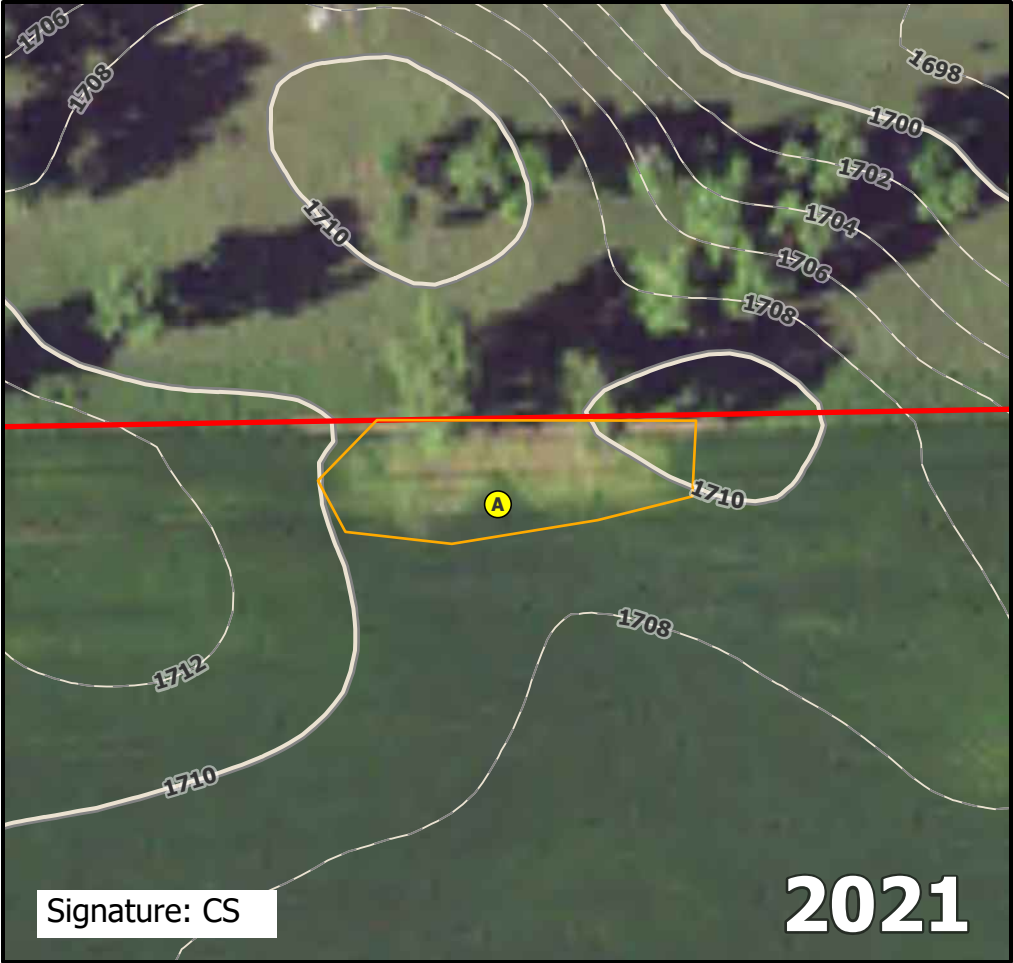
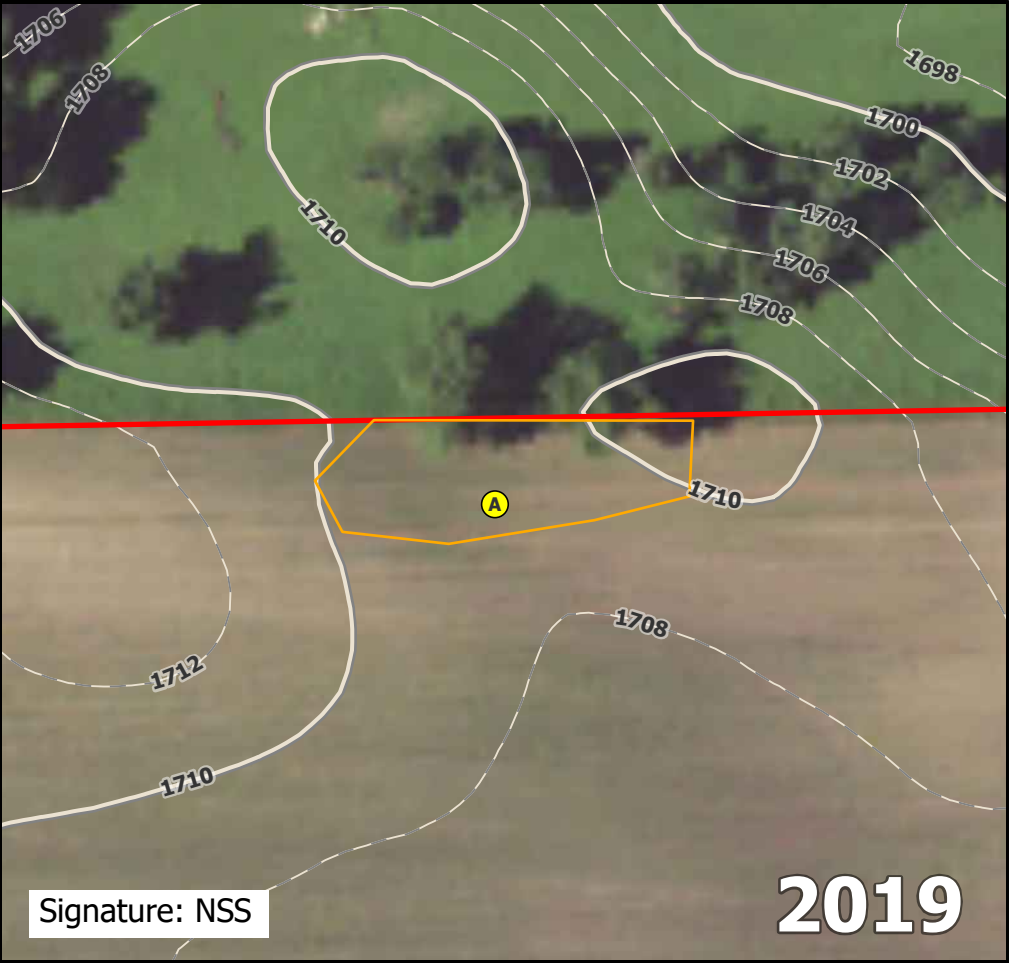
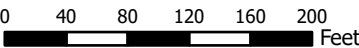
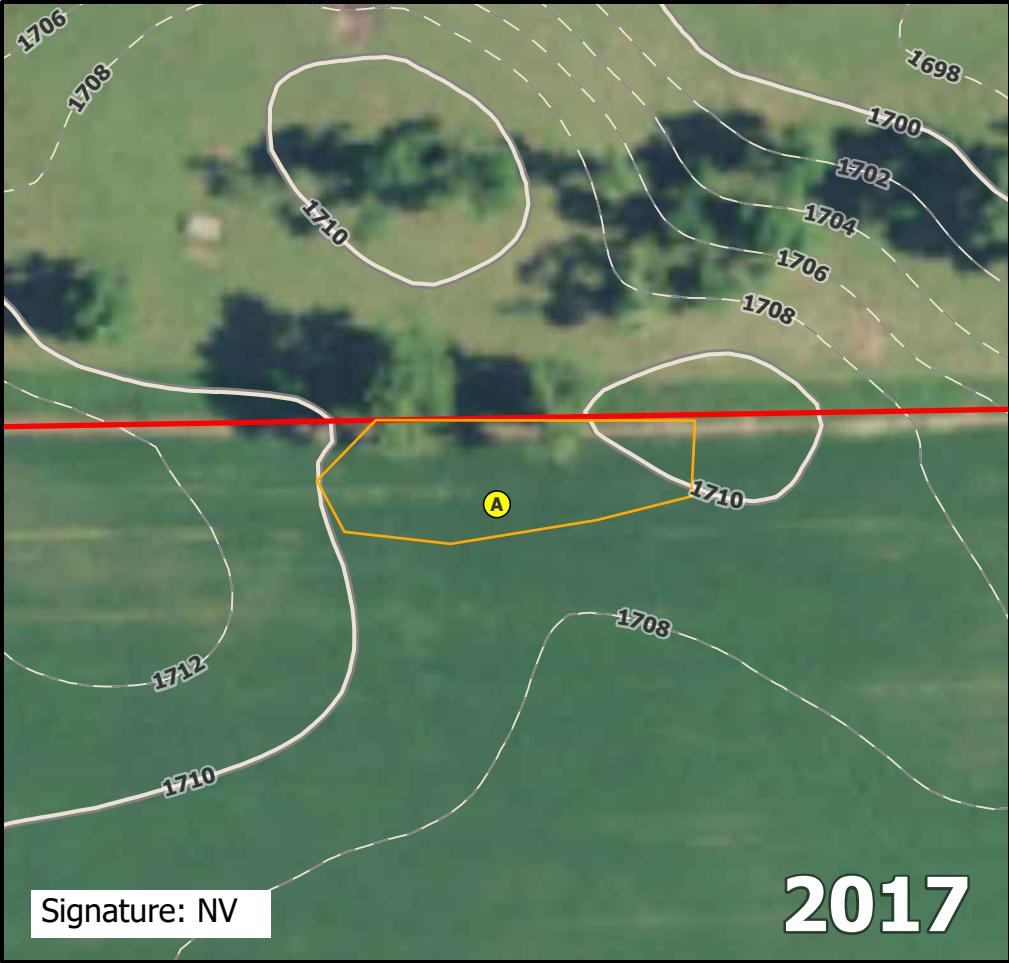
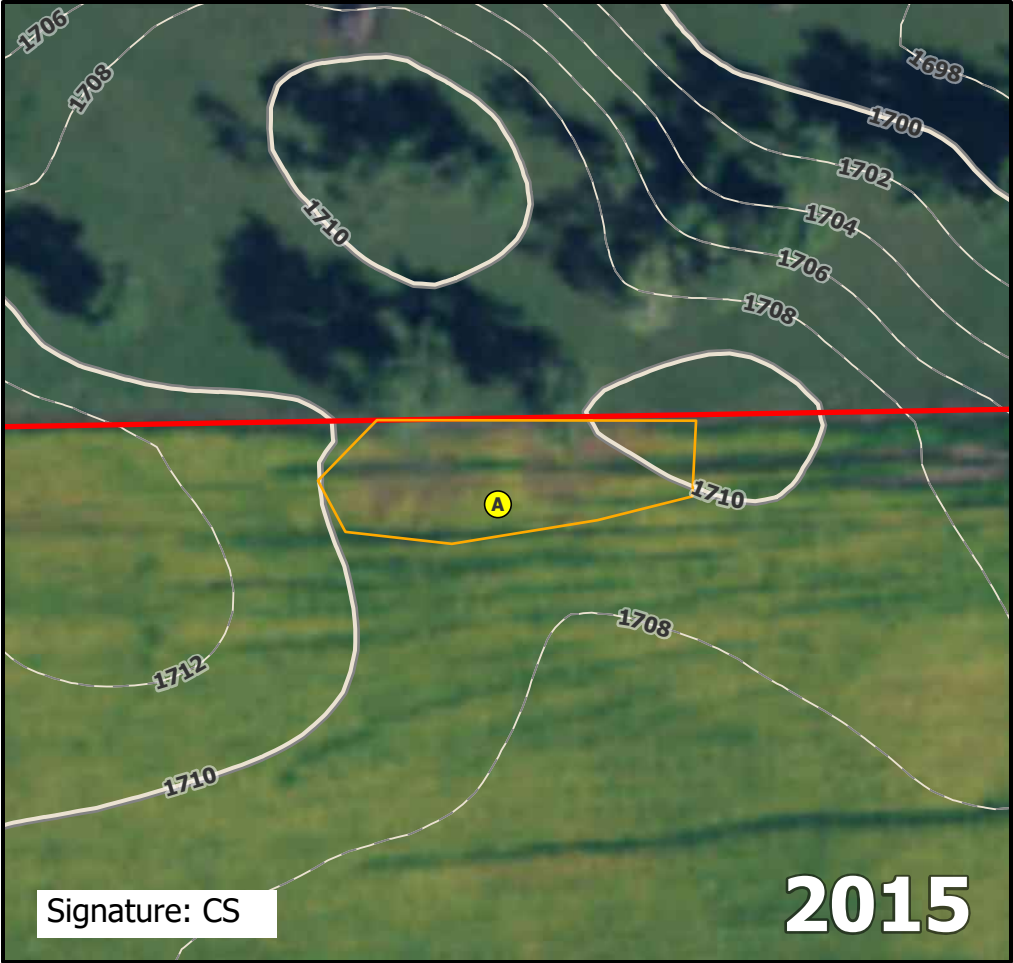
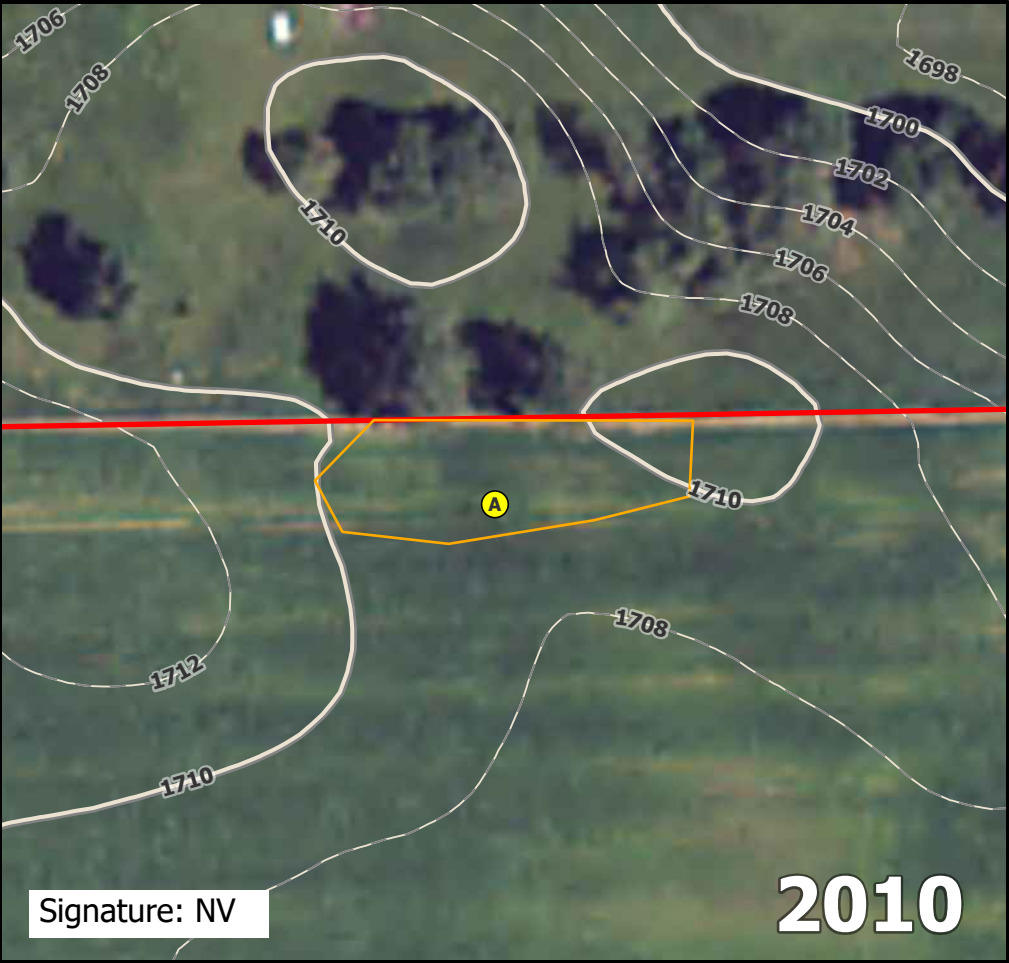
Remarks:



Overview of upland sample point NWA034A.

Direction: North	Photo ID: delin_photo-20221012-144424.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA034	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA035

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA035A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71789	Long:	-95.70347
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA035A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-17	10YR 2/1	97	2.5Y 4/3	3	C	PL	Clay Loam	Distinct or Prominent
17-20	10YR 2/2	92	2.5Y 4/3	8	C	PL	Clay Loam	Distinct or Prominent
20-26	2.5Y 4/3	50	10YR 5/8	10	C	PL	Clay Loam	
	10YR 2/1	40						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA035A.

Direction: North

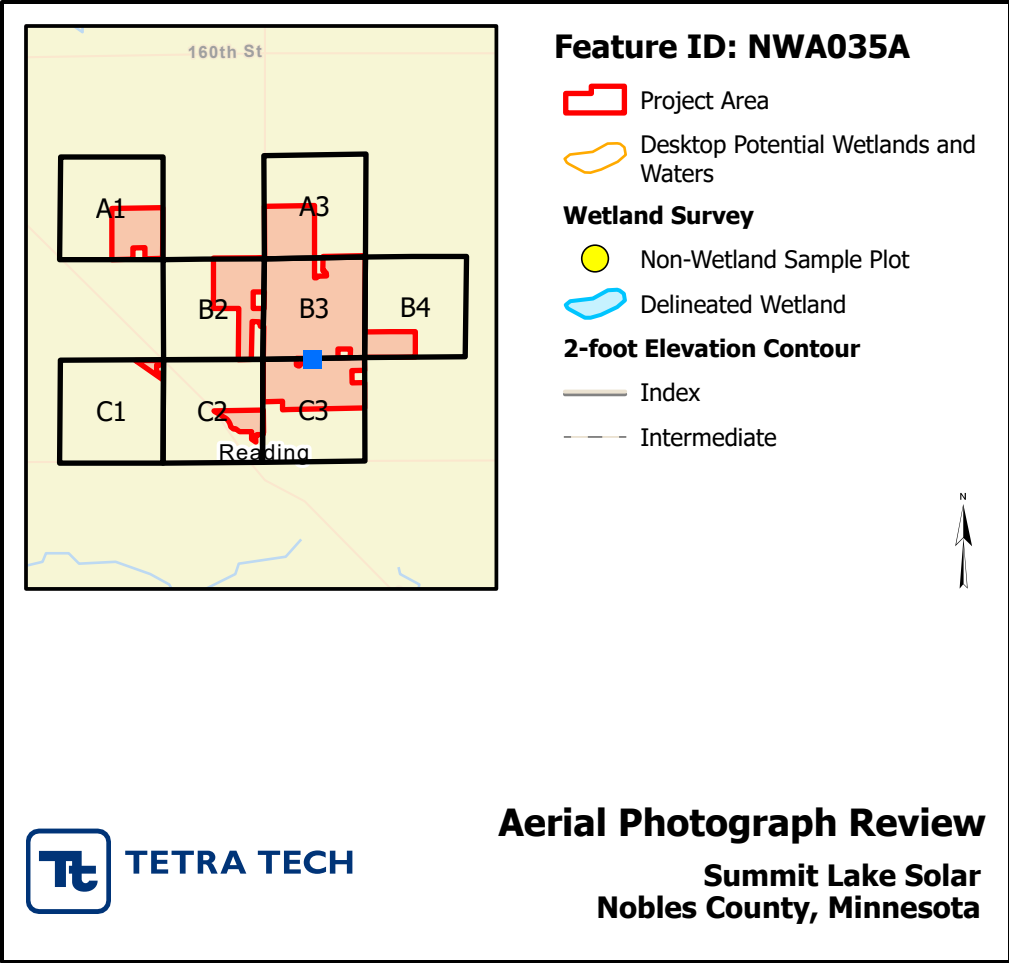
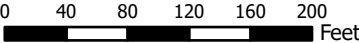
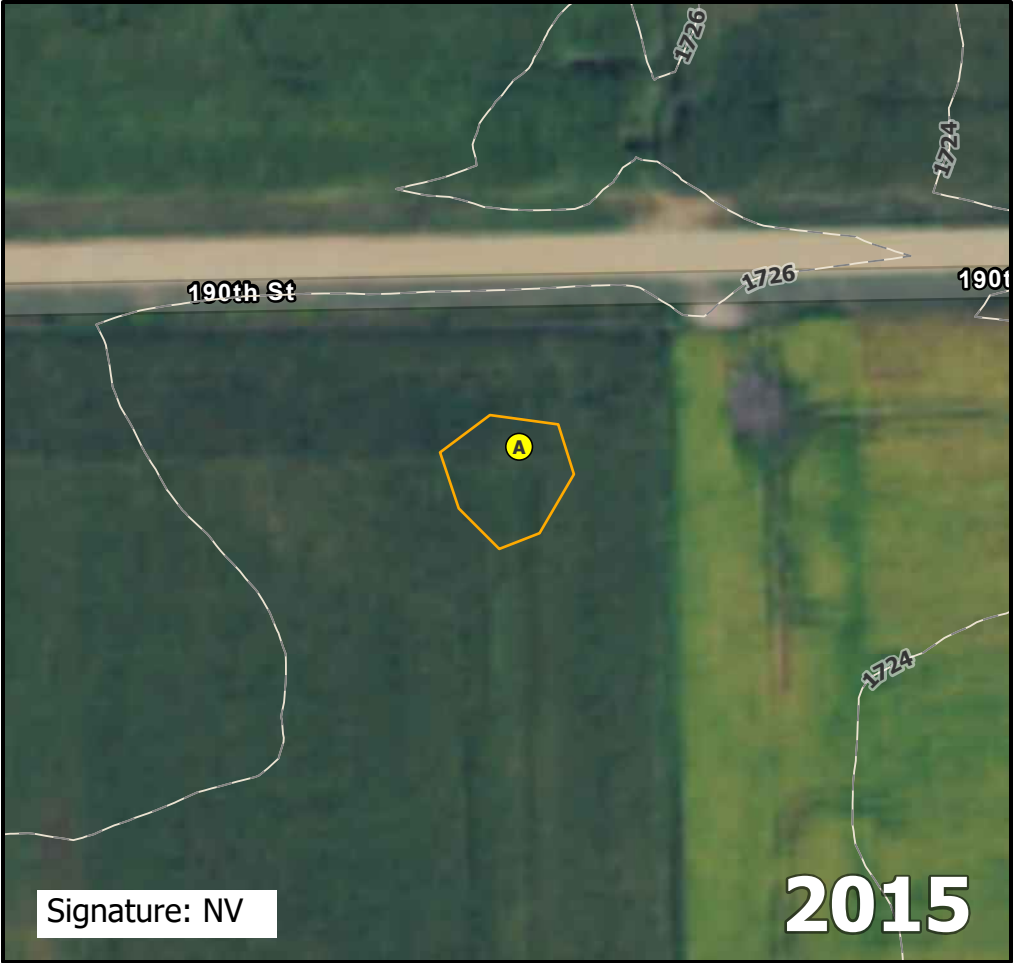
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Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: NWA035

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA036

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA036A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.7154	Long:	-95.70327
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA036A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Clay Loam	
18-32	10YR 2/1	100					Silty Clay Loam	
32-40	10YR 3/1	95	10YR 3/3	5	C	PL	Silty Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Assumed A12

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

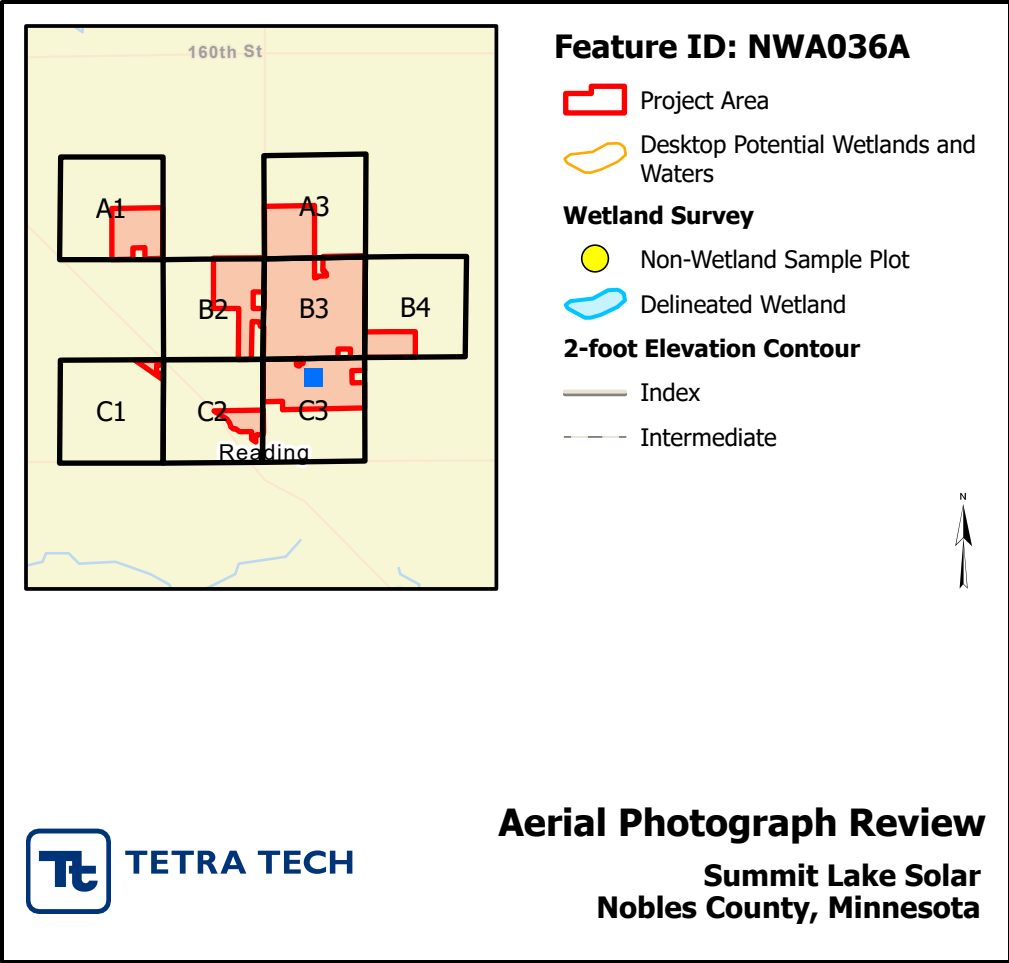
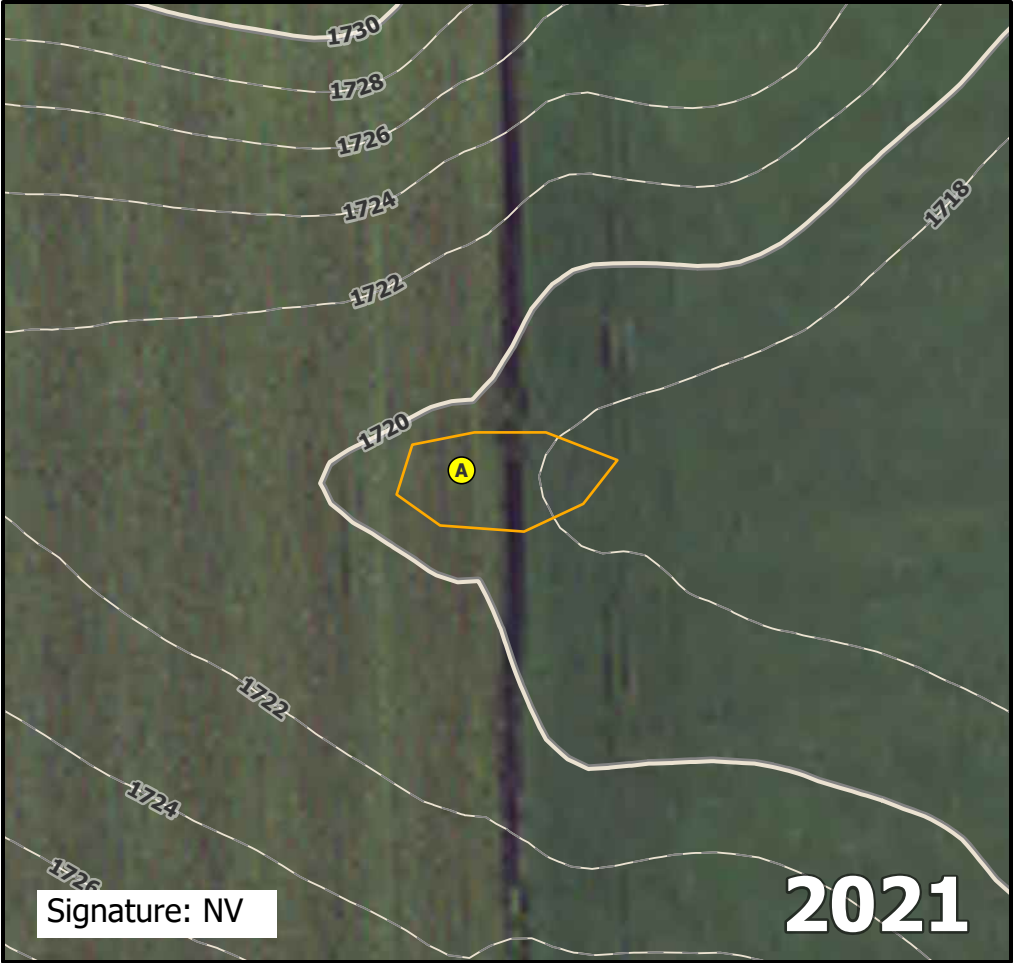
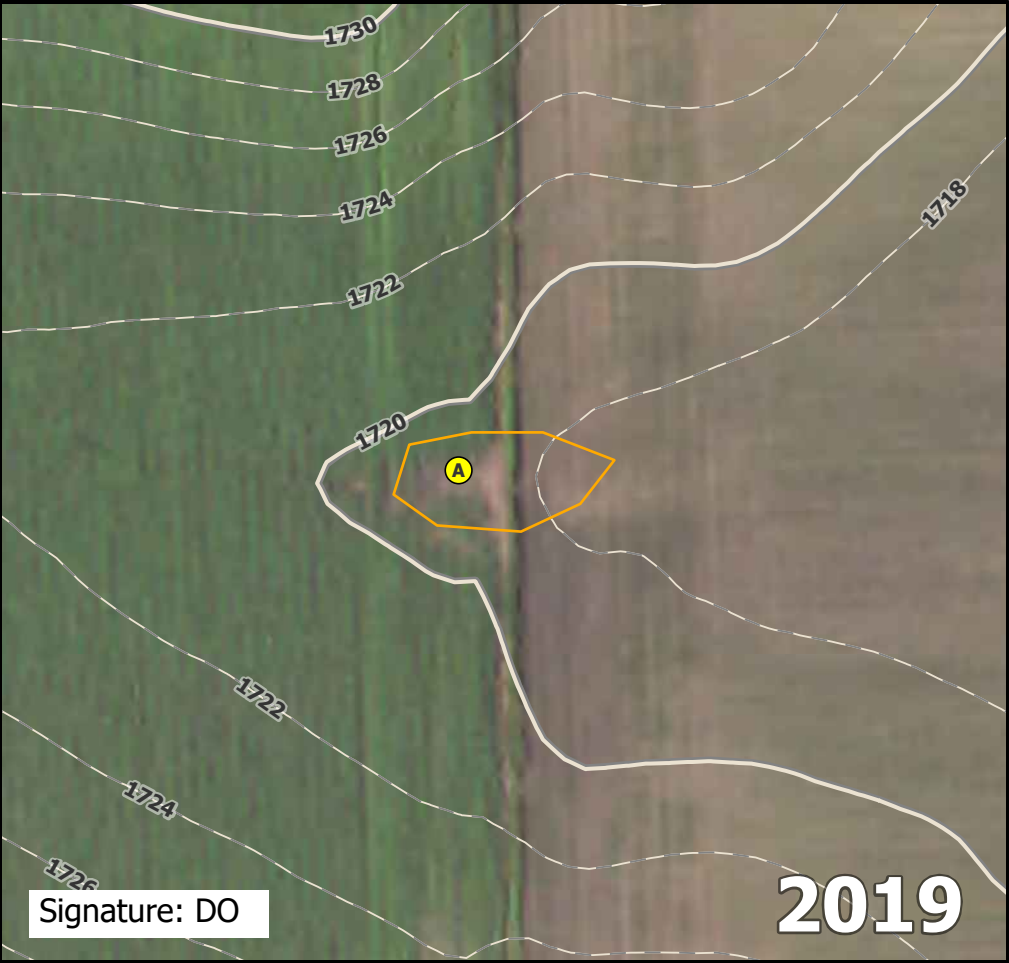
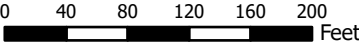
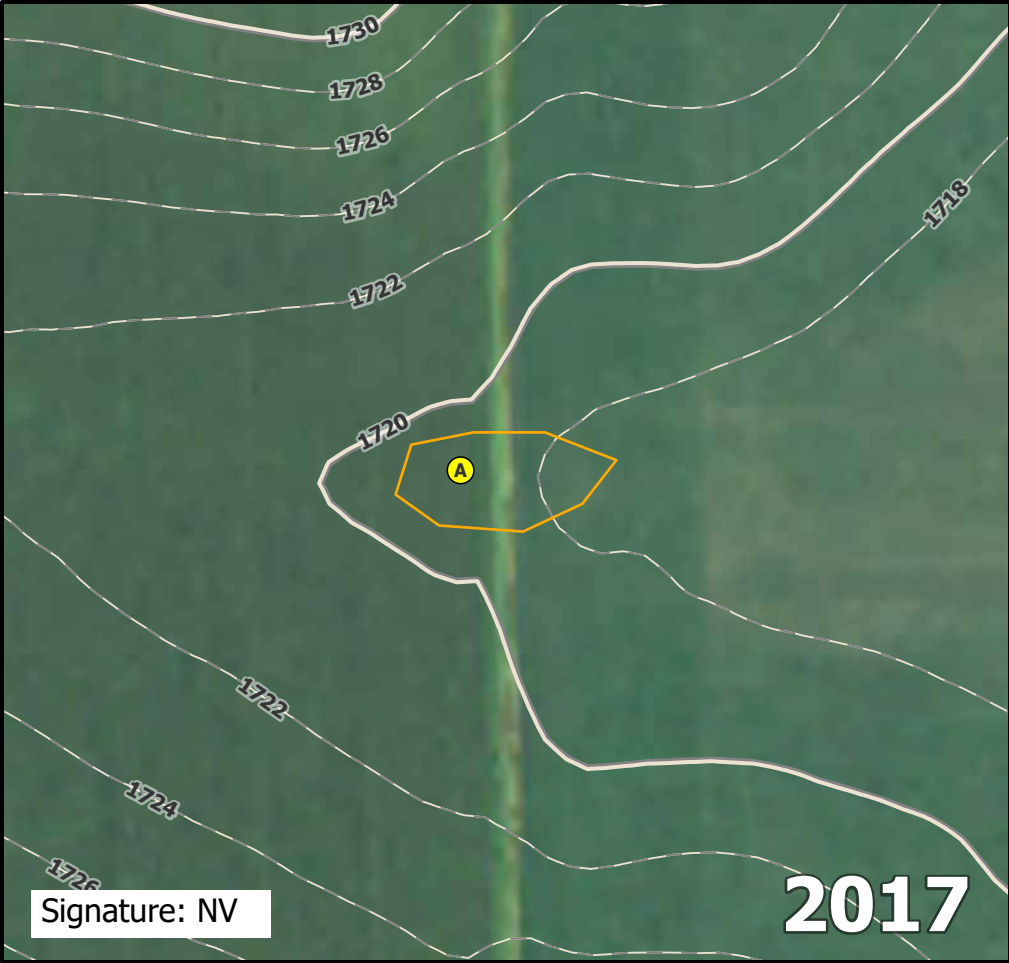
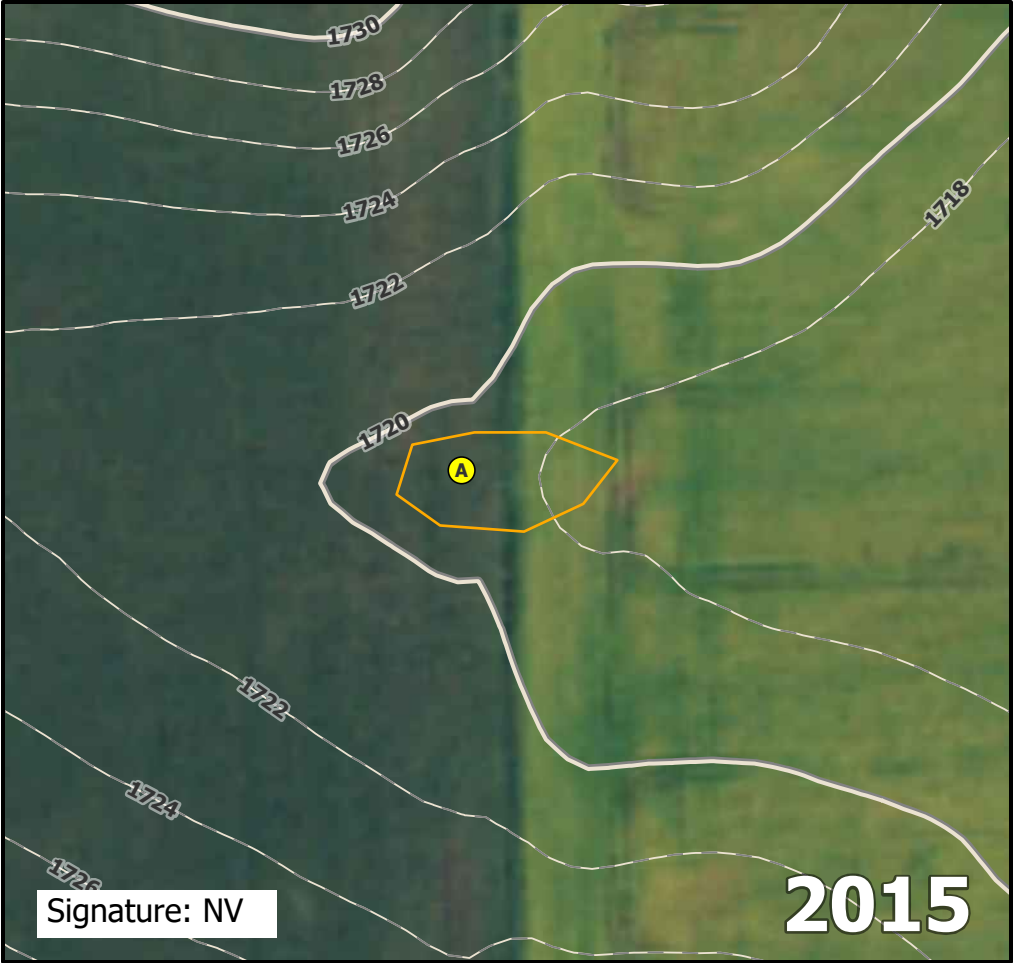
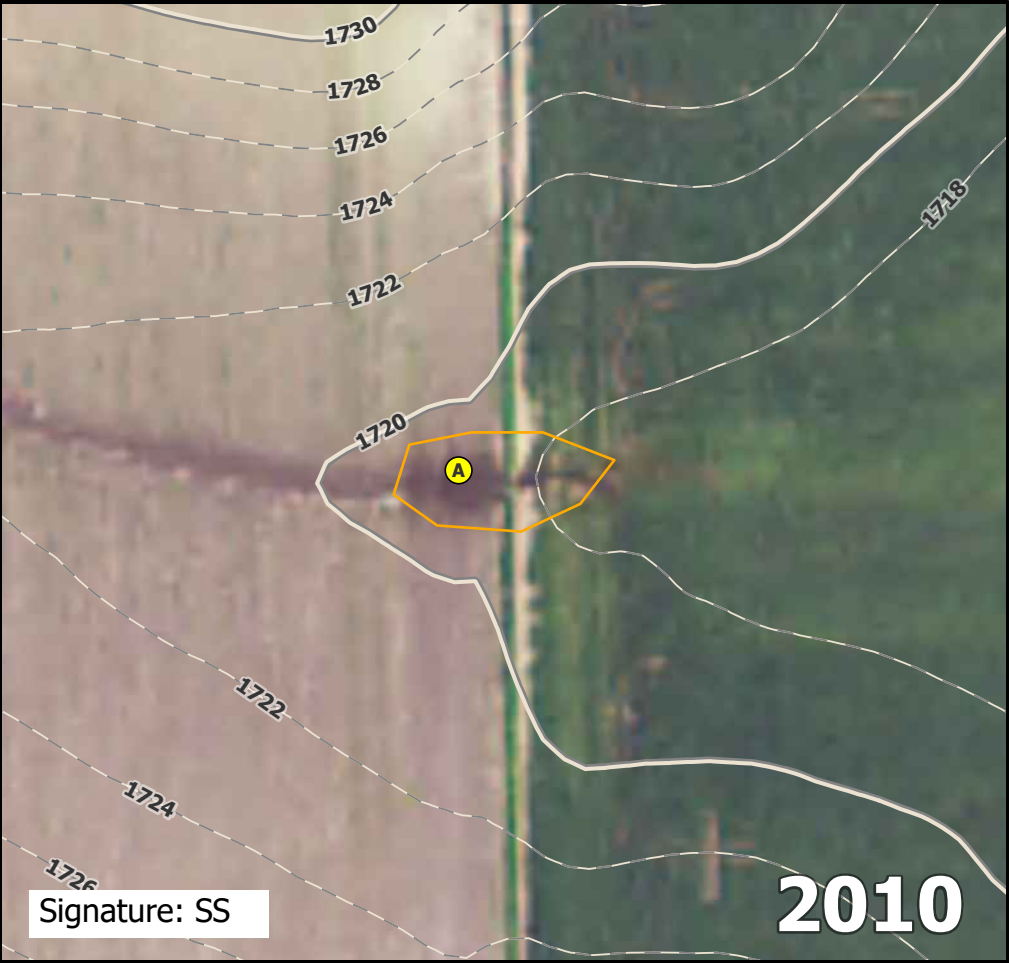
Remarks:



Overview of upland sample point NWA036A.

Direction: South	Photo ID: delin_photo-20221012-153426.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA036	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA037

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA037A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71793	Long:	-95.70301
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA037A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Clay Loam	
7-12	10YR 3/1	100					Clay Loam	
12-18	10YR 3/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA037A.

Direction: East

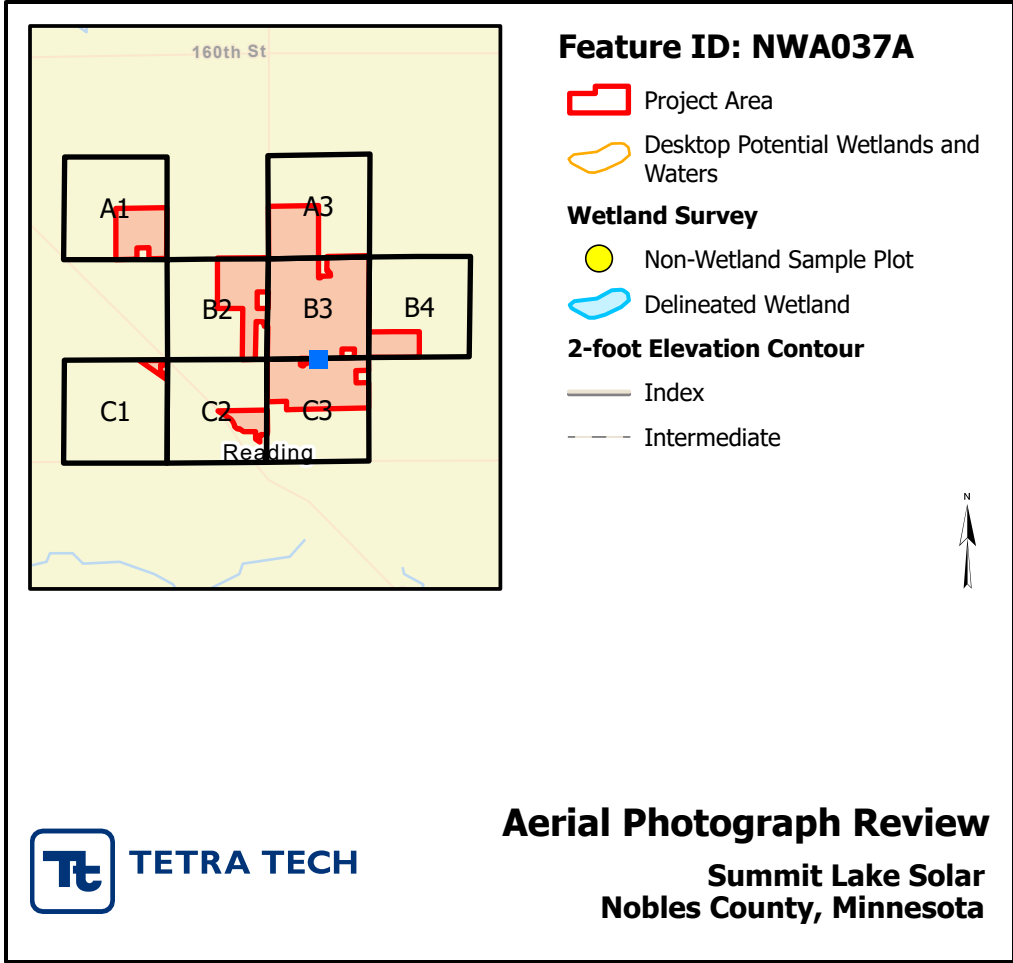
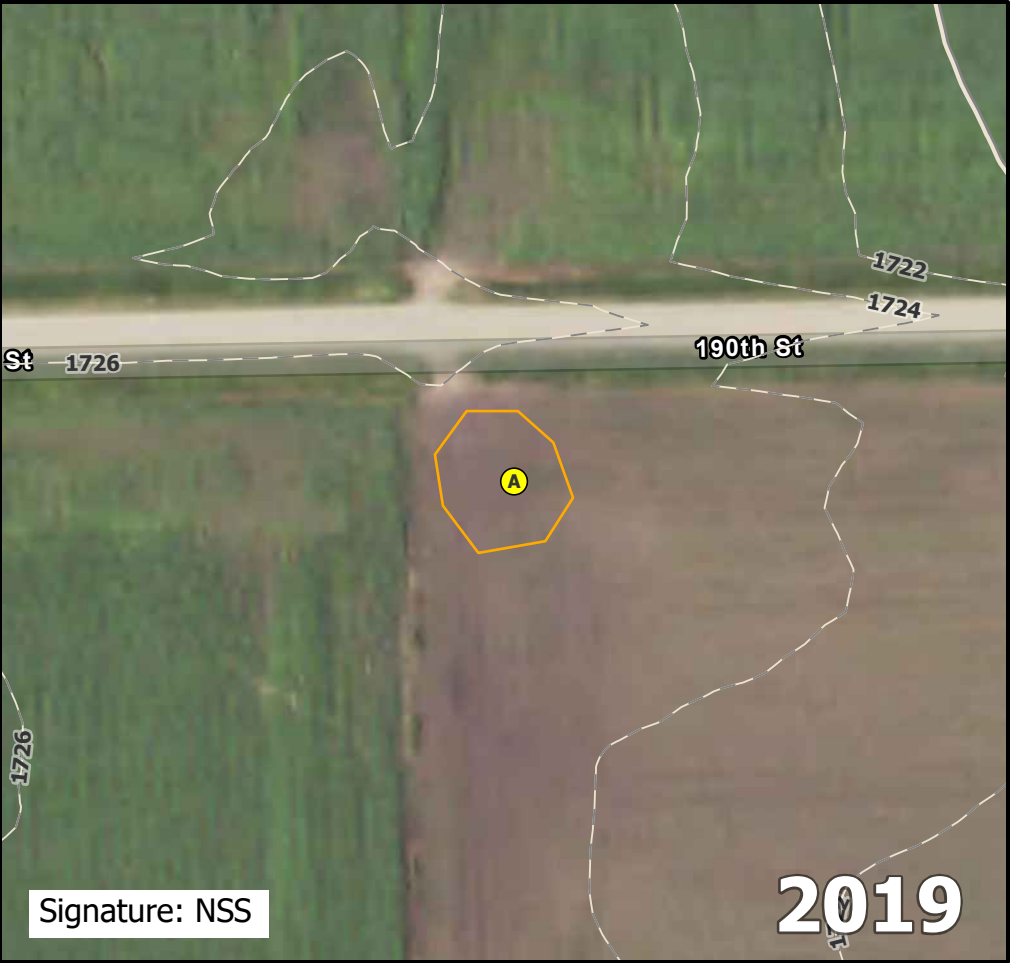
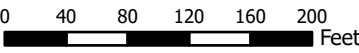
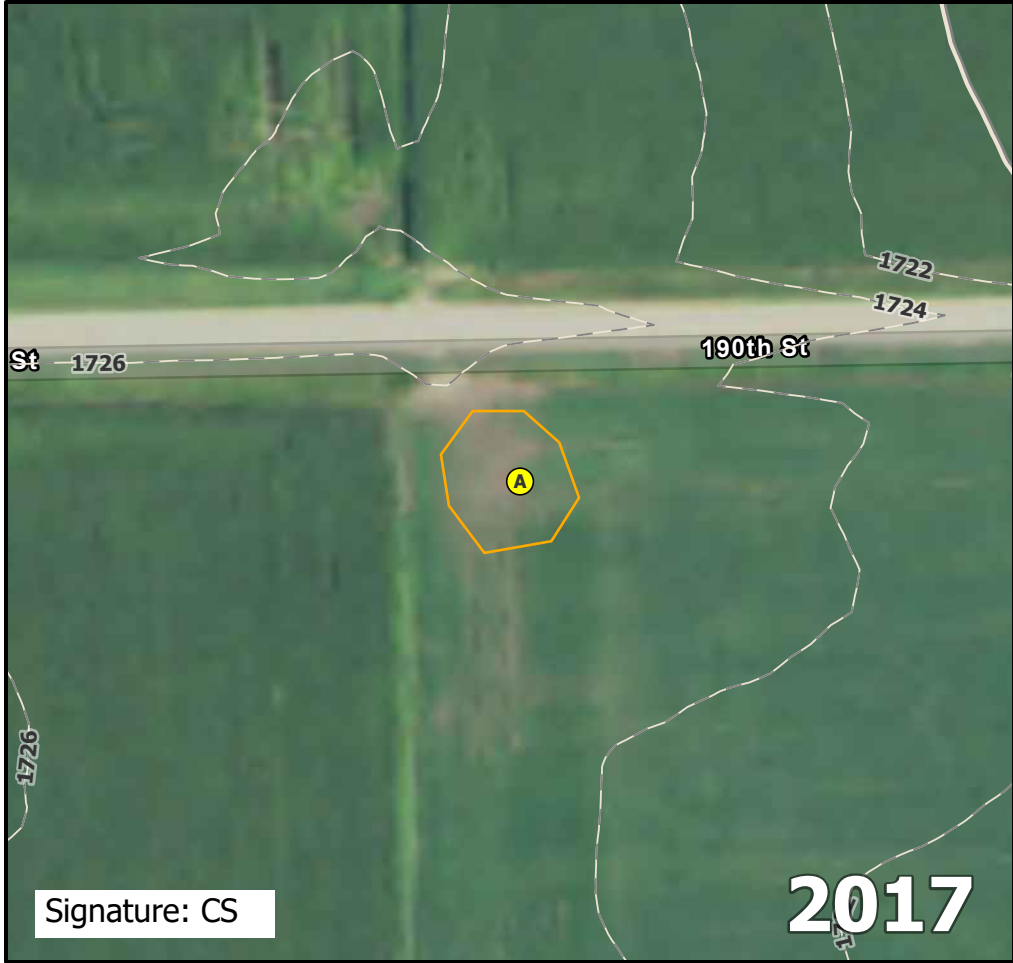
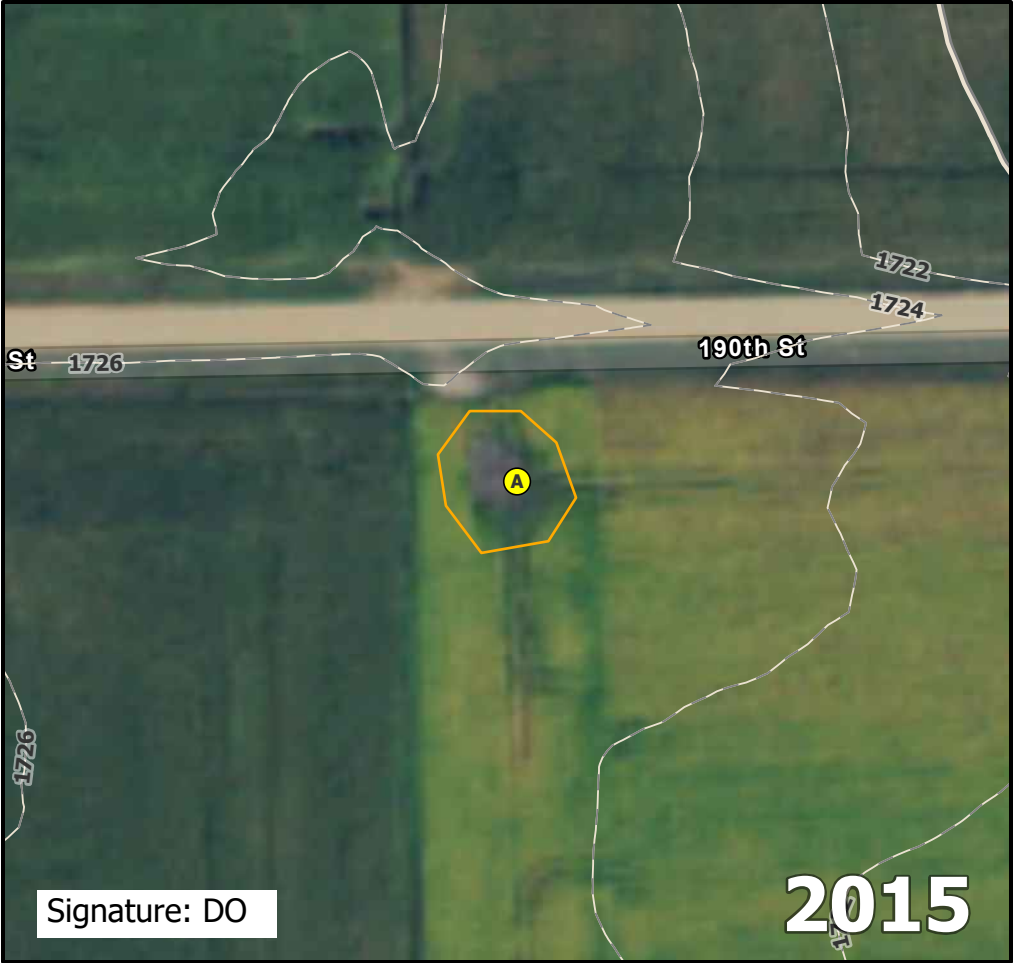
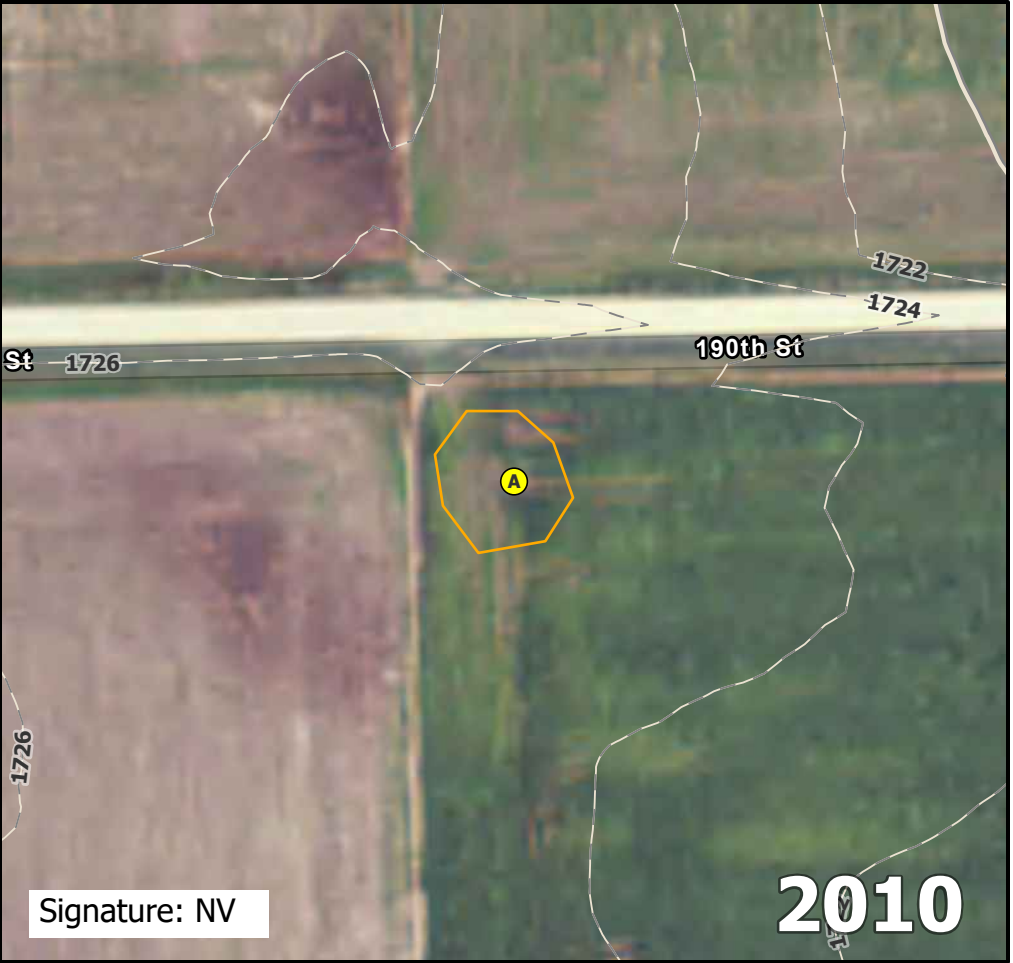
Photo ID: delin_photo-20221012-154602.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: NWA037

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA038

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA038A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71835	Long:	-95.7033
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA038A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-20	10YR 3/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☐ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

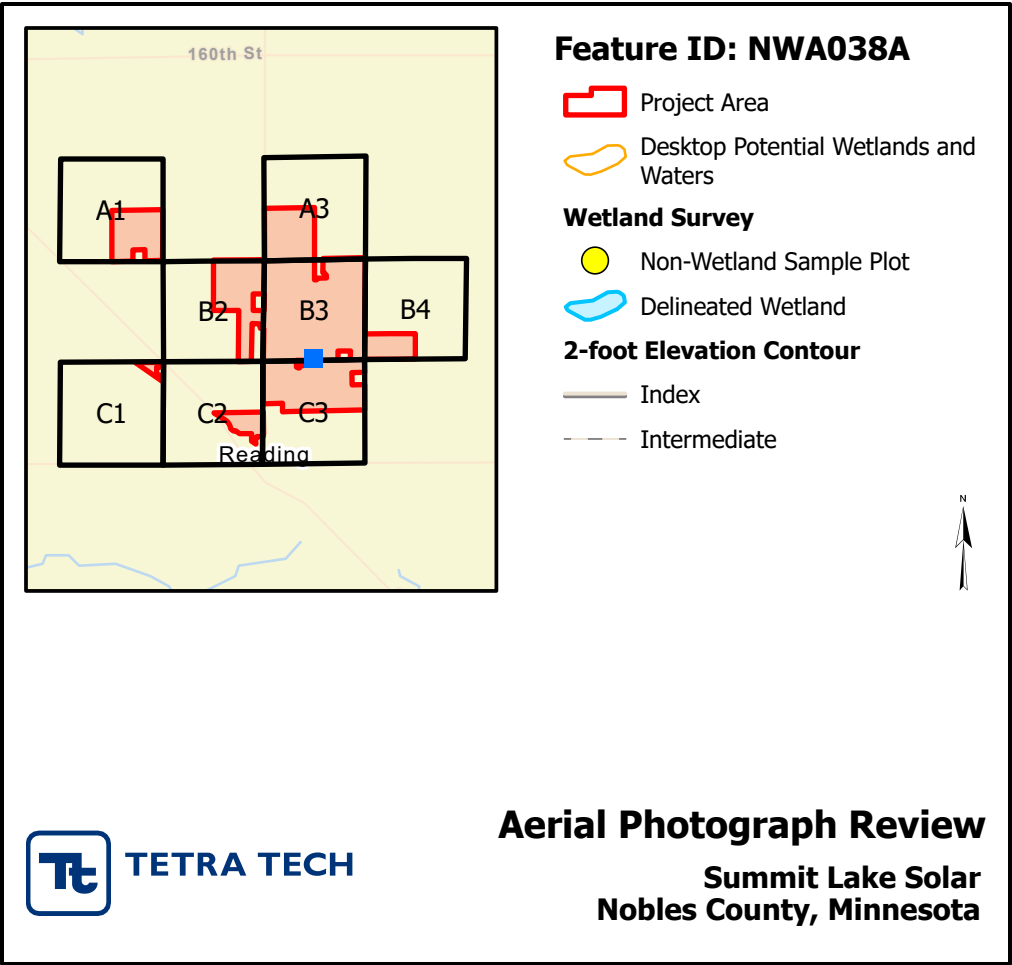
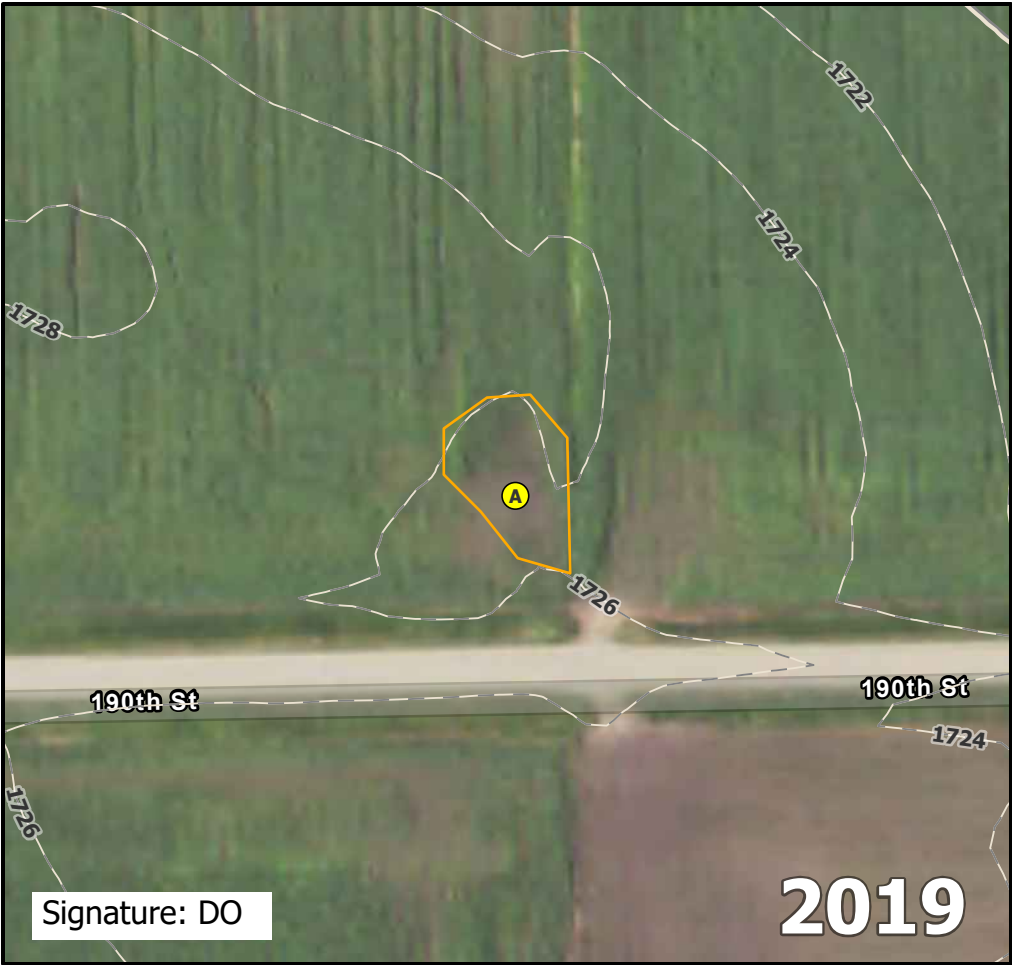
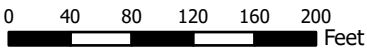
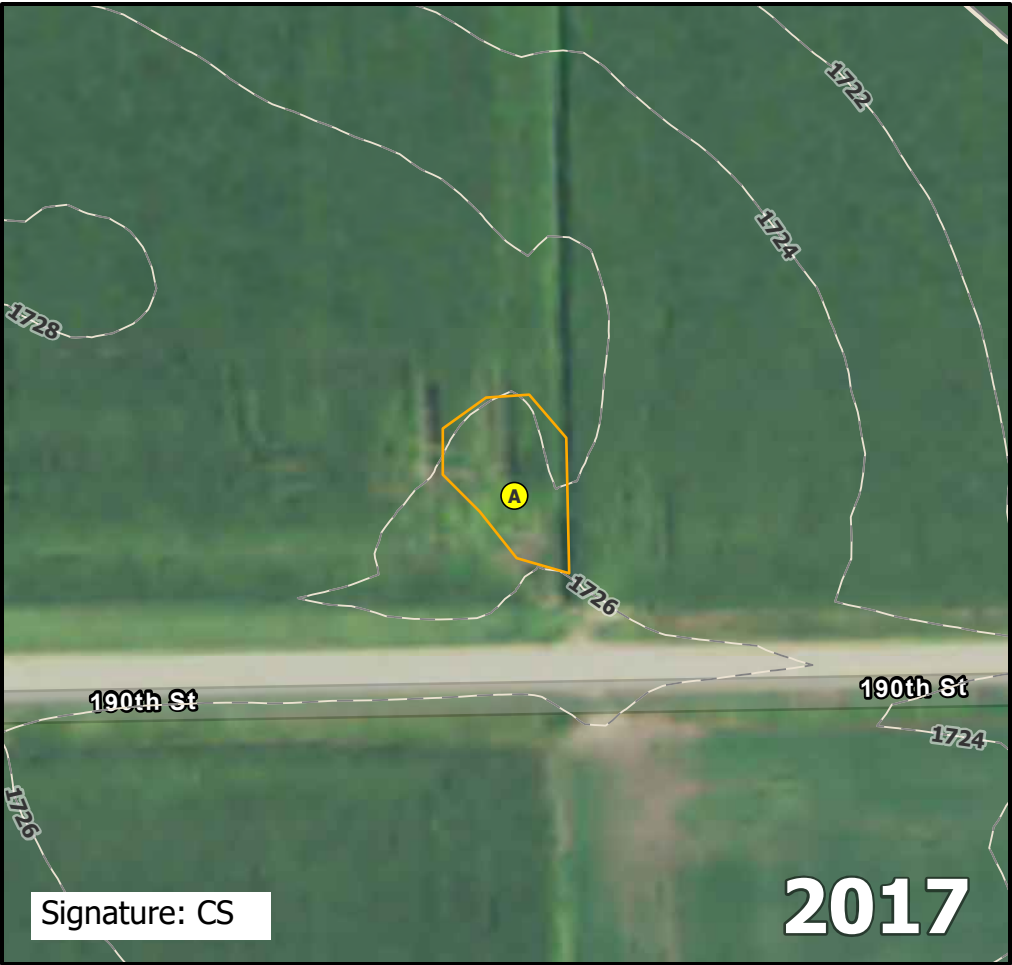
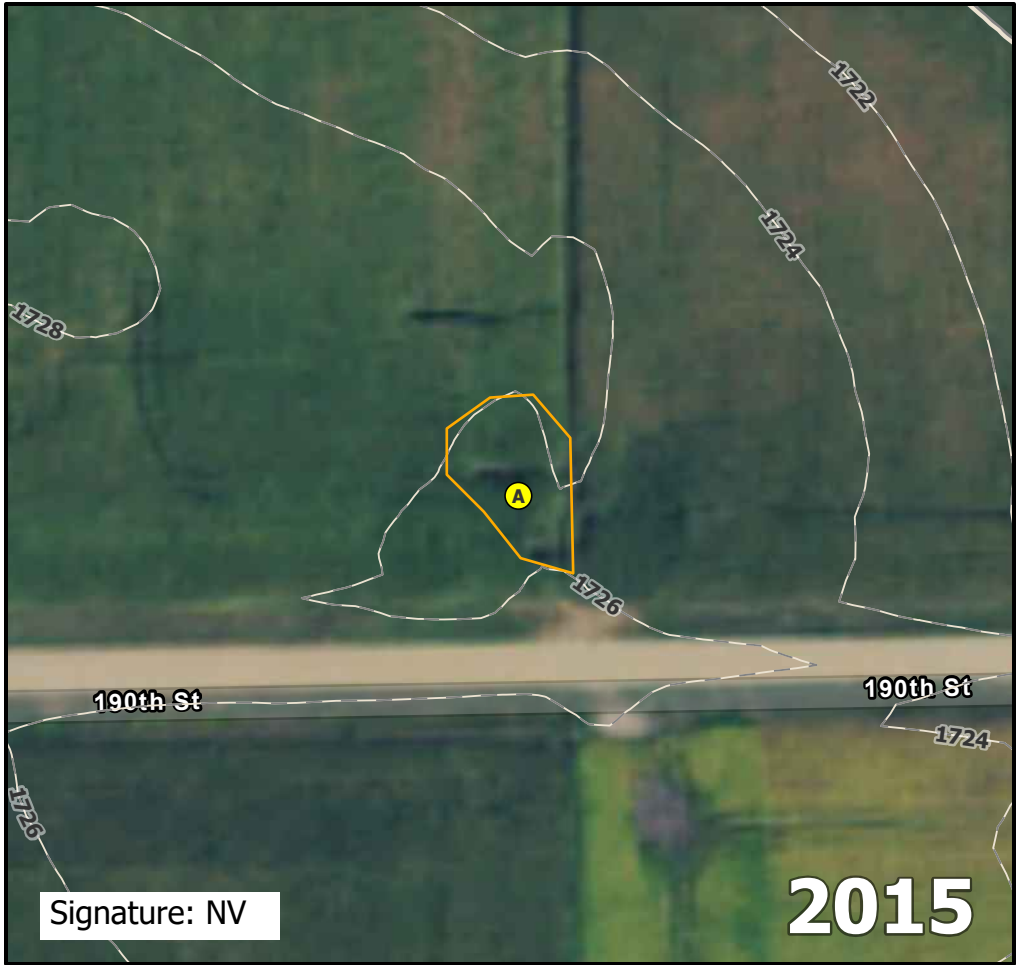
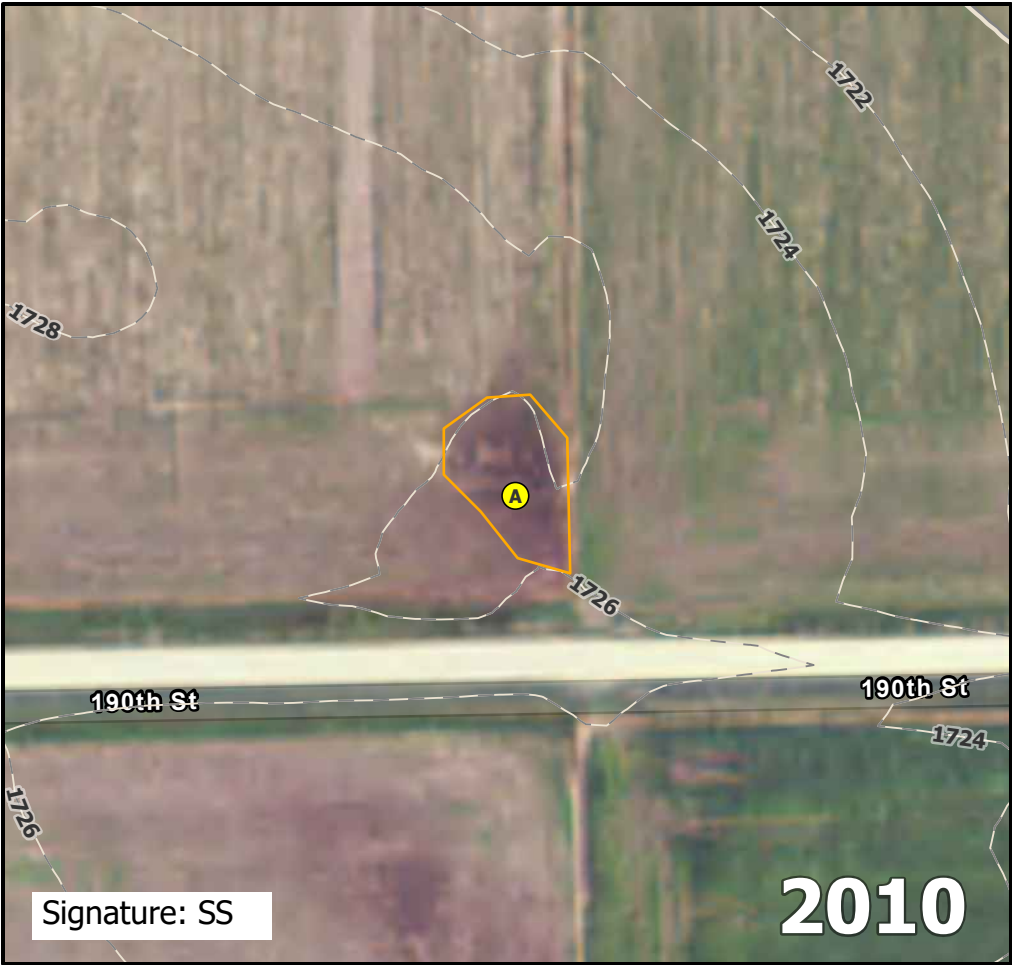
Remarks:



Overview of upland sample point NWA038A.

Direction: North	Photo ID: delin_photo-20221012-155508.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA038	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Non-Wetland ID

NWA039

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA039A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 3 Lat: 43.72434 Long: -95.69312 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u> </u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. <u> </u>					
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>100</u> x 4 = <u>400</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>400</u> (B) Prevalence Index = B/A = <u>4</u>
<u> </u> =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1. <u> </u>					
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
<u> </u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <u>Bromus inermis</u>		<u>100</u>	<u>Y</u>	<u>FACU</u>	
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
6. <u> </u>					
7. <u> </u>					
8. <u> </u>					
9. <u> </u>					
10. <u> </u>					
<u>100</u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u> *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1. <u> </u>					
2. <u> </u>					
<u> </u> =Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

Bare ground/open water: 0%

SOIL

Sampling Point: NWA039A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? _____

Remarks:

Soils not observed due to presence of upland vegetation.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☒ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☐	Depth (inches): _____
Saturation Present?	Yes ☐	No ☐	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA039A.

Direction: West

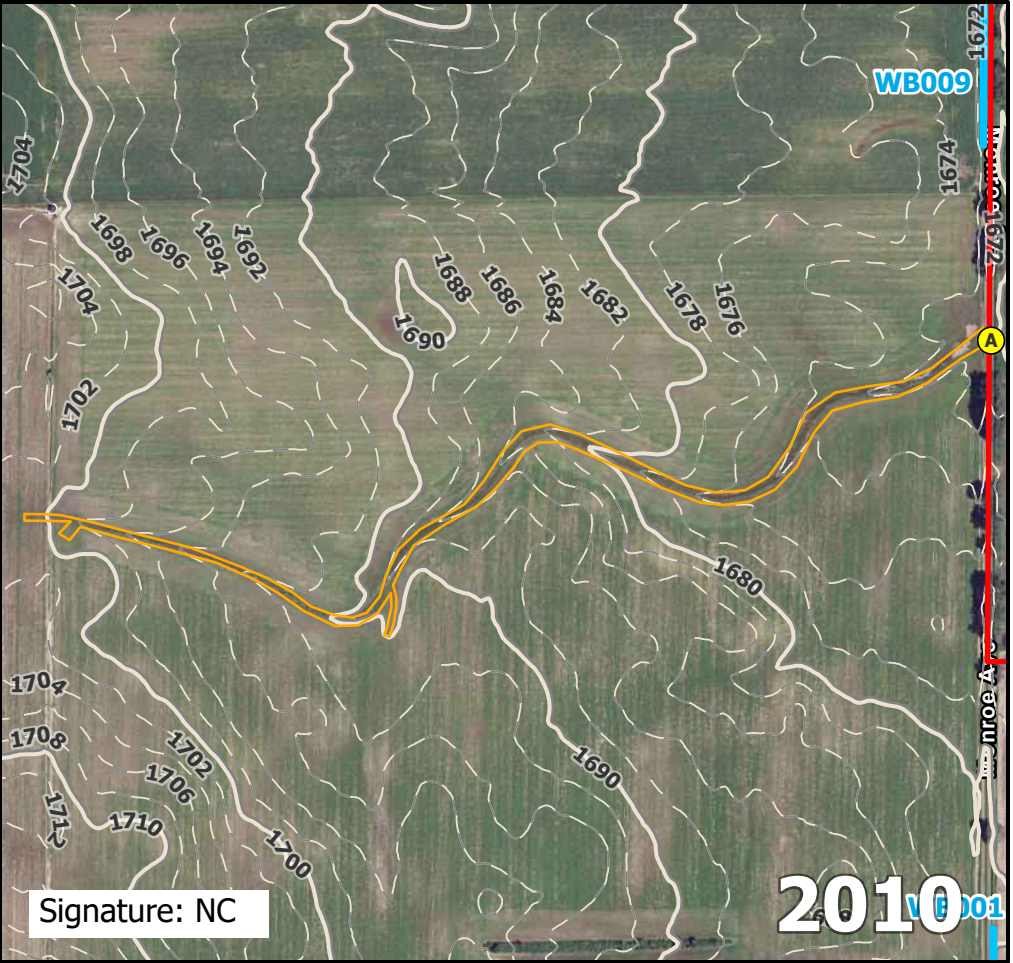
Photo ID: delin_photo-20221012-162519.jpg

Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: NWA039

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Non-Wetland ID

NWA040

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA040A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71718	Long:	-95.70678
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	PEM1Af	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	
<u>Tree Stratum</u>	(Plot size: _____)	% Cover	Species	Status	
1.					Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> %</u> (A/B)
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)				
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: _____)				
1.					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
		<u> </u> =Total Cover			
<u>Woody Vine Stratum</u>	(Plot size: _____)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					Hydrophytic Vegetation Present? No <u> </u>
2.					
		<u> </u> =Total Cover			

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA040A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Clay Loam	
18-28	2.5Y 3/2	95	10YR 3/4	5	C	PL	Silty Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

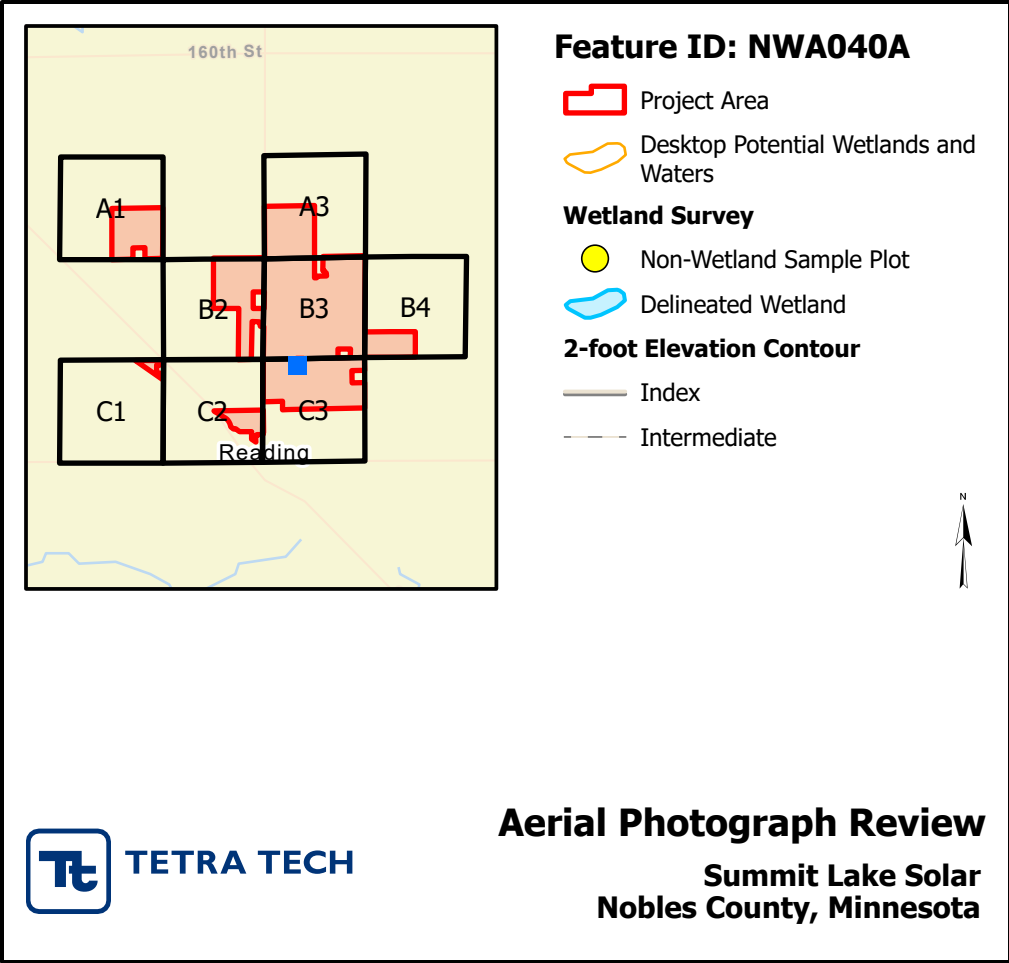
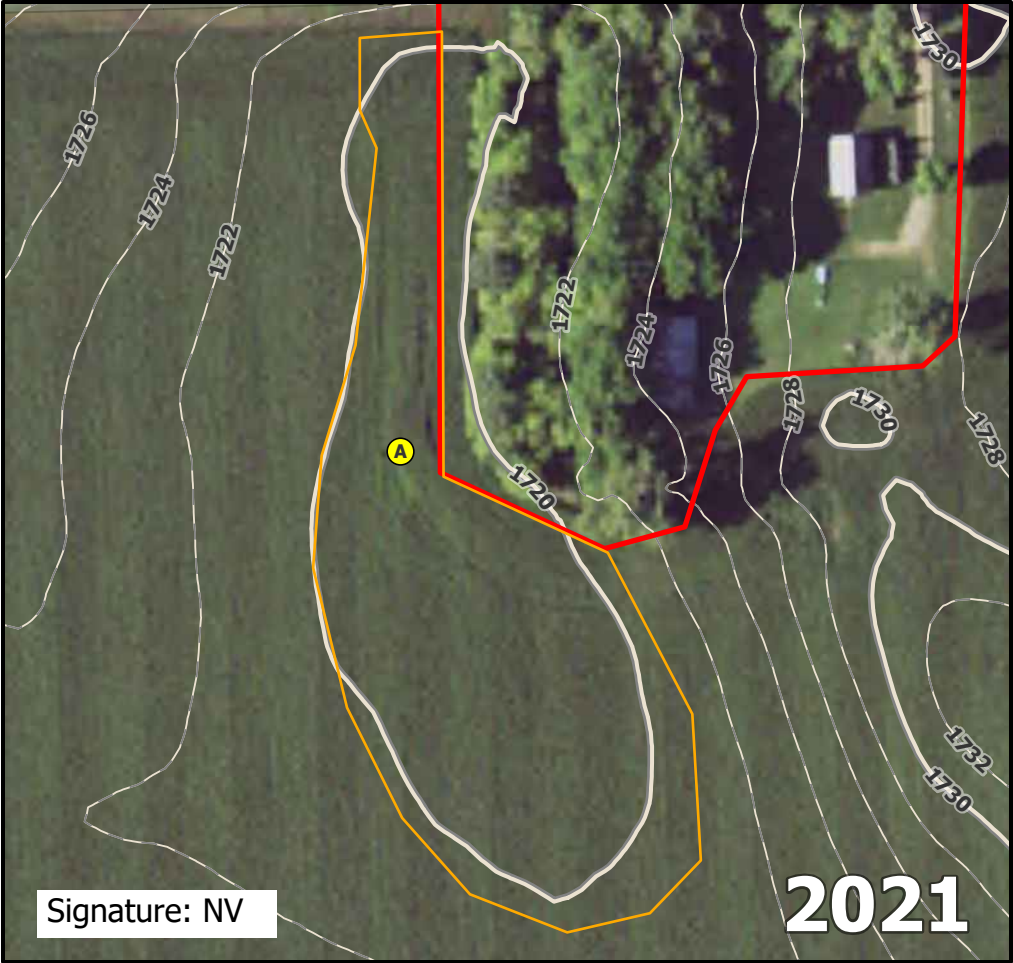
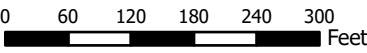
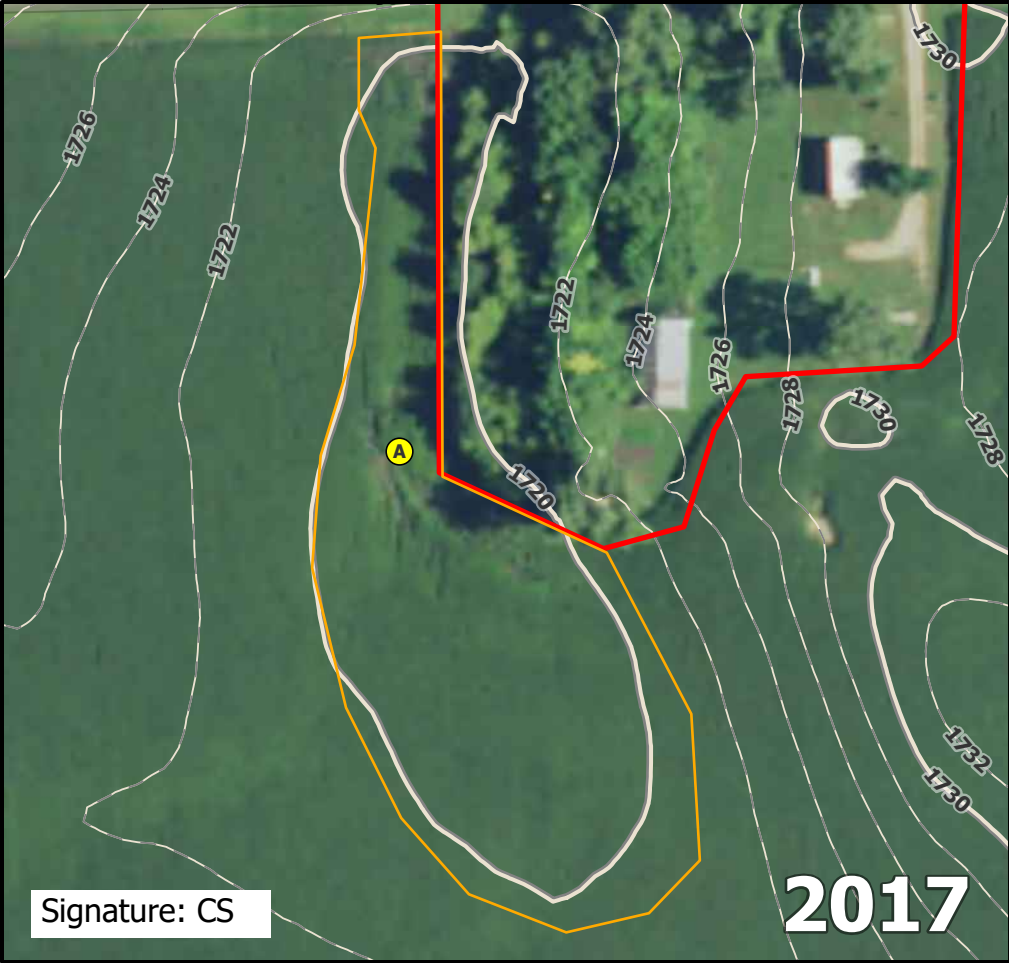
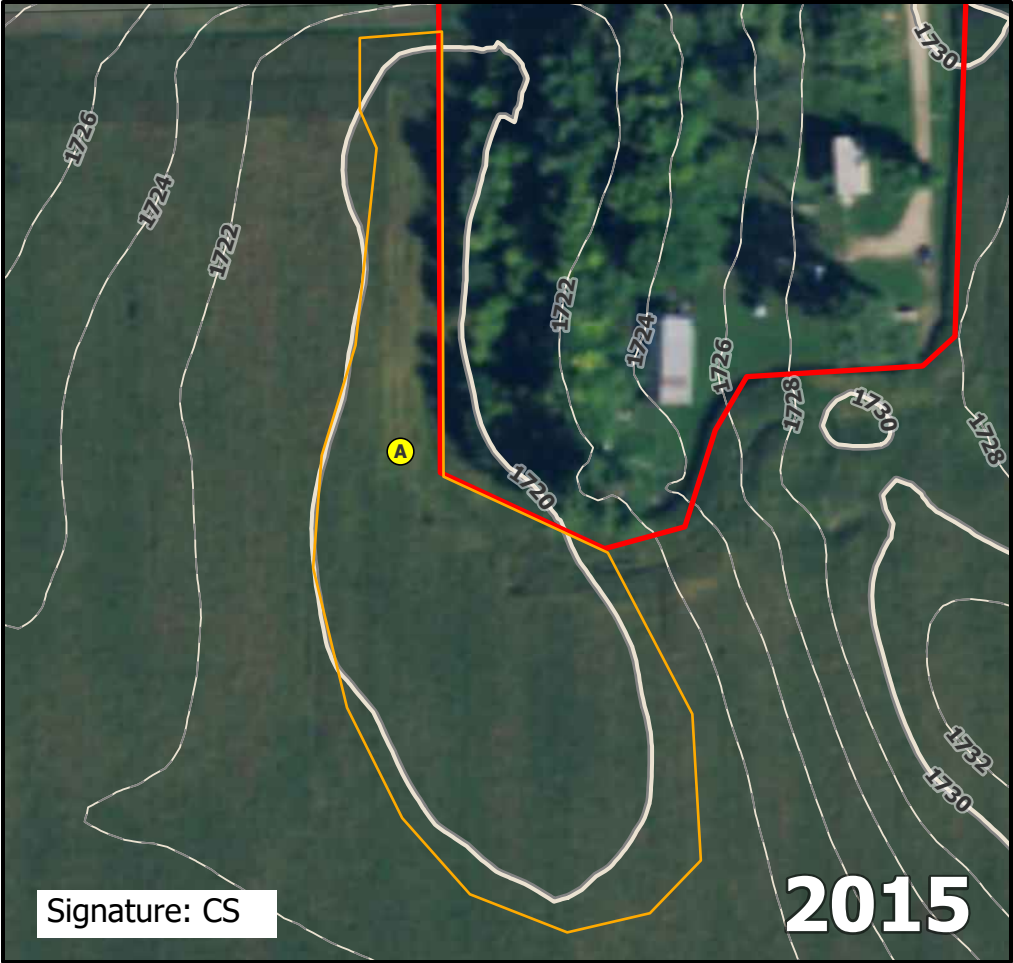
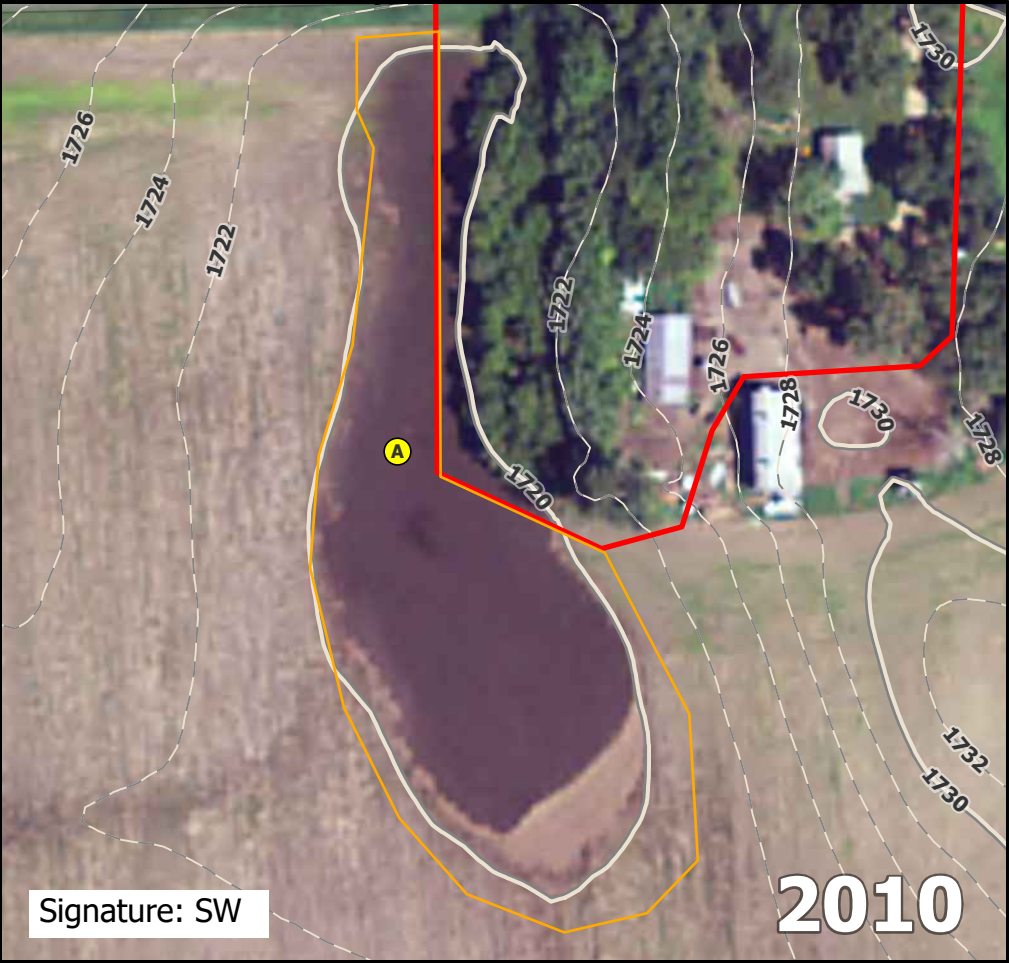
Remarks:



Overview of upland sample point NWA040A.

Direction: Southwest	Photo ID: delin_photo-20221012-171423.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA040	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,200

Non-Wetland ID

NWA041

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA041A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71647 Long: -95.70882 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA041A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 Assumed

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

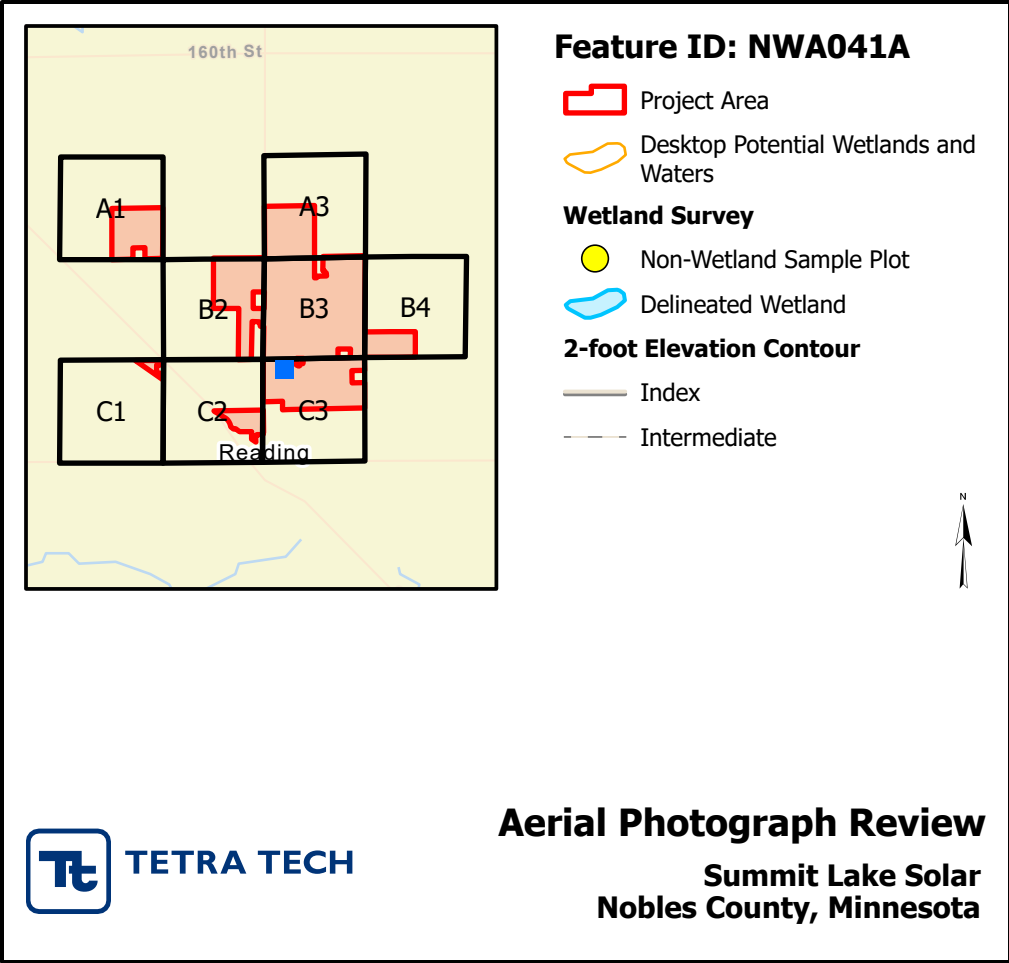
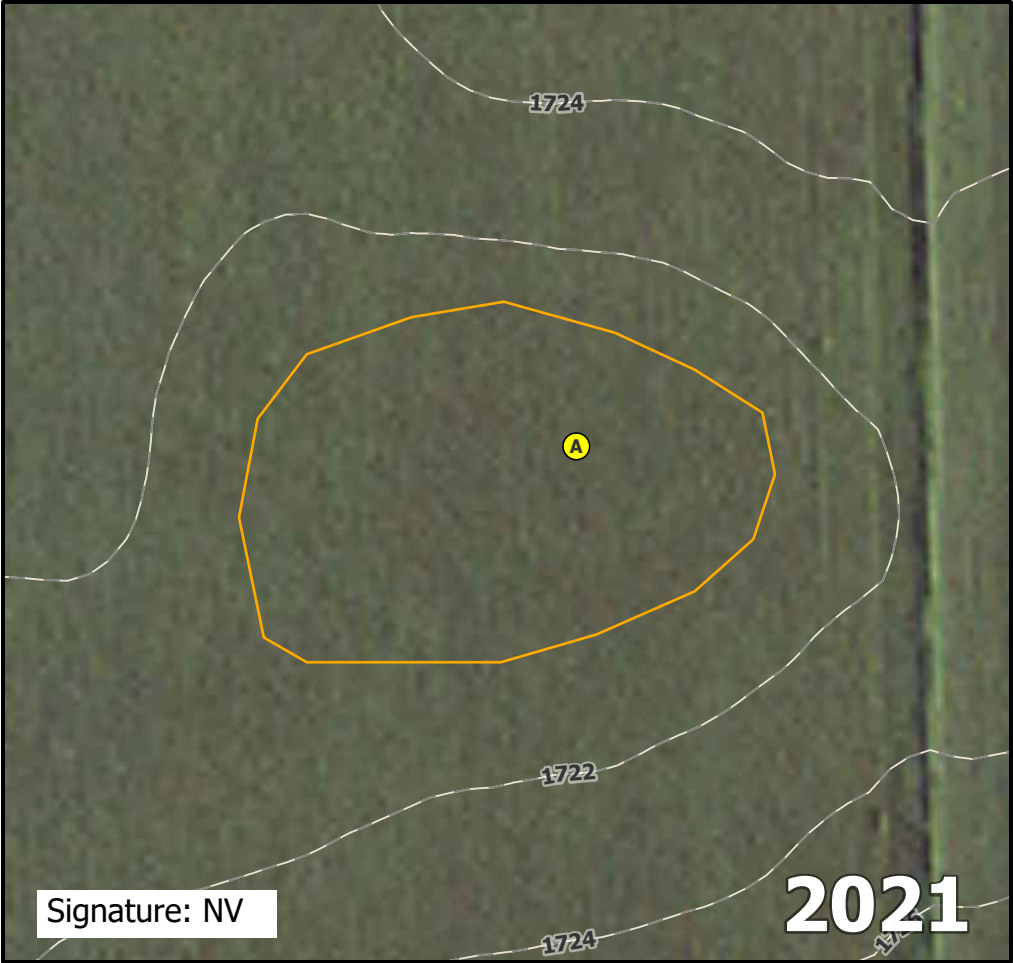
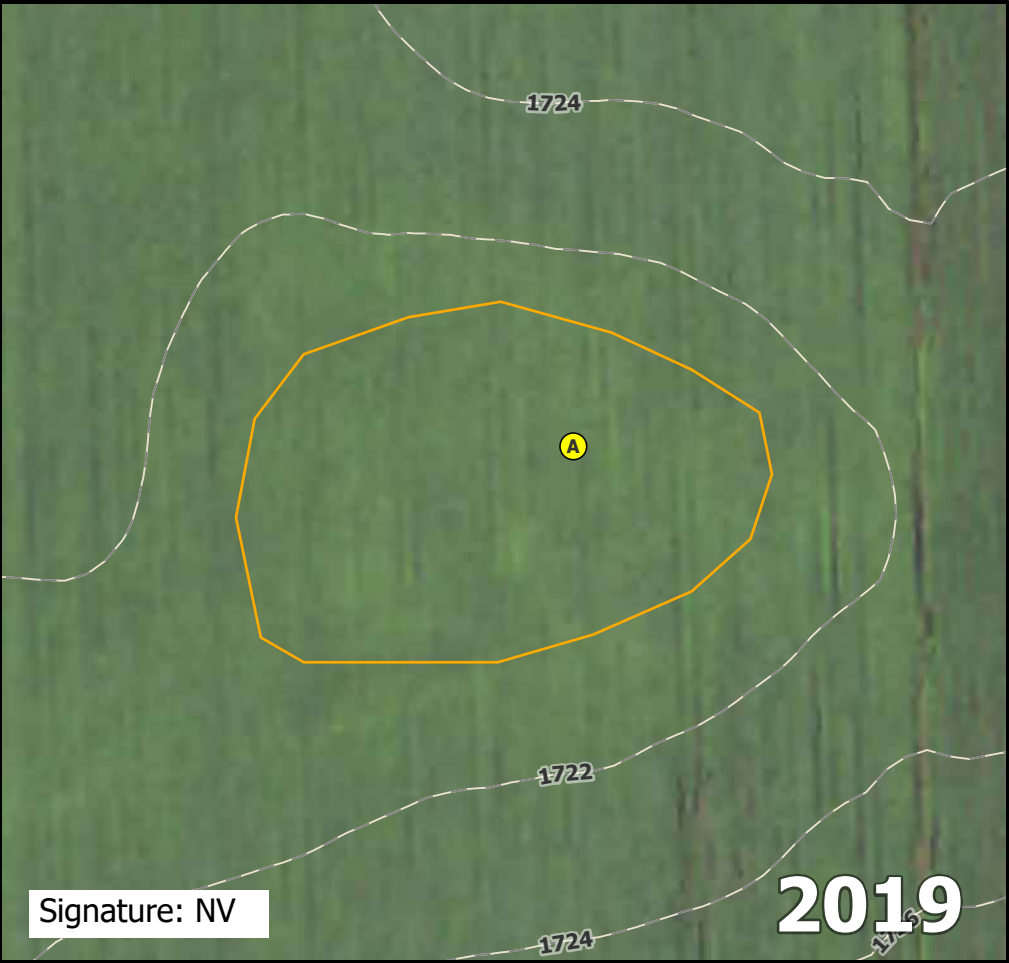
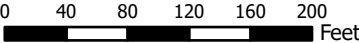
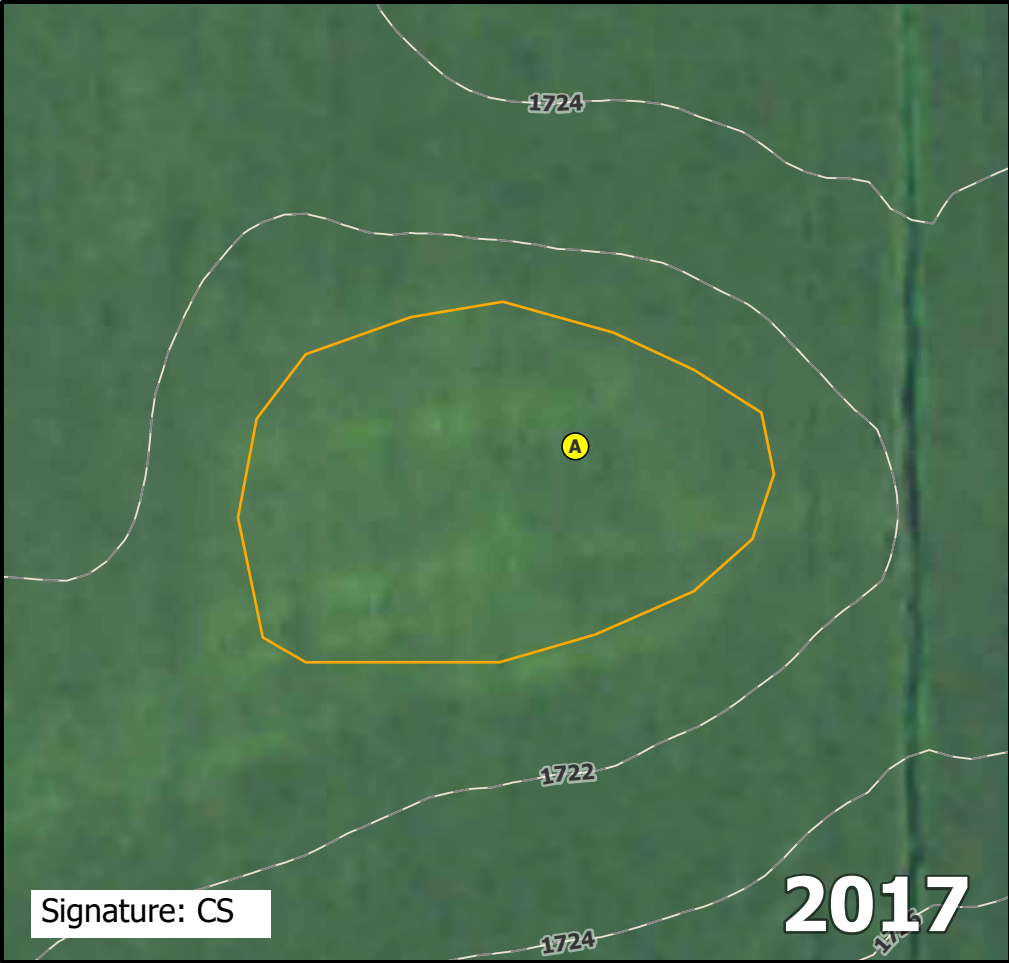
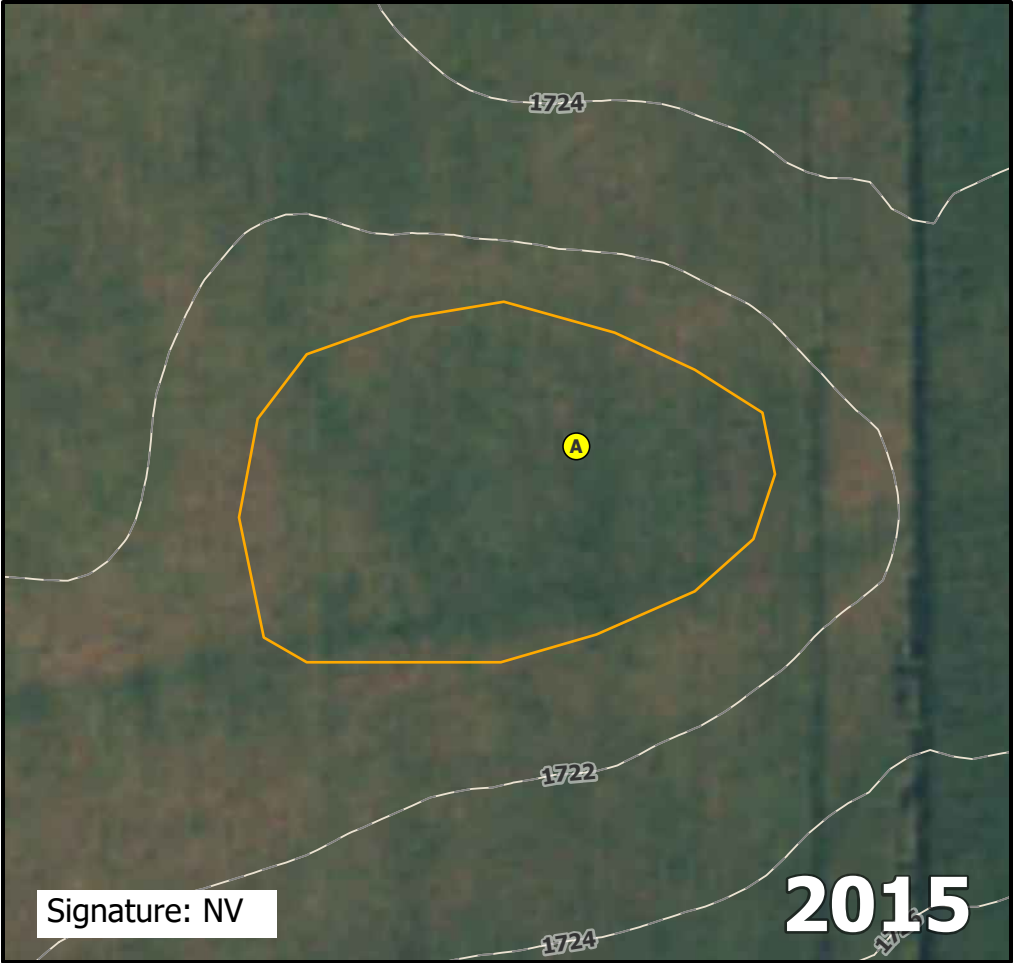
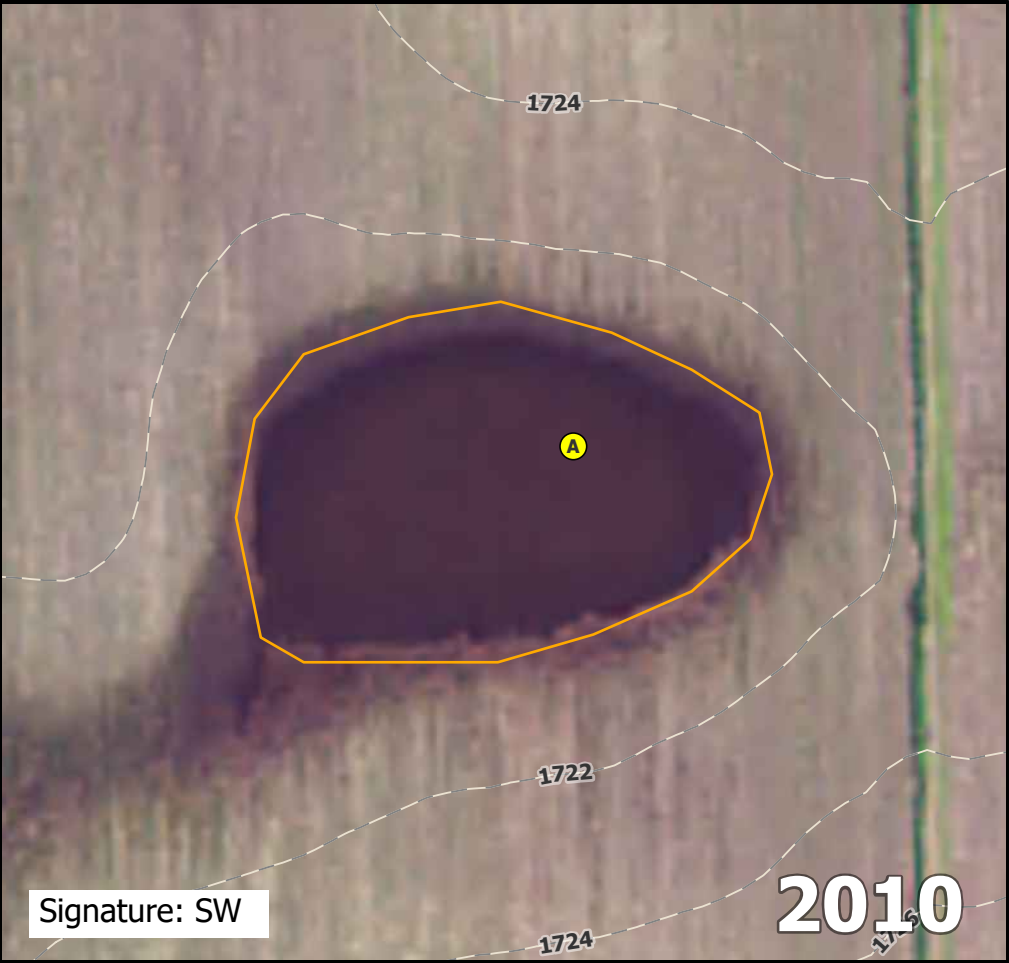
Remarks:



Overview of upland sample point NWA041A.

Direction: North	Photo ID: delin_photo-20221012-174022.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA040	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA043

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/12/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA043A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71865 Long: -95.70659 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field. Topography is very weak.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
				<u> </u> =Total Cover	
<u>Herb Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				<u> </u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
				<u> </u> =Total Cover	

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA043A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☒ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

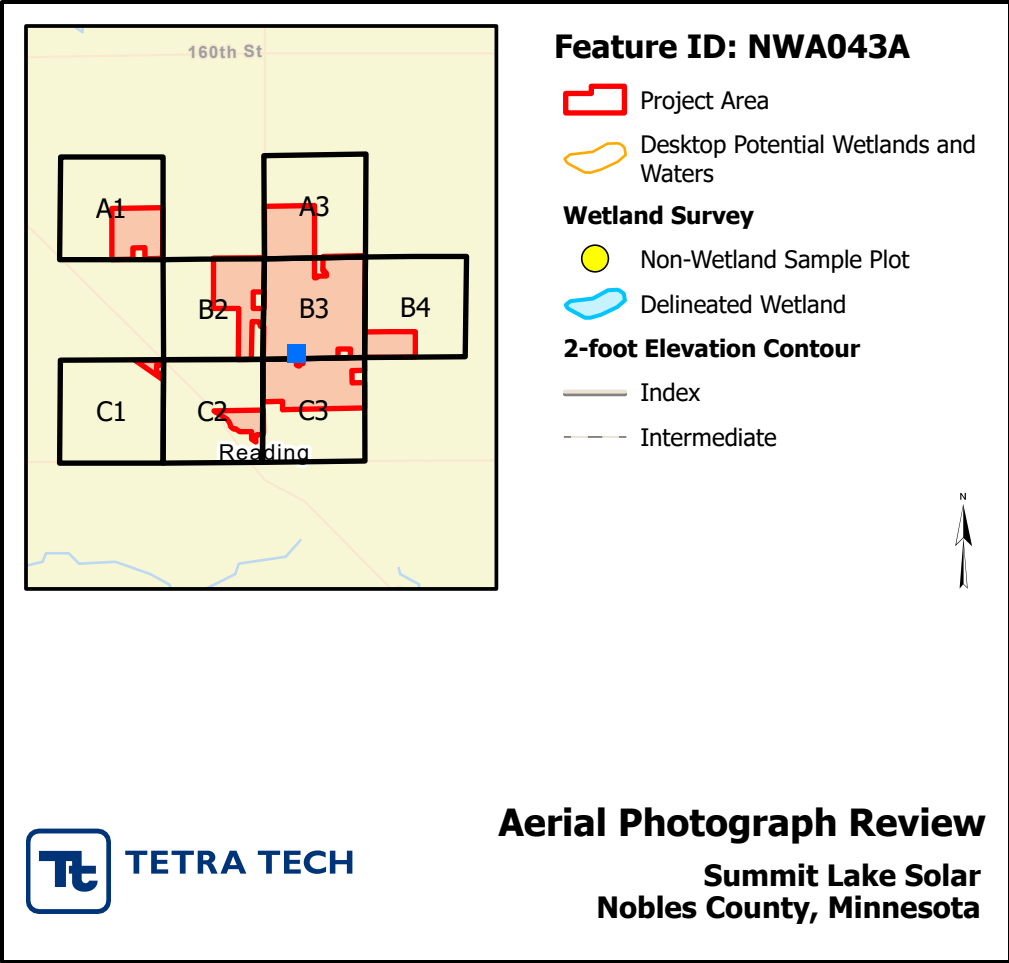
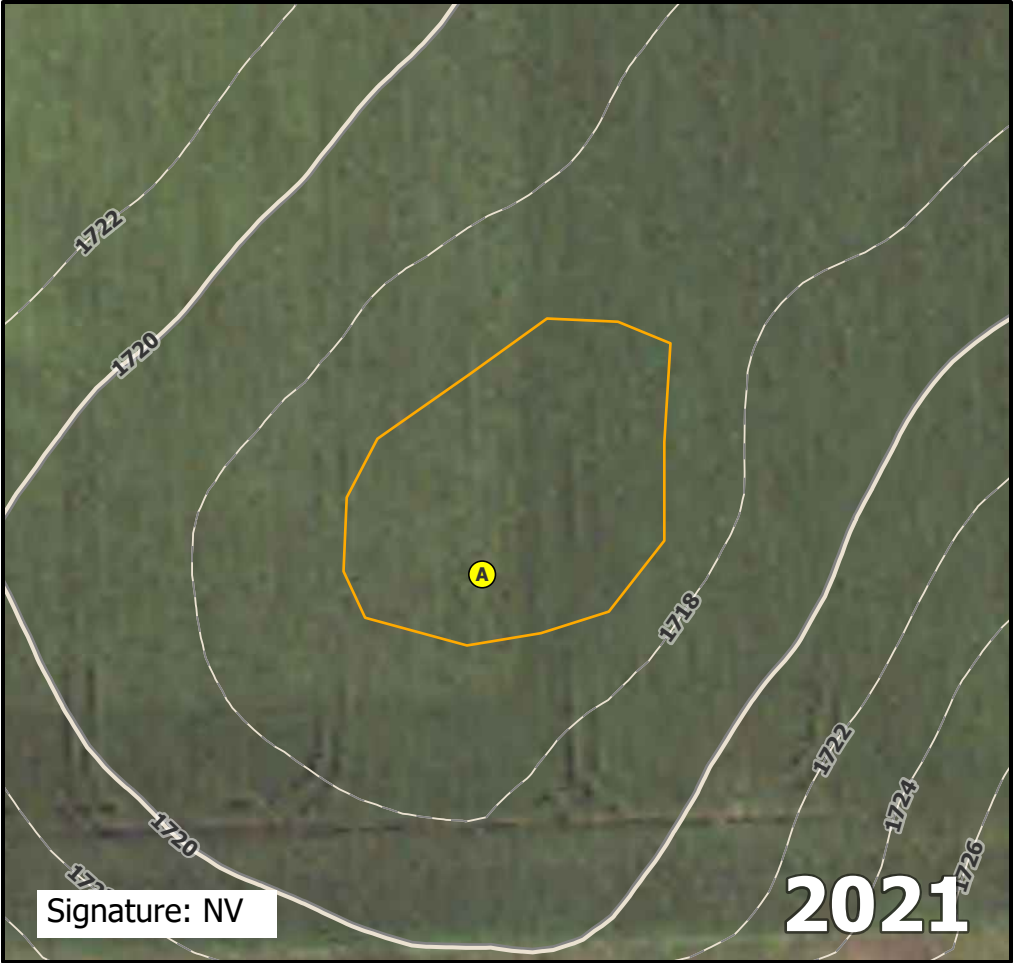
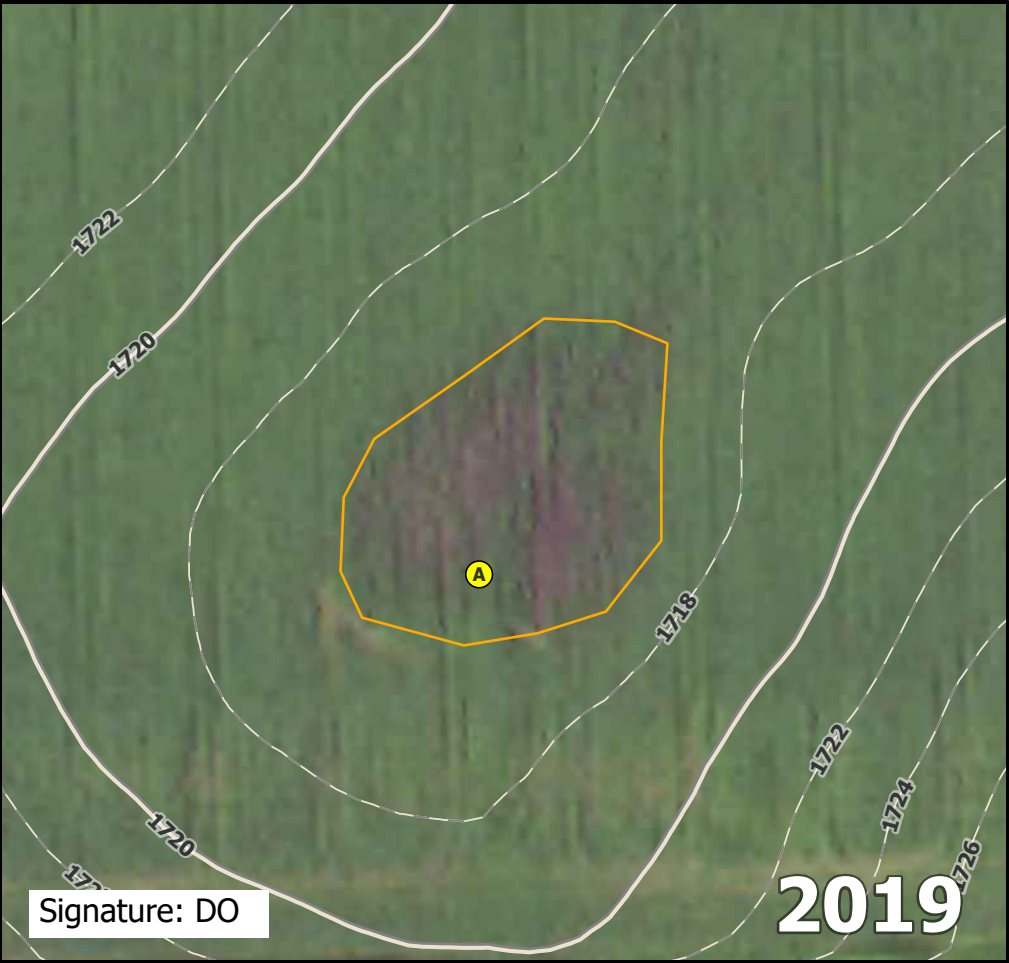
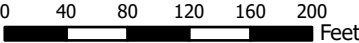
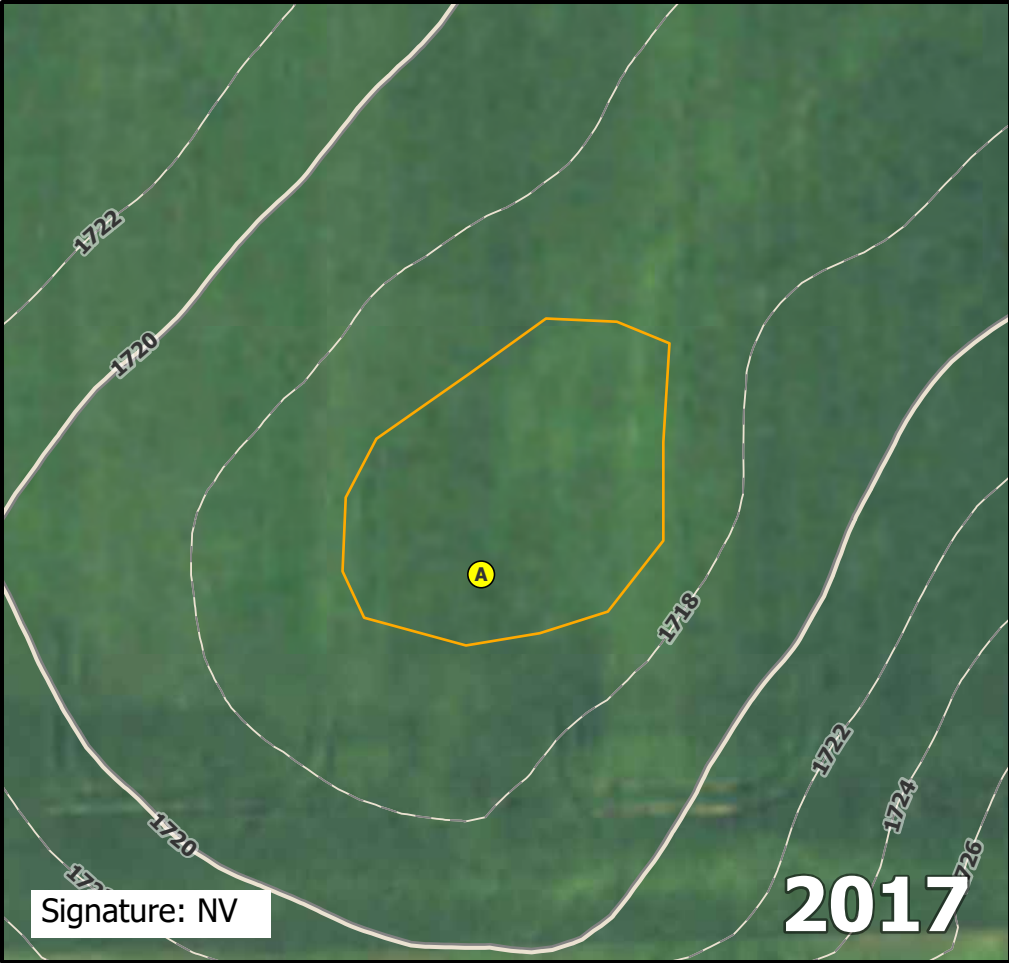
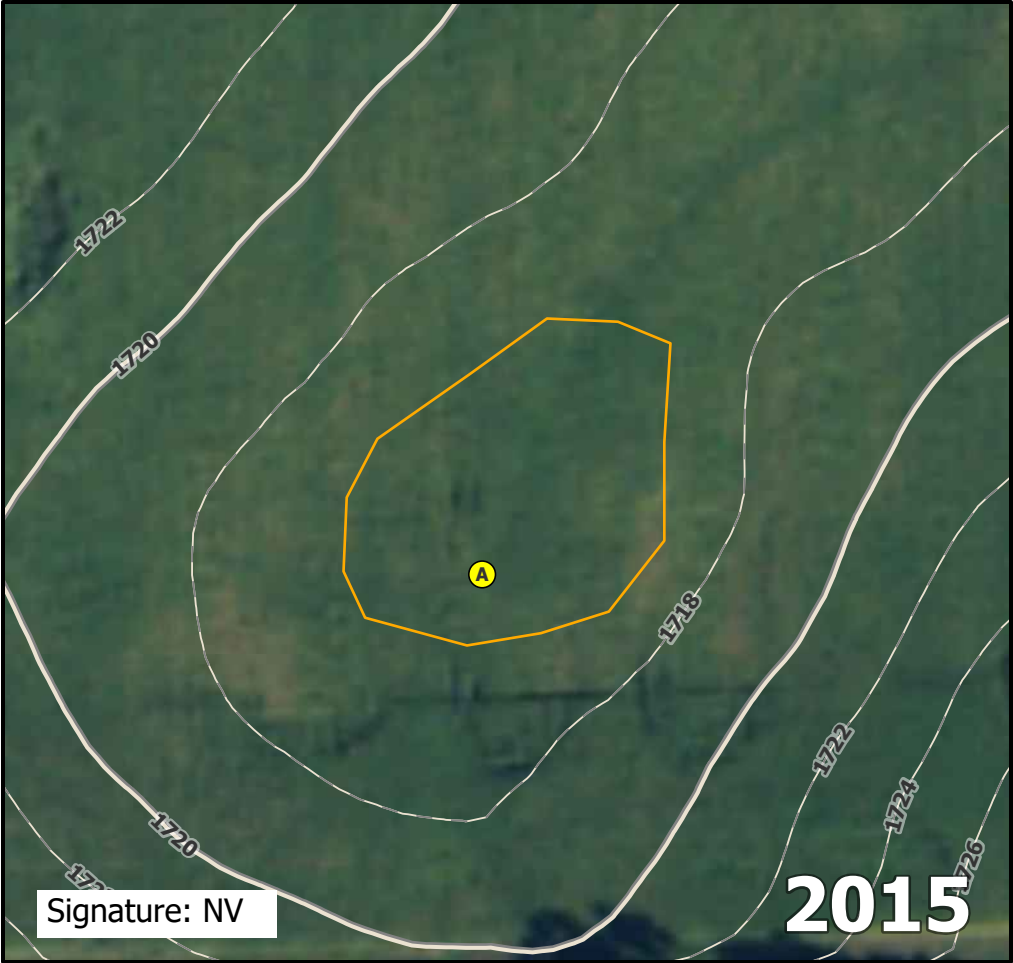
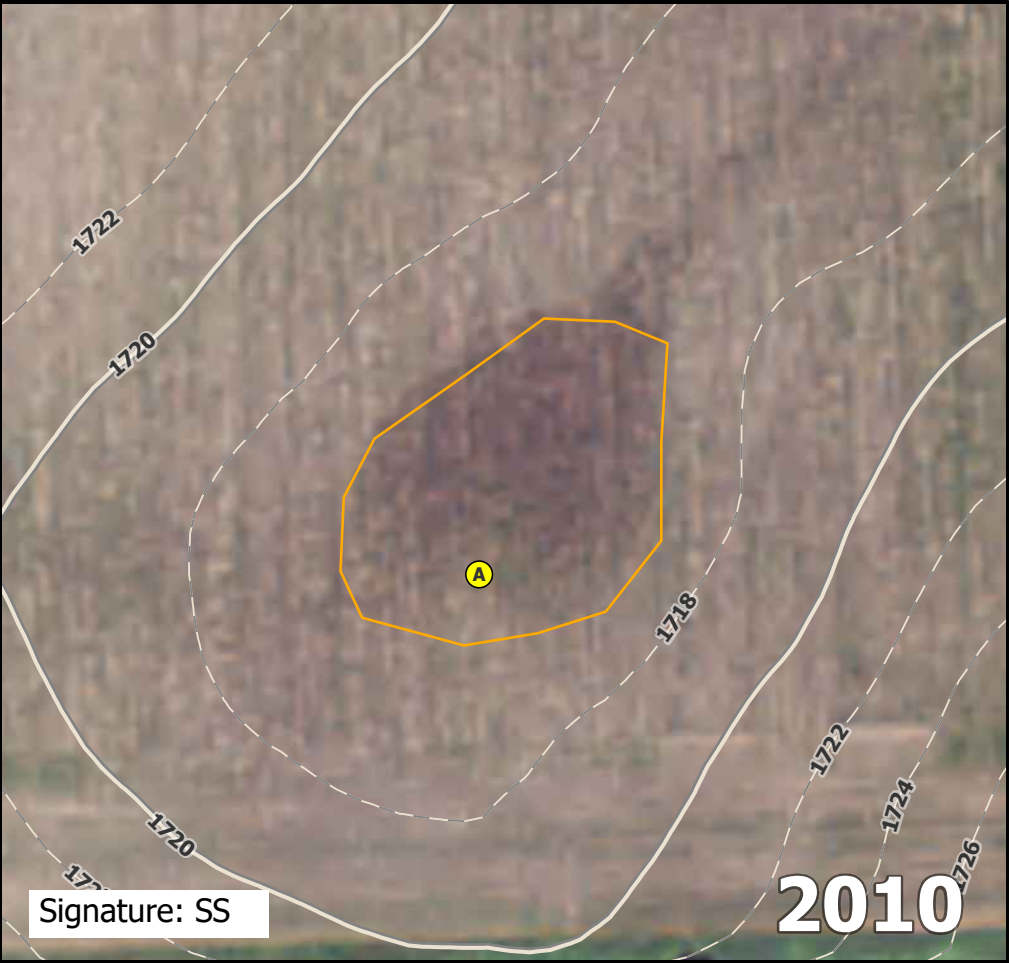
Remarks:



Overview of upland sample point NWA043A.

Direction: North	Photo ID: delin_photo-20221012-192417.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA043	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA044

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022		
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA044A		
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W				
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None				
Slope (%):	0	Lat:	43.7195	Long:	-95.70796	Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:		None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA044A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-22	10YR 2/1	100					Silty Clay Loam	
22-26	10YR 2/1	95	10YR 3/4	5	C	PL	Silty Clay	Distinct or Prominent
26-32	2.5Y 3/2	90	2.5Y 4/4	10	C	PL	Silty Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

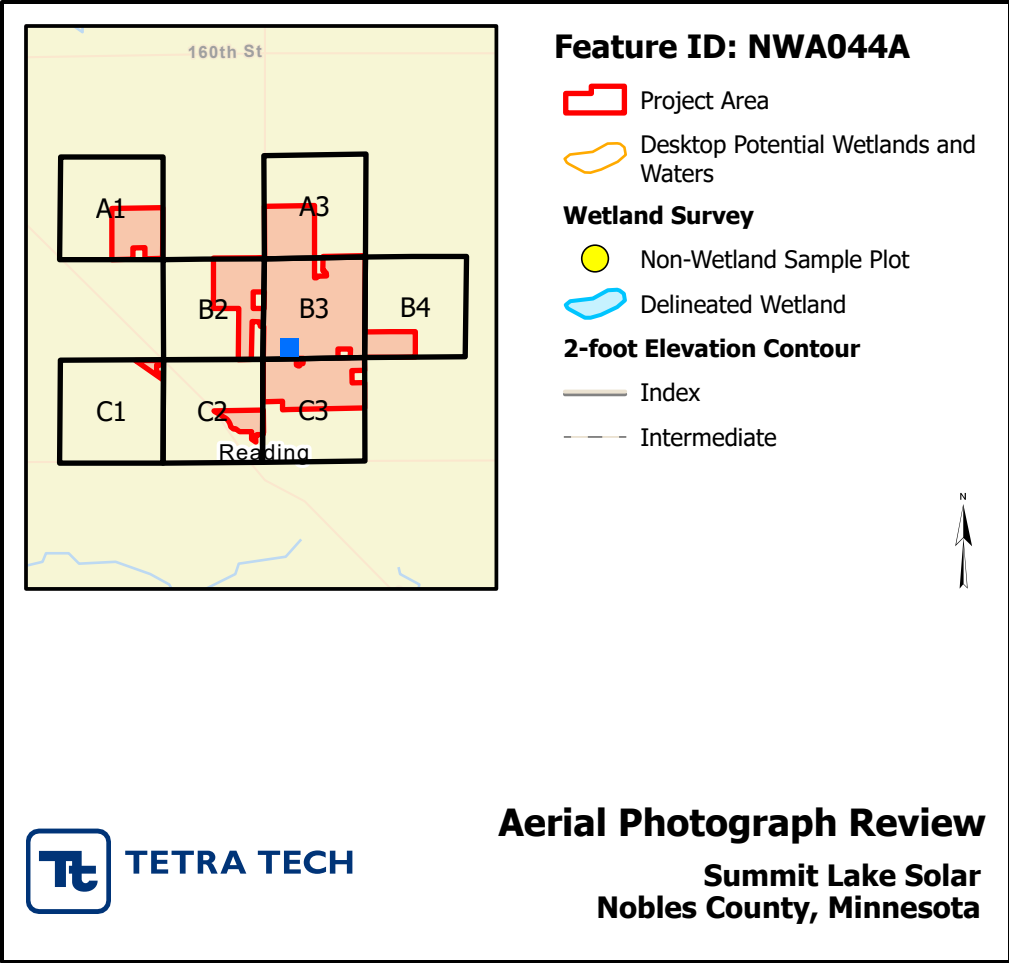
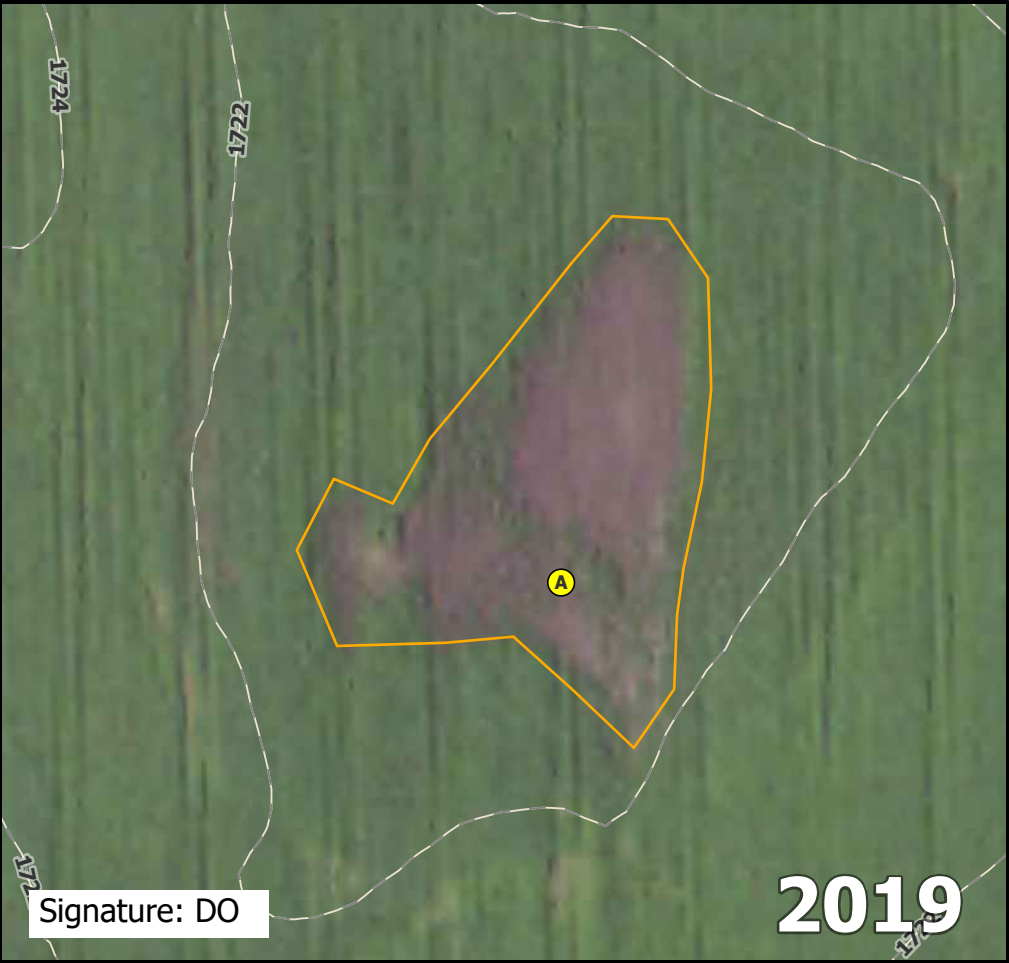
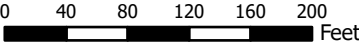
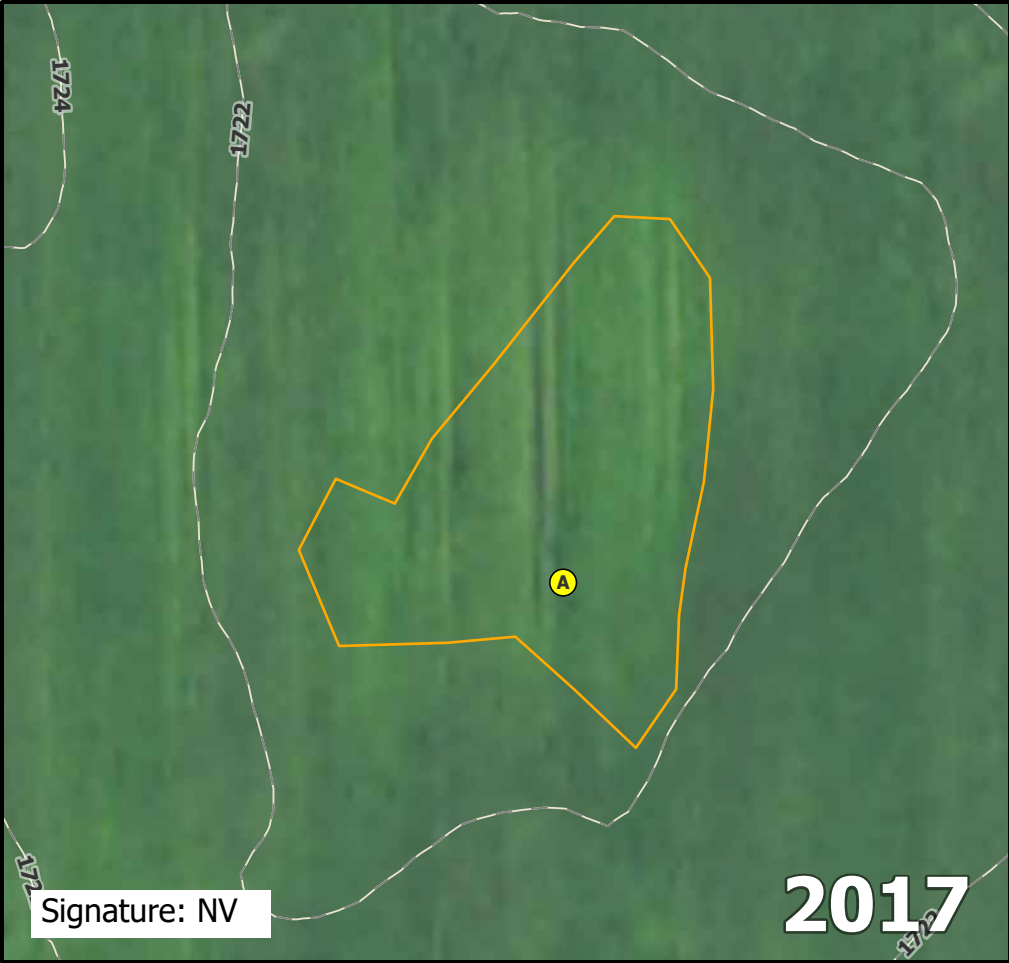
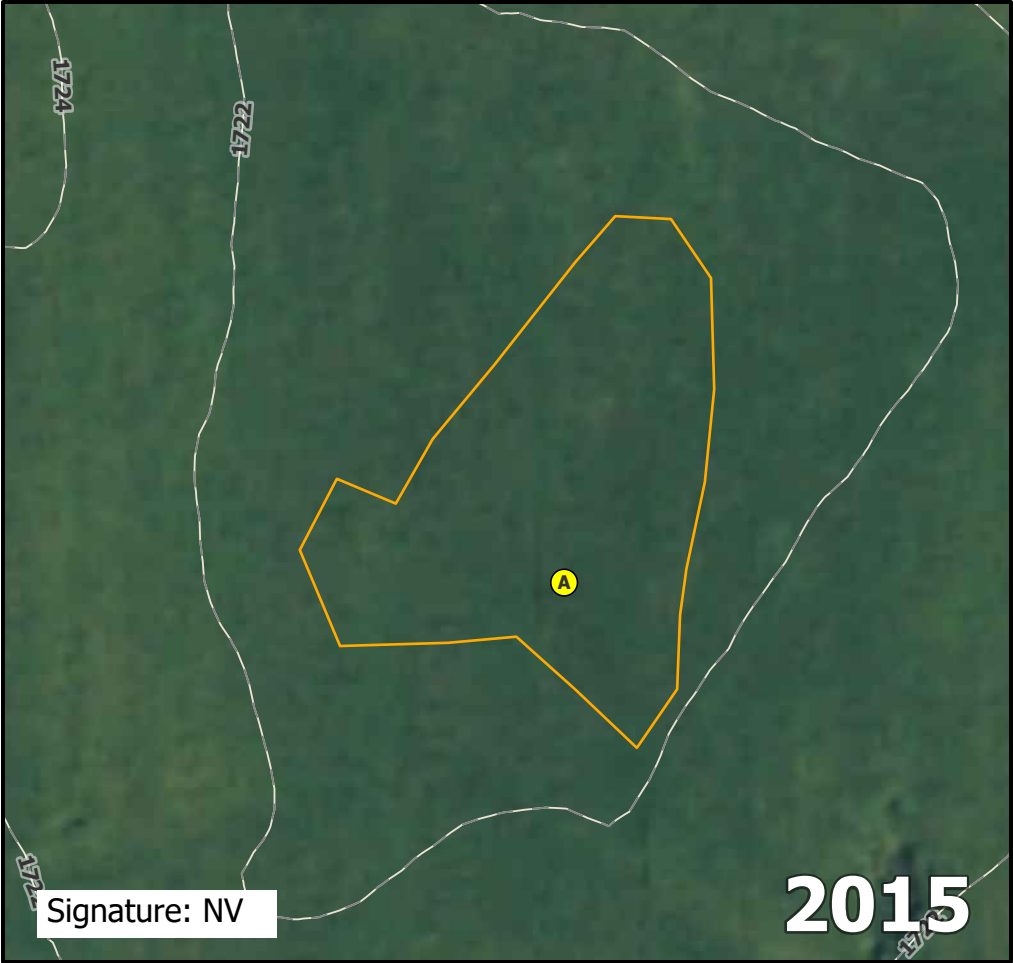
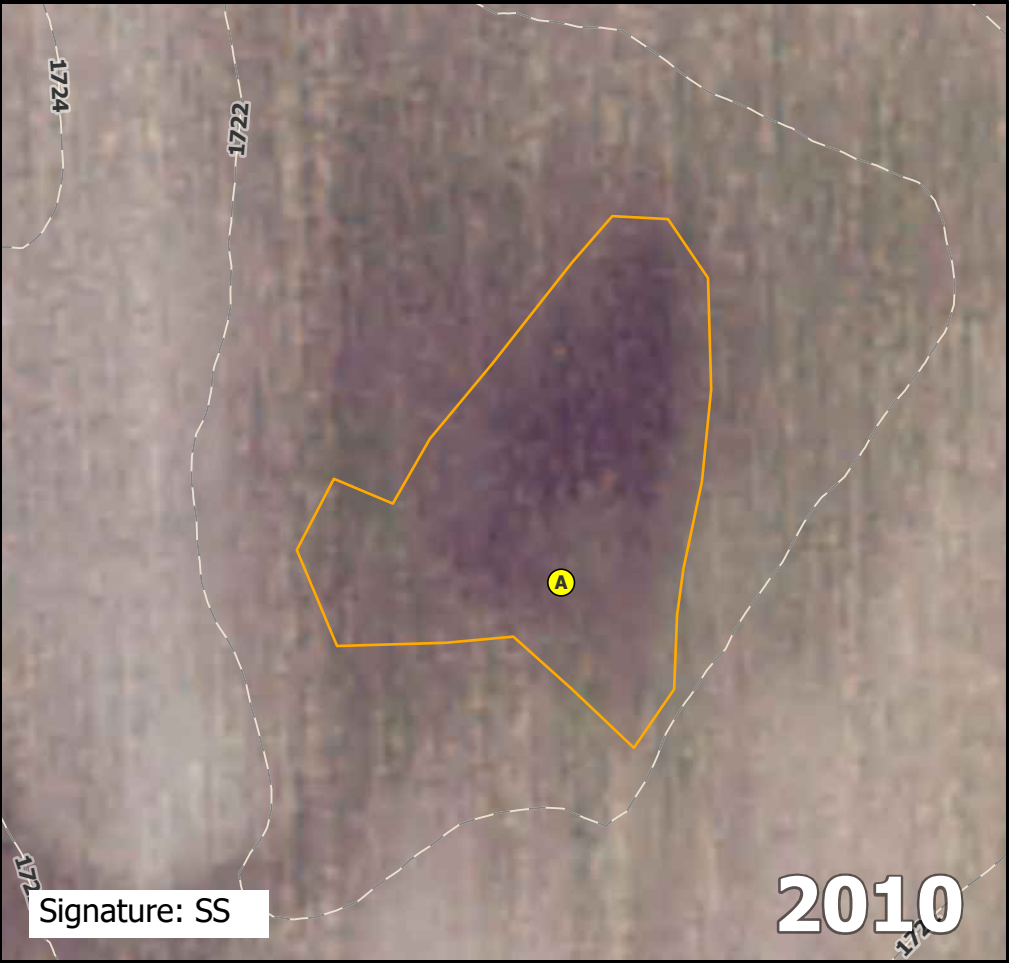
Remarks:



Overview of upland sample point NWA044A.

Direction: East	Photo ID: delin_photo-20221012-204608.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA044	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA045

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA045A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71922	Long:	-95.70919
		Datum:	WGS84		
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
<u>Tree Stratum</u>	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Herb Stratum</u>	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u> </u> =Total Cover		
<u>Woody Vine Stratum</u>	(Plot size: _____)			
1.				
2.				
		<u> </u> =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation*
- (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA045A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-25	10YR 2/1	100					Clay Loam	
25-30	10YR 2/1	80	2.5Y 4/3	15	C	PL/M	Clay Loam	Distinct or Prominent
			2.5Y 5/6	5	C	PL		Distinct or Prominent
30-36	2.5Y 3/2	97	2.5Y 4/4	3	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1)
☐ Histic Epipedon (A2)
☐ Black Histic (A3)
☐ Hydrogen Sulfide (A4)
☐ Stratified Layers (A5)
☐ 2 cm Muck (A10)
☐ Depleted Below Dark Surface (A11)
☐ Thick Dark Surface (A12)
☐ Sandy Mucky Mineral (S1)
☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
☐ Sandy Redox (S5)
☐ Stripped Matrix (S6)
☐ Loamy Mucky Mineral (F1)
☐ Loamy Gleyed Matrix (F2)
☐ Depleted Matrix (F3)
☐ Redox Dark Surface (F6)
☐ Depleted Dark Surface (F7)
☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

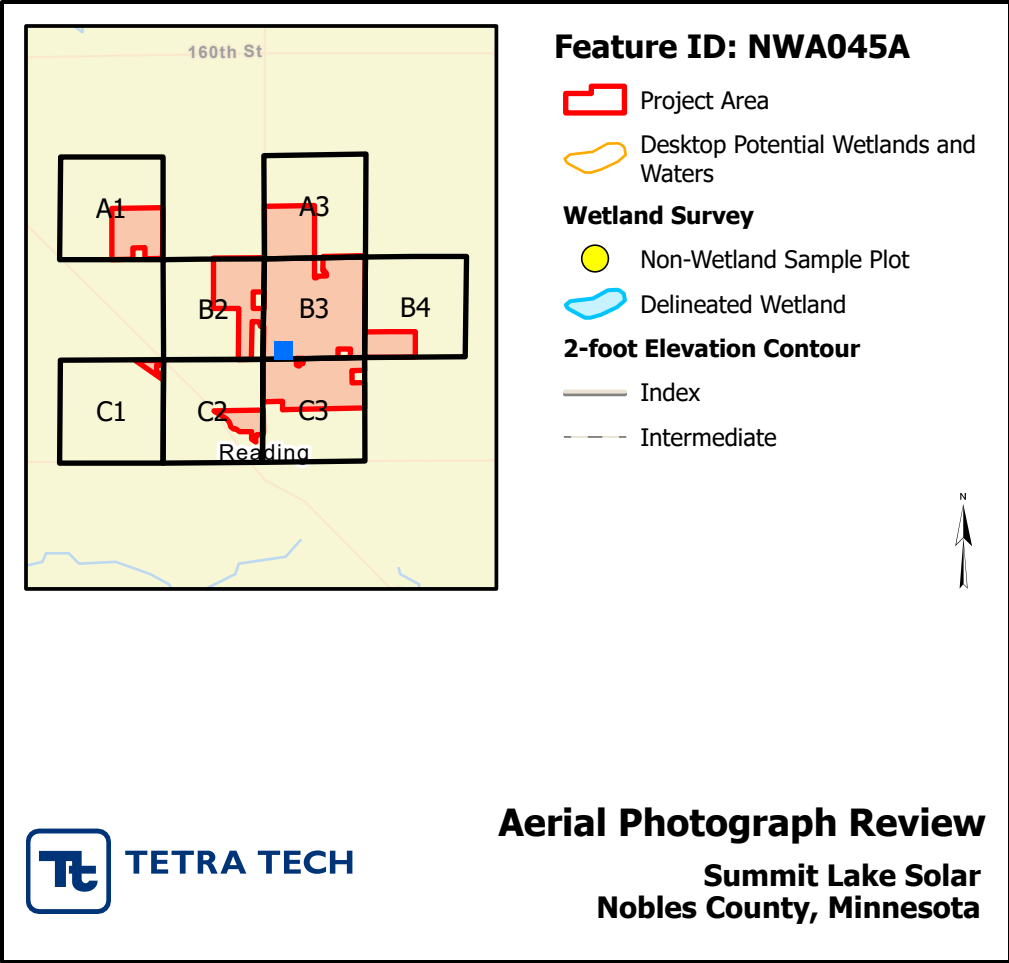
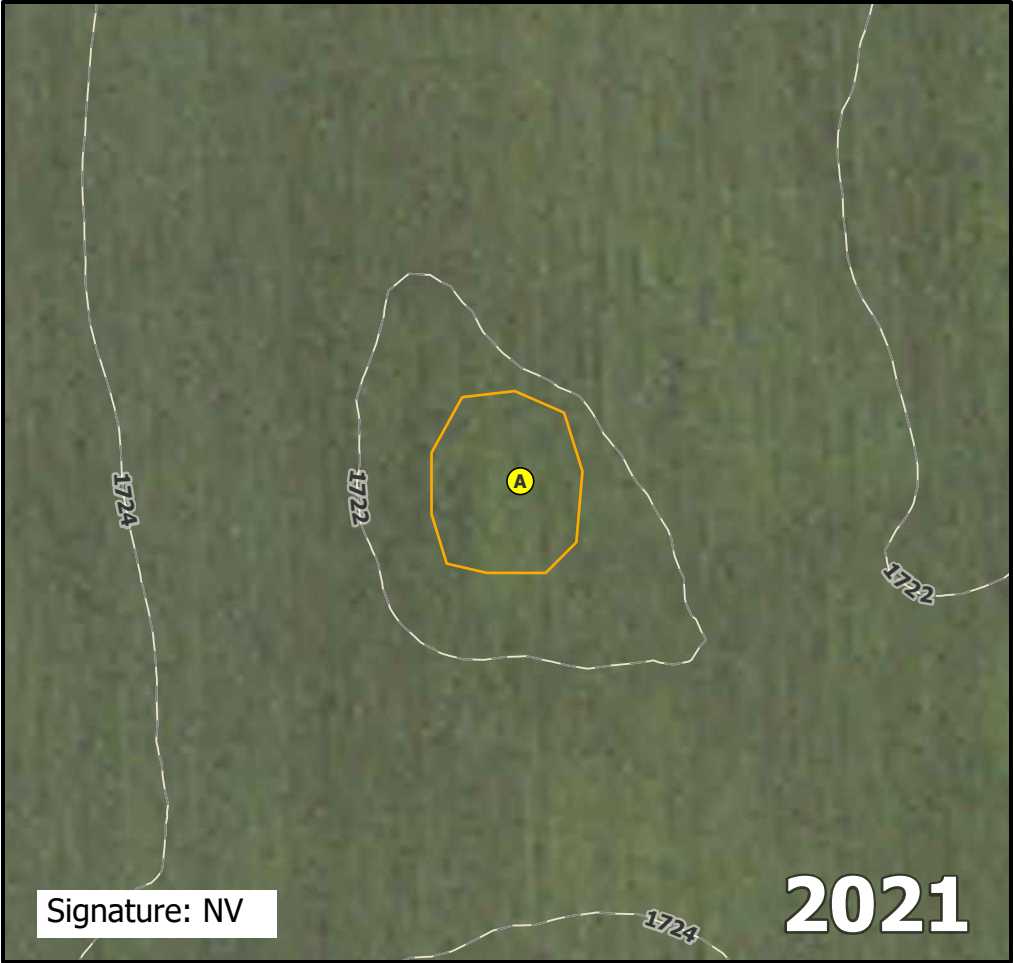
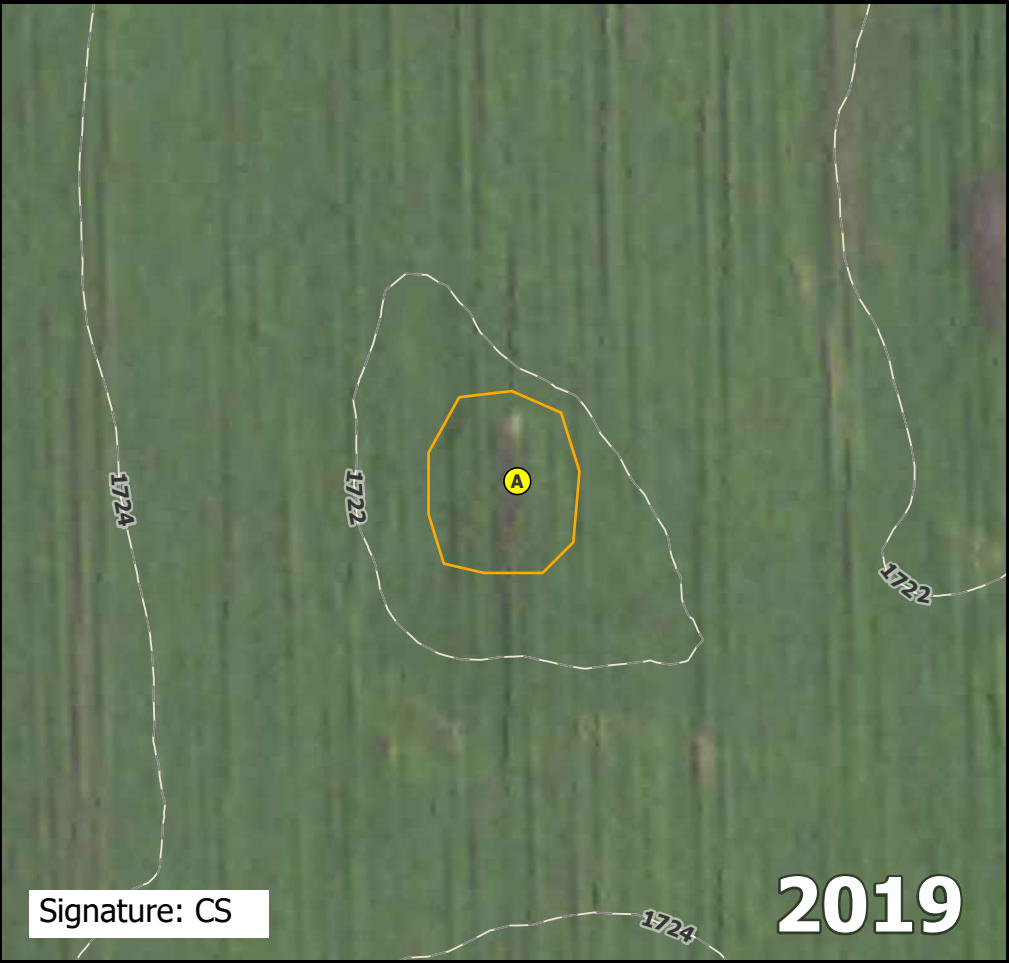
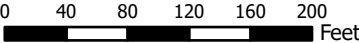
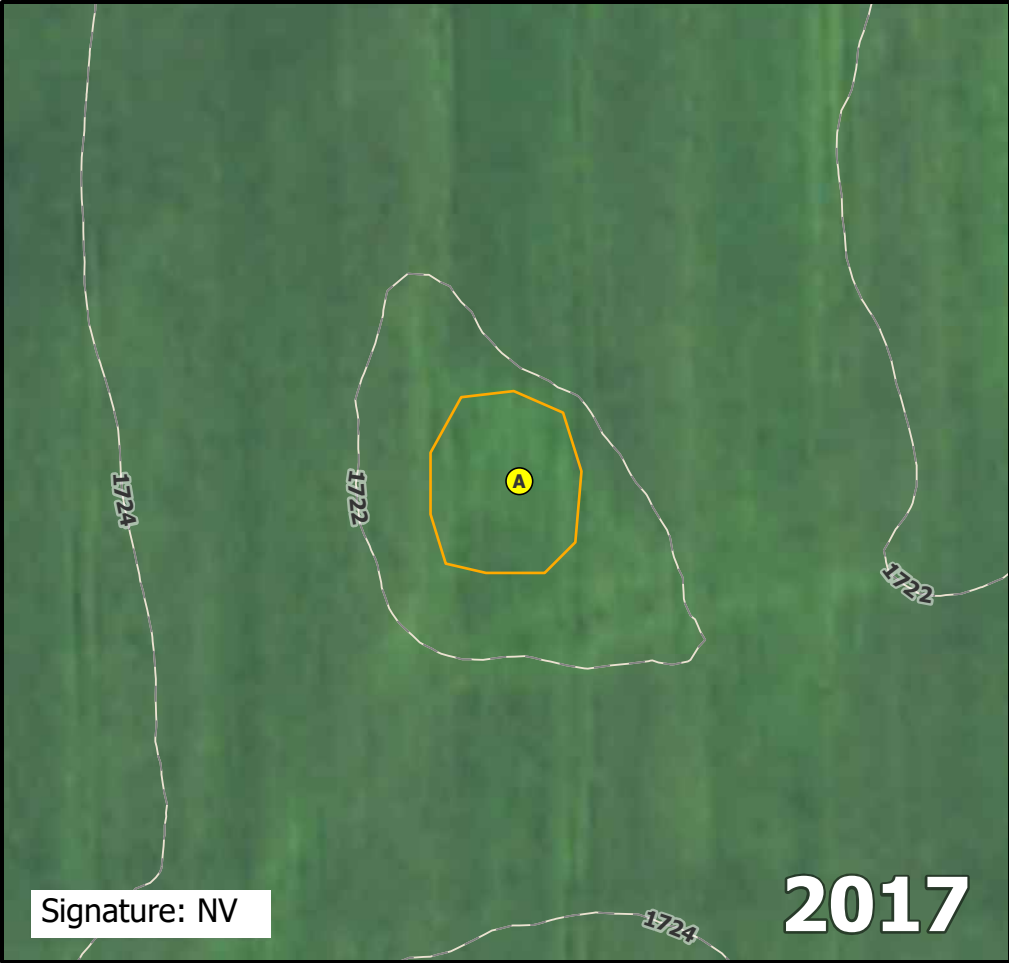
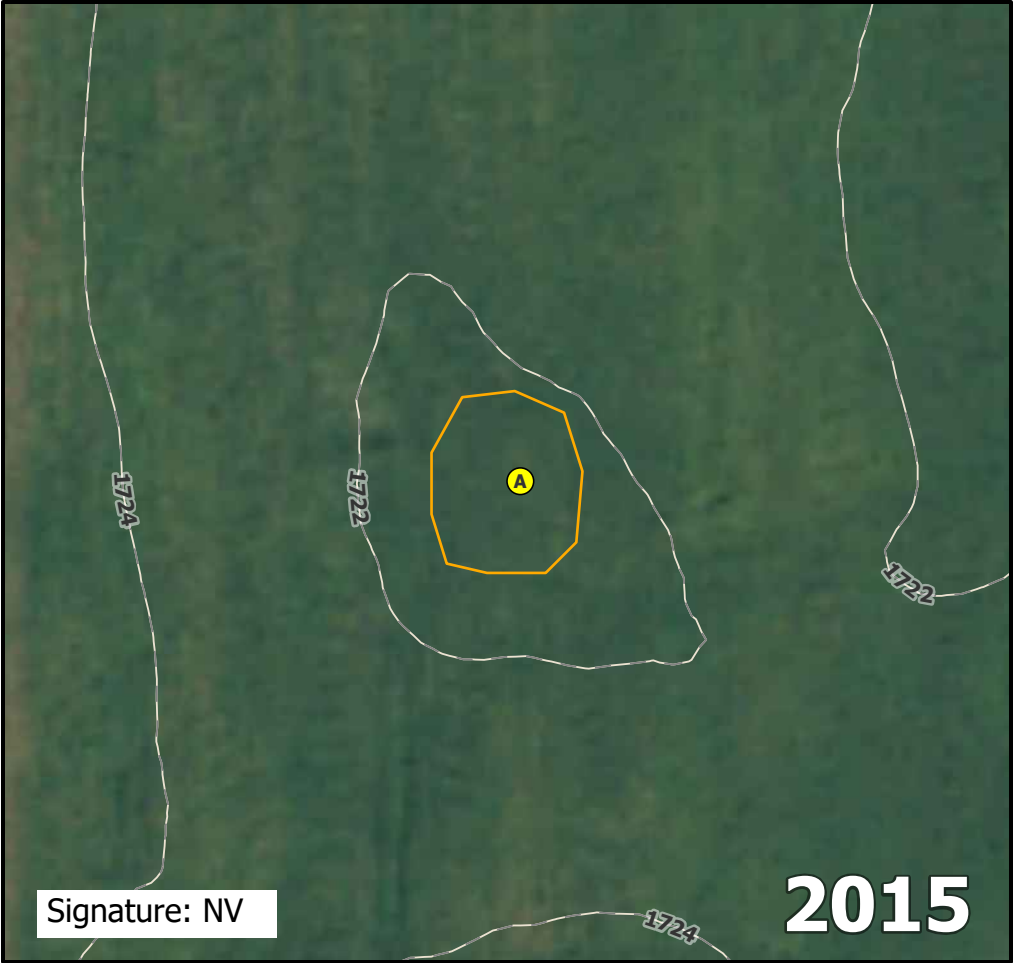
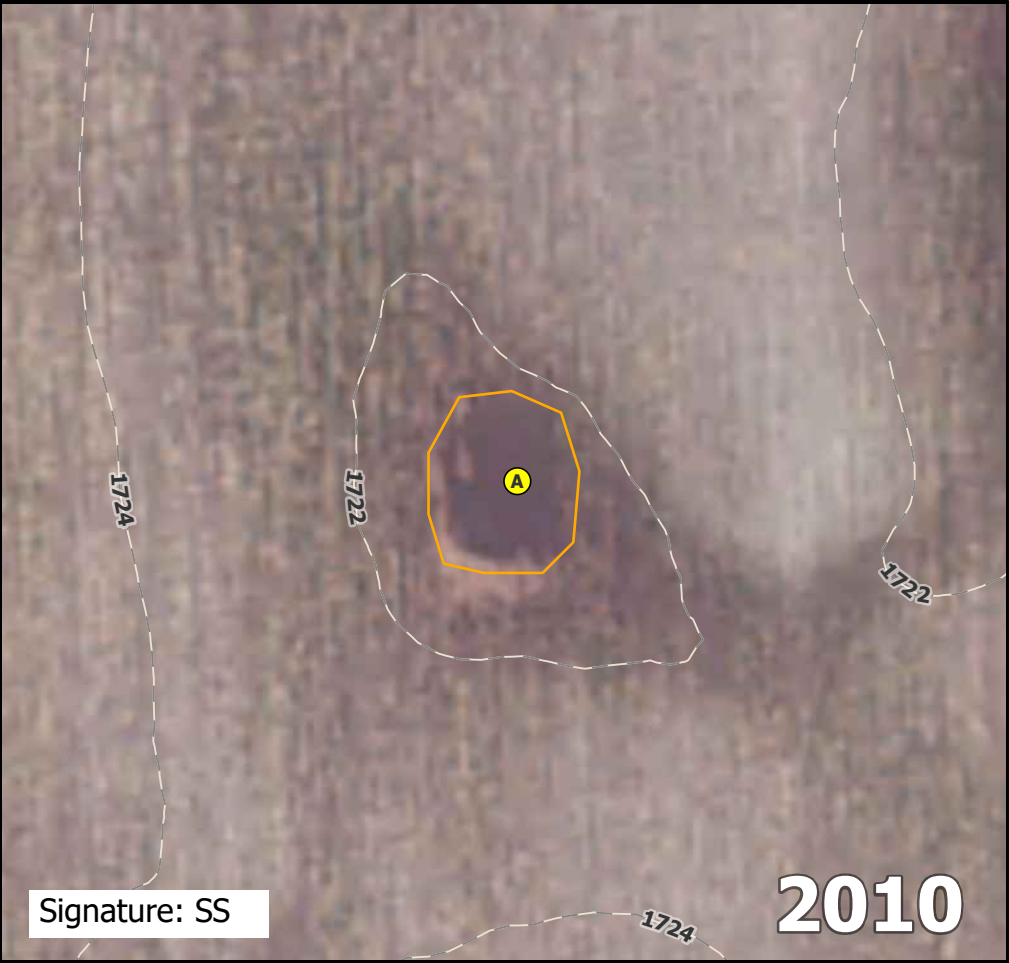
Remarks:



Overview of upland sample point NWA045A.

Direction: East	Photo ID: delin_photo-20221012-211217.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA045	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MNW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA046

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA046A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Convex		
Slope (%):	0	Lat:	43.71841	Long:	-95.70994
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	
<u>Tree Stratum</u>	(Plot size: _____)	% Cover	Species	Status	
1.					Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> %</u> (A/B)
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)				
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: _____)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
		<u> </u> =Total Cover			
<u>Woody Vine Stratum</u>	(Plot size: _____)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
		<u> </u> =Total Cover			Hydrophytic Vegetation Present? No <u> </u>

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA046A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	100			RM		Clay Loam	
10-18	2.5Y 3/1	100					Clay Loam	
18-24	2.5Y 4/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

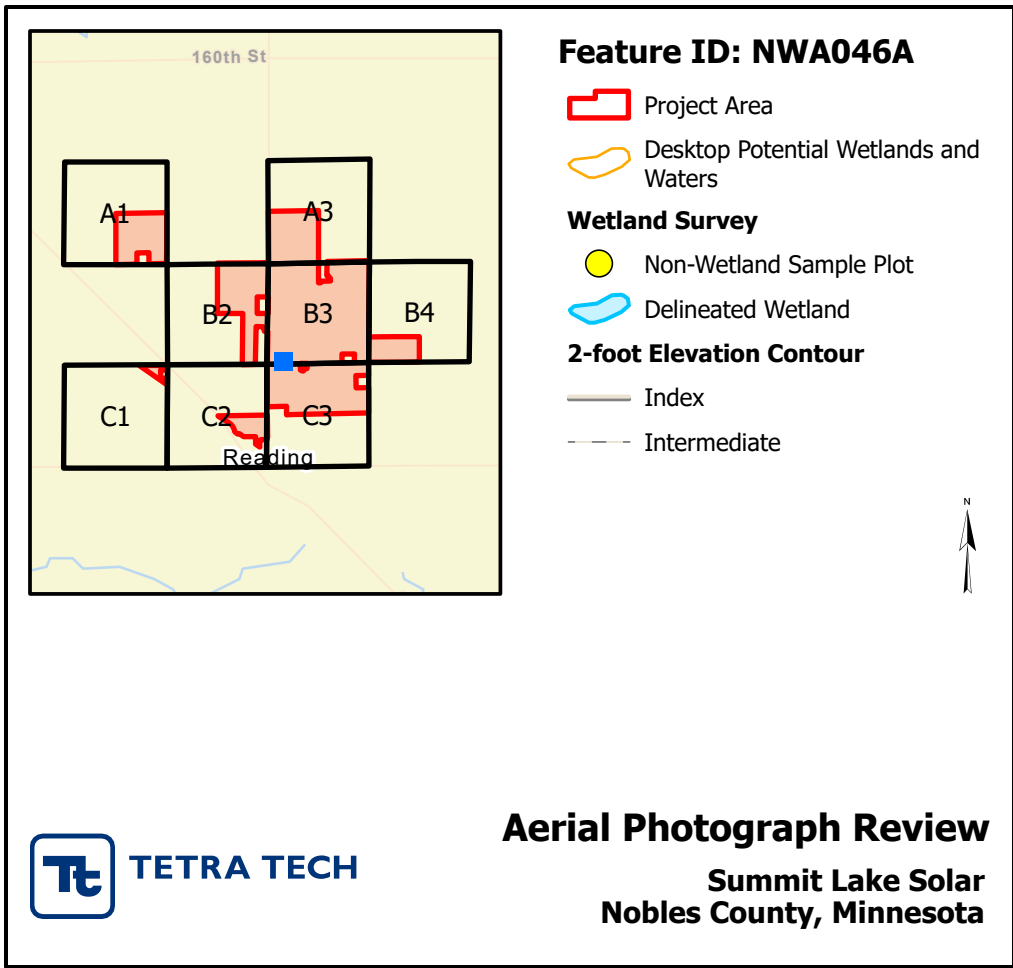
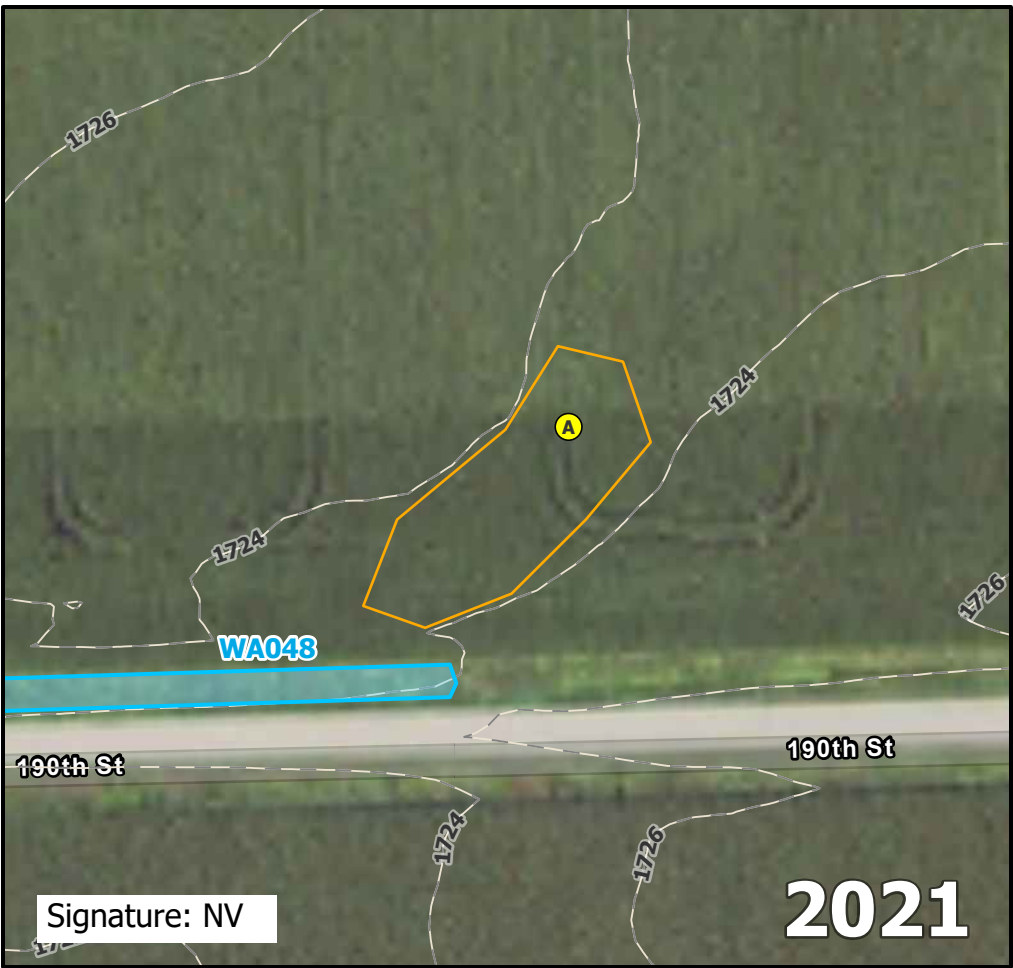
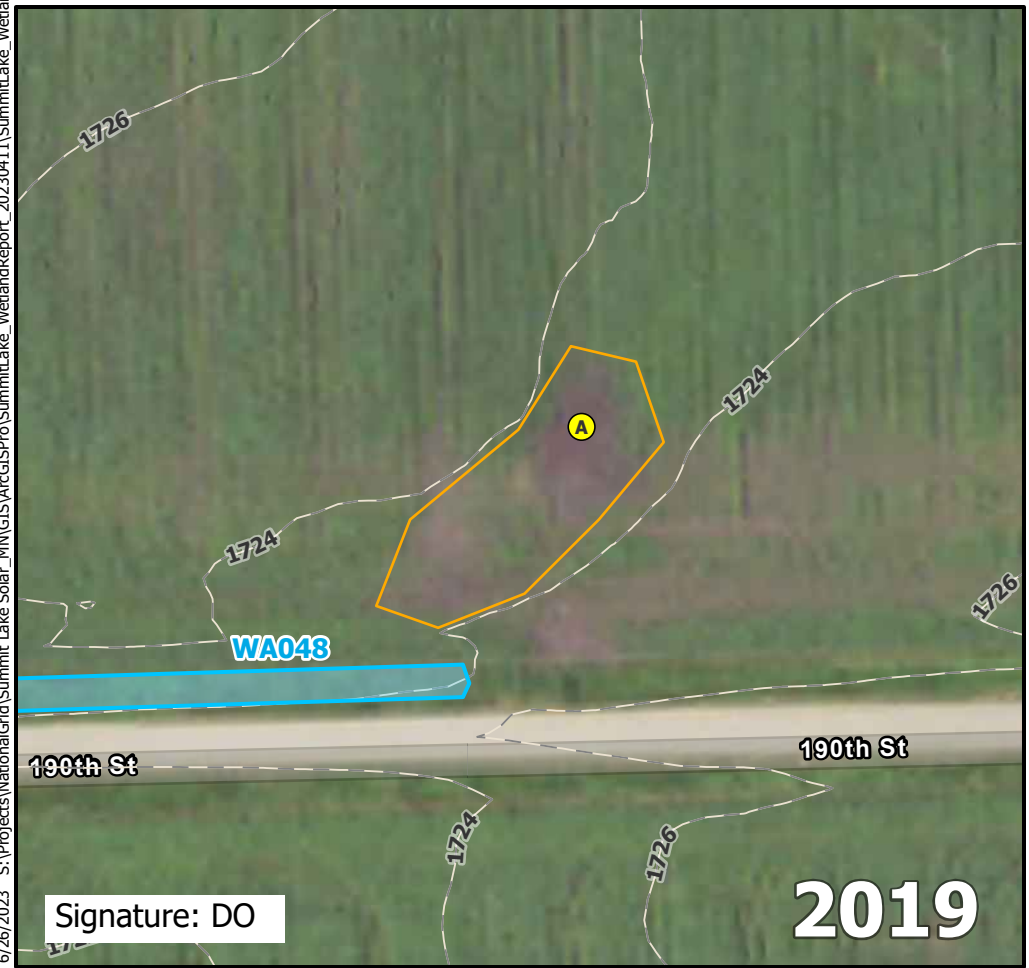
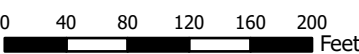
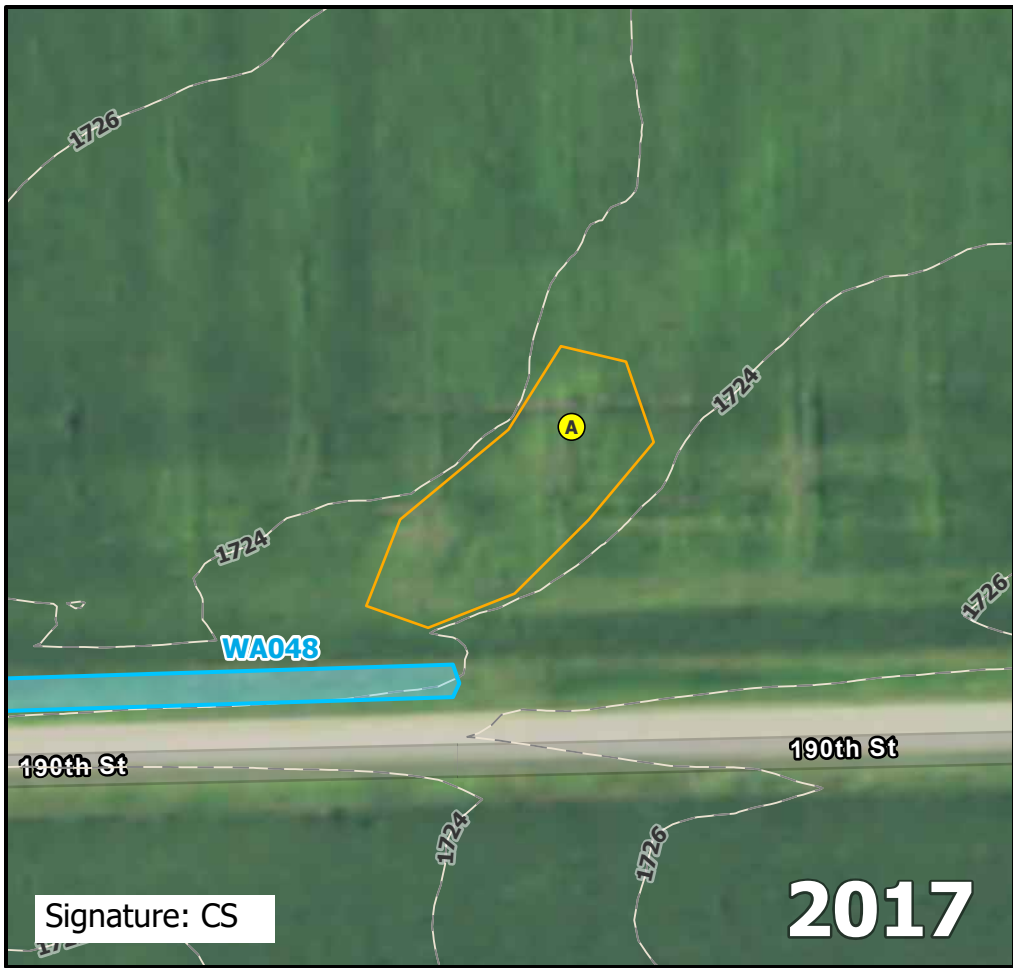
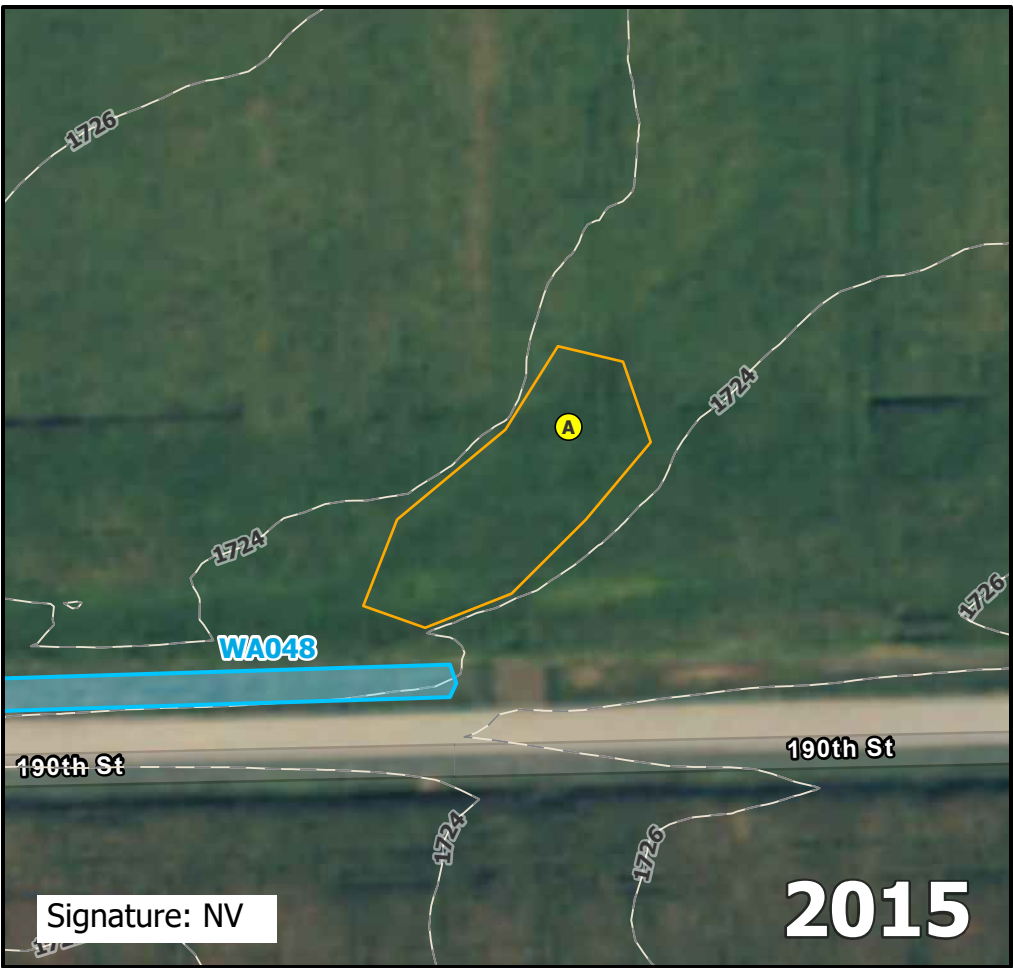
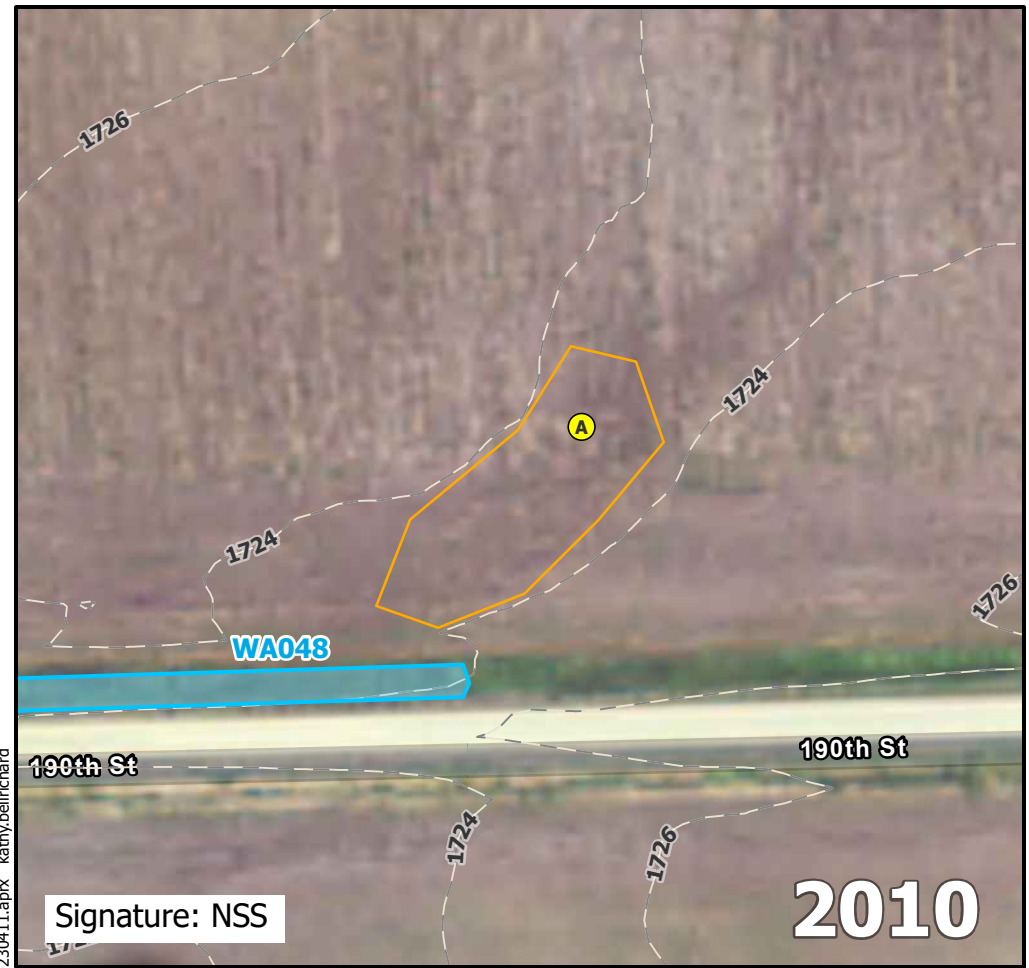
Remarks:



Overview of upland sample point NWA046A.

Direction: Southeast	Photo ID: delin_photo-20221012-213023.jpg	Date: 10/12/2022
Project Name: Summit Lake Solar	Feature ID: NWA046	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Non-Wetland ID

NWA049

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA049A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.72246	Long:	-95.70736
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

		Absolute	Dominant	Indicator	
<u>Tree Stratum</u>	(Plot size: _____)	% Cover	Species	Status	
1.					Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> %</u> (A/B)
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)				
1.					
2.					
3.					
4.					
5.					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: _____)				
1.					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
		<u> </u> =Total Cover			
<u>Woody Vine Stratum</u>	(Plot size: _____)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					Hydrophytic Vegetation Present? No <u> </u>
2.					
		<u> </u> =Total Cover			

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA049A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Clay Loam	
15-17	2.5Y 3/1	90	2.5Y 3/2	10	C	M	Clay Loam	Faint
17-20	2.5Y 3/2	90	2.5Y 4/3	10	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Drain tile

Depth (inches): 20

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA049A.

Direction: Northwest

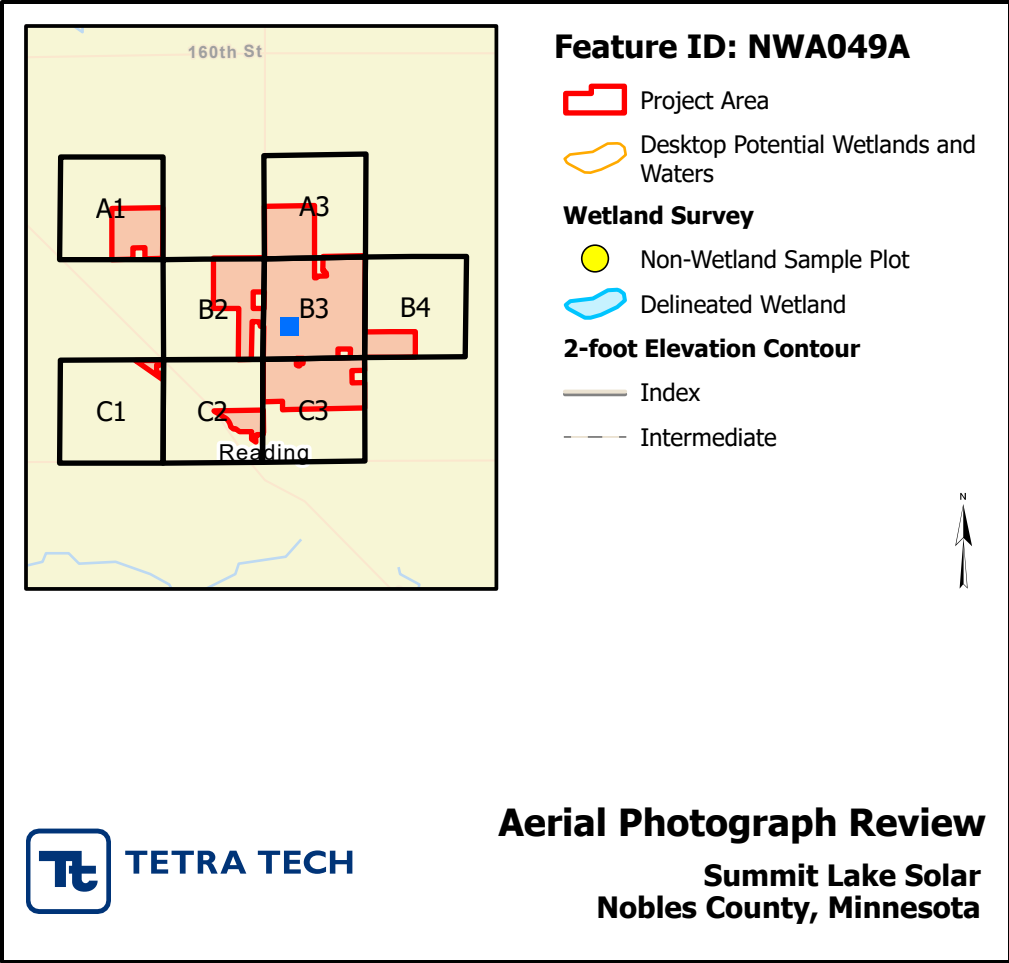
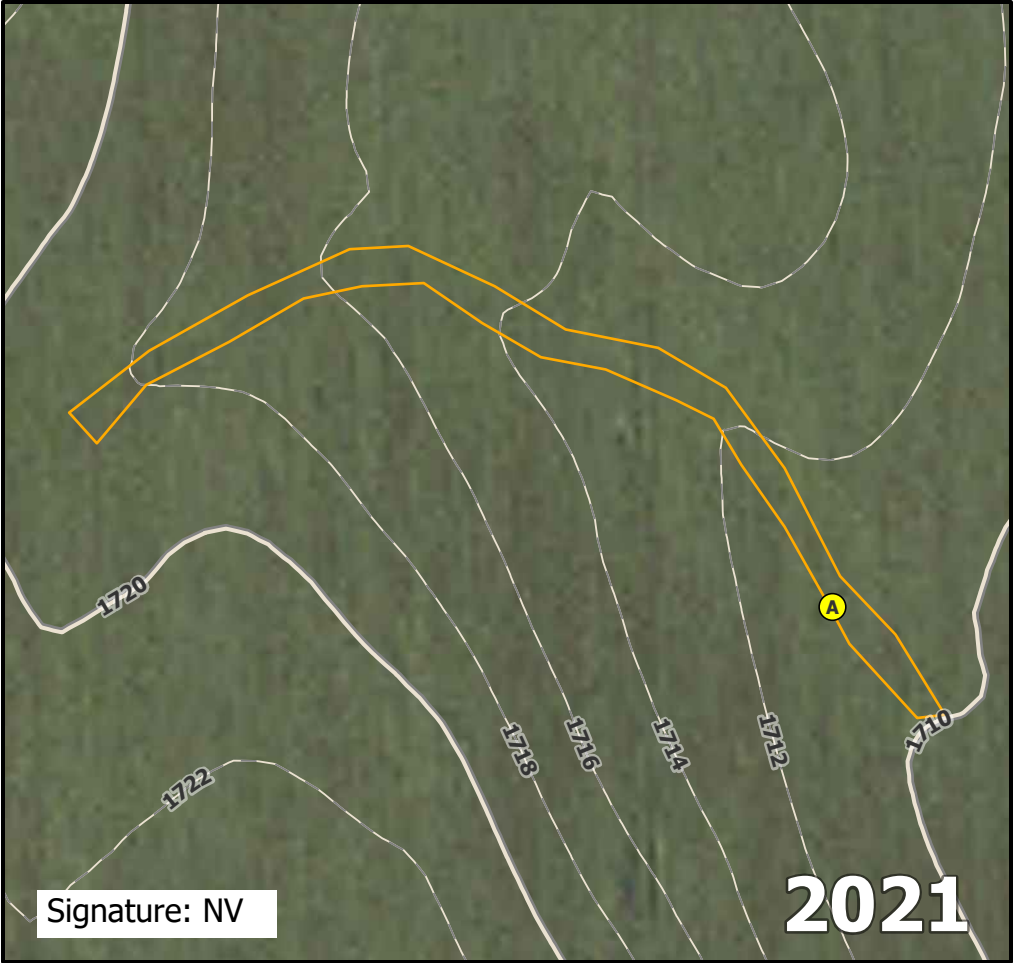
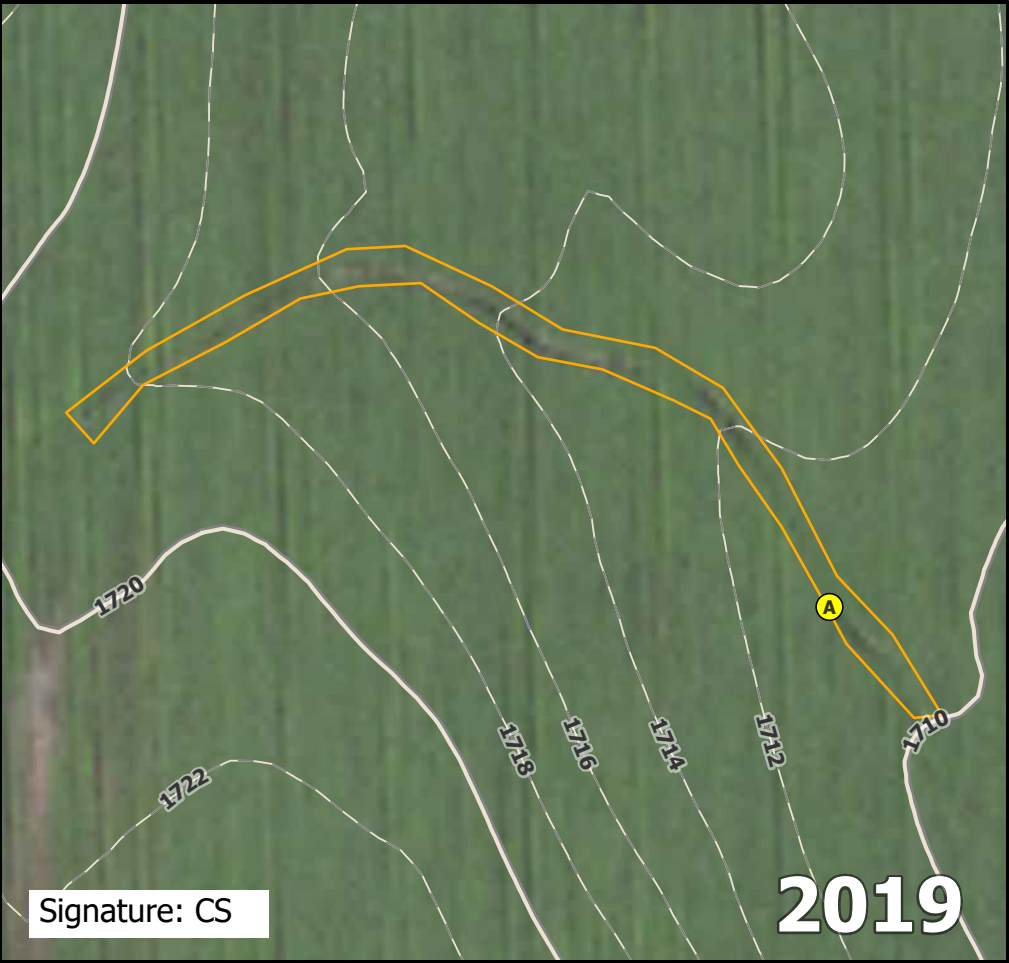
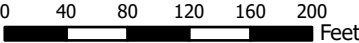
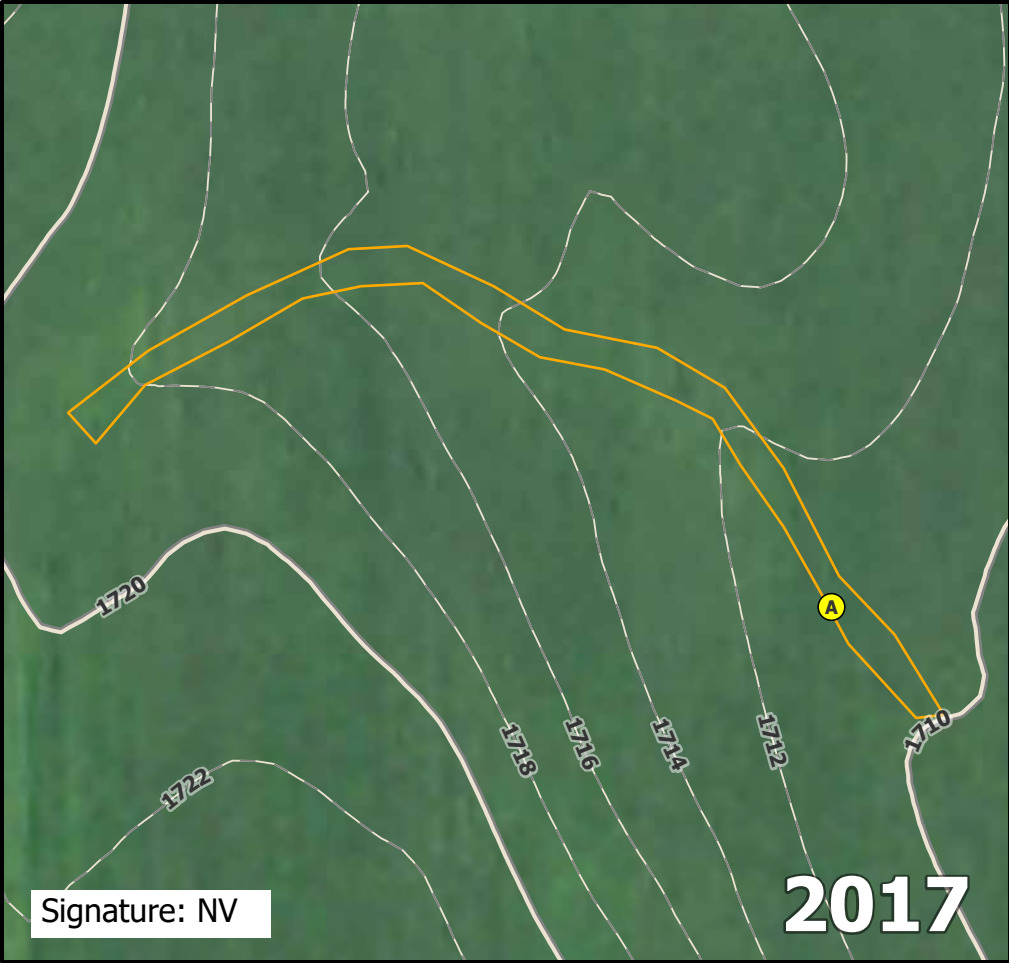
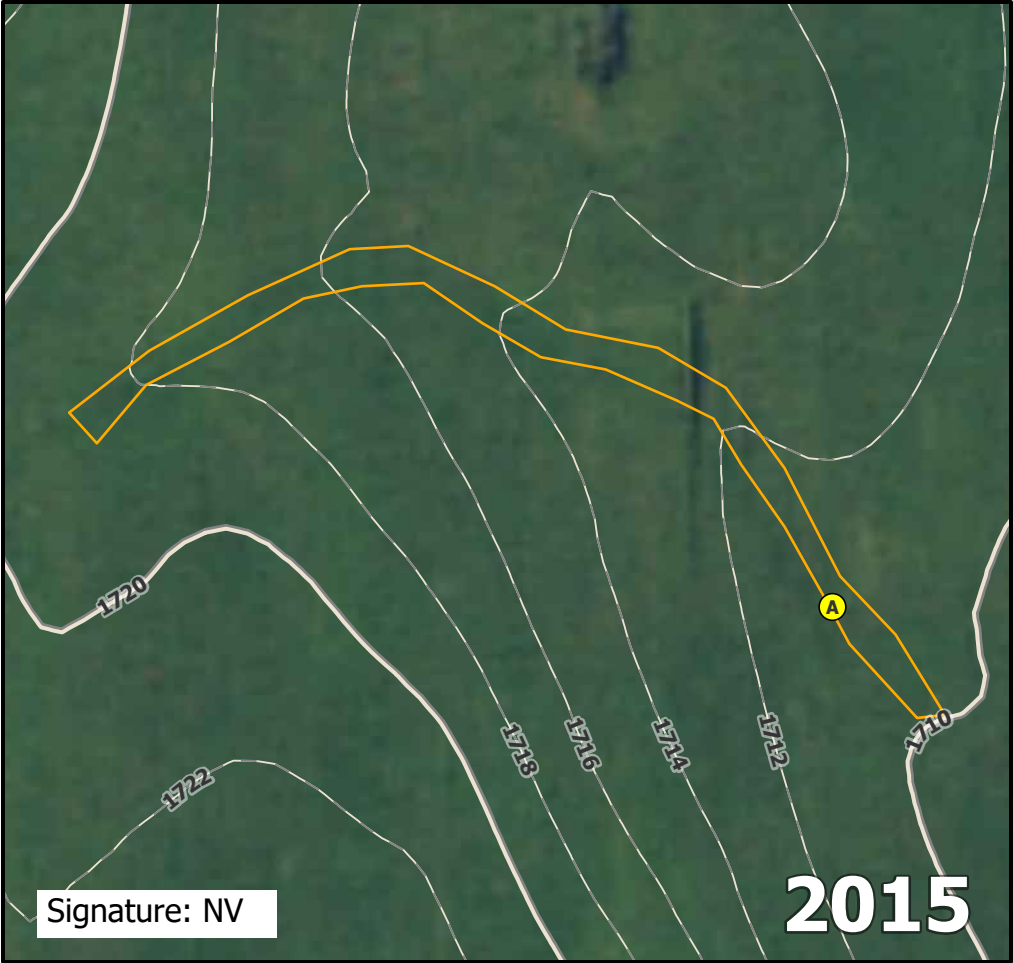
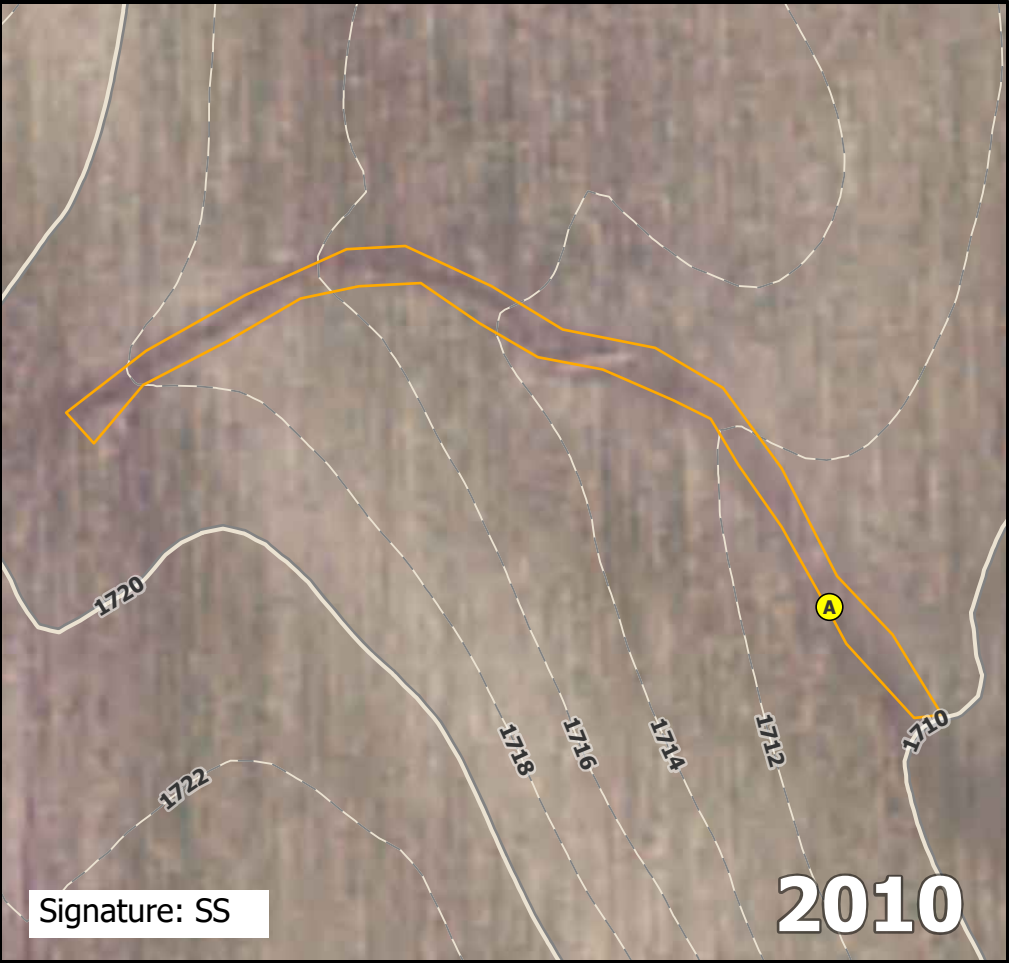
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA049

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA050

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA050A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	2	Lat:	43.72138	Long:	-95.70397
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA050A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-18	2.5Y 3/1	100					Clay Loam	
18-20	2.5Y 3/1	95	10YR 4/3	5	C	PL/M	Clay Loam	Distinct or Prominent
20-26	2.5Y 3/2	90	2.5Y 5/6	5	C	PL/M	Clay Loam	Distinct or Prominent
			10YR 4/3	5	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

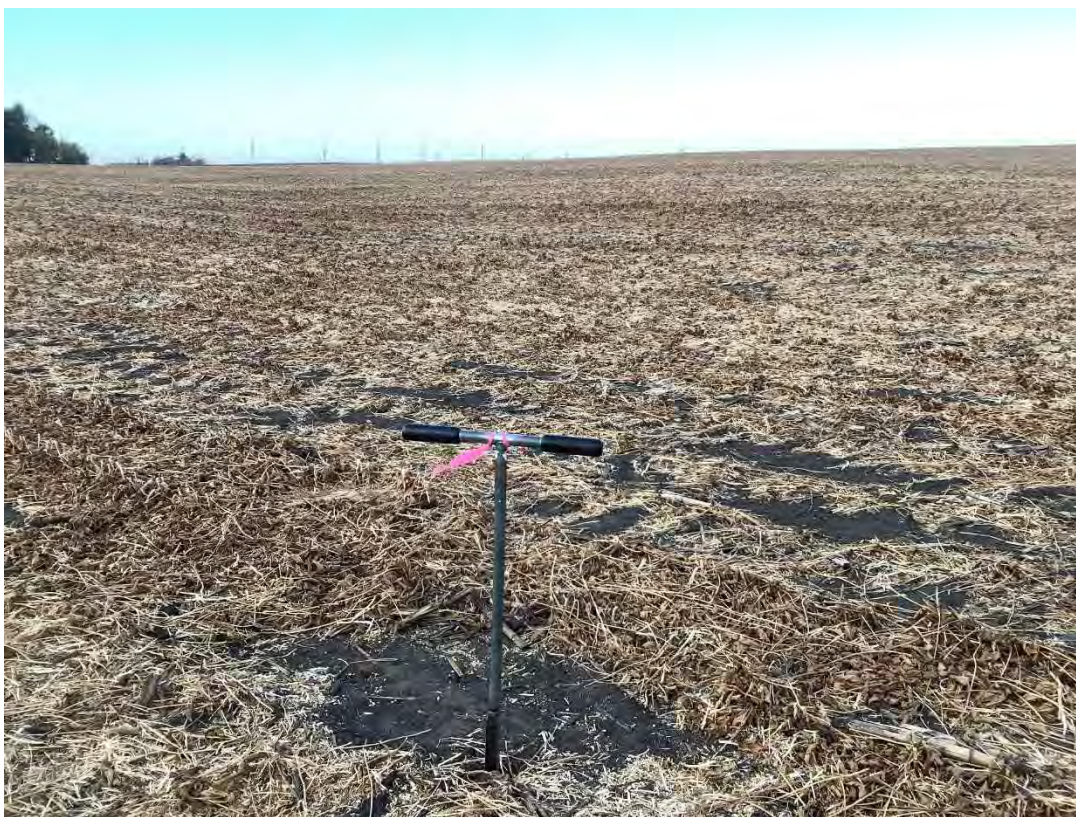
Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA050A.

Direction: Northeast

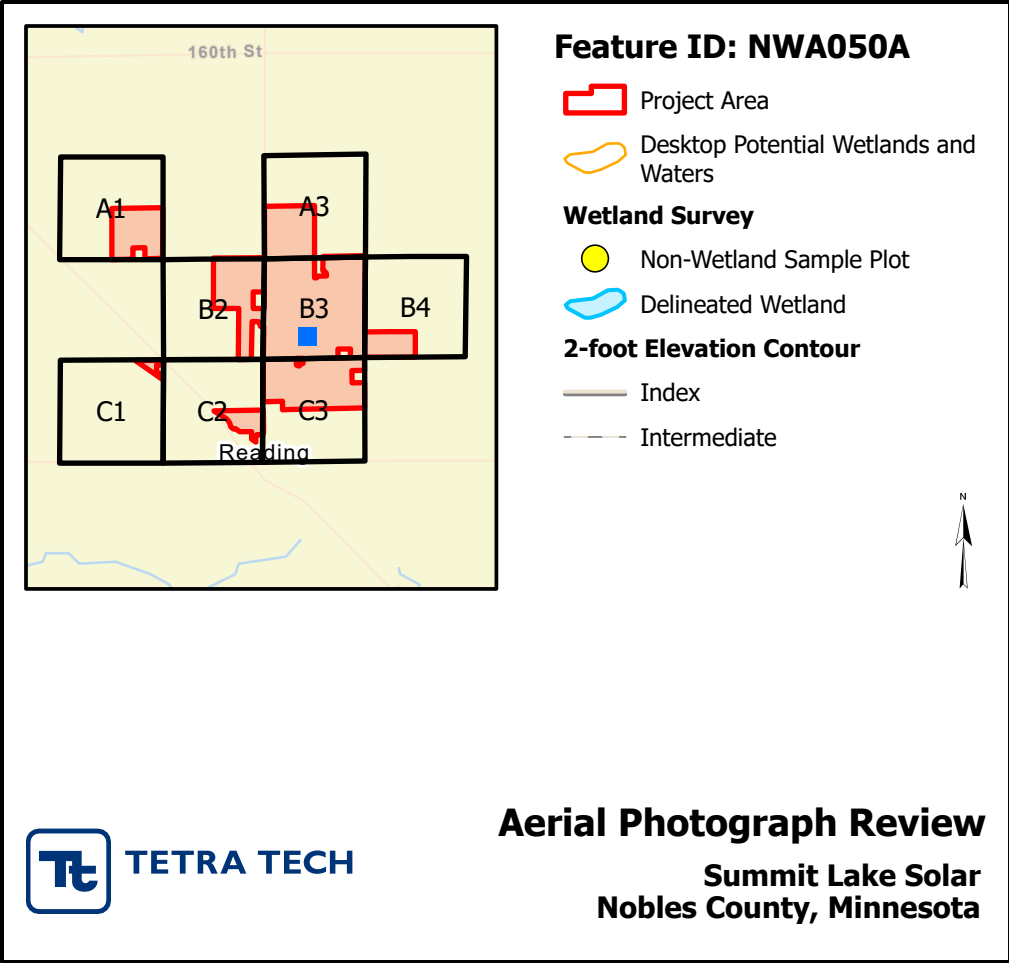
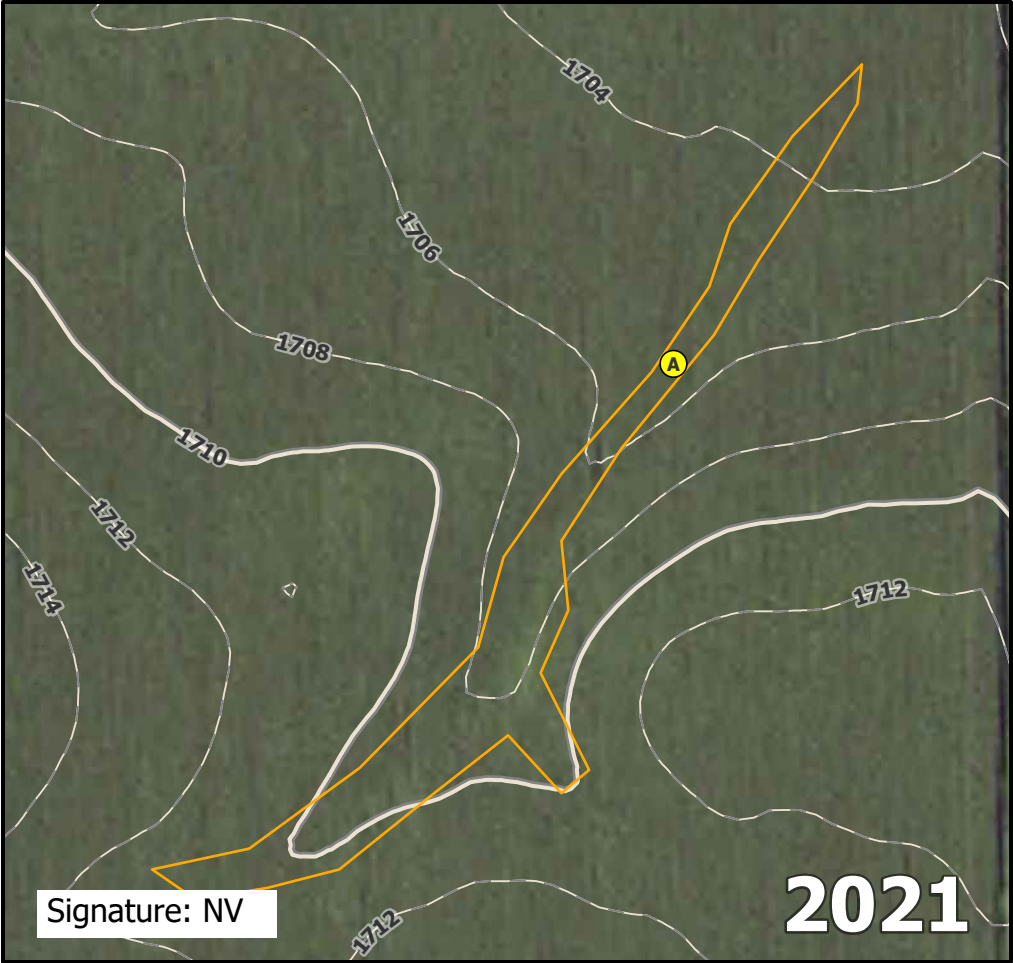
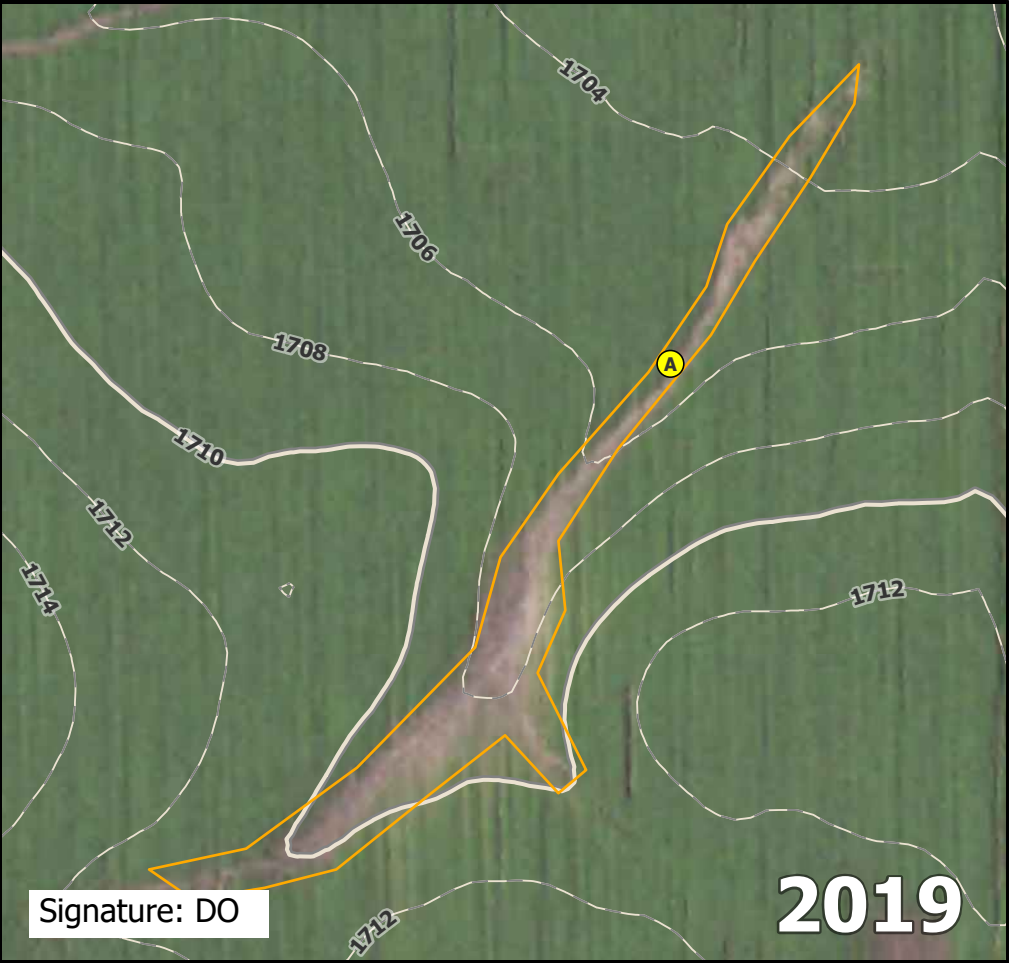
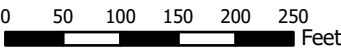
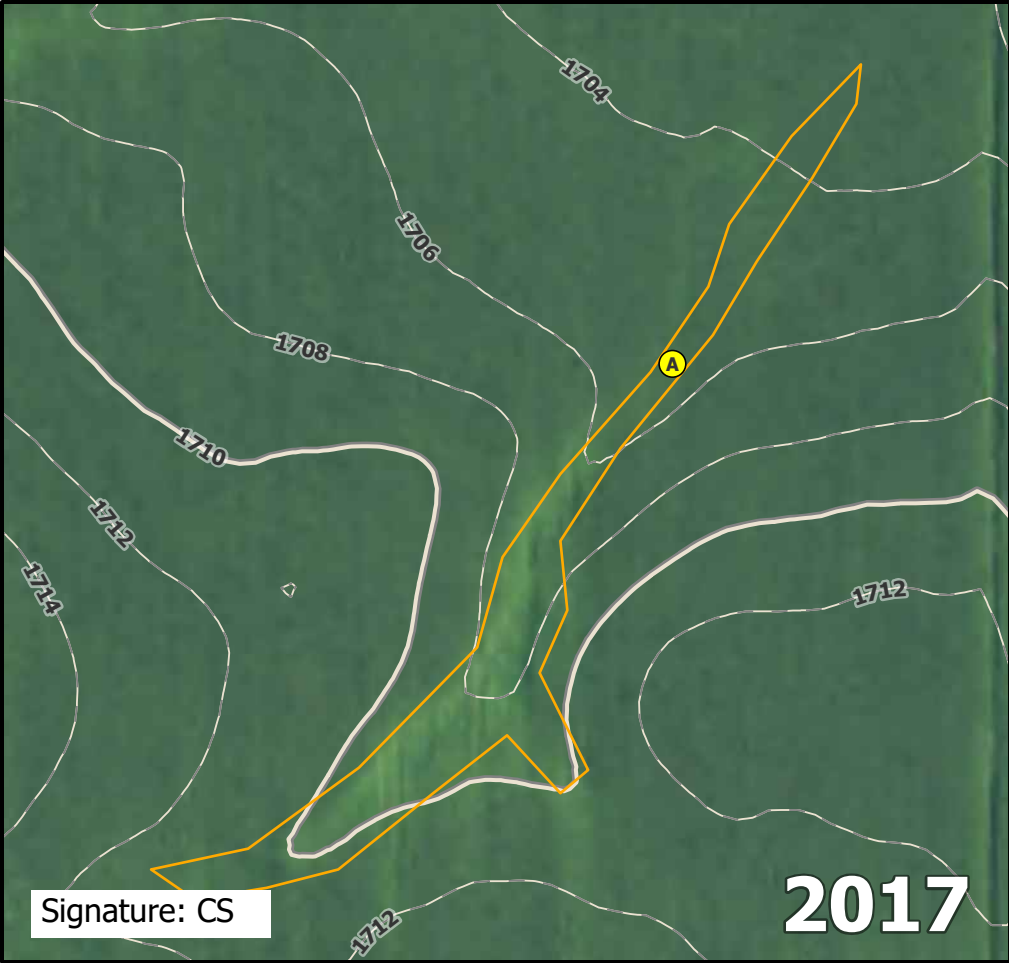
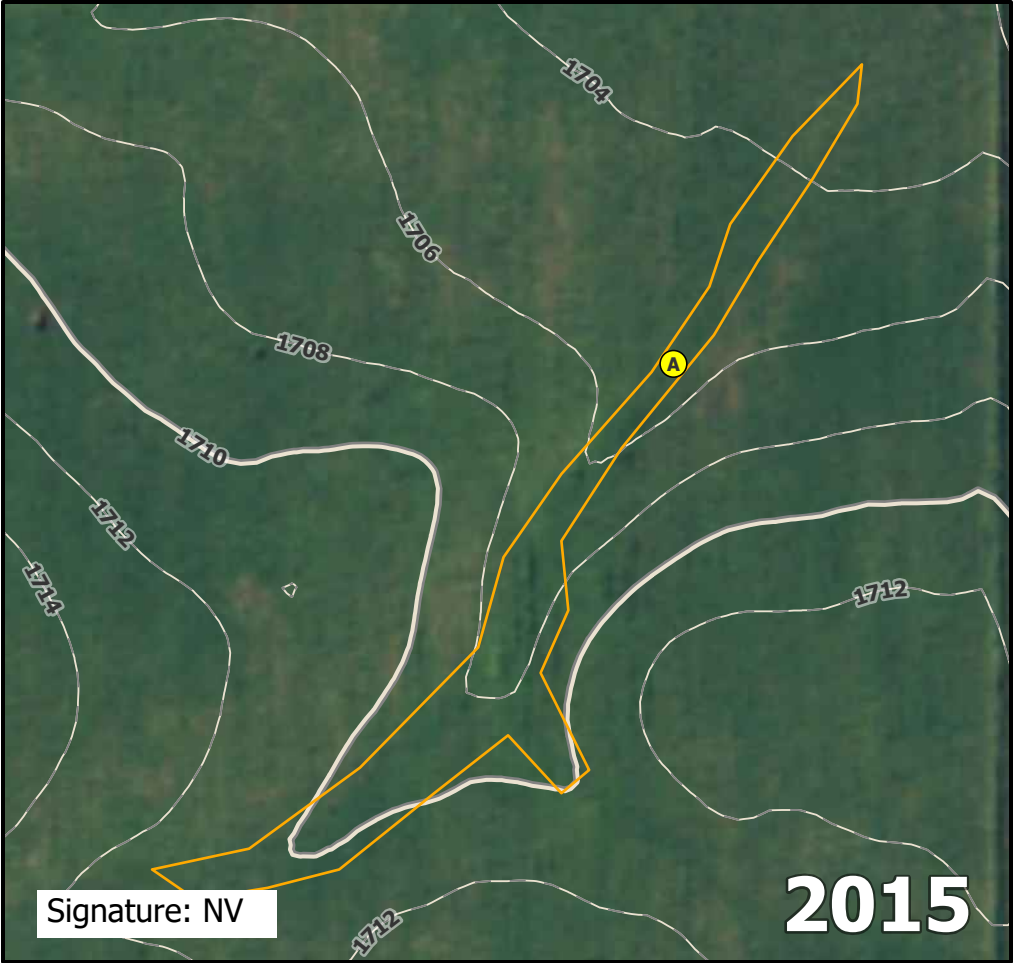
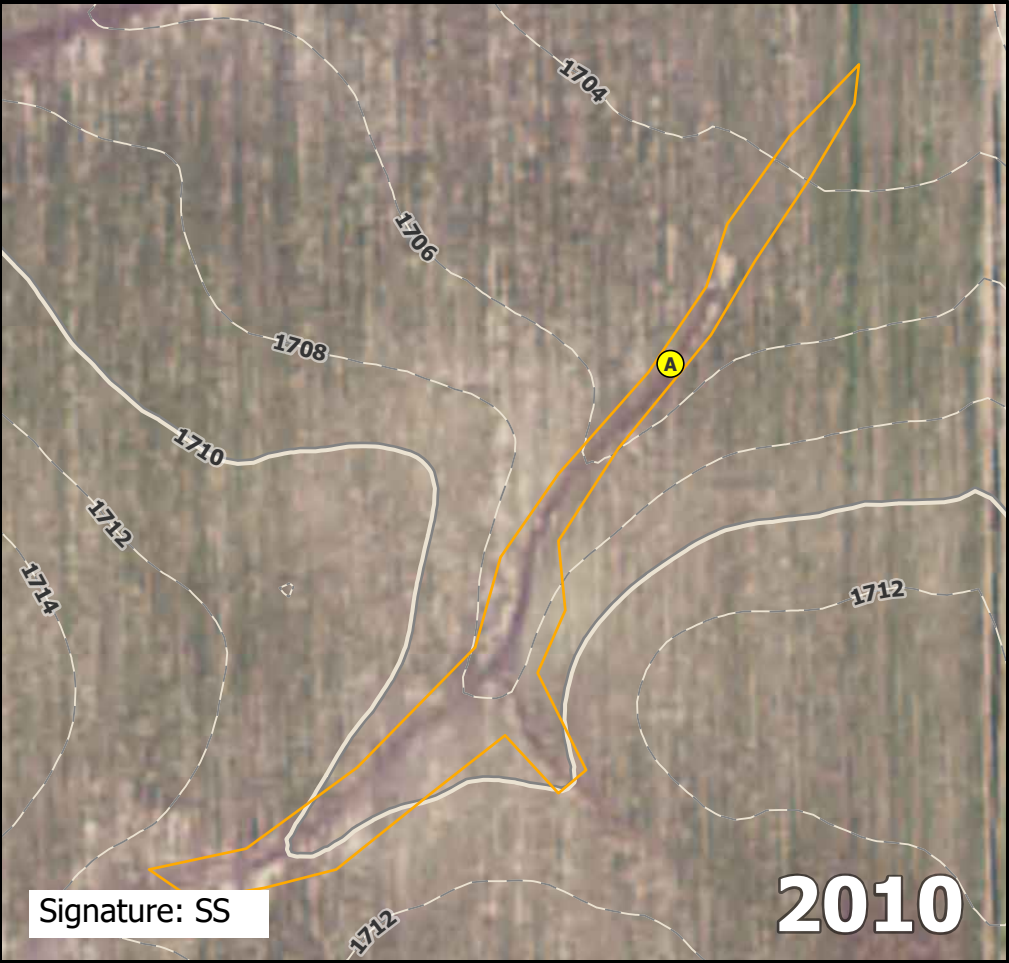
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA050

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000

Non-Wetland ID

NWA051

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA051A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.72242 Long: -95.70405 Datum: WGS84
 Soil Map Unit Name: Clarion loam, 2 to 6 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Prevalence Index Worksheet Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA051A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-17	10YR 2/1	100					Silty Clay	
17-19	2.5Y 4/2	95	2.5Y 5/4	5	C	M	Silty Clay Loam	Distinct or Prominent
19-25	2.5Y 5/4	90	2.5Y 5/6	10	C	M	Silty Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

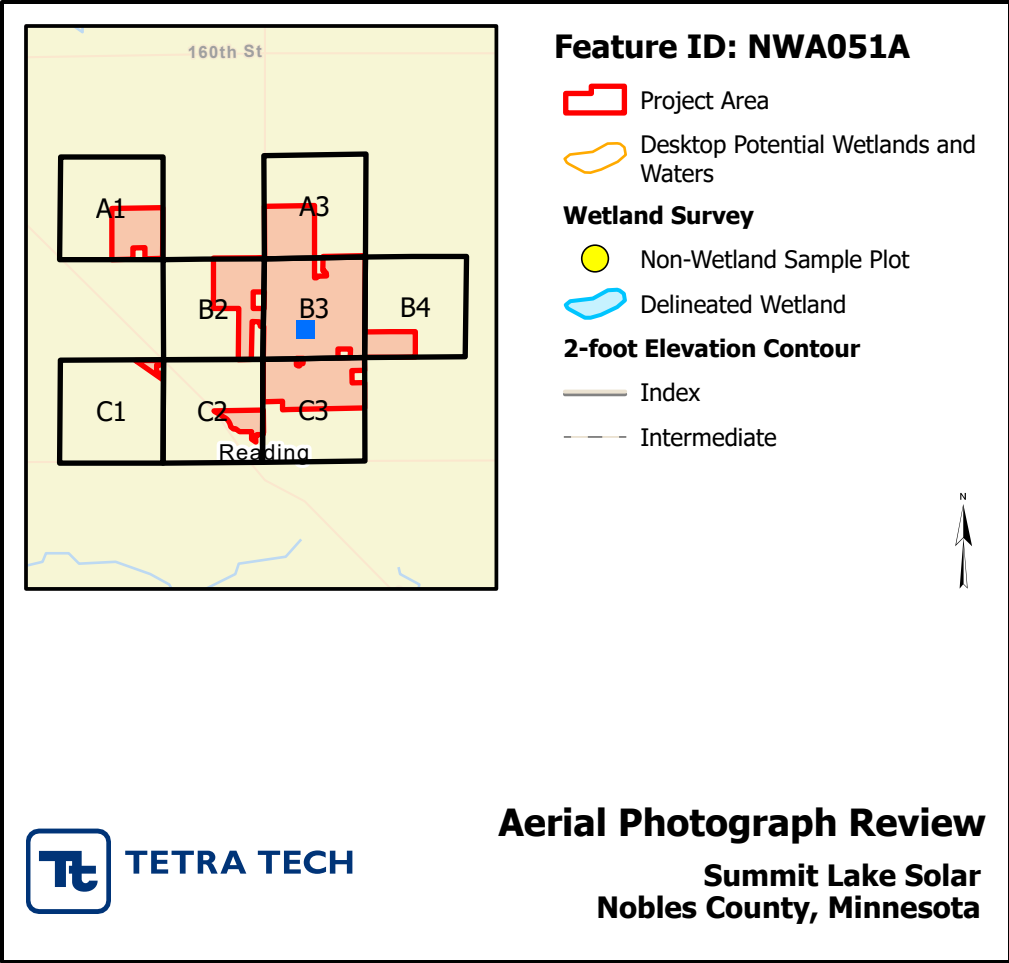
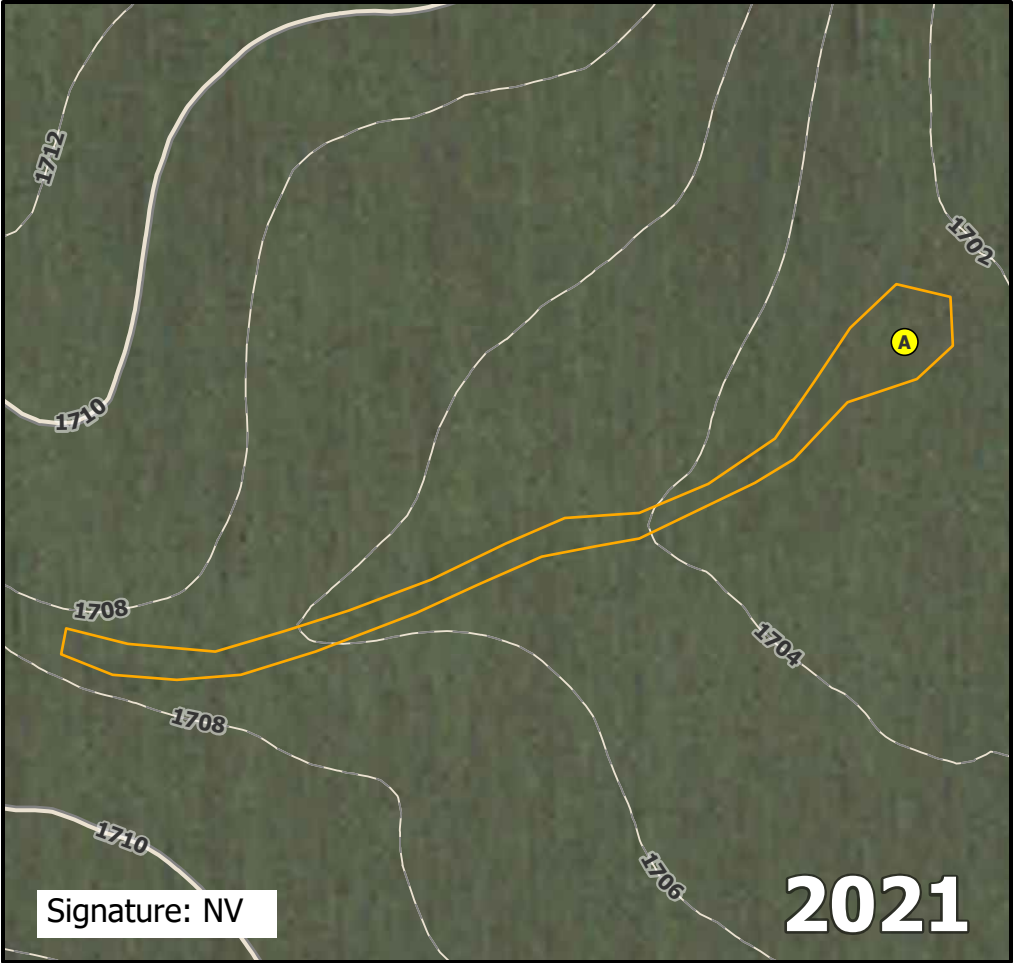
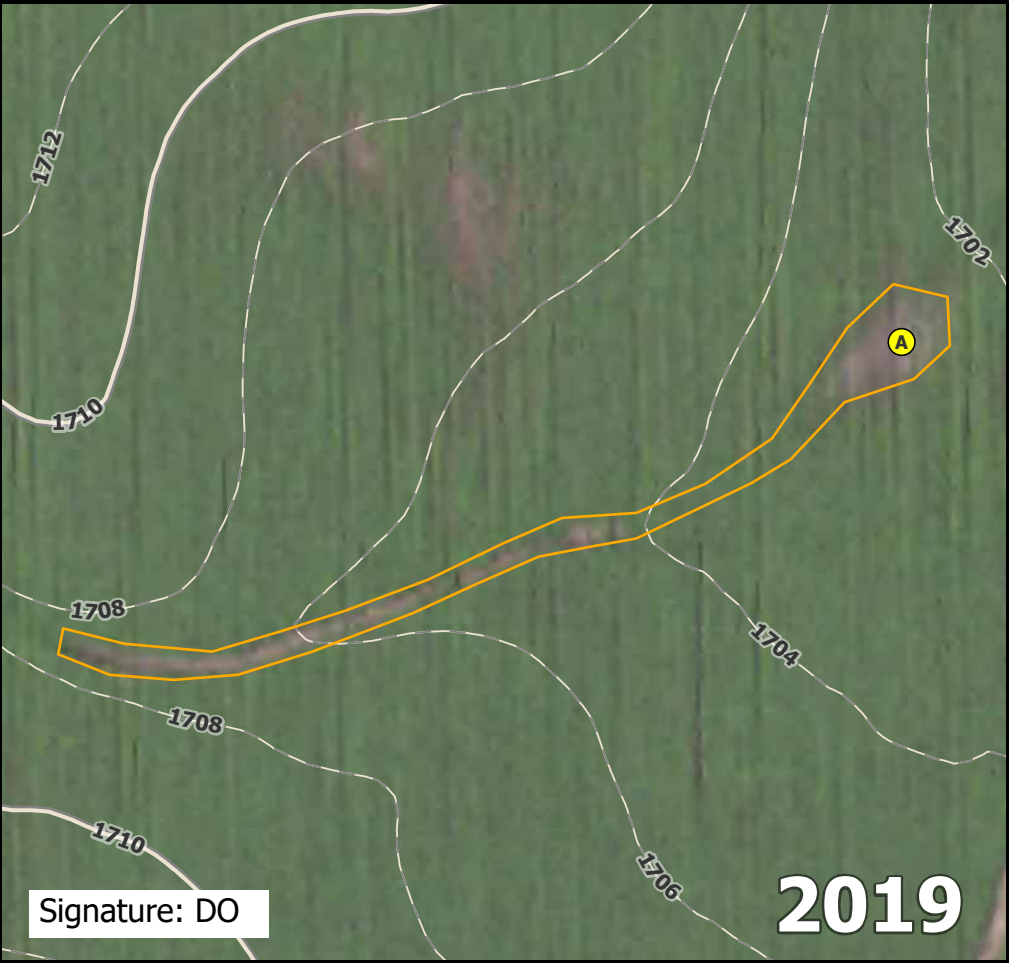
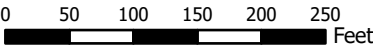
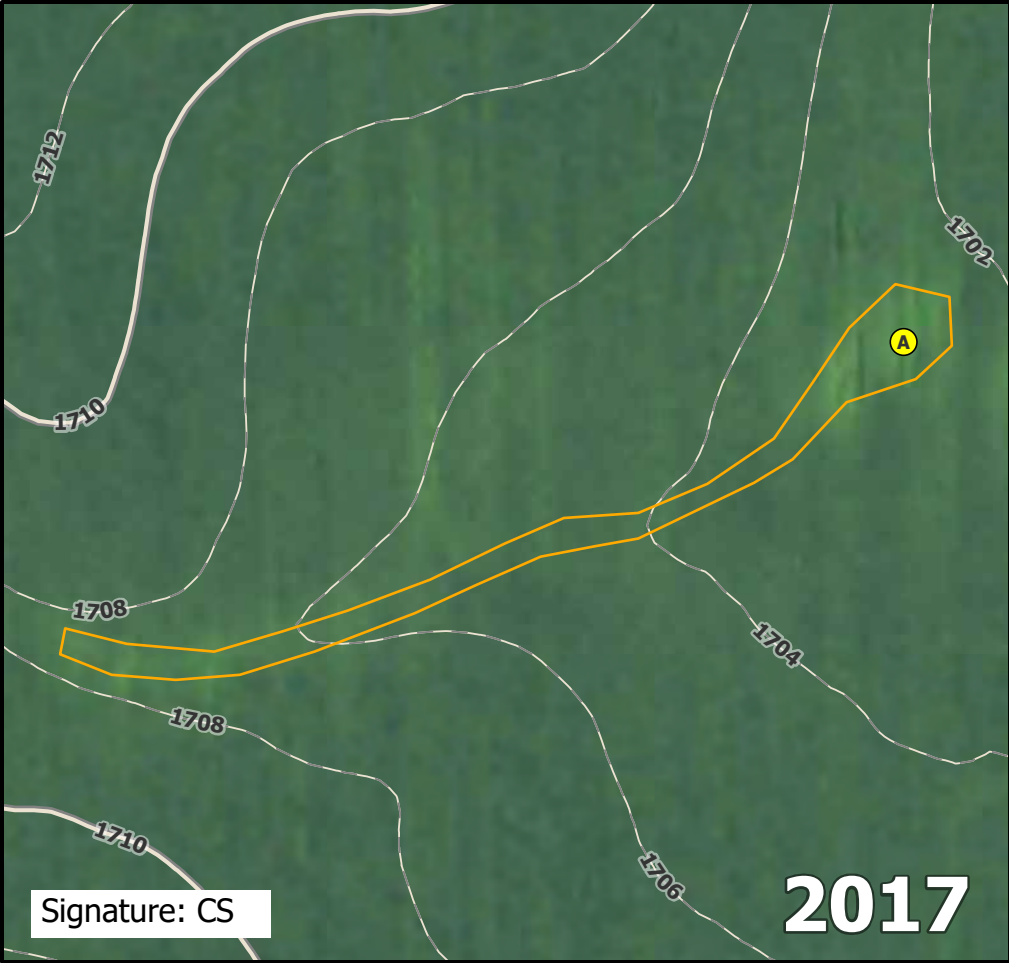
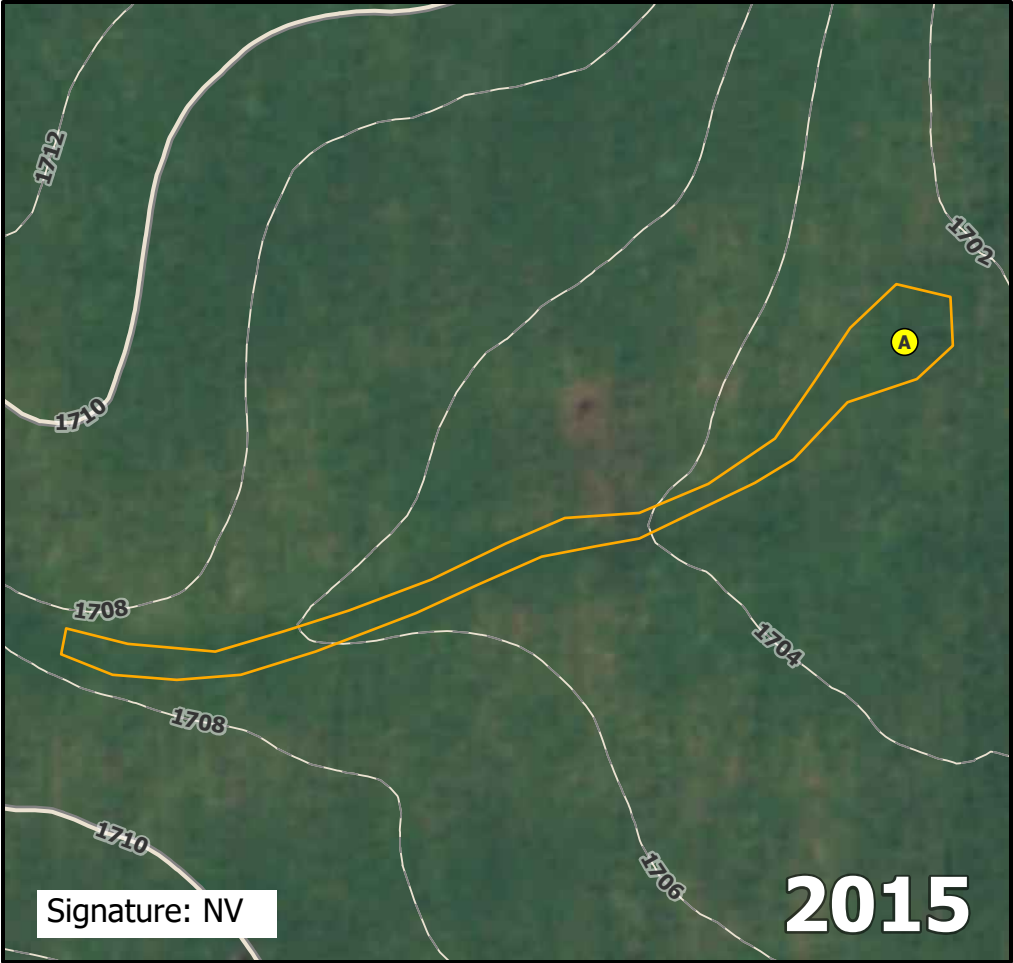
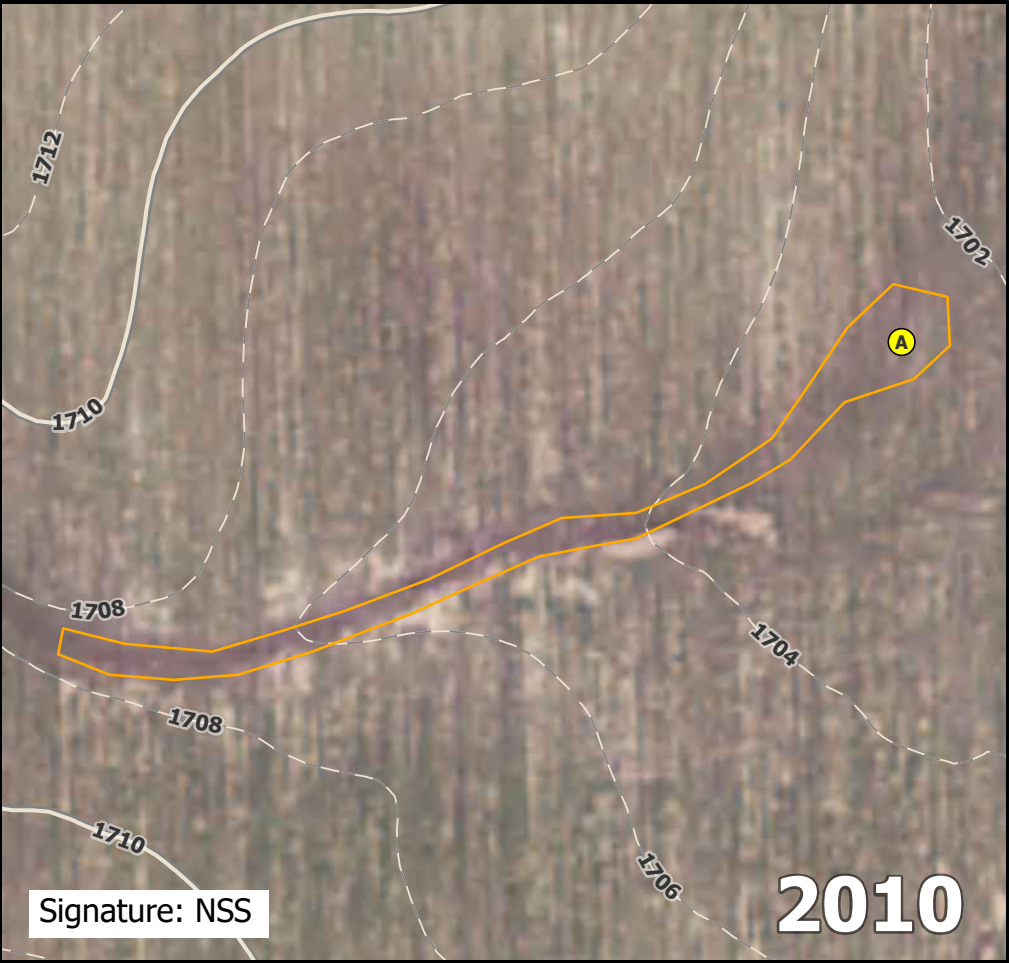
Remarks:



Overview of upland sample point NWA051A.

Direction: West	Photo ID: delin_photo-20221013-135710.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA051	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,800

Non-Wetland ID

NWA052

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA052A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.72466 Long: -95.70441 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
<u> </u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u> </u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
<u> </u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u>

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA052A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Clay Loam	
18-27	2.5Y 3/1	100					Clay Loam	
27-34	2.5Y 4/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA052A.

Direction: Southeast

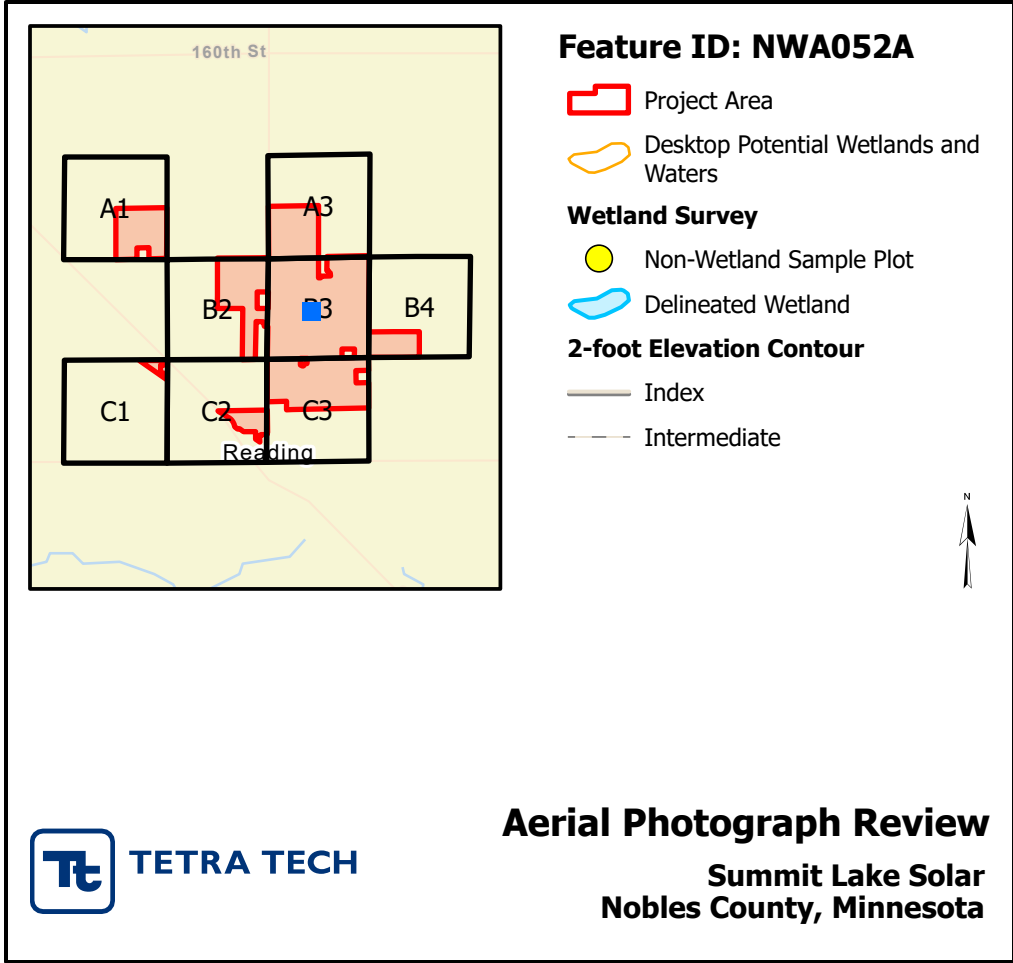
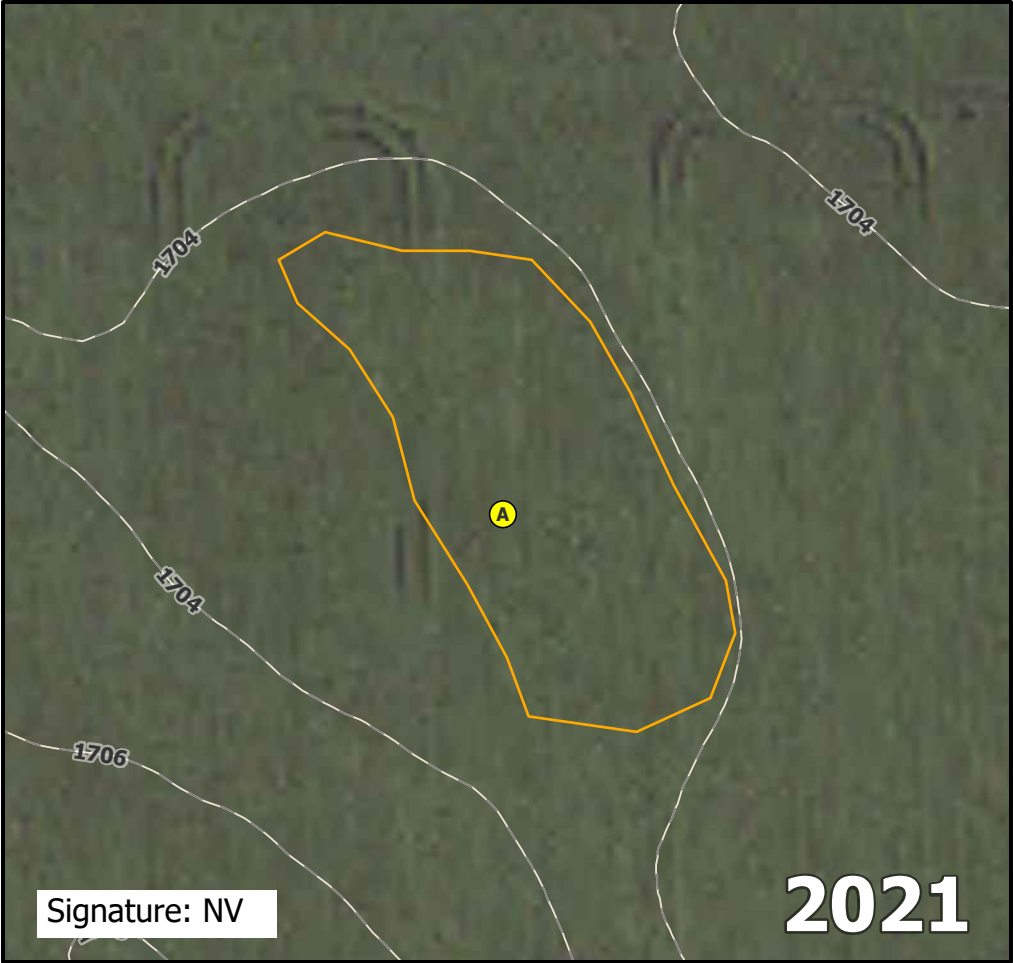
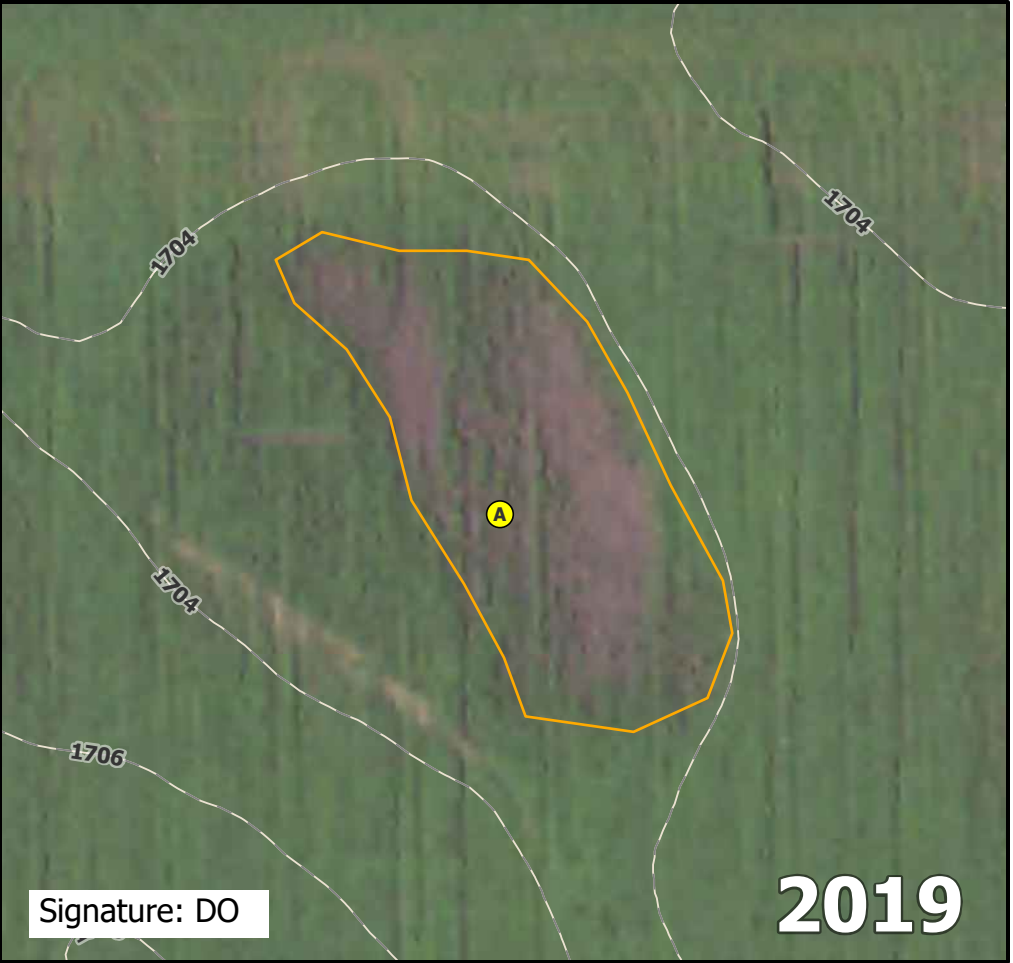
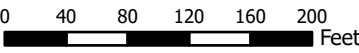
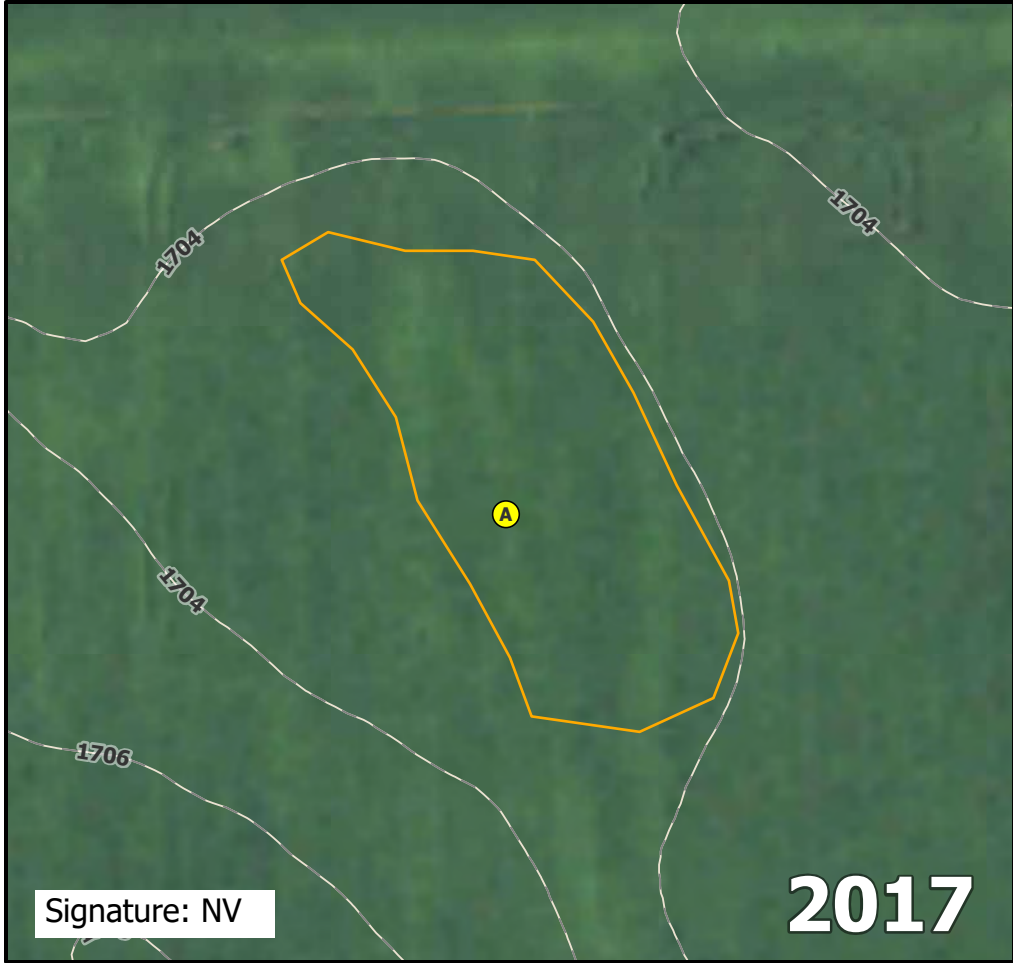
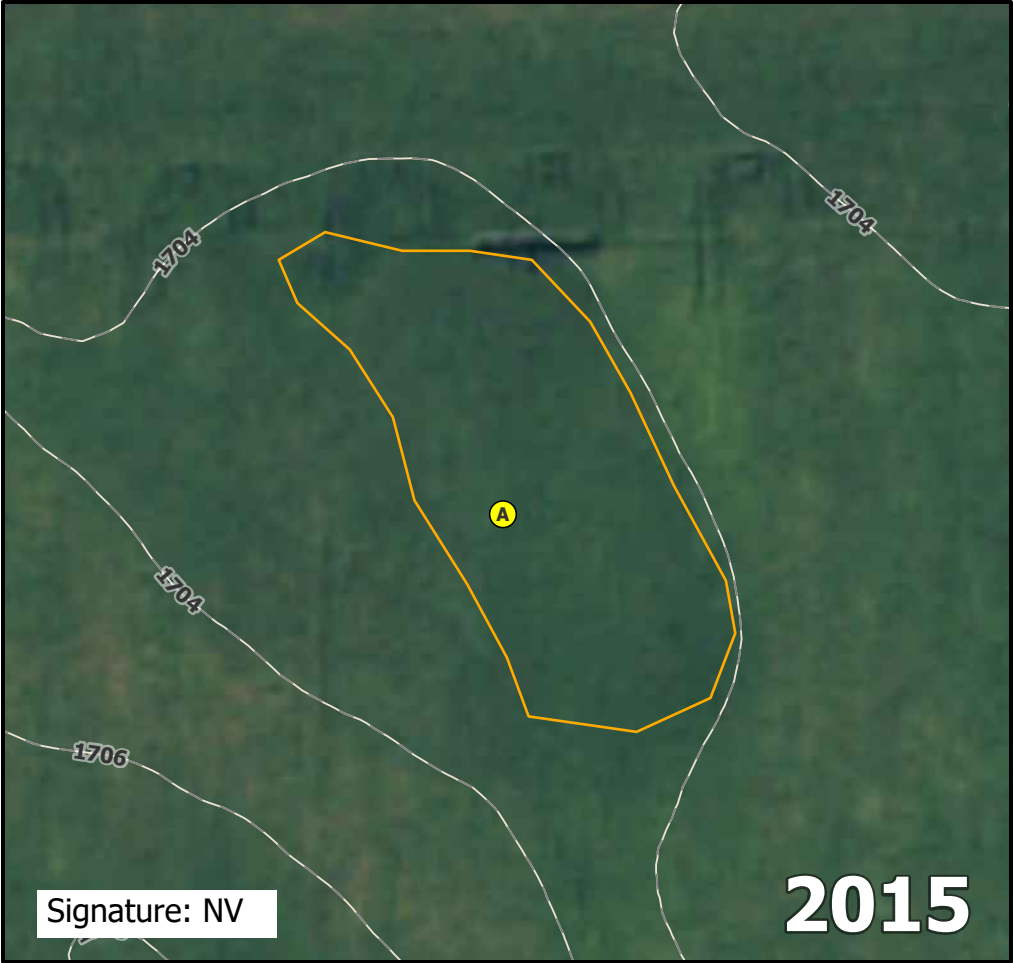
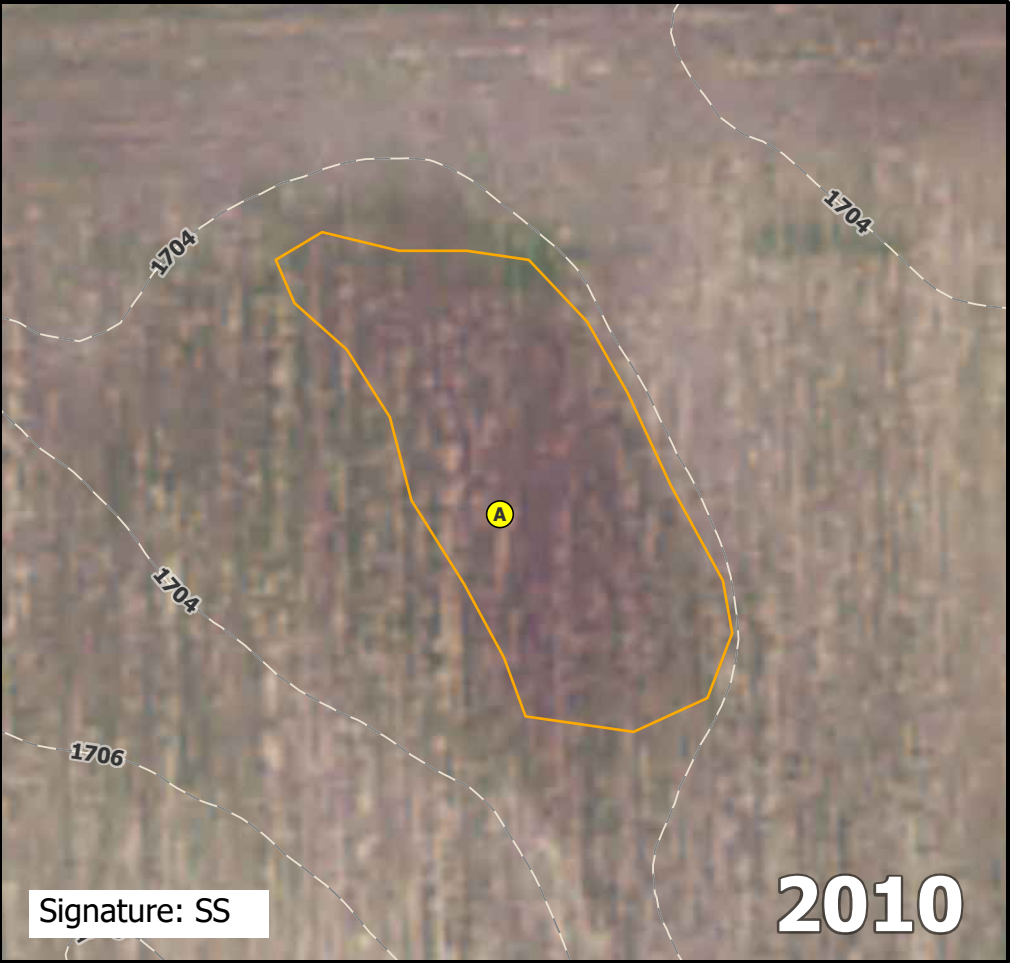
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA052

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA053

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA053A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.72521 Long: -95.7056 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOILSampling Point: NWA053A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Clay Loam	
14-18	10YR 2/1	60					Clay Loam	CaCO3
	2.5Y 4/3	40						Mixed Matrix
18-25	2.5Y 4/3	80	10YR 2/1	20	C	M	Clay Loam	CaCO3, Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA053A.

Direction: Southeast

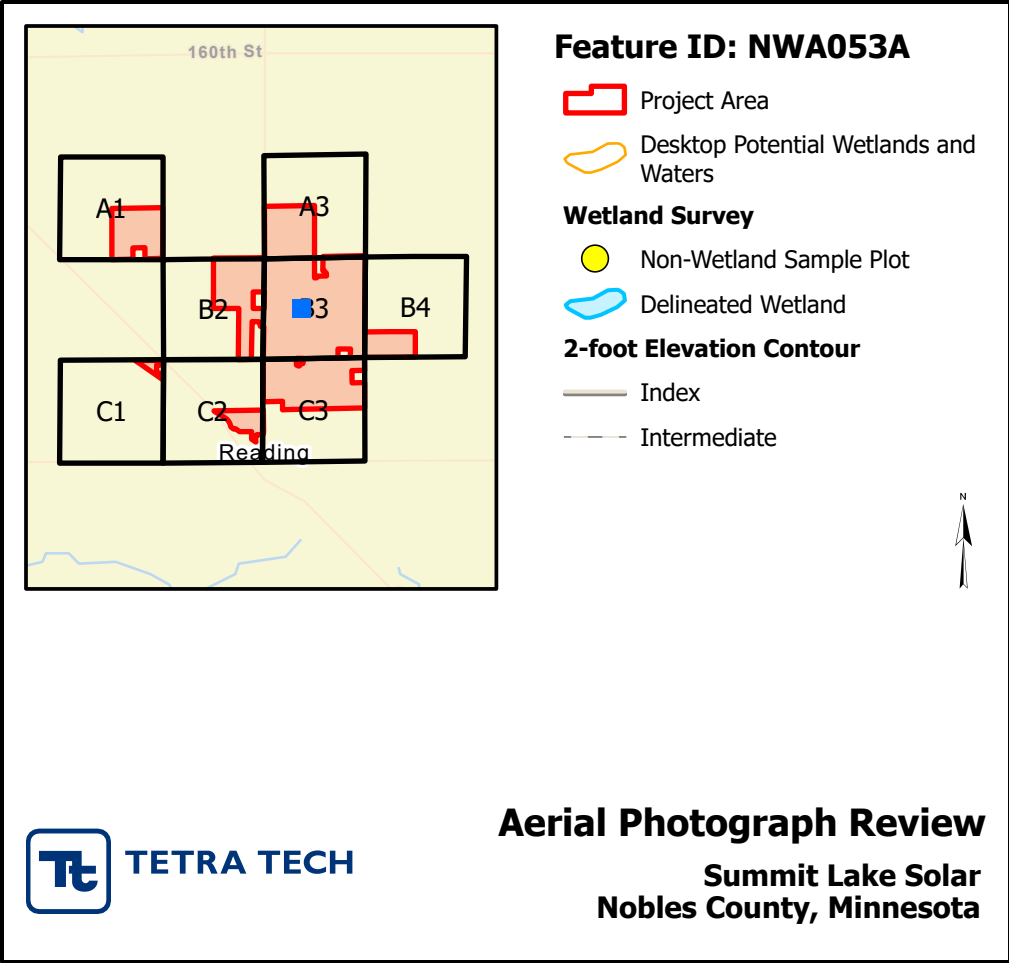
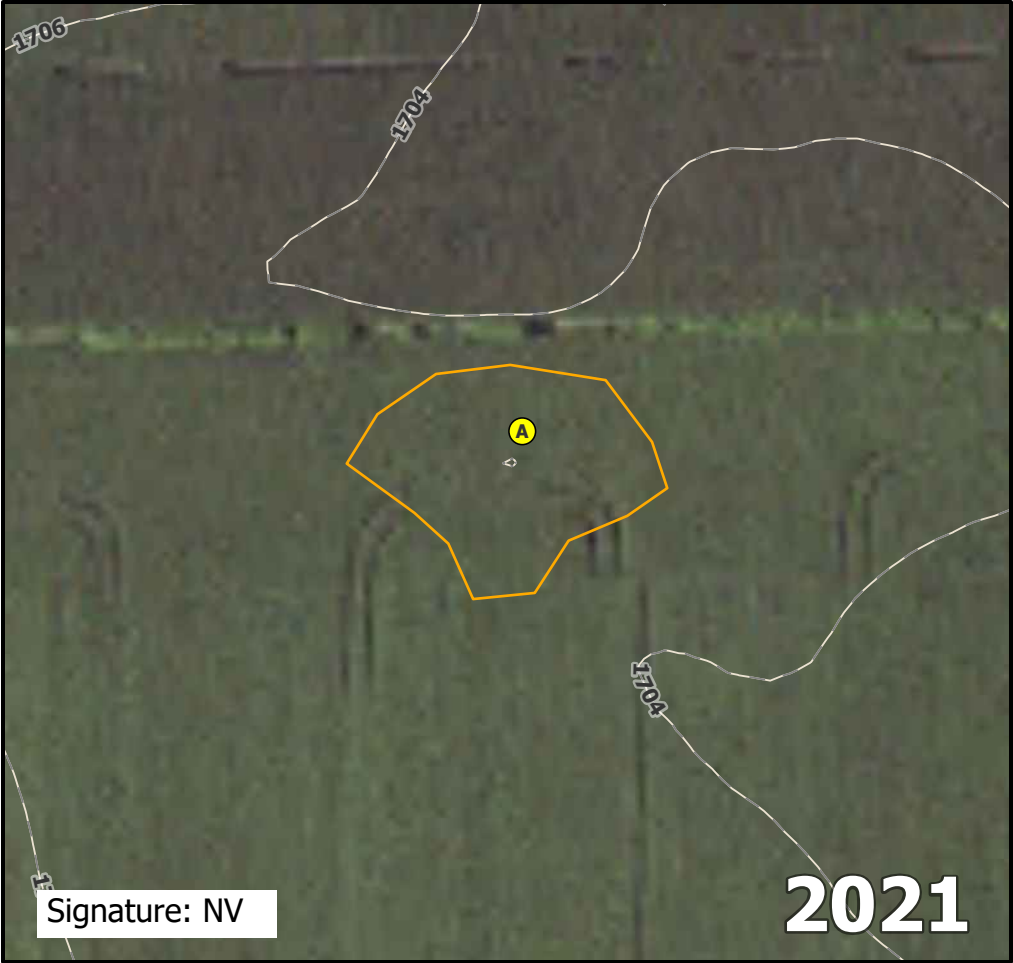
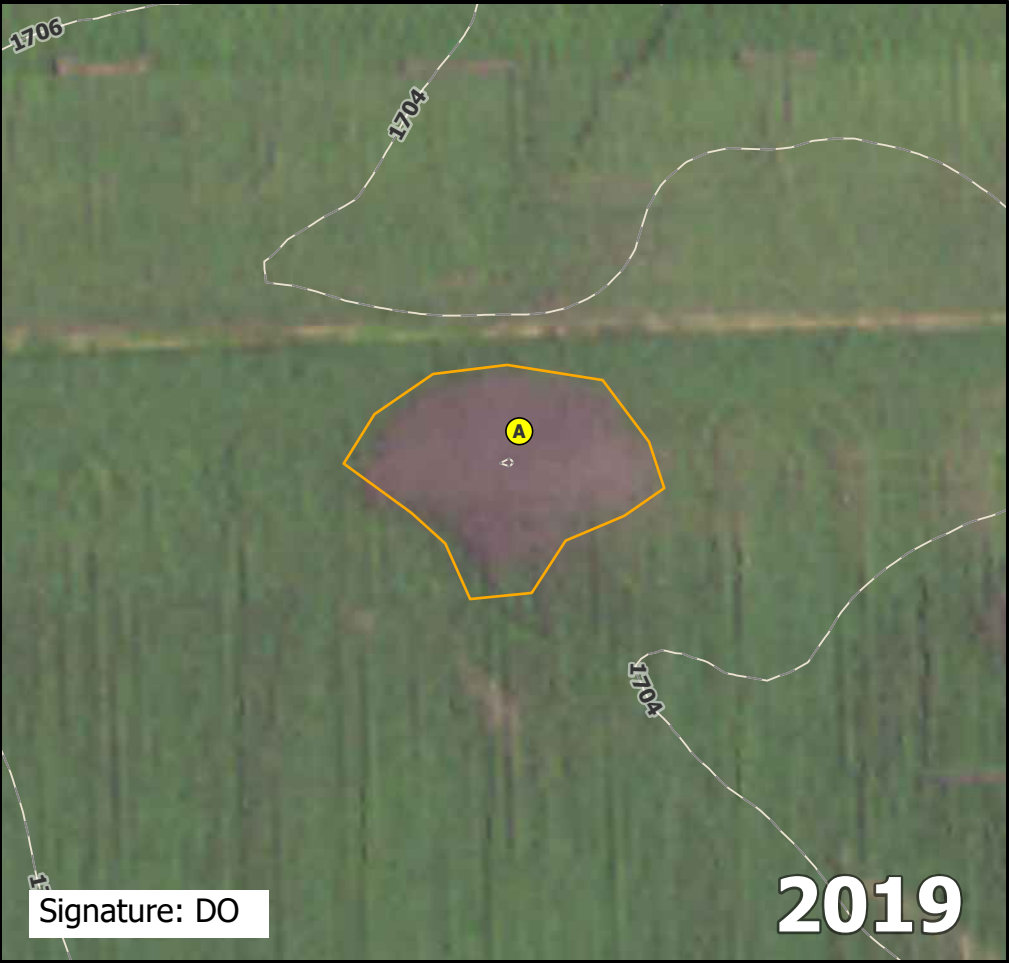
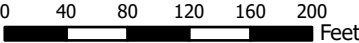
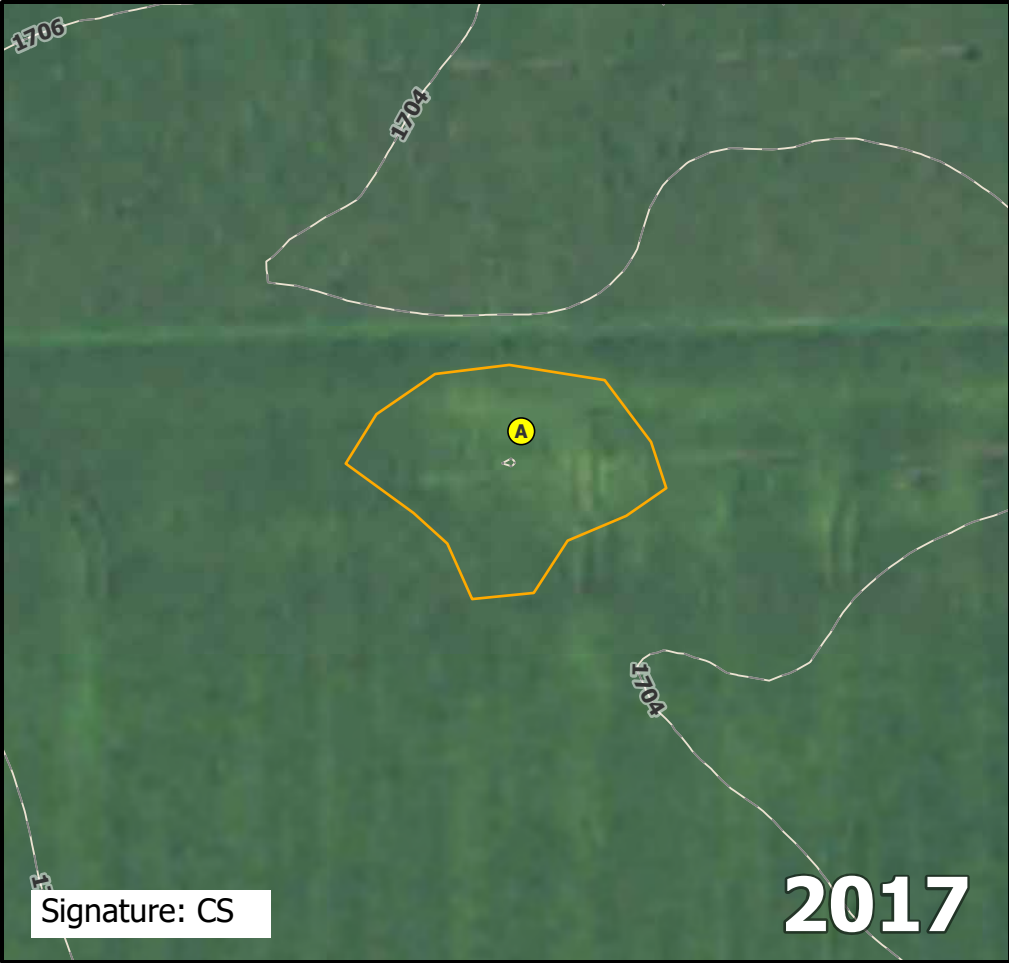
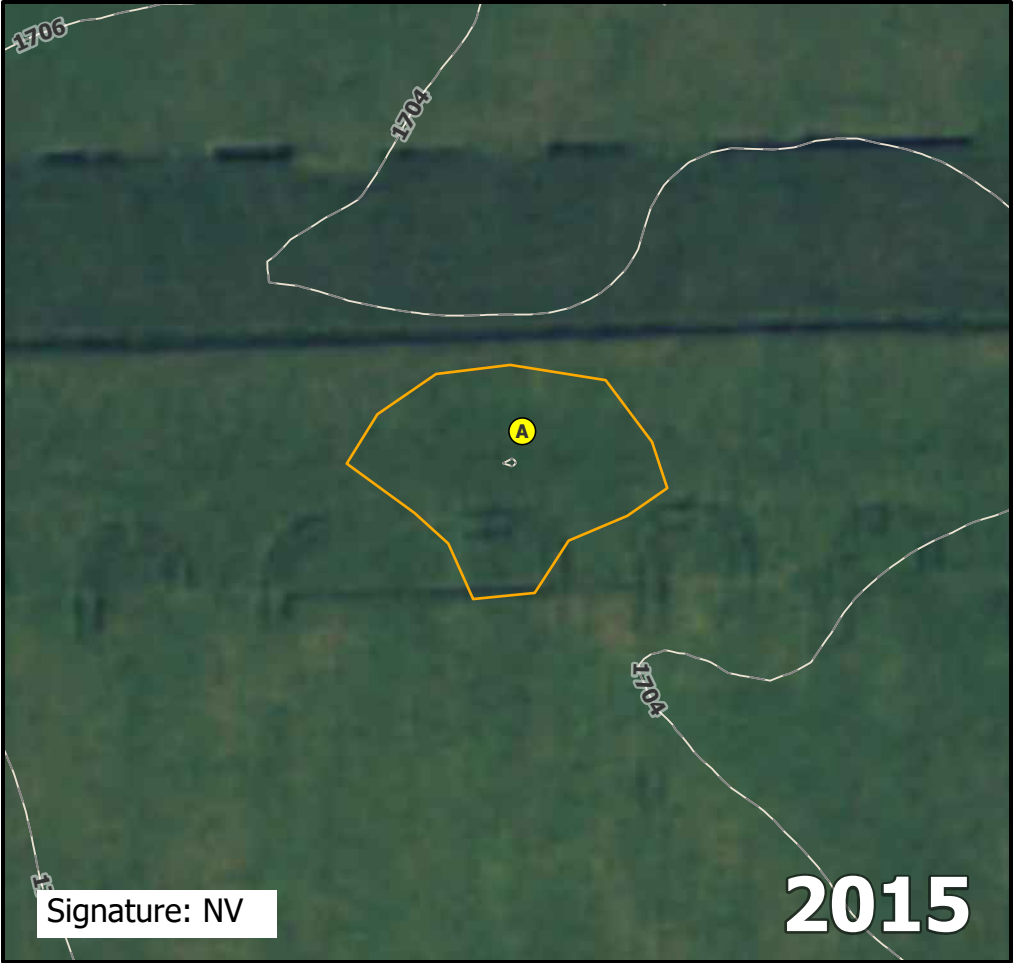
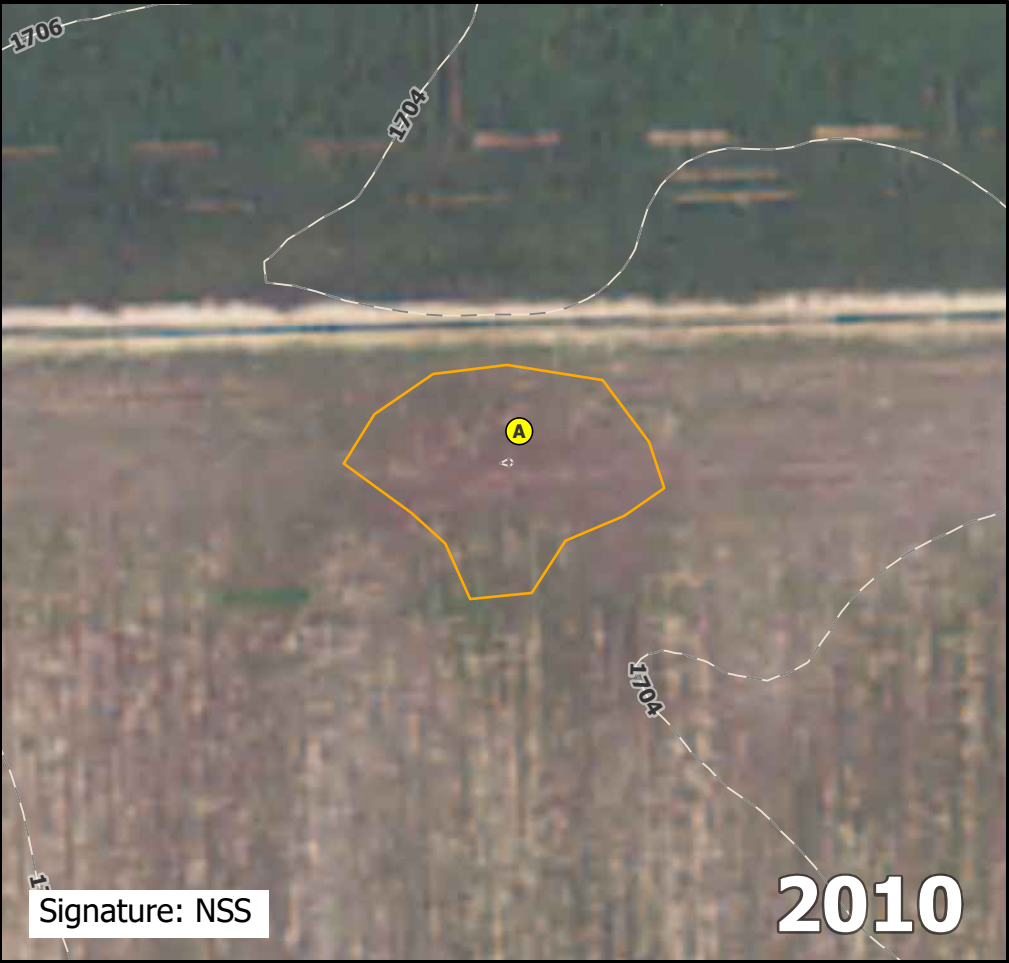
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA053

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA054

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA054A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Broad Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.72548	Long:	-95.7044
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field. Recently harvested agricultural field. Very weak topography.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation*
- ____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA054A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1	100					Clay Loam	
16-20	2.5Y 3/1	100					Clay Loam	
20-23	10YR 3/1	85	2.5Y 4/4	15	C	M	Clay Loam	Distinct or Prominent
23-30	2.5Y 3/2	90	2.5Y 4/4	10	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA054A.

Direction: Northwest

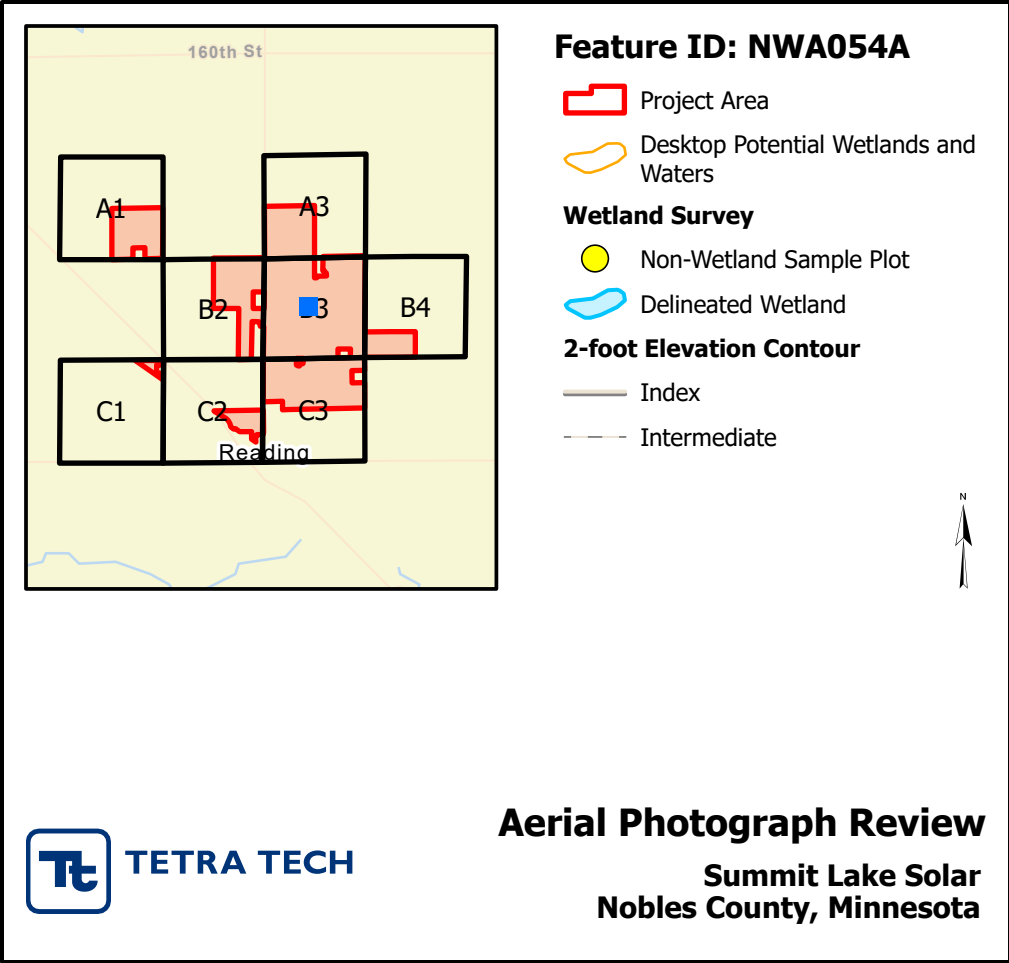
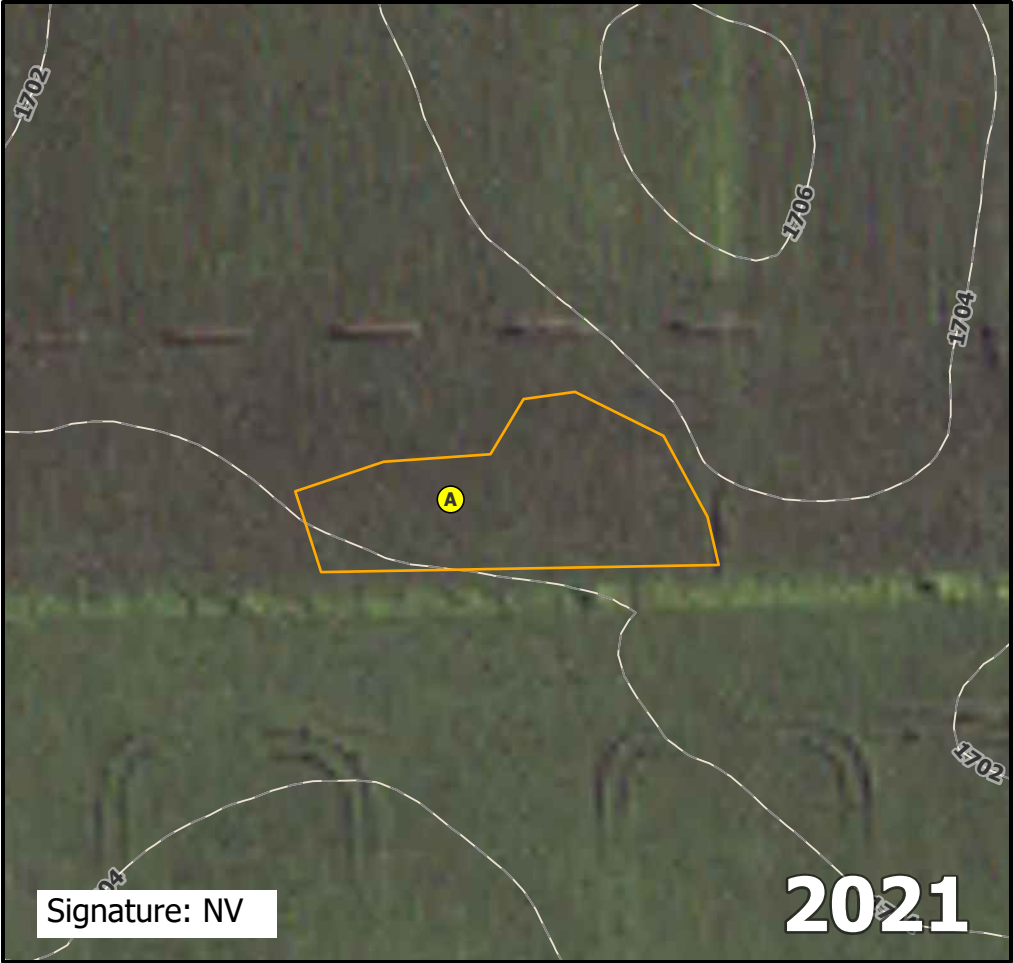
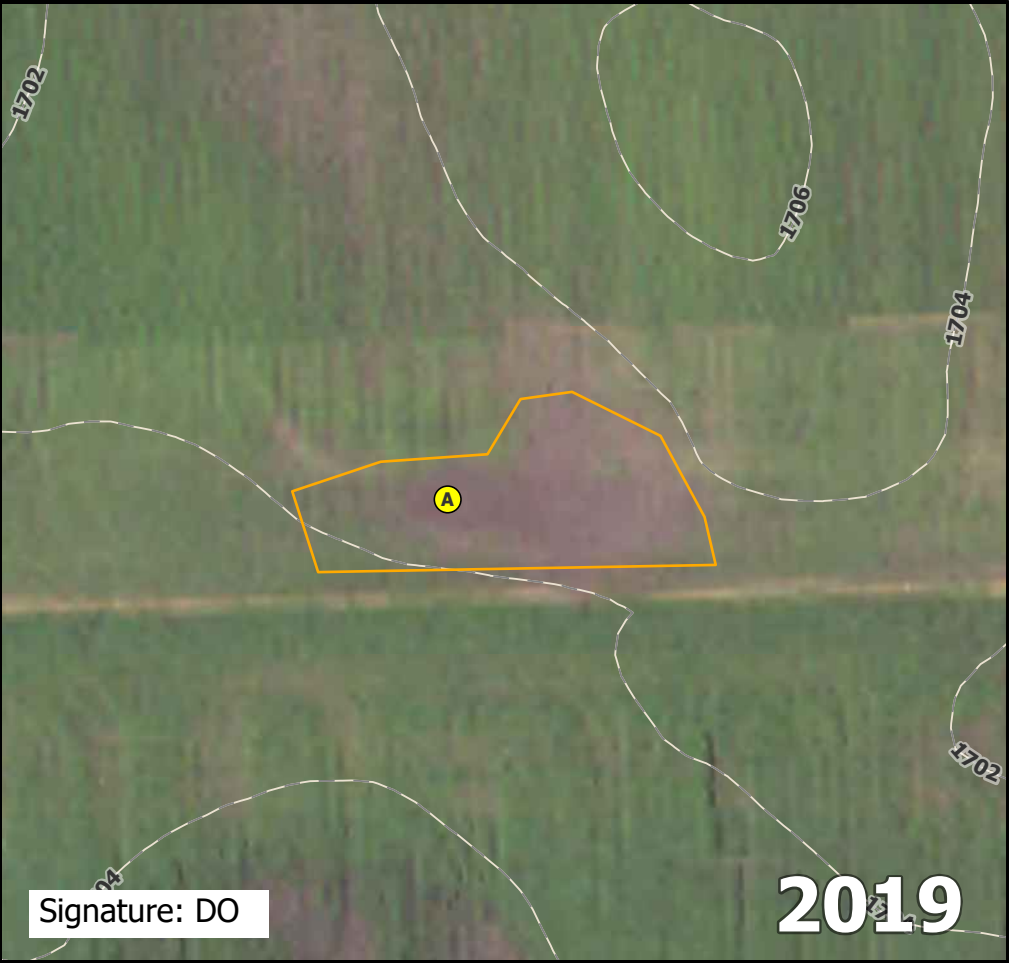
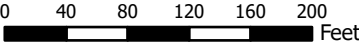
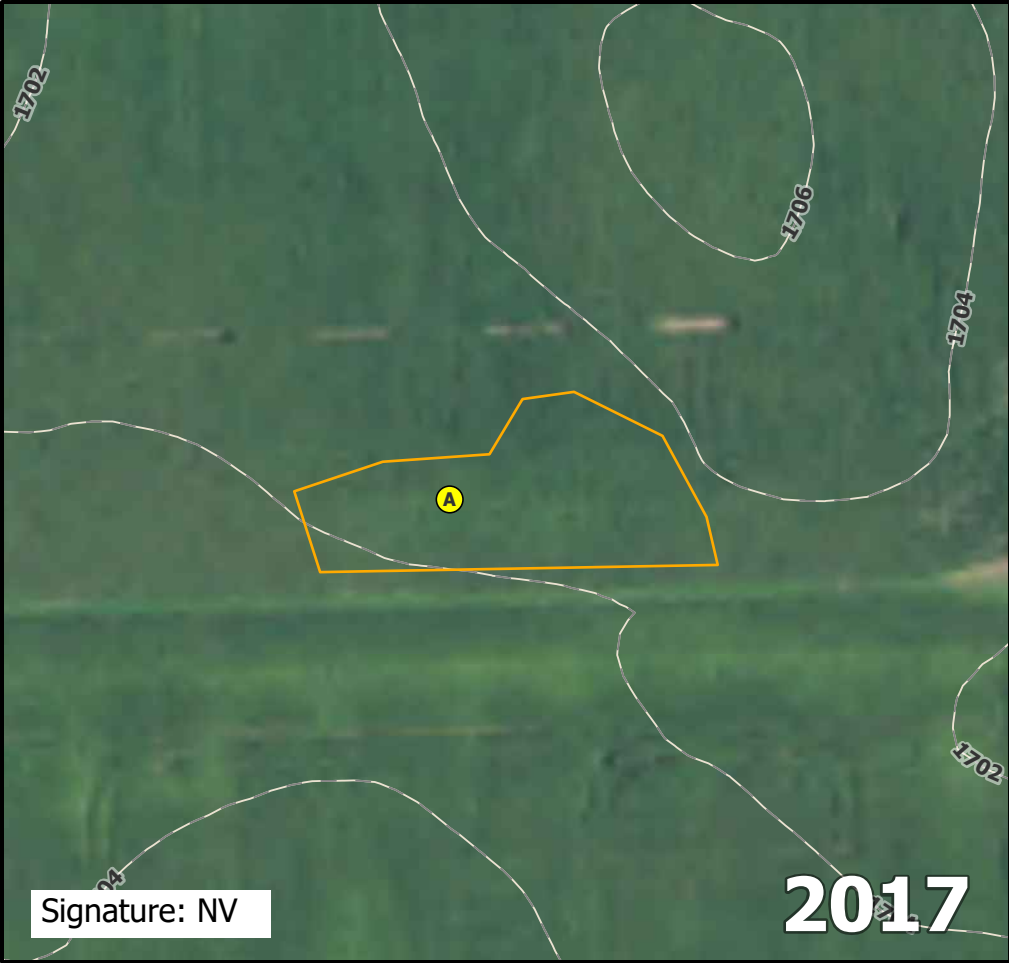
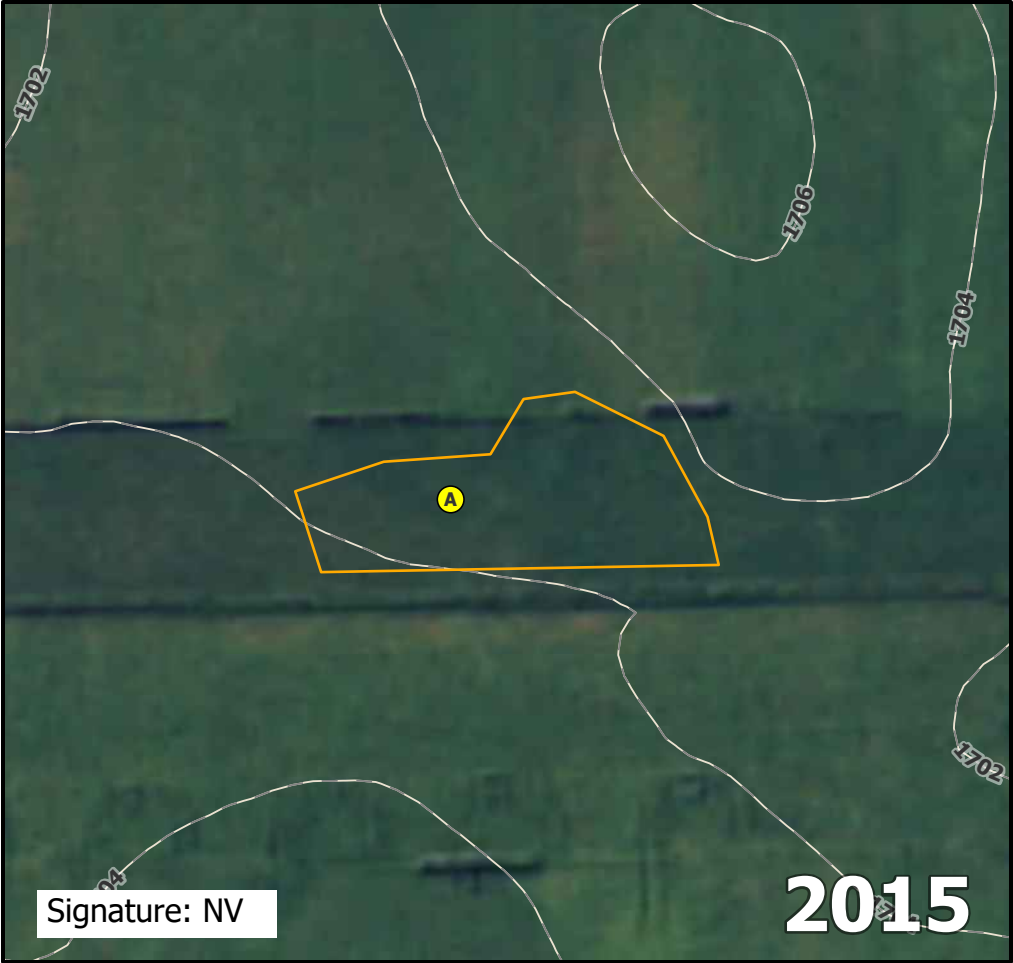
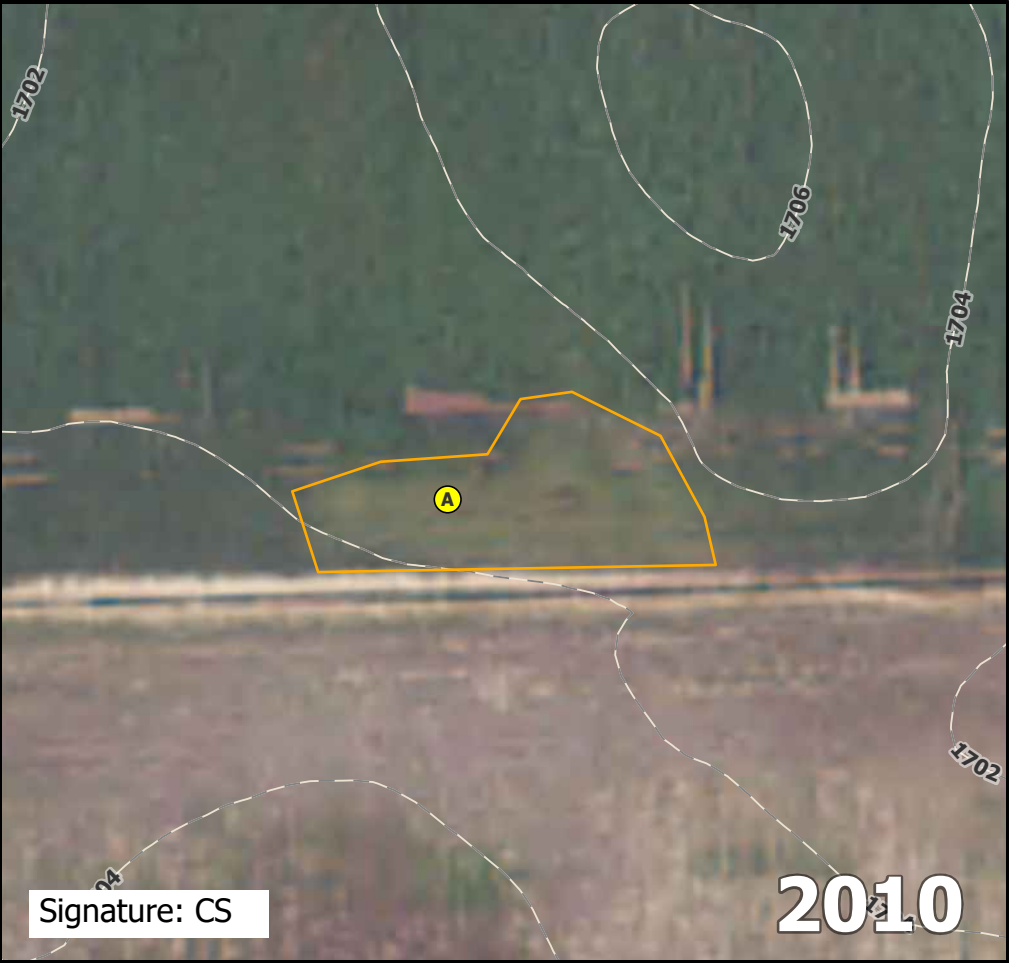
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA054

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA055

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA055A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	None		
Slope (%):	1	Lat:	43.7271	Long:	-95.70597
				Datum:	WGS84
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA055A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	100					Clay Loam	
10-14	2.5Y 3/2	90	2.5Y 4/3	10	C	PL/M	Clay Loam	Distinct or Prominent
14-20	2.5Y 4/3	90	10YR 2/1	10	C	PL/M	Clay Loam	Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

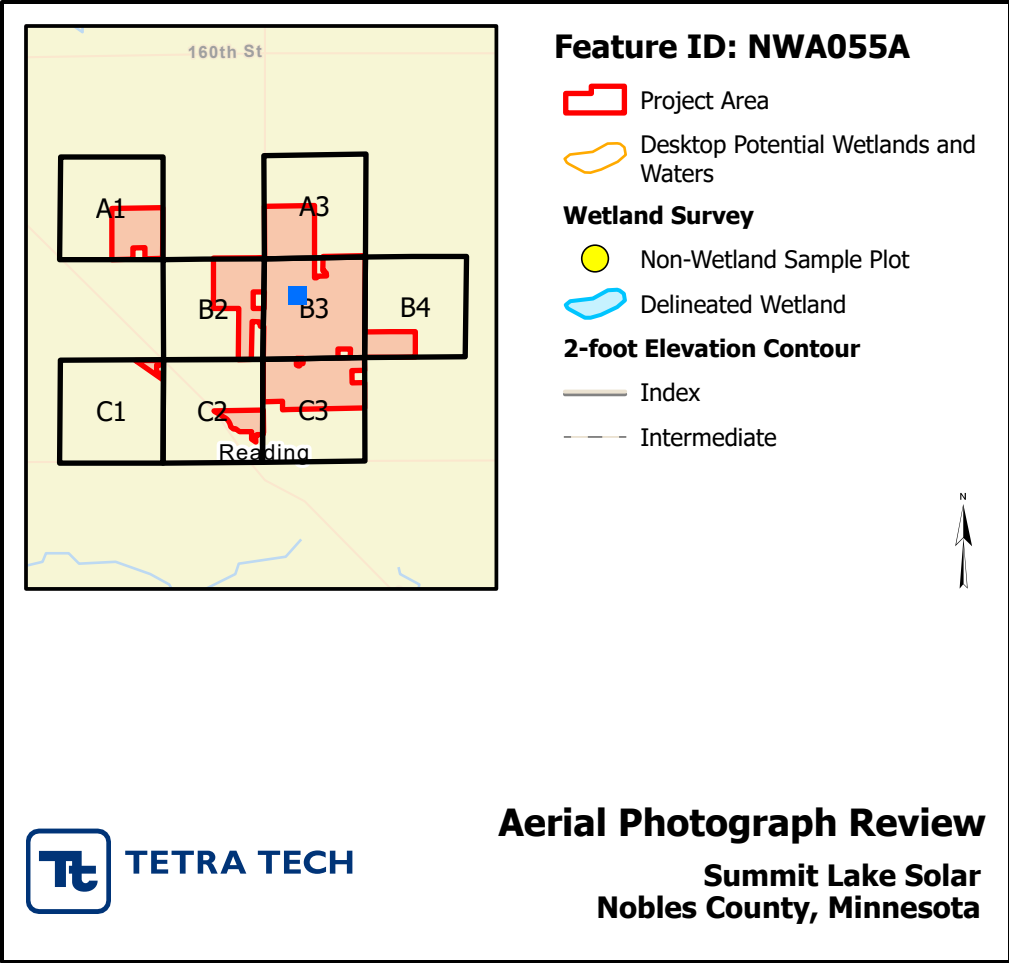
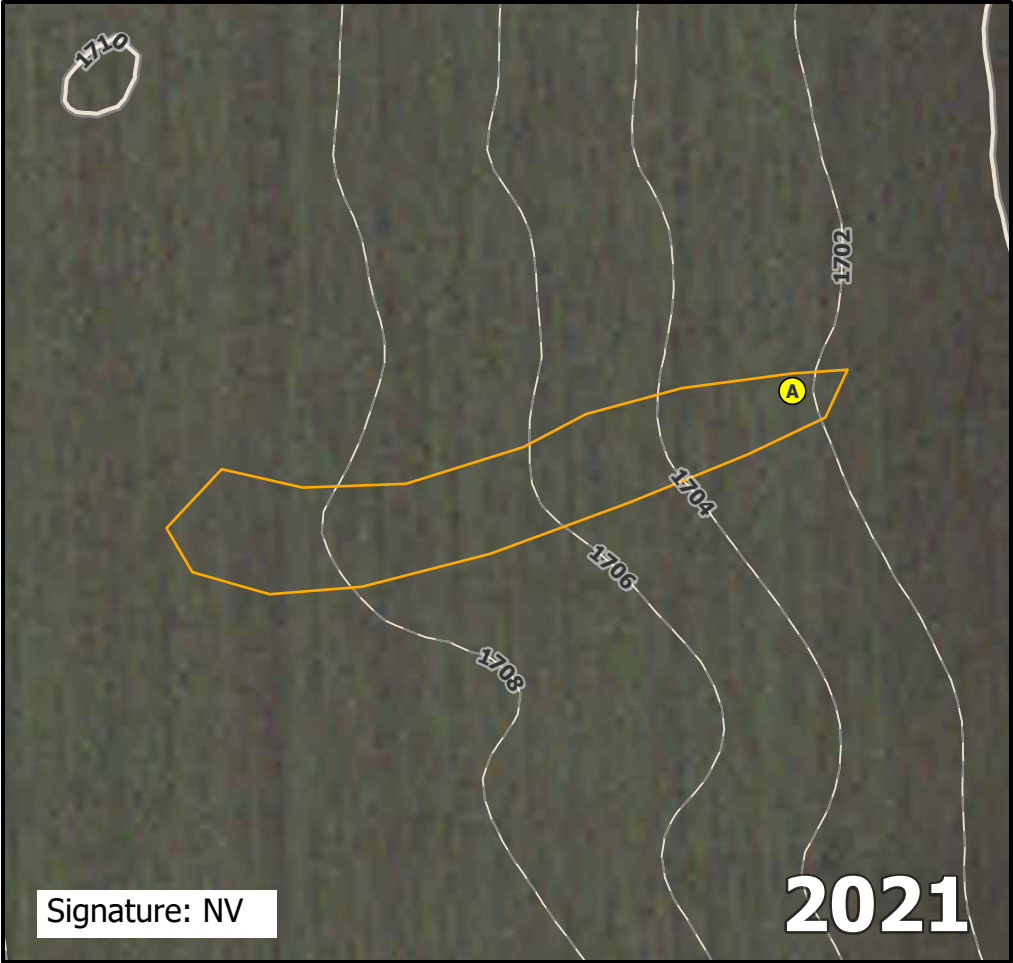
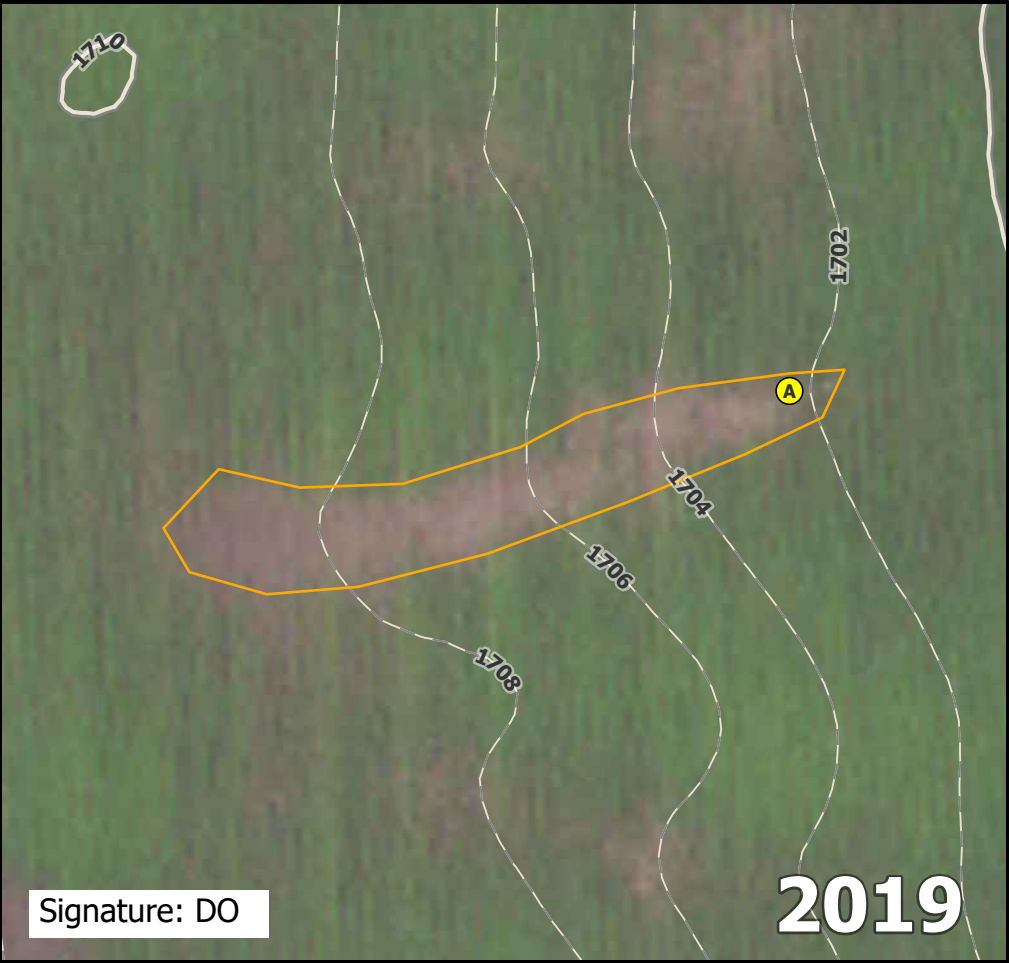
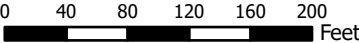
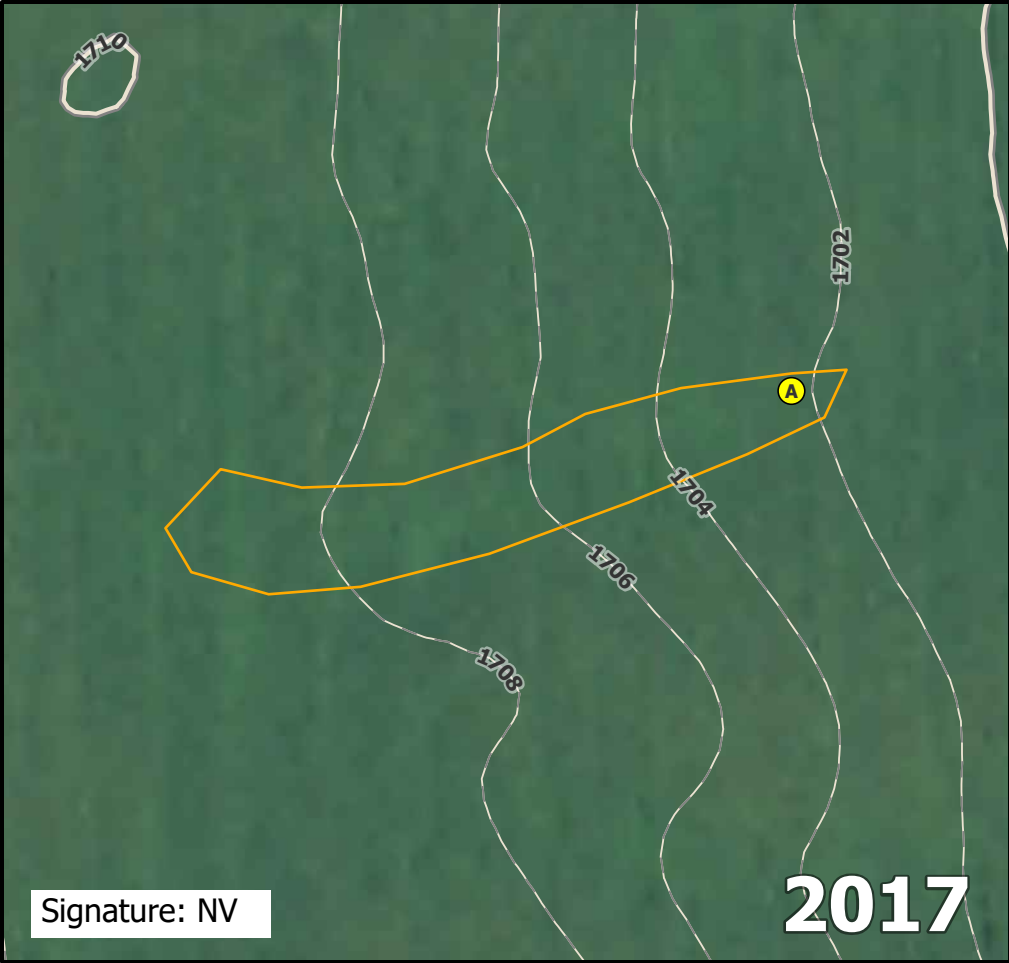
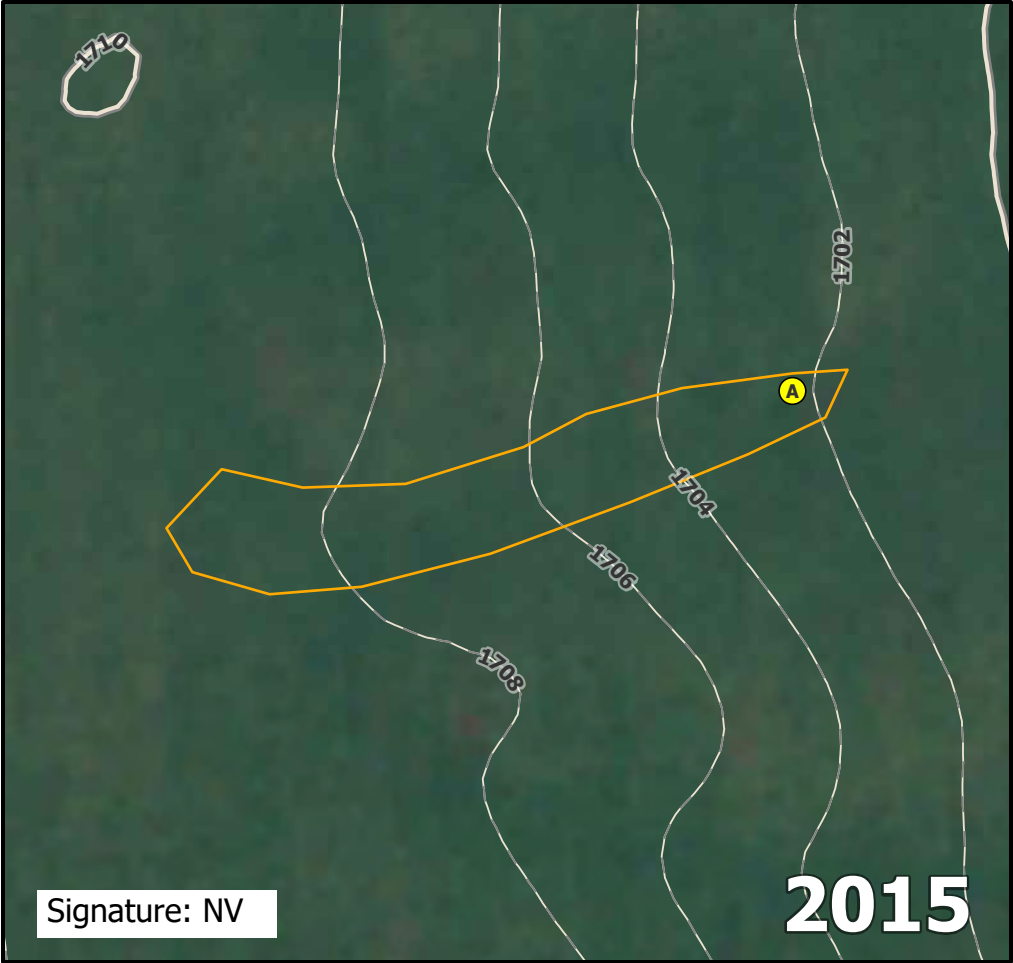
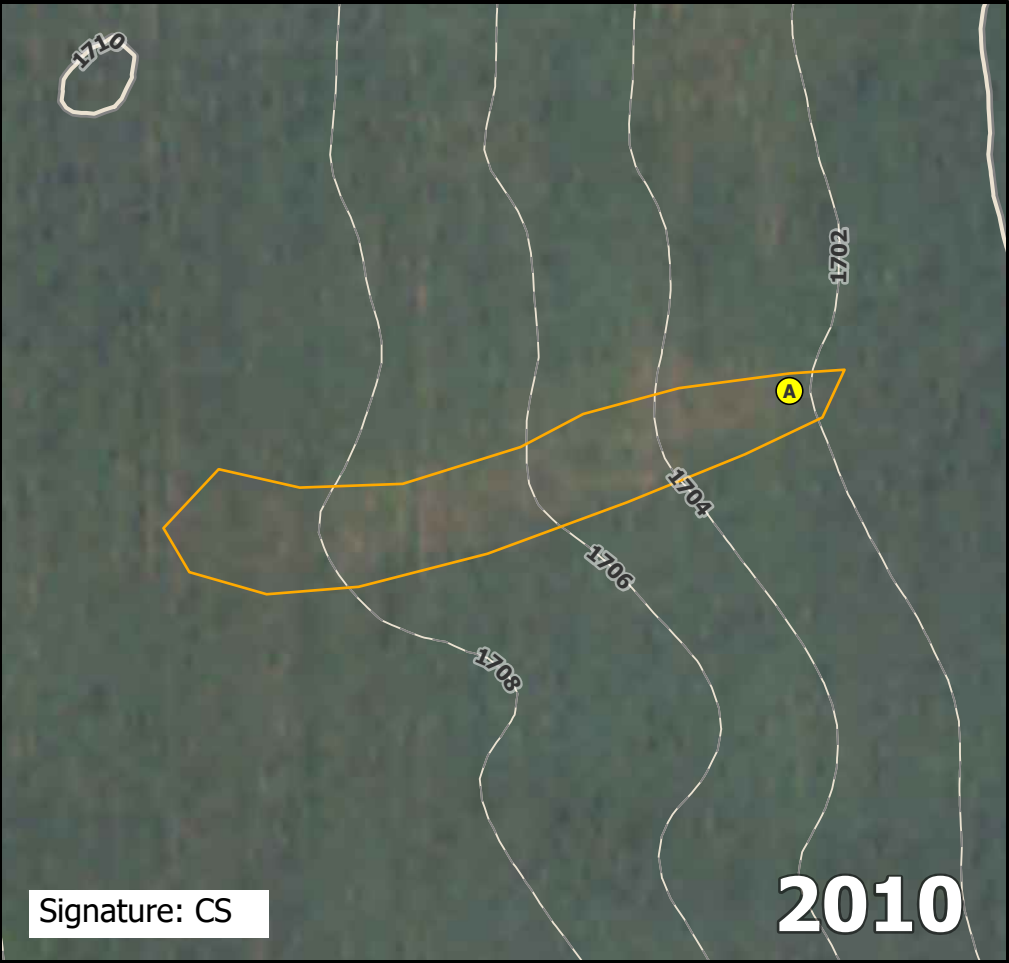
Remarks:



Overview of upland sample point NWA055A.

Direction: West	Photo ID: delin_photo-20221013-145353.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA055	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA057

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA057A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.72799 Long: -95.70817 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently tilled agricultural field. Weak topography.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA057A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-17	2.5Y 3/2	95	2.5Y 4/3	5	C	PL/M	Clay Loam	Distinct or Prominent
17-22	2.5Y 5/3	90	7.5YR 5/8	10	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA057A.

Direction: Southwest

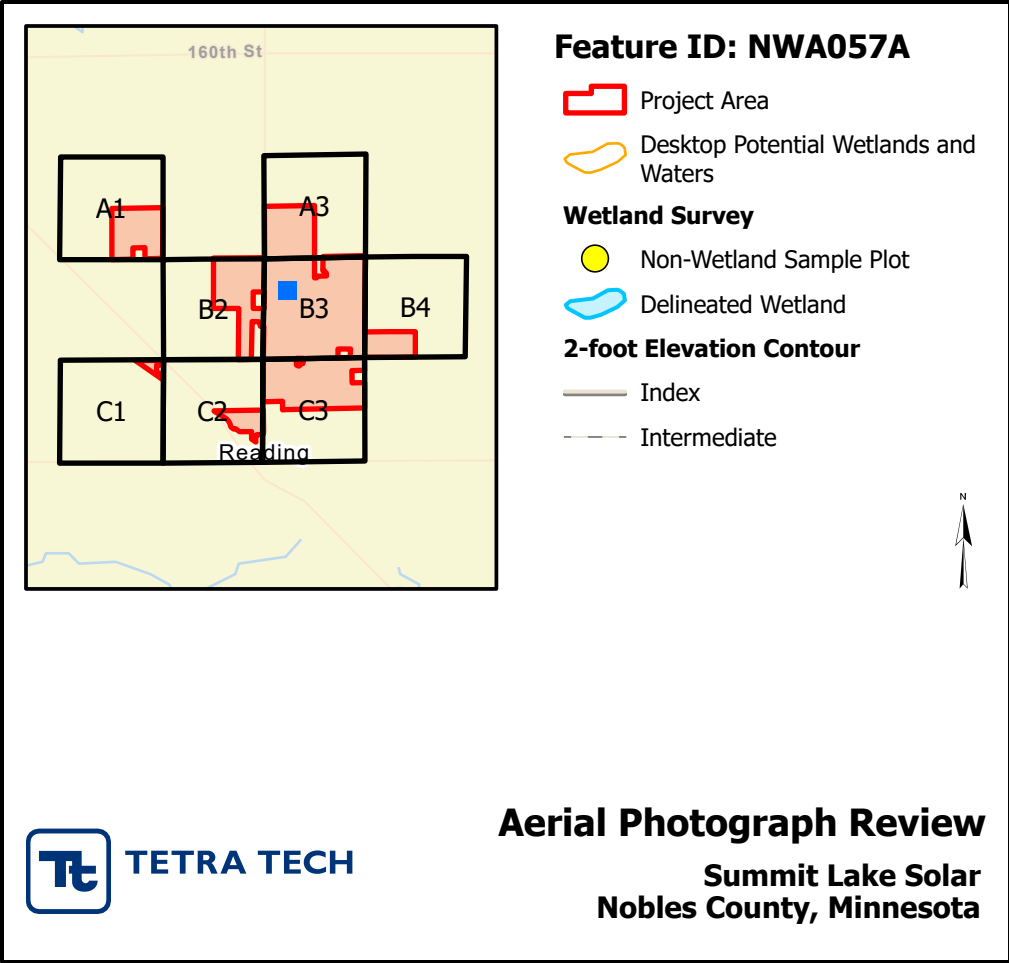
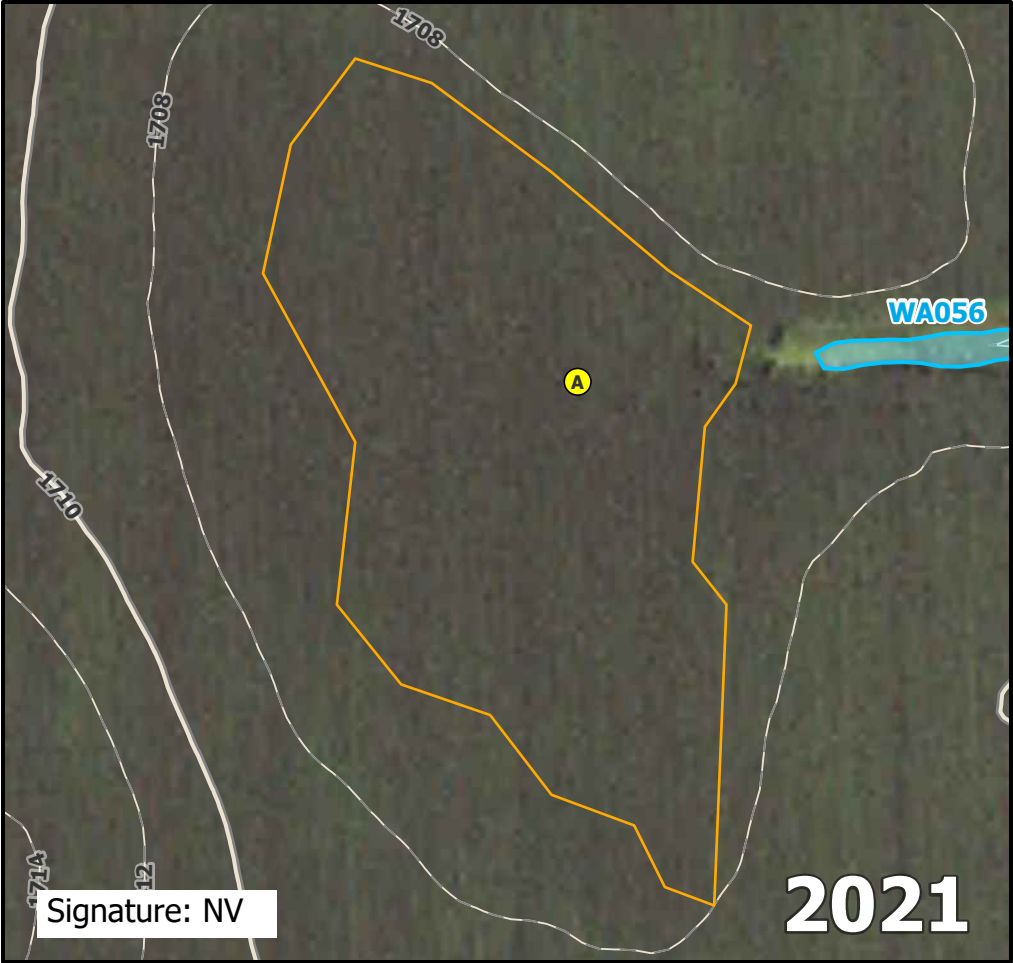
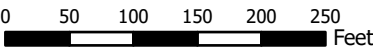
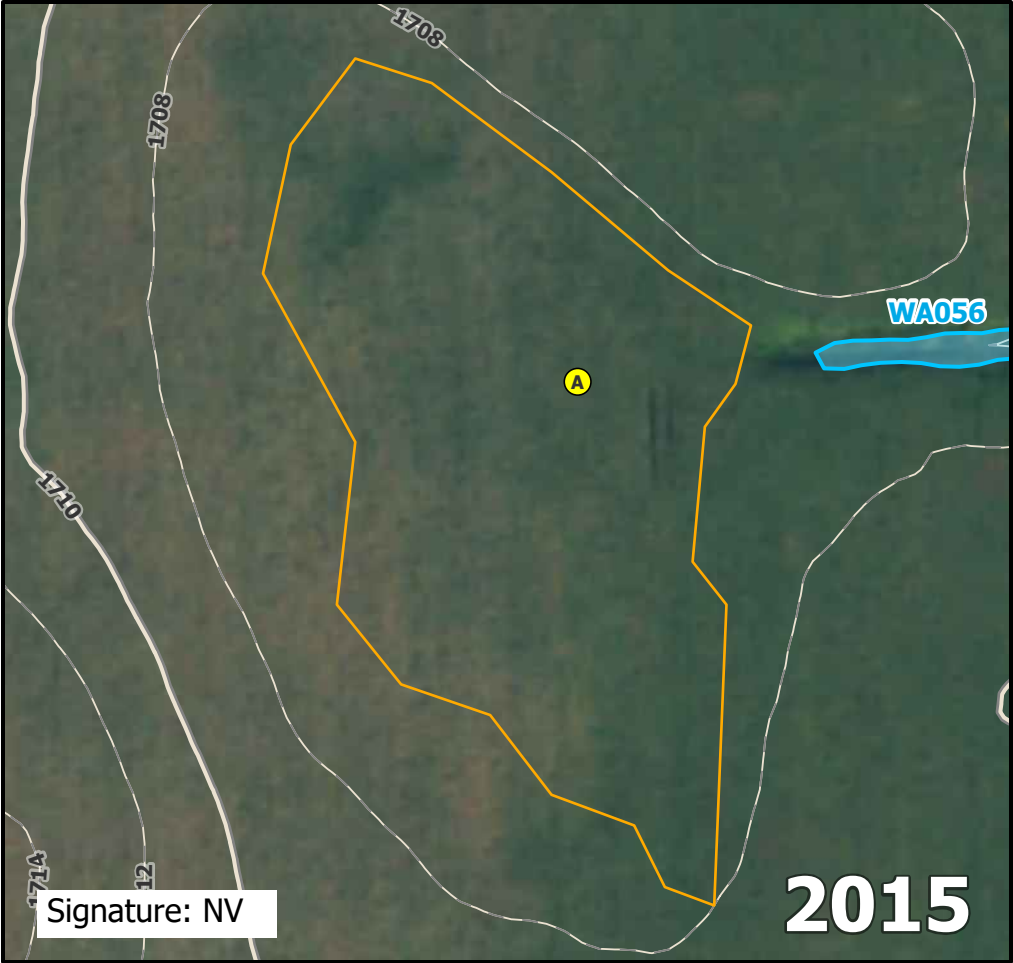
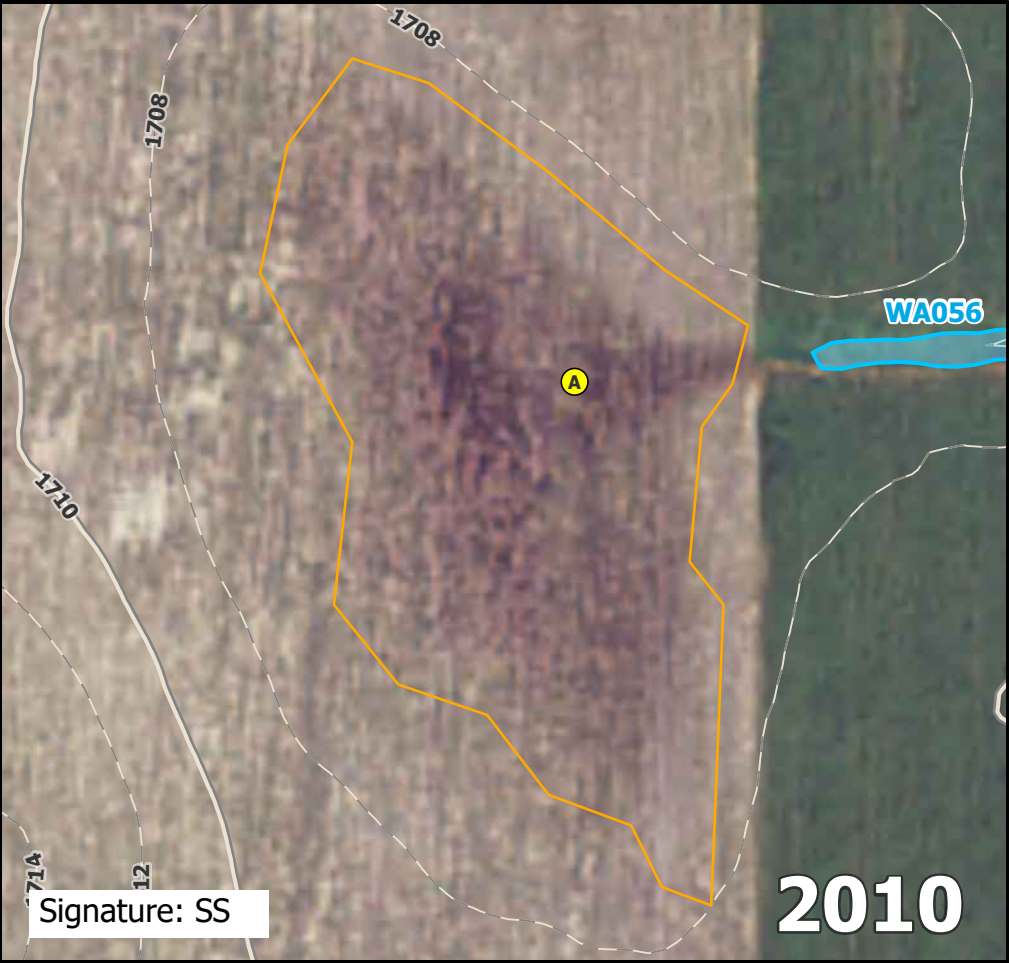
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA057

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,800

Non-Wetland ID

NWA058

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA058A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.72698	Long:	-95.71103
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA058A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Clay Loam	
15-26	2.5Y 3/1	95	2.5Y 5/4	5	C	PL/M	Clay Loam	Distinct or Prominent
26-32	2.5Y 3/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA058A.

Direction: North

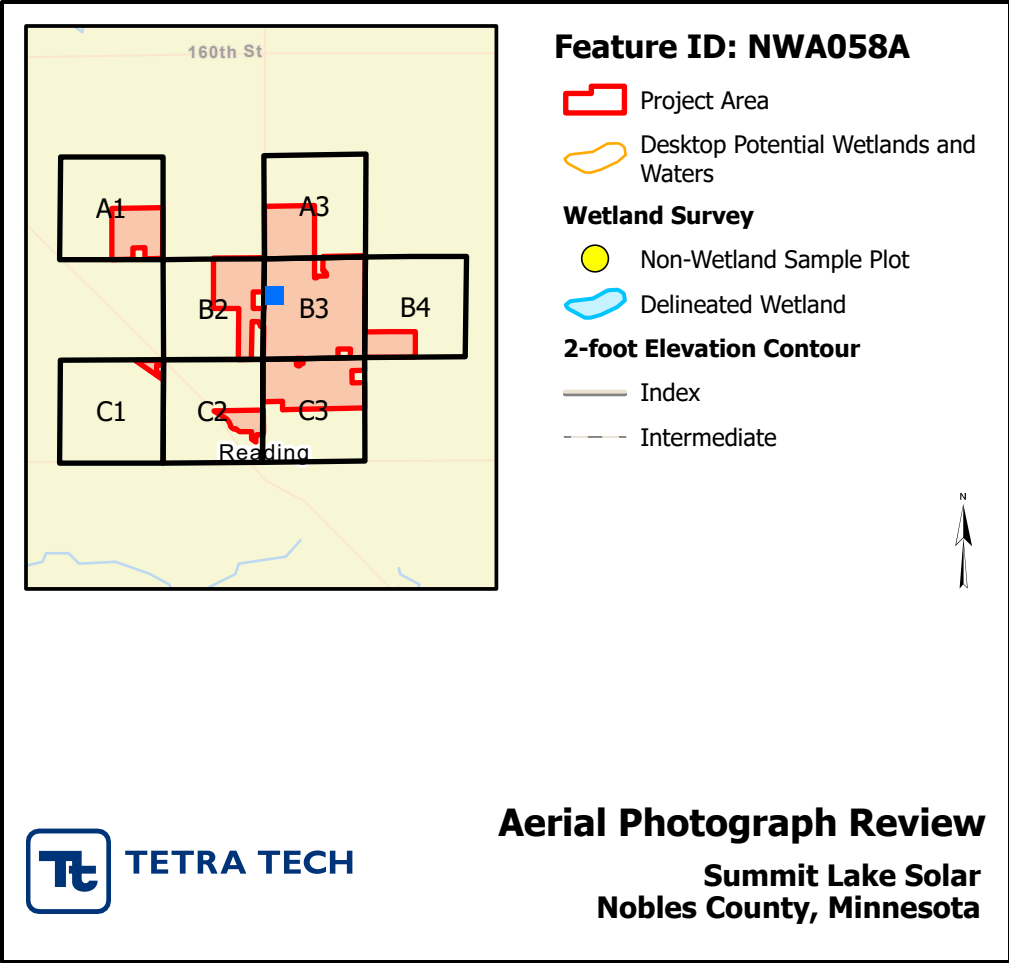
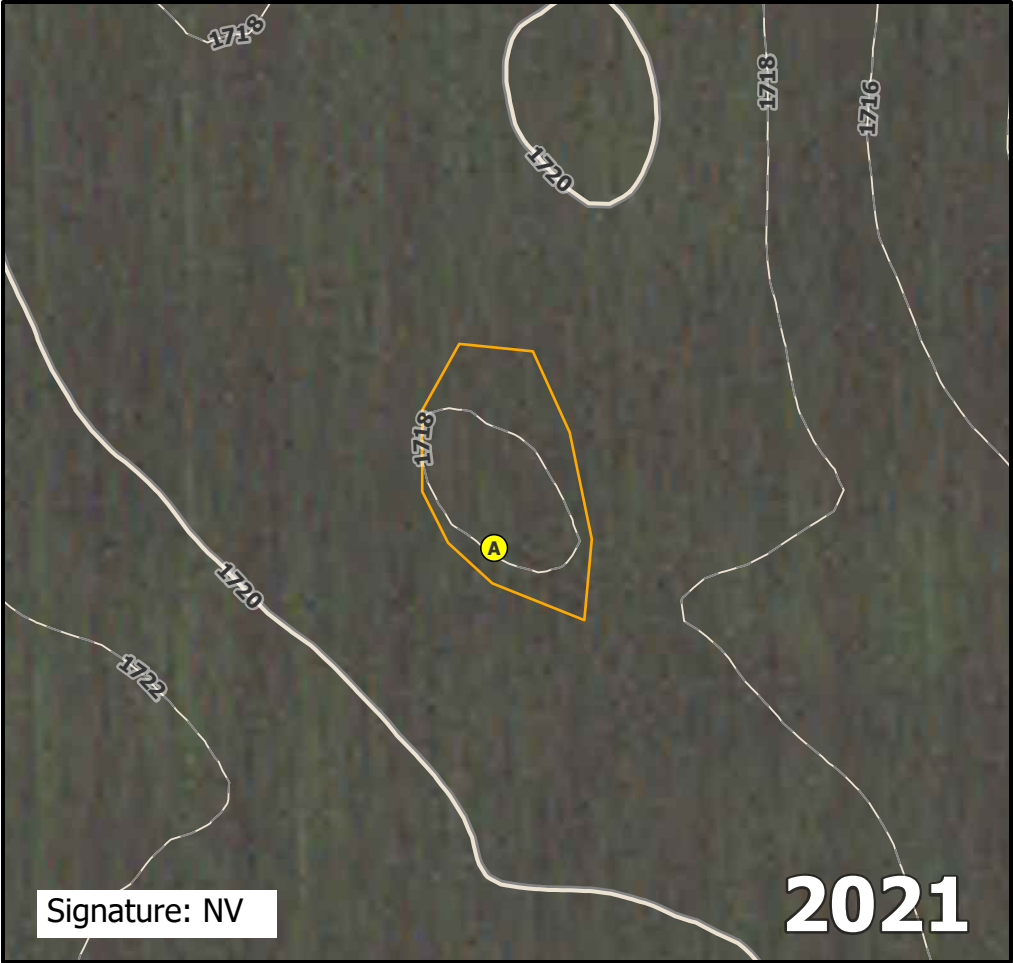
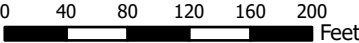
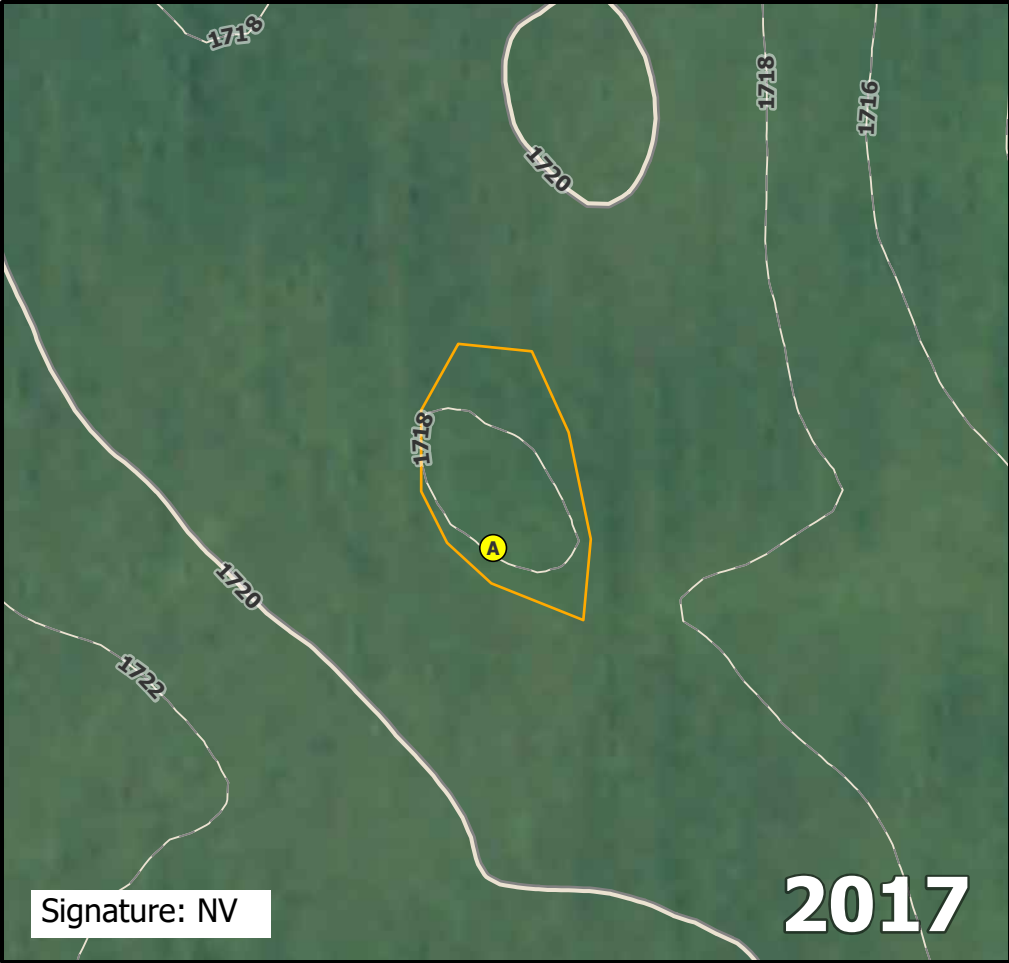
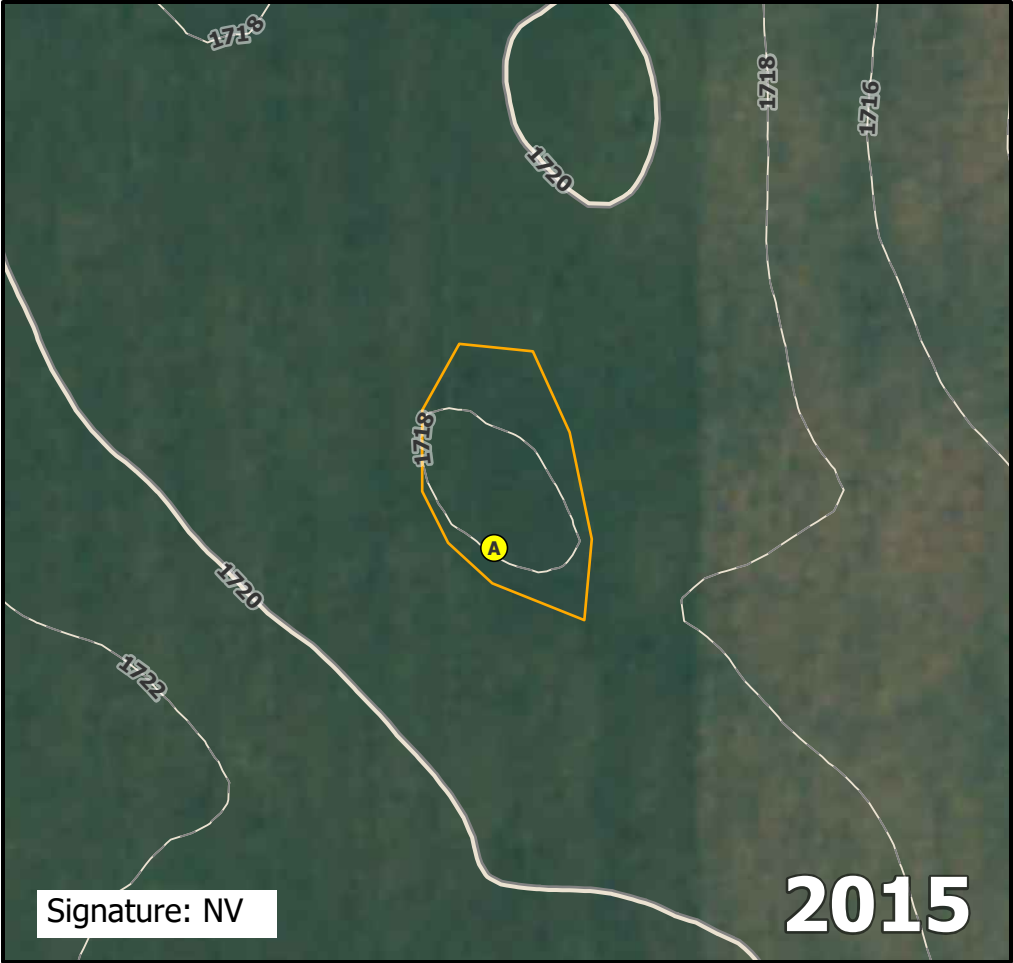
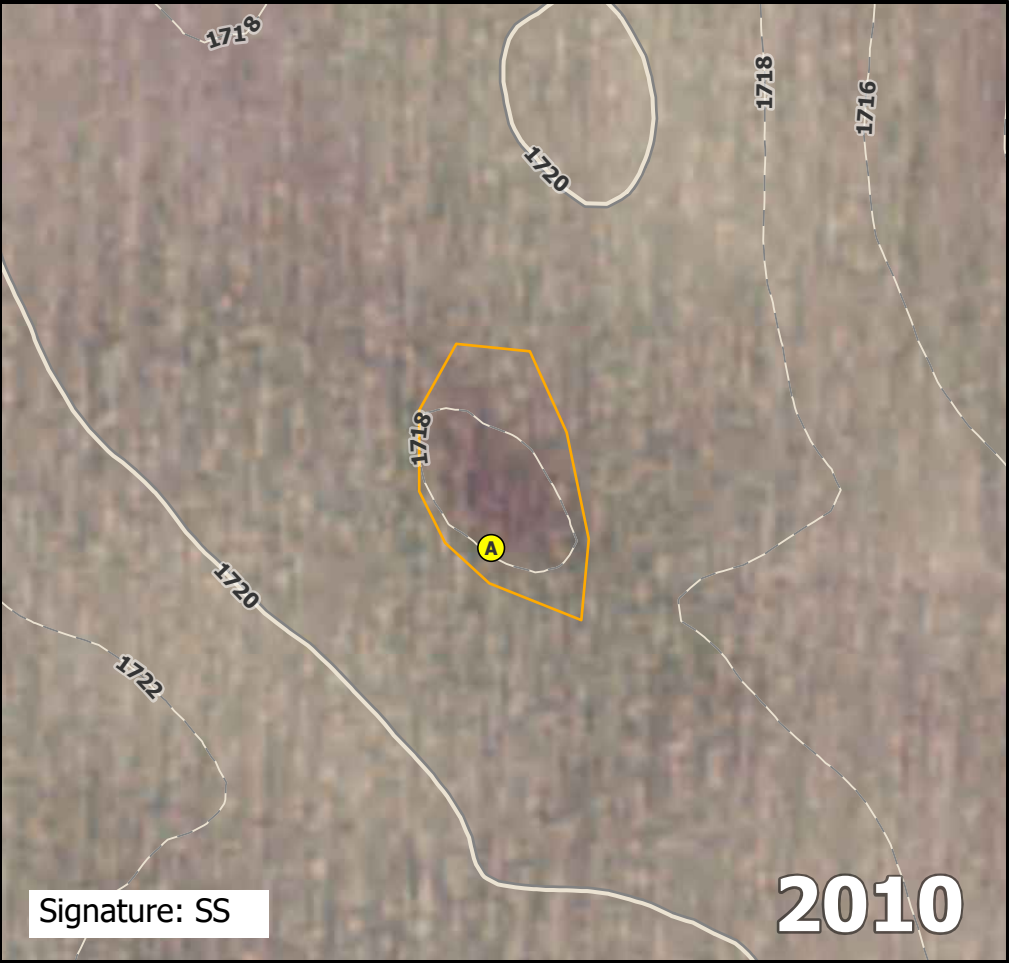
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Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA058

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA059

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA059A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72914	Long:	-95.70867
				Datum:	WGS84
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA059A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Clay Loam	
7-13	10YR 2/1	100					Silty Clay Loam	
13-21	10YR 2/1	95	10YR 4/4	5	C	PL/M	Clay Loam	Distinct or Prominent
21-24	2.5Y 3/1	100					Clay Loam	
24-32	2.5Y 3/2	98	2.5Y 4/4	2	C	PL	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

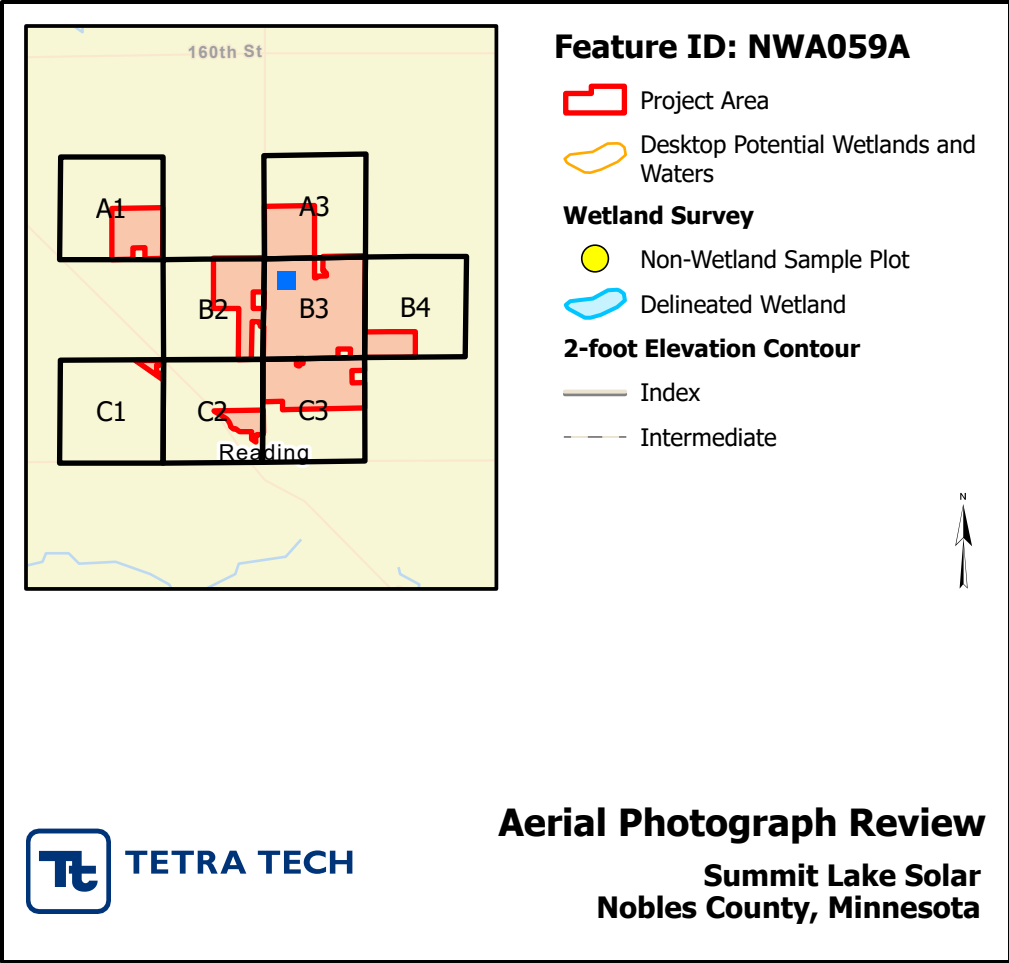
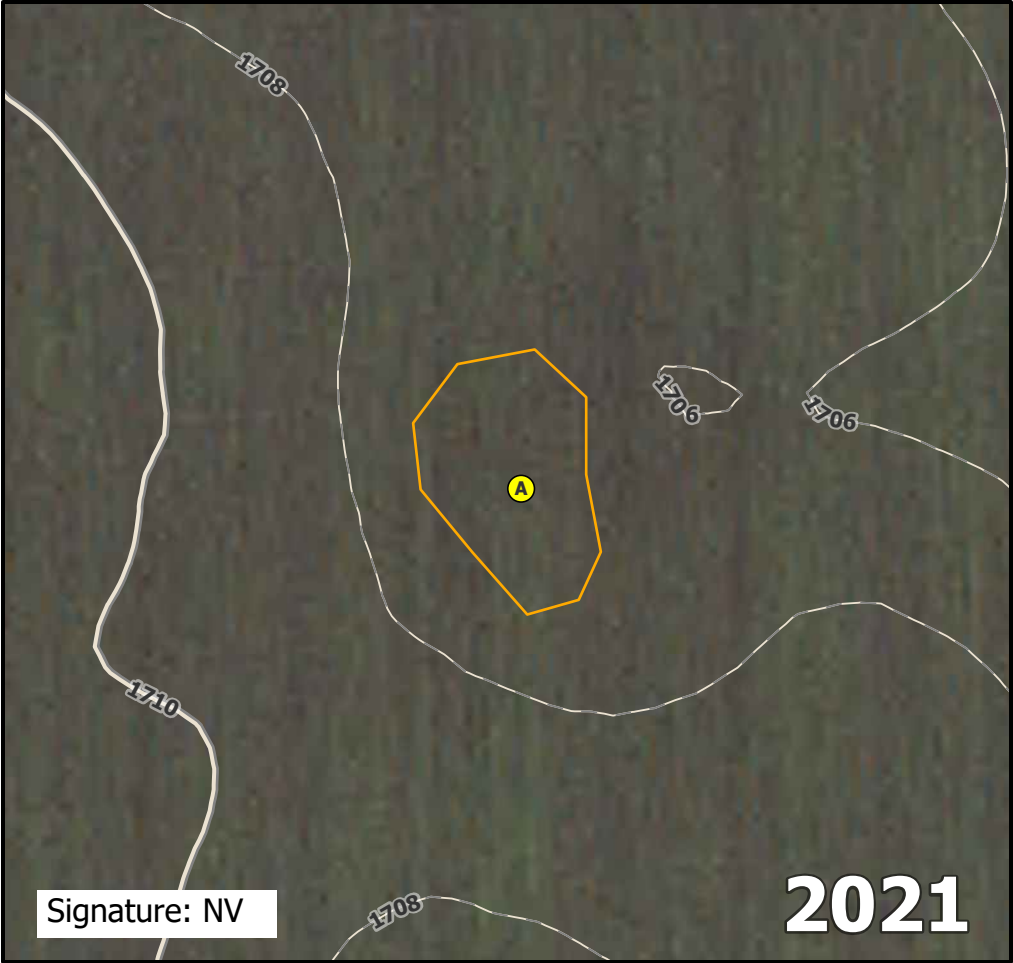
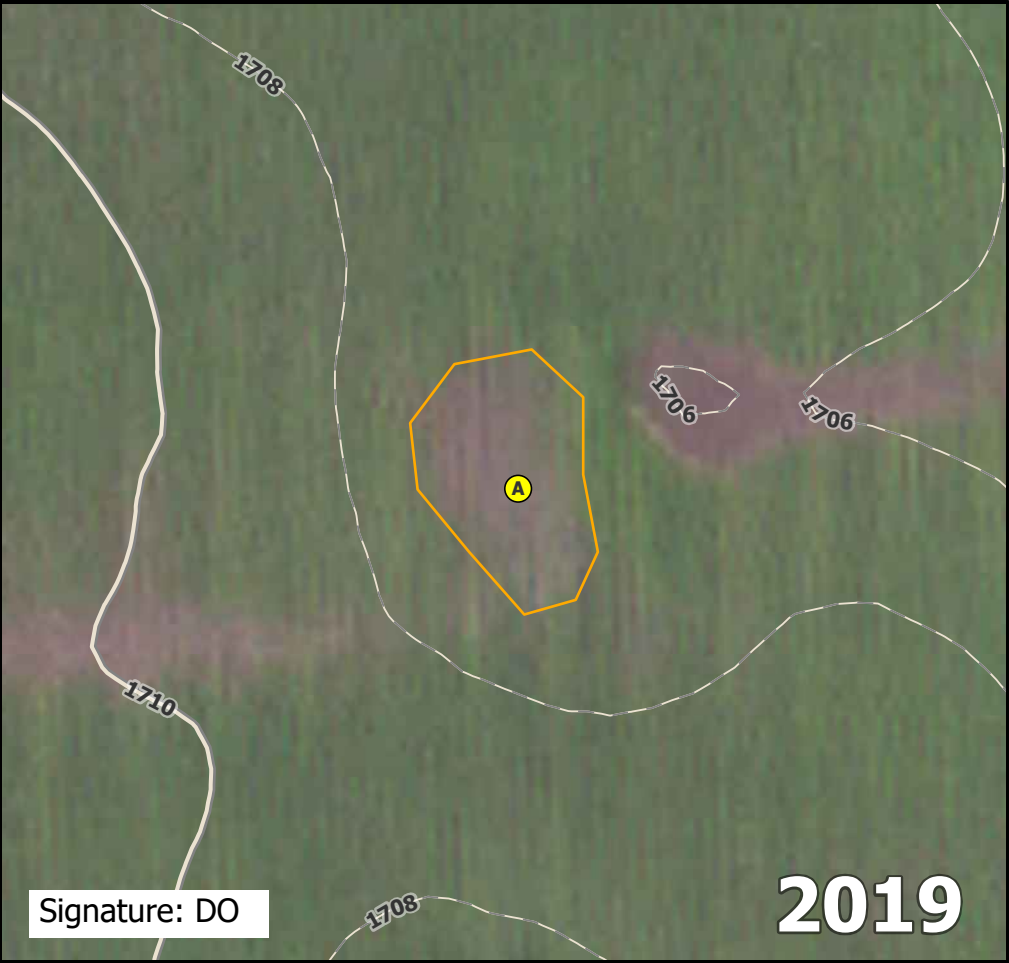
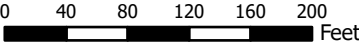
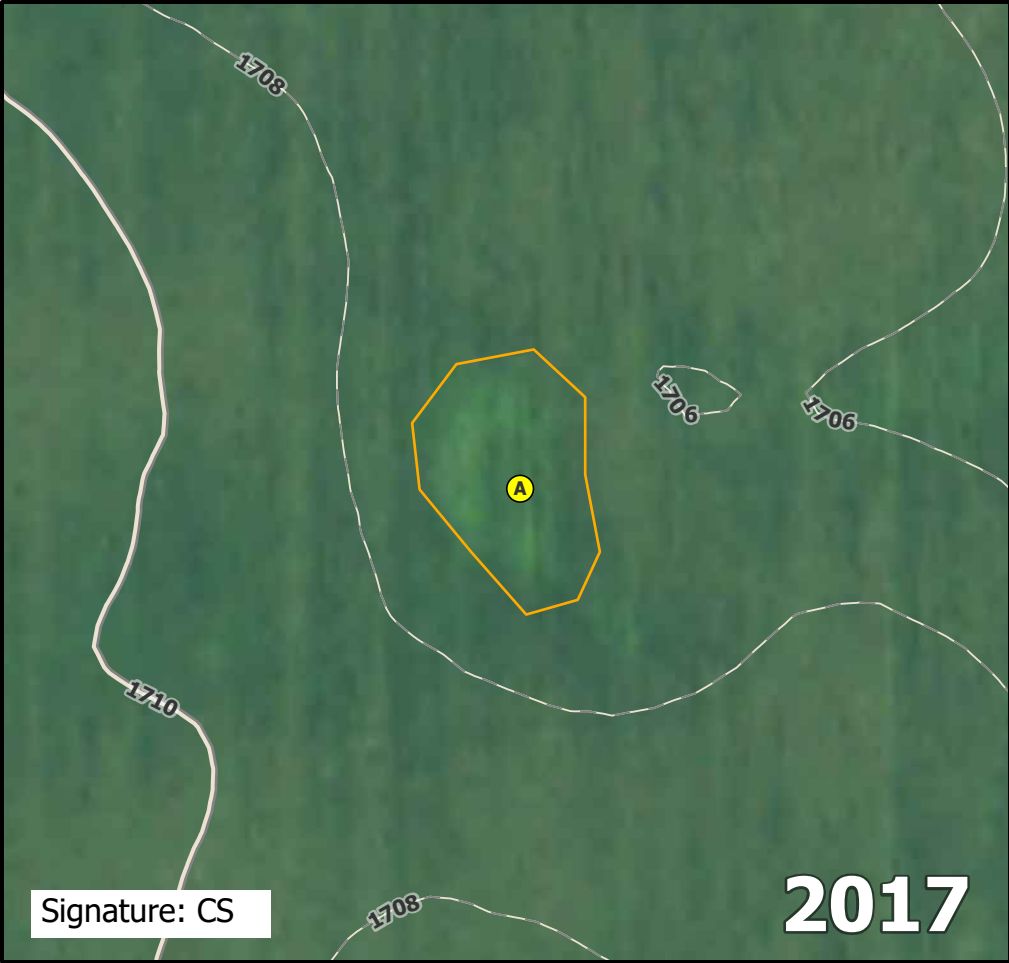
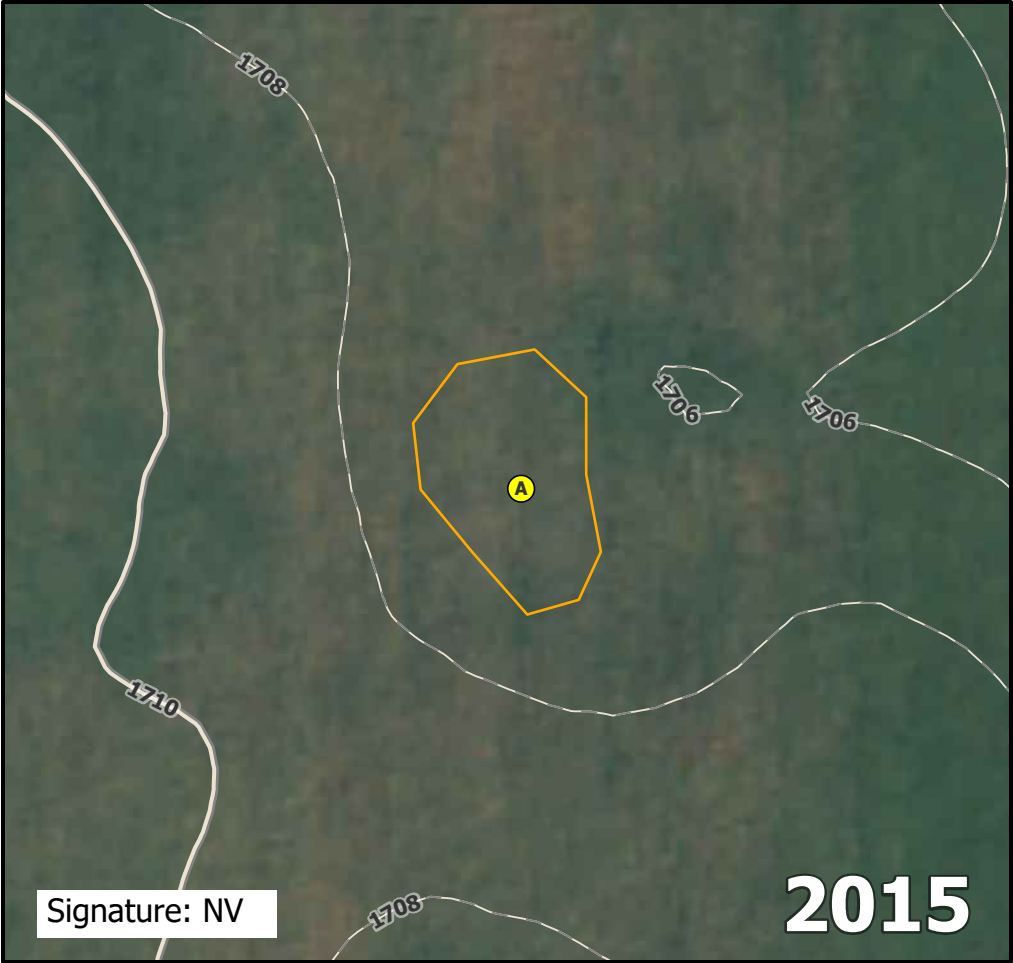
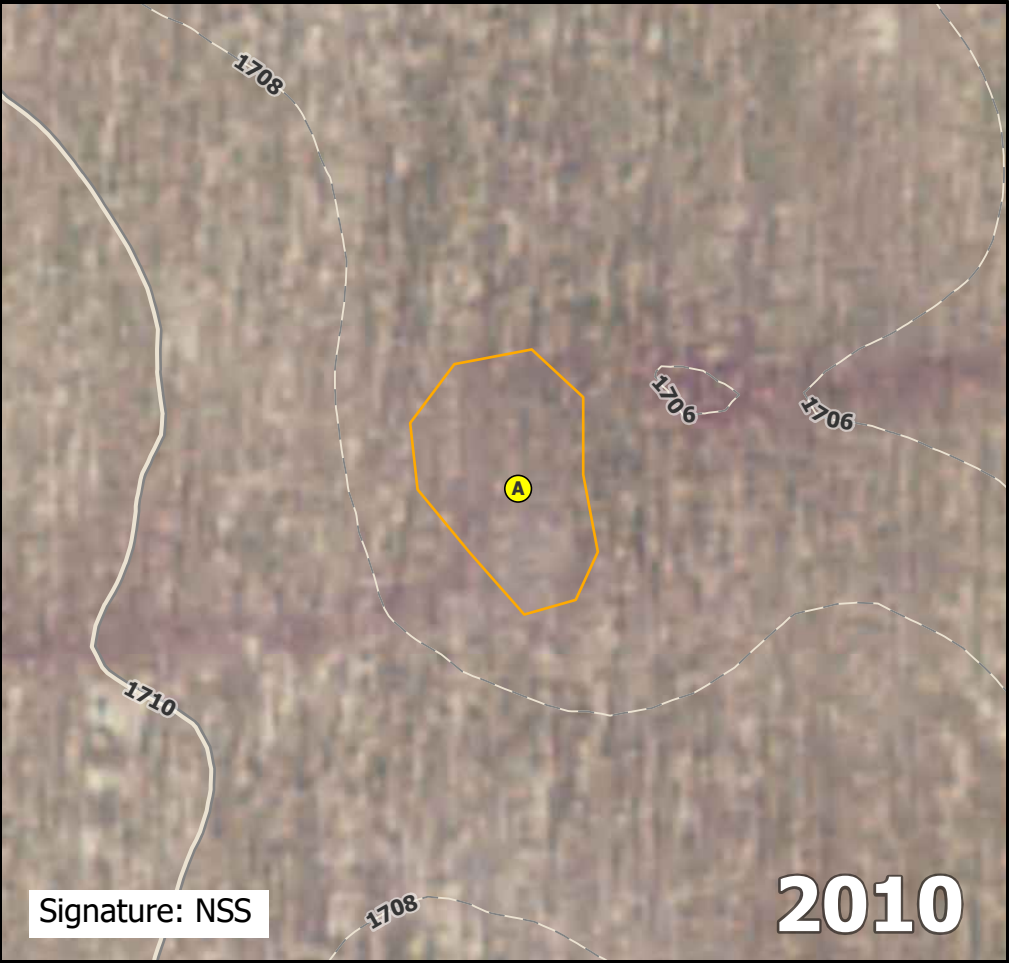
Remarks:



Overview of upland sample point NWA059A.

Direction: Northeast	Photo ID: delin_photo-20221013-164131.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA059	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA060

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA060A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72924	Long:	-95.70832
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA060A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Clay Loam	
14-19	10YR 2/1	85	10YR 3/4	15	C	PL/M	Clay Loam	Distinct or Prominent
19-23	2.5Y 3/1	90	10YR 3/4	10	C	PL/M	Clay Loam	Distinct or Prominent
23-27	2.5Y 3/1	70	10YR 3/4	15	C	PL/M	Clay Loam	Distinct or Prominent
			2.5Y 4/3	15	C	PL/M		Distinct or Prominent
27-34	10YR 4/1	60					Clay Loam	
	10YR 4/4	40						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

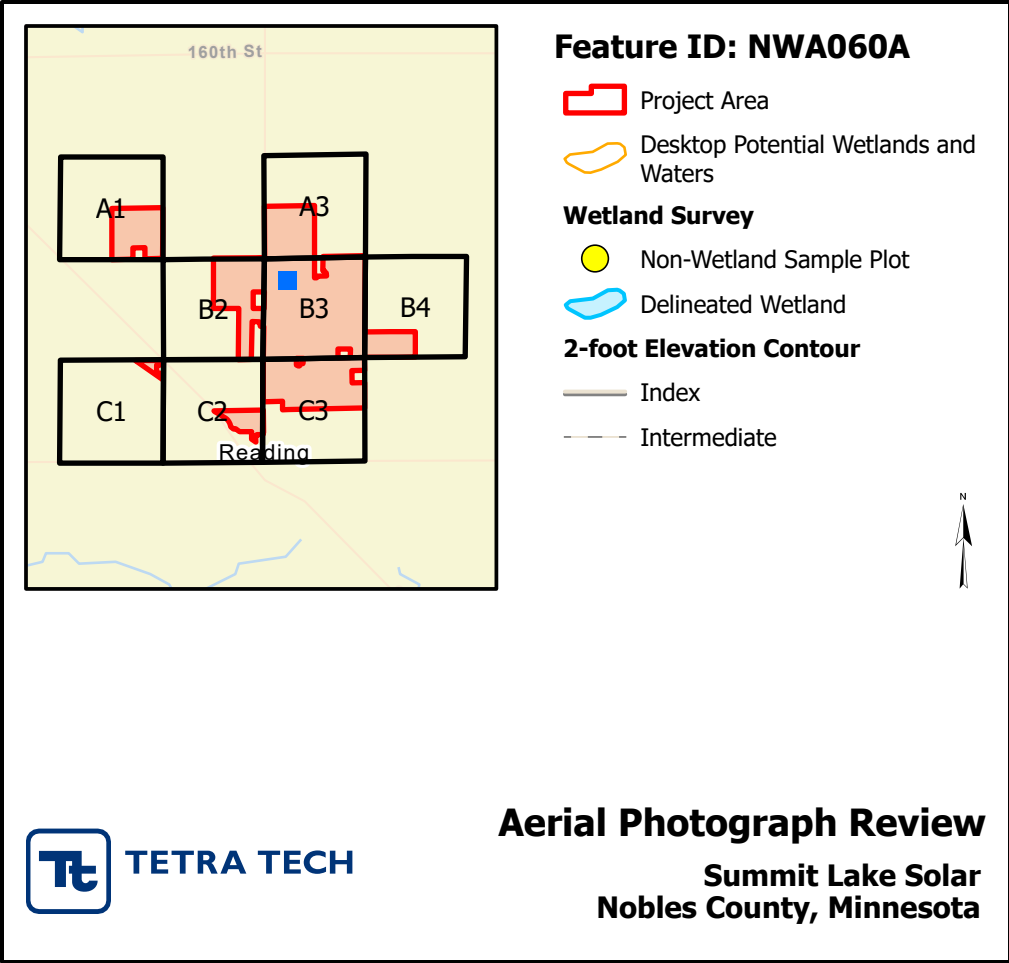
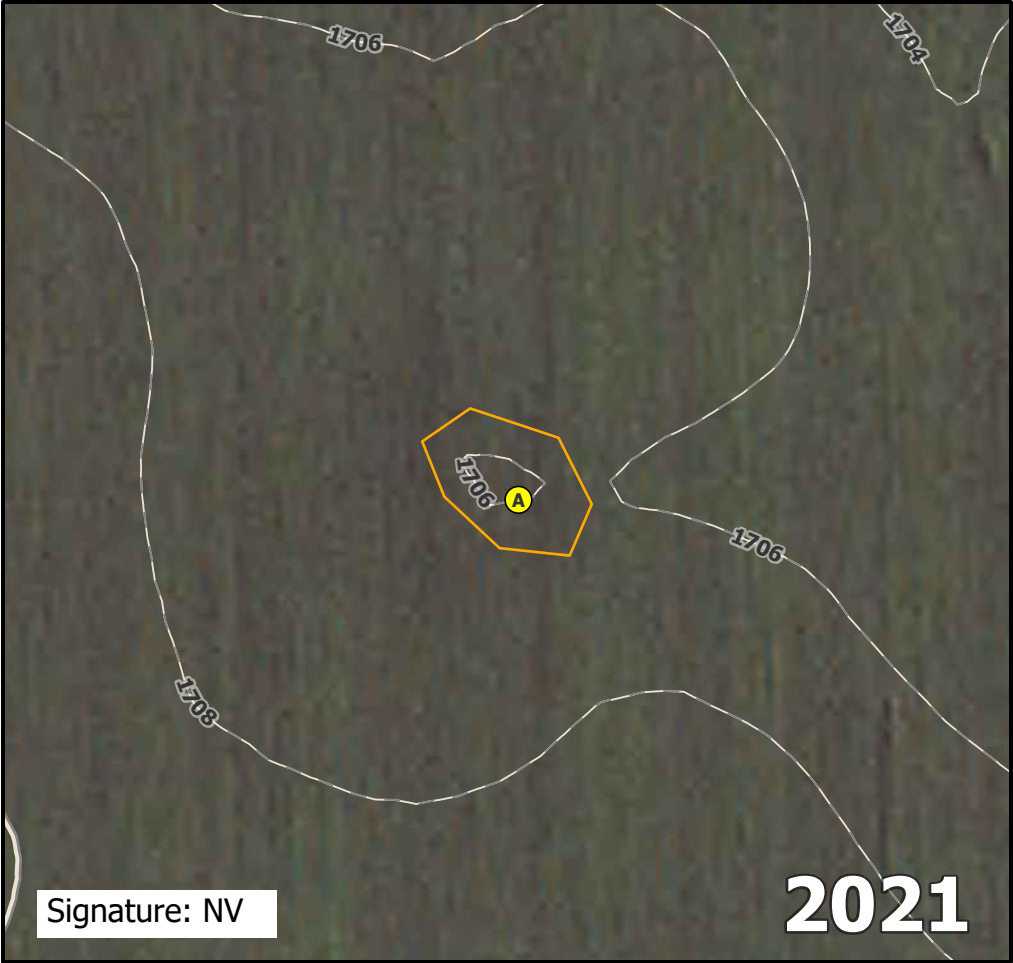
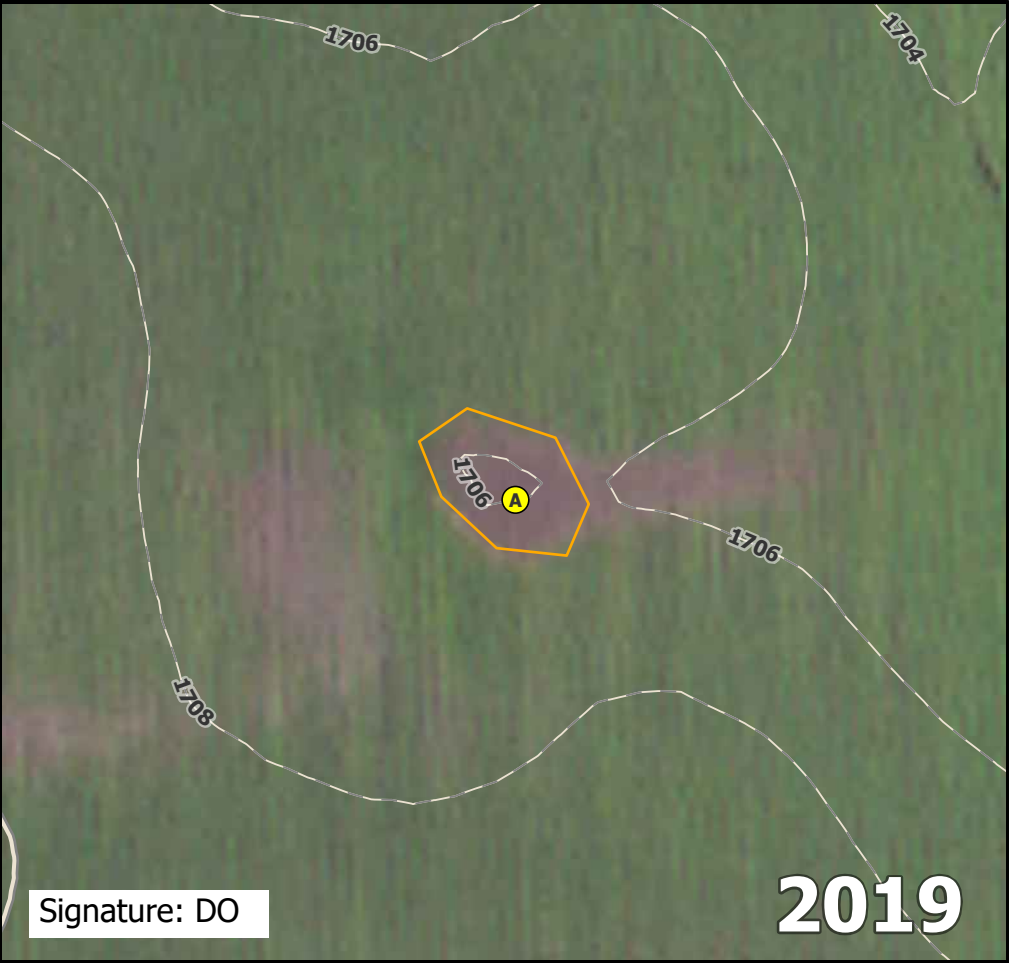
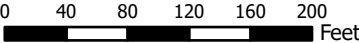
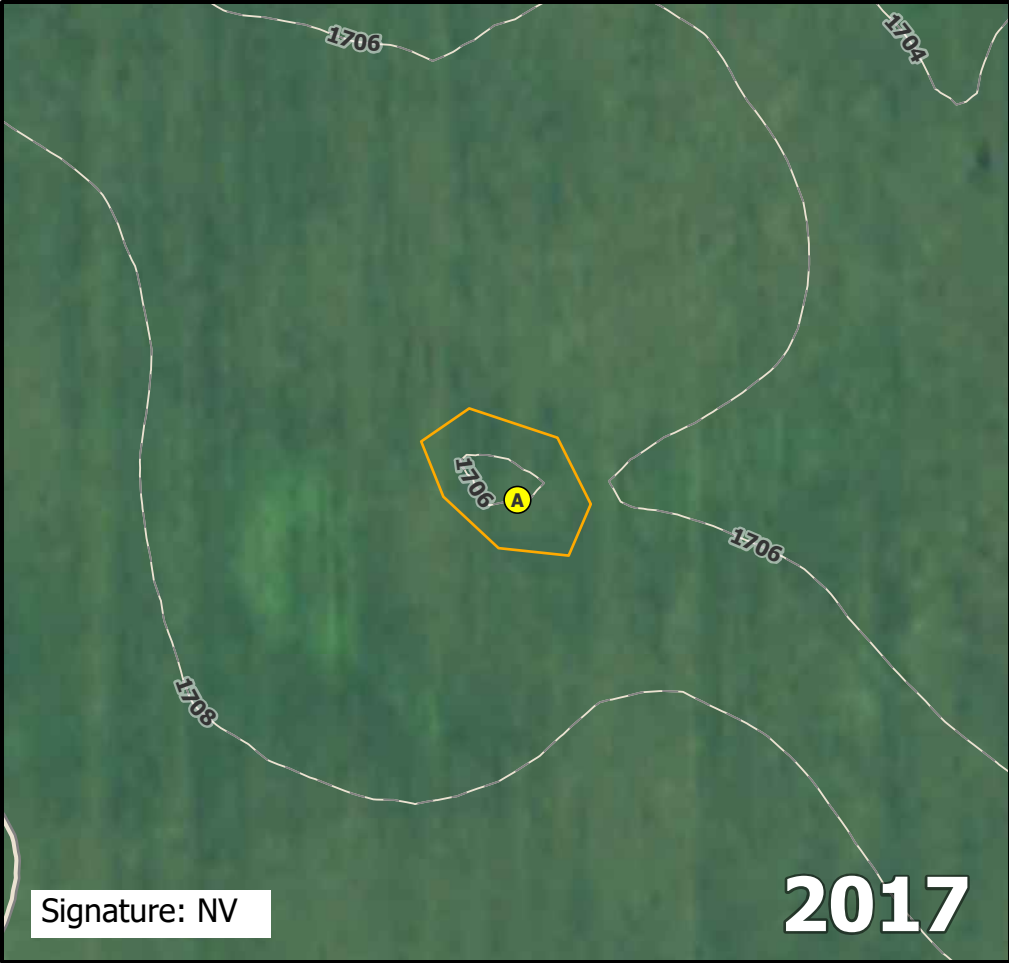
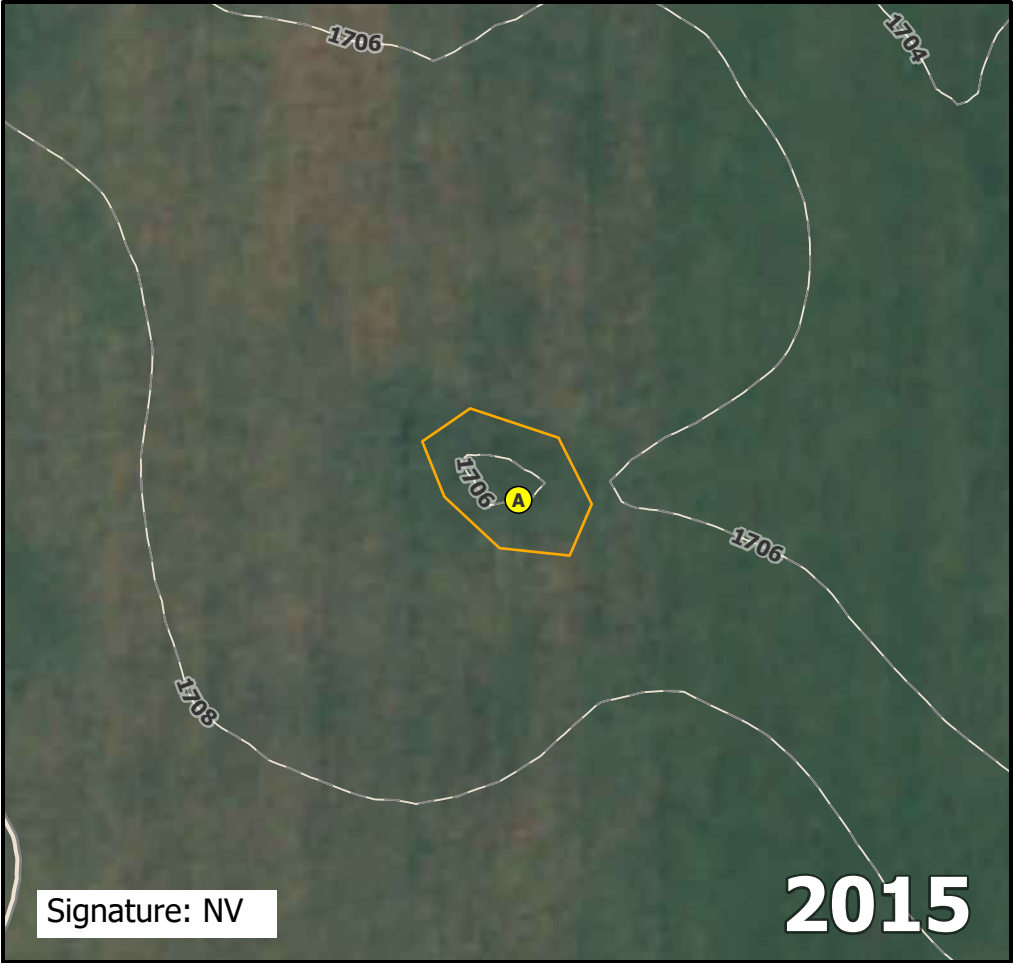
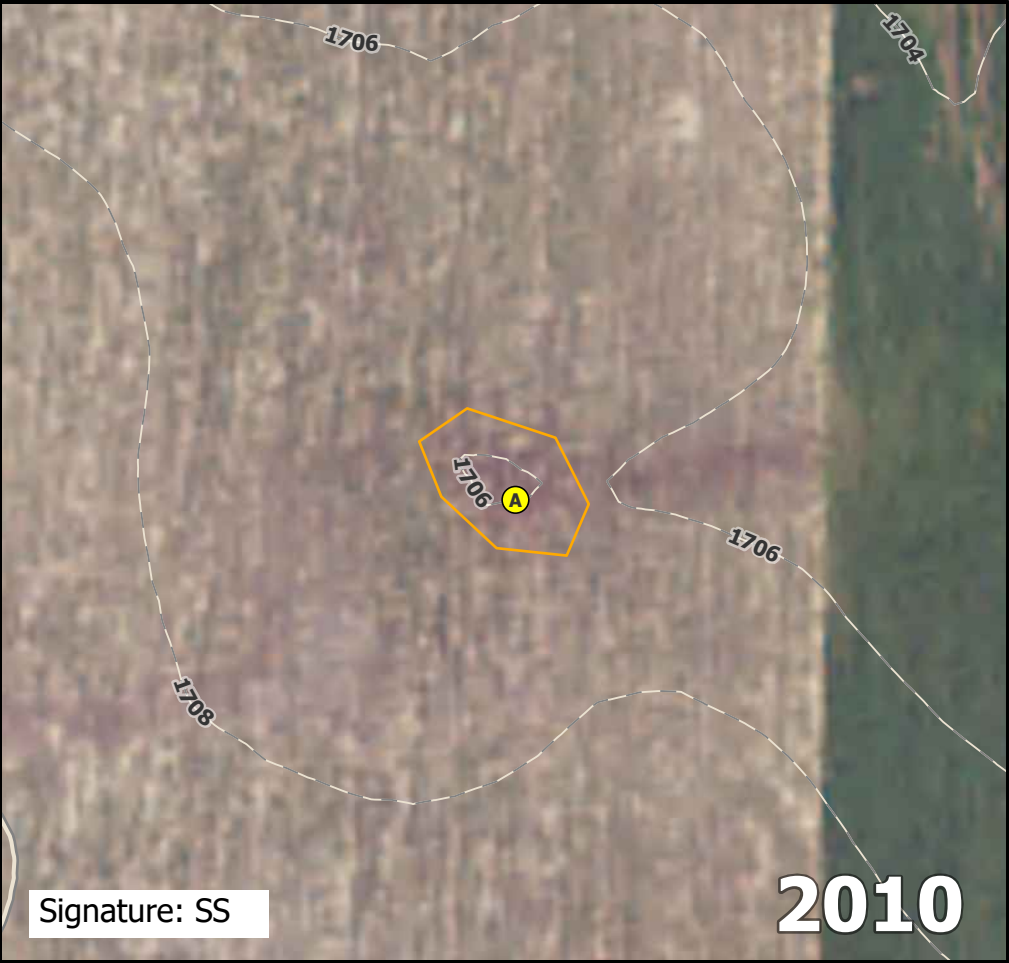
Remarks:



Overview of upland sample point NWA060A.

Direction: East	Photo ID: delin_photo-20221013-165656.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA060	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA061

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA061A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.72932	Long:	-95.70729
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA061A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Clay Loam	
7-11	2.5Y 3/2	100					Clay Loam	
11-22	2.5Y 5/3	70	2.5Y 5/6	10	C	PL/M	Clay Loam	
	10YR 2/1	20						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

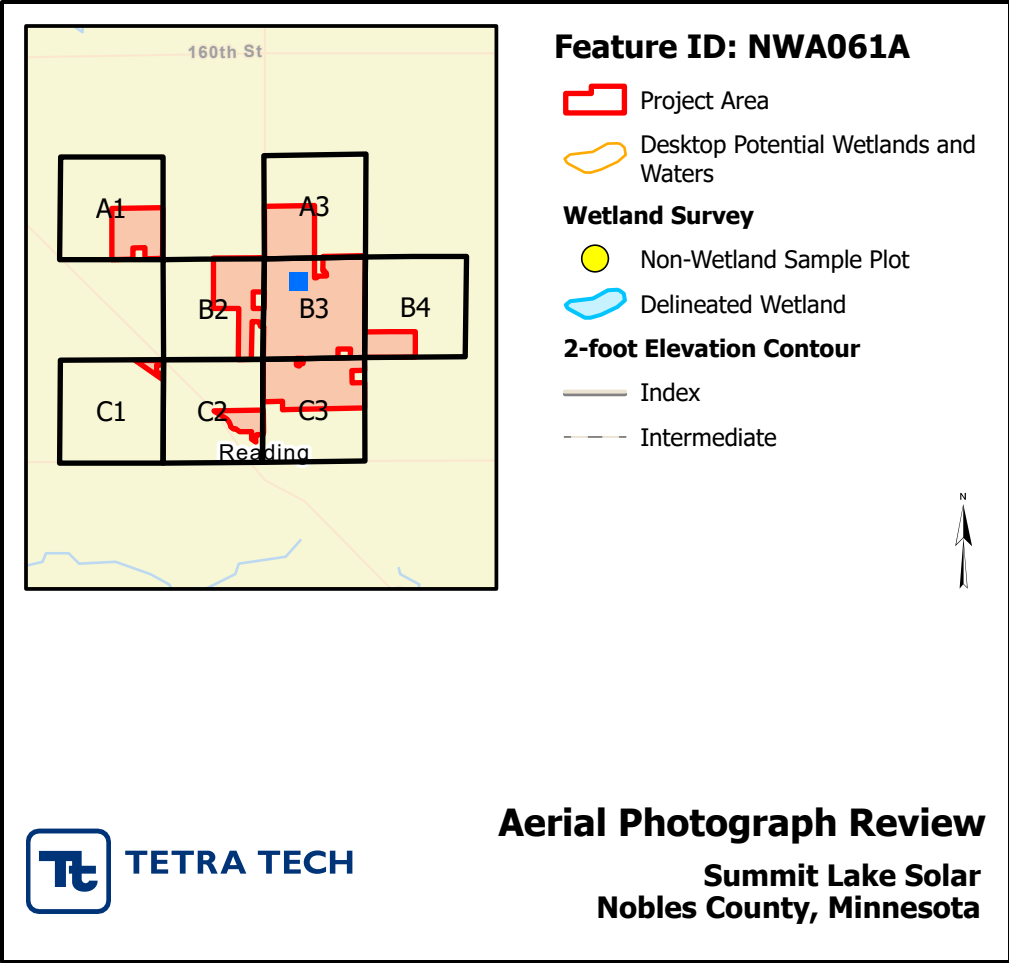
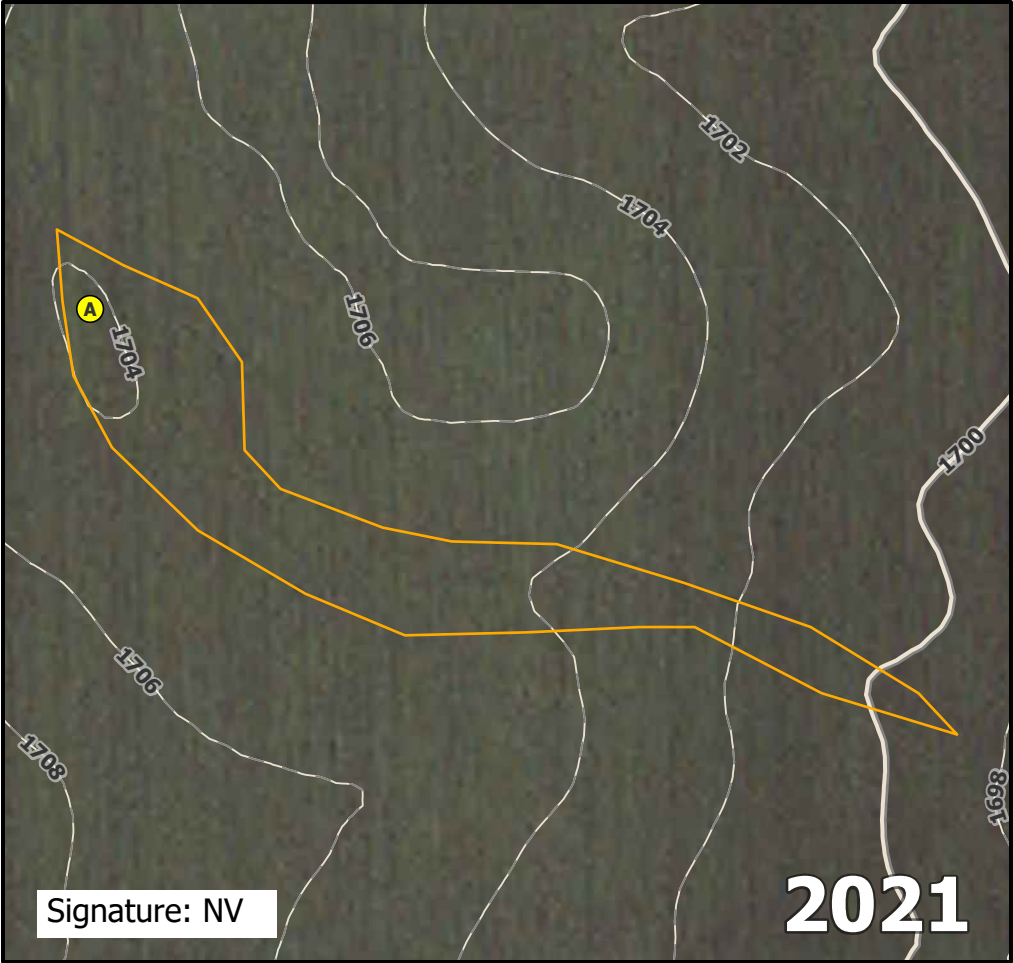
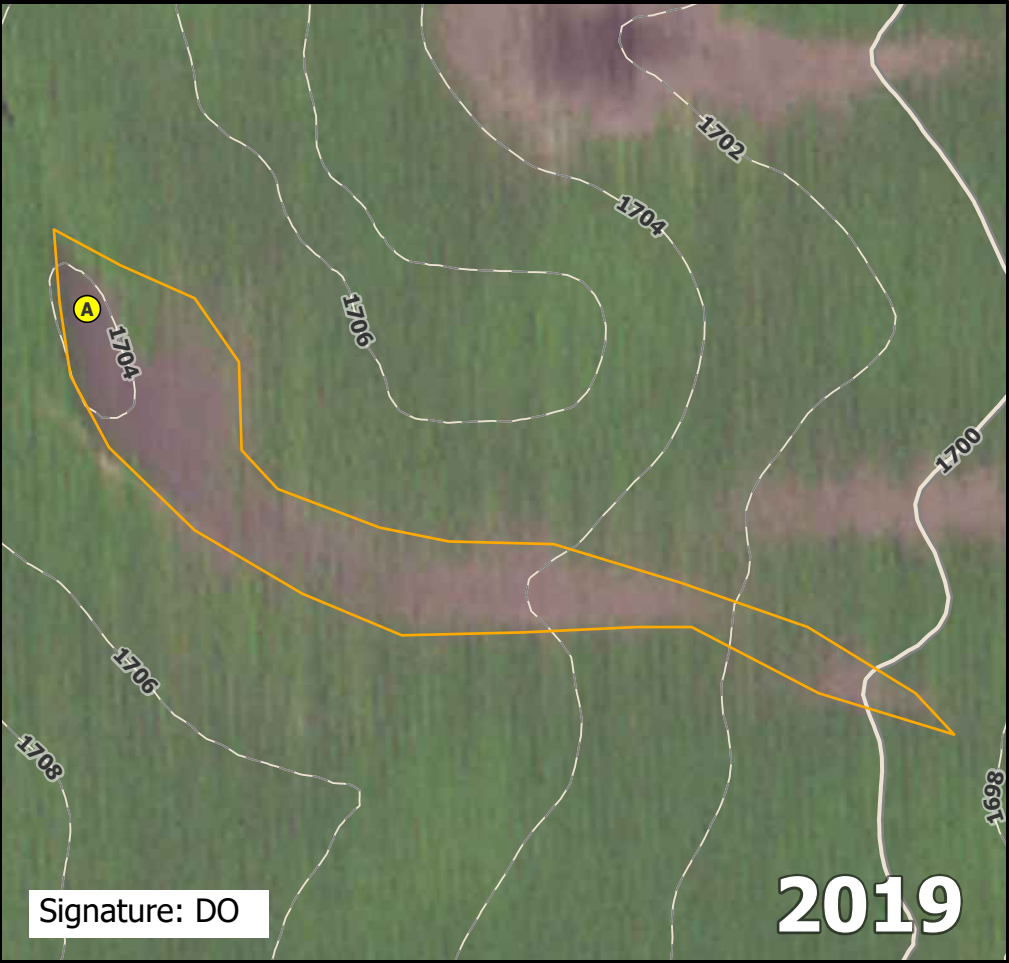
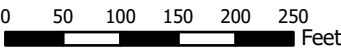
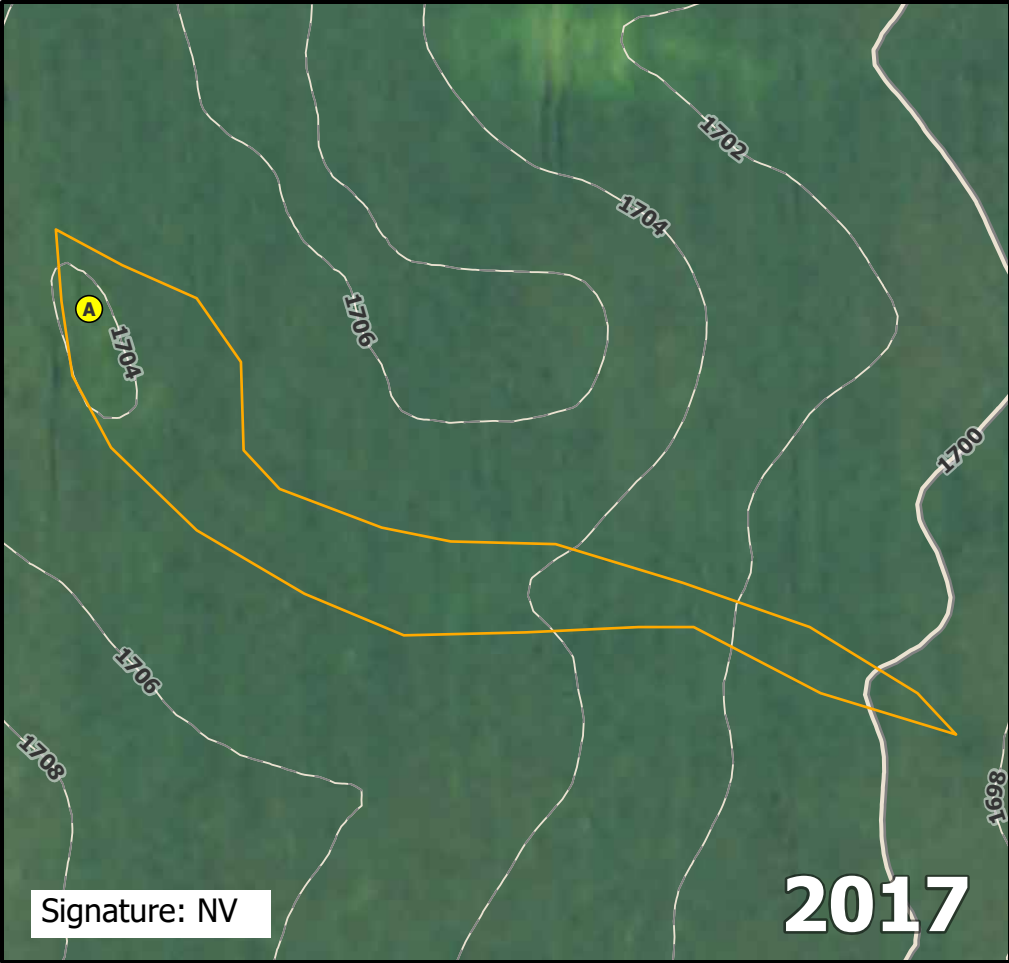
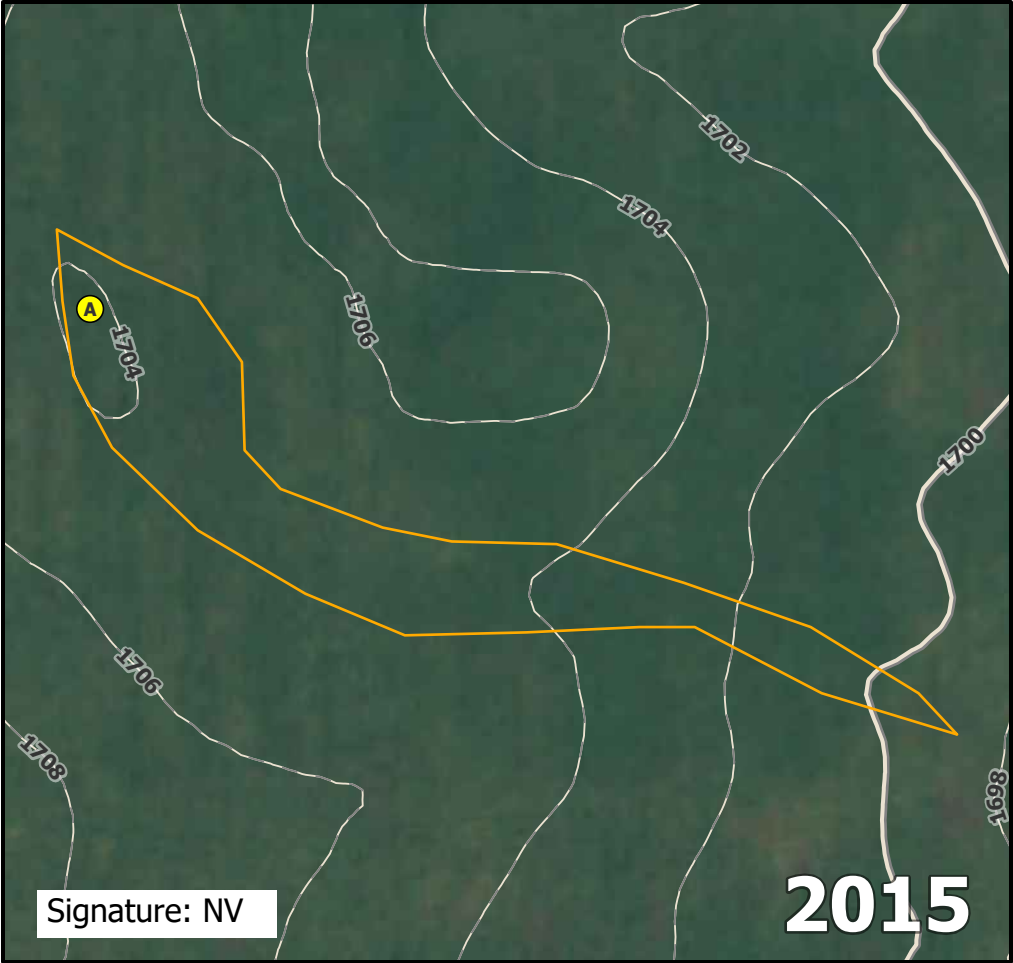
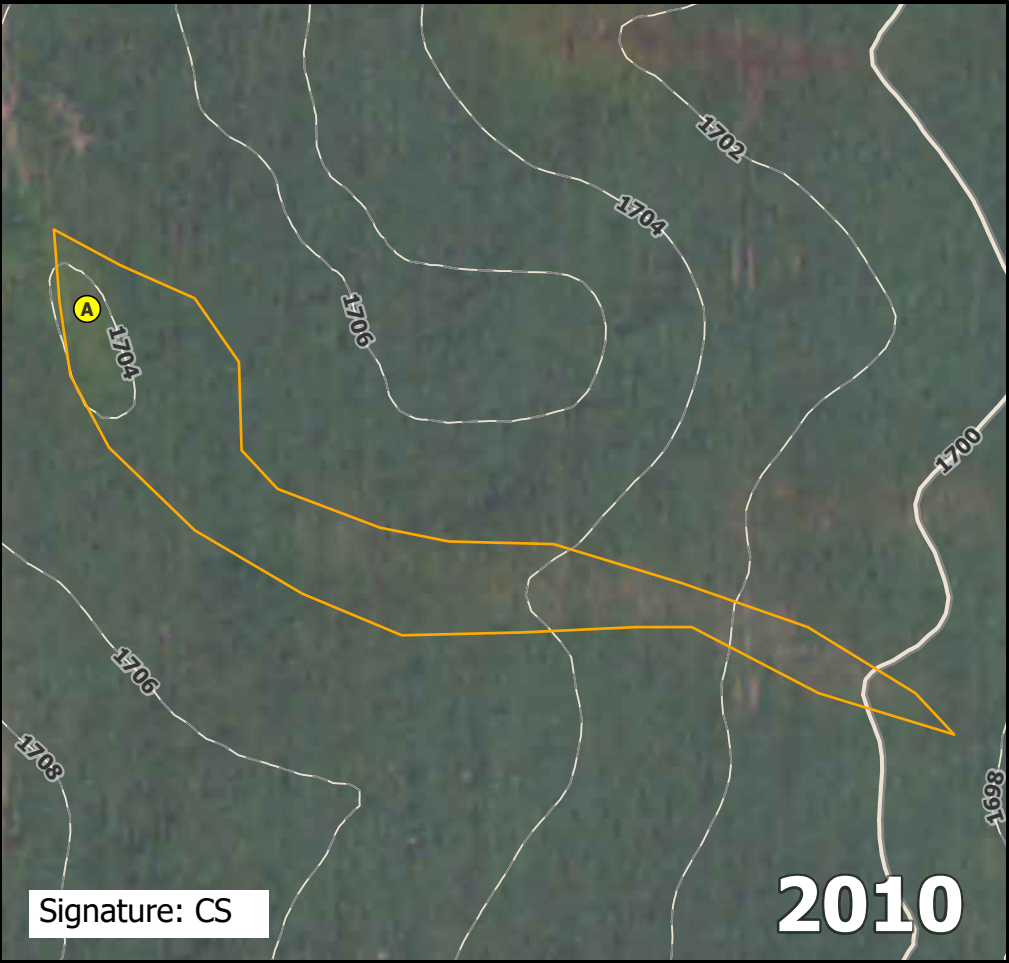
Remarks:



Overview of upland sample point NWA061A.

Direction: Northeast	Photo ID: delin_photo-20221013-170914.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA061	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000

Non-Wetland ID

NWA062

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA062A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72987	Long:	-95.70628
				Datum:	WGS84
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA062A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR 2/1	100					Clay Loam	
9-15	2.5Y 3/1	80					Clay Loam	
	2.5Y 3/2	20						Mixed Matrix
15-24	2.5Y 3/2	85	2.5Y 5/3	10	C	PL/M	Clay Loam	Distinct or Prominent
			2.5Y 5/6	5	C	PL/M		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

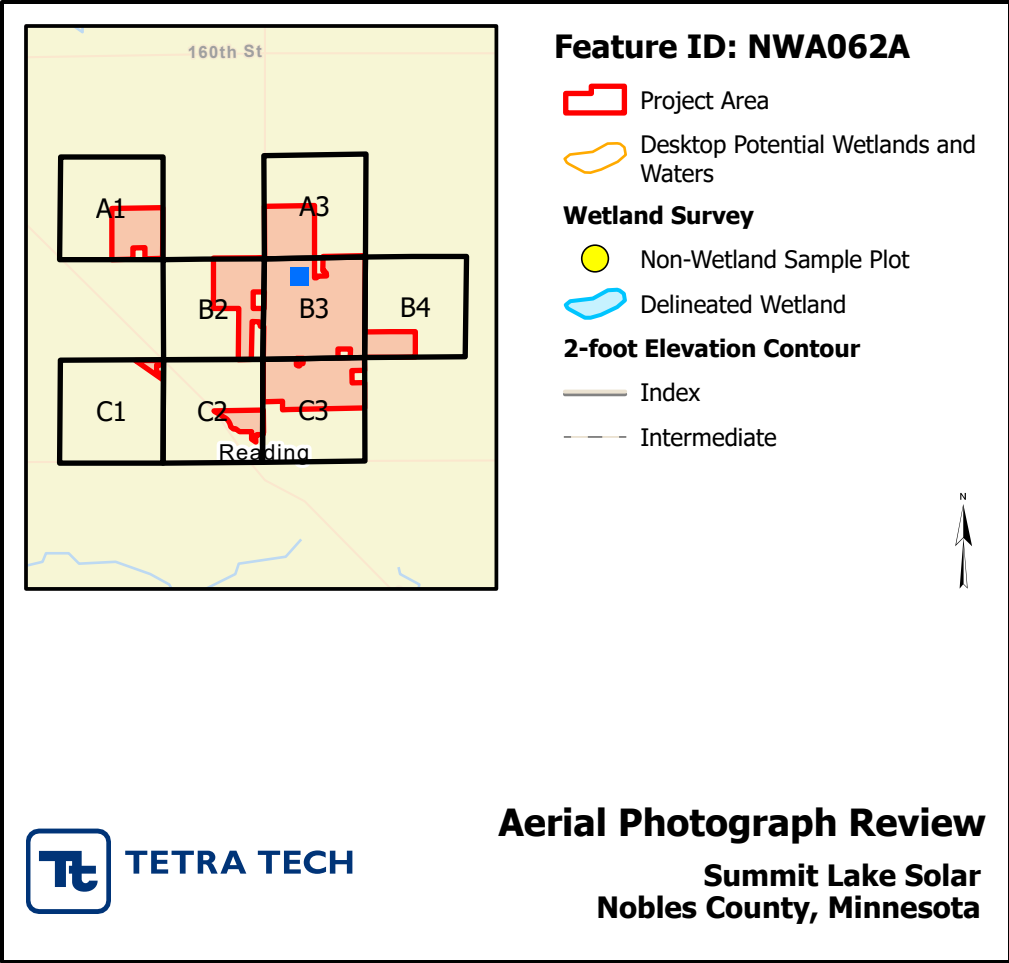
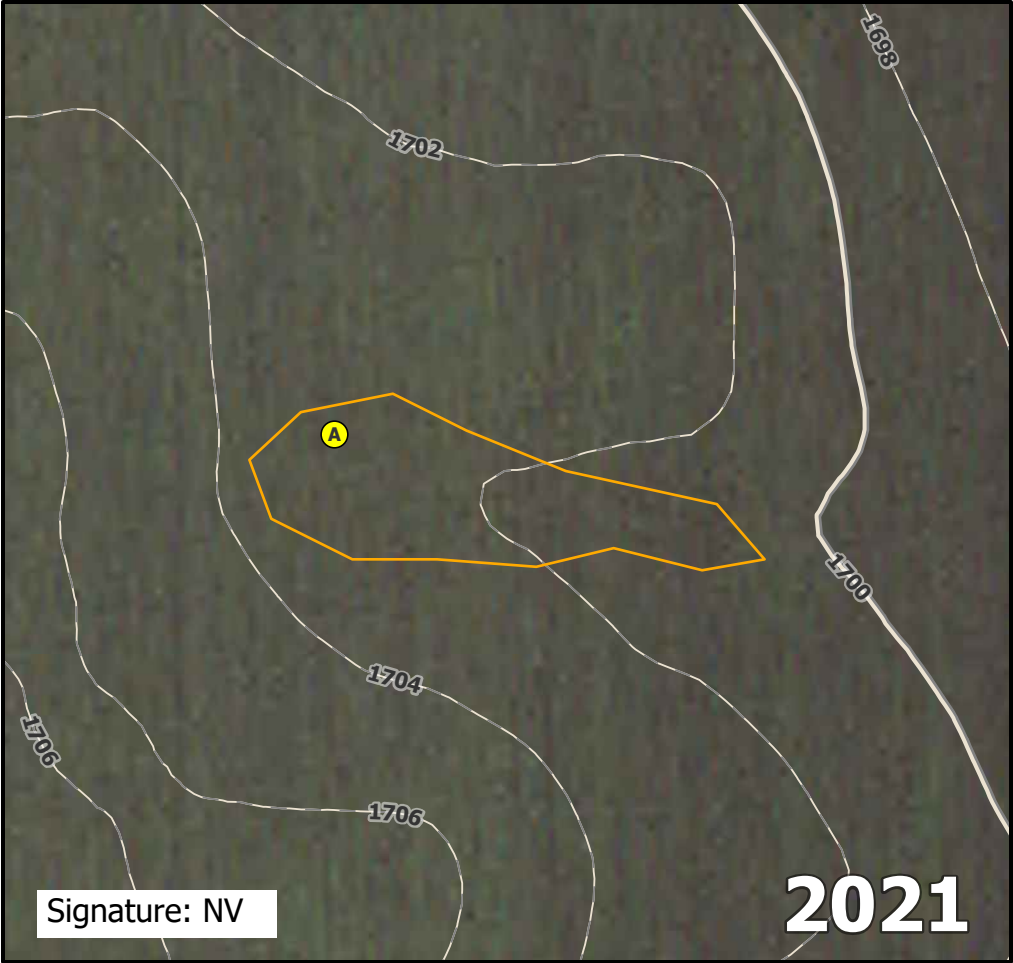
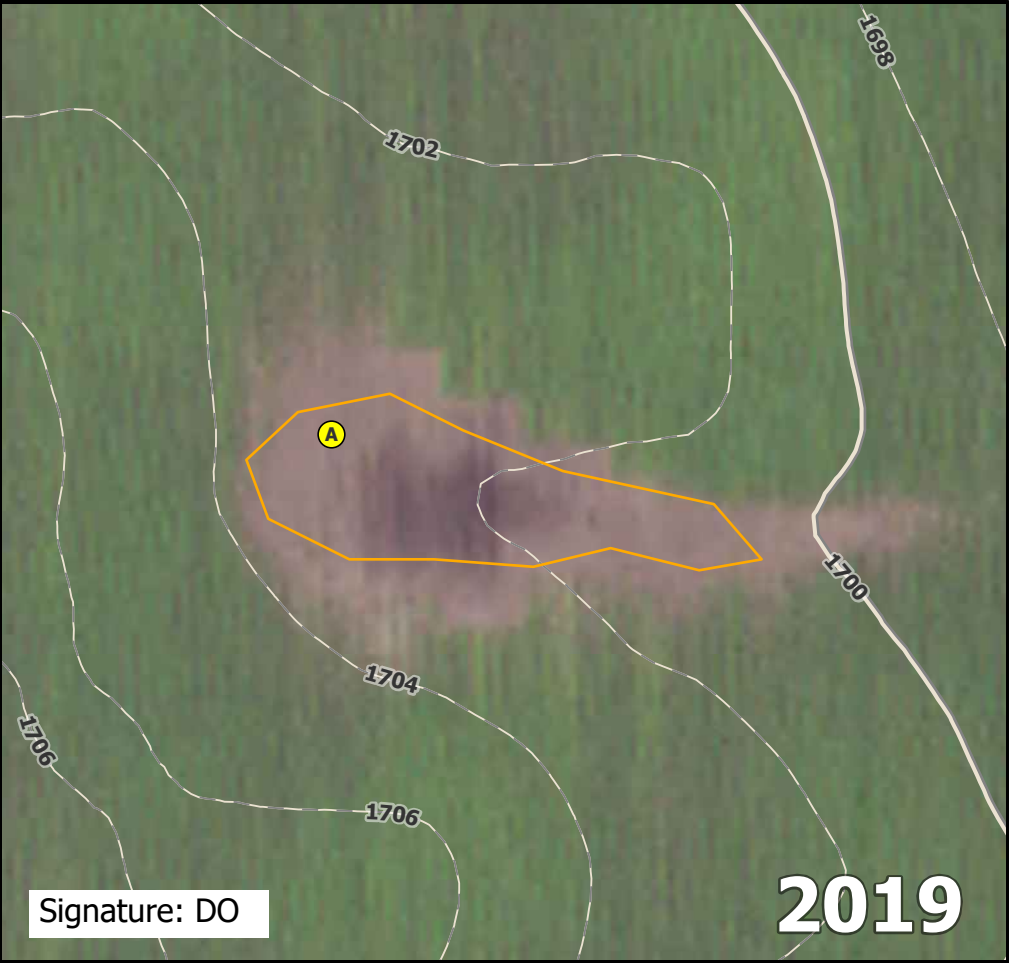
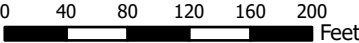
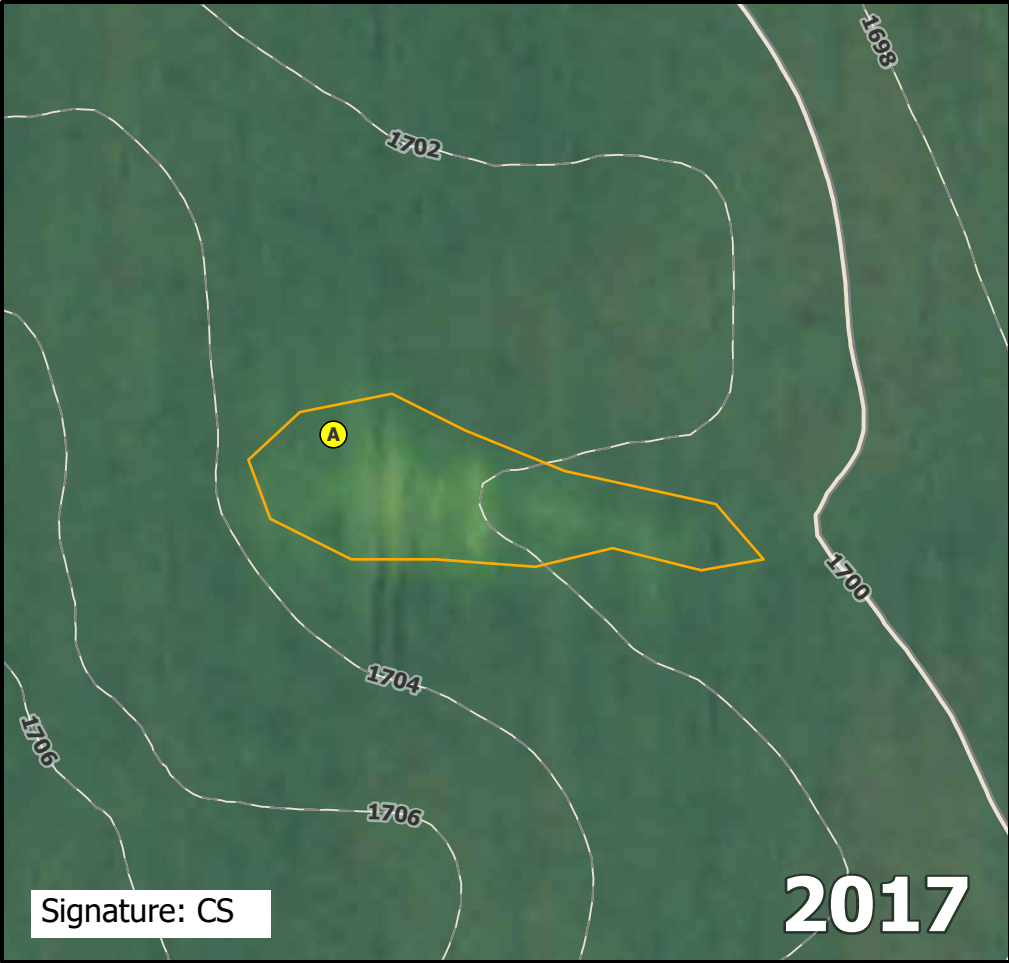
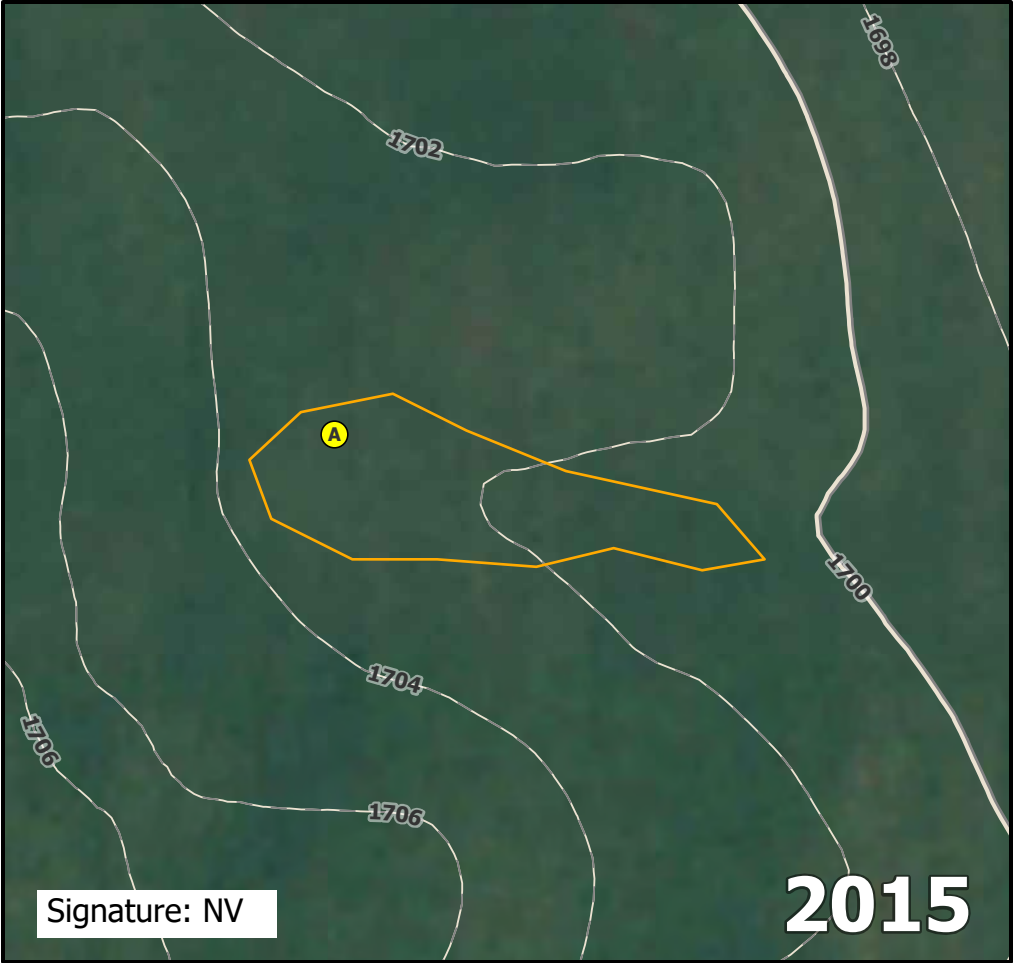
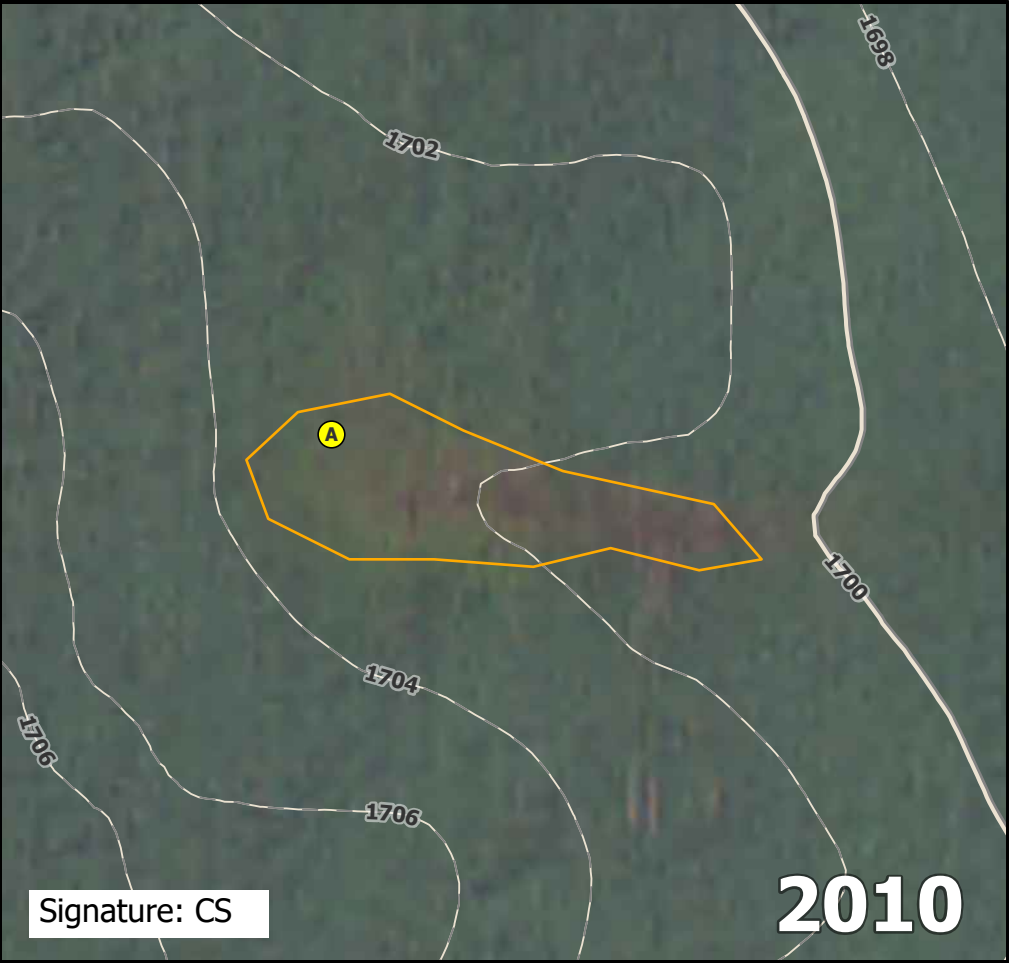
Remarks:



Overview of upland sample point NWA062A.

Direction: Southeast	Photo ID: delin_photo-20221013-172147.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA062	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA063

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA063A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.73042	Long:	-95.70759
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA063A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 2/1	100					Silty Clay Loam	
4-20	2.5Y 5/4	90	10YR 6/8	5	C	PL/M	Silty Clay	Distinct or Prominent
			10YR 2/1	5	D	PL/M		Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

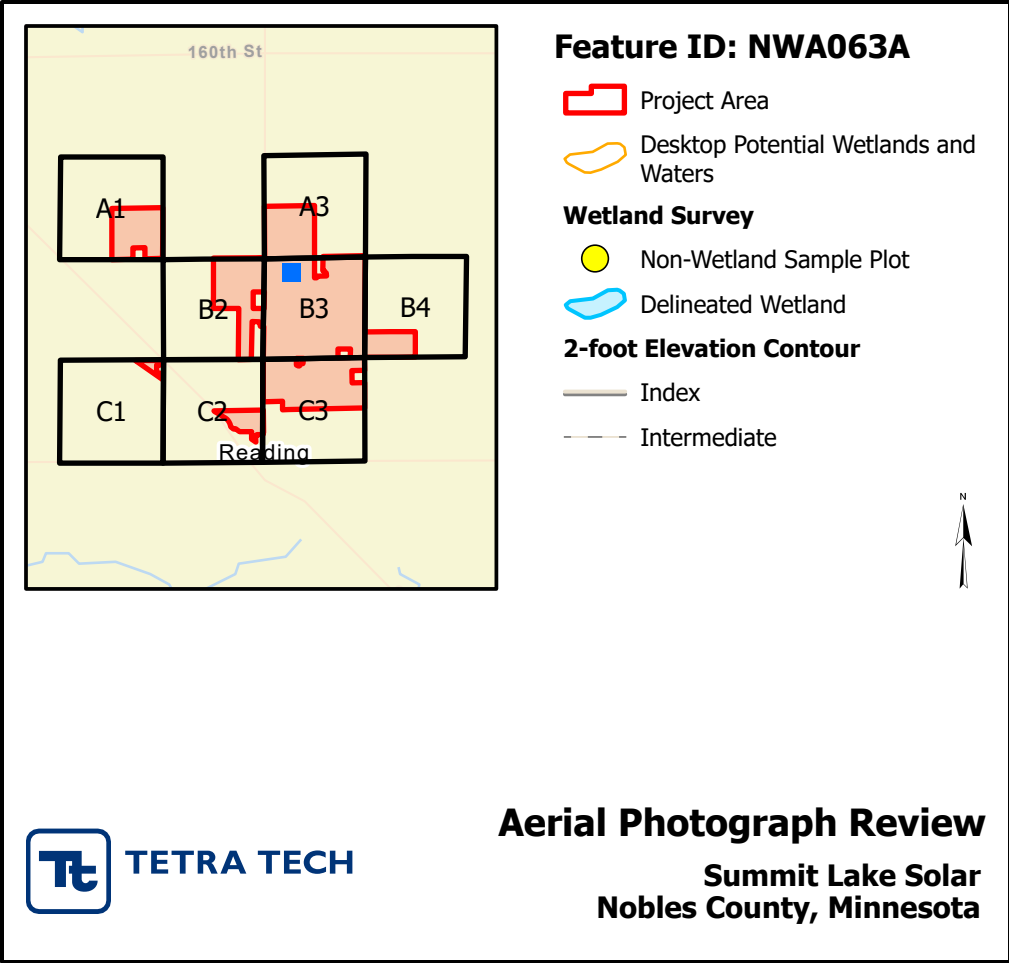
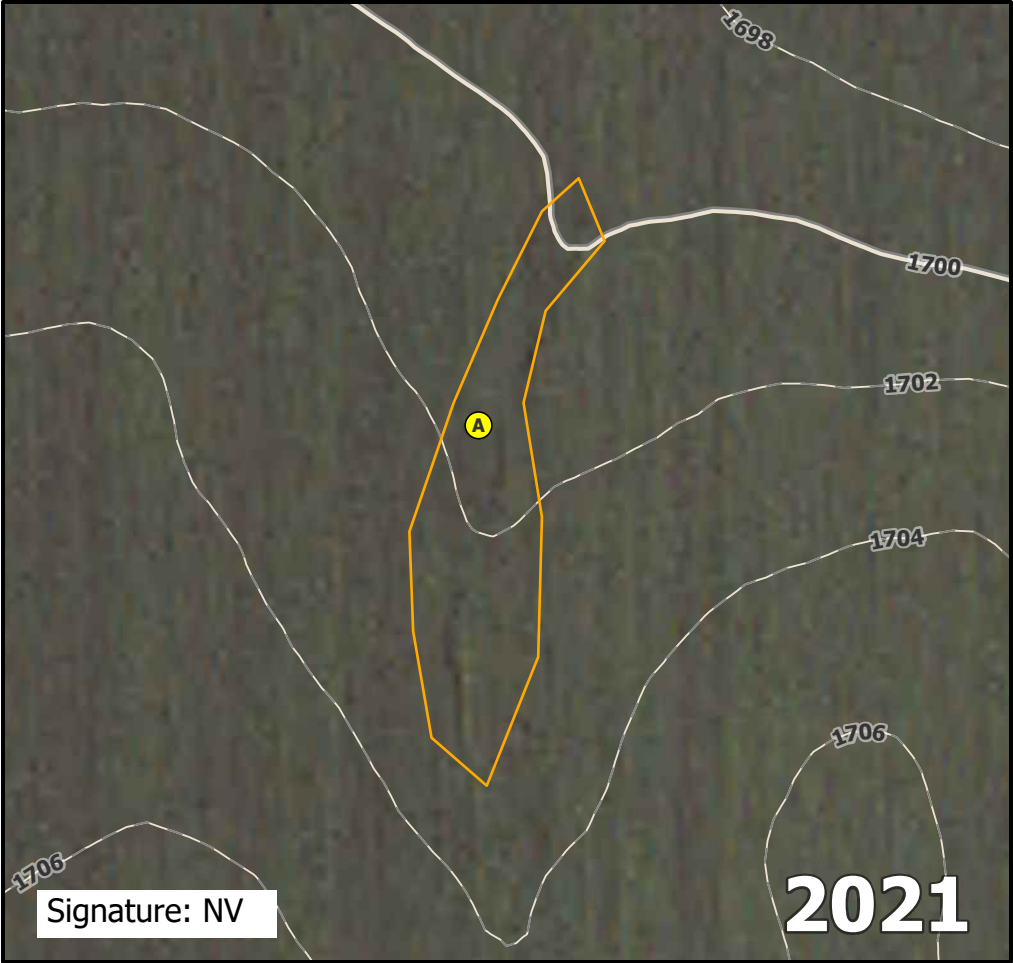
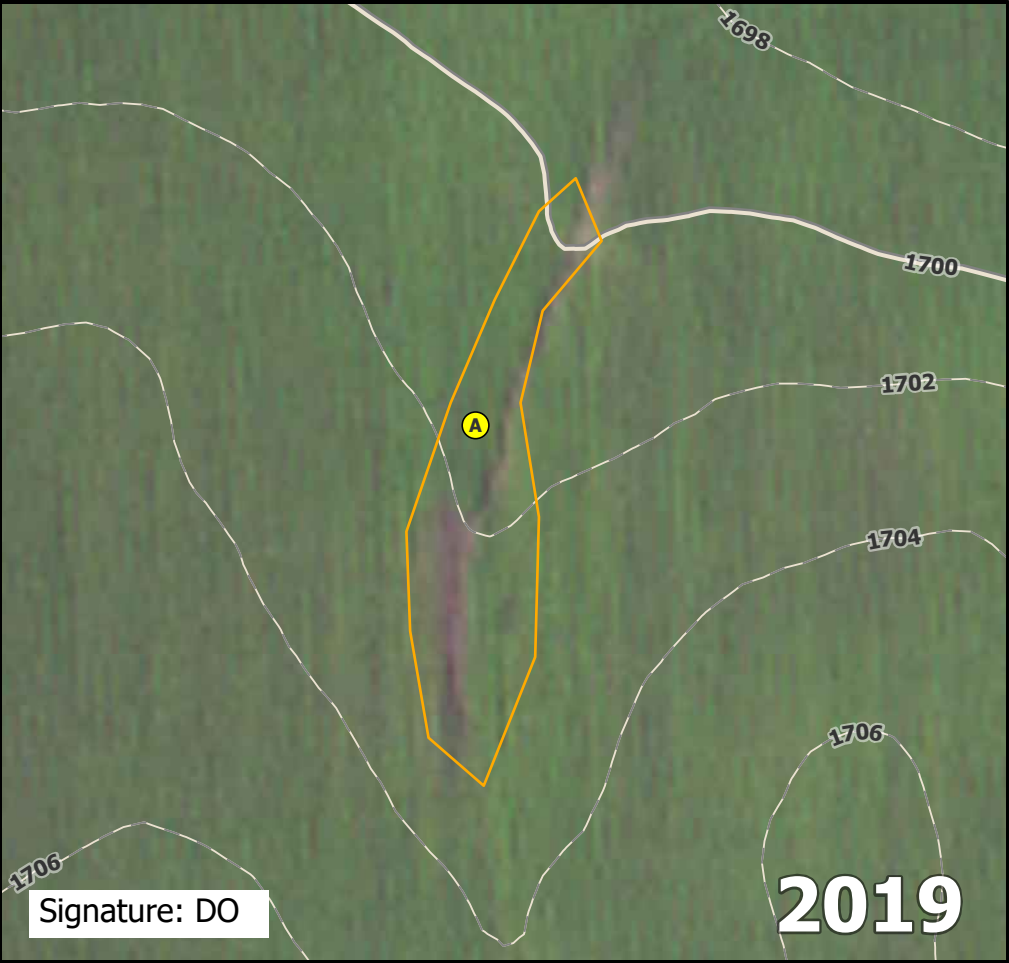
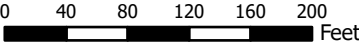
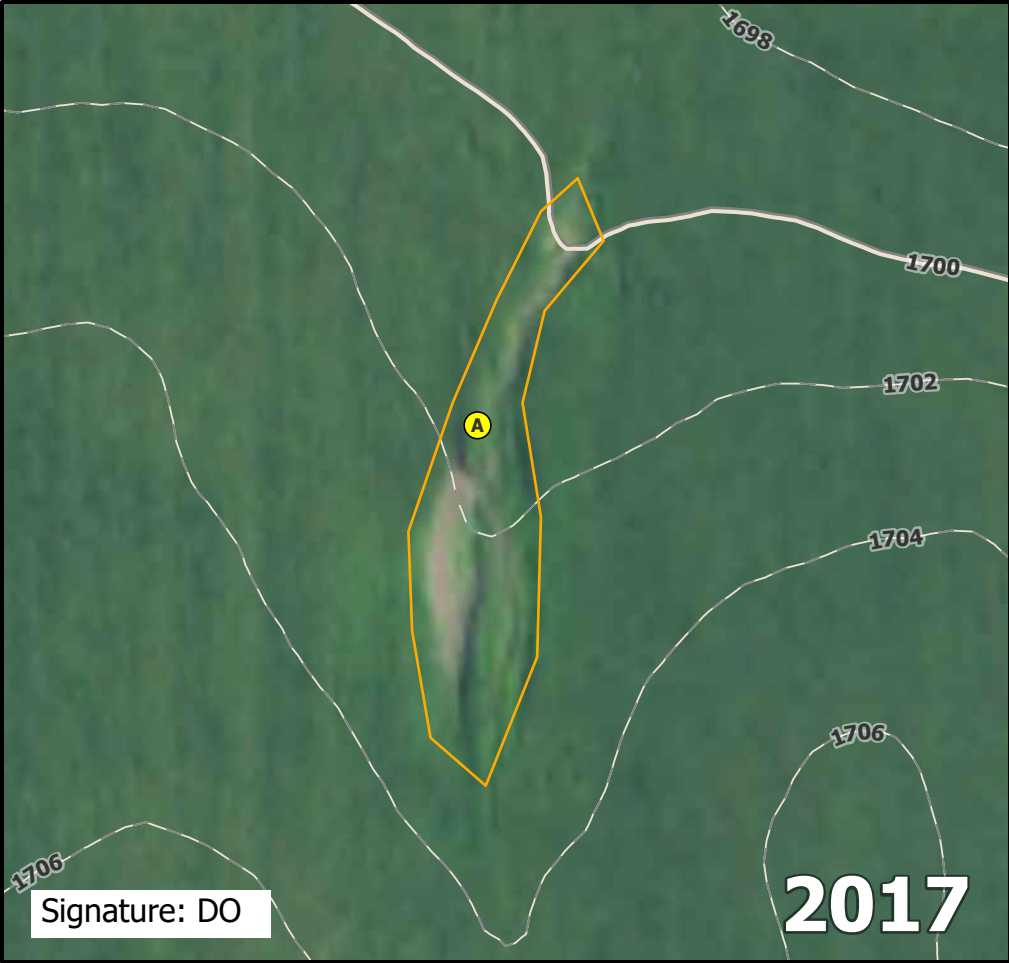
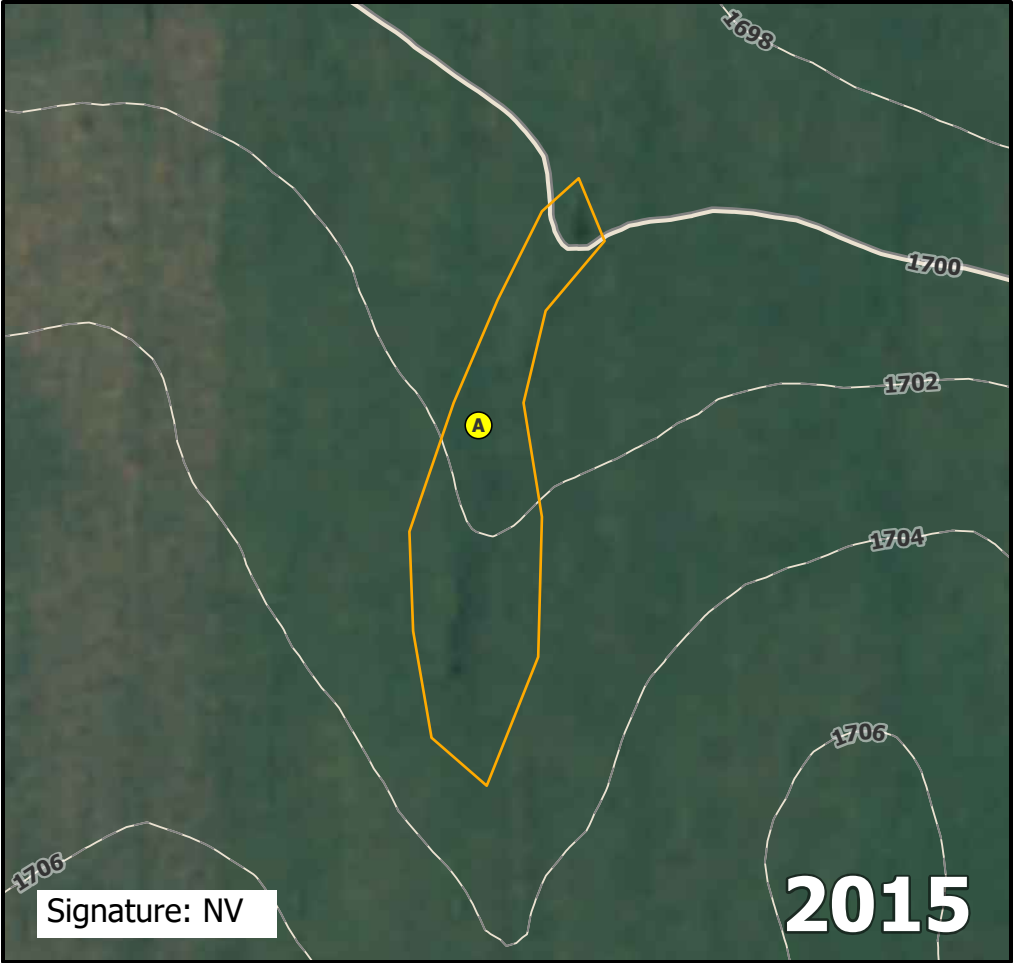
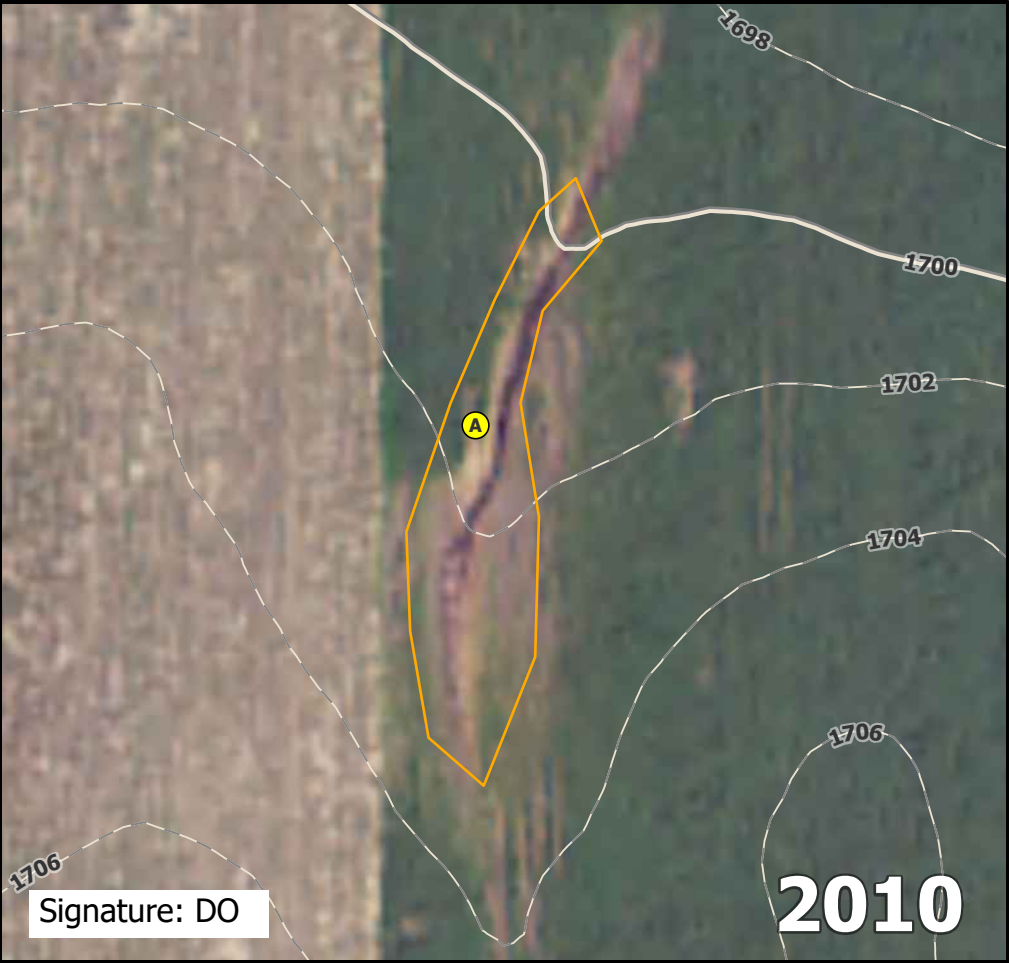
Remarks:



Overview of upland sample point NWA063A.

Direction: Northeast	Photo ID: delin_photo-20221013-173150.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA063	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA064

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA064A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.73094	Long:	-95.70854
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA064A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Silty Clay Loam	
6-22	2.5Y 5/3	97	2.5Y 6/8	3	C	PL	Silty Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA064A.

Direction: Southwest

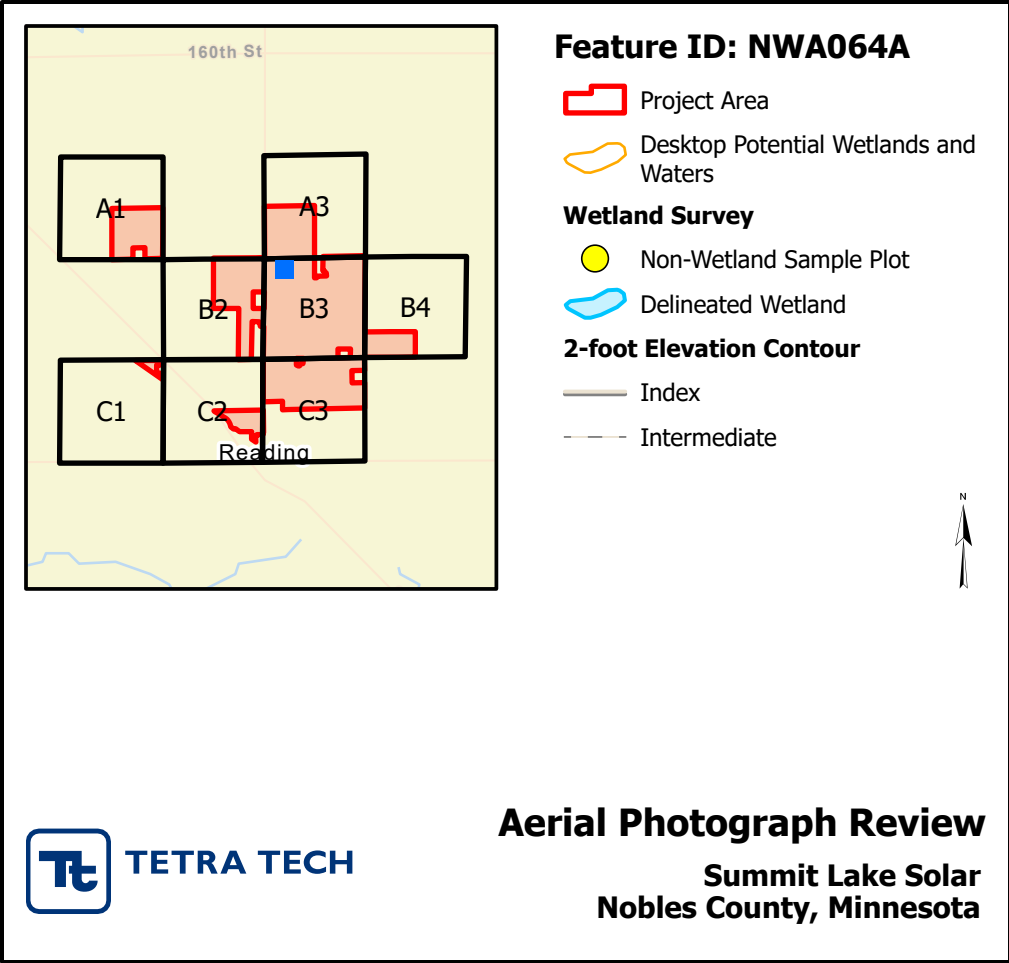
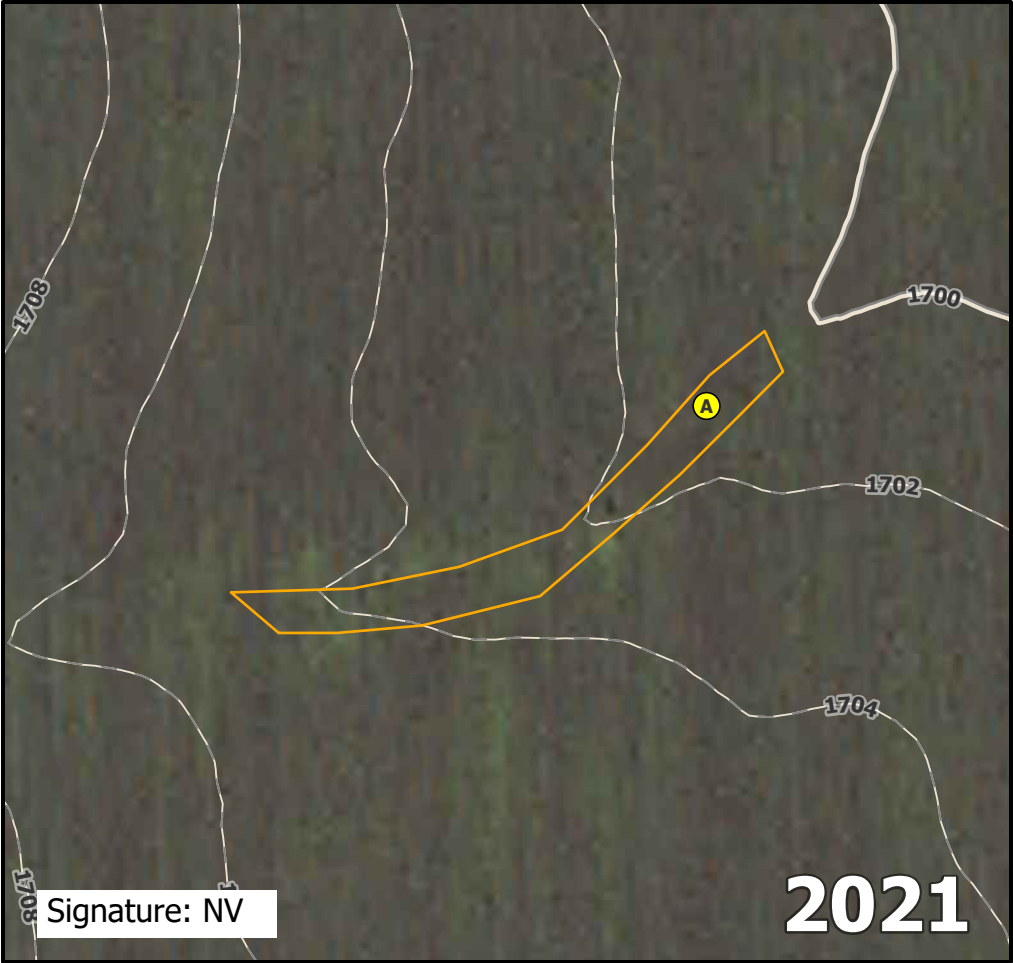
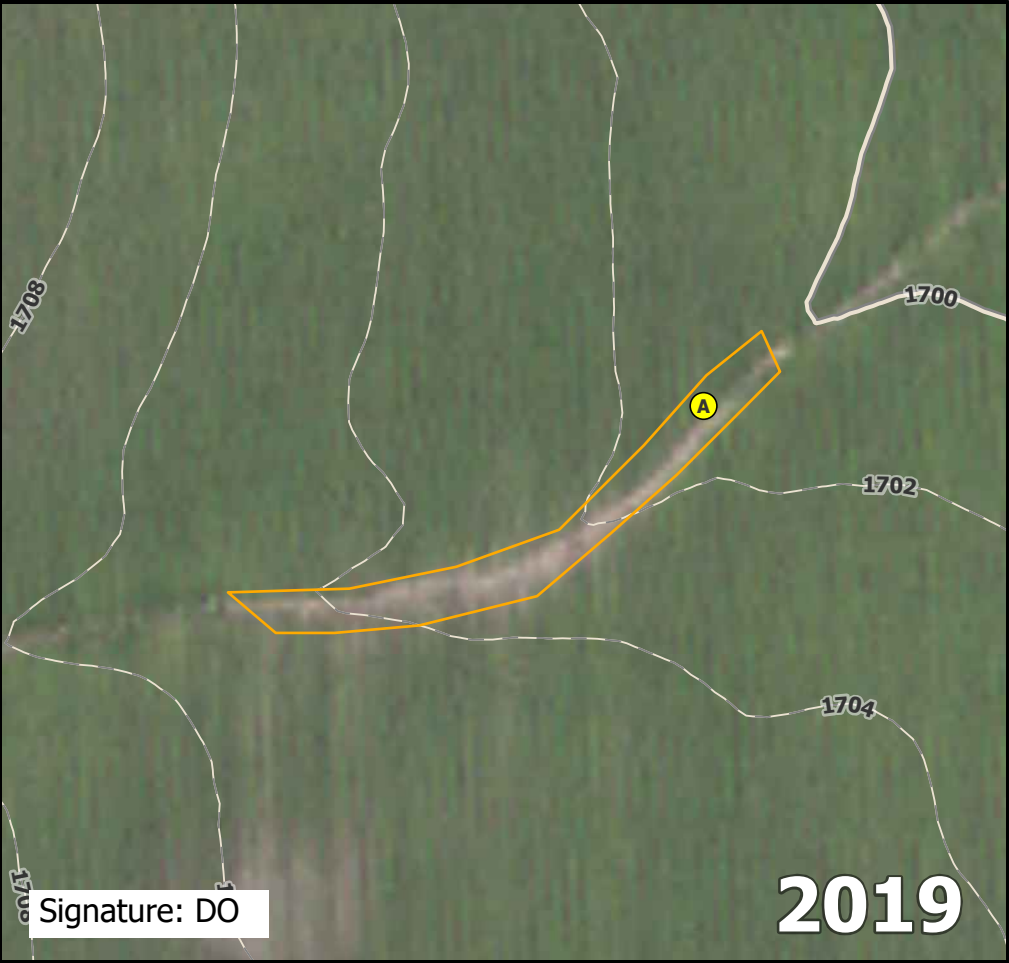
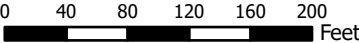
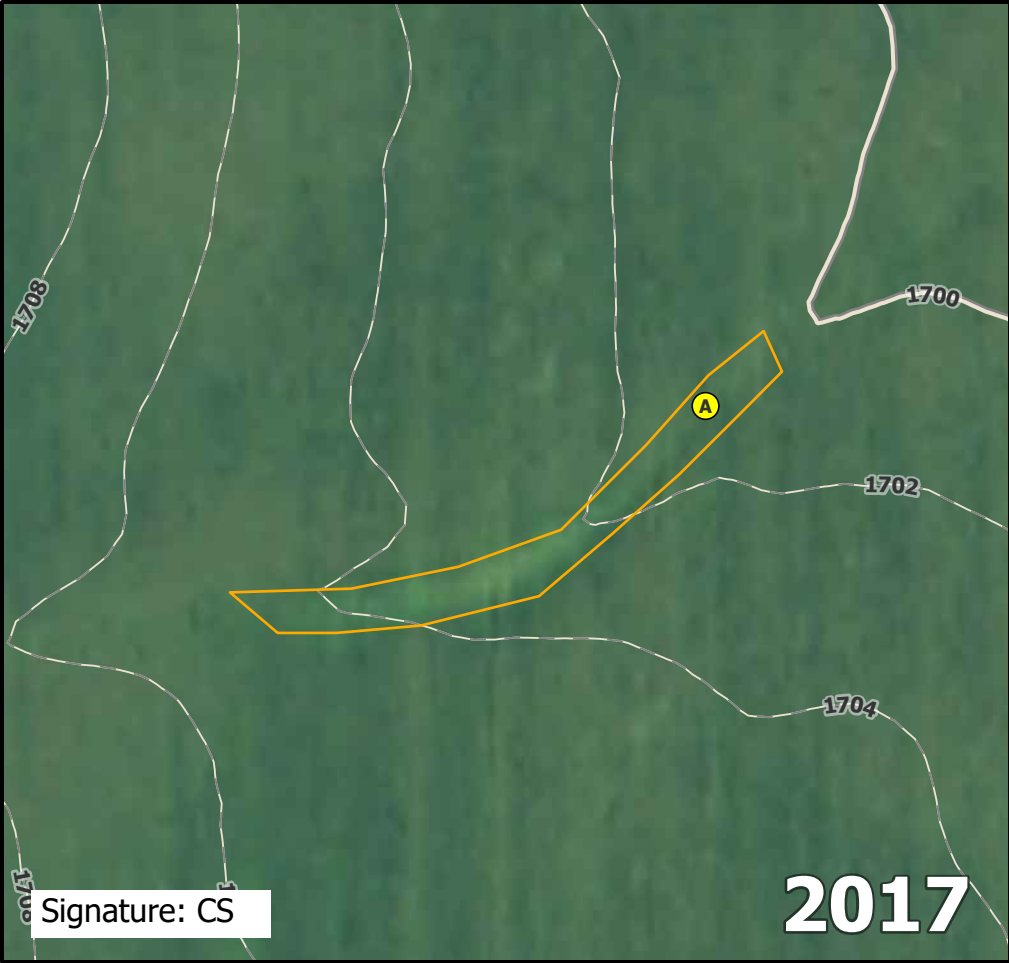
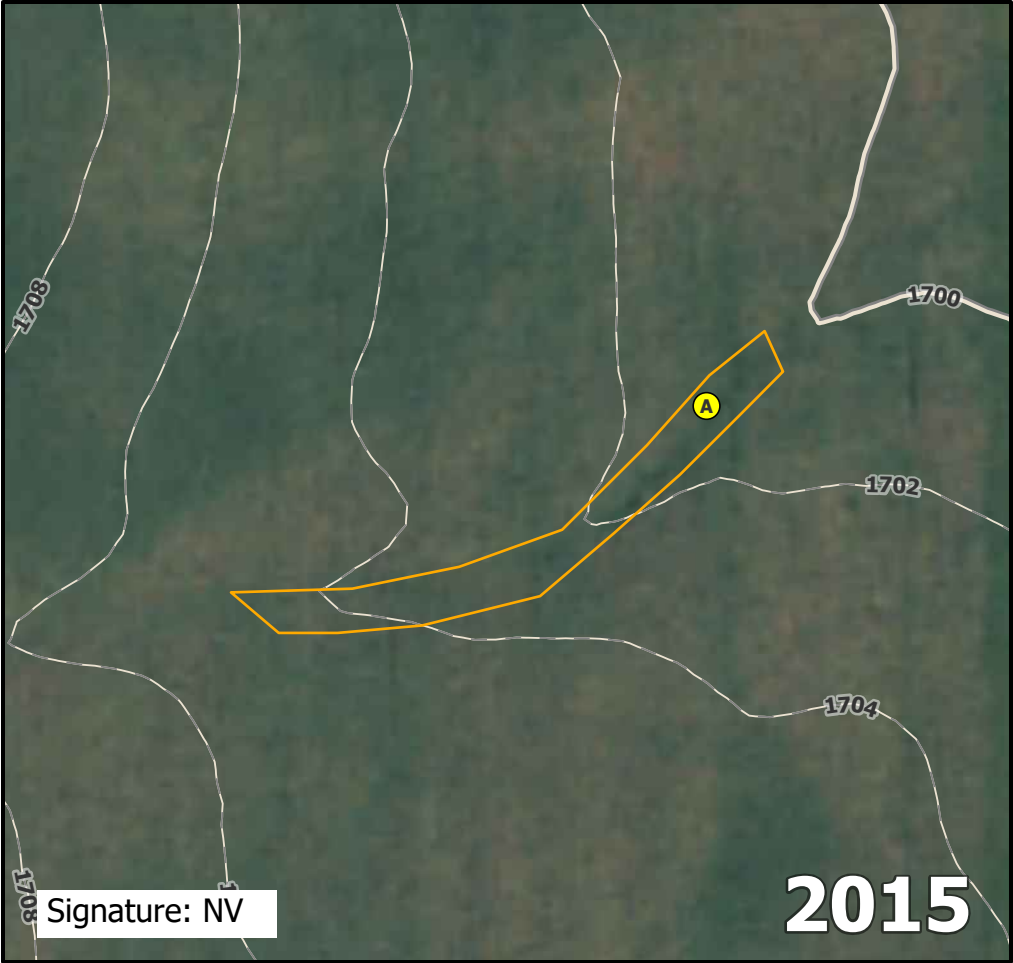
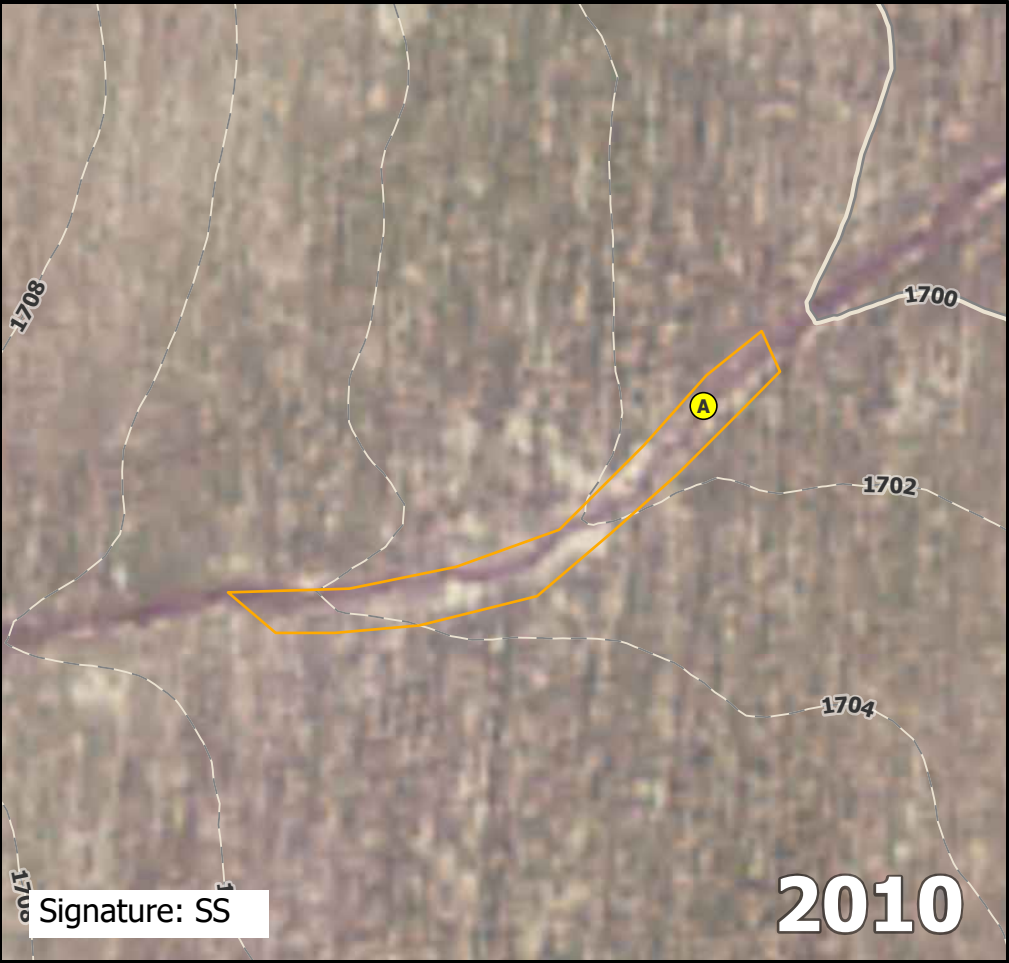
Photo ID: delin_photo-20221013-174307.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA064

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA065

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA065A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.73165 Long: -95.71203 Datum: WGS84
 Soil Map Unit Name: Nicollet clay loam, 1 to 3 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently tilled agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA065A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR 2/1	100					Clay Loam	
9-14	10YR 2/1	80					Clay Loam	
	2.5Y 3/2	20						Mixed Matrix
14-22	2.5Y 3/2	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|---|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils (C6) | ☒ Geomorphic Position (D2) |
| ☐ Thin Muck Surface (C7) | ☐ FAC-Neutral Test (D5) |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

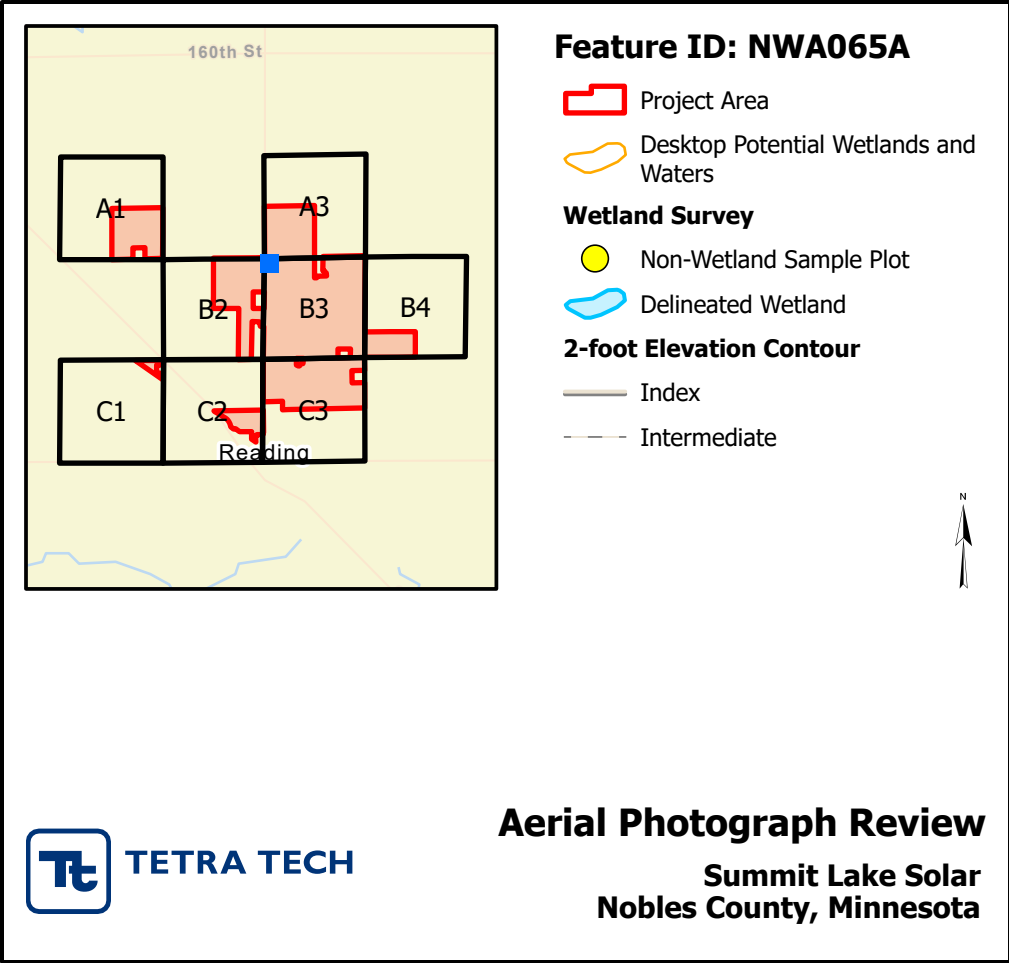
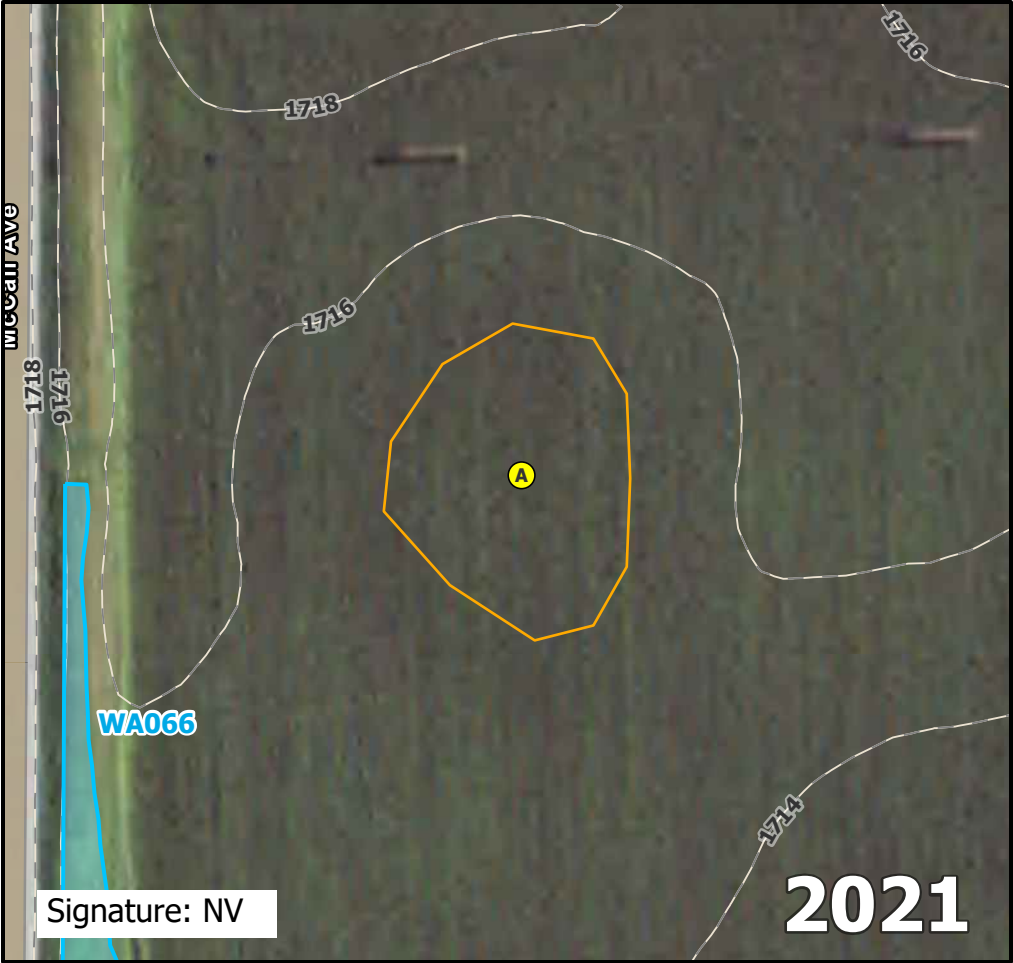
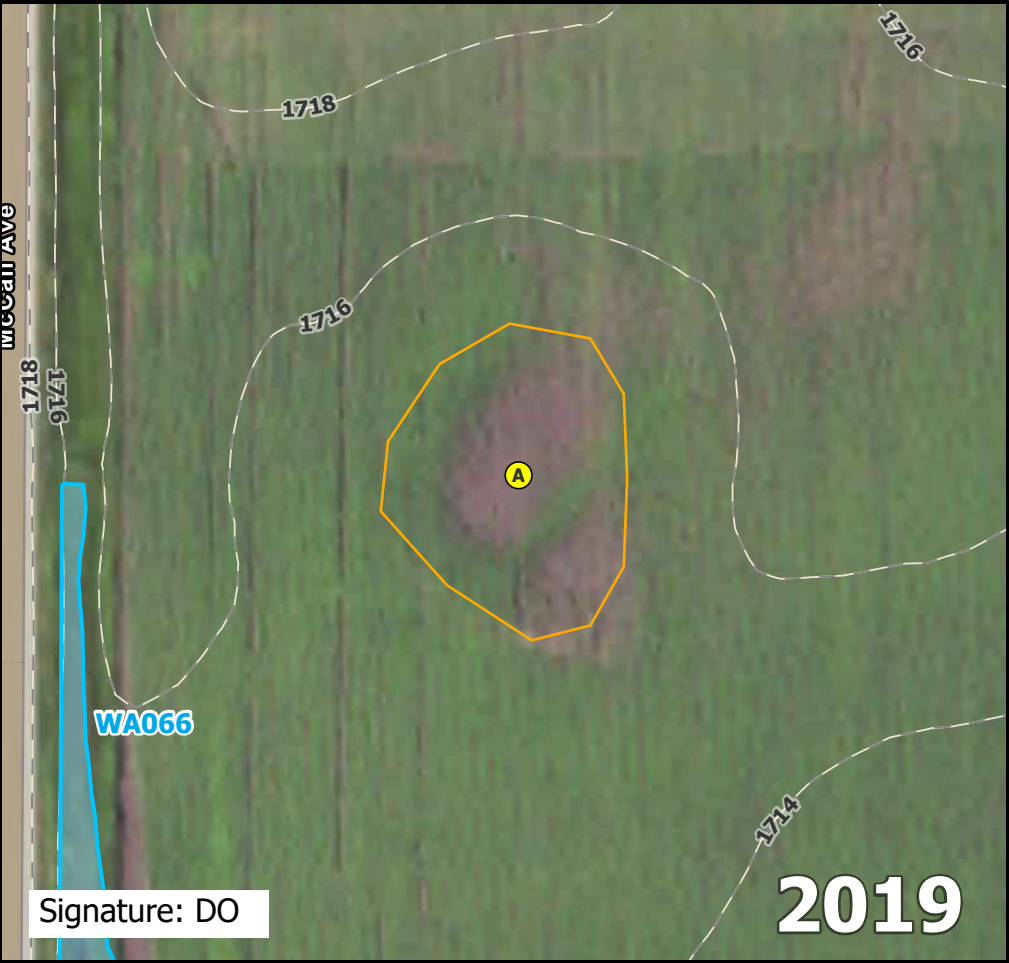
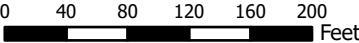
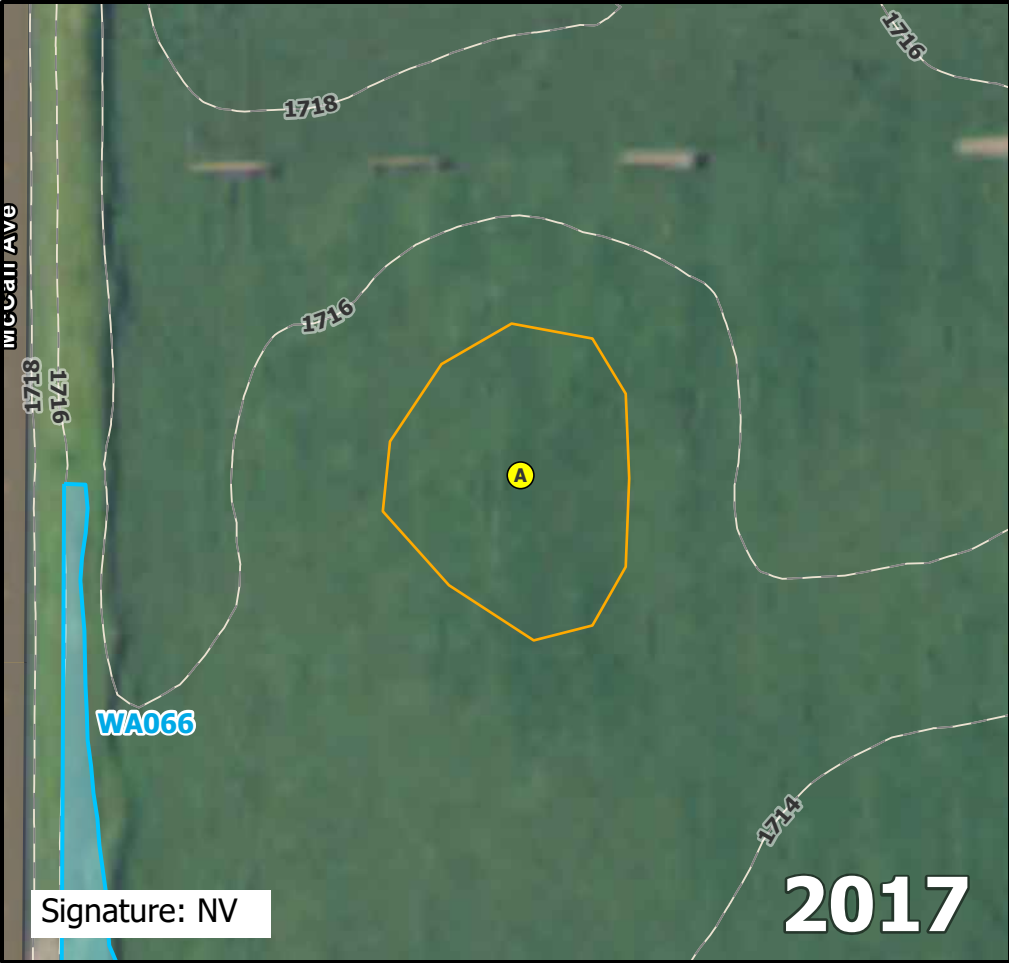
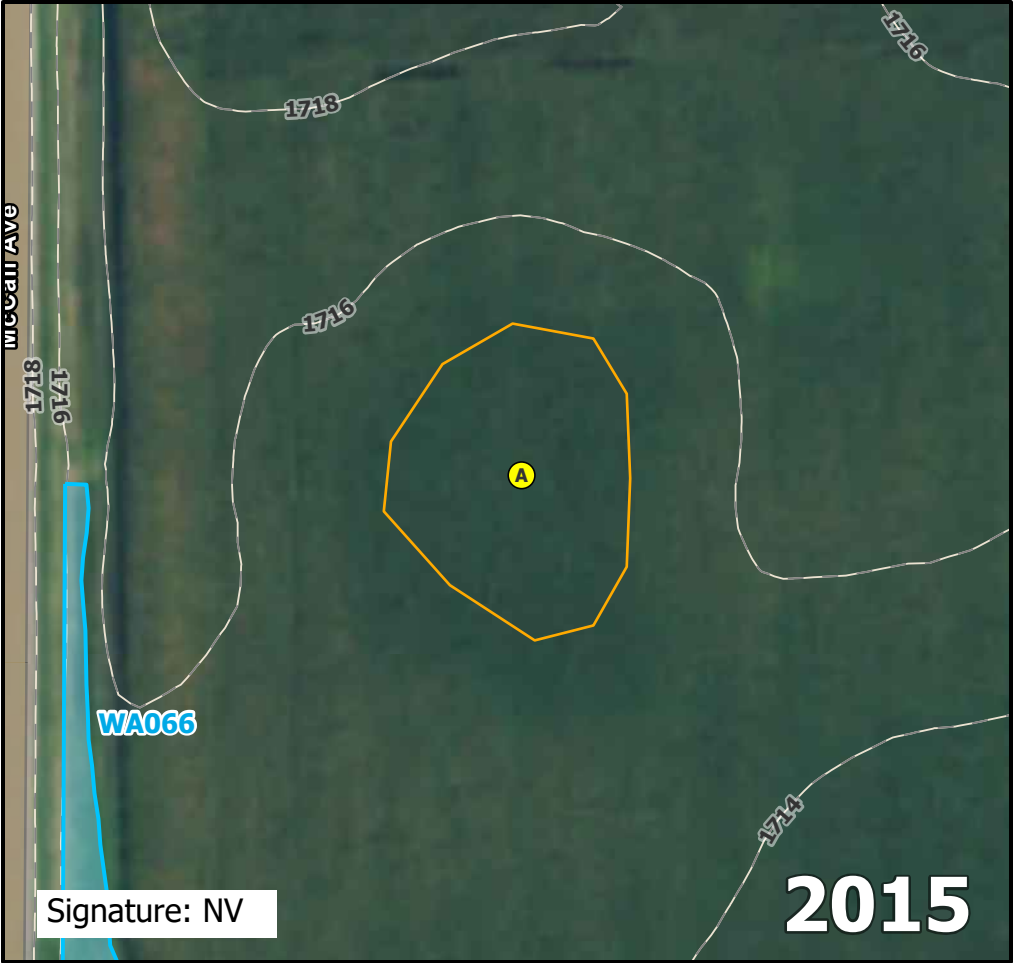
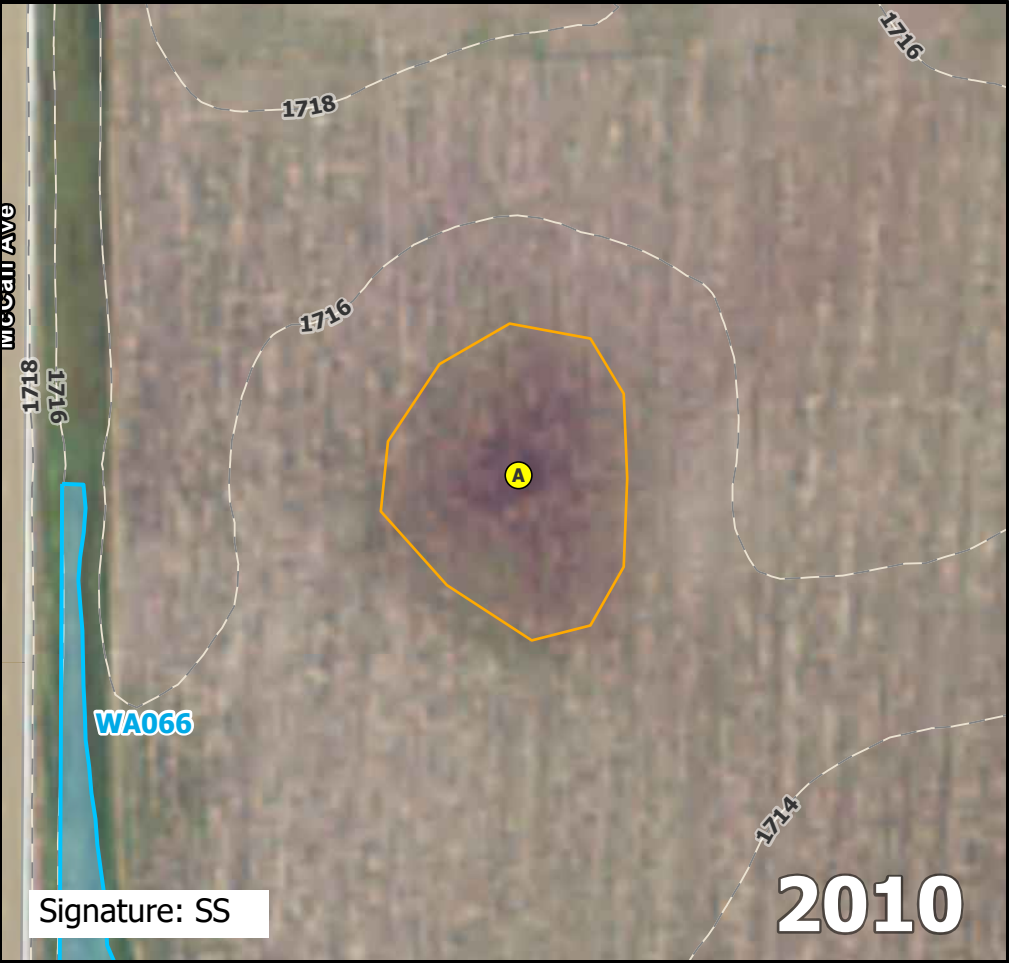
Remarks:



Overview of upland sample point NWA065A.

Direction: Southeast	Photo ID: delin_photo-20221013-175747.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA065	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA067

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA067A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.73003	Long:	-95.71269
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOILSampling Point: NWA067A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR 2/1	100					Clay Loam	
20-24	10YR 2/1	70					Clay Loam	
	2.5Y 5/4	30						Mixed Matrix
24-30	2.5Y 5/4	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|--|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☐ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

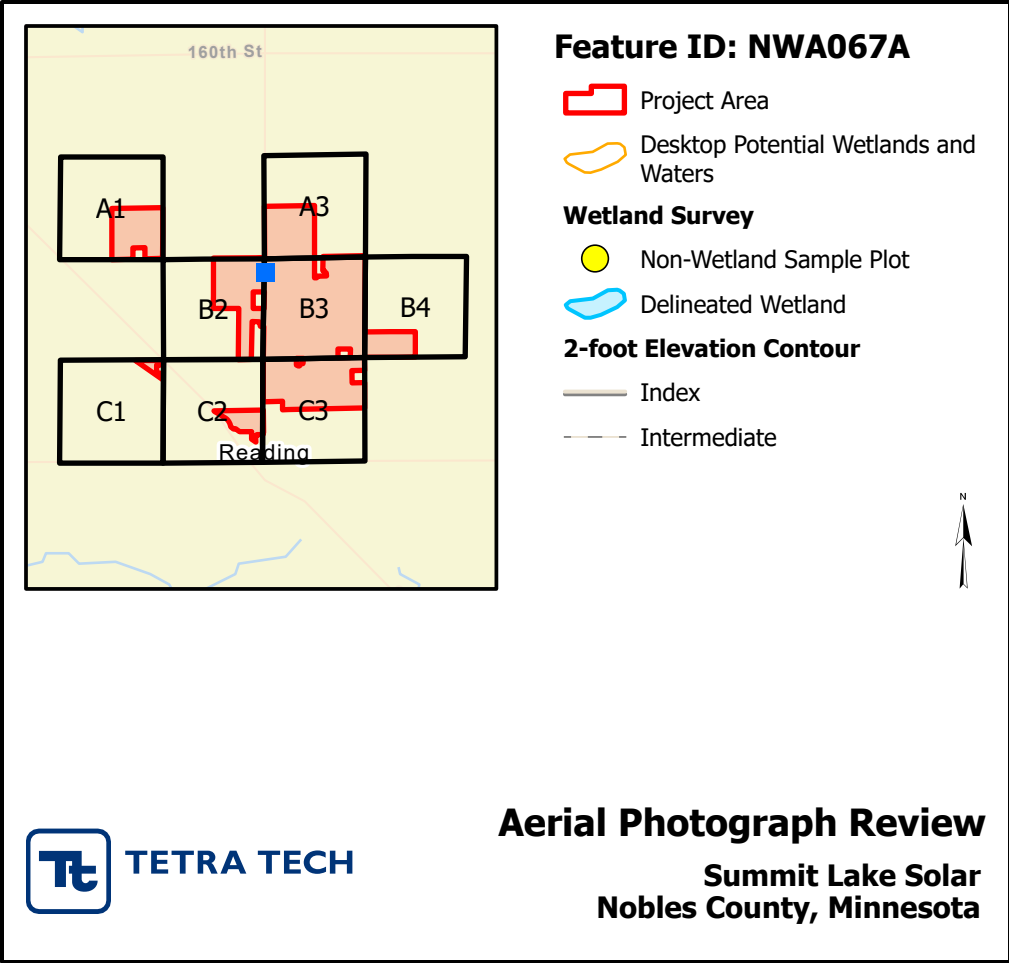
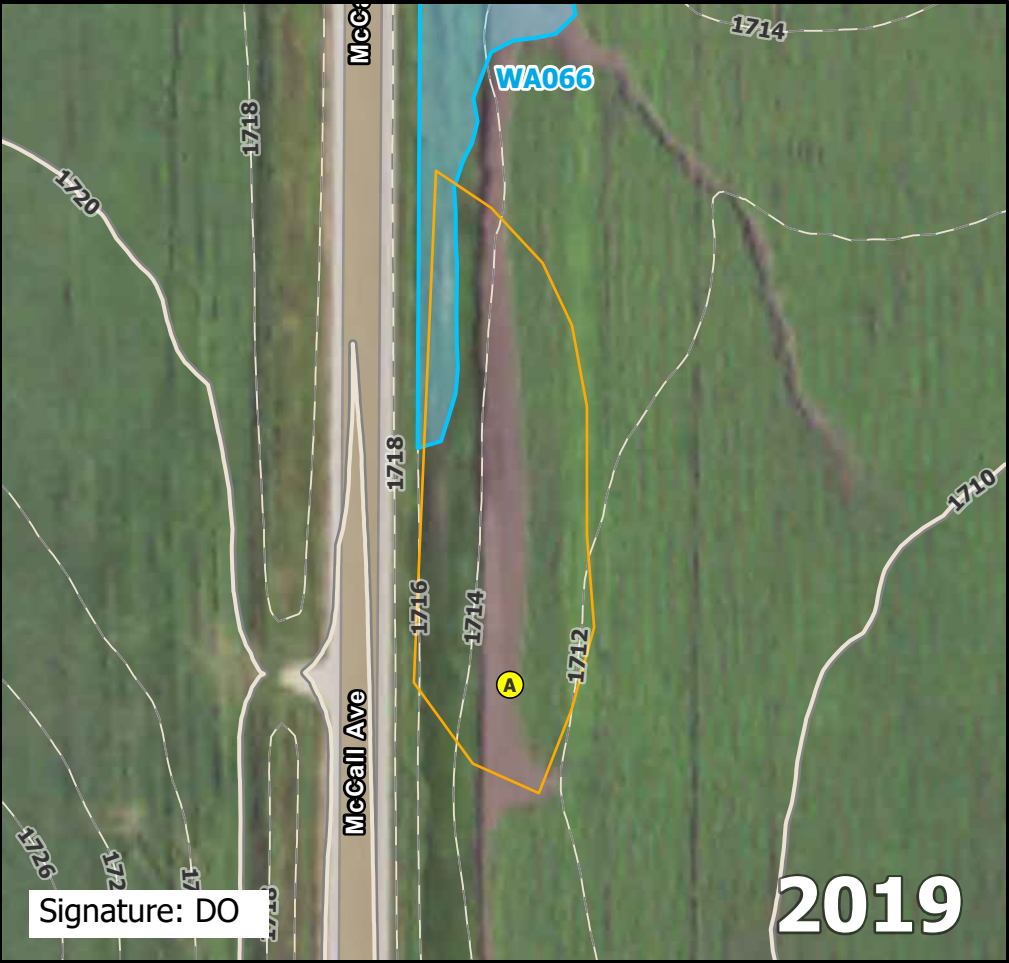
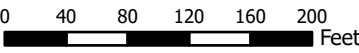
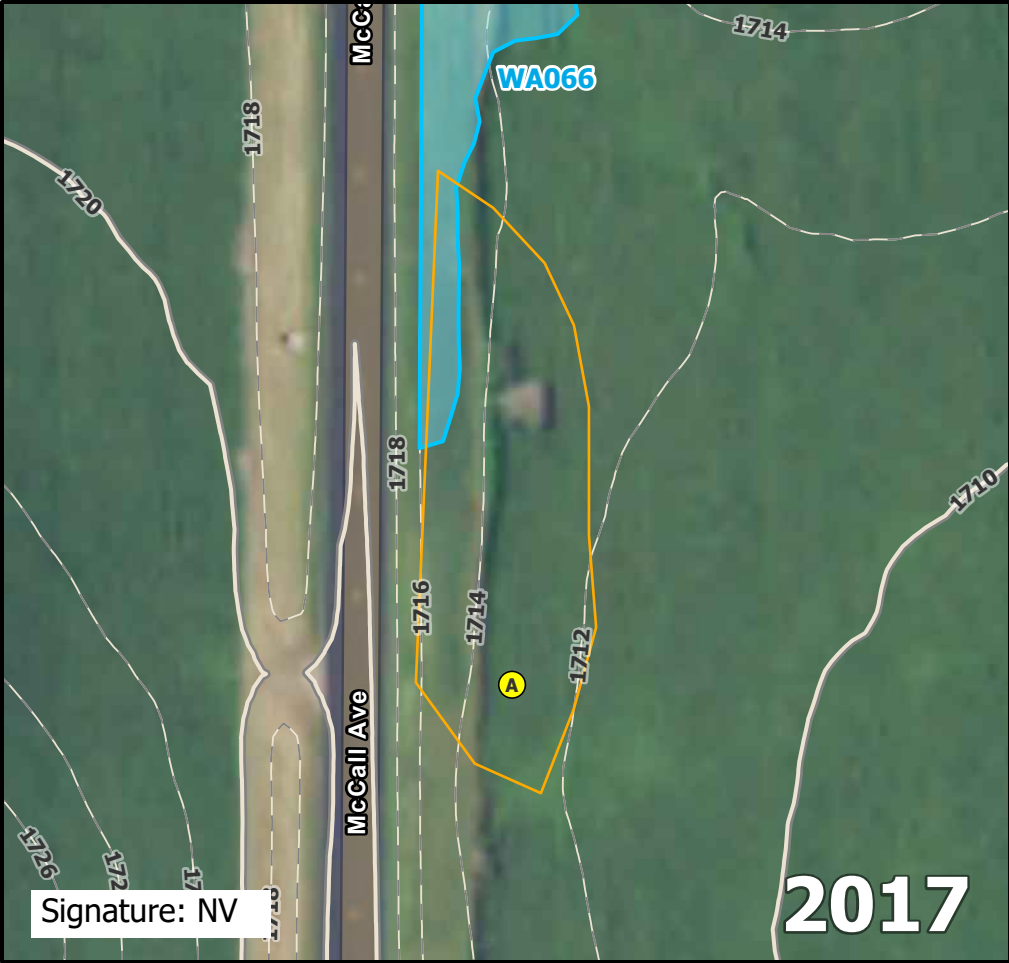
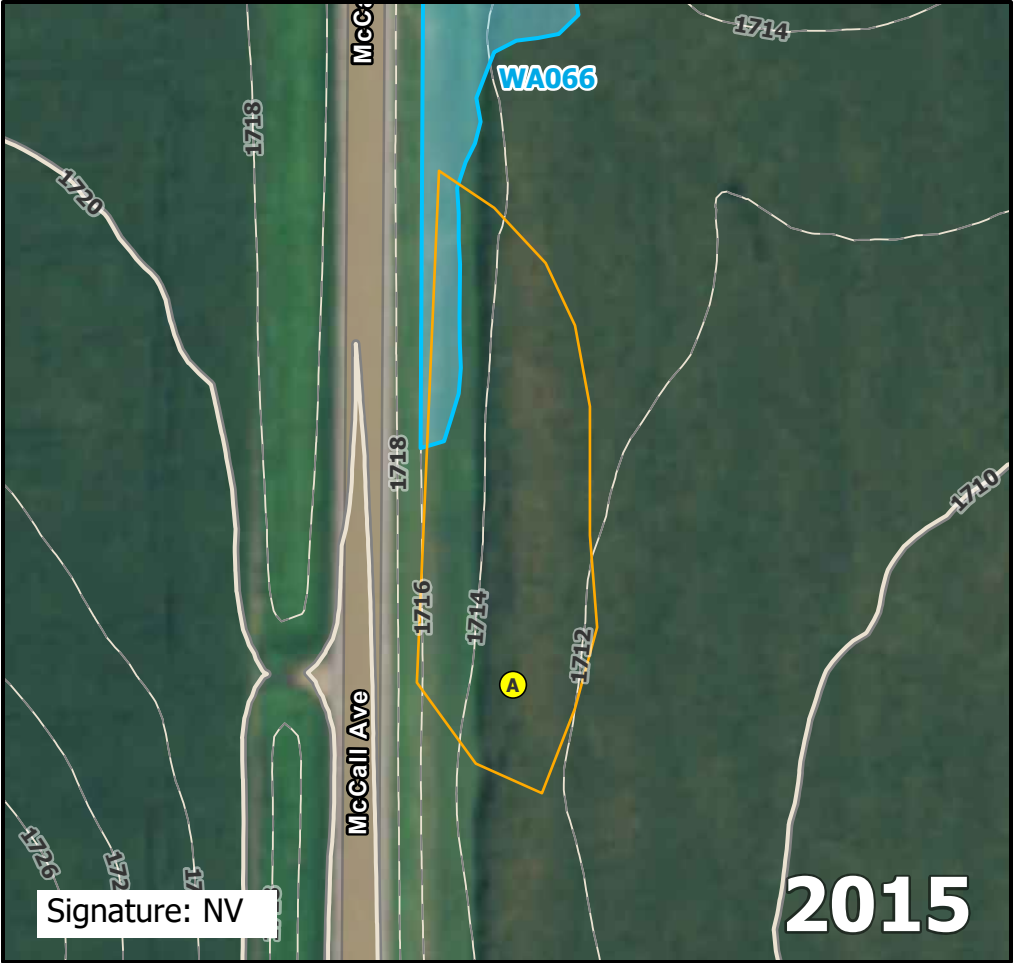
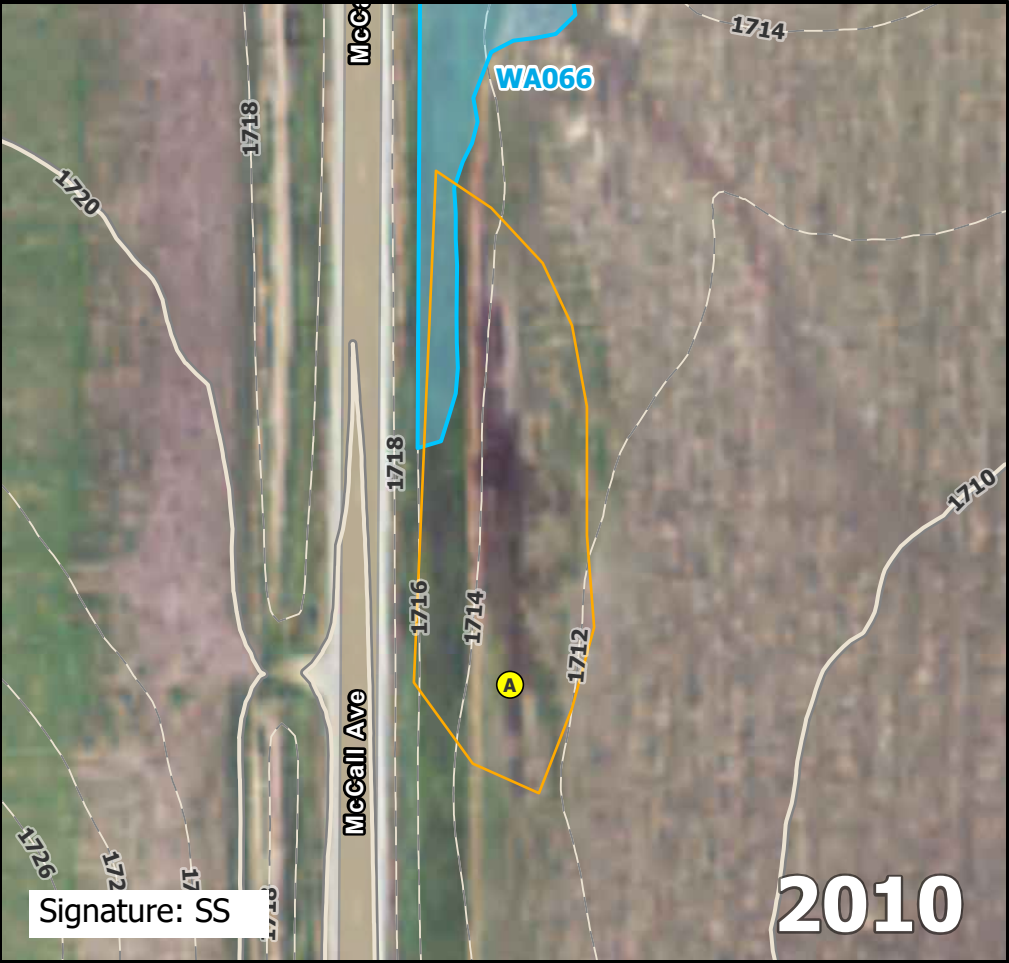
Remarks:



Overview of upland sample point NWA067A.

Direction: East	Photo ID: delin_photo-20221013-195126.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA067	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA068

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA068A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72924	Long:	-95.7126
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: _____
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA068A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-7	10YR 2/1	100					Clay Loam	
7-15	10YR 2/1	75					Clay Loam	
	2.5Y 3/2	25						Mixed Matrix
15-23	2.5Y 5/4	97	2.5Y 5/6	3	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

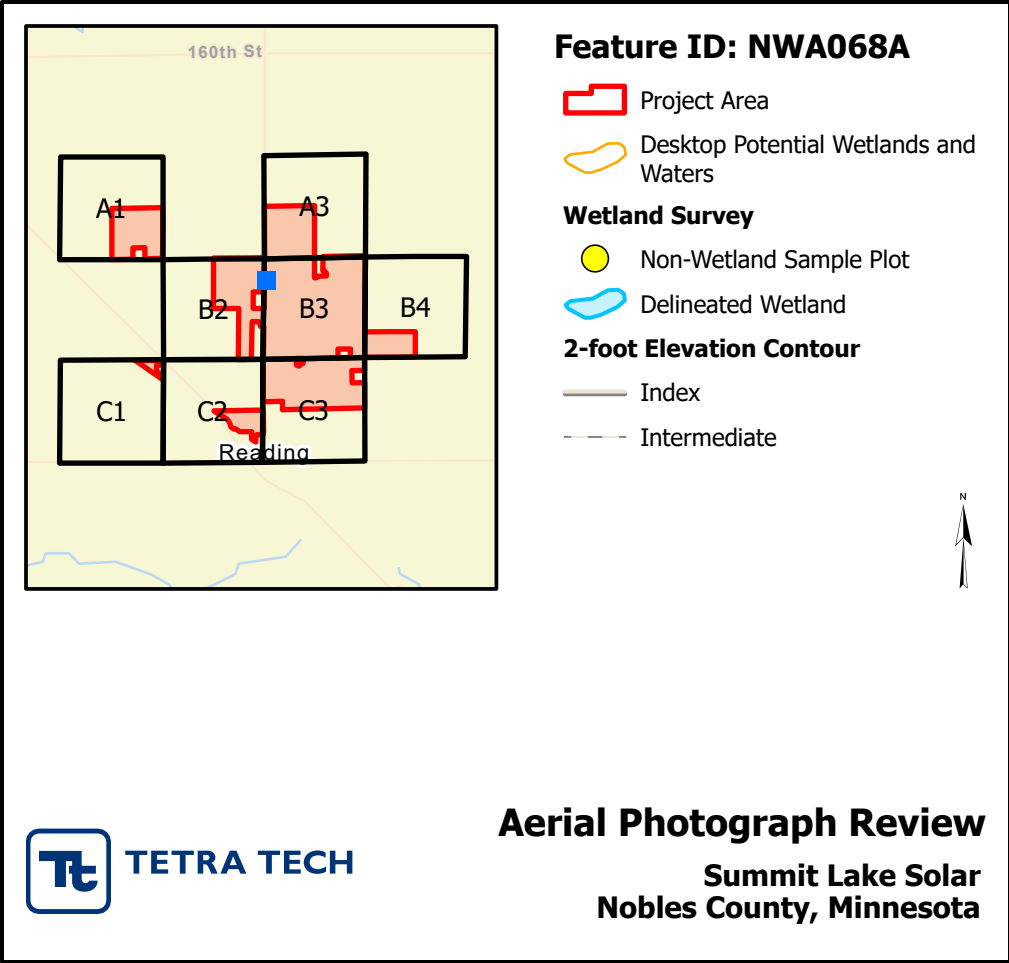
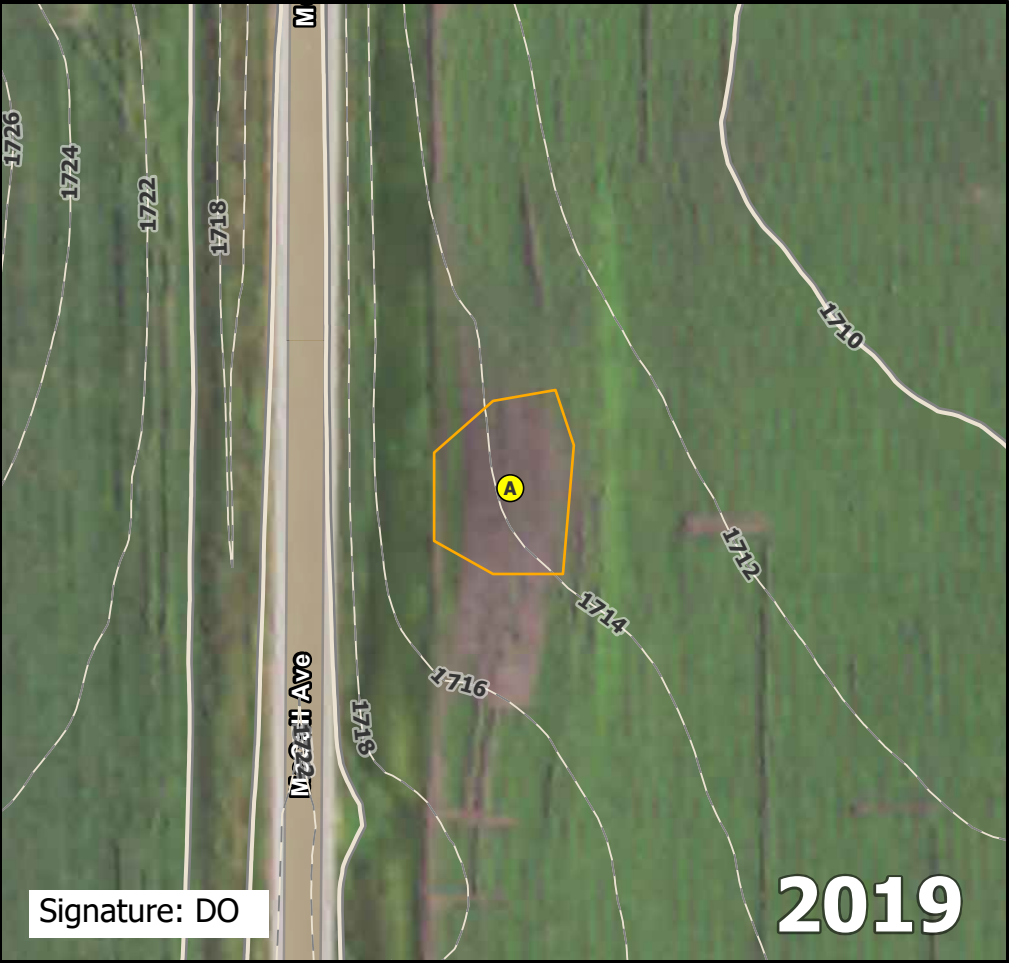
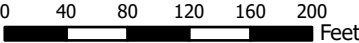
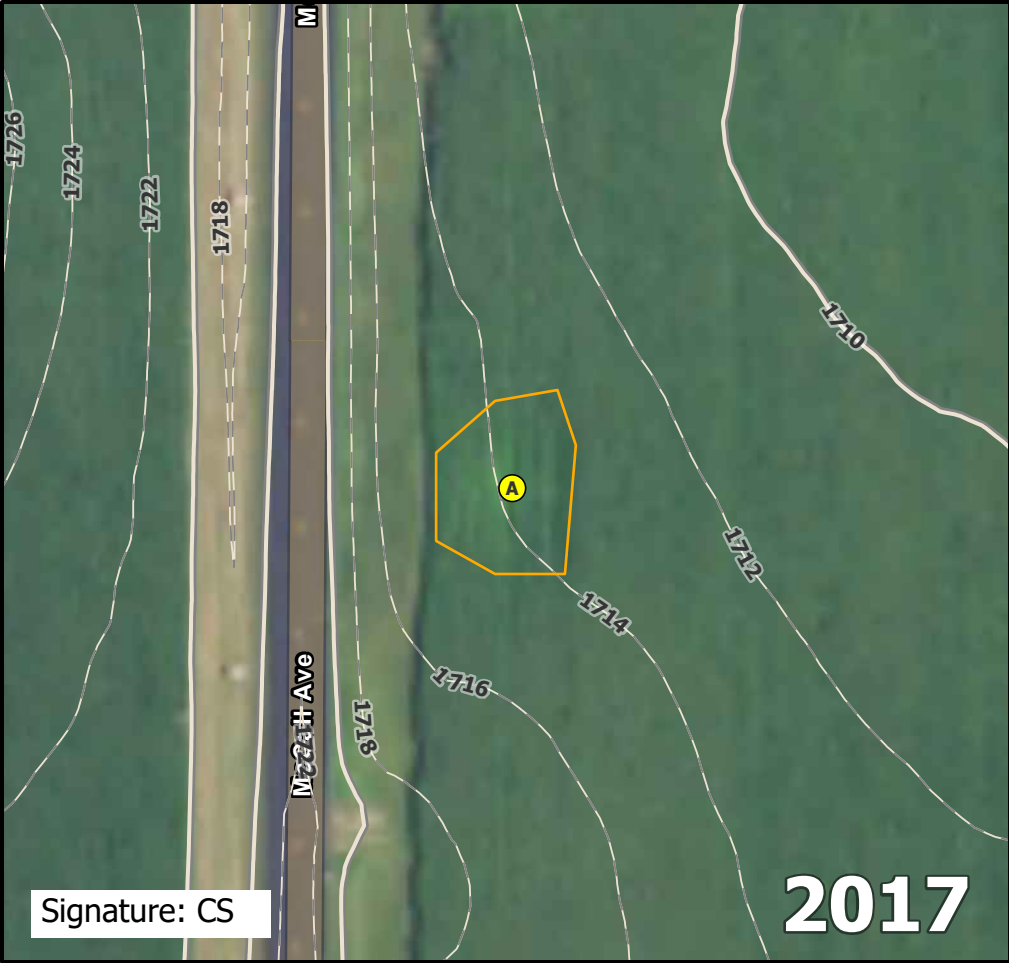
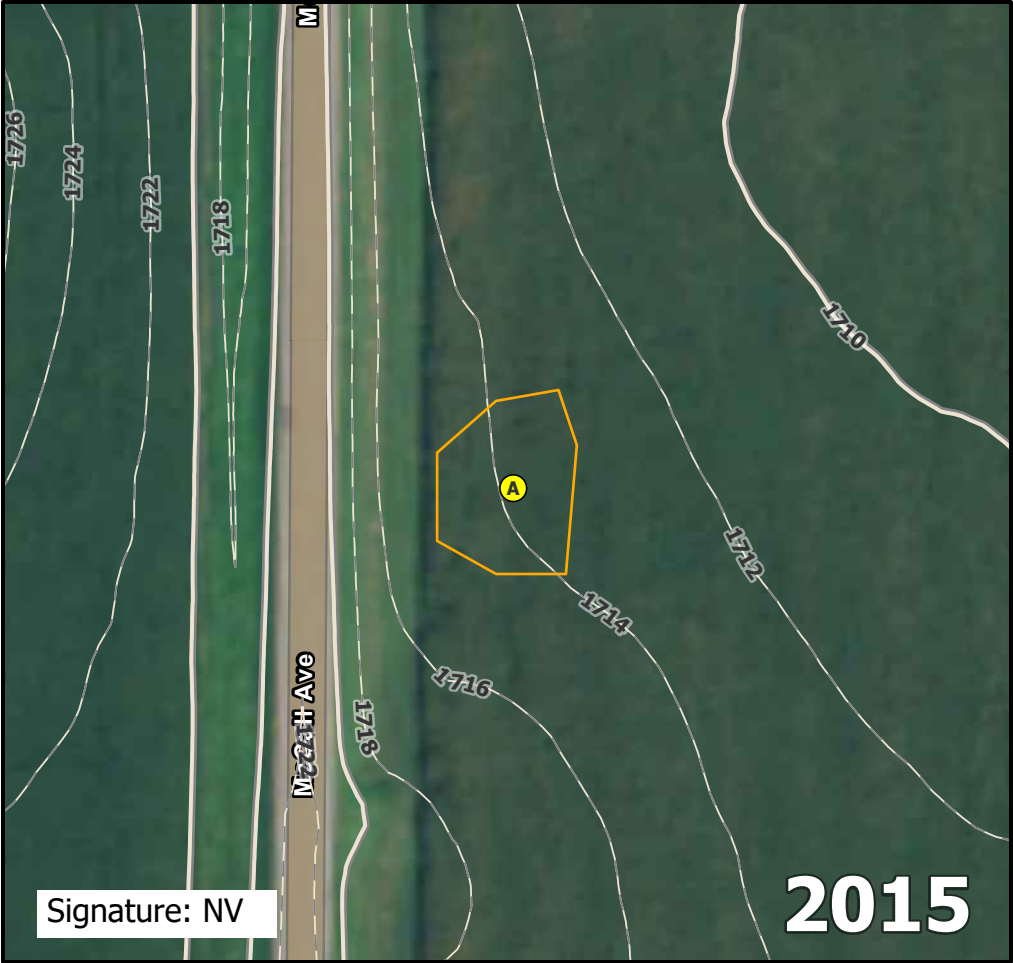
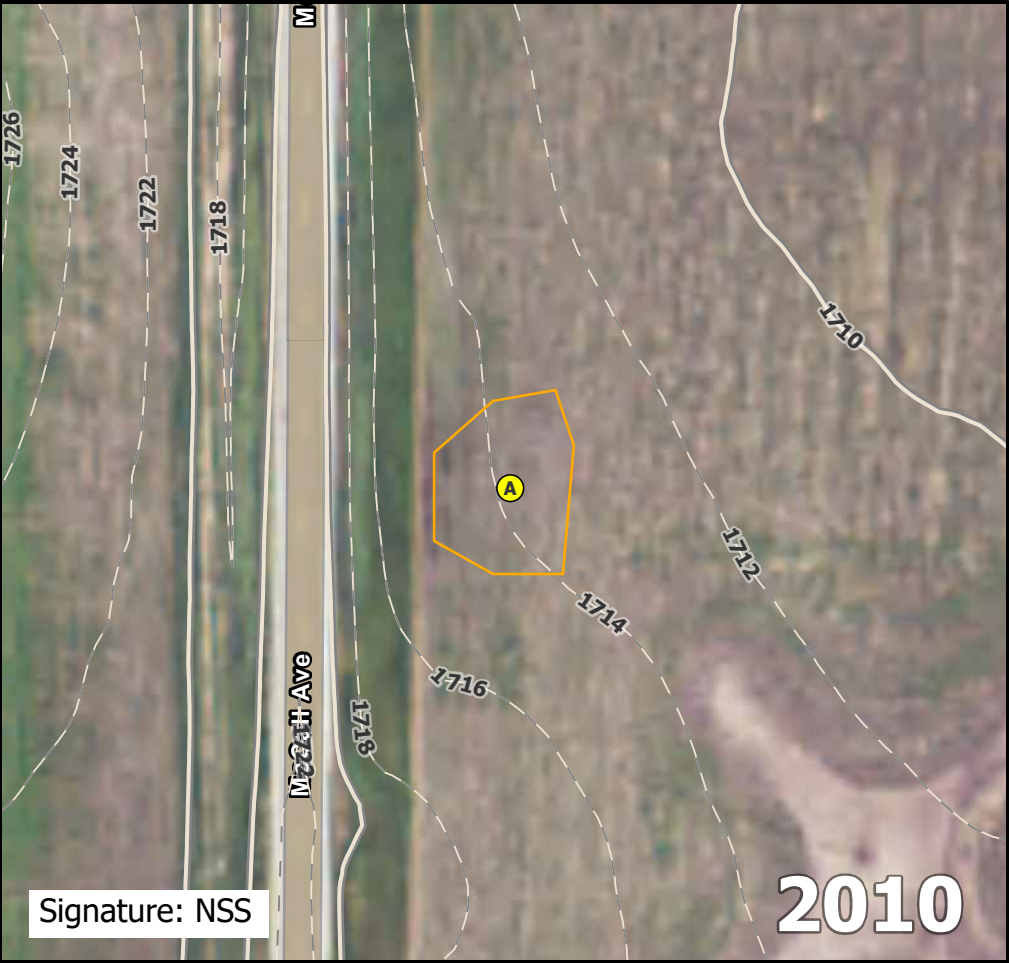
Remarks:



Overview of upland sample point NWA068A.

Direction: North	Photo ID: delin_photo-20221013-200338.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA068	

6/26/2023 5:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA070

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA070A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Broad Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71202	Long:	-95.71084
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA070A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Clay Loam	
12-28	10YR 2/1	95	10YR 4/3	5	C	PL/M	Clay Loam	Distinct or Prominent
28-36	2.5Y 5/3	97	2.5Y 5/6	3	C	PL/M	Silty Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA070A.

Direction: South

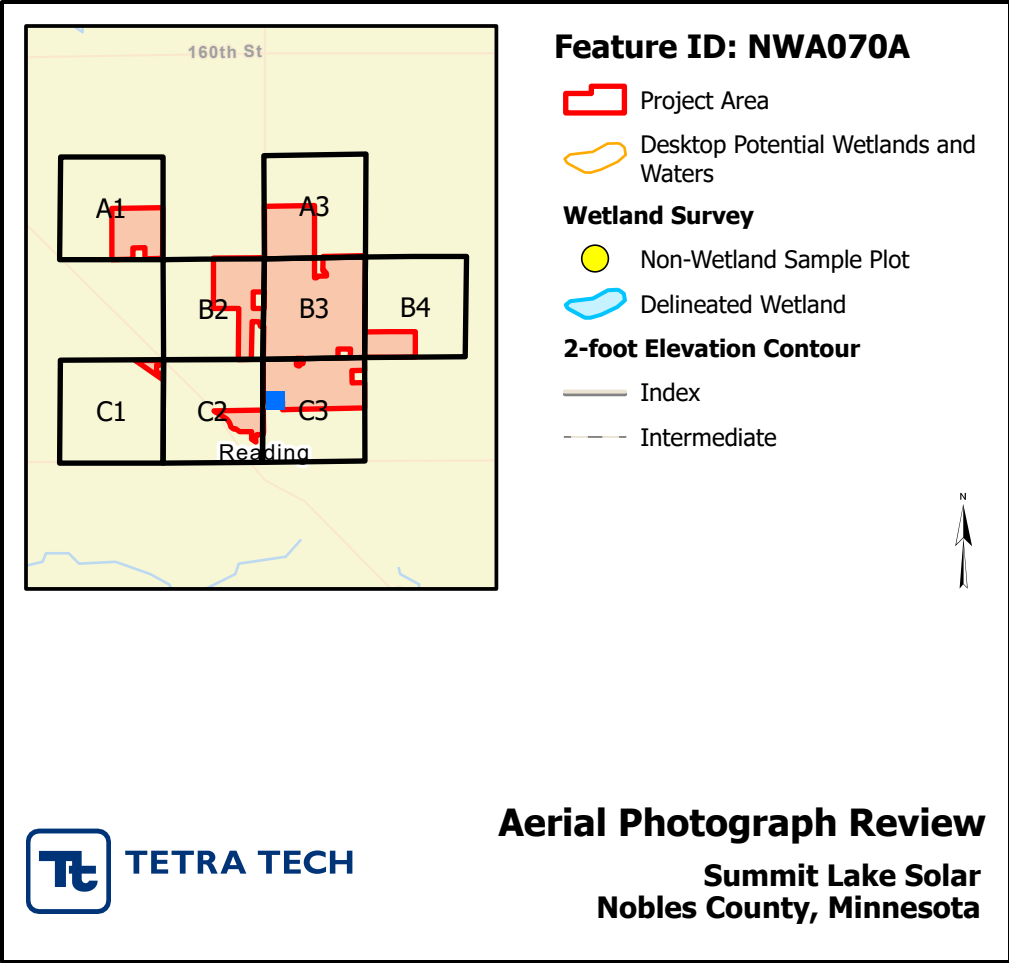
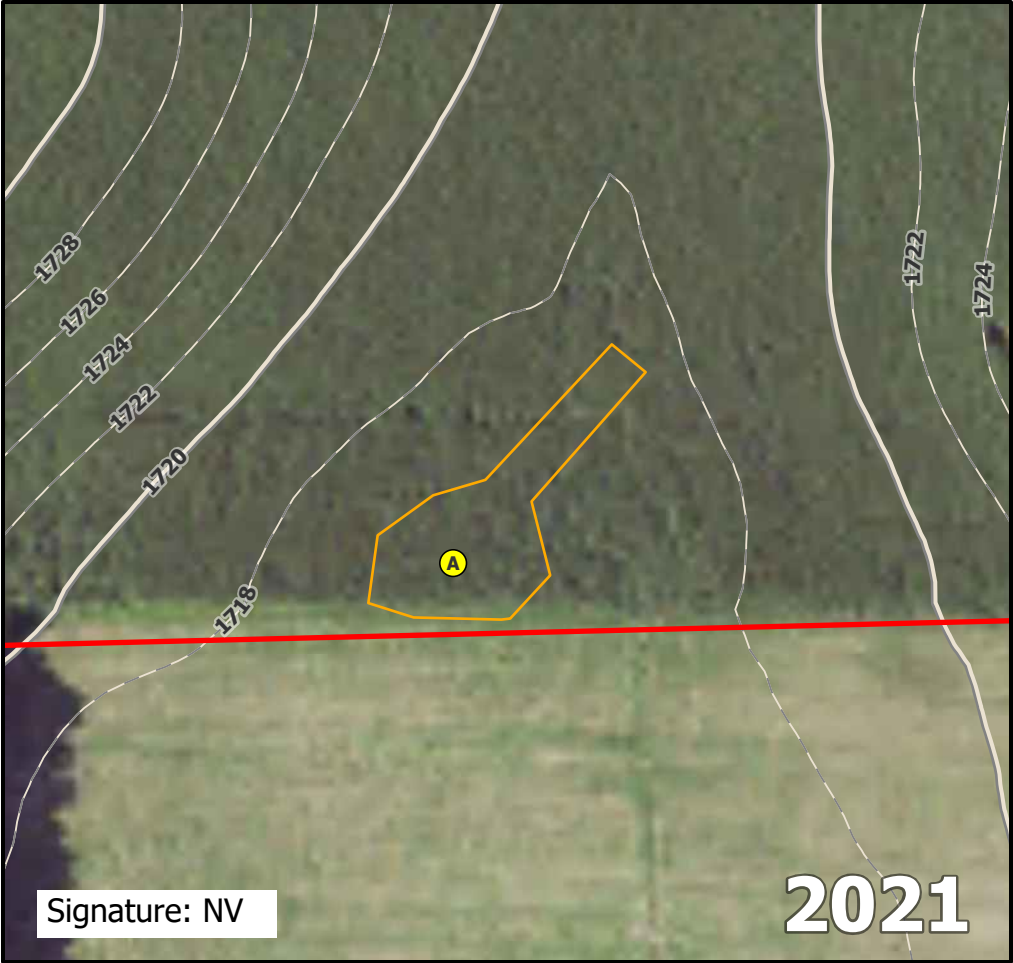
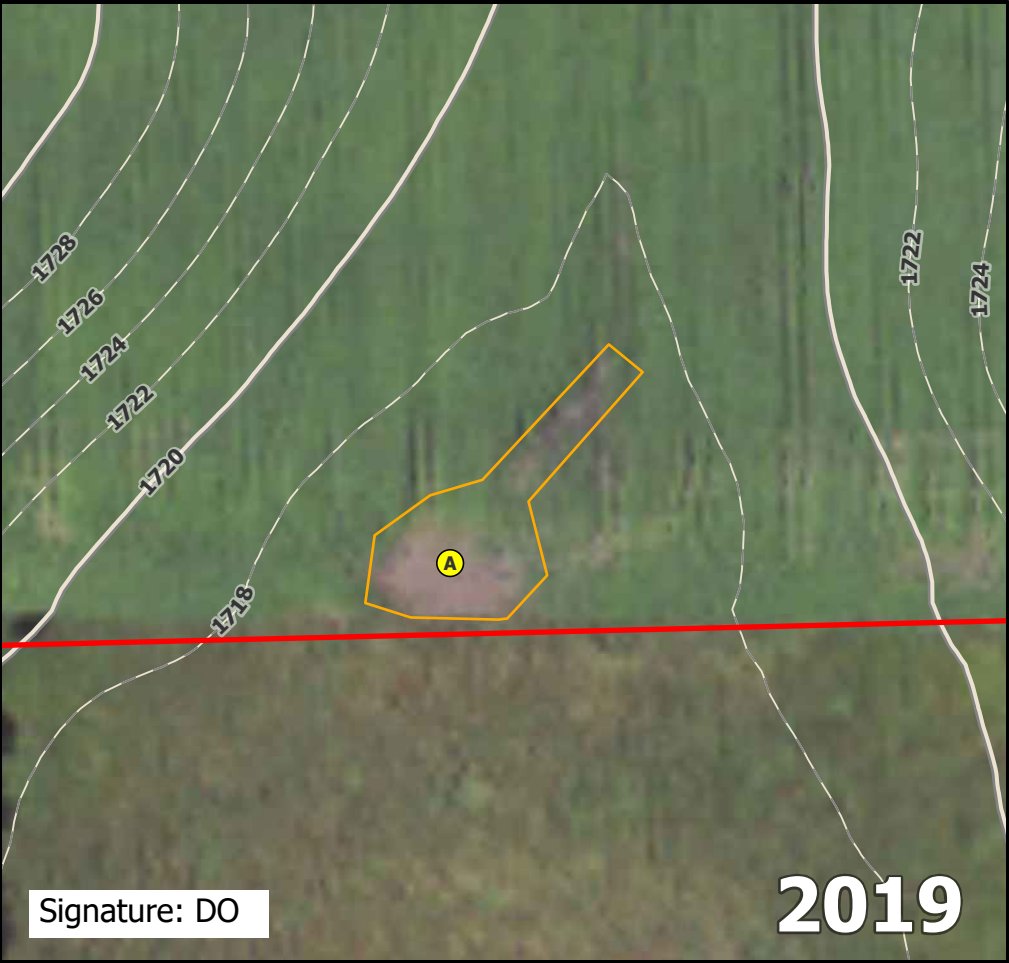
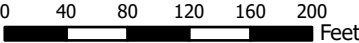
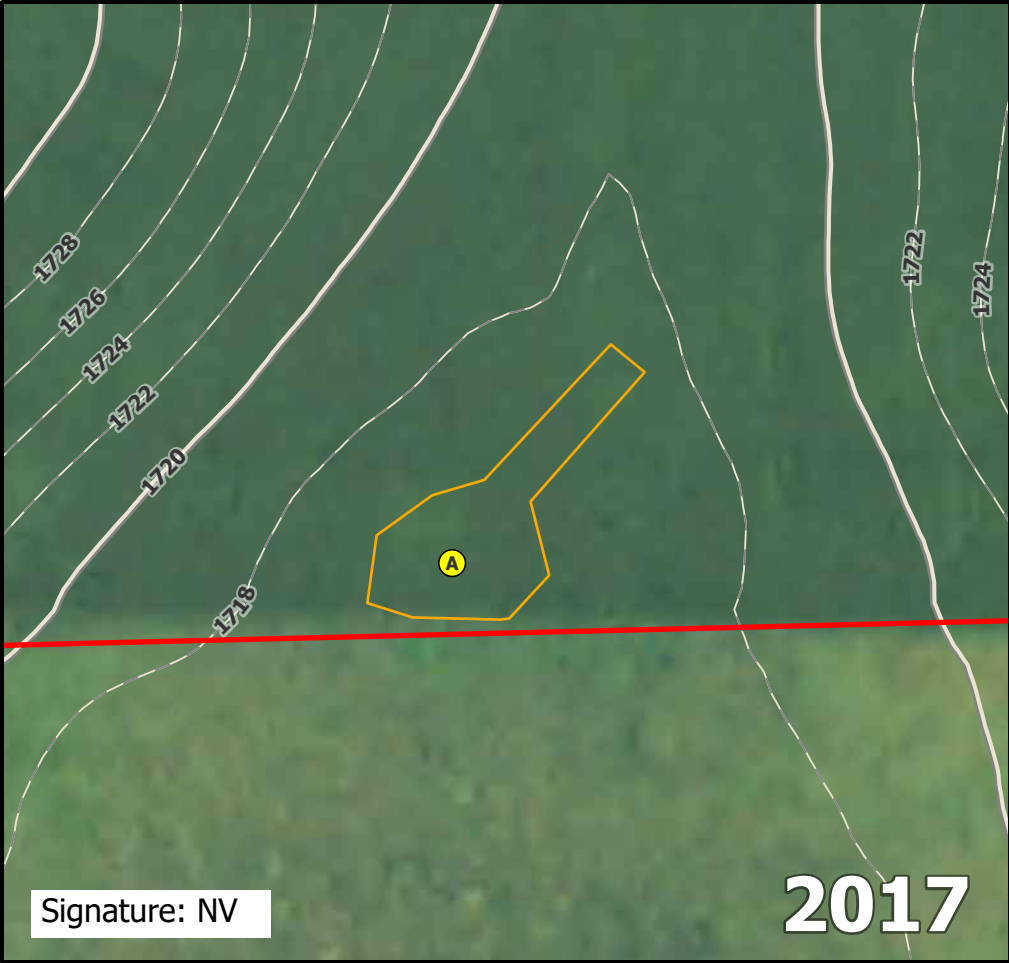
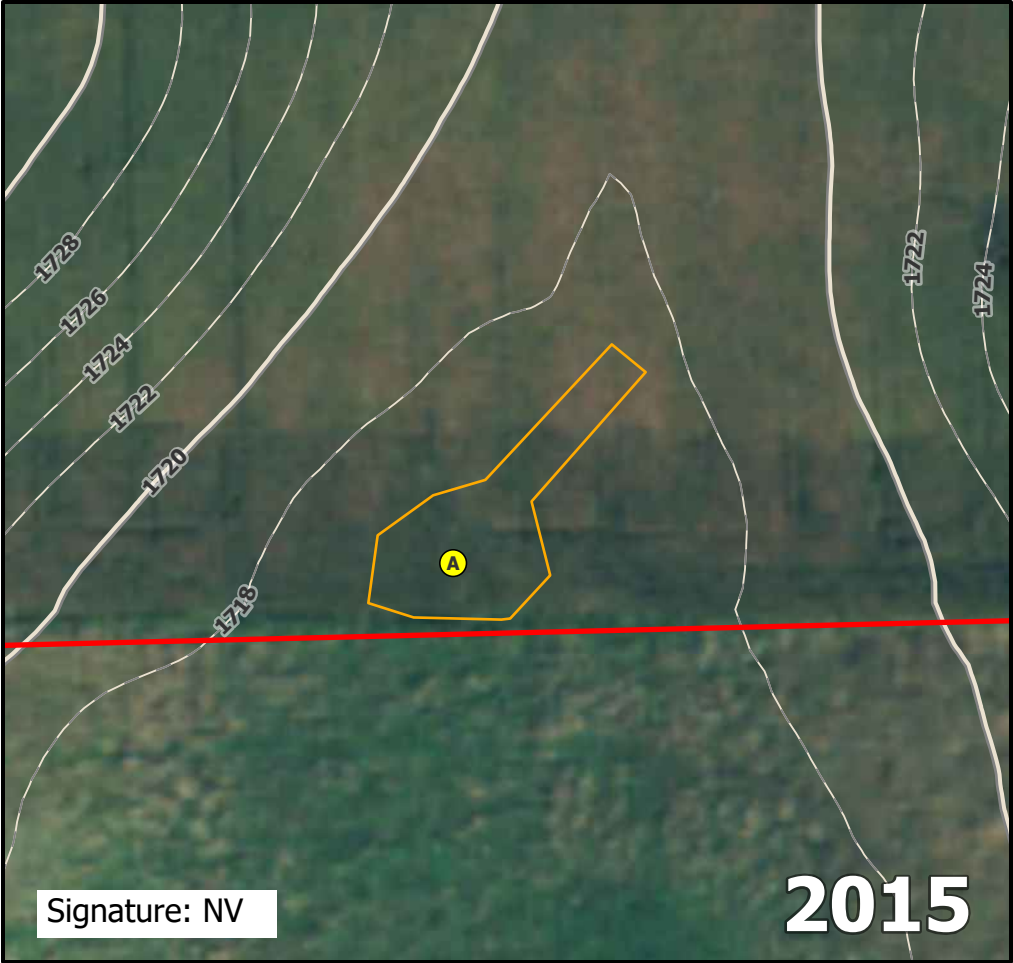
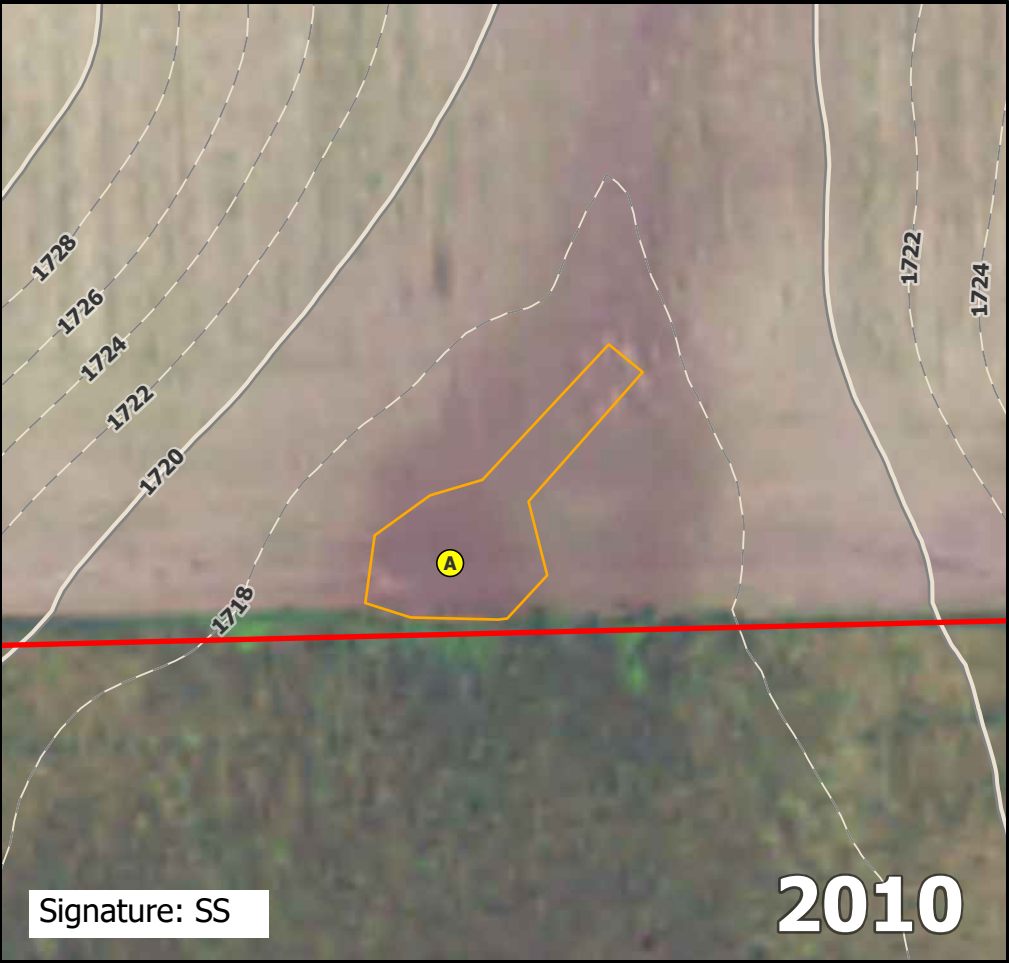
Photo ID: delin_photo-20221013-205755.jpg

Date: 10/13/2022

Project Name: Summit Lake Solar

Feature ID: NWA070

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA071

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA071A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71399	Long:	-95.70935
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
% Cover	Species	Status		
<u>Tree Stratum</u>	(Plot size: _____)			
1.	_____			
2.	_____			
3.	_____			
4.	_____			
5.	_____			
			=Total Cover	
<u>Sapling/Shrub Stratum</u>	(Plot size: _____)			
1.	_____			
2.	_____			
3.	_____			
4.	_____			
5.	_____			
			=Total Cover	
<u>Herb Stratum</u>	(Plot size: _____)			
1.	_____			
2.	_____			
3.	_____			
4.	_____			
5.	_____			
6.	_____			
7.	_____			
8.	_____			
9.	_____			
10.	_____			
			=Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: _____)			
1.	_____			
2.	_____			
			=Total Cover	
Dominance Test Worksheet				
Number of Dominant Species that are OBL, FACW, or FAC:			_____ 0	(A)
Total Number of Dominant Species Across All Strata:			_____ 0	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:			_____% %	(A/B)
Prevalence Index Worksheet				
Total % Cover of:	Multiply by:			
OBL species ____ x 1 =	_____			
FACW species ____ x 2 =	_____			
FAC species ____ x 3 =	_____			
FACU species ____ x 4 =	_____			
UPL species ____ x 5 =	_____			
Column totals ____ (A) ____ (B)				
Prevalence Index = B/A =	_____			
Hydrophytic Vegetation Indicators:				
____ Rapid test for hydrophytic vegetation				
____ Dominance test is >50%				
____ Prevalence index is ≤3.0*				
____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)				
____ Problematic hydrophytic vegetation*				
____ (explain)				
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
Hydrophytic Vegetation Present?				
No _____				

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA071A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Clay Loam	
8-18	2.5Y 5/4	100					Sandy Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

Yes

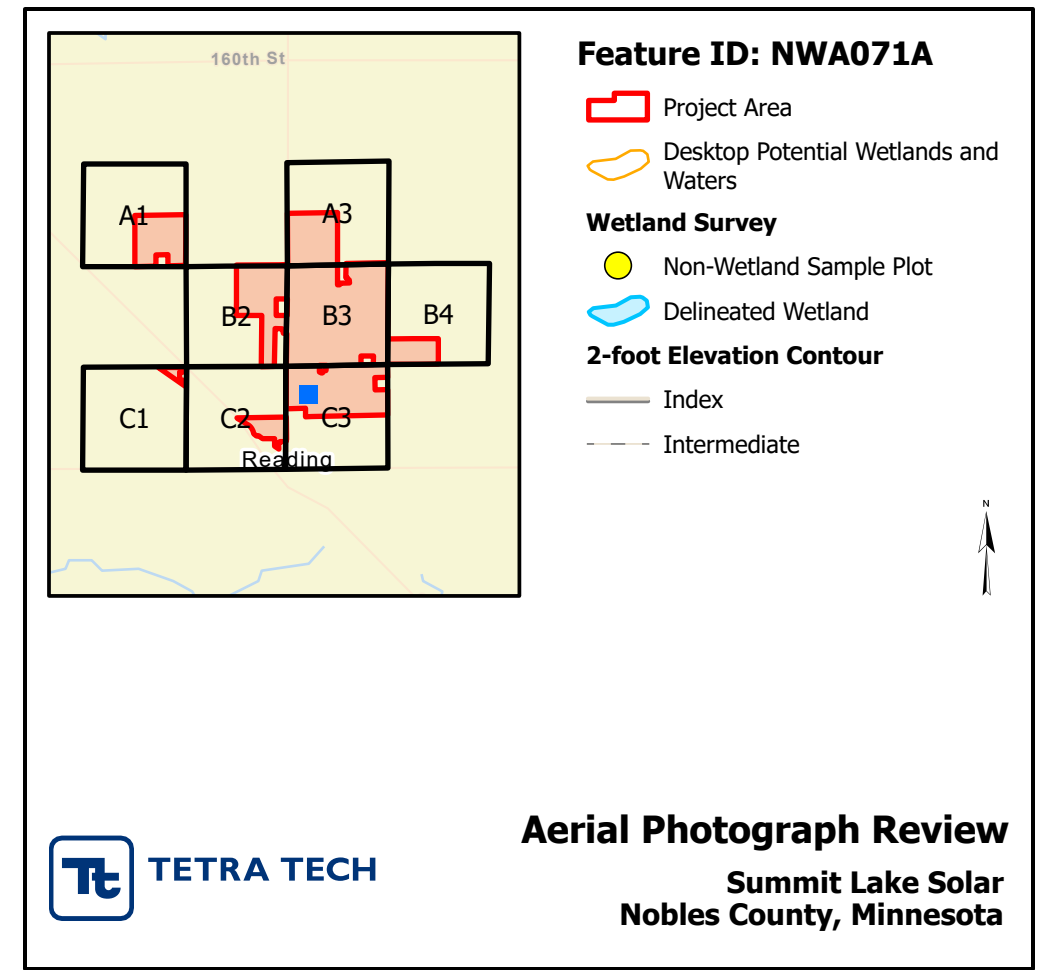
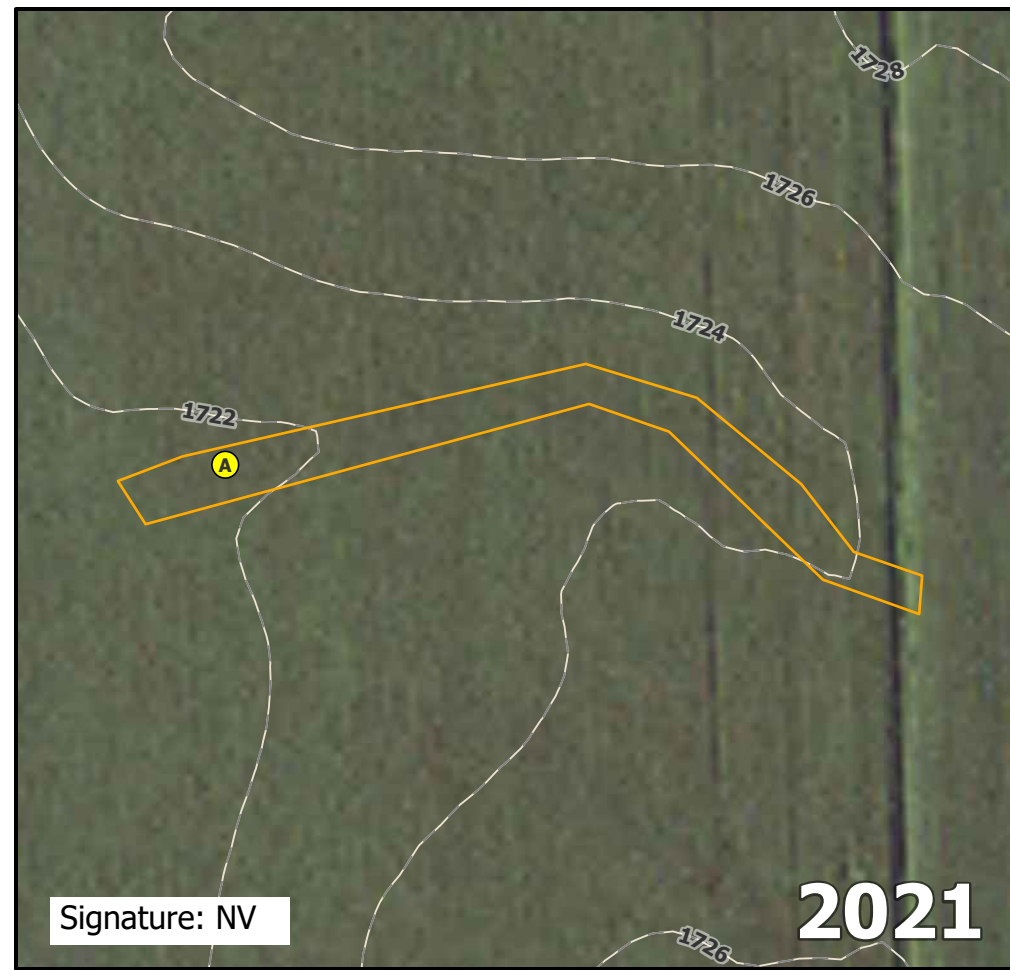
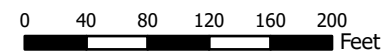
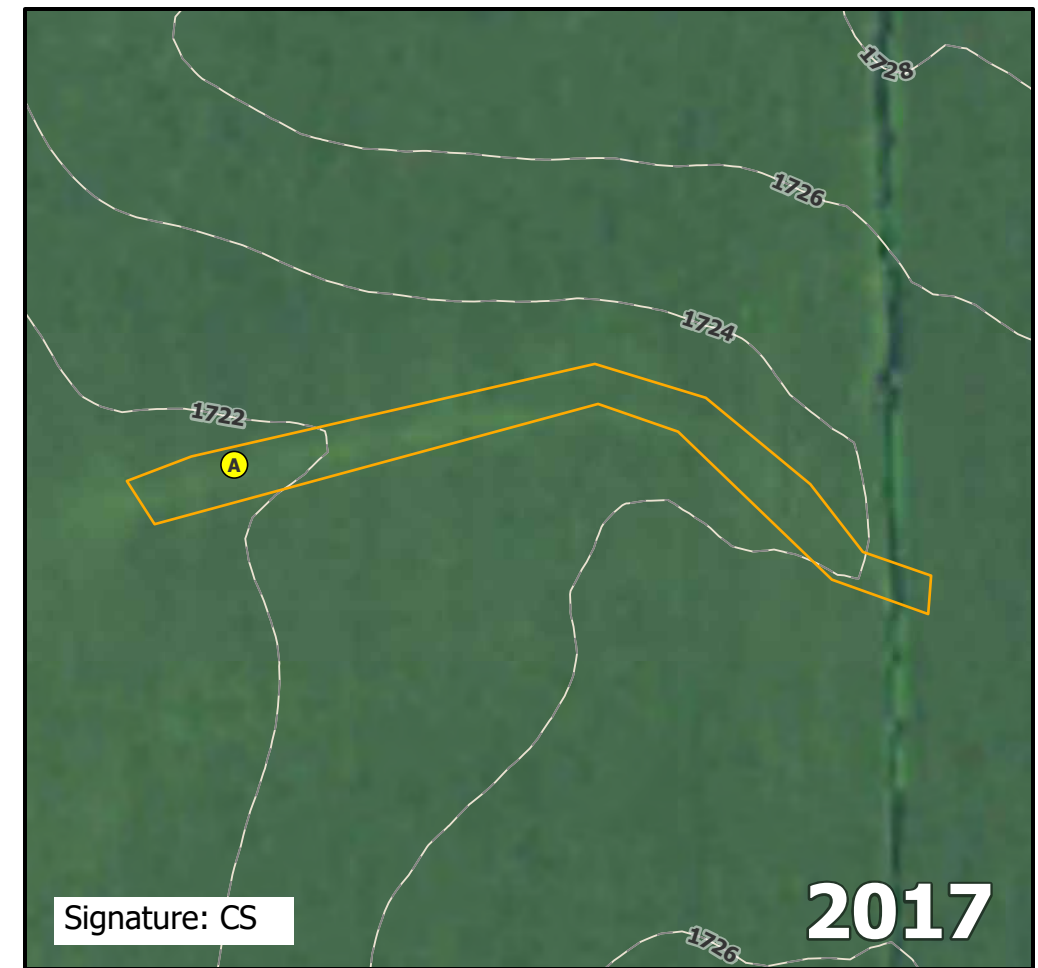
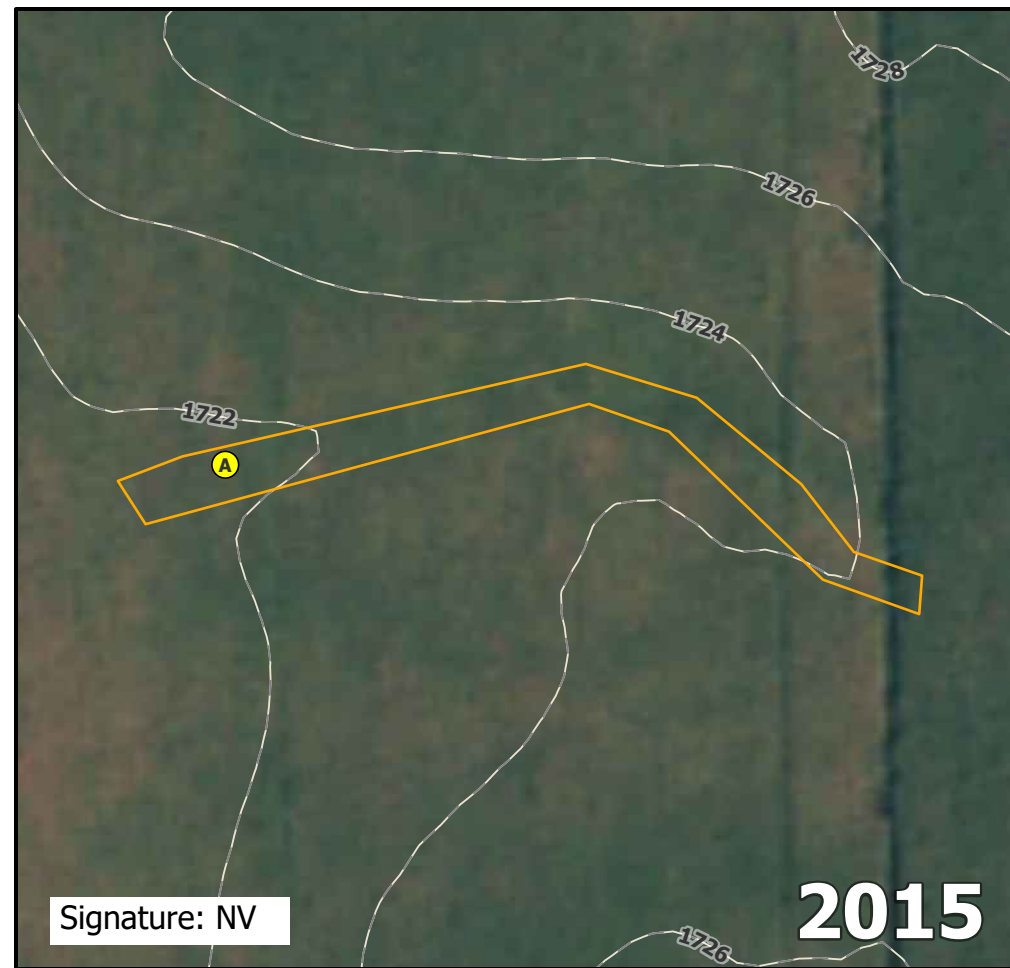
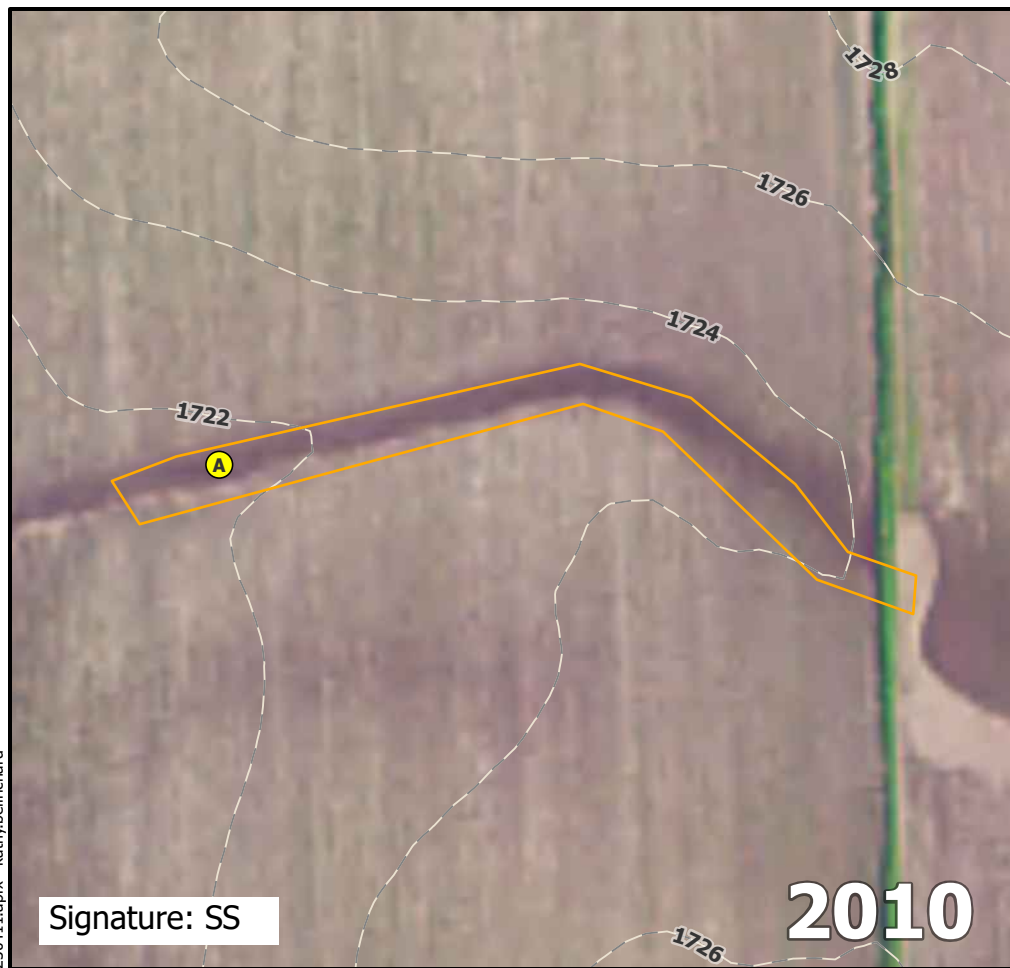
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA071A.

Direction: North	Photo ID: delin_photo-20221013-211702.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA071	



Non-Wetland ID

NWA072

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA072A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Broad Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71397	Long:	-95.7121
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	PEM1Af	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA072A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 Assumed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

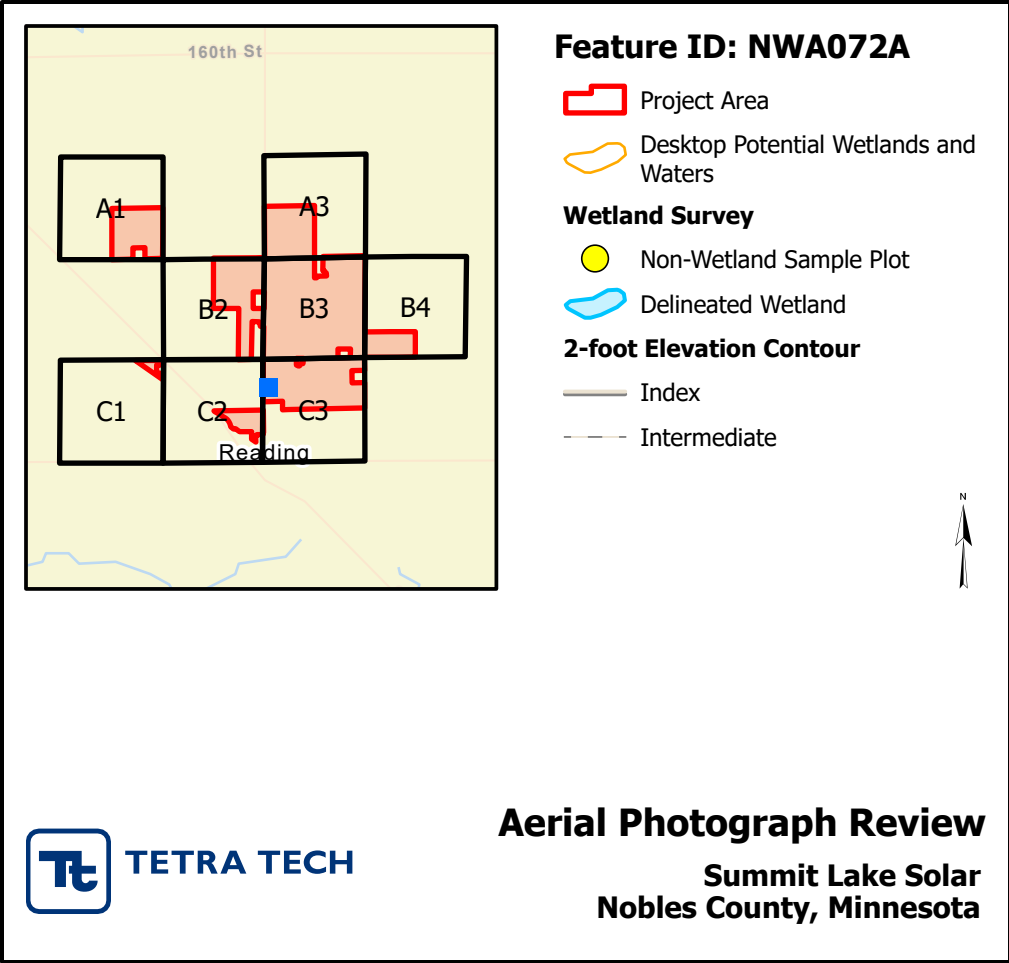
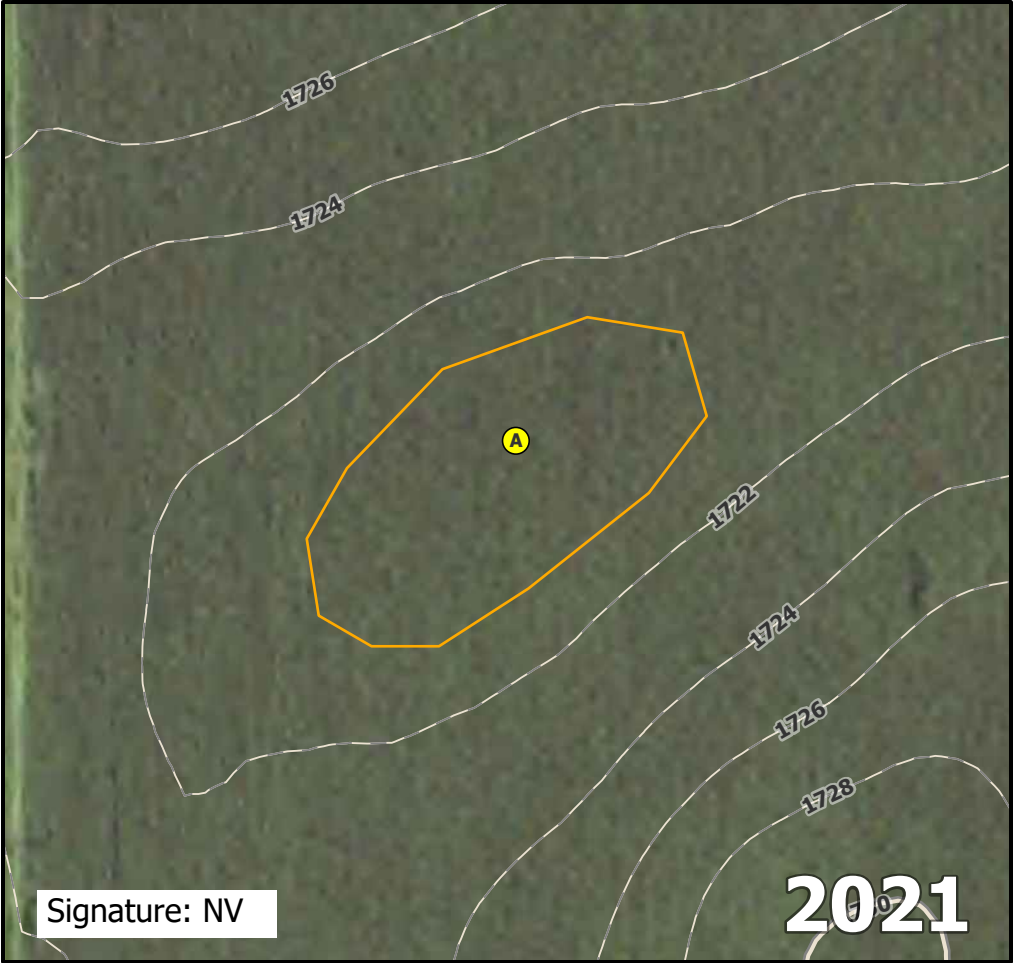
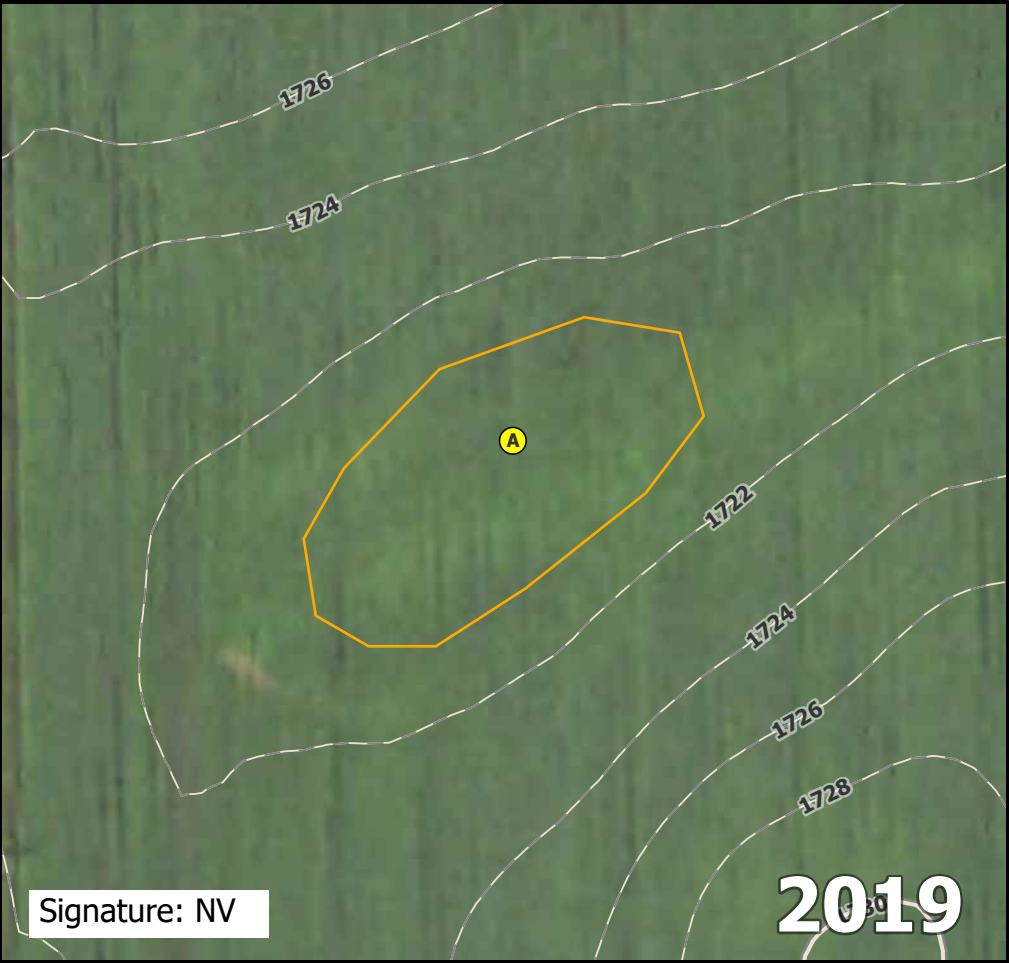
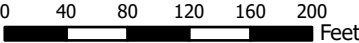
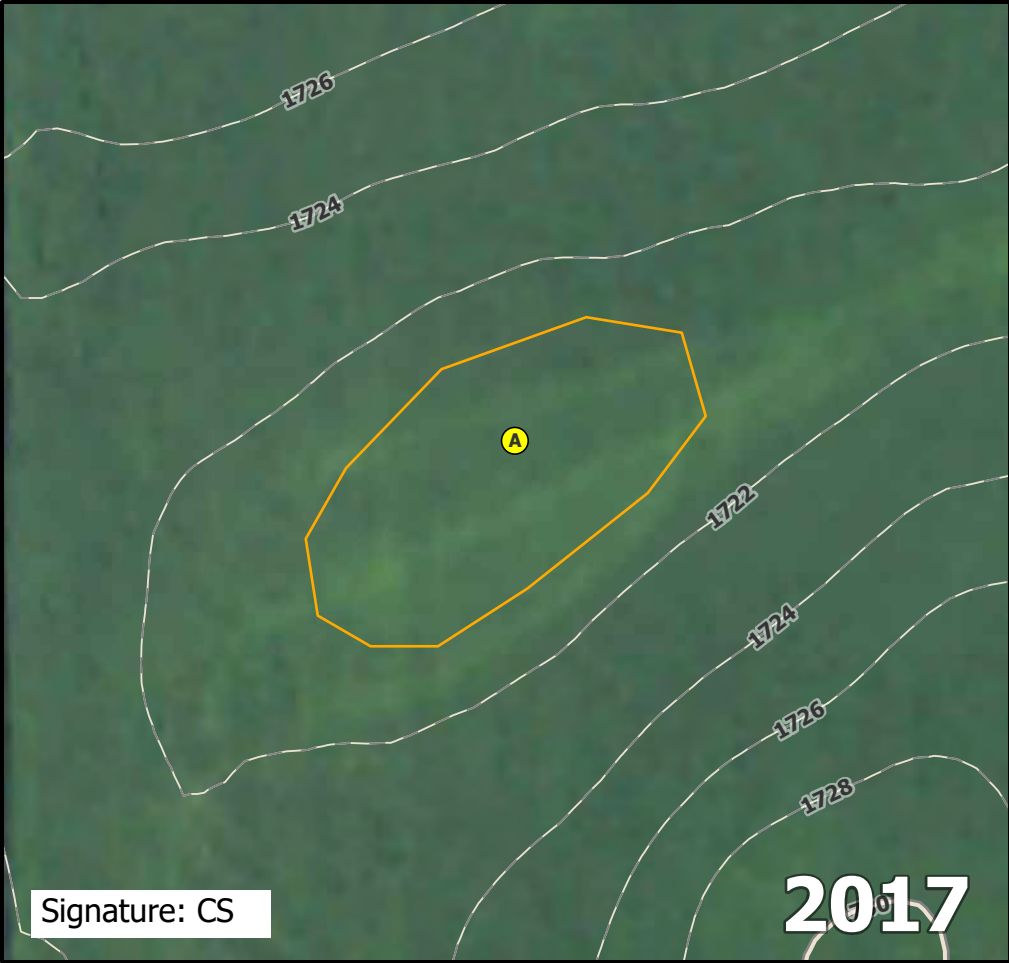
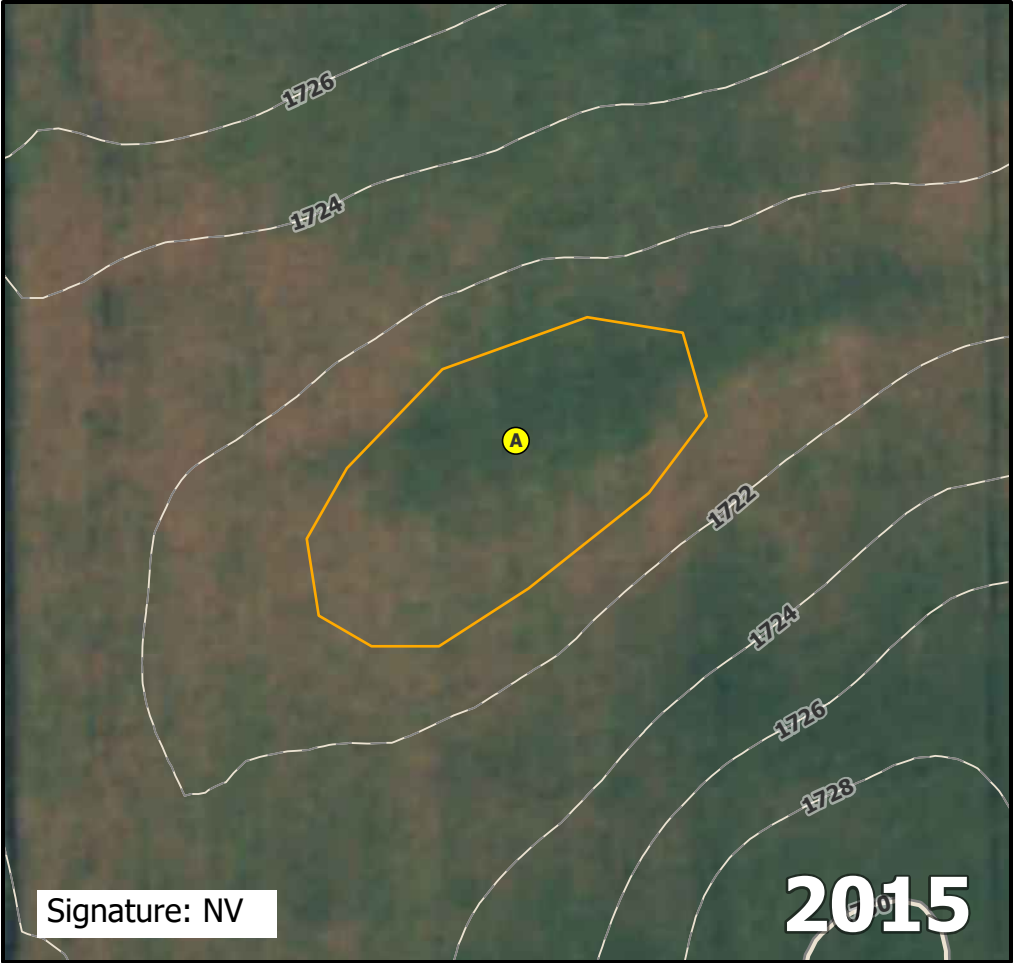
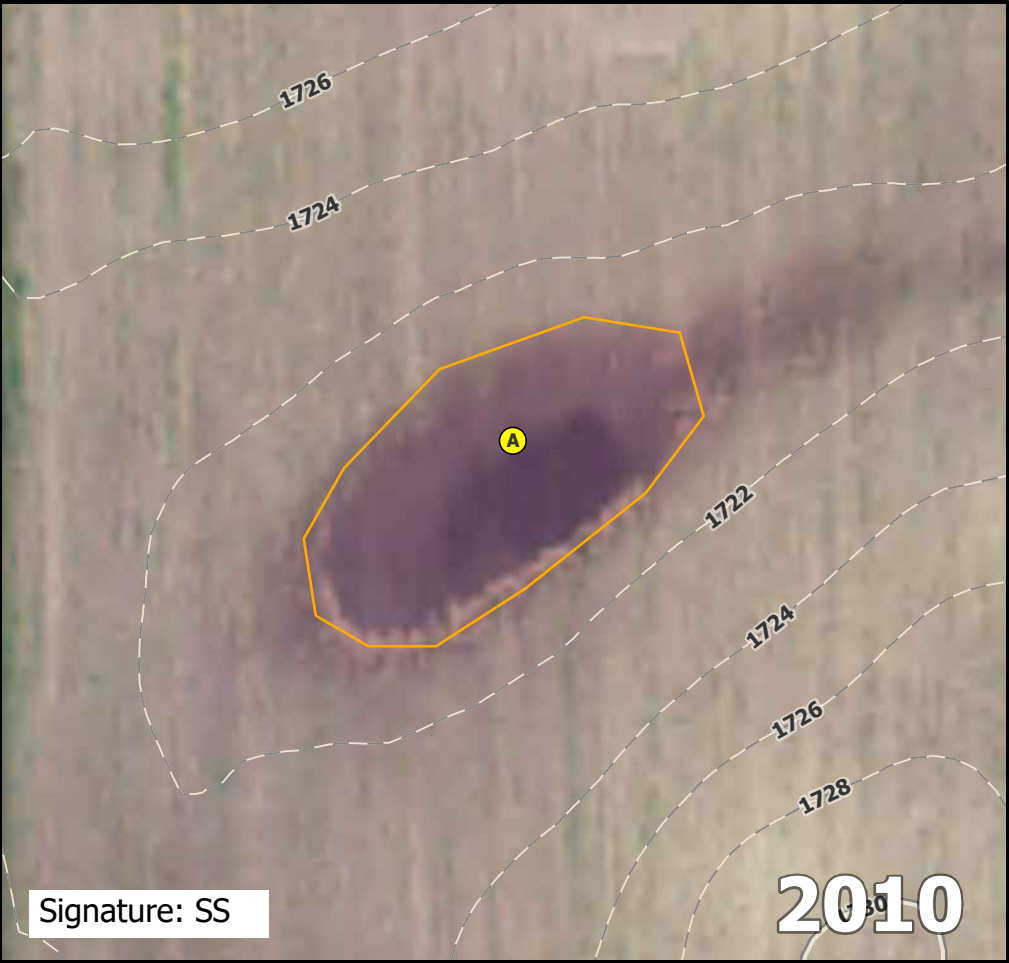
Remarks:



Overview of upland sample point NWA072A.

Direction: East	Photo ID: delin_photo-20221013-214902.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA072	

6/28/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA074

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/13/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA074A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.10 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.73252	Long:	-95.73609
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u> </u> =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		<u> </u> =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u> </u>	x 1 =	<u> </u>
FACW species	<u> </u>	x 2 =	<u> </u>
FAC species	<u> </u>	x 3 =	<u> </u>
FACU species	<u> </u>	x 4 =	<u> </u>
UPL species	<u> </u>	x 5 =	<u> </u>
Column totals	<u> </u>	(A) (B)	

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- Rapid test for hydrophytic vegetation
- Dominance test is >50%
- Prevalence index is ≤3.0*
- Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- Problematic hydrophytic vegetation*
- (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOILSampling Point: NWA074A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-25	10YR 2/1	100					Clay Loam	
25-34	2.5Y 5/2	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

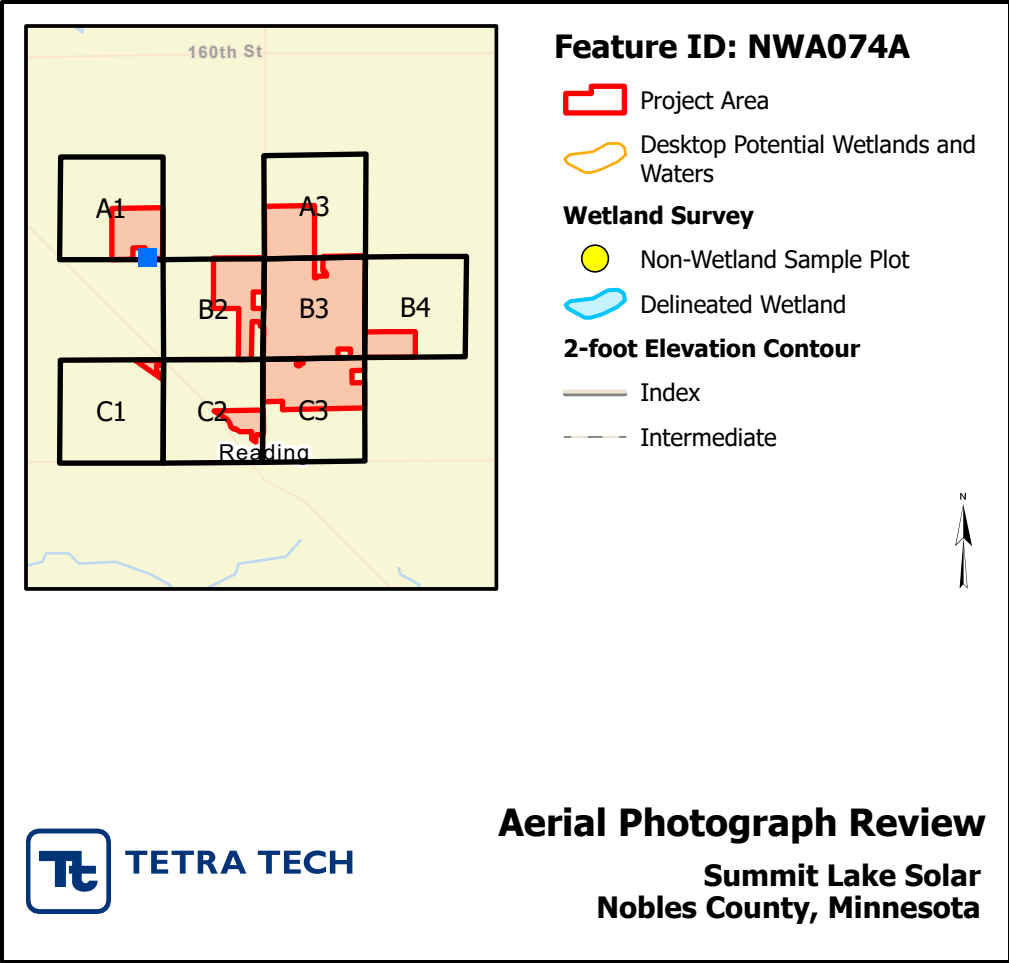
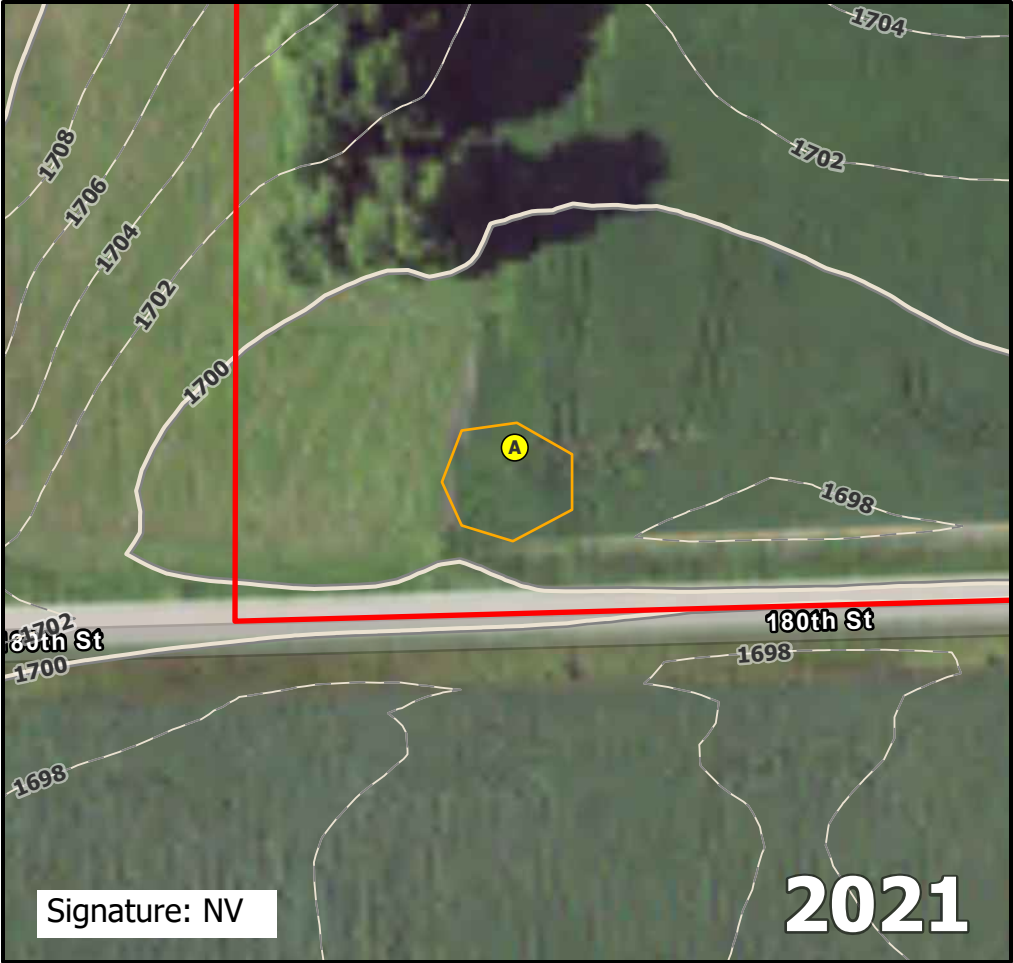
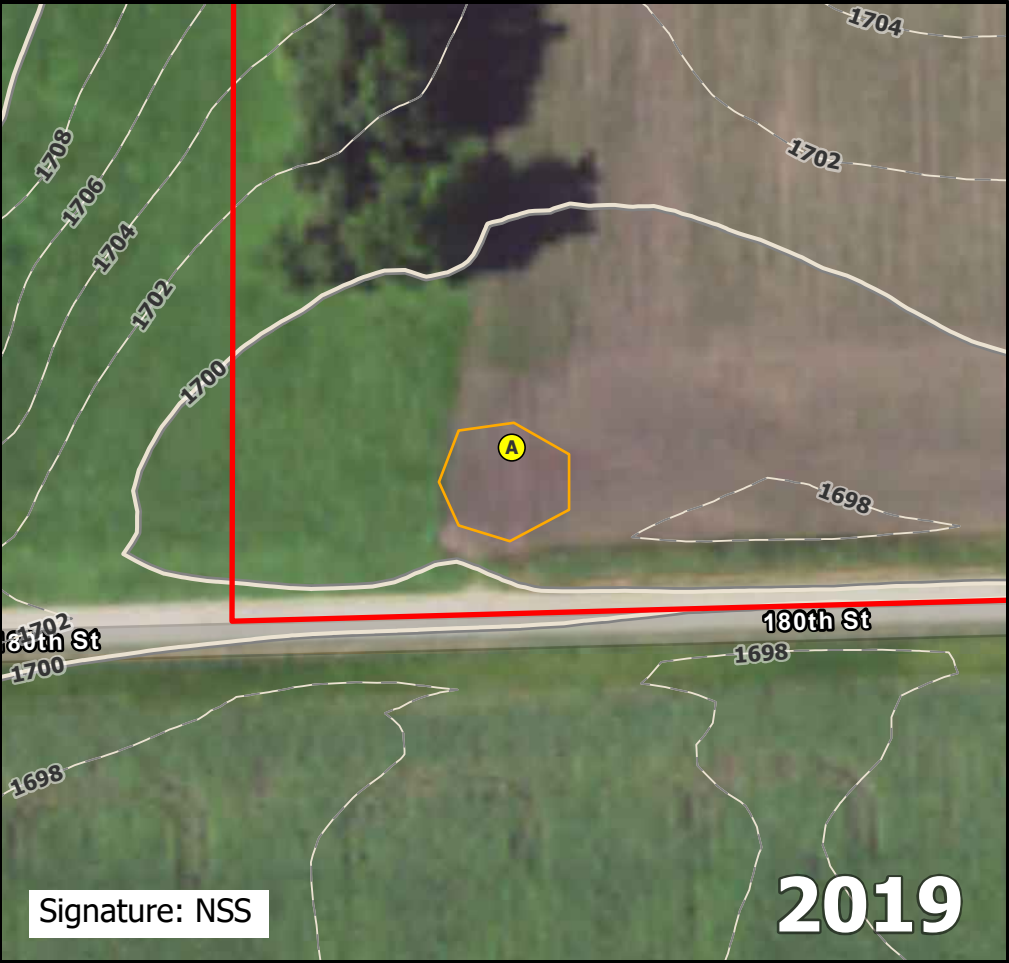
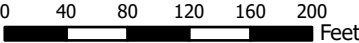
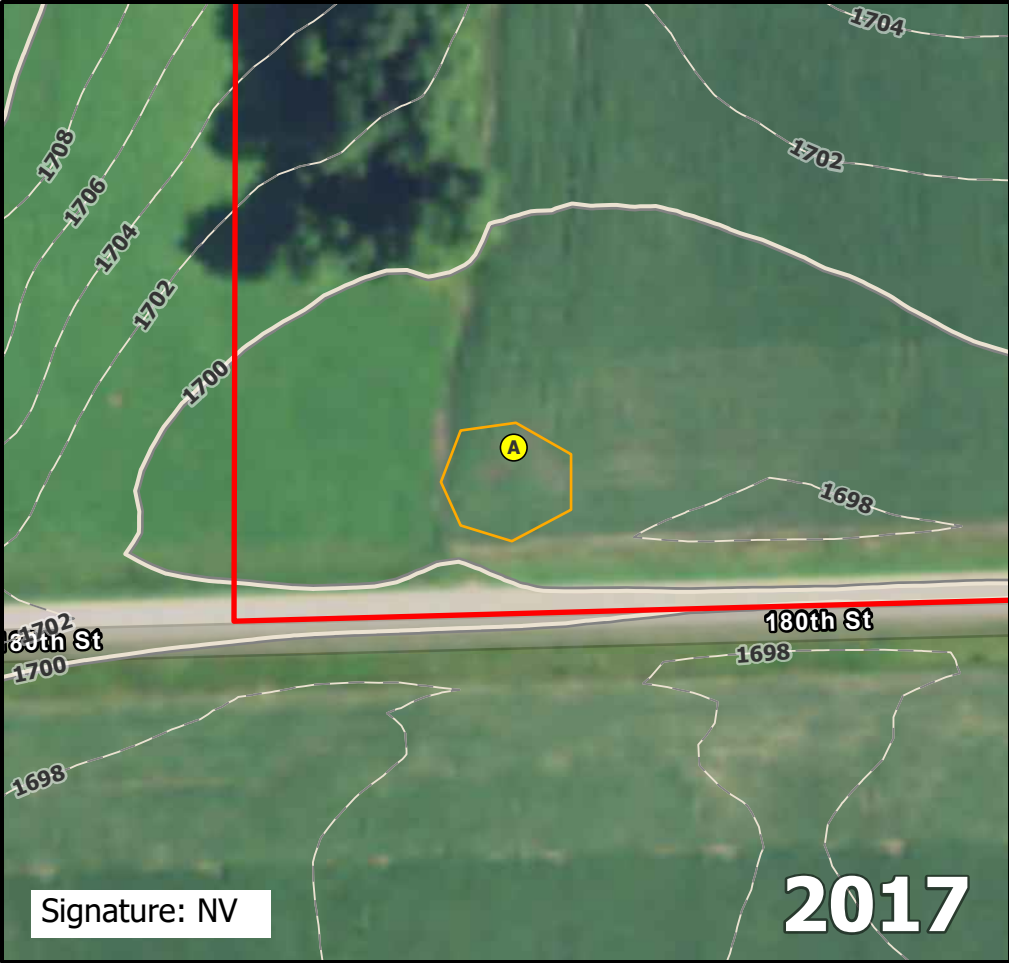
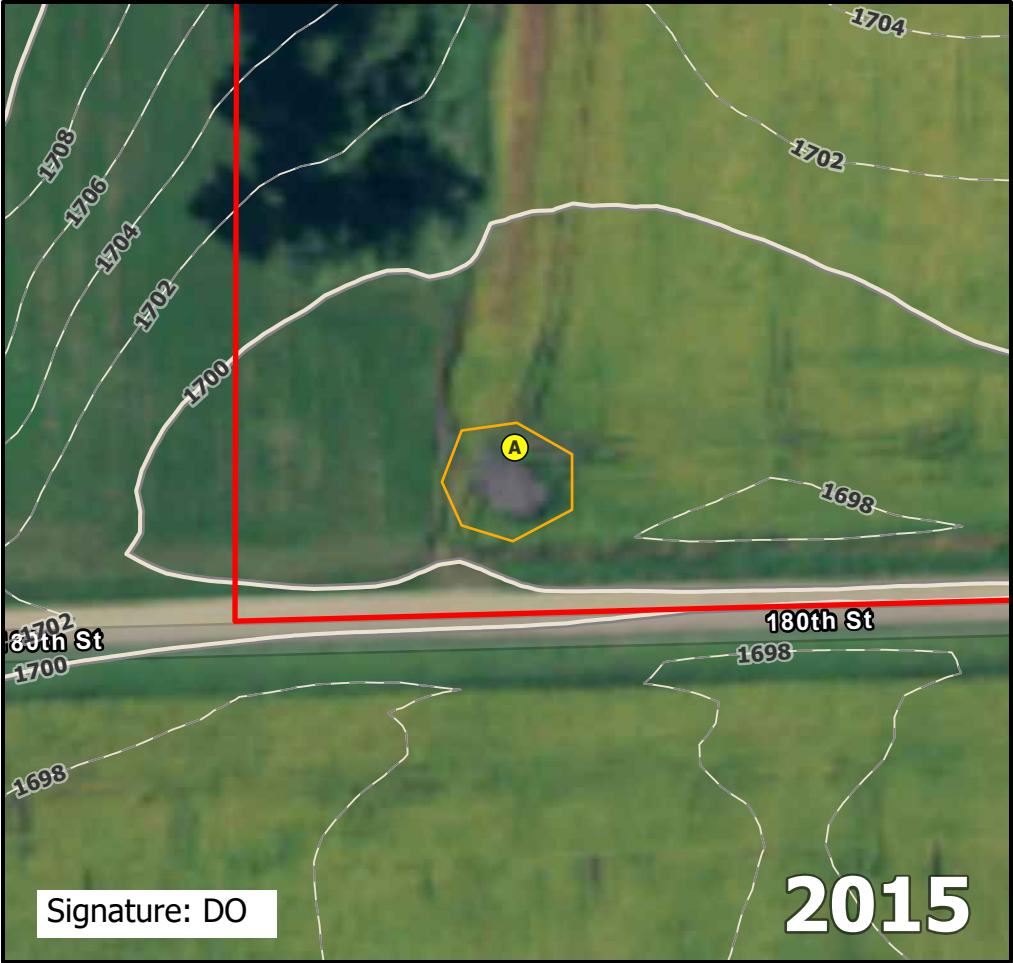
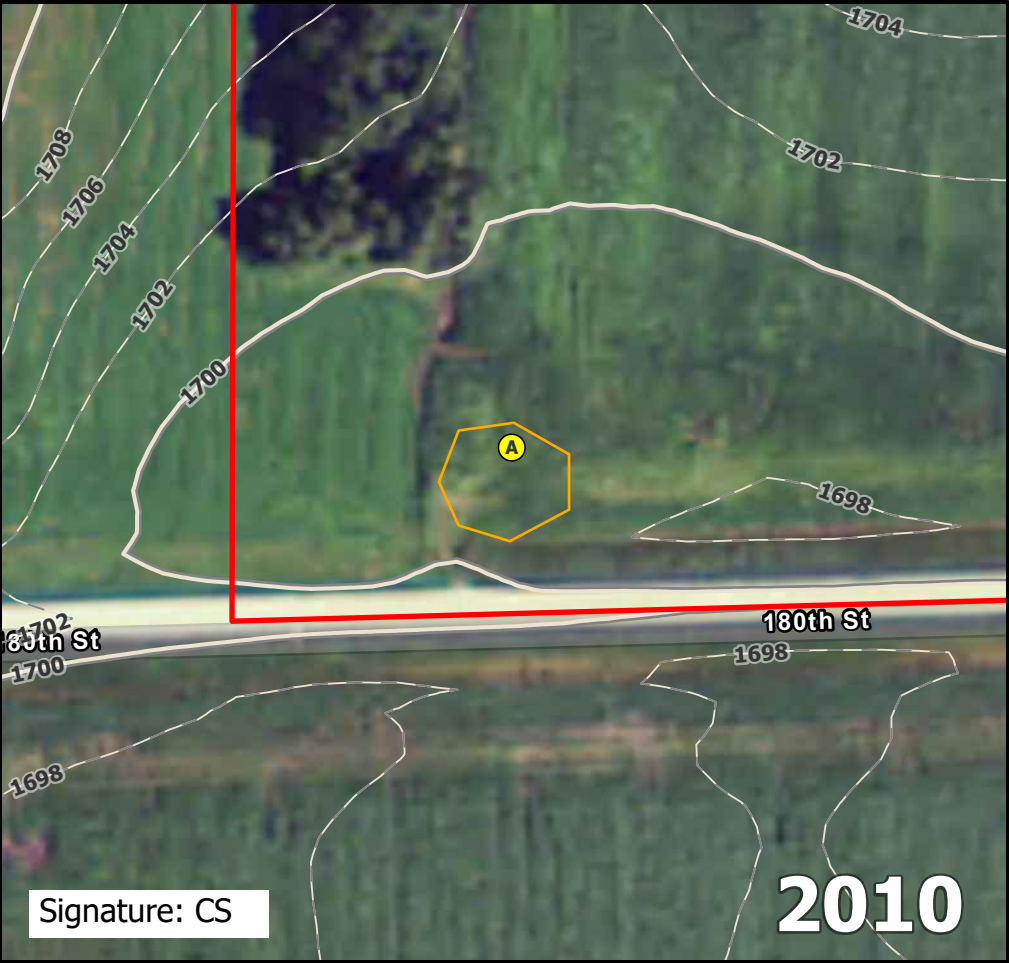
Remarks:



Overview of upland sample point NWA074A.

Direction: East	Photo ID: delin_photo-20221013-224917.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar	Feature ID: NWA074	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA076

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA076A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.7196 Long: -95.69792 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover				
<u>Sapling/Shrub Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
3. <u> </u>				
4. <u> </u>				
5. <u> </u>				
6. <u> </u>				
7. <u> </u>				
8. <u> </u>				
9. <u> </u>				
10. <u> </u>				
<u> </u> =Total Cover				Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u> (Plot size: <u> </u>)				
1. <u> </u>				
2. <u> </u>				
<u> </u> =Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA076A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Clay Loam	
14-22	2.5Y 4/3	75	2.5Y 5/6	5	C	PL	Clay Loam	
	10YR 2/1	20						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA076A.

Direction: East

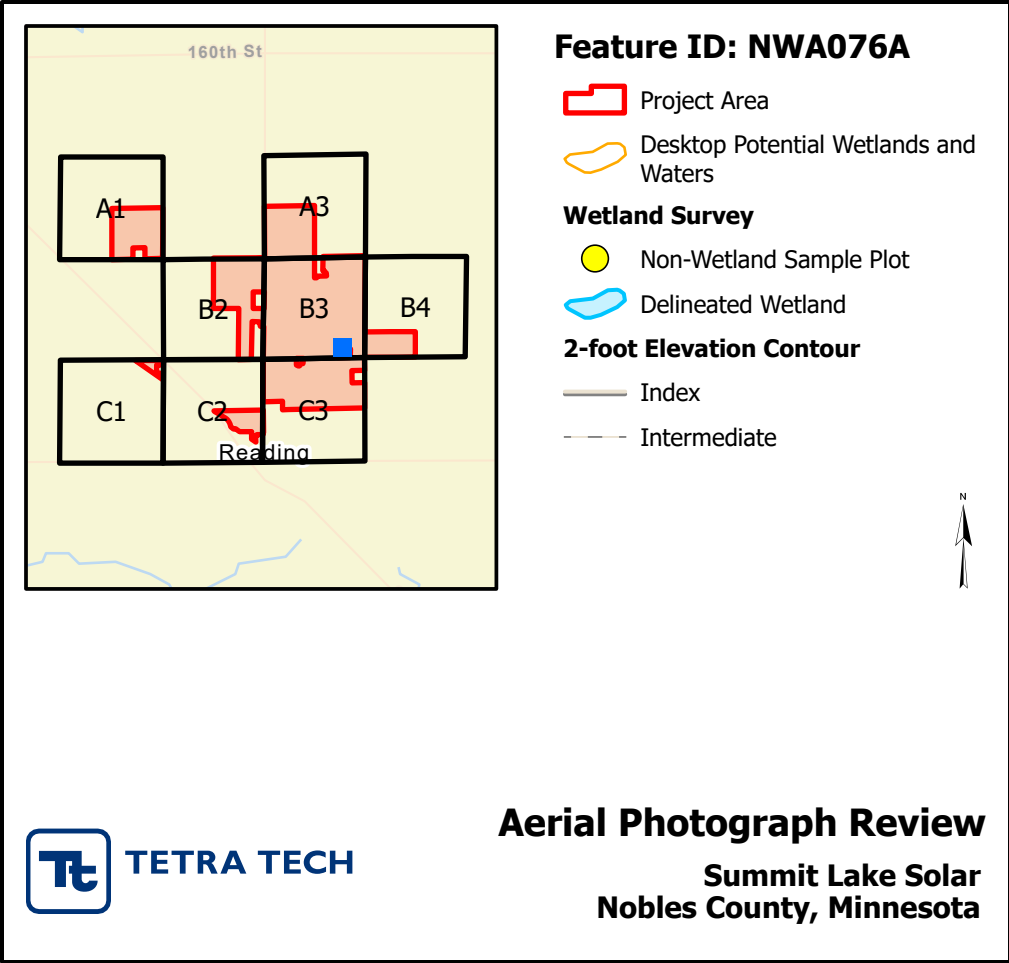
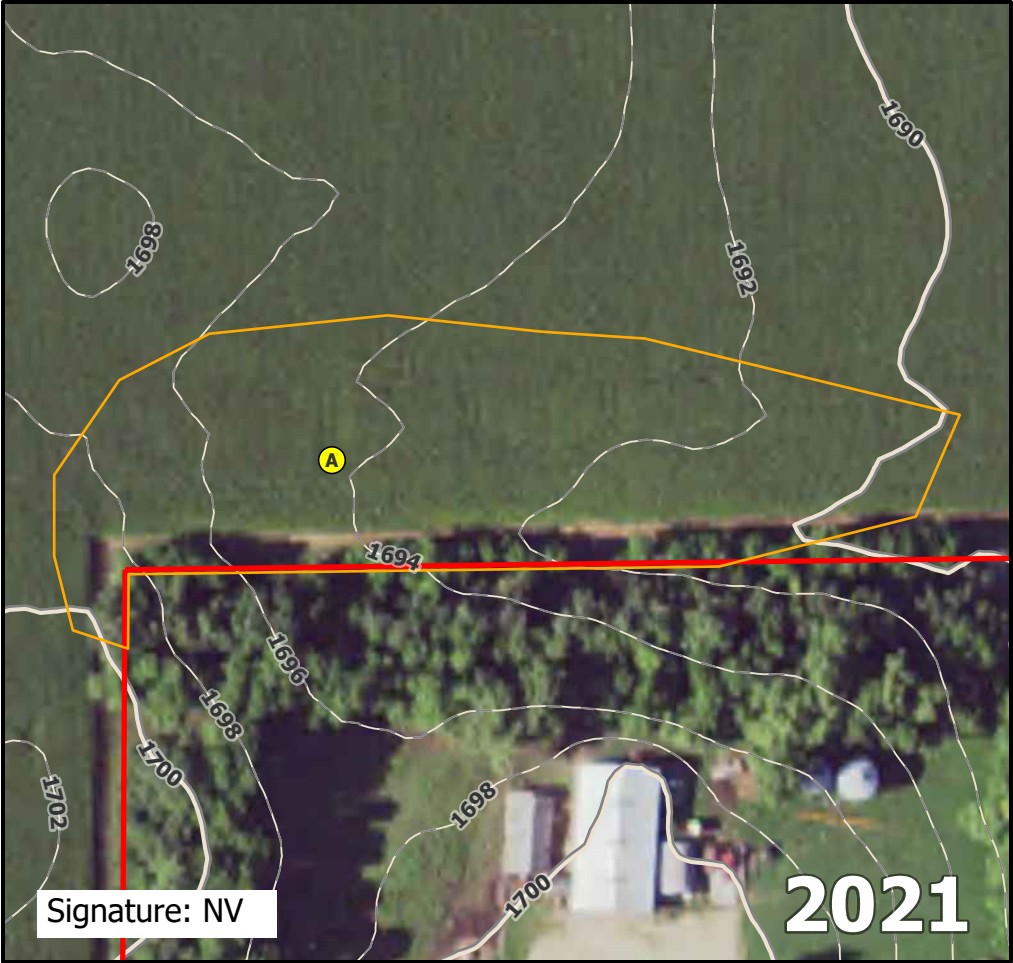
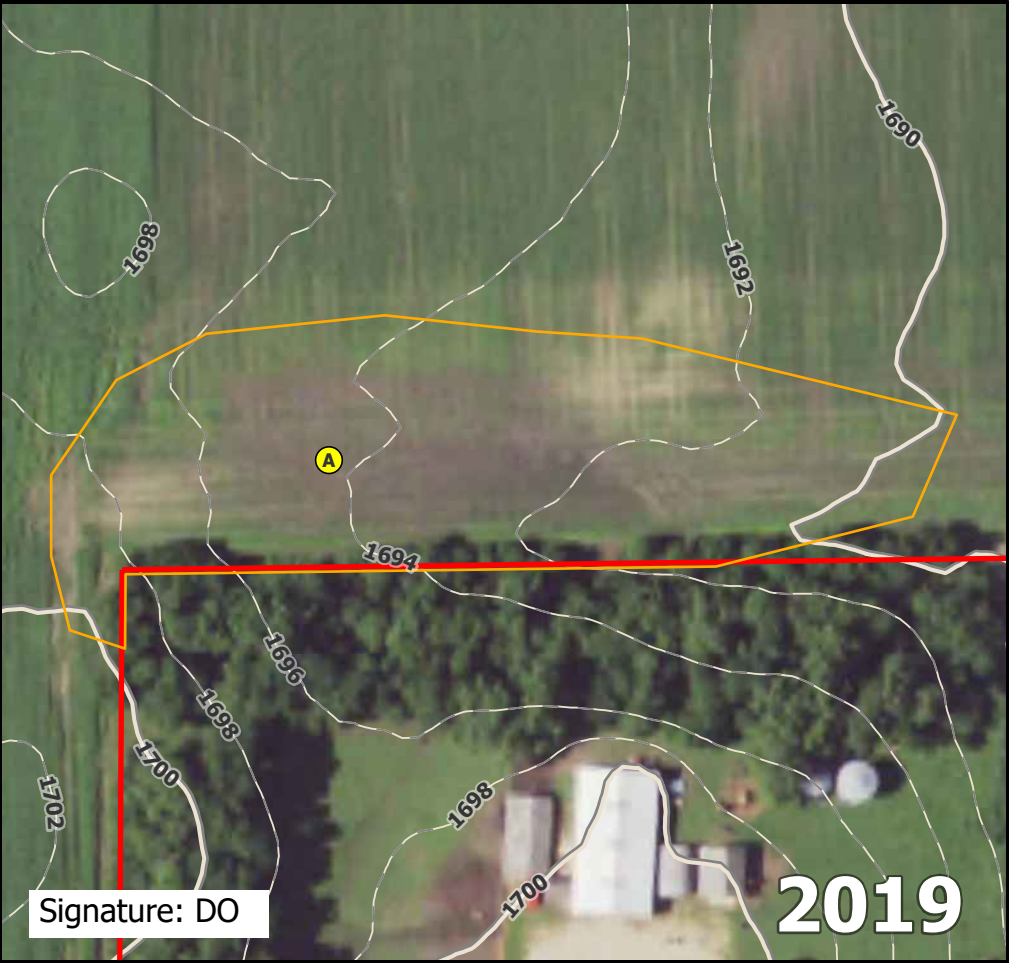
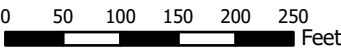
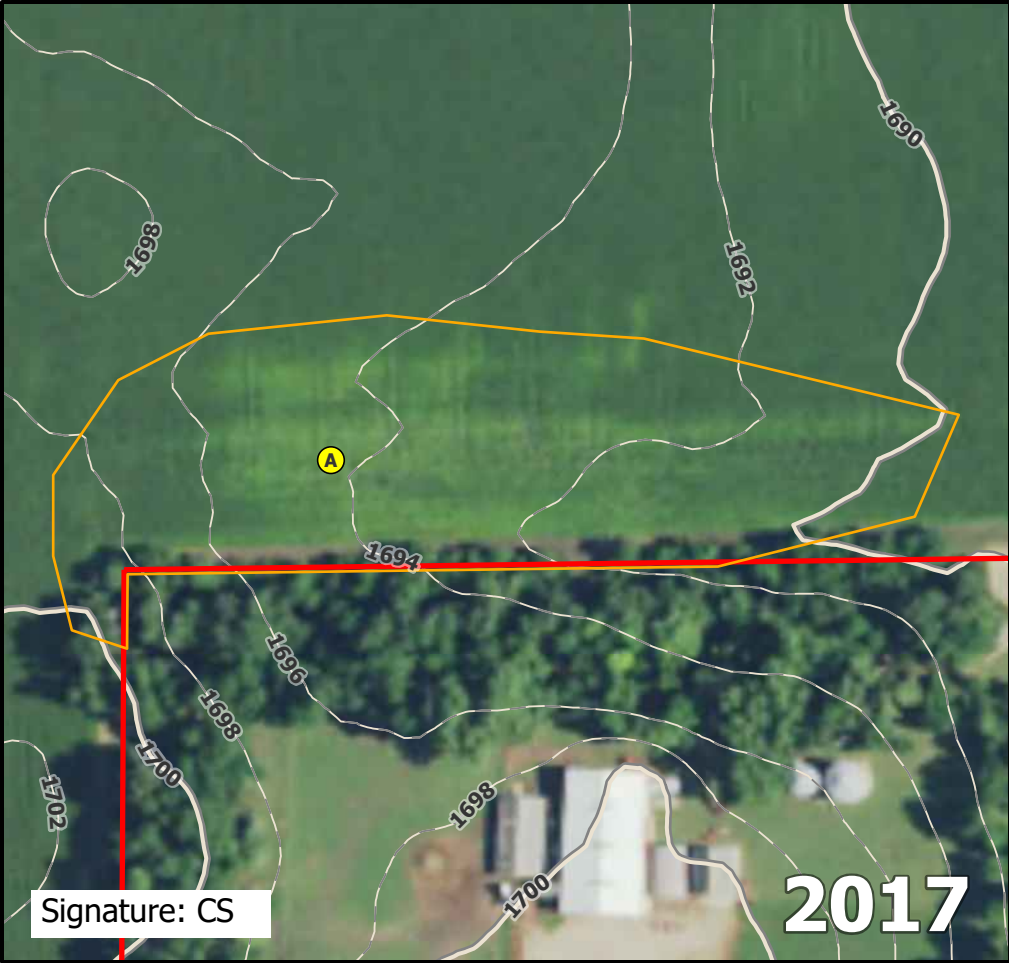
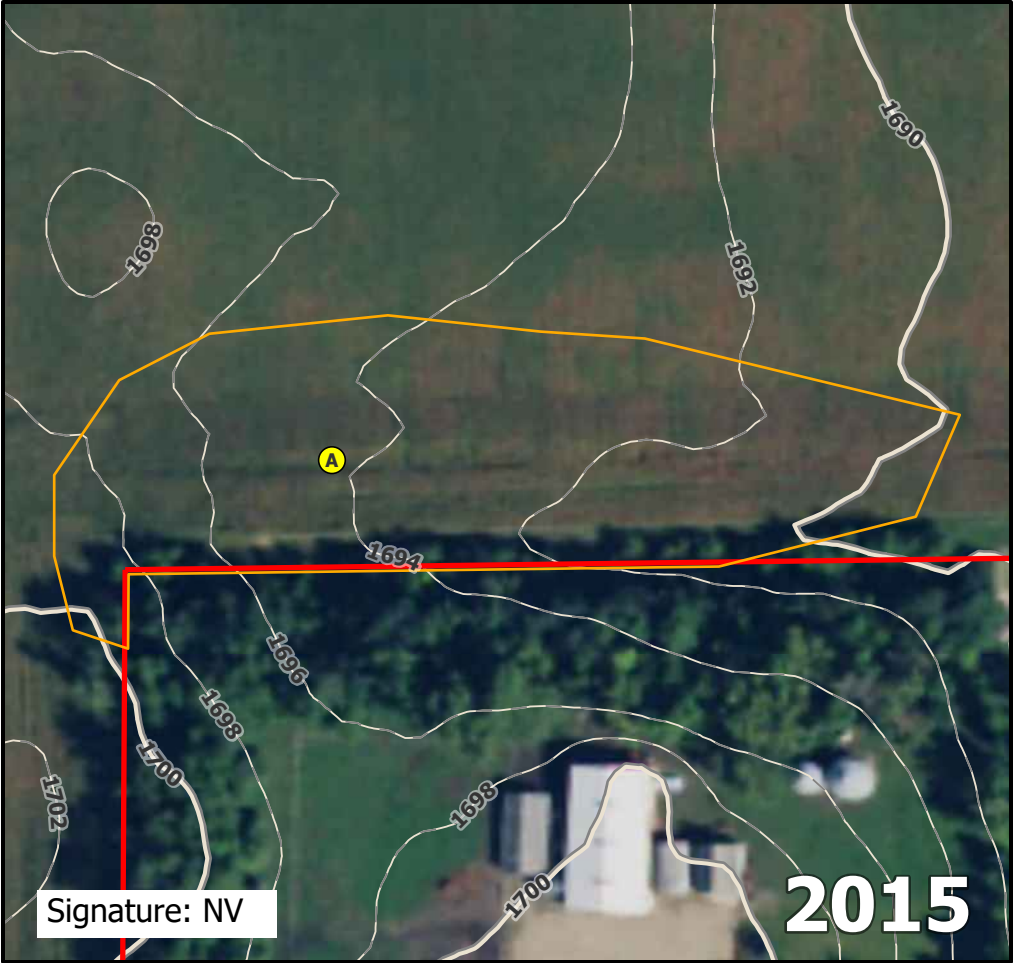
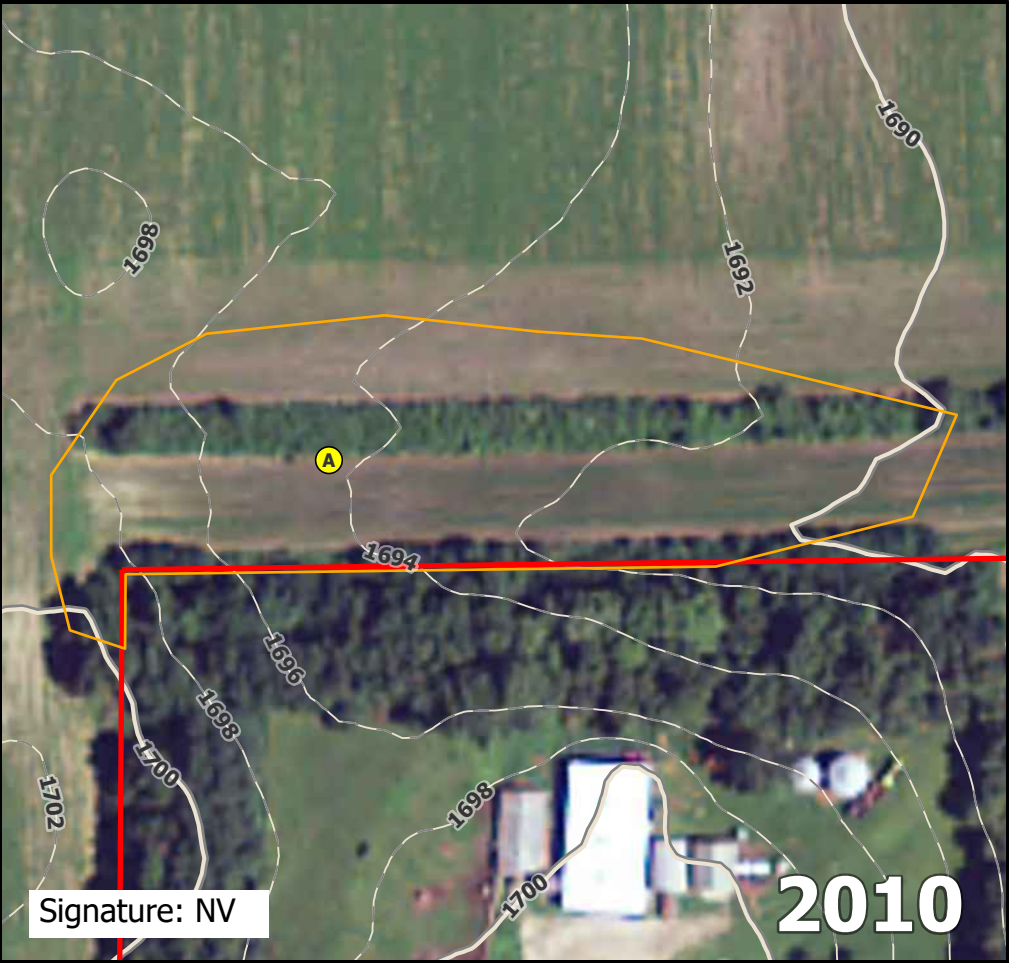
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA076

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000

Non-Wetland ID

NWA077

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA077A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Swale	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.71958	Long:	-95.69561
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u> </u> =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		<u> </u> =Total Cover		

Dominance Test Worksheet

Number of Dominant Species
that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 0 (B)

Percent of Dominant Species
that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 Rapid test for hydrophytic vegetation

 Dominance test is >50%

 Prevalence index is ≤3.0*

 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation*

 (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA077A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Clay Loam	
12-20	2.5Y 4/3	90	10YR 2/1	8	C	M	Clay Loam	Distinct or Prominent
			2.5Y 5/6	2	C	PL		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☐ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

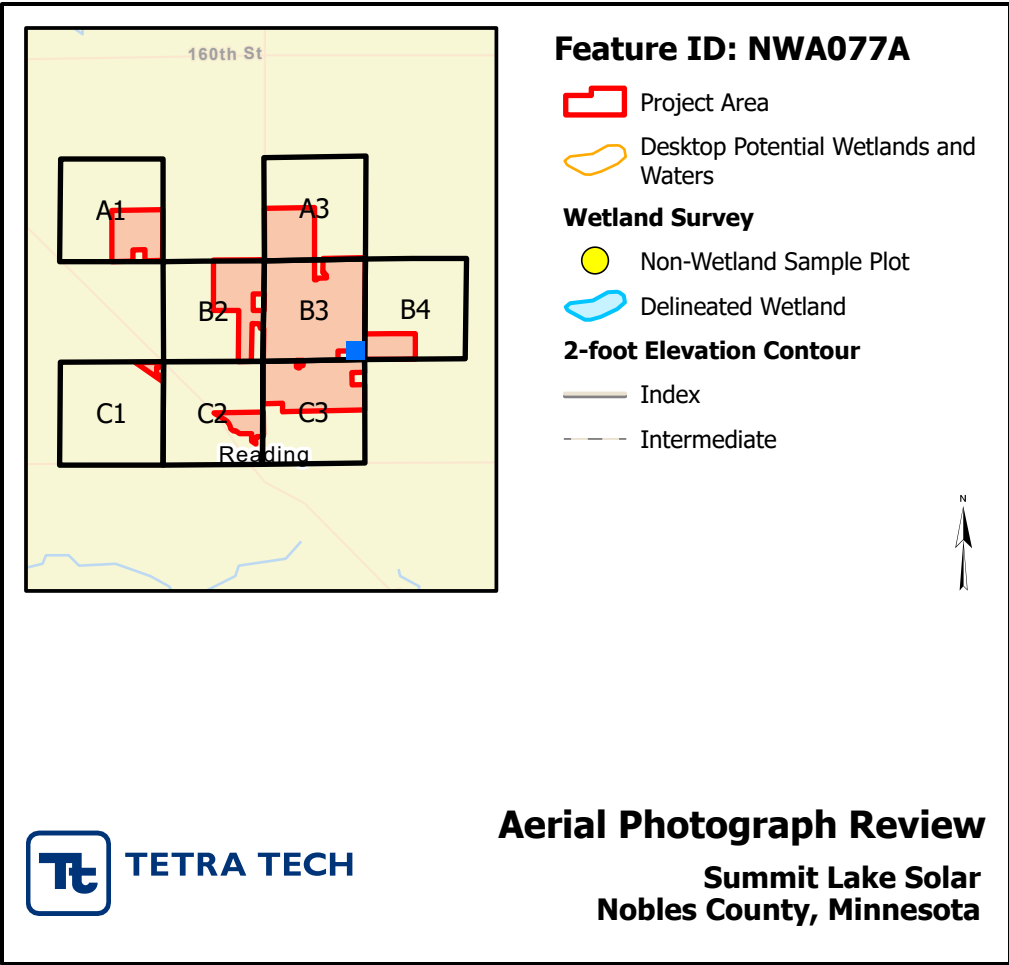
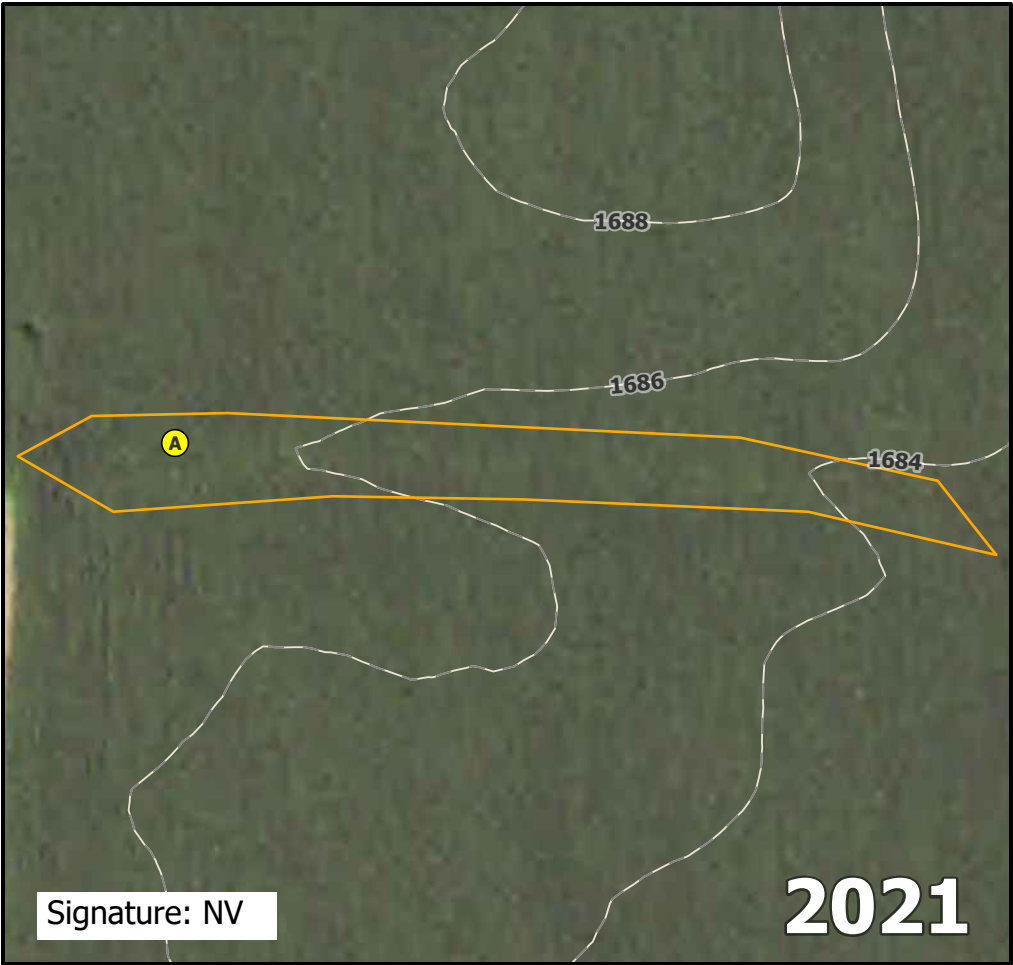
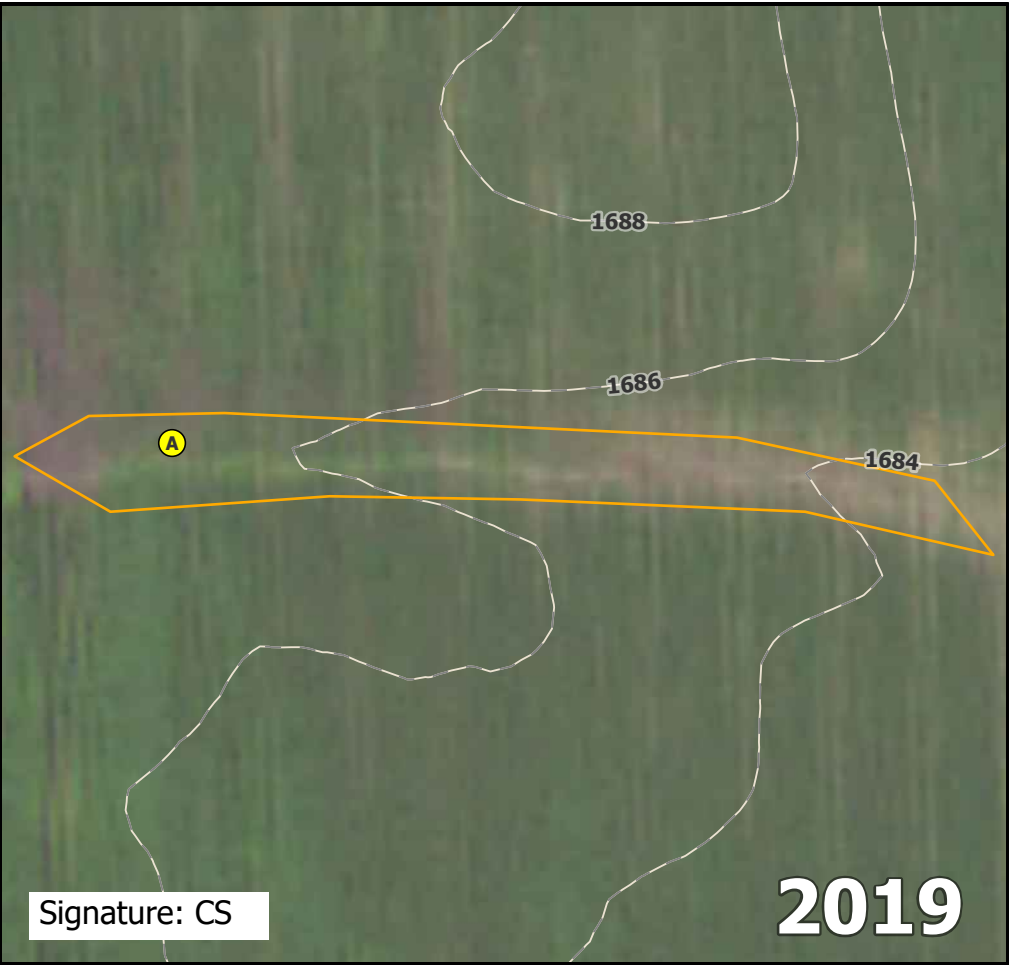
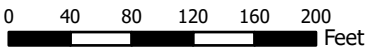
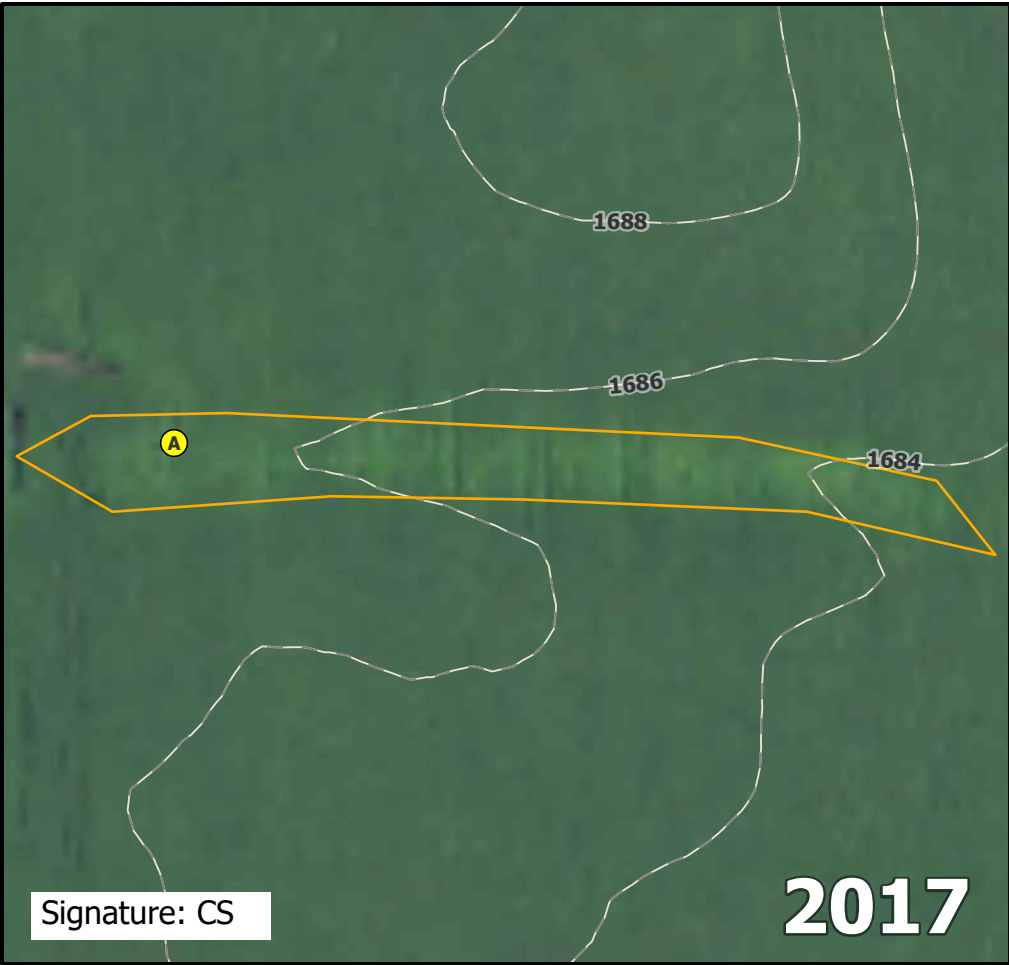
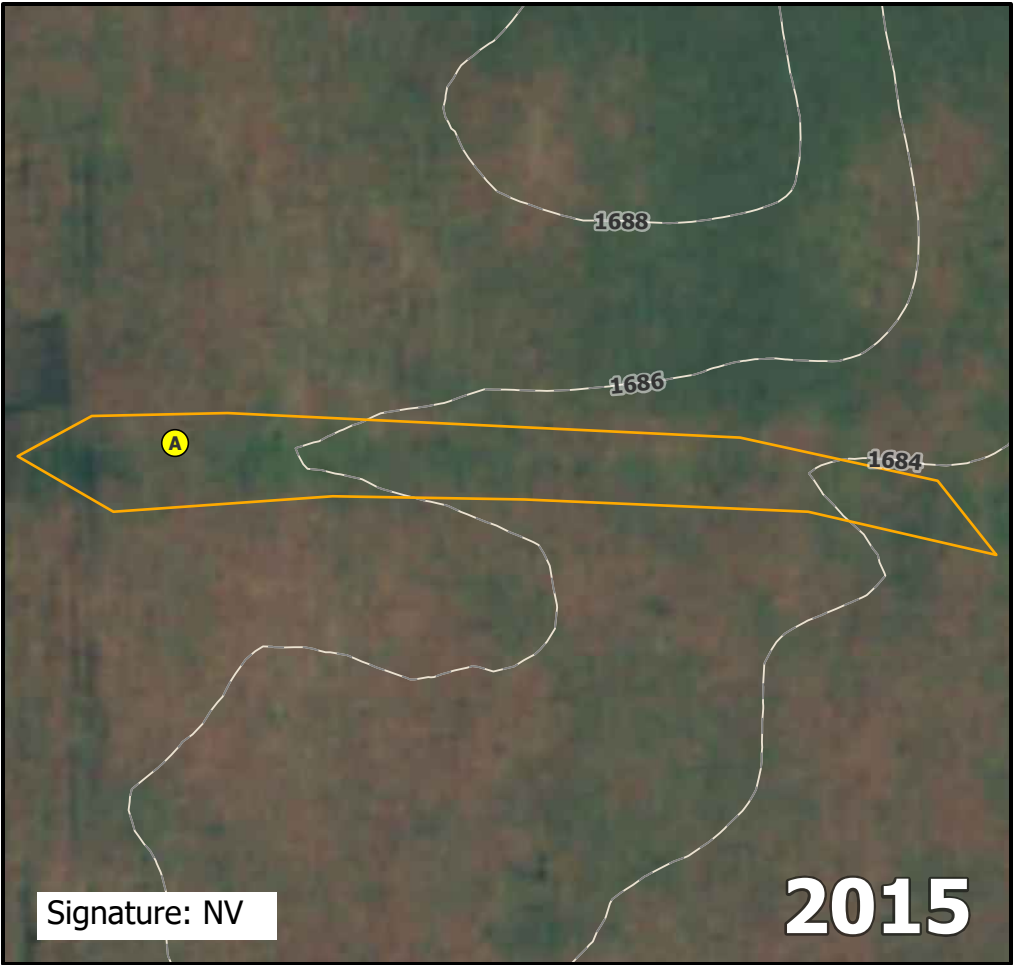
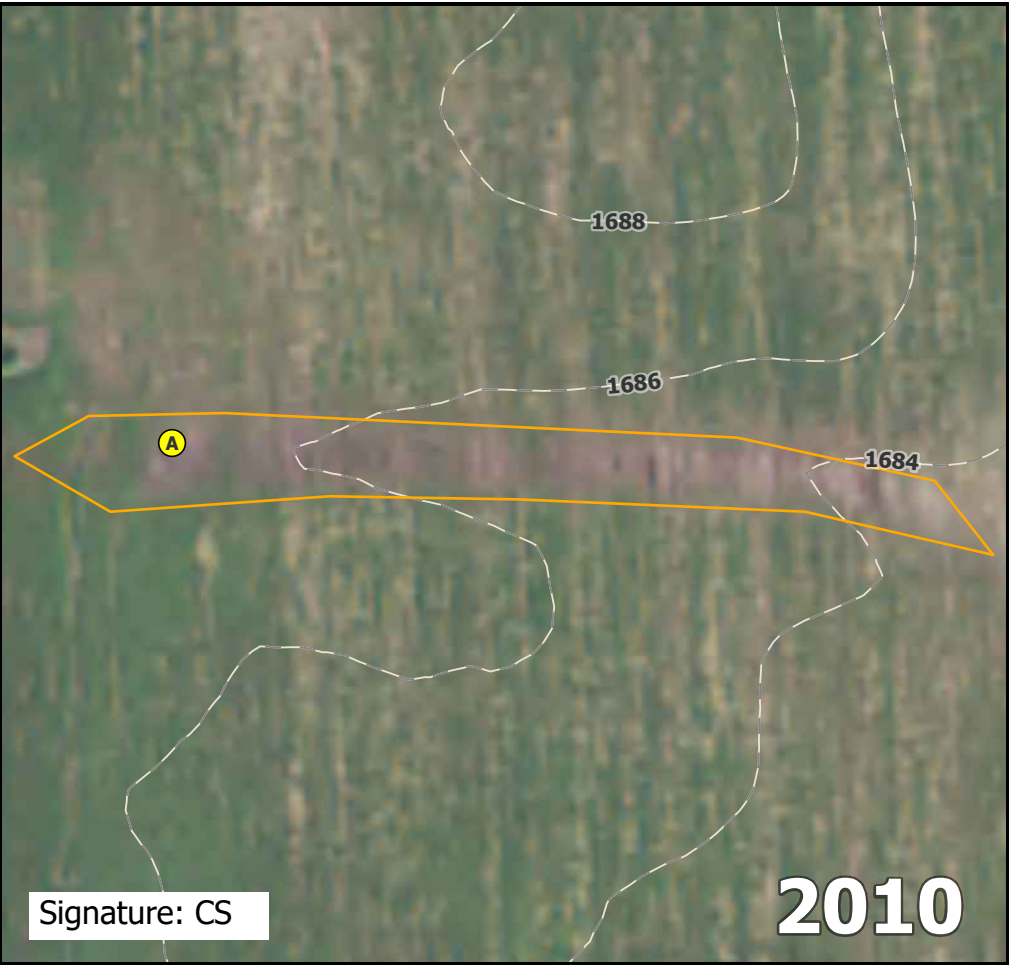
Remarks:



Overview of upland sample point NWA077A.

Direction: East	Photo ID: delin_photo-20221014-141127.jpg	Date: 10/14/2022
Project Name: Summit Lake Solar		Feature ID: NWA077

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA078

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA078A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Hillslope	Local relief (concave, convex, none):	Concave		
Slope (%):	4	Lat:	43.71843	Long:	-95.69578
				Datum:	WGS84
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA078A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	100					Clay Loam	
10-20	2.5Y 5/4	90	2.5Y 8/1	7	D	M	Silty Clay Some Gravel	
			2.5Y 6/8	3	C	PL		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA078A.

Direction: Southwest

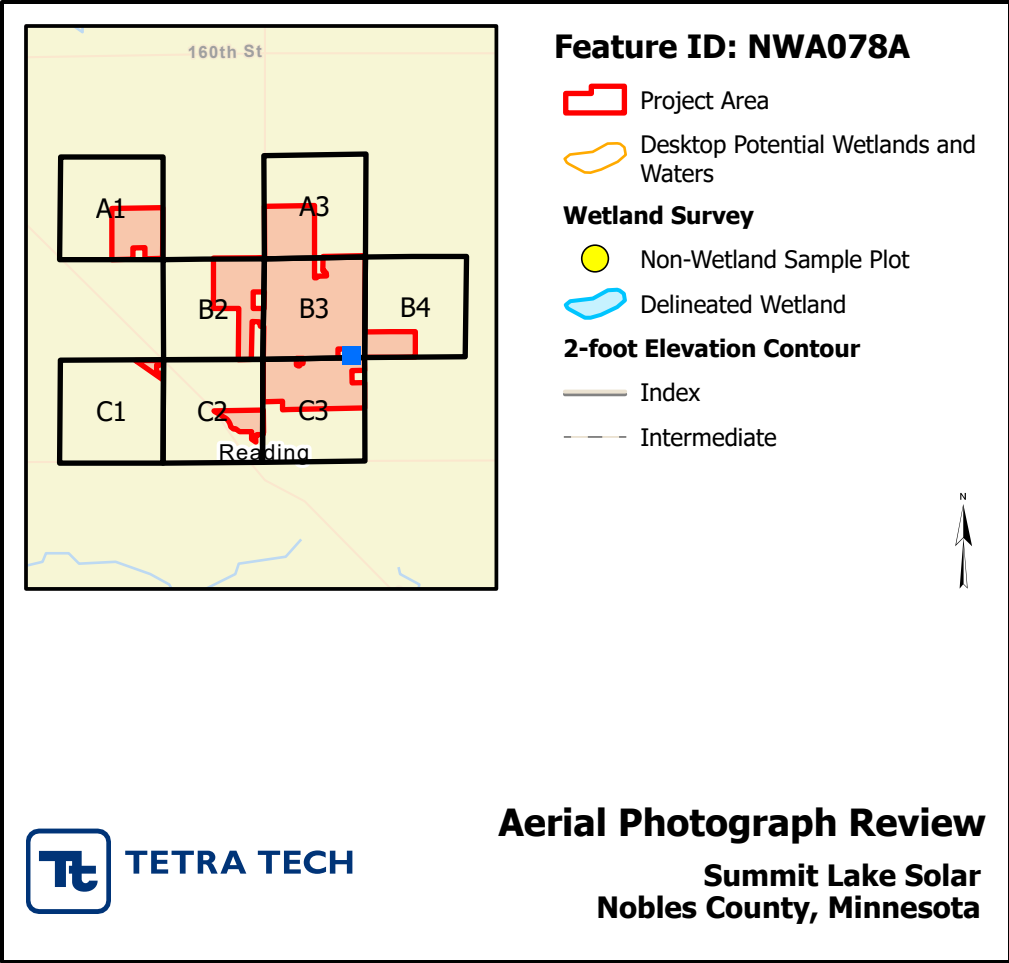
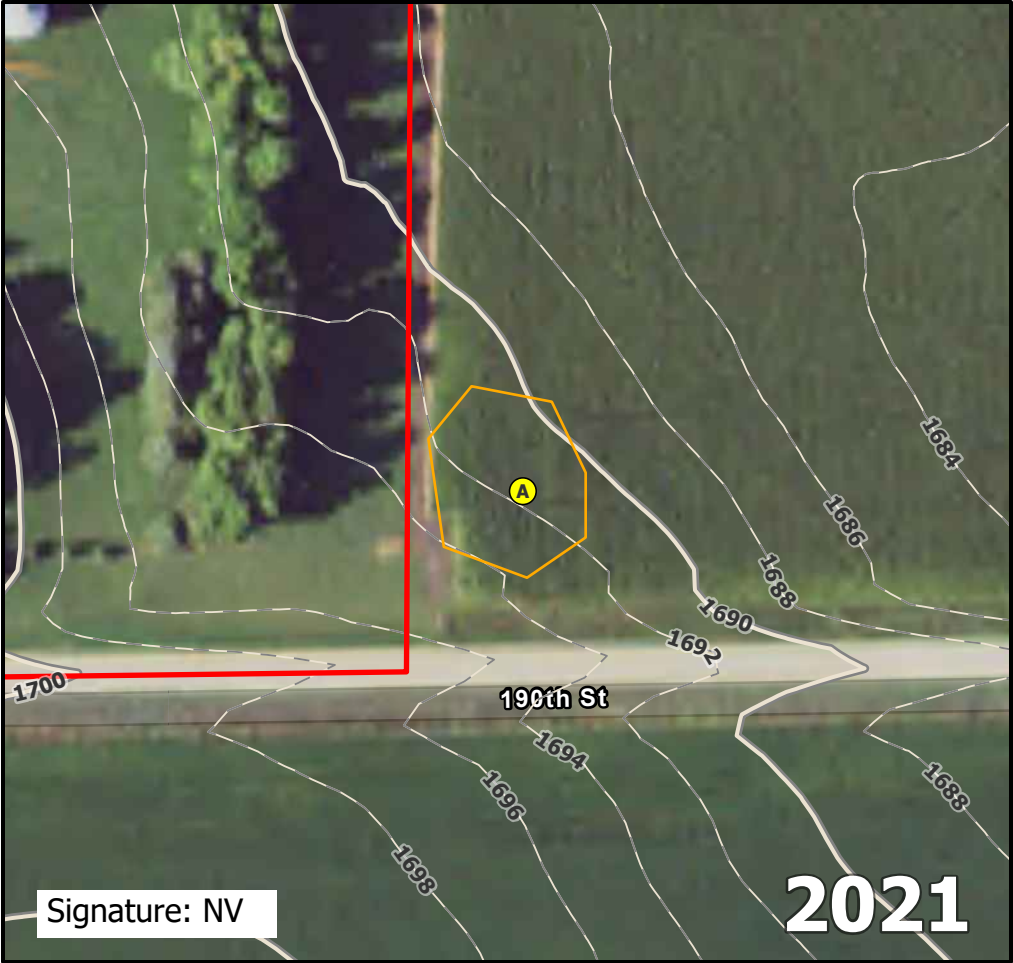
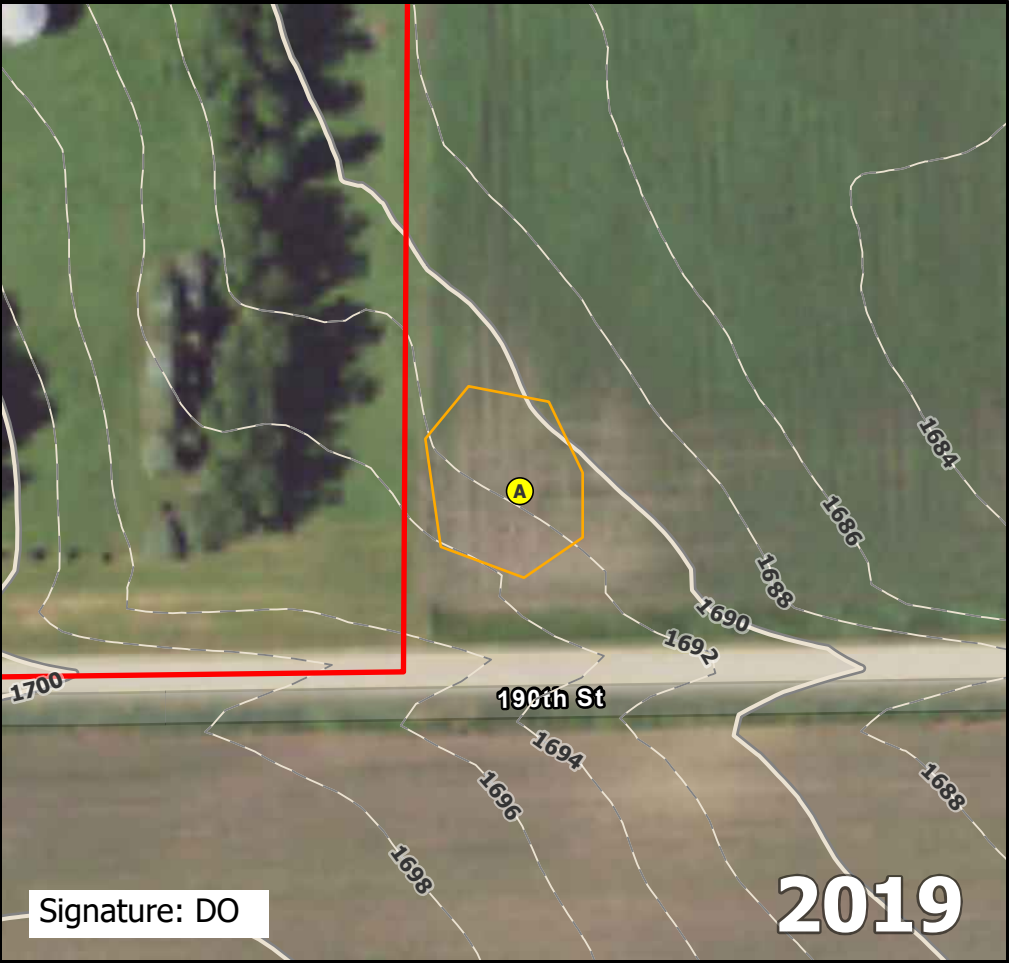
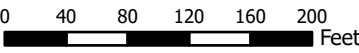
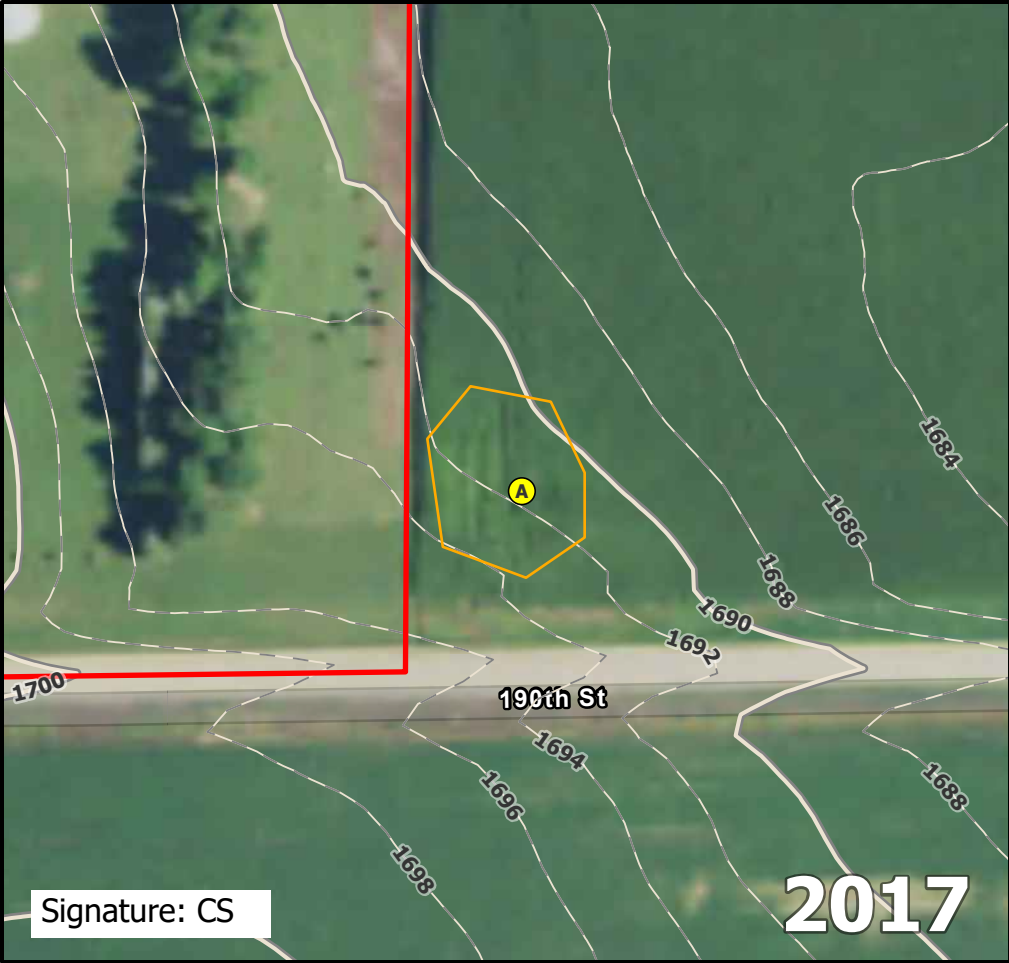
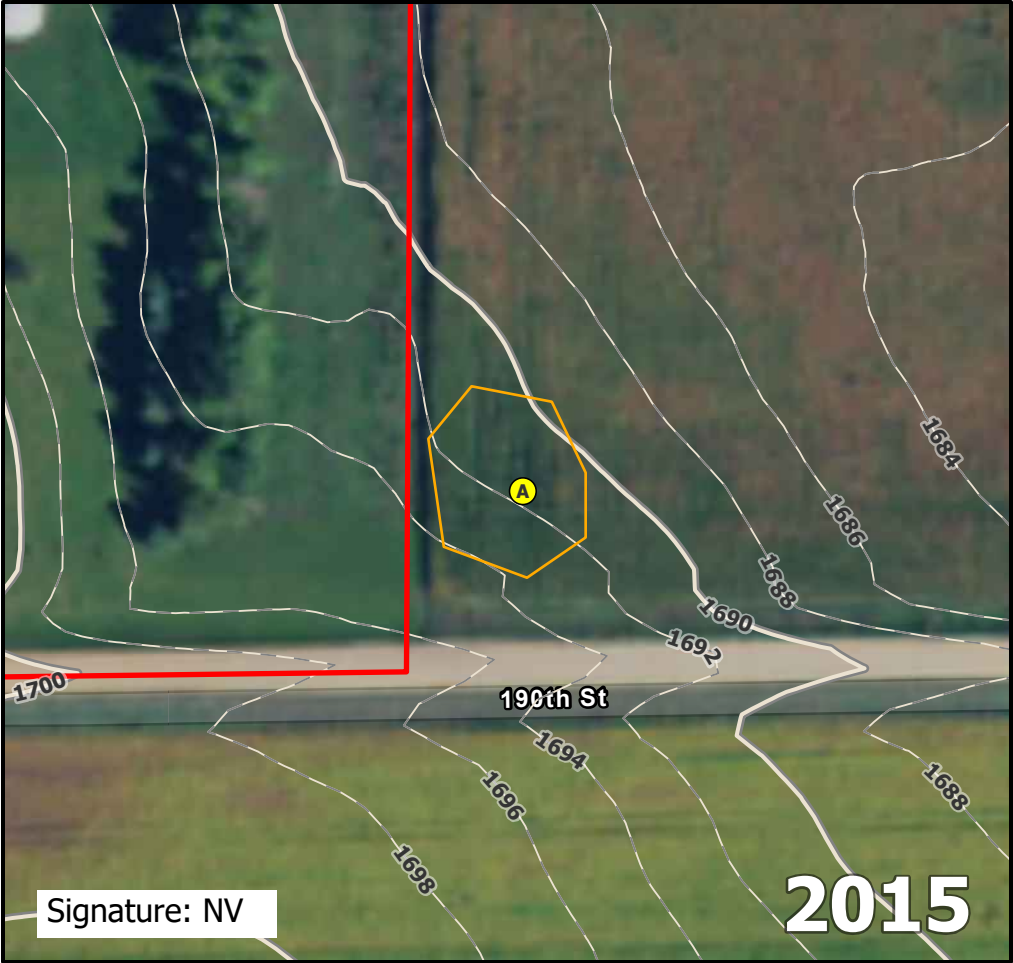
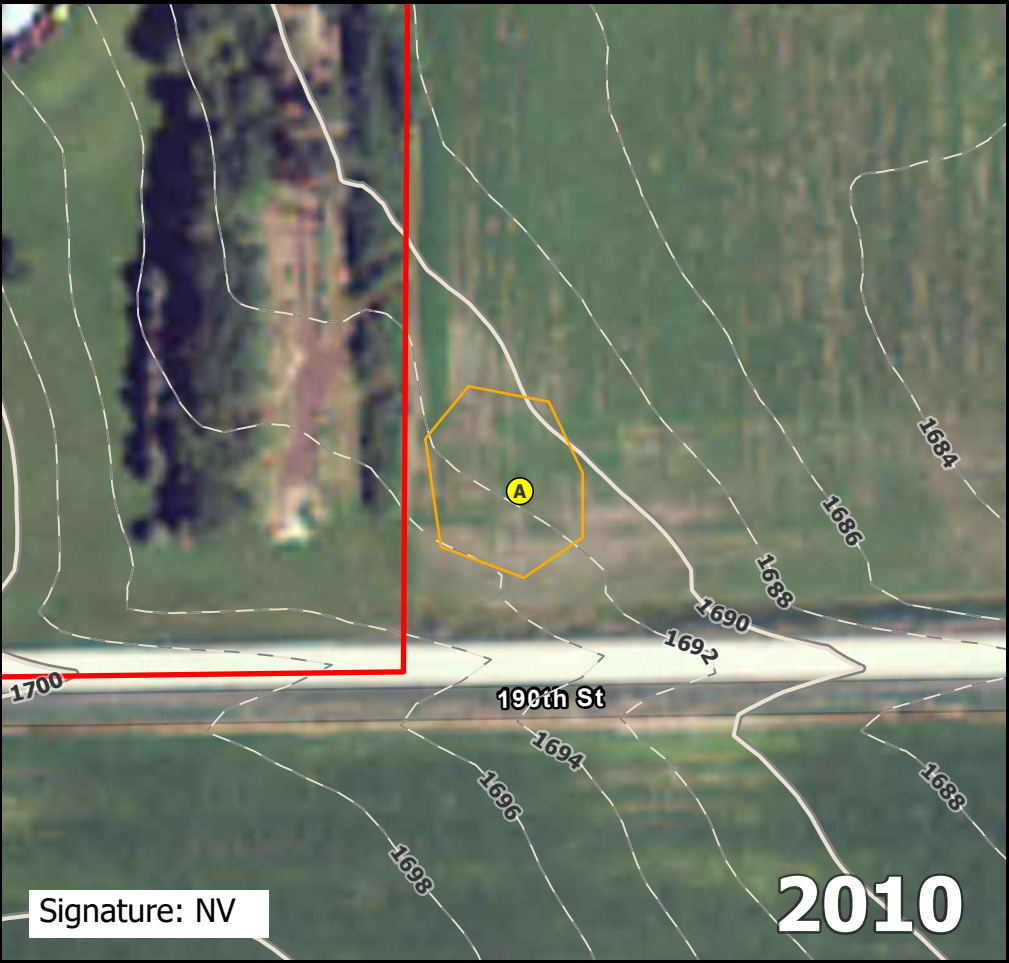
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA078

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA079

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA079A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.73047	Long:	-95.70328
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently tilled agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA079A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 2/1	100					Clay Loam	
4-20	2.5Y 3/3	93	10YR 3/6	7	C	PL/M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☒ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA079A.

Direction: Southeast

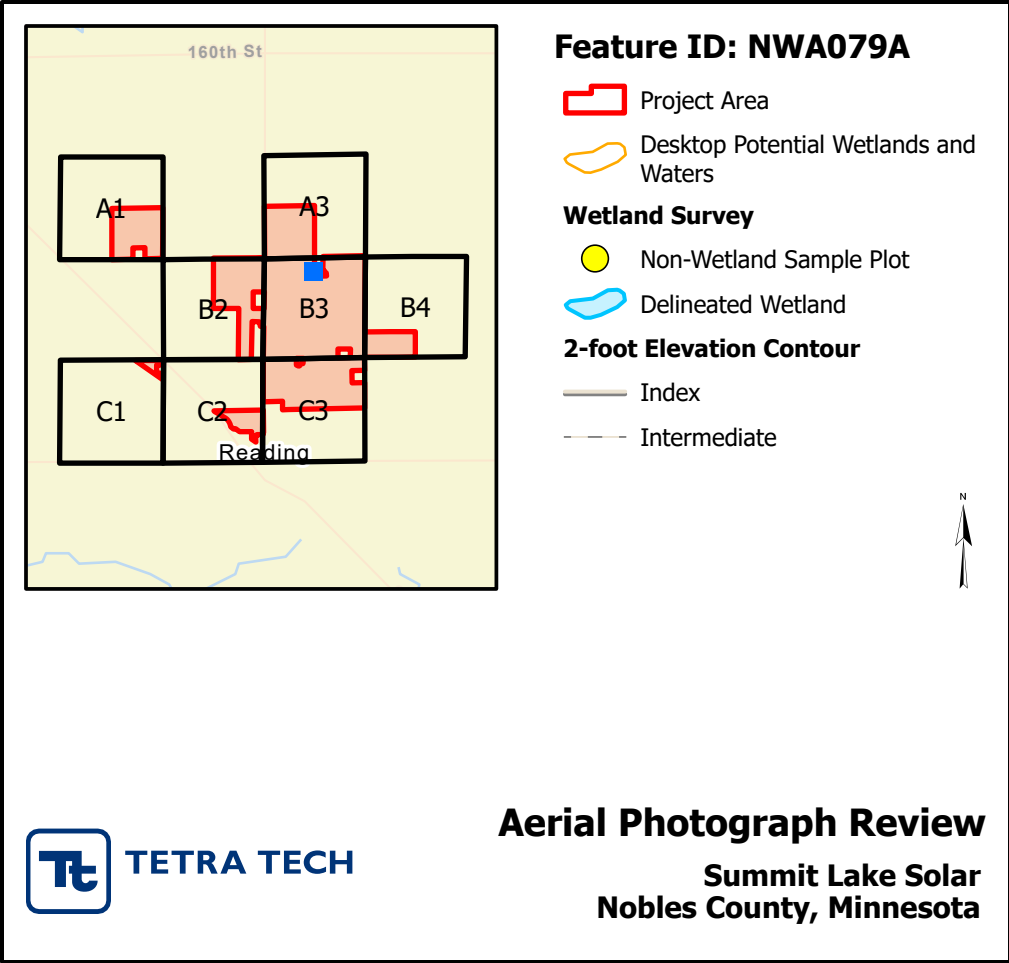
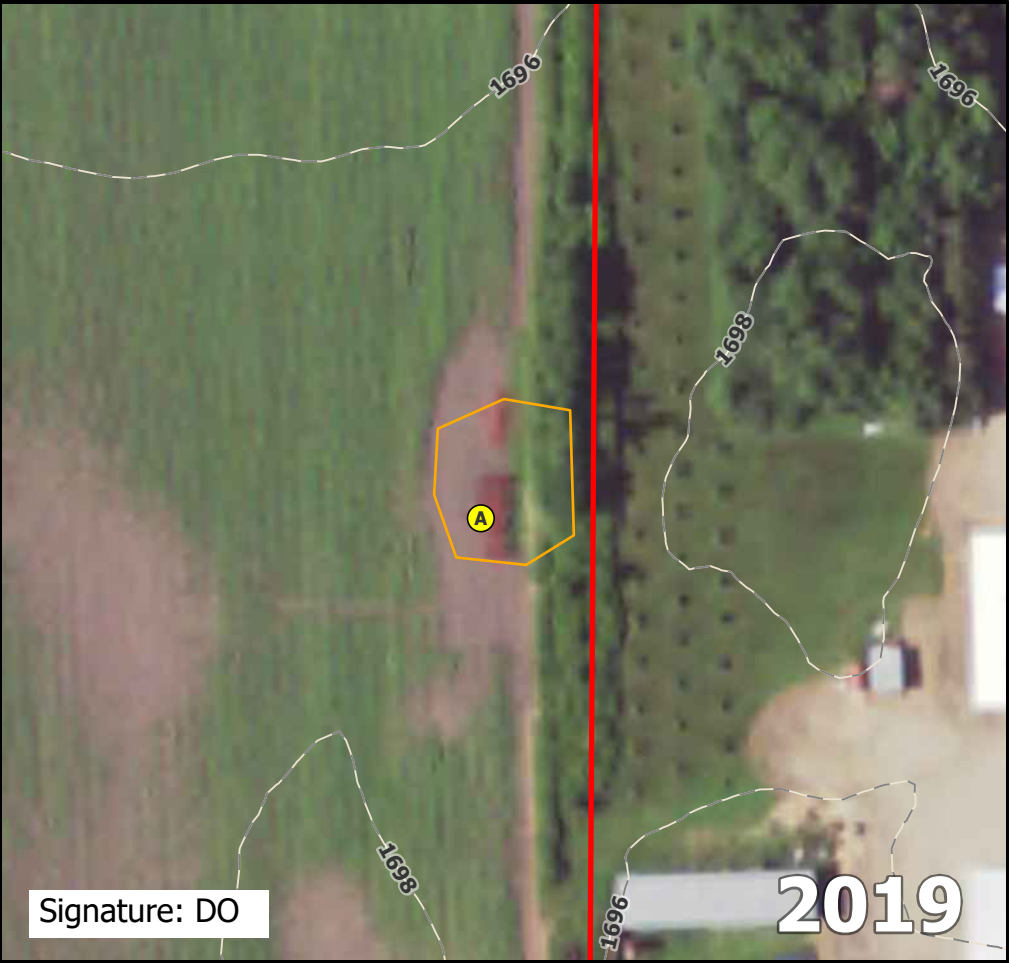
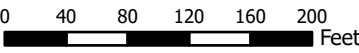
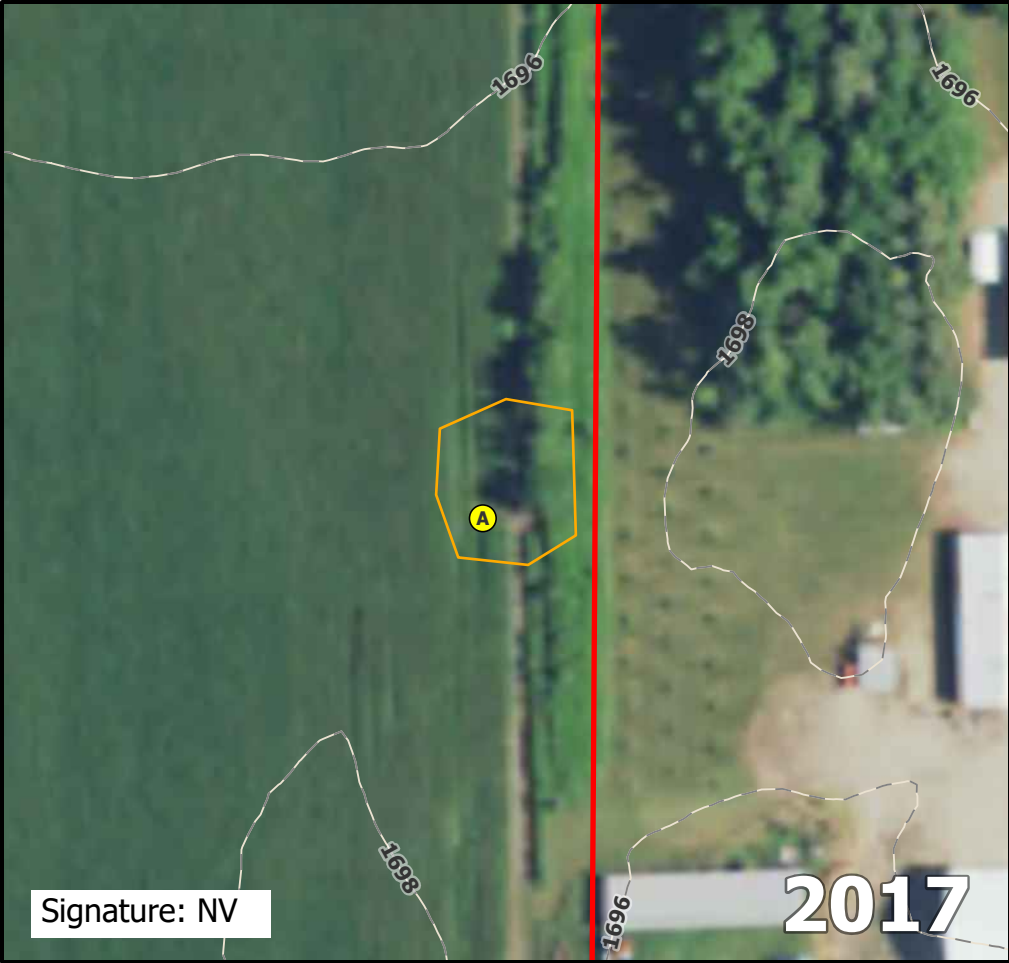
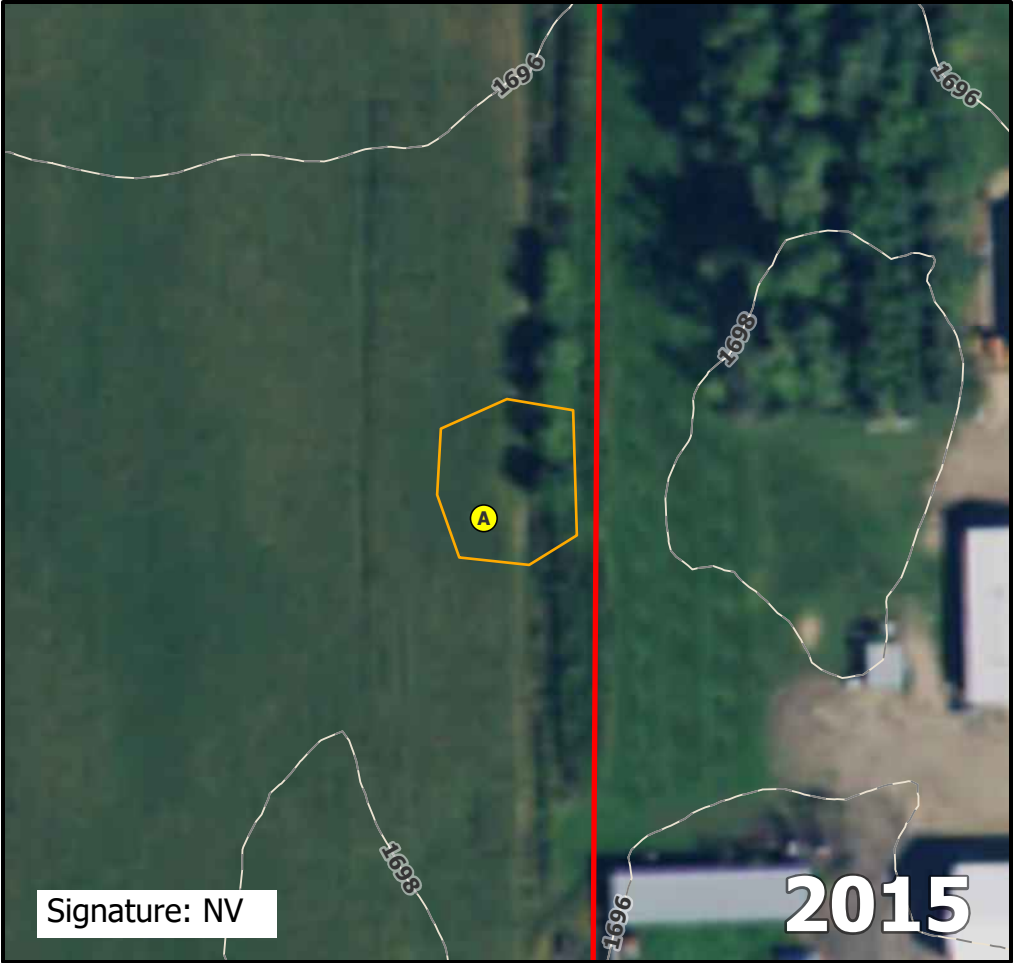
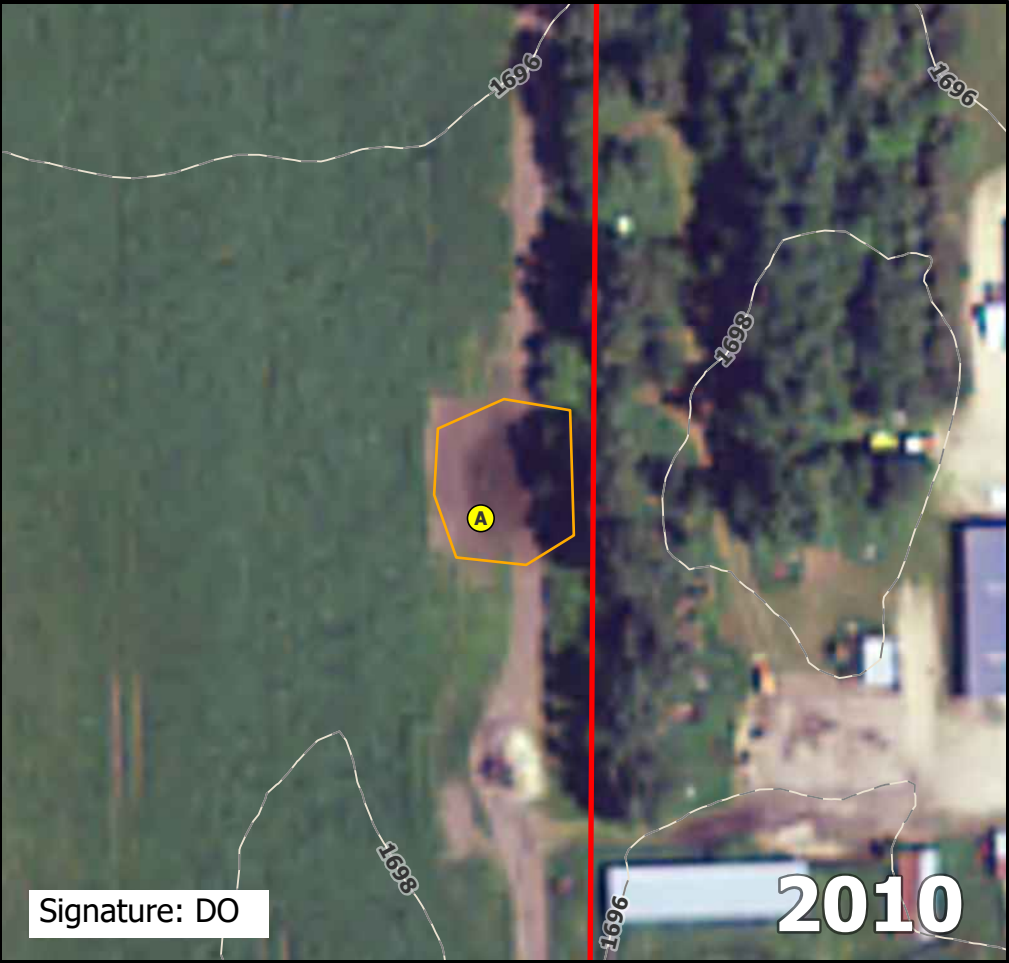
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA079

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA080

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA080A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.72938 Long: -95.70307 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u> </u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks:		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>50</u> x 5 = <u>250</u> Column totals <u>100</u> (A) <u>450</u> (B) Prevalence Index = B/A = <u>4.5</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Bromus inermis</i>		50	Y	FACU	
2. <i>Setaria viridis</i>		50	Y	UPL	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

Bare ground/open water: 0%

SOIL

Sampling Point: NWA080A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? _____

Remarks:

Soils not observed due to presence of upland vegetation.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ☒ Depth (inches): _____
 Water Table Present? Yes _____ No _____ Depth (inches): _____
 Saturation Present? Yes _____ No _____ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

_____ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA080A.

Direction: Southeast

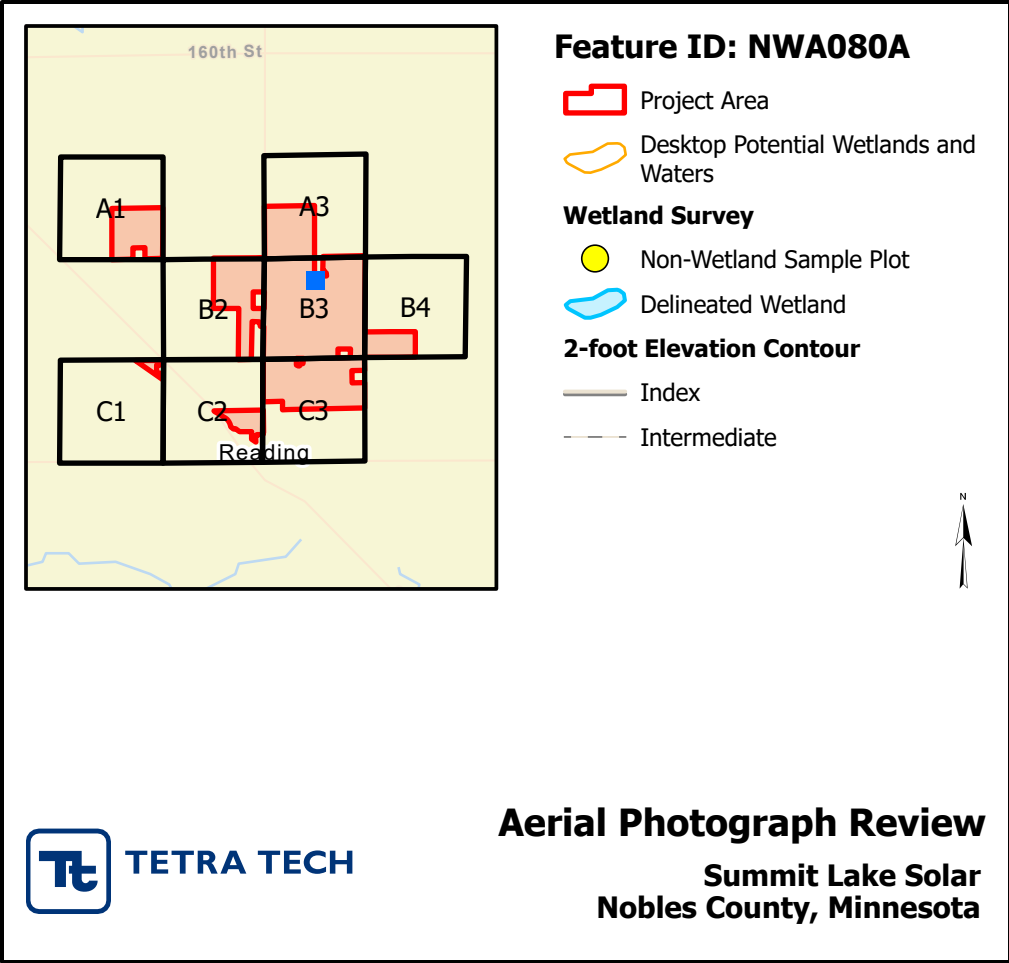
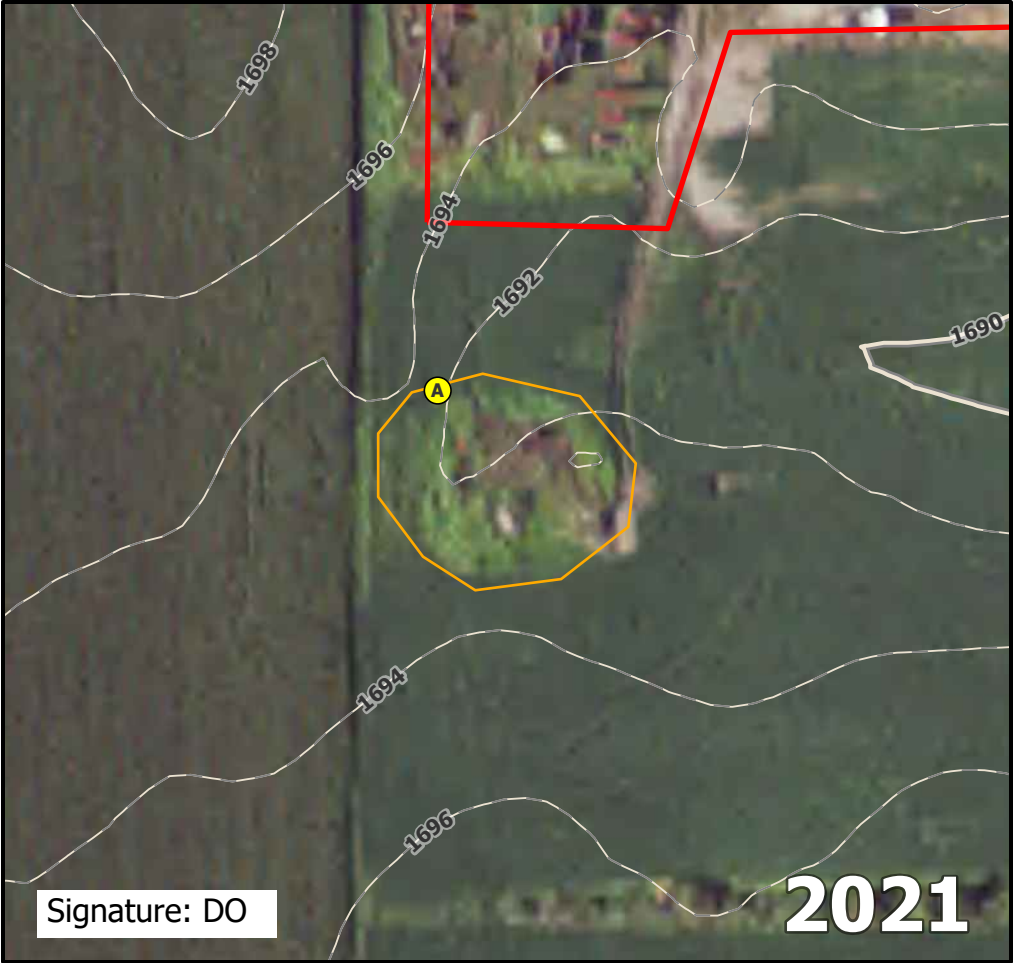
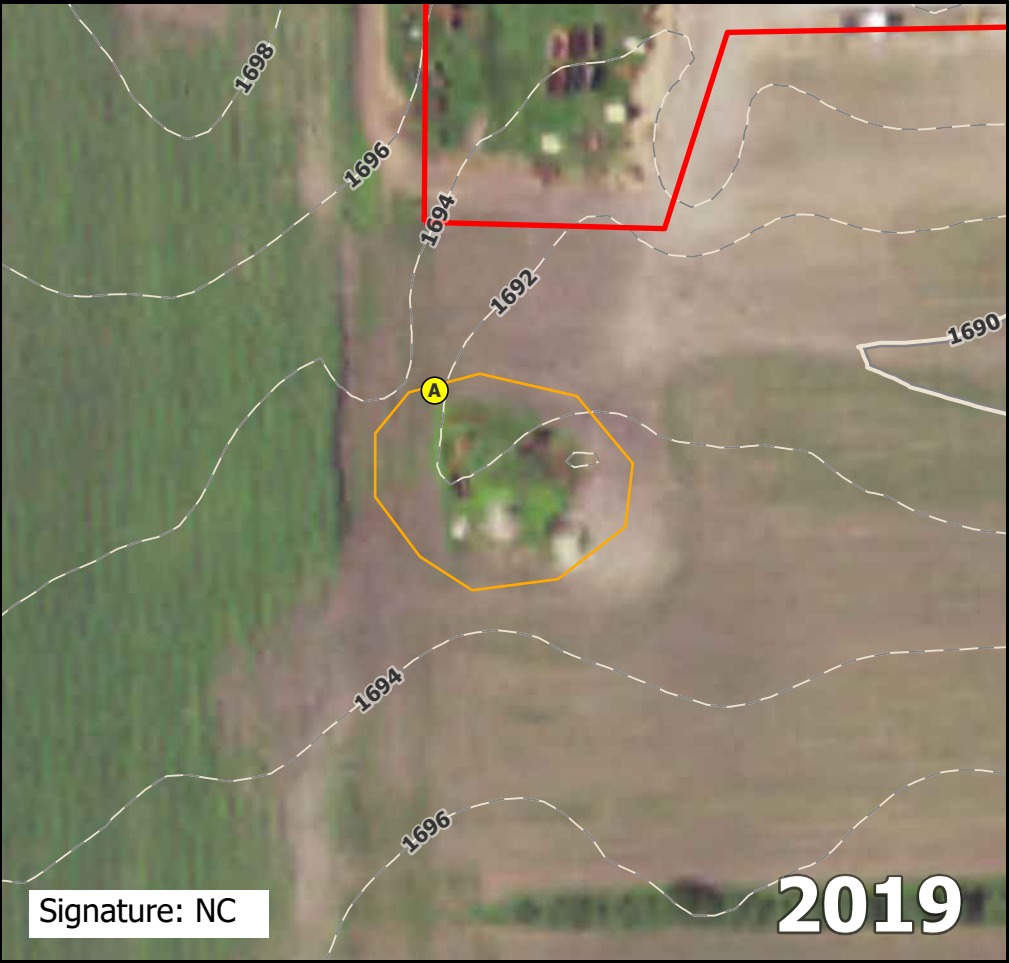
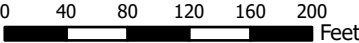
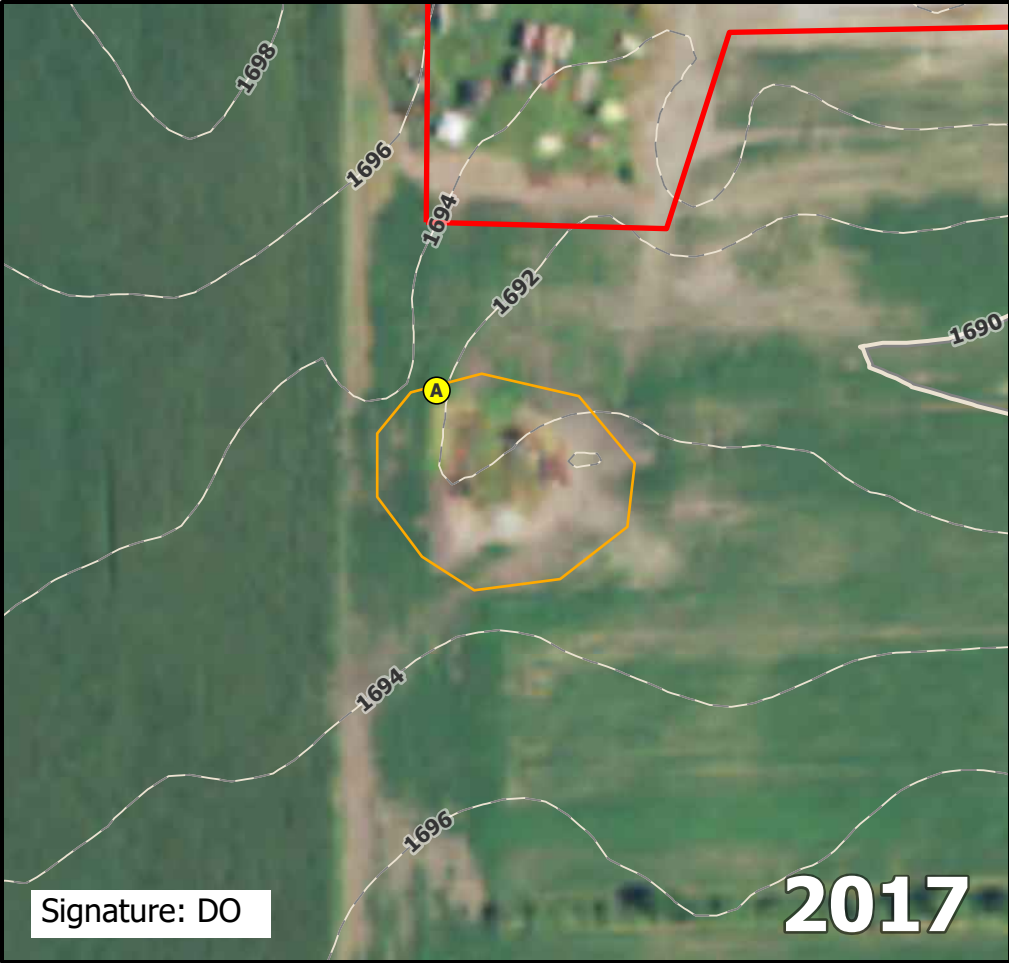
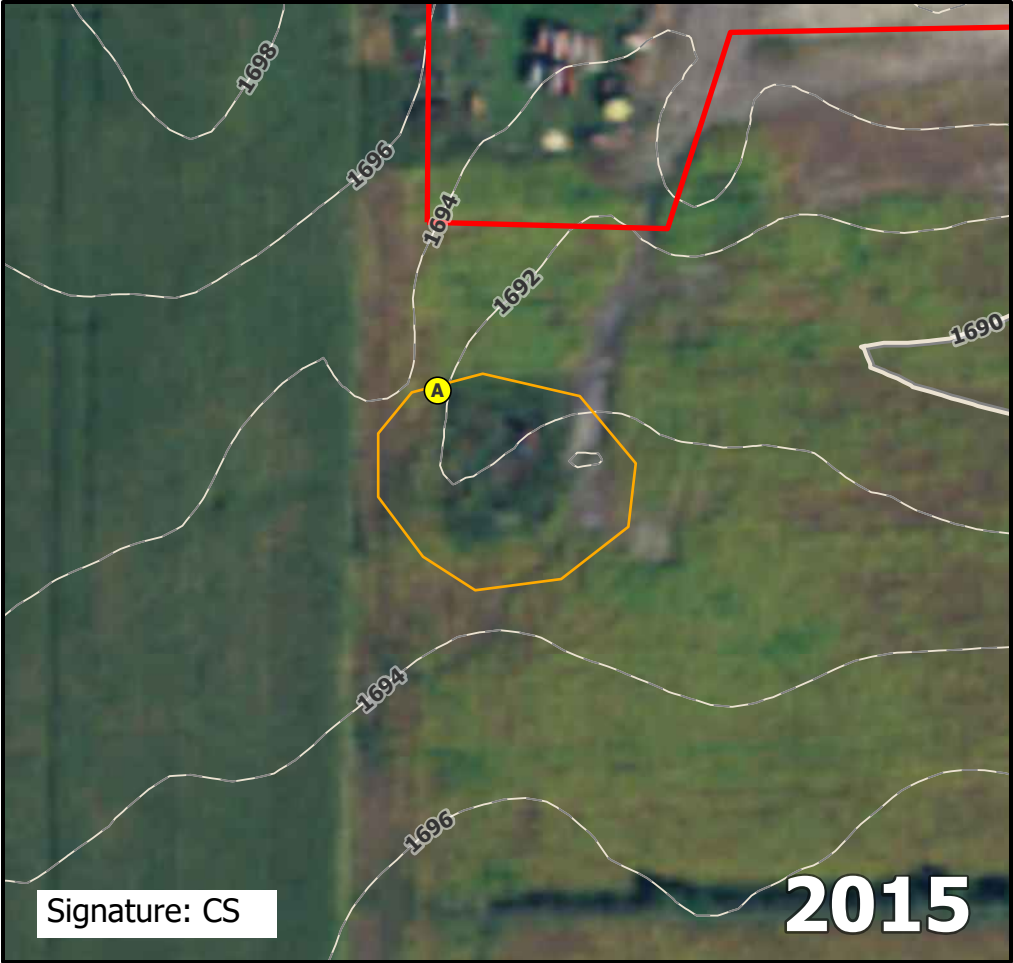
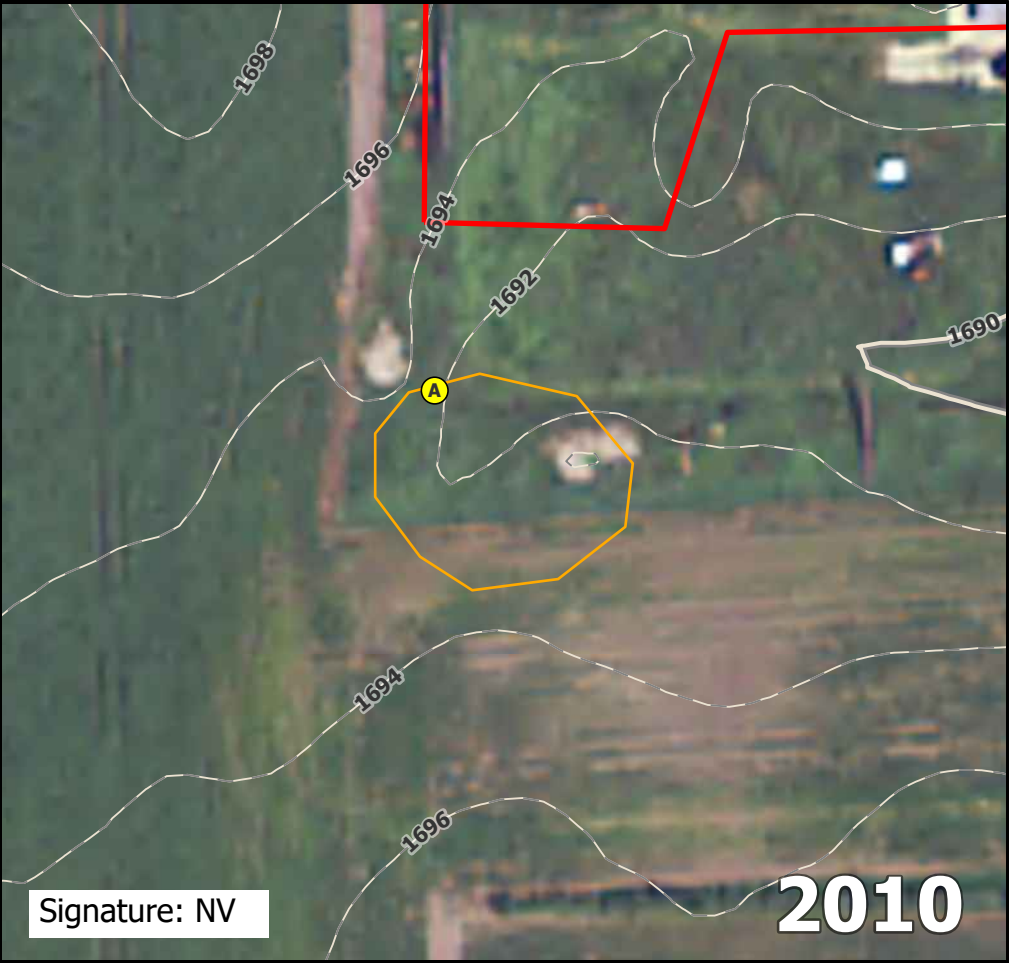
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA080

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA081

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA081A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.7278	Long:	-95.70318
				Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA081A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Clay Loam	
15-22	10YR 2/1	90	2.5Y 4/1	10	D	M	Silty Clay	
22-40	2.5Y 3/1	98	2.5Y 3/2	2	C	PL/M	Silty Clay	Faint

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA081A.

Direction: South

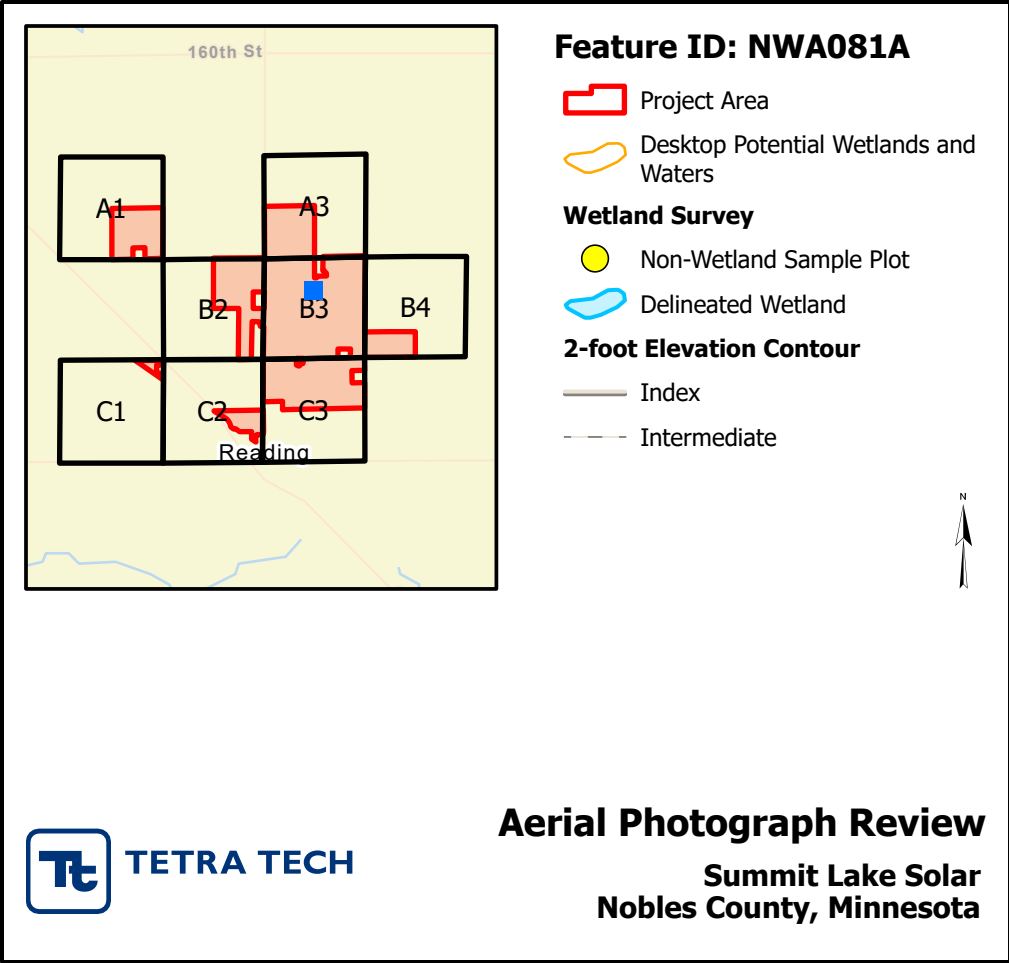
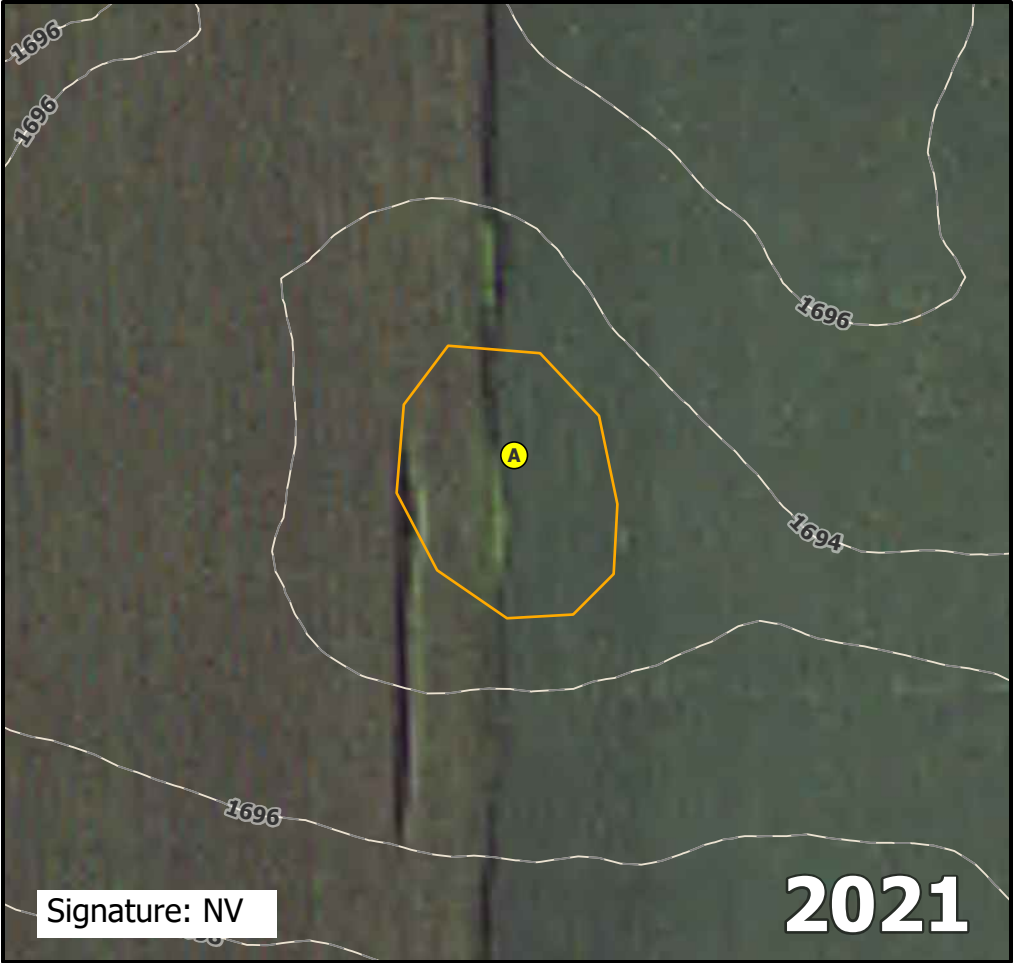
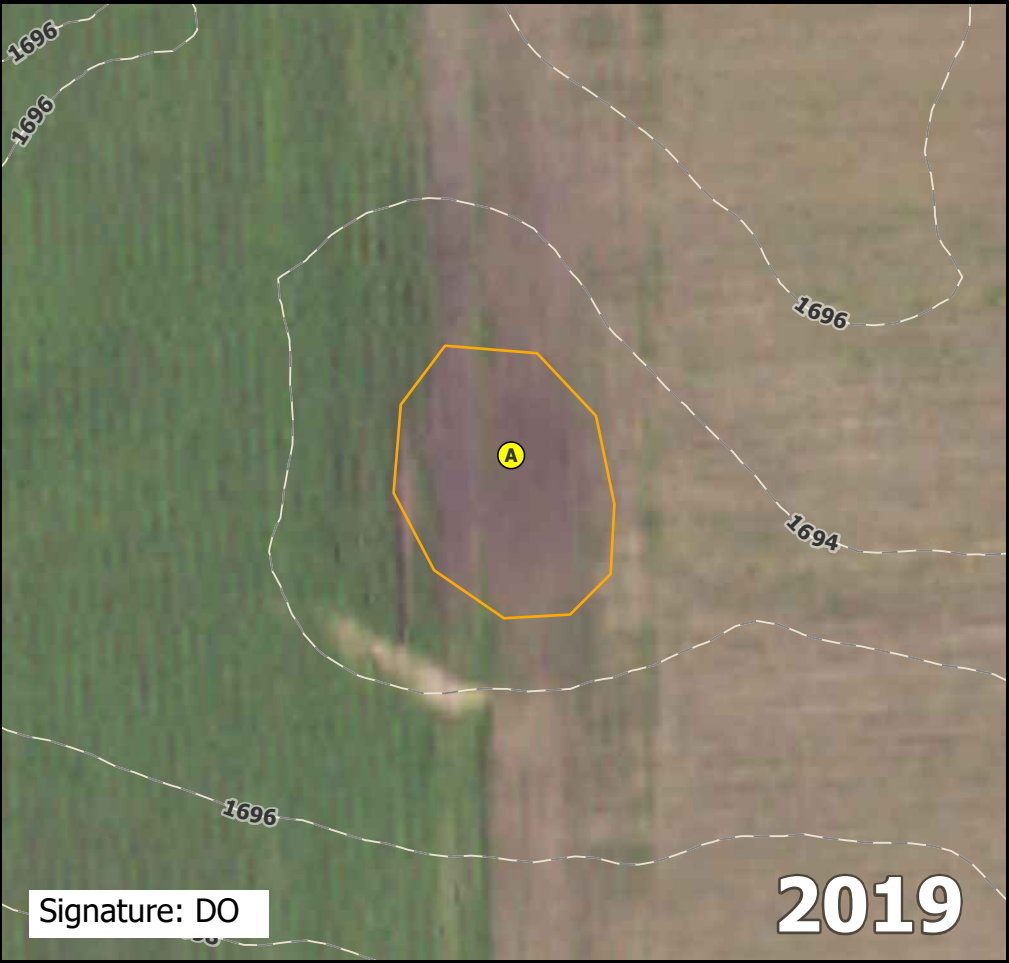
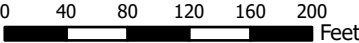
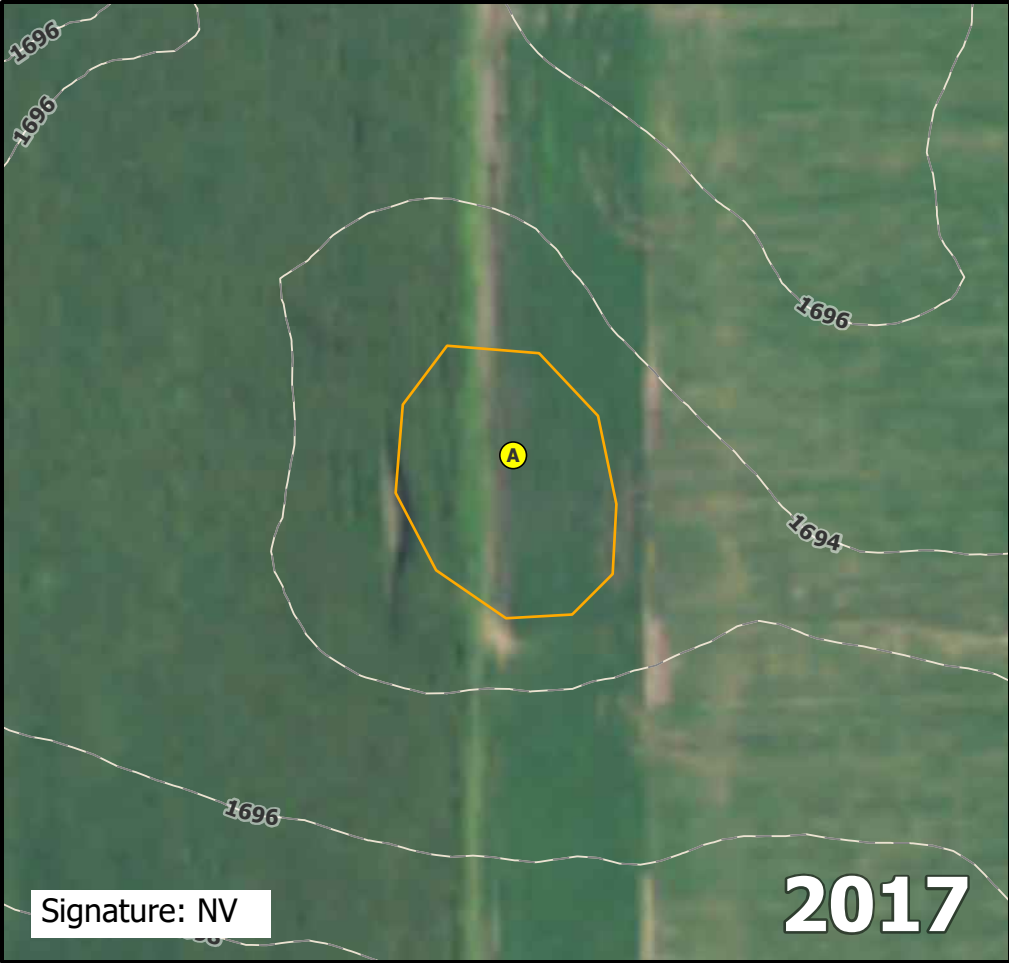
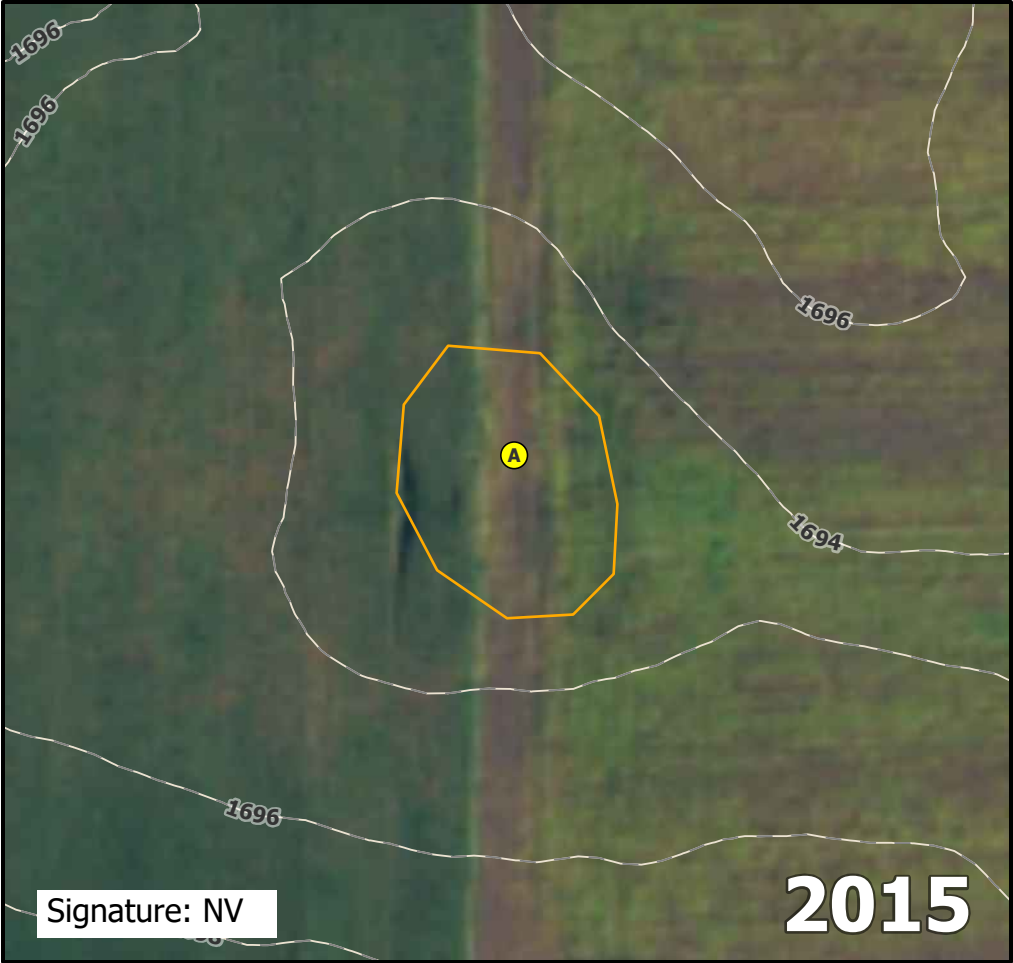
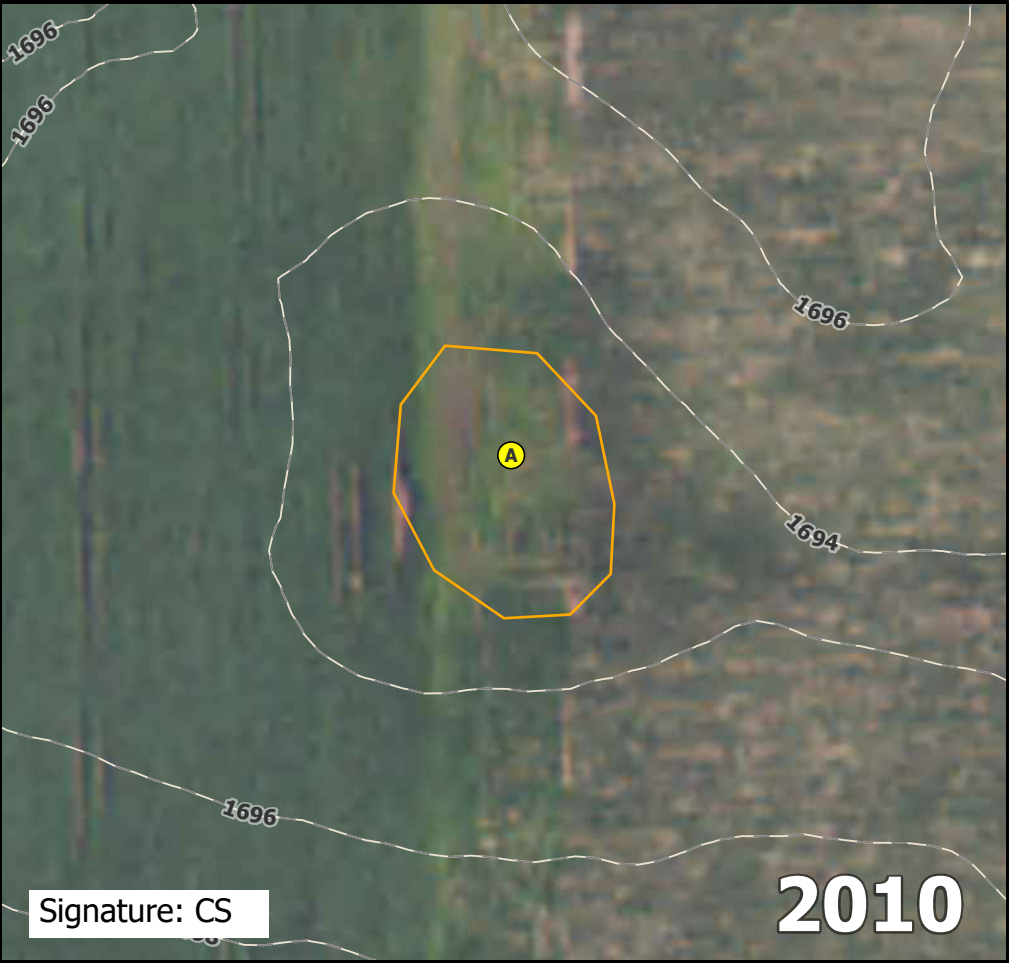
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA081

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA082

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA082A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.14 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	0	Lat:	43.72063	Long:	-95.71739
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA082A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-31	10YR 2/1	100					Clay Loam	
31-33	10YR 2/1	99	2.5Y 4/3	1	C	PL/M	Clay Loam	Distinct or Prominent
33-36	10YR 2/1	80					Clay Loam	
	2.5Y 4/3	20						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 36

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

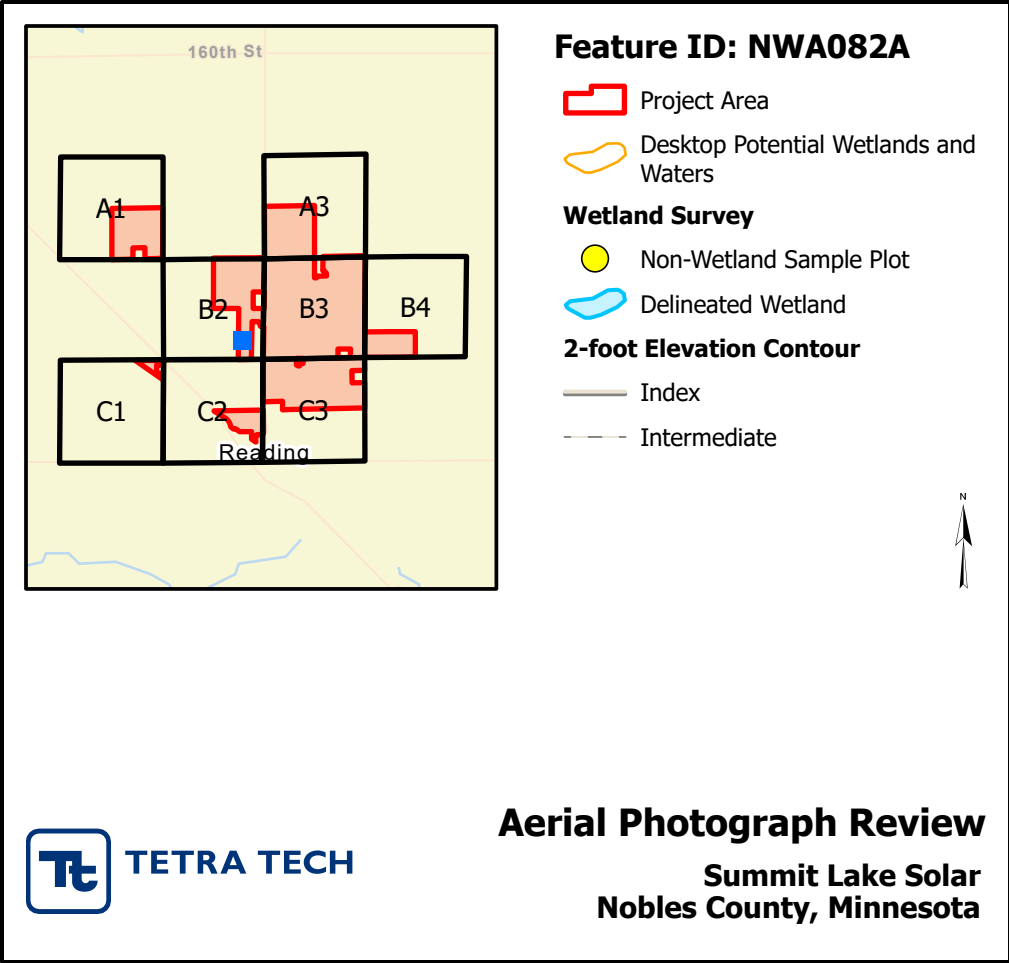
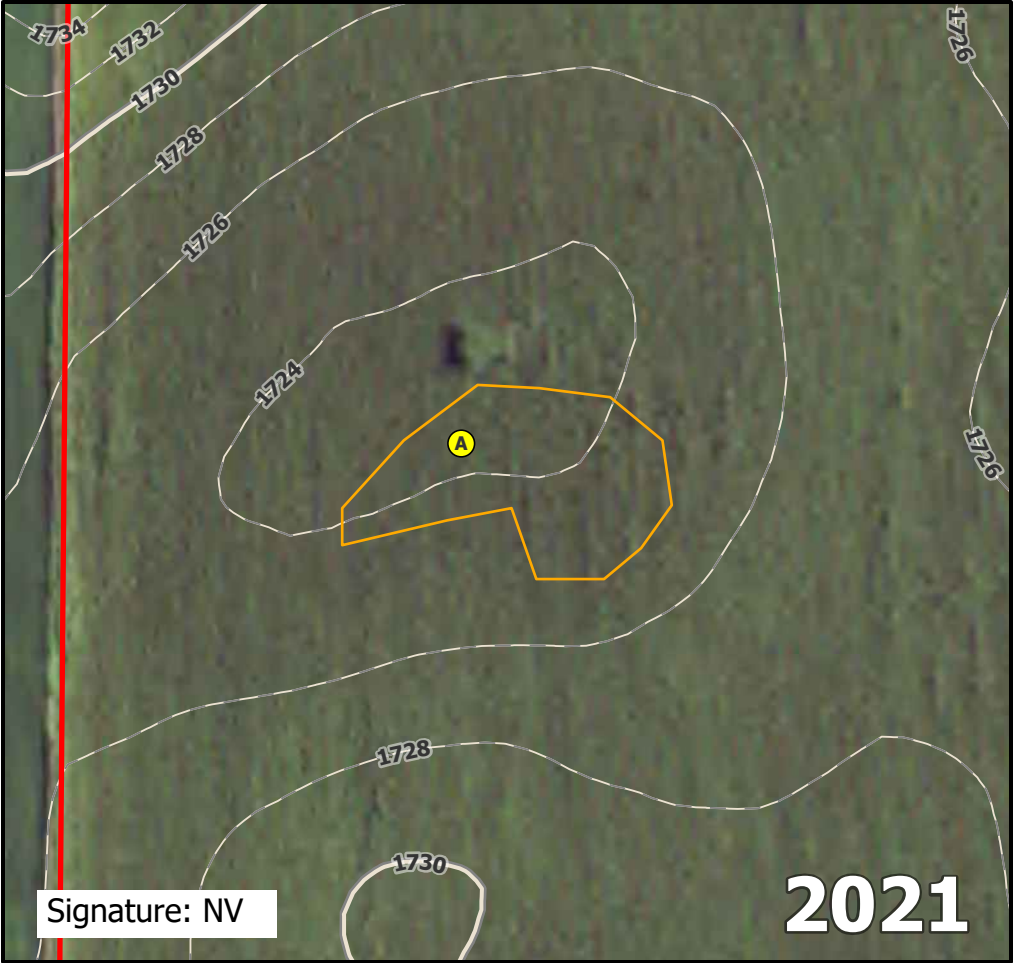
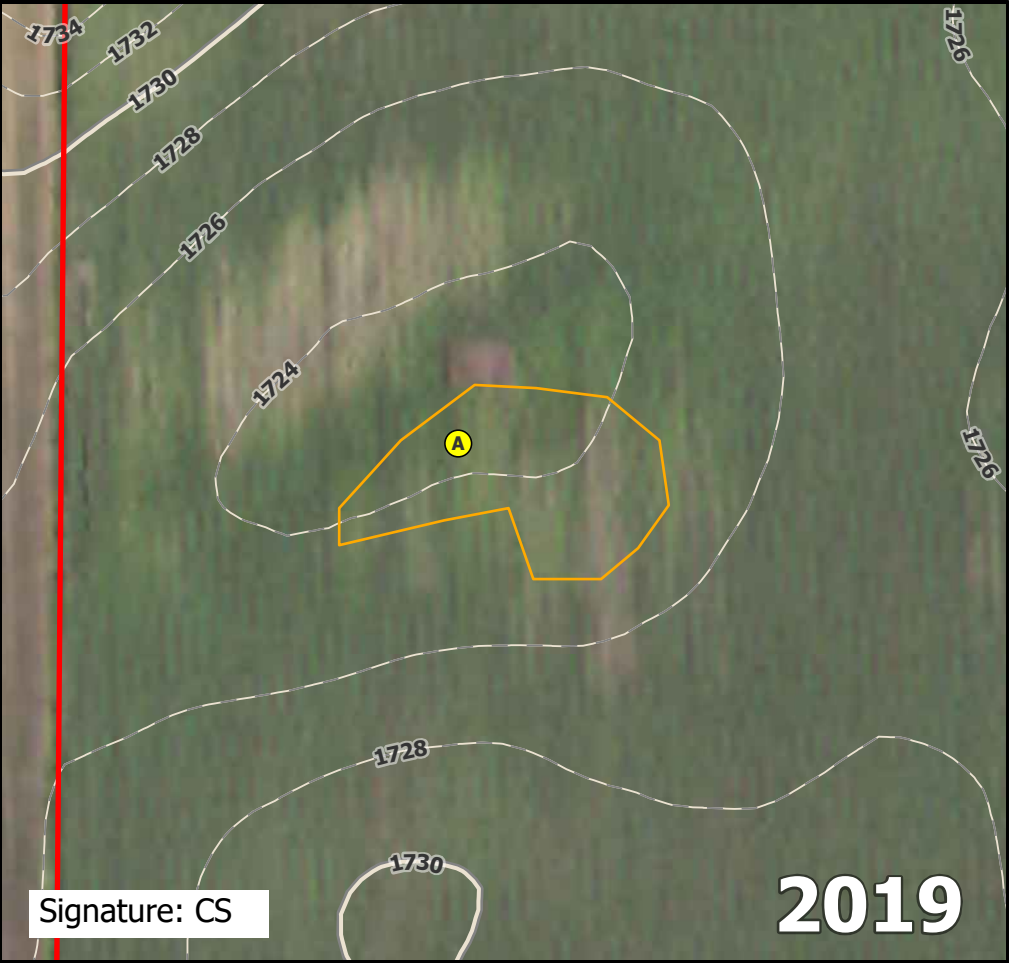
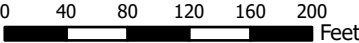
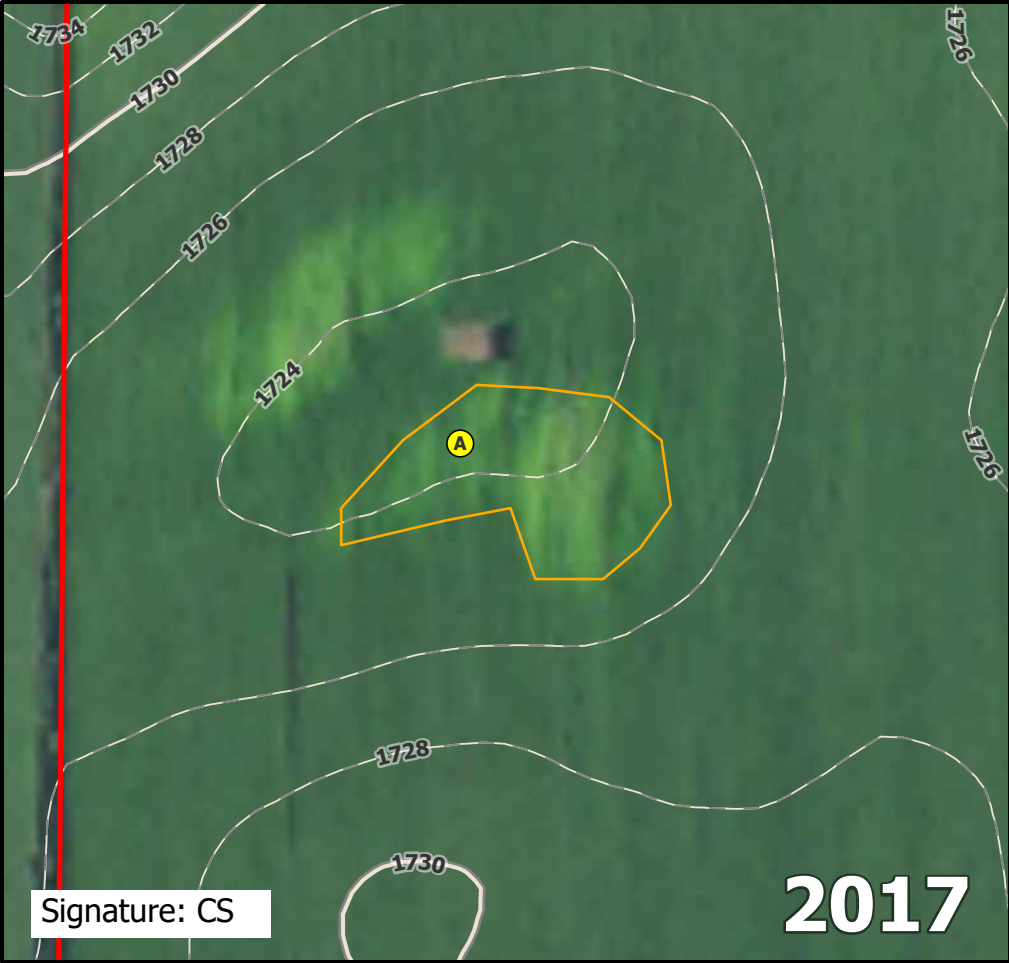
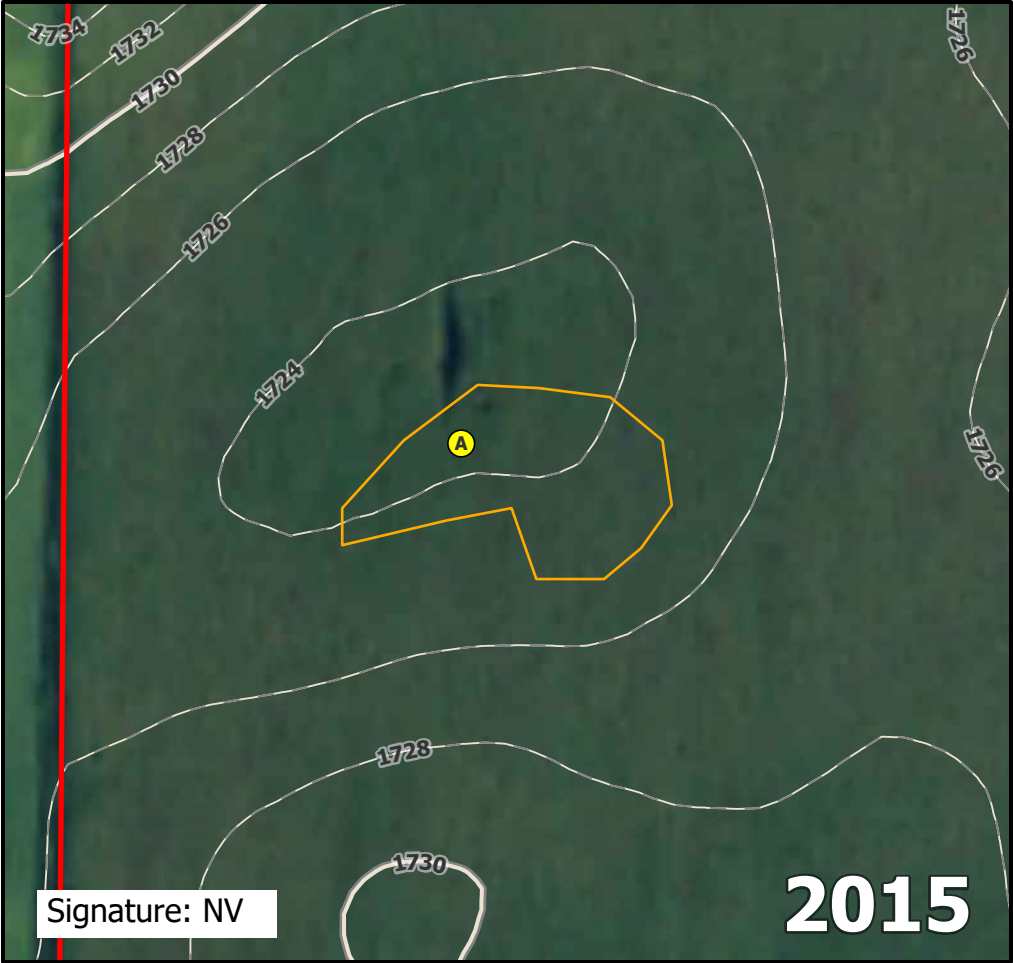
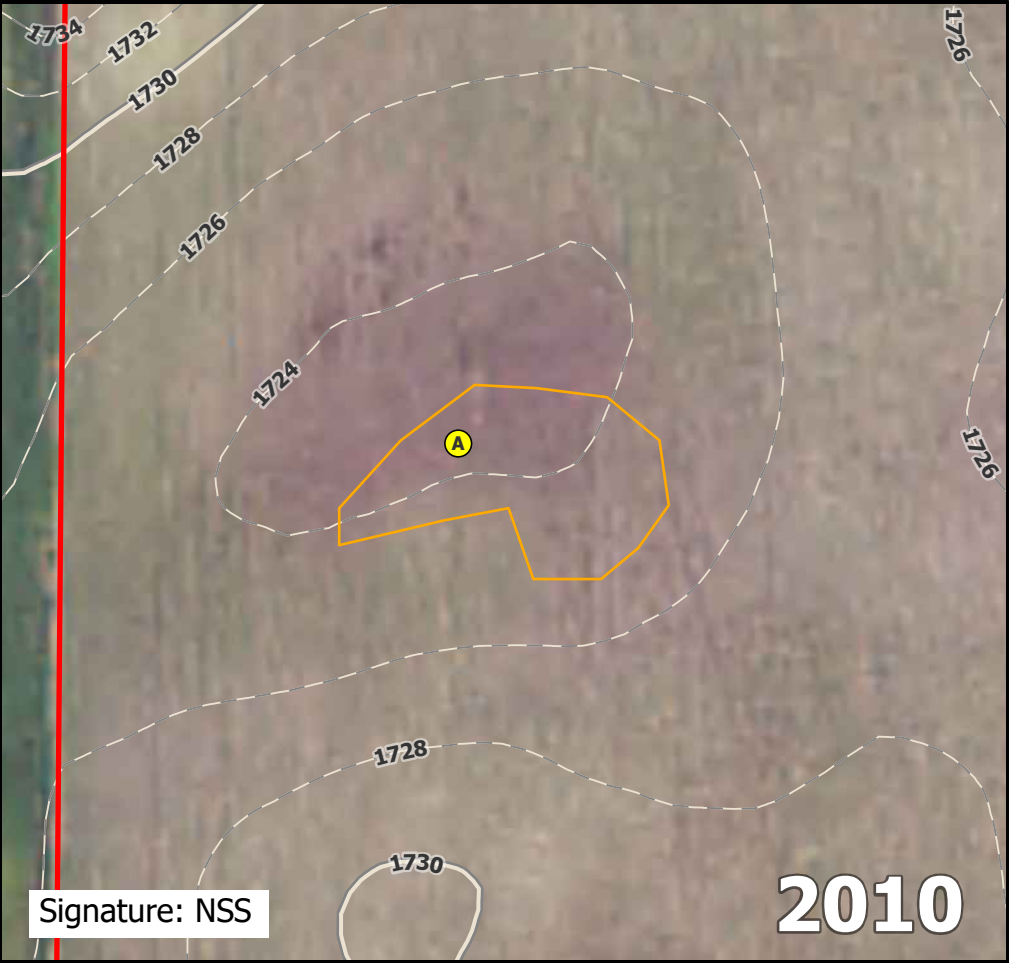
Remarks:



Overview of upland sample point NWA082A.

Direction: Southeast	Photo ID: delin_photo-20221014-154639.jpg	Date: 10/14/2022
Project Name: Summit Lake Solar		Feature ID: NWA082

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA083

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA083A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 43.72076 Long: -95.71763 Datum: WGS84
 Soil Map Unit Name: Clarion-Storden complex, 6 to 10 percent slopes, moderately eroded NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: <u>Recently harvested agricultural field.</u>		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: <u> </u> Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
<u> </u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u> </u> =Total Cover					
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u> </u> =Total Cover					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
<u> </u> =Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA083A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA083A.

Direction: Southwest

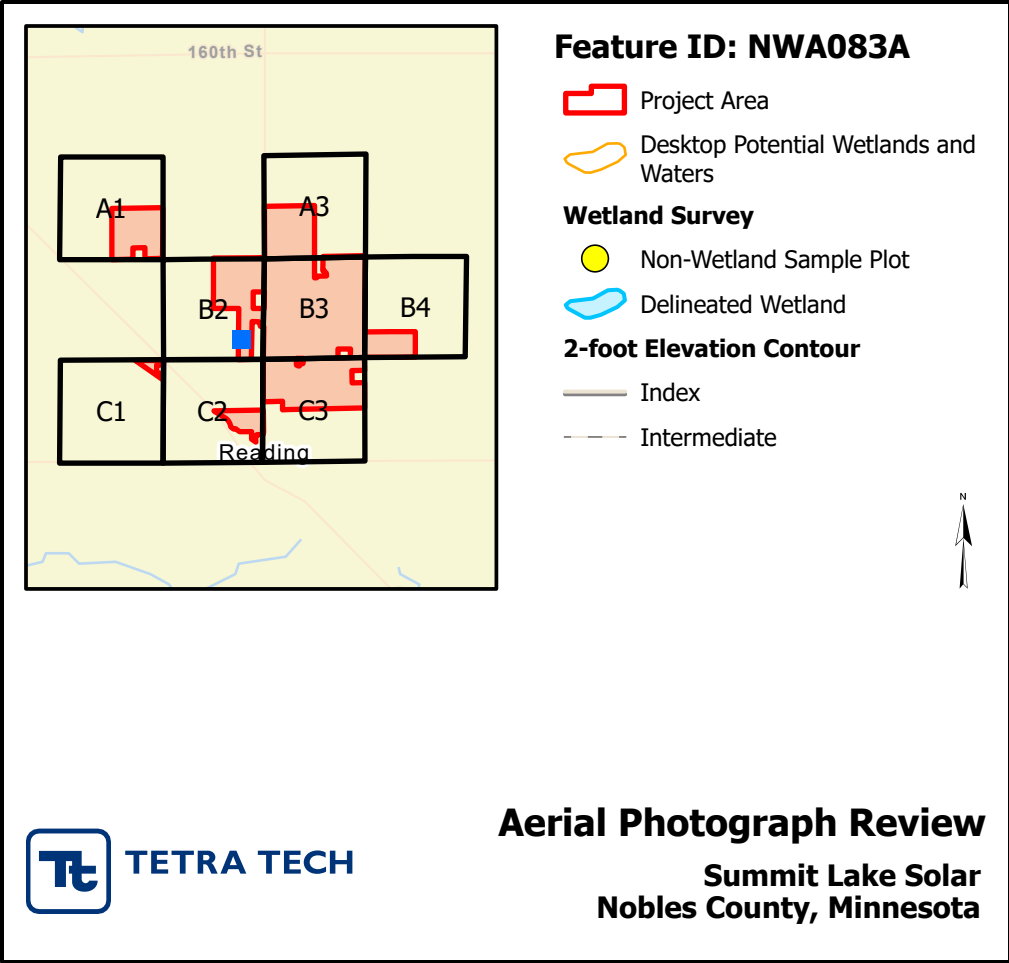
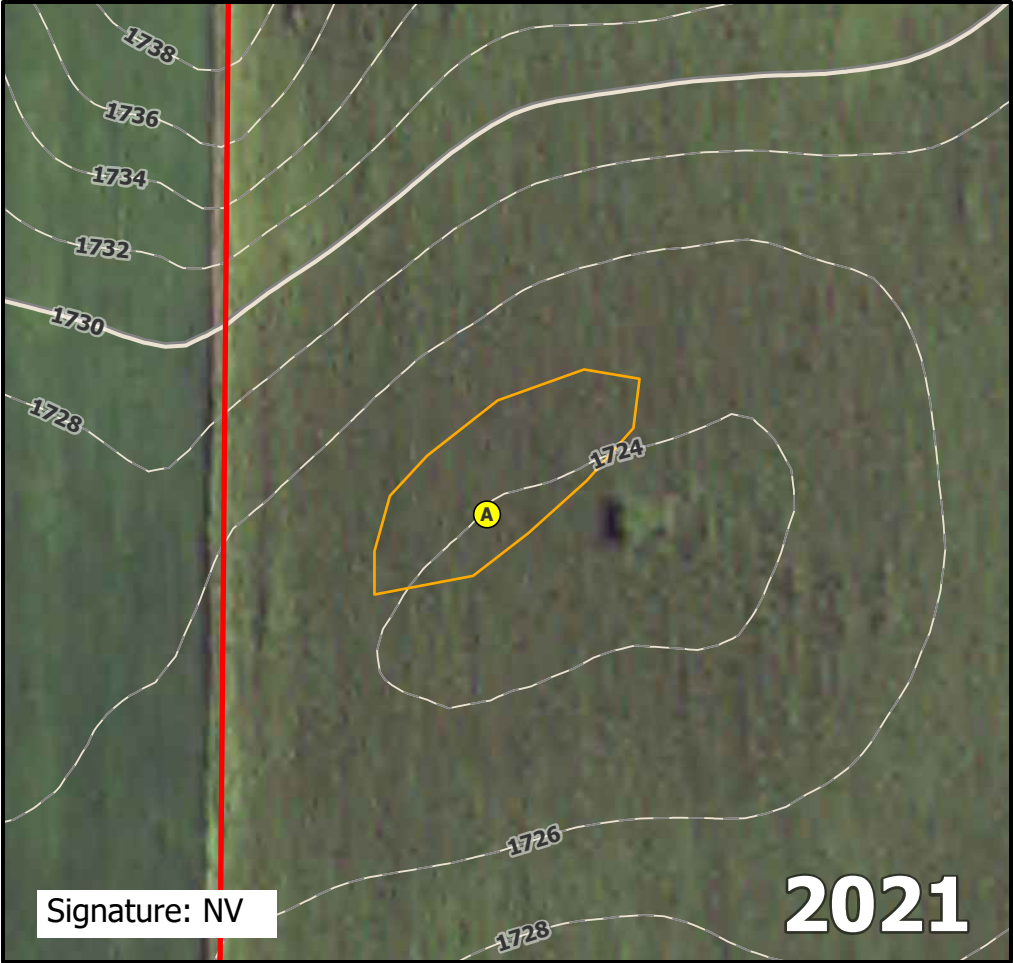
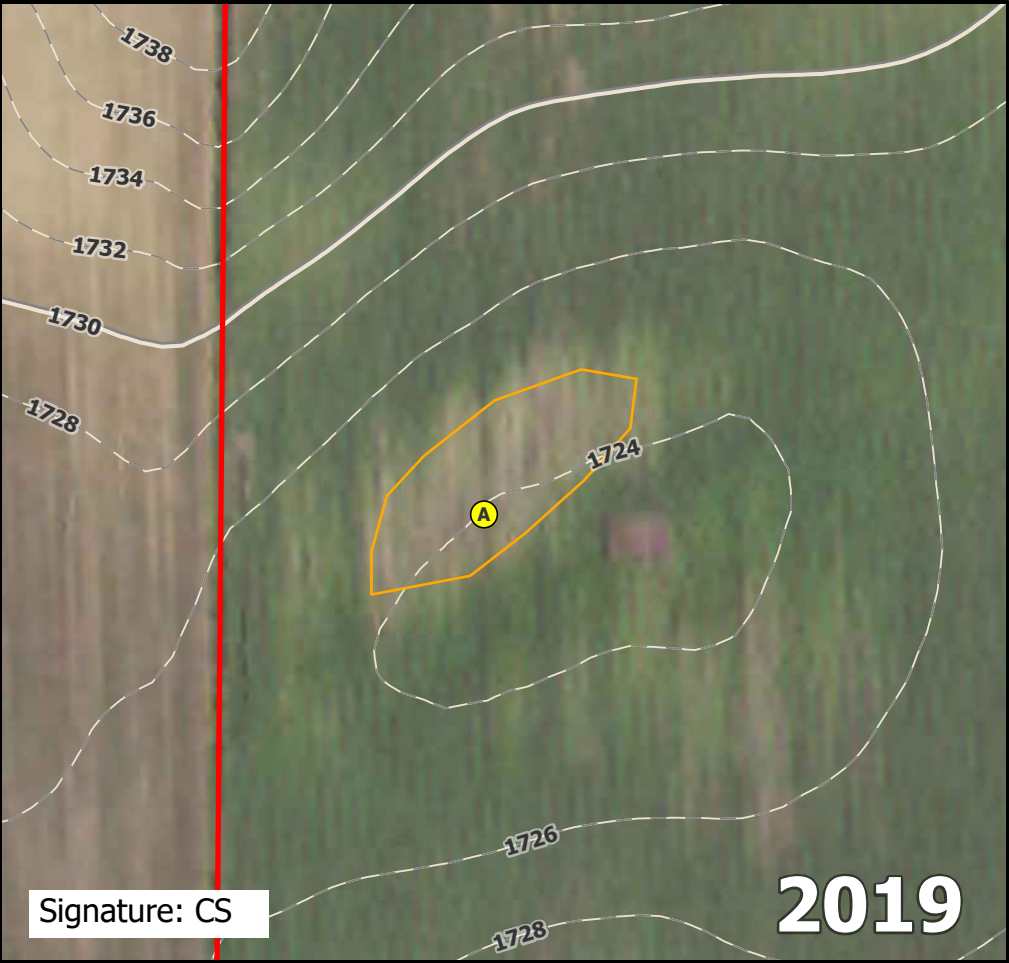
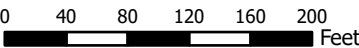
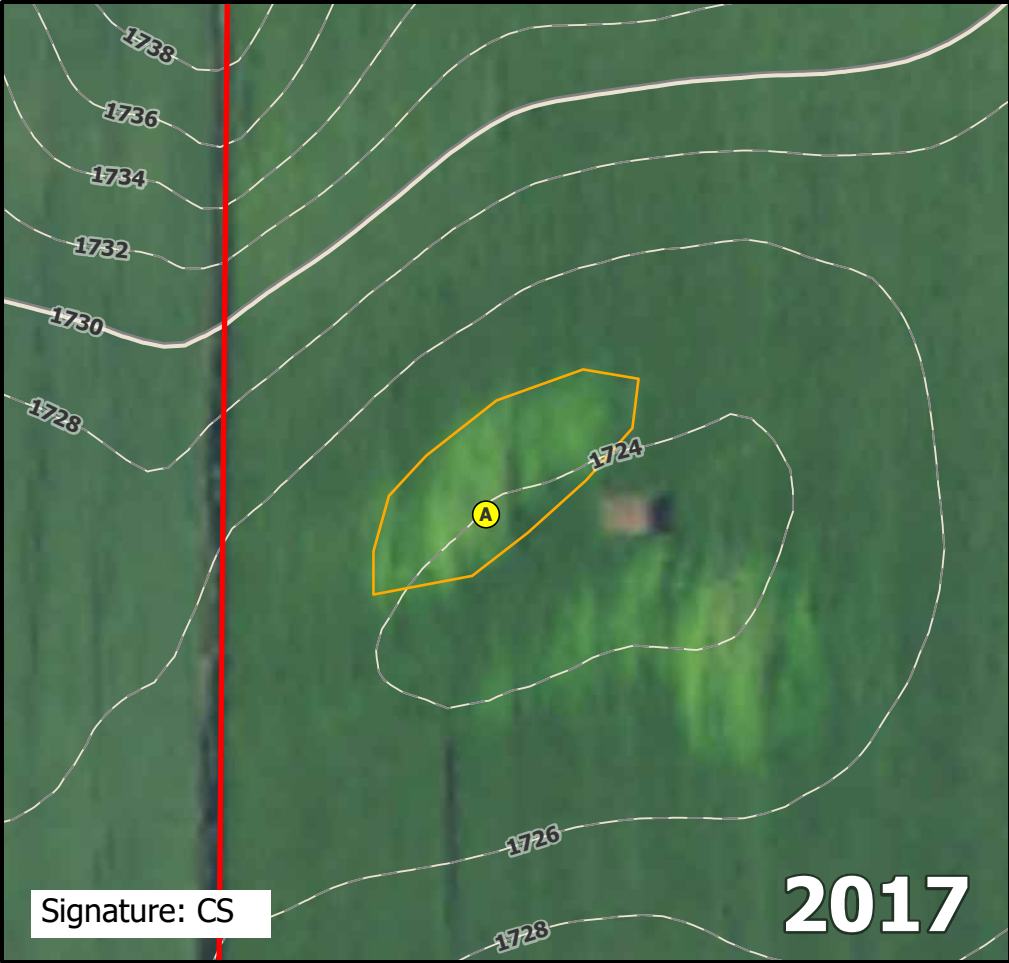
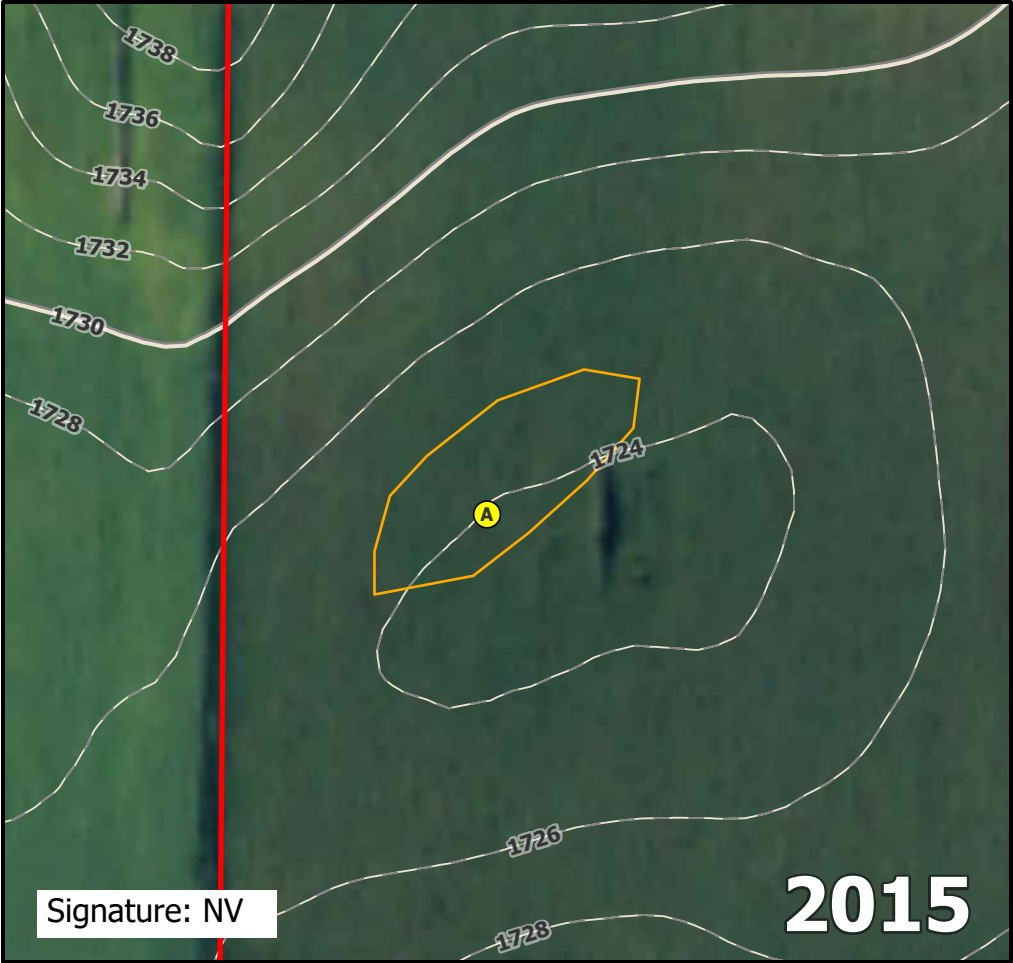
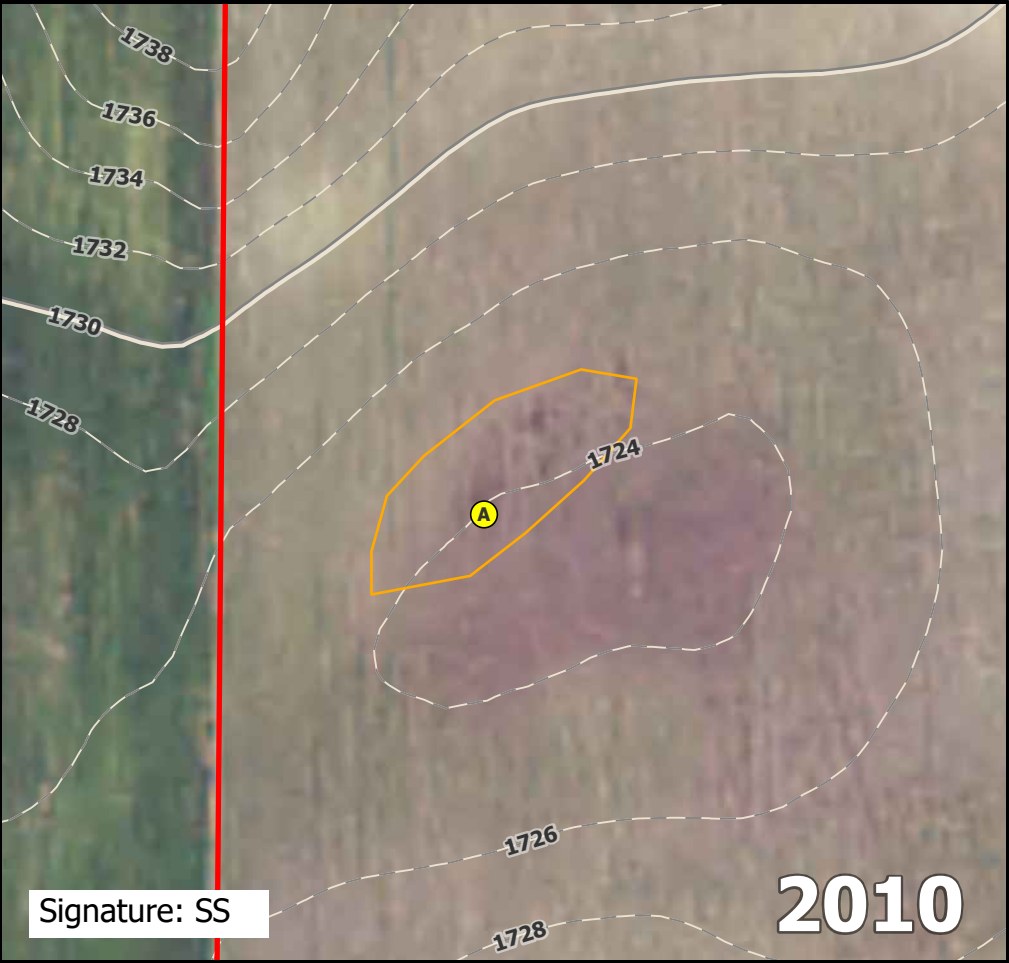
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA083

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA084

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA084A
 Investigator(s): Susan Mayer Section, Township, Range: Sec.14 T103N R41W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.72335 Long: -95.71771 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u> </u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA084A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-9	10YR 2/1	100					Clay Loam	
9-13	10YR 2/1	75					Clay Loam	
	2.5Y 4/3	25						Mixed Matrix
13-20	2.5Y 4/3	85	2.5Y 6/8	2	C	PL	Clay Loam	
	10YR 2/1	13						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils*:		
☐ Histosol (A1)	☐ Sandy Gleyed Matrix (S4)	☐ Coast Prairie Redox (A16) (LRR K, L, R)			
☐ Histic Epipedon (A2)	☐ Sandy Redox (S5)	☐ Dark Surface (S7) (LRR K, L)			
☐ Black Histic (A3)	☐ Stripped Matrix (S6)	☐ Iron-Manganese Masses (F12) (LRR K, L, R)			
☐ Hydrogen Sulfide (A4)	☐ Loamy Mucky Mineral (F1)	☐ Very Shallow Dark Surface (TF12)			
☐ Stratified Layers (A5)	☐ Loamy Gleyed Matrix (F2)	☐ Other (explain in remarks)			
☐ 2 cm Muck (A10)	☐ Depleted Matrix (F3)				
☐ Depleted Below Dark Surface (A11)	☐ Redox Dark Surface (F6)				
☐ Thick Dark Surface (A12)	☐ Depleted Dark Surface (F7)				
☐ Sandy Mucky Mineral (S1)	☐ Redox Depressions (F8)				
☐ 5 cm Mucky Peat or Peat (S3)					

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? <u> No </u>
Remarks: _____ _____ _____	

HYDROLOGY

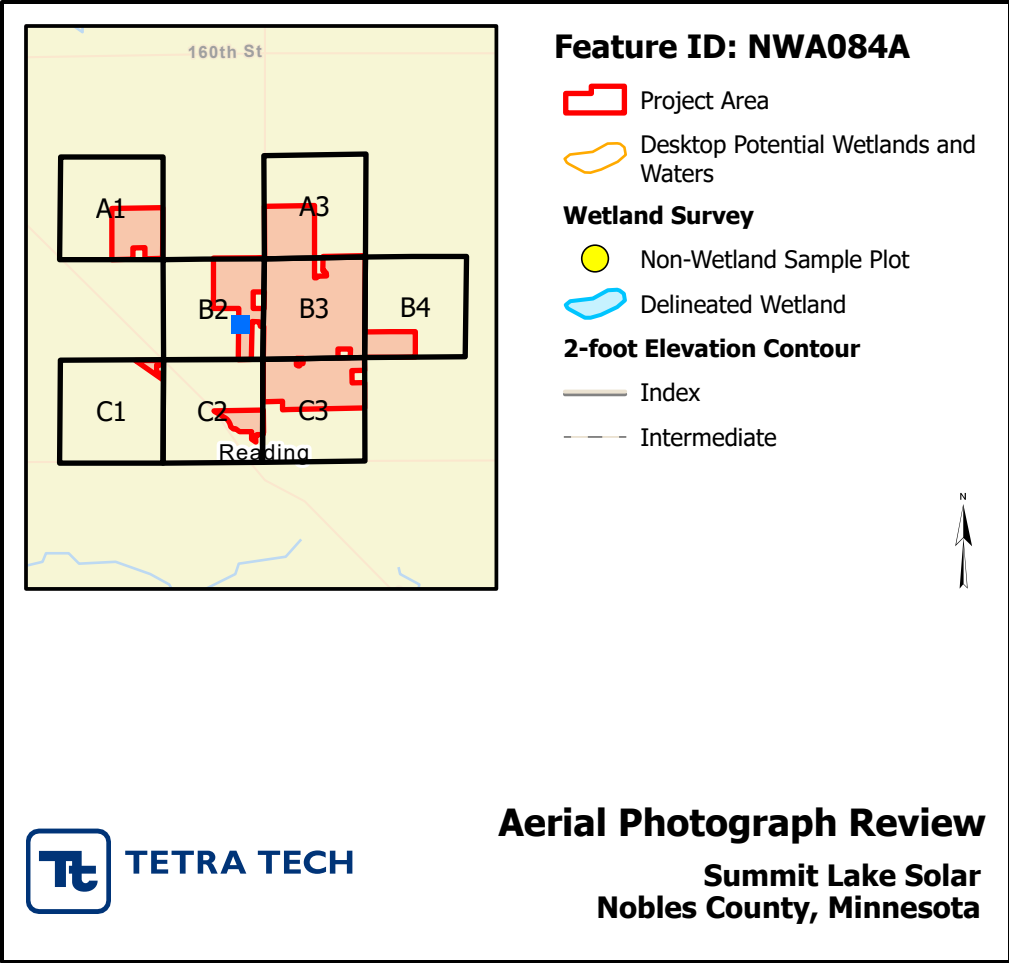
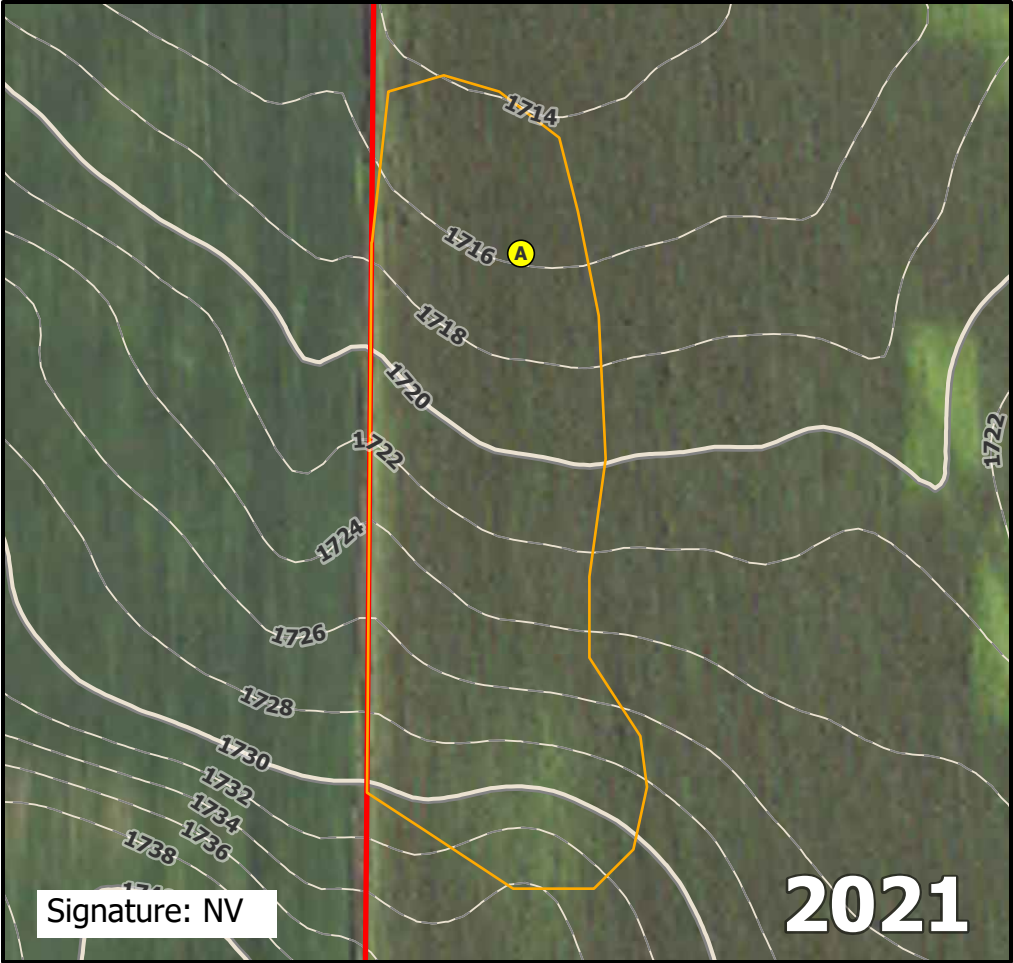
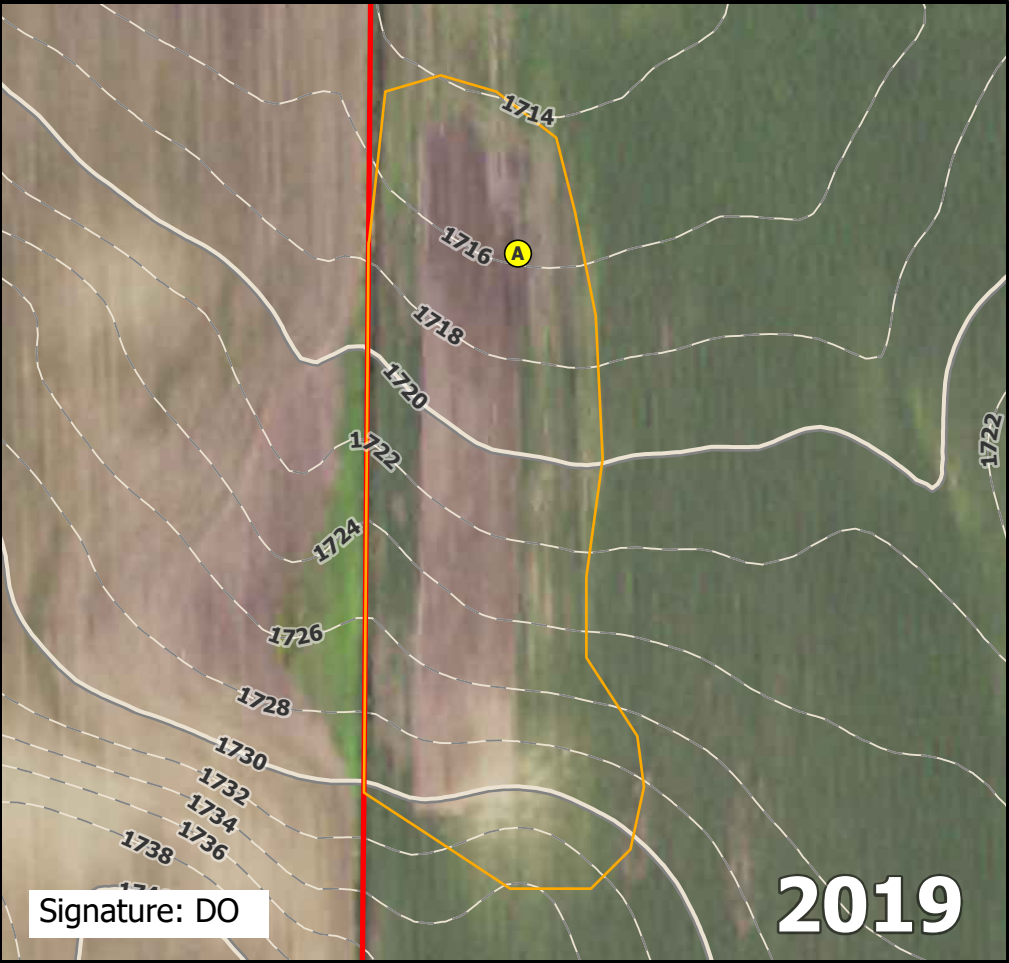
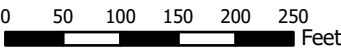
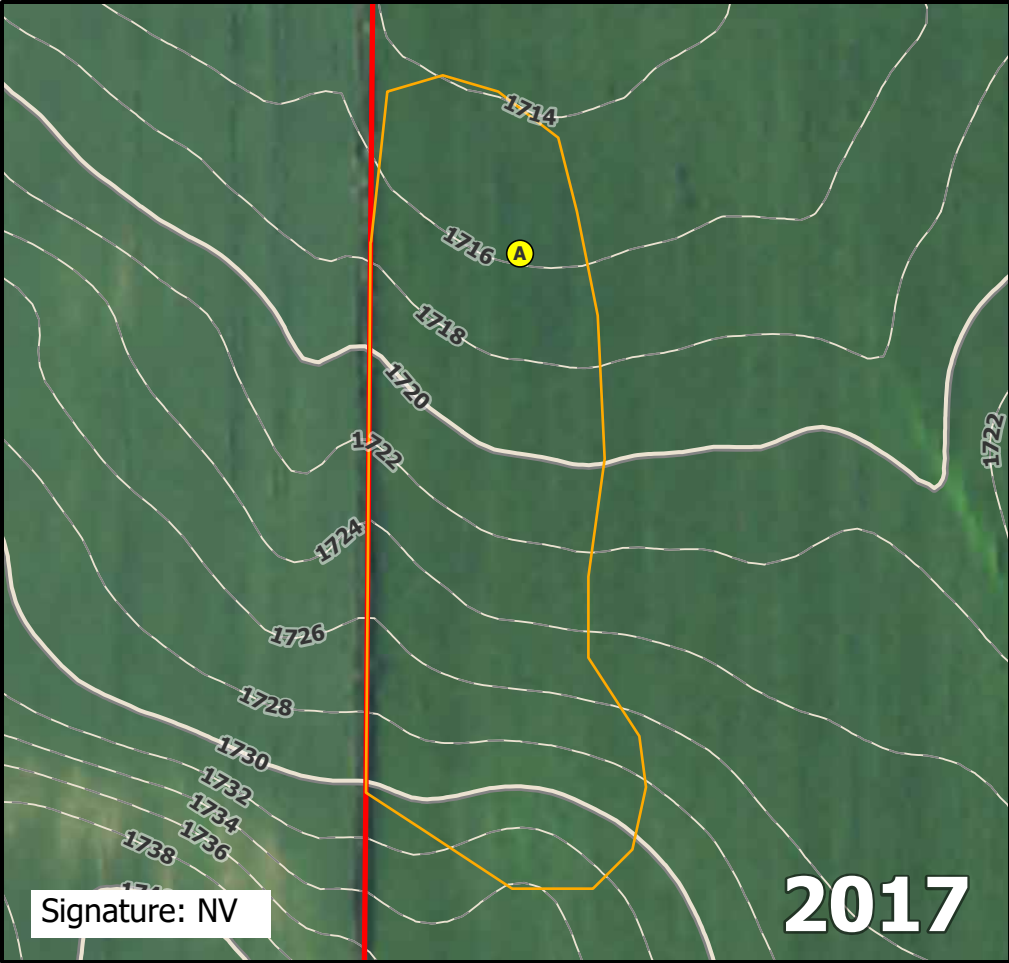
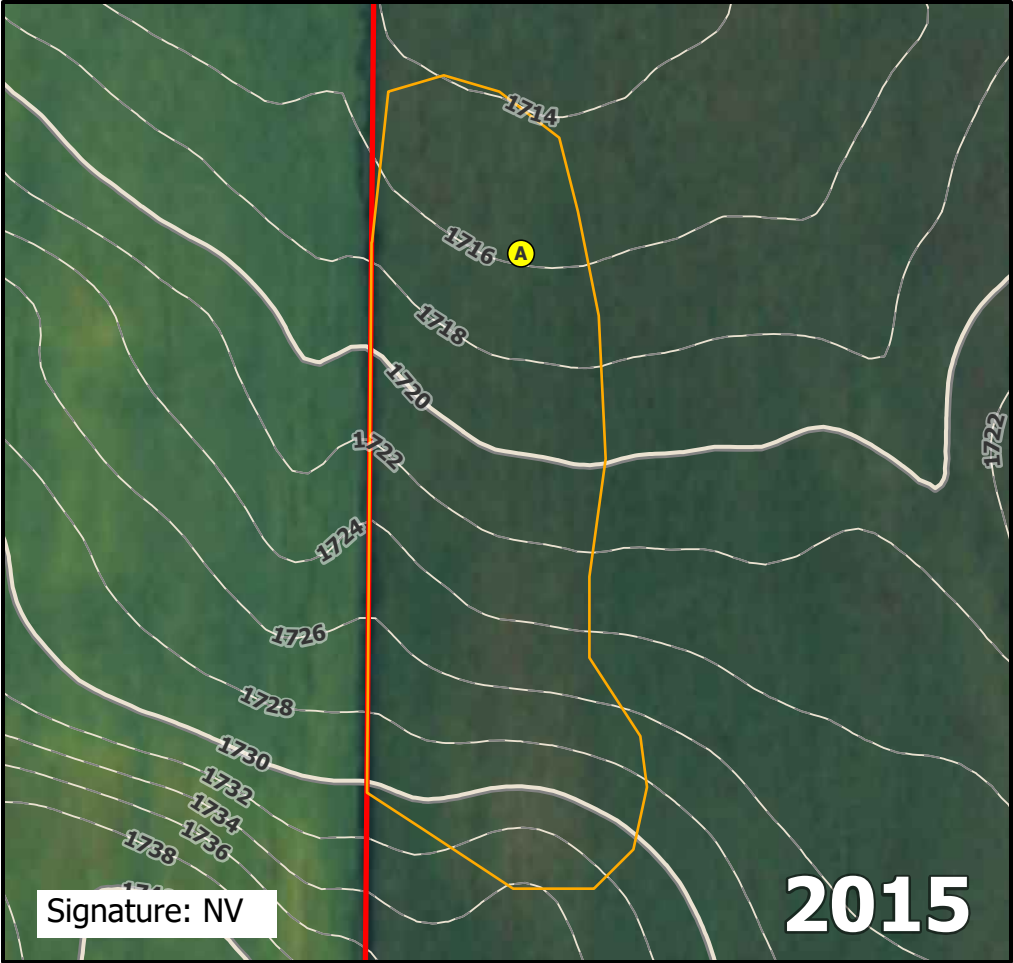
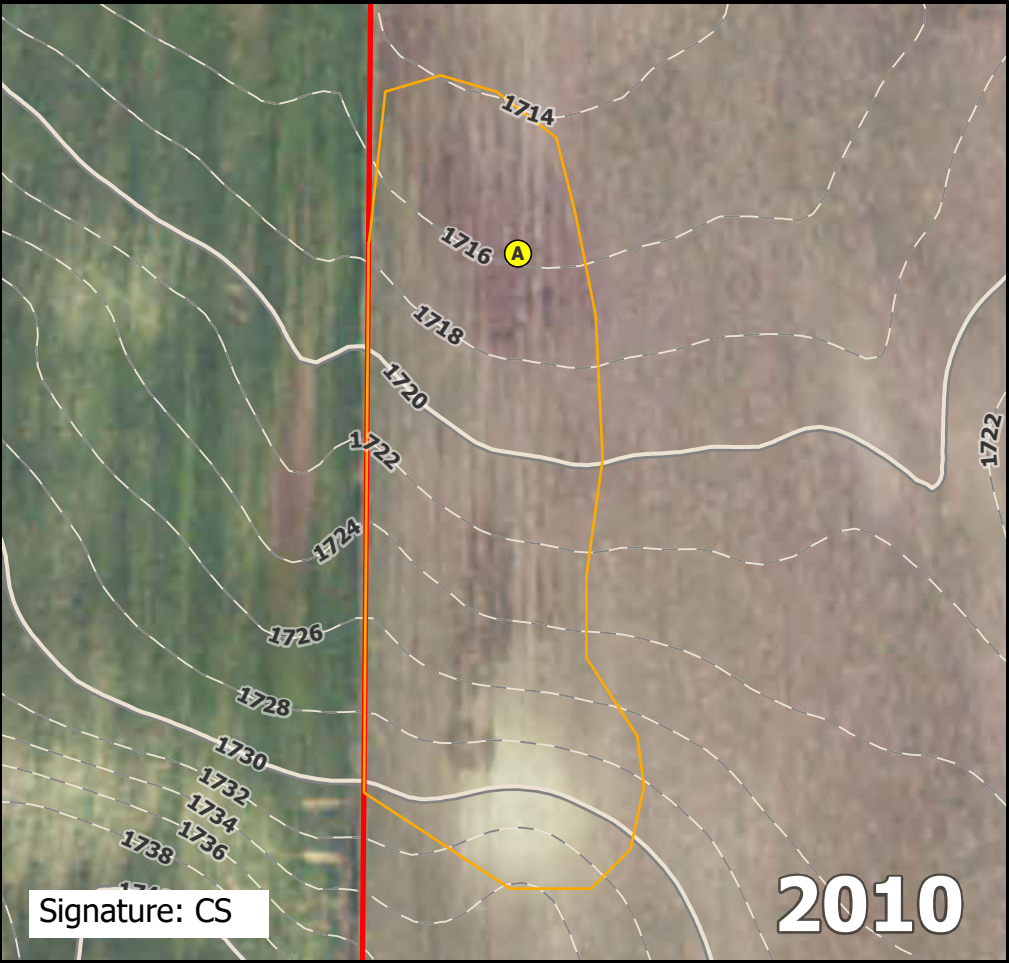
Wetland Hydrology Indicators:					Wetland Hydrology Present?	
Primary Indicators (minimum of one is required; check all that apply)					Secondary Indicators (minimum of two required)	
☐ Surface Water (A1)		☐ Aquatic Fauna (B13)		☐ Surface Soil Cracks (B6)		
☐ High Water Table (A2)		☐ True Aquatic Plants (B14)		☐ Drainage Patterns (B10)		
☐ Saturation (A3)		☐ Hydrogen Sulfide Odor (C1)		☐ Dry-Season Water Table (C2)		
☐ Water Marks (B1)		☐ Oxidized Rhizospheres on Living		☐ Crayfish Burrows (C8)		
☐ Sediment Deposits (B2)		☐ Roots (C3)		☐ Saturation Visible on Aerial Imagery (C9)		
☐ Drift Deposits (B3)		☐ Presence of Reduced Iron (C4)		☐ Stunted or Stressed Plants (D1)		
☐ Algal Mat or Crust (B4)		☐ Recent Iron Reduction in Tilled Soils		☐ Geomorphic Position (D2)		
☐ Iron Deposits (B5)		☐ (C6)		☐ FAC-Neutral Test (D5)		
☐ Inundation Visible on Aerial Imagery (B7)		☐ Thin Muck Surface (C7)				
☐ Sparsely Vegetated Concave Surface (B8)		☐ Gauge or Well Data (D9)				
☐ Water-Stained Leaves (B9)		☐ Other (Explain in Remarks)				
Field Observations: Surface Water Present? Yes ☐ No ☒ Depth (inches): Water Table Present? Yes ☐ No ☒ Depth (inches): Saturation Present? Yes ☐ No ☒ Depth (inches): (includes capillary fringe)					Wetland Hydrology Present? ☐ Yes ☒ No	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks:						



Overview of upland sample point NWA084A.

Direction: Southwest	Photo ID: delin_photo-20221014-161432.jpg	Date: 10/14/2022
Project Name: Summit Lake Solar	Feature ID: NWA084	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000

Non-Wetland ID

NWA085

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/14/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: NWA085A
 Investigator(s): Susan Mayer Section, Township, Range: Sec. 14 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.72473 Long: -95.7136 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum (Plot size: <u> </u>)					
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Herb Stratum (Plot size: <u> </u>)					
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
Woody Vine Stratum (Plot size: <u> </u>)					
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA085A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-10	10YR 2/1	100					Clay Loam	
10-24	2.5Y 3/2	90	2.5Y 4/2	10	D	M	Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA085A.

Direction: Southeast

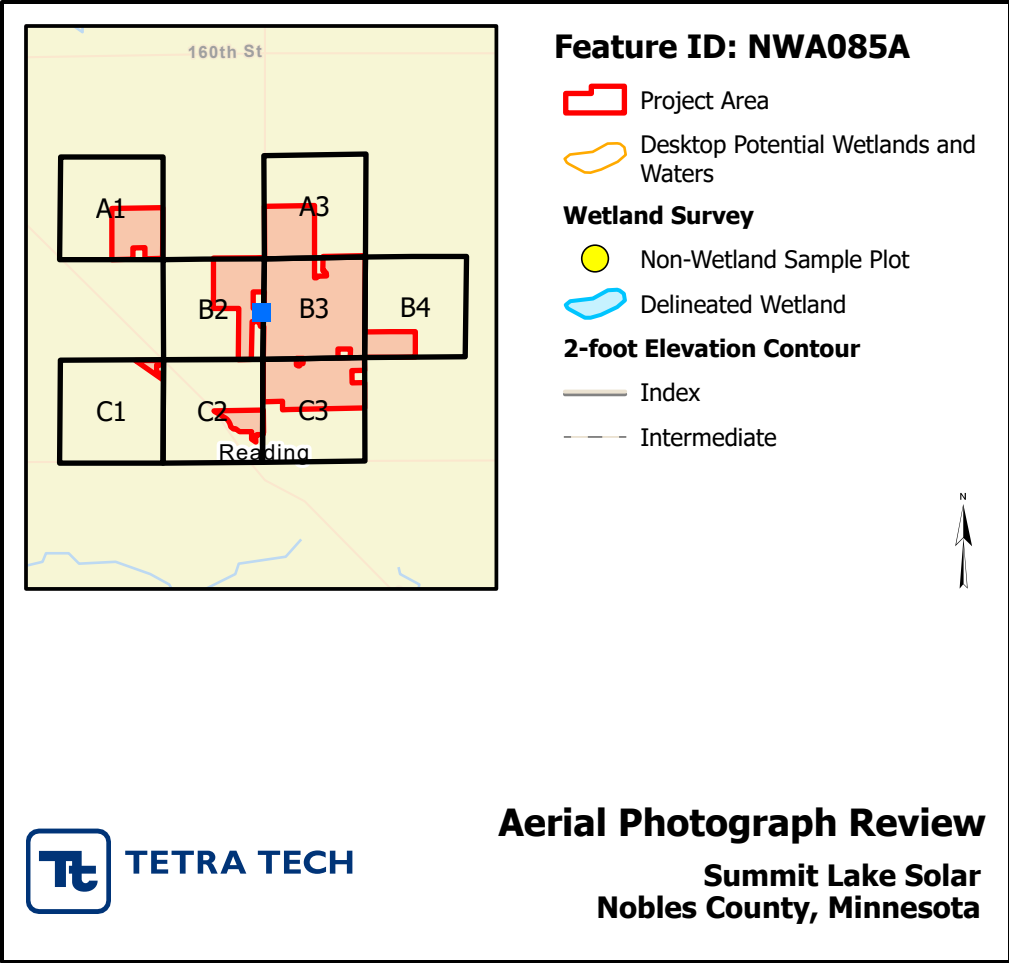
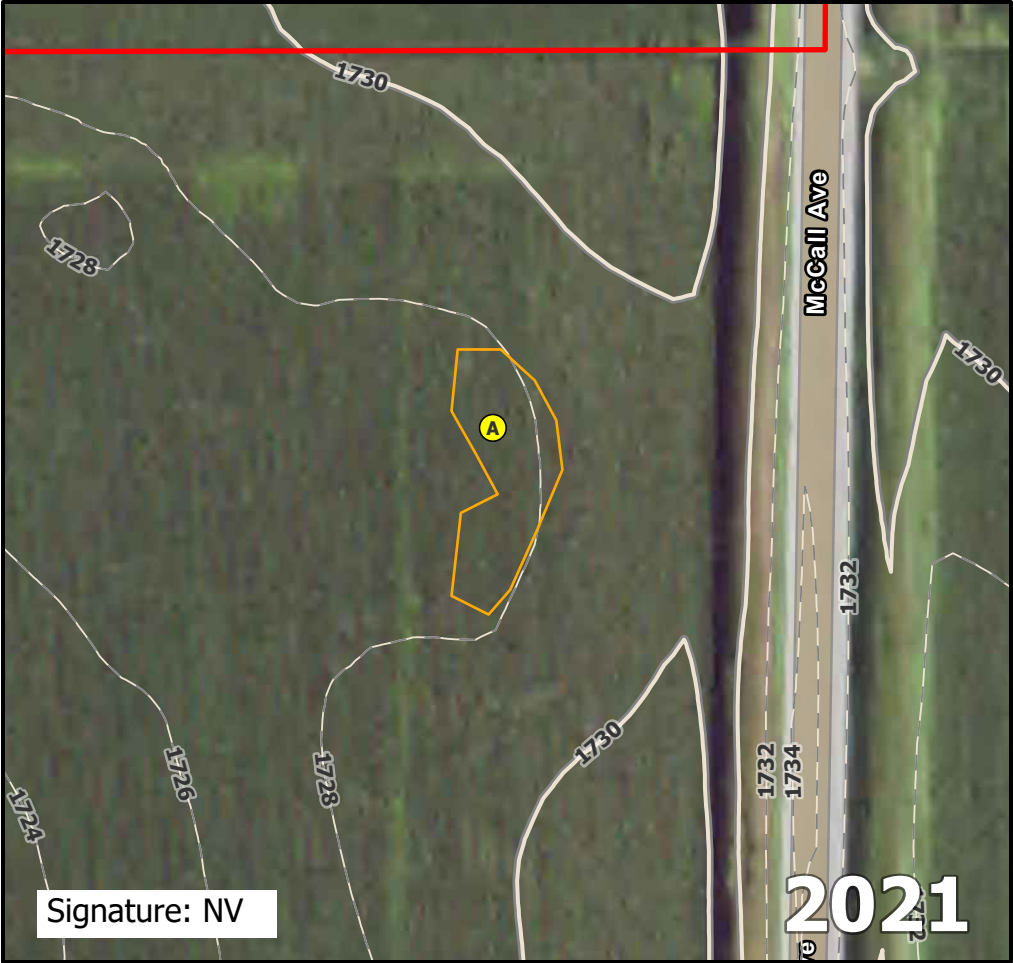
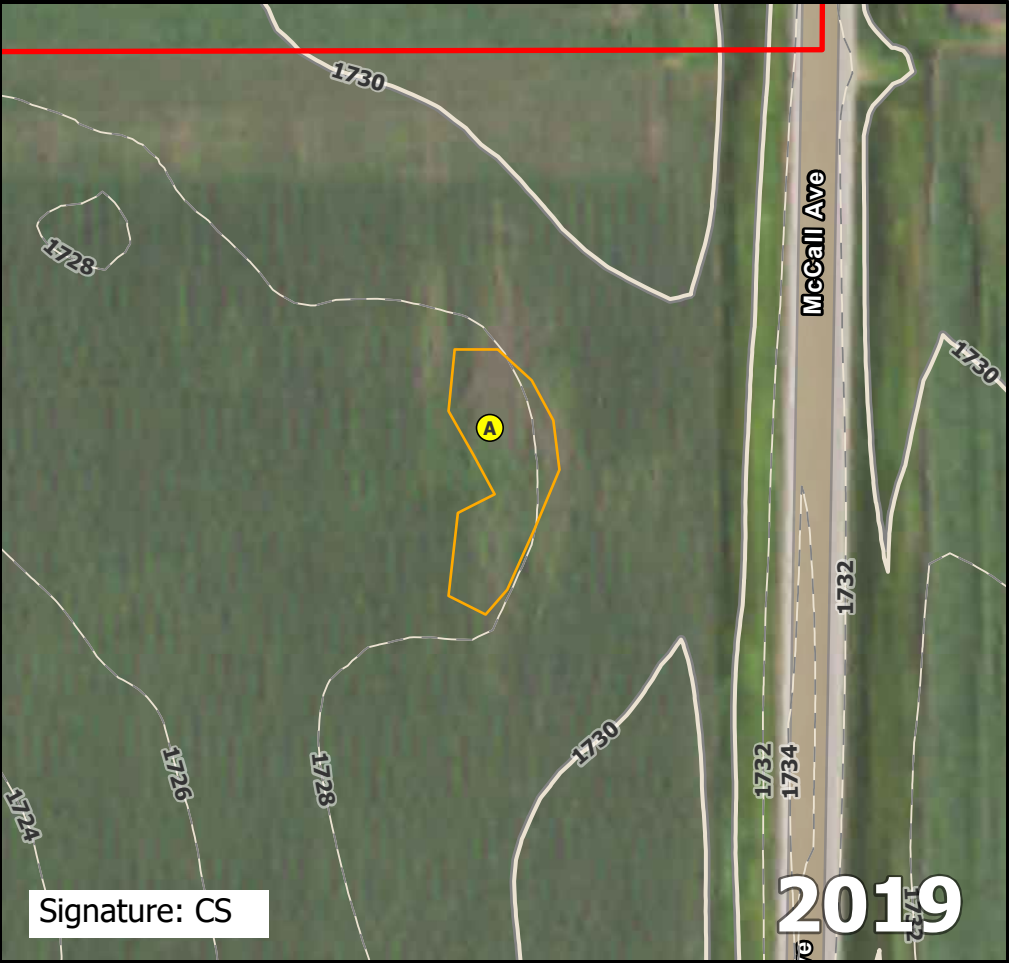
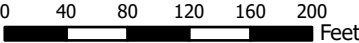
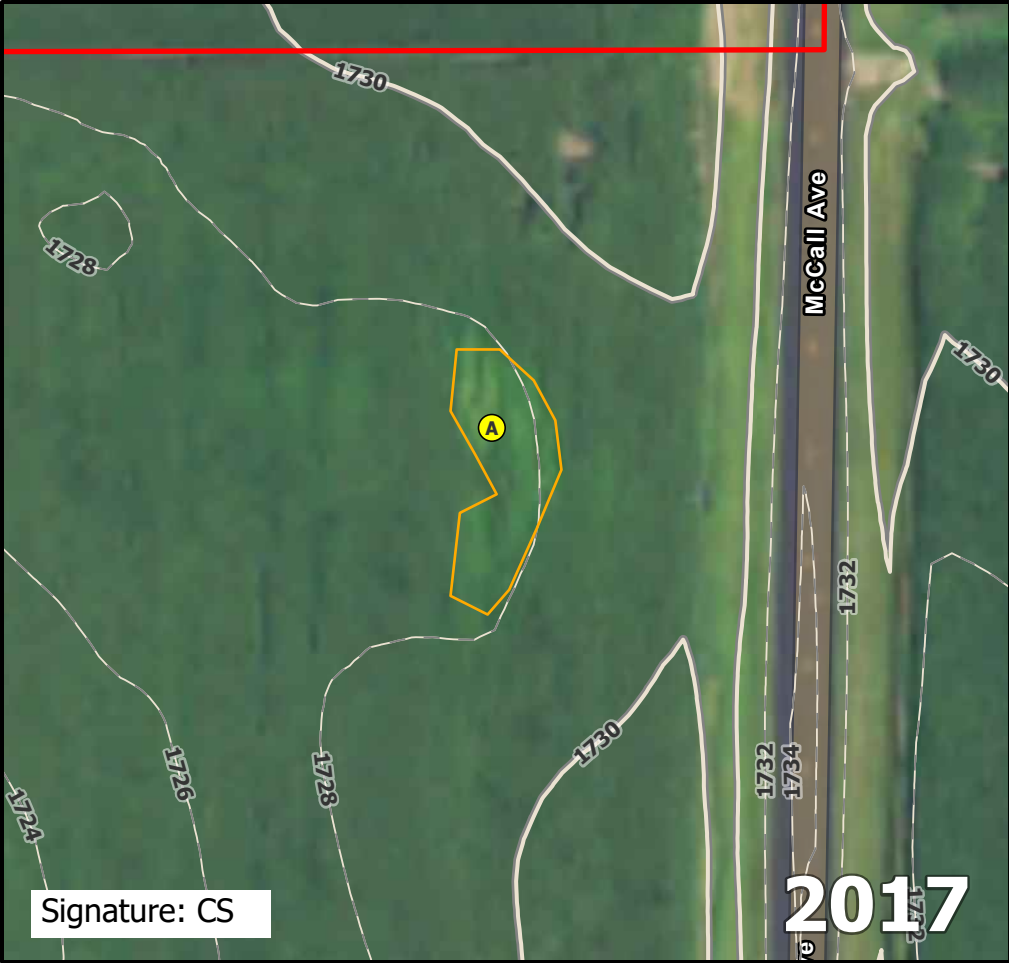
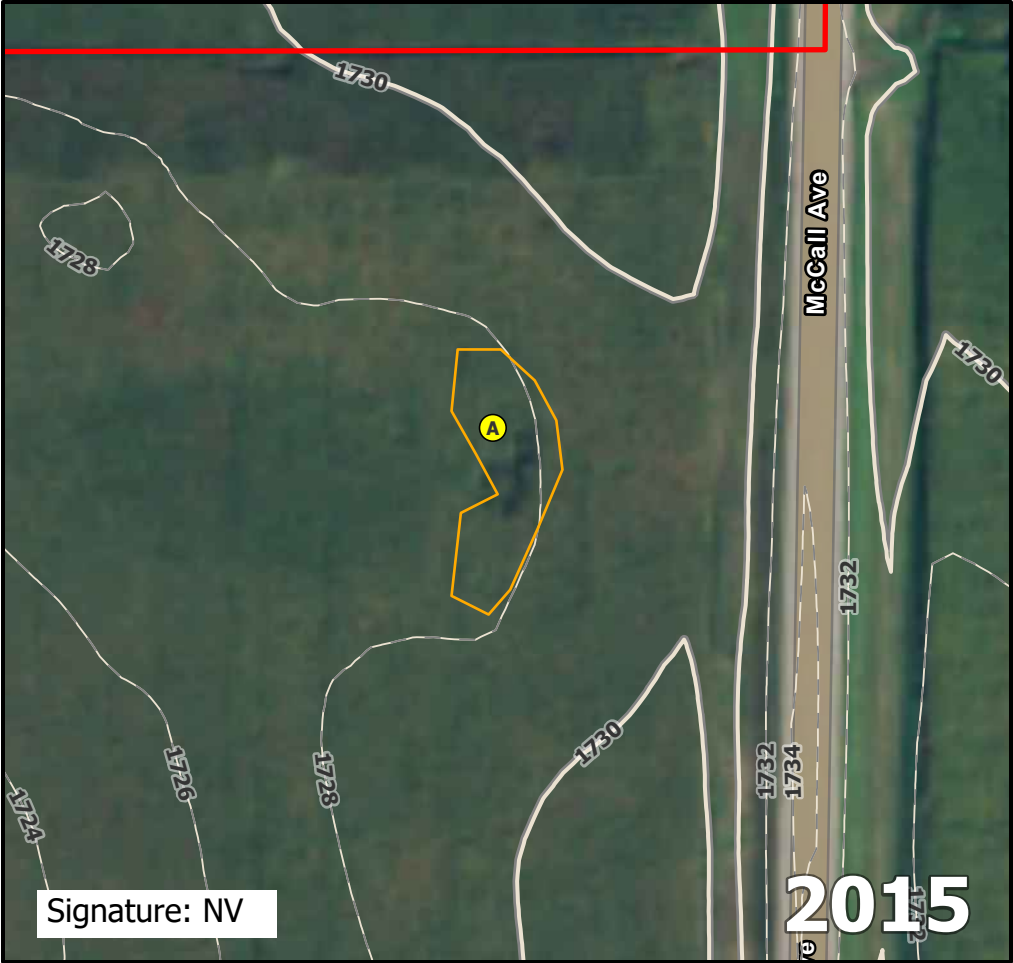
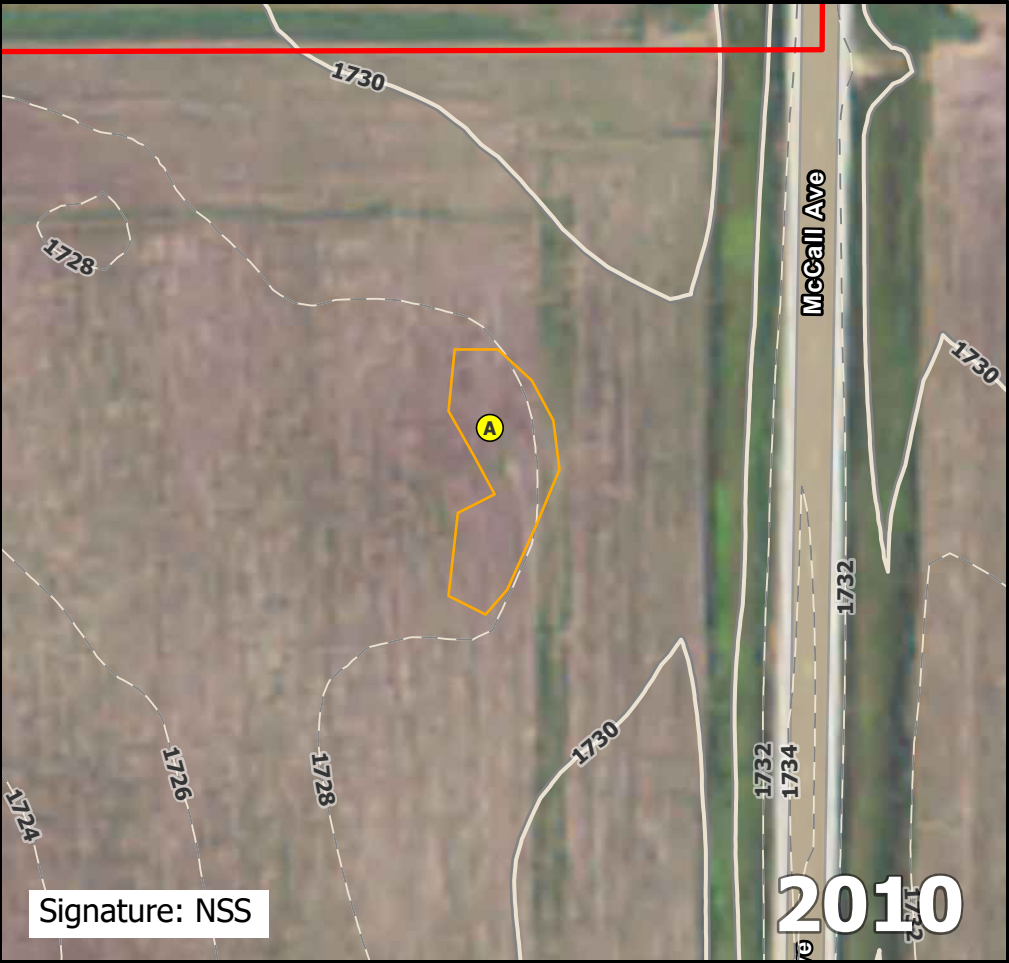
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Date: 10/14/2022

Project Name: Summit Lake Solar

Feature ID: NWA085

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Non-Wetland ID

NWA086

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/14/2022		
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA086A		
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.14 T103N R41W				
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave				
Slope (%):	0	Lat:	43.72342	Long:	-95.7137	Datum:	WGS84
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes		NWI Classification:		None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA086A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-13	10YR 2/1	100					Clay Loam	
13-18	10YR 2/1	90	2.5Y 5/3	8	C	M	Silty Clay Loam	Distinct or Prominent
			10YR 4/6	2	C	PL		Distinct or Prominent
18-24	2.5Y 5/3	90	10YR 2/1	8	C	M	Clay Loam	Distinct or Prominent
			2.5Y 6/8	2	C	PL		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

Secondary Indicators (minimum of two required)

- | | | |
|--|--|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Sediment Deposits (B2) | ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils | ☒ Geomorphic Position (D2) |
| ☐ Iron Deposits (B5) | ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) | |
| ☐ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) | |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

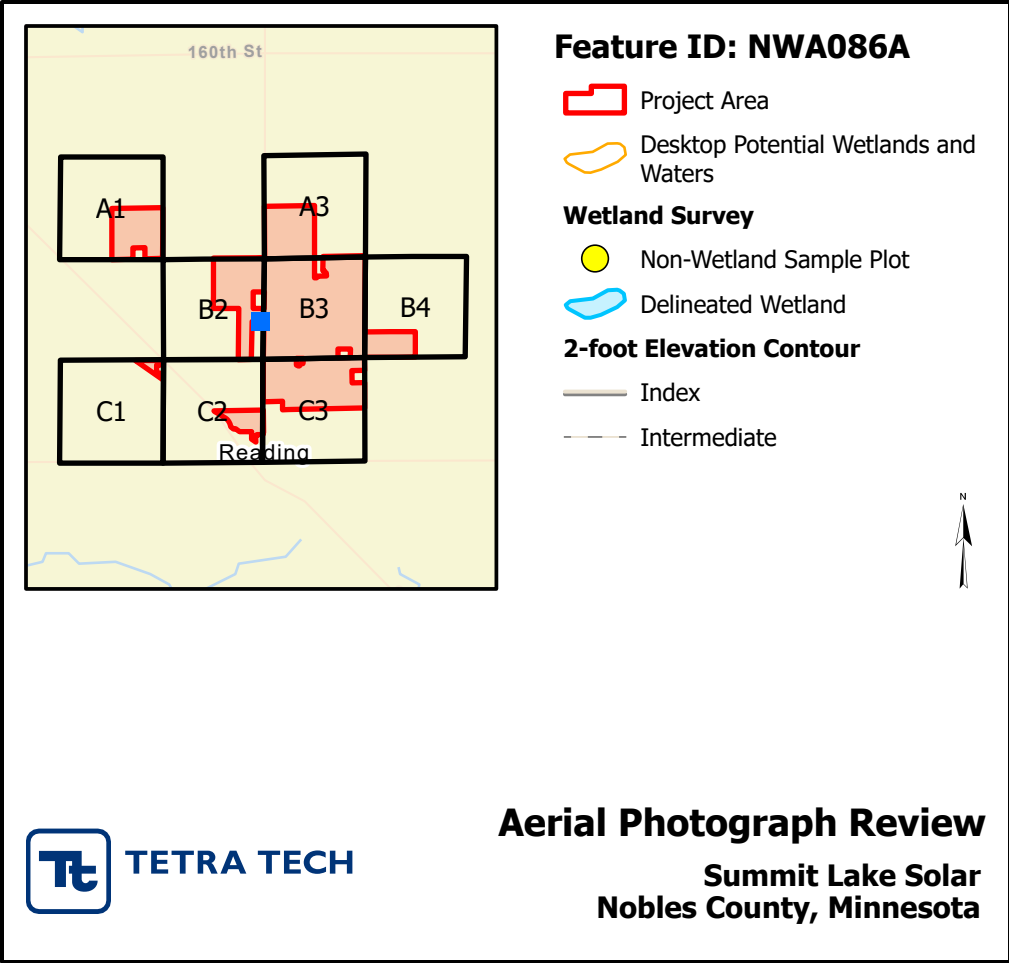
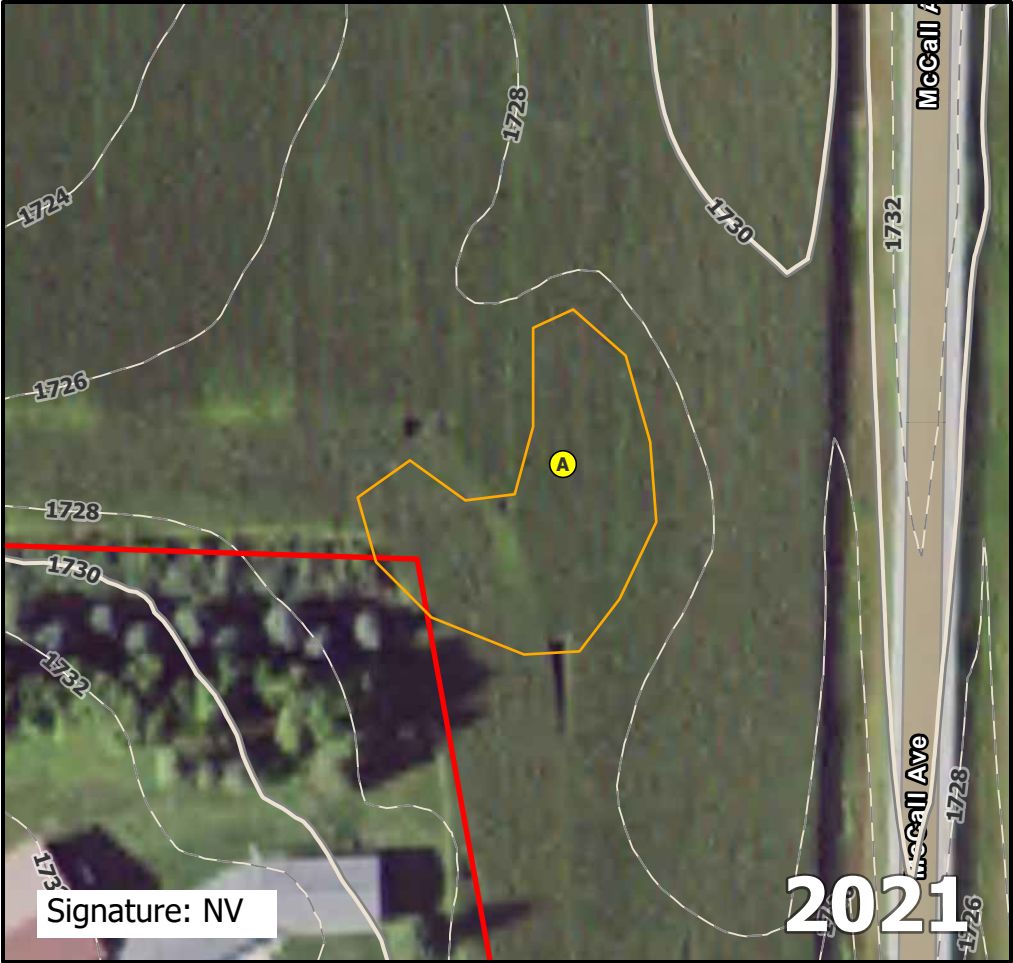
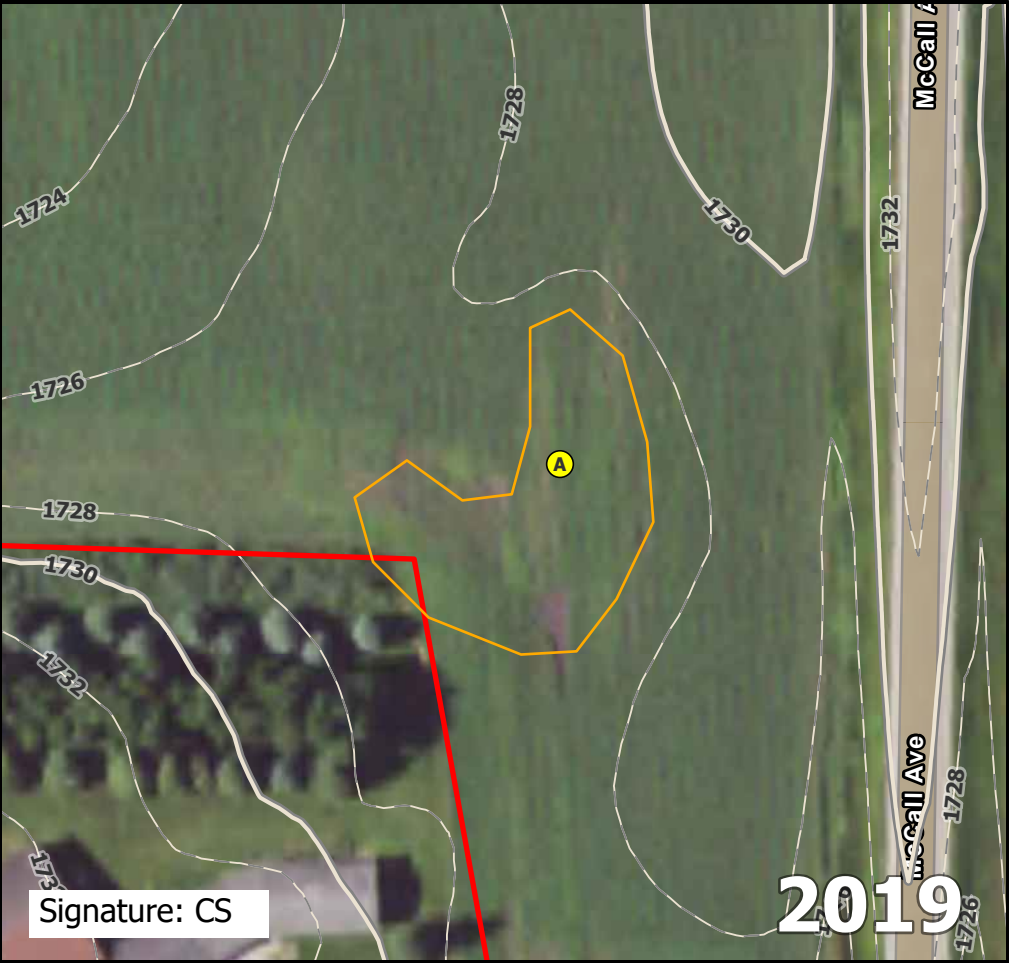
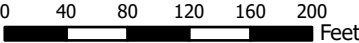
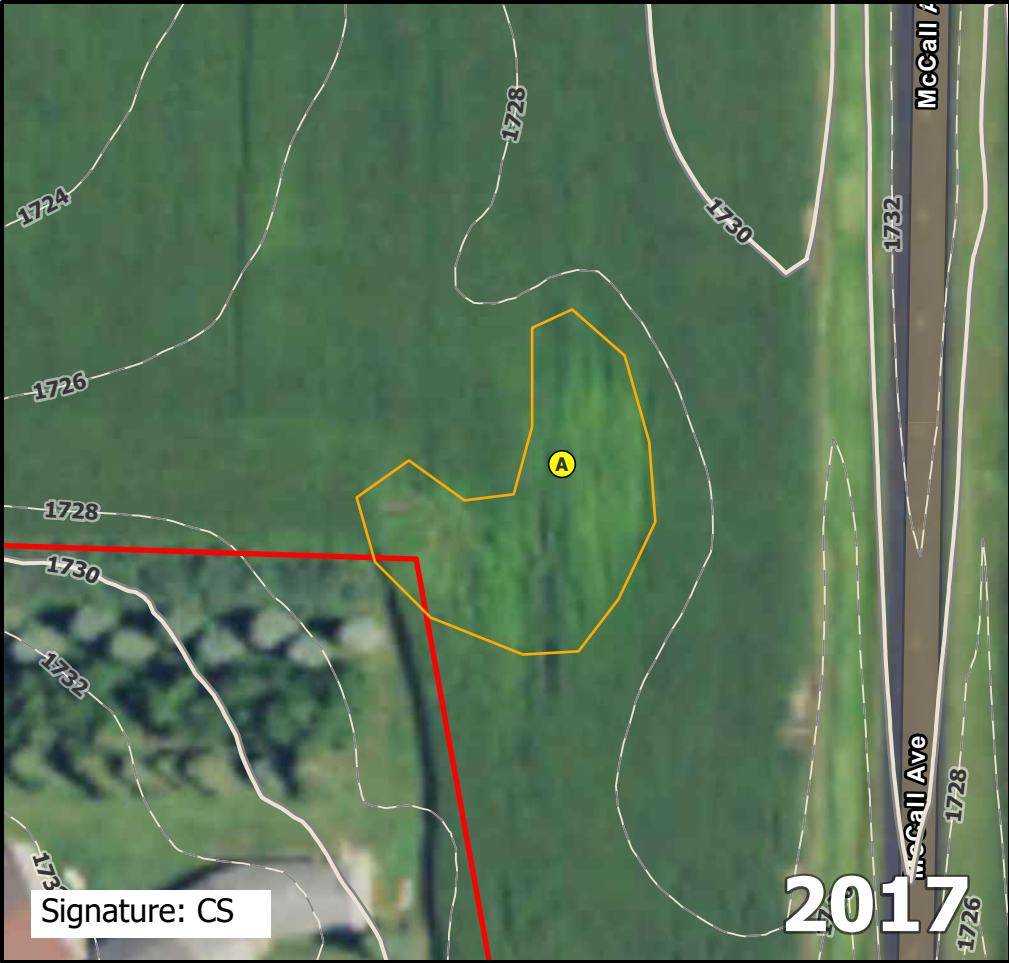
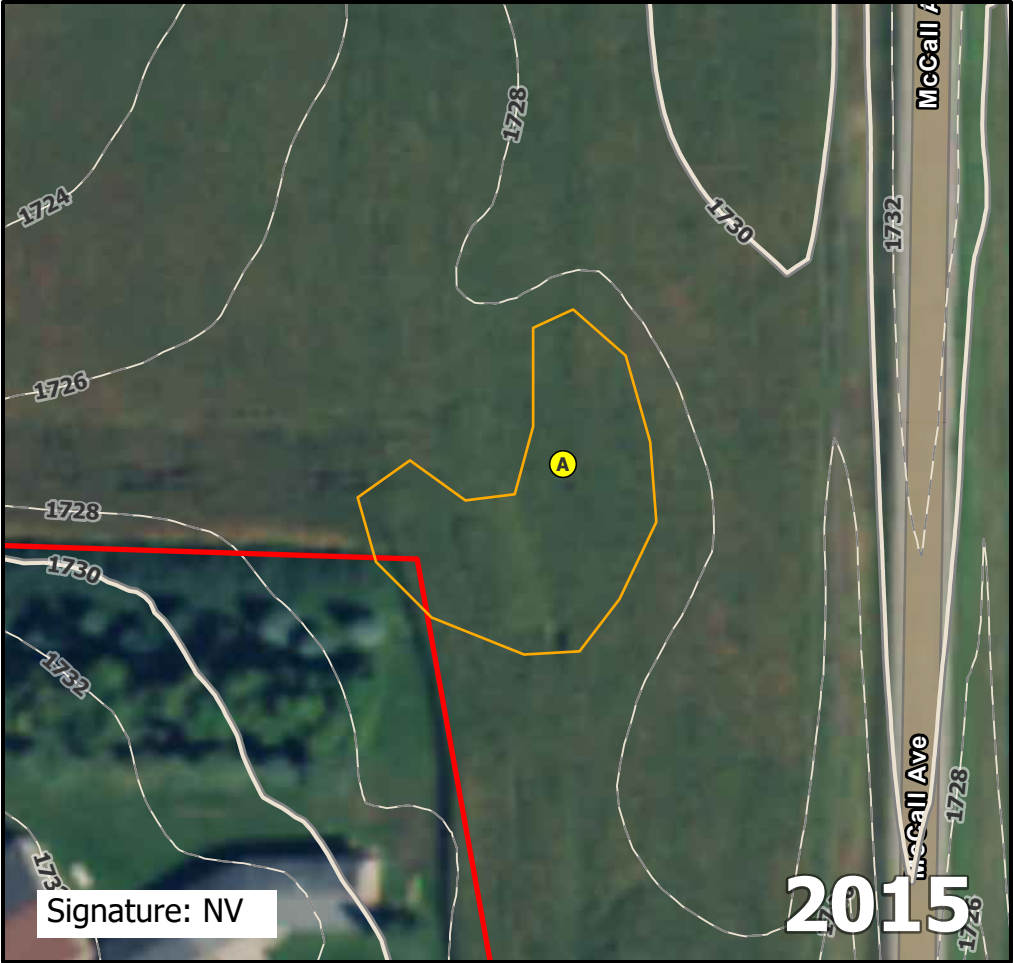
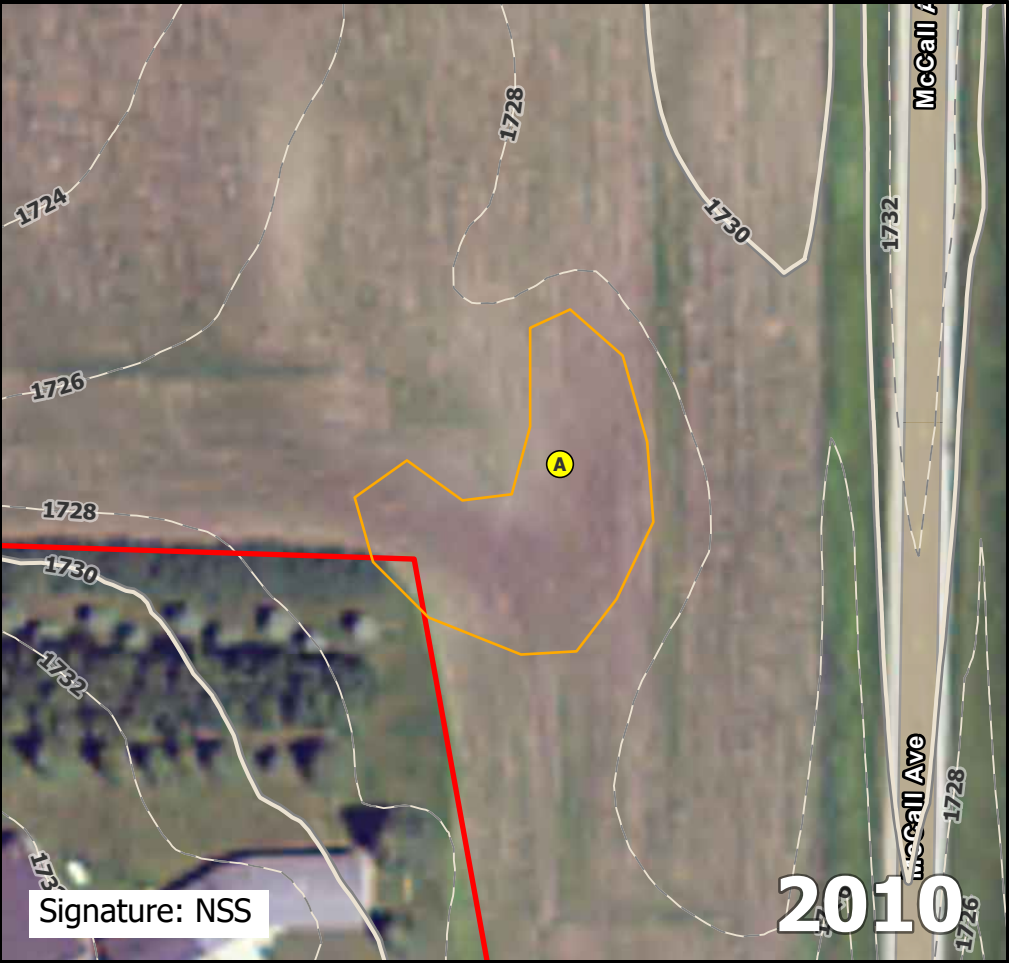
Remarks:



Overview of upland sample point NWA086A.

Direction: South	Photo ID: delin_photo-20221014-164904.jpg	Date: 10/14/2022
Project Name: Summit Lake Solar	Feature ID: NWA086	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWA087

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/12/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWA087A
Investigator(s):	Susan Mayer	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Plain	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.71738	Long:	-95.71058
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	PEM1Af		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWA087A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-15	10YR 2/1	100					Clay Loam	
15-22	2.5Y 4/3	70	10YR 6/8	30	C	M	Clay Loam	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWA087A.

Direction: North

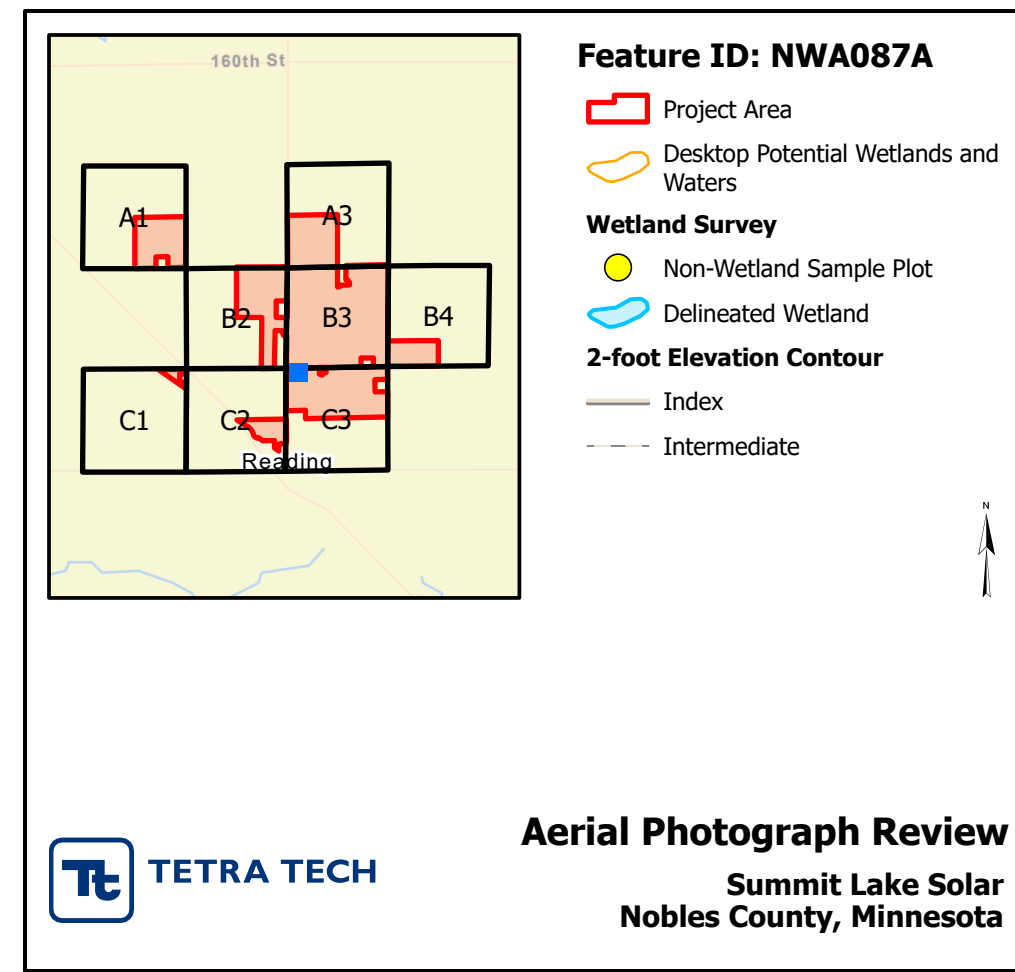
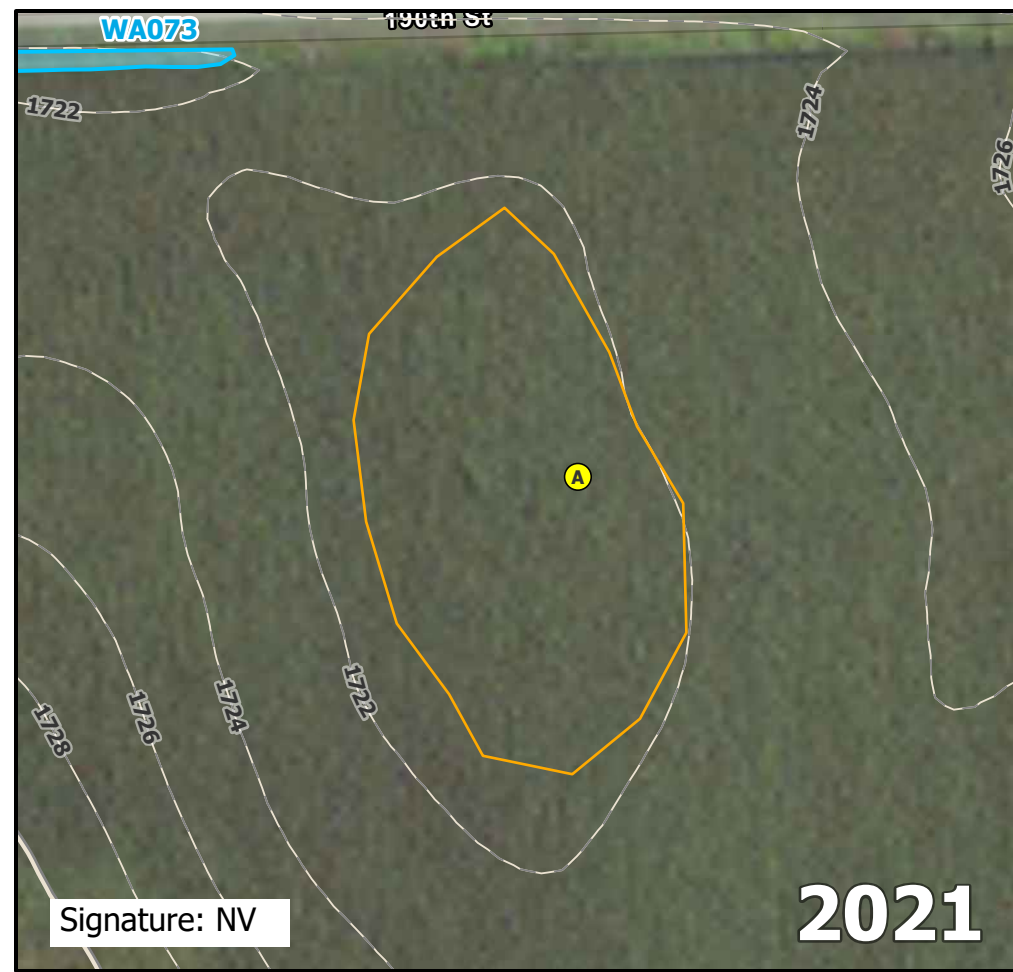
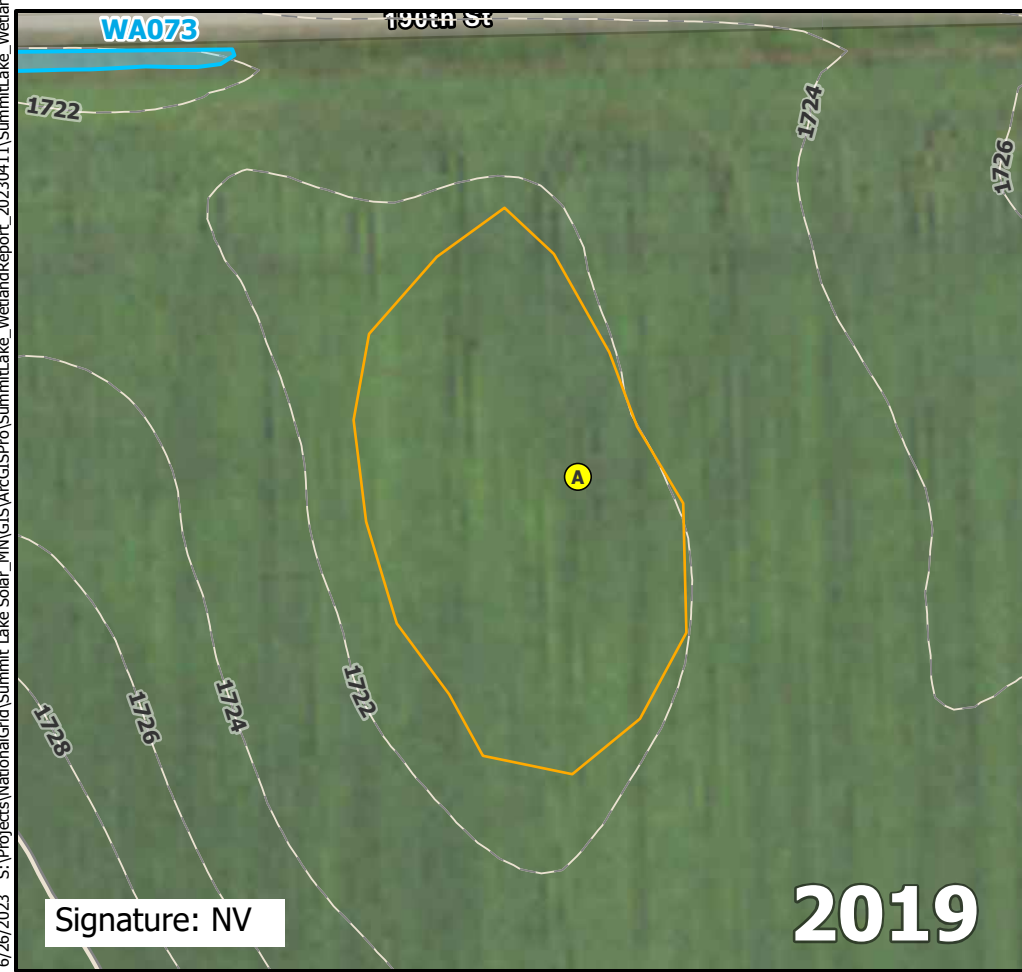
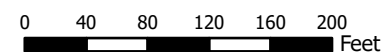
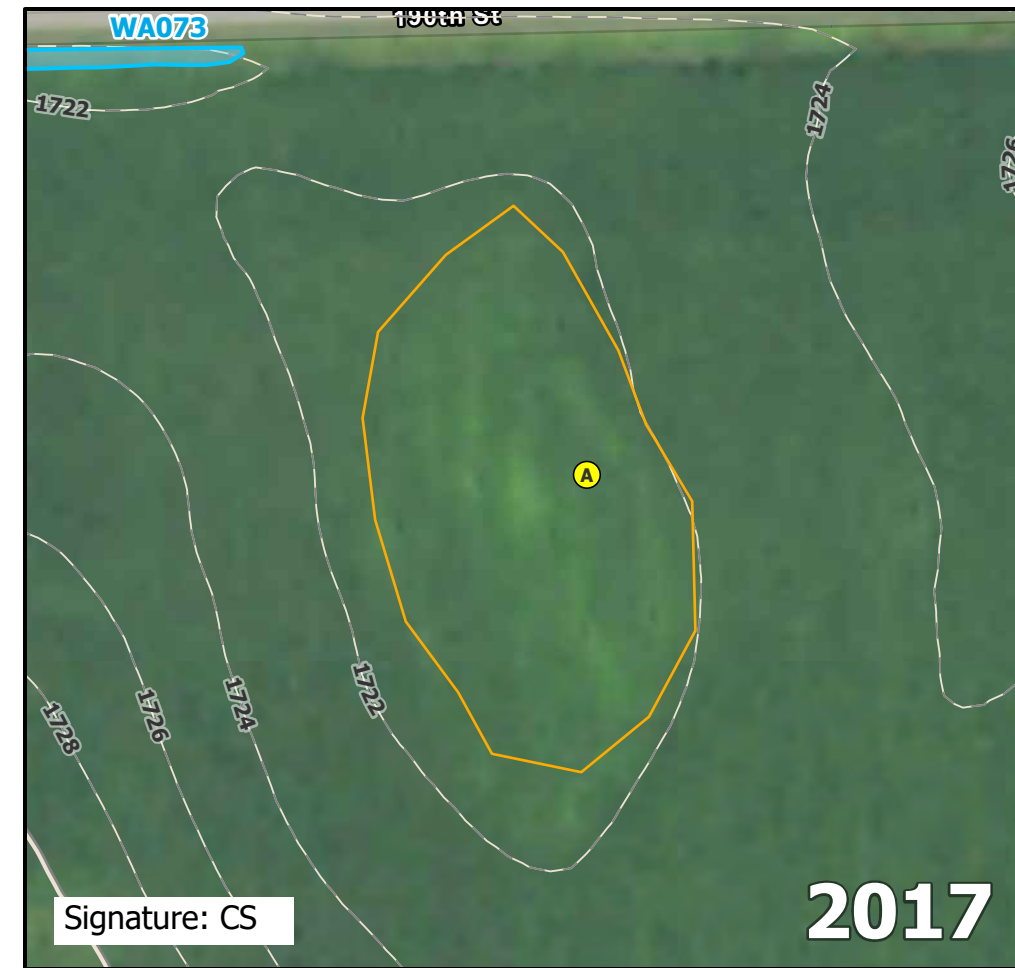
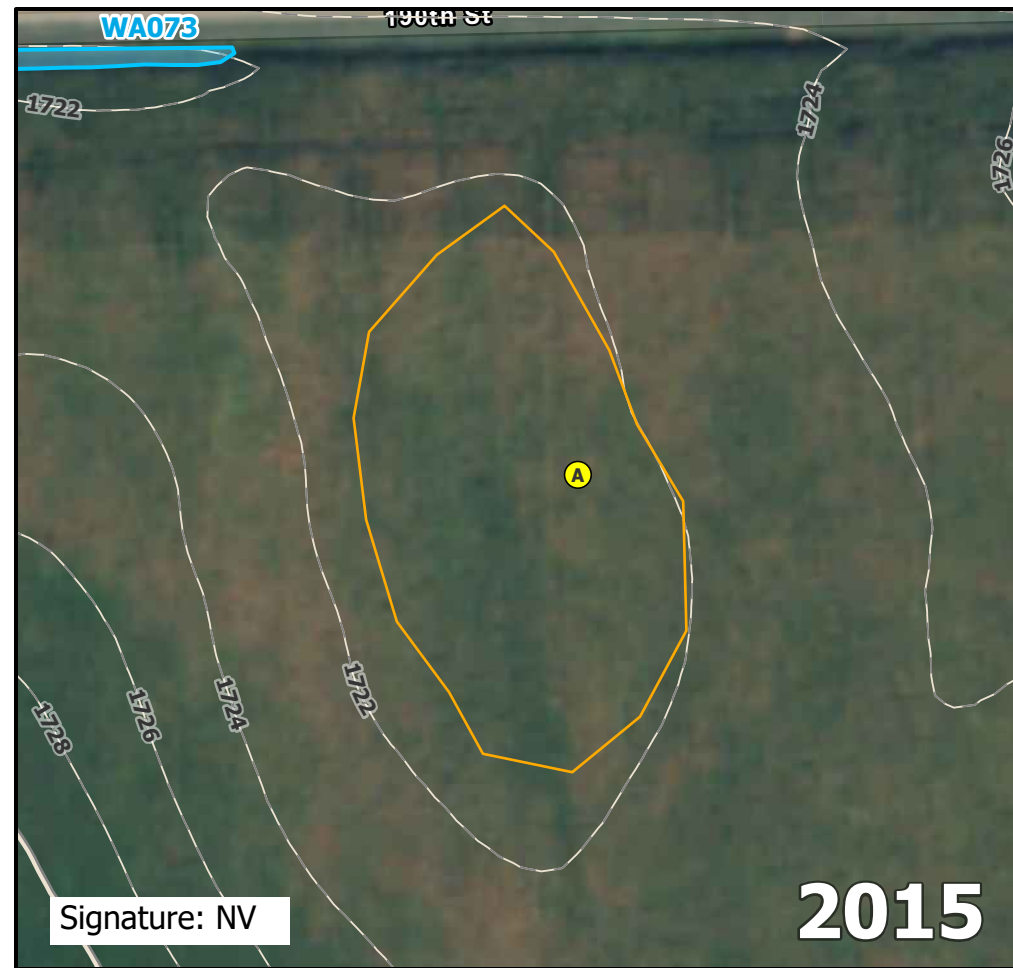
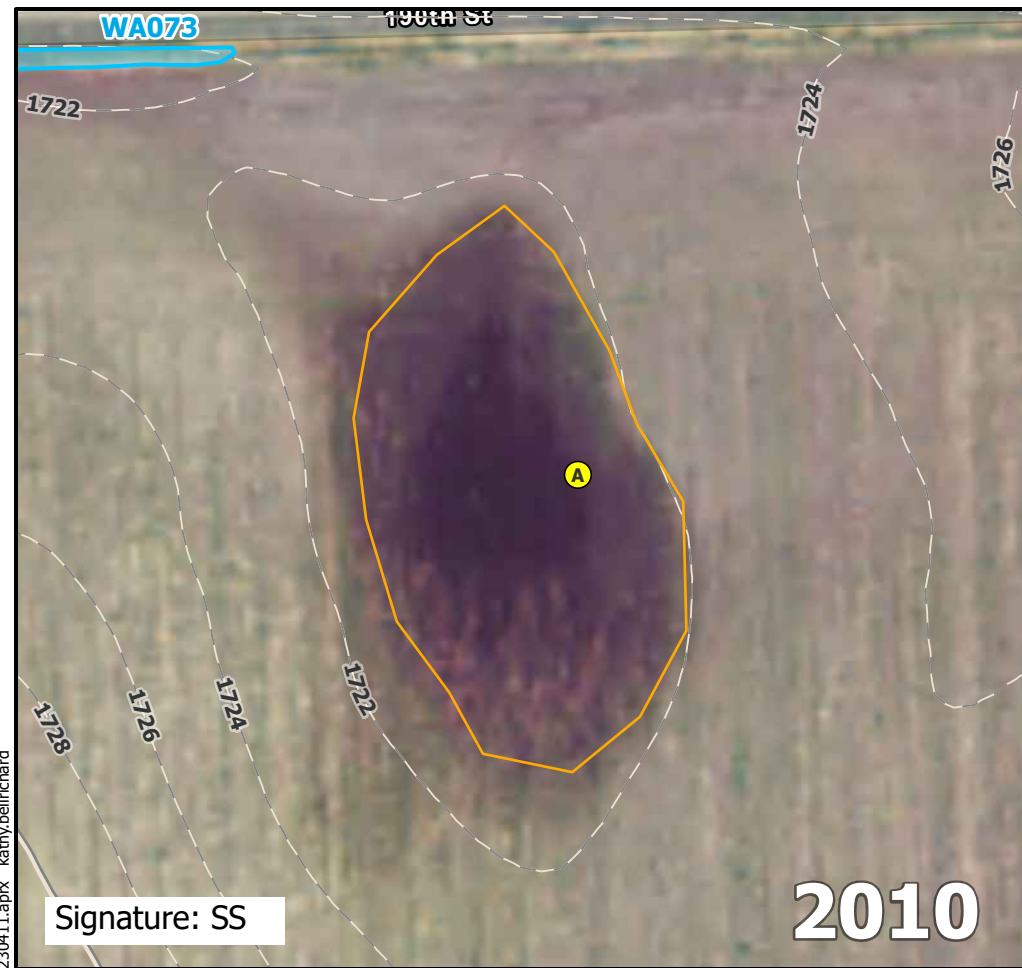
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Date: 10/12/2022

Project Name: Summit Lake Solar

Feature ID: NWA087

6/26/2023 5:10 PM S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Non-Wetland ID

NWB006

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/18/2022		
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWB006A		
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.13 T103N R41W				
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave				
Slope (%):	0	Lat:	43.7299	Long:	-95.69645	Datum:	WGS84
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes		NWI Classification:		None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 = _____

FACW species x 2 = _____

FAC species x 3 = _____

FACU species x 4 = _____

UPL species x 5 = _____

Column totals (A) (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWB006A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Clay	
6-8	10YR 2/1	98	10YR 3/3	2	C	PL	Clay	Distinct or Prominent
8-17	10YR 2/1	100					Clay	
17-20	10YR 2/1	90	10YR 4/2	10	D	M	Clay	
20-24	10YR 5/3	99	10YR 4/6	1	C	PL	Loam	Distinct or Prominent
24-26	10YR 5/3	90	10YR 4/6	10	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point NWB006A.

Direction: South

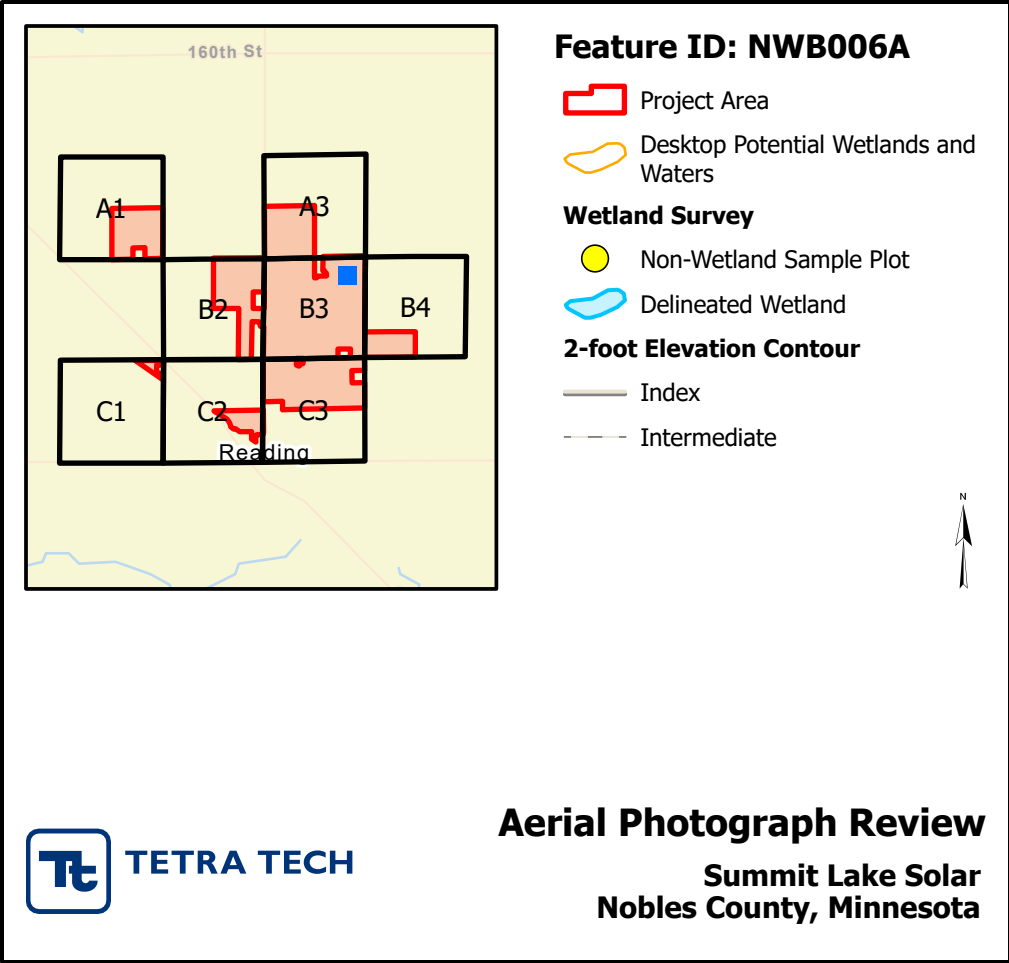
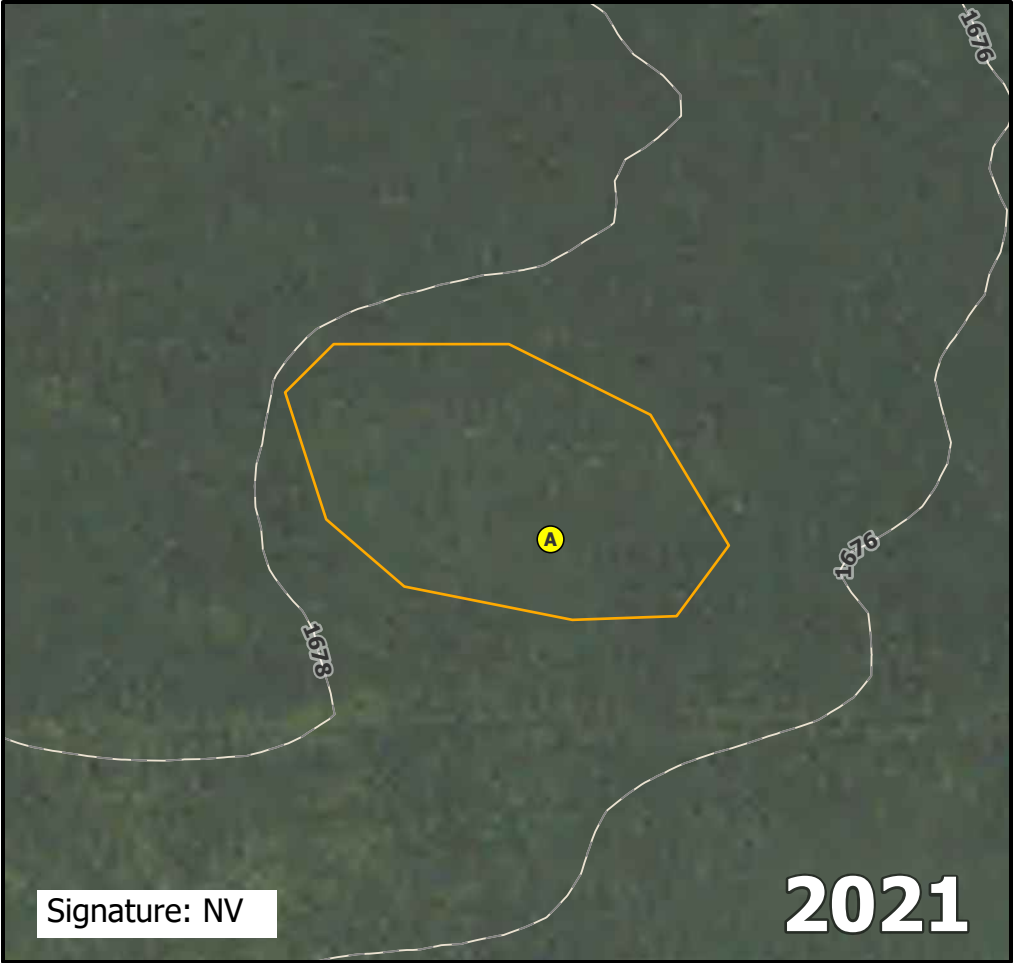
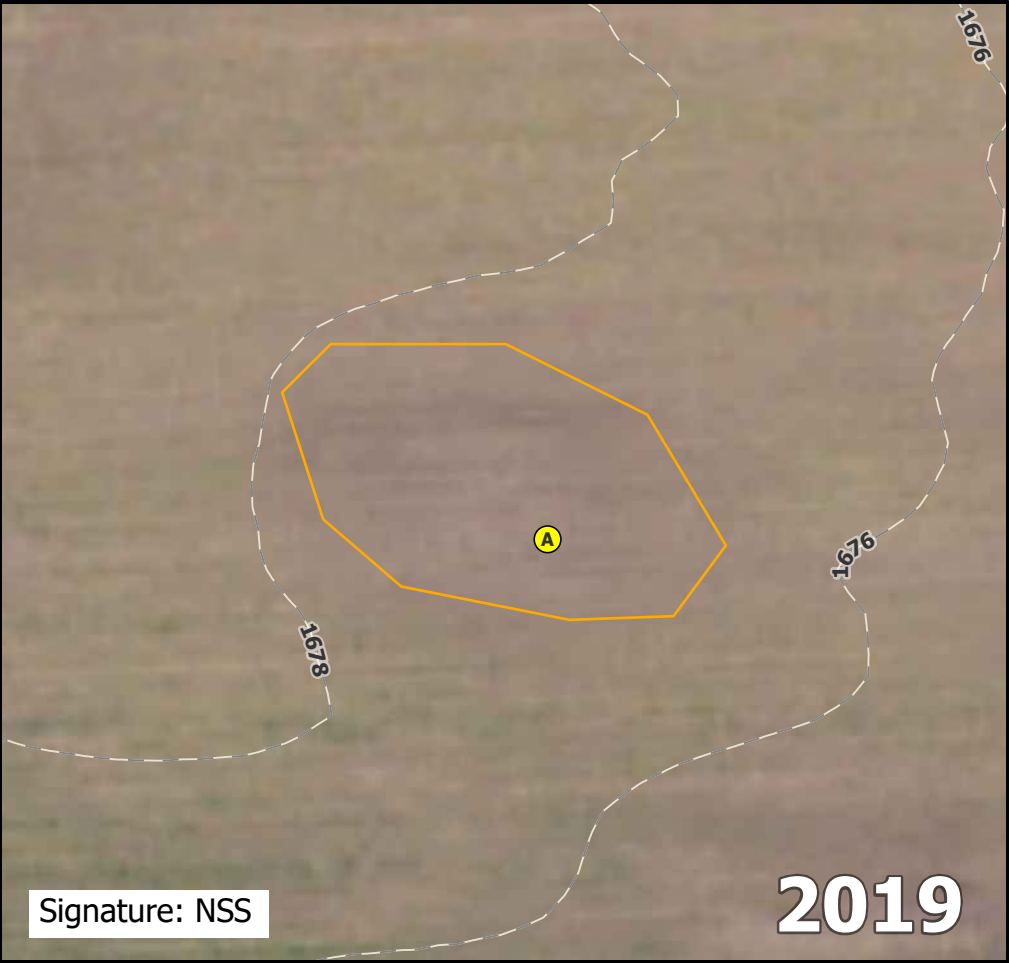
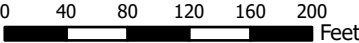
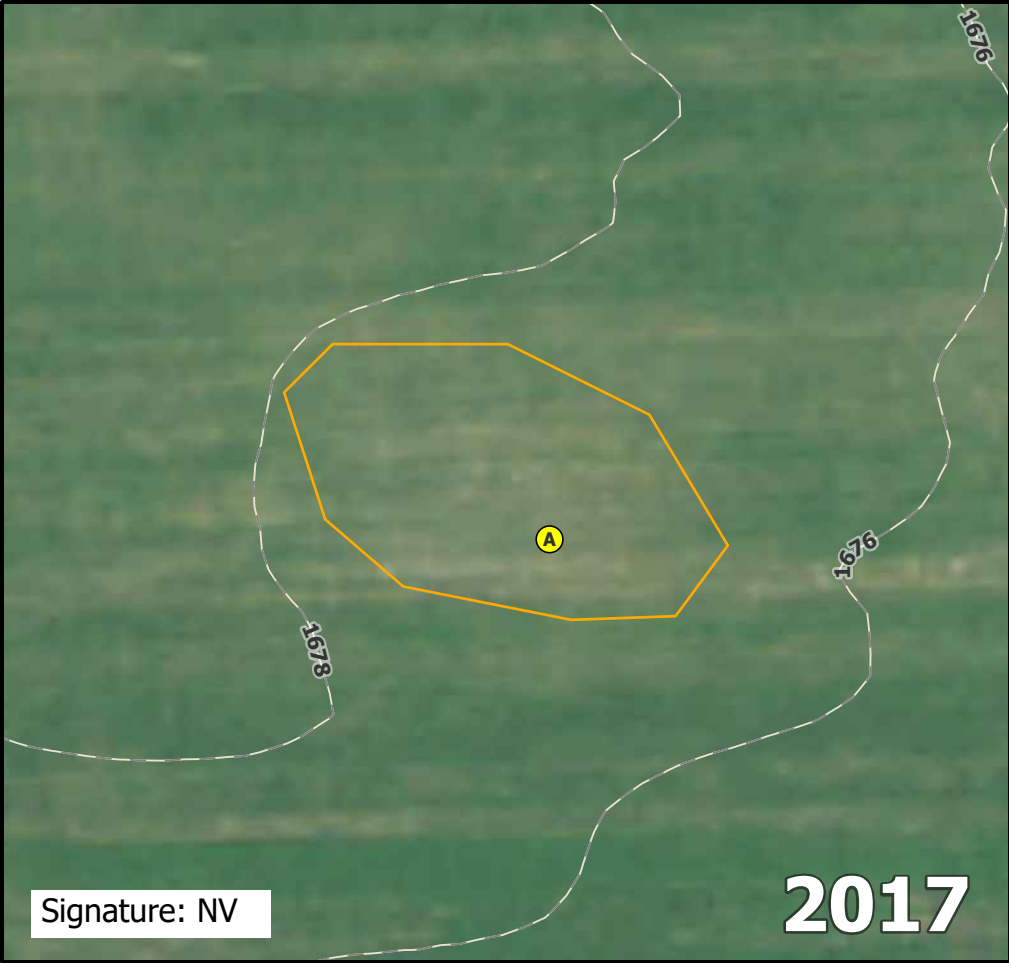
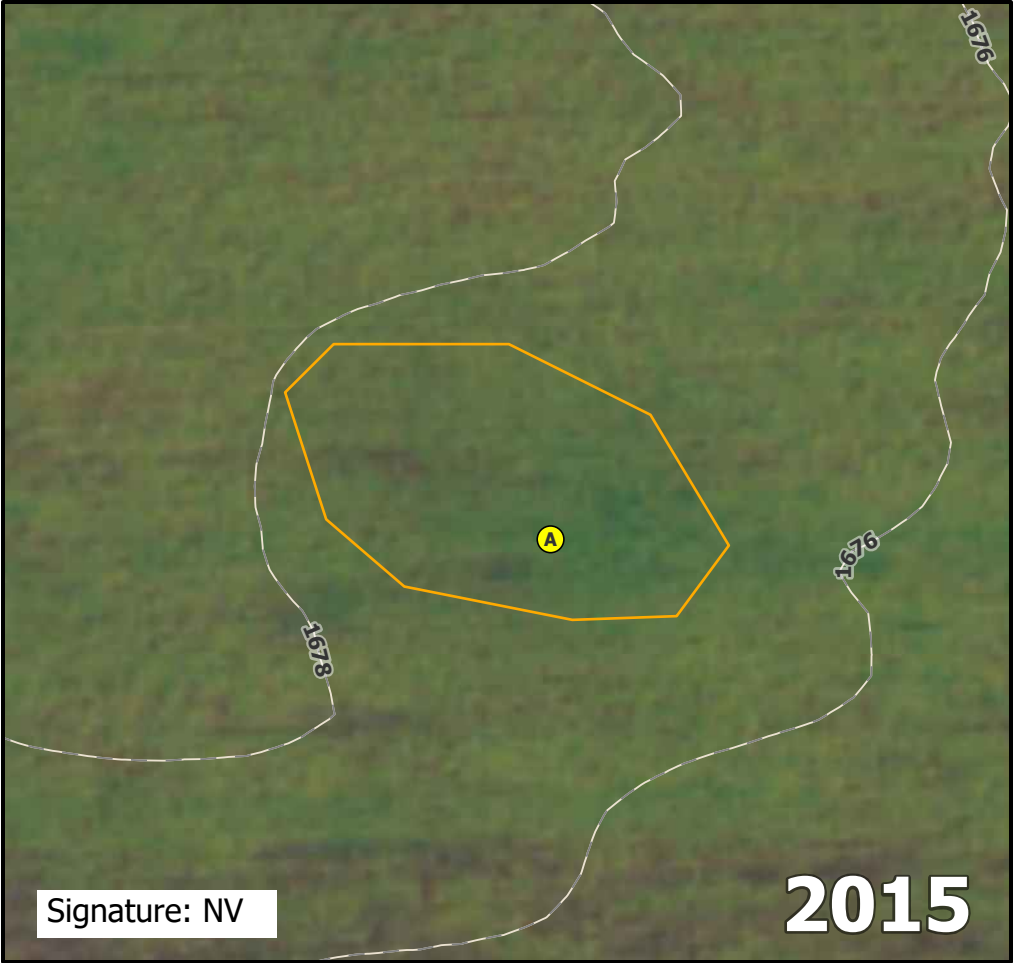
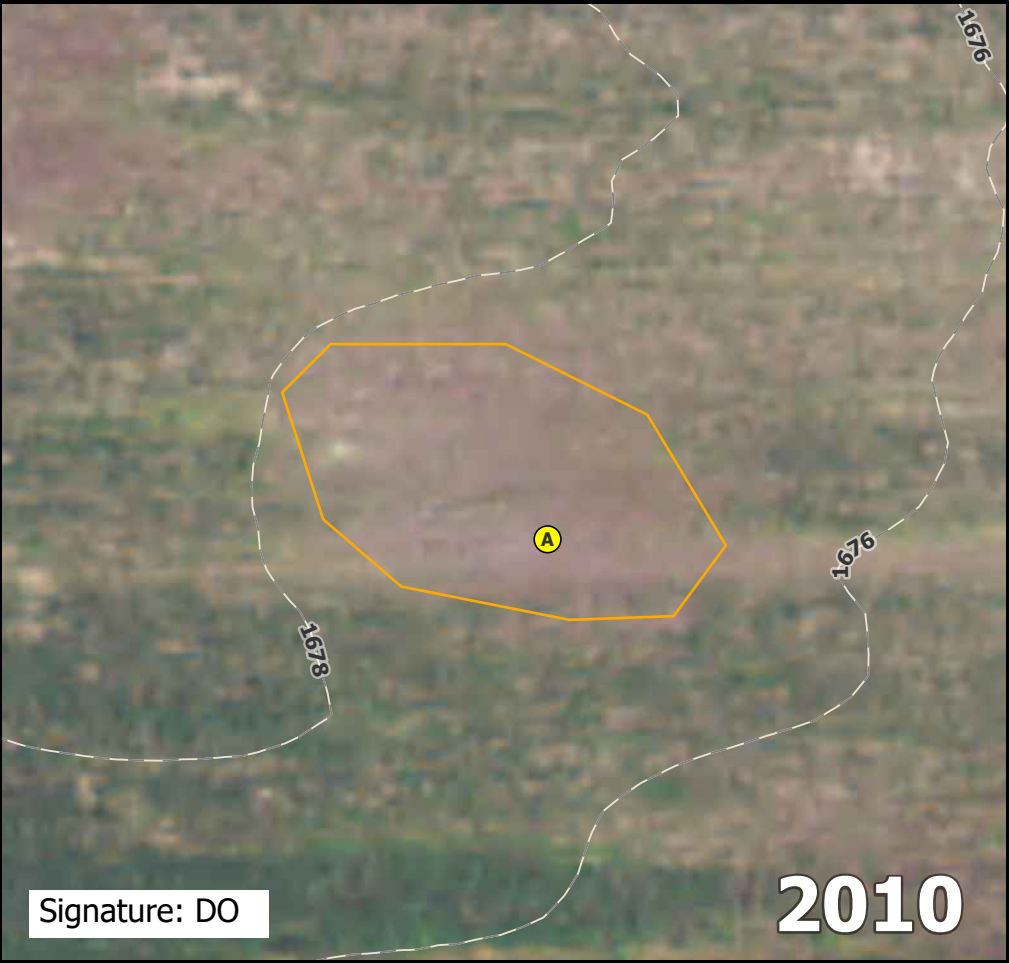
Photo ID: delin_photo-20221018-141326.jpg

Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: NWB006

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWB007

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/18/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWB007A
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.73131	Long:	-95.699
		Datum:	WGS84		
Soil Map Unit Name:	Webster clay loam, 0 to 2 percent slopes	NWI Classification:	None		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? No _____ If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWB007A**Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)**

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-22	10YR 2/1	100					Clay	
22-26	10YR 2/1	90	10YR 5/3	10	D	M	Clay	
26-36	10YR 5/3	79	10YR 5/6	1	C	PL	Clay	
	10YR 2/1	20						Mixed Matrix

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

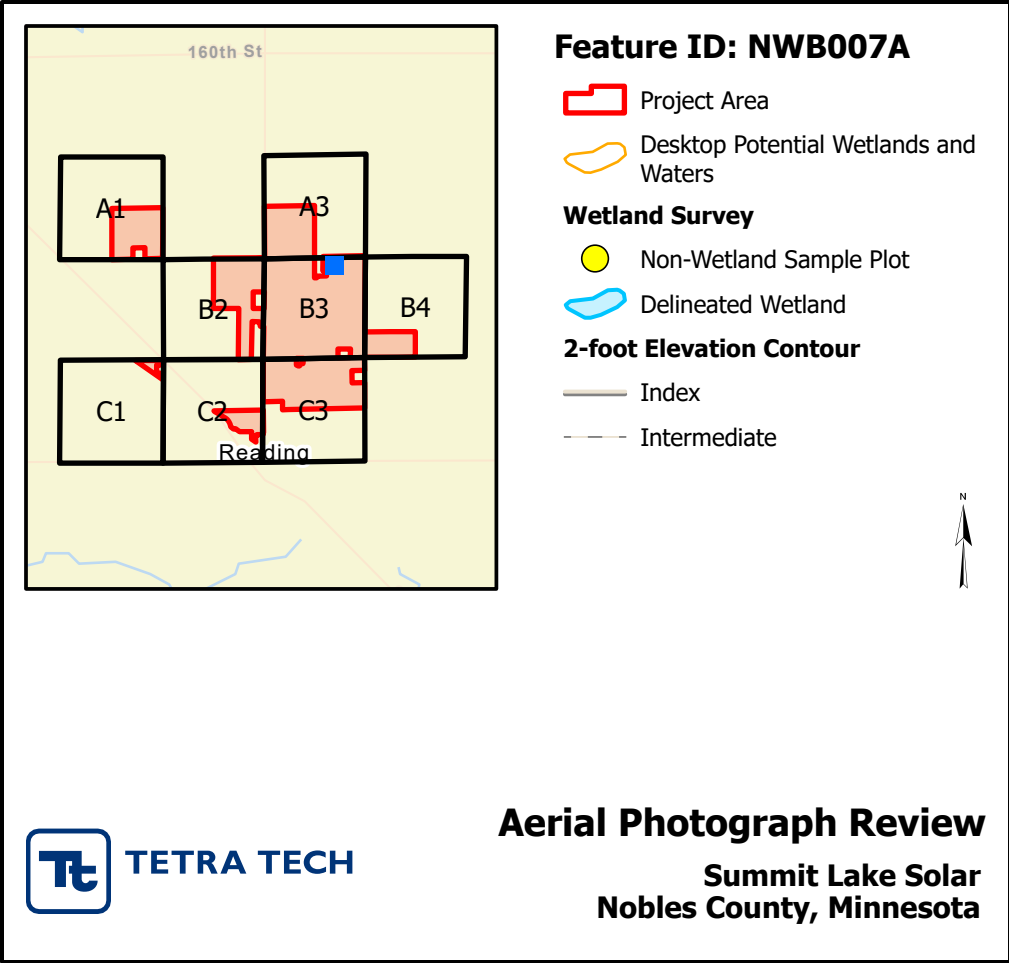
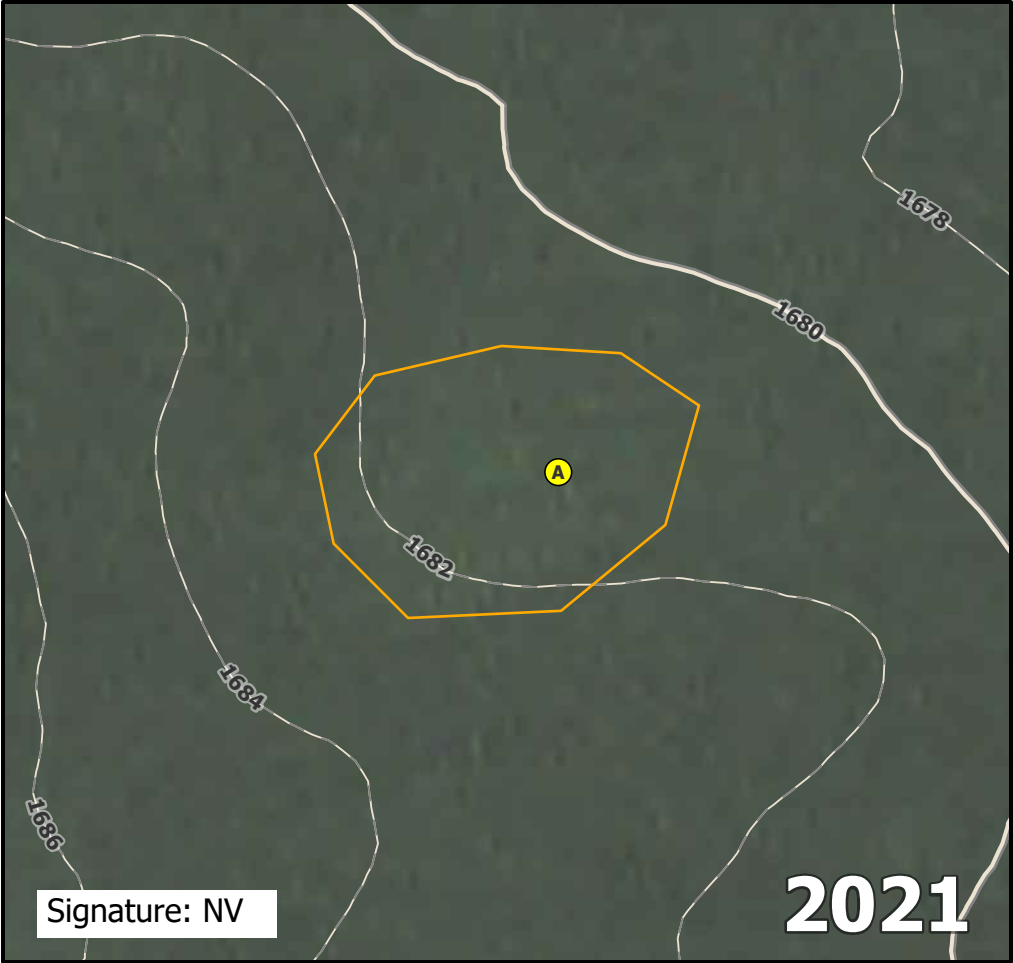
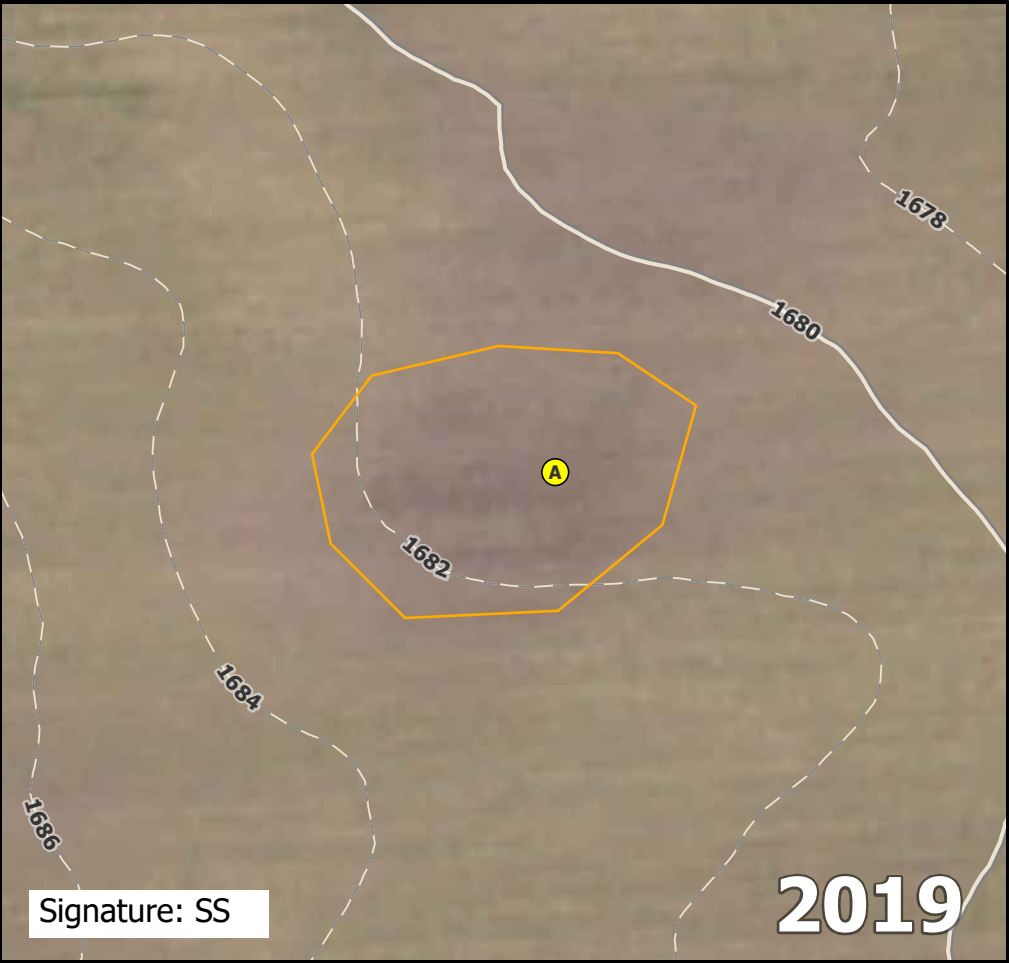
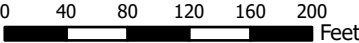
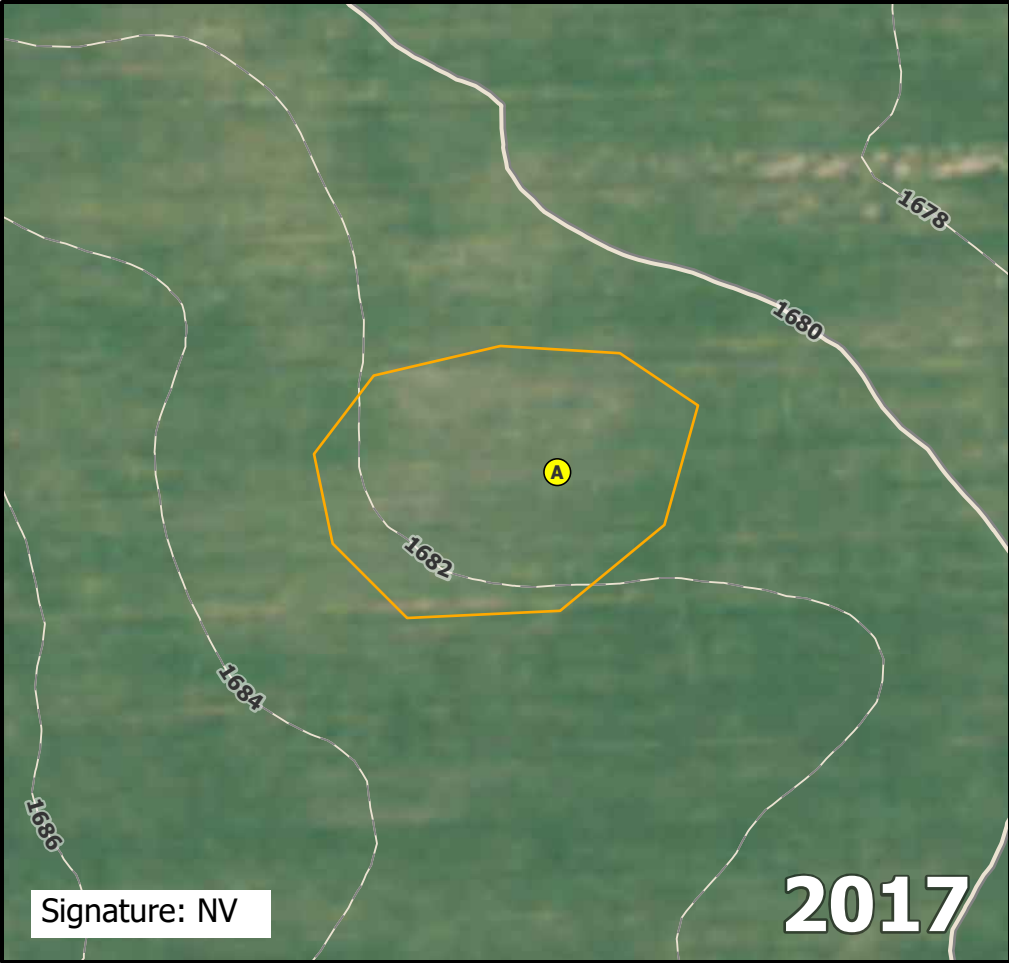
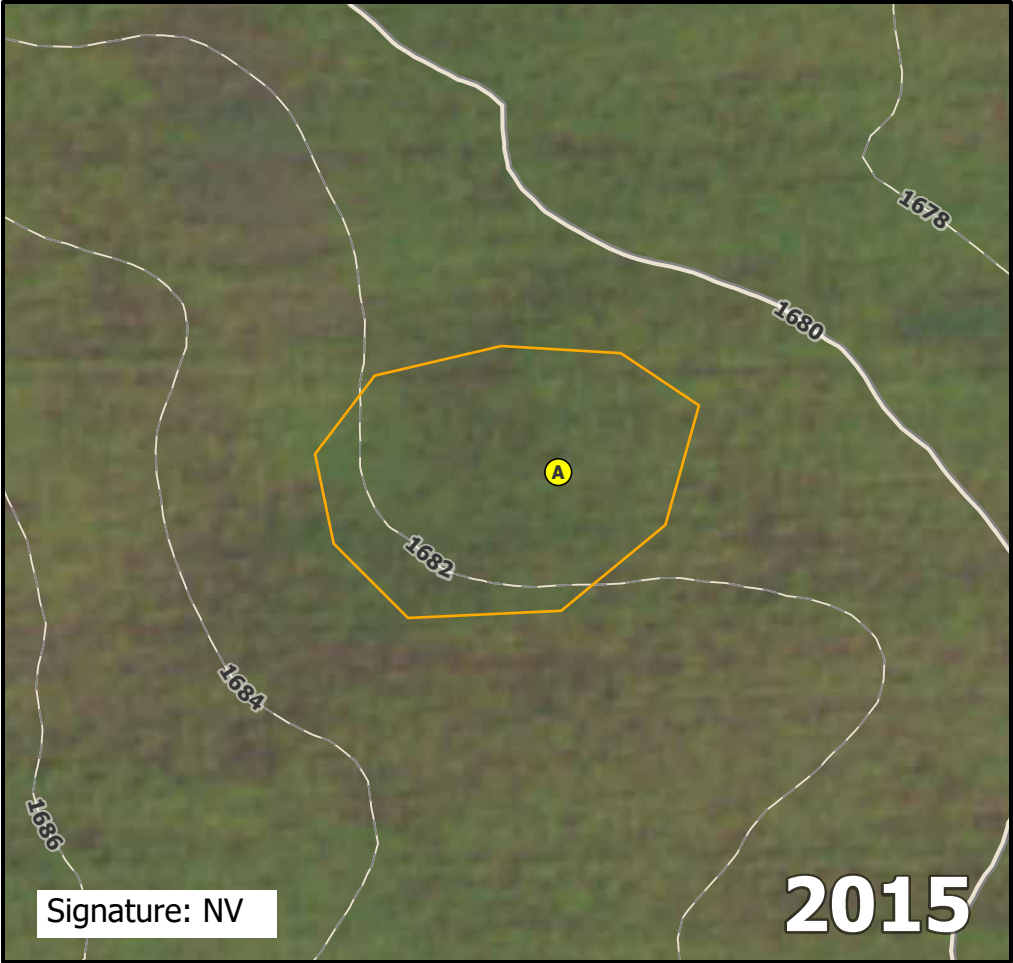
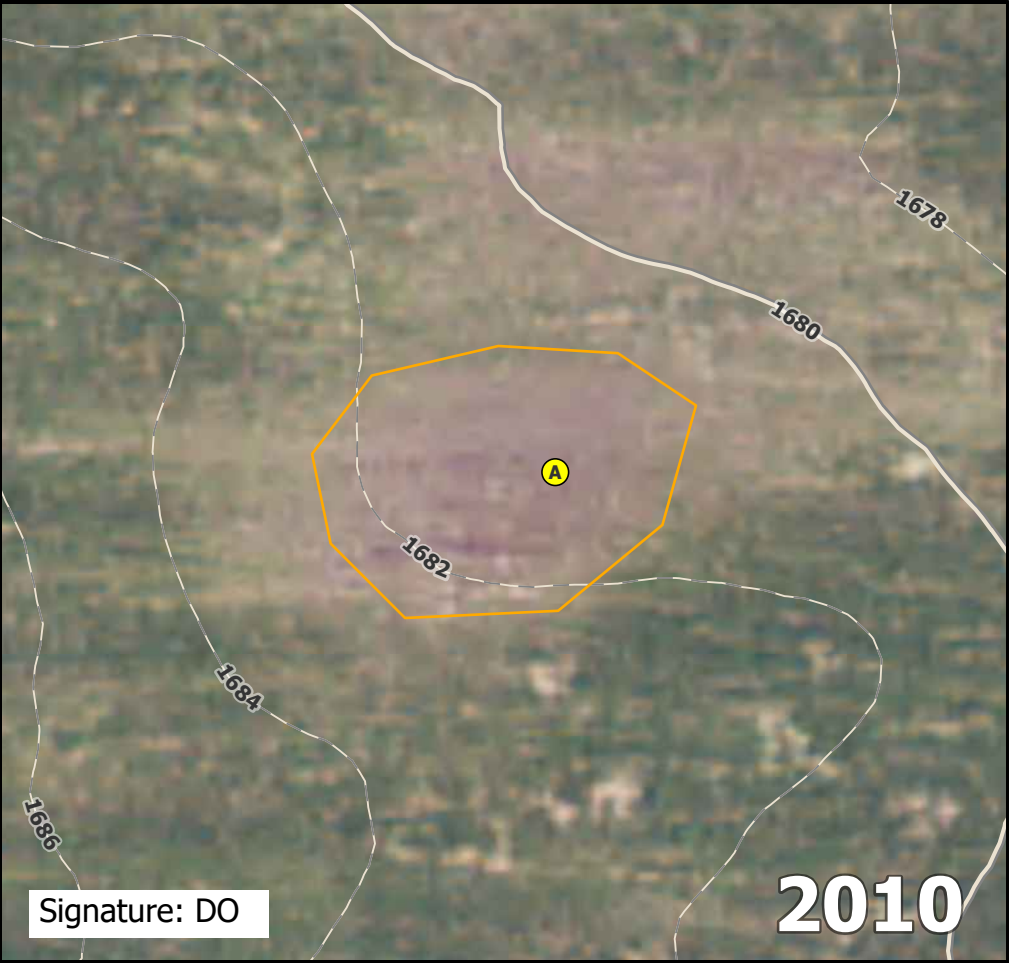
Remarks:



Overview of upland sample point NWB007A.

Direction: North	Photo ID: delin_photo-20221018-143300.jpg	Date: 10/18/2022
Project Name: Summit Lake Solar	Feature ID: NWB007	

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MW\GIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathy.bellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWB010

Project/Site:	Summit Lake Solar	City/County:	Nobles	Sampling Date:	10/18/2022
Applicant/Owner:	Summit Lake Solar, LLC	State:	Minnesota	Sampling Point:	NWB010A
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.13 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	None		
Slope (%):	0	Lat:	43.72842	Long:	-95.70148
				Datum:	WGS84
Soil Map Unit Name:	Nicollet clay loam, 1 to 3 percent slopes		NWI Classification:	None	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? No _____ If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

	Absolute	Dominant	Indicator	
Tree Stratum	(Plot size: _____)	% Cover	Species	Status
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
		_____ =Total Cover		
Herb Stratum	(Plot size: _____)			
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		_____ =Total Cover		
Woody Vine Stratum	(Plot size: _____)			
1.				
2.				
		_____ =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: % (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species x 1 =

FACW species x 2 =

FAC species x 3 =

FACU species x 4 =

UPL species x 5 =

Column totals (A) (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

- ____ Rapid test for hydrophytic vegetation
- ____ Dominance test is >50%
- ____ Prevalence index is ≤3.0*
- ____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
- ____ Problematic hydrophytic vegetation*
- ____ (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: NWB010A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-12	10YR 2/1	100					Clay	
12-19	10YR 2/1	98	7.5YR 5/6	2	C	PL	Clay	Distinct or Prominent
19-22	2.5Y 3/3	98	10YR 4/6	2	C	PL	Clay	Distinct or Prominent
22-27	2.5Y 3/3	95	10YR 4/6	5	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

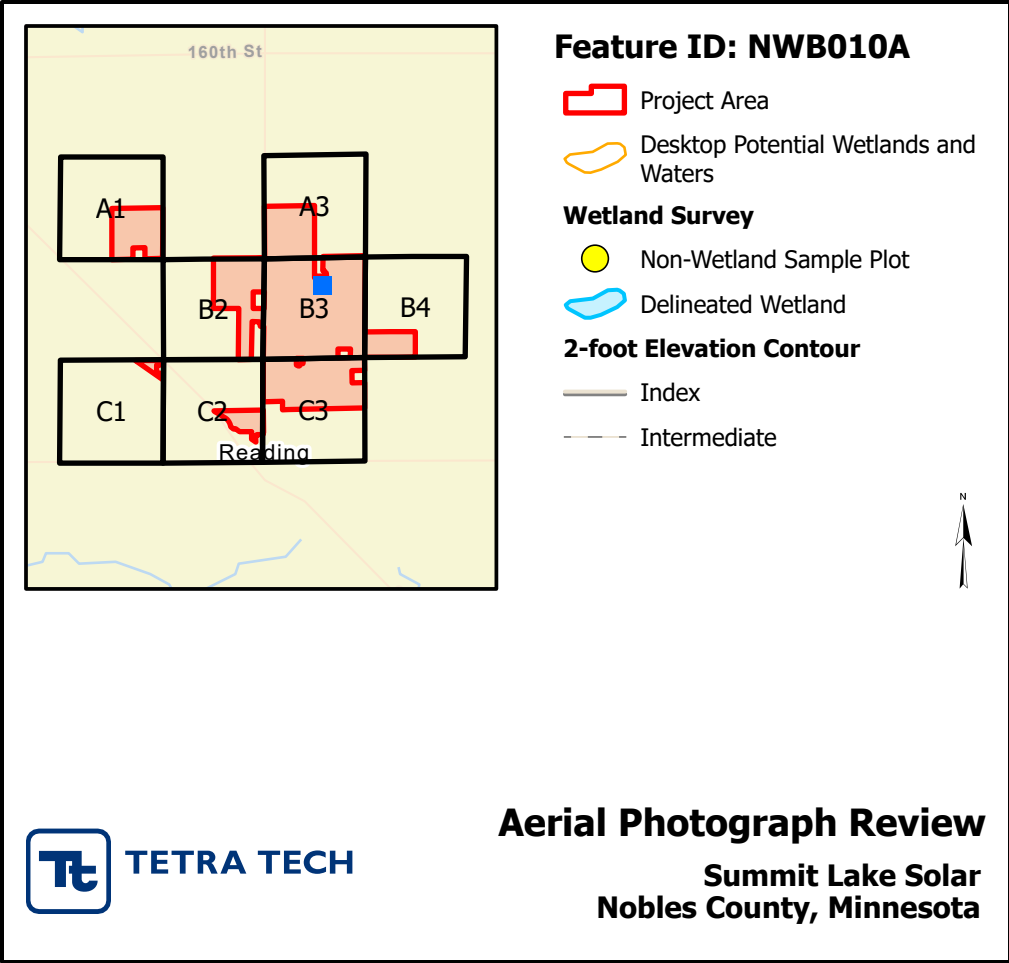
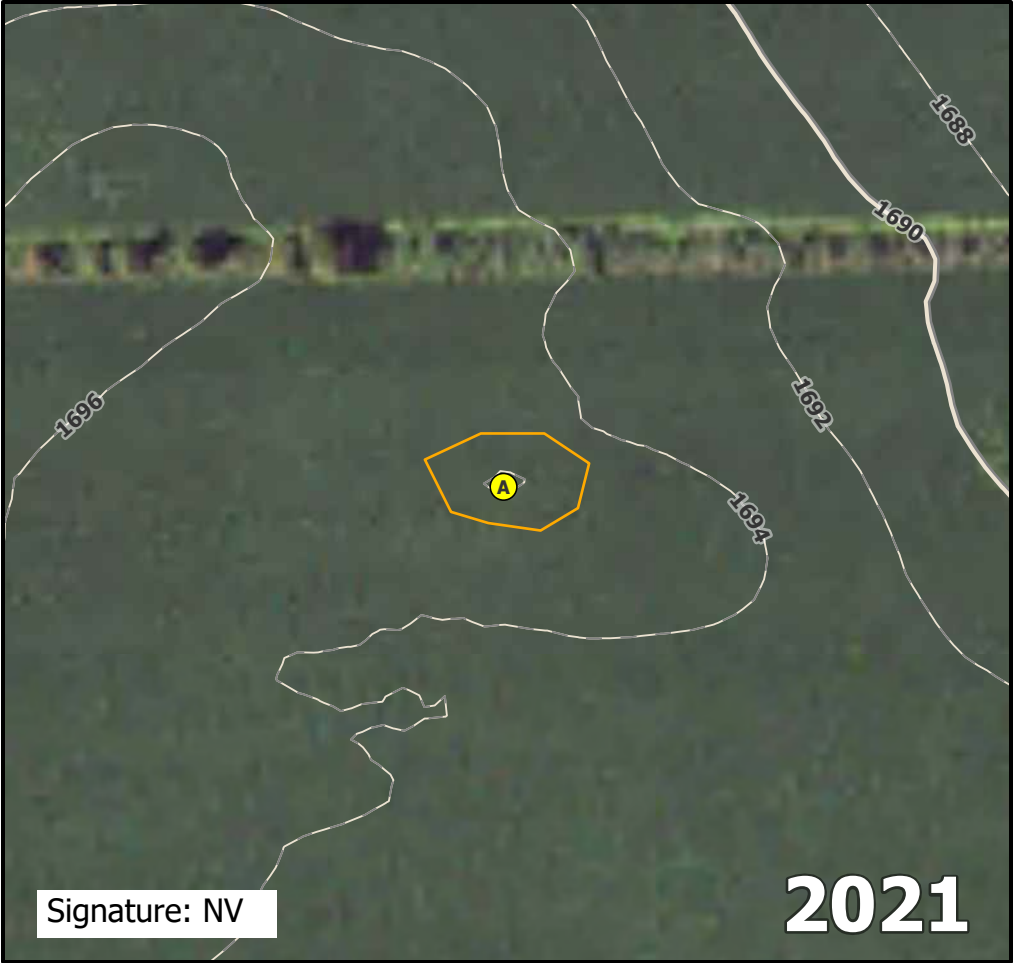
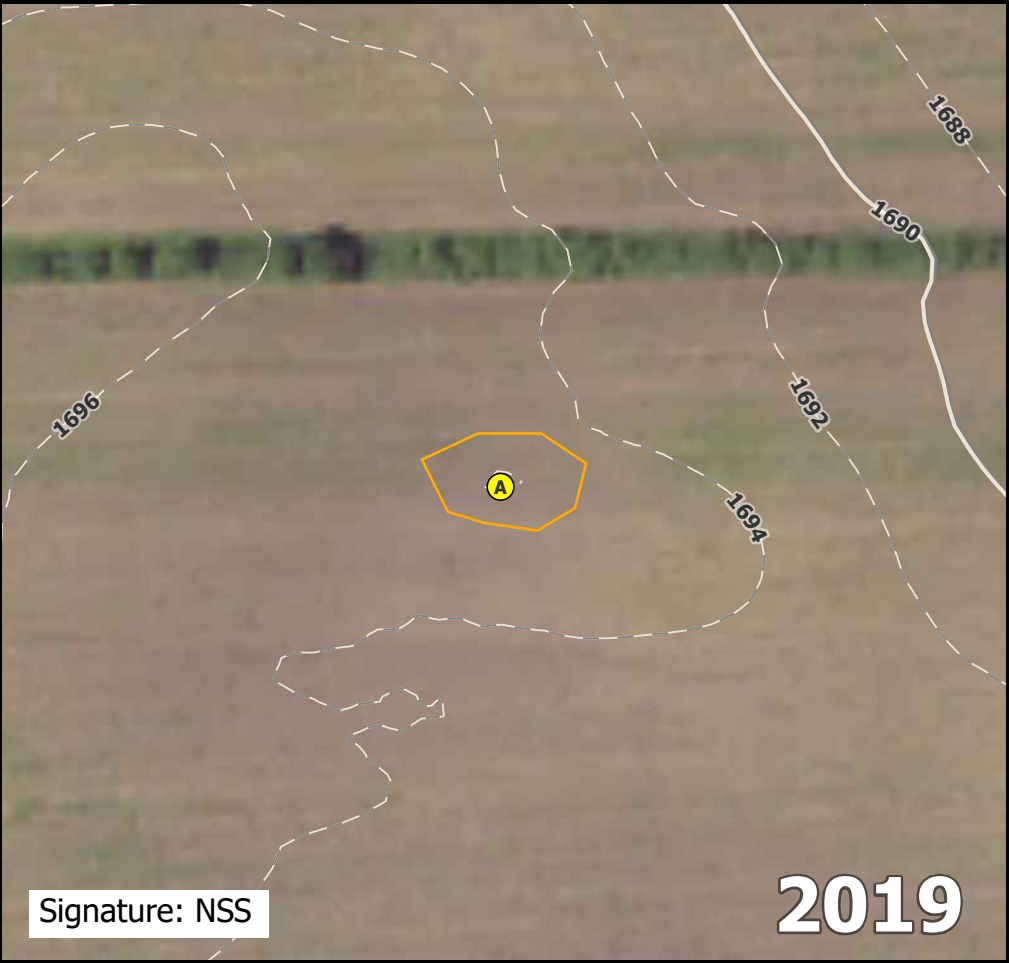
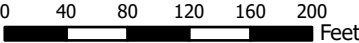
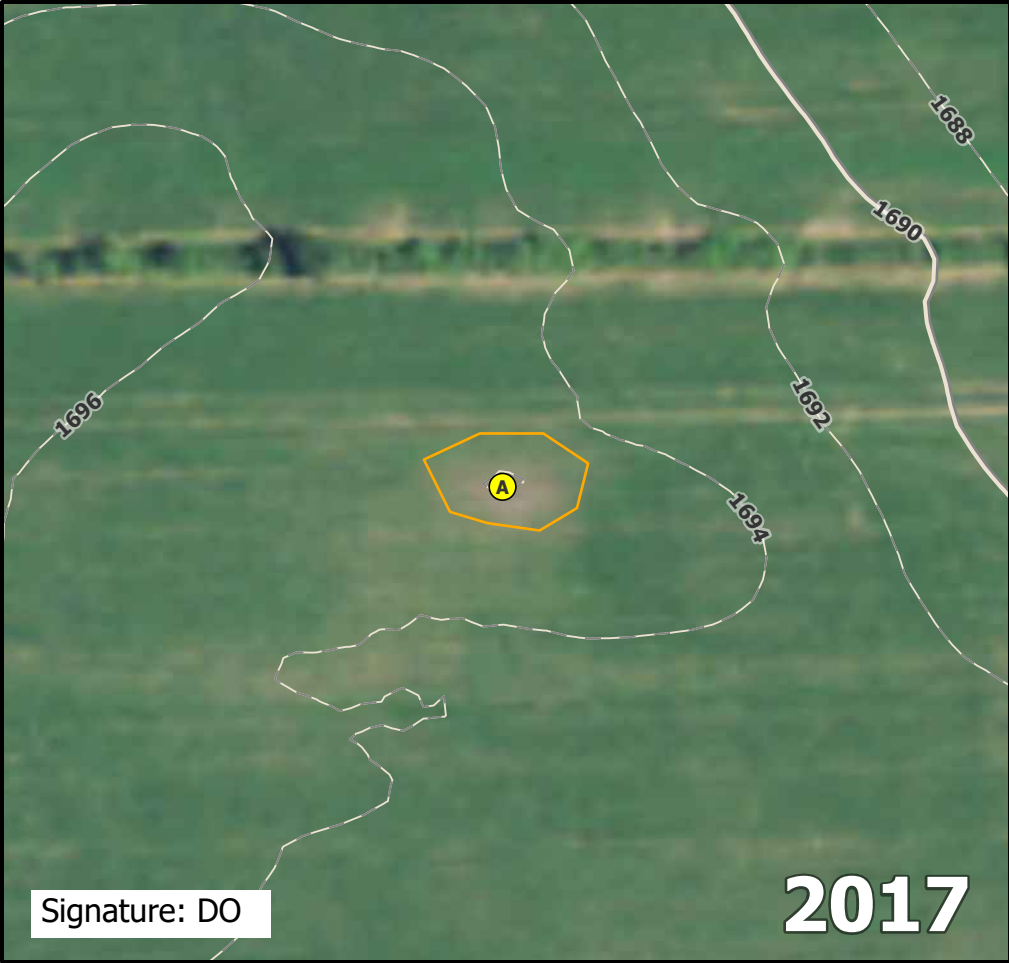
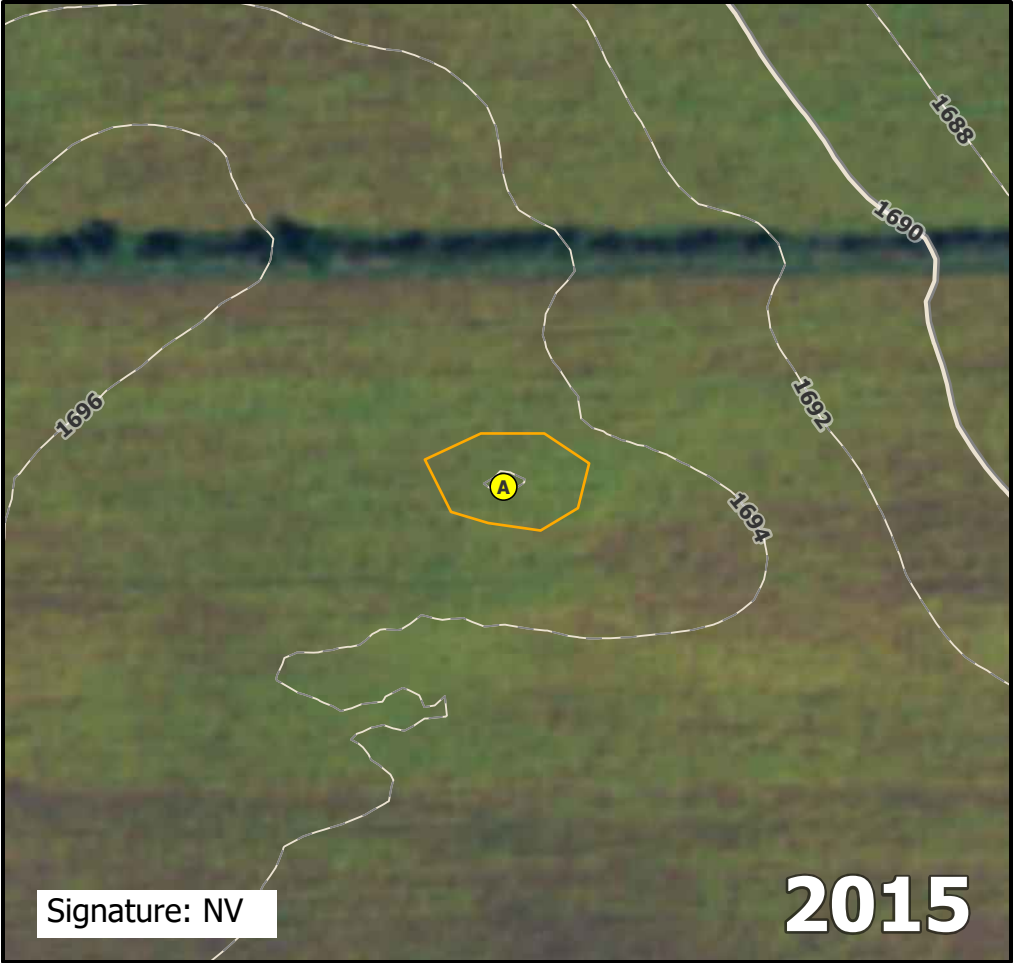
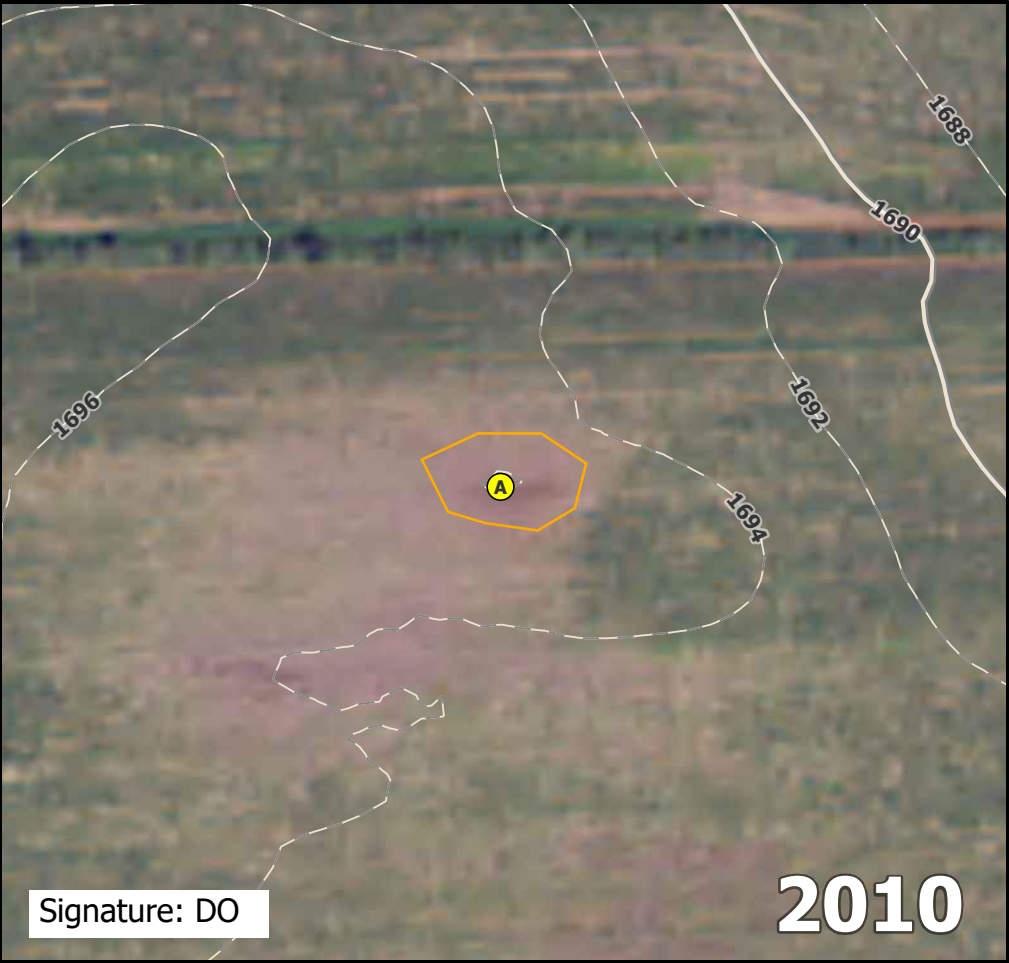
Remarks:



Overview of upland sample point NWB010A.

Direction: North	Photo ID: delin_photo-20221018-184216.jpg	Date: 10/18/2022
Project Name: Summit Lake Solar	Feature ID: NWB010	

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

WA010

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/11/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA010B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.11 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 10 Lat: 43.73231 Long: -95.71388 Datum: WGS84
 Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA010</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA010B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-22	10YR 3/2	100					Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☒ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point WA010B.

Direction: South

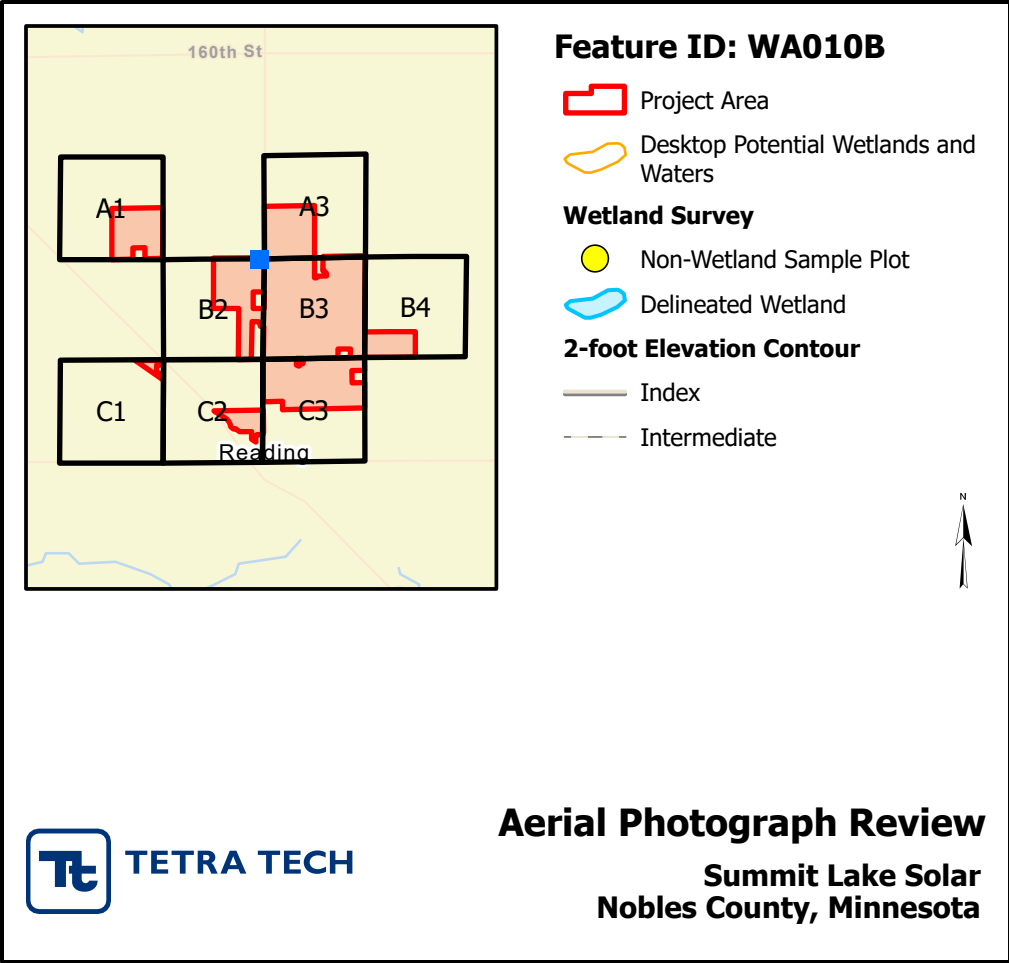
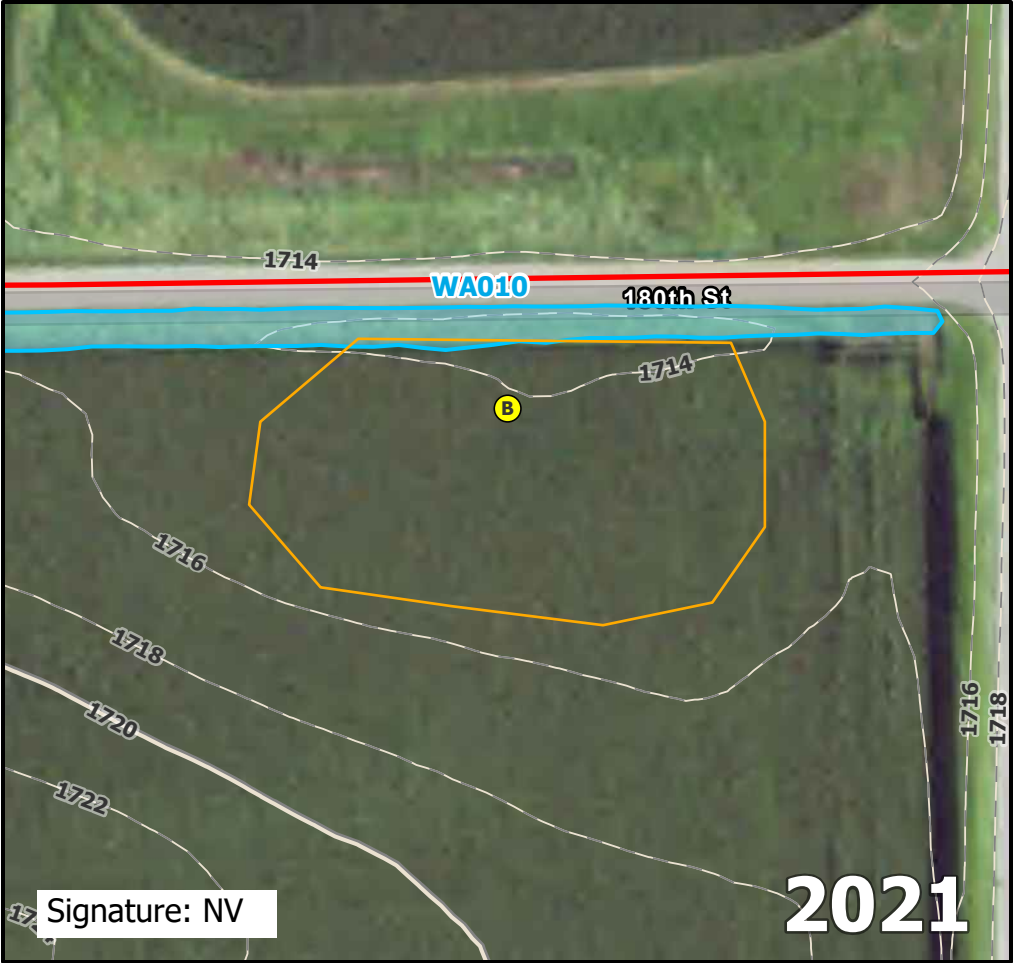
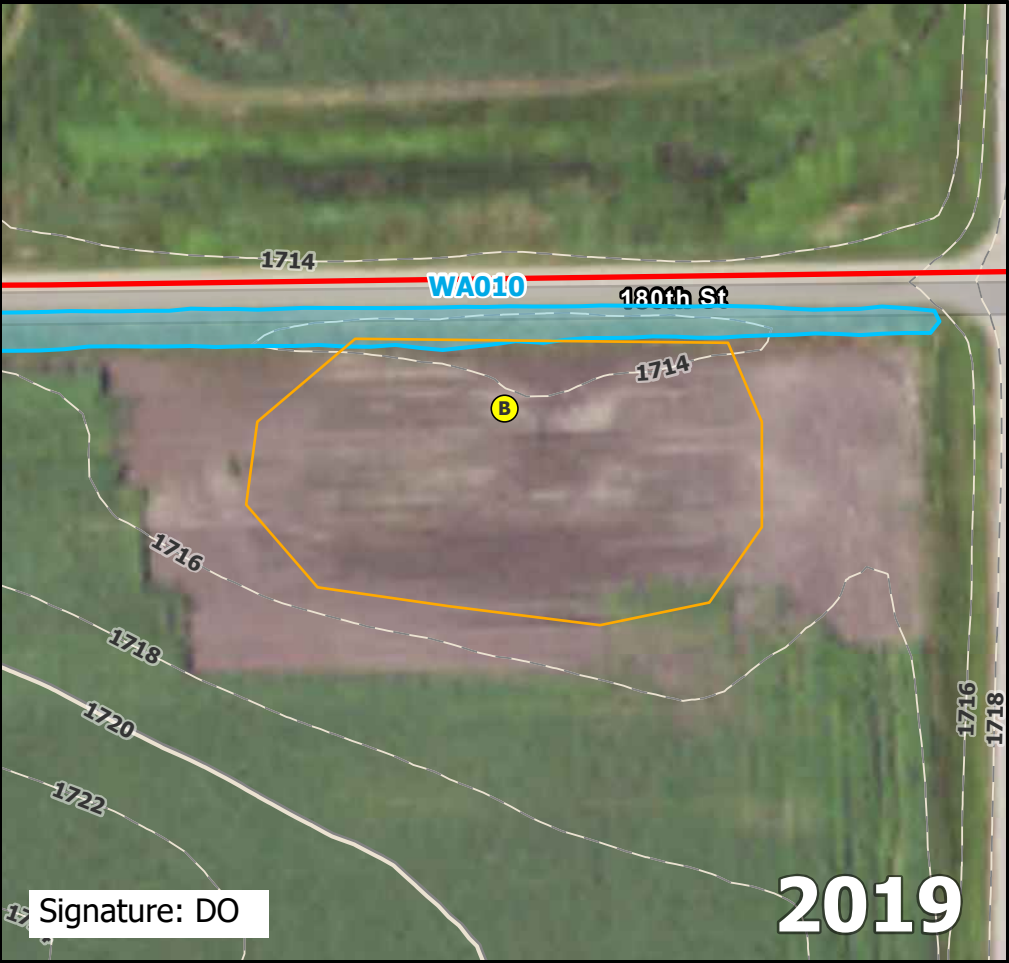
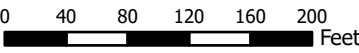
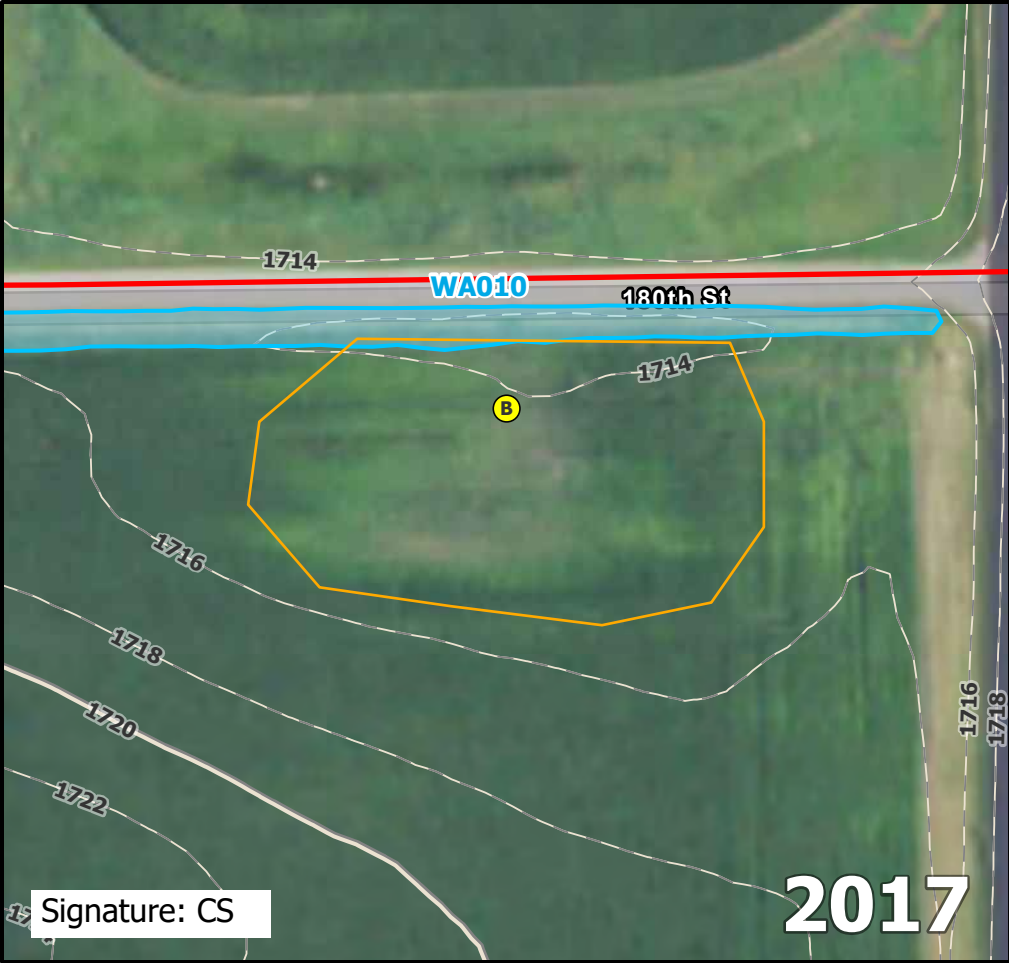
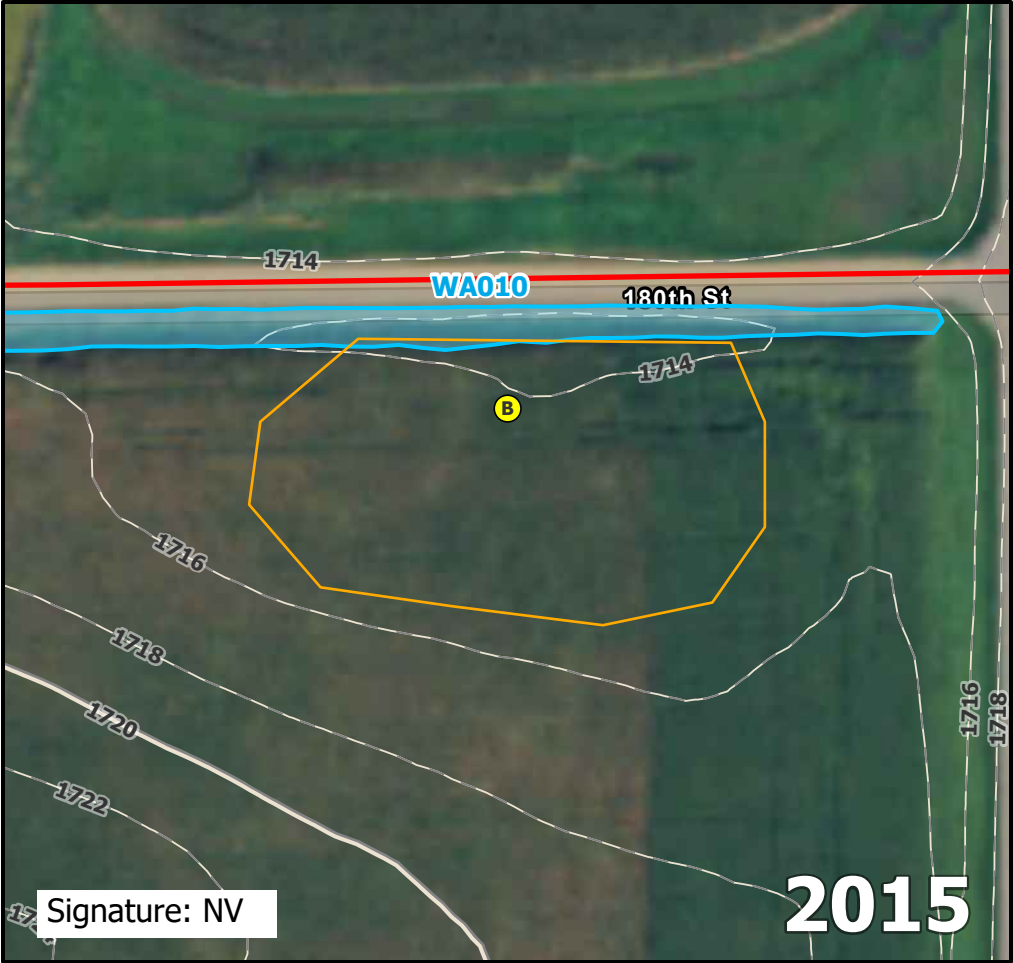
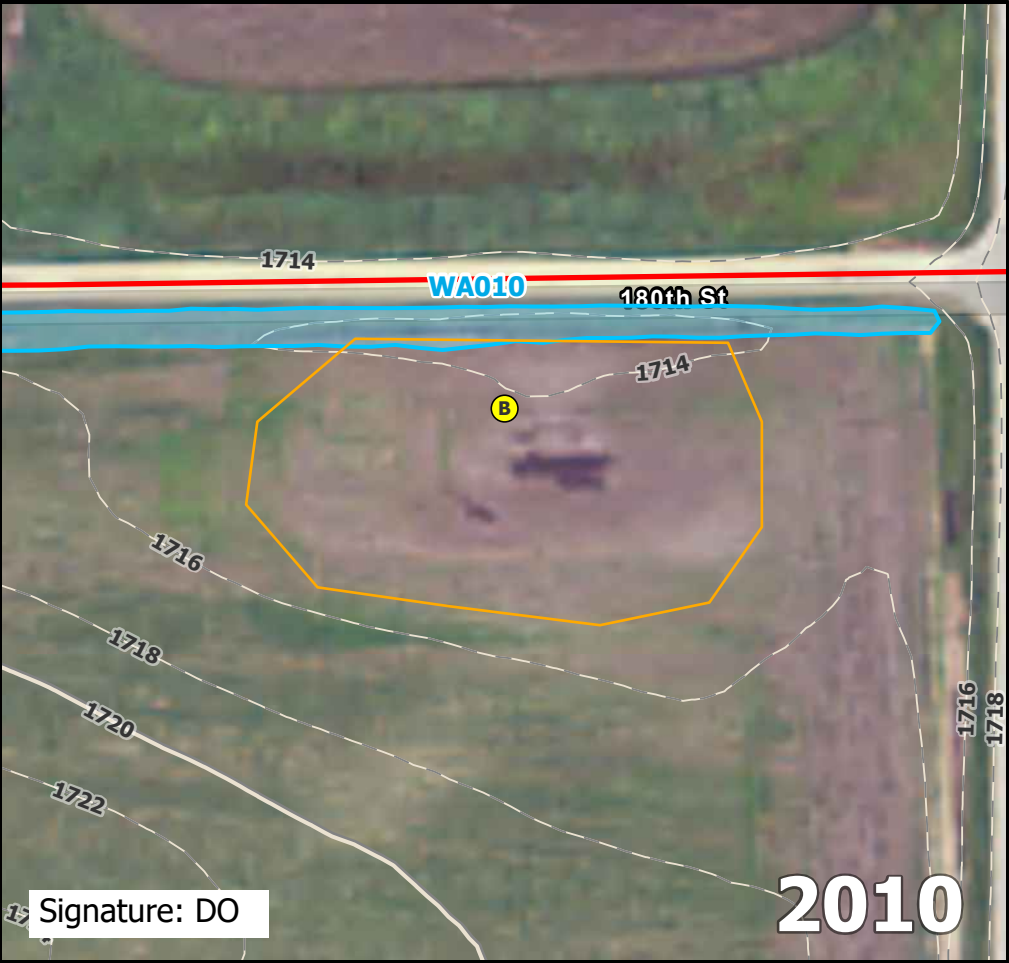
Photo ID: delin_photo-20221011-132733.jpg

Date: 10/11/2022

Project Name: Summit Lake Solar

Feature ID: WA010

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

WA069

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/13/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WA069B
 Investigator(s): Susan Mayer Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.71213 Long: -95.71292 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WA069</u>		
Remarks: Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u> </u> =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
<u> </u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u> </u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
<u> </u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u>

Remarks: (Include photo numbers here or on a separate sheet)

 Harvested agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WA069B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-26	10YR 3/2	100					Clay Loam	
26-35	2.5Y 5/2	100					Silty Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

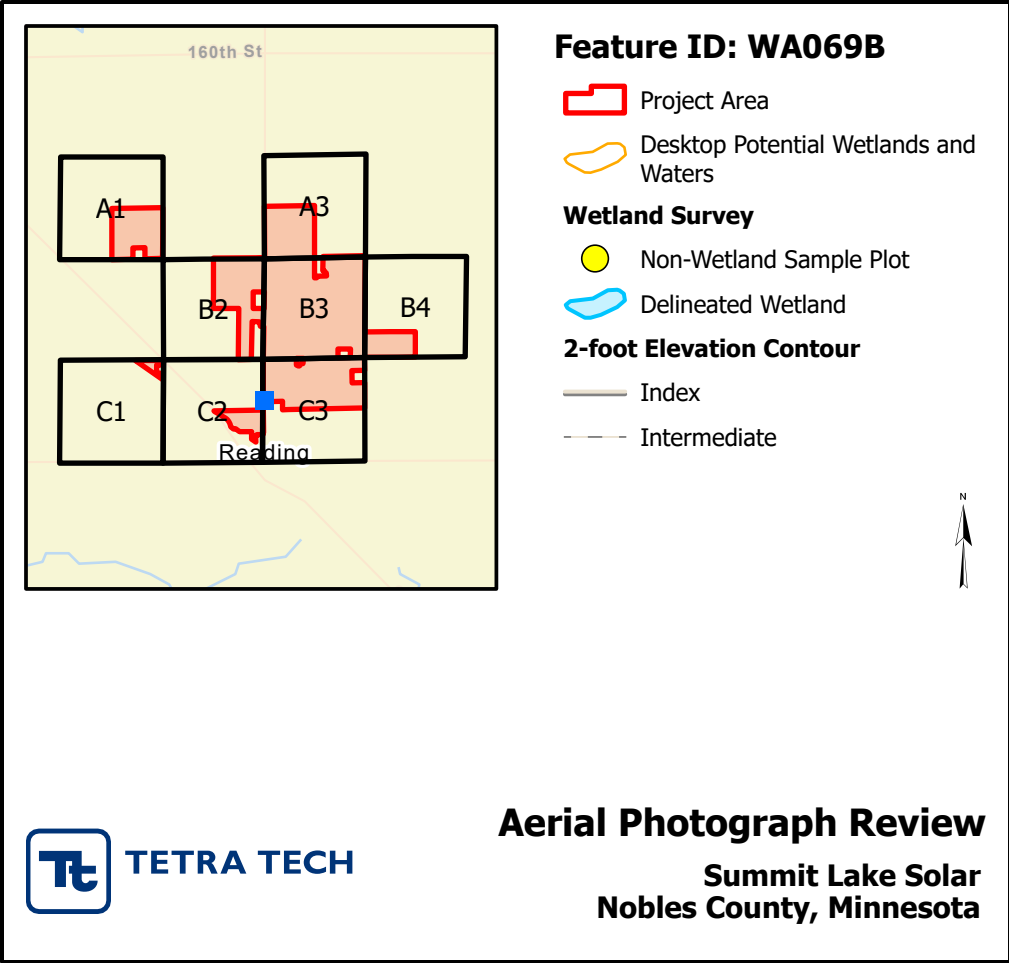
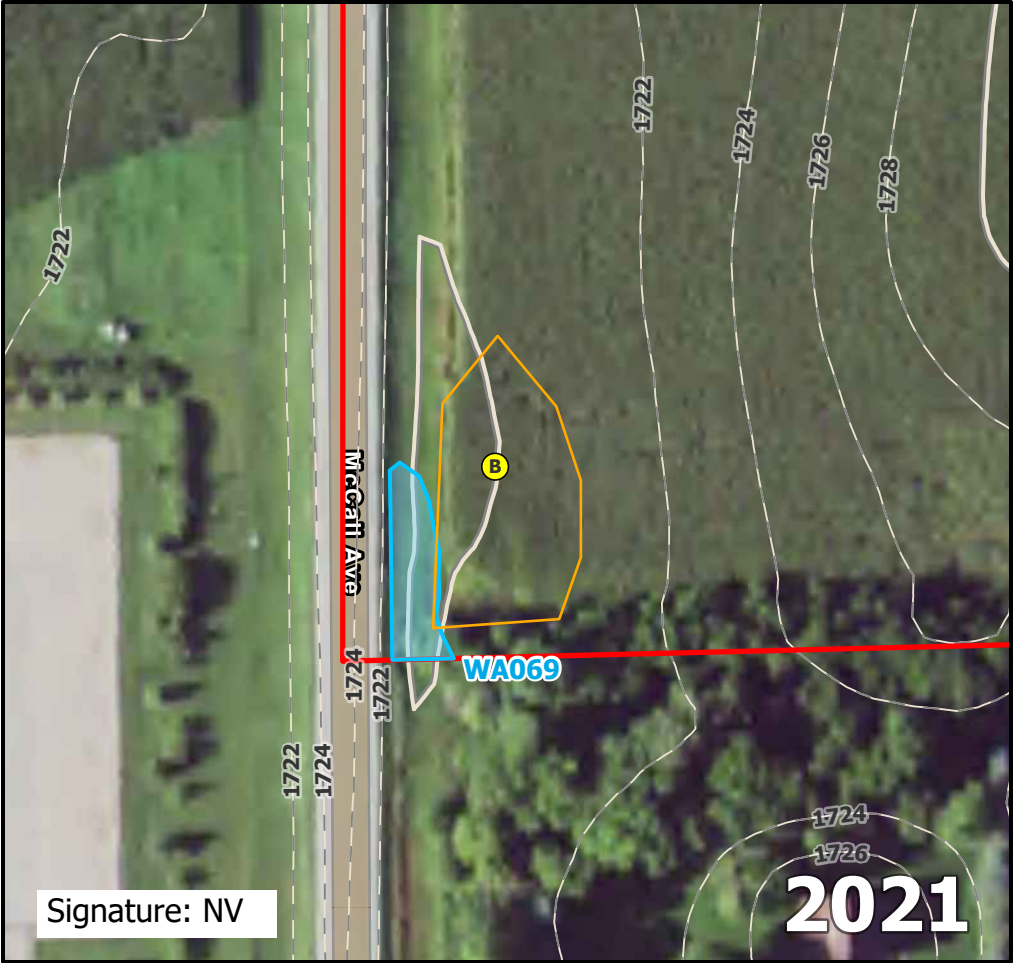
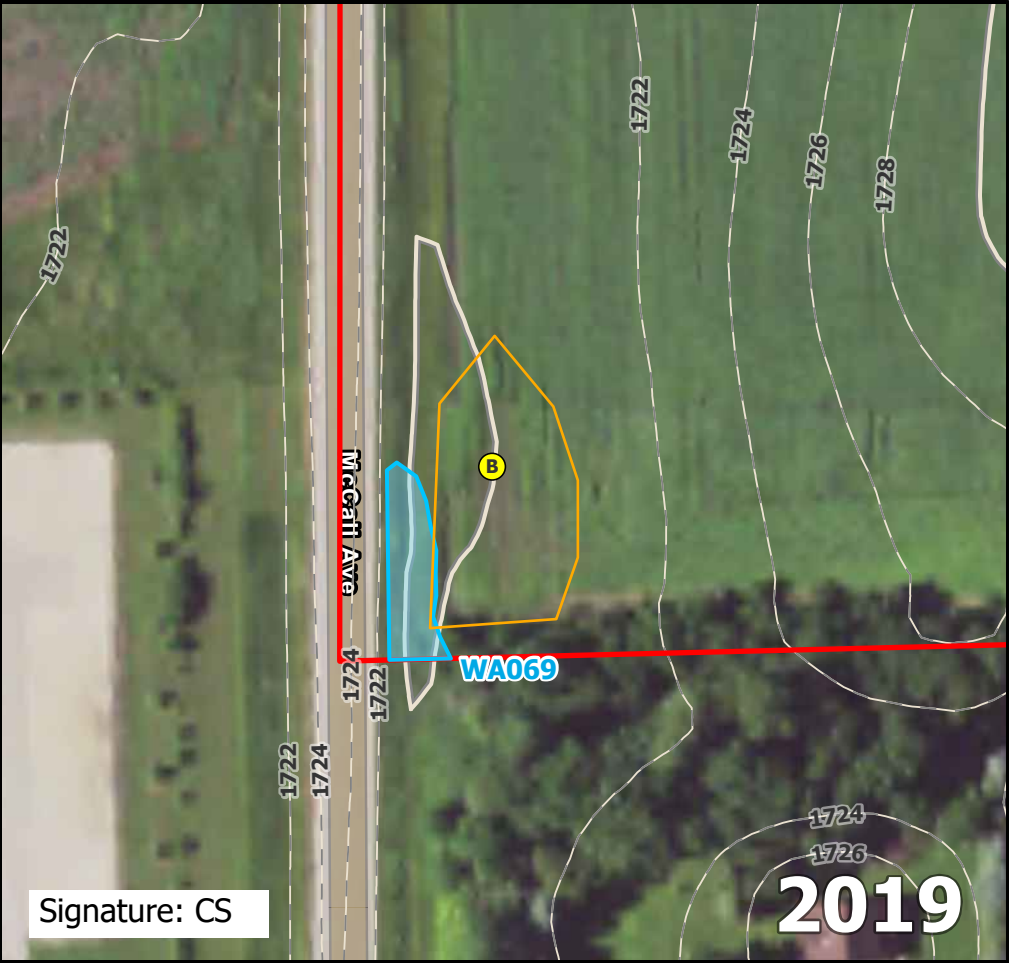
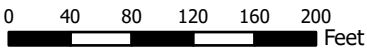
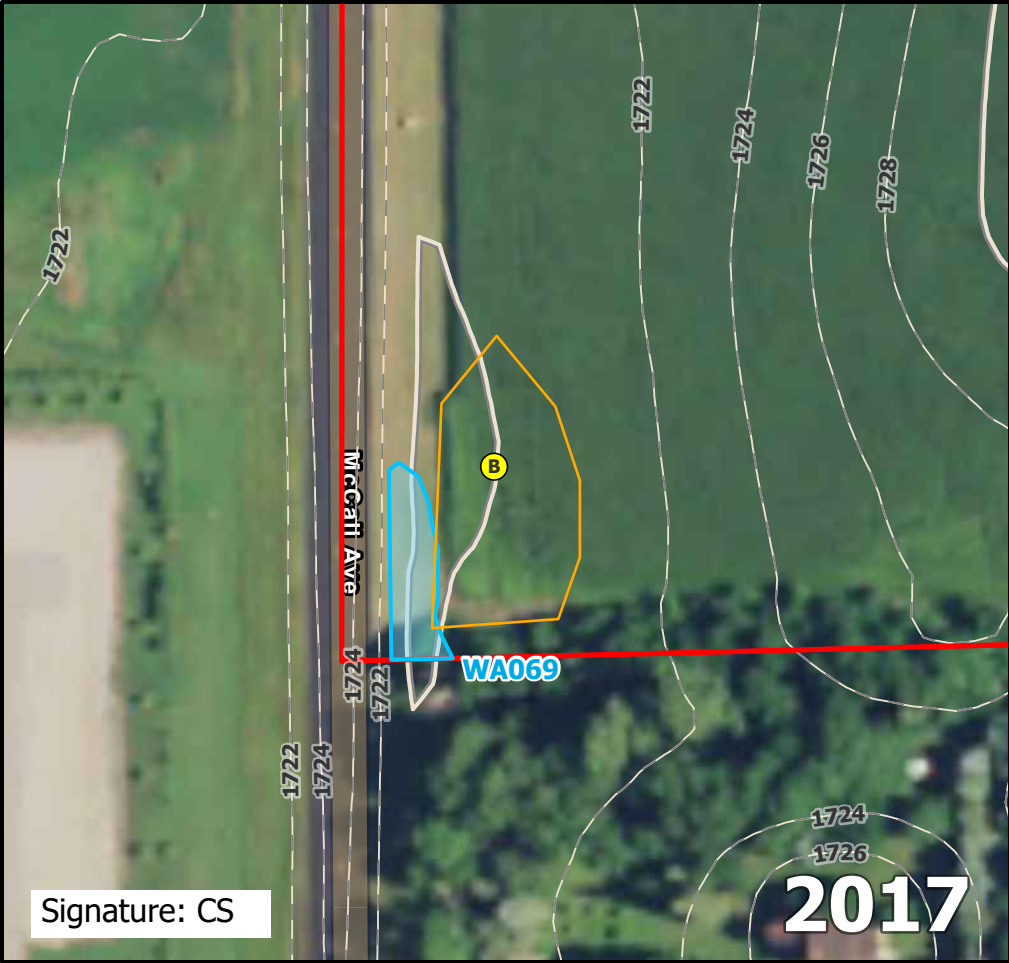
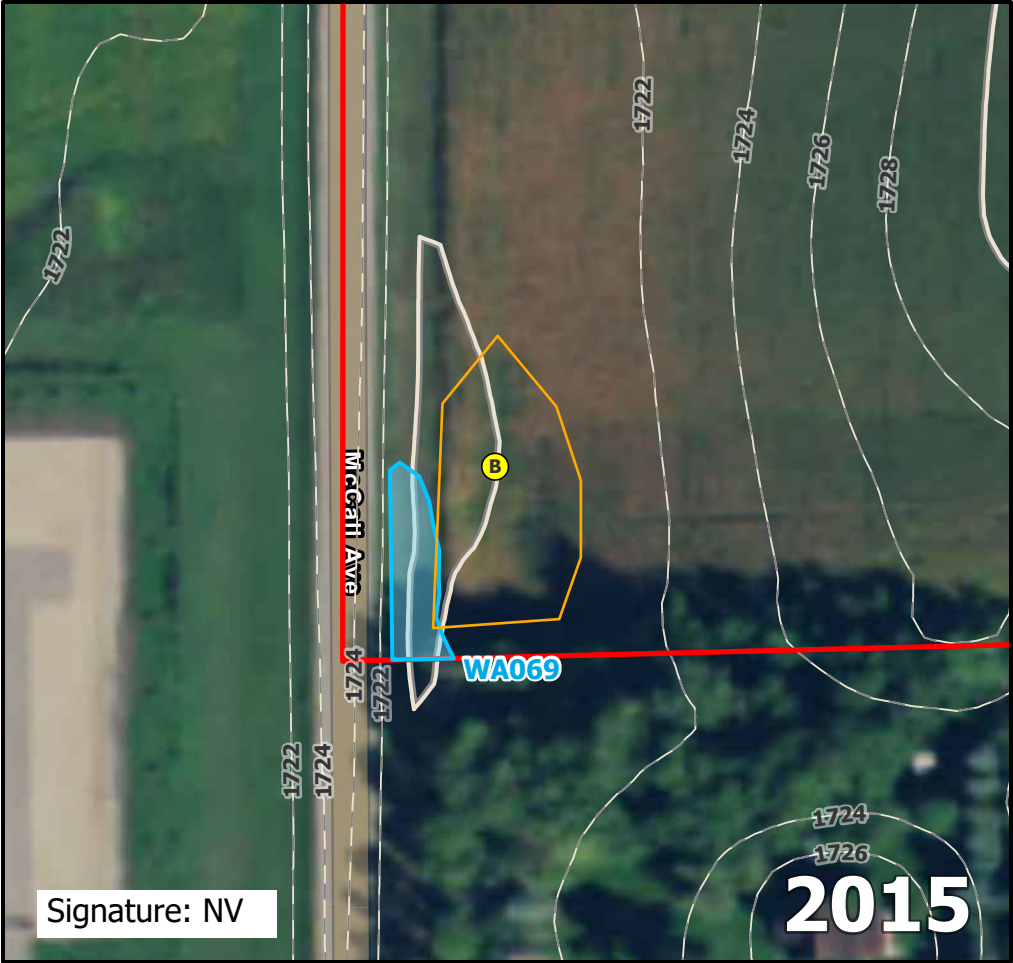
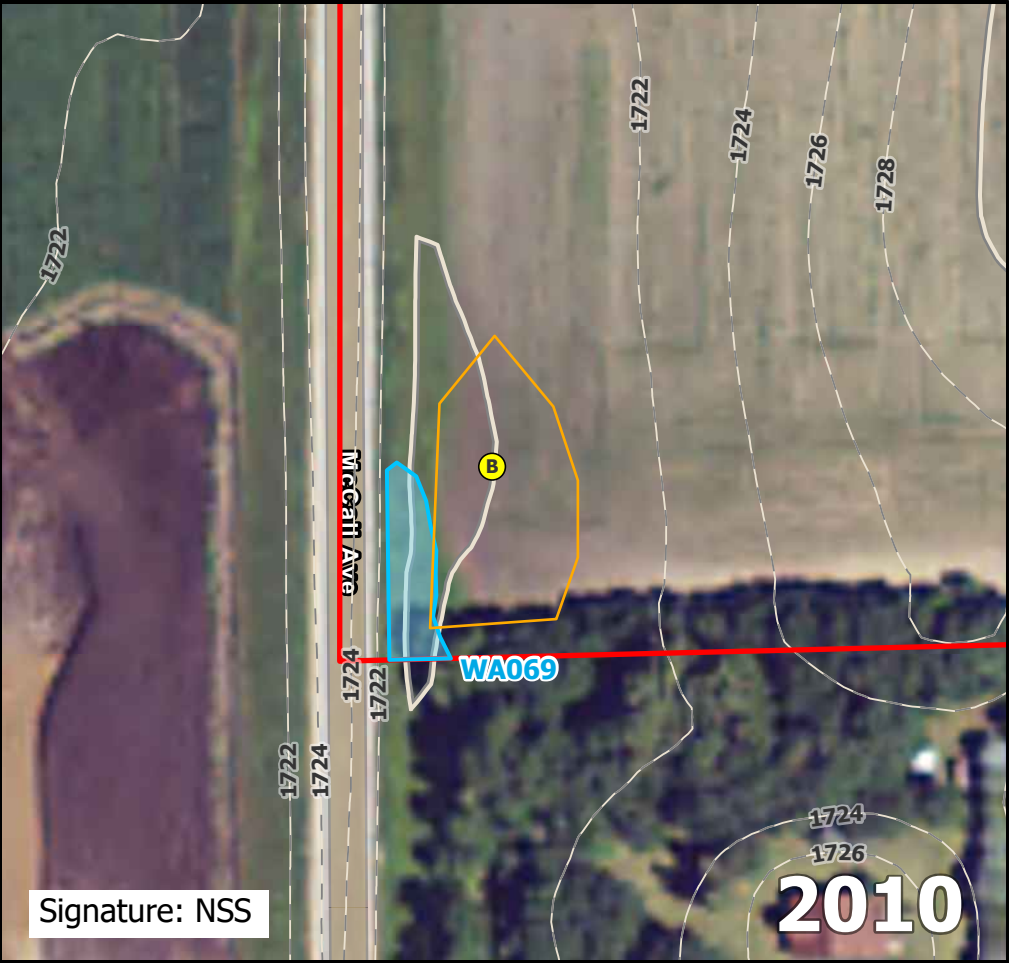
Remarks:



Overview of upland sample point WA069B.

Direction: Northeast	Photo ID: delin_photo-20221013-203526.jpg	Date: 10/13/2022
Project Name: Summit Lake Solar		Feature ID: WA069

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Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

WB008

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB008B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.12 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.73255 Long: -95.69858 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: None

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB008</u>		
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Herb Stratum	(Plot size: <u>5</u>)				
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
=Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
=Total Cover					Hydrophytic Vegetation Present? <u>No</u>

Remarks: (Include photo numbers here or on a separate sheet)

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB008B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Clay	
8-18	2.5Y 5/4	79	10YR 5/6	1	C	PL	Clay Trace Gravel	
	10YR 2/1	20						Mixed Matrix
18-19	2.5Y 5/4	93	10YR 5/6	5	C	PL	Clay Trace Gravel	Distinct or Prominent
			10YR 2/1	2	Fe/Mn Nodules	M		
19-20	10YR 2/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____

Water Table Present? Yes ☐ No ☒ Depth (inches): _____

Saturation Present? Yes ☐ No ☒ Depth (inches): _____

(includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point WB008B.

Direction: South

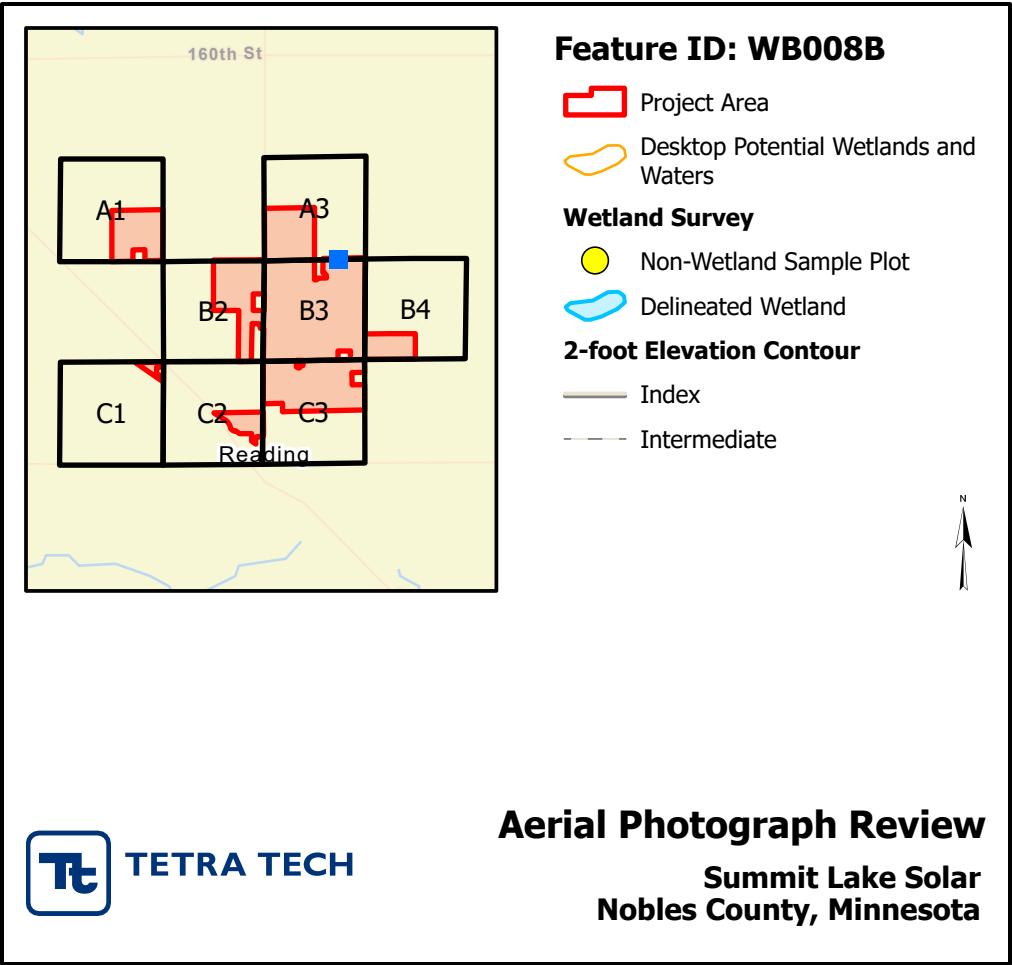
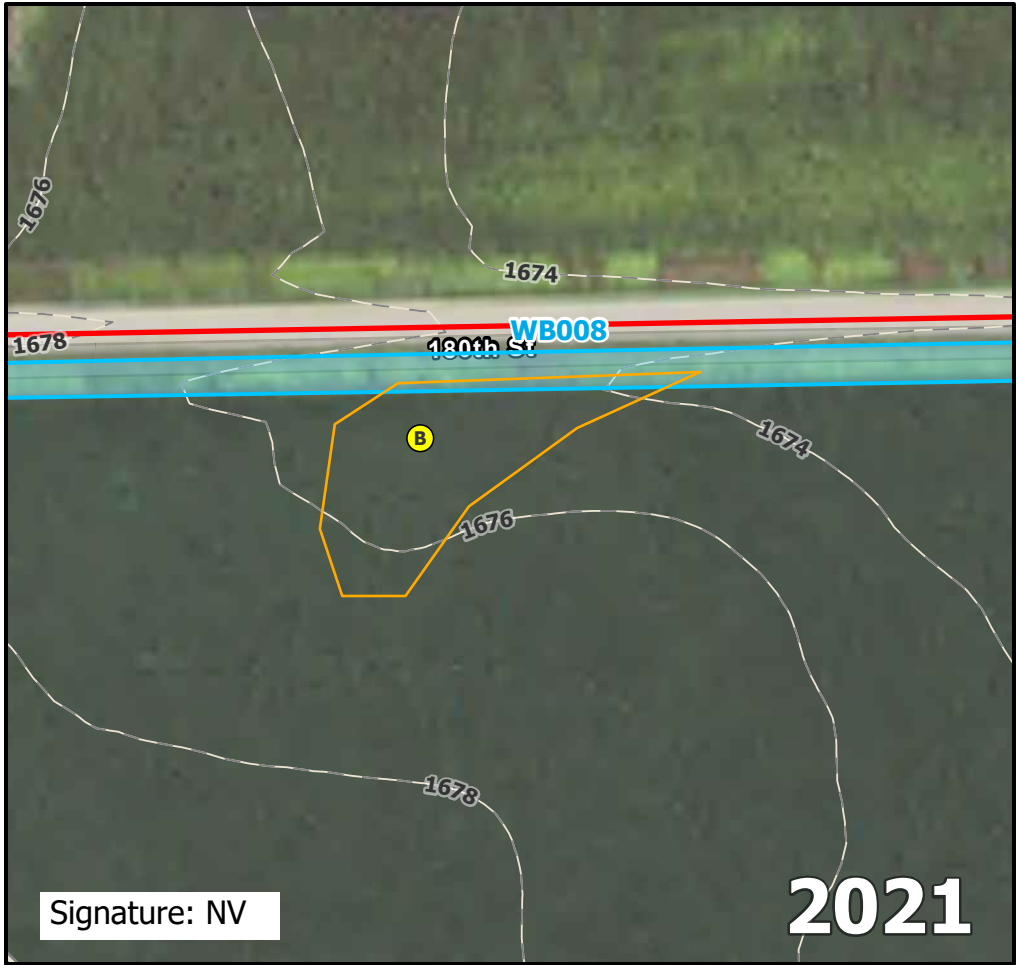
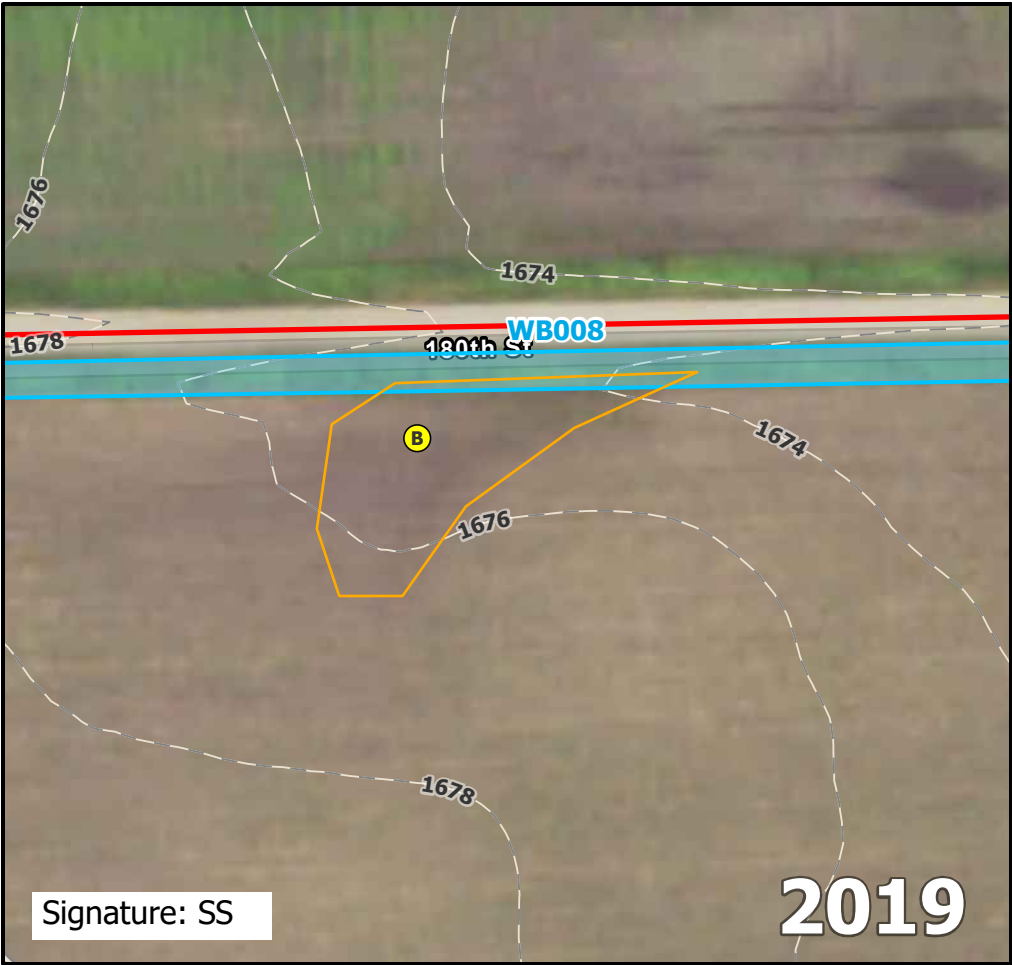
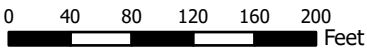
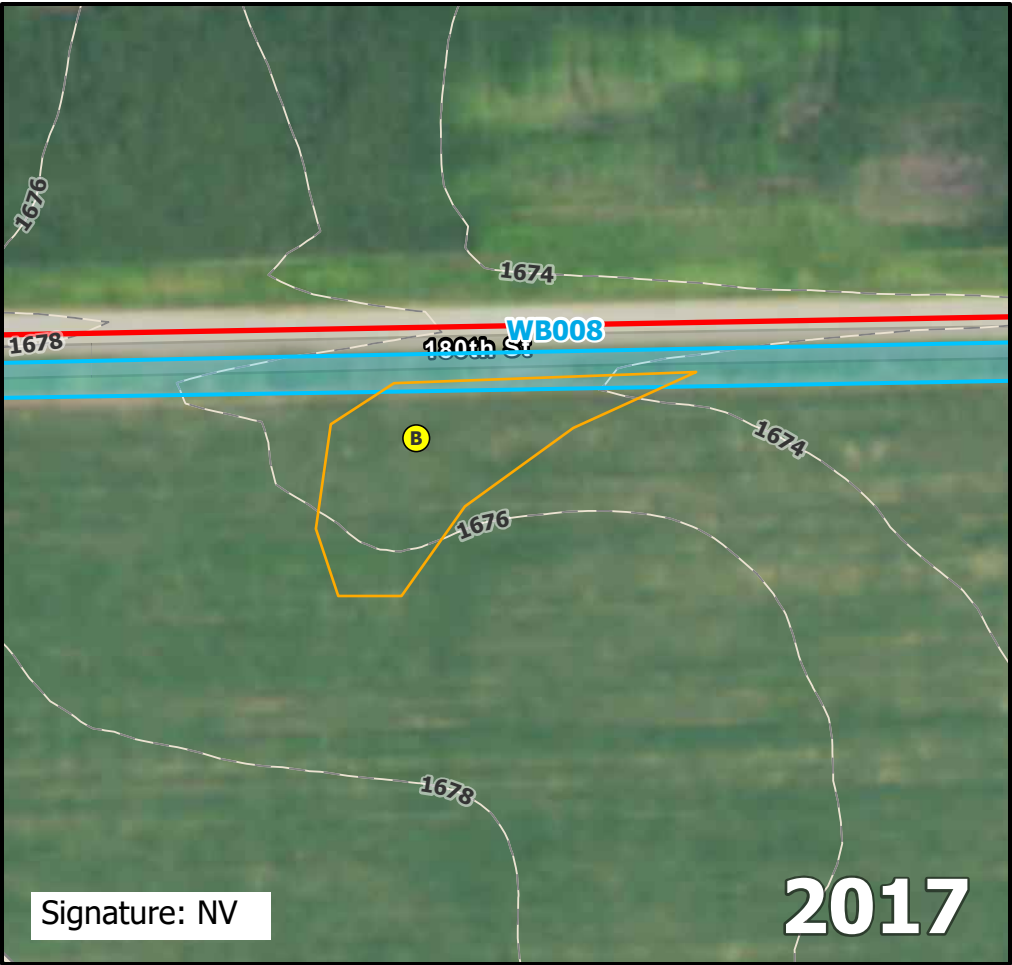
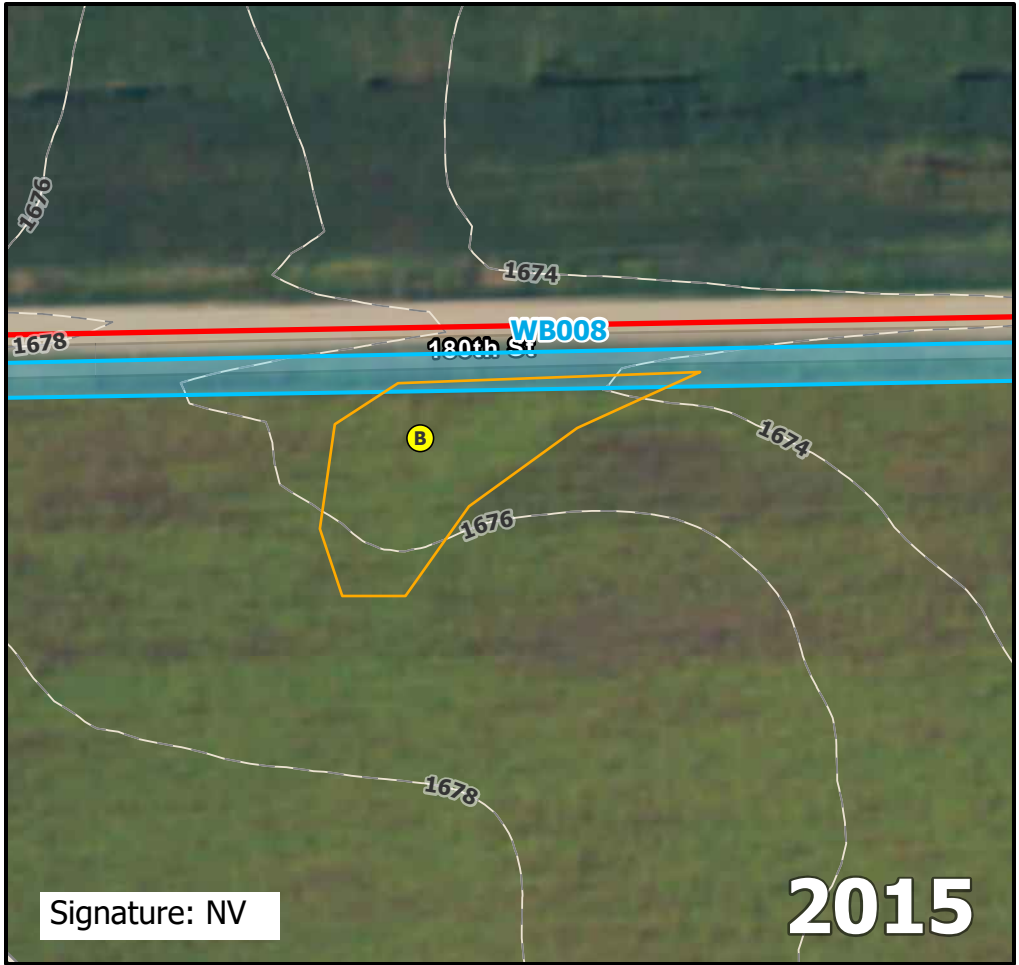
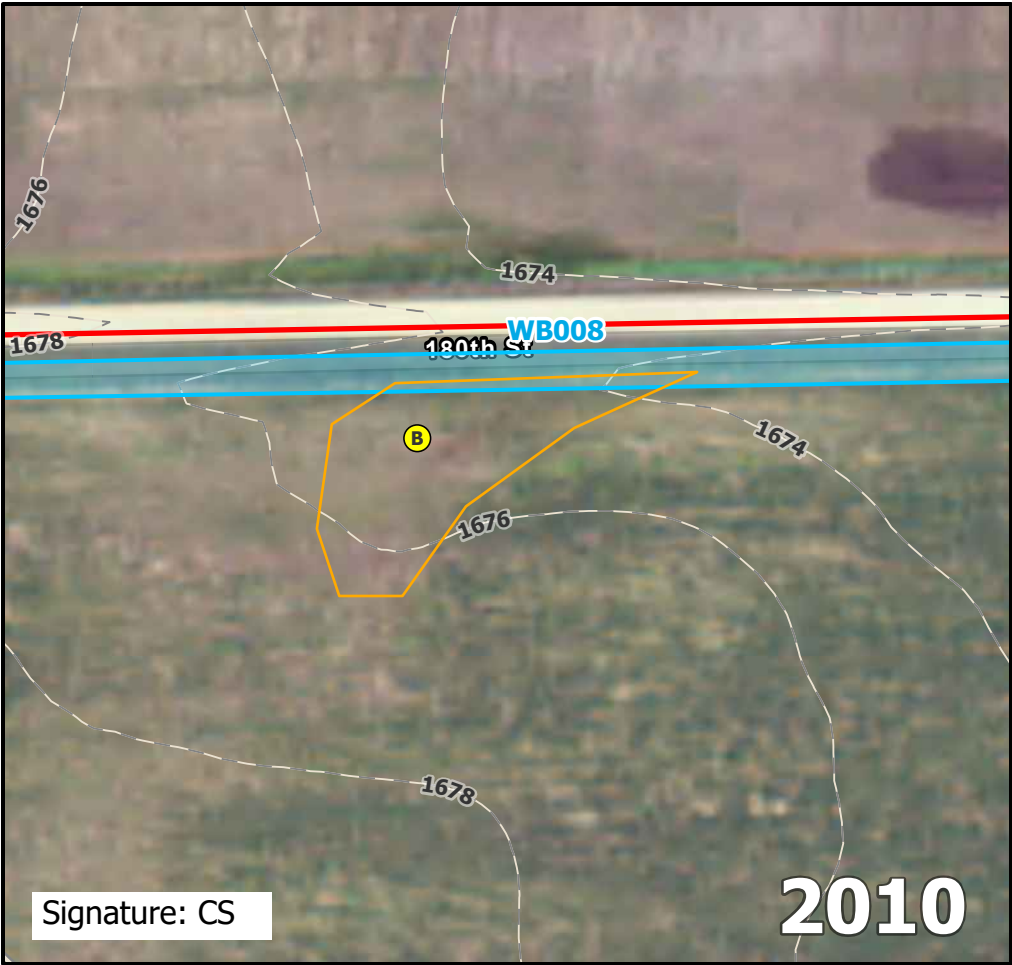
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Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB008

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Non-Wetland ID

WB009

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake Solar City/County: Nobles Sampling Date: 10/18/2022
 Applicant/Owner: Summit Lake Solar, LLC State: Minnesota Sampling Point: WB009B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.13 T103N R41W
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 0 Lat: 43.72851 Long: -95.69333 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: R4SBC

Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WB009</u>		
Remarks: Recently tilled agricultural field. Recently harvested agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>0</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u> </u> % (A/B)
1.					
2.					
3.					
4.					
5.					
				=Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u> </u> x 1 = <u> </u> FACW species <u> </u> x 2 = <u> </u> FAC species <u> </u> x 3 = <u> </u> FACU species <u> </u> x 4 = <u> </u> UPL species <u> </u> x 5 = <u> </u> Column totals <u> </u> (A) <u> </u> (B) Prevalence Index = B/A = <u> </u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
				=Total Cover	
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1.					
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
				=Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
				=Total Cover	

Remarks: (Include photo numbers here or on a separate sheet)

 Recently tilled agricultural field. Bare ground/open water: 100%

SOIL

Sampling Point: WB009B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-28	10YR 2/1	100					Clay	
28-37	2.5Y 3/3	100					Sandy Clay Trace Gravel	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of upland sample point WB009B.

Direction: North

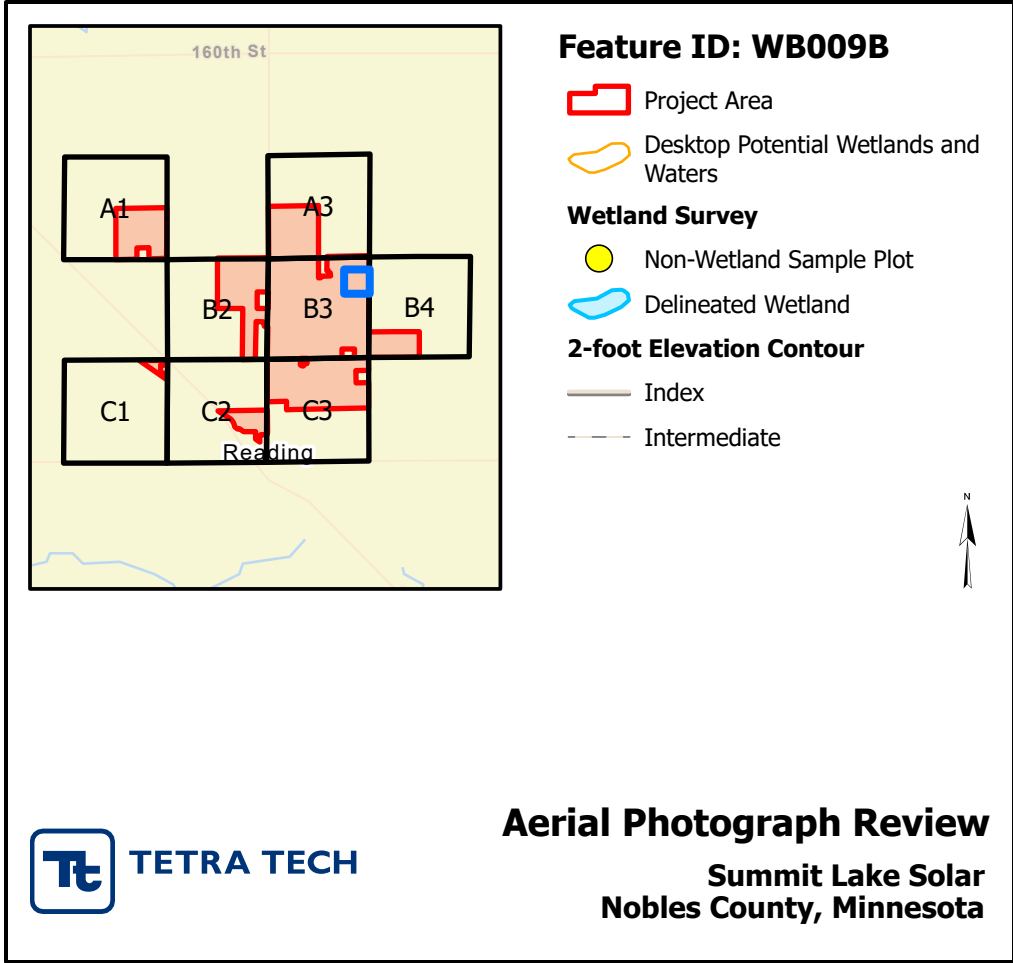
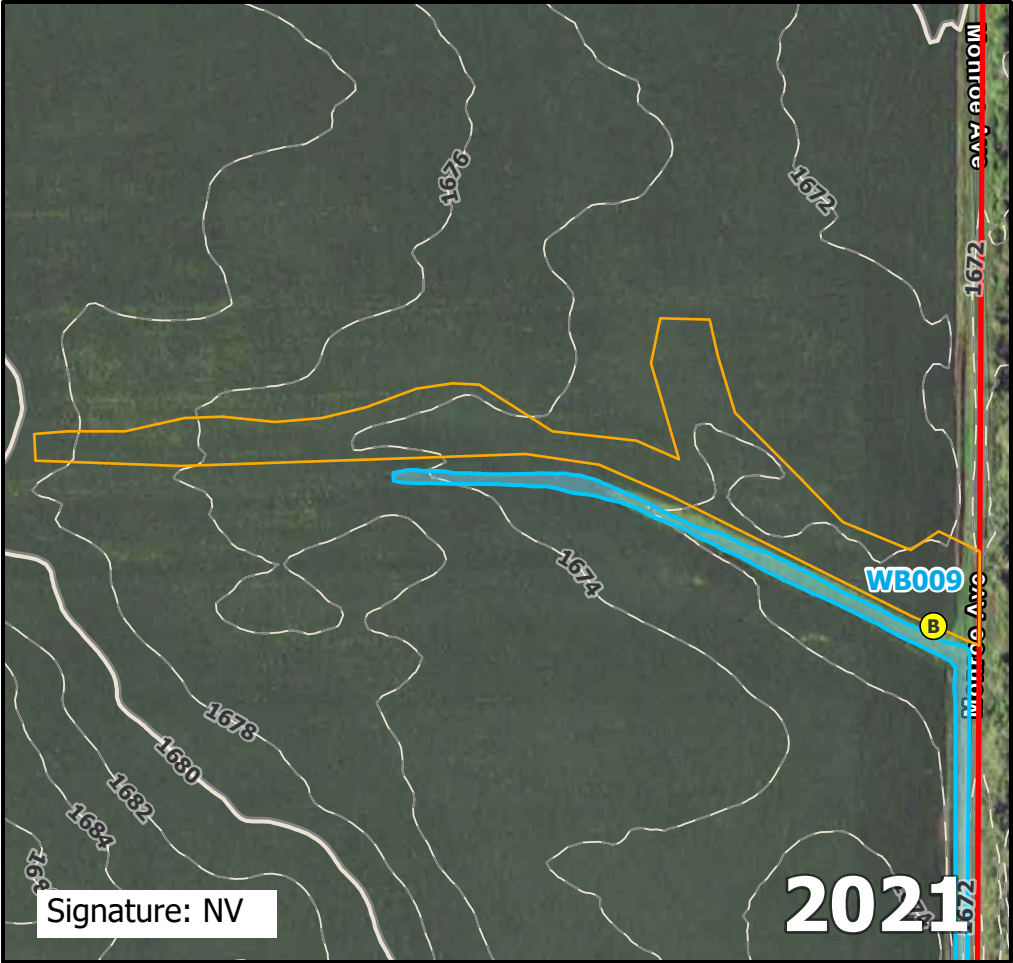
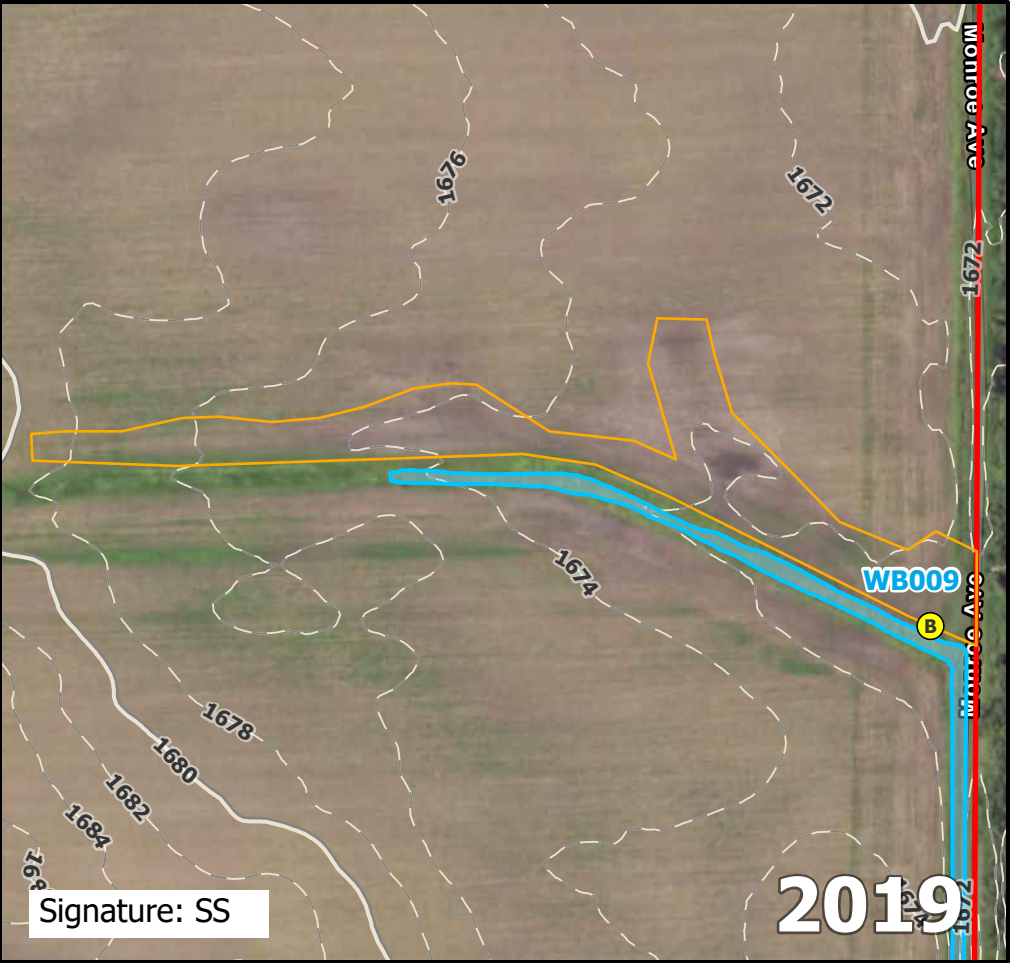
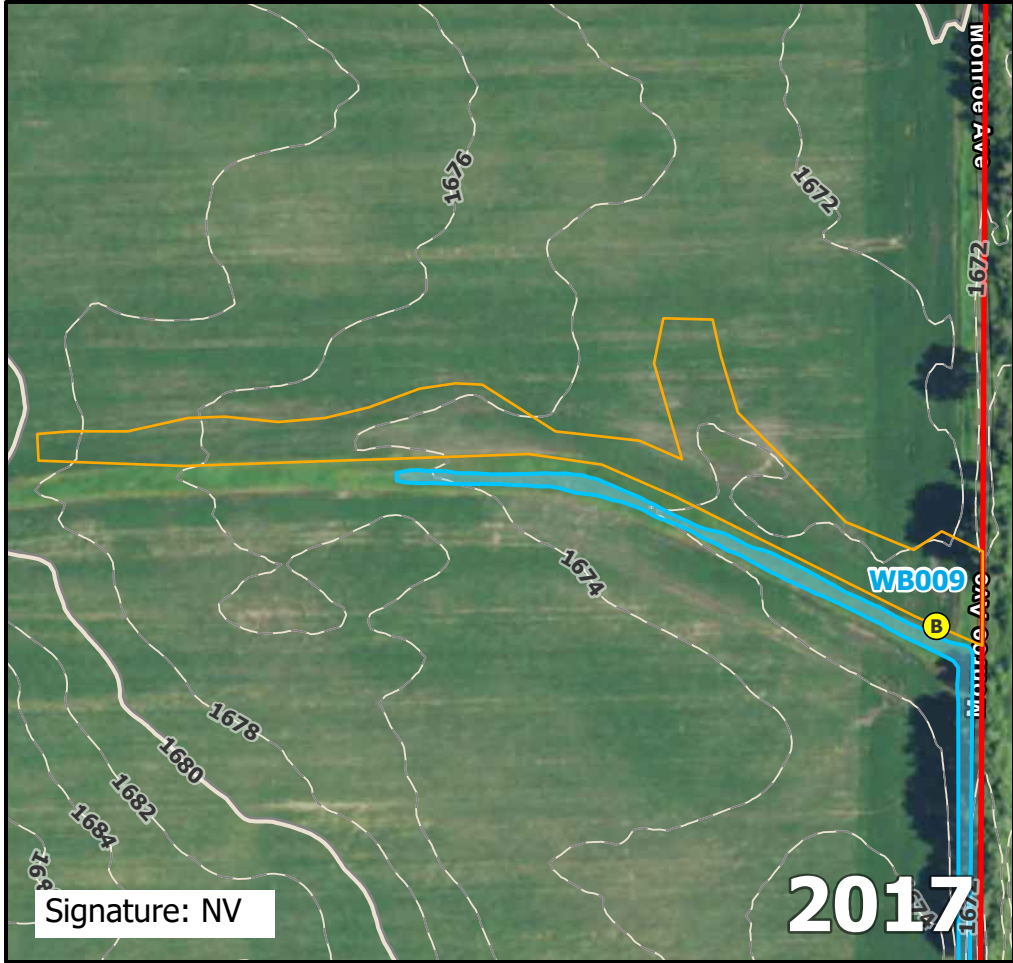
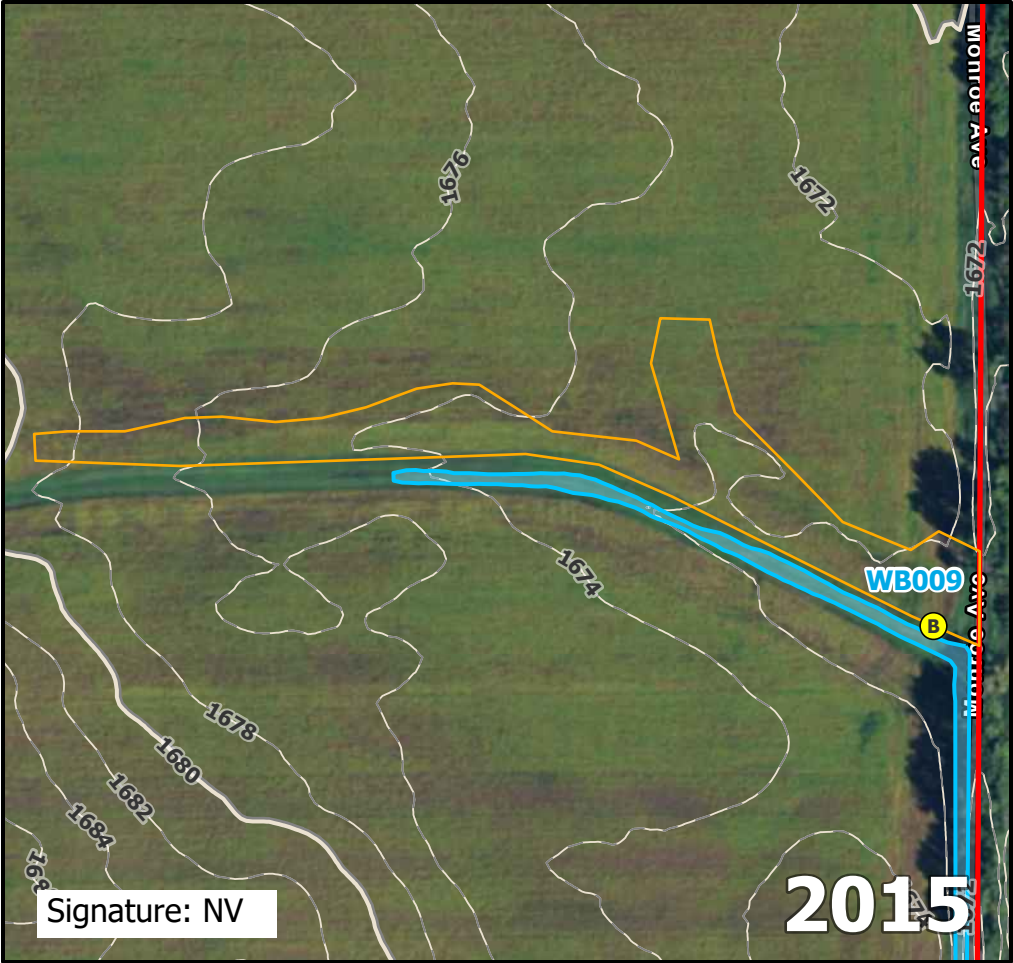
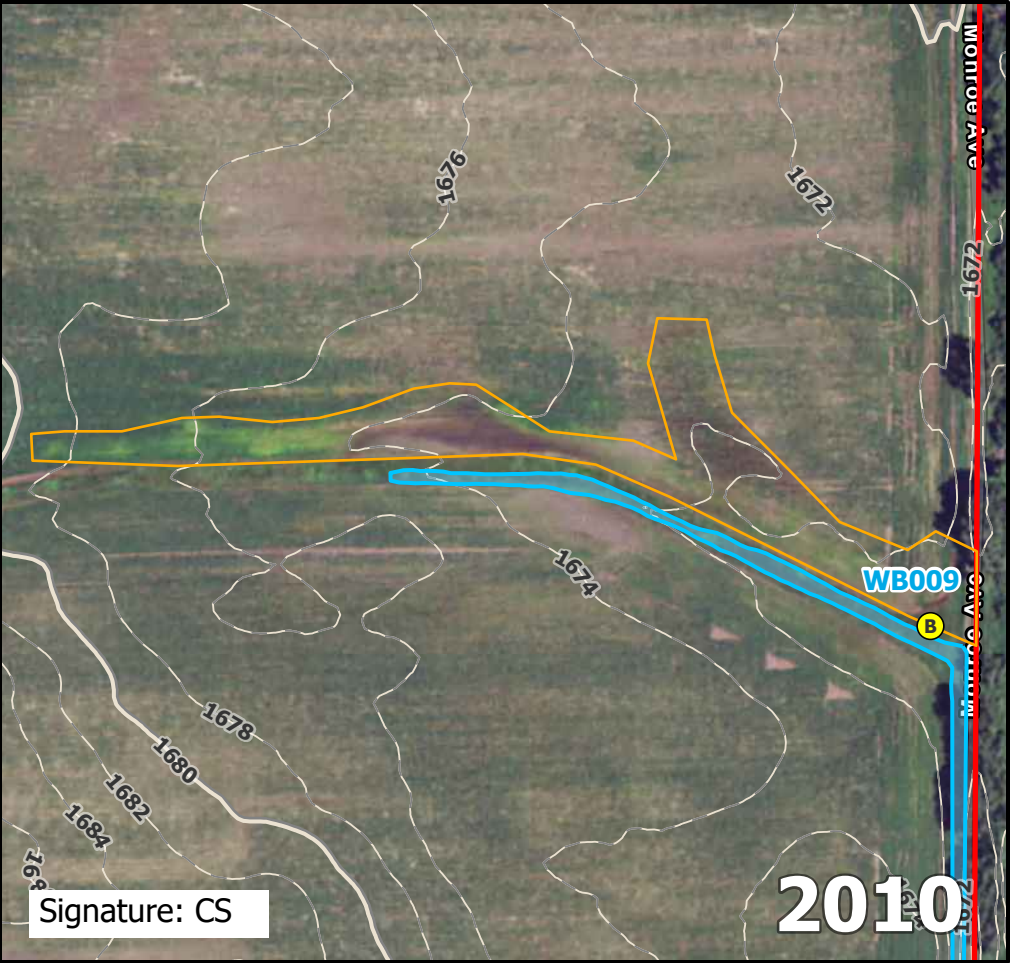
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Date: 10/18/2022

Project Name: Summit Lake Solar

Feature ID: WB009

6/26/2023 S:\Projects\NationalGrid\Summit Lake Solar_MWGIS\ArcGISPro\SummitLake_WetlandReport_20230411.aprx kathybellrichard



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:4,200

APPENDIX D: WETLAND CLASSIFICATION KEY

Cowardin Wetland Classification System

Systems	Subsystems	System Specific Classes
L - Lacustrine	(1) Limnetic (2) Littoral	RB, UB, AB, RS, US, EM,
P - Palustrine	None	RB, UB, AB, US, ML, EM, SS, FO
R - Riverine	(1) Tidal (2) Lower Perennial (3) Upper Perennial (4) Intermittent	RB, UB, SB, AB, RS, US, EM
Classes	Water Regimes	Special Modifiers
RB - Rock Bottom UB - Unconsolidated Bottom SB - Streambed AB - Aquatic Bed RS - Rocky Shore US - Unconsolidated Shore EM - Emergent ML - Moss Lichen SS - Scrub Shrub FO - Forested	A – Temporarily flooded B – Seasonally saturated C – Seasonally flooded D – Continuously saturated E – Seasonally flooded/saturated F – Semi-permanently flooded G – Intermittently exposed H – Permanently flooded J – Intermittently flooded K – Artificially flooded	b – Beaver d – Partly drained/ditched f – Farmed m – Managed h – Diked/impounded r – Artificial substrate s – Spoil x – Excavated

Source: Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC. (FGDC 2013)

Circular 39 Wetland Classification System

Type and Definition	Approximate Cowardin Equivalents
Type 1: Seasonally flooded basin	PEMA, PFOA
Type 2: Meadow	PEMB
Type 3: Shallow marsh	PEMC, PEMF, PSSH, PUBA, PUBC
Type 4: Deep marsh	PEMF, PEMG, PEMH, PUBB, PUBF, PABF, PABG, L2US, L2EMF, L2EMG, L2ABF
Type 5: Shallow open water	L2ABG, L2ABH, L2EMA, L2EMB, L2EMH, L2RS, L2UB, PABH, PUBG, PUBH
Type 6: Shrub swamp	PSSA, PSSC, PSSF, PSSG, PSS1B, PSS5B, PSS6B
Type 7: Wooded swamp	PFO1B, PFO5B, PFO6B, PFOC, PFOF
Type 8: Bog	PFO2B, PFO4B, PFO7B, PSS2B, PSS3B, PSS4B, PSS7B

Source: Wetlands in Minnesota, Minnesota Board of Water and Soil Resources (BWSR n.d.)

Wetlands and Waters Survey October 16, 2024

Wetlands and Waters Survey

Summit Lake Solar – Project Expansion Nobles County, Minnesota



October 16, 2024

PRESENTED TO

Summit Lake Solar, LLC
8400 Normandale Blvd, Suite 1200
Bloomington, Minnesota 55437

PRESENTED BY

Tetra Tech, Inc.
2001 Killebrew Drive, Suite 141
Bloomington, Minnesota 55425
(612) 643-2200

EXECUTIVE SUMMARY

This report presents the findings of a Wetlands and Waters Survey completed on behalf of Summit Lake Solar, LLC, for the proposed expansion of the Summit Lake Solar project in Nobles County, Minnesota (the Project). The Project Area includes approximately 1,990 acres of land where solar energy facilities may be developed. A wetlands and waters survey was previously completed for approximately 1,582 acres of the current Project Area (Initial Area). The results of the initial survey were presented in a June 30, 2023 report. An additional approximately 408 acres have subsequently been added to the Project Area (Expansion Area), which is the area assessed in this survey.

The field surveys completed for the Expansion Area identified 11 new wetlands totaling 20.575 acres. The delineated wetlands included 10 seasonally flooded basin wetlands (PEMAf) with a total area of 18.642 acres, and 1 seasonally flooded basin and wooded wetland complex (PEMA/PFOA) with a total area of 1.933 acres. In addition, wetland WB004 is a seasonally flooded basin and shallow marsh wetland complex (PEMA/PEMC/PEMCx) that was delineated as part of the Initial Area survey and was described in the June 30, 2023, report. Wetland WB004 was partially delineated outside the Initial Area at the time of the Initial Area survey in 2022, but the portion of the wetland that was outside the Initial Area is now within the Expansion Area. This wetland was not revisited as part of the Expansion Area survey. Wetland WB004 is 19.138 acres in total size, with 0.591 acre in the Initial Area and 18.547 acres in the Expansion Area.

A review of the Minnesota Wetland Conservation Act (WCA) found that all 11 of the newly delineated wetlands in the Expansion Area totaling 20.575 acres would likely be regulated under the WCA. An assessment of waters of the U.S. (WOTUS) criteria and potential U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act (CWA) found that none of the delineated wetlands in the Expansion Area appear to meet the criteria to be considered a WOTUS. Only the USACE and Nobles County Soil and Water Conservation District (SWCD) can make the final determination on the regulatory jurisdiction of wetlands.

TABLE OF CONTENTS

1.0 INTRODUCTION	1
1.1 Purpose	1
1.2 Site Location and Environmental Setting	1
1.3 Regulatory Framework	1
1.3.1 U.S. Army Corps of Engineers	1
1.3.2 Minnesota Wetland Conservation Act	2
1.3.3 Minnesota Department of Natural Resources	3
1.3.4 Minnesota Pollution Control Agency	3
1.3.5 Nobles County	3
2.0 METHODS	4
2.1 Existing Information Review	4
2.2 Desktop Wetlands and Waters Mapping	4
2.3 Wetlands and Waters Survey	5
2.3.1 Field Survey	5
2.3.2 Offsite Hydrology Assessment of Non-Wetland Areas	6
3.0 RESULTS	6
3.1 Existing Information Review and Desktop Mapping	6
3.1.1 National Wetlands Inventory (NWI)	6
3.1.2 National Hydrography Dataset (NHD)	6
3.1.3 Public Waters Inventory (PWI)	7
3.1.4 Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL)	7
3.1.5 Soil Survey Geographic (SSURGO) Soils	7
3.1.6 Desktop Wetlands and Waters Mapping	7
3.2 Wetlands and Waters Survey	8
3.2.1 Wetlands	9
3.2.2 Non-Wetland Areas	11
3.3 Regulatory Review	11
3.3.1 U.S. Army Corps of Engineers	11
3.3.2 Minnesota Wetland Conservation Act	11
3.3.3 Minnesota Department of Natural Resources	12
4.0 REFERENCES	13

LIST OF TABLES

Table 1. Aerial Photograph Wetland Signature Codes	4
Table 2. Antecedent Precipitation Analysis.....	8
Table 3. Delineated Wetlands in the Expansion Area.....	9

APPENDICES

APPENDIX A: FIGURES

- Figure 1 – Project Area Location
- Figure 2 – Desktop Wetlands and Waters Mapping
- Figure 3 – SSURGO Soils
- Figure 4 – Wetlands and Waters Survey Results
- Figure 5 – Wetlands and Waters Jurisdiction

APPENDIX B: WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

APPENDIX C: NON-WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

APPENDIX D: WETLAND CLASSIFICATION KEY

1.0 INTRODUCTION

1.1 PURPOSE

Summit Lake Solar, LLC proposes to develop the Summit Lake Solar project (the Project) on an approximately 1,990-acre site located in Nobles County, Minnesota (Project Area). Tetra Tech, Inc. (Tetra Tech) previously completed a wetlands and waters survey for approximately 1,582 acres of the current Project Area known as the Initial Area. The results of the initial survey were presented in a report dated June 30, 2023 (Tetra Tech 2023). An additional approximately 408 acres (Expansion Area) were subsequently added to the northwest and southwest of the Initial Area (Appendix A: Figure 1).

Tetra Tech has completed a survey to identify and delineate wetlands and waters for the proposed Expansion Area. The wetlands and waters survey included desktop and field investigations of the Expansion Area to identify the presence and location of wetlands and other surface waters and determine which, if any, may be subject to U.S. Army Corps of Engineers (USACE) jurisdiction, Minnesota Department of Natural Resources (MN DNR) jurisdiction, or regulated locally under the Minnesota Wetland Conservation Act (WCA). This report describes the Expansion Area, regulatory framework, methods used, survey results and conclusions, and references used to support the conclusions. Appendices include figures illustrating the Expansion Area, select reviewed reference materials, survey results, wetland determination data forms, and photographs.

1.2 SITE LOCATION AND ENVIRONMENTAL SETTING

The Expansion Area includes approximately 408 acres of discontinuous land where proposed solar energy facilities may be developed. The Expansion Area is located generally north of the unincorporated community of Reading in Nobles County, Minnesota and encompasses portions of Sections 10, 14, 22, 23, and 24 in Summit Lake Township (Township 103 North, Range 41 West) (Appendix A: Figure 1).

The landscape surrounding the Expansion Area consists primarily of glacial moraines and is characterized by undulating, sloping, and rolling topography (USDA 1975). The Expansion Area spans the Missouri and Upper Mississippi hydrologic regions (Appendix A: Figure 2). Most of the southwestern part of the Expansion Area drains generally southwest toward Kanaranzi Creek, a tributary of the Big Sioux River; and small portions of the southeastern and northwestern parts of the Expansion Area drain generally east toward Elk Creek and north toward Jack Creek, respectively, which are tributaries of the Des Moines River.

1.3 REGULATORY FRAMEWORK

1.3.1 U.S. Army Corps of Engineers

The USACE has regulatory jurisdiction over navigable waters under Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. 403) and waters of the U.S. (WOTUS) under Section 404 of the Clean Water Act (CWA) as defined by 33 CFR Part 328. The extent of the USACE regulatory jurisdiction over WOTUS was defined by the

USACE and U.S. Environmental Protection Agency (EPA) in a final rule published in the Federal Register on January 18, 2023, which became effective on March 20, 2023 (88 FR 3004, January 18, 2023). EPA and USACE amended the 2023 definition of WOTUS to conform the definition with the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. EPA* in a final rule that was published in the Federal Register and became effective on September 8, 2023 (88 FR 61964, September 8, 2023).

The amended 2023 definition of WOTUS indicates that the USACE has regulatory jurisdiction over traditional navigable waters; tributaries of traditional navigable waters that are relatively permanent; and wetlands with a continuous surface connection to navigable waters and relatively permanent tributaries. Relatively permanent tributaries have flowing or standing water year-round or continuously during certain times of the year. Relatively permanent waters do not include surface waters with flowing or standing water for only a short duration in direct response to precipitation.

The USACE is the sole authority in determining whether federal jurisdiction extends or does not extend to specific wetlands or waters. Suggestions regarding the USACE jurisdiction of wetlands and waters in this report are preliminary and based on Tetra Tech's interpretation of the guidance issued by the USACE and EPA, review of available desktop data, and evidence observed in the field. There are two types of jurisdictional determinations (JDs) that can be requested from USACE to determine the jurisdiction of potentially regulated wetlands and waters. A preliminary JD (PJD) is a nonbinding written indication that for the purposes of calculating impacts and determining compensatory mitigation requirements all waters and wetlands in the review area are treated as jurisdictional WOTUS. An approved JD (AJD) is an official USACE determination that jurisdictional WOTUS are either present or absent in the review area. An AJD precisely identifies the limits of those wetlands and waters determined to be jurisdictional under the CWA.

The USACE determines the type of permit, if any, that may be required under the CWA for projects that affect WOTUS. The USACE authorizes certain activities in navigable waters and WOTUS with pre-issued Nationwide Permits (NWP) or Regional General Permits (RGPs). Impacts of up to 0.5 acre for utility projects such as solar energy facilities may be authorized by the USACE St. Paul District Utility RGP or NWP 51 for Land-Based Renewable Energy Generation Facilities with mitigation and a Pre-Construction Notification (PCN) usually being required if impacts exceed 0.1 acre of WOTUS. In order to use a NWP or RGP, all general and regional conditions must be met. The USACE St. Paul District has regulatory jurisdiction over the Expansion Area.

1.3.2 Minnesota Wetland Conservation Act

The State of Minnesota regulates wetlands under the Minnesota Wetland Conservation Act (WCA) of 1991, currently implemented under MN Rules Chapter 8420. The WCA does not apply to public waters and public waters wetlands that have been inventoried by the Minnesota Department of Natural Resources (MN DNR) (see Section 1.3.3) or to "incidental wetlands," which are wetlands created in non-wetland areas by actions that were not intended to create the wetland such as certain ditches or other excavations.

The WCA requires anyone proposing to drain, fill, or excavate a wetland first to try to avoid disturbing the wetland; second, to try to minimize any impact on the wetland; and, finally, to replace any lost wetland acres, functions, and values. The WCA also establishes eight exempt activities that do not require wetland replacement. One of these exemptions is the “de minimis” exemption for minor wetland impacts. The de minimis exemption threshold ranges from 20 square-feet to 10,000 square-feet depending on the impacted wetland’s location in the state, the type of wetland, and location inside or outside of a shoreland wetland protection zone (see Section 1.3.5). Impacts below the relevant threshold do not require wetland replacement. The WCA is administered by Local Government Units (LGU). The Nobles County Soil and Water Conservation District (SWCD) is the LGU responsible for administering the WCA for the Project.

1.3.3 Minnesota Department of Natural Resources

The MN DNR Public Waters Work Permit Program applies to those lakes, wetlands, and streams identified on MN DNR Public Water Inventory maps. Proposed projects affecting the course, current, or cross-section of these water bodies may require a Public Waters Work Permit from the MN DNR. There are two types of Public Waters Work Permits available from the MN DNR: general and individual permits. General permits are “pre-issued” permits issued on a statewide or county level. If work proposed in public waters or public waters wetlands meets the requirements of a specific general permit, an individual permit is not required. There are also several categories of projects that are excluded from the Public Waters Work Permit requirement; however, these exclusions would not typically apply to solar energy projects.

1.3.4 Minnesota Pollution Control Agency

Section 401 of the CWA requires certification from the state that any discharge authorized by an NWP or RGP does not violate state water quality standards. The Minnesota Pollution Control Agency (MPCA) issues 401 Water Quality Certifications for NWPs and RGPs in Minnesota. The MPCA granted water quality certification with conditions for NWP 51 in a letter dated December 21, 2020, and for the Utility RGP in a letter dated January 13, 2023.

1.3.5 Nobles County

Minnesota Regulations, Parts 6120.2500 - 6120.3900 provide minimum standards and criteria to be incorporated into local government shoreland management controls that apply to shorelands of public waters of the state (see Section 1.3.3) that are subject to local government land use controls. Each local government is responsible for the administration and enforcement of its shoreland management controls adopted in compliance with these standards and criteria. Nobles County defines their shoreland districts as including the area within 1,000 feet of the normal highwater mark of a lake, pond, or flowage; and 300 feet from a river or stream, or the landward extent of a floodplain, whichever is greater (Nobles County 2006). The WCA de minimis exemption thresholds for wetlands within the shoreland zone are less than those outside the shoreland zone (see Section 1.3.2).

2.0 METHODS

2.1 EXISTING INFORMATION REVIEW

Tetra Tech reviewed available information to identify potential wetlands and waters areas within the Expansion Area. The following data sources were reviewed:

- National Wetlands Inventory (NWI) (U.S. Fish and Wildlife Service [USFWS] 2022);
- National Hydrography Dataset (NHD) (United States Geological Survey [USGS] 2022);
- MN DNR Public Waters Inventory (PWI) (MN DNR 2020);
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) (FEMA 2023);
- Natural Resources Conservation Service (NRCS) Soil Survey Geographic (gSSURGO) Soils (NRCS 2022);
- MN DNR 2-foot elevation contours (MN DNR 2011);
- Aerial photography from 2010, 2015, 2017, 2019, and 2021 from U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) National Agricultural Imagery Program (NAIP); and
- Historical precipitation data from the Minnesota State Climatology Office (Minnesota State Climatology Office 2024).

2.2 DESKTOP WETLANDS AND WATERS MAPPING

Tetra Tech reviewed aerial photographs, elevation data, NWI, NHD, PWI, and SSURGO soils data to identify potential wetlands and waters within the Expansion Area. Using methods described by USACE and the Minnesota Board of Water and Soil Resources (BWSR) (USACE and BWSR 2016), the aerial photographs were reviewed for wetland signatures, and antecedent precipitation was evaluated to determine if the conditions preceding each photograph were normal, wet, or dry. Signatures at locations of potential wetlands and waters on aerial photographs were classified using eight codes (Table 1). The locations of desktop wetlands and waters were digitized using ArcGIS mapping software.

Table 1. Aerial Photograph Wetland Signature Codes

Code	Classification	Implication	Code	Classification	Implication
CS	Crop Stress	Wetland	WS	Wetland Signature	Wetland
DO	Drowned Out	Wetland	AP	Altered Pattern	Wetland
NC	Not Cropped	Wetland	SS	Soil Wetness Signature	Wetland
SW	Standing Water	Wetland	NV/NSS	Normal Vegetative Cover/ No Soil Wetness	Non-wetland

2.3 WETLANDS AND WATERS SURVEY

The wetlands and waters survey included field investigations of all areas of the Expansion Area and offsite hydrology review using aerial photography to verify the presence or absence of wetlands and other surface waters in the Expansion Area.

2.3.1 Field Survey

Wetlands were delineated in the Expansion Area using the level two on-site routine determination method set forth in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0 (USACE 2010). Potential wetlands were identified based on the review of existing data and observations made at the time of the survey. A transect was established in a representative transition zone of each potential wetland. The transect consisted of one sample point in the potential wetland, and if wetland criteria were met, one point in non-wetland. Vegetation, soil, and hydrology data was recorded on electronic data forms. Plant species dominance at sample points was based on the percent cover visually estimated within a 5-foot radius of the sample point for the herbaceous layer, a 15-foot radius for the shrub layer, and a 30-foot radius for tree and vine layers. Wetland indicator status for all plant species followed the National Wetland Plant List, Version 3.5 (USACE 2020). The wetland/non-wetland boundary was established based on the recorded sample point information. If a potential wetland did not meet all three wetland delineation criteria (hydrophytic vegetation, hydric soils, and hydrology) based on observations made at the time of the field visit it was determined to be non-wetland.

Boundaries for non-wetland waters (i.e., ponds and streams) were established based on observations of the ordinary high water mark (OHWM), which is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (51 FR 41251, November 13, 1986).

Wetlands and waters boundaries were generally established only within the Expansion Area. If the boundary extended outside of the Expansion Area and was not mapped, observations regarding that portion of the feature extending outside of the Expansion Area were recorded. Wetlands and waters were classified according to Circular 39 (Shaw and Fredine 1971), Cowardin (Federal Geographic Data Committee [FGDC] 2013), and plant community (Eggers and Reed 2015) methods.

An Arrow 100 GPS receiver with sub-meter accuracy paired with a tablet running ESRI's Survey123 for ArcGIS application was used in the field to survey the locations of sample points, the wetland/non-wetland boundaries, and OHWM boundaries. Upon completion of the survey, the wetland specialist who captured the field data conducted a quality control review to ensure the spatial and attribute data of the features collected correspond with field observations.

2.3.2 Offsite Hydrology Assessment

Historical precipitation records and aerial photography were used to evaluate the long-term history of wetland hydrology in accordance with the USACE and BWSR guidance concerning offsite wetland mapping conventions for agricultural land (USACE and BWSR 2016). Antecedent precipitation conditions were evaluated for readily available aerial photographs of the Expansion Area to determine which aerial photographs were taken following periods of normal precipitation. Antecedent precipitation was classified as normal, wet, or dry by comparing the precipitation during the three months preceding aerial photography dates to the 30-year average using the Minnesota Climatology Office tool (Minnesota State Climatology Office 2024).

The offsite hydrology assessment method generally applies a wetland determination when wetland signatures appear in at least 50 percent of aerial photographs from normal years, and a non-wetland determination when wetland signatures are lacking in more than 70 percent of aerial photographs from those years. The delineated wetlands and desktop wetlands and waters with a non-wetland field survey determination were reviewed in each of the available aerial photographs with normal antecedent precipitation for wetland signatures as described above in Section 2.2 to verify if wetland hydrology is present or absent at those locations. If aerial photography from at least five normal years was not available, equal numbers of aerial photographs from wet and dry years were selected so that aerial photography from at least five years was reviewed.

The review of historical precipitation records and aerial photography to evaluate the long-term history of wetland hydrology is most effective in agricultural fields planted with annual row crops. Therefore, the assessment was conducted with caution for any areas that did not appear to be planted with annual row crops in one or more of the reviewed aerial photographs.

3.0 RESULTS

3.1 EXISTING INFORMATION REVIEW AND DESKTOP MAPPING

3.1.1 National Wetlands Inventory (NWI)

There are 15 NWI mapped wetlands in the Expansion Area totaling approximately 32.9 acres (Appendix A: Figure 2). The NWI mapped wetlands and waters include: 11 freshwater emergent wetlands (PEM1A, PEM1Af, PEM1C, PEM1F) totaling approximately 31.5 acres, 2 ponds (PUBFx, PUBHx) totaling approximately 0.9 acre, 1 freshwater forested/shrub wetland (PSS1A) totaling approximately 0.4 acre, and 1 riverine wetland (R4SBC) totaling approximately 0.1 acre.

3.1.2 National Hydrography Dataset (NHD)

There are two unnamed NHD waterbodies mapped in the Expansion Area (Appendix A: Figure 2) totaling approximately 0.7 acre. The NHD-mapped waterbodies approximately align with the two ponds mapped in the NWI (see Section 3.1.1).

3.1.3 Public Waters Inventory (PWI)

There are no Public Waters mapped in the Expansion Area (Appendix A: Figure 2).

3.1.4 Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL)

Flood hazard data from FEMA were reviewed and found that there is no mapped floodplain in the Expansion Area.

3.1.5 Soil Survey Geographic (SSURGO) Soils

The NRCS SSURGO soils were categorized according to the five hydric classes listed below based on the hydric rating of the soil series.

- Non-hydric – all soils series components rated as non-hydric.
- Predominantly non-hydric – minority of soil components are considered hydric accounting for 1 to 33 percent of the series.
- Partially hydric – a mix of hydric and non-hydric soil components with hydric components accounting for 34 to 66 percent of the series.
- Predominantly hydric – majority of soil components are considered hydric accounting for 67 to 99 percent of the series.
- Hydric – all soils series components rated as hydric.

Approximately half of the soils in the Expansion Area are categorized as hydric (30 percent of the Expansion Area) or predominantly hydric (19 percent of the Expansion Area). The remaining soils in the Expansion Area are classified as predominantly non-hydric (50 percent of the Expansion Area) or non-hydric (1 percent of the Expansion Area) (Appendix A: Figure 3).

3.1.6 Desktop Wetlands and Waters Mapping

Aerial photographs in combination with antecedent precipitation data from the Minnesota State Climatology Office (2024), MN DNR 2-foot elevation contours (MN DNR 2011), and the NWI were reviewed to identify potential wetlands and waters in the Expansion Area. Reviewed aerial photographs included images from July 1, 2010 (USDA FSA APFO 2010), September 13, 2015 (USDA FSA APFO 2015), July 23, 2017 (USDA FSA APFO 2017), July 11, 2019 (USDA FSA APFO 2019), and August 21, 2021 (USDA FSA APFO 2021). The antecedent precipitation review showed that all of the reviewed aerial photographs were taken during periods with normal antecedent precipitation.

The desktop data review found 18 potential wetlands and waters in the Expansion Area, totaling approximately 45 acres (Appendix A: Figure 2). Eleven of the potential wetlands and waters intersect NWI mapped resources. The seven remaining potential wetlands and waters were identified based on aerial photo interpretation and/or elevation data at locations that did not have any previously mapped resources.

3.2 WETLANDS AND WATERS SURVEY

The wetlands and waters field survey of the Expansion Area was conducted from July 29-31, 2024, during a period with wet antecedent precipitation based on methods described in technical guidance (USACE and BWSR 2016) and data from the Minnesota State Climatology Office (2024). A follow-up site visit was conducted on October 4, 2024, during a period with dry antecedent precipitation. Antecedent precipitation data are presented in Table 2.

Table 2. Antecedent Precipitation Analysis

Precipitation data for target wetland location:			
County: Nobles	Township Number: 103N	Site visit dates: July 29 - 31, 2024	
Township Name: Summit Lake	Range Number: 41W		
Nearest Community: Reading	Section Number: 14		
Score using 1991-2020 normal period			
Values are in inches. A 'R' following a monthly total indicates a provisional value derived from radar-based estimates.	first prior month: July 2024	second prior month: June 2024	third prior month: May 2024
estimated precipitation total for this location:	2.60	13.68R	8.05
there is a 30% chance this location will have less than:	2.22	3.94	2.99
there is a 30% chance this location will have more than:	4.21	5.43	4.90
type of month: dry normal wet	normal	wet	wet
monthly score	3 * 2 = 6	2 * 3 = 6	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	15 (wet)		
Precipitation data for target wetland location:			
County: Nobles	Township Number: 103N	Site visit dates: October 4, 2024	
Township Name: Summit Lake	Range Number: 41W		
Nearest Community: Reading	Section Number: 24		
Score using 1991-2020 normal period			
Values are in inches.	first prior month: September 2024	second prior month: August 2024	third prior month: July 2024
estimated precipitation total for this location:	0.20	2.23	2.60
there is a 30% chance this location will have less than:	1.51	2.04	2.22
there is a 30% chance this location will have more than:	4.20	3.80	4.21
type of month: dry normal wet	dry	normal	normal
monthly score	3 * 1 = 3	2 * 2 = 4	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	9 (dry)		

Each of the 18 desktop potential wetland and water areas in the Expansion Area was reviewed during the site visit. Wetlands or waters were confirmed to be present at 14 of the 18 reviewed locations and were delineated based on the observations made at the time of the field surveys. The four remaining desktop locations were determined to be non-wetlands. A total of 11 wetlands were identified and delineated in the Expansion Area at the completion of

the field surveys¹. The delineated resources are summarized in Table 3 below, and depicted on Figure 4 in Appendix A. The following sections include summaries of general field survey results and observations.

Table 3. Delineated Wetlands in the Expansion Area

Wetland ID	Wetland Classification ¹		Area (acres)	Regulatory Jurisdiction			Figure 4 Grid ID
	Circular 39	Cowardin Class		USACE	MN WCA	MN Public Water	
WC001	Type 1	PEMAf	1.018	No	Yes	No	C3
WC002	Type 1	PEMAf	0.505	No	Yes	No	C3
WC003	Type 1	PEMAf	4.470	No	Yes	No	C3
WC004	Type 1	PEMAf	0.609	No	Yes	No	C3
WC005	Type 1	PEMAf	1.133	No	Yes	No	C2
WC007	Type 1	PEMAf	0.146	No	Yes	No	C1
WC008	Type 1	PEMAf	0.851	No	Yes	No	A1
WC010	Type 1	PEMAf	5.186	No	Yes	No	A1
WC011	Type 1	PEMAf	4.358	No	Yes	No	C1
WC012	Type 1	PEMA/PFOA	1.933	No	Yes	No	A1
WC014	Type 1	PEMAf	0.366	No	Yes	No	C1

¹ See Appendix D for a key to the Circular 39 and Cowardin wetland classification system.

3.2.1 Wetlands

The 11 wetlands delineated in the Expansion Area include 10 Type 1, seasonally flooded basin wetlands (PEMAf) and 1 Type 1 seasonally flooded basin and wooded wetland complex (PEMA/PFOA) (Table 3). The delineated wetlands were all found in isolated basins in cultivated cropland. Due to the wet conditions preceding the July field survey and apparent greater than average flooding in portions of the Expansion Area, an offsite hydrology assessment was conducted to verify the wetland boundaries delineated in the field are representative of hydrology conditions in normal years. A second field visit was completed after the off-site hydrology assessment to document additional sample points for one wetland.

Wetland determination data forms, photographs, reviewed historical aerial photographs, and maps for delineated wetlands are provided in Appendix B. General observations of wetland vegetation, soils, and hydrology conditions recorded during the field surveys and results of the offsite hydrology assessment are summarized below.

3.2.1.1 Vegetation

Vegetation observed in farmed seasonally flooded basin wetlands commonly included the weedy species rough-fruit amaranth (*Amaranthus tuberculatus*), chufa (*Cyperus esculentus*), and large barnyard grass (*Echinochloa crus-*

¹ The total recorded wetlands reflects that some desktop wetlands and waters were combined into a single delineated wetland. Wetland WB004 was delineated as part of the survey for the Initial Area (Tetra Tech 2023) at one of the 18 desktop potential wetland areas in the Expansion Area; this wetland is not included as part of the 11 newly delineated wetlands in the Expansion Area.

galli). Stunted crops including soybeans (*Glycine max*) and wheat (*Triticum aestivum*) were also commonly documented in farmed seasonally flooded basin wetlands. Vegetation in the seasonally flooded portion of wetland WC012 primarily included reed canary grass (*Phalaris arundinacea*), and vegetation in the wooded portion of the wetland included green ash (*Fraxinus pennsylvannica*), eastern cottonwood (*Populus deltoides*), and black willow (*Salix nigra*).

Upland sample plots near wetlands in the Expansion Area were primarily documented in cropland and vegetation consisted of soybeans, and wheat. Vegetation at some upland sample points recorded at the edge of cultivated fields consisted primarily of smooth brome (*Bromus inermis*).

3.2.1.2 Soils

Soils observed within the majority of the Expansion Area were predominantly fine textures ranging from clay to clay loam; sandy clay and sandy clay loam soils were documented in some parts of the Expansion Area. A very thick (greater than 12 inches), black (10YR 2/1) A horizon was observed in most locations. Beneath the dark surface layer, soils were often depleted with matrix values ranging from dark gray (2.5Y 4/1) to light brownish gray (2.5Y 6/2) with 2 to 40 percent dark yellowish brown (10YR 3/6) to yellowish brown (10YR 5/6) redox concentrations. As a result, the thick dark surface (A12) hydric soil indicator was most frequently documented or assumed to be present at wetland sample plots.

3.2.1.3 Hydrology

Primary hydrology indicators documented at delineated wetlands included sediment deposits (B2), drift deposits (B3), sparsely vegetated concave surface (B8), and recent iron reduction in tilled soils (C6). When primary hydrology indicators were not observed, the secondary hydrology indicators that were documented most frequently included saturation visible on aerial imagery (C9), stunted or stressed plants (D1), geomorphic position (D2), and FAC-neutral test (D5).

The ten Type 1, seasonally flooded basin wetlands (PEMAf) were reviewed for wetland signatures in each of the aerial photographs from the following five years with normal antecedent precipitation: July 1, 2010 (USDA FSA APFO 2010), September 13, 2015 (USDA FSA APFO 2015), July 23, 2017 (USDA FSA APFO 2017), July 11, 2019 (USDA FSA APFO 2019), and August 21, 2021 (USDA FSA APFO 2021) to verify if wetland hydrology is present throughout the entire delineated boundary in most normal years since the precipitation preceding the survey was higher than normal. The field delineated boundaries of six wetlands (WC001, WC002, WC004, WC007, WC008, and WC010) were consistent with wetland signatures observed in the reviewed aerial photographs.

The four remaining delineated wetlands (WC003, WC005, WC011, and WC014) showed consistently smaller wetland signatures in the reviewed aerial photographs than the wetland area delineated in the field. This review suggests that wetland hydrology is not present throughout the delineated area of these wetlands in normal years and that wetland hydrology indicators observed during the survey are not indicative of normal conditions. Based on this review, the areas of wetlands WC003, WC005, WC011, and WC014 were reduced to better reflect hydrology conditions during normal years. The revised wetland boundaries were established based on the historical aerial photograph review and included all areas where a wetland photo signature was observed in at least two (i.e., greater

than 30%) of the reviewed aerial photographs. The field delineated wetland boundaries and photo revised wetland boundaries are shown on the maps in Appendix B.

3.2.2 Non-Wetland Areas

During the field surveys, four sample points that did not meet wetland determination criteria were recorded at potential wetlands and waters locations. The four non-wetland features were reviewed for wetland signatures in each of the aerial photographs from the following five years with normal antecedent precipitation: July 1, 2010 (USDA FSA APFO 2010), September 13, 2015 (USDA FSA APFO 2015), July 23, 2017 (USDA FSA APFO 2017), July 11, 2019 (USDA FSA APFO 2019), and August 21, 2021 (USDA FSA APFO 2021). The locations of non-wetland sample points are included in Appendix A, Figure 4. Wetland determination data forms, reviewed historical aerial photographs with antecedent precipitation worksheets, and site visit photographs for non-wetland sample points are provided in Appendix C.

Non-wetland sample points NWC006A and NWC007A were recorded in roadside ditches that were not cropped in any of the reviewed aerial photographs, but at the time of the survey vegetation consisted primarily of smooth brome and it was determined that hydrophytic vegetation was not present at these locations. Non-wetland sample point NWC009A was recorded in an area that exhibited a wetland signature in 60 percent of the reviewed aerial photographs, but at the time of the survey it was determined that hydric soil was not present at this location. Non-wetland sample point NWC013A was recorded at the location of a mapped NWI wetland in an area that exhibited a wetland signature in less than 50 percent of the reviewed aerial photographs, which supports the field determination that wetland hydrology is not present at this location in most normal years.

3.3 REGULATORY REVIEW

3.3.1 U.S. Army Corps of Engineers

Each of the identified wetlands in the Expansion Area was reviewed for potential USACE jurisdiction and an initial jurisdictional determination was recommended. An assessment of WOTUS criteria and potential USACE jurisdiction under Section 404 of the CWA found that none of the delineated wetlands appear to meet the criteria to be considered a WOTUS. Only the USACE can make the final determination on their regulatory jurisdiction of wetlands and waters.

3.3.2 Minnesota Wetland Conservation Act

All 11 newly delineated wetlands in the Expansion Area would likely be regulated under the WCA (Appendix A: Figure 5). Project activities affecting these wetlands would require approval from the LGU. Certain activities are exempt from the wetland replacement provisions of WCA. Tetra Tech reviewed the WCA de minimis exemption standards (MN Rules 8420.0420, Subp. 8) and found that up to 2,000 square-feet of Type 1 wetland may be permanently impacted by the Project to qualify for the de minimis exemption and would not require a replacement plan for wetlands.

3.3.3 Minnesota Department of Natural Resources

None of the delineated wetlands in the Expansion Area align with Public Waters identified in the PWI (Section 3.1.3). Therefore, the Project will not require a Public Waters Work Permit from the MN DNR.

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2015. Nobles County, Minnesota. ortho_1-1_1n_s_mn105_2015_1

2017. Nobles County, Minnesota. ortho_1-1_1n_s_mn105_2017_1

2019. Nobles County, Minnesota. ortho_1-1_hn_s_mn105_2019_1

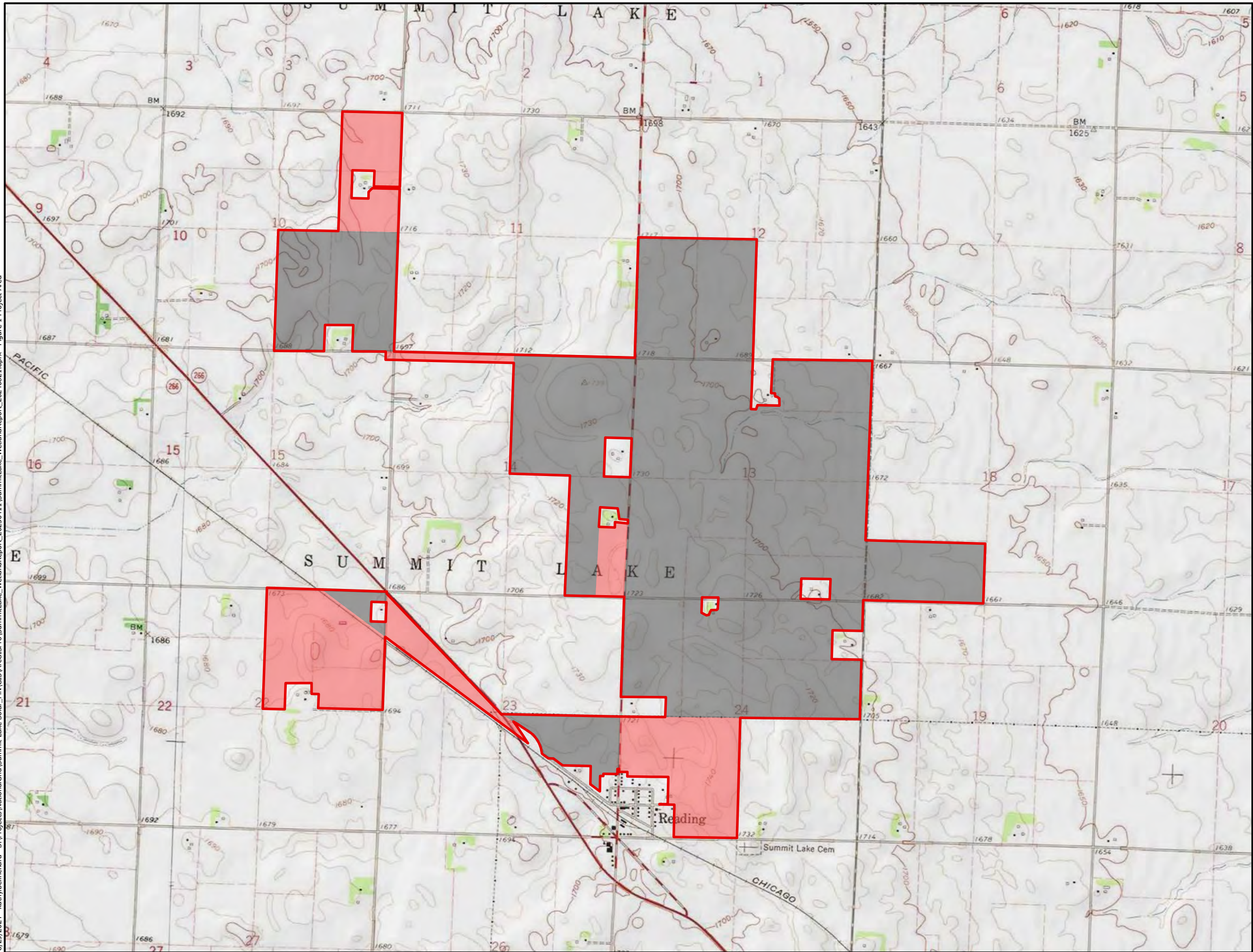
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APPENDIX A: FIGURES 1 – 5

8/29/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 1 Project Area



- Project Area (1,990 acres)
- Expansion Area (408 acres)
- Initial Area (1,582 acres)

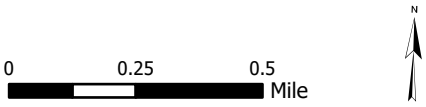
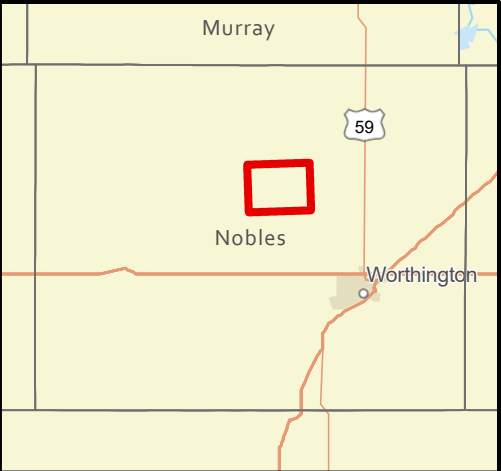
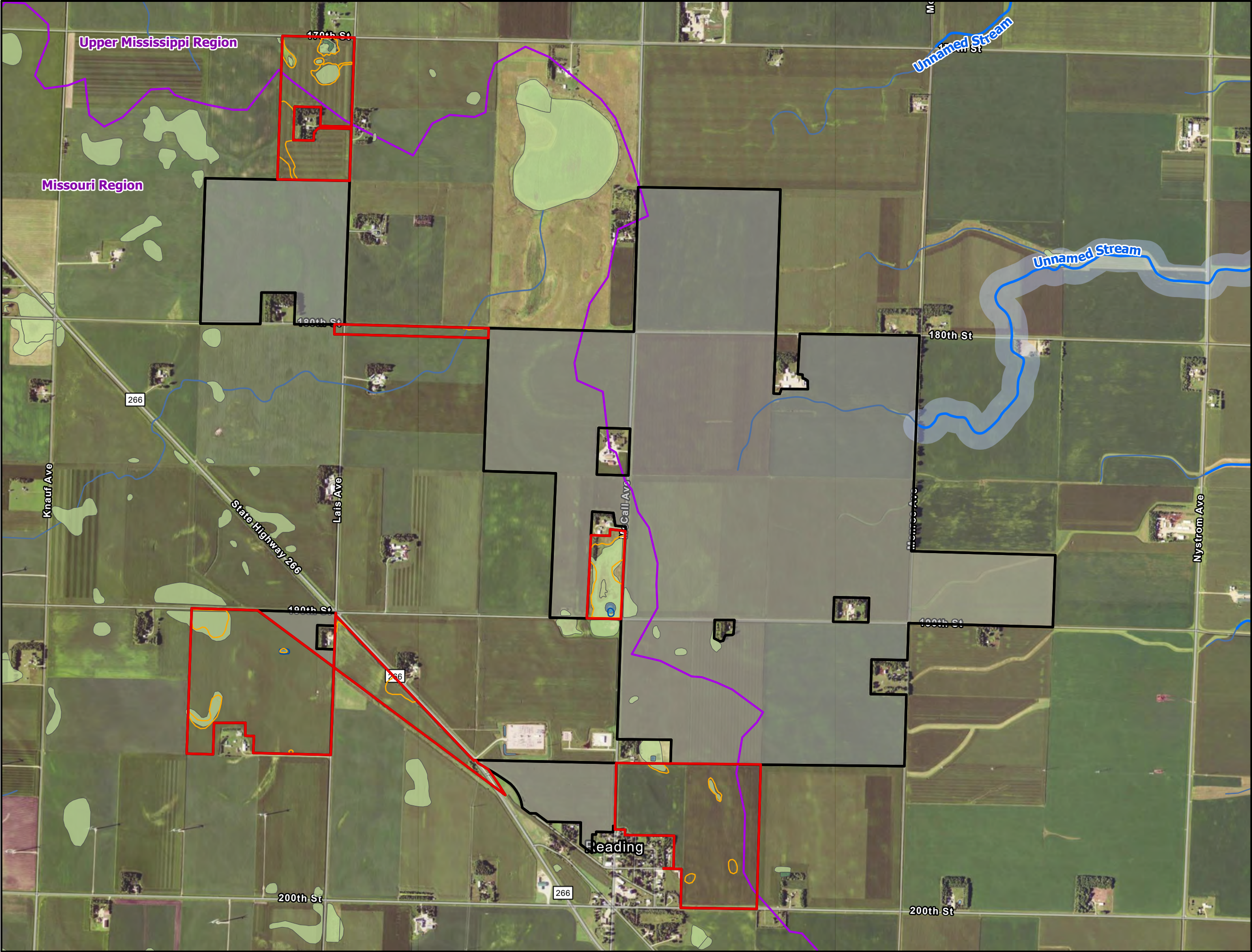


Figure 1
Project Area Location

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



8/29/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 2 Desktop Mapping



- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- NWI Wetlands**
 - Freshwater Emergent Wetland
 - Freshwater Forested/Shrub Wetland
 - Freshwater Pond
 - Riverine
- NHD Classification**
 - Lake/Pond
- Watershed Boundary Dataset**
 - 2-digit Hydrologic Unit Region
- Public Waters Inventory**
 - Watercourse
 - Approximate Shoreland Zone (300 feet from watercourses)
- Desktop Mapping**
 - Desktop Potential Wetlands and Waters



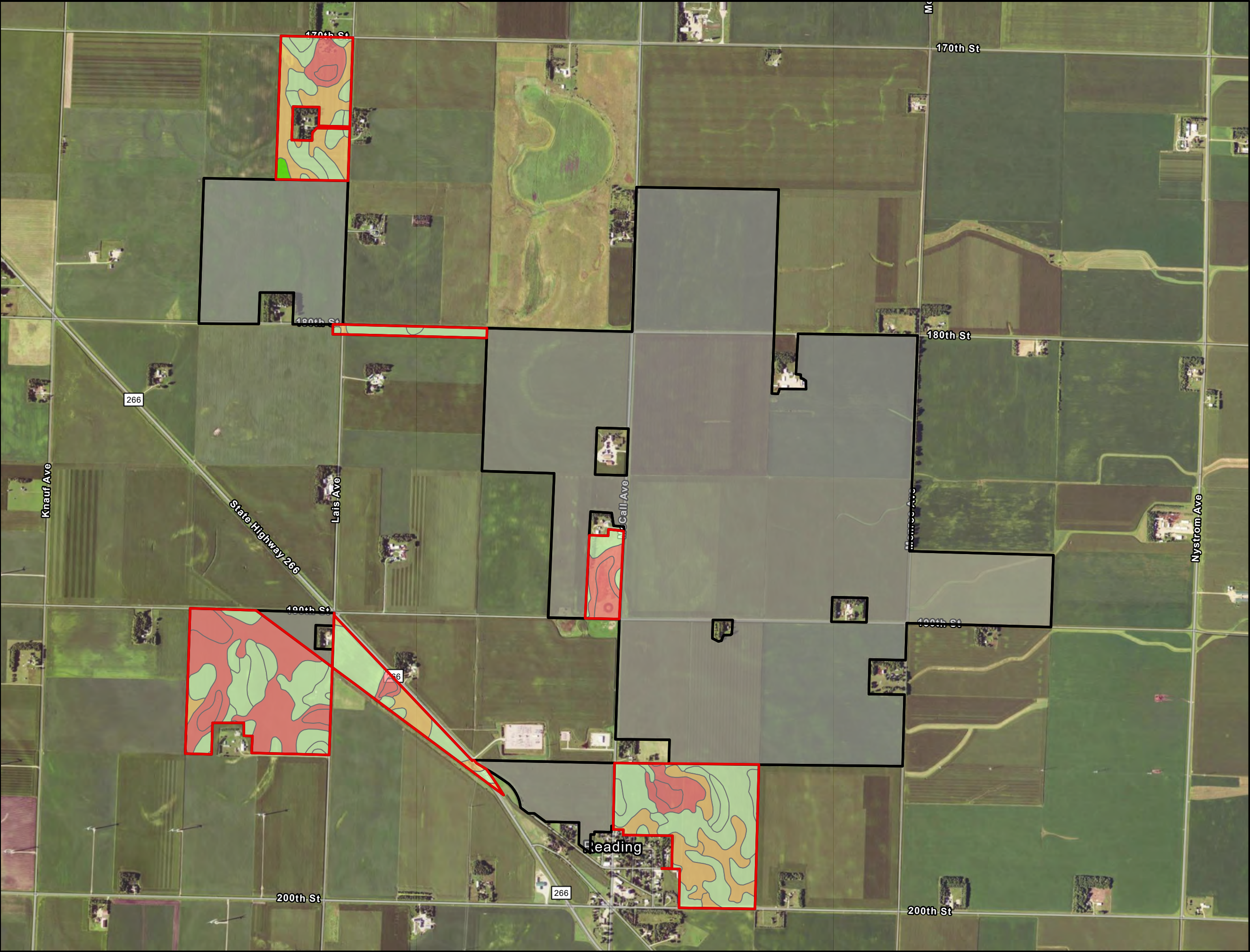
Figure 2
Desktop Wetlands and Waters Mapping

Summit Lake Solar
Project Expansion
Nobles County, Minnesota

 TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, USGS NHD, USFWS NWI, MN DNR PWI, Tetra Tech desktop wetlands and waters, and Project data by Summit Lake Solar, LLC. Scale: 1:20,000

8/29/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 3



Expansion Area (408 acres)

Initial Area (1,582 acres)

Hydric Classification

- Hydric
- Predominantly Hydric
- Predominantly Non-Hydric
- Non-Hydric

0 0.25 0.5 Mile

N

Figure 3

SSURGO Soils

Summit Lake Solar

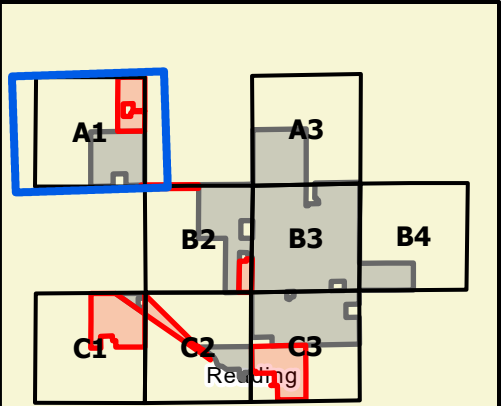
Project Expansion

Nobles County, Minnesota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, USDA gSSURGO soils, and Project data by Summit Lake Solar, LLC. Scale: 1:20,000

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 4 Survey Results



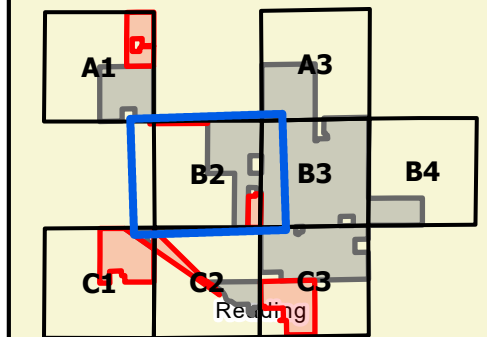
- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- Non-Wetland Sample Point
- Delineated Wetland
- Previously Delineated Wetland
- Desktop Potential Wetlands and Waters



**Figure 4 - A1
Wetlands and Waters
Survey Results**

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



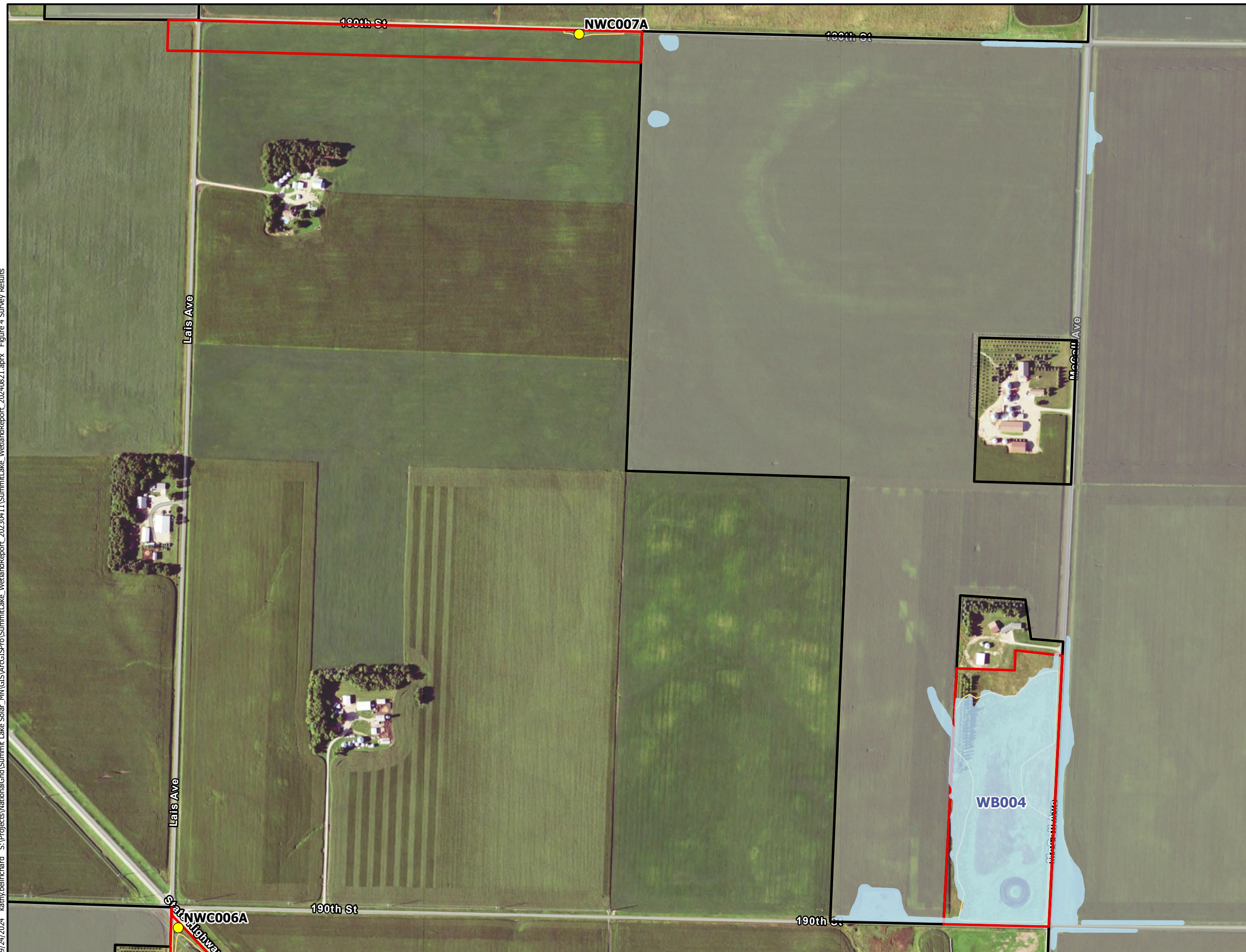


-  Expansion Area (408 acres)
-  Initial Area (1,582 acres)
-  Non-Wetland Sample Point
-  Delineated Wetland
-  Previously Delineated Wetland
-  Desktop Potential Wetlands and Waters

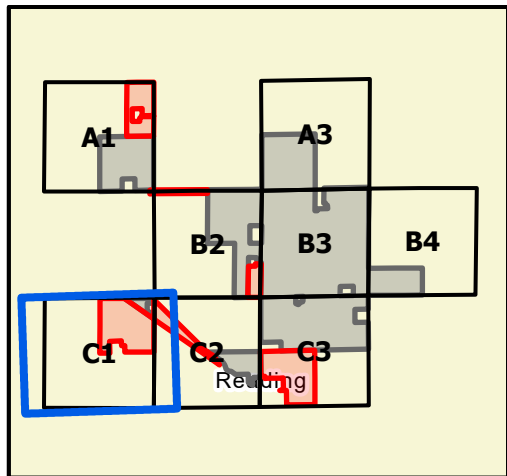


Figure 4 - B2 Wetlands and Waters Survey Results

Summit Lake Solar Project Expansion Nobles County, Minnesota



9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 4 Survey Results



- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- Non-Wetland Sample Point
- Delineated Wetland
- Previously Delineated Wetland
- Desktop Potential Wetlands and Waters

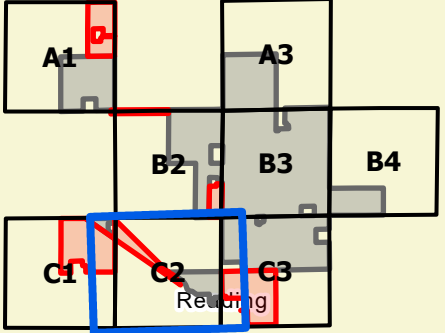
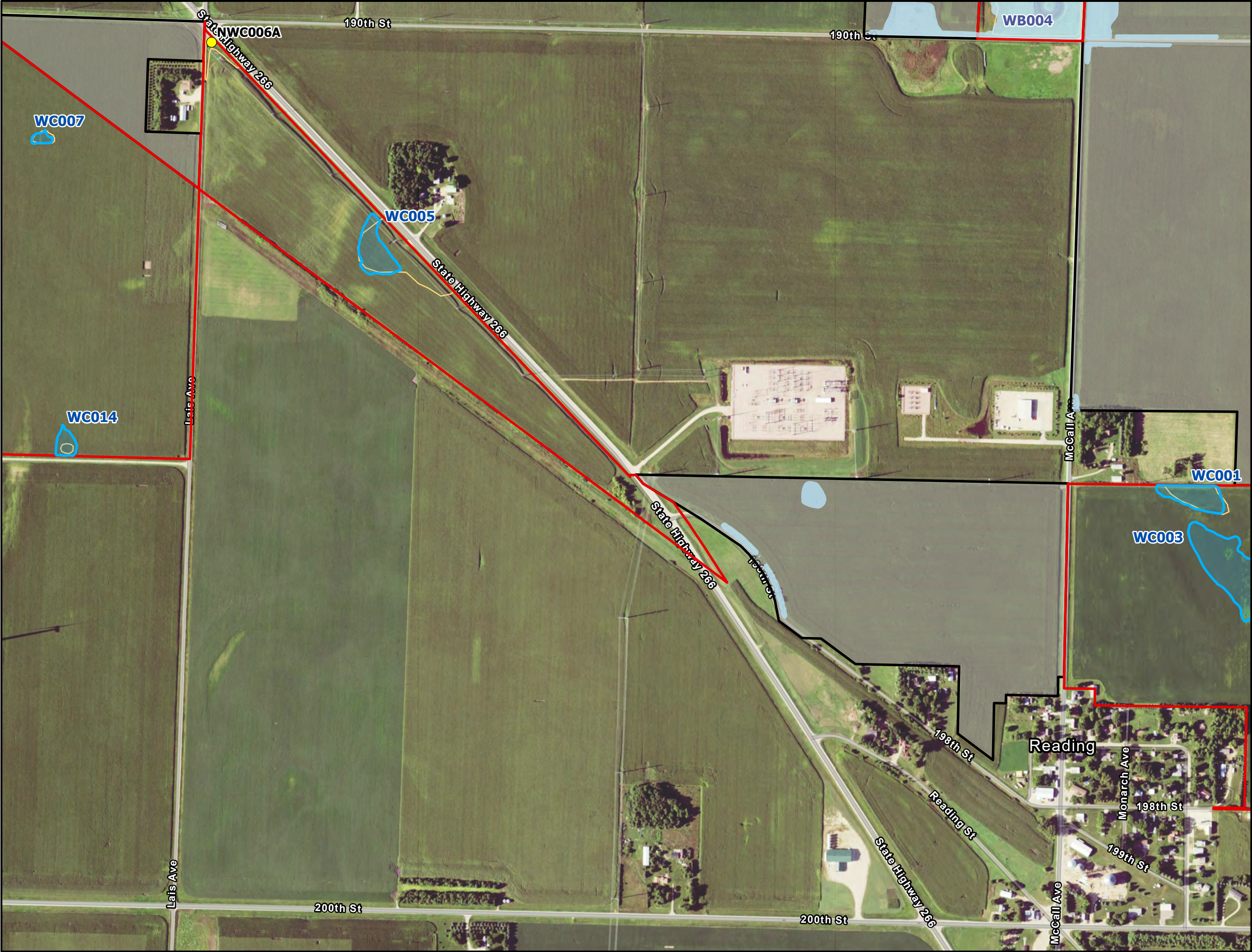


**Figure 4 - C1
Wetlands and Waters
Survey Results**

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 4 Survey Results



- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- Non-Wetland Sample Point
- Delineated Wetland
- Previously Delineated Wetland
- Desktop Potential Wetlands and Waters



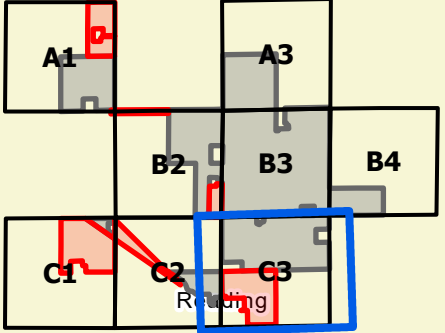
**Figure 4 - C2
Wetlands and Waters
Survey Results**

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Summit Lake Solar, LLC. Scale: 1:6,500

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 4 Survey Results



- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- Non-Wetland Sample Point
- Delineated Wetland
- Previously Delineated Wetland
- Desktop Potential Wetlands and Waters



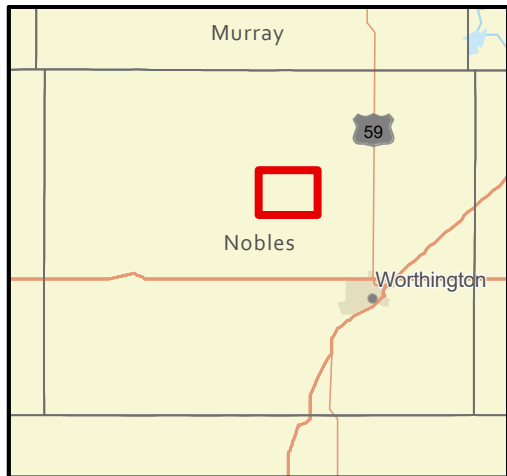
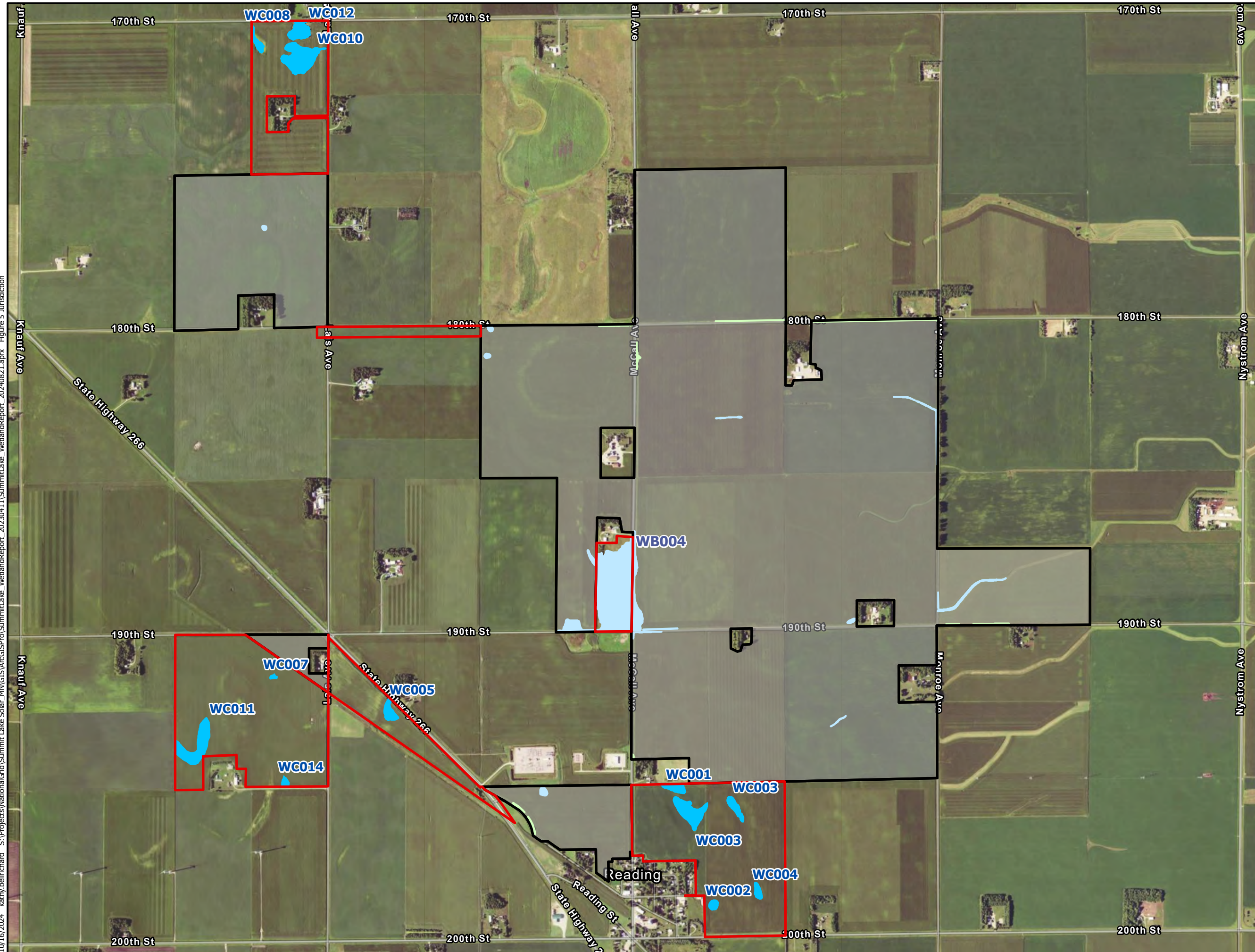
**Figure 4 - C3
Wetlands and Waters
Survey Results**

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Summit Lake Solar, LLC. Scale: 1:6,500

10/16/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar_MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Figure 5 Jurisdiction



- Expansion Area (408 acres)
- Initial Area (1,582 acres)
- Recommended Regulatory Jurisdiction***
- Newly Delineated Wetland
- LGU
- Previously Delineated Wetland
- LGU
- Not Regulated

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE and LGU.

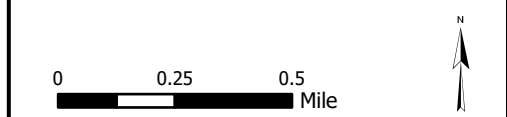


Figure 5
Wetlands and Waters Jurisdiction

Summit Lake Solar Project Expansion
Nobles County, Minnesota

 **TETRA TECH**

APPENDIX B: WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

Wetland ID

WC001

Project/Site:	Summit Lake	City/County:	Nobles	Sampling Date:	07/29/2024
Applicant/Owner:	National Grid Renewables	State:	Minnesota	Sampling Point:	WC001A
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43.71031	Long:	-95.70975
				Datum:	WGS84
Soil Map Unit Name:	Canisteo clay loam, 0 to 2 percent slopes		NWI Classification:	PEM1Af	

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u> If yes, optional wetland site ID: <u>WC001</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
Remarks: Climate conditions wet. Recently tilled agricultural field.		

Dominance Test Worksheet				
Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: <u>5</u>)			
1. <i>Amaranthus tuberculatus</i>		5	Y	OBL
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		5	=Total Cover	
Woody Vine Stratum	(Plot size: <u>15</u>)			
1. _____				
2. _____				
		_____ =Total Cover		

Prevalence Index Worksheet				
Total % Cover of:		Multiply by:		
OBL species	<u>5</u>	x 1 =	<u>5</u>	
FACW species	<u>0</u>	x 2 =	<u>0</u>	
FAC species	<u>0</u>	x 3 =	<u>0</u>	
FACU species	<u>0</u>	x 4 =	<u>0</u>	
UPL species	<u>0</u>	x 5 =	<u>0</u>	
Column totals	<u>5</u>	(A)	<u>5</u>	(B)
Prevalence Index = B/A =		<u>1</u>		

Hydrophytic Vegetation Indicators:	
<u>X</u>	Rapid test for hydrophytic vegetation
<u>X</u>	Dominance test is >50%
	Prevalence index is ≤3.0*
	Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
	Problematic hydrophytic vegetation*
	(explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?	
	Yes

Recently tilled agricultural field. Bare ground/open water: 95%

SOIL

Sampling Point: WC001A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-14	10YR 2/1	100					Sandy Loam	
14-18	10YR 3/1	100					Loamy Sand	
18-20	2.5Y 4/2	95	10YR 3/6	5	C	PL	Sandy Clay Trace Gravel	Distinct or Prominent
20-24	2.5Y 5/1	90	10YR 3/6	10	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☒ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/29/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC001B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.71026 Long: -95.70967 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC001</u>		
Remarks: Climate conditions wet. Recently tilled agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>5</u> (B) Prevalence Index = B/A = <u>1</u>
_____ =Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
_____ =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* _____ (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <u>Amaranthus tuberculatus</u>		<u>5</u>	<u>Y</u>	<u>OBL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
_____ =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1. _____					
2. _____					
_____ =Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Recently tilled agricultural field. Bare ground/open water: 95%

SOIL

Sampling Point: WC001B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-19	10YR 2/1	100					Sandy Loam	
19-25	2.5Y 5/3	95	10YR 3/6	5	C	PL	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC001A.

Direction: Northwest

Photo ID: delin_photo-20240729-201104.jpg

Date: 07/29/2024

Project Name: Summit Lake

Feature ID: WC001



Overview of upland sample point WC001B.

Direction: Southeast

Photo ID: delin_photo-20240729-201556.jpg

Date: 07/29/2024

Project Name: Summit Lake

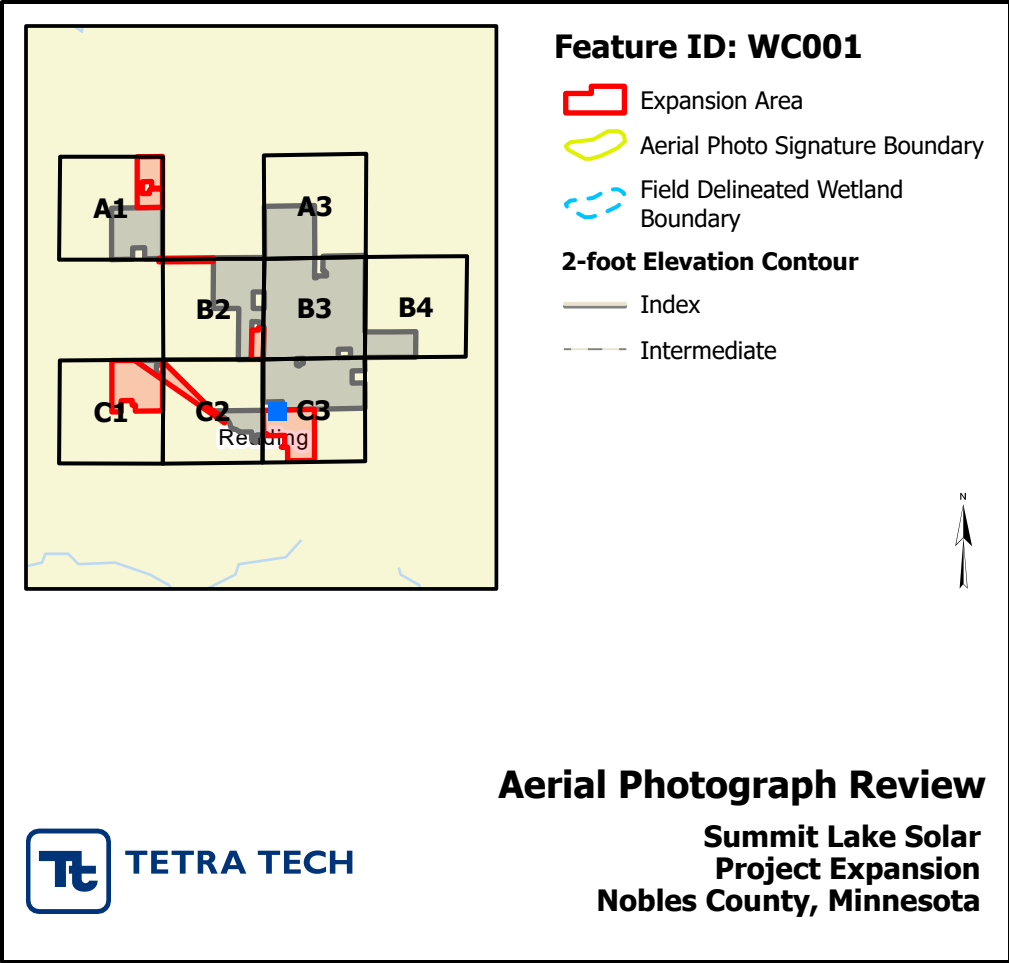
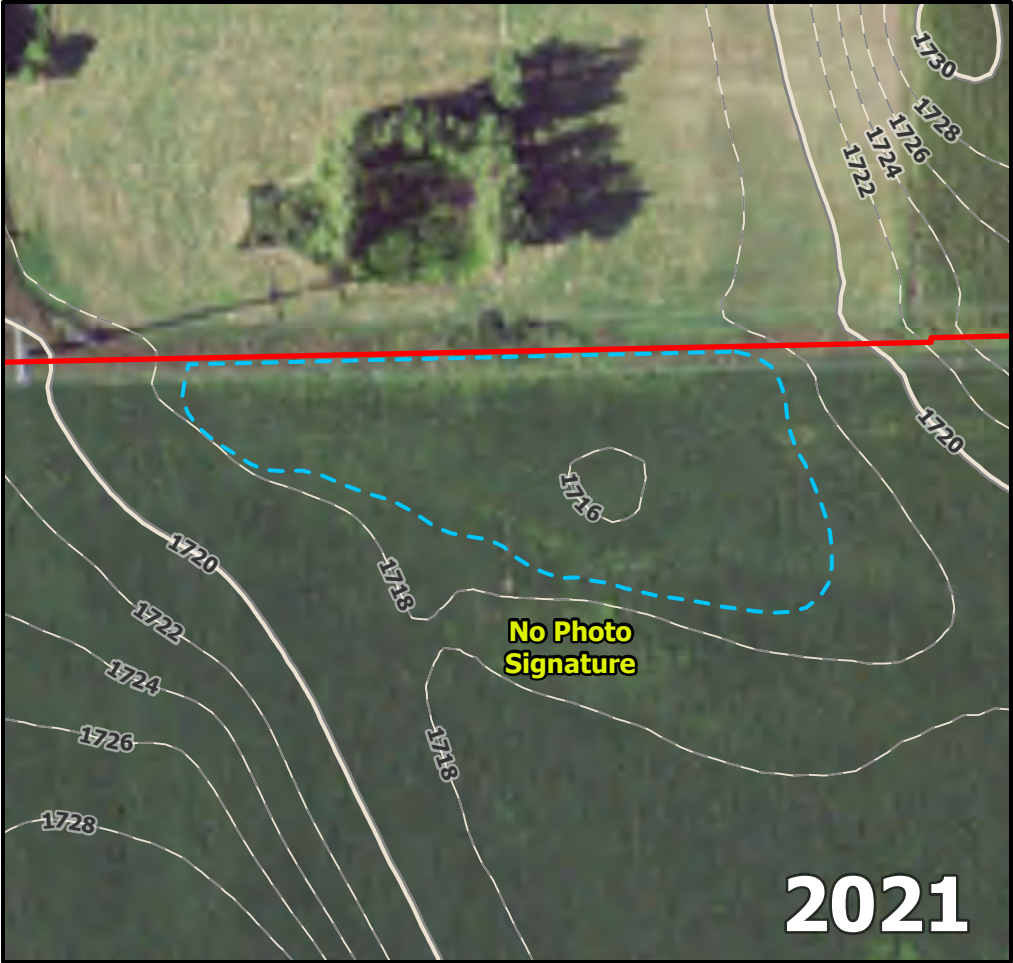
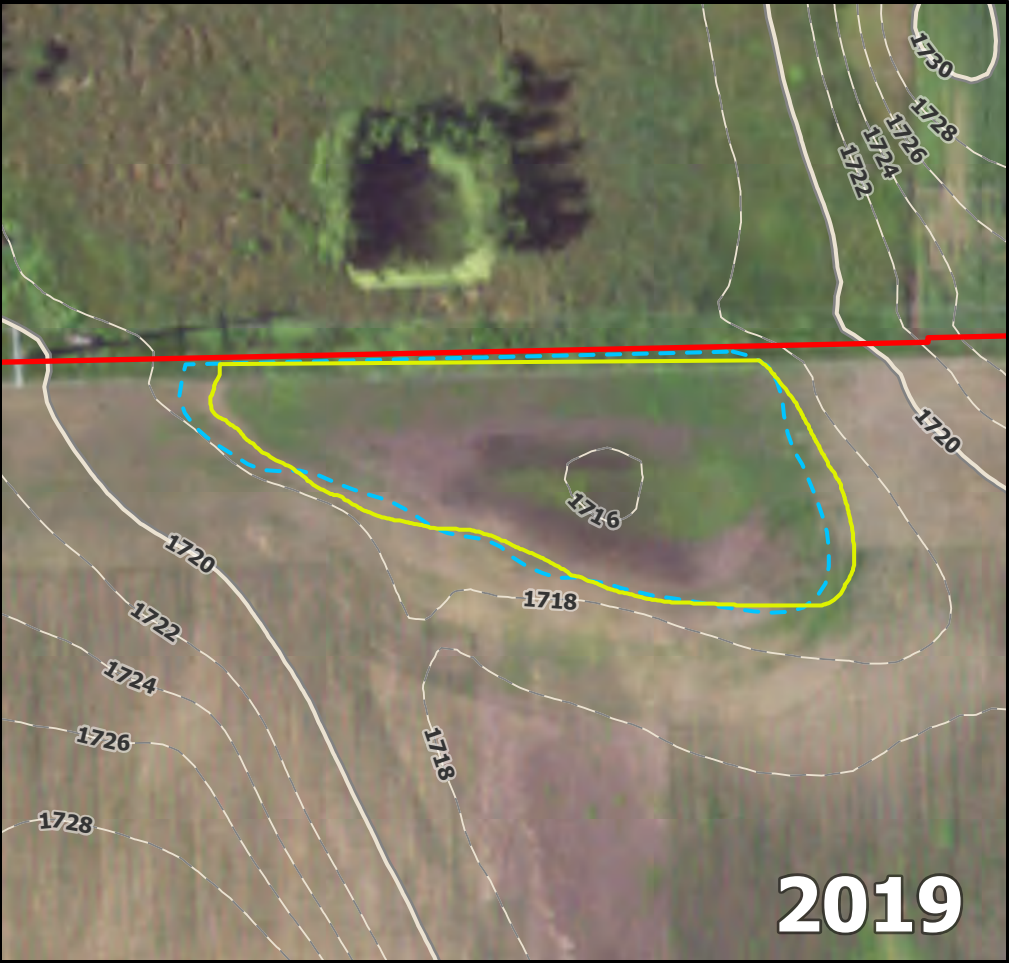
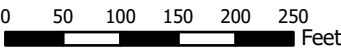
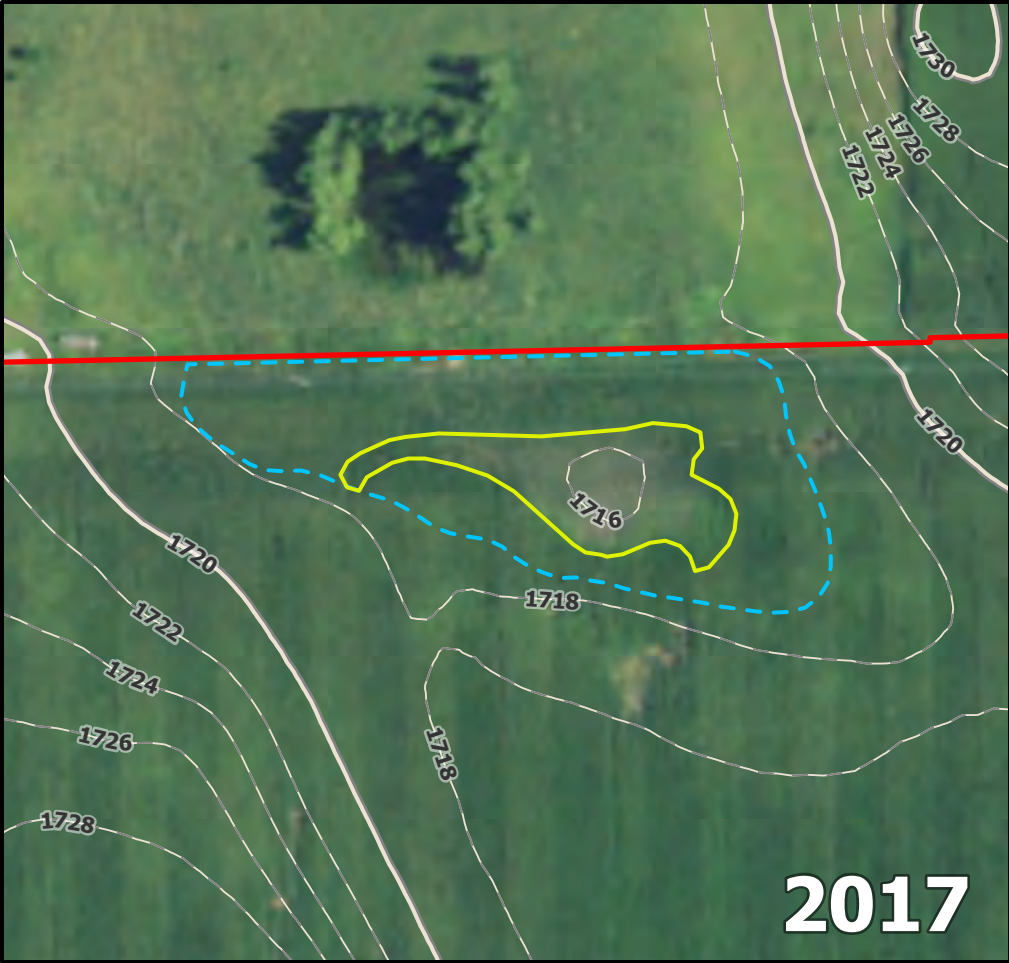
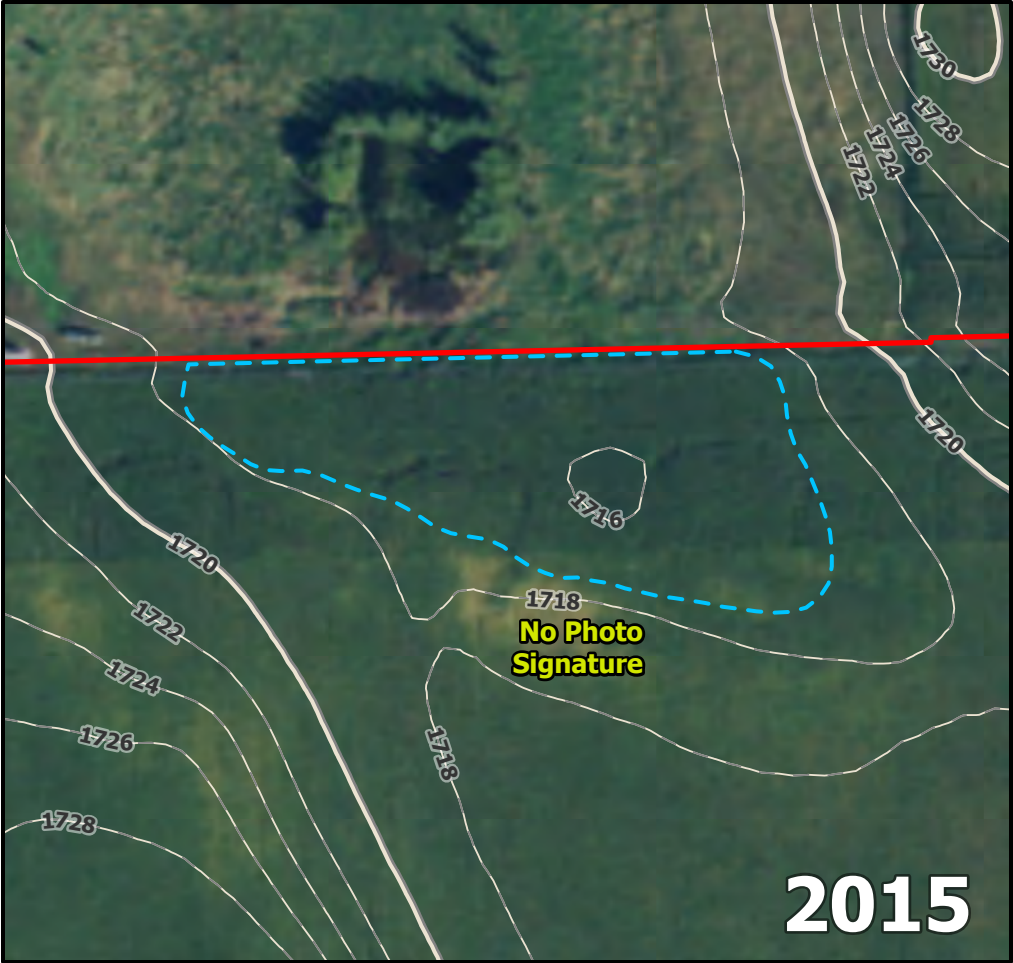
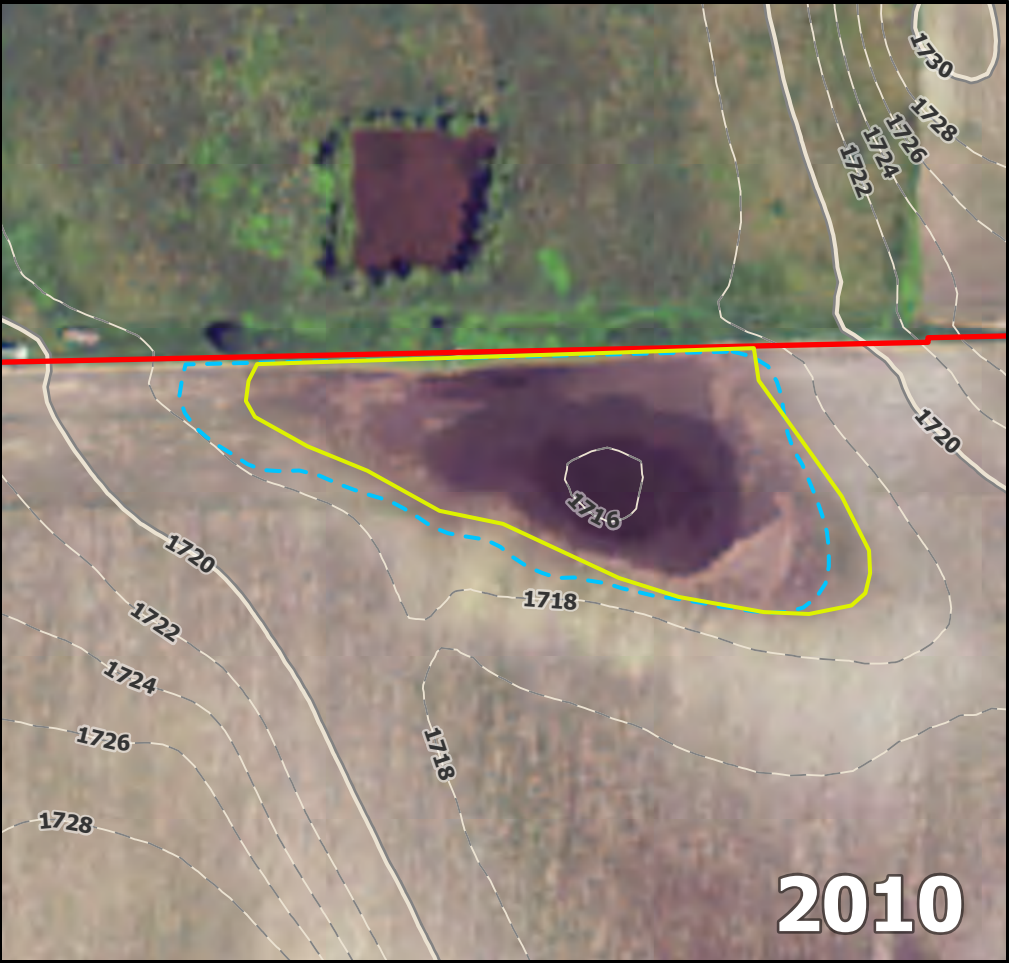
Feature ID: WC001



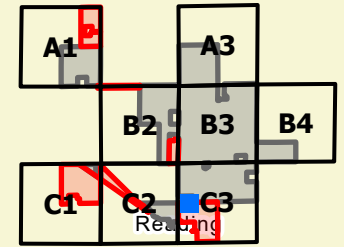
Overview of wetland WC001.

Direction: West	Photo ID: f_photo-20240729-202718.jpg	Date: 07/29/2024
Project Name: Summit Lake		Feature ID: WC001

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

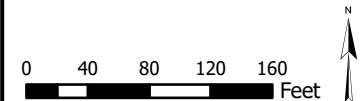
 Delineated Wetland WC001

 Other Delineated Wetland

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC001**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC002

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/29/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC002A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.70507 Long: -95.70757 Datum: WGS84
 Soil Map Unit Name: Canisteo-Glencoe complex, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC002</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>10</u> x 1 = <u>10</u> FACW species <u>45</u> x 2 = <u>90</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>55</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.82</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1. <i>Echinochloa crus-galli</i>		<u>45</u>	<u>Y</u>	<u>FACW</u>	
2. <i>Lindernia dubia</i>		<u>10</u>	<u>N</u>	<u>OBL</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>55</u> =Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
Hydrophytic Vegetation Present? <u>Yes</u>					

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 45%

SOIL

Sampling Point: WC002A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Clay Loam	
6-24	10YR 5/1	60	5YR 4/6	40	C	M	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☒ Depleted Matrix (F3)
☒ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/29/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC002B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 3 Lat: 43.70505 Long: -95.70748 Datum: WGS84
 Soil Map Unit Name: Canisteo-Glencoe complex, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC002</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>55</u> x 5 = <u>275</u> Column totals <u>60</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>4.67</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: ___ Rapid test for hydrophytic vegetation ___ Dominance test is >50% ___ Prevalence index is ≤3.0* ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) ___ Problematic hydrophytic vegetation* ___ (explain)
Herb Stratum	(Plot size: <u>5</u>)				
1. <u>Glycine max</u>		<u>55</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Amaranthus tuberculatus</u>		<u>5</u>	<u>N</u>	<u>OBL</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>60</u> =Total Cover					Hydrophytic Vegetation Present? <u>No</u>
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 40%

SOIL

Sampling Point: WC002B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 2/1	100					Clay Loam	
8-12	10YR 2/1	89	2.5Y 5/2	10	D	M	Sandy Clay Trace Gravel	
			7.5YR 3/4	1	C	PL		Distinct or Prominent
12-18	2.5Y 4/4	95	7.5YR 4/4	5	C	PL	Sandy Clay	Faint
18-24	2.5Y 5/4	78	2.5Y 5/6	20	C	M	Sandy Clay	Distinct or Prominent
			7.5YR 3/4	2	C	PL		Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC002A.

Direction: West

Photo ID: delin_photo-20240729-214519.jpg

Date: 07/29/2024

Project Name: Summit Lake

Feature ID: WC002



Overview of upland sample point WC002B.

Direction: Southeast

Photo ID: delin_photo-20240729-220408.jpg

Date: 07/29/2024

Project Name: Summit Lake

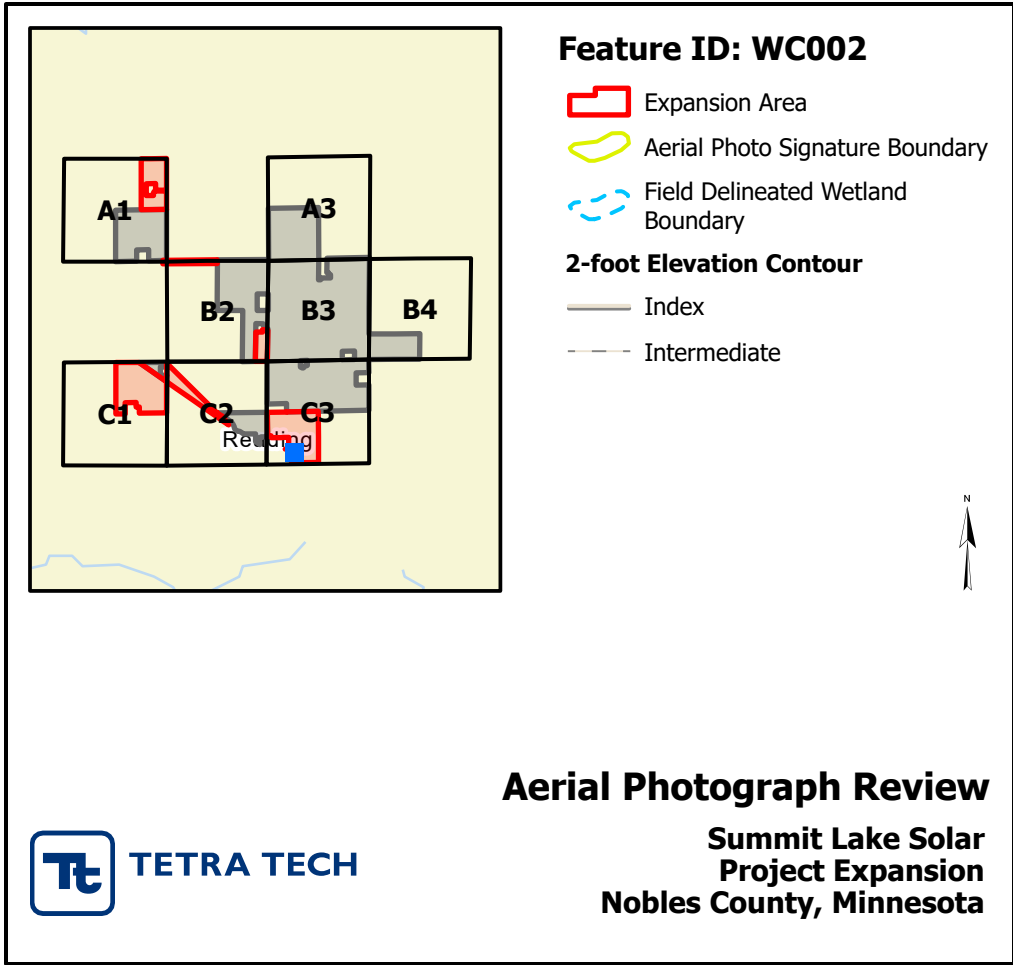
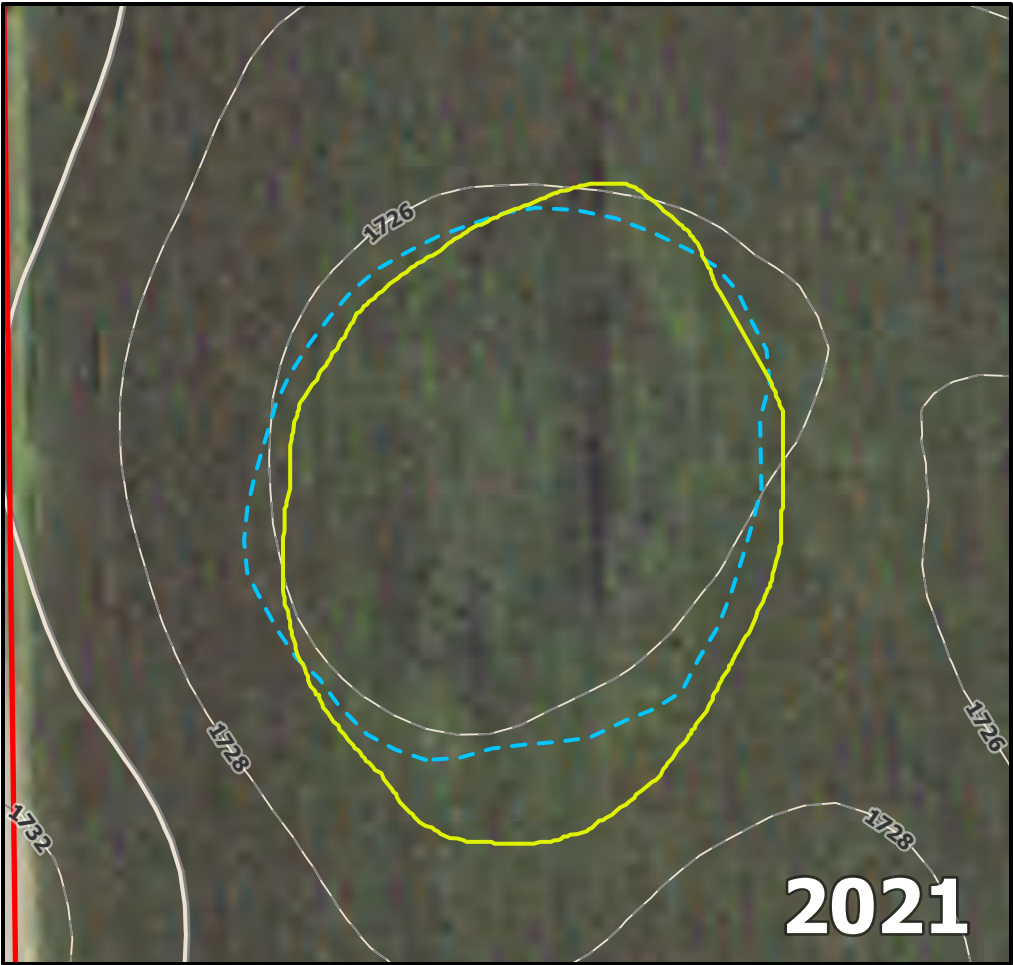
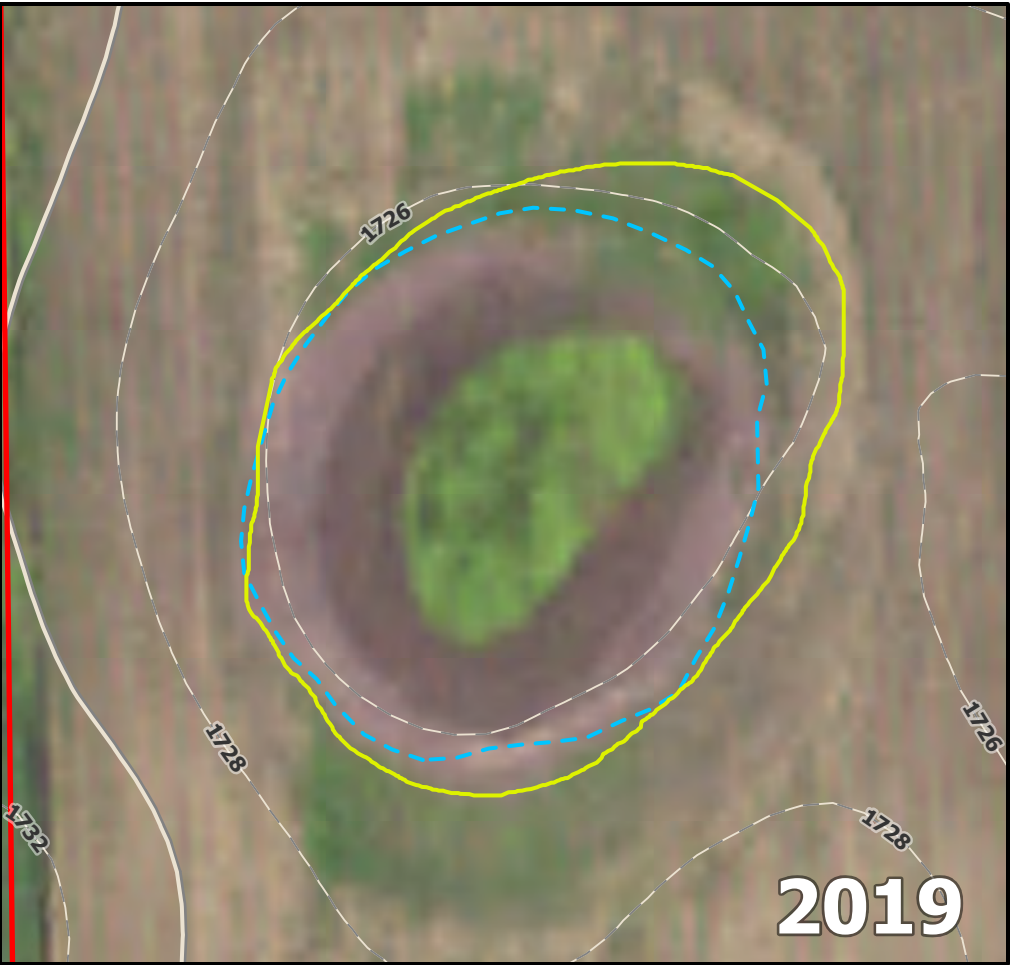
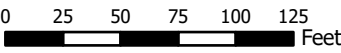
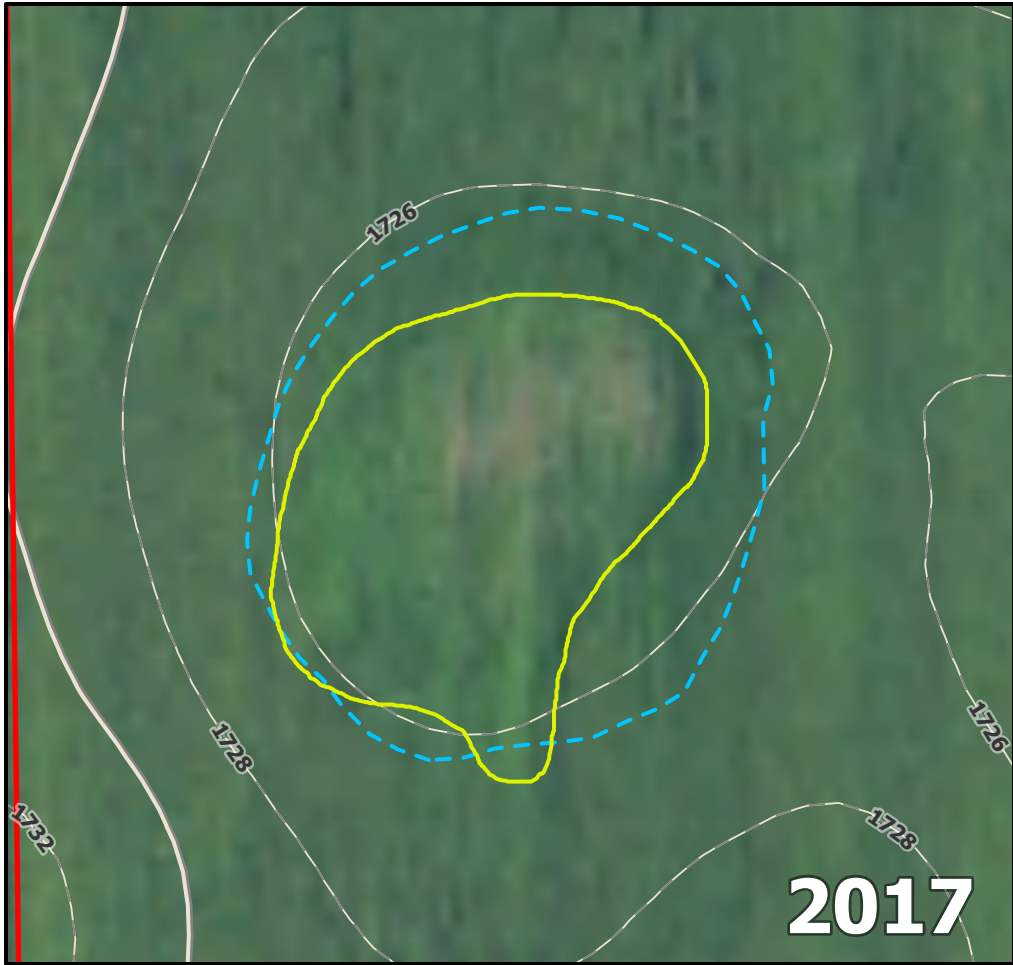
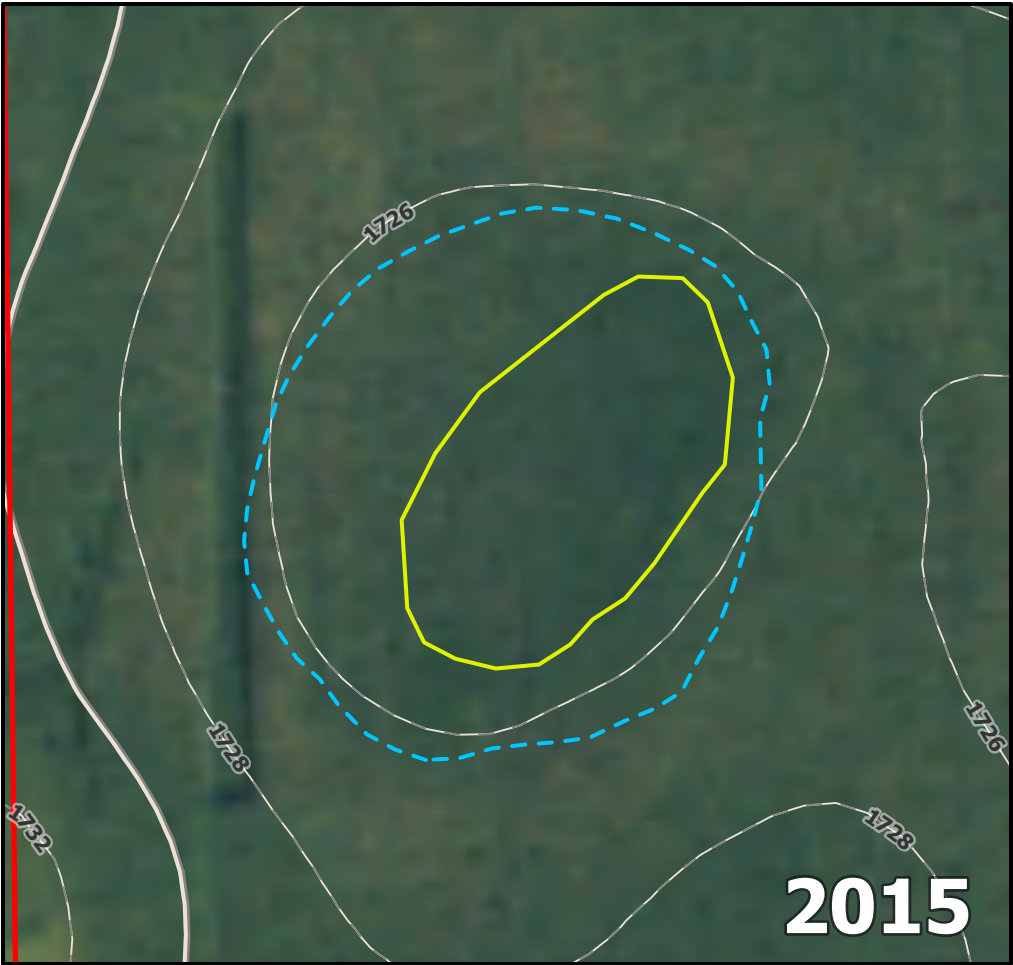
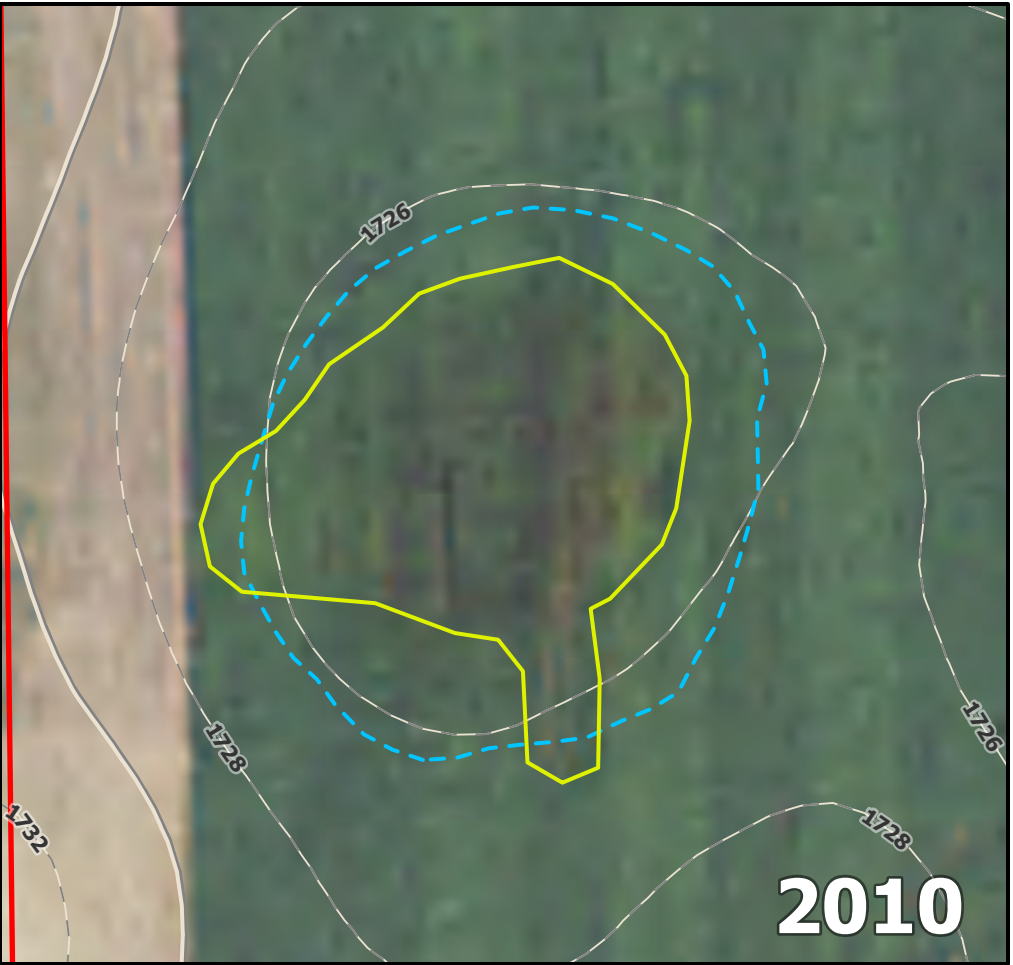
Feature ID: WC002



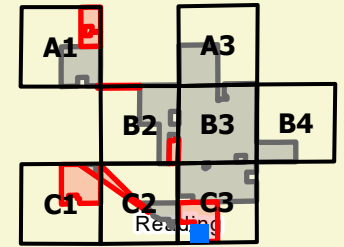
Overview of wetland WC002.

Direction: West	Photo ID: f_photo-20240729-221205.jpg	Date: 07/29/2024
Project Name: Summit Lake		Feature ID: WC002

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

 Delineated Wetland WC002

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC002**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC003

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC003A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.70903 Long: -95.70584 Datum: WGS84
 Soil Map Unit Name: Clarion-Storden complex, 6 to 10 percent slopes, moderately eroded NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC003</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. <u> </u>					
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
		<u> </u> =Total Cover			Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>5</u> x 5 = <u>25</u> Column totals <u>20</u> (A) <u>40</u> (B) Prevalence Index = B/A = <u>2</u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1. <u> </u>					
2. <u> </u>					
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
		<u> </u> =Total Cover			
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Amaranthus tuberculatus</u>		<u>15</u>	<u>Y</u>	<u>OBL</u>	
2. <u>Glycine max</u>		<u>5</u>	<u>Y</u>	<u>UPL</u>	
3. <u> </u>					
4. <u> </u>					
5. <u> </u>					
6. <u> </u>					
7. <u> </u>					
8. <u> </u>					
9. <u> </u>					
10. <u> </u>					
		<u>20</u>	<u> </u> =Total Cover		
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1. <u> </u>					
2. <u> </u>					
		<u> </u> =Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 80%

SOIL

Sampling Point: WC003A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR 2/1	100					Clay	
20-40	10YR 2/1	100					Sandy Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☒ Sediment Deposits (B2) ☐ Roots (C3)
☒ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
☒ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site:	Summit Lake	City/County:	Nobles	Sampling Date:	07/30/2024
Applicant/Owner:	National Grid Renewables	State:	Minnesota	Sampling Point:	WC003B
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.24 T103N R41W		
Landform (hillslope, terrace, etc.):	Toeslope	Local relief (concave, convex, none):	Convex		
Slope (%):	5	Lat:	43.70903	Long:	-95.7057
		Datum:	WGS84		
Soil Map Unit Name:	Clarion-Storden complex, 6 to 10 percent slopes, moderately eroded		NW1 Classification:		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	
Hydric Soil Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>No</u>
Wetland Hydrology Present?	<u>No</u>	If yes, optional wetland site ID: <u>WC003</u>
Remarks: Climate conditions wet.		

Dominance Test Worksheet				
Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Sapling/Shrub Stratum	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		_____ =Total Cover		
Herb Stratum	(Plot size: <u>5</u>)			
1. <i>Glycine max</i>		50	Y	UPL
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		50	=Total Cover	
Woody Vine Stratum	(Plot size: <u>15</u>)			
1. _____				
2. _____				
		_____ =Total Cover		
Prevalence Index Worksheet				
Total % Cover of:		Multiply by:		
OBL species	<u>0</u>	x 1 =	<u>0</u>	
FACW species	<u>0</u>	x 2 =	<u>0</u>	
FAC species	<u>0</u>	x 3 =	<u>0</u>	
FACU species	<u>0</u>	x 4 =	<u>0</u>	
UPL species	<u>50</u>	x 5 =	<u>250</u>	
Column totals	<u>50</u>	(A)	<u>250</u>	(B)
Prevalence Index = B/A =		<u>5</u>		
Hydrophytic Vegetation Indicators:				
_____ Rapid test for hydrophytic vegetation				
_____ Dominance test is >50%				
_____ Prevalence index is ≤3.0*				
_____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)				
_____ Problematic hydrophytic vegetation*				
_____ (explain)				
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic				
Hydrophytic Vegetation Present?				
<u>No</u>				

Agricultural field. Bare ground/open water: 50%

SOIL

Sampling Point: WC003B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-23	10YR 2/1	100					Clay Loam	
23-35	10YR 2/1	97	5YR 3/4	3	C	M	Clay	Distinct or Prominent
35-40	10YR 2/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC003A.

Direction: West	Photo ID: delin_photo-20240730-163020.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC003



Overview of upland sample point WC003B.

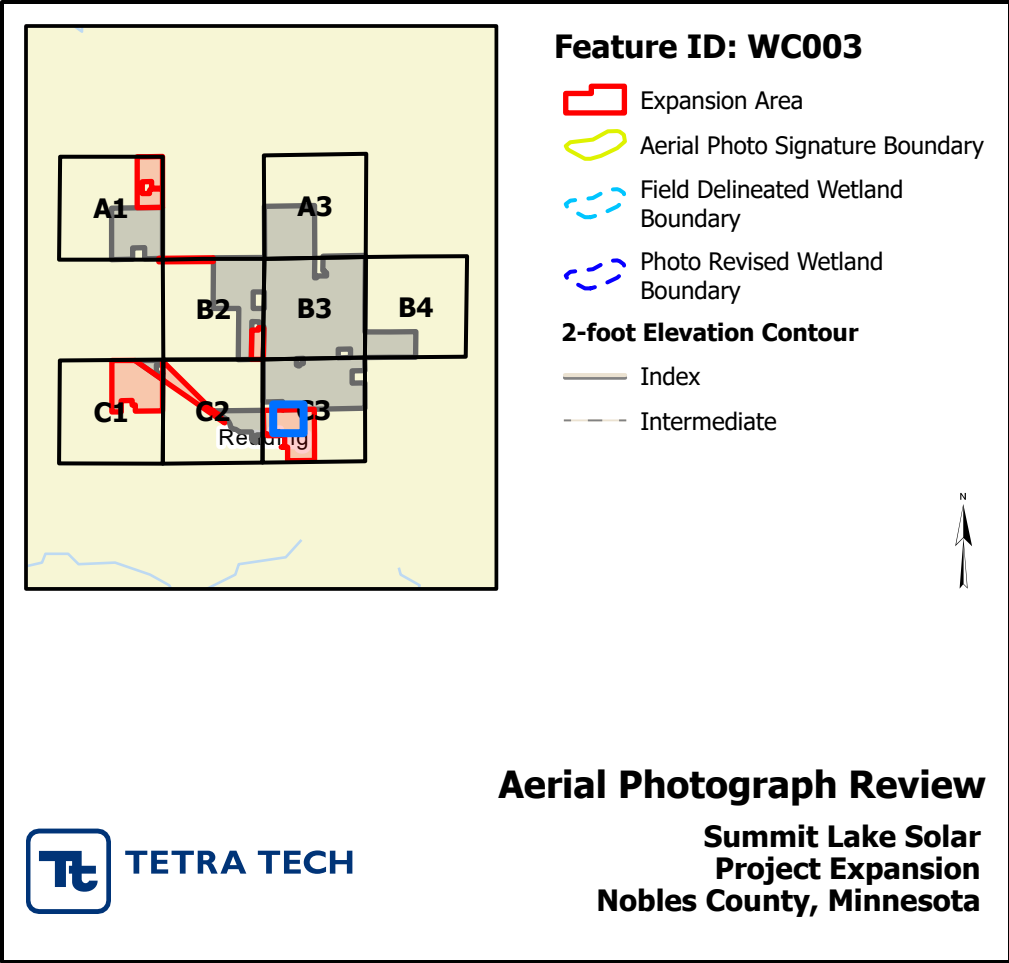
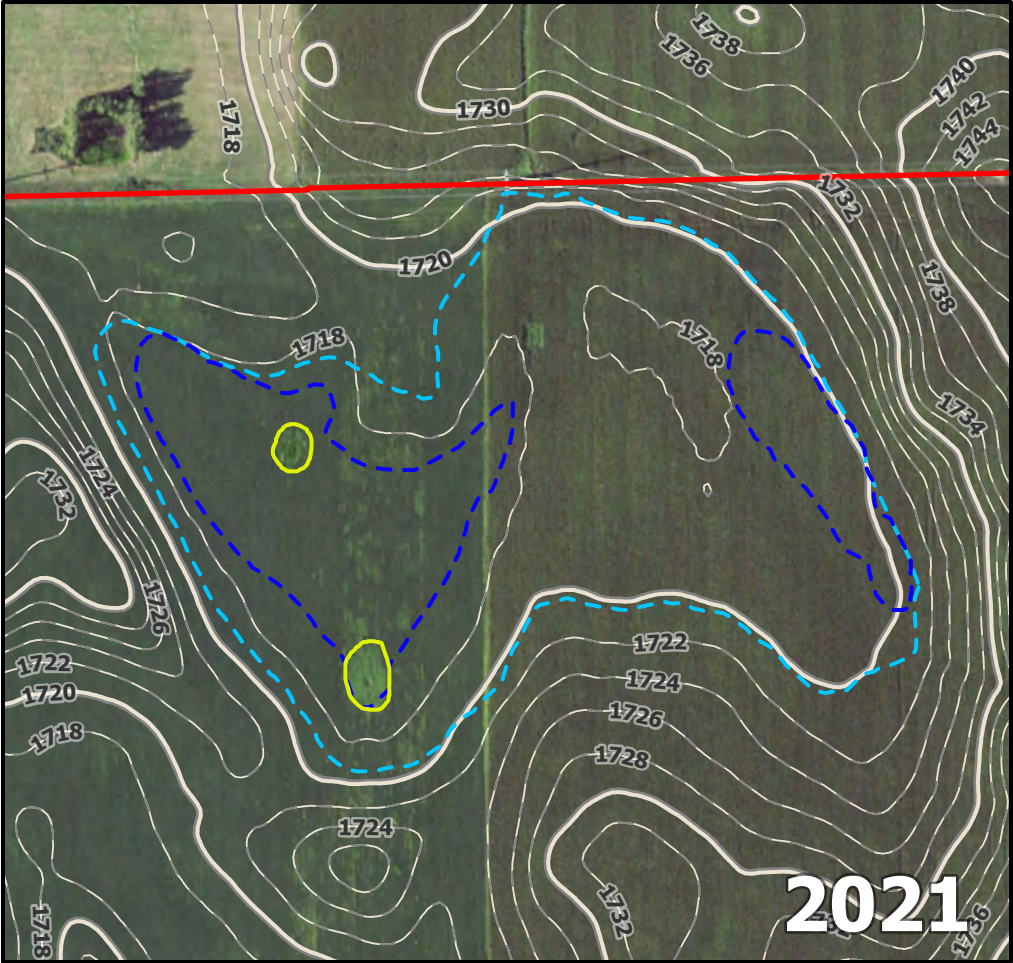
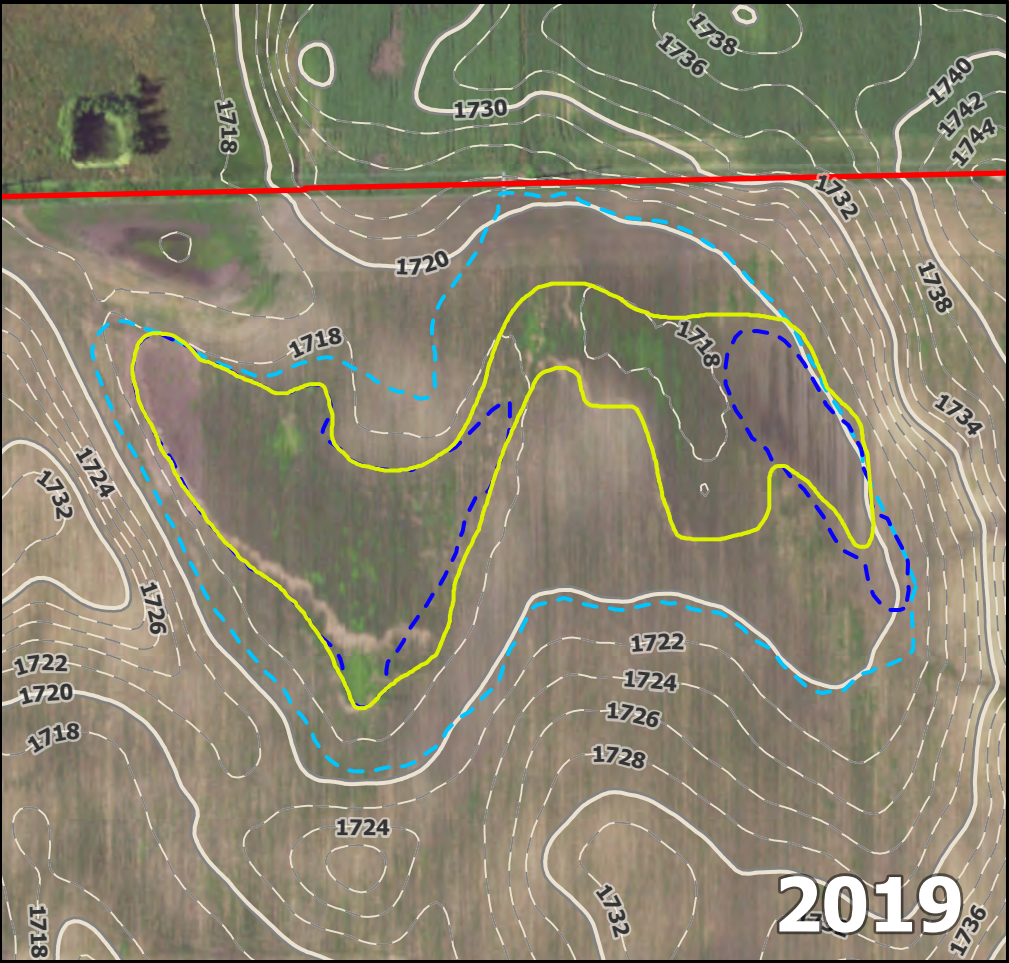
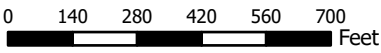
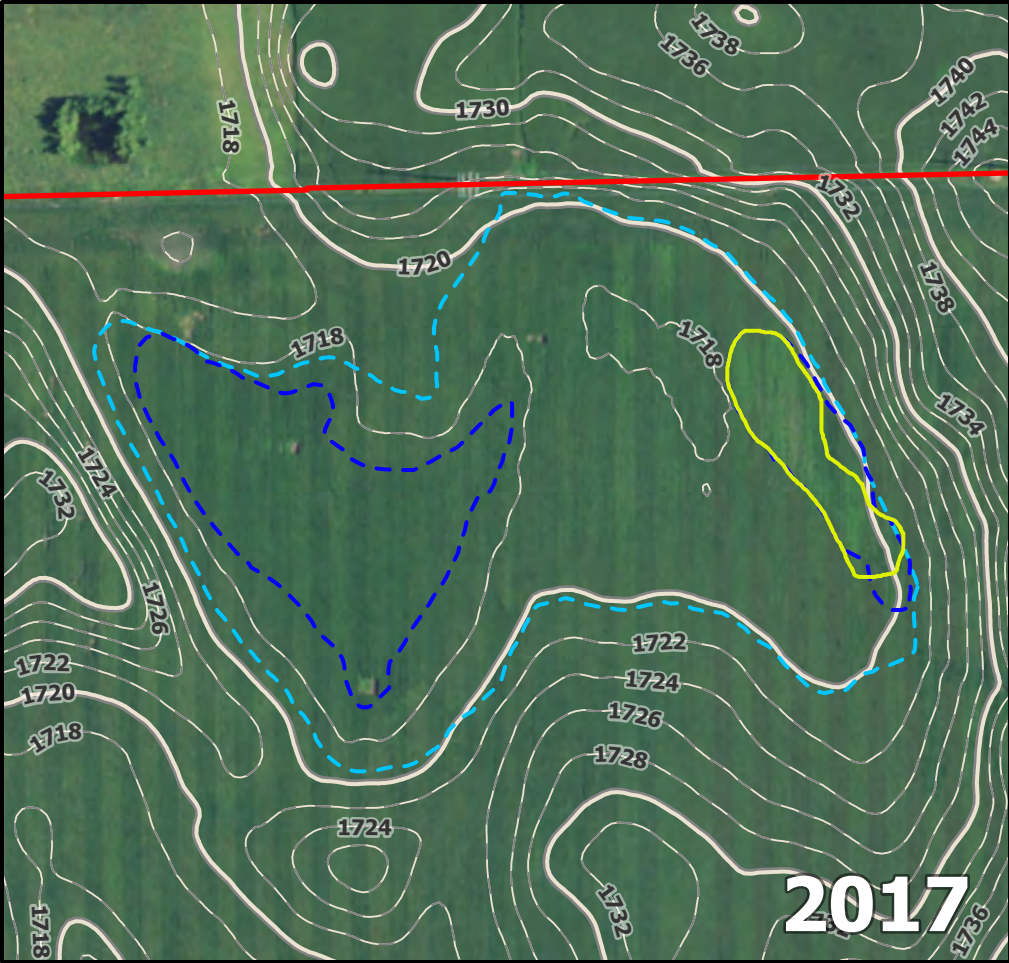
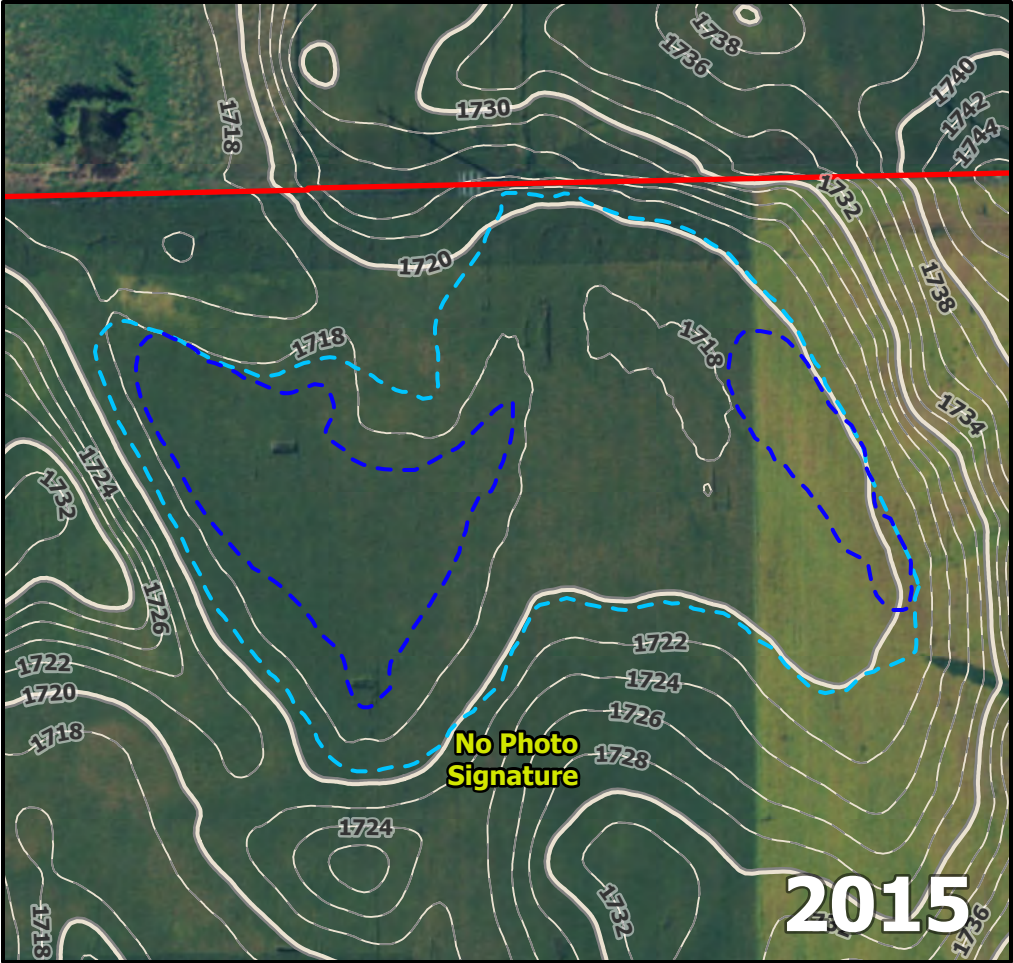
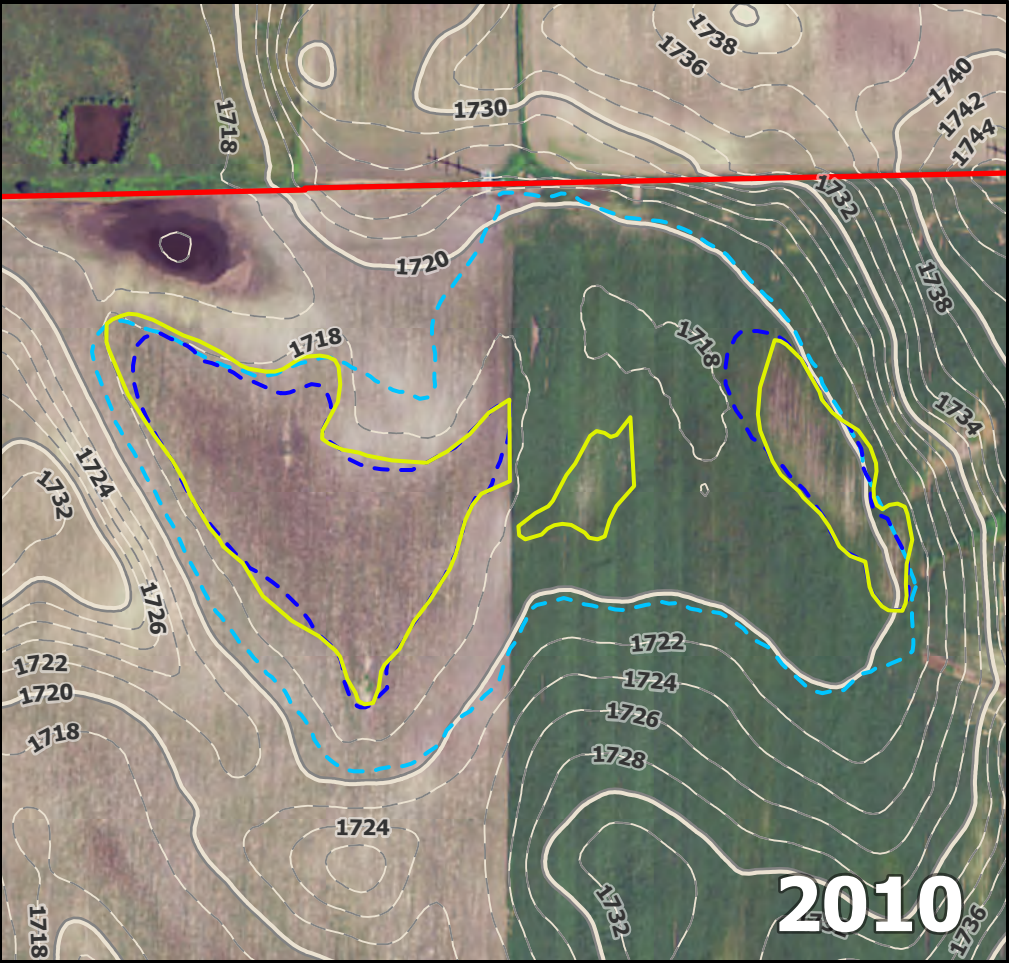
Direction: East	Photo ID: delin_photo-20240730-164252.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC003



Overview of wetland WC003.

Direction: West	Photo ID: f_photo-20240730-164514.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC003

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:5,000



Expansion Area

Wetland Survey

- Wetland Sample Plot
- Photo Revised Wetland WC003
- Field Delineated Wetland Boundary
- Other Delineated Wetland

2-foot Elevation Contour

- Index
- Intermediate

0 110 220 330 440 Feet

Wetland ID
WC003

Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota

Wetland ID

WC004

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC004A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.70597 Long: -95.70503 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No
 Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC004</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>5</u> (B) Prevalence Index = B/A = <u>1</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Amaranthus tuberculatus</i>		<u>5</u>	<u>Y</u>	<u>OBL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>5</u> =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 95%

SOIL

Sampling Point: WC004A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☒ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? Yes

Remarks:

A12 assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | | |
|---|--|
| ☐ Surface Water (A1) | ☐ Aquatic Fauna (B13) |
| ☐ High Water Table (A2) | ☐ True Aquatic Plants (B14) |
| ☐ Saturation (A3) | ☐ Hydrogen Sulfide Odor (C1) |
| ☐ Water Marks (B1) | ☐ Oxidized Rhizospheres on Living |
| ☒ Sediment Deposits (B2) | ☐ Roots (C3) |
| ☒ Drift Deposits (B3) | ☐ Presence of Reduced Iron (C4) |
| ☐ Algal Mat or Crust (B4) | ☐ Recent Iron Reduction in Tilled Soils |
| ☐ Iron Deposits (B5) | ☐ (C6) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Thin Muck Surface (C7) |
| ☒ Sparsely Vegetated Concave Surface (B8) | ☐ Gauge or Well Data (D9) |
| ☐ Water-Stained Leaves (B9) | ☐ Other (Explain in Remarks) |

Secondary Indicators (minimum of two required)

- | |
|---|
| ☐ Surface Soil Cracks (B6) |
| ☐ Drainage Patterns (B10) |
| ☐ Dry-Season Water Table (C2) |
| ☐ Crayfish Burrows (C8) |
| ☒ Saturation Visible on Aerial Imagery (C9) |
| ☐ Stunted or Stressed Plants (D1) |
| ☒ Geomorphic Position (D2) |
| ☒ FAC-Neutral Test (D5) |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC004B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.24 T103N R41W
 Landform (hillslope, terrace, etc.): Hillslope Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 43.7061 Long: -95.70503 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC004</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>50</u> x 5 = <u>250</u> Column totals <u>50</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>5</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1. <i>Glycine max</i>		<u>50</u>	<u>Y</u>	<u>UPL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>50</u> =Total Cover					Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
Hydrophytic Vegetation Present? <u>No</u>					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 50%

SOIL

Sampling Point: WC004B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-4	10YR 2/1	100					Clay	
4-16	10YR 2/1	85	7.5YR 2.5/2	15	C	PL	Clay	Faint
16-30	10YR 2/1	100					Clay	
30-33	10YR 2/1	95	10YR 3/6	5	C	PL	Clay	Distinct or Prominent
33-40	10YR 4/1	80	10YR 3/6	20	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☒ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC004A.

Direction: Southeast

Photo ID: delin_photo-20240730-173056.jpg

Date: 07/30/2024

Project Name: Summit Lake

Feature ID: WC004



Overview of upland sample point WC004B.

Direction: North

Photo ID: delin_photo-20240730-175029.jpg

Date: 07/30/2024

Project Name: Summit Lake

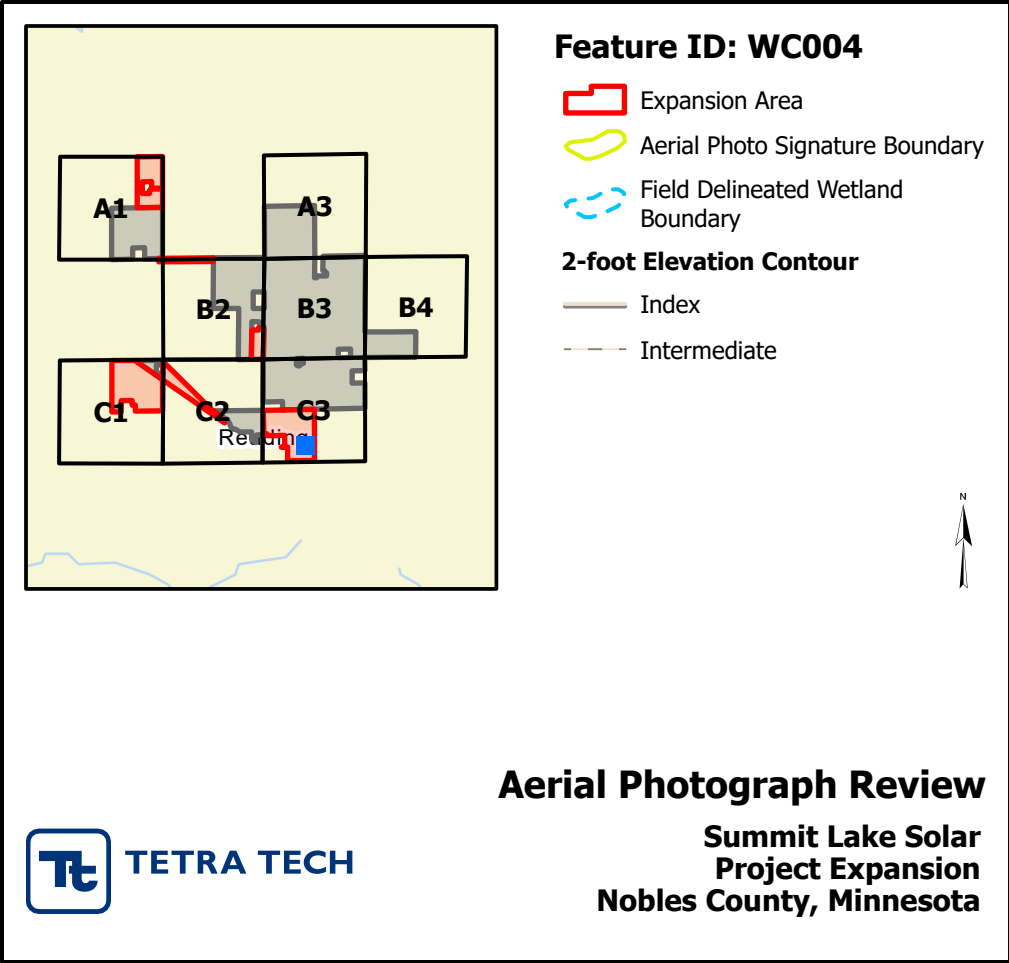
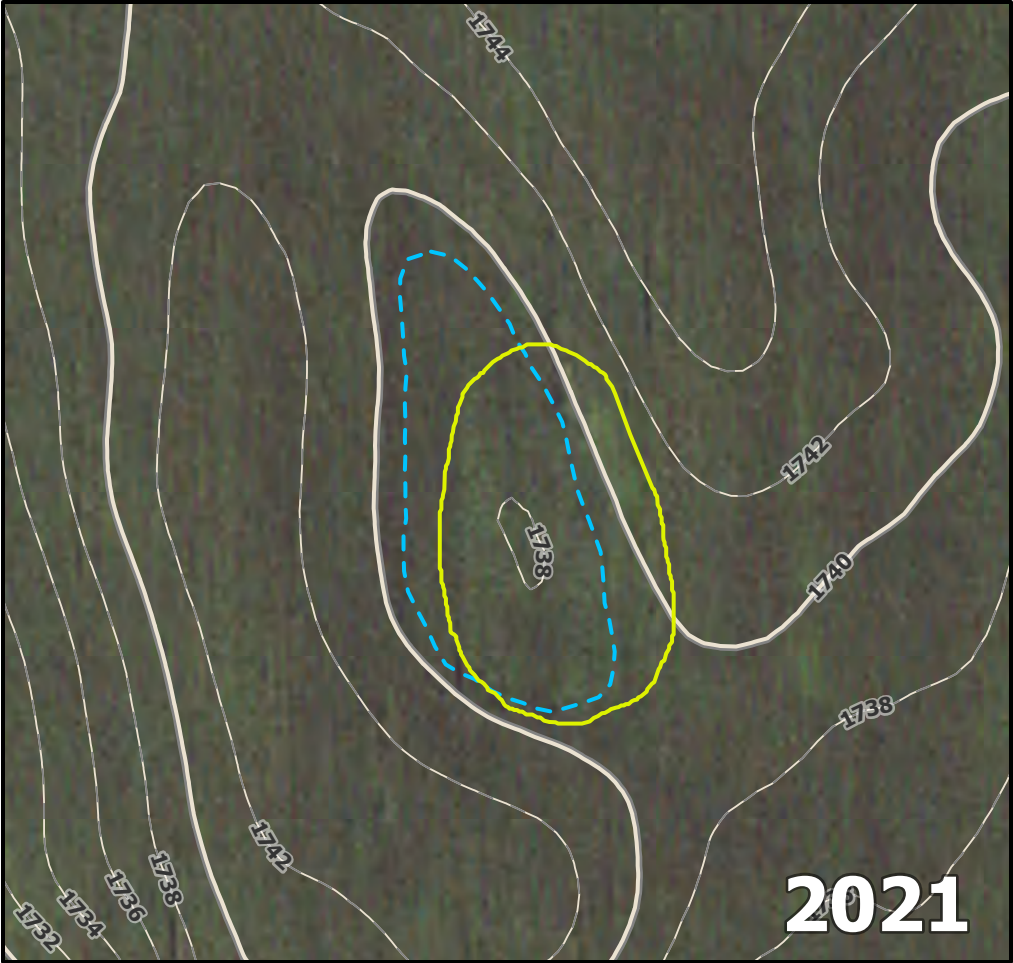
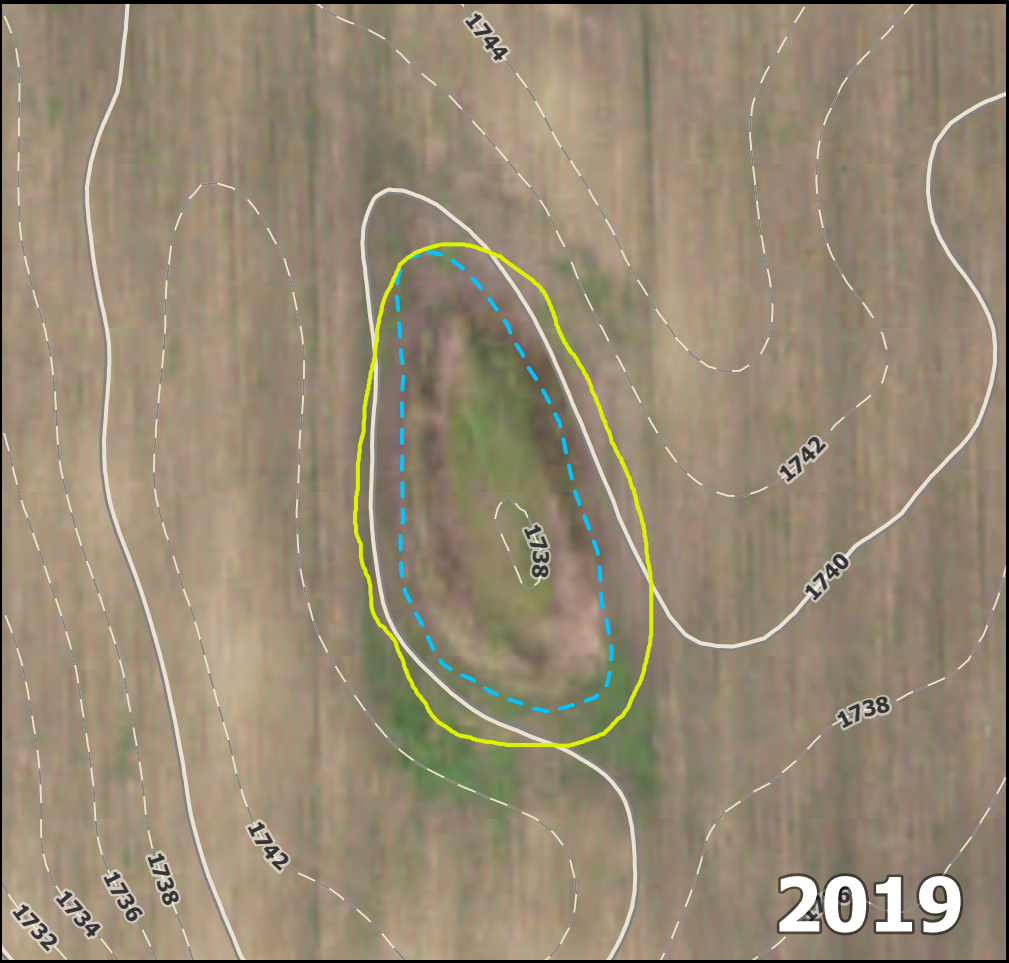
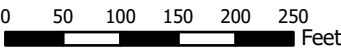
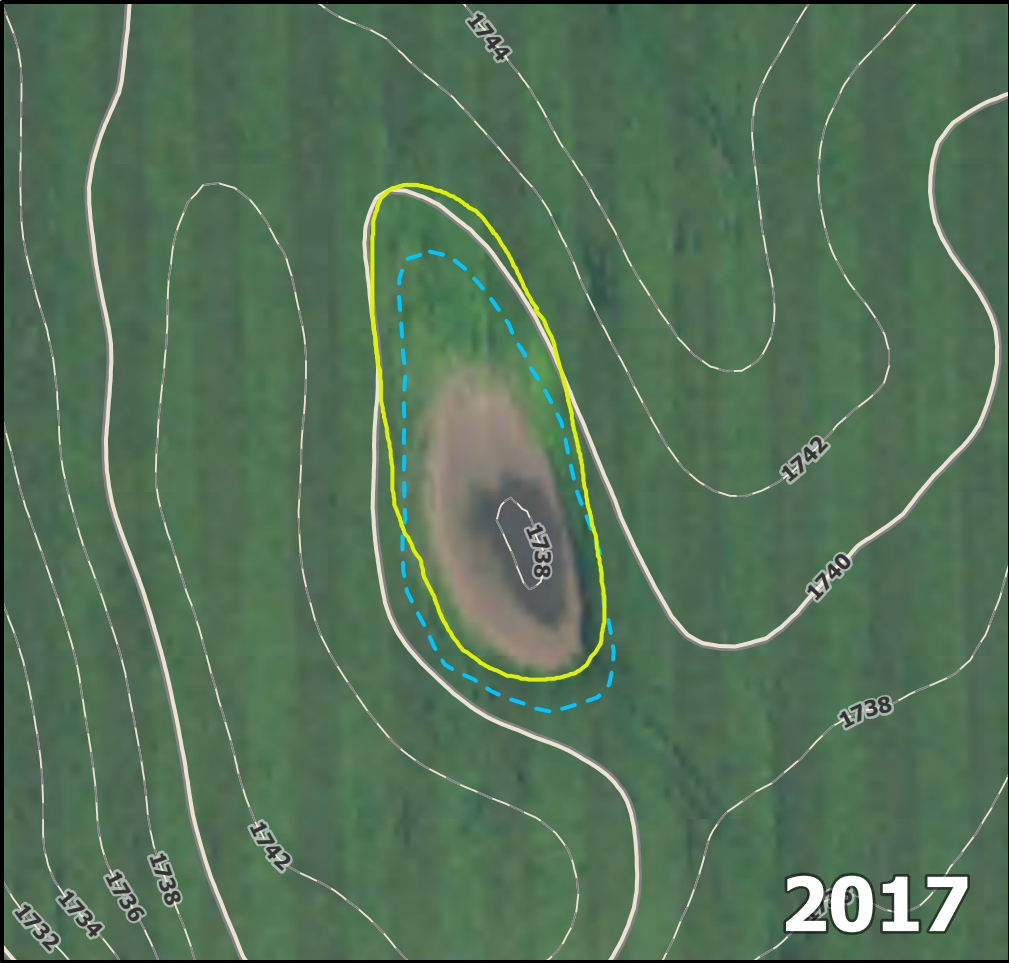
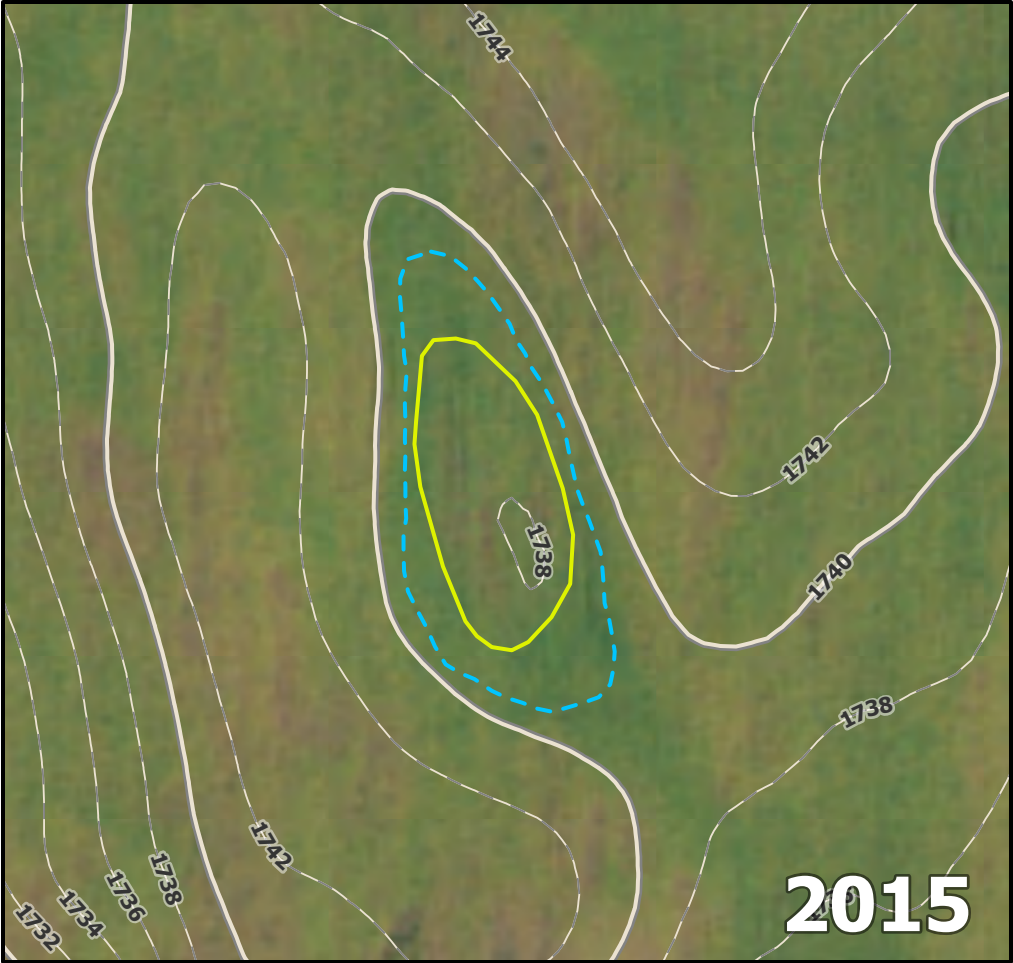
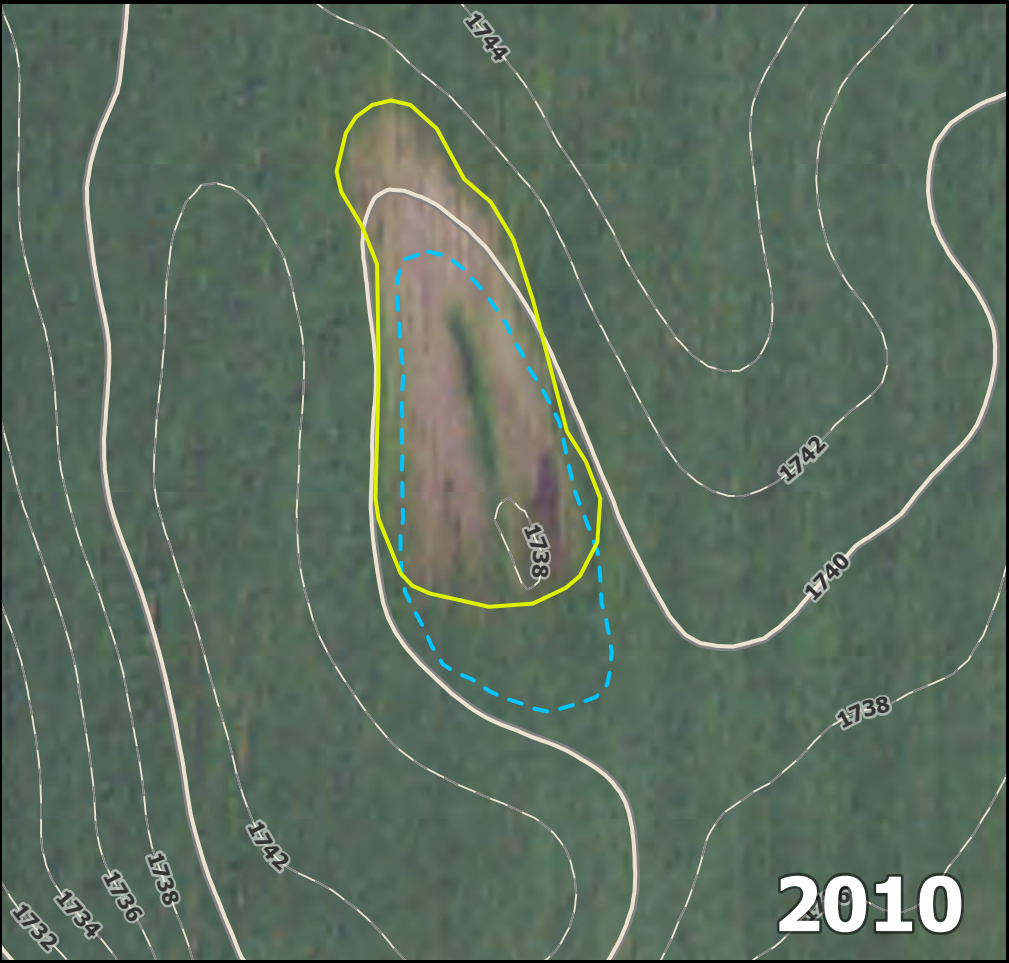
Feature ID: WC004



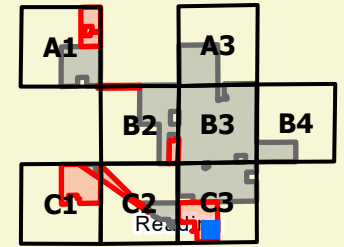
Overview of wetland WC004.

Direction: Southeast	Photo ID: f_photo-20240730-175341.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC004

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

 Delineated Wetland WC004

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC004**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC005

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC005A
Investigator(s): Apryl Jennrich Section, Township, Range: Sec.23 T103N R41W
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 2 Lat: 43.71442 Long: -95.72925 Datum: WGS84
Soil Map Unit Name: Glencoe silty clay loam, 0 to 1 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)

Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC005</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		<u> </u> =Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		<u> </u> =Total Cover		
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <u>Glycine max</u>		<u>40</u>	<u>Y</u>	<u>UPL</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		<u>40</u>	<u> </u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
		<u> </u> =Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>40</u>	x 5 = <u>200</u>
Column totals <u>40</u> (A)	<u>200</u> (B)
Prevalence Index = B/A = <u>5</u>	

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation*

X (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? Yes

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 60%

SOIL

Sampling Point: WC005A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Sandy Clay Loam	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC005B
Investigator(s): Apryl Jennrich Section, Township, Range: Sec.23 T103N R41W
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None
Slope (%): 2 Lat: 43.71453 Long: -95.72945 Datum: WGS84
Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)

Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC005</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		=Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		=Total Cover		
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <u>Glycine max</u>		<u>90</u>	<u>Y</u>	<u>UPL</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		<u>90</u>	=Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
		=Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>90</u>	x 5 = <u>450</u>
Column totals <u>90</u> (A)	<u>450</u> (B)
Prevalence Index = B/A = <u>5</u>	

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 10%

SOIL

Sampling Point: WC005B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-8	10YR 3/2	100					Loamy Sand	
8-16	10YR 2/2	100					Loamy Sand	
16-30	10YR 2/1	100					Sandy Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC005A.

Direction: Southwest

Photo ID: delin_photo-20240730-194703.jpg

Date: 07/30/2024

Project Name: Summit Lake

Feature ID: WC005



Overview of upland sample point WC005B.

Direction: Northwest

Photo ID: delin_photo-20240730-195553.jpg

Date: 07/30/2024

Project Name: Summit Lake

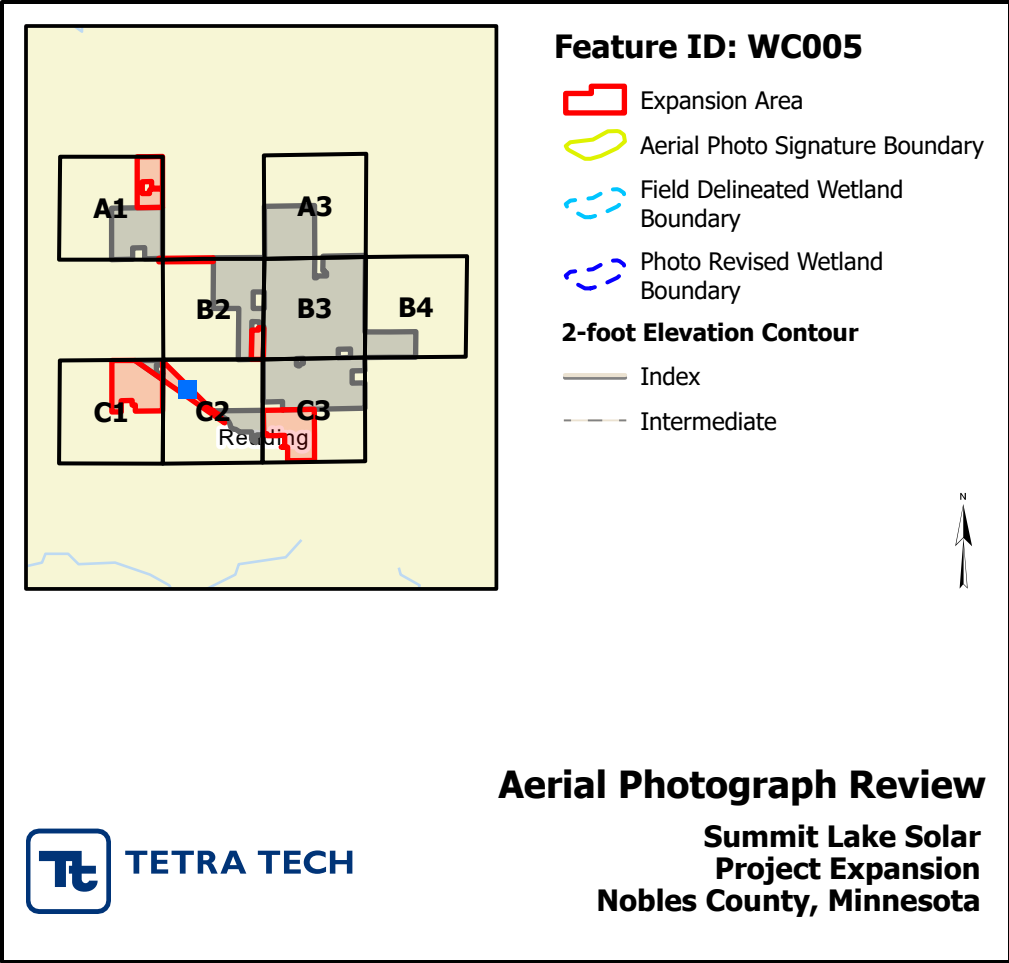
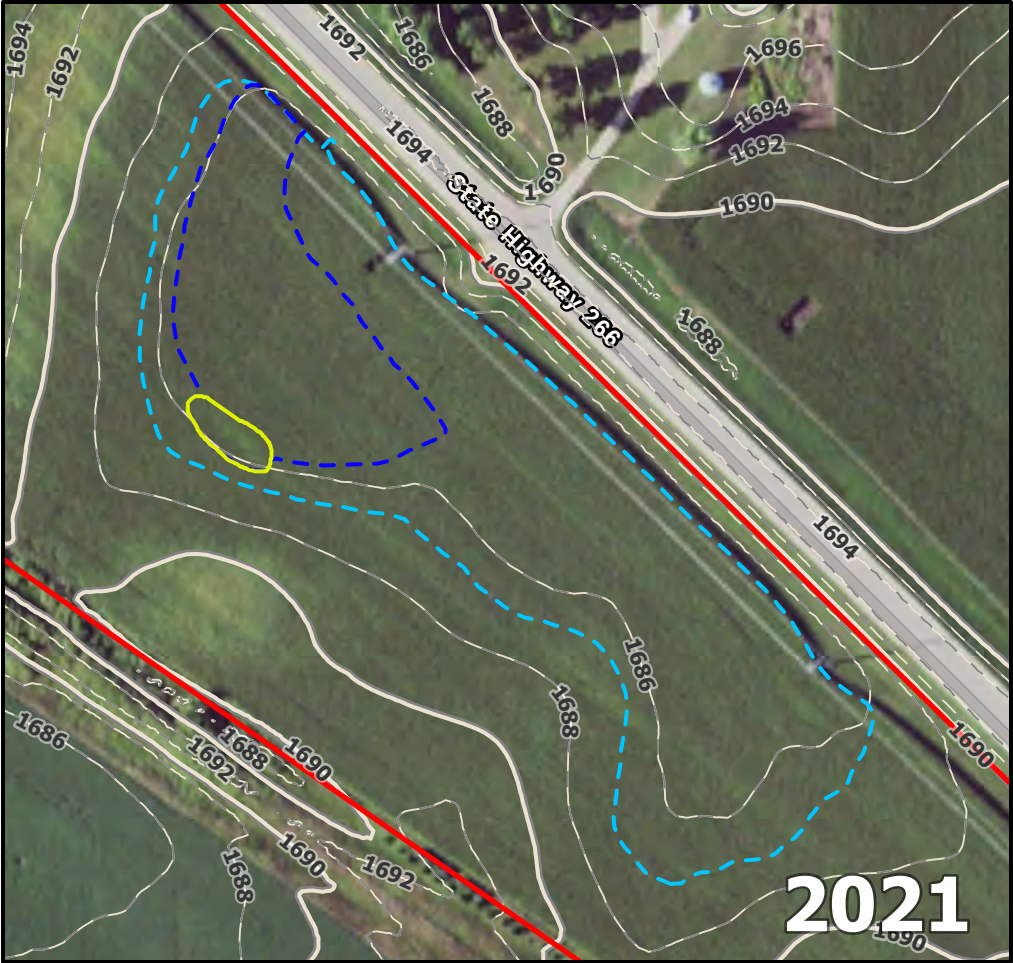
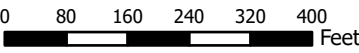
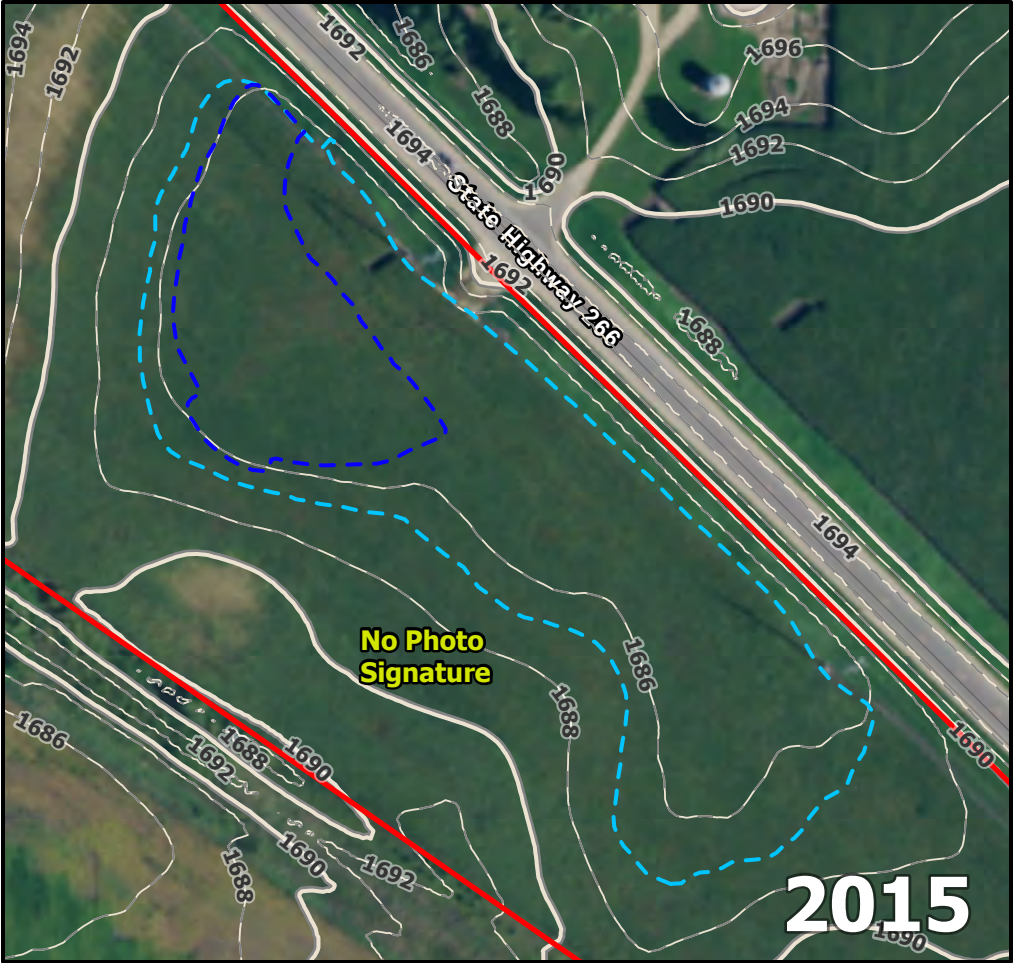
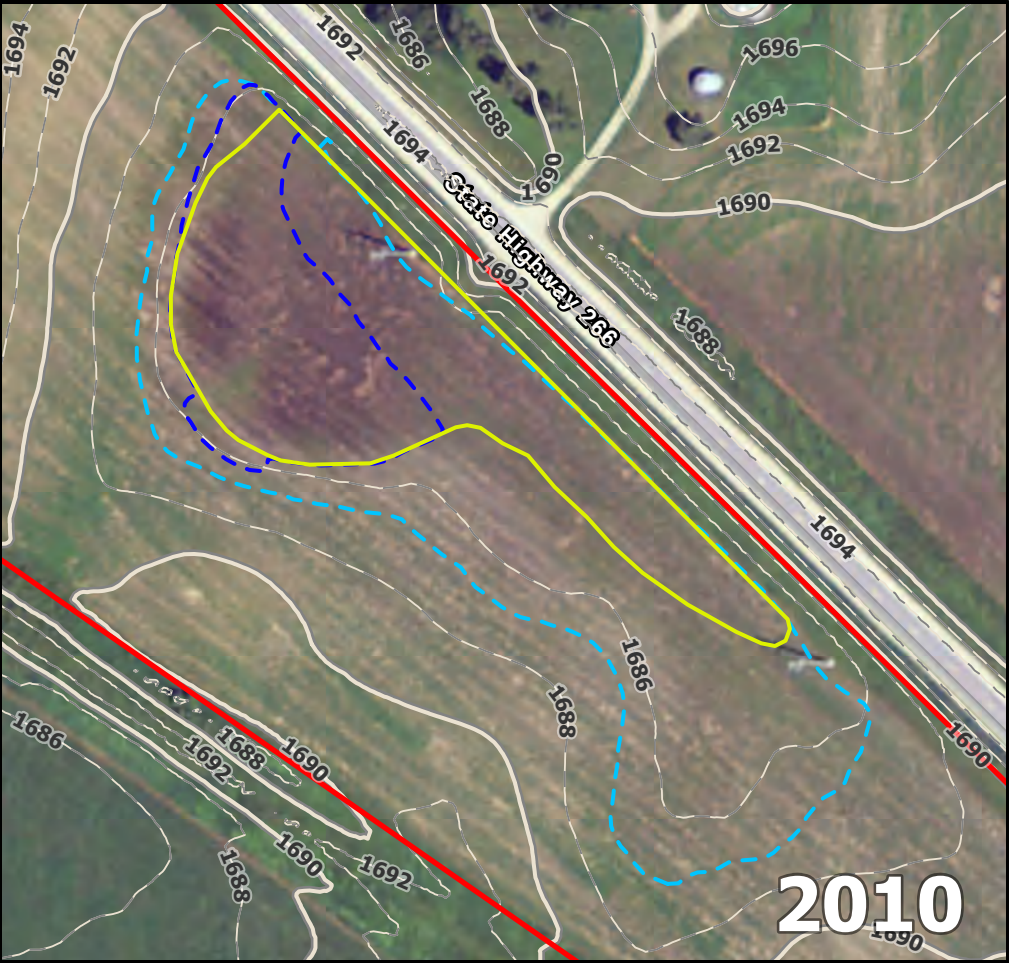
Feature ID: WC005



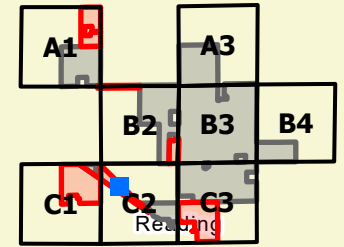
Overview of wetland WC005.

Direction: Southeast	Photo ID: f_photo-20240730-195942.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC005

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:3,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

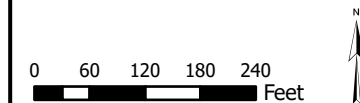
 Photo Revised Wetland WC005

 Field Delineated Wetland Boundary

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC005**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC007

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC007A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.71579 Long: -95.7367 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PUBFx

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC007</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>5</u> x 1 = <u>5</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>5</u> (A) <u>5</u> (B) Prevalence Index = B/A = <u>1</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u>X</u> Rapid test for hydrophytic vegetation <u>X</u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Amaranthus tuberculatus</i>		<u>5</u>	<u>Y</u>	<u>OBL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>5</u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 95%

SOIL

Sampling Point: WC007A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Sandy Clay Loam	
6-15	10YR 2/1	97	2.5Y 6/8	3	C	PL	Sandy Clay Loam	Distinct or Prominent
15-20	10YR 2/1	78	2.5Y 6/8	15	C	PL	Sandy Clay	Distinct or Prominent
			2.5Y 6/1	7	D	M		
20-26	2.5Y 5/3	100					Sandy Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☒ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☒ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13) ☒ Surface Soil Cracks (B6)
☐ True Aquatic Plants (B14) ☐ Drainage Patterns (B10)
☐ Hydrogen Sulfide Odor (C1) ☐ Dry-Season Water Table (C2)
☐ Oxidized Rhizospheres on Living ☐ Crayfish Burrows (C8)
☐ Roots (C3) ☐ Saturation Visible on Aerial Imagery (C9)
☐ Presence of Reduced Iron (C4) ☐ Stunted or Stressed Plants (D1)
☐ Recent Iron Reduction in Tilled Soils ☒ Geomorphic Position (D2)
☒ (C6) ☒ FAC-Neutral Test (D5)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC007B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Shoulder Local relief (concave, convex, none): Convex
 Slope (%): 4 Lat: 43.71568 Long: -95.7367 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PUBFx

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC007</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
				<u> </u> =Total Cover	Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>50</u> x 5 = <u>250</u> Column totals <u>50</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>5</u>
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1. _____					
2. _____					
3. _____					
4. _____					
5. _____					
				<u> </u> =Total Cover	
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: _____ Rapid test for hydrophytic vegetation _____ Dominance test is >50% _____ Prevalence index is ≤3.0* _____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) _____ Problematic hydrophytic vegetation* _____ (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <u>Glycine max</u>		<u>50</u>	<u>Y</u>	<u>UPL</u>	
2. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
				<u>50</u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1. _____					
2. _____					
				<u> </u> =Total Cover	

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 50%

SOIL

Sampling Point: WC007B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-6	10YR 2/1	100					Sandy Clay Loam	
6-24	2.5Y 4/4	100					Sandy Clay Trace Gravel	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histosol (A1) | ☐ Sandy Gleyed Matrix (S4) |
| ☐ Histic Epipedon (A2) | ☐ Sandy Redox (S5) |
| ☐ Black Histic (A3) | ☐ Stripped Matrix (S6) |
| ☐ Hydrogen Sulfide (A4) | ☐ Loamy Mucky Mineral (F1) |
| ☐ Stratified Layers (A5) | ☐ Loamy Gleyed Matrix (F2) |
| ☐ 2 cm Muck (A10) | ☐ Depleted Matrix (F3) |
| ☐ Depleted Below Dark Surface (A11) | ☐ Redox Dark Surface (F6) |
| ☐ Thick Dark Surface (A12) | ☐ Depleted Dark Surface (F7) |
| ☐ Sandy Mucky Mineral (S1) | ☐ Redox Depressions (F8) |
| ☐ 5 cm Mucky Peat or Peat (S3) | |

Indicators for Problematic Hydric Soils*:

- | |
|--|
| ☐ Coast Prairie Redox (A16) (LRR K, L, R) |
| ☐ Dark Surface (S7) (LRR K, L) |
| ☐ Iron-Manganese Masses (F12) (LRR K, L, R) |
| ☐ Very Shallow Dark Surface (TF12) |
| ☐ Other (explain in remarks) |

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):
 Type: _____
 Depth (inches): _____
Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- | |
|--|
| ☐ Surface Water (A1) |
| ☐ High Water Table (A2) |
| ☐ Saturation (A3) |
| ☐ Water Marks (B1) |
| ☐ Sediment Deposits (B2) |
| ☐ Drift Deposits (B3) |
| ☐ Algal Mat or Crust (B4) |
| ☐ Iron Deposits (B5) |
| ☐ Inundation Visible on Aerial Imagery (B7) |
| ☐ Sparsely Vegetated Concave Surface (B8) |
| ☐ Water-Stained Leaves (B9) |

Secondary Indicators (minimum of two required)

- | | |
|--|--|
| ☐ Aquatic Fauna (B13) | ☐ Surface Soil Cracks (B6) |
| ☐ True Aquatic Plants (B14) | ☐ Drainage Patterns (B10) |
| ☐ Hydrogen Sulfide Odor (C1) | ☐ Dry-Season Water Table (C2) |
| ☐ Oxidized Rhizospheres on Living | ☐ Crayfish Burrows (C8) |
| ☐ Roots (C3) | ☐ Saturation Visible on Aerial Imagery (C9) |
| ☐ Presence of Reduced Iron (C4) | ☐ Stunted or Stressed Plants (D1) |
| ☐ Recent Iron Reduction in Tilled Soils | ☐ Geomorphic Position (D2) |
| ☐ (C6) | ☐ FAC-Neutral Test (D5) |
| ☐ Thin Muck Surface (C7) | |
| ☐ Gauge or Well Data (D9) | |
| ☐ Other (Explain in Remarks) | |

Field Observations:

Surface Water Present?	Yes ☐	No ☒	Depth (inches): _____
Water Table Present?	Yes ☐	No ☒	Depth (inches): _____
Saturation Present?	Yes ☐	No ☒	Depth (inches): _____

 (includes capillary fringe)
Wetland Hydrology Present?No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC007A.

Direction: North

Photo ID: delin_photo-20240731-161622.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC007



Overview of upland sample point WC007B.

Direction: South

Photo ID: delin_photo-20240731-162247.jpg

Date: 07/31/2024

Project Name: Summit Lake

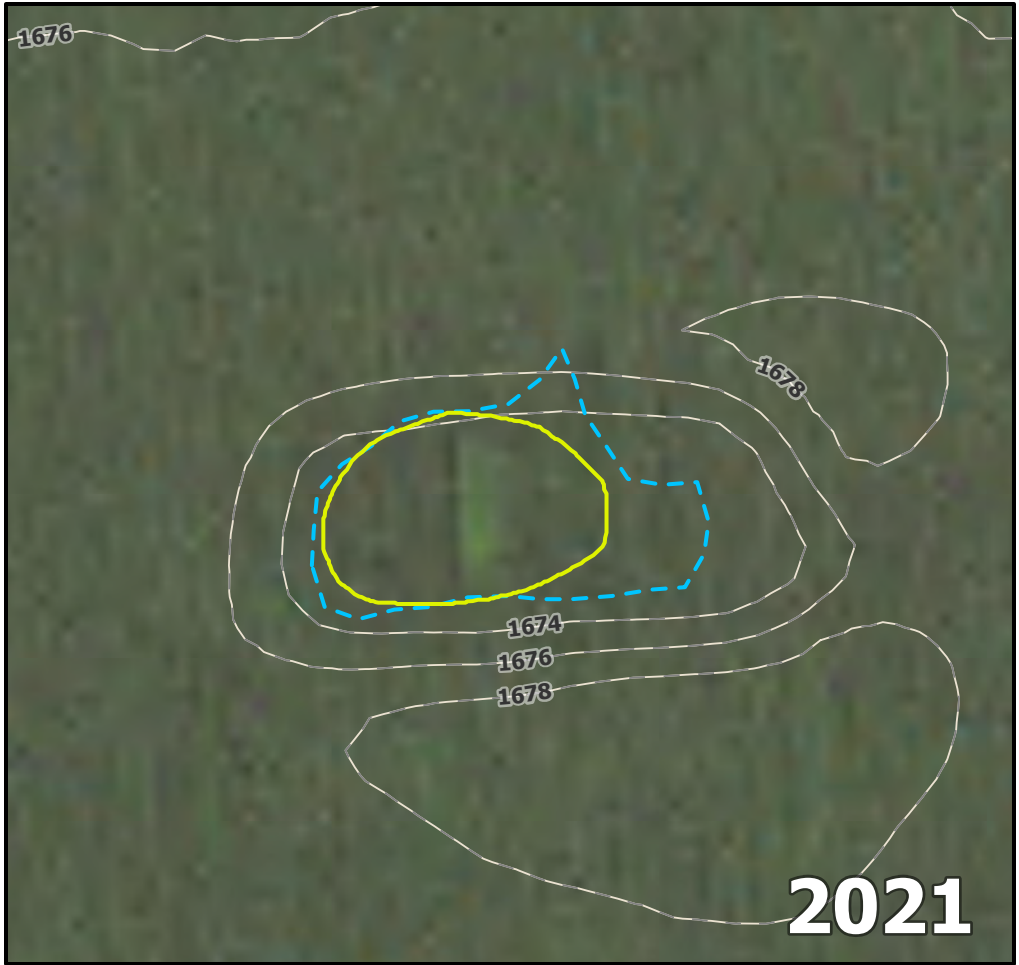
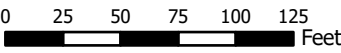
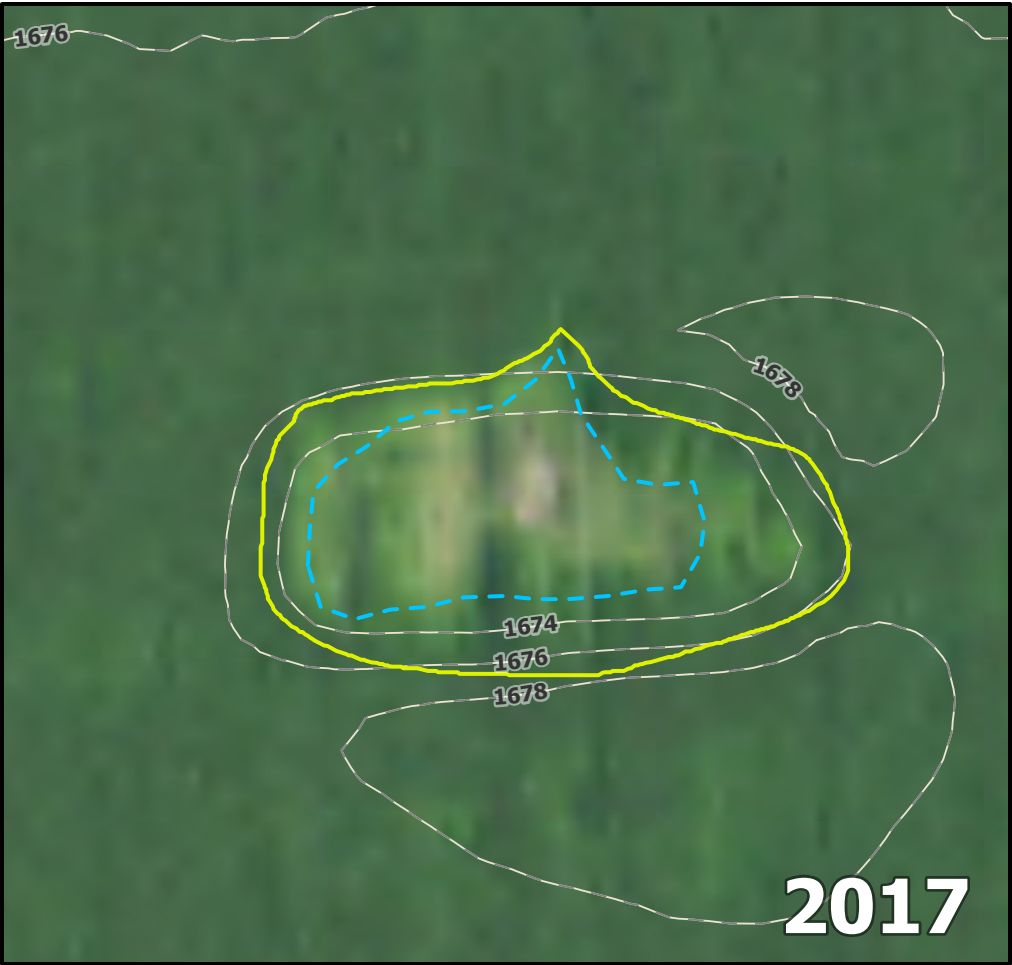
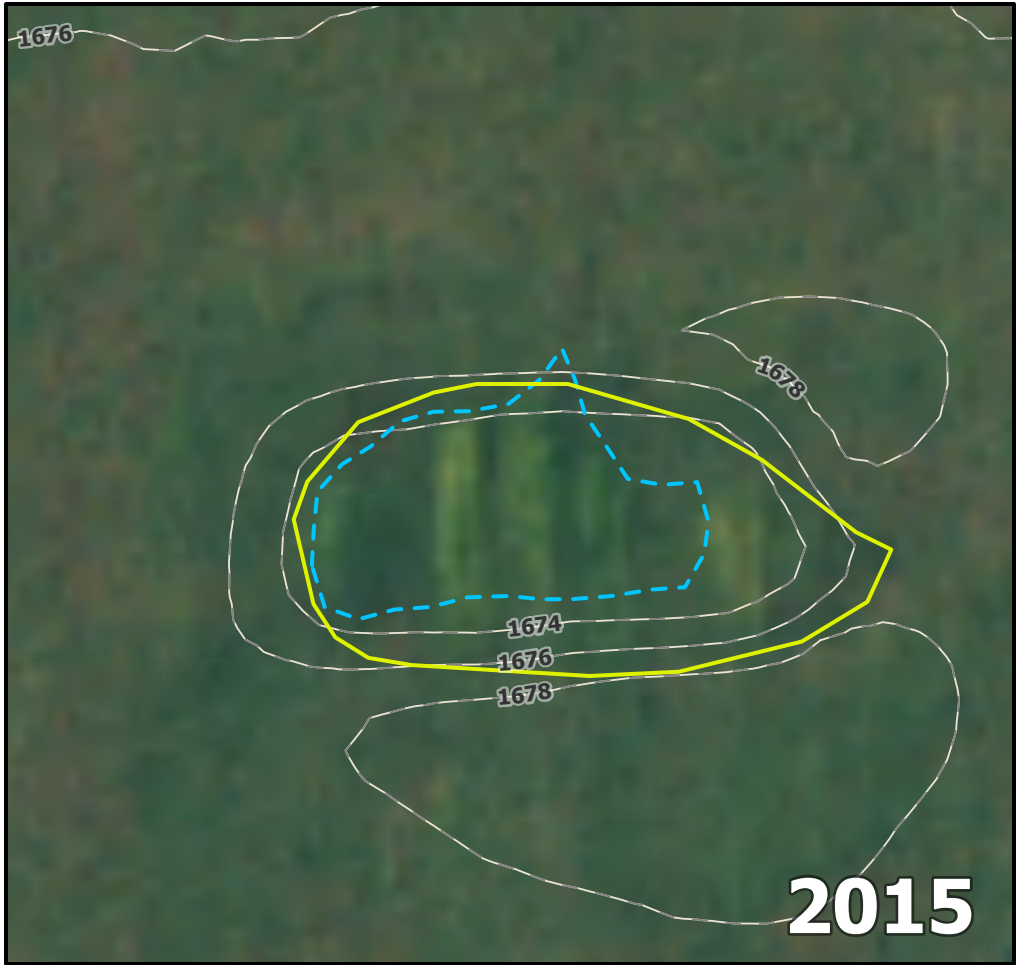
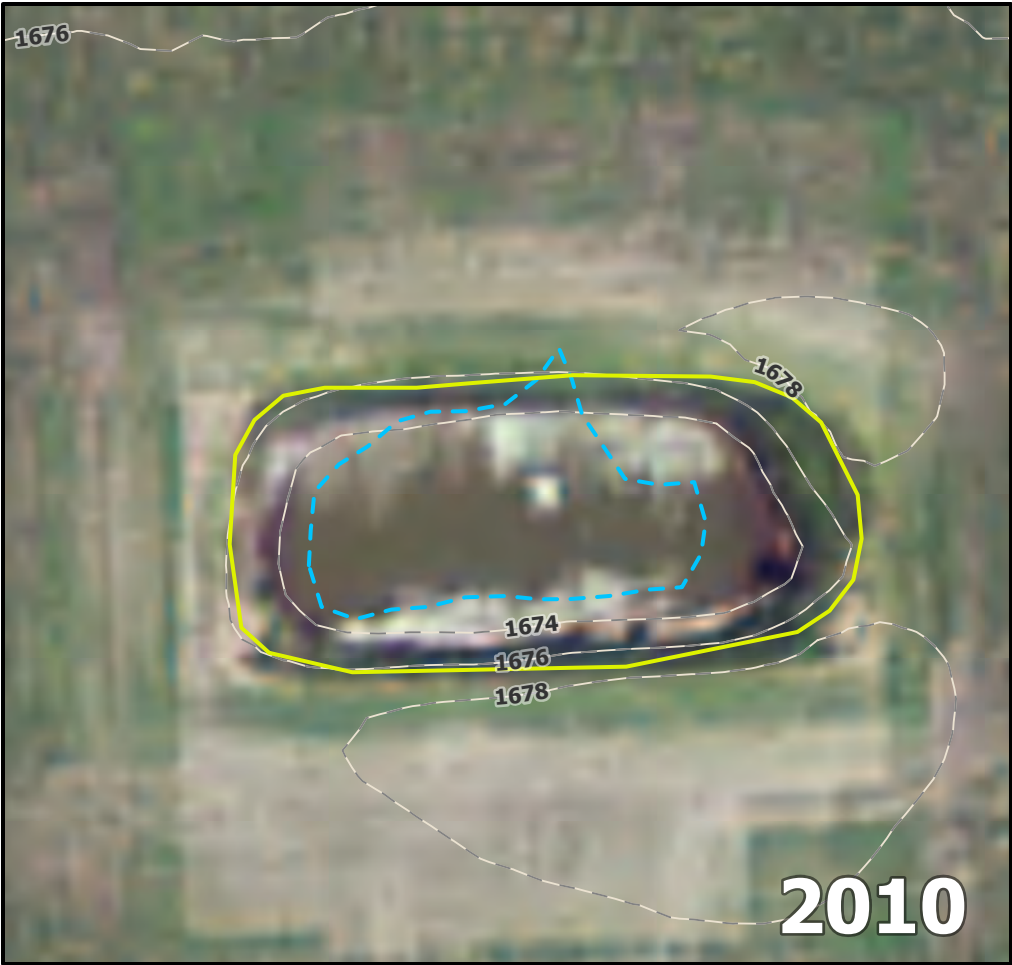
Feature ID: WC007



Overview of wetland WC007.

Direction: East	Photo ID: f_photo-20240731-162527.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: WC007

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Feature ID: WC007

- Expansion Area
- Aerial Photo Signature Boundary
- Field Delineated Wetland Boundary

2-foot Elevation Contour

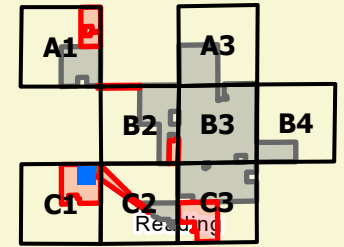
- Index
- Intermediate

Aerial Photograph Review

**Summit Lake Solar
Project Expansion
Nobles County, Minnesota**

TETRA TECH

Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,000



 Expansion Area

Wetland Survey

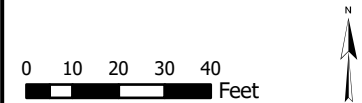
 Wetland Sample Plot

 Delineated Wetland WC007

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC007**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC008

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC008A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.74578 Long: -95.73746 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC008</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
3.				
4.				
5.				
		<u> </u> =Total Cover		
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <u>Cyperus esculentus</u>		<u>60</u>	<u>Y</u>	<u>FACW</u>
2. <u>Glycine max</u>		<u>2</u>	<u>N</u>	<u>UPL</u>
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
		<u>62</u>	<u> </u> =Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1.				
2.				
		<u> </u> =Total Cover		

Dominance Test Worksheet
 Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species that are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>60</u>	x 2 = <u>120</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>2</u>	x 5 = <u>10</u>
Column totals <u>62</u> (A)	<u>130</u> (B)
Prevalence Index = B/A = <u>2.1</u>	

Hydrophytic Vegetation Indicators:
X Rapid test for hydrophytic vegetation
X Dominance test is >50%
 Prevalence index is ≤3.0*
 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 Problematic hydrophytic vegetation*
 (explain)

Hydrophytic Vegetation Present? Yes

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 30%

SOIL

Sampling Point: WC008A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-19	10YR 2/1	100					Clay	
19-21	10YR 3/1	100					Clay	
21-28	10YR 5/1	98	10YR 4/6	2	C	PL	Clay	Distinct or Prominent
28-30	2.5Y 6/2	95	10YR 4/6	5	C	PL	Clay Trace Gravel	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC008B
Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None
Slope (%): 3 Lat: 43.74587 Long: -95.73746 Datum: WGS84
Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)

Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC008</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u> (Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>10</u> x 2 = <u>20</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>40</u> x 5 = <u>200</u> Column totals <u>50</u> (A) <u>220</u> (B) Prevalence Index = B/A = <u>4.4</u>
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				Hydrophytic Vegetation Indicators: ____ Rapid test for hydrophytic vegetation ____ Dominance test is >50% ____ Prevalence index is ≤3.0* ____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) ____ Problematic hydrophytic vegetation* ____ (explain)
<u>Herb Stratum</u> (Plot size: <u>5</u>)				
1. <u>Glycine max</u>	<u>40</u>	<u>Y</u>	<u>UPL</u>	
2. <u>Cyperus esculentus</u>	<u>10</u>	<u>Y</u>	<u>FACW</u>	
3. _____				
4. _____				Hydrophytic Vegetation Present? <u>No</u>
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				Hydrophytic Vegetation Present? <u>No</u>
10. _____				
_____ =Total Cover				
50 _____ =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>15</u>)				
1. _____				
2. _____				
_____ =Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 50%

SOIL

Sampling Point: WC008B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-20	10YR 2/1	100					Clay Loam	
20-30	2.5Y 4/2	100					Clay Trace Gravel	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☒ Aquatic Fauna (B13) ☒ Surface Soil Cracks (B6)
☐ True Aquatic Plants (B14) ☐ Drainage Patterns (B10)
☐ Hydrogen Sulfide Odor (C1) ☐ Dry-Season Water Table (C2)
☐ Oxidized Rhizospheres on Living ☐ Crayfish Burrows (C8)
☐ Roots (C3) ☐ Saturation Visible on Aerial Imagery (C9)
☐ Presence of Reduced Iron (C4) ☐ Stunted or Stressed Plants (D1)
☐ Recent Iron Reduction in Tilled Soils ☐ Geomorphic Position (D2)
☐ (C6) ☐ FAC-Neutral Test (D5)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC008A.

Direction: Southwest

Photo ID: delin_photo-20240730-213128.jpg

Date: 07/30/2024

Project Name: Summit Lake

Feature ID: WC008



Overview of upland sample point WC008B.

Direction: North

Photo ID: delin_photo-20240730-213806.jpg

Date: 07/30/2024

Project Name: Summit Lake

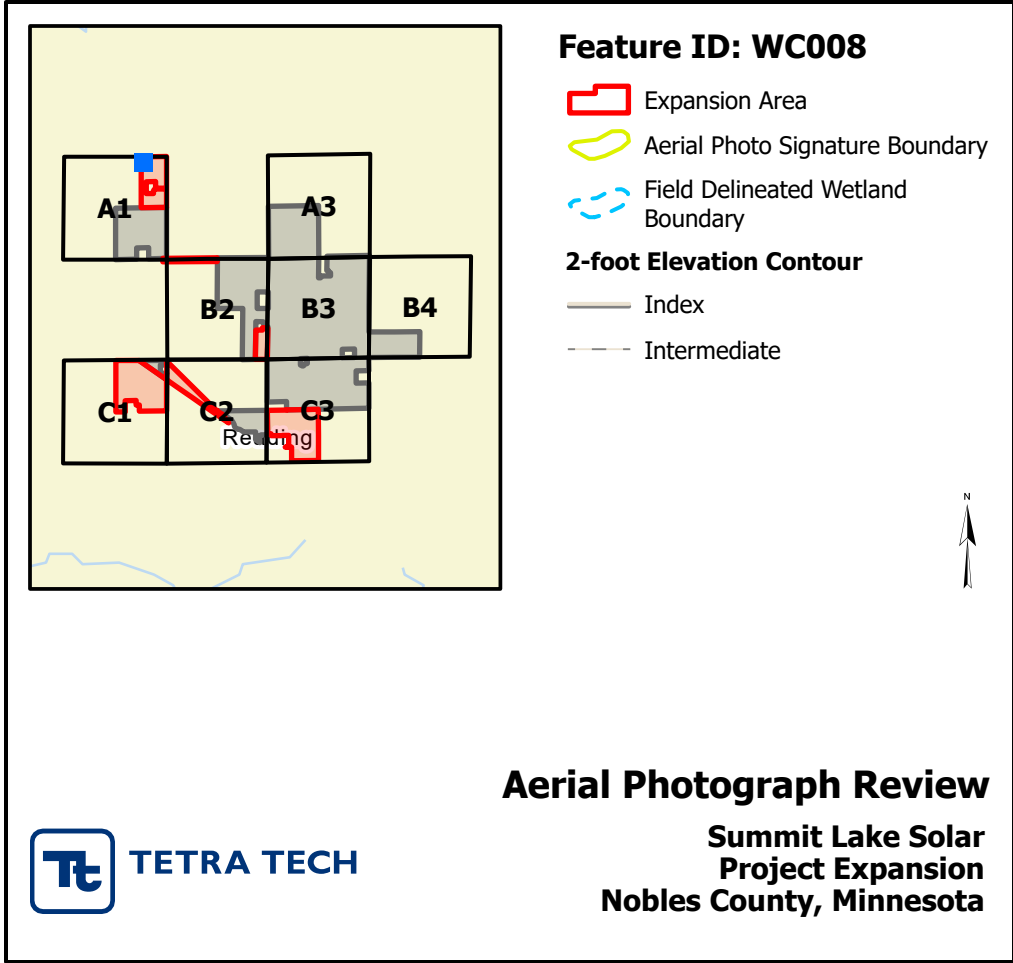
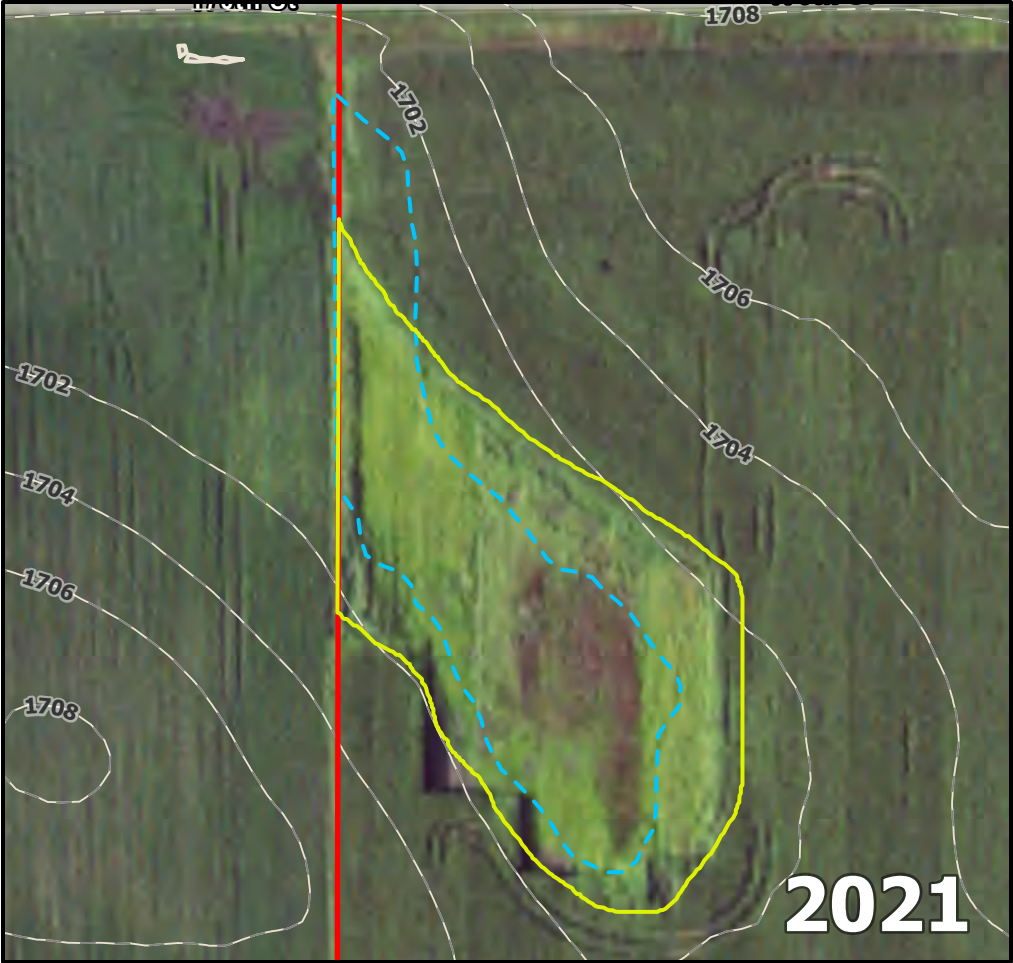
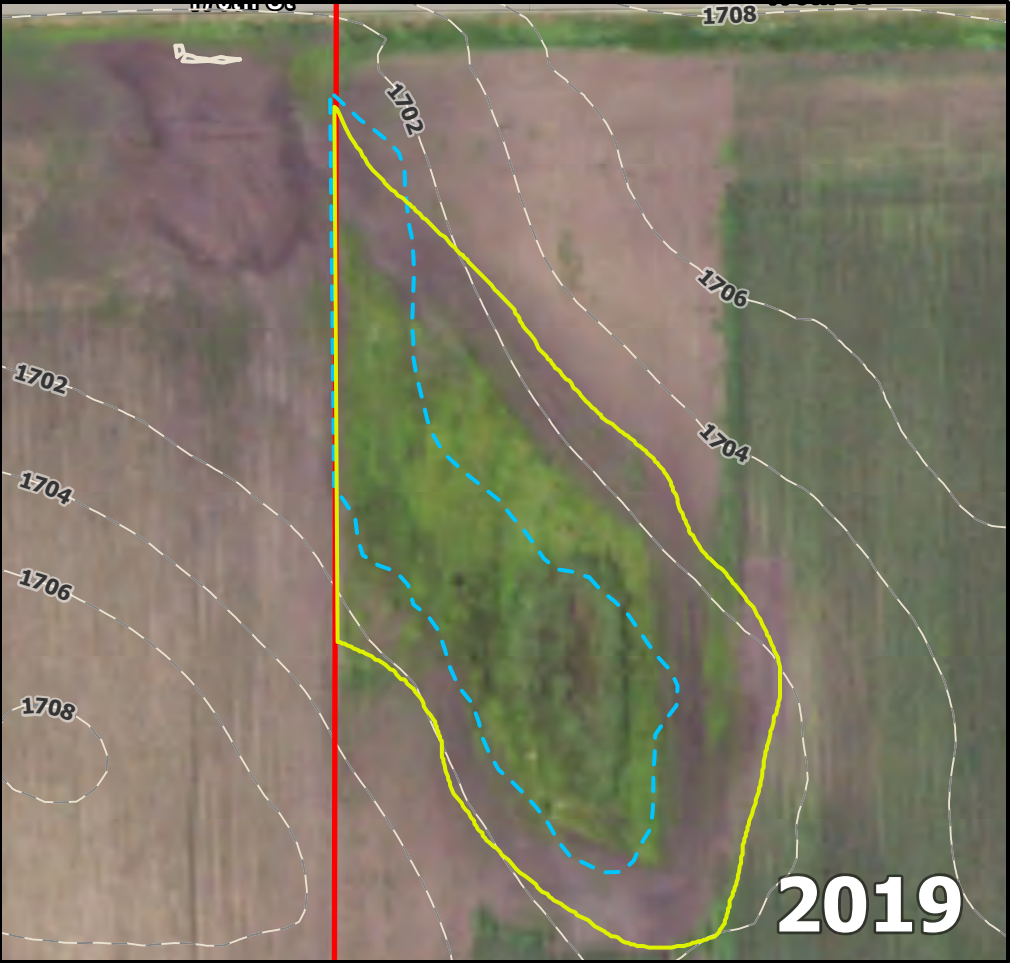
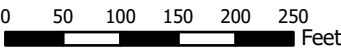
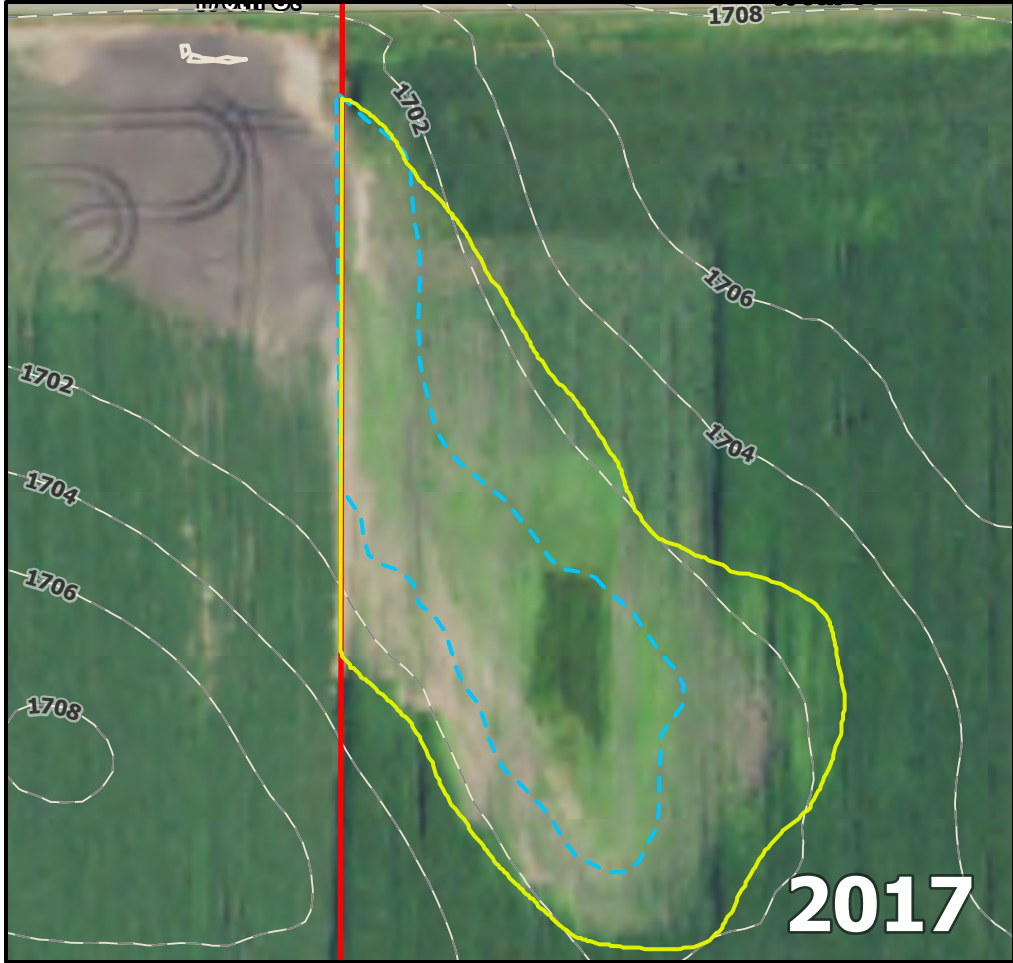
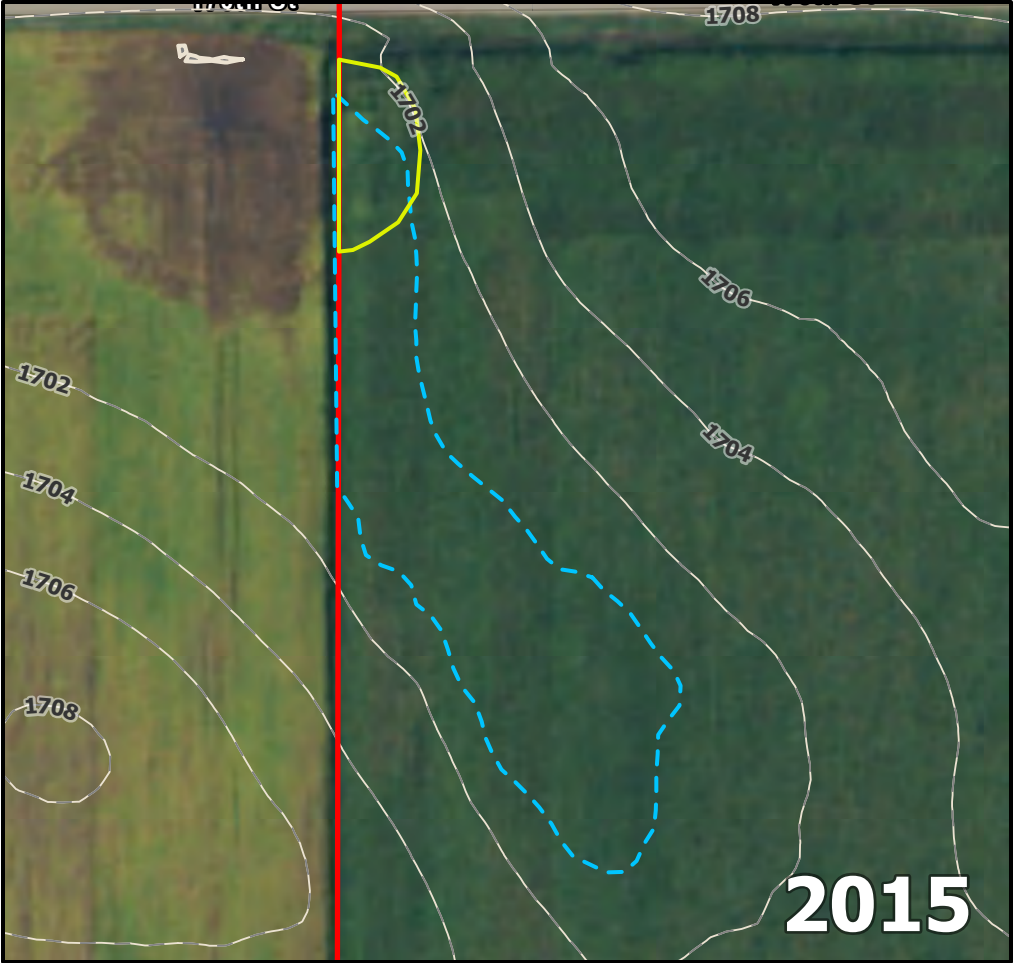
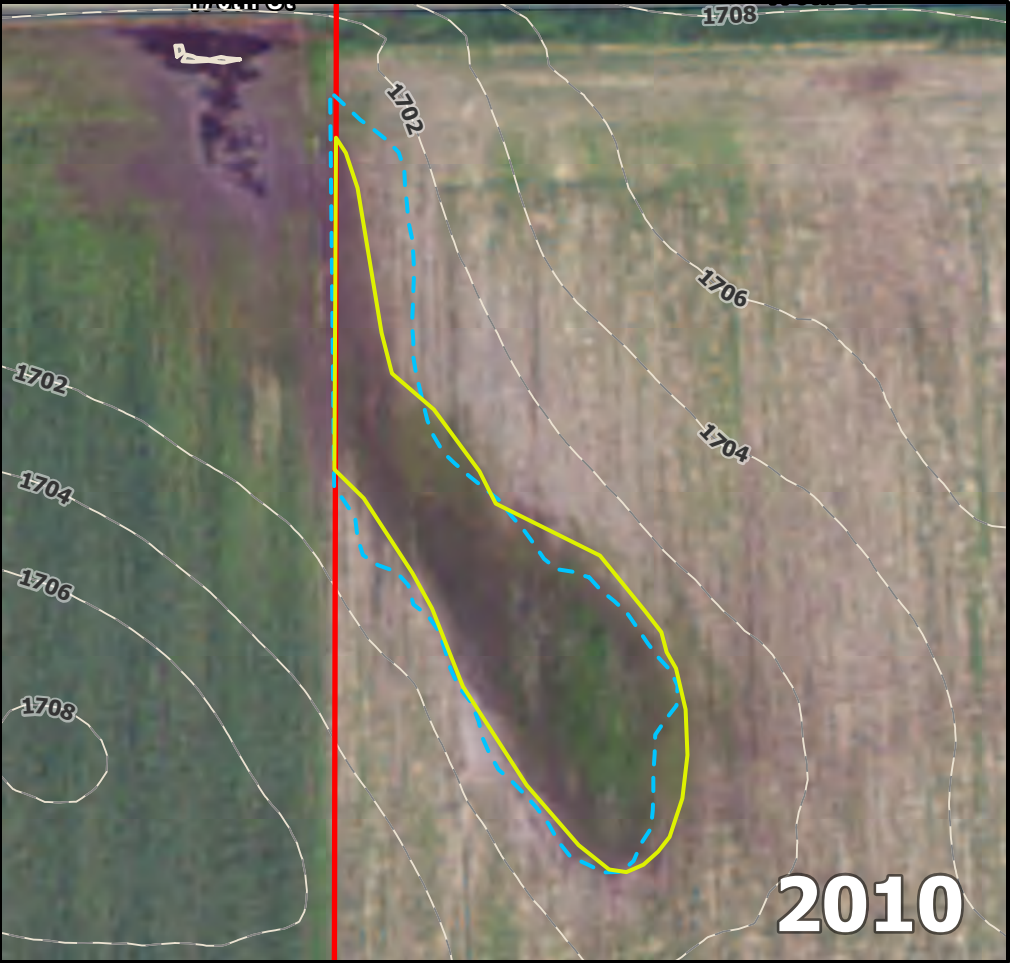
Feature ID: WC008



Overview of wetland WC008.

Direction: South	Photo ID: f_photo-20240730-215004.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: WC008

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000



Wetland ID

WC010

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC010A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.7454 Long: -95.73529 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC010</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>15</u> x 1 = <u>15</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>5</u> x 5 = <u>25</u> Column totals <u>20</u> (A) <u>40</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u>X</u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Amaranthus tuberculatus</i>		<u>15</u>	<u>Y</u>	<u>OBL</u>	
2. <i>Glycine max</i>		<u>5</u>	<u>Y</u>	<u>UPL</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>20</u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 80%

SOIL

Sampling Point: WC010A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1	100					Sandy Clay	
16-30	2.5Y 5/2	90	2.5Y 5/4	10	C	PL	Sandy Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC010B
Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
Landform (hillslope, terrace, etc.): Hilltop Local relief (concave, convex, none): Convex
Slope (%): 2 Lat: 43.74533 Long: -95.73551 Datum: WGS84
Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)

Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC010</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		=Total Cover		
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
		=Total Cover		
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <u>Glycine max</u>		<u>20</u>	<u>Y</u>	<u>UPL</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
		<u>20</u>	=Total Cover	
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
		=Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>20</u>	x 5 = <u>100</u>
Column totals <u>20</u> (A)	<u>100</u> (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 80%

SOIL

Sampling Point: WC010B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-23	10YR 2/1	100					Sandy Clay Loam	
23-30	2.5Y 5/3	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC010A.

Direction: East

Photo ID: delin_photo-20240731-134734.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC010



Overview of upland sample point WC010B.

Direction: North

Photo ID: delin_photo-20240731-135600.jpg

Date: 07/31/2024

Project Name: Summit Lake

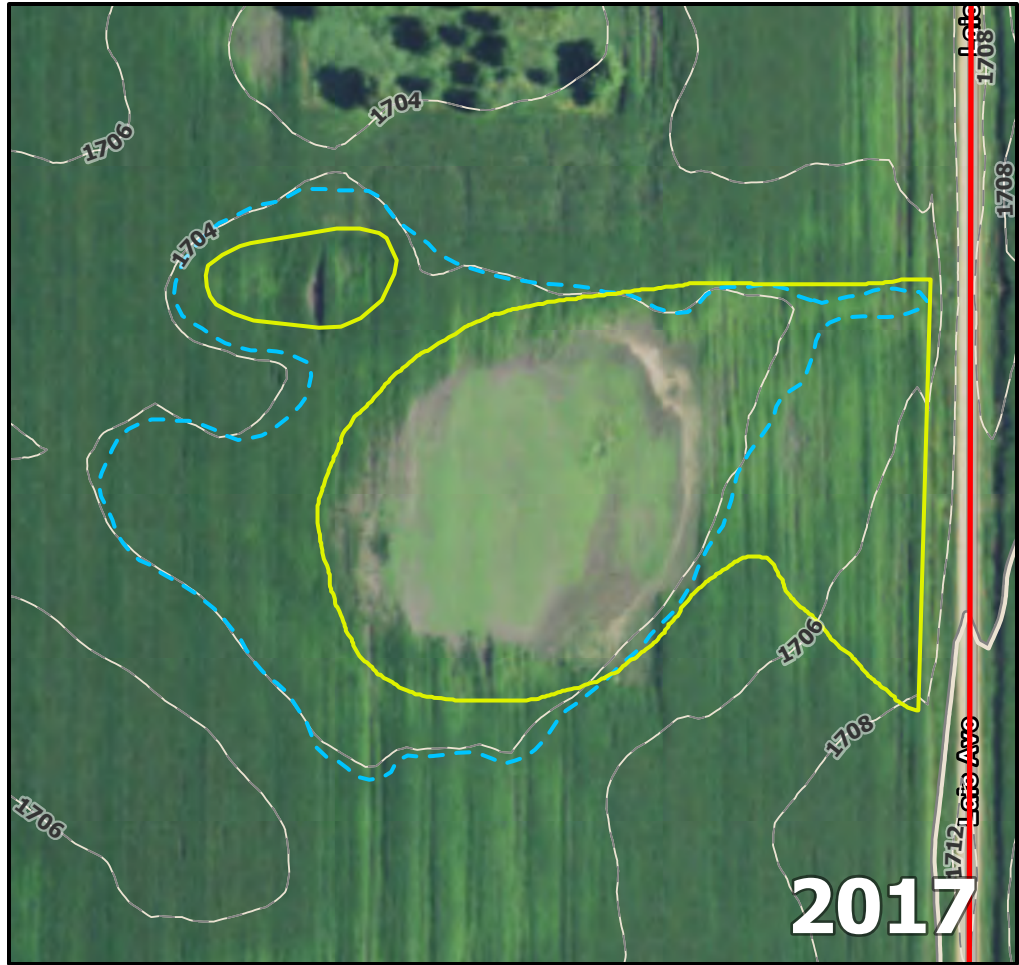
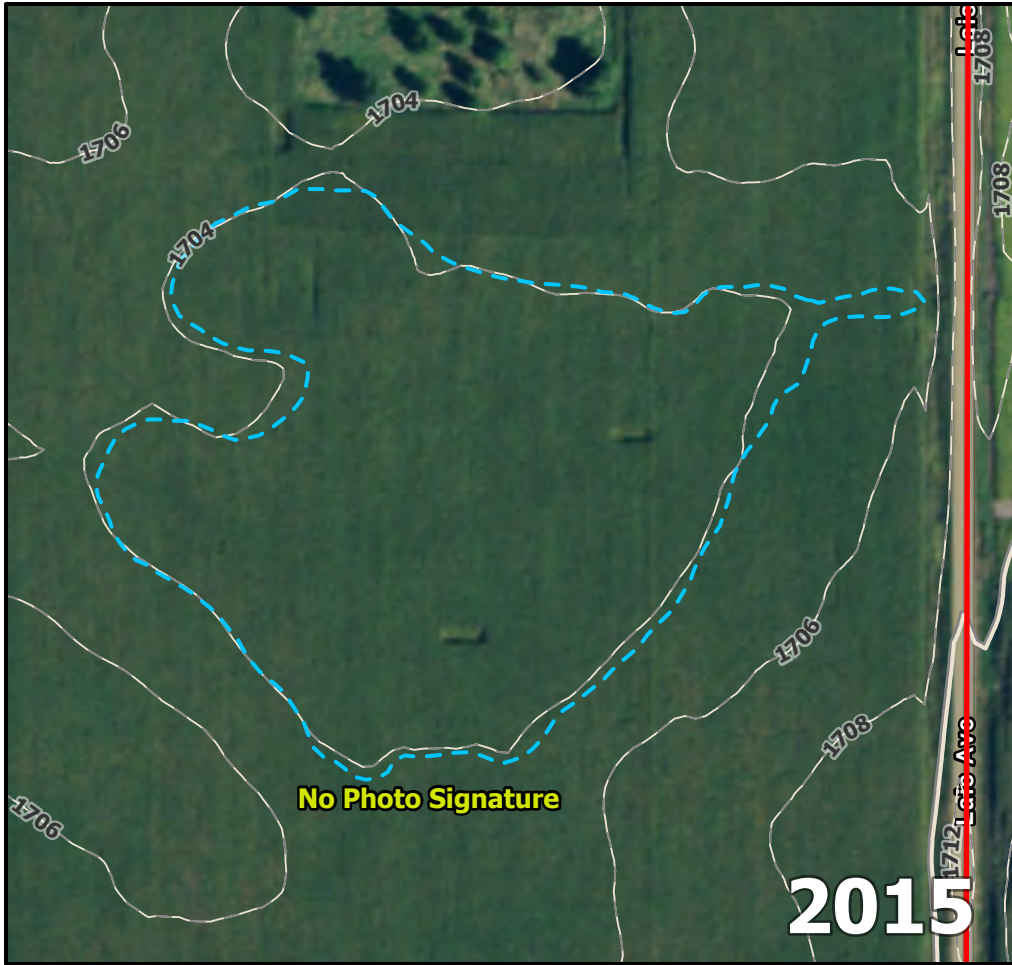
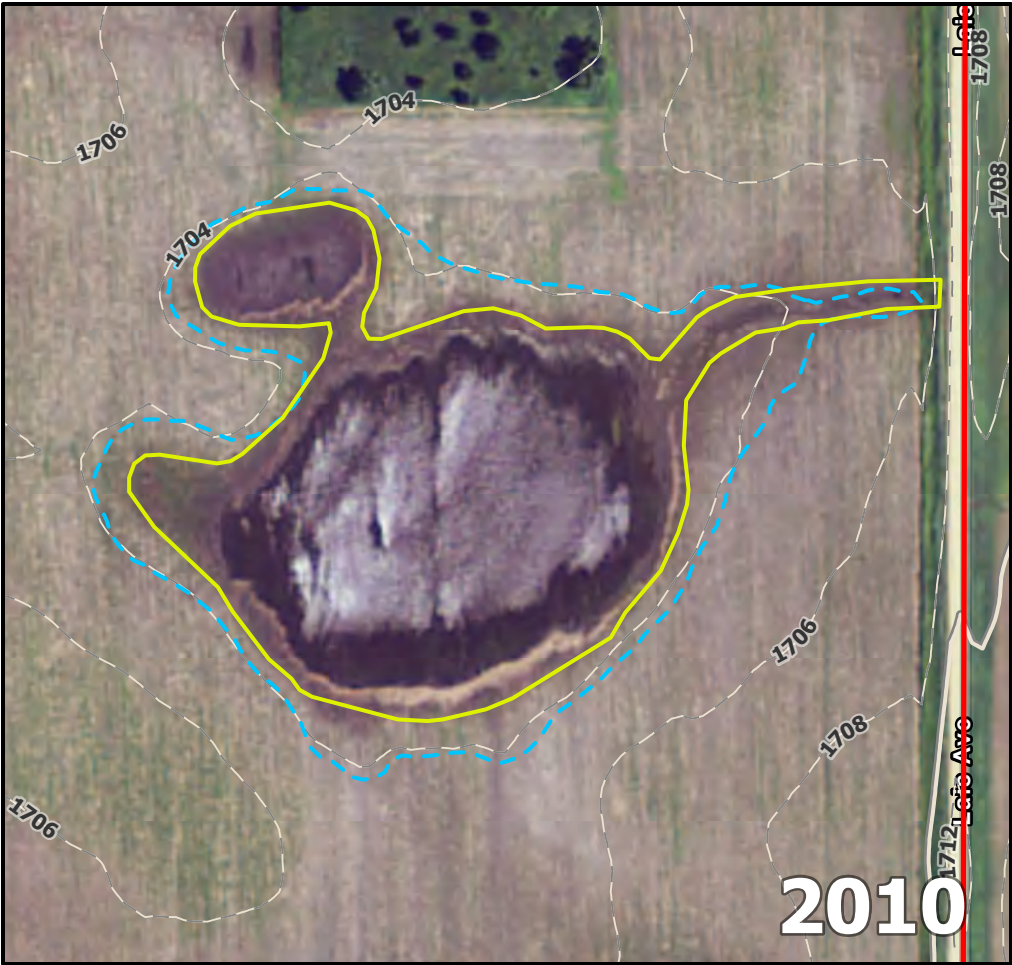
Feature ID: WC010



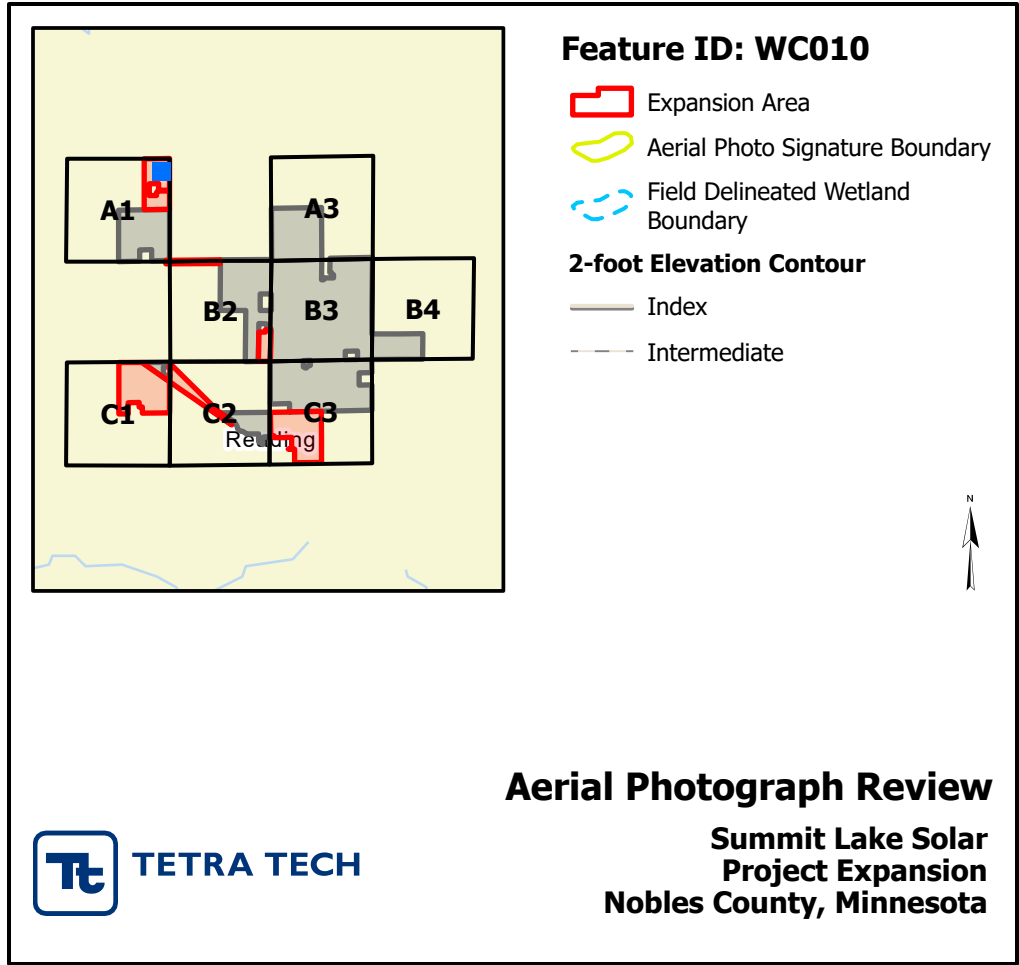
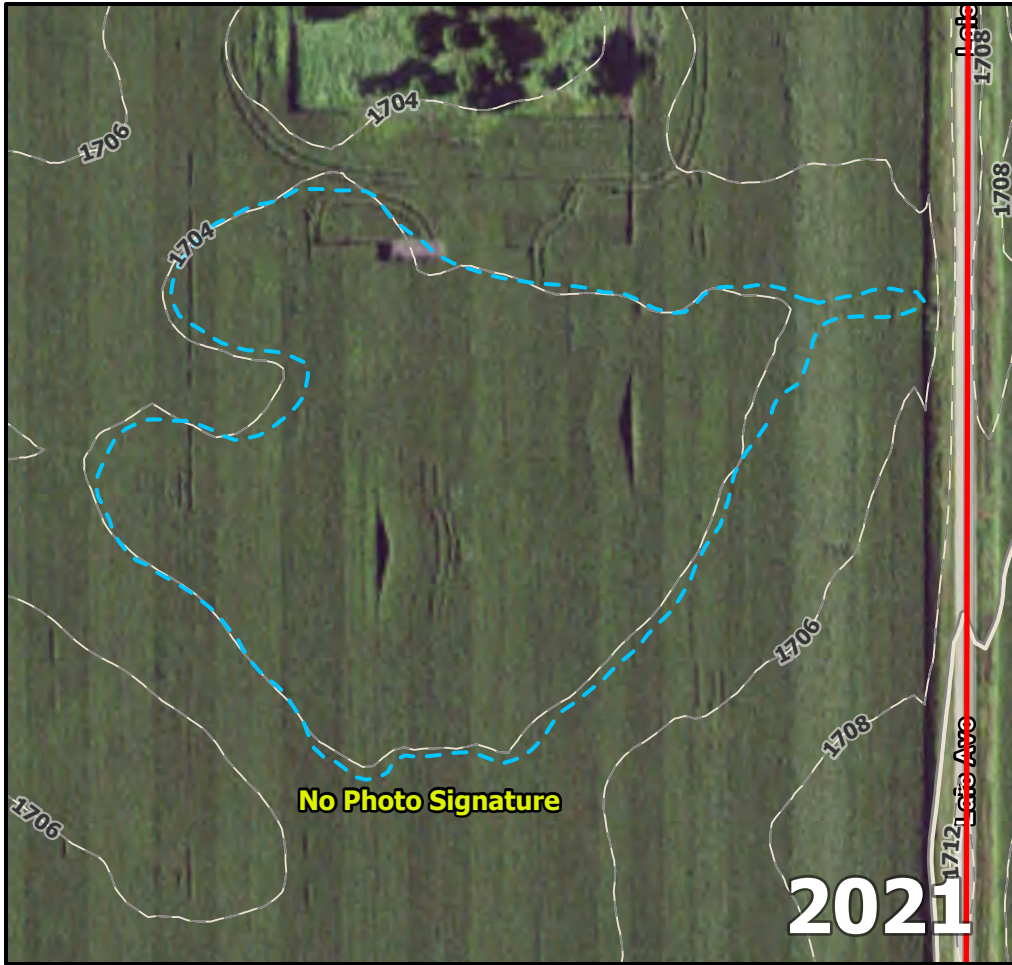
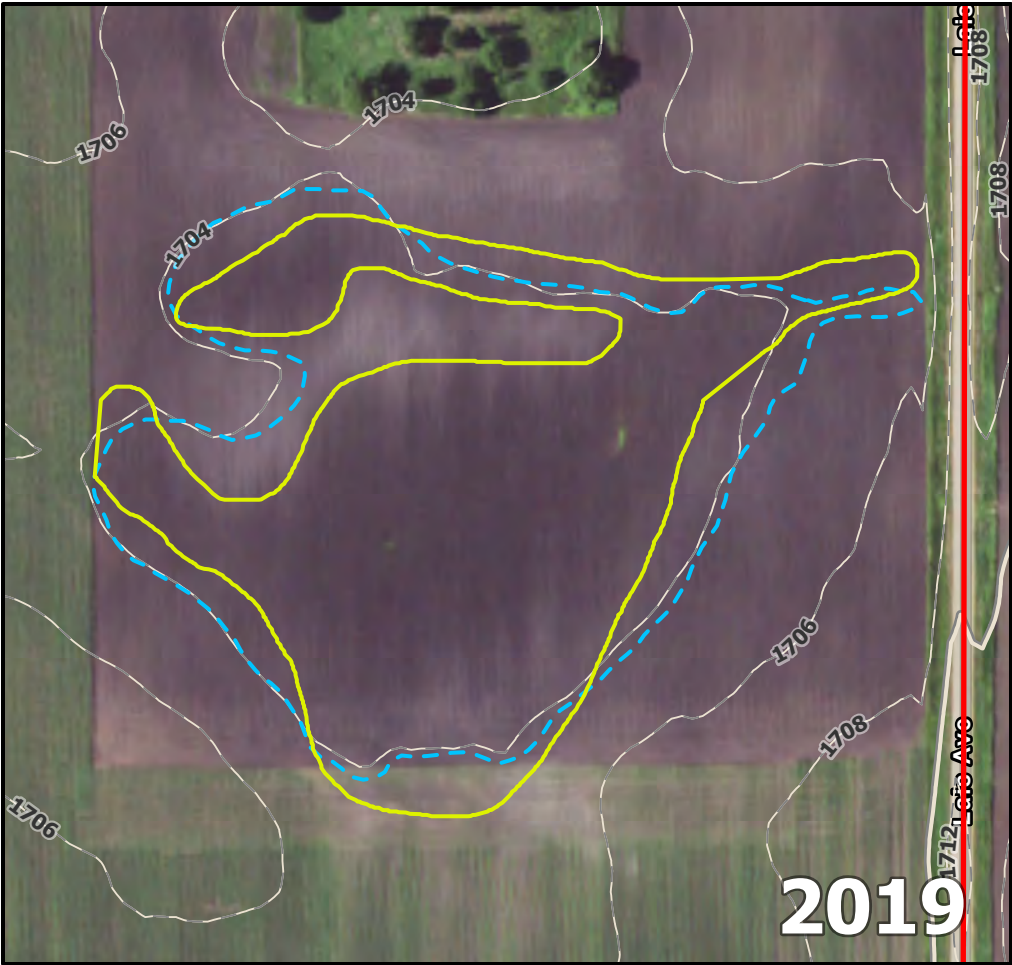
Overview of wetland WC010.

Direction: Southeast	Photo ID: f_photo-20240731-135819.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: WC010

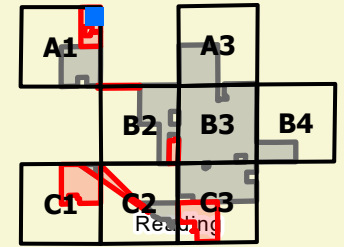
9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



0 80 160 240 320 400 Feet



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:3,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

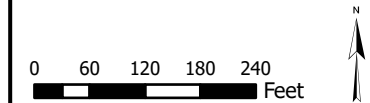
 Delineated Wetland WC010

 Other Delineated Wetland

2-foot Elevation Contour

 Index

 Intermediate



Wetland ID
WC010

Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota



Wetland ID

WC011

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC011A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43.71273 Long: -95.74296 Datum: WGS84
 Soil Map Unit Name: Waldorf silty clay loam, 0 to 2 percent slopes NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC011</u>		
Remarks: Climate conditions wet. Recently planted agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>10</u> x 5 = <u>50</u> Column totals <u>10</u> (A) <u>50</u> (B) Prevalence Index = B/A = <u>5</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: ___ Rapid test for hydrophytic vegetation ___ Dominance test is >50% ___ Prevalence index is ≤3.0* ___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) ___ Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Triticum aestivum</i>		<u>10</u>	<u>Y</u>	<u>UPL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>10</u> =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>Yes</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Recently planted agricultural field. Bare ground/open water: 90%

SOIL

Sampling Point: WC011A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1	100					Clay	
16-24	10YR 4/2	80	10YR 3/6	20	C	PL/M	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☒ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Soybeans were either not planted or recently drowned out, wheat planted in its place

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC011B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None
 Slope (%): 4 Lat: 43.71289 Long: -95.74297 Datum: WGS84
 Soil Map Unit Name: Waldorf silty clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC011</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>50</u> x 5 = <u>250</u> Column totals <u>50</u> (A) <u>250</u> (B) Prevalence Index = B/A = <u>5</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain)
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Glycine max</i>		50	Y	UPL	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
50 =Total Cover					Hydrophytic Vegetation Present? <u>No</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Agricultural field. Bare ground/open water: 50%

SOIL

Sampling Point: WC011B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-16	10YR 2/1	100					Clay Loam	
16-21	10YR 2/1	95	10YR 4/2	5	D	M	Clay	
21-23	2.5Y 3/1	90	10YR 2/1	7	D	M	Clay	
			10YR 4/6	3	C	PL		Distinct or Prominent
23-30	2.5Y 4/1	95	10YR 4/6	5	C	PL	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☒ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC011A.

Direction: South

Photo ID: delin_photo-20240731-145621.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC011



Overview of upland sample point WC011B.

Direction: North

Photo ID: delin_photo-20240731-150632.jpg

Date: 07/31/2024

Project Name: Summit Lake

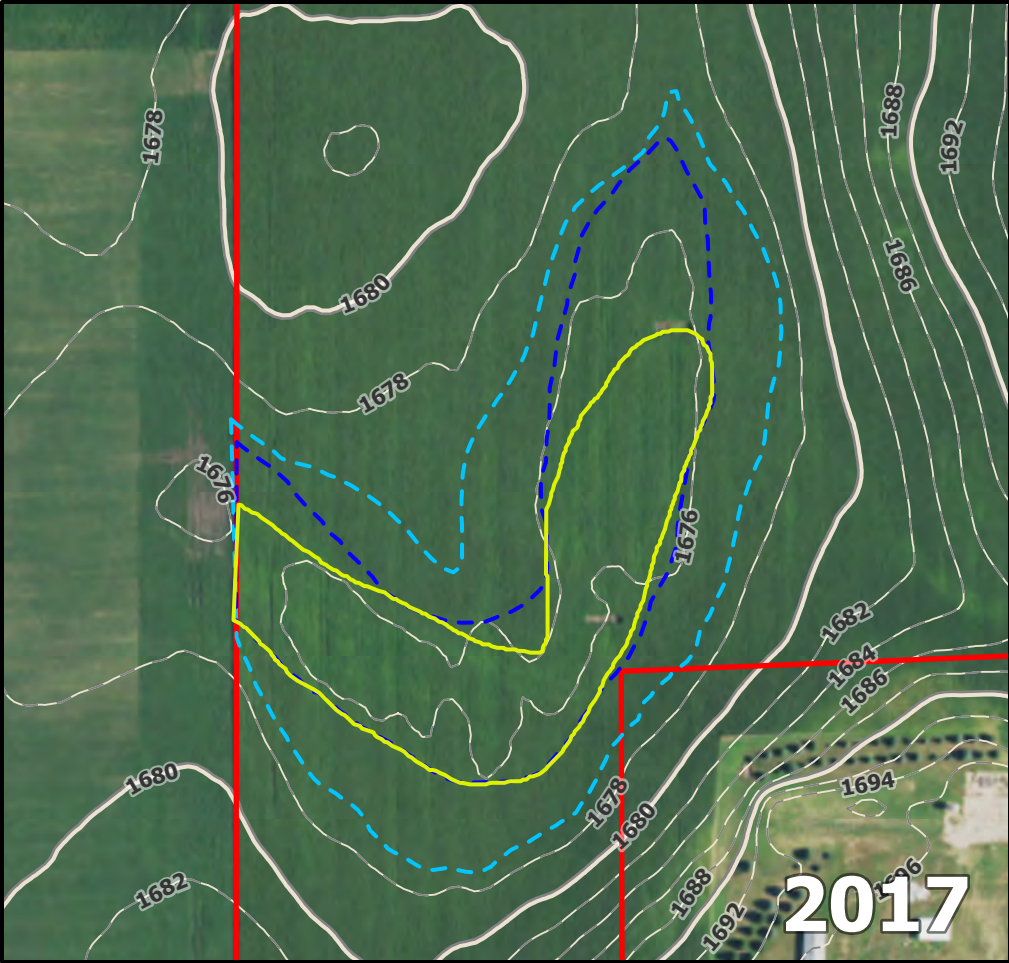
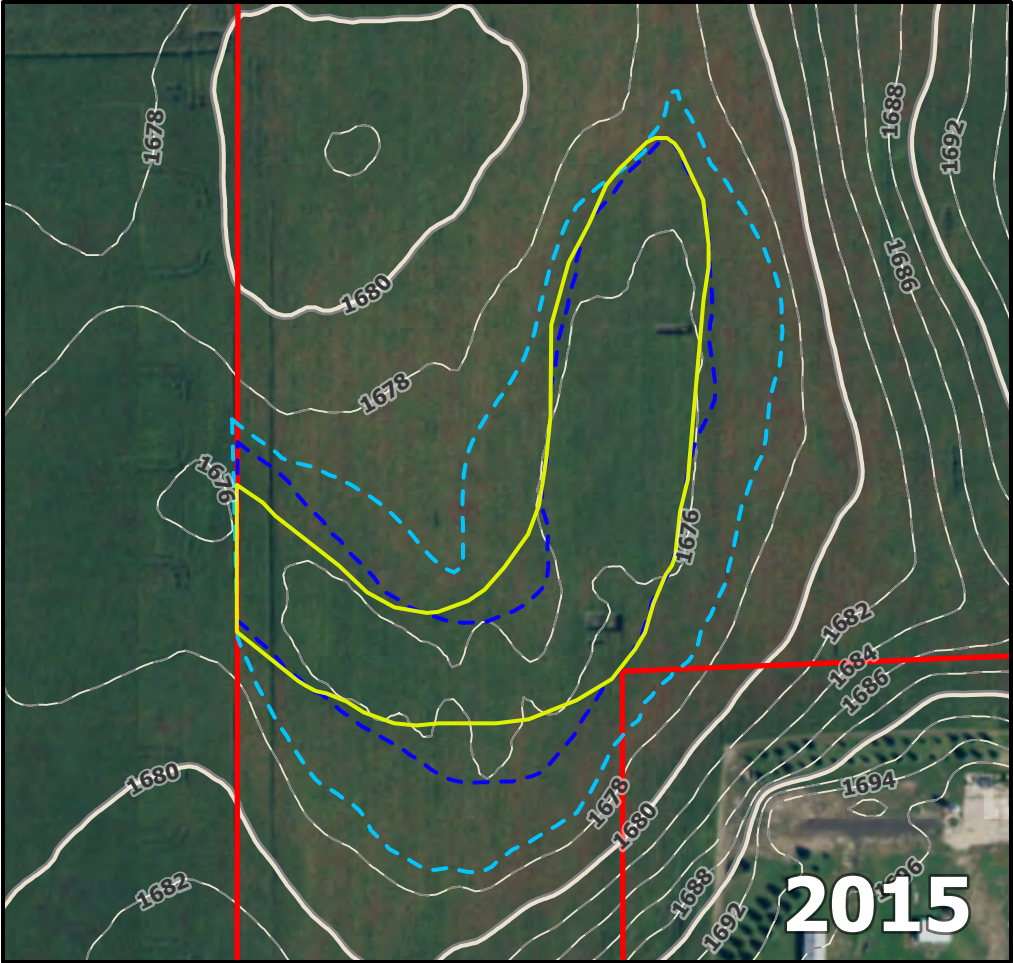
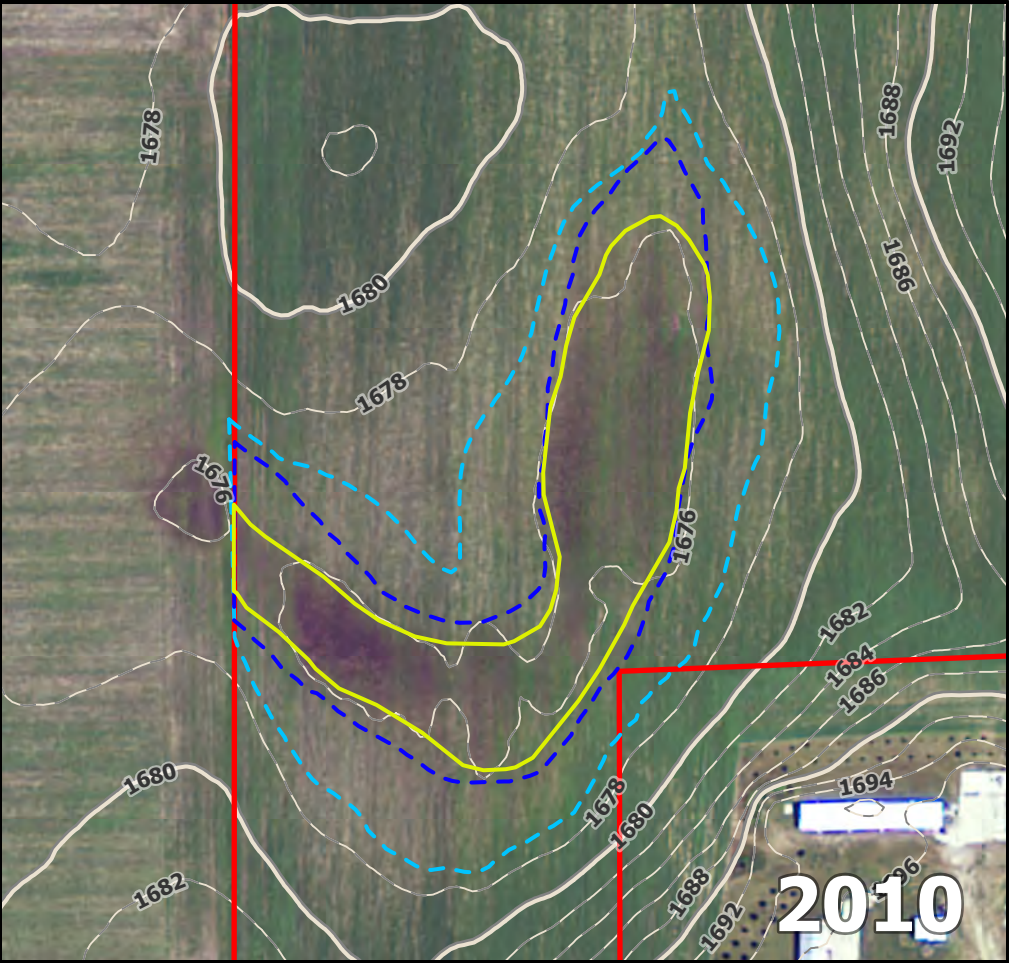
Feature ID: WC011



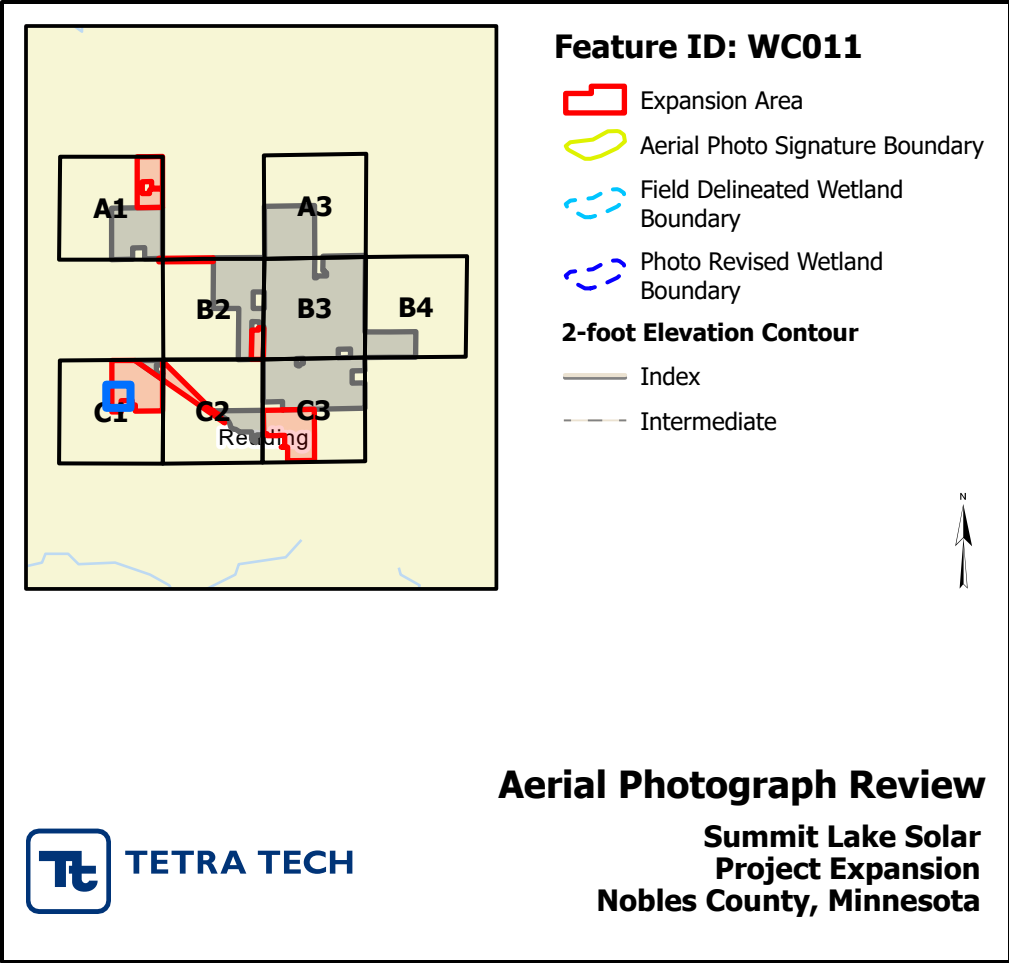
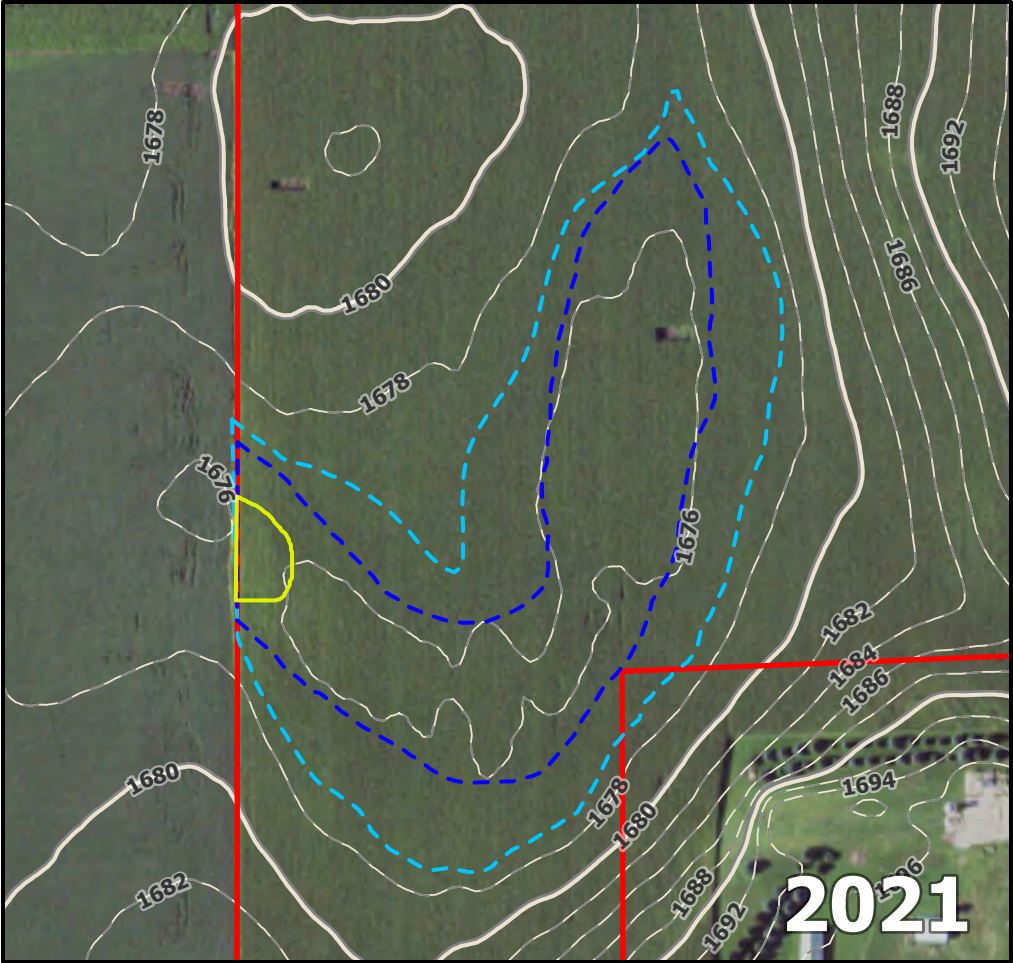
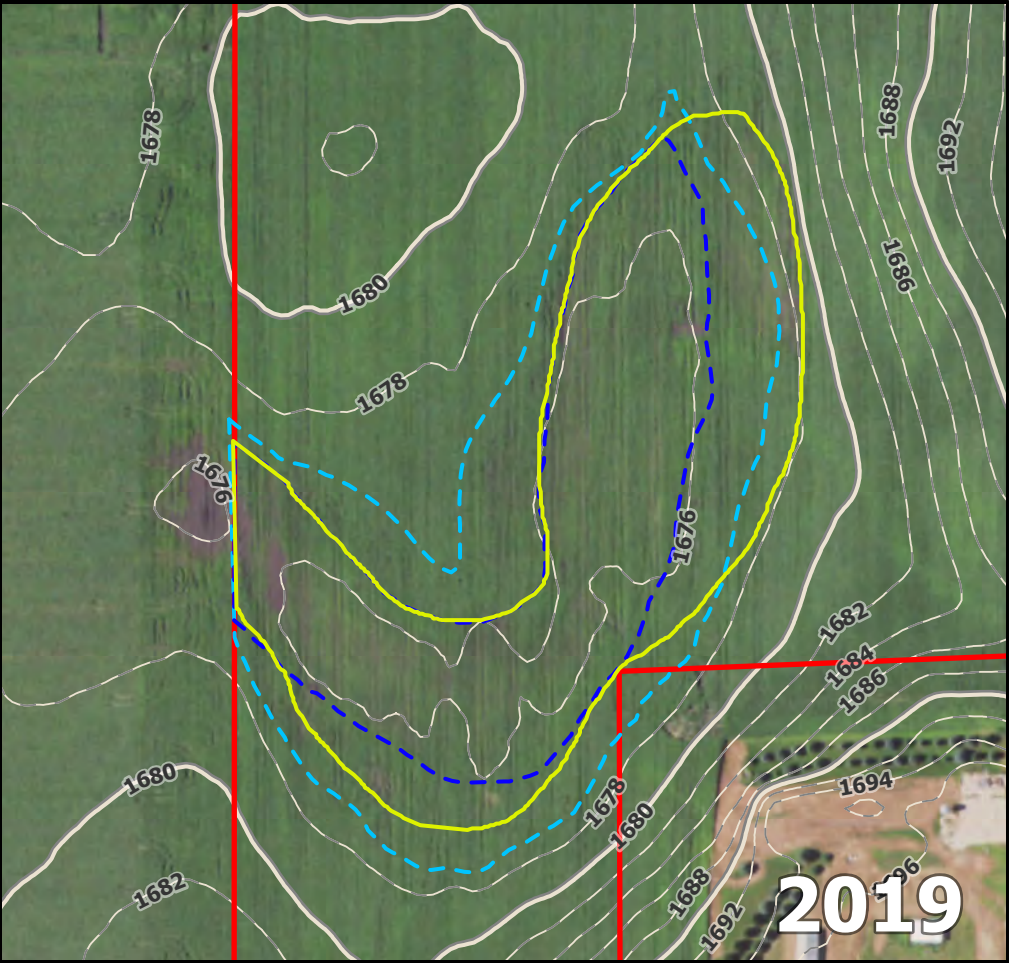
Overview of wetland WC011.

Direction: Southeast	Photo ID: f_photo-20240731-150923.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: WC011

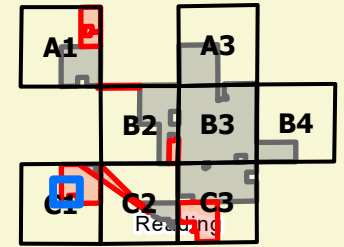
9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



0 110 220 330 440 550 Feet



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:4,000



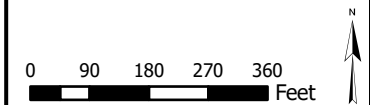
 Expansion Area

Wetland Survey

-  Wetland Sample Plot
-  Photo Revised Wetland WC011
-  Field Delineated Wetland Boundary

2-foot Elevation Contour

-  Index
-  Intermediate



**Wetland ID
WC011**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC012

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC012A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.74651 Long: -95.73528 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification: PEM1A/PSS1A

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC012</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>100</u> x 2 = <u>200</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>100</u> (A) <u>200</u> (B) Prevalence Index = B/A = <u>2</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Phalaris arundinacea</i>		<u>95</u>	<u>Y</u>	<u>FACW</u>	
2. <i>Fraxinus pennsylvanica</i>		<u>5</u>	<u>N</u>	<u>FACW</u>	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>100</u> =Total Cover					Hydrophytic Vegetation Indicators: ☒ Rapid test for hydrophytic vegetation ☒ Dominance test is >50% Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
Hydrophytic Vegetation Present? <u>Yes</u>					

Remarks: (Include photo numbers here or on a separate sheet)

Bare ground/open water: 0%

SOIL

Sampling Point: WC012A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Clay	
18-20	10YR 3/1	97	2.5Y 4/3	3	C	PL	Clay	Distinct or Prominent
20-30	2.5Y 4/1	75	2.5Y 5/6	25	C	PL/M	Clay	Distinct or Prominent

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☒ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☒ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC012B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43.74657 Long: -95.7353 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC012</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>5</u> x 2 = <u>10</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>87</u> x 4 = <u>348</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>92</u> (A) <u>358</u> (B) Prevalence Index = B/A = <u>3.89</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic
1. <i>Bromus inermis</i>		80	Y	FACU	
2. <i>Asclepias syriaca</i>		5	N	FACU	
3. <i>Fraxinus pennsylvanica</i>		5	N	FACW	
4. <i>Sonchus arvensis</i>		2	N	FACU	
5.					
6.					
7.					
8.					
9.					
92 =Total Cover					
Woody Vine Stratum	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

Bare ground/open water: 0%

SOIL

Sampling Point: WC012B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-18	10YR 2/1	100					Clay Loam	
18-28	10YR 4/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC012A.

Direction: South

Photo ID: delin_photo-20240731-191739.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC012



Overview of upland sample point WC012B.

Direction: Northwest

Photo ID: delin_photo-20240731-193101.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC012



Overview of wetland WC012.

Direction: South

Photo ID: f_photo-20240731-193333.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC012



Overview of wetland WC012.

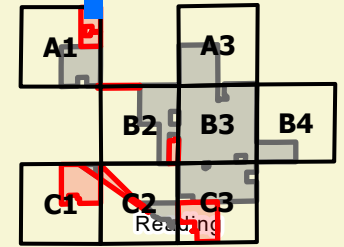
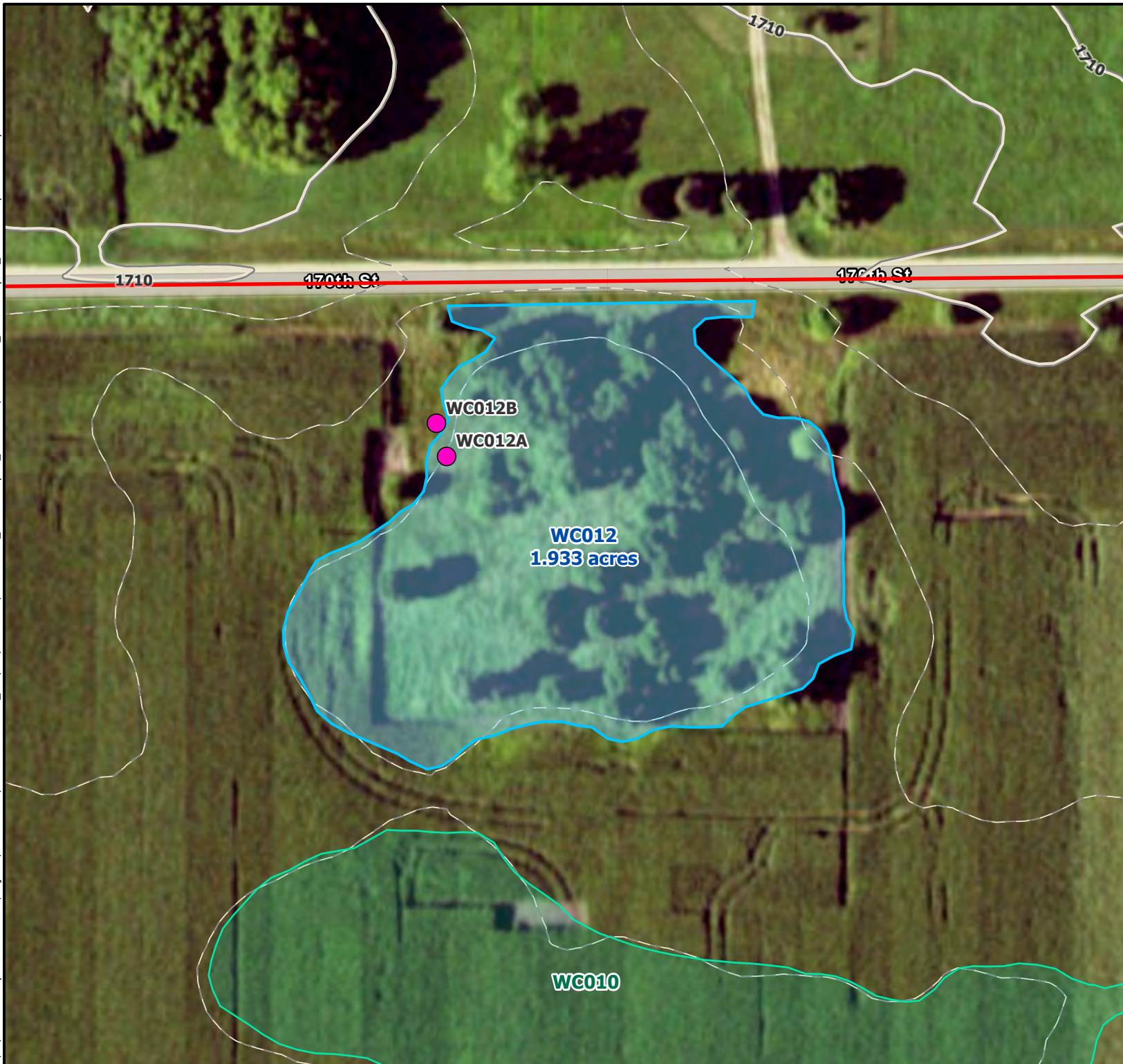
Direction: East

Photo ID: f_photo-20240731-193626.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC012



 Expansion Area

Wetland Survey

 Wetland Sample Plot

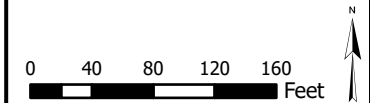
 Delineated Wetland WC012

 Other Delineated Wetland

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC012**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



Wetland ID

WC014

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC014A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 0 Lat: 43.71072 Long: -95.73582 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>Yes</u>	Is the sampled area within a wetland? <u>Yes</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u>WC014</u>		
Remarks: Climate conditions wet. Recently planted agricultural field.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>2</u> x 5 = <u>10</u> Column totals <u>2</u> (A) <u>10</u> (B) Prevalence Index = B/A = <u>5</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* <u>X</u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Triticum aestivum</i>		<u>2</u>	<u>Y</u>	<u>UPL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>2</u> =Total Cover					Hydrophytic Vegetation Present? <u>Yes</u>
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Recently planted agricultural field. Bare ground/open water: 98%

SOIL

Sampling Point: WC014A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-40	10YR 2/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

A12 assumed

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Beans drowned out, replanted with wheat

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: WC014B
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Toeslope Local relief (concave, convex, none): None
 Slope (%): 5 Lat: 43.71059 Long: -95.7358 Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u>WC014</u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>80</u> x 4 = <u>320</u> UPL species <u>2</u> x 5 = <u>10</u> Column totals <u>82</u> (A) <u>330</u> (B) Prevalence Index = B/A = <u>4.02</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* <u></u> (explain)
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Bromus inermis</i>		80	Y	FACU	
2. <i>Triticum aestivum</i>		2	N	UPL	
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
82 =Total Cover					
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				Hydrophytic Vegetation Present? <u>No</u>
1.					
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet)

 Bare ground/open water: 20%

SOIL

Sampling Point: WC014B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
-								

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Potential underground utility conflict. Hydric soil assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☐ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:



Overview of wetland sample point WC014A.

Direction: North

Photo ID: delin_photo-20240731-204550.jpg

Date: 07/31/2024

Project Name: Summit Lake

Feature ID: WC014



Overview of upland sample point WC014B.

Direction: South

Photo ID: delin_photo-20240731-204715.jpg

Date: 07/31/2024

Project Name: Summit Lake

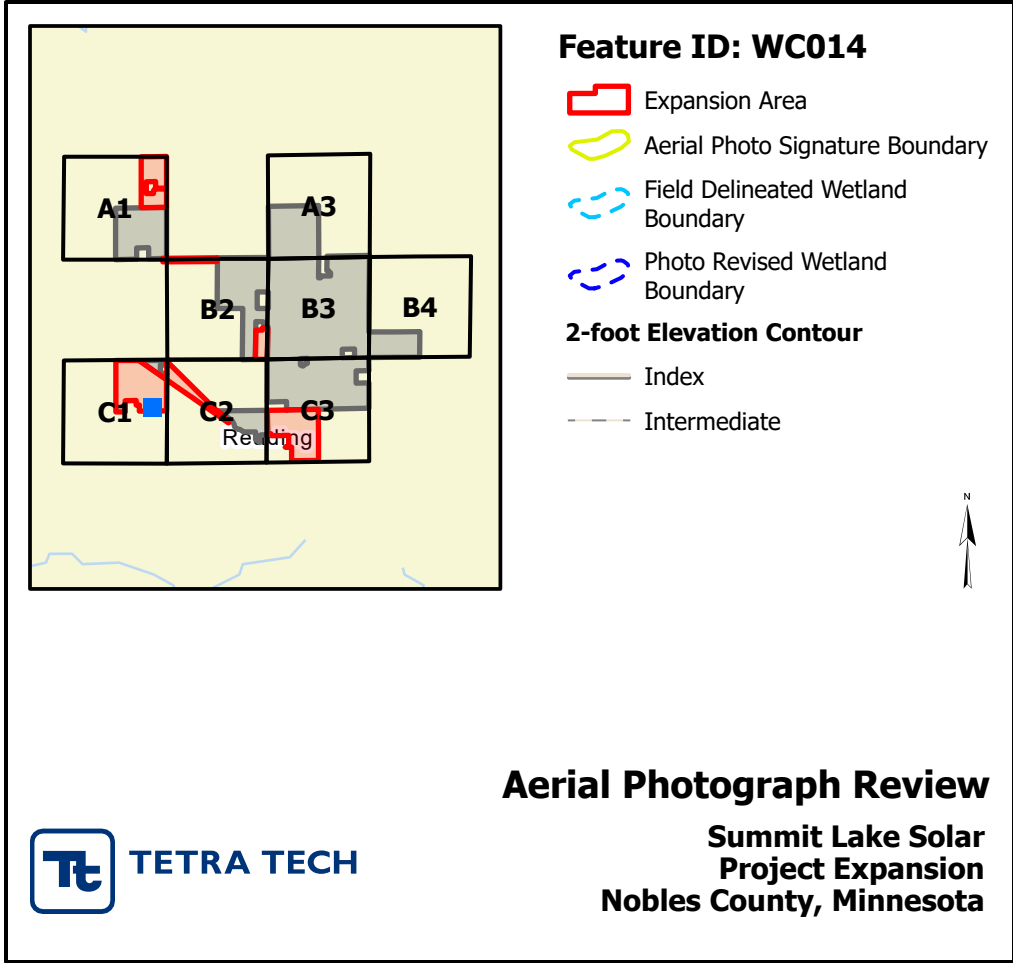
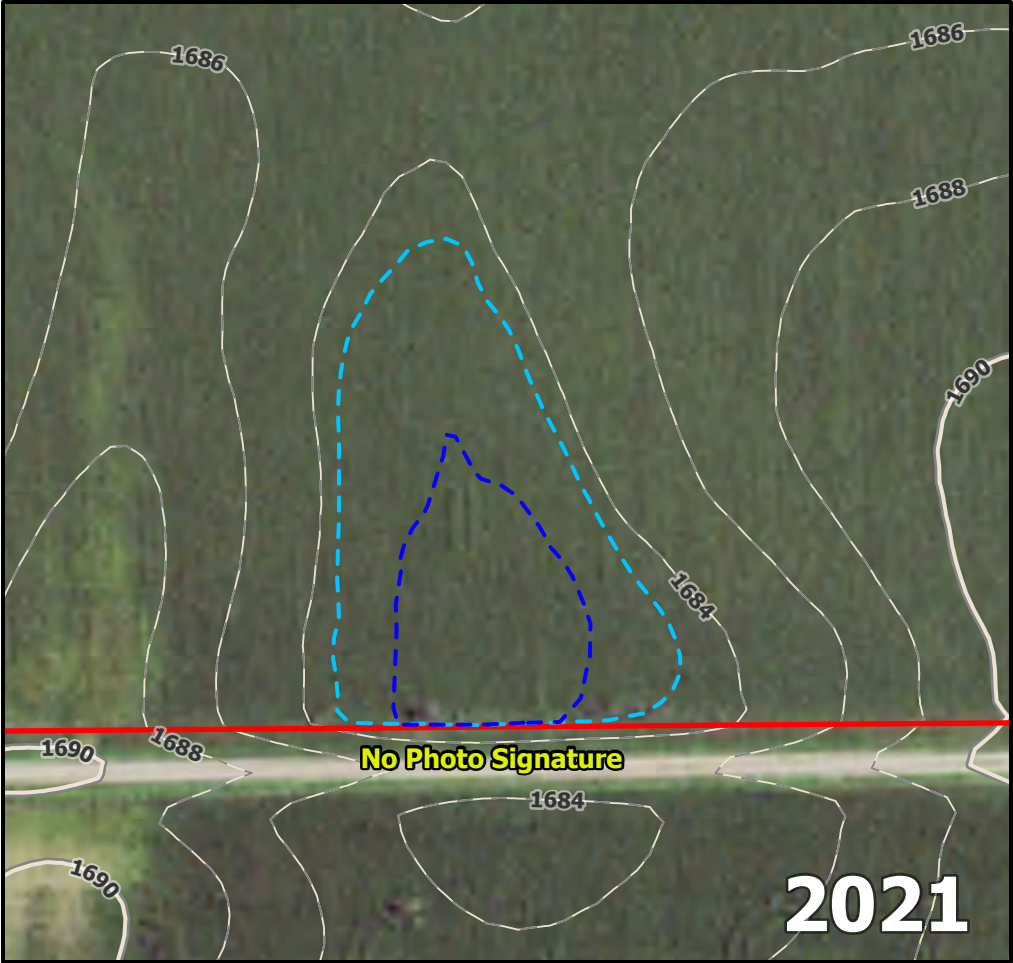
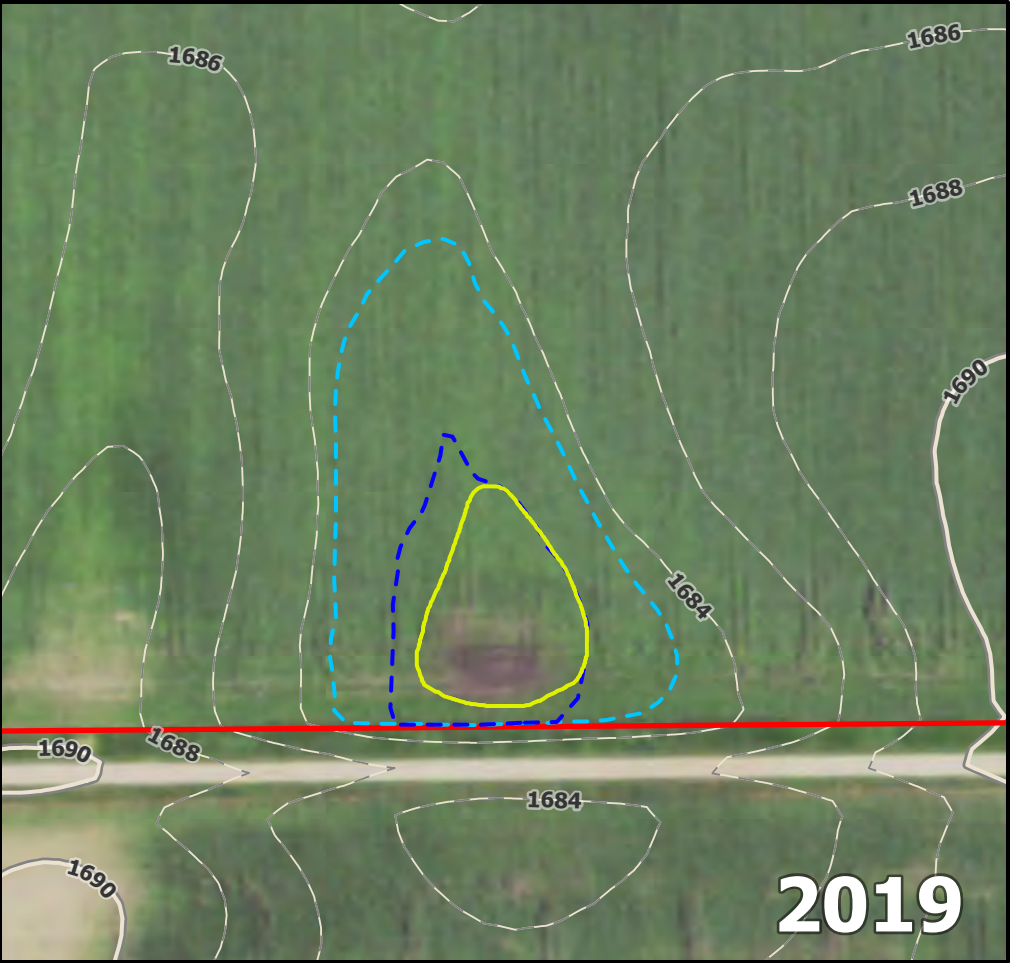
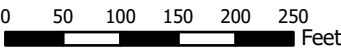
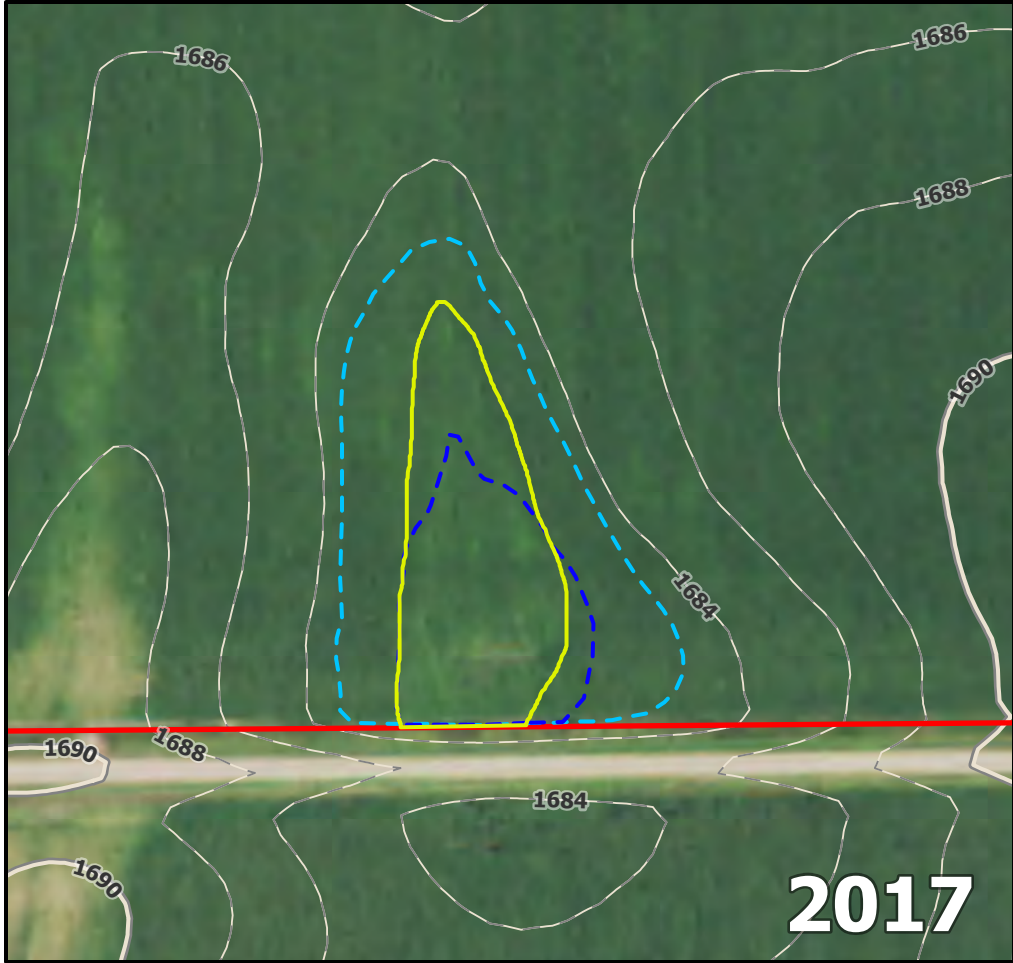
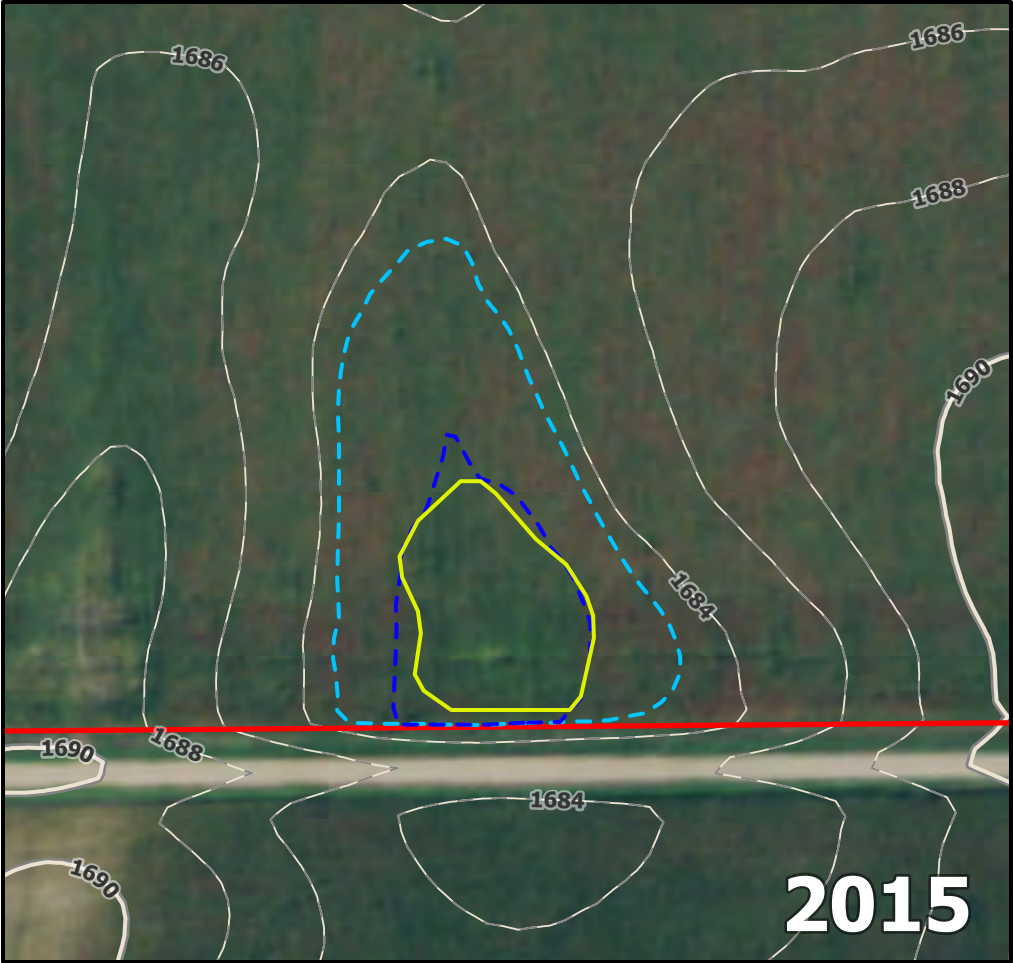
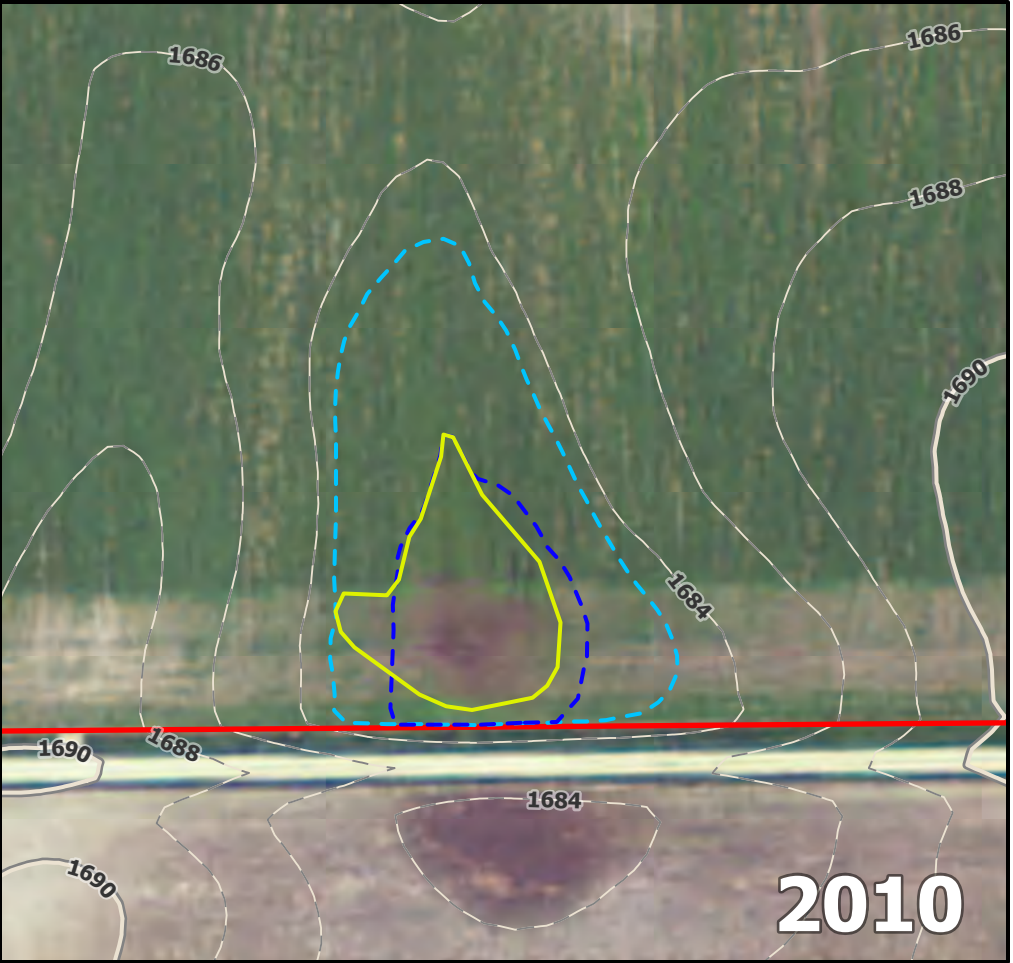
Feature ID: WC014



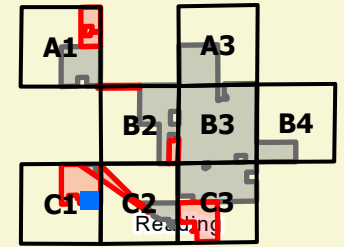
Overview of wetland WC014.

Direction: North	Photo ID: f_photo-20240731-205200.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: WC014

9/24/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Wetland Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:2,000



 Expansion Area

Wetland Survey

 Wetland Sample Plot

 Photo Revised Wetland WC014

 Field Delineated Wetland Boundary

2-foot Elevation Contour

 Index

 Intermediate



**Wetland ID
WC014**

**Wetland Delineation
Summit Lake Solar
Project Expansion
Nobles County, Minnesota**



APPENDIX C: NON-WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Nobles	township number: 103N
township name: Summit Lake	range number: 41W
nearest community: Reading	section number: 13

Aerial photograph or site visit date:

Thursday, July 1, 2010

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates .	first prior month: June 2010	second prior month: May 2010	third prior month: April 2010
estimated precipitation total for this location:	7.41	1.91	2.49
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	wet	dry	normal
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	13 (Normal)		

Aerial photograph or site visit date:

Sunday, September 13, 2015

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates .	first prior month: August 2015	second prior month: July 2015	third prior month: June 2015
estimated precipitation total for this location:	6.52	3.64	3.24
there is a 30% chance this location will have less than:	1.97	2.23	3.91
there is a 30% chance this location will have more than:	3.84	4.22	5.45
type of month: dry normal wet	wet	normal	dry
monthly score	3 * 3 = 9	2 * 2 = 4	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	14 (Normal)		

Aerial photograph or site visit date:

Sunday, July 23, 2017

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates .	first prior month: June 2017	second prior month: May 2017	third prior month: April 2017
estimated precipitation total for this location:	5.37	4.22	2.34
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	normal	normal	normal
monthly score	3 * 2 = 6	2 * 2 = 4	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	12 (Normal)		

Precipitation Worksheet Using Gridded Database

Precipitation data for target wetland location:

county: Nobles	township number: 103N
township name: Summit Lake	range number: 41W
nearest community: Reading	section number: 13

Aerial photograph or site visit date:

Thursday, July 11, 2019

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates .	first prior month: June 2019	second prior month: May 2019	third prior month: April 2019
estimated precipitation total for this location:	2.95	6.82	6.33
there is a 30% chance this location will have less than:	3.91	3.00	2.21
there is a 30% chance this location will have more than:	5.45	4.91	3.51
type of month: dry normal wet	dry	wet	wet
monthly score	3 * 1 = 3	2 * 3 = 6	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	12 (Normal)		

Aerial photograph or site visit date:

Saturday, August 21, 2021

Score using 1991-2020 normal period

values are in inches A 'R' following a monthly total indicates a provisional value derived from radar-based estimates .	first prior month: July 2021	second prior month: June 2021	third prior month: May 2021
estimated precipitation total for this location:	3.42	1.80	3.07
there is a 30% chance this location will have less than:	2.23	3.91	3.00
there is a 30% chance this location will have more than:	4.22	5.45	4.91
type of month: dry normal wet	normal	dry	normal
monthly score	3 * 2 = 6	2 * 1 = 2	1 * 2 = 2
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	10 (Normal)		

Non-Wetland ID

NWC006

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/30/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: NWC006A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.23 T103N R41W
 Landform (hillslope, terrace, etc.): Ditch Local relief (concave, convex, none): Concave
 Slope (%): 5 Lat: 43.71746 Long: -95.73288 Datum: WGS84
 Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification:

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation , soil , or hydrology Significantly disturbed? Are "normal circumstances present? Yes
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: <u></u>		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>50%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>40</u> x 2 = <u>80</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>50</u> x 4 = <u>200</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>90</u> (A) <u>280</u> (B) Prevalence Index = B/A = <u>3.11</u>
=Total Cover					
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
<u>Herb Stratum</u>	(Plot size: <u>5</u>)				
1. <i>Bromus inermis</i>		<u>50</u>	<u>Y</u>	<u>FACU</u>	
2. <i>Phalaris arundinacea</i>		<u>30</u>	<u>Y</u>	<u>FACW</u>	
3. <i>Spartina pectinata</i>		<u>10</u>	<u>N</u>	<u>FACW</u>	
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>90</u> =Total Cover					Hydrophytic Vegetation Indicators: <u></u> Rapid test for hydrophytic vegetation <u></u> Dominance test is >50% <u></u> Prevalence index is ≤3.0* <u></u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u></u> Problematic hydrophytic vegetation* <u></u> (explain)
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
Hydrophytic Vegetation Present? <u>No</u>					

Remarks: (Include photo numbers here or on a separate sheet)

 Bare ground/open water: 0%

SOIL

Sampling Point: NWC006A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
-								

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

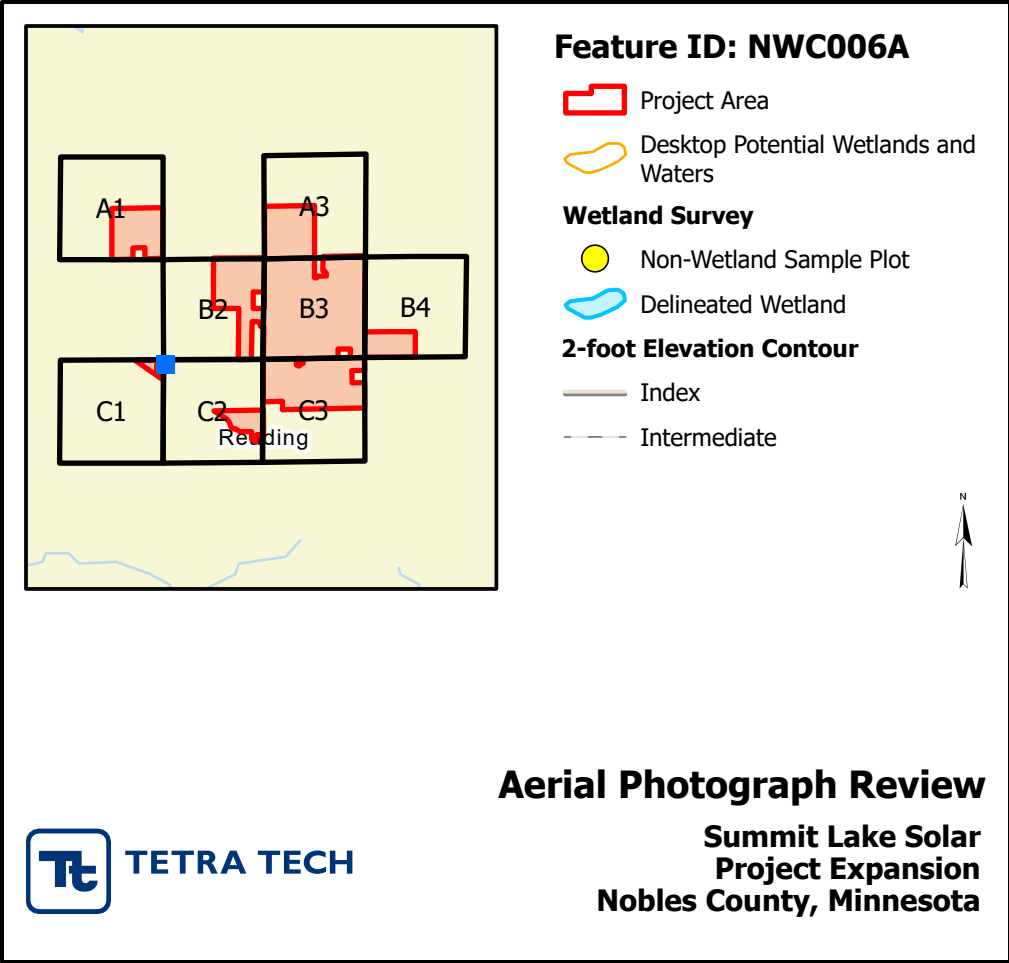
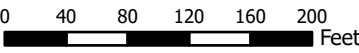
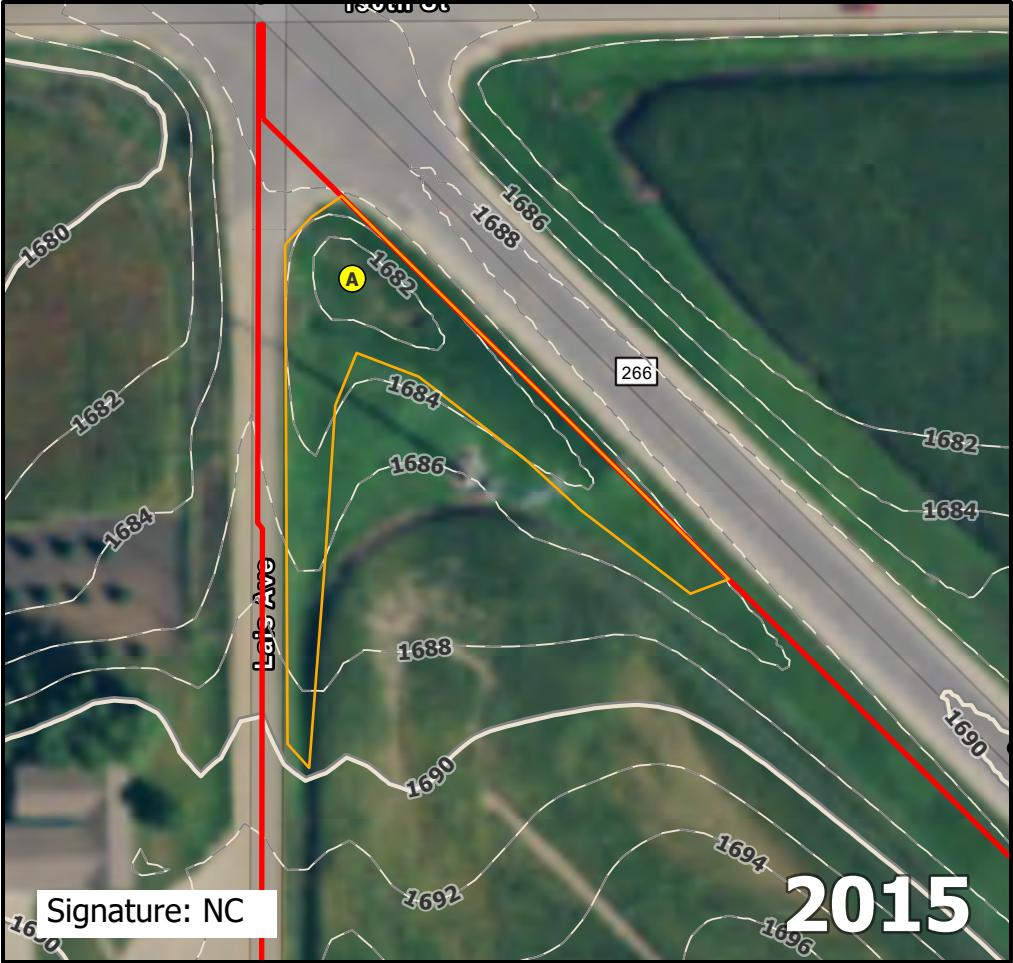
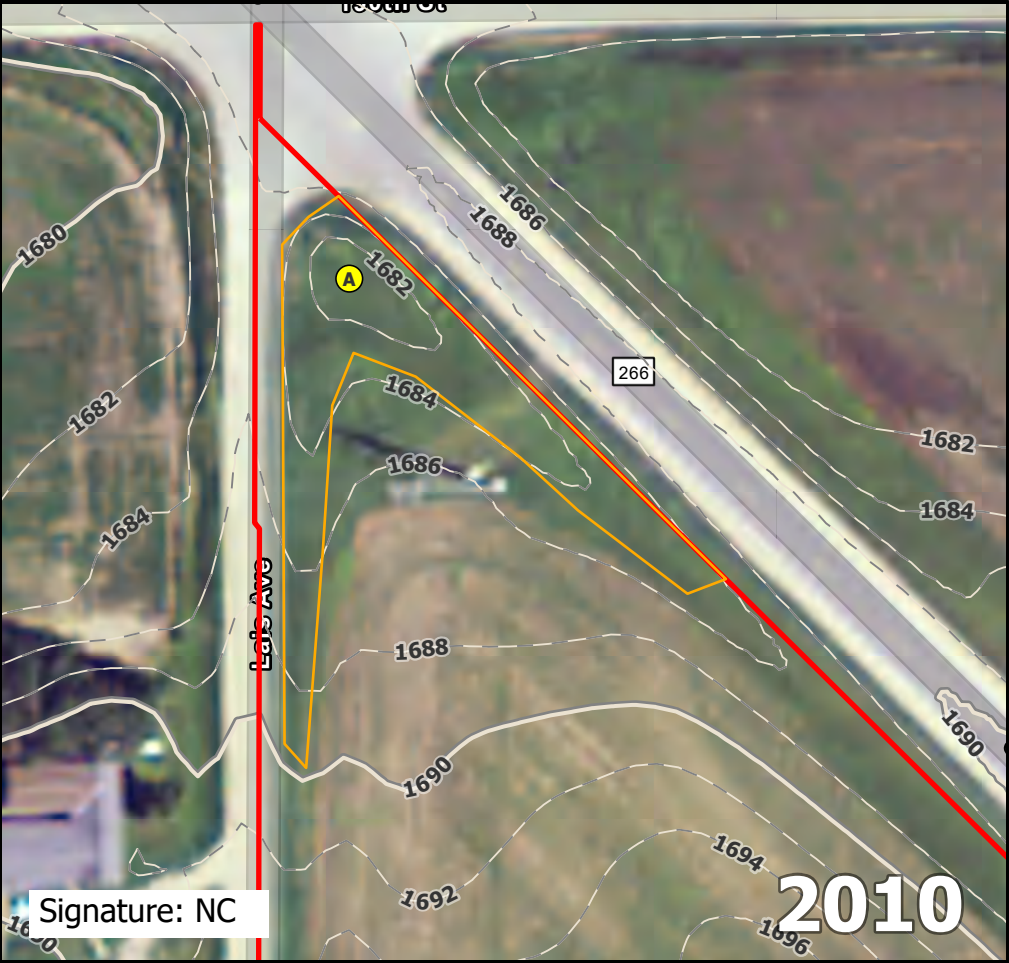
Remarks:



Overview of upland sample point NWC006A.

Direction: North	Photo ID: delin_photo-20240730-203303.jpg	Date: 07/30/2024
Project Name: Summit Lake	Feature ID: NWC006	

8/23/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWC007

Project/Site:	Summit Lake	City/County:	Nobles	Sampling Date:	07/30/2024
Applicant/Owner:	National Grid Renewables	State:	Minnesota	Sampling Point:	NWC007A
Investigator(s):	Apryl Jennrich	Section, Township, Range:	Sec.14 T103N R41W		
Landform (hillslope, terrace, etc.):	Ditch	Local relief (concave, convex, none):	Concave		
Slope (%):	2	Lat:	43.73234	Long:	-95.72448
		Datum:	WGS84		
Soil Map Unit Name:	Clarion loam, 2 to 6 percent slopes	NWI Classification:	R4SBC		

Are vegetation, soil, or hydrology naturally problematic? (If needed, explain any answers in remarks.)

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u> If yes, optional wetland site ID: _____
Hydric Soil Present?	<u>Yes</u>	
Wetland Hydrology Present?	<u>No</u>	
Remarks: Climate conditions wet.		

Tree Stratum		(Plot size: 30)	Absolute % Cover	Dominant Species	Indicator Status
1.					
2.					
3.					
4.					
5.					
			=Total Cover		
Sapling/Shrub Stratum		(Plot size: 15)			
1.					
2.					
3.					
4.					
5.					
			=Total Cover		
Herb Stratum		(Plot size: 5)			
1.	<i>Bromus inermis</i>		80	Y	FACU
2.	<i>Physalis longifolia</i>		10	N	UPL
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
			90	=Total Cover	
Woody Vine Stratum		(Plot size: 15)			
1.					
2.					
			=Total Cover		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of: Multiply by:

OBL species 0 x 1 = 0

FACW species 0 x 2 = 0

FAC species 0 x 3 = 0

FACU species 80 x 4 = 320

UPL species 10 x 5 = 50

Column totals 90 (A) 370 (B)

Prevalence Index = B/A = 4.11

Hydrophytic Vegetation Indicators:

___ Rapid test for hydrophytic vegetation

___ Dominance test is >50%

___ Prevalence index is ≤3.0*

___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

___ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present?

No

Bare ground/open water: 0%

SOIL

Sampling Point: NWC007A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
-								

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains. **Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☒ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____
 Depth (inches): _____

Hydric Soil Present? Yes

Remarks:

Potential underground utility conflict. Hydric soils assumed.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1)
☐ High Water Table (A2)
☐ Saturation (A3)
☐ Water Marks (B1)
☐ Sediment Deposits (B2)
☐ Drift Deposits (B3)
☐ Algal Mat or Crust (B4)
☐ Iron Deposits (B5)
☐ Inundation Visible on Aerial Imagery (B7)
☐ Sparsely Vegetated Concave Surface (B8)
☐ Water-Stained Leaves (B9)

Secondary Indicators (minimum of two required)

- ☐ Aquatic Fauna (B13)
☐ True Aquatic Plants (B14)
☐ Hydrogen Sulfide Odor (C1)
☐ Oxidized Rhizospheres on Living
☐ Roots (C3)
☐ Presence of Reduced Iron (C4)
☐ Recent Iron Reduction in Tilled Soils
☐ (C6)
☐ Thin Muck Surface (C7)
☐ Gauge or Well Data (D9)
☐ Other (Explain in Remarks)
- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☐ Depth (inches): _____
 Saturation Present? Yes ☐ No ☐ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

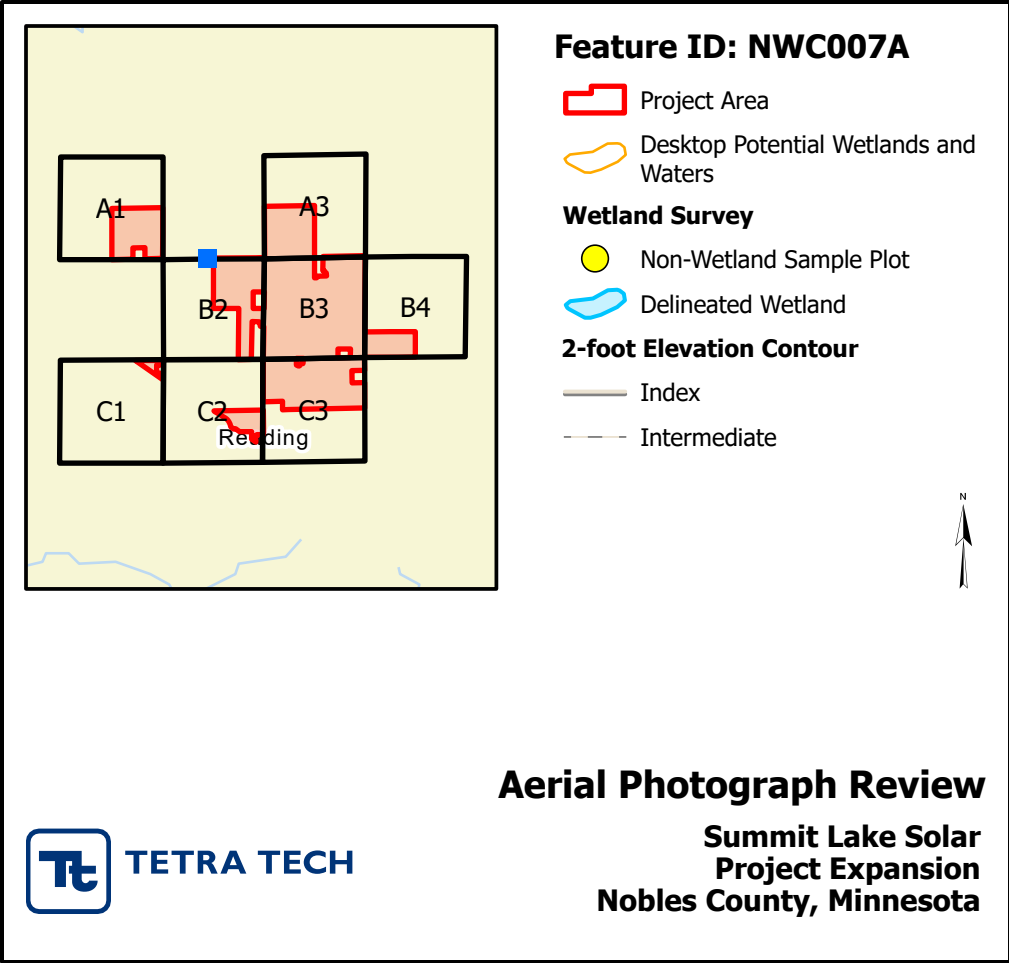
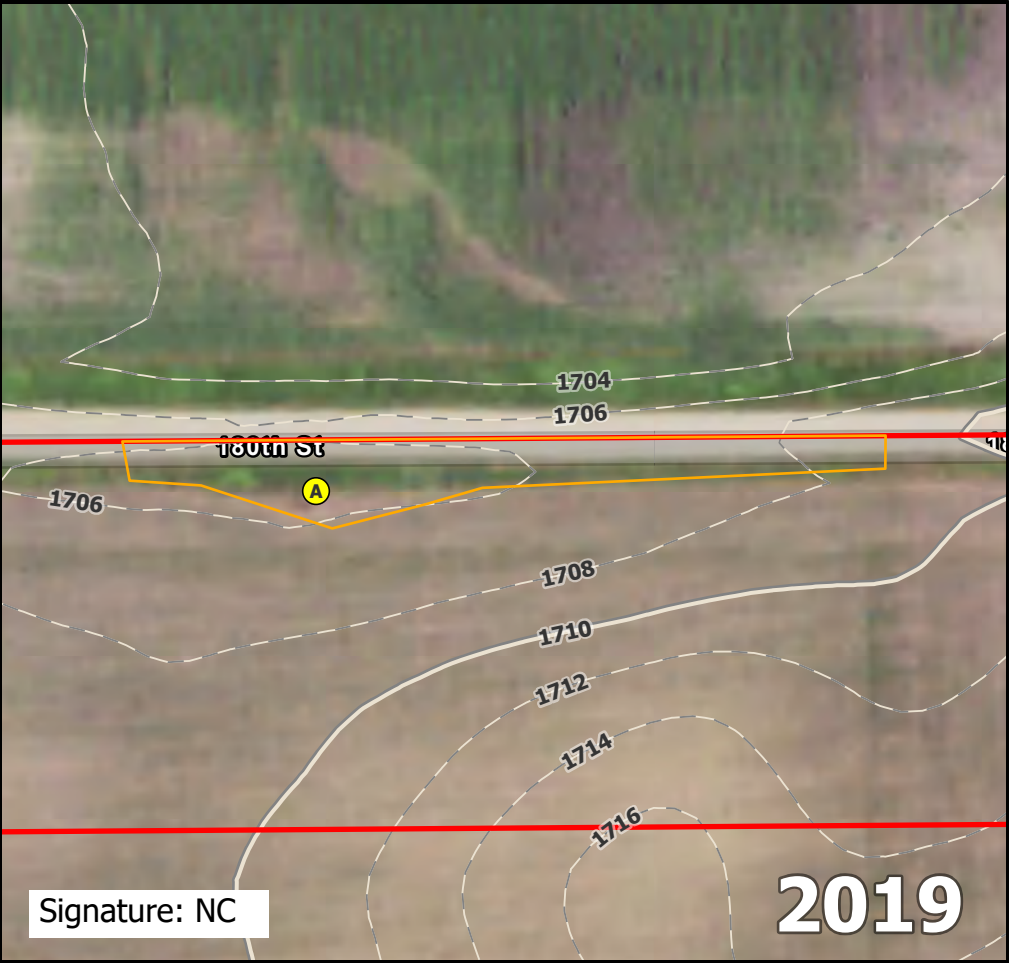
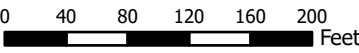
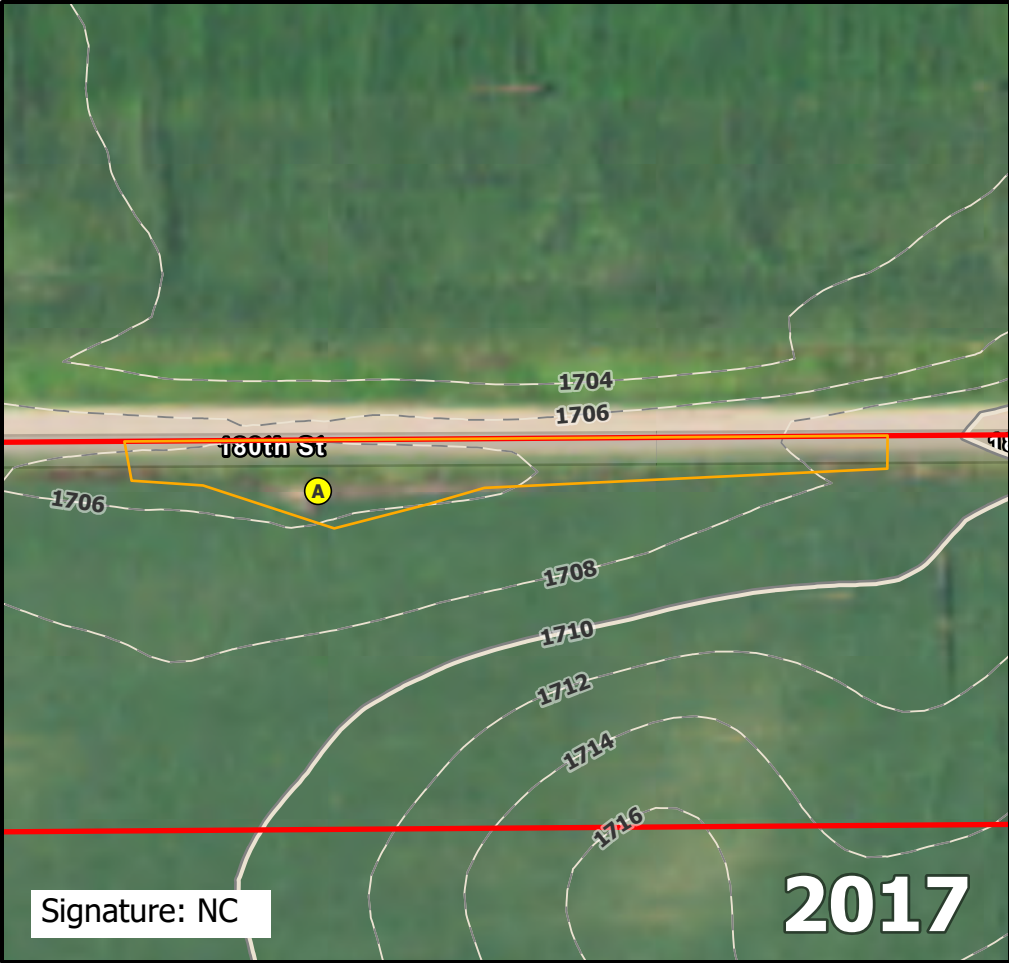
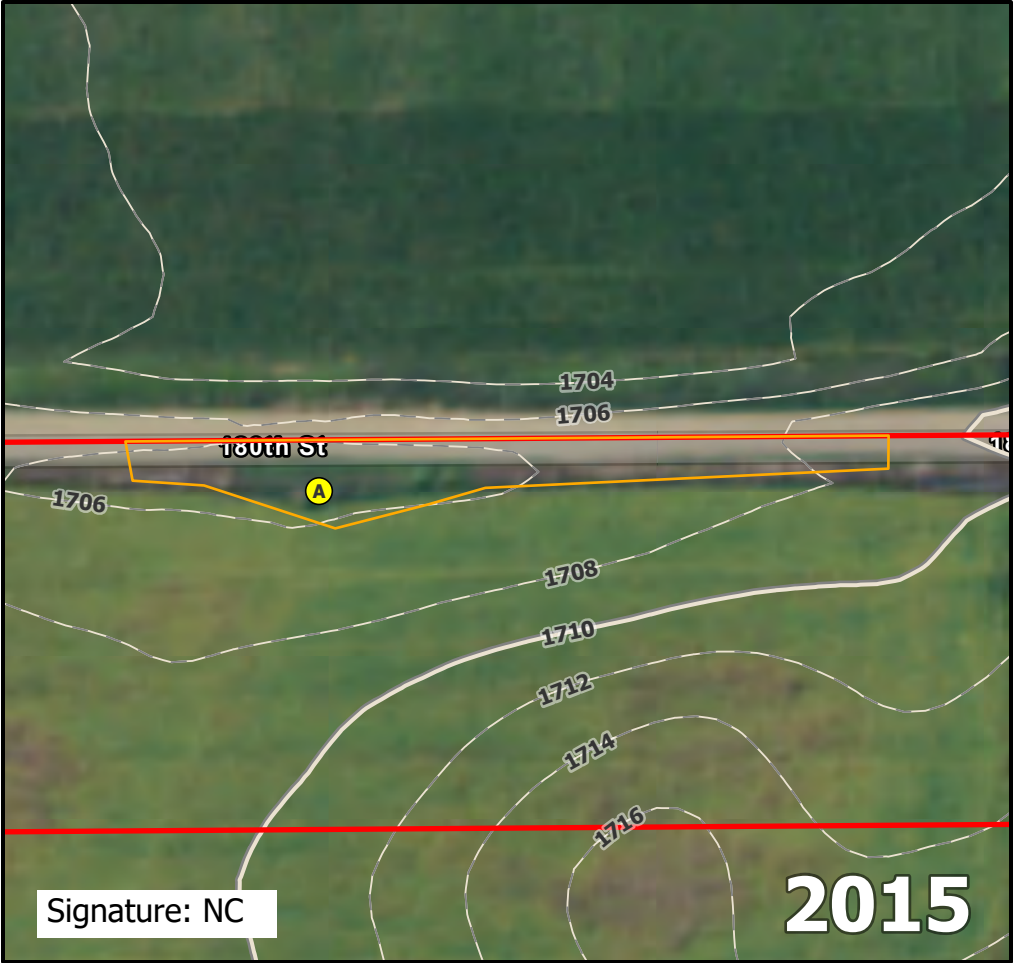
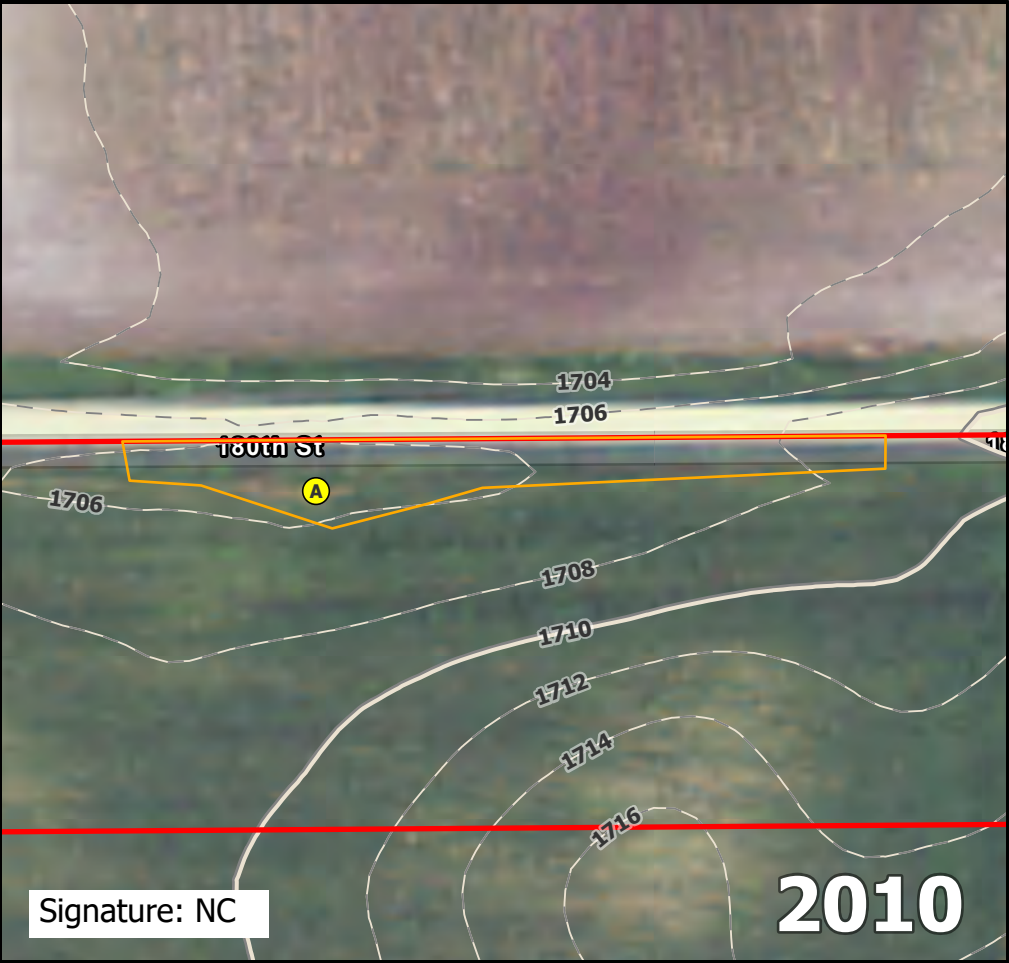
Remarks:



Overview of upland sample point NWC007A.

Direction: West	Photo ID: delin_photo-20240730-204922.jpg	Date: 07/30/2024
Project Name: Summit Lake		Feature ID: NWC007

8/23/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:1,500

Non-Wetland ID

NWC009

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: NWC009A
Investigator(s): Apryl Jennrich Section, Township, Range: Sec.10 T103N R41W
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
Slope (%): 2 Lat: 43.74146 Long: -95.73767 Datum: WGS84
Soil Map Unit Name: Webster clay loam, 0 to 2 percent slopes NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)

Are vegetation X, soil _____, or hydrology _____ Significantly disturbed? Are "normal circumstances present? No

Are vegetation _____, soil _____, or hydrology _____ naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>Yes</u>	
If yes, optional wetland site ID: _____		
Remarks: Climate conditions wet.		

VEGETATION -- Use scientific names of plants.

<u>Tree Stratum</u>	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				
<u>Sapling/Shrub Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
_____ =Total Cover				
<u>Herb Stratum</u>	(Plot size: <u>5</u>)			
1. <u>Glycine max</u>		<u>15</u>	<u>Y</u>	<u>UPL</u>
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
<u>15</u> =Total Cover				
<u>Woody Vine Stratum</u>	(Plot size: <u>15</u>)			
1. _____				
2. _____				
_____ =Total Cover				

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index Worksheet

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>0</u>	x 2 = <u>0</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>0</u>	x 4 = <u>0</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column totals <u>15</u> (A)	<u>75</u> (B)

Prevalence Index = B/A = 5

Hydrophytic Vegetation Indicators:

____ Rapid test for hydrophytic vegetation

____ Dominance test is >50%

____ Prevalence index is ≤3.0*

____ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

____ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Hydrophytic Vegetation Present? No

Remarks: (Include photo numbers here or on a separate sheet)

Agricultural field. Bare ground/open water: 85%

SOIL

Sampling Point: NWC009A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-22	10YR 2/1	100					Sandy Clay Loam	
22-30	10YR 3/2	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☒ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?Yes

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

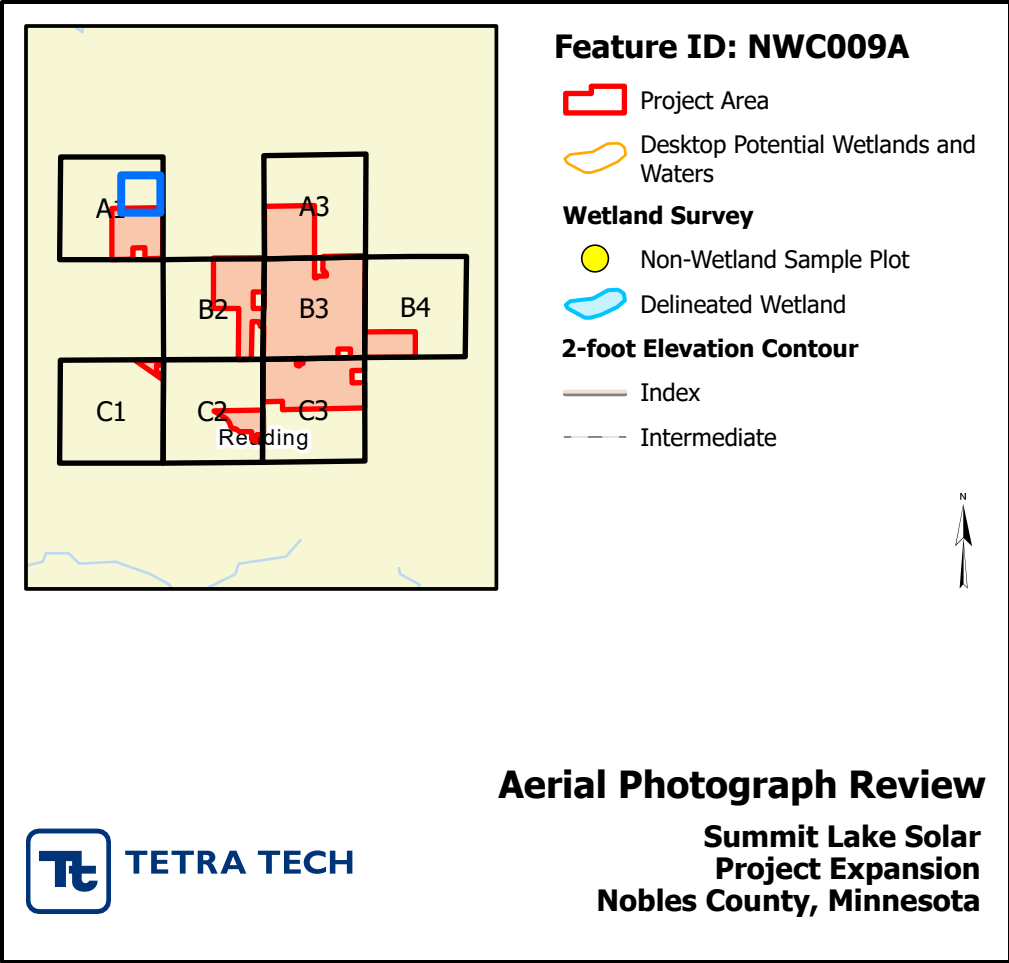
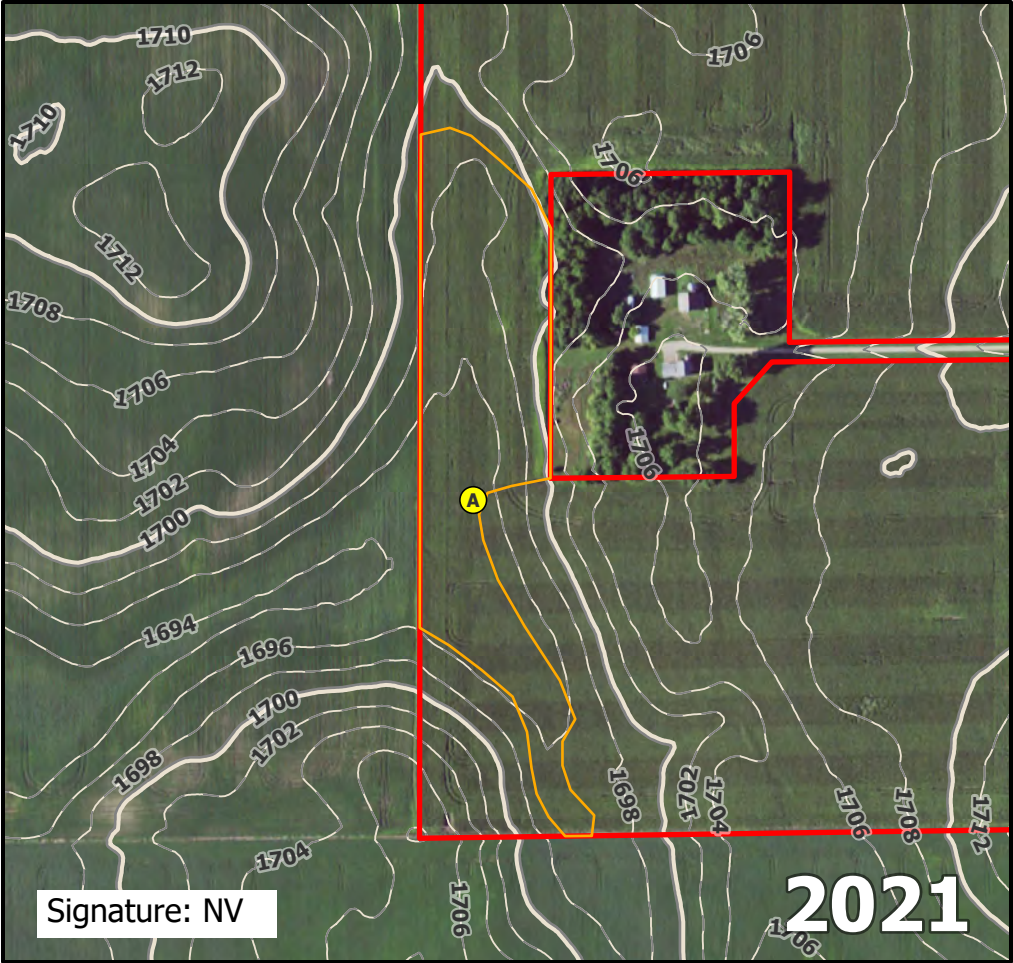
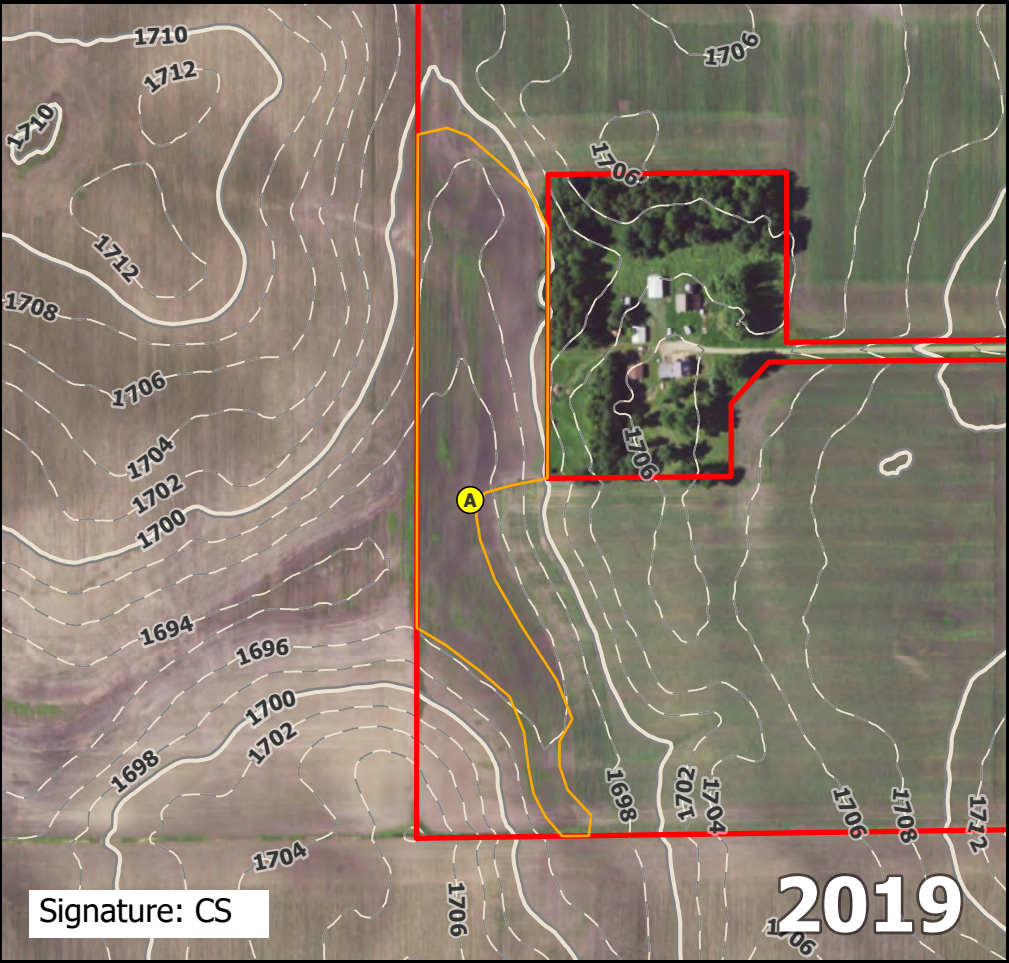
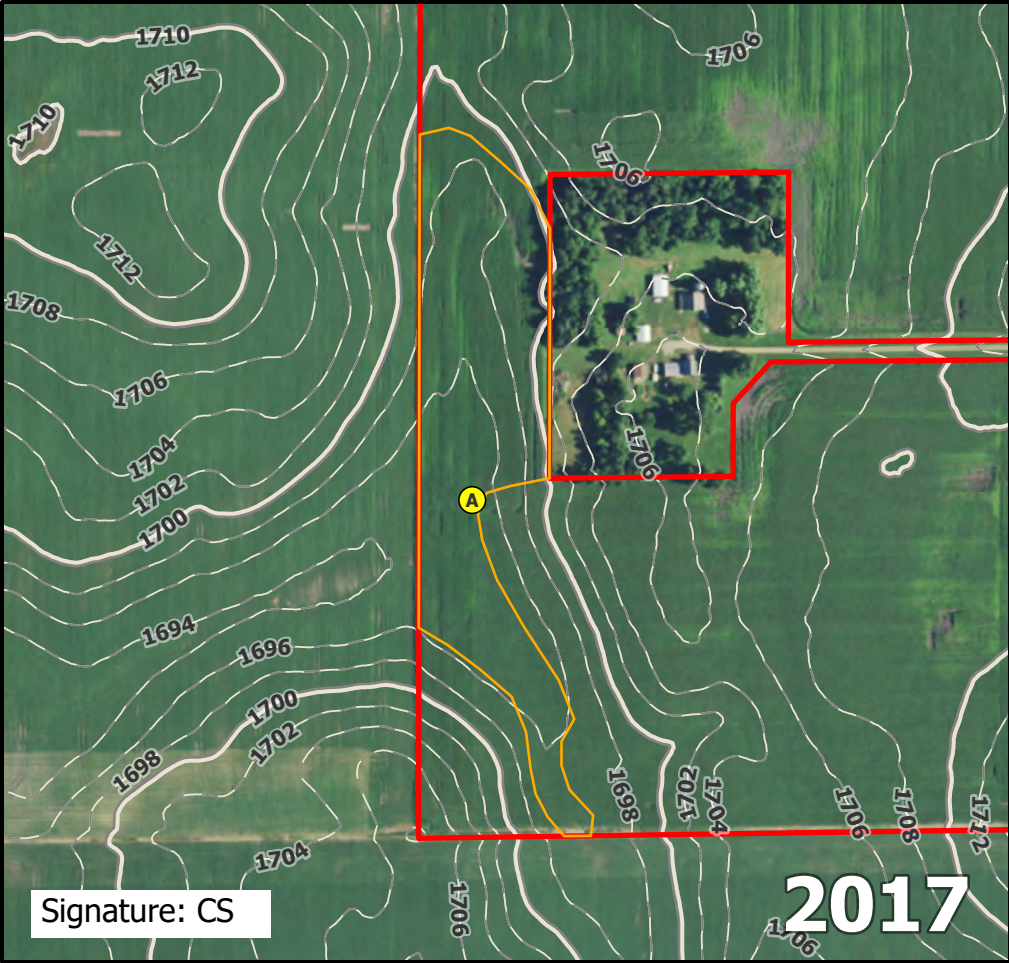
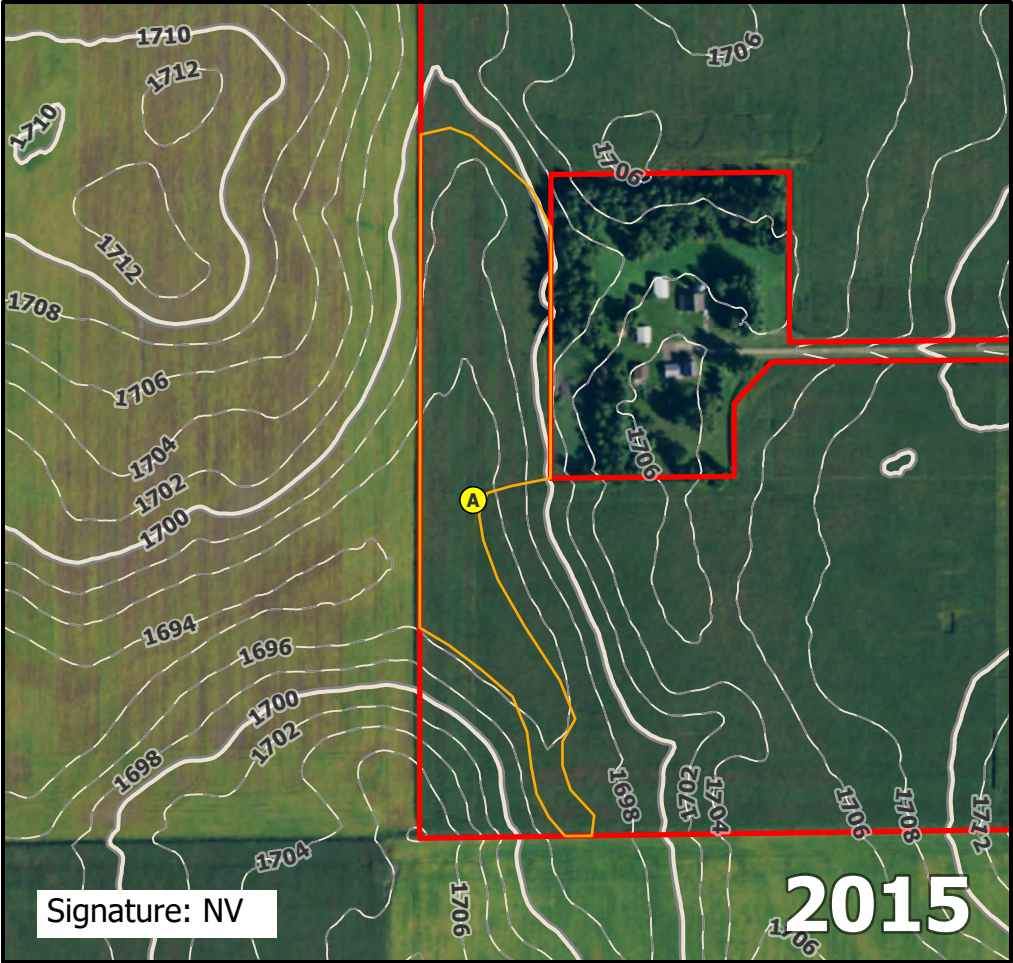
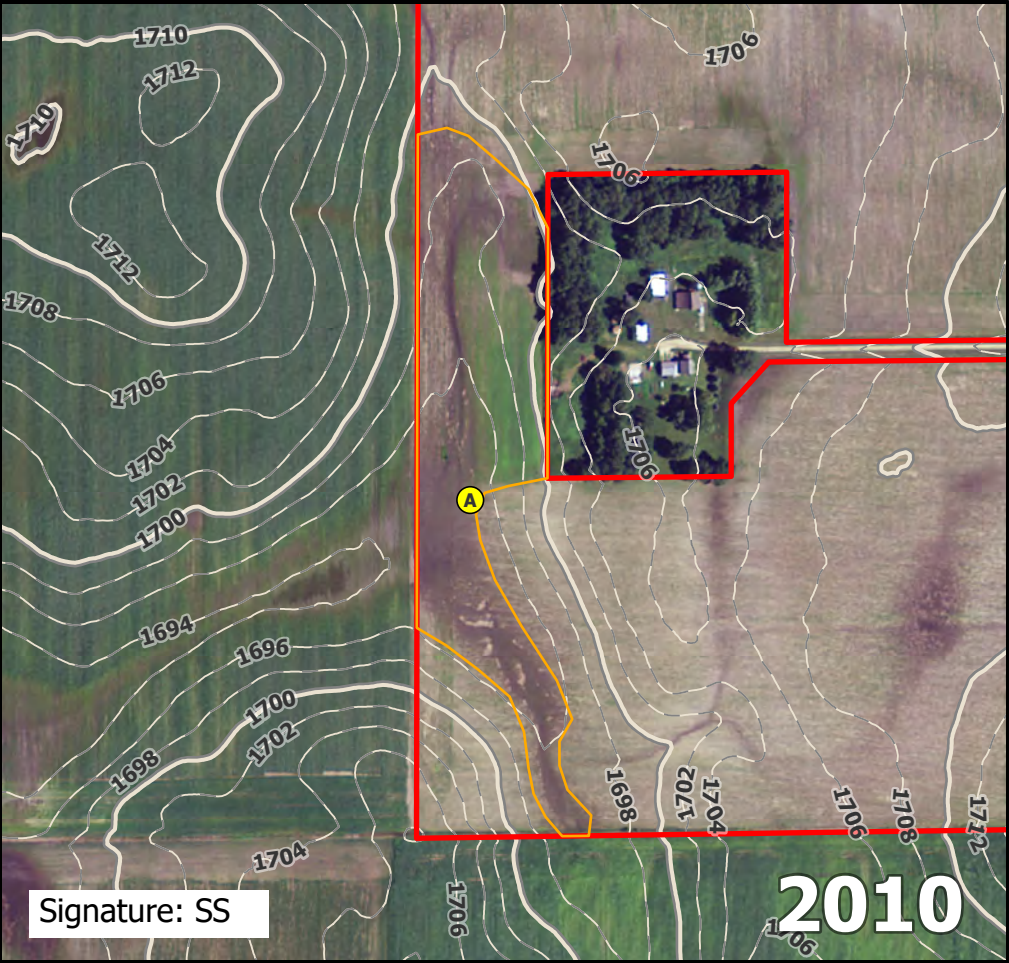
Remarks:



Overview of upland sample point NWC009A.

Direction: South	Photo ID: delin_photo-20240731-131722.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: NWC009

8/23/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:6,500

Non-Wetland ID

NWC013

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Summit Lake City/County: Nobles Sampling Date: 07/31/2024
 Applicant/Owner: National Grid Renewables State: Minnesota Sampling Point: NWC013A
 Investigator(s): Apryl Jennrich Section, Township, Range: Sec.22 T103N R41W
 Landform (hillslope, terrace, etc.): Broad Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43.71764 Long: -95.74196 Datum: WGS84
 Soil Map Unit Name: Okoboji silty clay loam, 0 to 1 percent slopes NWI Classification: PEM1Af

Are climatic/hydrologic conditions of the site typical for this time of the year? No (If no, explain in remarks)
 Are vegetation X, soil , or hydrology Significantly disturbed? Are "normal circumstances present? No
 Are vegetation , soil , or hydrology naturally problematic? (If needed, explain any answers in remarks.)

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present?	<u>No</u>	Is the sampled area within a wetland? <u>No</u>
Hydric Soil Present?	<u>No</u>	
Wetland Hydrology Present?	<u>No</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: Climate conditions wet. Recently planted agricultural field.		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u>)	Absolute % Cover	Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>0%</u> (A/B)
1.					
2.					
3.					
4.					
5.					Prevalence Index Worksheet Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>0</u> x 2 = <u>0</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>5</u> x 5 = <u>25</u> Column totals <u>5</u> (A) <u>25</u> (B) Prevalence Index = B/A = <u>5</u>
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15</u>)				
1.					
2.					
3.					
4.					
5.					
=Total Cover					
Herb Stratum	(Plot size: <u>5</u>)				
1. <i>Triticum aestivum</i>		<u>5</u>	<u>Y</u>	<u>UPL</u>	
2.					
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
<u>5</u> =Total Cover					Hydrophytic Vegetation Indicators: <u> </u> Rapid test for hydrophytic vegetation <u> </u> Dominance test is >50% <u> </u> Prevalence index is ≤3.0* <u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic hydrophytic vegetation* <u> </u> (explain)
Woody Vine Stratum	(Plot size: <u>15</u>)				
1.					
2.					
=Total Cover					
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic					
					Hydrophytic Vegetation Present? <u>No</u>

Remarks: (Include photo numbers here or on a separate sheet)

 Recently planted agricultural field. Ditch contains smooth brome. Bare ground/open water: 95%

SOIL

Sampling Point: NWC013A

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (Inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type*	Loc**		
0-32	10YR 2/1	100					Clay	
32-36	10YR 3/1	100					Clay	
36-40	10YR 4/1	100					Clay	

*Type: C = Concentration, D = Depletion, RM = Reduced Matrix, MS = Masked Sand Grains.

**Location: PL = Pore Lining, M = Matrix

Hydric Soil Indicators:

- ☐ Histosol (A1) ☐ Sandy Gleyed Matrix (S4)
☐ Histic Epipedon (A2) ☐ Sandy Redox (S5)
☐ Black Histic (A3) ☐ Stripped Matrix (S6)
☐ Hydrogen Sulfide (A4) ☐ Loamy Mucky Mineral (F1)
☐ Stratified Layers (A5) ☐ Loamy Gleyed Matrix (F2)
☐ 2 cm Muck (A10) ☐ Depleted Matrix (F3)
☐ Depleted Below Dark Surface (A11) ☐ Redox Dark Surface (F6)
☐ Thick Dark Surface (A12) ☐ Depleted Dark Surface (F7)
☐ Sandy Mucky Mineral (S1) ☐ Redox Depressions (F8)
☐ 5 cm Mucky Peat or Peat (S3)

Indicators for Problematic Hydric Soils*:

- ☐ Coast Prairie Redox (A16) (LRR K, L, R)
☐ Dark Surface (S7) (LRR K, L)
☐ Iron-Manganese Masses (F12) (LRR K, L, R)
☐ Very Shallow Dark Surface (TF12)
☐ Other (explain in remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? No

Remarks:

Snail shells in 36-40 inch layer.

HYDROLOGY**Wetland Hydrology Indicators:**

Primary Indicators (minimum of one is required; check all that apply)

- ☐ Surface Water (A1) ☐ Aquatic Fauna (B13)
☐ High Water Table (A2) ☐ True Aquatic Plants (B14)
☐ Saturation (A3) ☐ Hydrogen Sulfide Odor (C1)
☐ Water Marks (B1) ☐ Oxidized Rhizospheres on Living
☐ Sediment Deposits (B2) ☐ Roots (C3)
☐ Drift Deposits (B3) ☐ Presence of Reduced Iron (C4)
☐ Algal Mat or Crust (B4) ☐ Recent Iron Reduction in Tilled Soils
☐ Iron Deposits (B5) ☐ (C6)
☐ Inundation Visible on Aerial Imagery (B7) ☐ Thin Muck Surface (C7)
☐ Sparsely Vegetated Concave Surface (B8) ☐ Gauge or Well Data (D9)
☐ Water-Stained Leaves (B9) ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
☐ Drainage Patterns (B10)
☐ Dry-Season Water Table (C2)
☐ Crayfish Burrows (C8)
☐ Saturation Visible on Aerial Imagery (C9)
☐ Stunted or Stressed Plants (D1)
☒ Geomorphic Position (D2)
☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ☐ No ☒ Depth (inches): _____
 Water Table Present? Yes ☐ No ☒ Depth (inches): _____
 Saturation Present? Yes ☐ No ☒ Depth (inches): _____
 (includes capillary fringe)

Wetland Hydrology Present?

No

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

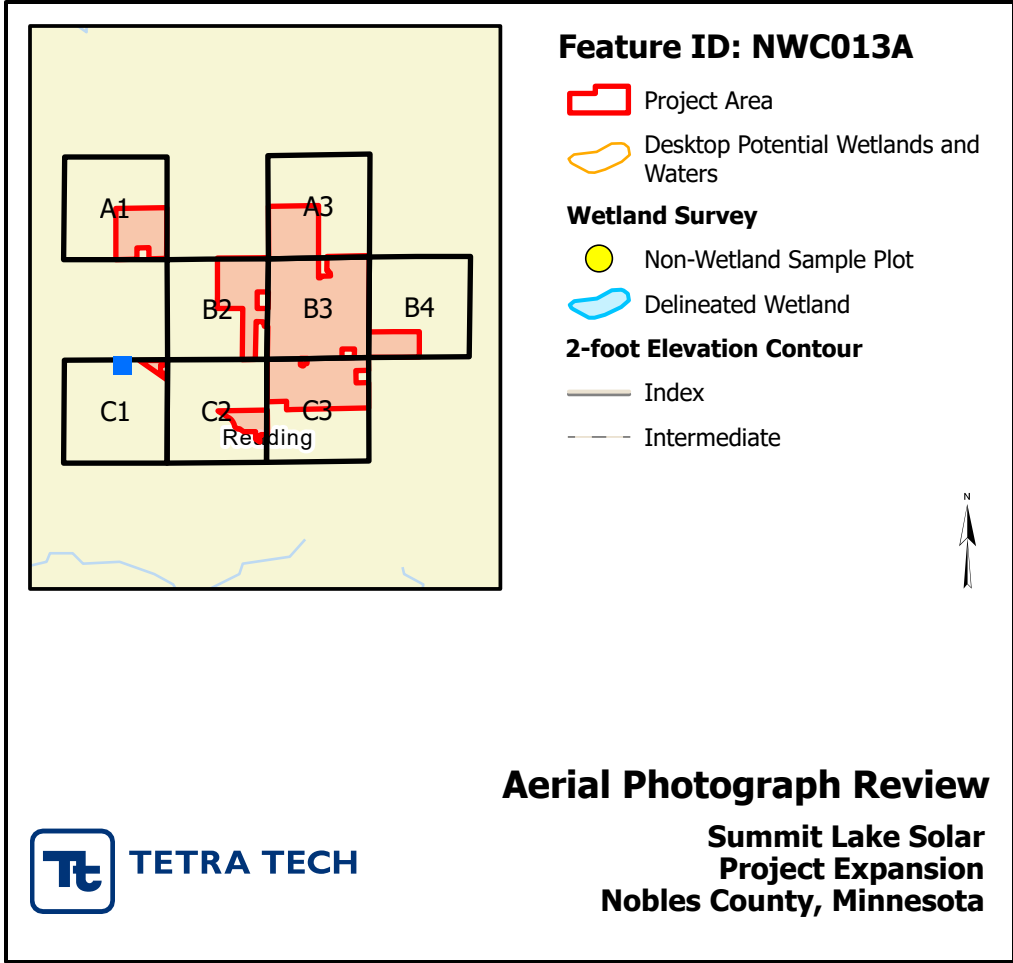
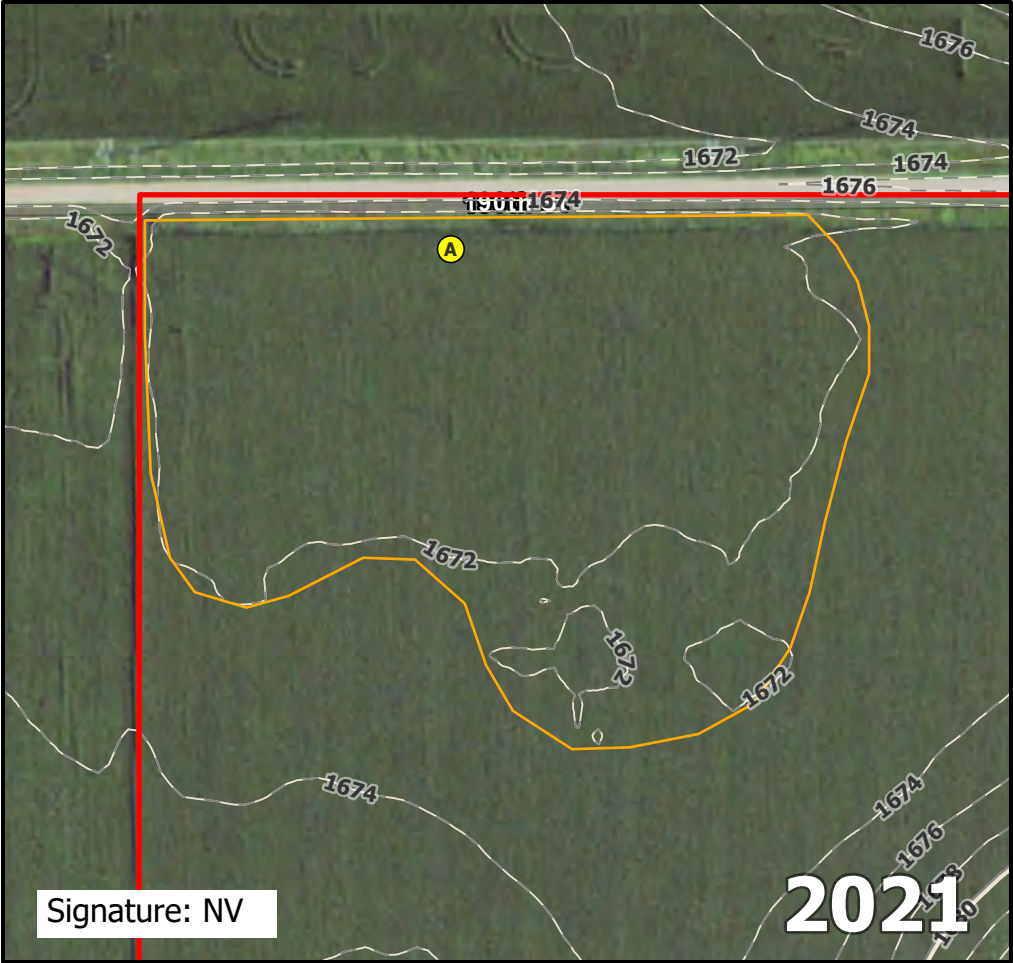
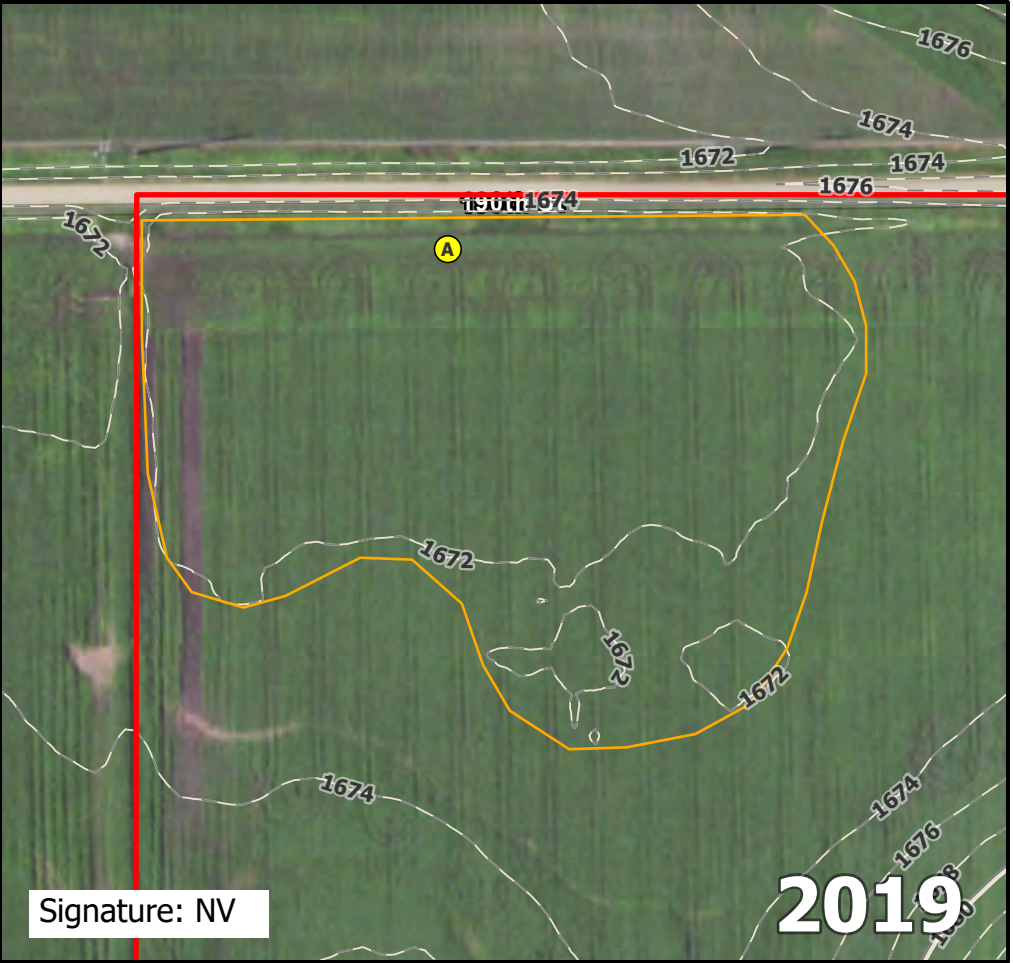
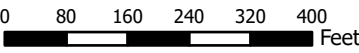
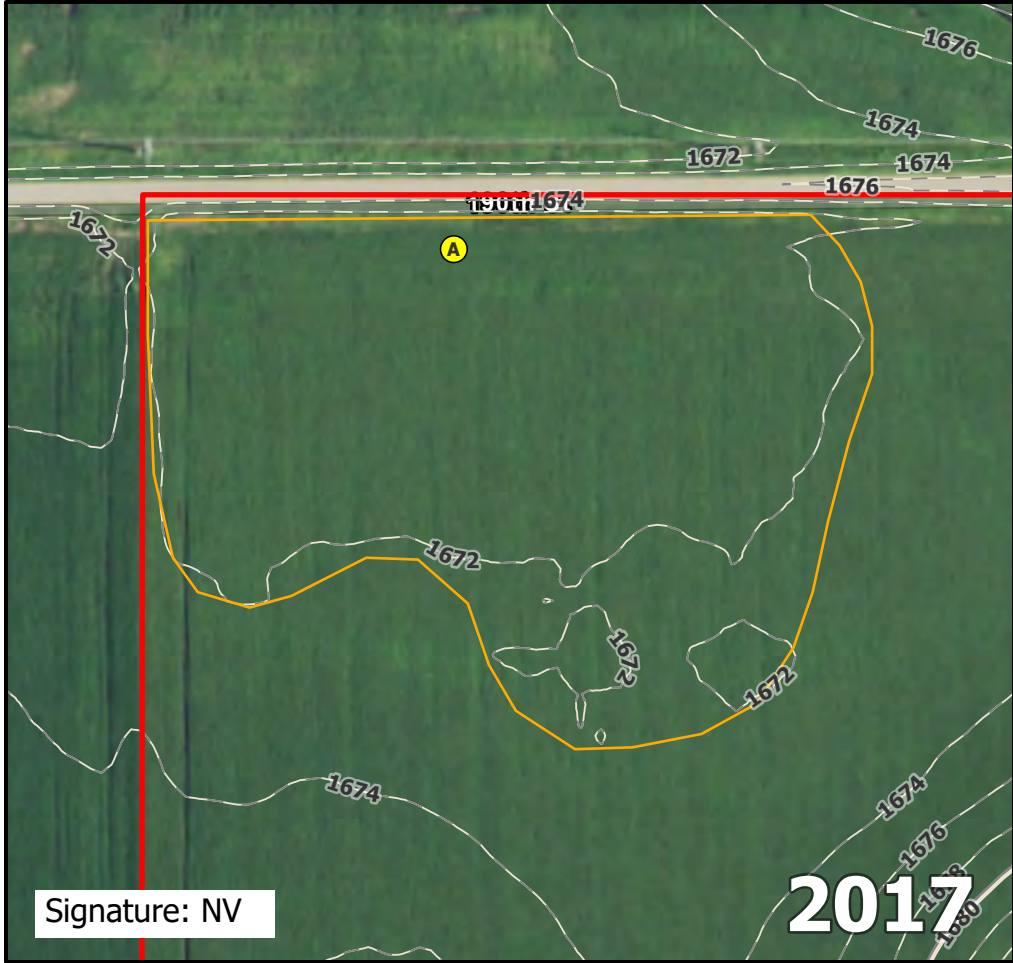
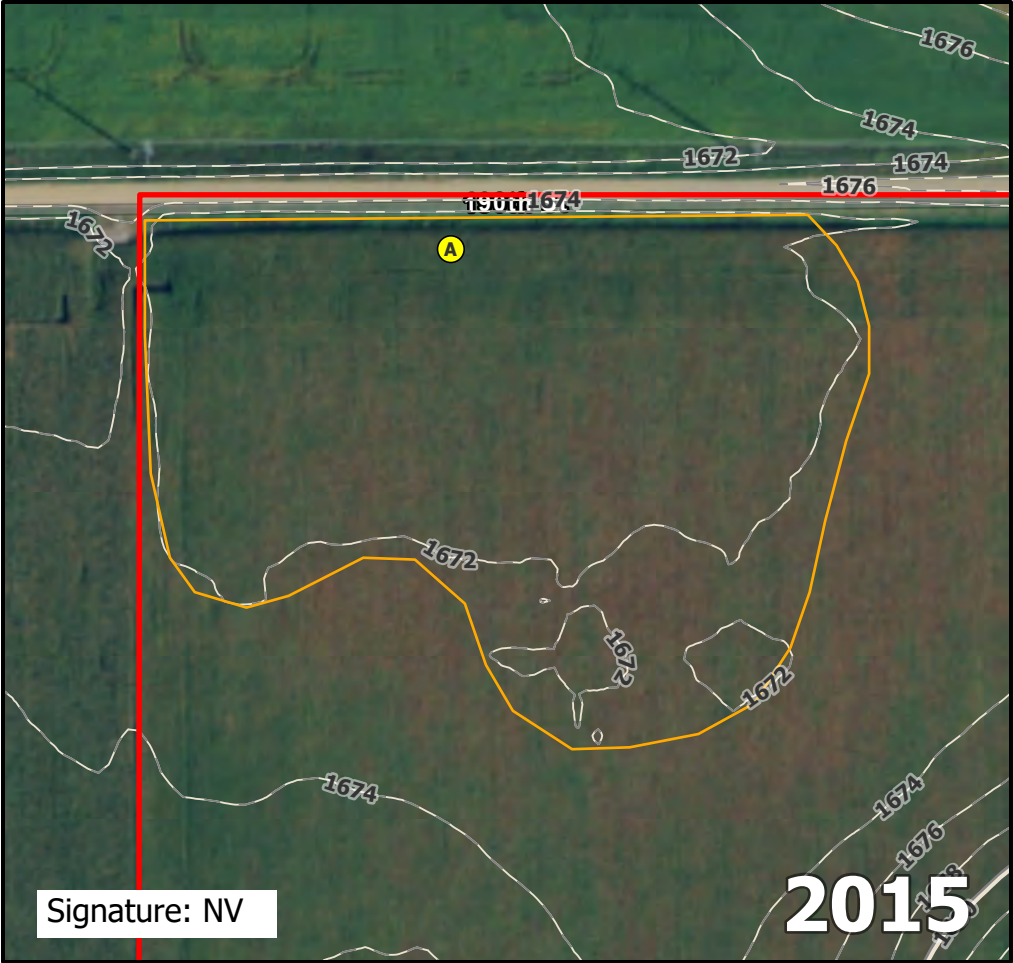
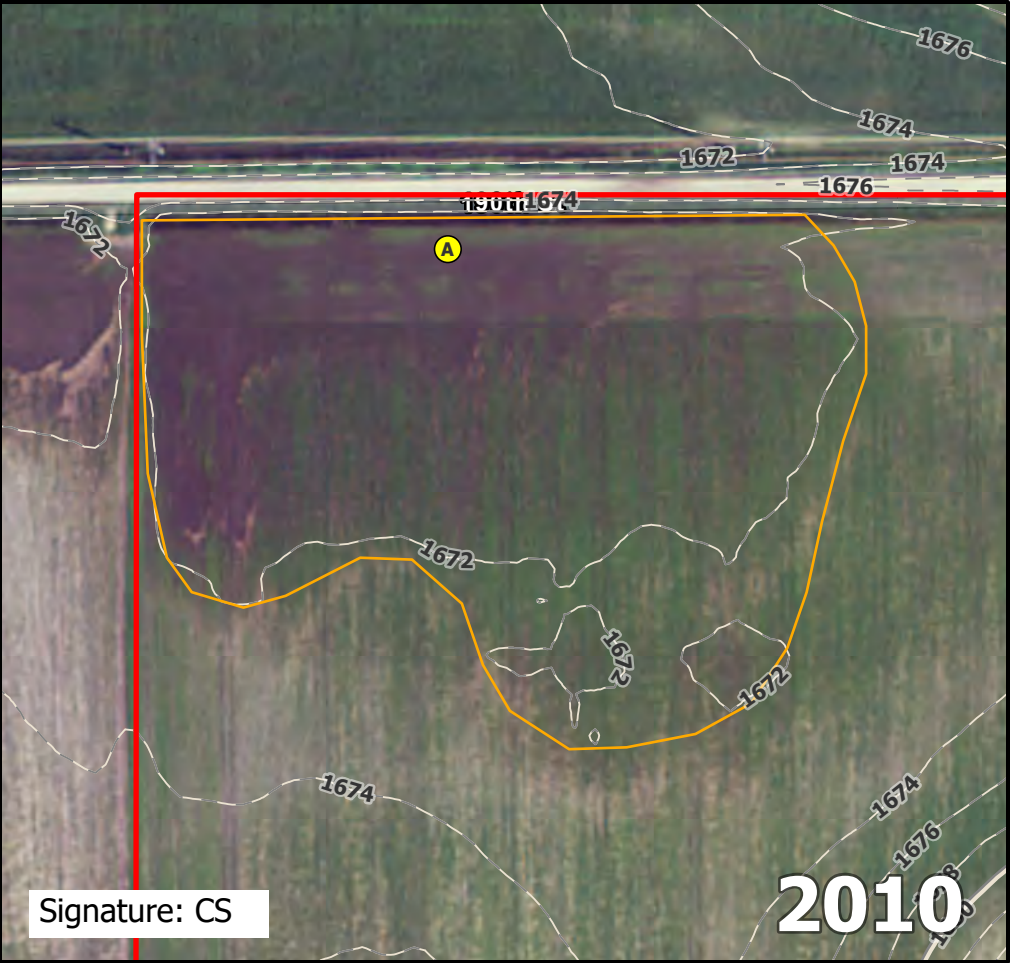
Remarks:



Overview of upland sample point NWC013A.

Direction: Southeast	Photo ID: delin_photo-20240731-201824.jpg	Date: 07/31/2024
Project Name: Summit Lake		Feature ID: NWC013

8/23/2024 kathy.bellrichard S:\Projects\NationalGrid\Summit Lake Solar MN\GIS\ArcGISPro\SummitLake_WetlandReport_20230411\SummitLake_WetlandReport_20240821.aprx Air Photo Review Maps



Source: Map adapted from NAIP air photos; desktop wetlands by Tetra Tech; 2-foot contours by MN DNR; Project Data by Summit Lake Solar, LLC. Scale: 1:3,000

APPENDIX D: WETLAND CLASSIFICATION KEY

Cowardin Wetland Classification System

Systems	Subsystems	System Specific Classes
L - Lacustrine	(1) Limnetic (2) Littoral	RB, UB, AB, RS, US, EM,
P - Palustrine	None	RB, UB, AB, US, ML, EM, SS, FO
R - Riverine	(1) Tidal (2) Lower Perennial (3) Upper Perennial (4) Intermittent	RB, UB, SB, AB, RS, US, EM
Classes	Water Regimes	Special Modifiers
RB - Rock Bottom UB - Unconsolidated Bottom SB - Streambed AB - Aquatic Bed RS - Rocky Shore US - Unconsolidated Shore EM - Emergent ML - Moss Lichen SS - Scrub Shrub FO - Forested	A – Temporarily flooded B – Seasonally saturated C – Seasonally flooded D – Continuously saturated E – Seasonally flooded/saturated F – Semi-permanently flooded G – Intermittently exposed H – Permanently flooded J – Intermittently flooded K – Artificially flooded	b – Beaver d – Partly drained/ditched f – Farmed m – Managed h – Diked/impounded r – Artificial substrate s – Spoil x – Excavated

Source: Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC. (FGDC 2013)

Circular 39 Wetland Classification System

Type and Definition	Approximate Cowardin Equivalents
Type 1: Seasonally flooded basin	PEMA, PFOA
Type 2: Meadow	PEMB
Type 3: Shallow marsh	PEMC, PEMF, PSSH, PUBA, PUBC
Type 4: Deep marsh	PEMF, PEMG, PEMH, PUBB, PUBF, PABF, PABG, L2US, L2EMF, L2EMG, L2ABF
Type 5: Shallow open water	L2ABG, L2ABH, L2EMA, L2EMB, L2EMH, L2RS, L2UB, PABH, PUBG, PUBH
Type 6: Shrub swamp	PSSA, PSSC, PSSF, PSSG, PSS1B, PSS5B, PSS6B
Type 7: Wooded swamp	PFO1B, PFO5B, PFO6B, PFOC, PFOF
Type 8: Bog	PFO2B, PFO4B, PFO7B, PSS2B, PSS3B, PSS4B, PSS7B

Source: Wetlands in Minnesota, Minnesota Board of Water and Soil Resources (BWSR n.d.)