

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA025 overview looking west.



Wetland Sample Point WA025A.

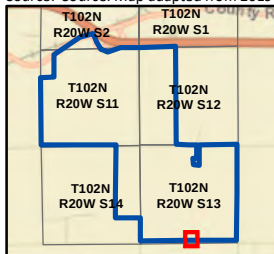


Non-wetland sample point WA025B.

9/11/2020 S:\Projects\Capital Dynamics\MidwestSolarDevCo\HaywardSolarLLC\GIS\Hayward_Wetlands_Minimaps_200817.mxd kathy.bellrichard



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:1,000

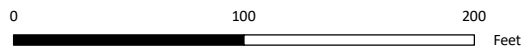


Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA025
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA033

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA033A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102 R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 36.21" Long: -93° 10' 46.87" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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* X (explain)

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

Hydrophytic vegetation present? Y

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

Soybeans

SOIL

Sampling Point: WA033A

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					Loam	
12-20	5Y 5/2	98	10YR 4/6	2	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA033B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102 R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 36.36" Long: -93° 10' 46.67" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

SOIL

Sampling Point: WA033B

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					Loam	
18-26	2.5Y 5/2						Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA033 overview looking southwest.



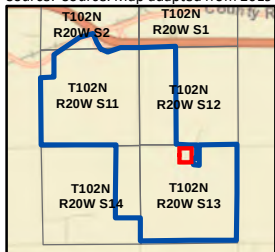
Wetland Sample Point WA033A.



Non-wetland sample point WA033B.



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:1,000



Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA033
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA039

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA039A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 39' 33.04" Long: -93° 11' 55.04" Datum: WGS84
 Soil Map Unit Name: Fieldon loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation , soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? Yes

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: <u> </u>)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: <u> </u>)			
1	<u>Phalaris arundinacea</u>	<u>90</u>	<u>Y</u>	<u>FACW</u>
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>90</u>	= Total Cover	
Woody vine stratum	(Plot size: <u> </u>)			
1				
2				
		<u>0</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: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>90</u>	x 2 =	<u>180</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>90</u>	(A)	<u>180</u> (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

 Rapid test for hydrophytic vegetation

X Dominance test is >50%

X 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?

Y

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

SOIL

Sampling Point: WA039A

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					Silt loam	
20-30	2.5Y 3/1	100					Clay	
30-34	5Y 5/2	97	10YR 4/6	3	C	PL	Clay	
34-37	5Y 5/2	75	10YR 4/6	25	C	PL/M	Sandy clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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):	34
Saturation present?	Yes ☐ No ☐	Depth (inches):	_____

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Project/Site:	Hayward Solar	City/County:	Freeborn County	Sampling Date:	4/30/2020
Applicant/Owner:	Hayward Solar LLC	State:	Minnesota	Sampling Point:	WA039B
Investigator(s):	Apryl Jennrich	Section, Township, Range:	T102N R20W S11		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Concave		
Slope (%):	1	Lat:	43° 39' 32.83"	Long:	-93° 11' 55.04"
		Datum:	WGS84		
Soil Map Unit Name:	Fieldon loam	NWI Classification:	NA		

SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	

<u>Tree Stratum</u> (Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1 _____	_____	_____	_____
2 _____	_____	_____	_____
3 _____	_____	_____	_____
4 _____	_____	_____	_____
5 _____	_____	_____	_____
	0 = Total Cover		
<u>Sapling/Shrub stratum</u> (Plot size: _____)			
1 _____	_____	_____	_____
2 _____	_____	_____	_____
3 _____	_____	_____	_____
4 _____	_____	_____	_____
5 _____	_____	_____	_____
	0 = Total Cover		
<u>Herb stratum</u> (Plot size: _____)			
1 <i>Urtica dioica</i>	5	Y	FACW
2 <i>Echinocystis lobata</i>	5	Y	FACW
3 <i>Galium aparine</i>	2	N	FACU
4 _____	_____	_____	_____
5 _____	_____	_____	_____
6 _____	_____	_____	_____
7 _____	_____	_____	_____
8 _____	_____	_____	_____
9 _____	_____	_____	_____
10 _____	_____	_____	_____
	12 = Total Cover		
<u>Woody vine stratum</u> (Plot size: _____)			
1 _____	_____	_____	_____
2 _____	_____	_____	_____
	0 = Total Cover		

Dominance Test Worksheet			
Number of Dominant Species that are OBL, FACW, or FAC:	2		(A)
Total Number of Dominant Species Across all Strata:	2		(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%		(A/B)

Prevalence Index Worksheet			
Total % Cover of:			
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	2	x 4 =	8
UPL species	0	x 5 =	0
Column totals	12	(A)	28 (B)
Prevalence Index = B/A =			2.33

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?
Y

SOIL

Sampling Point: WA039B

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					Silt loam	
22-32	2.5Y 3/1	100					Clay	
32-36	2.5Y 4/1	100					Clay	
36-37	2.5Y 5/2	100					clay	Saturated

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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 <u> </u>	No <u> X </u>	Depth (inches): <u> </u>
Water table present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 36 </u>
Saturation present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 36 </u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA039 overview looking north.



Wetland Sample Point WA039A.

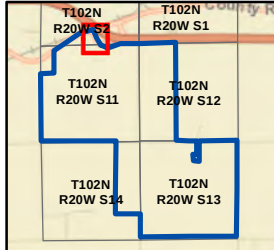


Non-wetland sample point WA039B.

9/11/2020 S:\Projects\Capital Dynamics\MidwestSolarDevCo\HaywardSolarLLC\GIS\Hayward Wetlands Minimap 200817.mxd kathy.bellrichard



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:2,000



Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression

0 100 200 300 400 Feet

Wetland ID: WA039
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA045

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA045A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 39' 4.19" Long: -93° 12' 1.83" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: N/A

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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* X (explain)

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

Hydrophytic vegetation present?

Y

Remarks: (Include photo numbers here or on a separate sheet)
 recently tilled; 100% bare ground

SOIL

Sampling Point: WA045A

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					Silt loam	
16-24	2.5Y 4/1	80	10YR 5/6	20	C	PL/M	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA045B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 39' 4.51" Long: -93° 12' 1.85" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

Remarks: (Include photo numbers here or on a separate sheet)
 tilled -100% bare ground

SOIL

Sampling Point: WA045B

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					Silt loam	
15-18	2.5Y 4/1	99	10YR 4/6	1	C	PL	Clay	
18-24	2.5Y 4/1	75	10YR 5/6	25	C	PL/M	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA045 overview looking southeast.



Wetland Sample Point WA045A.

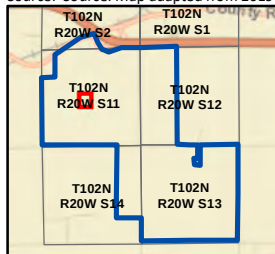


Non-wetland sample point WA045B.

9/11/2020 S:\Projects\Capital Dynamics\MidwestSolarDevCo\HaywardSolarLLC\GIS\Hayward_Wetlands_Minimaps_200817.mxd kathy.bellrichard



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:1,000

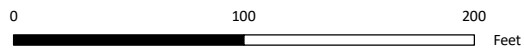


Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA045
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA046

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA046A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 38' 59.22" Long: -93° 12' 6.11" Datum: WGS84
 Soil Map Unit Name: Wascousta mucky silt loam NWI Classification: _____

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)	

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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* X (explain)

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

Hydrophytic vegetation present? Y

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

Recently tilled - 100% bare ground

SOIL

Sampling Point: WA046A

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					Silt loam	
12-24	5Y 4/1	70	10YR 5/6	30	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

weedy veg

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA046B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 58.83" Long: -93° 12' 6.09" Datum: WGS84
 Soil Map Unit Name: Wascousta mucky silt loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland?	<u>N</u>
Hydric soil present?	<u>N</u>		
Indicators of wetland hydrology present?	<u>N</u>		
Remarks: (Explain alternative procedures here or in a separate report.)			

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Recently tilled, 100% bare ground

SOIL

Sampling Point: WA046B

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					Silt loam	
12-24	2.5Y 4/1	99	10YR 5/6	1	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



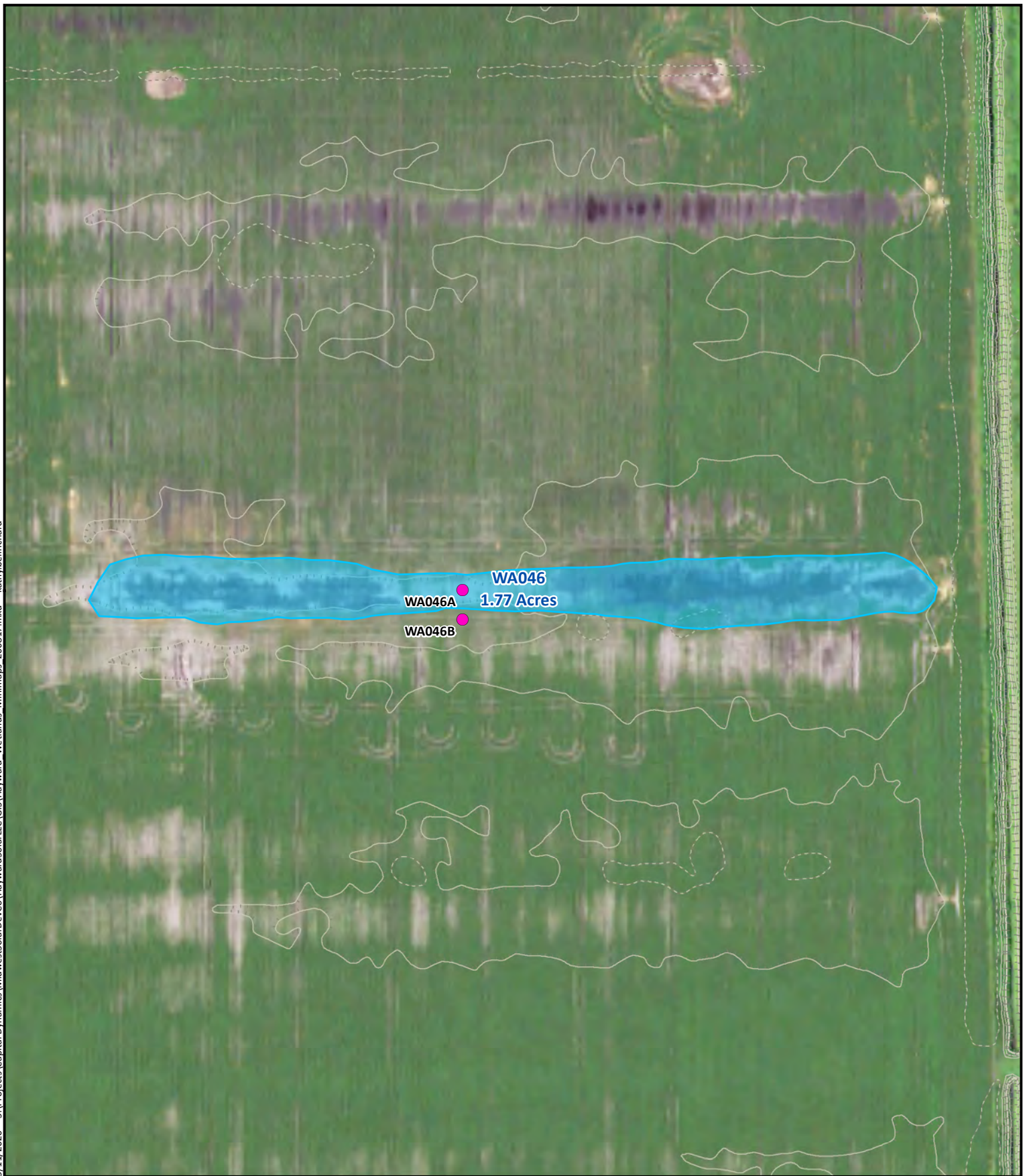
WA046 overview looking south.



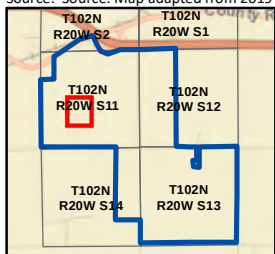
Wetland Sample Point WA046A.



Non-wetland sample point WA046B.



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:2,000

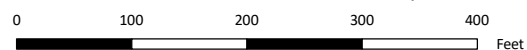


Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA046
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA047

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: _____
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA047A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 38' 58.93" Long: -93° 12' 18.12" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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*

X (explain)

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

Hydrophytic vegetation present?

Y

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

Recently tilled - 100% bared ground

SOIL

Sampling Point: WA047A

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	
12-18	10YR 2/1	60	2.5Y 5/1	25	D	M	Clay	
			5GY 4/1	15	D	M	Clay	Gley
18-21	5GY 4/1	80	10YR 5/6	20	C	PL	Clay	Gley
21-25	5Y 4/2	97	10YR 5/6	3	C	PL	Clay	

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

Hydric Soil Indicators:

- ☐ Histisol (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? Y

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)

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 1/0/1900
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA047B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 58.66" Long: -93° 12' 18.15" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
If yes, optional wetland site ID: <u> </u>		

Remarks: (Explain alternative procedures here or in a separate report.)

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Staus
1				
2				
3				
4				
5				
		<u>0</u> = Total Cover		
Sapling/Shrub stratum	(Plot size: <u> </u>)			
1				
2				
3				
4				
5				
		<u>0</u> = Total Cover		
Herb stratum	(Plot size: <u> </u>)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u> = Total Cover		
Woody vine stratum	(Plot size: <u> </u>)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 0 (A) 0 (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? N

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

Recently tilled - 100% bare ground

SOIL

Sampling Point: WA047B

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					Silt loam	
16-25	5Y 4/2	99	10YR 4/6	<1	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA047 overview looking west.

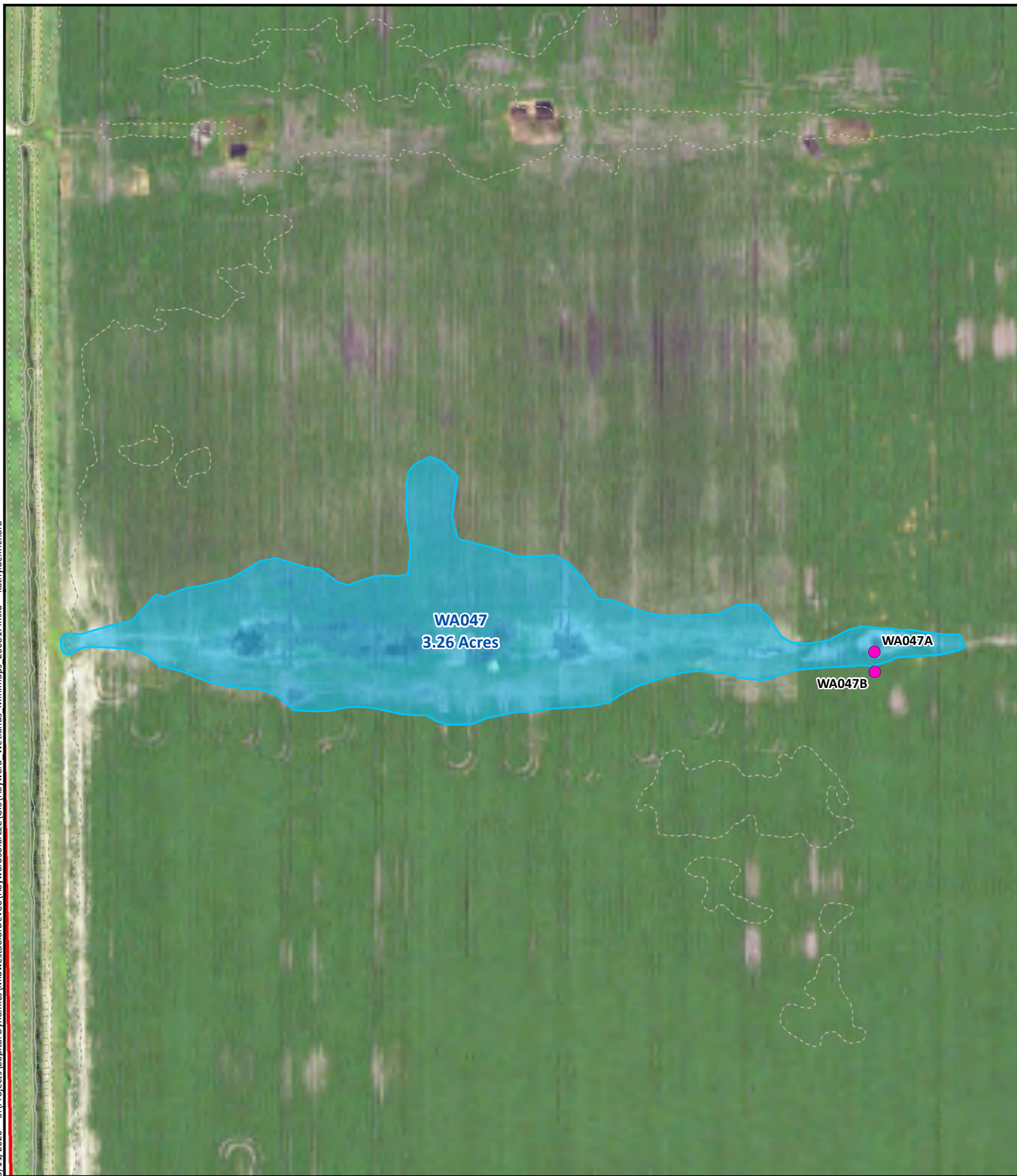


Wetland Sample Point WA047A.

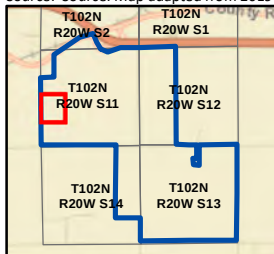


Non-wetland sample point WA047B.

9/11/2020 S:\Projects\Capital Dynamics\MidwestSolarDevCo\HaywardSolarLLC\GIS\Hayward Wetlands Minimap.mxd kathy.bellrichard



Source: Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:2,000

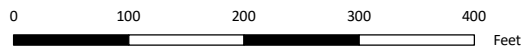


Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA047
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



WA054

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA054A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Swale Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 38' 10.68" Long: -93° 11' 18.96" Datum: WGS84
 Soil Map Unit Name: Dassel mucky loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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* X (explain)

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

Hydrophytic vegetation present?

Y

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

100% bare ground - recently tilled

SOIL

Sampling Point: WA054A

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					Silty clay	
12-20	5Y 5/2	95	10YR 4/6	5	C	PL	Clay	
20-25	5Y 5/2	80	10YR 4/6	20	C	PL/M	Sandy clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: WA054B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Slope Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 11.09" Long: -93° 11' 18.93" Datum: WGS84
 Soil Map Unit Name: Dassel mucky loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (If no, explain in remarks)

Are vegetation X, soil , or hydrology significantly disturbed? Are "normal circumstances"

Are vegetation , soil , or hydrology naturally problematic? present? No

SUMMARY OF FINDINGS (If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	
If yes, optional wetland site ID: <u> </u>		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: <u> </u>)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u> = Total Cover		
Sapling/Shrub stratum	(Plot size: <u> </u>)			
1				
2				
3				
4				
5				
		<u>0</u> = Total Cover		
Herb stratum	(Plot size: <u> </u>)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u> = Total Cover		
Woody vine stratum	(Plot size: <u> </u>)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet
 Total % Cover of:
 OBL species 0 x 1 = 0
 FACW species 0 x 2 = 0
 FAC species 0 x 3 = 0
 FACU species 0 x 4 = 0
 UPL species 0 x 5 = 0
 Column totals 0 (A) 0 (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? N

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

100% bare ground - recently tilled

SOIL

Sampling Point: WA054B

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 loam	
19-21	2.5Y 4/1	98	10YR 4/6	2	C	PL	Clay	
21-28	5Y 5/2	95	10YR 4/6	5	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



WA054 overview looking east.



Wetland Sample Point WA054A.

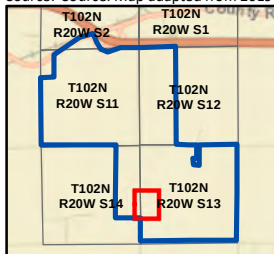


Non-wetland sample point WA054B.

9/11/2020 S:\Projects\Capital Dynamics\MidwestSolarDevCo\HaywardSolarLLC\GIS\Hayward_Wetlands_Minimaps_200817.mxd kathy.bellrichard



Source: Map adapted from 2019 NAIP; MN DNR Elevation, Tetra Tech wetlands. Scale: 1:2,000

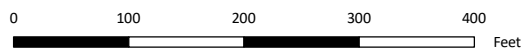


Wetland Survey

- Sample Point
- Delineated Wetland
- Project Area

2-foot Elevation Contour

- Index
- Index Depression
- Intermediate
- Intermediate Depression



Wetland ID: WA054
Wetland Delineation
Hayward Solar
Freeborn County, Minnesota



NWA004

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/27/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA004A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 10.48" Long: -93° 10' 28.96" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA004A

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					Silt loam	
16-26	5Y 5/2	96	10YR 4/6	4	C	PL	Silty clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? Y

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA004 overview looking southwest.

NWA017

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/28/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA017A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 37' 50.44" Long: -93° 10' 23.08" Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble and ragweed

SOIL

Sampling Point: NWA017A

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					Silt loam	
16-20	10YR 2/1	99	10YR 5/6	1	C	PL	Sandy clay	
20-25	2.5Y 3/1	99	10YR 5/6	1	C	PL	Sandy clay	
25-28	2.5Y 4/2	100					Sand	
28-33	2.5Y 4/2	95	10YR 5/6	5	C	PL	Sandy clay	with trace gravel

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA017 overview looking northwest.

NWA018

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/28/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA018A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 2 Lat: 43° 37' 51.85" Long: -93° 10' 23.19" Datum: WGS84
 Soil Map Unit Name: Glencoe clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble and ragweed

SOIL

Sampling Point: NWA018A

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	
12-19	10YR 2/1	100					Clay	
19-22	2.5Y 3/1	100					Clay	
22-27	2.5Y 5/2	99	10YR 4/6	1	C	PL	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA018 overview looking north.

NWA020

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/28/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA020A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Broad depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43° 37' 56.68" Long: -93° 10' 21.74" Datum: WGS84
 Soil Map Unit Name: Marshan silt loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>Y</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble from previous year does not appear stressed.

SOIL

Sampling Point: NWA020A

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					Silty clay	
20-26	10YR 3/1	97	10YR 4/6	3	C	PL	Clay	
26-30	2.5Y 5/2	98	10YR 4/6	2	C	PL	Clay	
30-37	2.5Y 5/2	85	10YR 4/6	15	C	PL/M	Sandy clay	

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

Hydric Soil Indicators:

- ☐ Histisol (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? Y

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 X Depth (inches): _____
 Water table present? Yes No X Depth (inches): _____
 Saturation present? Yes X No Depth (inches): 30
 (includes capillary fringe)

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA020 overview looking northeast.

NWA022

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA022A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 2 Lat: 43° 37' 56.68" Long: -93° 10' 21.74" Datum: WGS84
 Soil Map Unit Name: Madelin silty clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble and ragweed.

SOIL

Sampling Point: NWA022A

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					Silty clay	
12-22	2.5Y 3/1	100					Clay	
22-28	2.5Y 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:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA022 overview looking northeast.

NWA023

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA023A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 37' 50.72" Long: -93° 10' 33.63" Datum: WGS84
 Soil Map Unit Name: Madelin silty clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA023A

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	
18-23	2.5Y 3/1	100					Clay	
23-38	2.5Y 4/1	100					Sandy clay	with trace small gravel

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA023 overview looking southwest.

NWA024

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA024A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 37' 52.38" Long: -93° 10' 38.09" Datum: WGS84
 Soil Map Unit Name: Canisteo clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Barnyard grass

SOIL

Sampling Point: NWA024A

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					Silt loam	
17-23	10YR 2/1	70	2.5Y 3/2	30	C	PL	Loam	
23-26	2.5Y 4/1	100					Sandy clay	
26-30	2.5Y 4/1	90	10YR 4/6	10	C	PL	Sandy clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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 <u> </u>	No <u> X </u>	Depth (inches): <u> </u>
Water table present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 26 </u>
Saturation present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 26 </u>

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA024A overview looking west.

NWA024

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA024B
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 37' 51.41" Long: -93° 10' 38.39" Datum: WGS84
 Soil Map Unit Name: Madelia silty clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Barnyard grass

SOIL

Sampling Point: NWA024B

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					Silt loam	
18-22	2.5Y 3/2	100					Sandy clay	
22-26	2.5Y 5/3	95	10YR 4/6	5	C	PL	Sandy clay	
26-28	2.5Y 5/3	95	10YR 4/6	5	C	PL	Sand	Saturated

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☒ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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):	26

 (includes capillary fringe)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA024B overview looking south.

NWA024

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA024C
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 37' 51.32" Long: -93° 10' 38.10" Datum: WGS84
 Soil Map Unit Name: Madelia silty clay loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Barnyard grass

SOIL

Sampling Point: NWA024C

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					Silt loam	
18-26	2.5Y 4/1	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:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☒ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA024C overview looking south.

NWA026

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA026A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 25.24" Long: -93° 10' 31.70" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u> If yes, optional wetland site ID: _____
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA026A

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					Silt loam	
16-18	2.5Y 3/1	100					Clay loam	
18-26	5Y 4/1	99	10YR 4/6	<1	C	PL	Clay	
26-28	5Y 4/1	99	10YR 4/6	<1	C	PL	Sandy clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA026A overview looking west.

NWA027

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA027A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 38' 33.41" Long: -93° 10' 28.14" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA027A

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					Loam	
12-20	2.5Y 5/3	100					Sand	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA027A overview looking west.

NWA028

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA028A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 38' 28.60" Long: -93° 10' 18.26" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA028A

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					Loam	
12-20	2.5Y 5/3	100					Sand	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA028A overview looking northwest.

NWA029

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA029A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 25.92" Long: -93° 10' 19.63" Datum: WGS84
 Soil Map Unit Name: Dassel mucky loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA029A

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					Sandy loam	
8-16	2.5Y 5/3	100					Sand	
16-20	2.5Y 5/3	100					Sand	with gravel
20-23	2.5Y 5/3	100					Sand	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA029A overview looking east.

NWA030

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA030A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 22.10" Long: -93° 10' 16.79" Datum: WGS84
 Soil Map Unit Name: Dassel mucky loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA030A

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					Loam	
12-22	2.5Y 6/3	100					Sand	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA030A overview looking east.

NWA031

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA031A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 24.67" Long: -93° 10' 14.21" Datum: WGS84
 Soil Map Unit Name: Dassel mucky loam NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA031A

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					Loam	
12-22	2.5Y 5/3	100					Sand	trace gravel

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA031A overview looking east.

NWA032

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA032A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S13
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 38' 24.67" Long: -93° 10' 14.21" Datum: WGS84
 Soil Map Unit Name: Kossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Corn stubble

SOIL

Sampling Point: NWA032A

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					Loam	
12-20	2.5Y 5/3	100					Sand	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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)
Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA032A overview looking southwest.

NWA034

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/29/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA034A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Plain Local relief (concave, convex, none): None
 Slope (%): 1 Lat: 43° 39' 8.42" Long: -93° 11' 22.29" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

Soybean stubble, recently tilled

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					Silt loam	
12-17	2.5Y 5/2	99	10YR 4/6	1	C	PL	Silt loam	
17-20	2.5Y 5/2	70	10YR 4/6	30	C	PL	Silt loam	
20-23	2.5Y 5/2	70	10YR 4/6	30	C	PL	Sandy clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐	No ☒	Depth (inches): _____

Indicators of wetland hydrology present? N

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Wetland Delineation Photographs, Hayward Solar, Freeborn County, Minnesota



NWA034A overview looking west.

NWA041

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Hayward Solar City/County: Freeborn County Sampling Date: 4/30/2020
 Applicant/Owner: Hayward Solar LLC State: Minnesota Sampling Point: NWA041A
 Investigator(s): Apryl Jennrich Section, Township, Range: T102N R20W S11
 Landform (hillslope, terrace, etc.): Weak depression Local relief (concave, convex, none): Concave
 Slope (%): 1 Lat: 43° 39' 21.15" Long: -93° 11' 56.40" Datum: WGS84
 Soil Map Unit Name: Klossner muck NWI Classification: NA

Are climatic/hydrologic conditions of the site typical for this time of the year? Y (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? present? No

SUMMARY OF FINDINGS

(If needed, explain any answers in remarks.)

Hydrophytic vegetation present?	<u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present?	<u>N</u>	
Indicators of wetland hydrology present?	<u>Y</u>	
If yes, optional wetland site ID: _____		
Remarks: (Explain alternative procedures here or in a separate report.)		

VEGETATION -- Use scientific names of plants.

Tree Stratum	(Plot size: _____)	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Sapling/Shrub stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
		<u>0</u>	= Total Cover	
Herb stratum	(Plot size: _____)			
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		<u>0</u>	= Total Cover	
Woody vine stratum	(Plot size: _____)			
1				
2				
		<u>0</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: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

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>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u>	(A)	<u>0</u> (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?

N

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

100% bare ground, recently planted.

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**		
0-10	10YR 2/1	100					Silt loam	
10-18	5Y 4/1	99	10YR 4/6	1	C	PL	Clay	
18-24	5Y 4/1	99	10YR 4/6	1	C	PL	Sandy clay	
24-30	5Y 4/1	70	10YR 4/6	30	C	PL/M	Clay	

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

Hydric Soil Indicators:

- | | |
|--|---|
| ☐ Histisol (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? N

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 Roots (C3) |
| ☐ Sediment Deposits (B2) | ☐ Presence of Reduced Iron (C4) |
| ☐ Drift Deposits (B3) | ☐ Recent Iron Reduction in Tilled Soils (C6) |
| ☐ Algal Mat or Crust (B4) | ☐ Thin Muck Surface (C7) |
| ☐ Iron Deposits (B5) | ☐ Gauge or Well Data (D9) |
| ☐ Inundation Visible on Aerial Imagery (B7) | ☐ Other (Explain in Remarks) |
| ☐ Sparsely Vegetated Concave Surface (B8) | |
| ☐ Water-Stained Leaves (B9) | |

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? (includes capillary fringe)	Yes ☐ No ☒	Depth (inches): _____

Indicators of wetland hydrology present? Y

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks: