APPENDIX I – WETLAND DELINEATION REPORT

Wetlands and Waters Survey

Flickertail Solar Project
Richland County, North Dakota

September 17, 2024

PRESENTED TO

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EXECUTIVE SUMMARY

This report presents the findings of a Wetlands and Waters Survey completed on behalf of Flickertail Solar Project, LLC for the proposed Flickertail Solar Project in Richland County, North Dakota (the Project). The Survey Area for the proposed Project includes approximately 3,315 acres of land where the proposed solar energy facilities may be developed.

The field surveys completed for the Project identified 143 wetland and water features totaling 84.982 acres within the Survey Area. Each of the identified wetlands and waters in the Survey Area was reviewed for potential U.S. Army Corps of Engineers (USACE) jurisdiction under Section 404 of the Clean Water Act and an initial waters of the U.S. (WOTUS) jurisdictional determination was recommended for each. Table ES-1 summarizes the identified wetland and water resources and their recommended jurisdictional status. However, only the USACE can make the final determination on the regulatory jurisdiction of wetlands and waters.

Permit authorization and/or exemption review will be required from the USACE if Project development will cause impacts to any of the delineated resources within the Survey Area.

Table ES-1: Summary of Wetlands and Waters in the Survey Area and Recommended Jurisdiction

Aquatic Resource	Cowardin Classification Code(s)[1]	Survey Area		USACE Jurisdictional WOTUS		USACE Non-Jurisdictional	
		Count	Acres	Count	Acres	Count	Acres
Seasonally Flooded Basin Wetland	PEMA	98	35.064	17	16.248	81	18.816
Shallow Marsh Wetland	PEMC	25	20.118	3	2.089	22	18.029
Wetland Complex with Multiple Types	PEMA, PEMB, PEMC, PSSA, PSSC	11	18.196	3	1.367	8	16.829
Wetlands Subtotal		***134***	***73.378***	***23***	***19.704***	***111***	***53.674***
Ephemeral Stream	R4SBA	1	0.174	0	0	1	0.174
Intermittent Stream	R4SBC	4	3.381	4	3.381	0	0
Perennial Stream	R2UBH	4	8.049	4	8.049	0	0
Streams Subtotal		***9***	***11.604***	***8***	***11.430***	***1***	***0.174***
Total of All Aquatic Resources		**143**	**84.982**	**31**	**31.134**	**112**	**53.848**

[1] Cowardin wetland classification codes are defined in Appendix E of the report.

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1.0 INTRODUCTION

1.1 PURPOSE

Flickertail Solar Project, LLC proposes to develop the Flickertail Solar Project in Richland County, North Dakota (the Project). Tetra Tech, Inc. (Tetra Tech) completed a survey to identify and delineate wetlands and waters for the proposed Project within an approximately 3,315-acre area (Survey Area). The wetlands and waters survey included desktop and field investigations of the Survey Area to identify the presence and location of wetlands and other surface waters and determine which, if any, may be subject to U.S. Army Corps of Engineers (USACE) jurisdiction. This report describes the Project and the Survey Area, regulatory framework, methods, survey results and conclusions, and references used to support the conclusions. Appendices include figures illustrating the Survey Area, select reviewed reference materials, survey results, wetland determination data forms, and photographs.

1.2 SITE LOCATION AND ENVIRONMENTAL SETTING

The Survey Area includes approximately 3,315 acres in Sections 3, 5, 8 through 12, 14 through 16, and 22 in Abercrombie Township (Township 134 North, Range 29 West), Richland County, North Dakota (Appendix A: Figure 1).

Richland County lies in the Interior Plains physiographic division of North Dakota within the Central Lowland Province (Fenneman and Johnson 1946). The Survey Area is located within the Lake Agassiz plain and is nearly flat with slight slope to the east-northeast (Appendix A: Figure 1) (U.S. Department of Agriculture [USDA] 1975). Drainage within the Survey Area is relatively poor but is facilitated by ditches which generally flow toward Pitcairn Creek located in the central portion of the Survey Area. Pitcairn Creek flows to the east-northeast into the Wild Rice River, which is located approximately 0.5 mile east of the Survey Area and flows to the north. Land use in the Survey Area is primarily agricultural cropland with windbreak treelines. Some grassland areas are also present, mainly in low-lying areas and along drainageways.

1.3 REGULATORY FRAMEWORK

1.3.1 U.S. Army Corps of Engineers

The USACE has regulatory jurisdiction over navigable waters under Section 10 of the Rivers and Harbors Act of 1899 (RHA) (33 U.S.C. 403) and waters of the U.S. (WOTUS) under Section 404 of the Clean Water Act (CWA) as defined by 33 CFR Part 328. The extent of the USACE regulatory jurisdiction over WOTUS was defined by the USACE and U.S. Environmental Protection Agency (EPA) in a final rule published in the Federal Register on January 18, 2023, which became effective on March 20, 2023 (88 FR 3004, January 18, 2023). EPA and USACE amended the 2023 definition of WOTUS to conform the definition with the U.S. Supreme Court's May 25, 2023, decision in the case of *Sackett v. EPA* in a final rule that was published in the Federal Register and became effective on September 8, 2023 (88 FR 61964, September 8, 2023).

The amended 2023 definition of WOTUS indicates that the USACE has regulatory jurisdiction over traditional navigable waters; tributaries of traditional navigable waters that are relatively permanent; and wetlands with a continuous surface connection to navigable waters and relatively permanent tributaries. Relatively permanent tributaries have flowing or standing water year-round or continuously during certain times of the year. Relatively permanent waters do not include surface waters with flowing or standing water for only a short duration in direct response to precipitation.

The USACE is the sole authority in determining whether federal jurisdiction extends or does not extend to specific wetlands or waters. Suggestions regarding the USACE jurisdiction of wetlands and waters in this report are preliminary and based on Tetra Tech's interpretation of the guidance issued by the USACE and EPA, review of available desktop data, and evidence observed in the field. There are two types of jurisdictional determinations (JDs) that can be requested from USACE to determine the jurisdiction of potentially regulated wetlands and waters. A preliminary JD (PJD) is a nonbinding written indication that for the purposes of calculating impacts and determining compensatory mitigation requirements, all waters and wetlands in the review area are treated as jurisdictional WOTUS. An approved JD (AJD) is an official USACE determination that jurisdictional WOTUS are either present or absent in the review area. An AJD precisely identifies the limits of those wetlands and waters determined to be jurisdictional under the CWA.

The USACE determines the type of permit, if any, that may be required under the CWA for projects that affect WOTUS. The USACE authorizes certain activities in navigable waters and WOTUS with pre-issued Nationwide Permits (NWPs). Impacts of up to 0.5 acre for utility projects such as solar energy facilities may be authorized by NWP 51 for Land-Based Renewable Energy Generation Facilities and/or NWP 57 for Electric Utility Line and Telecommunications Activities with mitigation usually being required if impacts exceed 0.1 acre. In order to use a NWP, all general and regional conditions must be met. The Omaha District, North Dakota Regulatory Office has regulatory jurisdiction over the Survey Area.

1.3.2 North Dakota Division of Water Quality

Section 401 of the CWA requires certification from the state that any discharge authorized by a NWP does not violate state water quality standards. In North Dakota, the Division of Water Quality (DoWQ) currently issues Water Quality Certifications (WQC) for NWPs. Previously the North Dakota Department of Health issued WQCs for NWPs and has granted water quality certification with conditions for NWP 51 and NWP 57 (North Dakota Department of Health 2017). An individual WQC from DoWQ would be required for any project authorized by a NWP that does not meet the conditions in the general WQC.

1.3.3 U.S. Fish and Wildlife Service

The U.S. Fish and Wildlife Service (USFWS) Tewaukon Wetland Management District manages wetland conservation easements on private lands in Richland County, North Dakota. The easements afford permanent protection to wetland basins that provide important wildlife habitat. Protected wetland basins on wetland easements

are mapped by the USFWS at the time of the easement agreement. There are no USFWS wetland easement lands located within the Survey Area (USFWS 2024).

2.0 METHODS

2.1 EXISTING INFORMATION REVIEW

Tetra Tech reviewed available information to identify potential wetlands and waters within the Survey Area. The following data sources were reviewed:

- National Wetlands Inventory (NWI) (US Fish and Wildlife Service [USFWS] 2023);
- National Hydrography Dataset (NHD) (United States Geological Survey [USGS] 2023b);
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) for North Dakota (FEMA 2023);
- Natural Resources Conservation Service (NRCS) Soil Survey Geographic (SSURGO) Soils (NRCS 2023);
- Aerial photography from 2014, 2016, 2018, 2020, and 2021 from U.S. Department of Agriculture (USDA) Farm Service Agency (FSA) National Agricultural Imagery Program (NAIP);
- Digital Elevation Model (DEM) from USGS (USGS 2023a); and
- Historical precipitation data from the NRCS Agricultural Applied Climate Information System (AgACIS) (NRCS 2024).

2.2 DESKTOP WETLANDS AND WATERS MAPPING

Tetra Tech reviewed aerial photographs, elevation data, climate data, NWI, NHD, and SSURGO soils data to identify potential wetlands and waters in the Survey Area. The locations of potential wetlands and waters were digitized using ArcGIS mapping software for reference during field surveys. Historical precipitation data was reviewed for each of the aerial photographs to determine if the antecedent precipitation was normal, wet, or dry. Antecedent precipitation conditions for the reviewed aerial photographs were evaluated using the methods described in technical guidance issued by the USDA (USDA 2015). Aerial photographs were reviewed for photo signatures that may indicate the presence of a wetland including:

- Crop stress – differences in vigor of planted crops often seen as a pale green or yellow color;
- Drowned out – cropped areas that appear to have been planted, but the crop has been drowned out;
- Soil Wetness Signature – in photographs taken when crops are not present (early spring or late fall) with dark photo tones in areas where soils are saturated;
- Standing water – visible surface water;
- Not cropped – visual evidence that an area with natural vegetative cover was planted around;
- Altered pattern – detectable differences in vegetation or cropping patterns resulting from delayed planting dates or other alterations to standard farming practices; and
- Wetland signature – changes in vegetation color and/or texture in non-cropped areas.

2.3 WETLANDS AND WATERS SURVEY

The wetland survey was conducted in general conformance with the level two onsite routine wetland determination method described in the Corps of Engineers Wetlands Delineation Manual (USACE 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Great Plains Region, Version 2.0 (USACE 2010). Potential wetlands were identified based on the review of existing data and observations made at the time of the survey. When a potential wetland was encountered in the Survey Area, sufficient information was collected to make a preliminary USACE jurisdictional determination based on the guidance provided by EPA and USACE summarized in Section 1.3.1 of this report and a transect was established in a representative transition zone of the potential wetland. One sample point was documented in the potential wetland. If wetland criteria were met and the wetland was preliminarily determined to be USACE jurisdictional based on the available information, then a second sample point was recorded in upland. Potential wetland features preliminarily determined to be non-jurisdictional were investigated based on the minimum amount of information deemed necessary in the professional judgement of the wetland specialist conducting the survey to determine if a wetland, as defined by the USACE, was present and, if so, to establish a boundary. Minimum information generally included observations of hydrology, topography and vegetation. If needed, soils were also observed. If a potential wetland did not meet all three wetland delineation criteria (hydrophytic vegetation, hydric soils, and hydrology) based on observations made at the time of the field visit it was determined to be non-wetland.

Vegetation, soils, and hydrology data were recorded on data forms. Plant species dominance at sample points was based on the percent cover visually estimated within a 5-foot radius of the sample point for the herbaceous layer, a 15-foot radius for the shrub layer, and a 30-foot radius for tree and vine layers. Wetland indicator status for all plant species followed the USACE 2020 National Wetland Plant List (USACE 2020). The wetland/non-wetland boundary was established based on the recorded sample point information.

Boundaries for non-wetland waters (i.e., ponds and streams) were established based on observations of the ordinary high water mark (OHWM), which is defined as the “line on the shore established by the fluctuations of water and indicated by physical characteristics such as clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (51 FR 41251, November 13, 1986).

Wetlands and waters boundaries were generally established only within the Survey Area. If the boundary extended outside of the Survey Area, only that portion of the boundary within the Survey Area was delineated, and observations regarding that portion of the feature extending outside of the Survey Area were recorded. Wetlands and waters were classified according to Cowardin (Federal Geographic Data Committee [FGDC] 2013) methods.

An Arrow 100 GPS receiver with sub-meter accuracy paired with a tablet running ESRI’s Survey123 for ArcGIS application was used in the field to survey the locations of sample points, the wetland/non-wetland boundaries, and OHWM boundaries. Upon completion of the survey, the wetland specialist who captured the field data conducted

a quality control review to ensure the spatial and attribute data of the features collected correspond with field observations.

3.0 RESULTS

3.1 EXISTING INFORMATION REVIEW AND DESKTOP MAPPING

3.1.1 National Wetlands Inventory (NWI) and National Hydrography Dataset (NHD)

There are 33 NWI-mapped wetlands, 6 NHD-mapped stream and ditch segments, and 2 NHD-mapped waterbodies in the Survey Area (Appendix A: Figure 2). The NWI-mapped features in the Survey Area total approximately 21 acres and include 27 freshwater emergent wetlands (PEM1A[1], PEM1Ad, PEM1B, PEM1C, PEM1Cd, PEM1Cx, PEM1E), 3 freshwater ponds (PABF, PABFx), and 3 riverine wetlands (R4SBA, R4SBC, R4SBCx).

The NHD-mapped waterways include three segments of Pitcairn Creek totaling approximately 2.3 miles located in the central portion of the Survey Area. The remaining three NHD-mapped waterways are unnamed tributaries of Pitcairn Creek located in the west-central and south-central parts of the Survey Area with a total length of about 0.9 mile. All six NHD-mapped waterway segments approximately align with NWI-mapped wetlands. Two unnamed NHD-mapped waterbodies are located in the Survey Area and have a total area of approximately 0.7 acre. One of the NHD-mapped waterbodies also approximately aligns with a pond mapped in the NWI.

3.1.2 Federal Emergency Management Agency (FEMA) Floodplains

There are approximately 306 acres of FEMA Zone A flood hazard area (i.e., 100-year floodplain) within the Survey Area (Appendix A: Figure 2). Zone A flood hazard areas are subject to flooding by the base or 100-year flood (1 percent annual chance). The flood hazard areas are located in the central part of the Survey Area along Pitcairn Creek.

3.1.3 Soil Survey Geographic (SSURGO) Soils

The NRCS SSURGO soils were categorized according to the five hydric classes listed below based on the hydric rating of the soil series.

- Non-hydric – all soils series components rated as non-hydric
- Predominantly non-hydric – minority of soil components that are considered hydric accounting for 1 to 32 percent of the series
- Partially hydric – a mix of hydric and non-hydric soil components with hydric components accounting for 33 to 65 percent of the series
- Predominantly hydric – majority of soil components that are considered hydric accounting for 66 to 99 percent of the series

[1] See Appendix F for definitions of Cowardin wetland classification codes

- Hydric – all soils series components rated as hydric

The majority of soils in the Survey Area are classified as predominantly non-hydric (50 percent of the Survey Area) and partially hydric (35 percent of the Survey Area). Approximately 15 percent of soils are classified as predominately hydric (7 percent of the Survey Area) or hydric (8 percent of the Survey Area). The hydric and predominately hydric soils are located primarily in the southwestern and the eastern portions of the Survey Area (Appendix A: Figure 3).

3.1.4 Desktop Wetlands and Waters Mapping

Aerial photographs in combination with antecedent precipitation data from the NRCS AgACIS (NRCS 2024), USGS DEM (USGS 2023), and the NWI were reviewed to identify potential wetlands and waters in the Survey Area. Reviewed aerial photographs included images from July 2014 (USDA FSA APFO 2014), August 2016 (USDA FSA APFO 2016), October 2018 (USDA FSA APFO 2018), July 2020 (USDA FSA APFO 2020), and August 2021 (USDA FSA APFO 2021). The antecedent precipitation review showed that the 2014, 2016, 2018, and 2020 aerial photographs were taken during periods with normal antecedent precipitation, and the 2021 aerial photograph was taken during a period with dry antecedent precipitation.

The desktop data review found 555 potential wetlands and waters within the Survey Area, totaling approximately 762 acres (Appendix A: Figure 4). Some of these at least partially overlap features in the NWI or NHD datasets: 9 potential wetlands and waters intersect both NWI and NHD mapped resources, 31 potential wetlands and waters intersect NWI mapped resources, and 5 potential wetlands and waters intersect the NHD. There were 510 potential wetlands and waters at locations that did not have any previously mapped resources in the NWI or NHD datasets and were identified based on aerial photo interpretation and elevation data.

3.2 WETLANDS AND WATERS SURVEY

The wetlands and waters field surveys were conducted from April 15, 2024, through May 31, 2024. The antecedent precipitation in April 2024 was normal and the antecedent precipitation in May 2024 was wet. These climate condition determinations are based on methods described in technical guidance (USDA 2015) and data from AgACIS (NRCS 2024). The closest weather station to the Survey Area with adequate precipitation records was the Mc Leod 3 E, North Dakota station located approximately 25 miles west of the Survey Area. Antecedent precipitation data is presented in **Table 1**.

Table 1. 2024 Antecedent Precipitation Analysis

Precipitation data for target location:					
Station Name: Mc Leod 3 E, ND					
Score using 1991-2020 normal period					
Values are in inches Data missing in any month have an "M" flag		**April 2024**	**March 2024**	**February 2024**	**January 2024**
estimated precipitation total for this location:		**2.96**	**M0.42**	**0.44**	**0.07**
there is a 30% chance this location will have less than:		0.89	0.40	0.27	0.28
there is a 30% chance this location will have more than:		2.03	1.04	0.83	0.72
type of month: dry normal wet		**wet**	**normal**	**normal**	**dry**
monthly score and multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	**April 2024**		**3 * 2 = 6**	**2 * 2 = 4**	**1 * 1 = 1**
			11 (Normal)		
	May 2024	**3 * 3 = 9**	**2 * 2 = 4**	**1 * 2 = 2**	
		15 (Wet)			

Each of the 555 desktop potential wetlands and waters areas in the Survey Area were reviewed during the field surveys. Wetlands or waters were confirmed to be present at 175 of the 555 reviewed desktop potential wetlands and waters locations in the field and were delineated based on the observations made at the time of the field surveys. The remaining 380 field-checked desktop potential wetlands and waters were determined to be non-wetlands within the Survey Area. A total of 143 aquatic resources were identified and delineated in the Survey Area at the completion of the field surveys including 134 wetlands and 9 stream segments[2]. The delineated resources are depicted and labeled on Figure 5 (Appendix A) and tables with additional details for each of the delineated wetlands and streams are included in Appendix B. The following sections include summaries of general field survey results and observations.

3.2.1 Wetlands

The 134 wetlands delineated in the Survey Area include 98 seasonally flooded basin wetlands (PEMA, PEMAf, PEMAx), 25 shallow marsh wetlands (PEMC, PEMCx), and 11 wetland complexes composed of multiple wetland types (Appendix B: Table B-1). Many of the delineated wetlands were identified in isolated basins in cultivated cropland. Wetlands were also delineated in roadside and agricultural drainage ditches.

Wetland determination data forms and photographs for delineated wetlands are provided in Appendix C. General observations of wetland vegetation, soils, and hydrology conditions recorded during the field surveys are summarized below.

3.2.1.1 Vegetation

Field surveys were conducted near the beginning of the growing season, so relatively few vegetation species were documented in wetlands. Additionally, many wetlands were delineated in cultivated cropland that had no vegetation

[2] The total recorded wetlands and waters reflects that some desktop wetlands and waters were mapped as multiple wetlands and/or waters, while others were combined into a single wetland or water; and some wetlands or waters were delineated at locations not identified during the desktop mapping.

during the surveys in April and early May. Vegetation was noted in some cultivated wetlands classified PEMAf during surveys at the end of May including the planted crops sugar beets (*Beta vulgaris*) and soybeans (*Glycine max*), and weedy vegetation including lambsquarters (*Chenopodium album*) and tiny mousetail (*Myosurus minimus*). Vegetation commonly documented in seasonally flooded wetlands that were not cultivated classified PEMA or PEMAx included meadow foxtail (*Alopecurus pratensis*), sedges (*Carex* spp.), foxtail barley (*Hordeum jubatum*), reed canary grass (*Phalaris arundinacea*), and prairie cordgrass (*Spartina pectinata*). Vegetation observed in seasonally flooded wetlands classified PEMC or PEMCx included sedges, reed canary grass, curly dock (*Rumex crispus*), prairie cord grass, and narrowleaf cattail (*Typha angustifolia*). Woody vegetation observed in the scrub-shrub parts of wetland complexes classified PSSA or PSSC included gray dogwood (*Cornus racemosa*), quaking aspen (*Populus tremuloides*), sandbar willow (*Salix interior*), and black willow (*Salix nigra*).

Uplands observed near wetlands within the Survey Area were predominantly cultivated fields with no vegetation. Vegetation observed in uncultivated upland areas included smooth brome (*Bromus inermis*), quackgrass (*Elymus repens*), switchgrass (*Panicum virgatum*), western wheatgrass (*Pascopyrum smithii*), Canada bluegrass (*Poa compressa*), Kentucky bluegrass (*Poa pratensis*), Canada goldenrod (*Solidago canadensis*), and common dandelion (*Taraxacum officinale*).

3.2.1.2 Soils

Soils observed within the Survey Area had a wide range of textures from sand to clay. A thick (6 to 40 or more inches), black (10YR 2/1) or very dark gray (10YR 3/1) A horizon typical of prairie soils was observed in most wetland sample points in the Survey Area. Beneath the dark surface layer, soils were often depleted with matrix values ranging from dark gray (2.5Y 4/1) to grayish brown (2.5Y 5/2) with 2 to 15 percent dark yellowish brown (10YR 4/4) to brownish yellow (10YR 6/8) redox concentrations. As a result, hydric soil indicators with dark A horizons and depleted layers were the most often documented indicators at wetland sample plots, including the depleted below dark surface (A11), thick dark surface (A12), and depleted matrix (F3) indicators. The hydrogen sulfide odor (A4), 1 cm muck (A9), and redox dark surface (F6) hydric soil indicators were also occasionally observed.

3.2.1.3 Hydrology

Over the course of the field surveys between April and May 2024, there were regular precipitation events and conditions generally got progressively wetter through this period. As a result, primary wetland hydrology indicators were frequently observed including surface water (A1), high water table (A2), saturation (A3), and hydrogen sulfide odor (C1). Several secondary hydrology indicators were documented either in the absence of a primary indicator or in addition to primary indicators. Secondary hydrology indicators observed included surface soil cracks (B6), sparsely vegetated concave surface (B8), drainage patterns (B10), geomorphic position (D2), and FAC-neutral test (D5).

3.2.2 Streams

The streams identified in the Survey Area included four perennial stream segments (R2UBH and R2UBHx), four intermittent stream segments (R4SBCx), and one ephemeral stream segment (R4SBAx) (Appendix B: Table B-2). Several of the stream segments mapped in the Project Area aligned with previously mapped resources in the NHD and/or NWI databases (Section 3.1.1). Stream data forms with detailed information and photographs for the surveyed stream segments are provided in Appendix D.

Four segments of Pitcairn Creek (SA075, SA076, SA078, SC077) were mapped across the center of the Survey Area. These stream segments were classified as perennial with approximately 1 to 4 feet of water flowing at a low to moderate rate. These segments were approximately 25 to 30 feet wide and 6 to 8 feet deep. Stream segment SC077 appeared to be unmodified, but stream segments SA075, SA076, and SA078 were all in straight, excavated ditches. The substrate in the perennial stream segments commonly included clay, silt, sand, gravel, and cobbles, with riprap and boulders observed infrequently. The observed OHWM characteristics included bed, bank, natural line impressed on the bank, sediment sorting, and vegetation matted down, bent, or absent. Fish were observed in stream segments SA075 and SA076.

The four intermittent stream segments (SA056, SA074, SB069, SC031) are all tributaries to Pitcairn Creek in straight, excavated ditches. These segments were approximately 9 to 30 feet wide and 2 to 4 feet deep with approximately 6 to 24 inches of water that was stagnant to flowing at a moderate rate. The substrate in the intermittent stream segments commonly included clay, silt, and sand. The observed OHWM characteristics included bed, bank, natural line impressed on the bank, sediment deposition, presence of litter and debris, leaf litter disturbed or washed away, change in plant community, destruction of terrestrial vegetation, and vegetation matted down, bent, or absent.

Stream segment SC002 appeared to be an excavated agricultural drainage ditch and was classified as ephemeral with approximately 1 inch of water flowing at a low rate. The stream segment was approximately 4 feet wide and 1 foot deep. The substrate included clay, silt, and sand, and the observed OHWM characteristics included bed, bank, sediment sorting, changes in character of soil, change in plant community, destruction of terrestrial vegetation, and vegetation matted down, bent, or absent.

3.2.3 Non-Wetland Areas

A total of 415 sample points were documented in the Survey Area that did not meet wetland determination criteria during the field surveys. These non-wetland sample points were recorded at desktop wetlands and waters that were identified during the desktop data review (Section 3.1.4). Based on the field survey findings, these 415 locations were determined to be non-wetland. Wetland determination data forms and photographs for non-wetland areas are provided in Appendix C.

Sixty percent of the non-wetland sample points failed to meet any of the hydrophytic vegetation, hydric soils, or wetland hydrology delineation criteria. Many of these sample points were documented in cultivated areas with sandy soils and crop stress observed in aerial photographs during the desktop data review may have been the

result of excessive drainage rather than saturated soils. Most of the remaining 40 percent of non-wetland sample points met the wetland hydrology delineation criteria and some also met the hydrophytic vegetation or hydric soils criteria. As noted in Section 3.2.1.3, climate conditions were wet during much of the field survey and standing water and saturated soils were common throughout the Survey Area in upland areas.

3.3 REGULATORY REVIEW

Each of the identified wetlands and waters in the Survey Area was reviewed for potential USACE jurisdiction and an initial jurisdictional determination was recommended for each. The USACE jurisdictional recommendation for each feature is depicted on Figure 6 (Appendix A), and are listed in Table B-1 and Table B-2 in Appendix B. Only the USACE can make the final determination on the regulatory jurisdiction of wetlands and waters.

Review of the wetlands and streams in the Survey Area found that the 4 perennial stream segments and the 4 intermittent stream segments are relatively permanent waters and would, therefore, likely be considered WOTUS. Additionally, 23 of the 134 wetlands in the Survey Area appear to have a continuous surface connection to a relatively permanent tributary and would likely be WOTUS. Therefore, these 8 perennial and intermittent stream segments and 23 wetlands would likely be subject to USACE regulatory jurisdiction under Section 404 of the CWA. The ephemeral stream segment (SC002) and the remaining 111 wetlands do not appear to meet the definition of WOTUS and would not, therefore, be subject to USACE regulatory jurisdiction under Section 404 of the CWA.

Permit authorization and/or an AJD will be required from the USACE if Project development will cause impacts to any of the delineated resources in the Survey Area.

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2018. Richland County, North Dakota. ortho_1-1_hn_s_nd077_2018_1
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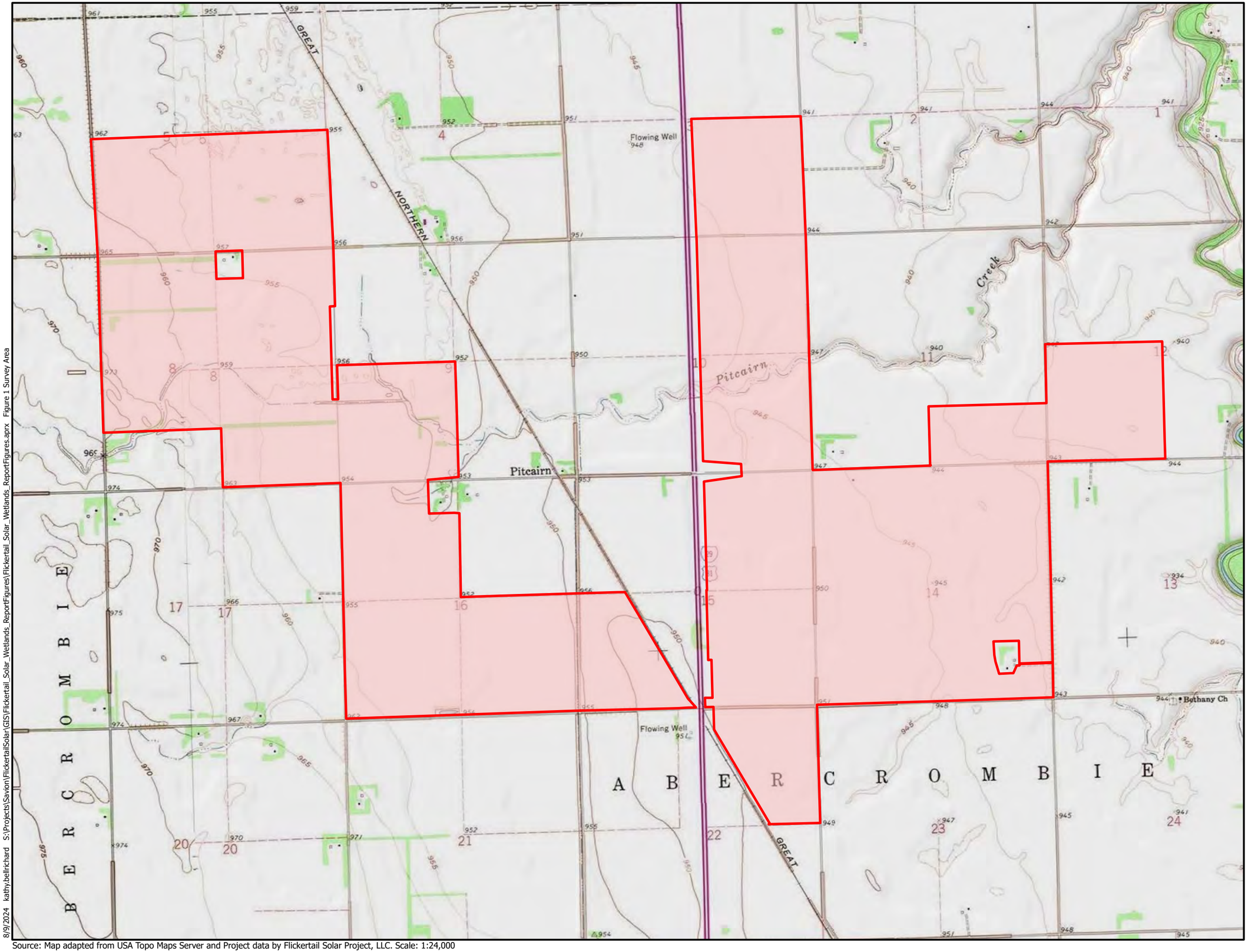
APPENDIX A: FIGURES 1 – 6



Survey Area

0 0.25 0.5 Mile

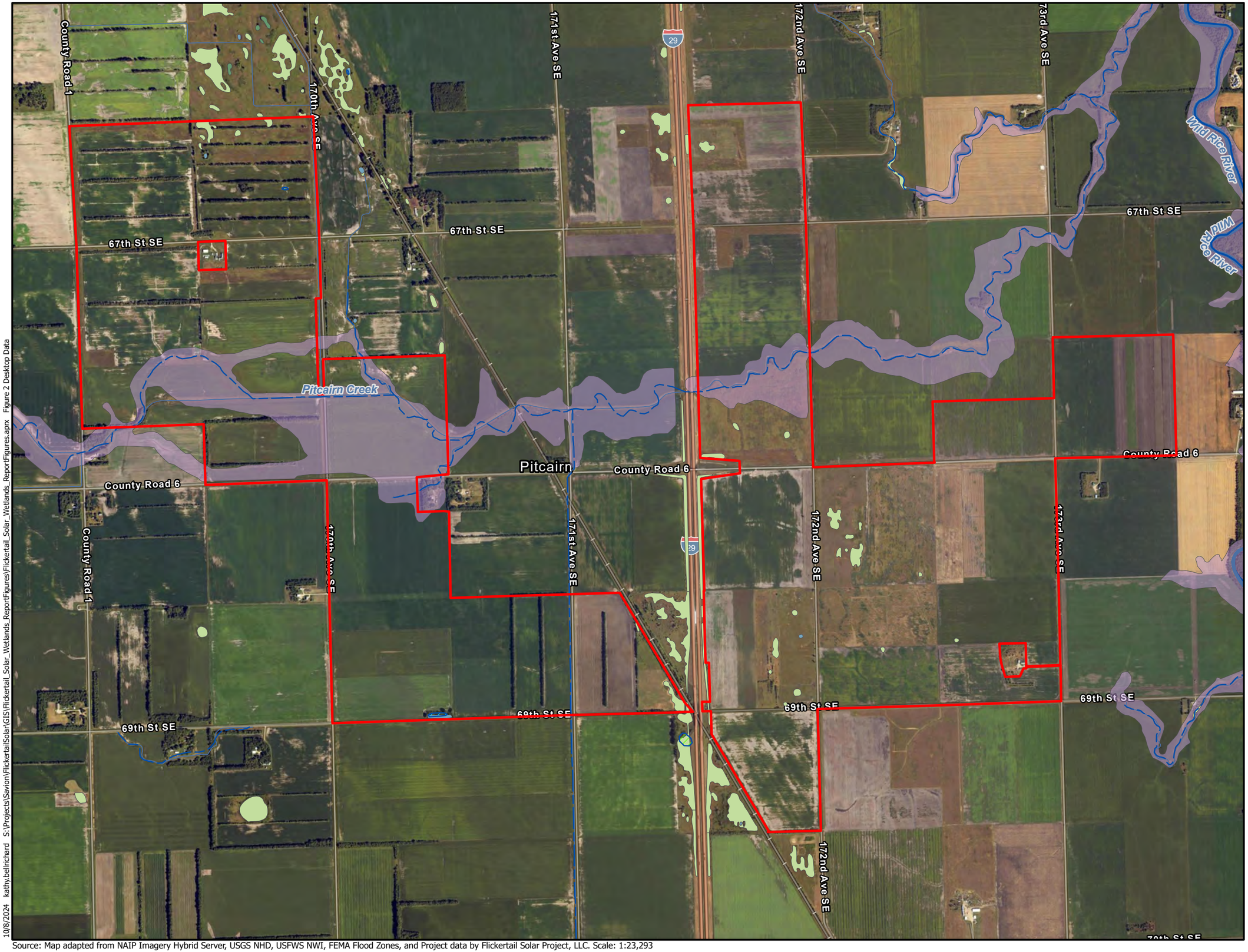
Figure 1
Survey Area Location

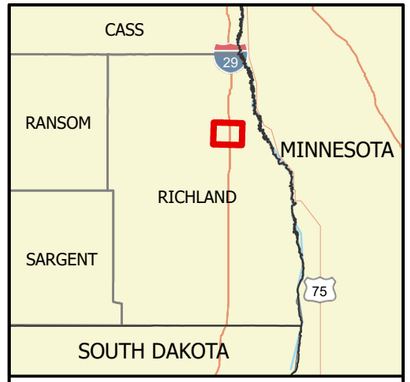
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/9/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 1 Survey Area

Source: Map adapted from USA Topo Maps Server and Project data by Flickertail Solar Project, LLC. Scale: 1:24,000





Survey Area

NWI Wetlands

- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

NHD Classification

- Lake/Pond
- Swamp/Marsh
- Perennial Stream/River
- Intermittent Stream/River
- Stream/River

Flood Zones

- FEMA Zone A Flood Hazard

0 0.25 0.5 Mile

N

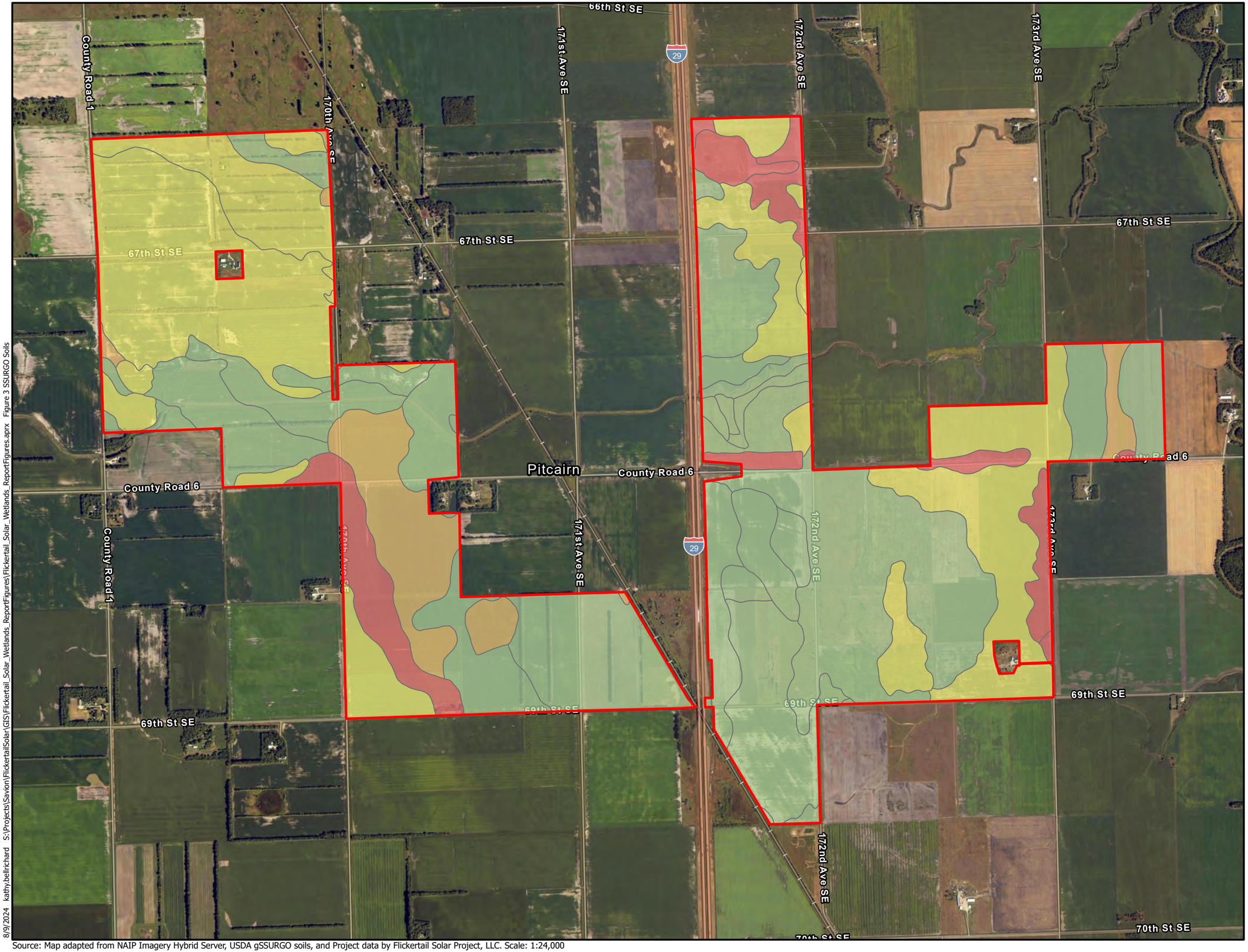
Figure 2
NWI, NHD, and Floodplains

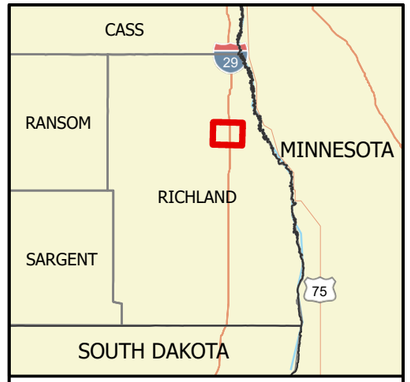
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, USGS NHD, USFWS NWI, FEMA Flood Zones, and Project data by Flickertail Solar Project, LLC. Scale: 1:23,293

10/8/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 2 Desktop Data





Survey Area

Hydric Classification

- Hydric
- Predominantly Hydric
- Partially Hydric
- Predominantly Non-Hydric

0 0.25 0.5 Mile

N

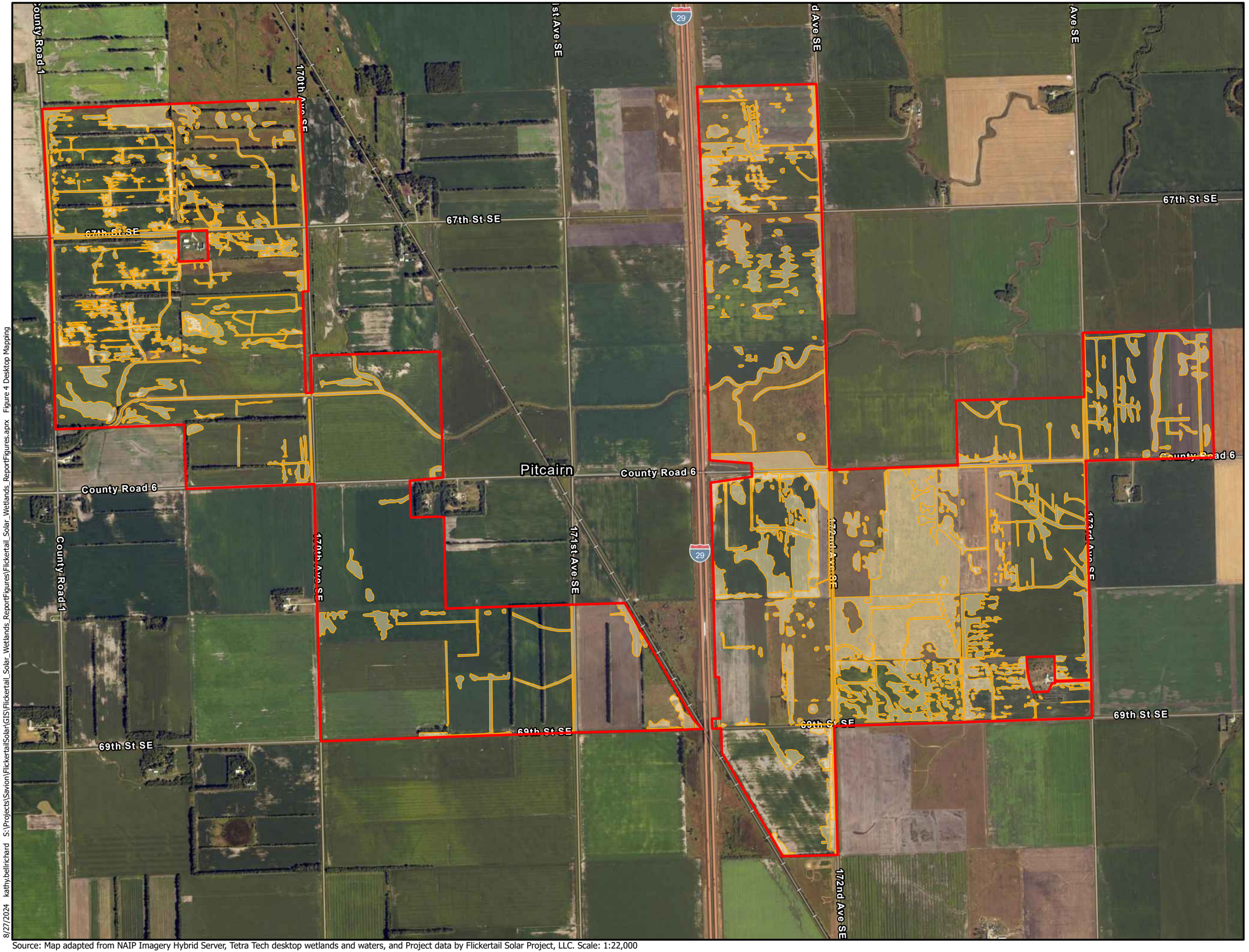
Figure 3
SSURGO Soils

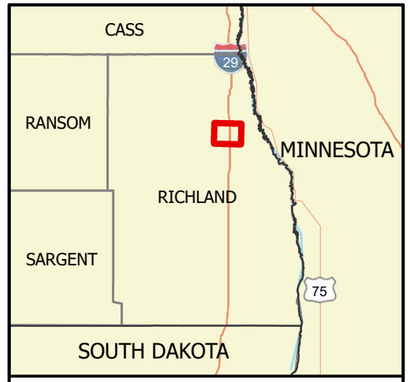
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, USDA gSSURGO soils, and Project data by Flickertail Solar Project, LLC. Scale: 1:24,000

8/9/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 3 SSURGO Soils





Survey Area

Desktop Mapping

Desktop Potential Wetlands and Waters

0 0.25 0.5 Mile

N

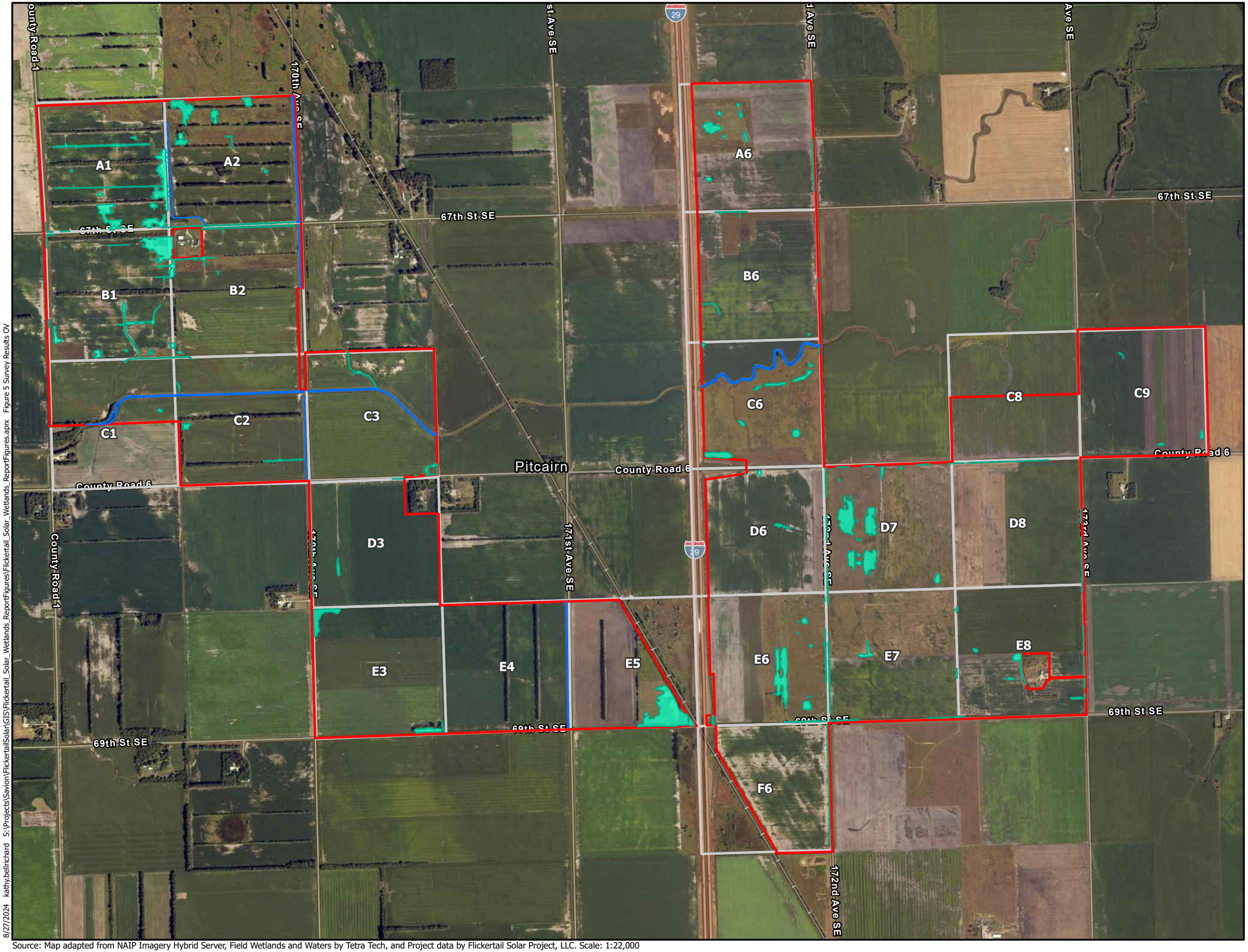
Figure 4
Desktop Wetlands and Waters Mapping

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Tetra Tech desktop wetlands and waters, and Project data by Flickertail Solar Project, LLC. Scale: 1:22,000

8/27/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 4 Desktop Mapping



Map Sheet

Survey Area

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 0.25 0.5 Mile

N

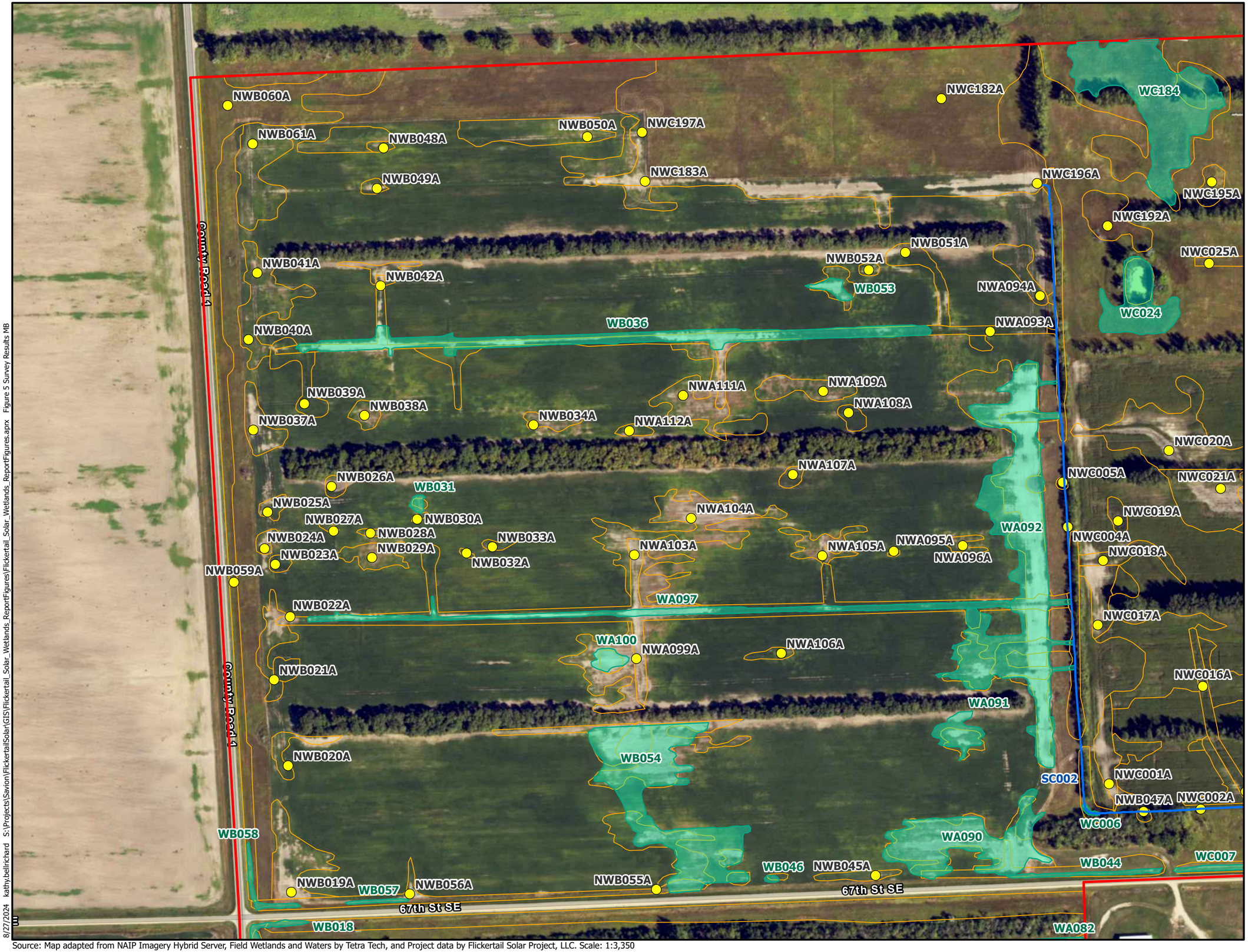
Figure 5 - Overview Wetlands and Waters Survey Results

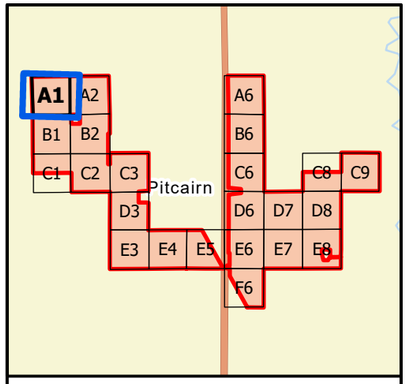
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:22,000

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results OV





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

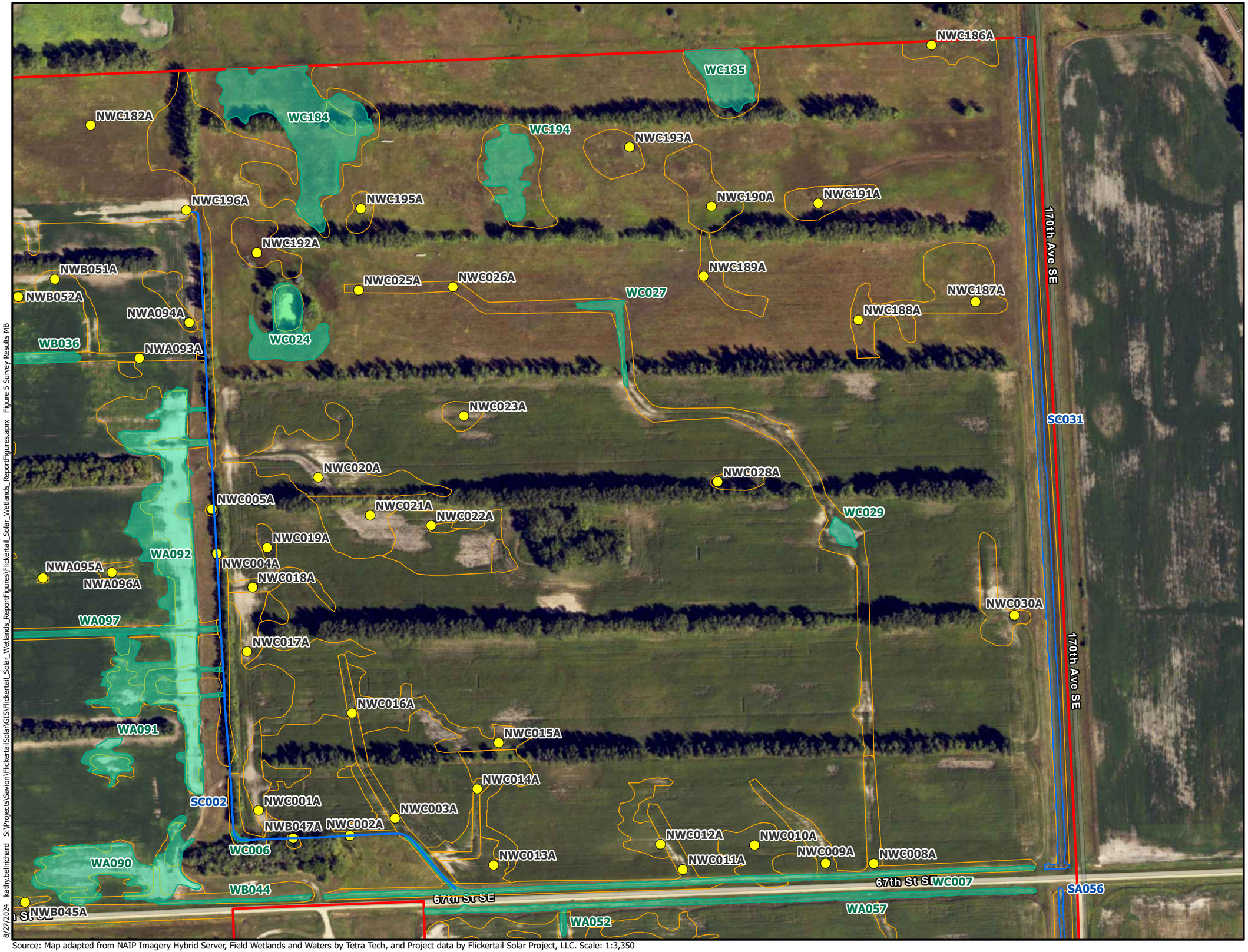
Figure 5 - A1
Wetlands and Waters Survey Results

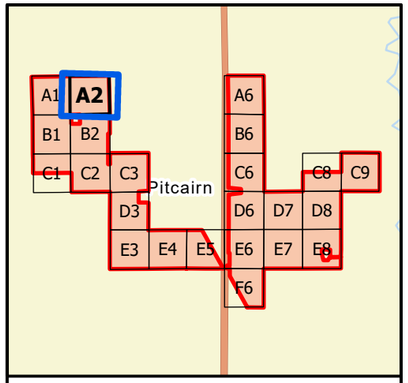
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - A2
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

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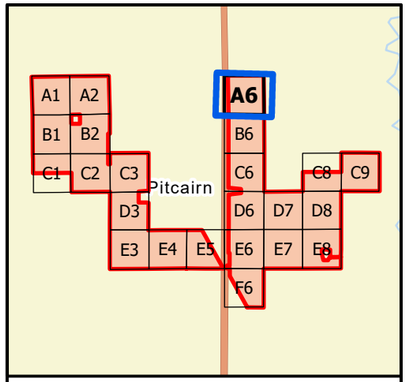
Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

Figure 5 - A6 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

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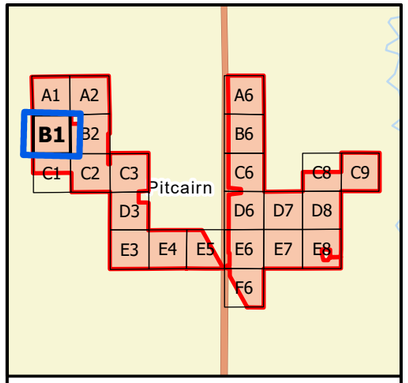

Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - B1
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

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Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - B2 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

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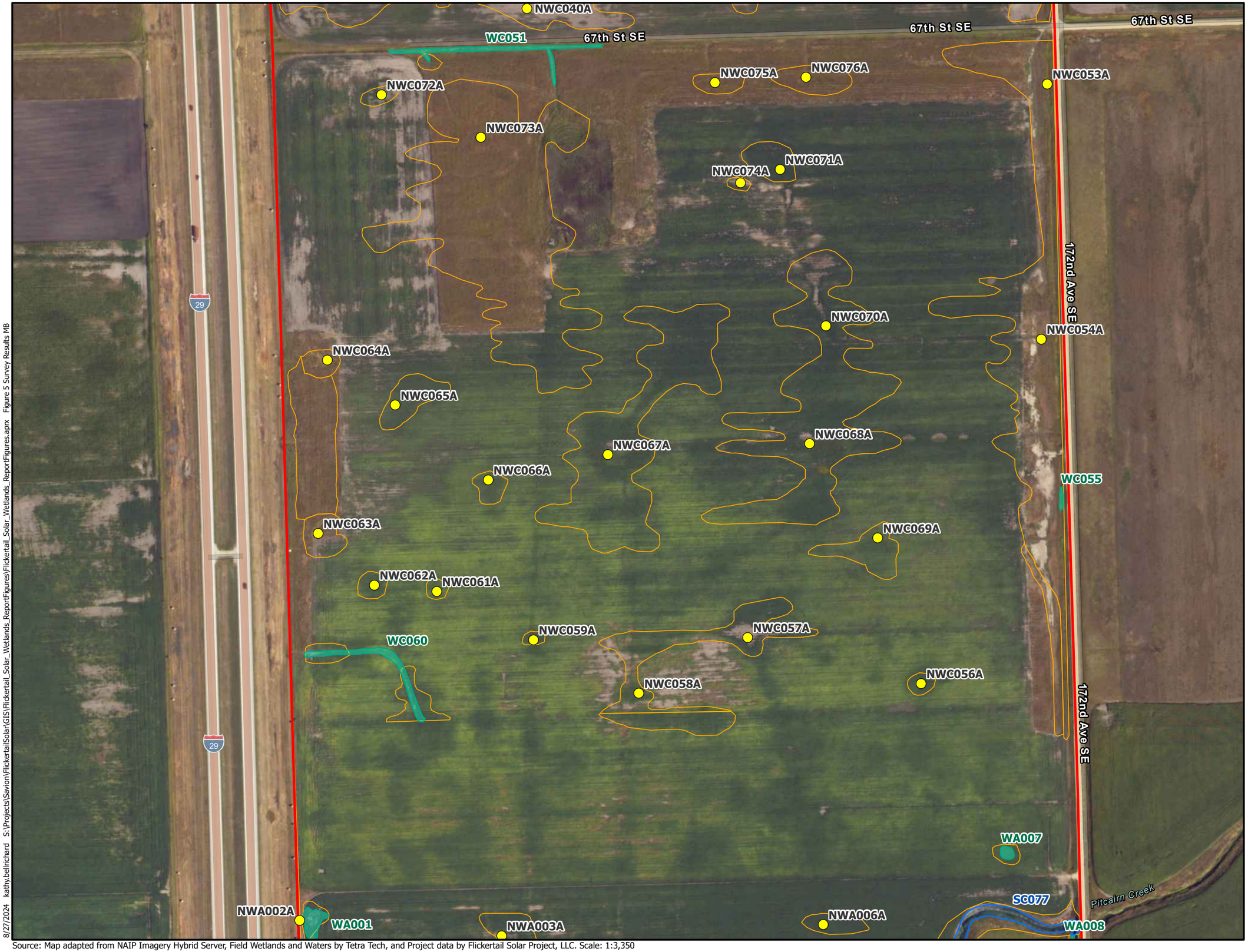

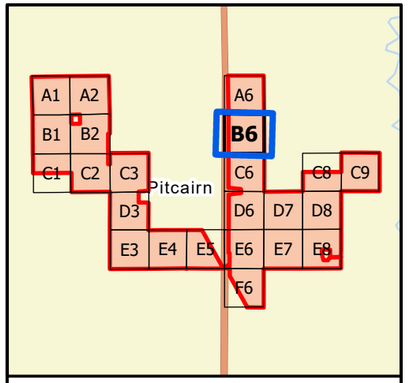

Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - B6 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

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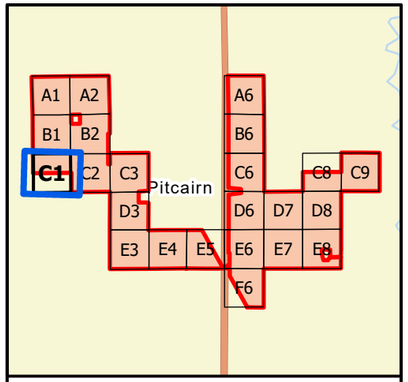


Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

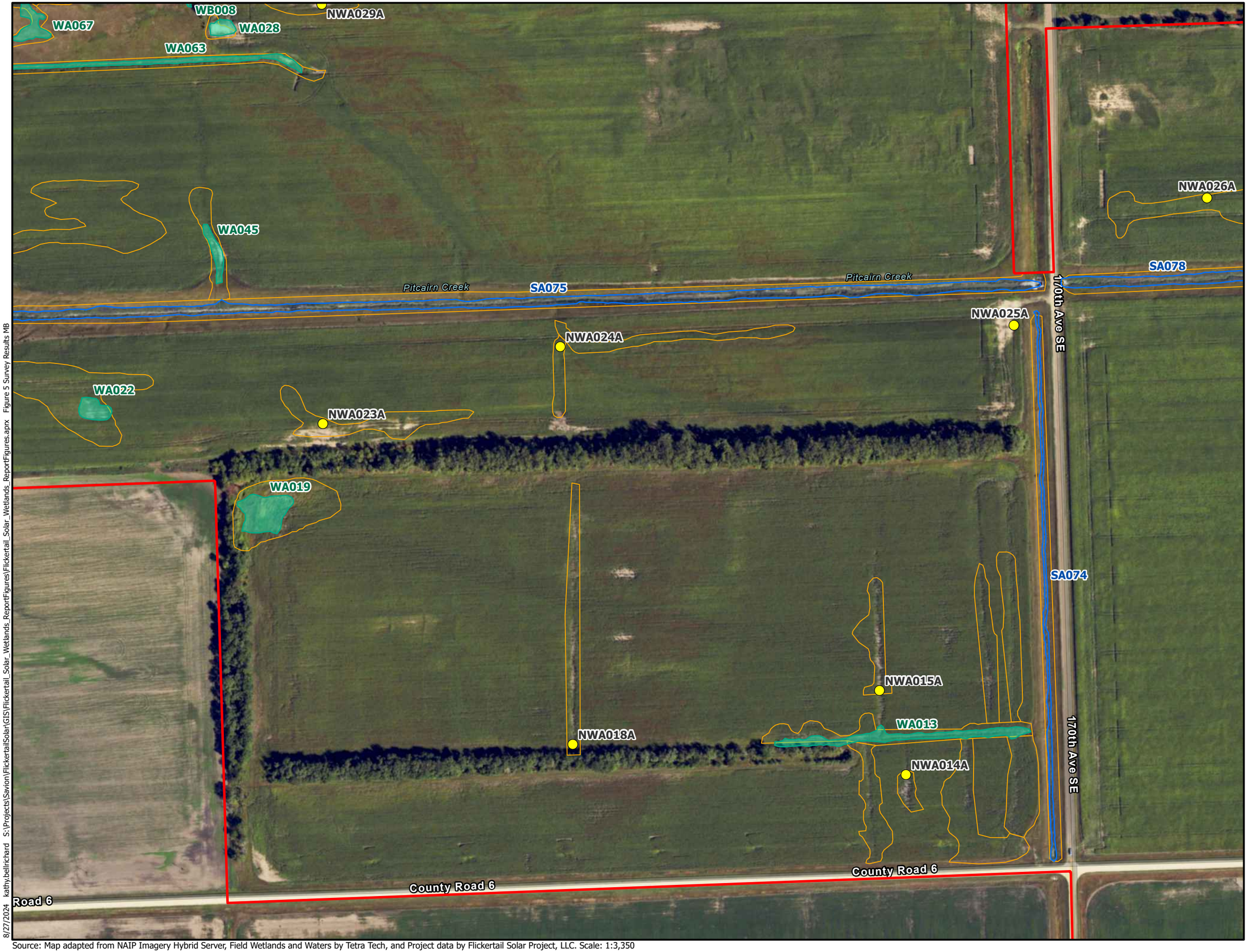
Figure 5 - C1 Wetlands and Waters Survey Results

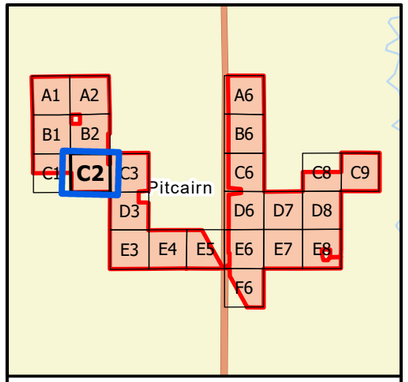
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

Figure 5 - C2 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

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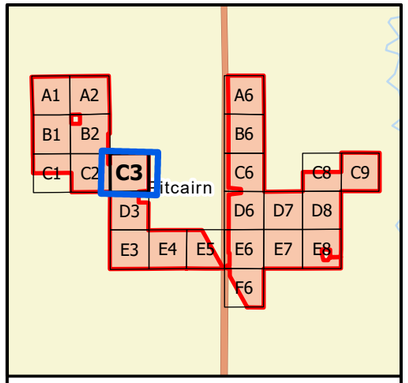


Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - C3 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

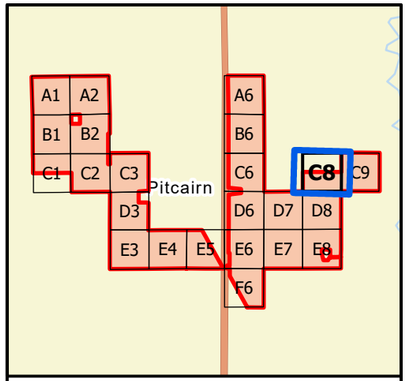
Figure 5 - C6 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

Figure 5 - C8 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

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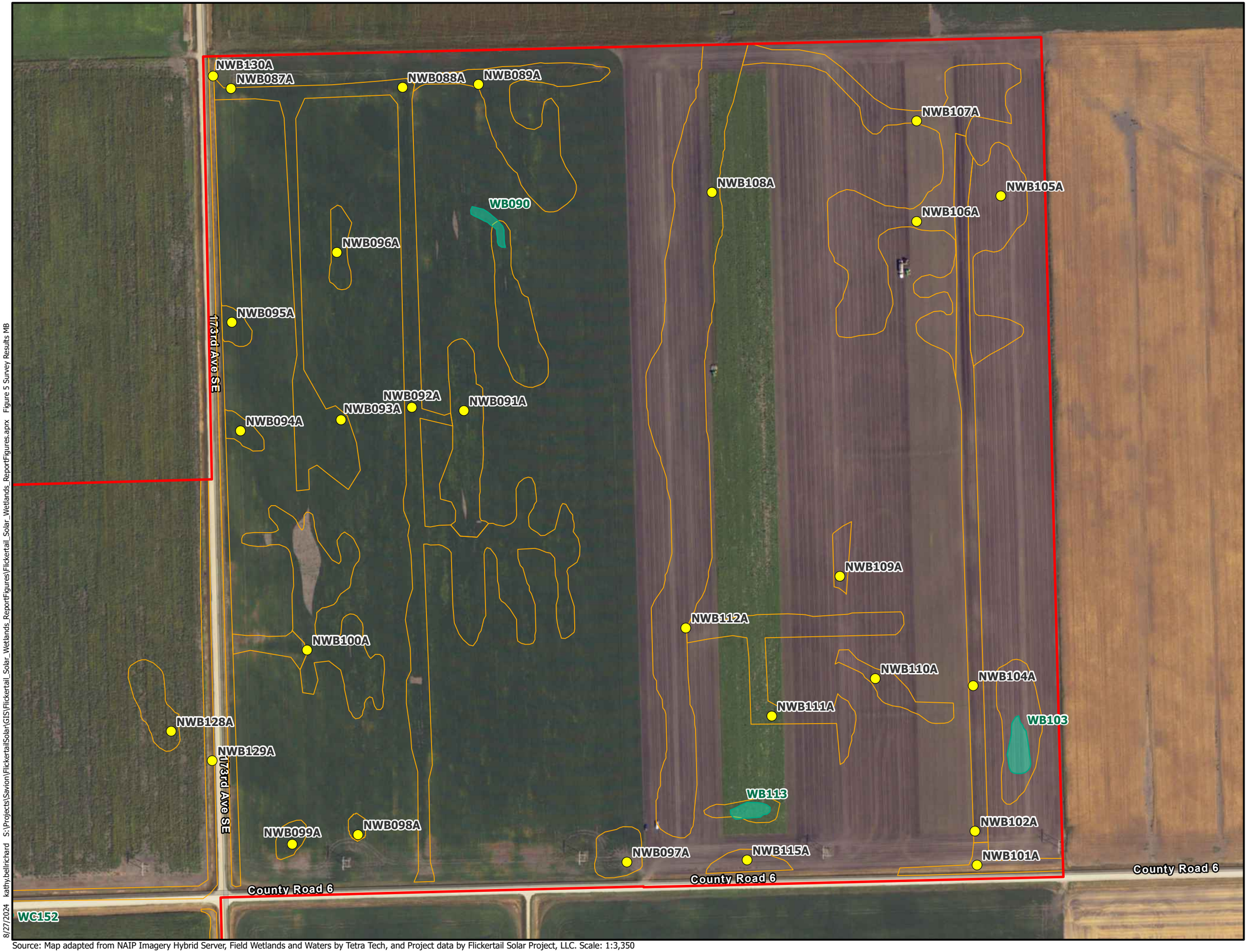
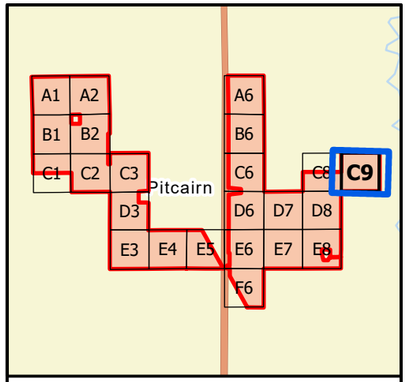




Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

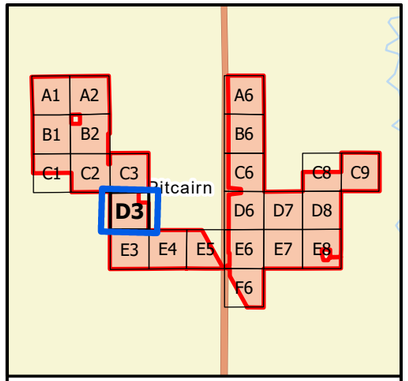
Figure 5 - C9
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

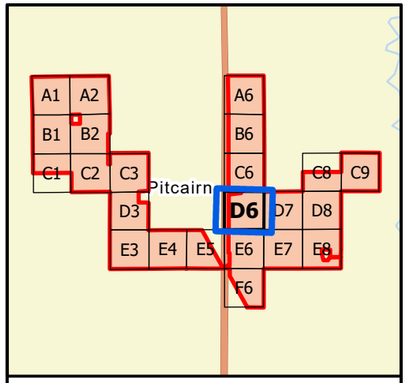
Figure 5 - D3
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

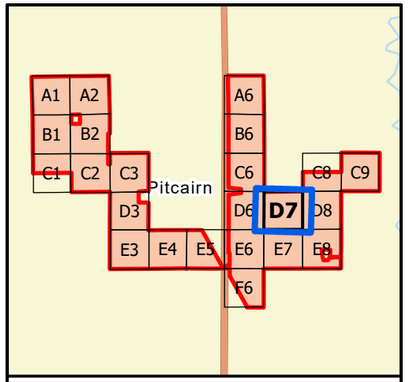
Figure 5 - D6 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

Figure 5 - D7
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

NWB116A
NWB117A
NWB118A
NWB125A
NWB124A
NWB126A
NWB123A
NWB127A
County Road 6
County Road 6
WC125
WC126
WC153
WC152
NWC151A
NWC144A
NWA153A
NWC083A
NWC143A
NWA153B
NWC084A
NWC145A
NWC085A
NWC093A
NWC146A
NWC086A
NWC141A
173rd Ave SE
NWC094A
NWC142A
WC147
NWC107A
NWC140A
NWC106A
NWC105A
NWC095A
NWC137A
NWC139A
NWC104A
WC148
NWC098A
NWC103A
NWC136A
NWC097A
NWC099A
WC096
NWC100A
NWC135A
NWC102A
173rd Ave SE
NWC138A
NWC101A
NWC134A
WC149

A1 A2 A6
B1 B2 B6
C1 C2 C3 Pitcairn C6 C8 C9
D3 D6 D7 D8
E3 E4 E5 E6 E7 E8
F6

Survey Area
Desktop Potential Wetlands and Waters
Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland
Surveyed Stream

0 100 200 300 400 Feet

N

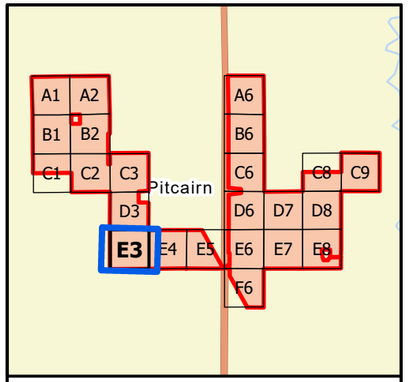
Figure 5 - D8
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

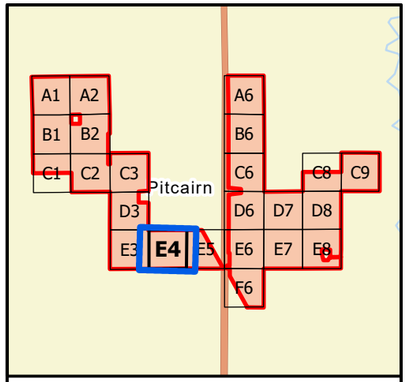
Figure 5 - E3 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

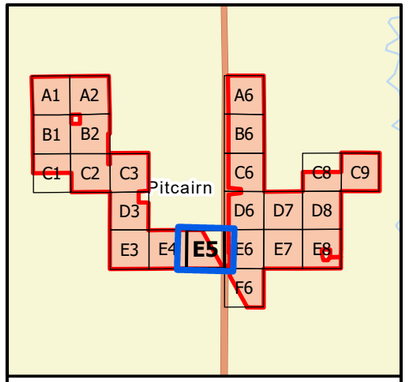
Figure 5 - E4
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

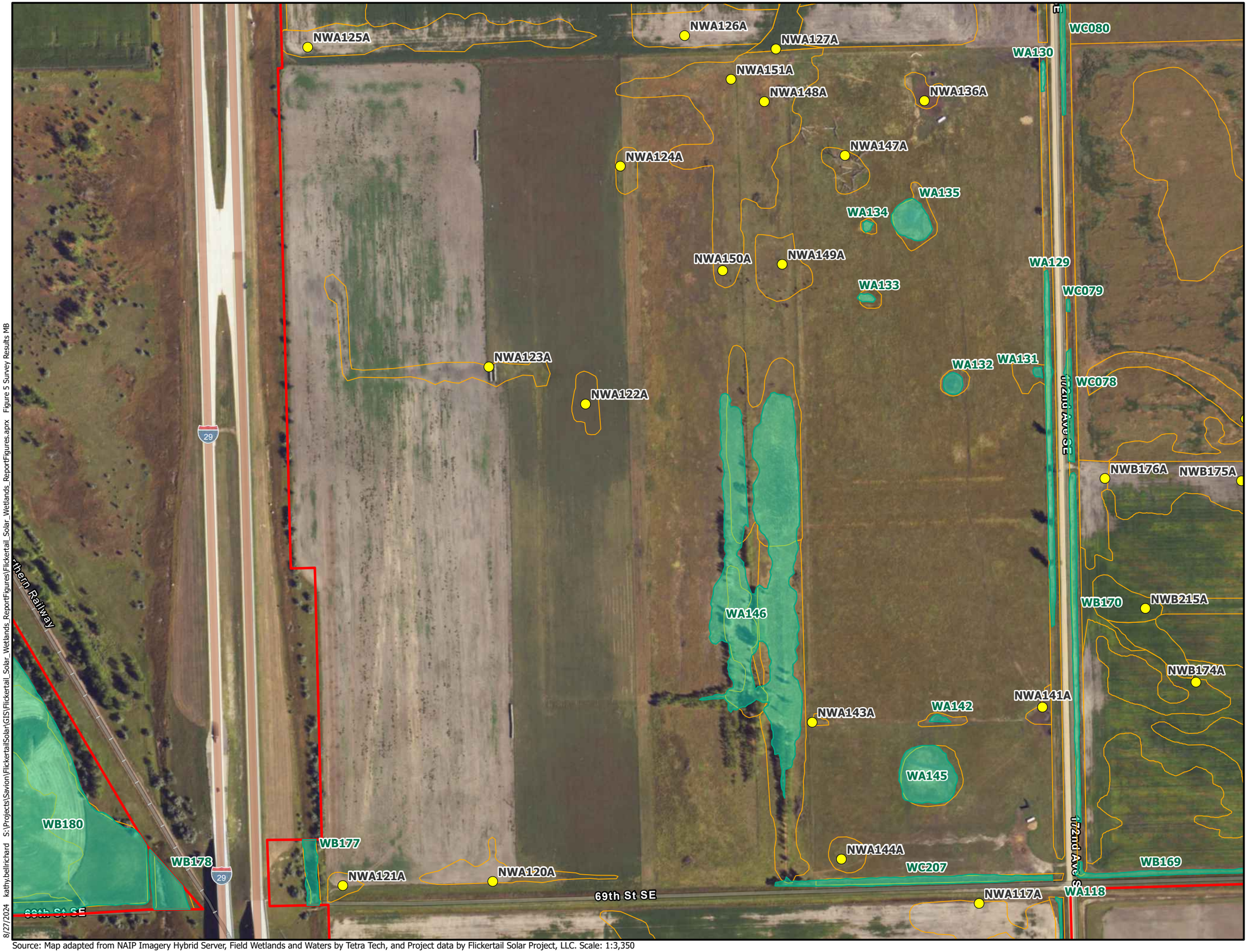
Figure 5 - E5 Wetlands and Waters Survey Results

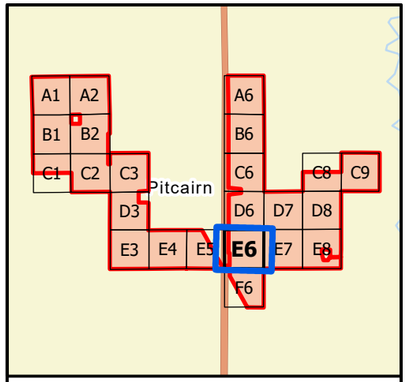
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

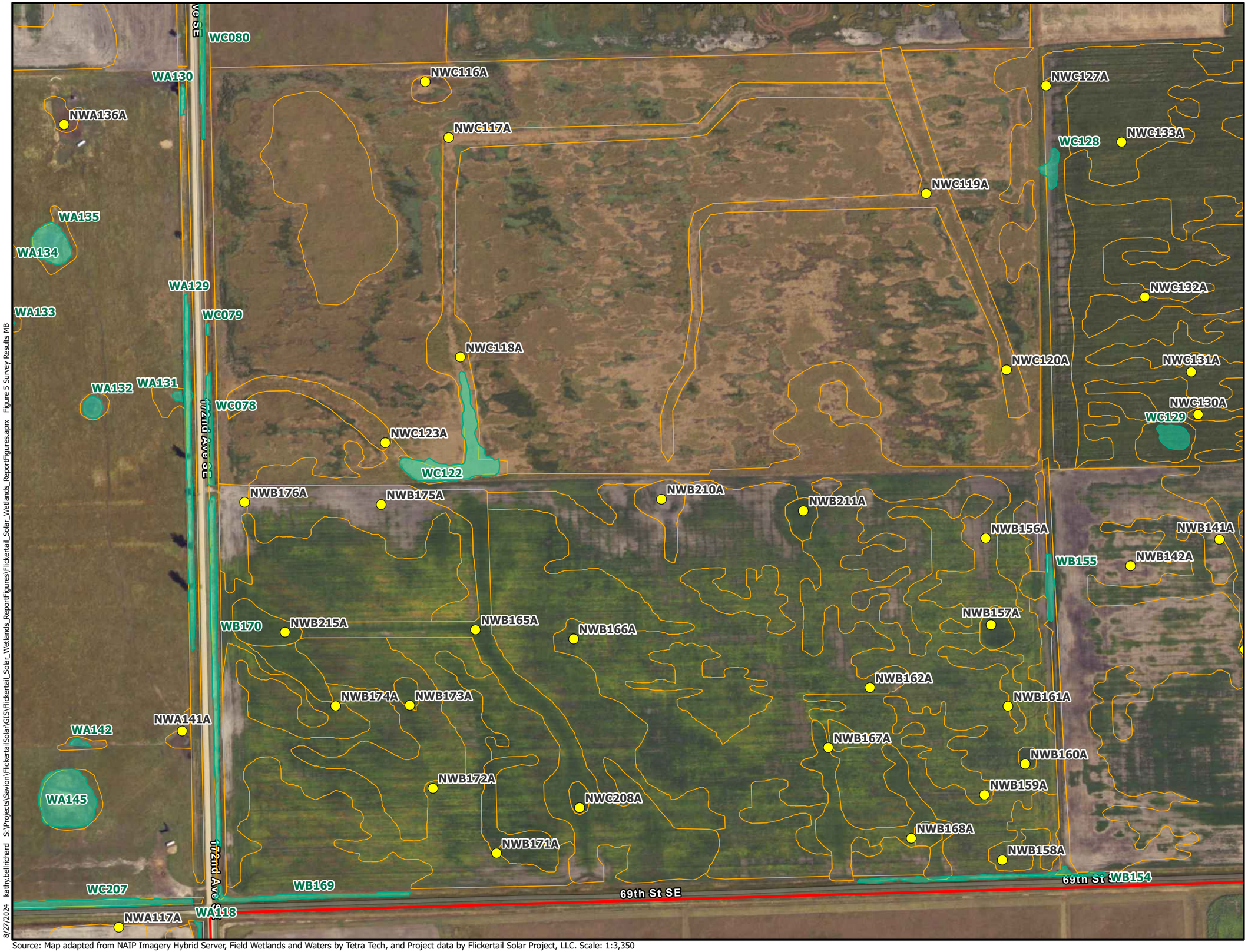
Figure 5 - E6
Wetlands and Waters Survey Results

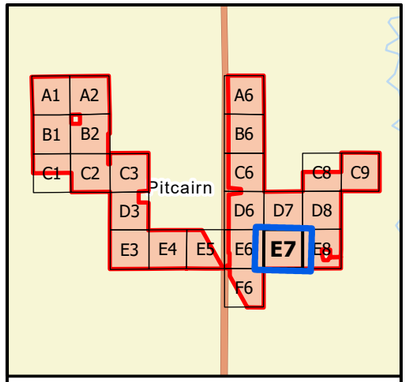
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

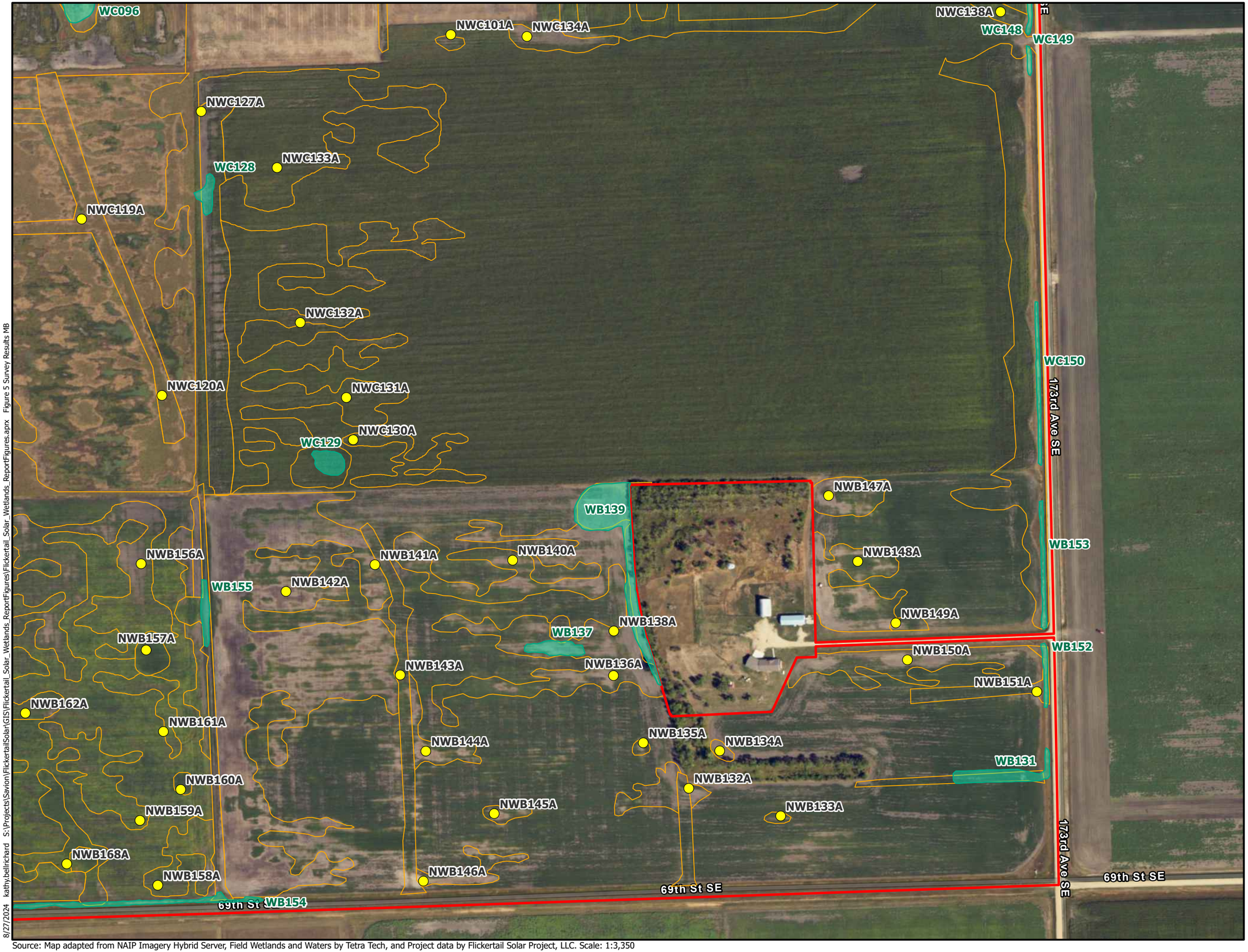
Figure 5 - E7 Wetlands and Waters Survey Results

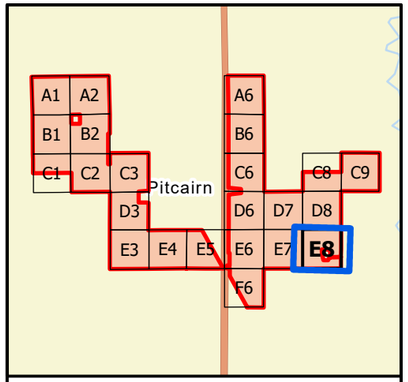
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB





Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

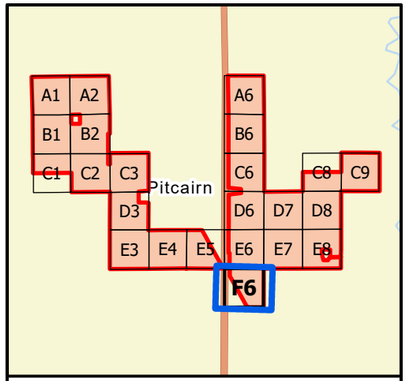
Figure 5 - E8 Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Survey Area

Desktop Potential Wetlands and Waters

Non-Wetland Sample Point

Delineated Wetlands and Waters

Surveyed Wetland

Surveyed Stream

0 100 200 300 400 Feet

N

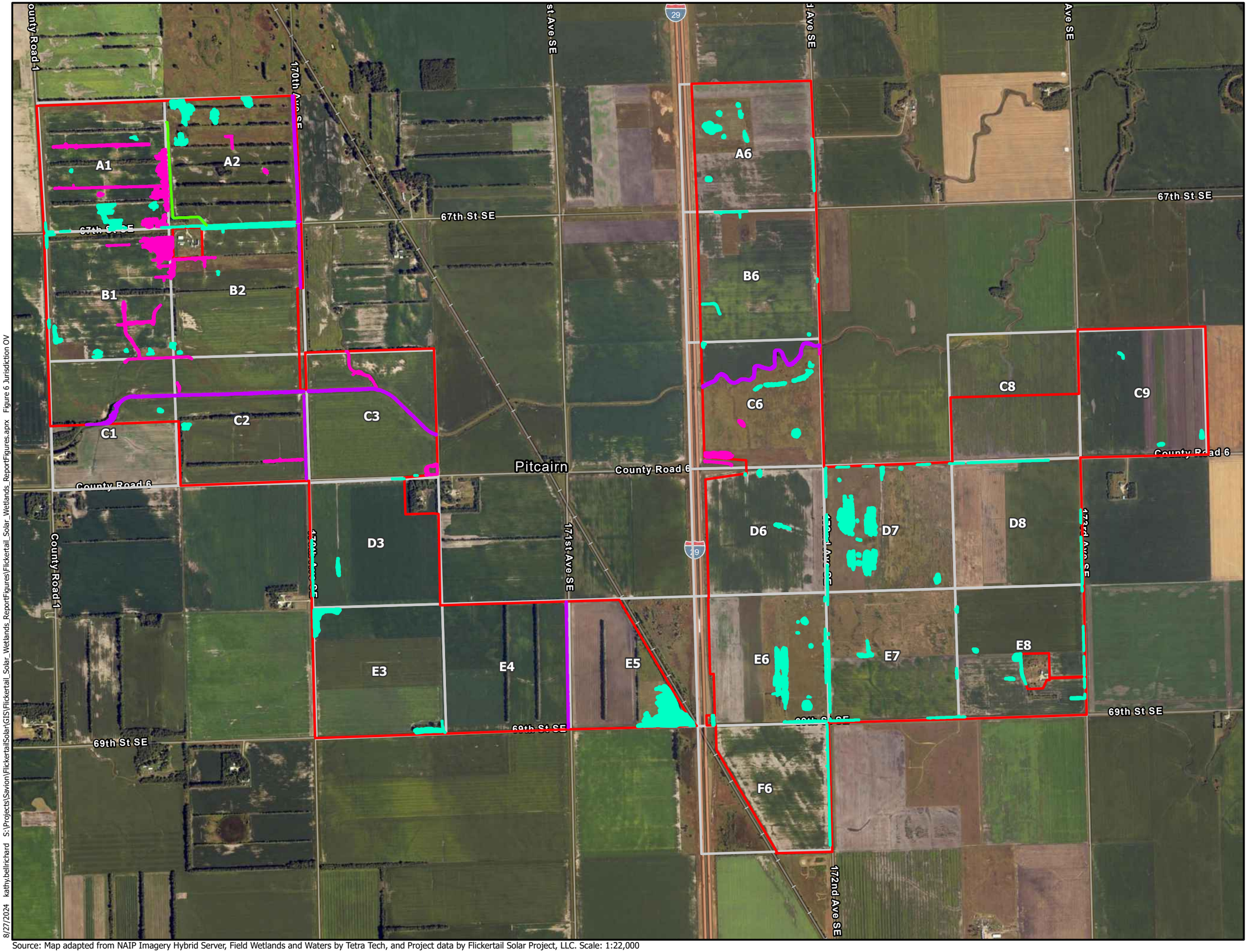
Figure 5 - F6
Wetlands and Waters Survey Results

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 5 Survey Results MB



Map Sheet

Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

0 0.25 0.5 Mile

N

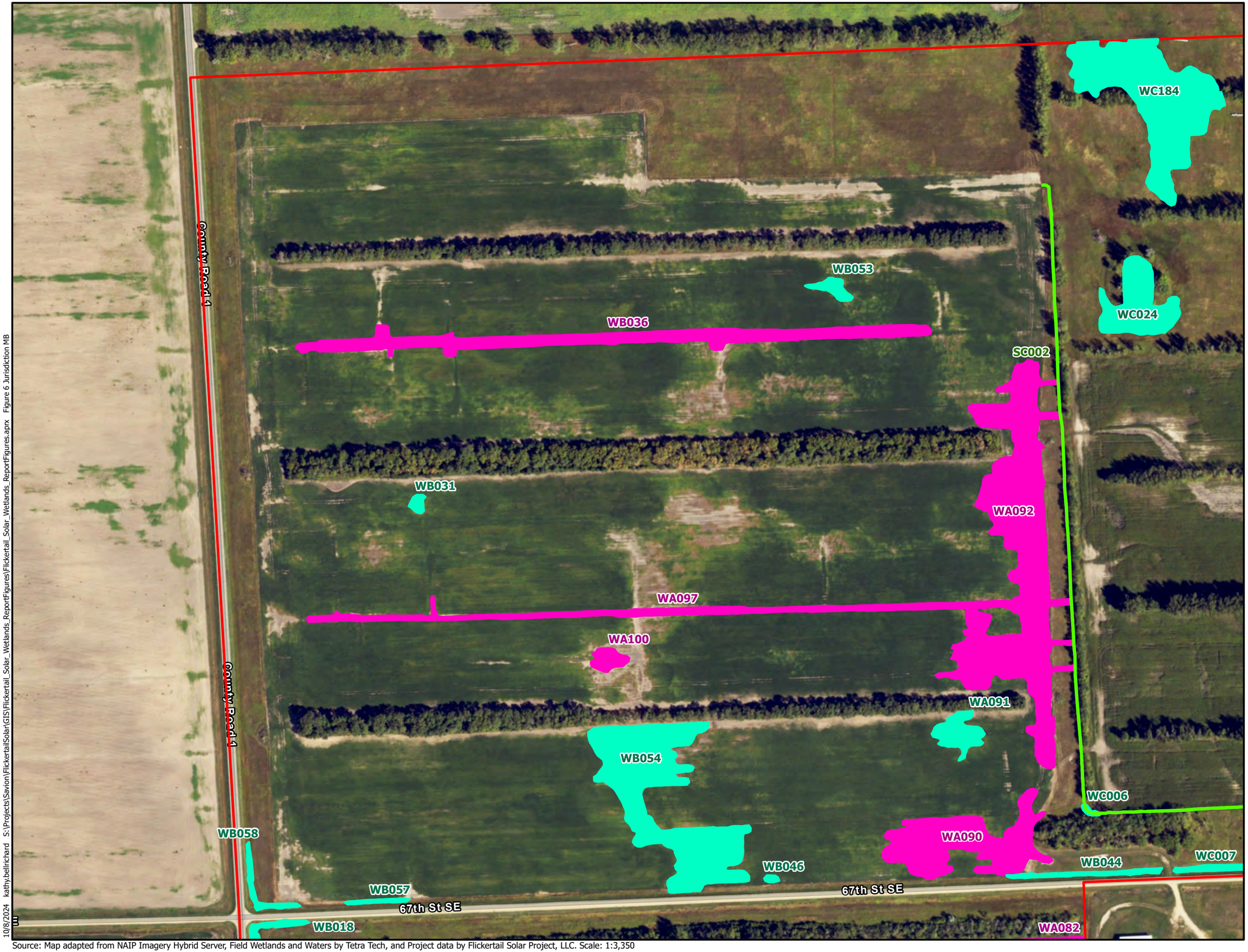
Figure 6 - Overview Wetlands and Waters Jurisdiction

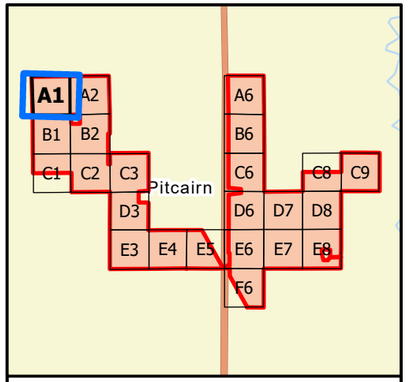
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:22,000

8/27/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction OV





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

Figure 6 - A1
Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

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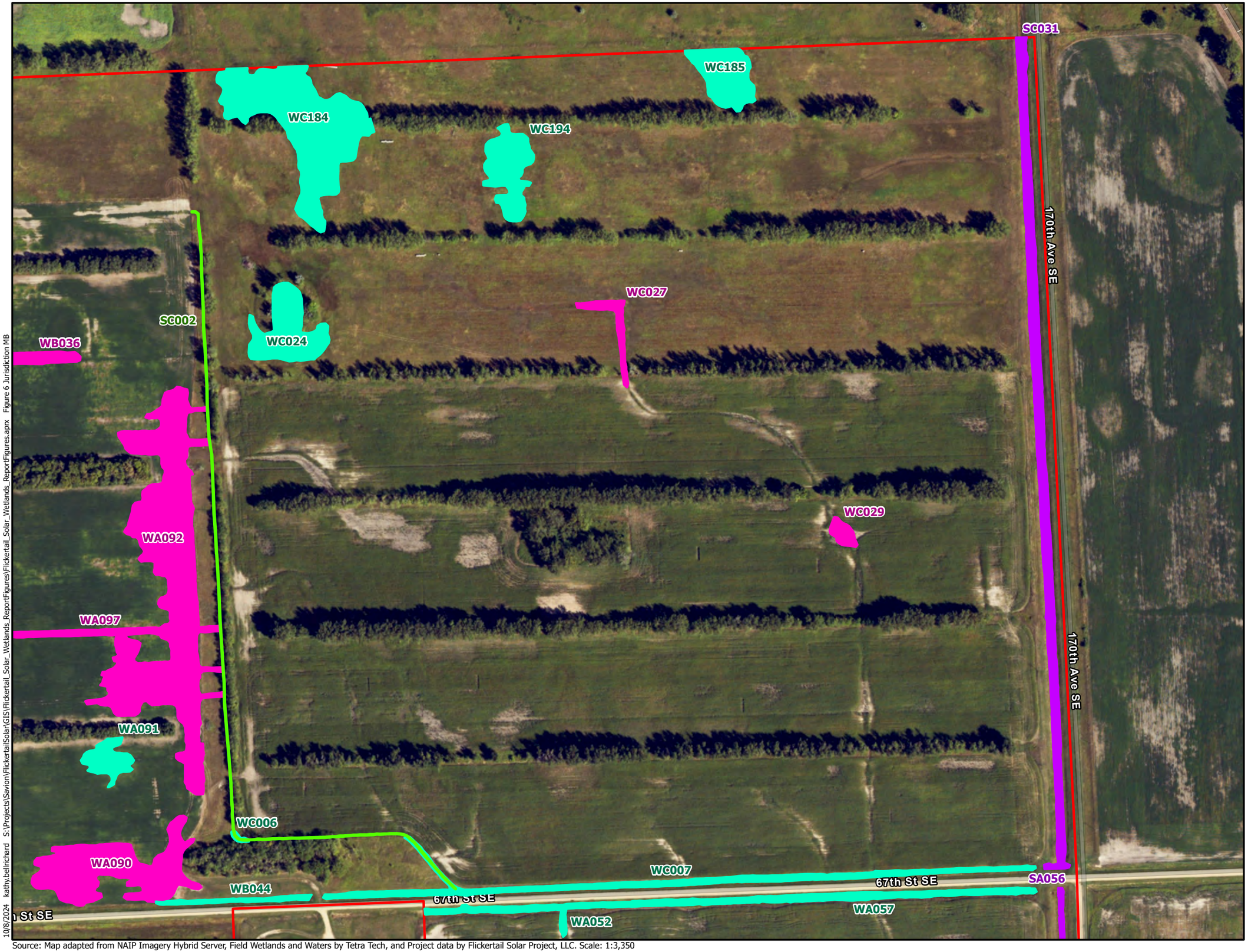
Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

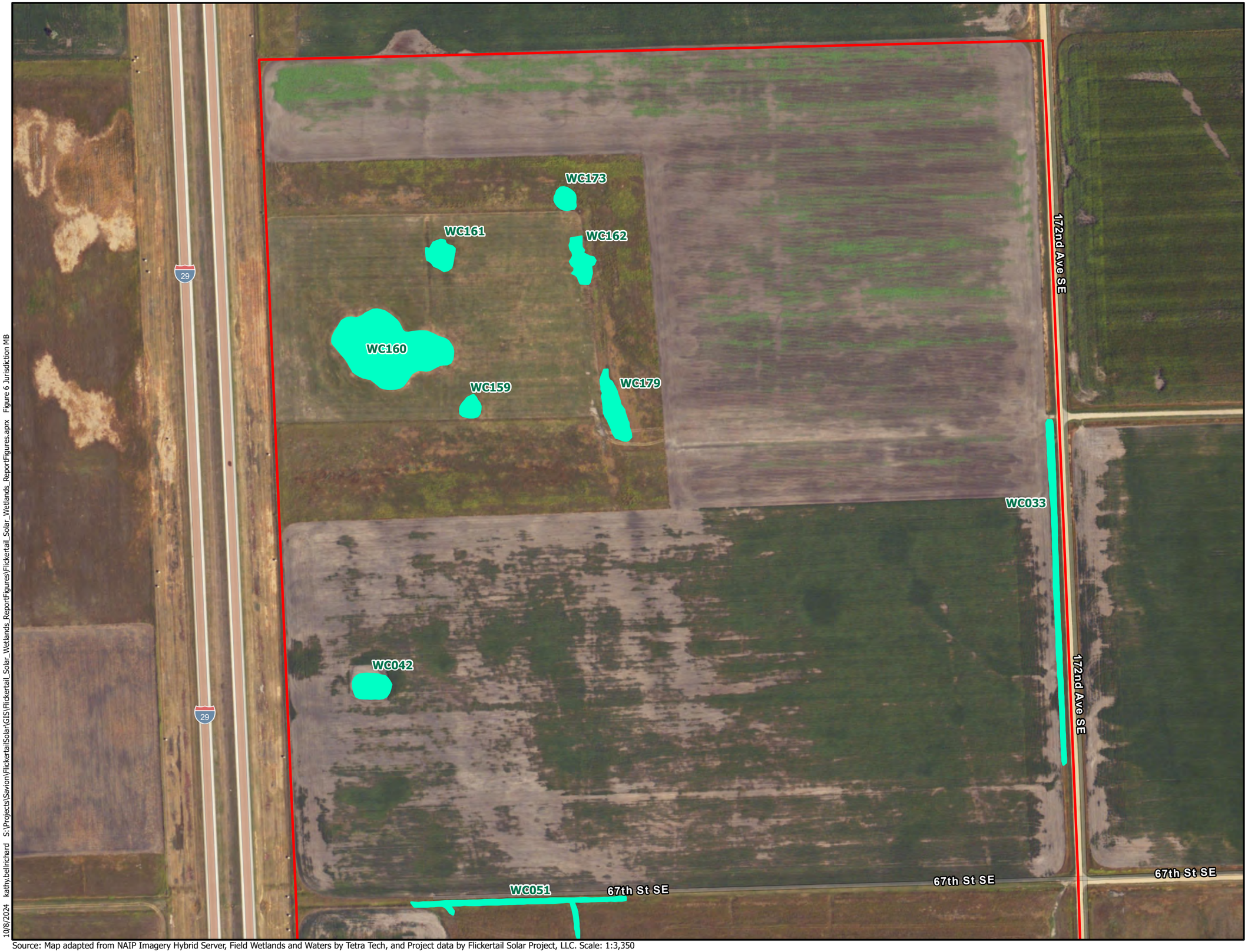
Figure 6 - A2
Wetlands and Waters Jurisdiction

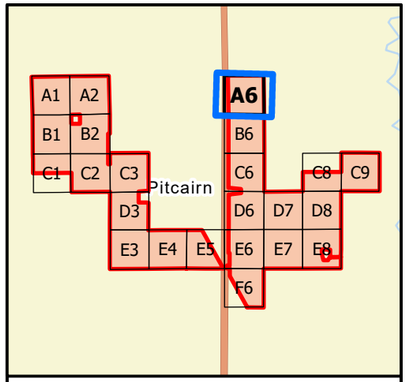
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

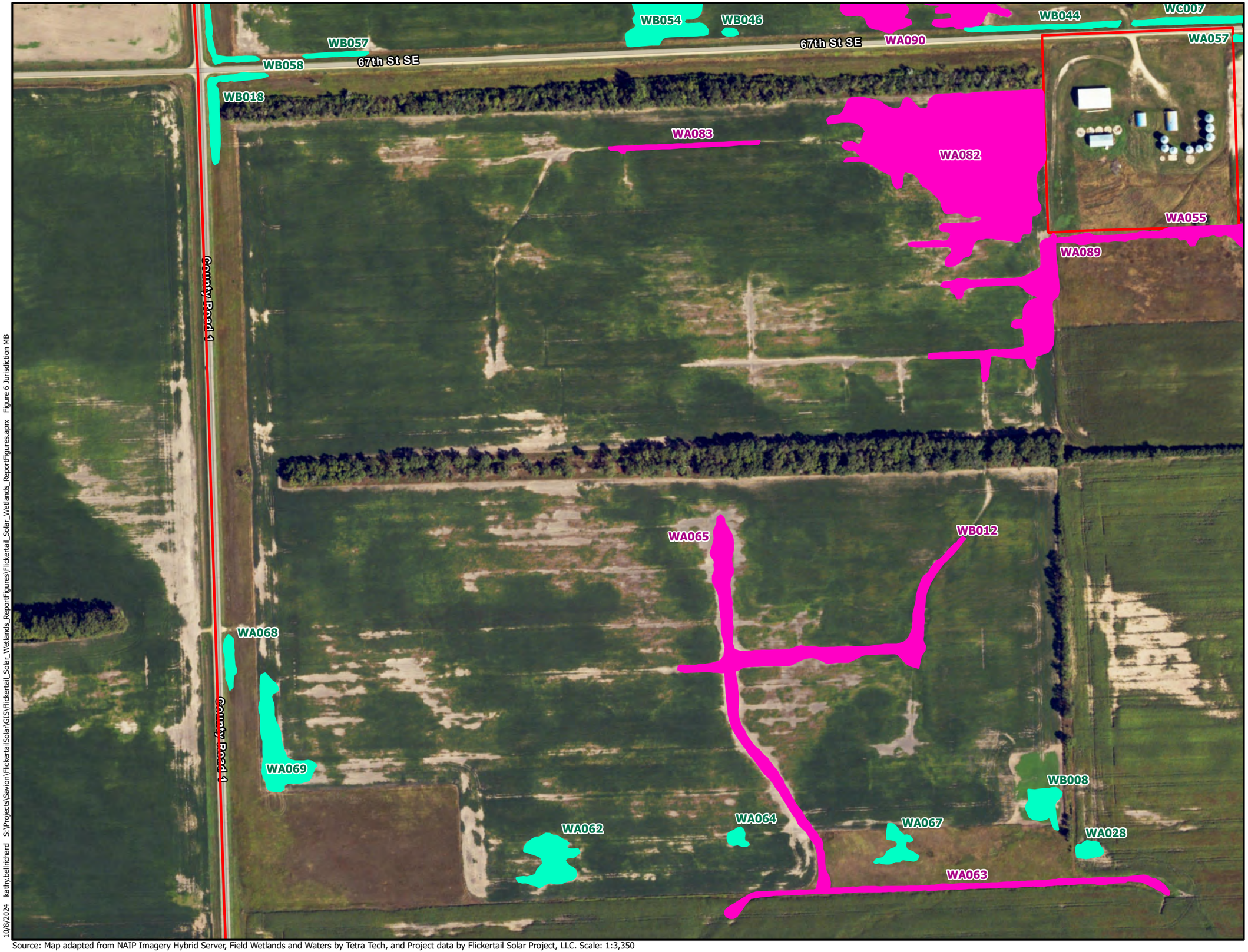
Figure 6 - A6 Wetlands and Waters Jurisdiction

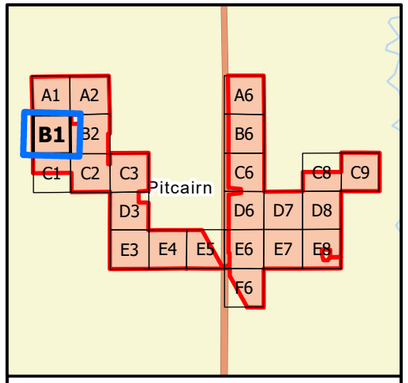
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

Figure 6 - B1 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

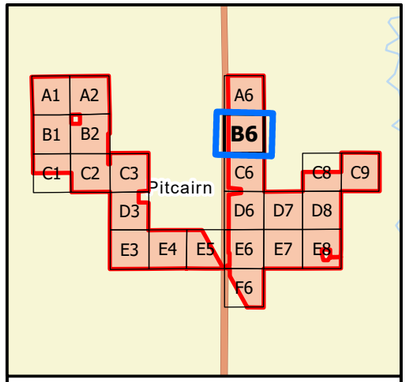
Figure 6 - B2 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bell\richard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

Figure 6 - B6 Wetlands and Waters Jurisdiction

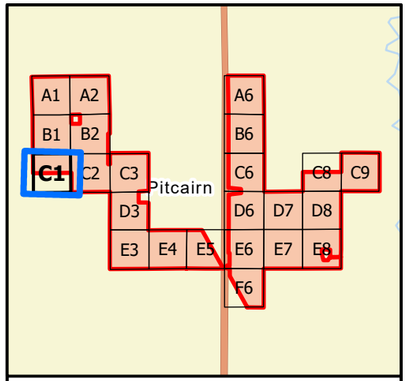
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

WA062
WA065
WA067
WA063
WA028
WA045
SA075
SA076
Pitcairn Creek
WA022
WA019
Pitcairn Creek
Pitcairn Creek
County Road 1
County Road 6
County Road 6



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

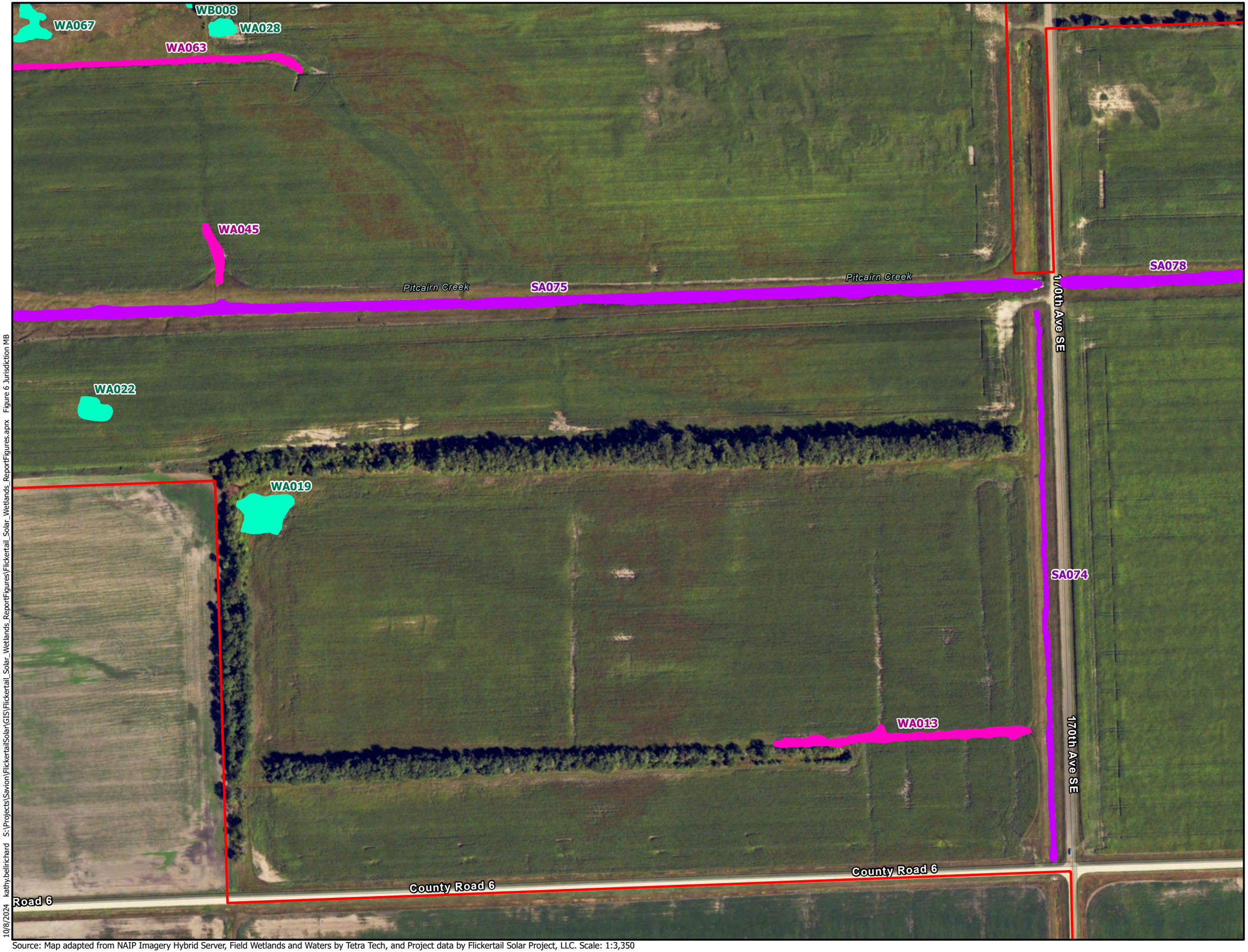
Figure 6 - C1 Wetlands and Waters Jurisdiction

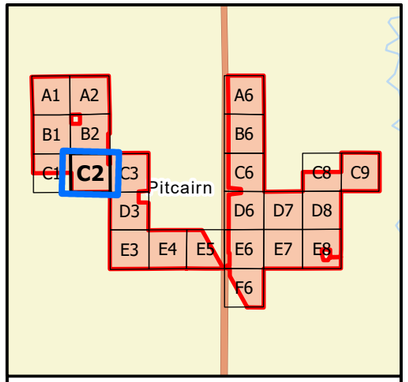
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

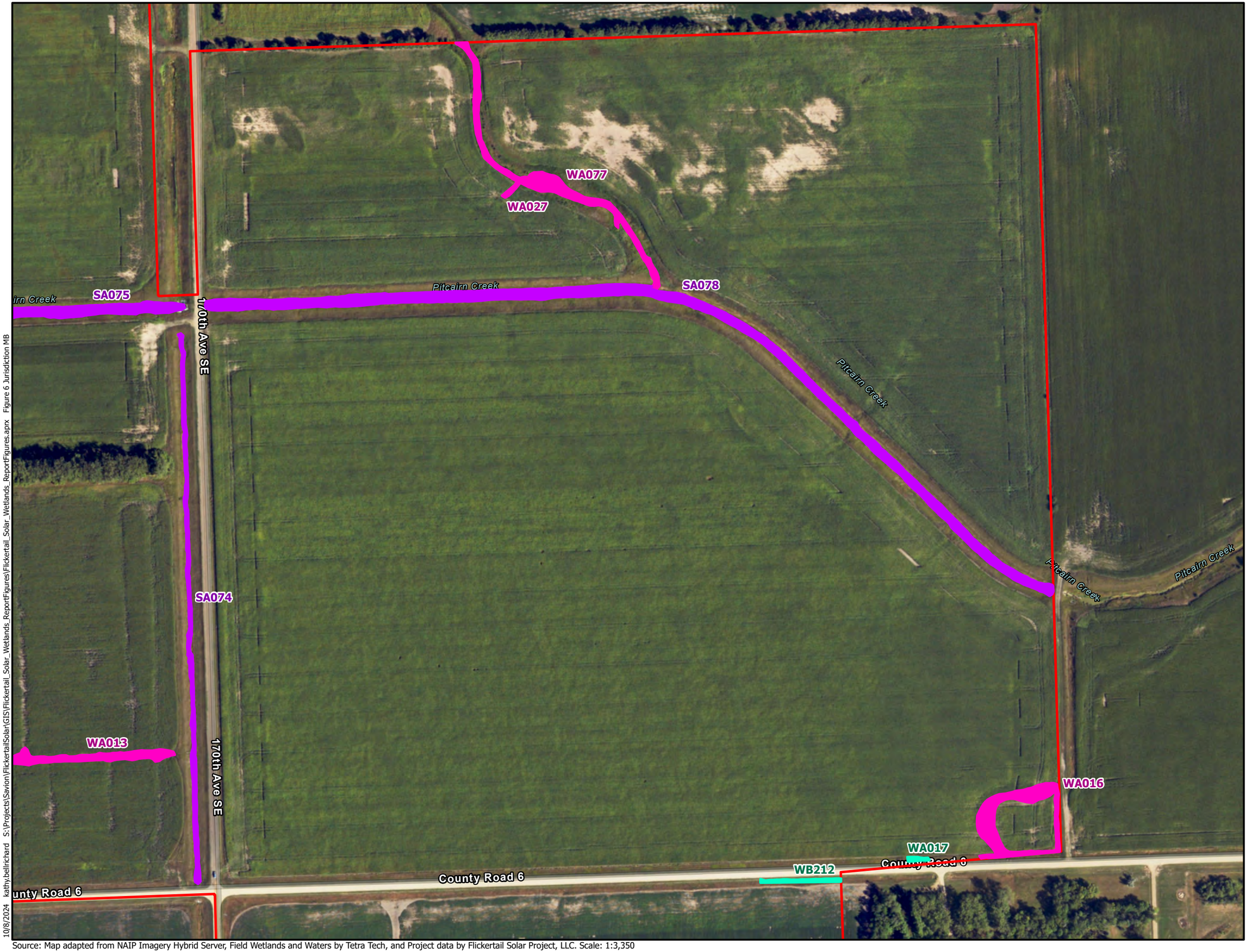
Figure 6 - C2 Wetlands and Waters Jurisdiction

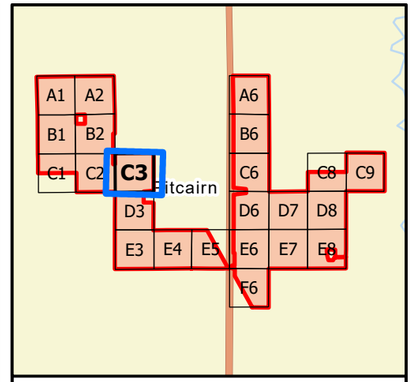
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

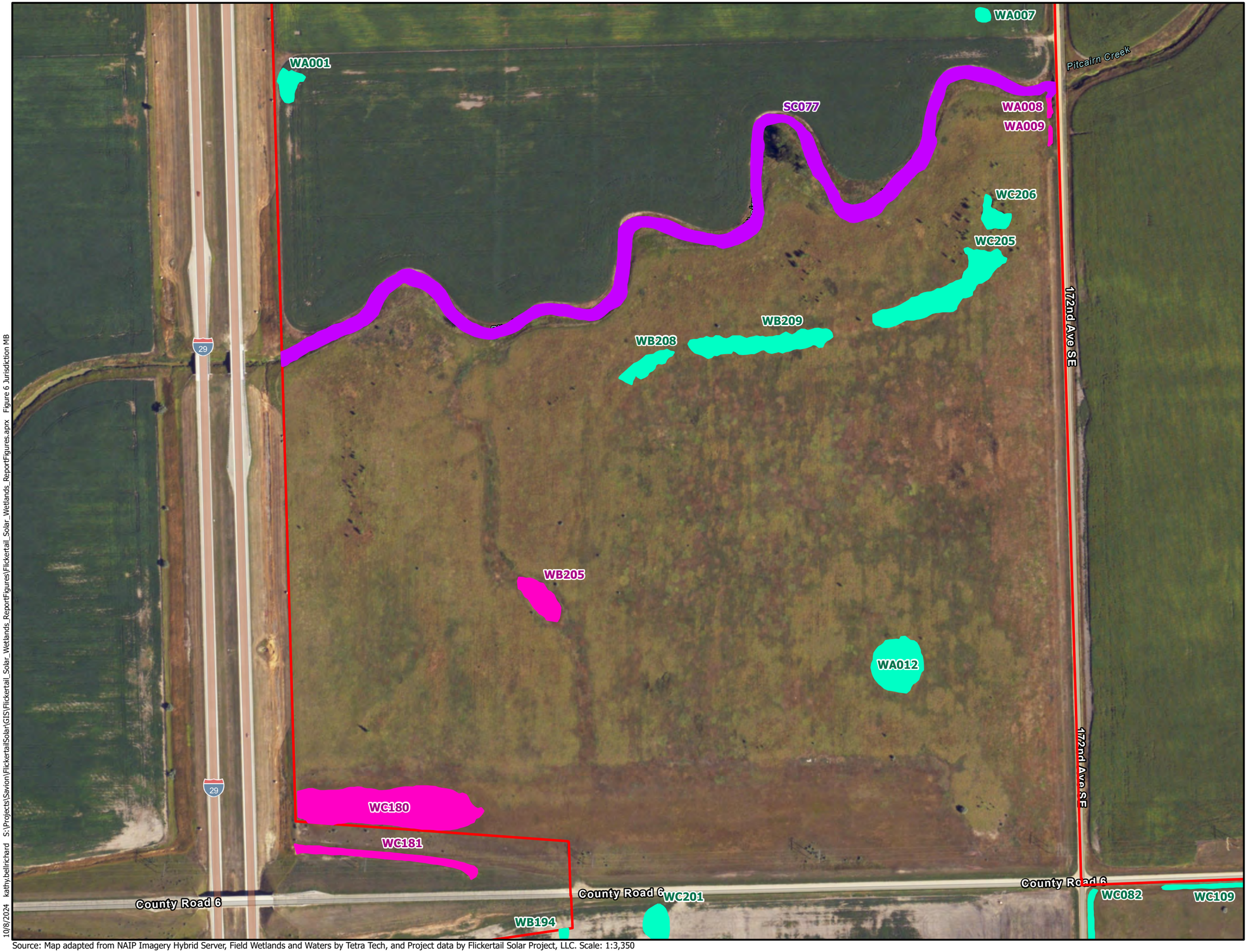
Figure 6 - C3 Wetlands and Waters Jurisdiction

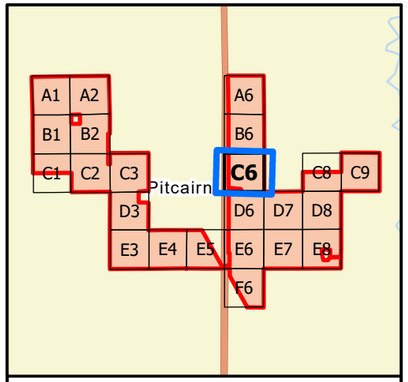
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

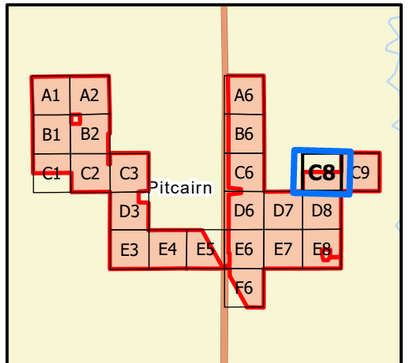
Figure 6 - C6 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

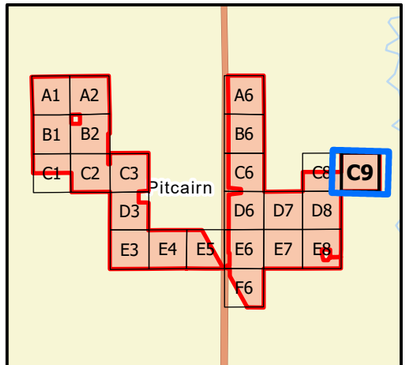
Figure 6 - C8 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

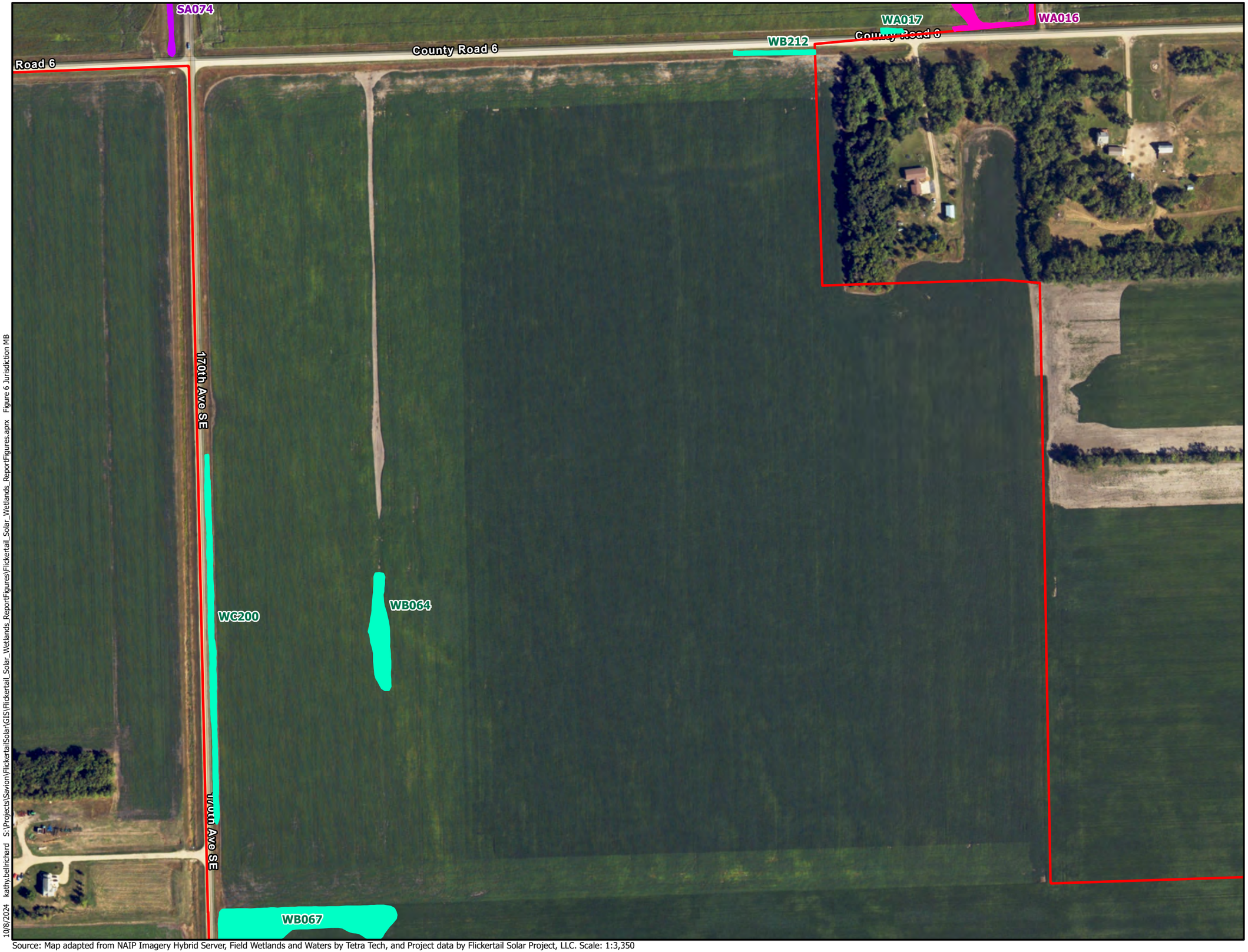
Figure 6 - C9 Wetlands and Waters Jurisdiction

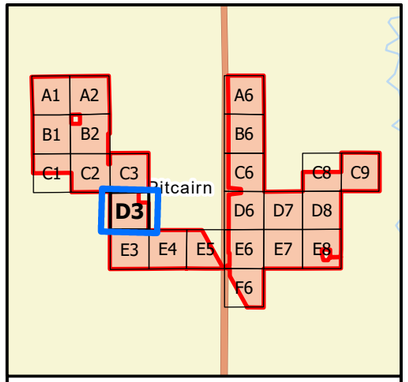
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

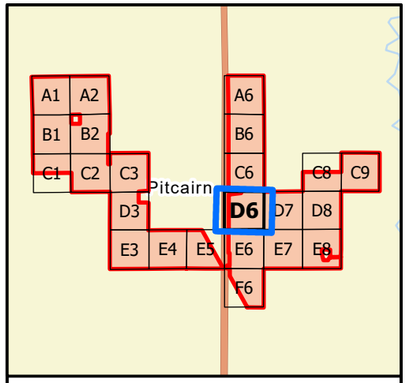
Figure 6 - D3 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

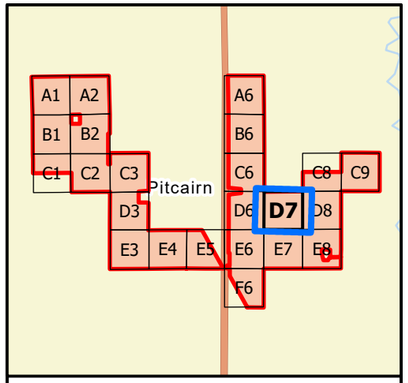
Figure 6 - D6 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

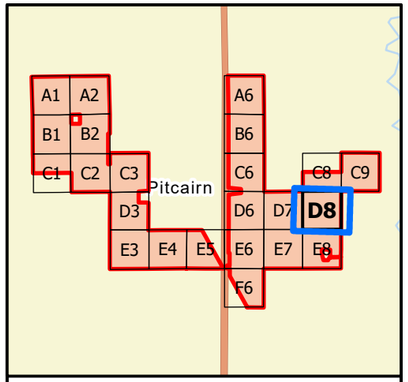
Figure 6 - D7
Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

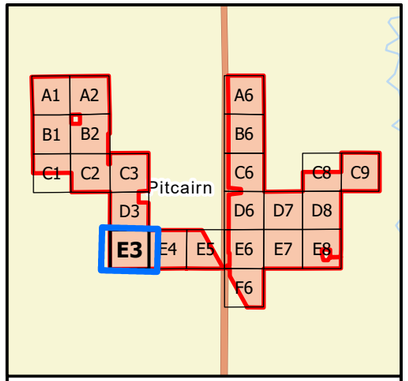
Figure 6 - D8 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

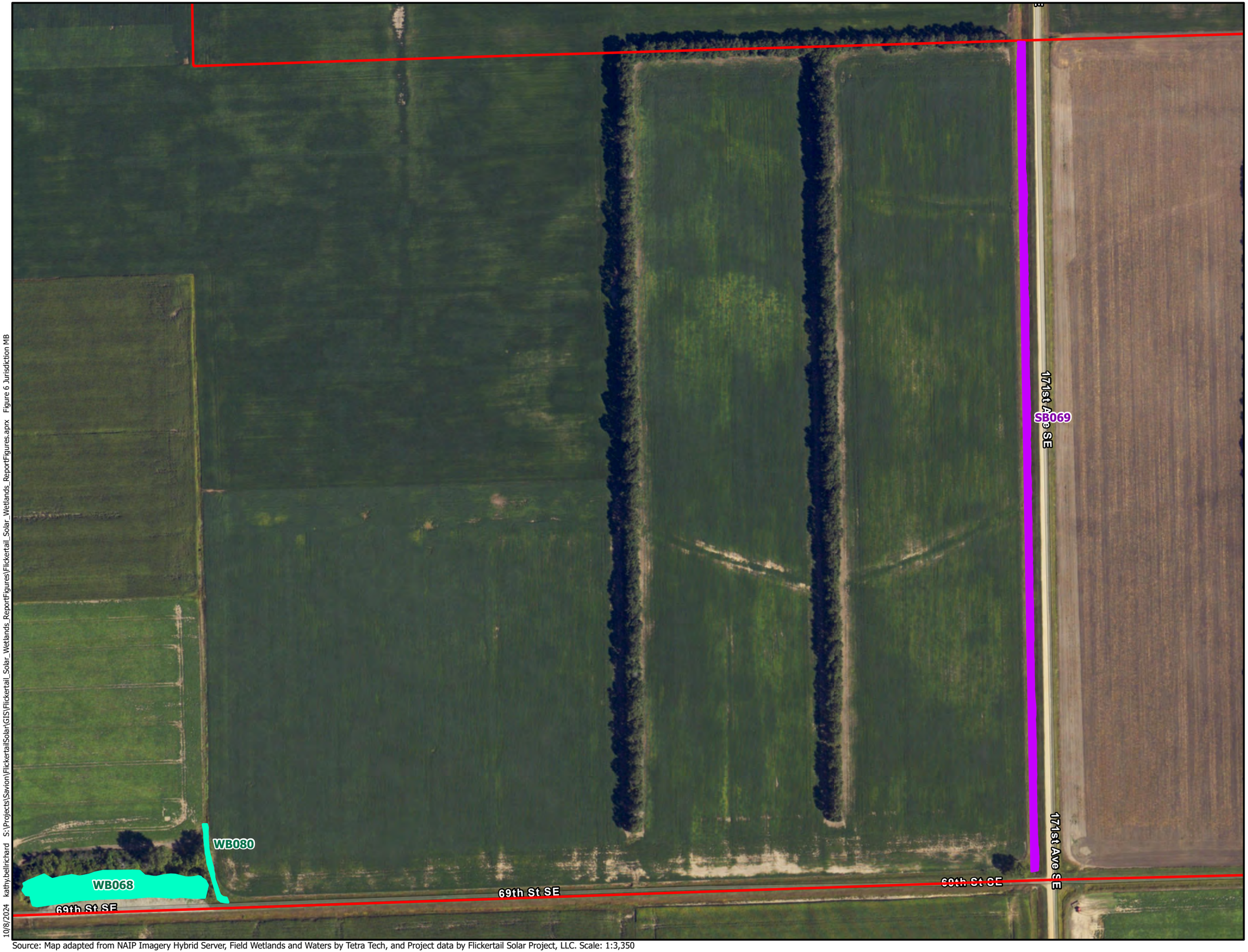
Figure 6 - E3 Wetlands and Waters Jurisdiction

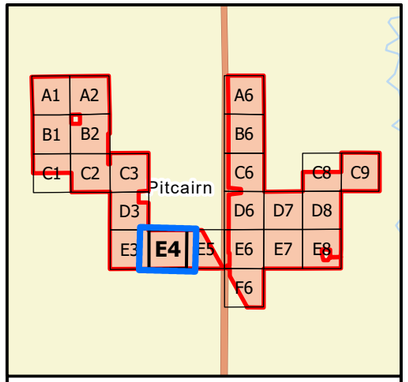
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bell\richard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

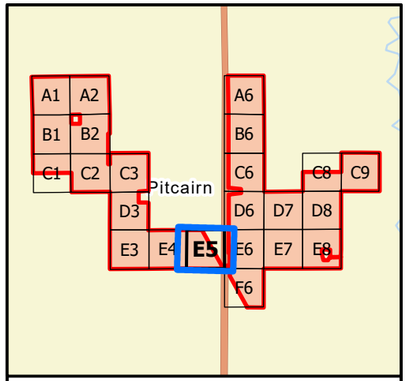
Figure 6 - E4 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB



Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

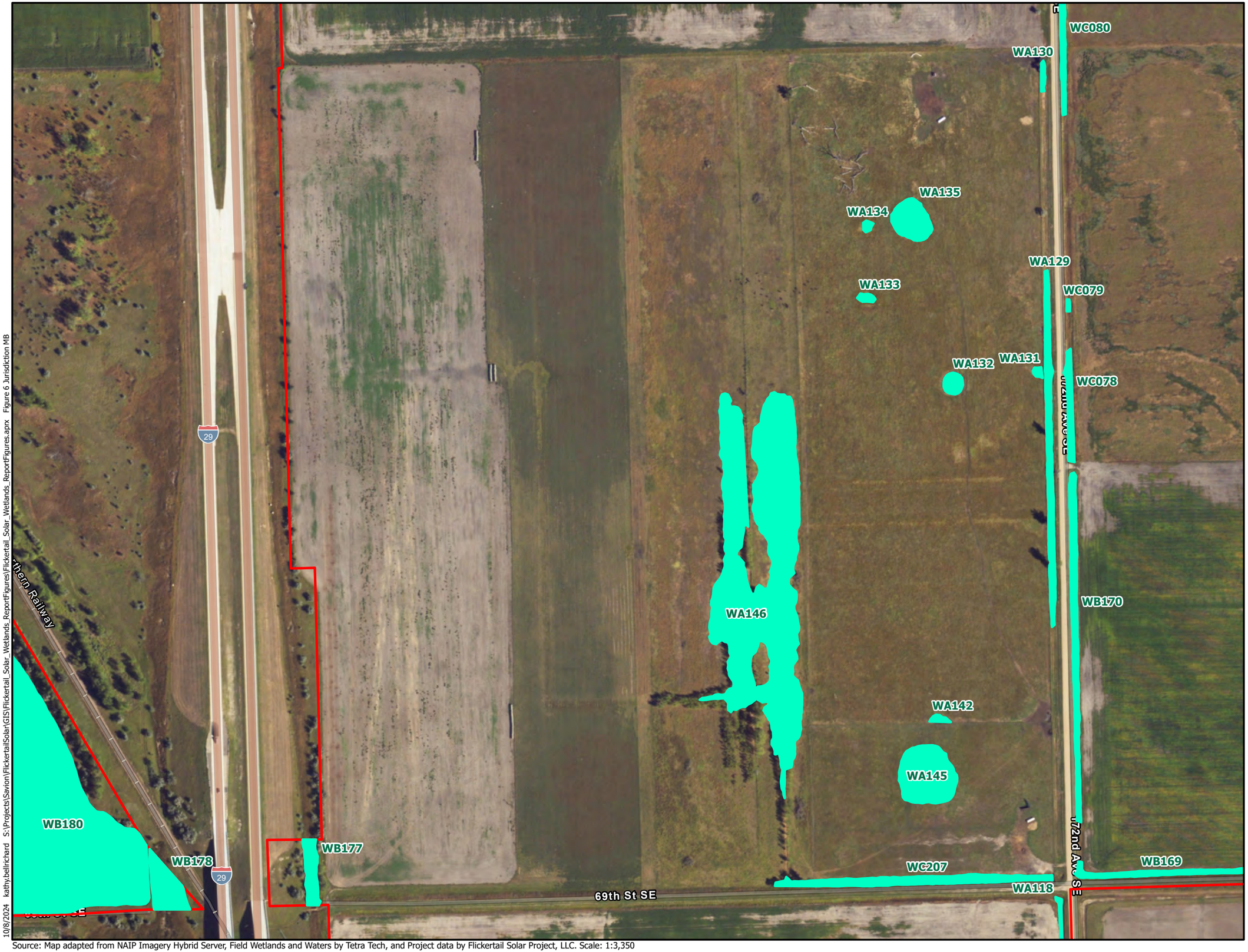
Figure 6 - E5 Wetlands and Waters Jurisdiction

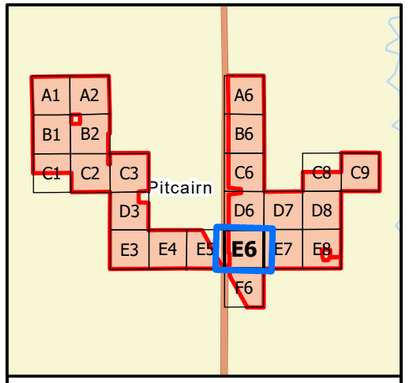
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

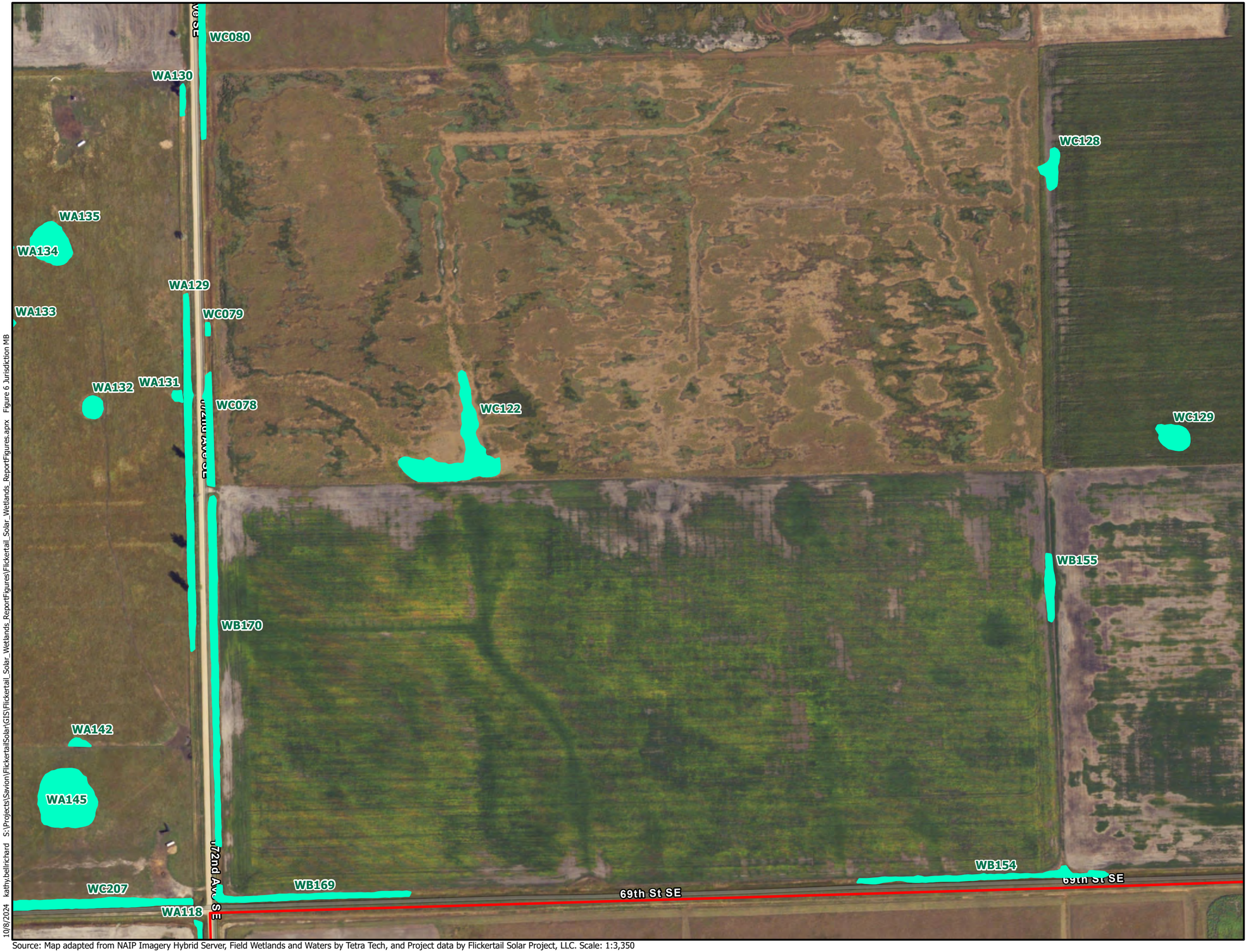
Figure 6 - E6 Wetlands and Waters Jurisdiction

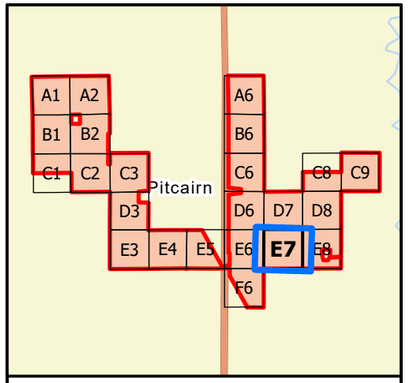
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

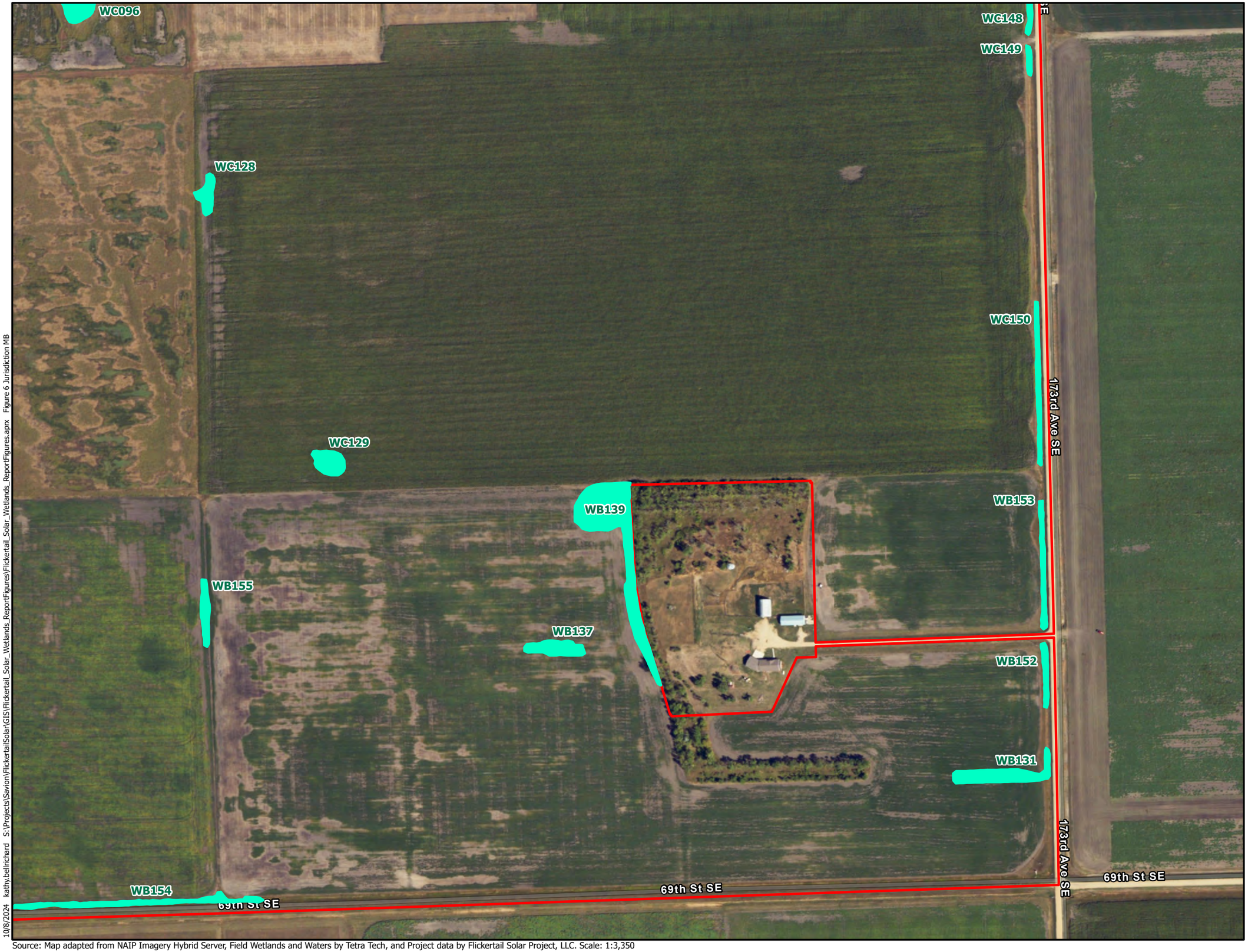
Figure 6 - E7 Wetlands and Waters Jurisdiction

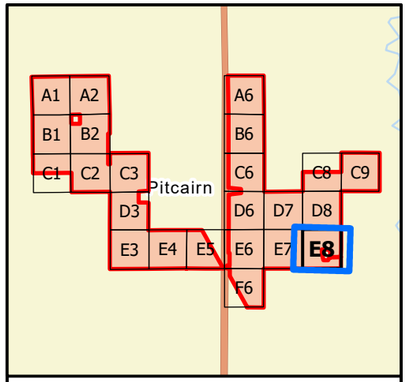
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

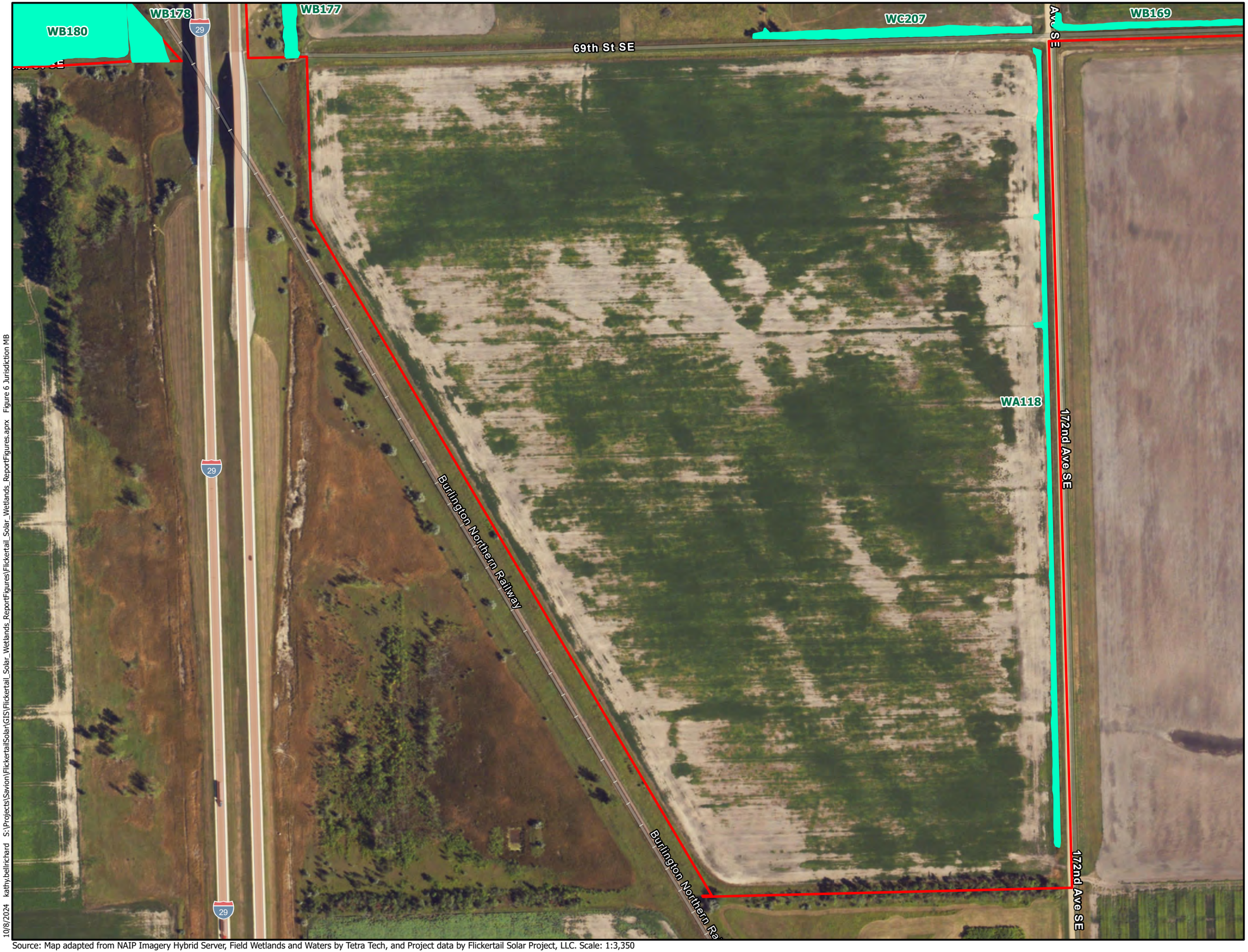
Figure 6 - E8 Wetlands and Waters Jurisdiction

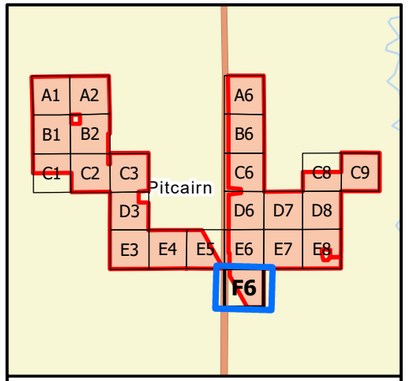
Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

10/8/2024 kathy.bellrichard S:\Projects\Savion\Flickertail\Solar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350





Survey Area

Delineated Wetlands and Waters - USACE

Wetland

Stream

Delineated Wetlands and Waters - Not Regulated

Wetland

Stream

* Suggestions regarding the jurisdiction of wetlands and waters are preliminary and must be verified by the USACE.

0 100 200 300 400 Feet

N

Figure 6 - F6 Wetlands and Waters Jurisdiction

Flickertail Solar Project
Richland County
North Dakota

TETRA TECH

Source: Map adapted from NAIP Imagery Hybrid Server, Field Wetlands and Waters by Tetra Tech, and Project data by Flickertail Solar Project, LLC. Scale: 1:3,350

10/8/2024 kathy.bellrichard S:\Projects\Savion\FlickertailSolar\GIS\Flickertail_Solar_Wetlands_ReportFigures\Flickertail_Solar_Wetlands_ReportFigures.aprx Figure 6 Jurisdiction MB

APPENDIX B: SURVEYED WETLANDS AND WATERS

Table B-1: Surveyed Wetlands

Wetland ID	Cowardin Class[1]	Surveyed Area (acres)	USACE Jurisdiction	Figures 5 and 6 Grid ID
WA001	PEMAf	0.109	No	C6
WA007	PEMAf	0.033	No	B6
WA008	PEMAx	0.013	Yes	C6
WA009	PEMAx	0.008	Yes	C6
WA012	PEMA/PEMC	0.472	No	C6
WA013	PEMAf	0.404	Yes	C2
WA016	PEMAf/PEMCx/ PEMAx	0.431	Yes	C3
WA017	PEMAx	0.017	No	C3
WA019	PEMAf/PEMCx	0.352	No	C2
WA022	PEMAf	0.125	No	C1
WA027	PEMAf	0.018	Yes	C3
WA028	PEMAf	0.075	No	B2
WA045	PEMAf	0.099	Yes	C2
WA050	PEMAf	0.043	No	B2
WA052	PEMAf	0.032	No	B2
WA055	PEMCx/PEMA	0.516	Yes	B2
WA057	PEMCx	0.748	No	B2
WA062	PEMAf	0.396	No	B1
WA063	PEMCx/PEMAf	0.420	Yes	C1
WA064	PEMAf	0.054	No	B1
WA065	PEMAf	0.885	Yes	B1
WA067	PEMA	0.147	No	B1
WA068	PEMAx	0.085	No	B1
WA069	PEMAf	0.556	No	B1
WA077	PEMC	0.505	Yes	C3
WA082	PEMAf	4.725	Yes	B1
WA083	PEMAf	0.092	Yes	B1
WA089	PEMAf	0.947	Yes	B1
WA090	PEMAf	1.509	Yes	A1
WA091	PEMAf	0.276	No	A1
WA092	PEMAf/PEMAx	3.994	Yes	A1

[1] See Appendix E for a key to the Cowardin wetland classification system.

Wetland ID	Cowardin Class[1]	Surveyed Area (acres)	USACE Jurisdiction	Figures 5 and 6 Grid ID
WA097	PEMAf	0.788	Yes	A1
WA100	PEMAf	0.128	Yes	A1
WA118	PEMAx	0.570	No	F6
WA129	PEMCx	0.407	No	E6
WA130	PEMAx	0.023	No	E6
WA131	PEMA	0.017	No	E6
WA132	PEMA	0.074	No	E6
WA133	PEMA	0.025	No	E6
WA134	PEMA	0.018	No	E6
WA135	PEMA	0.271	No	E6
WA142	PEMA	0.021	No	E6
WA145	PEMC	0.615	No	E6
WA146	PSSC/PEMC	4.680	No	E6
WB008	PEMAf	0.196	No	B1
WB012	PEMAf	0.832	Yes	B1
WB018	PEMAx	0.202	No	B1
WB031	PEMAf	0.044	No	A1
WB036	PEMAf	1.536	Yes	A1
WB044	PEMCx/PEMAx	0.115	No	A1
WB046	PEMAf	0.017	No	A1
WB053	PEMAf	0.098	No	A1
WB054	PEMAf	2.478	No	A1
WB057	PEMCx	0.040	No	A1
WB058	PEMAx	0.095	No	A1
WB064	PEMAf	0.350	No	D3
WB067	PEMAf	2.107	No	E3
WB068	PSSC/PEMC	0.972	No	E3
WB080	PEMCx	0.060	No	E4
WB090	PEMAf	0.093	No	C9
WB103	PEMAf	0.213	No	C9
WB113	PEMAf	0.111	No	C9
WB131	PEMAf	0.257	No	E8
WB137	PEMAf	0.152	No	E8
WB139	PEMAf	0.809	No	E8

Wetland ID	Cowardin Class[1]	Surveyed Area (acres)	USACE Jurisdiction	Figures 5 and 6 Grid ID
WB152	PEMAx	0.060	No	E8
WB153	PEMAx	0.102	No	E8
WB154	PEMAx	0.211	No	E7
WB155	PEMAf	0.094	No	E7,E8
WB169	PEMCx	0.194	No	E7
WB170	PEMCx	0.406	No	E7
WB177	PEMCx	0.173	No	E6
WB178	PEMCx	0.304	No	E5
WB180	PEMA/PEMB/PEMC/ PSSC	9.400	No	E5
WB194	PEMAf	0.017	No	D6
WB205	PEMC	0.211	Yes	C6
WB208	PEMC	0.142	No	C6
WB209	PEMC	0.474	No	C6
WB212	PEMAx	0.053	No	D3
WC006	PEMCx	0.015	No	A1
WC007	PEMCx	0.804	No	A2
WC024	PEMCx/PSSA	0.789	No	A2
WC027	PEMA/PEMAf	0.164	Yes	A2
WC029	PEMAf	0.106	Yes	A2
WC033	PEMAx	0.322	No	A6
WC042	PEMAf	0.179	No	A6
WC051	PEMAx	0.211	No	B6
WC055	PEMAx	0.015	No	B6
WC060	PEMAf	0.193	No	B6
WC078	PEMCx	0.136	No	E7
WC079	PEMCx	0.009	No	E7
WC080	PEMAx	0.264	No	D7,E7
WC081	PEMAx	0.160	No	D7
WC082	PEMAx	0.194	No	D7
WC088	PEMC	2.282	No	D7
WC090	PEMA	0.028	No	D7
WC091	PEMC	3.957	No	D7
WC092	PEMAx	0.065	No	D7

Wetland ID	Cowardin Class[1]	Surveyed Area (acres)	USACE Jurisdiction	Figures 5 and 6 Grid ID
WC096	PEMAf	0.363	No	D7
WC108	PEMA	0.030	No	D7
WC109	PEMAx	0.046	No	D7
WC110	PEMAf	0.250	No	D7
WC112	PEMC/PEMA	0.049	No	D7
WC113	PEMC	1.182	No	D7
WC114	PEMC	0.090	No	D7
WC115	PEMC	2.349	No	D7
WC122	PEMA	0.610	No	E7
WC124	PEMAf	0.058	No	D7
WC125	PEMAx	0.060	No	D7
WC126	PEMAx	0.009	No	D7
WC128	PEMAf	0.094	No	E8
WC129	PEMAf	0.138	No	E8
WC147	PEMAx	0.063	No	D8
WC148	PEMAx	0.304	No	D8
WC149	PEMAx	0.026	No	E8
WC150	PEMAx	0.115	No	E8
WC152	PEMAx	0.336	No	D8
WC153	PEMAx	0.044	No	D8
WC159	PEMA	0.074	No	A6
WC160	PEMC	1.291	No	A6
WC161	PEMA	0.136	No	A6
WC162	PEMA	0.153	No	A6
WC173	PEMA	0.082	No	A6
WC179	PEMA	0.233	No	A6
WC180	PEMC	1.373	Yes	C6
WC184	PEMC	2.351	No	A2
WC185	PEMA	0.613	No	A2
WC194	PEMA	0.641	No	A2
WC200	PEMAx	0.328	No	D3
WC201	PEMAf	0.177	No	D6
WC203	PEMAf	0.319	No	D6
WC205	PEMA	0.636	No	C6

Wetland ID	Cowardin Class[1]	Surveyed Area (acres)	USACE Jurisdiction	Figures 5 and 6 Grid ID
WC206	PEMA	0.108	No	C6
WC207	PEMAx	0.413	No	E6

Table B-2: Surveyed Streams

Stream ID	Flow Regime	Cowardin Class[1]	Stream Name	Average Width (feet)	Surveyed Length (feet)	Surveyed Area (acres)	USACE Jurisdiction[2]	Figures 5 and 6 Grid ID
SA056	Intermittent	R4SBCx	--	15	2,621	0.792	Yes	B2
SA074	Intermittent	R4SBCx	--	9	1,734	0.378	Yes	C2
SA075	Perennial	R2UBHx	Pitcairn Creek	30	3,374	2.136	Yes	C1,C2
SA076	Perennial	R2UBHx	Pitcairn Creek	30	1,486	1.265	Yes	C1
SA078	Perennial	R2UBHx	Pitcairn Creek	25	3,007	1.854	Yes	C3
SB069	Intermittent	R4SBCx	--	20	2,596	1.120	Yes	E4
SC002	Ephemeral	R4SBAx	--	4	2,742	0.174	No	A2
SC031	Intermittent	R4SBCx	--	30	2,665	1.504	Yes	A2
SC077	Perennial	R2UBH	Pitcairn Creek	30	3,641	2.821	Yes	C6

APPENDIX C: WETLAND DETERMINATION DATA FORMS AND PHOTOGRAPHS

Intentionally Omitted

APPENDIX D: STREAM PHOTOGRAPHS

Intentionally Omitted

APPENDIX E: WETLAND CLASSIFICATION KEY

Cowardin Wetland Classification System

Systems	Subsystems	System Specific Classes
L - Lacustrine	(1) Limnetic (2) Littoral	RB, UB, AB, RS, US, EM,
P - Palustrine	None	RB, UB, AB, US, ML, EM, SS, FO
R - Riverine	(1) Tidal (2) Lower Perennial (3) Upper Perennial (4) Intermittent	RB, UB, SB, AB, RS, US, EM
Classes	**Water Regimes**	**Special Modifiers**
RB - Rock Bottom **UB -** Unconsolidated Bottom **SB -** Streambed **AB -** Aquatic Bed **RS -** Rocky Shore **US -** Unconsolidated Shore **EM -** Emergent **ML -** Moss Lichen **SS -** Scrub Shrub **FO** - Forested	**A** – Temporarily flooded **B** – Seasonally saturated **C** – Seasonally flooded **D –** Continuously saturated **E** – Seasonally flooded/saturated **F** – Semi-permanently flooded **G** – Intermittently exposed **H** – Permanently flooded **J** – Intermittently flooded **K** – Artificially flooded	**b** – Beaver **d** – Partly drained/ditched **f** – Farmed **m –** Managed **h** – Diked/impounded **r** – Artificial substrate **s** – Spoil **x** – Excavated

Source: Federal Geographic Data Committee. 2013. Classification of wetlands and deepwater habitats of the United States. FGDC-STD-004-2013. Second Edition. Wetlands Subcommittee, Federal Geographic Data Committee and U.S. Fish and Wildlife Service, Washington, DC. (FGDC 2013)