WETLAND DELINEATION REPORT

Emerald Sky Dairy
Town of Emerald, St. Croix County, Wisconsin

August 21, 2016

Prepared for:

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INTRODUCTION

Ecosystems, LLC (ecosystems) completed a wetland determination and delineation of the Emerald Sky Dairy project site located near Emerald, Wisconsin (hereinafter referred to as the project site or study area) on behalf of Emerald Sky Dairy LLC. More specifically, the project study area is approximately 150 acres located in Section 22, Township 30 North, Range 16 West in the Town of Emerald, St. Croix County, Wisconsin (Appendix A, Figure 1). The project consists of the proposed expansion of an existing dairy farm.

The purpose of the wetland determination and delineation was to identify the type and extent of wetlands within the study area. The wetland delineation was completed by Tim King of Ecosystems in early to mid May of 2016. The lead field delineator and report author of this wetland delineation is Assured through the Wisconsin Department of Natural Resources (WDNR) - Wetland Delineation Professional Assurance Program. As an Assured Delineator, Mr. King received advanced written concurrence from the WDNR for all wetland delineations conducted in the current calendar year. Nine wetlands, a stormwater pond, and associated ditches were identified and delineated within the study area. The wetlands and surface water features are located adjacent to an unnamed intermittent stream and large wetland complex which generally forms the southern boundary of the study area.

Wetlands and waterways that are considered waters of the U.S. are subject to regulation under Section 404 of the Clean Water Act (CWA) and the jurisdictional regulatory authority rests with the U.S. Army Corps of Engineers (USACE). Additionally, the WDNR has regulatory authority over all wetlands, navigable waters, and adjacent lands under Chapters 30 and 281 Wisconsin State Statutes, and Wisconsin Administrative Codes NR 103, 299, 350 and 353. Furthermore, municipalities, townships, and counties may have local zoning authority over certain areas or types of wetlands and waterways. The determination that a wetland or waterway is subject to regulatory jurisdiction is made independently by the agencies. This report will be submitted to the WDNR in accordance with the Assurance program requirements, and if necessary, the USACE.



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METHODS

WETLANDS

Wetland determinations are based on the technical guidelines and methods described in the Corps of Engineers Wetlands Delineation Manual, Technical Report Y-87-1 (1987), Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE January 2012, Version 2.0) and related guidance document (USACE & WDNR 2015).

The wetland determination involved the use of offsite methods including review of available resources such as U.S. Geological Survey (USGS) topographic map, Natural Resources Conservation Service (NRCS) wetland and soil survey data, WDNR Wisconsin Wetland Inventory (WWI) mapping, offsite review of aerial photography using the NRCS Wisconsin Wetland Mapping Conventions (USDA NRCS 1998), St. Croix County GIS data, landowner/client data, and other sources of information to help identify wetlands and other aquatic resources.

Wetlands were identified onsite using routine determination methods when possible, and where necessary, Difficult Wetland Situation (i.e., Problem Area and/or Atypical Situation) procedures including land used for agriculture, diagnostic indicators of the three wetland parameters (vegetation, soil, and hydrology), and technical guidelines. According to methods and procedures described in the technical guidelines, areas under normal circumstances that have positive indicators from each parameter are considered wetlands. When normal circumstances are not present, determinations may be based on fewer parameters depending on the situation encountered and information currently available. A determination of whether or not normal circumstances are present was based on the USACE/WDNR guidance.

Antecedent precipitation conditions in the months prior to the field investigation were reviewed. The current year's precipitation data was compared to long-term (30-year) averages to determine if current conditions are dry, normal, or wet for the area using a WETS analysis as developed by the NRCS and other supplemental hydrologic data.

Wetlands and their boundaries and sample points were identified, delineated, located with a Global Positioning System (GPS) capable of sub-meter accuracy, and mapped using Geographical Information System (GIS) software. Fieldwork was conducted during the growing season and no conditions limited the performance of the wetland delineation.

WATERWAYS

The presence of other aquatic or water resources was identified using available resources and onsite observations. This included identifying the general location and connections between wetlands and other water resources based on observations made incidental to the wetland data collection. Brief descriptions of waterways observed are included in the results section and in supporting documents.



RESULTS

SITE DESCRIPTION

The project site is located in the Western Prairie ecological landscapes in Northwest Wisconsin. The Western Prairie ecological landscape is entirely glaciated and major landforms are rolling till plain, end moraine, and some areas of outwash. The land type association is the Emerald Prairie and its characteristic landform pattern is undulating till plain. The site is located in the Upper Willow River watershed of the Mississippi River basin and in the St. Croix WDNR management unit.

Land use and cover is mainly agriculture, grassland, wetlands, waterways, and forests. Topography is nearly level to gently sloping and rolling. Soils are predominantly well and moderately drained and loamy with a silt loam surface over sandy loam till. In lower, wet areas, soils are somewhat poorly, poorly, and very poorly drained mucky, silt loam and often found over a restrictive layer composed of silty clay loam.

Wetlands are mapped by the WDNR on the WWI as emergent/wet meadow and forested (i.e., E1Ha, E1Hg, E1Ka, E1Kg, E1K, T3K, wetland point symbols, and excavated ponds) mainly within the southern half of the study area (Appendix A, Figure 2). The wetlands identified and delineated generally coincide with the wetlands mapped by the WDNR on the WWI, except farmed wetland areas are found in the central part of the study area and are more extensive compared to the WWI mapping. Soils mapped within the study area by the NRCS Soil Survey consist of well drained Santiago Silt Loam (SaB), 2-6 percent slopes, well drained Amery Loam (AmC2), 6-12% slopes, moderately well drained Freeon Silt Loam (FnB), 2-6% slopes, somewhat poorly drained Magnor Silt Loam (MaB), 0-4% slopes, poorly and very poorly drained Clyde Silt Loam (CyA), 0-3% slopes, and Adolph Silt Loam, 0-2% slopes (Appendix A, Figure 2). The wetlands identified during the field investigation are generally located within areas mapped by the NRCS as somewhat poorly, poorly, and very poorly drained soils and within other smaller areas of well drained soils where landscape position is appropriate to support wetlands.

Average precipitation for the region was obtained from the USDA Field Office Climate Data (http://efotg.sc.egov.usda.gov/efotg_locator.aspx) for WETS Stations Baldwin (WI0486). Precipitation data was used for the analysis of antecedent precipitation conditions (i.e., WETS analysis). Based on the WETS analysis, antecedent hydrologic conditions during the delineation fieldwork from early to mid May were normal (Appendix D).

An offsite review of the study area was conducted using the NRCS Wisconsin Wetland Mapping Conventions. These procedures are used to help make wetland determinations on agricultural lands. This involved reviewing 23 years of aerial photography and associated antecedent precipitation data. Based on the aerial review, 100 percent of the years contained wetness signatures, which indicates that the site contains wetland. Consequently, onsite verification was necessary to make the final wetland determinations. A summary of the offsite review and aerial photography are contained in Appendix E.

WETLANDS

Nine (9) wetlands, a stormwater pond, and associated drainage ditches were identified and delineated within the study area. Wetland boundaries and sample points are shown on Figure 2 contained in Appendix A. Wetland determination data forms were completed at a total of 66 sample points, along transects through the wetlands and adjacent uplands, and are contained in Appendix B. Photographs of the wetlands and adjacent uplands are contained in Appendix C. Wetlands identified and delineated are



summarized in Table 1 and described in the following sections.

Table 1. Summary of Wetlands Identified within the Study Area

WETLAND ID	WETLAND TYPE	WDNR WWI MAPPED	ACREAGE IN STUDY AREA	ADJACENT SURFACE WATERS
W1	Wet Meadow, Shrub Carr, Hardwood Swamp & Farmed Wetland	E1Ka, E1Ha, E1Kg, E1Hg, T3K, Wet Symbol	10.0	Unnamed Intermittent Stream
W2	Seasonally Flooded Basin (Farmed Wetland)	Wet Symbol	0.16	NA
W3	Seasonally Flooded Basin (Farmed Wetland)	Wet Symbol 0.08		NA
W4	Seasonally Flooded Basin (Farmed Wetland)	Wet Symbol	0.24	NA
W5	Farmed Wetland	NA	0.24	NA
W6	Wet Meadow, Shallow Marsh, Open Water Pond & Farmed Wetland (Partly Excavated & Filled)	E1Ka	2.0	Ditch D2 & D3
W7	Wet Meadow & Farmed Wetland (Partly Filled)	Wet Symbol	Wet Symbol 1.0	
W8	Filled Wetland	E1K	0.95	Ditch D4
W9	Wet Meadow	NA	0.38	Ditch D4
Stormwater Pond	Open Water Pond/Hardwood Swamp & Shrub Car	NA	3.5	Ditch D1 & D2 & Unnamed Intermittent Stream
Ditches D1 – D4	Ditch/Wet Meadow	E1Ka, E1K, Wet Symbol	Not Estimated	Stormwater Pond

Wetland 1 (W1)

Wetland W1 is composed of a wet meadow, shrub carr, hardwood swamp, and farmed wetland complex. The wetland is mapped by the WDNR as emergent/wet meadow (E1Ka, E1Ha, E1Kg, E1Hg) and forested (T3K) wetland on the WWI mapping (Appendix A, Figure 2). Portions of this wetland, specifically on the margin, are altered/managed for agriculture use (i.e., cultivated), and where necessary, was considered a Difficult Wetland Situation (i.e., Atypical Situation) which required additional procedures as described below and on the attached data forms. Additional sampling and analysis was necessary due to farming activities where vegetation, hydrology, and/or soils have been manipulated or physically altered, and as a result field indicators of one or more wetland parameters may be absent (e.g., vegetation), at least at certain times. This wetland extends beyond the study area limits to the south, west and east adjacent to an unnamed intermittent stream tributary to Dry Run.



Vegetation

Dominant plant species identified at multiple wetland sample points representing normal circumstances and/or unmanaged conditions include quaking aspen (*Populus tremuloides*) boxelder (*Acer negundo*) gray dogwood (*Cornus racemosa*), meadowsweet (*Spiraea alba*), meadow willow (*Salix petiolaris*), *Rubus idaeus* (red raspberry), reed canary grass (*Phalaris arundinacea*), orange jewelweed (*Impatiens capensis*), stinging nettle (*Urtica dioica*), and cleavers (*Galium aparine*). Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Rapid Test (Indicator 1), Dominance Test (Indicator 2), and Prevalence Index (Indicator 3), the hydrophytic vegetation criterion was met.

In farmed wetland areas where vegetation is significantly disturbed and routinely altered/managed for agricultural use (cultivated), Difficult Wetland Situation (Atypical Situation) – land used for agriculture, problematic hydrophytic vegetation (managed plant community) procedures were used. These areas were planted to corn in 2015, but were not planted prior to the field investigation. Dominant plant species identified at multiple farmed wetland sample points include common plantain (*Plantago major*), curly dock (*Rumex crispus*), dandelion (*Taraxacum officinale*), neckweed (*Veronica peregrina*), and lamb's quaters (*Chenopodium album*). The wetland determination in farmed wetland areas was based mainly on the presence of field indicators of hydric soil, wetland hydrology, and landscape position as described below and on the data forms. If left unmanaged, it's assumed that a wet meadow plant community would exist in the farmed wetland areas in the absence of manipulation or physical alteration to vegetation, hydrology and/or soils. This determination is further supported based on examination of adjacent, natural (less disturbed) reference wetlands having similar soils, hydrology, and landform, offsite review of aerial photography using NRCS Wetland Mapping Conventions, experience and professional judgment.

Hydrology

The presence of A2-high water table, A3-saturation, C3-oxidized rhizospheres on living roots and C6-recent iron reduction in tilled soils were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, B10-drainage patterns, C9-saturation visible on aerial imagery, D2-geomorphic position, D3-shallow aquitard, and D5-FAC neutral test. Therefore, the wetland hydrology criterion was met.

Soils

Soils at the wetland sample points are mapped by the NRCS as Freeon silt loam, Clyde silt loam, Magnor silt loam, and Santiago silt loam as previously described. Field indicators of hydric soil identified at multiple wetland sample points consist of A11-depleted below dark surface, F1-loamy mucky mineral, F3-depleted matrix, and F6-redox dark surface. The hydric soil criterion was met.

Wetland 2 (W2)

Wetland W2 is a small seasonally flooded basin (farmed wetland) located in the central part of the study area. This wetland is mapped by the WDNR as a wetland too small to delineate (i.e., wet symbol) on the WWI mapping (Appendix A, Figure 2). Berms and spoil piles are located on the south edge of the wetland, which may have historically extended further to the south and/or east.

Vegetation

The dominant plant species identified at the wetland sample point is reed canary grass, dandelion, and curly dock. The herb stratum is composed of volunteer vegetation established between cultivations.



Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Dominance Test (Indicator 2), the hydrophytic vegetation criterion was met.

Hydrology

The presence of A1-surface water, A3-saturation, B4-algal mat or crust, B8-sparsely vegetated concave surface, and C6-recent iron reduction in tilled soils were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, C9-saturation visible on aerial imagery, D2-geomophic position, and D3-shallow aquitard. The wetland hydrology criterion was met.

Soils

Soils at the wetland sample points are mapped by the NRCS as Santiago silt loam as previously described. Field indicators of hydric soil identified at the wetland sample point consist of F6-redox dark surface. The hydric soil criterion was met.

Wetland 3 (W3)

Wetland W3 is a small seasonably flooded basin (farmed wetland) located in the central part of the study area. The wetland is mapped by the WDNR as a wetland too small to delineate (i.e., wet symbol) on the WWI mapping (Appendix A, Figure 2). The wetland area has been historically/physically altered as described under the soils section below, but the alteration is insufficient to remove or obscure field indicators.

Vegetation

The dominant plant species identified at the wetland sample point consist of narrow-leaf cattail (*Typha angustifolia*), curly dock, and dandelion. The herb stratum is composed of volunteer vegetation established between cultivations. Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Dominance Test (Indicator 2), the hydrophytic vegetation criterion was met.

Hydrology

The presence of B4-algal mat or crust, B8-sparsely vegetated concave surface, and C6-recent iron reduction in tilled soils were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, C9-saturation visible on aerial imagery, D1-stunted or stressed plants, D2-geomophic position, and D3-shallow aquitard. The wetland hydrology criterion was met.

Soils

Approximately 12 inches of sediment or fill is present over the original soil surface. Soils at the wetland sample points are mapped by the NRCS as Santiago silt loam as previously described. Field indicators of hydric soil identified at the wetland sample point consist of F6-redox dark surface. The hydric soil criteria was met under current conditions. The original buried soil (12" – 25" depth) also contains field indicators of hydric soil including F6-redox dark surface and F3-depleted matrix that existed under previous conditions.

Wetland 4 (W4)

Wetland W4 is a small seasonably flooded basin (farmed wetland) located in the central part of the



study area. The wetland is mapped by the WDNR as a wetland too small to delineate (i.e., wet symbol) on the WWI mapping (Appendix A, Figure 2).

Vegetation

The dominant plant species identified at this wetland sample point include broad-leaf cattail (*Typha latifolia*) and narrow-leaf cattail. Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Rapid Test (Indicator 1), the hydrophytic vegetation criterion was met.

Hydrology

The presence of A1-surface water, A2-high water table, A3-saturation, C3-oxidized rhizospheres on living roots, and C6-recent iron reduction in tilled soils were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, C9-saturation visible on aerial imagery, D2-geomophic position, D3-shallow aquitard, and D5-FAC neutral test. The wetland hydrology criterion was met.

Soils

Soils at the wetland sample points are mapped by the NRCS as Magnor silt loam as previously described. Field indicators of hydric soil identified at the sample point consist of F1-loamy mucky mineral and F6-redox dark surface. The hydric soil criteria was met.

Wetland 5 (W5)

Wetland W5 is a small farmed wetland located in the west central part of the study area. The wetland is not mapped by the WDNR on the WWI mapping (Appendix A, Figure 2). The wetland is routinely altered/managed for agriculture use (i.e., cultivated) and was considered a Difficult Wetland Situation (i.e., Atypical Situation) which required additional procedures as described below and on the data forms. Additional sampling and analysis was necessary due to farming activities where vegetation, hydrology, and/or soils have been manipulated or physically altered, and as a result field indicators of one or more wetland parameters may be absent (e.g., vegetation and/or hydrology), at least at certain times.

Vegetation

No plant species were observed at the wetland sample point due to recent tilling that resulted in bare soil conditions. The area was planted to corn in 2015. Using the problematic hydrophytic vegetation indicator the hydrophytic vegetation criterion was met.

In farmed wetland areas where vegetation is significantly disturbed (i.e., cultivated), Difficult Wetland Situation (Atypical Situation) – land used for agriculture, problematic hydrophytic vegetation (managed plant community) procedures were used. The wetland determination in farmed wetland areas was based mainly on the presence of field indicators of hydric soil, wetland hydrology, and landscape position as described below and on the data forms. If left unmanaged, it's assumed that a wet meadow plant community would exist in the farmed wetland area in the absence of manipulation or physical alteration to vegetation, hydrology and/or soils. This determination is further supported based on examination of adjacent, natural (less disturbed) reference wetlands having similar soils, hydrology, and landform, offsite review of aerial photography using NRCS Wetland Mapping Conventions, experience and professional judgment.

Hydrology



The presence of C6-recent iron reduction in tilled soils was observed as a primary indicator of wetland hydrology. Secondary indicators of wetland hydrology consist of D2-geomorphic position and D3-shallow aquitard. Therefore, the wetland hydrology criterion was met. The wetland outlet is partly ditched to the south along the grass swale, which is insufficient to remove field indicators.

Soils

Soils at the wetland sample points are mapped by the NRCS as Magnor silt loam as previously described. The field indicator of hydric soil identified at this sample point consisted of A11-depleted below dark surface. The hydric soil criterion was met.

Wetland 6 (W6)

Wetland W6 is composed of a wet meadow, shallow marsh, open water pond, and partly farmed wetland complex located in the east central part of the study area. The wetland is partially mapped by the WDNR as emergent/wet meadow (E1Ka) wetland on the WWI mapping (Appendix A, Figure 2). This wetland has been historically altered and fragmented by excavation/dredging, filling (e.g., dredged spoils disposal), conversion, farming, and alteration to drainage patterns. Consequently, this wetland was characterized and delineated as three wetland subparts or fragments which are separated by fill/dredged spoil piles located through the center of the wetland. The wetland is also located on the edge of a cut and fill areas to the south and north.

Vegetation

Dominant plant species identified at the wetland sample points include eastern cottonwood (*Populus deltoides*), pussy willow (*Salix discolor*), meadow willow, narrow-leaf cattail, broad-leaf cattail, reed canary grass, lake sedge (*Carex lacustris*) and common duckweed (*Lemna minor*). Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Rapid Test (Indicator 1) and Dominance Test (Indicator 2), the hydrophytic vegetation criterion was met.

Hydrology

The presence of A1-surface water, A2-high water table, A3-saturation, B2-sediment deposits, B4-algal mat or crust, B7-inundation visible on aerial imagery, and B8-sparesely vegetated concave surface were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, C9-saturation visible on aerial imagery, D2-geomophic position, D3-shallow aquitard, and D5-FAC neutral test. The wetland hydrology criterion was met. Wetland hydrology and drainage patterns have been altered by historic filling and presence of inlet and outlet drainage ditches (i.e., Ditch D3 and D2 respectively) as shown on Figure 2.

Soils

Soils at the wetland sample points are mapped by the NRCS as Magnor silt loam and Santiago silt loam as previously described. Field indicators of hydric soil identified at the wetland sample points consist of A12-thick dark surface, F1-loamy mucky mineral, F6-redox dark surface, and frequently ponded criteria #3 in areas historically excavated (e.g., open water pond) where problematic hydric soils were encountered.

Wetland 7 (W7)

Wetland W7 is composed of a wet meadow and partly farmed wetland located in the east central part of the study area. The wetland is mapped by the WDNR as a wetland too small to delineate (i.e., wet



symbol) on the WWI mapping (Appendix A, Figure 2). The area is also mapped by the USDA NRCS as wetland on the wetland inventory mapping (Appendix F). The wetland is located on the edge of a cut/fill area.

Vegetation

Dominant plant species identified at the wetland sample points include sandbar will (*Salix interior*), reed canary grass, stinging nettle, and curly dock. Other common species identified in the wetland are listed on data forms contained in Appendix B. Using the Dominance Test (Indicator 2), the hydrophytic vegetation criterion was met.

Hydrology

The presence of A3-saturation and B4-algal mat or crust were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B6-surface soil cracks, D2-geomophic position, D3-shallow aquitard, and D5-FAC neutral test. The wetland hydrology criterion was met. Wetland hydrology and drainage patterns have been altered by historic filling and presence of inlet and outlet drainage ditches (i.e., Ditch D4 and D3 respectively) as shown on Figure 2.

Soils

Soils at the wetland sample points are mapped by the NRCS as Magnor silt loam. Field indicators of hydric soil identified at wetland sample points consist of A11-depleted below dark surface, A12-thick dark surface, F1-loamy mucky mineral, and F6-redox dark surface. The hydric soil criterion was met.

Wetland 8 (W8)

Wetland W8 is a historically filled wetland located in the northeast part of the study area. The area is mapped by the WDNR as emergent/wet meadow (E1K) wetland on the WWI mapping (Appendix A, Figure 2). The area is also mapped as wetland ("W") by the USDA on their wetland inventory mapping (Appendix F). The wetland was likely filled in 2005 or 2006, based on offsite review of aerial photography and results of onsite investigation. This area is significantly disturbed, normal circumstances are not present, and is considered a Difficult Wetland Situation (i.e., Atypical Situation), which required additional procedures as described below and on the attached data forms. Specifically, this is a potential unauthorized activity as described in Section F of the USACE 87 Manual. Therefore, additional sampling and analysis were necessary due to previous alterations to vegetation, soils and hydrology, which resulted in the removal or covering of wetland indicators. Refer to the attached routine data form (W8-1w) for a description of current conditions and the attached Atypical Situation (Data Form 3) for descriptions of the type of alterations; effects on vegetation, soils, and hydrology; previous vegetation, soils, and hydrology that likely existed prior to filling; and determination of whether or not wetland criteria were previously met. The previous wetland boundary is based on WDNR WWI mapping, which generally correlates with review of historic aerial photography.

Vegetation

Dominant plant species identified at the sample point include red clover (*Trifolium pratense*), quackgrass (*Elymus* repens), curly dock, and dandelion. Other common species identified are listed on a data form contained in Appendix B. The hydrophytic vegetation criterion was not met under current conditions.

Original vegetation was covered by approximately 6.7 feet of fill in 2005 or 2006, which resulted in conversion from emergent/wet meadow (WDNR mapped E1K) wetland community to upland grass/forb community. The previous vegetation likely consisted of reed canary grass and stinging nettle which is



based on examination of adjacent, natural (less disturbed) reference wetland W7, sample point W7-1w, having similar soils, hydrology, and landform, and review of aerial photography. The hydrophytic vegetation criterion was met under previous conditions.

Hydrology

No indicators of wetland hydrology were observed; therefore, the wetland hydrology criterion was not met under current conditions.

The placement of approximately 6.7 feet of fill material over the original ground surface eliminated wetland hydrology. The original wetland hydrology was likely a saturated hydrologic regime based on review of adjacent reference wetland W7 and WDNR mapping (E1K) wet soil, palustrine. The wetland hydrology criterion was met under previous conditions. The wetland was in a drainage sequence and hydrologically connected to wetlands W7 and W9.

Soils

Soils at the wetland sample points are mapped by the NRCS as Magnor silt loam as previously described. No field indicators of hydric soil were identified; therefore, the hydric soil criterion was not met under current conditions.

A backhoe was used to dig a soil pit to a depth of approximately 8.3 feet to examine the depth of fill and characterize the buried soil profile. The original ground surface was covered by approximately 6.7 feet of sandy loam and rocky fill material. The buried soils consist of silt loam topsoil over silty clay loam. Hydric soil field indicators of the buried soils include F6-redox dark surface in the original topsoil layer and F3-depleted matrix in the underlying subsoil layer. The area is also mapped as a wet spot on the NRCS soil survey (Appendix F). The hydric soil criterion was met under previous conditions.

Wetland 9 (W9)

Wetland W9 is a wet meadow located in the northeast part of the study area. The wetland is not mapped by the WDNR on the WWI mapping (Appendix A, Figure 2). The wetland is found in a swale at the toe slope between two berms on the south side of the manure storage pit.

Vegetation

Dominant plant species identified at the wetland sample point was reed canary grass. Other common species identified in the wetland are listed on data form contained in Appendix B. Using the Rapid Test (Indicator 1), the hydrophytic vegetation criterion was met.

Hydrology

The presence of A2-high water table and A3-saturation were observed as primary indicators of wetland hydrology. Secondary indicators of wetland hydrology consist of B10-drainage patterns, D2-geomophic position, and D5-FAC neutral test. The wetland hydrology criterion was met. The wetland outlet is hydrologically connected to Ditch D4.

Soils

Soils at the wetland sample point are mapped by the NRCS as Amery silt loam as previously described. Field indicators of hydric soil identified at the wetland sample point consist of F1-loamy mucky mineral and F6-redox dark surface. The hydric soil criterion was met.



Stormwater Pond and Associated Ditches

This section includes a brief description of the stormwater pond and associated ditches identified and delineated within the study area. Specifically, an existing stormwater pond and associated conveyance ditches (D1 – D4) are located in the southeast part of the study area. The stormwater pond and associated ditches are not mapped as wetland by the WDNR on the WWI mapping (Appendix A, Figure 2). The pond consists of open water surrounded by a narrow wooded fringe (hardwood swamp/shrub carr) around the perimeter. The pond and ditches contain artificial wetlands to an extent. In some cases, these areas were considered Difficult Wetland Situations having problematic hydric soil – recently developed wetlands (i.e., artificial). These features were located and mapped as a blue line on Figure 2 in Appendix A. Additional field data was collected at sample points by the pond and within the ditches to further characterize these features (see data forms SP1 & D1-D4 in Appendix B).

The artificial wetlands located in and around various portions of the stormwater pond and associated conveyance ditches are potentially exempt from state regulation under Ch. NR 103.06(4) Wis. Admin. Code. For more information, refer to WDNR guidance for specific exemption determination procedures which are beyond the scope of this investigation. This typically includes completing and submitting an artificial wetland exemption request form (3500-120), checklist for artificial wetland exemption determinations, and applicable review fees to the WDNR for review and exemption determination. Note that certain areas, including those with wetland or stream history, may not be exempt.

Wetland Boundaries

The wetland boundaries were determined based on results of offsite review and onsite field investigation. This includes identifying differences in vegetation, hydrology, soils and/or topography consisting of the following: 1) Transition from wetland plant communities (e.g., wet meadow, shrub carr, hardwood swamp, etc.) dominated by hydrophytic vegetation to upland communities (grassland, cropland, etc.) dominated by non-hydrophytic vegetation; 2) Transition from the presence of primary and/or secondary wetland hydrology indicators within the wetlands to lack of wetland hydrology indicators within the adjacent uplands; and/or 3) Transition from hydric to non-hydric soils. The transition from wetland to upland characteristics generally correlated with a somewhat well defined topographic break.

UPLANDS

Uplands within the study area consist mainly of cropland and smaller amounts of grassland including upland grass swales. Croplands were planted to corn in 2015, and were largely uncultivated during the fieldwork. Upland sample point locations are illustrated on Figure 2 contained in Appendix A. Common plant species, soil profile descriptions, hydrology and other characteristics of the uplands are listed on the associated data forms contained in Appendix B.

WATERWAYS

An unnamed intermittent stream tributary to Dry Run (stream) is mapped by the WDNR along the southern boundary of the study area. Other waterways or water bodies identified include the stormwater pond and associated ditches described above.



CONCLUSION

Ecosystems LLC completed a wetland determination and delineation of the Emerald Sky Dairy project site located near Emerald, Wisconsin on behalf of Emerald Sky Dairy LLC. More specifically, the project study area is approximately 150 acres located in Section 22, Township 30 North, Range 16 West in the Town of Emerald, St. Croix County, Wisconsin. The project consists of the proposed expansion of an existing dairy farm.

The purpose of the wetland determination and delineation was to identify the type and extent of wetlands within the study area. Nine wetlands were identified and delineated within the study area in accordance with state and federal technical guidelines. Wetland boundaries and sample points were located with GPS and mapped using GIS. The wetlands are composed of wet meadow, seasonally flooded basin, shallow marsh, shallow — open water, shrub carr, hardwood swamp, and farmed wetlands. Adjacent uplands are composed of mainly cropland and some grassland. Waterways or other surface waters identified include a stormwater pond, associated conveyance ditches, and an unnamed intermittent stream tributary to Dry Run.

The information provided by Ecosystems regarding wetland boundaries is a scientific-based analysis of the wetland and upland conditions present on a site at the time of the fieldwork. The delineation was performed by highly experienced and qualified professionals using standard practices and sound professional judgment. The physical characteristics of a site can change over time, depending on the season, climate and recent precipitation patterns, vegetation patterns, drainage improvements, land management, manipulation and alteration, activities on adjacent parcels, and other human disturbances or natural events. Any of these factors can change the nature and extent of wetlands on a site. This report is limited to the identification of wetlands and other aquatic resources within the site that are regulated by local, state and/or federal agencies. The ultimate decision on wetland boundaries rests with the USACE and the WDNR or a local unit of government. As a result, wetland determinations and boundary delineations may be subject to review and jurisdictional or exemption determinations by a regulatory agency.



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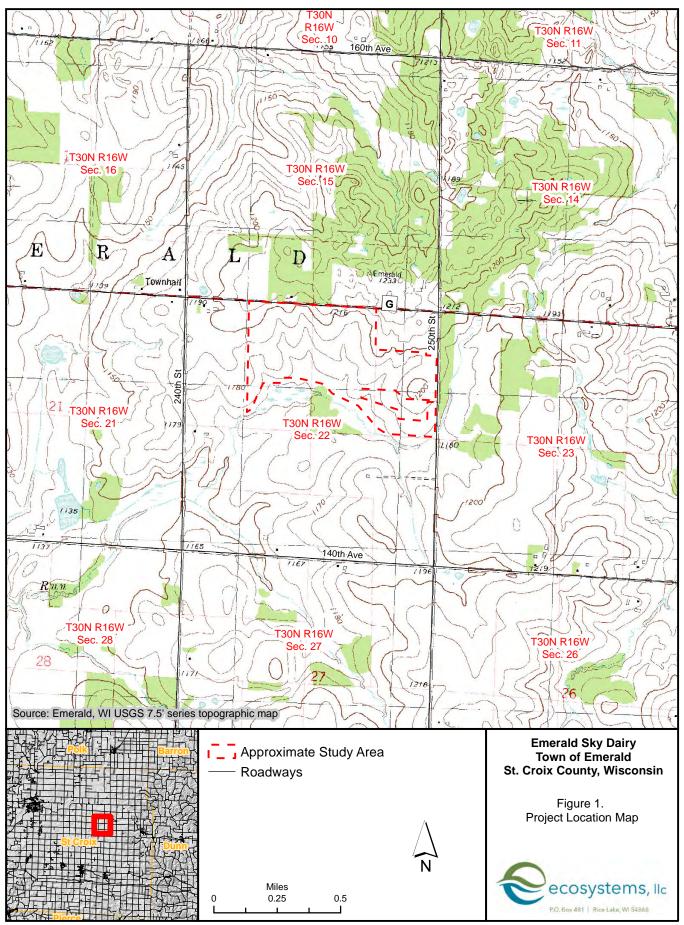
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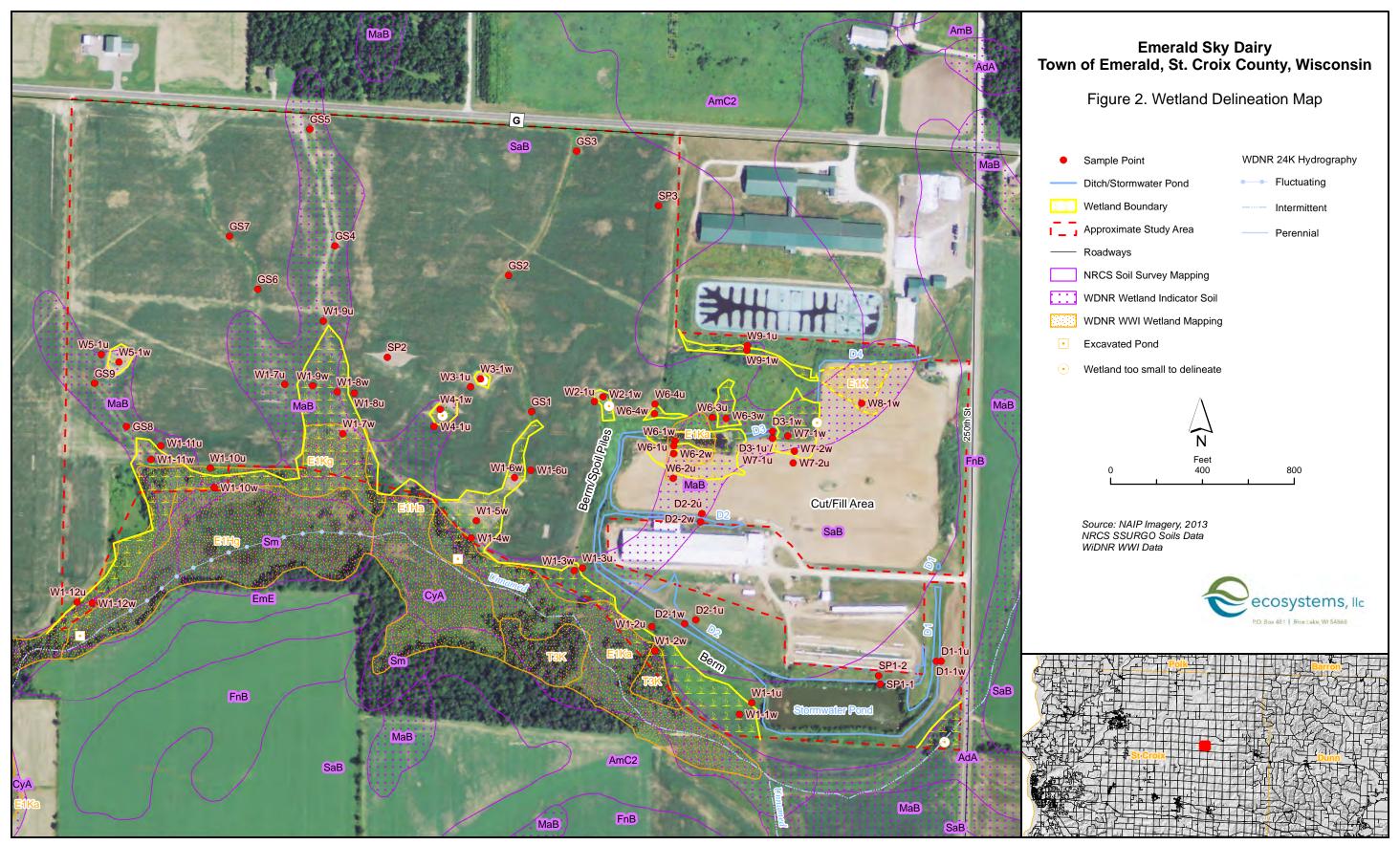
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APPENDIX A FIGURES





APPENDIX B WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Side Slope	Loca	St. Croix Sampling Date: 5/4/16 State: WI Sampling Point: W1-1u Section, Township, Range: Sec 22, T30N, R16W al relief (concave, convex, none): Convex
Slope (%): 1-3 Lat.:	Long.:	Datum:
Soil Map Unit NameFnB		NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical	for this time of the year?	Yes (If no, explain in remarks)
Are vegetation , soil , or hydrolo		
Are vegetation , soil , or hydrolo	gy naturally pro	
(If needed, explain any answers in remarks)	<u> </u>	
(ii iioodod, explaiii aii) allonolo iii ioiliallo,		
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? Hydric soil present? N	Is the sampled	area within a wetland? N
Indicators of wetland hydrology present? N	If yes, optional w	vetland site ID:
Remarks: (Explain alternative procedures here or in	a separate report.)	
Upland grassland/old field		
IIVDDOL 0.0V		
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; che	eck all that apply)	required)
Surface Water (A1) Wa	ter-Stained Leaves (B9)	Surface Soil Cracks (B6)
High Water Table (A2) Aqu	atic Fauna (B13)	Drainage Patterns (B10)
·	1 Deposits (B15)	Moss Trim Lines (B16)
	lrogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
	dized Rhizospheres on Liv	
	ots (C3)	Saturation Visible on Aerial Imagery
	sence of Reduced Iron (C4	
<u> </u>	cent Iron Reduction in Tille	· · · · · · · · · · · · · · · · · · ·
· ` ` /	s (C6)	Geomorphic Position (D2)
	n Muck Surface (C7)	Shallow Aquitard (D3)
	er (Explain in Remarks)	FAC-Neutral Test (D5)
Surface (B8)	ci (Explain in Nomarko)	Microtopographic Relief (D4)
Surface (B6)		Wilcrotopographic Relief (D4)
Field Observations:		-
Surface water present? Yes No	X Depth (inches):	Indicators of
Water table present? Yes No	X Depth (inches):	wetland
Saturation present? Yes No	X Depth (inches):	hydrology
(includes capillary fringe)	Dopur (mones).	present? N
(includes capillary fringe)		present: N
Describe recorded data (stream gauge, monitoring	well aerial photos previo	uus inspections) if available:
20001100 10001000 data (Stream gauge, monitoring	won, aonai priotos, previd	nopolitions), ii availabie.
Remarks:		
nomano.		

SOIL Sampling Point: W1-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 0-10 10YR 3/2 100 Silt Loam 10-20 7.5YR 4/4 100 Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 10 Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/4/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-1w	
Investigator(s): Tim King			p, Range: Sec 22, T30N, R16W	
Landform (hillslope, terrace, etc.): Toe Slope	L	ocal relief (concave,	convex, none): Concave	
Slope (%): 0-2 Lat.:	Long.:	Datum:		
Soil Map Unit NameFnB			Classification: N/A	
Are climatic/hydrologic conditions of the site ty	-		, explain in remarks)	
Are vegetation, soil, or hy		tly disturbed?	Are "normal	
	drology naturally	problematic?	circumstances" present? Yes	3
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Y Is the sample	ed area within a we	etland? Y	
Hydric soil present?	Y			
Indicators of wetland hydrology present?	Y If yes, optiona	al wetland site ID:	W1	
		_		
Remarks: (Explain alternative procedures here	or in a separate report.)			
Wet meadow at the sample point. Ma	pped as E1Ka immedia	ately to the south.		
• •		•		
HYDROLOGY				
		Seco	ndary Indicators (minimum of two	
Primary Indicators (minimum of one is required	; check all that apply)	requii		
Surface Water (A1)	Water-Stained Leaves (B9))	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		Prainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	N	loss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)D	ry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizospheres on	Living C	Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)	s	saturation Visible on Aerial Imagery	
Algal Mat or Crust (B4)	Presence of Reduced Iron	(C4) (C4)	C9)	
Iron Deposits (B5)	Recent Iron Reduction in T	illed S	tunted or Stressed Plants (D1)	
Inundation Visible on Aerial	Soils (C6)	XG	Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		hallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks)		AC-Neutral Test (D5)	
Surface (B8)	_	N	licrotopographic Relief (D4)	
Fig. 10 Constant				
Field Observations:	la V Danth (inches	-) -	lu diagrama of	
	No X Depth (inches		Indicators of	
	No Depth (inches		wetland	
·	No Depth (inches	s):	hydrology	
(includes capillary fringe)			present? Y	
Describe recorded data (stream gauge, monito	ring well, aerial photos, pre	evious inspections)	if available:	
Besonbe reserved data (stream gadge, memic	ing won, aonai priotos, pre	ovious inspections,	ii availabio.	
Remarks:				

= Total Cover

9				0 =	Total Cover	
Sapling/Shrub Stratum	Plot Size (15')	Absolute % Cover	Dominant Species	Indicator Status
1 Salix petiolaris				10	<u>Y</u>	FACW
2 Spiraea alba				5	<u>Y</u>	FACW
3 Acer negundo				1	N	FAC
4						
5						
6						
8						
·						
9						
0				16 =	Total Cover	
Herb Stratum	Plot Size (5')	Absolute % Cover	Dominant Species	Indicator Status

Prevalence Ind	ex Wo	rksheet	t
Total % Cover of	f:		
OBL species	0	x 1 =	0
FACW species	115	x 2 =	230
FAC species	1	x 3 =	3
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	116	(A)	233 (B)
Prevalence Inde	x = B/A	Ā =	2.01

(A)

(B)

100.00% (A/B)

4 Photosis amendiana	% Cover	Species	Status
1 Phalaris arundinacea	100	<u> </u>	FACW
3			
4			-
5			
6			
7			
8		_	
10			
11			
12			
13			
14			
15	100 =	Total Cover	
Woody Vine Plot Size () Stratum	Absolute % Cover	Dominant Species	Indicator Status

Hydrophytic Vegetation Indicators:

- X Rapid test for hydrophytic vegetation
- X Dominance test is >50% X Prevalence index is ≤3.0*

Total Number of Dominant Species Across all Strata:

Percent of Dominant Species that are OBL, FACW, or FAC:

- Morphogical 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

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present?

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

SOIL Sampling Point: W1-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-10 7.5YR 2.5/1 95 2.5YR 2.5/3 5 С Μ Mucky Silt Loam 10-20 10YR 4/2 80 7.5YR 4/6 20 С М Silt Loam 100 Silt, Sand & Gravel 20-24 7.5YR 3/3 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/5/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W1-2u
Investigator(s): Tim King		Section, Tow	vnship, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo	ocal relief (cond	cave, convex, none): Conve	x
	ng.:	Datum:		
Soil Map Unit NameSaB			NWI Classification: N/A	
Are climatic/hydrologic conditions of the site typical for	this time of the year	ır? Yes ((If no, explain in remarks)	
Are vegetation, soil, or hydrology		tly disturbed?	Are "normal	
Are vegetation, soil, or hydrology	naturally p	problematic?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS	T			
Hydrophytic vegetation present? Y	le the cample	ed area within	a wetland?	
Hydric soil present?	is the sample	a area within	a wetiana:	_
Indicators of wetland hydrology present?	If you options	l watland sita l	D:	
indicators of wetland hydrology present?	ii yes, optiona	ıl wetland site l	D	
Remarks: (Explain alternative procedures here or in a s	separate report.)			
(=				
Unland graceland/old field				
Upland grassland/old field				
HYDROLOGY				
HIDROLOGI			On the last termination of the state of the	
Drive and Indicators (minimum of and is required; shoots	المحمد مصادرا		Secondary Indicators (minimum	n or two
Primary Indicators (minimum of one is required; check	11 7/		required)	
	Stained Leaves (B9) : Fauna (B13)	_	Surface Soil Cracks (B6)	
	eposits (B15)	_	Drainage Patterns (B10) Moss Trim Lines (B16)	
	en Sulfide Odor (C1	_	Dry-Season Water Table (C	-2)
<u> </u>		_	Crayfish Burrows (C8)	2)
Drift Deposits (B3) Roots (ed Rhizospheres on I	Living _		Imagan,
	ce of Reduced Iron ((C4)	Saturation Visible on Aerial (C9)	iiiagery
	Iron Reduction in Ti	_	Stunted or Stressed Plants	(D1)
Inundation Visible on Aerial Soils (C			Geomorphic Position (D2)	(10)
	uck Surface (C7)	_	Shallow Aquitard (D3)	
	Explain in Remarks)	-	FAC-Neutral Test (D5)	
Surface (B8)	Explain in Remarks)	_	Microtopographic Relief (D4)
Cultace (BO)		_	willorotopograprile relief (D4	,
Field Observations:				
Surface water present? Yes No	X Depth (inches	s):	Indicators of	
	X Depth (inches		wetland	
	X Depth (inches	s):	hydrology	
(includes capillary fringe)			present? N	_
Describe and blocker		* *		
Describe recorded data (stream gauge, monitoring well	ı, aerıal photos, pre	vious inspection	ons), if available:	
Remarks:				

Tree Stratum	Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status	50/20 Thresholds Tree Stratum Sapling/Shrub Stratum Herb Stratum	20% 50% 0 0 4 11 20 50
2 3 4 5 5 7 3	Plot Size (30')				Sapling/Shrub Stratum Herb Stratum	0 0 4 11
2 3 4 5 5 7 3	11010120 (30)	% Cover	Species	Status	Sapling/Shrub Stratum Herb Stratum	4 11
						Herb Stratum	
						Herb Stratum	20 50
						Woody Vine Stratum	0 0
						Dominance Test Worksho	eet
						Number of Dominant	
						Species that are OBL,	
						FACW, or FAC:	3 (A)
						Total Number of Dominant	
						Species Across all Strata:	
			0 :	= Total Cover		l '	(D)
				- Total Cover		Percent of Dominant	
						Species that are OBL,	
Sapling/Shrub	Plot Size (15')	Absolute	Dominant	Indicator	FACW, or FAC:	60.00% (A/
Stratum	1 101 0120 (,	% Cover	Species	Status		
Rubus idaeus			10	Υ	FAC	Prevalence Index Worksh	neet
Populus tremulo	ides		5	<u> </u>	FAC	Total % Cover of:	
Cornus racemos			5	<u> </u>	FAC		
	oa		2	Y	FACW	OBL species 0 x 1 FACW species 9 x 2	
Spiraea alba				IN	FACW		
						FAC species 20 x 3	
						FACU species 68 x 4	
						UPL species 25 x 5	
						Column totals 122 (A)	
						Prevalence Index = B/A =	3.89
			22 :	= Total Cover			
						Hydrophytic Vegetation I	ndicators:
	DI. (0' . (. .	Absolute	Dominant	Indicator	Rapid test for hydrophy	tic vegetation
Herb Stratum	Plot Size (5')	% Cover	Species	Status	X Dominance test is >50°	
Poa pratensis			40	Y	FACU	Prevalence index is ≤3	
Bromus inermis			25	<u> </u>	UPL	Morphogical adaptation	
Solidago canade	neie		10	N	FACU	supporting data in Rem	
Taraxacum offic			10	N	FACU	separate sheet)	iaino oi oii a
Solidago gigante			5	N	FACW	Problematic hydrophyti	a vagatation*
0 00			5				c vegetation
Fragaria virginia	Па			N	FACU	(explain)	
Elymus repens Phalaris arundin			3	N	FACU	*Indicators of hydric soil and wetla	
	acea		2	N	FACW	present, unless disturbed or prob	lematic
						Definitions of Vegetation	Strata:
						Tree Woody plants 2 in /7.6 am) or more in diamet
						Tree - Woody plants 3 in. (7.6 cm breast height (DBH), regardless of	
						breast height (DBH), regardless (or neight.
						Sapling/shrub - Woody plants le	ss than 3 in. DBH a
						greater than 3.28 ft (1 m) tall.	
			100 :	= Total Cover		, ,	
						Herb - All herbaceous (non-wood	,,,
Woody Vine			Absolute	Dominant	Indicator	size, and woody plants less than	3.28 ft tall.
Stratum	Plot Size ()	% Cover	Species	Status		
Juatum			70 OUVEI	Openies	Giaius	Woody vines - All woody vines g	reater than 3.28 ft i
						height.	
							
							
						Hydrophytic	
						vegetation	
				= Total Cover		present? Y	
			0 :	= Total Cover			_
3			0 :	= Total Cover			<u>-</u> '
		re or on a sei		= Total Cover			
		re or on a sep		= Total Cover			
		re or on a sep		= Total Cover			
		re or on a sep		= Total Cover			
		re or on a sep		= Total Cover			
		re or on a sep		= Total Cover			

SOIL Sampling Point: W1-2u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 100 0-10 10YR 2/2 Silt Loam 10YR 3/4 10-20 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/5/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W1-2w
Investigator(s): Tim King			p, Range: Sec 22, T30N,	
Landform (hillslope, terrace, etc.): Toe Slope	L	ocal relief (concave,	, convex, none): Conca	ve
Slope (%): 0-2 Lat.:	Long.:	Datum:		
Soil Map Unit NameCyA			Classification: T3K	
Are climatic/hydrologic conditions of the site typ			, explain in remarks)	
Are vegetation, soil, or hyd		ntly disturbed?	Are "normal	
Are vegetation, soil, or hyd	ologynaturally	problematic?	circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	Is the sampl	ed area within a we	etland? Y	
Hydric soil present?			-	
Indicators of wetland hydrology present?	If yes, options	al wetland site ID:	W1	
	_ ' ' '	_		
Remarks: (Explain alternative procedures here	or in a separate report.)			
Hardwood swamp/wet meadow comple	X			
·				
HYDROLOGY				
		Seco	ndary Indicators (minimur	m of two
Primary Indicators (minimum of one is required;	check all that apply)	requi	red)	
Surface Water (A1)	Water-Stained Leaves (B9) S	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	<u> </u>	Prainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	N	loss Trim Lines (B16)	
	Hydrogen Sulfide Odor (C1	1)	Ory-Season Water Table (C	2)
	Oxidized Rhizospheres on	LivingC	Crayfish Burrows (C8)	
	Roots (C3)		Saturation Visible on Aerial	Imagery
	Presence of Reduced Iron	· · · · · · · · · · · · · · · · · · ·	C9)	
Iron Deposits (B5)	Recent Iron Reduction in T		Stunted or Stressed Plants	(D1)
Inundation Visible on Aerial	Soils (C6)		Seomorphic Position (D2)	
	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks		AC-Neutral Test (D5)	
Surface (B8)		N	licrotopographic Relief (D4)
Field Observations:		1		
Surface water present? Yes N	o X Depth (inches	0).	Indicators of	
Water table present? Yes N			wetland	
Saturation present? Yes X N			hydrology	
(includes capillary fringe)	Deptil (illiche:	5)	present? Y	
(includes capillary fillige)			present:	_
Describe recorded data (stream gauge, monitor	ng well, aerial photos, pre	evious inspections).	if available:	
33.,	3 - , ,	.,,		
Remarks:				

Indicator Status FAC FAC Indicator Status FAC FAC FAC FAC FAC FAC FACW FAC Indicator Status	20% 50%
Status FAC FAC Indicator Status FAC	Tree Stratum 13 33 Sapling/Shrub Stratum 12 30 Herb Stratum 20 50 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, 6 (A FACW, or FAC: 6 (A Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 0 FACW species 75 x 2 = 150 FACU species 130 x 3 = 390 FACU species 0 x 5 = 0 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76 2.76 A 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4
FAC FAC Indicator Status FAC	Sapling/Shrub Stratum 12 30 Herb Stratum 20 50 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, 6 (A FACW, or FAC: 6 (A Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76 B
Indicator Status FAC FAC FAC FAC	Herb Stratum
Indicator Status FAC FAC FAC FAC FAC	Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 6 (A Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76
Indicator Status FAC FAC FAC FAC FAC Indicator	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 6 (A Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76
Indicator Status FAC FAC FAC FAC FAC Indicator	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 6 (A Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76
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Indicator Status FAC FAC FAC FAC FAC Indicator	Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across all Strata: Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species OBL species TACW s
Indicator Status FAC FAC FAC FAC FAC Indicator	Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across all Strata: Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species OBL species OSE ACT SPE
Indicator Status FAC FAC FAC FAC FAC Indicator	FACW, or FAC: Total Number of Dominant Species Across all Strata: Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species OBL species O
Indicator Status FAC FAC FAC FAC FAC Indicator	Total Number of Dominant Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76
Indicator Status FAC FAC FAC FAC FAC Indicator	Species Across all Strata: 7 (B Percent of Dominant Species that are OBL, 85.71% (A Prevalence Index Worksheet Total % Cover of: 0 x 1 = 0 OBL species 0 x 2 = 150 FACW species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B Prevalence Index = B/A = 2.76 E Hydrophytic Vegetation Indicators:
Indicator Status FAC FAC FAC FAC FAC Indicator	Percent of Dominant Species that are OBL, FACW, or FAC: 85.71% (A
Indicator Status FAC FAC FAC FAC FAC Indicator	Species that are OBL, FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: 0 x 1 = 0 0 FACW species 75 x 2 = 150 150 FACW species 130 x 3 = 390 FACU species 20 x 4 = 80 80 UPL species 0 x 5 = 0 0 Column totals 225 (A) 620 (B) 620 (B) Prevalence Index = B/A = 2.76 E Hydrophytic Vegetation Indicators:
Status FAC FAC FAC FAC FAC Indicator	FACW, or FAC: 85.71% (A Prevalence Index Worksheet Total % Cover of: 0 x 1 = 0 0 0 x 2 = 150 0 x 3 = 390 0 x 3 = 390 0 x 4 = 80 0 x 5 = 0 0
Status FAC FAC FAC FAC FAC Indicator	Prevalence Index Worksheet Total % Cover of: OBL species 0 x 1 = 0 OBL species 75 x 2 = 150 FACW species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 Prevalence Index = B/A = 2.76
FAC FAC FAC FAC FAC Indicator	Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B) Prevalence Index = B/A = 2.76 (B)
FAC FAC FACW FAC	Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B) Prevalence Index = B/A = 2.76 (B)
FAC FAC FACW FAC	Total % Cover of: OBL species 0 x 1 = 0 FACW species 75 x 2 = 150 FAC species 130 x 3 = 390 FACU species 20 x 4 = 80 UPL species 0 x 5 = 0 Column totals 225 (A) 620 (B) Prevalence Index = B/A = 2.76 (B)
FAC FACW FAC	$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$
FACW FAC	FACW species
FAC	FAC species $130 \times 3 = 390$ FACU species $20 \times 4 = 80$ UPL species $0 \times 5 = 0$ Column totals $225 \times 6 = 0$ Prevalence Index = B/A = $2.76 \times 6 = 0$ Hydrophytic Vegetation Indicators:
Indicator	FACU species $20 \times 4 = 80$ UPL species $0 \times 5 = 0$ Column totals $225 \times 6 = 0$ Prevalence Index = B/A = $2.76 \times 6 = 0$ Hydrophytic Vegetation Indicators:
Indicator	UPL species $0 \times 5 = 0$ Column totals $225 \times 6 \times 6 = 0$ Prevalence Index = B/A = $2.76 \times 6 = 0$ Hydrophytic Vegetation Indicators:
Indicator	Column totals 225 (A) 620 (B) Prevalence Index = B/A = 2.76 Hydrophytic Vegetation Indicators:
Indicator	Column totals 225 (A) 620 (B) Prevalence Index = B/A = 2.76 Hydrophytic Vegetation Indicators:
Indicator	Prevalence Index = B/A = 2.76 Hydrophytic Vegetation Indicators:
Indicator	Hydrophytic Vegetation Indicators:
Indicator	
Indicator	
Status	Rapid test for hydrophytic vegetation
	X Dominance test is >50%
FACW	X Prevalence index is ≤3.0*
FACU	Morphogical adaptations* (provide
FACW	supporting data in Remarks or on a
FAC	separate sheet)
FAC	Problematic hydrophytic vegetation*
	(explain)
	*Indicators of hydric soil and wetland hydrology mus
	present, unless disturbed or problematic
	F
· 	Definitions of Vegetation Strata:
	Deminions of Vegetation Strata.
· ——	Tree - Woody plants 3 in. (7.6 cm) or more in diame
	breast height (DBH), regardless of height.
	Sapling/shrub - Woody plants less than 3 in. DBH
	greater than 3.28 ft (1 m) tall.
r	Harl All I down of the I had a second
	Herb - All herbaceous (non-woody) plants, regardle size, and woody plants less than 3.28 ft tall.
Indicator	size, and woody plants less than 3.26 it tall.
Status	Woody vines - All woody vines greater than 3.28 ft
	height.
	Hydrophytic
	vegetation
r	present? Y
	<u> </u>
	•
	FACW FAC FAC

SOIL Sampling Point: W1-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-12 10YR 2/1 98 2.5YR 2.5/3 2 С Μ Mucky Silt Loam 10YR 4/2 12-24 70 7.5YR 4/6 30 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) X Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 12 Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/5/16</u>	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W1-3u
Investigator(s): Tim King		Section, Town	nship, Range: Sec 22, T30N	
Landform (hillslope, terrace, etc.): Side Slope	Loc		ave, convex, none): Conve	
	ng.:	Datum:	· · · · · · · · · · · · · · · · · · ·	
Soil Map Unit Name MaB			WI Classification: N/A	
Are climatic/hydrologic conditions of the site typical for	this time of the year'		no, explain in remarks)	
Are vegetation , soil , or hydrology	significantly		Are "normal	
Are vegetation , soil , or hydrology			circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)			р	
()				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? N	Is the sampled	l area within a	wetland? N	
Hydric soil present? N				_
Indicators of wetland hydrology present?	If yes, optional	wetland site ID):	
indicators of wetland hydrology present:	ii yes, optional	Wetland Site ID	·-	
Remarks: (Explain alternative procedures here or in a	separate report.)			
(2) p. a a (2) p. a a a a a a a	50pa.a.o . 5po)			
Upland grassland/berm				
HYDROLOGY				
		Se	econdary Indicators (minimu	m of two
Primary Indicators (minimum of one is required; check	all that apply)	re	equired)	
Surface Water (A1) Water-	Stained Leaves (B9)		Surface Soil Cracks (B6)	
	Fauna (B13)		Drainage Patterns (B10)	
	eposits (B15)	_	Moss Trim Lines (B16)	
	en Sulfide Odor (C1)		Dry-Season Water Table (C	(2)
l 	ed Rhizospheres on Li	vina	Crayfish Burrows (C8)	,
Drift Deposits (B3) Roots (•	<u>-</u>	Saturation Visible on Aerial	Imagery
	ce of Reduced Iron (C	<u> </u>	(C9)	magory
	Iron Reduction in Tille		Stunted or Stressed Plants	(D1)
Inundation Visible on Aerial Soils (0			Geomorphic Position (D2)	(5.)
	uck Surface (C7)	_	Shallow Aquitard (D3)	
	Explain in Remarks)	_	FAC-Neutral Test (D5)	
Surface (B8)	Explain in Remarks)	_	Microtopographic Relief (D4	\
Surface (Bo)		_	Microtopographic Relief (D4	.)
Field Observations:				
	X Depth (inches):		Indicators of	
	X Depth (inches):		wetland	
·	X Depth (inches):		hydrology	
(includes capillary fringe)	Dopui (inches).		present? N	
(includes capillary filinge)			present: N	_
Describe recorded data (stream gauge, monitoring wel	Laerial photos previ	ious inspection	s) if available:	
Besond recorded data (stream gauge, monitoring wer	i, acriai priotos, provi	iodo inopodilon	io), ii availabio.	
Remarks:				

lot Size (30')	Absolute % Cover		Indicator Status	50/20 Thresholds 20% 50% Tree Stratum 0 0 Sapling/Shrub Stratum 2 6 Herb Stratum 20 50 Woody Vine Stratum 0 0
		% Cover	Species	Status	Sapling/Shrub Stratum 2 6 Herb Stratum 20 50 Woody Vine Stratum 0 0
					Herb Stratum 20 50 Woody Vine Stratum 0 0
					Woody Vine Stratum 0 0
					,
					Danis Tari Walalani
					Dominance Test Worksheet
		_			Number of Dominant
		_			Species that are OBL,
		_			FACW, or FAC:1(A)
		_			Total Number of Dominant
		_			Species Across all Strata: 3 (B)
		0	= Total Cover		Percent of Dominant
					Species that are OBL,
lot Cizo /	15'	Absolute	Dominant	Indicator	FACW, or FAC: 33.33% (A/B)
iot Size (15)	% Cover	Species	Status	
		10	Υ	FAC	Prevalence Index Worksheet
oio					Total % Cover of:
010				1 400	OBL species 0 x 1 = 0
					FACW species 0 x 2 = 0
					FAC species 10 x 3 = 0
					FACU species 67 x 4 = 268
					UPL species 35 x 5 = 175
					Column totals 112 (A) 473 (B)
					Prevalence Index = $B/A = 4.22$
					Prevalence index = B/A = 4.22
			Total Cover		
		12	_ = 10tal Covel		Liverantia Variation Indicators
		A book ito	Dominant	Indicator	Hydrophytic Vegetation Indicators:
lot Size (5')				Rapid test for hydrophytic vegetation
			•		Dominance test is >50%
					Prevalence index is ≤3.0*
		_			Morphogical adaptations* (provide
					supporting data in Remarks or on a
ile					separate sheet)
					Problematic hydrophytic vegetation*
		_			(explain)
		_ 5	N	FACU	*Indicators of hydric soil and wetland hydrology must be
					present, unless disturbed or problematic
					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter
					breast height (DBH), regardless of height.
		_			,, ,, ,,
		_			Sapling/shrub - Woody plants less than 3 in. DBH and
					greater than 3.28 ft (1 m) tall.
		100	_ = Total Cover		Harb - All herbaceous (non-woods) planta regardless
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
lot Size ()			Indicator	, and notal plants 1000 than 0.20 it tall.
.01 0.20 (,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
					Hydrophytic
					vegetation
			= Total Cover		present? N
	lot Size (sis Plot Size (5')	10	10 Size 15' % Cover Species 10 Y	10

W1-3u

SOIL Sampling Point: W1-3u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 0-8 7.5YR 3/2 100 Silt Loam 8-20 7.5YR 4/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/5/16						
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-3w						
Investigator(s): Tim King		Section, Town	nship, Range: Sec 22, T30N, R16W						
Landform (hillslope, terrace, etc.): Foot Slope	Lo	ocal relief (conca	ave, convex, none): Concave						
Slope (%): 1-3 Lat.: Lor	ng.:	Datum:	·						
Soil Map Unit NameMaB		N\	WI Classification: N/A						
Are climatic/hydrologic conditions of the site typical for	this time of the yea	ar? Yes (If	no, explain in remarks)						
Are vegetation, soil, or hydrology	significant	tly disturbed?	Are "normal						
Are vegetation, soil, or hydrology	naturally p	oroblematic?	circumstances" present? Yes						
(If needed, explain any answers in remarks)									
SUMMARY OF FINDINGS	Т								
Hydrophytic vegetation present? Y	is the sample	ed area within a	wetland? Y						
Hydric soil present? Y									
Indicators of wetland hydrology present? Y	If yes, optiona	al wetland site ID): <u>W1</u>						
Demontos (Europain alternative energy learning									
Remarks: (Explain alternative procedures here or in a separate report.)									
Wet meadow									
HYDROLOGY									
		Se	econdary Indicators (minimum of two						
Primary Indicators (minimum of one is required; check a	all that apply)		quired)						
,	Stained Leaves (B9))	Surface Soil Cracks (B6)						
	Fauna (B13)		Drainage Patterns (B10)						
Saturation (A3) Marl De	posits (B15)		Moss Trim Lines (B16)						
Water Marks (B1) Hydroge	en Sulfide Odor (C1		Dry-Season Water Table (C2)						
Sediment Deposits (B2) Oxidized	d Rhizospheres on I	Living	Crayfish Burrows (C8)						
Drift Deposits (B3) Roots (C3)	_	Saturation Visible on Aerial Imagery						
Algal Mat or Crust (B4) Present	ce of Reduced Iron	(C4)	(C9)						
Iron Deposits (B5) Recent	Iron Reduction in Ti	illed	Stunted or Stressed Plants (D1)						
Inundation Visible on Aerial Soils (C	6)	X	Geomorphic Position (D2)						
Imagery (B7) Thin Mu	ick Surface (C7)		Shallow Aquitard (D3)						
	Explain in Remarks)	X	FAC-Neutral Test (D5)						
Surface (B8)			Microtopographic Relief (D4)						
Field Observations:									
	Depth (inches		Indicators of						
·	Depth (inches		wetland						
	Depth (inches	s):	hydrology						
(includes capillary fringe)			present? Y						
Describe recorded data (stream gauge, monitoring well	agrial photos, pro	vious insportion	s) if available:						
Describe recorded data (stream gadge, monitoring well	, aeriai priotos, pre	wious irispection	s), ii avaliable.						
Remarks:									

Tree Stratum						50/20 Thresholds
	Plot Size (30') Absolute % Cover		Indicator Status	Z0% 50% Tree Stratum 0 0 Sapling/Shrub Stratum 1 4 Herb Stratum 20 50 Woody Vine Stratum 0 0
						Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant 3 (A)
			0	= Total Cover		Species Across all Strata:3(B) Percent of Dominant
Sapling/Shrub Stratum	Plot Size (15') Absolute % Cover		Indicator Status	Species that are OBL, FACW, or FAC:
Spiraea alba Acer negundo			5 2	Y Y	FACW	Prevalence Index Worksheet Total % Cover of: 0 x 1 = 0 OBL species 95 x 2 = 190 FACW species 2 x 3 = 6 FACU species 10 x 4 = 40
				= Total Cover		UPL species $0 \times 5 = 0$ Column totals $107 \times 5 = 0$ Prevalence Index = B/A = $2.21 \times 5 = 0$
Herb Stratum Phalaris arunc Poa pratensis Solidago gigal		5'	Absolute % Cover 80 10 10		Indicator Status FACW FACU FACW	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation X Dominance test is >50% X Prevalence index is ≤3.0* Morphogical adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must present, unless disturbed or problematic
						Definitions of Vegetation Strata:
						Tree - Woody plants 3 in. (7.6 cm) or more in diameter breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and the same content of the same conte
			100	= Total Cover		greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless
Woody Vine	Plot Size () Absolute % Cover		Indicator Status	size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
Stratum						1

SOIL Sampling Point: W1-3w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Type* Loc** (Inches) Color (moist) % Color (moist) % 0-10 10YR 2/2 95 7.5YR 4/6 5 С Μ Silt Loam 10YR 4/3 10-20 60 7.5YR 4/6 40 С М Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix Sampling Date: 5/5/16	
Applicant/Owner: Emerald Sky Dairy		State: WI Sampling Point:	W1-4w
Investigator(s): Tim King		Section, Township, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Toe Slop	e L	ocal relief (concave, convex, none): Conca	ve
Slope (%): 0-2 Lat.:	Long.:	Datum:	
Soil Map Unit NameMaB	<u> </u>	NWI Classification: E1Ka	
Are climatic/hydrologic conditions of the site to			
Are vegetation, soil, or h		itly disturbed? Are "normal	
	ydrology naturally	problematic? circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
GOMMAN OF THE BUTCH			
Hydrophytic vegetation present?	Y Is the sample	ed area within a wetland?	
Hydric soil present?	Y		-
Indicators of wetland hydrology present?	Y If yes, options	al wetland site ID: W1	
_			
Remarks: (Explain alternative procedures her	re or in a separate report.)		
Hardwood swamp/wet meadow com	plex		
·	•		
HYDROLOGY			
		Secondary Indicators (minimur	n of two
Primary Indicators (minimum of one is require	ed; check all that apply)	required)	
Surface Water (A1)	Water-Stained Leaves (B9) Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)	
X Saturation (A3)	Marl Deposits (B15)	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1	Dry-Season Water Table (C	2)
Sediment Deposits (B2)	Oxidized Rhizospheres on	Living Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)	Saturation Visible on Aerial	lmagery
Algal Mat or Crust (B4)	Presence of Reduced Iron		
Iron Deposits (B5)	Recent Iron Reduction in T		(D1)
Inundation Visible on Aerial	Soils (C6)	X Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)	X Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks		
Surface (B8)		Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes	No X Depth (inches	s): Indicators of	
Water table present? Yes	No X Depth (inches		
Saturation present? Yes X	No Depth (inches		
(includes capillary fringe)	Deptil (iliche:	present?	
(includes capillary fillige)		present: 1	-
Describe recorded data (stream gauge, moni	toring well, aerial photos, pre	evious inspections), if available:	
, ,	0 / 1 /1	,,	
Remarks:			

/EGETATION - Use scientific names of plan	ıts			Sampling Point: W1-4w
				50/20 Thresholds
Tree Stratum Plot Size (30')	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 12 30
1 Populus tremuloides	50	Y	FAC	Sapling/Shrub Stratum 14 35
2 Acer negundo	10	N	FAC	Herb Stratum 20 50
3				Woody Vine Stratum 0 0
4				Dawinenes Test Workshoot
5				Dominance Test Worksheet
6				Number of Dominant Species that are OBL,
7 8				FACW, or FAC: 6 (A)
9				Total Number of Dominant
0				Species Across all Strata: 6 (B)
` -	60 =	= Total Cover		Percent of Dominant
				Species that are OBL,
Sapling/Shrub	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/B)
Stratum Plot Size (15')	% Cover	Species	Status	
1 Cornus racemosa	30	Y	FAC	Prevalence Index Worksheet
2 Acer negundo	20	Y	FAC	Total % Cover of:
Rhamnus cathartica	10		FAC	OBL species 0 x 1 = 0
Ribes missouriense	5	N	UPL	FACW species 80 x 2 = 160
5 Viburnum lentago	5	N	FAC	FAC species 145 x 3 = 435
6				FACU species 0 x 4 = 0
7				UPL species 5 x 5 = 25
3				Column totals 230 (A) 620 (B)
9				Prevalence Index = B/A = 2.70
	70 =	= Total Cover	_	
				Hydrophytic Vegetation Indicators:
Herb Stratum Plot Size (5')	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
,	% Cover	Species	Status	X Dominance test is >50%
1 Phalaris arundinacea 2 Urtica dioica	<u>60</u> 20	<u>Y</u>	FACW FAC	X Prevalence index is ≤3.0* Morphogical adaptations* (provide
3 Impatiens capensis	20	<u> </u>	FACW	supporting data in Remarks or on a
4			TACT	separate sheet)
5				Problematic hydrophytic vegetation*
6				(explain)
				*Indicators of hydric soil and wetland hydrology must be
3				present, unless disturbed or problematic
				Definitions of Vegetation Strata:
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter a
				breast height (DBH), regardless of height.
3				
1				Sapling/shrub - Woody plants less than 3 in. DBH and
5	100 =	= Total Cover		greater than 3.28 ft (1 m) tall.
	100 =	= Total Cover		Herb - All herbaceous (non-woody) plants, regardless of
Woody Vine	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Plot Size ()	% Cover	Species	Status	Washings Allowed wires protection 2 20 ft in
	70 C OVCI	Орсою	Oldido	Woody vines - All woody vines greater than 3.28 ft in height.
				noight.
3				
4				Hydrophytic
5				vegetation
	0 =	= Total Cover		present? Y
		- 10101 00101		<u> </u>
emarks: (Include photo numbers here or on a sepa	arate sheet)			<u> </u>
, , , , , , , , , , , , , , , , , , , ,	,			

SOIL Sampling Point: W1-4w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-12 10YR 2/1 98 2.5YR 2.5/3 2 С Μ Silt Loam 10YR 4/2 12-24 80 5YR 3/4 20 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/5/16
Applicant/Owner: Emerald Sky Dairy	_	State: WI	Sampling Point: W1-5w
Investigator(s): Tim King		Section, Tov	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	ocal relief (con	cave, convex, none): Concave
Slope (%): 0-2 Lat.: Long.	:	Datum:	
Soil Map Unit NameSaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for thi	s time of the yea	r? Yes	(If no, explain in remarks)
Are vegetation X, soil , or hydrology		tly disturbed?	Are "normal
Are vegetation, soil, or hydrology	naturally p	oroblematic?	circumstances" present? No
(If needed, explain any answers in remarks)			
OURINARY OF FINISHES			
SUMMARY OF FINDINGS			
Hydrophytic vogetation procent?	la the comple	d area within	a wetland?
Hydrio soil present?	Is the sample	ed area within	i a wetiand?
Hydric soil present? Y	16	1	ID 1974
Indicators of wetland hydrology present? Y	If yes, optiona	il wetland site	ID: W1
Remarks: (Explain alternative procedures here or in a sep	parato roport)		
Farmed wetland - cropland. Difficult wetland sit			
hydrophytic vegetation (managed plant commu	nity) procedure	es used. Pla	inted to corn in 2015. Not planted at
this time.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all	that apply)		required)
	nined Leaves (B9)		X Surface Soil Cracks (B6)
	auna (B13)	-	Drainage Patterns (B10)
X Saturation (A3) Marl Depo	sits (B15)	-	Moss Trim Lines (B16)
Water Marks (B1) Hydrogen	Sulfide Odor (C1))	Dry-Season Water Table (C2)
Sediment Deposits (B2) Oxidized F	Rhizospheres on L	Living	Crayfish Burrows (C8)
Drift Deposits (B3) X Roots (C3	•	-	X Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Presence	of Reduced Iron ((C4)	(C9)
Iron Deposits (B5) Recent Iron	on Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial X Soils (C6)		-	X Geomorphic Position (D2)
Imagery (B7) Thin Muck	Surface (C7)	<u>-</u>	X Shallow Aquitard (D3)
Sparsely Vegetated Concave Other (Exp	plain in Remarks)	_	FAC-Neutral Test (D5)
Surface (B8)		-	Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes No X	Depth (inches		Indicators of
Water table present? Yes No X	Depth (inches		wetland
Saturation present? Yes X No	Depth (inches	s):12	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitoring well, a	erial photos, pre	vious inspection	ons), if available:
Remarks:			
Nomano.			

/EGETATION - L	Jse scientific r	names of p	lants			Sampling Point: W1-5w
						50/20 Thresholds
Tree Stratum	Plot Size (30'	Absolute	Dominant	Indicator	20% 50%
1100 Ottatam	1 101 0120 (00	% Cover	Species	Status	Tree Stratum 0 0
1						Sapling/Shrub Stratum 0 0
2						Herb Stratum 9 24
3						Woody Vine Stratum 0 0
4						<u> </u>
5						Dominance Test Worksheet
6						Number of Dominant
7						Species that are OBL,
8		-				FACW, or FAC: 1 (A)
9						Total Number of Dominant
10						Species Across all Strata: 3 (B)
				= Total Cover		``
				- 10161 00101		Percent of Dominant
.						Species that are OBL,
Sapling/Shrub	Plot Size (15'	Absolute	Dominant	Indicator	FACW, or FAC: <u>33.33%</u> (A/B)
Stratum	1 101 0120 (15	% Cover	Species	Status	
1						Prevalence Index Worksheet
2						Total % Cover of:
3						OBL species $0 \times 1 = 0$
4						FACW species $5 \times 2 = 10$
5						FAC species 17 x 3 = 51
6						FACU species 20 x 4 = 80
7						UPL species 5 x 5 = 25
8					_	Column totals 47 (A) 166 (B)
9						Prevalence Index = $B/A = 3.53$
10		-				
			0 :	= Total Cover		
						Hydrophytic Vegetation Indicators:
			, Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum	Plot Size (5') % Cover	Species	Status	Dominance test is >50%
4 Diantogo mois	=			•		
1 Plantago majo			10	<u> </u>	FACU	Prevalence index is ≤3.0*
2 Rumex crispus			10	<u>Y</u>	FAC	Morphogical adaptations* (provide
3 Taraxacum off			10	Y	FACU	supporting data in Remarks or on a
4 Phalaris arund			5	N	FACW	separate sheet)
5 Bromus inerm			5	<u>N</u>	UPL	Problematic hydrophytic vegetation*
6 Veronica pere	grina		5	N	FAC	X (explain)
7 Acer rubrum			2	N	FAC	*Indicators of hydric soil and wetland hydrology must be
8						present, unless disturbed or problematic
9						
10		-				Definitions of Vegetation Strata:
11						1
12						Tree - Woody plants 3 in. (7.6 cm) or more in diameter at
13						breast height (DBH), regardless of height.
						1
14						Sapling/shrub - Woody plants less than 3 in. DBH and
15						greater than 3.28 ft (1 m) tall.
			47 :	= Total Cover		Herb - All herbaceous (non-woody) plants, regardless of
						Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine	Plot Size (Absolute	Dominant	Indicator	Size, and woody plants less than 3.20 it tail.
Stratum	FIUL SIZE () % Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				•		height.
2						1003
3						
4						Hydrophytic
5						vegetation
·	·	_	0 :	= Total Cover	_	present? Y
						· —
Remarks: (Include pl	hoto numbers he	ere or on a s	separate sheet)			

Vegetation is routinely altered/managed for agricultural use (cultivation). Wetland determination is based mainly on presence of indicators of hydric soil, wetland hydrology, and landscape position. If left unmanaged, it's assumed that this farmed wetland would be a wet meadow, which is further based on examination of adjacent reference wetland areas having similar soil, hydrology, and landform; and offsite review of aerial photography.

SOIL Sampling Point: W1-5w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-12 10YR 2/1 75 2.5YR 2.5/3 25 С PL/M Silt Loam 10YR 4/2 12-24 70 5YR 3/4 30 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-6u
Investigator(s): Tim King		Section, Tov	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo	cal relief (con	cave, convex, none): Convex
Slope (%): 2-4 Lat.: Lo	ng.:	Datum:	•
Soil Map Unit Name SaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	this time of the year	r? Yes	(If no, explain in remarks)
Are vegetation X , soil , or hydrology		ly disturbed?	Are "normal
Are vegetation , soil , or hydrology		roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			· -
SUMMARY OF FINDINGS	T		
Hydrophytic vegetation present? N	Is the sample	d area within	a wetland?
Hydric soil present?	is the sample	a arca witiiiii	- IV
Indicators of wetland hydrology present?	If yes, optional	wotland sita	ID:
indicators of wetland flydrology present:	ii yes, optional	welland site	
Remarks: (Explain alternative procedures here or in a s	separate report.)		
Upland cropland			
opiana oropiana			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
Surface Water (A1) Water-	Stained Leaves (B9)		Surface Soil Cracks (B6)
High Water Table (A2) Aquation	Fauna (B13)	-	Drainage Patterns (B10)
Saturation (A3) Marl De	eposits (B15)	-	Moss Trim Lines (B16)
Water Marks (B1) Hydrog	en Sulfide Odor (C1)	_	Dry-Season Water Table (C2)
Sediment Deposits (B2) Oxidize	ed Rhizospheres on L	iving	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (•	_	Saturation Visible on Aerial Imagery
	ce of Reduced Iron (C4)	(C9)
	Iron Reduction in Til	-	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C		-	Geomorphic Position (D2)
	uck Surface (C7)	-	Shallow Aquitard (D3)
	Explain in Remarks)	=	FAC-Neutral Test (D5)
Surface (B8)	,	=	Microtopographic Relief (D4)
		-	
Field Observations:			
	X Depth (inches)		Indicators of
·	X Depth (inches)		wetland
·	X Depth (inches)):	hydrology
(includes capillary fringe)			present? N
Describe assessed at data (atra-array assessed at a residentia a such			and if available
Describe recorded data (stream gauge, monitoring wel	i, aeriai photos, prev	vious inspection	ons), if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W1-6u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 2 4 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = FACU species 8 x 4 = 32 UPL species 0 x 5 = 0 Column totals 8 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale FACU Prevalence index is ≤3.0* 5 Dactylis glomerata FACU 3 Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Not planted at this time.

SOIL Sampling Point: W1-6u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-12 10YR 2/2 100 Silt Loam 12-16 7.5YR 3/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16
Applicant/Owner: Emerald Sky Dairy	_	State: WI	Sampling Point: W1-6w
Investigator(s): Tim King		Section, To	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	ocal relief (cor	ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Long.	:	Datum:	
Soil Map Unit NameSaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for thi	s time of the yea	ar? Yes	(If no, explain in remarks)
Are vegetation X, soil , or hydrology		tly disturbed?	
Are vegetation, soil, or hydrology	naturally p	problematic?	circumstances" present? No
(If needed, explain any answers in remarks)			
OURINARY OF FINISHES			
SUMMARY OF FINDINGS			
Hydrophytic vogetation procent?	la the comple	ad araa withir	n a wetland?
Hydrio soil present?	Is the sample	ed area withir	n a wetiand?
Hydric soil present? Y	16		15
Indicators of wetland hydrology present? Y	If yes, optiona	ai wetiand site	ID: W1
Remarks: (Explain alternative procedures here or in a sep	parate report)		
Farmed wetland - cropland. Difficult wetland sit			
hydrophytic vegetation (managed plant commu	nity) procedure	es used. Pla	anted to corn in 2015. Not planted at
this time.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all	that apply)		required)
,	nined Leaves (B9)		X Surface Soil Cracks (B6)
	auna (B13)		X Drainage Patterns (B10)
X Saturation (A3) Marl Depo	sits (B15)		Moss Trim Lines (B16)
Water Marks (B1) Hydrogen	Sulfide Odor (C1))	Dry-Season Water Table (C2)
Sediment Deposits (B2) Oxidized F	Rhizospheres on L	Living	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C3	·)	-	X Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Presence	of Reduced Iron ((C4)	(C9)
Iron Deposits (B5) Recent Iron	on Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial X Soils (C6)			X Geomorphic Position (D2)
Imagery (B7) Thin Muck	Surface (C7)		X Shallow Aquitard (D3)
Sparsely Vegetated Concave Other (Exp	plain in Remarks)	1	FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
			<u> </u>
Field Observations:			
Surface water present? Yes No X	Depth (inches		Indicators of
Water table present? Yes No X	Depth (inches		wetland
Saturation present? Yes X No	Depth (inches	s):12	hydrology
(includes capillary fringe)			present? Y
December 1 least transport and the second se			2) %21.11.
Describe recorded data (stream gauge, monitoring well, a	erial photos, pre	vious inspecti	ions), if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W1-6w

·			50/20 Thresholds
Tree Stratum Plot Size (30') 1 2 3 4	Absolute Dominant Species	Indicator Status	Z0% 50% Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 2 5 Woody Vine Stratum 0 0
Sapling/Shrub Stratum Plot Size (15')	O = Total Cover Absolute Dominant Species	Indicator Status	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) Total Number of Dominant Species Across all Strata: 3 (B) Percent of Dominant Species that are OBL, FACW, or FAC: 33.33% (A/B)
1 2 3 4 5 6 7 8 9 10 10 10 10 10 10 10 10 10 10 10 10 10			Prevalence Index Worksheet Total % Cover of: 0 OBL species 0 x 1 = 0 FACW species 0 x 2 = 0 FAC species 3 x 3 = 9 FACU species 7 x 4 = 28 UPL species 0 x 5 = 0 Column totals 10 (A) 37 (B) Prevalence Index = B/A = 3.70
Herb Stratum Plot Size (5') 1 Taraxacum officinale 2 Veronica peregrina 3 Chenopodium album 4 Acer negundo 5 6 7 8 9	Absolute % Cover 5 Y Y Y N N	Indicator Status FACU FAC FAC FACU	Hydrophytic Vegetation Indicators: Dominance test is >50% Prevalence index is ≤3.0* Morphogical 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
10	10 = Total Cover Absolute	Indicator Status	Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
3 4 5 Remarks: (Include photo numbers here or on a sena	0 = Total Cover		Hydrophytic vegetation present? Y

Vegetation is routinely altered/managed for agricultural use (cultivation). Wetland determination is based mainly on the presence of indicators of hydric soil, wetland hydrology, and landscape position. If left unmanaged, it's assumed that this farmed wetland would be a wet meadow, which is further based on examination of adjacent reference wetland areas having similar soil, hydrology, and landform; and offsite review of aerial photography.

SOIL Sampling Point: W1-6w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-10 10YR 2/1 98 2.5YR 2.5/3 2 С Μ Silt Loam 10YR 4/2 10-20 70 7.5YR 3/4 30 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 10 Remarks:

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Foot Slope Slope (%): 1-3 Lat.: Lo Soil Map Unit NameMaB Are climatic/hydrologic conditions of the site typical fo	ong.:	ocal relief (concave Datum: NWI	Sampling Date: 5/12/16 Sampling Point: W1-7u nip, Range: Sec 22, T30N, R16W e, convex, none): Concave Classification: N/A o, explain in remarks)
Are vegetation X, soil, or hydrology Are vegetation, soil, or hydrology (If needed, explain any answers in remarks) SUMMARY OF FINDINGS	significan	tly disturbed?	Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a	If yes, optiona	ed area within a w	
Upland cropland			
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) Aquati A	-Stained Leaves (B9) ic Fauna (B13) Deposits (B15) gen Sulfide Odor (C1 ed Rhizospheres on (C3) nce of Reduced Iron at Iron Reduction in T	requ)	ondary Indicators (minimum of two lired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe) Describe recorded data (stream gauge, monitoring we	X Depth (inches X Depth (inches X Depth (inches ell, aerial photos, pre	s):	Indicators of wetland hydrology present? N
Remarks:			

SOIL Sampling Point: W1-7u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-16 10YR 2/2 99 2.5YR 2.5/3 1 С Μ Silt Loam 10YR 4/3 16-24 70 5YR 3/4 30 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 16 Remarks:

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Toe Slope Slope (%): 0-2 Lat.: Local Lo	ong.: or this time of the year significant	Datum: Datum: NWI Ar? Yes (If no disturbed?	Sampling Date: 5/12/16 Sampling Point: W1-7w iip, Range: Sec 22, T30N, R16W e, convex, none): Concave Classification: E1Kg o, explain in remarks) Are "normal circumstances" present? Yes
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a	If yes, optiona	ed area within a w	
Wet meadow			
HYDROLOGY		Saac	andery Indicators (minimum of two
High Water Table (A2) X 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)	r-Stained Leaves (B9) tic Fauna (B13) Deposits (B15) tigen Sulfide Odor (C1 ted Rhizospheres on tigen (C3) tience of Reduced Iron tigen Iron Reduction in Tigen	requ (C4) (C4) (X (ondary Indicators (minimum of two ired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes X No (includes capillary fringe)	X Depth (inches X Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? Y
Describe recorded data (stream gauge, monitoring we	ell, aerial photos, pre	evious inspections),	if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W1-7w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator FACW, or FAC: Sapling/Shrub Dominant Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 100 x 2 = FAC species 0 x 3 = FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 100 (A) 200 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator X Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% Status % Cover Species Phalaris arundinacea 100 FACW X Prevalence index is ≤3.0* Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size () Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W1-7w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 0-8 10YR 2/2 98 2.5YR 2.5/3 2 С Μ Silt Loam 8-20 10YR 2/1 90 2.5YR 2.5/4 10 С М Silt Loam 10YR 4/2 5YR 3/4 30 С 20-24 70 Μ Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/	County:	St. Croix	Sampling Date: 5/12/16	
Applicant/Owner: Emerald Sky Dairy			State: WI	Sampling Point: W1-8u	J
Investigator(s): Tim King			Section, Tov	wnship, Range: Sec 22, T30N, R16W	
Landform (hillslope, terrace, etc.): Side Slo	ppe	Loc	cal relief (con	cave, convex, none): Convex	
Slope (%): 2-6 Lat.:	Long.:	<u>.</u>	Datum:		
Soil Map Unit NameSaB				NWI Classification: N/A	
Are climatic/hydrologic conditions of the site	• •	•		(If no, explain in remarks)	
			y disturbed?	Are "normal	
		naturally pr	oblematic?	circumstances" present? Y	⁄es
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
COMMAKT OF THE INCO					
Hydrophytic vegetation present?	N Is th	e sampled	d area within	a wetland?	
Hydric soil present?	N				
Indicators of wetland hydrology present?	N If ve	s. optional	wetland site	ID:	
maicalcie el mellana illy al ciegy precenti		o, op		·	
Remarks: (Explain alternative procedures he	ere or in a separate r	eport.)			
Upland cropland					
HYDROLOGY					
				Secondary Indicators (minimum of two)
Primary Indicators (minimum of one is requi	red; check all that ap	ply)		required) \(\)	
Surface Water (A1)	Water-Stained Le	,		Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B	313)	-	Drainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B1	15)	-	Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide	Odor (C1)	-	Dry-Season Water Table (C2)	
Sediment Deposits (B2)	Oxidized Rhizosp	heres on Li	ving	Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		_	Saturation Visible on Aerial Imagery	
Algal Mat or Crust (B4)	Presence of Redu	uced Iron (C	24)	(C9)	
Iron Deposits (B5)	Recent Iron Redu	action in Till	ed	Stunted or Stressed Plants (D1)	
Inundation Visible on Aerial	Soils (C6)		-	Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surfac		-	Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in	Remarks)	-	FAC-Neutral Test (D5)	
Surface (B8)			-	Microtopographic Relief (D4)	
Field Observations:					
Field Observations:	No V Dont	th (inches)		Indicators of	
Surface water present? Yes Water table present? Yes		th (inches): th (inches):		Indicators of wetland	
Saturation present? Yes		th (inches):		hydrology	
(includes capillary fringe)	110 <u>X</u> Depi	ui (iiiciies).		present? N	
(includes capillary fillige)				present:	
Describe recorded data (stream gauge, mor	nitoring well, aerial ph	notos, prev	ious inspection	ons), if available:	
, , ,			·	,.	
Remarks:					
1					

VEGETATION - Use scientific names of plants Sampling Point: W1-8u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 3 1 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 1 x 3 = FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column totals 6 (A) 23 3.83 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale FAC<u>U</u> Prevalence index is ≤3.0* 5 Υ Veronica peregrina Ν FAC Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Not planted at this time.

SOIL Sampling Point: W1-8u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-8 10YR 2/2 100 Silt Loam 8-16 5YR 3/4 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/12/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-8w
Investigator(s): Tim King		Section, Tow	nship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Foot Slope/Drainage	eway Lo	ocal relief (conc	ave, convex, none): Concave
Slope (%): 0-2 Lat.: Lon	g.:	Datum:	
Soil Map Unit NameMaB			IWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for t	•	`	If no, explain in remarks)
Are vegetation X, soil , or hydrology		tly disturbed?	Are "normal
Are vegetation, soil, or hydrology	naturally p	oroblematic?	circumstances" present? No
(If needed, explain any answers in remarks)			
OURAL DV OF FINDINGS			
SUMMARY OF FINDINGS			
Lhudranhudia wa satatian maa anto	la 4h a a a		
Hydrophytic vegetation present? Y	is the sample	ed area within	a wetland? Y
Hydric soil present?	16 4		- NA/4
Indicators of wetland hydrology present? Y	If yes, optiona	al wetland site II	D: <u>W1</u>
Demontos (Evaleia elternetive precedures have evin e e			
Remarks: (Explain alternative procedures here or in a se			
Farmed wetland - cropland. Difficult wetland s			
hydrophytic vegetation (managed plant comm	unity) procedur	es used. Plar	nted to corn in 2015. Not planted at
this time.			
HYDROLOGY			
		S	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check a	all that apply)		equired)
	stained Leaves (B9)		X Surface Soil Cracks (B6)
	Fauna (B13)		X Drainage Patterns (B10)
	posits (B15)	_	Moss Trim Lines (B16)
	en Sulfide Odor (C1	_	Dry-Season Water Table (C2)
	d Rhizospheres on	_	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C			X Saturation Visible on Aerial Imagery
	e of Reduced Iron		(C9)
Iron Deposits (B5) Recent	Iron Reduction in T	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial X Soils (C	6)		X Geomorphic Position (D2)
Imagery (B7) Thin Mu	ck Surface (C7)		X Shallow Aquitard (D3)
Sparsely Vegetated Concave Other (E	xplain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)		_	Microtopographic Relief (D4)
Field Observations:			
·	Depth (inches		Indicators of
Water table present? Yes No			wetland
	Depth (inches	s):	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (atracas source manifesias	porial phatas ===	vious incresti:	no) if available:
Describe recorded data (stream gauge, monitoring well,	aeriai priotos, pre	vious irispectioi	ns), ii avaliable:
Erosion rills/gullies in drainageway			
2.0000111110/gailloo iii araiilagoway			
Remarks:			

 VEGETATION - Use scientific names of plants
 Sampling Point:
 W1-8w

			50/20 Thresholds	-
Trop Stratum Plot Size (20')	Absolute Dominant	Indicator	00,20 100010	20% 50%
Tree Stratum Plot Size (30')	% Cover Species	Status	Tree Stratum	0 0
1		· <u></u>	Sapling/Shrub Stratum	0 0
2			Herb Stratum	3 9
3			Woody Vine Stratum	0 0
5			Dominance Test Worksh	neet
6			Number of Dominant	
7		· <u></u>	Species that are OBL,	
8			FACW, or FAC:	1(A)
9			Total Number of Dominan	
10	0 = Total Cover	. 	Species Across all Strata	: <u>2</u> (B)
			Percent of Dominant	
Sapling/Shrub	Absolute Dominant	Indicator	Species that are OBL, FACW, or FAC:	50.00% (A/B)
Stratum Plot Size (15')	% Cover Species	Status	FACVI, OI FAC.	30.00 % (A/B)
1	7	2.2	Prevalence Index Works	heet
2			Total % Cover of:	
3				1 = 0
4				2 = 0
5			FAC species 10 x	3 = 30
6				4 = 28
7			· —	5 = 0
89			Column totals 17 (A Prevalence Index = B/A =	.) <u>58</u> (B) 3.41
10			Frevalence muex = b/A =	3.41
	0 = Total Cover			
			Hydrophytic Vegetation	Indicators:
Herb Stratum Plot Size (5')	Absolute Dominant	Indicator	Rapid test for hydroph	
,	% Cover Species	Status	Dominance test is >50	
1 Veronica peregrina 2 Chenopodium album	10 Y 7 Y	FACU FACU	Prevalence index is ≤	
3 Taraxacum officinale	$\frac{3}{2}$ $\frac{1}{N}$	FACU	Morphogical adaptation supporting data in Rei	
4		17.00	separate sheet)	nano or on a
5			Problematic hydrophy	tic vegetation*
6			X (explain)	_
7		<u> </u>	*Indicators of hydric soil and wel	tland hydrology must be
8			present, unless disturbed or pro	blematic
9			Definitions of Vegetation	n Strata:
11				
12			Tree - Woody plants 3 in. (7.6 cl breast height (DBH), regardless	
13 14				-
15	·		Sapling/shrub - Woody plants I greater than 3.28 ft (1 m) tall.	ess than 3 in. DBH and
	17 = Total Cover		Hank Allbank	di Ambanda manan Manan C
			Herb - All herbaceous (non-woo size, and woody plants less than	
Woody Vine Plot Size (Absolute Dominant	Indicator		
Stratum 100 325 ()	% Cover Species	Status	Woody vines - All woody vines	greater than 3.28 ft in
2			height.	
3				
4			Hydrophytic	
5			vegetation	
	0 = Total Cover	-	present? Y	_
Remarks: (Include photo numbers here or on a sep	arate sheet)			

Vegetation is routinely altered/managed for agricultural use (cultivation). Wetland determination is based mainly on presence of indicators of hydric soil, wetland hydrology, and landscape position. If left unmanaged, it's assumed that this farmed wetland would be a wet meadow, which is further based on examination of adjacent reference wetland areas having similar soil, hydrology, and landform; and offsite review of aerial photography.

SOIL Sampling Point: W1-8w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-10 10YR 2/2 98 2.5YR 2.5/3 2 С Μ Silt Loam 10YR 4/2 10-24 60 7.5YR 4/6 40 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 10 Remarks:

Soil Map Unit NameMaB Are climatic/hydrologic conditions of the site typical for Are vegetation X, soil , or hydrology Are vegetation , soil , or hydrology (If needed, explain any answers in remarks)	ong.: or this time of the yea y significant	ocal relief (concave, Datum: NWI ar? Yes (If no	Sampling Date: 5/12/16 Sampling Point: W1-9u p, Range: Sec 22, T30N, R16W convex, none): Convex/Concave Classification: N/A p, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a Upland cropland	If yes, optiona	ed area within a we	etland? N
HYDROLOGY		Seco	ndary Indicators (minimum of two
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)	er-Stained Leaves (B9) tic Fauna (B13) Deposits (B15) ogen Sulfide Odor (C1 zed Rhizospheres on s (C3) ence of Reduced Iron int Iron Reduction in Ti	requir requir S X D M D Living C (C4) (C4) (Silled X G S (C5) (C4) (C5) (C6) (C7) (C7) (C7) (C7) (C7) (C7) (C7) (C7	*
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches X Depth (inches X Depth (inches	s):	Indicators of wetland hydrology present?
Describe recorded data (stream gauge, monitoring w	ell, aerial photos, pre	vious inspections),	if available:
Remarks: Drainageway on side slope			

VEGETATION - Use scientific names of plants Sampling Point: W1-9u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 2 1 Woody Vine Stratum O 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 50.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 2 x 3 = FACU species 2 x 4 = 8 UPL species 0 x 5 = 0 Column totals 14 (A) 3.50 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale FAC<u>U</u> Prevalence index is ≤3.0* 2 Veronica peregrina FAC Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Not planted at this time.

SOIL Sampling Point: W1-9u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 0-12 10YR 2/2 99 7.5YR 3/4 1 С Μ Silt Loam 10YR 4/3 12-24 70 7.5YR 4/6 30 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/12/16</u>
Applicant/Owner: Emerald Sky Dairy	_	State: WI	Sampling Point: W1-9w
Investigator(s): Tim King		Section, Tov	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Foot Slope	Lo	ocal relief (con	cave, convex, none): Concave
Slope (%): 0-2 Lat.: Long	. .	Datum:	
Soil Map Unit NameMaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for th	is time of the yea	r? Yes	(If no, explain in remarks)
Are vegetation X, soil , or hydrology		tly disturbed?	Are "normal
Are vegetation, soil, or hydrology	naturally p	oroblematic?	circumstances" present? No
(If needed, explain any answers in remarks)			
OUR ADVICE ENDING			
SUMMARY OF FINDINGS			
Lh.dasah.diaaatatian anaaant	la tha aansula		. a
Hydrophytic vegetation present?	Is the sample	ed area within	a wetland? Y
Hydric soil present? Y	16		10
Indicators of wetland hydrology present? Y	If yes, optiona	il wetland site	ID: W1
Demontra / Cymlein alternative precedures have as in a sec			
Remarks: (Explain alternative procedures here or in a sep			
Farmed wetland - cropland. Difficult wetland sit			
hydrophytic vegetation (managed plant commu	ınity) procedure	es used. Pla	inted to corn in 2015. Recently tilled.
Not planted at this time.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all	I that apply)		required)
,	ained Leaves (B9)		X Surface Soil Cracks (B6)
	auna (B13)	-	X Drainage Patterns (B10)
	osits (B15)	-	Moss Trim Lines (B16)
	Sulfide Odor (C1)	·	Dry-Season Water Table (C2)
	Rhizospheres on L	-	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C3	•	<u> </u>	X Saturation Visible on Aerial Imagery
	of Reduced Iron ((C4)	(C9)
	on Reduction in Ti	· · · · · · -	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial X Soils (C6))	-	X Geomorphic Position (D2)
Imagery (B7) Thin Muc	k Surface (C7)	-	X Shallow Aquitard (D3)
Sparsely Vegetated Concave Other (Ex	plain in Remarks)	-	FAC-Neutral Test (D5)
Surface (B8)		-	Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes NoX			Indicators of
Water table present? Yes NoX			wetland
Saturation present? Yes No X	Depth (inches	s):	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitoring well, a	aerial photos, pre	vious inspection	ons), if available:
Remarks:			
ivernains.			

VEGETATION - Use scientific names of plants Sampling Point: W1-9w 50/20 Thresholds Dominant Indicator 20% 50% Absolute Tree Stratum Plot Size (30' % Cover Status Species Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 8 3 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, 50.00% (A/B) Sapling/Shrub Dominant Indicator FACW, or FAC: Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 10 x 3 = 30 **FACU** species 5 x 4 = 20 x 5 = UPL species 0 0

Column totals

Prevalence Index = B/A =

15 (A)

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

50

3.33

Tielb Stratum	FIOL SIZE (, ,	% Cover	Species	Status	Dominance test is >50%
1 Veronica pereg	grina		10	Υ	FAC	Prevalence index is ≤3.0*
2 Taraxacum off	icinale		5	Y	FACU	Morphogical adaptations* (provide
3						supporting data in Remarks or on a
4						separate sheet)
5						Problematic hydrophytic vegetation*
6						X (explain)
7						*Indicators of hydric soil and wetland hydrology must be
8						present, unless disturbed or problematic
9						Definitions of Vegetation Strata:
11						Definitions of vegetation Strata:
12						Tree - Woody plants 3 in. (7.6 cm) or more in diameter a
13						breast height (DBH), regardless of height.
14					-	Sapling/shrub - Woody plants less than 3 in. DBH and
15						greater than 3.28 ft (1 m) tall.
			15	= Total Cover		
						Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine	Plot Size ()	Absolute	Dominant	Indicator	Size, and weedy plante lede than 6.26 it tall.
Stratum		,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1						height.
2						
4						
5						Hydrophytic
ວ				Tatal Oak		vegetation
			0 :	Total Cover		present? Y

= Total Cover

Dominant

Indicator

Absolute

Vegetation is routinely altered/managed for agricultural use (cultivation). Wetland determination is based mainly on presence of indicators of hydric soil, wetland hydrology, and landscape position. If left unmanaged, it's assumed that this farmed wetland would be a wet meadow, which is further based on examination of adjacent reference wetland areas having similar soil, hydrology, and landform; and offsite review of aerial photography.

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

10

SOIL Sampling Point: W1-9w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-10 10YR 2/2 98 2.5YR 2.5/3 2 С Μ Silt Loam 10YR 4/2 10-24 60 7.5YR 4/6 40 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) Thin Dark Surface (S9) (LRR K, L) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 10 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-10u
Investigator(s): Tim King		Section, Township	o, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slop	be Lo	cal relief (concave,	convex, none): Convex
Slope (%): 2-4 Lat.:	Long.:	Datum:	•
Soil Map Unit NameSaB	_		Classification: E1Kg
Are climatic/hydrologic conditions of the site t			explain in remarks)
		ly disturbed?	Are "normal
	ydrologynaturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present?	N Is the sample	d area within a we	tland? N
Hydric soil present?	N		
Indicators of wetland hydrology present?	N If yes, optional	I wetland site ID:	
l			
Remarks: (Explain alternative procedures her	e or in a separate report.)		
Upland grassland/brush thicket.			
HYDROLOGY			
		Secon	ndary Indicators (minimum of two
Primary Indicators (minimum of one is require		requir	red)
Surface Water (A1)	Water-Stained Leaves (B9)		urface Soil Cracks (B6)
High Water Table (A2)	Aquatic Fauna (B13)		rainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)		oss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		ry-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres on L		rayfish Burrows (C8)
Drift Deposits (B3)	Roots (C3)		aturation Visible on Aerial Imagery
Algal Mat or Crust (B4)	Presence of Reduced Iron (C9)
Iron Deposits (B5)	Recent Iron Reduction in Til		tunted or Stressed Plants (D1)
Inundation Visible on Aerial	Soils (C6)		eomorphic Position (D2)
Imagery (B7)	Thin Muck Surface (C7)		hallow Aquitard (D3)
Sparsely Vegetated Concave	Other (Explain in Remarks)		AC-Neutral Test (D5)
Surface (B8)		M	licrotopographic Relief (D4)
Field Observations:			
Surface water present? Yes	No X Depth (inches)):	Indicators of
Water table present? Yes	No X Depth (inches)		wetland
Saturation present? Yes	No X Depth (inches)		hydrology
(includes capillary fringe)		· ——	present? N
, , , ,			• —
Describe recorded data (stream gauge, monit	toring well, aerial photos, prev	vious inspections), i	f available:
Pomorko:			
Remarks:			

Sampling Point:

W1-10u

SOIL Sampling Point: W1-10u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 0-10 10YR 2/2 100 Silt Loam 10-20 7.5YR 3/4 100 Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 10 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-10w
Investigator(s): Tim King		Section, To	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	cal relief (con	ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Lor	ng.:	Datum:	
Soil Map Unit NameCyA			NWI Classification: E1Kg
Are climatic/hydrologic conditions of the site typical for	this time of the yea	r? Yes	(If no, explain in remarks)
Are vegetation, soil, or hydrology		ly disturbed?	Are "normal
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
CHMMADY OF FINDINGS			
SUMMARY OF FINDINGS	I		
Lhadranhatia varatatian musaant	la tha aammia	ساطانين ممسما	o o westlem d2
Hydrophytic vegetation present? Hydric soil present? Y Y	Is the sample	d area within	a wetland? Y
	16		ID: 10/4
Indicators of wetland hydrology present? Y	If yes, optiona	i wetiand site	ID: W1
Remarks: (Explain alternative procedures here or in a s	enarate report)		
Nemarks. (Explain alternative procedures here of in a s	eparate report.)		
Shrub carr/Wet meadow			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
Surface Water (A1)Water-S	Stained Leaves (B9)	_	Surface Soil Cracks (B6)
X High Water Table (A2) Aquatic	Fauna (B13)	_	Drainage Patterns (B10)
X Saturation (A3) Marl De	posits (B15)		Moss Trim Lines (B16)
Water Marks (B1) Hydrog	en Sulfide Odor (C1)) _	Dry-Season Water Table (C2)
	d Rhizospheres on l	_iving	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (,		Saturation Visible on Aerial Imagery
	ce of Reduced Iron (C4)	(C9)
	Iron Reduction in Ti	lled	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C			X Geomorphic Position (D2)
	ıck Surface (C7)		Shallow Aquitard (D3)
· · · · · · · · · · · · · · · · · · ·	Explain in Remarks)		X FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations			
Field Observations: Surface water present? Yes No	X Depth (inches	١.	Indicators of
Surface water present? Yes No Water table present? Yes X No	X Depth (inches Depth (inches		wetland
Saturation present? Yes X No	Depth (inches		hydrology
(includes capillary fringe)	Deptif (inches)	present? Y
(includes capillary milige)			present:
Describe recorded data (stream gauge, monitoring well	, aerial photos, pre	vious inspecti	ons), if available:
33.,	, ,		
Remarks:			

Sampling Point:

W1-10w

SOIL Sampling Point: W1-10w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) (Inches) Color (moist) % Type* Loc** % 0-6 10YR 2/1 100 Mucky Silt Loam 6-20 7.5YR 4/2 60 7.5YR 4/6 10 С Μ Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) X (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-11u
Investigator(s): Tim King		Section, To	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo	cal relief (con	ncave, convex, none): Convex
Slope (%): 2-4 Lat.: Lo	ng.:	Datum:	•
Soil Map Unit Name SaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	this time of the yea	r? Yes	(If no, explain in remarks)
Are vegetation X , soil , or hydrology	•	ly disturbed?	Are "normal
Are vegetation , soil , or hydrology		roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
,			
SUMMARY OF FINDINGS	I		
Hydrophytic vegetation present? N	Is the sample	nd area within	n a wetland?
Hydric soil present?	is the sample	a area within	- N
Indicators of wetland hydrology present?	If you options	l wotland sita	ID:
indicators of wettand flydrology present?	If yes, optiona	i welland site	ID
Remarks: (Explain alternative procedures here or in a	separate report.)		
Upland cropland			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
,	Stained Leaves (B9)		Surface Soil Cracks (B6)
	Fauna (B13)	•	Drainage Patterns (B10)
	eposits (B15)	•	Moss Trim Lines (B16)
	en Sulfide Odor (C1)		Dry-Season Water Table (C2)
	ed Rhizospheres on I		Crayfish Burrows (C8)
Drift Deposits (B3) Roots (•		Saturation Visible on Aerial Imagery
	ce of Reduced Iron ((C4)	(C9)
	Iron Reduction in Ti		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (0			Geomorphic Position (D2)
	uck Surface (C7)	•	Shallow Aquitard (D3)
	Explain in Remarks)	•	FAC-Neutral Test (D5)
Surface (B8)		•	Microtopographic Relief (D4)
		•	ivilorotopograprilo reciior (2 1)
Field Observations:			
	X Depth (inches		Indicators of
<u> </u>	X Depth (inches		wetland
	X Depth (inches):	hydrology
(includes capillary fringe)			present? N
Describe recorded data (stream gauge, monitoring wel	Lagrial photos pro	vious inspecti	one) if eveilable:
Describe recorded data (stream gauge, monitoring wei	i, aeriai priotos, pre	vious inspecti	ons), ii available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W1-11u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 0 0 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator FACW, or FAC: Sapling/Shrub Dominant 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 0 x 2 = FAC species 0 x 3 = FACU species 0 x 4 = n UPL species 0 x 5 = 0 Column totals 0 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Prevalence index is ≤3.0* Morphogical 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 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Recently tilled/cultivated (bare soil).

SOIL Sampling Point: W1-11u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 100 0-10 10YR 2/2 Silt Loam 10-20 7.5YR 3/4 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/16/16</u>
Applicant/Owner: Emerald Sky Dairy		State: WI	
Investigator(s): Tim King			wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Foot/Toe Slope	Lo	ocal relief (cor	ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Long.	:	Datum:	
Soil Map Unit NameMaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for thi			(If no, explain in remarks)
Are vegetation, soil, or hydrology		tly disturbed?	
Are vegetation , soil , or hydrology	naturally p	oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present?	Is the sample	ed area within	n a wetland? Y
Hydric soil present? Indicators of wetland hydrology present? Y Y	If yes, optiona	al wetland site	ID: W1
Remarks: (Explain alternative procedures here or in a sep	parate report.)		
Wet meadow/farmed wetland on margin. Direct	lly adjacent to	mapped E1	lKg
HYDROLOGY			
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) Marl Deposit Aquatic F. Aquat	nined Leaves (B9) auna (B13) sists (B15) Sulfide Odor (C1) Rhizospheres on L b) of Reduced Iron (on Reduction in Ti) Living (C4) illed	Secondary Indicators (minimum of two required) X Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) X Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations:	Danth (inches	۸.	Indicators of
Surface water present? Yes No X Water table present? Yes No X	Depth (inches Depth (inches		Indicators of wetland
Saturation present? Yes No X	Depth (inches		hydrology
(includes capillary fringe)	_	′	present? Y
, , , ,			· —
Describe recorded data (stream gauge, monitoring well, a	erial photos, pre	vious inspect	ions), if available:
Domarka			
Remarks:			

SOIL Sampling Point: W1-11w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-24 10YR 2/2 95 2.5YR 2.5/3 5 С PL/M Silt Loam 24-30 10YR 2/1 95 2.5YR 2.5/3 5 С Μ Silt Loam 10YR 4/2 5YR 3/4 40 С Silt Clay Loam 30-36 60 Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 30 Remarks:

Soil Map Unit NameSaB Are climatic/hydrologic conditions of the site typical for Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology (If needed, explain any answers in remarks)	ong.: or this time of the year significant	Datum: Datum: NWI Ar? Yes (If no disturbed?	Sampling Date: 5/16/16 Sampling Point: W1-12u ip, Range: Sec 22, T30N, R16W c, convex, none): Convex Classification: E1Kg c), explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a Upland grassland/shrub thicket on boundary	If yes, optional separate report.)	ed area within a wall wetland site ID:	etland? N
HYDROLOGY			
Primary Indicators (minimum of one is required; check Surface Water (A1) Water High Water Table (A2) Aquat Saturation (A3) Marl E Water Marks (B1) Hydro Sediment Deposits (B2) Oxidiz Drift Deposits (B3) Roots Algal Mat or Crust (B4) Prese Iron Deposits (B5) Recer Inundation Visible on Aerial Magery (B7) Thin Magery (B8)	r-Stained Leaves (B9) tic Fauna (B13) Deposits (B15) tigen Sulfide Odor (C1 ted Rhizospheres on tigen (C3) tince of Reduced Iron tigen Iron Reduction in Tigen	requ)	ondary Indicators (minimum of two ired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches X Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N
Describe recorded data (stream gauge, monitoring we	II, aerial photos, pre	evious inspections),	if available:
Remarks:			

Sampling Point:

W1-12u

SOIL Sampling Point: W1-12u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-6 10YR 2/2 100 Sandy Loam 6-16 5YR 3/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W1-12w
Investigator(s): Tim King		Section, To	wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo		ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Lor		Datum:	· · · · · · · · · · · · · · · · · · ·
Soil Map Unit Name CyA	.9		NWI Classification: E1Kg
Are climatic/hydrologic conditions of the site typical for	this time of the yea		(If no, explain in remarks)
Are vegetation , soil , or hydrology		ly disturbed?	Are "normal
Are vegetation , soil , or hydrology		roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
(ii noodod, oxprain any anonoro iii romaino)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present?	Is the sample	d area within	n a wetland?
Hydric soil present?		a area witiiii	
	If you antions	منده المصطفيين	ID. WA
Indicators of wetland hydrology present? Y	If yes, optiona	i welland site	ID: W1
Remarks: (Explain alternative procedures here or in a s	oparato report \		
Remarks. (Explain alternative procedures here of in a s	eparate report.)		
Shrub carr/wet meadow			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply		required)
,			' '
	Stained Leaves (B9)	•	Surface Soil Cracks (B6)
	Fauna (B13)	,	Drainage Patterns (B10)
	posits (B15)		Moss Trim Lines (B16)
	en Sulfide Odor (C1)		Dry-Season Water Table (C2)
	d Rhizospheres on L	Living	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (*	.	Saturation Visible on Aerial Imagery
	ce of Reduced Iron ((C9)
	Iron Reduction in Til	lled	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C		•	X Geomorphic Position (D2)
I 	ıck Surface (C7)		X Shallow Aquitard (D3)
	Explain in Remarks)		X FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations:			
·	X Depth (inches)		Indicators of
Water table present? Yes X No	Depth (inches)		wetland
Saturation present? Yes X No	Depth (inches)):0	hydrology
(includes capillary fringe)			present? Y
		 	
Describe recorded data (stream gauge, monitoring well	, aerial photos, pre	vious inspecti	ions), if available:
Damada			
Remarks:			

Tree Stratum	Plot Size (50/20 Thresholds
	FIUL SIZE (20'	١	Absolute	Dominant	Indicator	20% 50%
2	`	30'	,	% Cover	Species	Status	Tree Stratum 0 0
2					·		Sapling/Shrub Stratum 14 36
							Herb Stratum 21 53
							Woody Vine Stratum 0 0
							Dominance Test Worksheet
<u> </u>							Number of Dominant
							Species that are OBL,
							FACW, or FAC:4 (A)
							Total Number of Dominant
							Species Across all Strata: 4 (B)
				0 =	Total Cover		Percent of Dominant
			•				
S 1 1 OI I				A1 1 - 1 -	D	L. P	Species that are OBL,
Sapling/Shrub	Plot Size (15')	Absolute	Dominant	Indicator	FACW, or FAC: 100.00% (A/
Stratum	01 0.20 (.0	,	% Cover	Species	Status	
Spiraea alba				25	Υ	FACW	Prevalence Index Worksheet
					<u> </u>		Total % Cover of:
Cornus racemo	Sd			20		FAC	
Rubus idaeus				20	Υ	FAC	OBL species0 x 1 =0
Acer negundo				5	N	FAC	FACW species 125 x 2 = 250
Populus tremule	oides			2	N	FAC	FAC species 52 x 3 = 156
,							FACU species 0 x 4 = 0
							UPL species 0 x 5 = 0
							Column totals 177 (A) 406 (B)
						·	Prevalence Index = B/A = 2.29
· · · · · · · · · · · · · · · · · · ·				72 =	Total Cover		
			•				Hydrophytic Vegetation Indicators:
Had Oracle	DL (0) . (5 1	,	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation
Herb Stratum	Plot Size (5')	% Cover	Species	Status	X Dominance test is >50%
Phalaris arundir	าลดอล			100	Y	FACW	X Prevalence index is ≤3.0*
Urtica dioica	lacca			5	<u>.</u>	FAC	l ——
						170	Morphogical adaptations* (provide
							supporting data in Remarks or on a
							separate sheet)
							Problematic hydrophytic vegetation*
							(explain)
							*Indicators of hydric soil and wetland hydrology must
							present, unless disturbed or problematic
							present, unless disturbed of problematic
					-		Definitions of Vegetation Strata:
							Too March plants 2 in (7.0 cm) or march in diament
							Tree - Woody plants 3 in. (7.6 cm) or more in diameter breast height (DBH), regardless of height.
							Sapling/shrub - Woody plants less than 3 in. DBH a greater than 3.28 ft (1 m) tall.
				105 =	Total Cover		g. 3000 man 0.20 ft (1 ft) tuli
				100 =	- TOTAL COVEL		Herb - All herbaceous (non-woody) plants, regardless
							size, and woody plants less than 3.28 ft tall.
Woody Vine	Plot Size ()	Absolute	Dominant	Indicator	, and many plants loss than old it tall
Stratum	. 101 0126 (,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
							height.
							_ ·
							Hydrophytic
							vegetation
				0 =	Total Cover		present? Y
			· į				-
	oto numboro bo	re or on a	senara	ate sheet)			
narks: (Include ph		or or a	Jopaid	alo orioot)			
marks: (Include pho	JIO HUITIDEIS HE						
marks: (Include pho	oto numbers ne						
marks: (Include pho	oto numbers ne						
marks: (Include pho	oto numbers ne						
marks: (Include pho	oto numbers ne						
marks: (Include pho	oto numbers ne						

W1-12w

SOIL Sampling Point: W1-12w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-8 10YR 2/1 98 2.5YR 2.5/3 2 С Μ Mucky Silt Loam 10YR 4/2 8-20 60 5YR 4/6 40 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 8 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16	5
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W2-1u
Investigator(s): Tim King		Section, Town	nship, Range: Sec 22, T30N	
Landform (hillslope, terrace, etc.): Side Slope	Loc	cal relief (conca	ave, convex, none): Conve	ex
Slope (%): 2-4 Lat.: Lo	ong.:	Datum:		
Soil Map Unit Name SAB		N	WI Classification: N/A	
Are climatic/hydrologic conditions of the site typical fo	r this time of the year?	? Yes (II	f no, explain in remarks)	
Are vegetation X , soil , or hydrology	significantly	disturbed?	Are "normal	
Are vegetation , soil , or hydrology	naturally pr	oblematic?	circumstances" prese	nt? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS	1			
N	la tha annuala d		dlamd0 N	
Hydrophytic vegetation present?	Is the sampled	a area within a	wetland? N	_
Hydric soil present? N				
Indicators of wetland hydrology present? N	If yes, optional	wetland site ID):	
Remarks: (Explain alternative procedures here or in a	coparato roport)			
Nemarks. (Explain alternative procedures here of in a	separate report.)			
Upland cropland				
LIVEROLOGY				
HYDROLOGY				
			econdary Indicators (minimu	m of two
Primary Indicators (minimum of one is required; check	11.77	re	equired)	
	-Stained Leaves (B9)		Surface Soil Cracks (B6)	
	ic Fauna (B13)		Drainage Patterns (B10)	
	Deposits (B15)		Moss Trim Lines (B16)	20)
	gen Sulfide Odor (C1)	. -	Dry-Season Water Table (C	52)
	ed Rhizospheres on Liv	ving	Crayfish Burrows (C8)	
Drift Deposits (B3) Roots			Saturation Visible on Aerial	Imagery
	nce of Reduced Iron (C		(C9) Stunted or Streeged Plants	(D1)
	nt Iron Reduction in Tille	ea	Stunted or Stressed Plants	(DT)
Inundation Visible on Aerial Soils (Muck Surface (C7)		Geomorphic Position (D2) Shallow Aquitard (D3)	
l —— —	(Explain in Remarks)		FAC-Neutral Test (D5)	
Sparsely Vegetated ConcaveOther Surface (B8)	(Explain in Remarks)		Microtopographic Relief (D4)	1)
Surface (Bo)		_	Microtopographic Relief (D	+)
Field Observations:				
Surface water present? Yes No	X Depth (inches):		Indicators of	
Water table present? Yes No	X Depth (inches):		wetland	
Saturation present? Yes No	X Depth (inches):		hydrology	
(includes capillary fringe)			present? N	
Describe recorded data (stream gauge, monitoring we	ell, aerial photos, previ	ious inspection	ns), if available:	
Damada				
Remarks:				

VEGETATION - Use scientific names of plants Sampling Point: W2-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 20 8 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator FACW, or FAC: Sapling/Shrub Dominant 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 0 x 2 = FAC species 0 x 3 = Λ FACU species 40 x 4 = 160 UPL species 0 x 5 = 0 Column totals 160 40 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () Status Dominance test is >50% % Cover **Species** Taraxacum officinale 40 Υ FACU Prevalence index is ≤3.0* Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 40 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Not planted at this time.

SOIL Sampling Point: W2-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Loc** % Type* 0-12 10YR 2/1 100 Silt Loam 12-16 10YR 3/3 98 5YR 3/4 2 С Μ Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Toe Slope/Depressi Slope (%): 0-2	g.: his time of the yea	ocal relief (concav Datum: NW ar? Yes (If r	Sampling Date: 5/6/16 Sampling Point: W2-1w ship, Range: Sec 22, T30N, R16W re, convex, none): Concave // Classification: Wet Symbol no, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a secondly flooded basin/farmed wetland on roon the WWI.	If yes, optiona	ed area within a value al wetland site ID:	
HYDROLOGY			
Primary Indicators (minimum of one is required; check at X Surface Water (A1) Water-S High Water Table (A2) Aquatic X Saturation (A3) Marl Dep Water Marks (B1) Hydroge Sediment Deposits (B2) Oxidized Drift Deposits (B3) Roots (C X Algal Mat or Crust (B4) Presenct I Iron Deposits (B5) Recent I Inundation Visible on Aerial X Soils (C4 Imagery (B7)	tained Leaves (B9) Fauna (B13) posits (B15) In Sulfide Odor (C1 I Rhizospheres on C3) e of Reduced Iron ron Reduction in T	req(condary Indicators (minimum of two uired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Water table present? Saturation present? Yes X No X Saturation present? Yes X No (includes capillary fringe)	Depth (inches Depth (inches Depth (inches	s):	Indicators of wetland hydrology present?
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre	evious inspections), if available:
Remarks: Saturated at sample point on wetland margin.	Surface water	in central depre	ession.

	200 301011111101	100 01	pianto				50/20 Thresholds	
				Absolute	Dominant	Indicator	20% 50%	
Tree Stratum	Plot Size (30'	1	% Cover	Species	Status	Tree Stratum 0 0	
1				70 OOVCI	Орсско	Otatus	Sapling/Shrub Stratum 0 0	
2					. ——		Herb Stratum 3 8	
3							Woody Vine Stratum 0 0	
3							Woody vine Stratum 0 0	
							Dominance Test Worksheet	
5								
6							Number of Dominant	
							Species that are OBL,	
8							FACW, or FAC: 2 (A)	
9							Total Number of Dominant	
10							Species Across all Strata: 3 (B)	
			_	0	= Total Cover		Percent of Dominant	
							Species that are OBL,	
Sapling/Shrub	DI (0' - /	451	,	Absolute	Dominant	Indicator	FACW, or FAC: 66.67% (A/B)	,
Stratum	Plot Size (15')	% Cover	Species	Status	,	
1					•		Prevalence Index Worksheet	_
· 								
2							Total % Cover of:	
3							OBL species0x 1 =0	
4							FACW species 5 x 2 = 10	
5							FAC species <u>5</u> x 3 = <u>15</u>	
6							FACU species <u>5</u> x 4 = <u>20</u>	
7							UPL species 0 x 5 = 0	
8							Column totals 15 (A) 45 (B)	
9							Prevalence Index = B/A = 3.00	
10								
				0	= Total Cover			
			_		•		Hydrophytic Vegetation Indicators:	
				Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation	
Herb Stratum	Plot Size (5')	% Cover	Species	Status	X Dominance test is >50%	
1 Phalaris arund	linacea			5	Y	FACW	X Prevalence index is ≤3.0*	
2 Taraxacum of				5	·	FACU	Morphogical adaptations* (provide	
3 Rumex crispus				3	- <u>'</u>	FAC	supporting data in Remarks or on a	
4 Urtica dioica	<u> </u>			2	- <u>'</u>	FAC	separate sheet)	
						FAC		
5							Problematic hydrophytic vegetation*	
6							(explain)	
7							*Indicators of hydric soil and wetland hydrology must be	;
8							present, unless disturbed or problematic	
9								_
10							Definitions of Vegetation Strata:	
11							Tree - Woody plants 3 in. (7.6 cm) or more in diameter	at
12							breast height (DBH), regardless of height.	aι
13							breast height (bbri), regardless of height.	
14							Sapling/shrub - Woody plants less than 3 in. DBH and	
15							greater than 3.28 ft (1 m) tall.	
				15	= Total Cover			
							Herb - All herbaceous (non-woody) plants, regardless of	ρf
Woody Vine	DI (0' - /		,	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.	
Stratum	Plot Size ()	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in	
1					•		height.	
2							inoight.	
3					· 			-
· .					· 			
4							Hydrophytic	
5							vegetation	
			_	0	= Total Cover		present? Y	
Remarks: (Include pl	hoto numbers he	ere or on a	separat	e sheet)				
				,	e prior year cro	p was drow	ned out. Not planted at this time. Herb	
stratum compos								
Siraturii compos	sea or volunter	SI OI WEEL	ay veg	cialion e	อเลมแอกษน มิฮิโ	ween culliva	uona.	

SOIL Sampling Point: W2-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-24 10YR 2/1 85 7.5YR 4/6 5 С Μ Silt Loam 10YR 5/2 5 D М Silt Loam 2.5YR 2.5/3 С 5 Μ Silt Loam 24-30 10YR 3/1 80 5YR 3/4 20 С Silt Clay Loam Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 24 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W3-1u
Investigator(s): Tim King		Section, Townsh	nip, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo	cal relief (concave	e, convex, none): Conve	Х
Slope (%): 2-6 Lat.:	Long.:	Datum:		
Soil Map Unit NameSaB		NWI	Classification: N/A	
Are climatic/hydrologic conditions of the site typical	for this time of the yea	r? Yes (If no	o, explain in remarks)	
Are vegetation X, soil , or hydrolo	ogysignificant	ly disturbed?	Are "normal	
Are vegetation , soil , or hydrolo	naturally p	roblematic?	circumstances" presen	it? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS	1			
Hydrophytic vegetation present? N	Is the sample	ed area within a w	vetland? N	_
Hydric soil present? N	-			
Indicators of wetland hydrology present? N	If yes, optiona	I wetland site ID:		
December (Fig. 1):				
Remarks: (Explain alternative procedures here or in	n a separate report.)			
Upland cropland				
HYDROLOGY				
		Sec	ondary Indicators (minimur	m of two
Primary Indicators (minimum of one is required; che	eck all that apply)		iired)	
,	iter-Stained Leaves (B9)	•	Surface Soil Cracks (B6)	
	uatic Fauna (B13)		Drainage Patterns (B10)	
	rl Deposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1) Hyd	drogen Sulfide Odor (C1)		Dry-Season Water Table (C.	2)
Sediment Deposits (B2) Oxi	dized Rhizospheres on I	_iving	Crayfish Burrows (C8)	
Drift Deposits (B3)	ots (C3)		Saturation Visible on Aerial	Imagery
Algal Mat or Crust (B4)	sence of Reduced Iron ((C4)	(C9)	
Iron Deposits (B5)	cent Iron Reduction in Ti	lled	Stunted or Stressed Plants ((D1)
Inundation Visible on Aerial Soi	ls (C6)		Geomorphic Position (D2)	
Imagery (B7) Thi	n Muck Surface (C7)	;	Shallow Aquitard (D3)	
	ner (Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)		!	Microtopographic Relief (D4))
		1		
Field Observations:				
Surface water present? Yes No	X Depth (inches		Indicators of	
Water table present? Yes No	X Depth (inches		wetland	
Saturation present? Yes No	X Depth (inches):	hydrology	
(includes capillary fringe)			present? N	_
Describe recorded data (stream gauge, monitoring	wall parial photos pro	vious inspections)	if available:	
Describe recorded data (stream gauge, monitoring	well, aeriai priotos, pre	vious inspections)	, ii avaliable:	
Remarks:				

VEGETATION - Use scientific names of plants Sampling Point: W3-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 3 1 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 50.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 2 x 3 = FACU species 3 x 4 = 12 UPL species 0 x 5 = 0 Column totals 18 (A) 3.60 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale FAC<u>U</u> Prevalence index is ≤3.0* 3 Veronica peregrina FAC Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Not planted at this time.

SOIL Sampling Point: W3-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-6 10YR 2/1 100 Silt Loam 6-14 7.5YR 3/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16
Applicant/Owner: Emerald Sky Dairy		State: W	
Investigator(s): Tim King			ownship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Depression	Lc Lc	ocal relief (co	oncave, convex, none): Concave
Slope (%): 0-2 Lat.: Long.:	:	Datum	
Soil Map Unit NameSaB			NWI Classification: Wet Symbol
Are climatic/hydrologic conditions of the site typical for this			(If no, explain in remarks)
Are vegetation X, soil X, or hydrology		tly disturbed	
Are vegetation , soil , or hydrology	naturally p	oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	Is the sample	ed area with	in a wetland? Y
Hydric soil present? Y			
Indicators of wetland hydrology present? Y	If yes, optiona	l wetland site	e ID: W3
Remarks: (Explain alternative procedures here or in a sep	arate report.)		
Seasonally flooded basin/farmed wetland. Map	ped by WDNF	R as wetlar	nd too small to delineate on WWI.
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check all	that apply)		required)
	ined Leaves (B9)		X Surface Soil Cracks (B6)
High Water Table (A2) Aquatic Fa			Drainage Patterns (B10)
Saturation (A3) Marl Depo			Moss Trim Lines (B16)
	Sulfide Odor (C1)		Dry-Season Water Table (C2)
	Rhizospheres on L	∟iving	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C3)		(O.1)	X Saturation Visible on Aerial Imagery
	of Reduced Iron ((C9)
	n Reduction in Til	lied	X Stunted or Stressed Plants (D1) X Geomorphic Position (D2)
Inundation Visible on Aerial X Soils (C6)	Surface (C7)		X Shallow Aquitard (D3)
	plain in Remarks)		FAC-Neutral Test (D5)
X Surface (B8)	nam m recmand)		Microtopographic Relief (D4)
X curios (Bo)			Willordtopographile Relief (B4)
Field Observations:			
Surface water present? Yes No X	Depth (inches)	s):	Indicators of
Water table present? Yes No X	Depth (inches)		wetland
Saturation present? Yes X No	Depth (inches)	s): 18	hydrology
(includes capillary fringe)	_		present? Y
Describe recorded data (stream gauge, monitoring well, a	erial photos, pre	vious inspec	ctions), if available:
Remarks:			
Remarks.			

VEGETATION - Use scientific names of plants Sampling Point: W3-1w 50/20 Thresholds Indicator Absolute Dominant 20% 50% Tree Stratum Plot Size (30' % Cover Status Species Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 1 4 Woody Vine Stratum O 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, FACW, or FAC: 66.67% (A/B) Sapling/Shrub Dominant Indicator Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: 2 OBL species x 1 = **FACW** species 0 x 2 = FAC species 2 x 3 = x 4 = **FACU** species 2 8 UPL species 0 x 5 = 0 Column totals (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status Species Typha angustifolia OBL X Prevalence index is ≤3.0* 3 Rumex crispus FAC Morphogical adaptations* (provide 3 Taraxacum officinale FACU 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 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Dominant Indicator Absolute Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

Corn planted in 2015, but it's evident that most of the prior year crop was drowned out in central depression. Not planted at this time. Herb stratum composed of volunteer or weedy vegetation established between cultivations.

SOIL Sampling Point: W3-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* (Inches) Color (moist) % Loc** % 0-6 10YR 2/2 90 5YR 3/4 10 С Μ Silt Loam 6-12 7.5YR 3/4 60 Sandy Loam 40 10YR 2/2 Sandy Loam 12-18 10YR 2/1 95 2.5YR 2.5/3 Silt Loam 5 С Μ 18-21 10YR 3/1 80 5YR 3/4 20 С Μ Silt Clav Loam Silt Clay Loam 21-25 10YR 5/2 7.5YR 4/6 80 20 С Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 18 Remarks: Approximately 12 inches of silt loam and sandy loam sediment and/or fill over a buried original surface (hydric soil). Nonetheless, field indicators of hydric soil are present under current conditions.

Soil Map Unit NameMaB Are climatic/hydrologic conditions of the site typical for Are vegetation X, soil , or hydrology Are vegetation , soil , or hydrology (If needed, explain any answers in remarks)	ong.: r this time of the yea	ocal relief (concave Datum: NWI ar? Yes (If no	Sampling Date: 5/12/16 Sampling Point: W4-1u nip, Range: Sec 22, T30N, R16W e, convex, none): Convex Classification: N/A o, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a Upland cropland	If yes, optiona	ed area within a wall wetland site ID:	retland? N
HYDROLOGY			
Primary Indicators (minimum of one is required; check Surface Water (A1) Water High Water Table (A2) Aquati Saturation (A3) Marl D Water Marks (B1) Hydrog Drift Deposits (B2) Oxidiz Drift Deposits (B3) Roots Algal Mat or Crust (B4) Preser Iron Deposits (B5) Recent Inundation Visible on Aerial Imagery (B7) Thin M Sparsely Vegetated Concave Surface (B8)	Stained Leaves (B9) ic Fauna (B13) Deposits (B15) gen Sulfide Odor (C1 ed Rhizospheres on (C3) nce of Reduced Iron at Iron Reduction in Ti	requ) Comparison of the comp	ondary Indicators (minimum of two irred) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N
Describe recorded data (stream gauge, monitoring we	II, aerial photos, pre	vious inspections),	if available:
Remarks:			

SOIL Sampling Point: W4-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 0-8 10YR 2/2 100 Silt Loam 5YR 3/4 8-20 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks: Rocky soil

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Toe Slope/Depressis Slope (%): 0-2	g.: his time of the yea	ocal relief (concav Datum: NW ar? Yes (If r	Sampling Date: 5/12/16 Sampling Point: W4-1w Ship, Range: Sec 22, T30N, R16W /e, convex, none): Concave // Classification: Wet Symbol no, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a set Seasonally flooded basin/farmed wetland on mon WWI.	If yes, optiona	ed area within a value al wetland site ID:	 W4
HYDROLOGY			
Primary Indicators (minimum of one is required; check at X Surface Water (A1) Water-S X High Water Table (A2) Aquatic Marl Dep Water Marks (B1) Hydroge Sediment Deposits (B2) Oxidized Drift Deposits (B3) X Roots (C1) Algal Mat or Crust (B4) Presence Iron Deposits (B5) Recent Indicated Marks (B7) Sparsely Vegetated Concave Surface (B8)	tained Leaves (B9) Fauna (B13) posits (B15) In Sulfide Odor (C1 Id Rhizospheres on C3) Ie of Reduced Iron Iron Reduction in Ti	req(condary Indicators (minimum of two juired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes X No Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe)	Depth (inches Depth (inches Depth (inches	s): 0	Indicators of wetland hydrology present? Y
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre	vious inspections)), if available:
Remarks: Saturated at sample point; surface water in ce	entral depressio	n.	

SOIL Sampling Point: W4-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-8 10YR 2/2 95 2.5YR 2.5/4 5 С PL/M Mucky Silt Loam 8-20 10YR 2/1 95 2.5YR 2.5/4 5 С Μ Mucky Silt Loam 10YR 5/2 7.5YR 4/6 40 С Silt Clay Loam 20-24 60 Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 20 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/16/16</u>			
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W5-1u			
Investigator(s): Tim King		Section, Tow	vnship, Range: Sec 22, T30N, R16W			
Landform (hillslope, terrace, etc.): Side Slope	Lo	cal relief (cond	cave, convex, none): Convex			
Slope (%): 2-4 Lat.: Lor	ng.:	Datum:				
Soil Map Unit Name MaB		<u> </u>	NWI Classification: N/A			
Are climatic/hydrologic conditions of the site typical for	this time of the yea	r? Yes (If no, explain in remarks)			
Are vegetation X, soil , or hydrology	significant	ly disturbed?	Are "normal			
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" present? Yes			
(If needed, explain any answers in remarks)						
SUMMARY OF FINDINGS	Т					
Ukudanaha dia wasadian manando N	la tha assumb	-1	a westland 2			
Hydrophytic vegetation present? N N N	Is the sample	a area within	a wetland? N			
			6			
Indicators of wetland hydrology present? N	If yes, optional wetland site ID:					
Remarks: (Evolain alternative procedures here or in a	Separate report)					
Remarks: (Explain alternative procedures here or in a separate report.)						
Halas I amalas I						
Upland cropland						
HYDDOLOGY						
HYDROLOGY						
			Secondary Indicators (minimum of two			
Primary Indicators (minimum of one is required; check	11.7/	r	required)			
	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)			
	Fauna (B13)	_	Drainage Patterns (B10)			
	eposits (B15)	_	Moss Trim Lines (B16)			
 :	en Sulfide Odor (C1)	_	Dry-Season Water Table (C2)			
	ed Rhizospheres on L	_iving	Crayfish Burrows (C8)			
Drift Deposits (B3) Roots ('		Saturation Visible on Aerial Imagery			
	ce of Reduced Iron (_	(C9)			
	Iron Reduction in Til	lled _	Stunted or Stressed Plants (D1)			
Inundation Visible on Aerial Soils (C		_	Geomorphic Position (D2)			
<u> </u>	uck Surface (C7)	_	Shallow Aquitard (D3)			
· · · · · · · · · · · · · · · · · · ·	Explain in Remarks)	_	FAC-Neutral Test (D5)			
Surface (B8)		_	Microtopographic Relief (D4)			
Field Observations:						
	X Depth (inches)	١٠	Indicators of			
	X Depth (inches)		wetland			
	X Depth (inches)		hydrology			
(includes capillary fringe)	Deptil (illelies))	present? N			
(includes capillary fillige)			present: N			
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks:						

VEGETATION - Use scientific names of plants Sampling Point: W5-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 0 0 Woody Vine Stratum 0 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator FACW, or FAC: Sapling/Shrub Dominant 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 0 x 2 = FAC species 0 x 3 = FACU species 0 x 4 = n UPL species 0 x 5 = 0 Column totals 0 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Prevalence index is ≤3.0* Morphogical 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 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet) Planted to corn in 2015. Recently tilled/cultivated (bare soil).

SOIL Sampling Point: W5-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 0-10 10YR 2/2 100 Silt Loam 10-20 7.5YR 3/4 100 Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 10 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/5/16		
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W5-1w		
Investigator(s): Tim King		Section, Townshi	p, Range: Sec 22, T30N, R16W		
Landform (hillslope, terrace, etc.): Foot/Toe S	Slope/Depression Lo	ocal relief (concave,	, convex, none): Concave		
Slope (%): 1-2 Lat.:	Long.:	Datum:			
Soil Map Unit NameMaB		NWI	Classification: N/A		
Are climatic/hydrologic conditions of the site ty	oical for this time of the yea	ar? Yes (If no	, explain in remarks)		
Are vegetation X , soil , or hyd	drology significan	tly disturbed?	Are "normal		
Are vegetation , soil , or hyd	drology naturally p	problematic?	circumstances" present? No		
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS					
II. look for a staff or a second	V				
Hydrophytic vegetation present?	Is the sample	ed area within a we	etland? Y		
Hydric soil present?	<u>Y</u>				
Indicators of wetland hydrology present?	Y If yes, optiona	al wetland site ID: _	W5		
Developed (Fundaire alternative annual translative					
Remarks: (Explain alternative procedures here					
Farmed wetland - cropland. Difficult w	etland situation (Atypica	al): land used for	agriculture - problematic		
hydrophytic vegetation (managed plan	t community) procedur	es used. Planted	to corn in 2015. Recently		
tilled/cultivated (bare soil conditions).	• • • • • • • • • • • • • • • • • • • •		•		
,					
HYDROLOGY					
		Seco	ndary Indicators (minimum of two		
Primary Indicators (minimum of one is required	: check all that apply)	requi			
Surface Water (A1)	Water-Stained Leaves (B9)	•	Surface Soil Cracks (B6)		
High Water Table (A2)	Aquatic Fauna (B13)		Drainage Patterns (B10)		
Saturation (A3)	Marl Deposits (B15)		Moss Trim Lines (B16)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1		Ory-Season Water Table (C2)		
<u> </u>					
Sediment Deposits (B2)	Oxidized Rhizospheres on Living		Crayfish Burrows (C8)		
Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Imagery		
Algal Mat or Crust (B4)	Presence of Reduced Iron	· · · · · · · · · · · · · · · · · · ·	C9)		
Iron Deposits (B5)	Recent Iron Reduction in T		Stunted or Stressed Plants (D1)		
	Soils (C6)		Geomorphic Position (D2) Shallow Aquitard (D3)		
	Imagery (B7) Thin Muck Surface (C7)				
	Sparsely Vegetated Concave Other (Explain in Remarks)				
Surface (B8)		N	licrotopographic Relief (D4)		
Fill Olympia Cont					
Field Observations:		,			
· ———	No X Depth (inches		Indicators of		
	No X Depth (inches		wetland		
	No X Depth (inches	s):	hydrology		
(includes capillary fringe)			present? Y		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks:					
Romano.					

VEGETATION - Use scientific names of plants Sampling Point: W5-1w 50/20 Thresholds Indicator 50% Absolute Dominant 20% Tree Stratum Plot Size (30' % Cover Status **Species** Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 0 0 Woody Vine Stratum 0 n **Dominance Test Worksheet** Number of Dominant Species that are OBL, FACW, or FAC: (A) Total Number of Dominant 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, FACW, or FAC: Sapling/Shrub Dominant Indicator 0.00% (A/B) Absolute Plot Size (Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = x 4 = **FACU** species Ω UPL species 0 x 5 = 0 Column totals 0 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (% Cover Status Dominance test is >50% Species Prevalence index is ≤3.0* Morphogical 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 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 14 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 0 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Dominant Indicator Absolute Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present?

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

Vegetation is routinely altered/managed for agricultural use (cultivation). Wetland determination is based mainly on presence of indicators of hydric soil, wetland hydrology, and landscape position. If left unmanaged, it's assumed that this farmed wetland would be a seasonally flooded basin or wet meadow, which is further based on examination of adjacent reference wetland areas having similar soil, hydrology, and landform; and offsite review of aerial photography.

SOIL Sampling Point: W5-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Loc** (Inches) Color (moist) % Type* % 0-12 10YR 2/2 98 2.5YR 2.5/3 2 С Μ Silt Loam 10YR 4/2 20 12-24 80 5YR 3/4 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 12 Remarks: Bare soil, recently tilled/cultivated.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/17/1</u>	6
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W6-1u
Investigator(s): Tim King		Section, Towns	ship, Range: Sec 22, T30N.	, R16W
Landform (hillslope, terrace, etc.): Summit/Knoll	Lo	ocal relief (conca	ve, convex, none): Conve	×
Slope (%): 1-2 Lat.:	Long.:	Datum:		
Soil Map Unit NameMaB			VI Classification: E1Ka	
Are climatic/hydrologic conditions of the site typical			no, explain in remarks)	
Are vegetation, soilX_, or hydrological		tly disturbed?	Are "normal	
Are vegetation , soil , or hydrolo	ogynaturally p	problematic?	circumstances" preser	nt? No
(If needed, explain any answers in remarks)				
OURAL DV OF FINDINGS				
SUMMARY OF FINDINGS				
III local de contede consesso	1. (1			
Hydrophytic vegetation present? N	Is the sample	ed area within a	wetland? N	_
Hydric soil present? N	-			
Indicators of wetland hydrology present? Y	_ If yes, optiona	I wetland site ID:		
Barrella (Fallica III and				
Remarks: (Explain alternative procedures here or in	n a separate report.)			
Grassland/island. Potential historic wetlan	nd fill/enaile from ad	liacant pand a	vegyation. This small a	tificial
	•	•		unciai
island or knoll is surrounded by wetland W	v6 and included with	nin its acreage		
HYDROLOGY				
		90	condary Indicators (minimu	m of two
Primary Indicators (minimum of one is required; che	eck all that annly)		quired)	in or two
,	ater-Stained Leaves (B9)		Surface Soil Cracks (B6)	
	uatic Fauna (B13)		Drainage Patterns (B10)	
 :	rl Deposits (B15)		Moss Trim Lines (B16)	
	drogen Sulfide Odor (C1		Dry-Season Water Table (C	:2)
	idized Rhizospheres on I		Crayfish Burrows (C8)	-/
	ots (C3)		Saturation Visible on Aerial	Imagery
	esence of Reduced Iron ((C4)	(C9)	magory
	cent Iron Reduction in Ti		Stunted or Stressed Plants	(D1)
	ils (C6)		Geomorphic Position (D2)	` '
	n Muck Surface (C7)		Shallow Aquitard (D3)	
	ner (Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)	,		Microtopographic Relief (D4	!)
			_	•
Field Observations:				
Surface water present? Yes No	X Depth (inches	s):	Indicators of	
Water table present? Yes No	X Depth (inches	s):	wetland	
Saturation present? Yes X No	Depth (inches	s): 12	hydrology	
(includes capillary fringe)			present? Y	
Describe recorded data (stream gauge, monitoring	well, aerial photos, pre	vious inspections	s), if available:	
Remarks:				

VEGETATION - Use scientific names of plants Sampling Point: W6-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 45 18 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 90 x 4 = 360 UPL species 0 x 5 = 0 Column totals 90 (A) 360 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 30 FACU Prevalence index is ≤3.0* Poa pratensis FACU Trifolium pratense 20 Morphogical adaptations* (provide Solidago canadensis 20 FACU supporting data in Remarks or on a FACU Elymus repens 10 Ν separate sheet) FACU Phleum pratense 10 Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 90 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Loc** % Type* 0-12 5YR 3/4 100 Sandy Loam 12-24 5YR 3/4 98 7.5YR 3/4 2 С Μ Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks: Potential historic fill/spoils from adjacent pond excavation.

·	City/County:	St. Croix	Sampling Date: <u>5/17/16</u>
Applicant/Owner: Emerald Sky Dairy	_	State: WI	Sampling Point: W6-1w
Investigator(s): Tim King			wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Depression	on Lo	ocal relief (cor	ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Long	g.:	Datum:	
Soil Map Unit NameMaB			NWI Classification: E1Ka
Are climatic/hydrologic conditions of the site typical for the			(If no, explain in remarks)
Are vegetation X, soil X, or hydrology		ly disturbed?	Are "normal
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" present? No
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	Is the sample	ed area withir	n a wetland?
Hydric soil present? Y			
Indicators of wetland hydrology present? Y	If yes, optiona	I wetland site	ID: <u>W6</u>
Description (5 delication of a control of a			
Remarks: (Explain alternative procedures here or in a se	eparate report.)		
Shallow, open water pond that has been exca	rated with drad	and spail pil	les placed on the north side and
· · · · · · · · · · · · · · · · · · ·	valed with dred	ged spoil pil	les placed on the north side and
small island on south side.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check a	ll that apply)		required)
X Surface Water (A1) Water-S	ained Leaves (B9)		Surface Soil Cracks (B6)
	Fauna (B13)		Drainage Patterns (B10)
	osits (B15)		Moss Trim Lines (B16)
	n Sulfide Odor (C1)		Dry-Season Water Table (C2)
	Rhizospheres on I	_iving	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C			
	•	(O.1)	X Saturation Visible on Aerial Imagery
	e of Reduced Iron ((C9)
Iron Deposits (B5) Recent I	of Reduced Iron (ron Reduction in Ti		(C9) Stunted or Stressed Plants (D1)
Iron Deposits (B5) Recent I Inundation Visible on Aerial Soils (C6	e of Reduced Iron (ron Reduction in Ti s)		(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2)
Iron Deposits (B5) Recent I Inundation Visible on Aerial Soils (C6 X Imagery (B7) Thin Muc	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7)	lled	C(9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3)
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Recent I Soils (C6 Thin Muc	e of Reduced Iron (ron Reduction in Ti s)	lled	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5)
Iron Deposits (B5) Recent I Inundation Visible on Aerial Soils (C6 X Imagery (B7) Thin Muc	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7)	lled	C(9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3)
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Recent I Soils (C6 Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7)	lled	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Recent I Soils (C6 Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks)	lled	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4)
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Recent I Soils (C6 Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches):36+	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5)
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Recent I Soils (C6 C7 Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches): 36+): 0	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Surface Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches): 36+): 0	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Recent I Soils (C6 C7 Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches): 36+): 0	(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Surface Thin Muc Other (E	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): <u>36+</u>): <u>0</u>): <u>0</u>	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe)	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): <u>36+</u>): <u>0</u>): <u>0</u>	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe)	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): <u>36+</u>): <u>0</u>): <u>0</u>	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe) Describe recorded data (stream gauge, monitoring well,	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): <u>36+</u>): <u>0</u>): <u>0</u>	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe) Describe recorded data (stream gauge, monitoring well, Remarks:	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): 36+): 0): 0	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y
Iron Deposits (B5) Inundation Visible on Aerial X Imagery (B7) Sparsely Vegetated Concave Surface (B8) Field Observations: Surface water present? Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe) Describe recorded data (stream gauge, monitoring well,	e of Reduced Iron (ron Reduction in Ti s) ck Surface (C7) xplain in Remarks) Depth (inches Depth (inches Depth (inches): 36+): 0): 0	C(C9) Stunted or Stressed Plants (D1) X Geomorphic Position (D2) Shallow Aquitard (D3) X FAC-Neutral Test (D5) Microtopographic Relief (D4) Indicators of wetland hydrology present? Y

VEGETATION - Use scientific names of plants Sampling Point: W6-1w 50/20 Thresholds Indicator 50% Absolute Dominant 20% Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 1 3 Herb Stratum 13 5 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Sapling/Shrub Dominant Indicator FACW, or FAC: Absolute Plot Size (15') Stratum % Cover Status **Species** Salix discolor FACW **Prevalence Index Worksheet** Salix petiolaris 2 FACW Total % Cover of: Populus deltoides 2 FAC OBL species 15 x 1 = **FACW** species 14 x 2 = FAC species 2 x 3 = **FACU** species 6 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 49 31 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status **Species** Typha angustifolia 10 OBL X Prevalence index is ≤3.0* Phalaris arundinacea FACW 10 Morphogical adaptations* (provide Typha latifolia 5 OBL 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 25 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-36 5YR 3/3 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Excavated pond - permanently ponded. Meets frequently ponded criteria #3

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Side Slope Slope (%): 2-6 Lat.: L Soil Map Unit NameMaB Are climatic/hydrologic conditions of the site typical for	S S Local ong.:	St. Croix Sampling Date: 5/17/16 State: WI Section, Township, Range: Sec 22, T30N, R16W al relief (concave, convex, none): Datum: NWI Classification: N/A Yes (If no, explain in remarks)
Are vegetation , soil X , or hydrology		disturbed? Are "normal
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a	If yes, optional w	area within a wetland? N
Upland grassland. Historic cut/fill area.		
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)	r-Stained Leaves (B9) tic Fauna (B13) Deposits (B15) ogen Sulfide Odor (C1) zed Rhizospheres on Livir s (C3) ence of Reduced Iron (C4) nt Iron Reduction in Tilled	Saturation Visible on Aerial Imagery (C9)
Field Observations: Surface water present? Water table present? Saturation present? Yes No (includes capillary fringe) Describe recorded data (stream gauge, monitoring water)	X Depth (inches): X Depth (inches): X Depth (inches): Depth (inches):	Indicators of wetland hydrology present? N
Remarks:		

VEGETATION - Use scientific names of plants Sampling Point: W6-2u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 48 19 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Dominant Indicator FACW, or FAC: 33.33% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 0 x 2 = 0 FAC species 20 x 3 = 60 **FACU** species 65 x 4 = 260 UPL species 10 x 5 = 50 Column totals (A) 95 370 3.89 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale 20 FACU Prevalence index is ≤3.0* FACU Elymus repens 20 Morphogical adaptations* (provide Rumex crispus 20 FAC supporting data in Remarks or on a Trifolium pratense FACU 10 Ν separate sheet) 10 Ν FACU Lolium perenne Problematic hydrophytic vegetation* Dactylis glomerata 5 Ν FACU (explain) 5 Ν UPL Medicago sativa *Indicators of hydric soil and wetland hydrology must be Bromus inermis 5 Ν UPL present, unless disturbed or problematic 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 95 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-2u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-24 5YR 3/4 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks: Rocky soil; historic cut/fill area.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix Sampling Date: 5/17/16
Applicant/Owner: Emerald Sky Dairy		State: WI Sampling Point: W6-2w
Investigator(s): Tim King		Section, Township, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope		cal relief (concave, convex, none): Concave
	ong.:	Datum:
Soil Map Unit NameMaB		NWI Classification: E1Ka
Are climatic/hydrologic conditions of the site typical for	r this time of the year?	Yes (If no, explain in remarks)
Are vegetation, soilX, or hydrology	significantly	disturbed? Are "normal
Are vegetation , soil , or hydrology	naturally pro	oblematic? circumstances" present? Yes
(If needed, explain any answers in remarks)		·
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? Hydric soil present? Y Y	Is the sampled	l area within a wetland?
Indicators of wetland hydrology present?	If yes, optional v	wetland site ID: W6
Remarks: (Explain alternative procedures here or in a	separate report.)	
Wet meadow/shallow marsh		
LIVEROLOGY		
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; chec	k all that apply)	required)
X Surface Water (A1) Wate	r-Stained Leaves (B9)	Surface Soil Cracks (B6)
X High Water Table (A2) Aqua	ic Fauna (B13)	Drainage Patterns (B10)
X Saturation (A3) Marl I	Deposits (B15)	Moss Trim Lines (B16)
	gen Sulfide Odor (C1)	Dry-Season Water Table (C2)
	zed Rhizospheres on Liv	
Drift Deposits (B3) Roots	•	X Saturation Visible on Aerial Imagery
	nce of Reduced Iron (C	
	nt Iron Reduction in Tille	`` '
		X Geomorphic Position (D2)
Inundation Visible on Aerial Soils		<u> </u>
l 	Muck Surface (C7)	X Shallow Aquitard (D3)
	(Explain in Remarks)	X FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes X No	Depth (inches):	6 Indicators of
Water table present? Yes X No	Depth (inches):	
Saturation present? Yes X No	Depth (inches):	
(includes capillary fringe)	Deptif (illiches).	present? Y
(includes capillary filinge)		present? 1
Describe recorded data (stream gauge, monitoring wo	ell aerial photos previ	ous inspections) if available:
	o, aoa. p, p	out inspections, in available.
Remarks:		
Saturated at sample point in wet meadow o	n margin. Surface v	water present in shallow marsh, which is
hydrologically connected to the adjacnet exc	cavated pond.	

VEGETATION - Use scientific names of plants Sampling Point: W6-2w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 55 22 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator Sapling/Shrub Dominant FACW, or FAC: Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species 40 x 1 = **FACW** species 70 x 2 = FAC species 0 x 3 = 0 **FACU** species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 180 110 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator X Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status **Species** Phalaris arundinacea 70 **FACW** X Prevalence index is ≤3.0* Lemna minor 30 OBL Morphogical adaptations* (provide Schoenoplectus tabernaemontani 10 Ν OBL 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 110 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size () Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-24 5YR 3/4 Sandy Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Historic excavated area adjacent to the excavated pond. Meets frequently ponded criteria #3.

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy	City/County:	St. Croix State: WI	Sampling Date: 5/17/16 Sampling Point: W6-3u
Investigator(s): Tim King			ip, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo		e, convex, none): Convex
	ong.:	Datum:	
Soil Map Unit NameMaB			Classification: N/A
Are climatic/hydrologic conditions of the site typical for	or this time of the vea		o, explain in remarks)
Are vegetation, soil, or hydrology			Are "normal
Are vegetation, soil, or hydrology	v naturally r	problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)	,		
(
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Hydric soil present? N	Is the sample	ed area within a w	etland? N
Indicators of wetland hydrology present?	If yes, ontions	al wetland site ID:	
indicators of wettand flydrology present:	ii yes, optiona	wettaria site ib	
Remarks: (Explain alternative procedures here or in a	a separate report.)		
` '	. ,		
Upland grassland, old field.			
,			
HYDROLOGY			
		Seco	ondary Indicators (minimum of two
Primary Indicators (minimum of one is required; chec	k all that apply)	requ	· · · · · · · · · · · · · · · · · · ·
	er-Stained Leaves (B9)	•	Surface Soil Cracks (B6)
<u> </u>	itic Fauna (B13)		Orainage Patterns (B10)
Saturation (A3) Marl Deposits (B15)			Moss Trim Lines (B16)
Water Marks (B1) Hydrogen Sulfide Odor (C1)			Ory-Season Water Table (C2)
	zed Rhizospheres on I		Crayfish Burrows (C8)
	s (C3)		Saturation Visible on Aerial Imagery
	ence of Reduced Iron ((C9)
	ent Iron Reduction in Ti	· · · — ·	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils			Geomorphic Position (D2)
	Muck Surface (C7)		Shallow Aquitard (D3)
	r (Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)	(=/(=/(=/(=/(=/(=/(=/(=/(=/(=/(=/(=/(=/(Microtopographic Relief (D4)
Culture (BO)		<u>—</u> '	viiorotopograpriio rener (B4)
Field Observations:			
Surface water present? Yes No	X Depth (inches	s):	Indicators of
Water table present? Yes No	X Depth (inches		wetland
Saturation present? Yes No	X Depth (inches		hydrology
(includes capillary fringe)		/·	present? N
(
Describe recorded data (stream gauge, monitoring w	ell, aerial photos, pre	vious inspections),	if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W6-3u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 90 x 4 = 360 UPL species 10 x 5 = 50 Column totals 410 100 (A) 4.10 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 60 FACU Prevalence index is ≤3.0* Poa pratensis Solidago canadensis FACU 20 Morphogical adaptations* (provide Taraxacum officinale 10 Ν FACU supporting data in Remarks or on a Bromus inermis 10 Ν UPL separate sheet) Problematic hydrophytic vegetation* (explain) 6 *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-3u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Type* Loc** (Inches) Color (moist) % Color (moist) % 0-10 10YR 2/2 100 Silt Loam 5YR 3/4 10-20 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks: Rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/17/16</u>
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W6-3w
Investigator(s): Tim King		Section, Townsh	ip, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	ocal relief (concave	, convex, none): Concave
Slope (%): 0-2 Lat.: Lo	ong.:	Datum:	
Soil Map Unit NameMaB			Classification: NA
Are climatic/hydrologic conditions of the site typical fo	r this time of the yea	r? Yes (If no	o, explain in remarks)
Are vegetation, soil, or hydrology		tly disturbed?	Are "normal
Are vegetation , soil , or hydrology	naturally p	problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS	1		
Hydrophytic vegetation present?	Is the sample	ed area within a w	etland? Y
Hydric soil present? Y			
Indicators of wetland hydrology present? Y	If yes, optiona	I wetland site ID: _	W6
Remarks: (Explain alternative procedures here or in a	separate report.)		
Wat manday (MG reference wetland area)	Logo disturbed fre	nament of wetler	nd W6 congrated from
Wet meadow (W6 reference wetland area).		agment or wettar	nd wo separated from
excavated pond by spoil piles on south side			
HYDROLOGY			
		Seco	ondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	(all that apply)	requi	
• • • • • • • • • • • • • • • • • • • •	-Stained Leaves (B9)	•	Surface Soil Cracks (B6)
	ic Fauna (B13)		Orainage Patterns (B10)
	Deposits (B15)		Moss Trim Lines (B16)
	gen Sulfide Odor (C1)		Ory-Season Water Table (C2)
	ed Rhizospheres on L		Crayfish Burrows (C8)
Drift Deposits (B3) Roots	•		Saturation Visible on Aerial Imagery
	nce of Reduced Iron (C9)
	nt Iron Reduction in Ti		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils			Geomorphic Position (D2)
	Muck Surface (C7)		Shallow Aquitard (D3)
<u> </u>	(Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)	,		Microtopographic Relief (D4)
			1 3 1
Field Observations:			
Surface water present? Yes No	X Depth (inches):	Indicators of
Water table present? Yes X No	Depth (inches): 8	wetland
Saturation present? Yes X No	Depth (inches): 0	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitoring we	ell, aerial photos, pre	vious inspections),	if available:
Remarks:			

 VEGETATION - Use scientific names of plants
 Sampling Point:
 W6-3w

 50/20 Thresholds

				50/20 Thresholds
Tree Stratum Plot Size (30')	Absolute	Dominant	Indicator	20% 50%
,	% Cover	Species	Status	Tree Stratum 0 1
1 Ulmus americana	2		FACW	Sapling/Shrub Stratum 0 1
2				Herb Stratum 19 48
3				Woody Vine Stratum 0 0
4				Daminara Tast Markshad
5				Dominance Test Worksheet
6				Number of Dominant
8				Species that are OBL, FACW, or FAC: 1 (A)
9				Total Number of Dominant
10				Species Across all Strata: 1 (B)
		= Total Cover		`
		- 10tai 0010i		Percent of Dominant
Sapling/Shrub	Absolute	Dominant	Indicator	Species that are OBL, FACW, or FAC: 100.00% (A/B)
Stratum Plot Size (15')	% Cover	Species	Status	TACW, 01 FAC. 100.00% (A/B)
		Орссісз		Burnelin of the land Marie I at 1997
1 Rubus idaeus	2		FAC	Prevalence Index Worksheet
2				Total % Cover of:
3				OBL species 0 x 1 = 0
4				FACW species 92 x 2 = 184
5				FAC species $7 \times 3 = 21$
6				FACU species 0 x 4 = 0
				UPL species $0 \times 5 = 0$
8				Column totals 99 (A) 205 (B) Prevalence Index = B/A = 2.07
9				Prevalence Index = B/A = 2.07
10		= Total Cover		
		= Total Cover		Hydrophytic Vegetation Indicators:
	Absolute	Dominant	Indicator	X Rapid test for hydrophytic vegetation
Herb Stratum Plot Size (5')	% Cover	Species	Status	X Dominance test is >50%
1 Phalaris arundinacea	90	Y	FACW	X Prevalence index is ≤3.0*
2 Urtica dioica		<u>.</u> N	FAC	Morphogical adaptations* (provide
3	_ <u> </u>			supporting data in Remarks or on a
4				separate sheet)
5				Problematic hydrophytic vegetation*
6	_			(explain)
7				*Indicators of hydric soil and wetland hydrology must be
8				present, unless disturbed or problematic
9				
10				Definitions of Vegetation Strata:
11	_			
12				Tree - Woody plants 3 in. (7.6 cm) or more in diameter
13				breast height (DBH), regardless of height.
14				Sapling/shrub - Woody plants less than 3 in. DBH and
15				greater than 3.28 ft (1 m) tall.
	95	= Total Cover		Havb All barbages - (see 1952) All see 1952
	_	_		Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Plot Size (Absolute	Dominant	Indicator	3.20, and woody planto 1000 than 0.20 It tall.
Stratum	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
1				height.
2				
3				
4				Hydrophytic
5				vegetation
	0	= Total Cover		present? Y
				<u> </u>
Remarks: (Include photo numbers here or on a se	eparate sheet)			

SOIL Sampling Point: W6-3w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Loc** (Inches) Color (moist) % Type* % 0-8 10YR 2/1 95 2.5YR 2.5/3 5 С Μ Mucky Silt Loam 8-16 10YR 2/1 90 2.5YR 2.5/3 10 С М Silt Loam 16-24 10YR 4/1 7.5YR 4/6 40 Silt Clay Loam 60 С Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) X Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 16 Remarks: Soil undisturbed

Soil Map Unit NameSaB Are climatic/hydrologic conditions of the site typical fo Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology (If needed, explain any answers in remarks)	ong.: r this time of the yea	ocal relief (concave Datum: NWI ar? Yes (If no	Sampling Date: 5/17/16 Sampling Point: W6-4u nip, Range: Sec 22, T30N, R16W e, convex, none): Convex I Classification: N/A o, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a Upland grassland, edge of cropland.	If yes, optiona	ed area within a w	retland? N
HYDROLOGY			
Primary Indicators (minimum of one is required; check Surface Water (A1) Water High Water Table (A2) Aquati Saturation (A3) Marl D Water Marks (B1) Hydro Sediment Deposits (B2) Oxidiz Drift Deposits (B3) Roots Algal Mat or Crust (B4) Presel Iron Deposits (B5) Recer Inundation Visible on Aerial Soils (Imagery (B7) Thin Magnety (B8)	Stained Leaves (B9) ic Fauna (B13) Deposits (B15) gen Sulfide Odor (C1 ed Rhizospheres on (C3) nce of Reduced Iron at Iron Reduction in Ti	requ)	ondary Indicators (minimum of two irred) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N
Describe recorded data (stream gauge, monitoring we	II, aerial photos, pre	vious inspections),	if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W6-4u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ 100 x 4 = FACU species 400 0 x 5 = UPL species 0 Column totals 400 100 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 40 FACU Prevalence index is ≤3.0* Poa pratensis Taraxacum officinale FACU 40 Morphogical adaptations* (provide Elymus repens 20 FACU 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W6-4u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-10 10YR 2/2 Silt Loam 10-16 5YR 3/4 70 Silt Loam 10-16 30 5YR 4/6 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Boring refusal on rock; rocky soil.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/17/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W6-	
Investigator(s): Tim King			hip, Range: Sec 22, T30N, R16W	V
Landform (hillslope, terrace, etc.): Toe Slope	Lo	cal relief (concav	e, convex, none): Concave	
Slope (%): 0-2 Lat.:	Long.:	Datum:		
Soil Map Unit NameSaB	-		/I Classification: N/A	
Are climatic/hydrologic conditions of the site typical			no, explain in remarks)	
Are vegetation, soil, or hydrolo		ly disturbed?	Are "normal	
Are vegetation , soil , or hydrolo	ogynaturally p	roblematic?	circumstances" present?	Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? Y	Is the sample	ed area within a v	vetland? Y	
Hydric soil present? Y	_			
Indicators of wetland hydrology present? Y	If yes, optiona	I wetland site ID:	W6	
Remarks: (Explain alternative procedures here or in	n a separate report.)			
Wet/sedge meadow. Fragment of wetlan	d W6 separated fror	m the excavate	d pond by spoil piles to the s	south
G G	·		. , , ,	
HYDROLOGY				
			condary Indicators (minimum of tw	vo
Primary Indicators (minimum of one is required; che	11 7/		uired)	
	ter-Stained Leaves (B9)	X	Surface Soil Cracks (B6)	
	uatic Fauna (B13)		Drainage Patterns (B10)	
	rl Deposits (B15)		Moss Trim Lines (B16)	
	drogen Sulfide Odor (C1)		Dry-Season Water Table (C2)	
	dized Rhizospheres on L	_iving	Crayfish Burrows (C8)	
	ots (C3)		Saturation Visible on Aerial Image	ry
	sence of Reduced Iron ((C9)	
	cent Iron Reduction in Til		Stunted or Stressed Plants (D1)	
	ls (C6)		Geomorphic Position (D2)	
I —	n Muck Surface (C7)		Shallow Aquitard (D3)	
<u> </u>	ner (Explain in Remarks)	<u> X</u>	FAC-Neutral Test (D5)	
X Surface (B8)			Microtopographic Relief (D4)	
Field Observations:				
Surface water present? Yes No	X Depth (inches)):	Indicators of	
Water table present? Yes No	X Depth (inches)		wetland	
Saturation present? Yes X No	Depth (inches)		hydrology	
(includes capillary fringe)		·	present? Y	
, , , ,			· —	
Describe recorded data (stream gauge, monitoring	well, aerial photos, pre	vious inspections)), if available:	
Remarks:				

VEGETATION - Use scientific names of plants Sampling Point: W6-4w 50/20 Thresholds Indicator 50% Absolute Dominant 20% Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 1 Herb Stratum 10 4 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Sapling/Shrub Dominant Indicator FACW, or FAC: Absolute Plot Size (15') Stratum % Cover Status Species Salix petiolaris FACW **Prevalence Index Worksheet** Total % Cover of: 2 OBL species 15 x 1 = **FACW** species 6 x 2 = FAC species 0 x 3 = **FACU** species $0 \times 4 =$ n UPL species 0 x 5 = 0 Column totals 21 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator X Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status Species OBL X Prevalence index is ≤3.0* Carex lacustris 15 Phalaris arundinacea 5 FACW Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Dominant Indicator Absolute Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet) Stinging nettle, giant ragweed, and reed canary grass are also dominant along the south edge and on dredged spoil piles. Spoil piles are 8-10 feet high and 20-30 feet wide between wetland W6 fragmented areas.

SOIL Sampling Point: W6-4w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-16 10YR 2/2 95 2.5YR 2.5/3 5 С Μ Silt Loam 10YR 4/2 16-24 70 5YR 3/4 30 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 16 Remarks:

Project/Site: Emerald Sky Dairy	City/County: St. Cro	oix Sampling Date: 5/18/16
Applicant/Owner: Emerald Sky Dairy	State:	WI Sampling Point: W7-1u
Investigator(s): Tim King	Section	n, Township, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope	Local relief	f (concave, convex, none): Convex
Slope (%): 2-4 Lat.:	ong.: Da	itum:
Soil Map Unit NameMaB		NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	or this time of the year? Ye	
Are vegetation , soil , or hydrology		
Are vegetation , soil , or hydrology		
(If needed, explain any answers in remarks)		
(11 110 000 00, 00, 10, 10, 10, 10, 10, 1		
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? N	Is the sampled area v	vithin a wetland? N
Hydric soil present? N		
Indicators of wetland hydrology present? N	If yes, optional wetland	site ID:
Remarks: (Explain alternative procedures here or in a	a separate report.)	
Upland grassland. Cut/fill area. Also sample	e pt D3-1u	
γ		
HYDROLOGY		
		Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; chec	k all that apply)	required)
,	r-Stained Leaves (B9)	Surface Soil Cracks (B6)
	tic Fauna (B13)	Drainage Patterns (B10)
	Deposits (B15)	Moss Trim Lines (B16)
	ogen Sulfide Odor (C1)	Dry-Season Water Table (C2)
l 	zed Rhizospheres on Living	Crayfish Burrows (C8)
	s (C3)	Saturation Visible on Aerial Imagery
	ence of Reduced Iron (C4)	(C9)
	nt Iron Reduction in Tilled	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils		Geomorphic Position (D2)
	Muck Surface (C7)	Shallow Aquitard (D3)
<u> </u>	(Explain in Remarks)	FAC-Neutral Test (D5)
Surface (B8)		Microtopographic Relief (D4)
Field Observations:		
Surface water present? Yes No	X Depth (inches):	Indicators of
Water table present? Yes No	X Depth (inches):	wetland
Saturation present? Yes No	X Depth (inches):	hydrology
(includes capillary fringe)	Z Deptil (illelies).	present? N
(includes capillary filinge)		present: N
Describe recorded data (stream gauge, monitoring w	ell, aerial photos, previous ins	pections), if available:
, , , , , , , , , , , , , , , , , , ,	. , , , ,	,
Remarks:		

SOIL Sampling Point: W7-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 0-16 7.5YR 2.5/2 98 7.5YR 3/4 2 С Μ Silt Loam 16-20 10YR 4/3 80 7.5YR 4/6 20 С М Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 16 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/18/16</u>
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W7-1w
Investigator(s): Tim King		Section, Towns	hip, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	ocal relief (concav	re, convex, none): Concave
Slope (%): 0-2 Lat.: Lon	g.:	Datum:	-
Soil Map Unit NameMaB			/I Classification: Wet Symbol
Are climatic/hydrologic conditions of the site typical for t	his time of the yea	ar? Yes (If r	no, explain in remarks)
Are vegetation, soil, or hydrology	significant	tly disturbed?	Are "normal
Are vegetation , soil , or hydrology	naturally p	oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
II look for contain consult.			
Hydrophytic vegetation present?	is the sample	ed area within a v	wetland? Y
Hydric soil present? Y	l		
Indicators of wetland hydrology present? Y	If yes, optiona	al wetland site ID:	W7
Demandre /Fundain alternative agency durant have an in a			
Remarks: (Explain alternative procedures here or in a se	eparate report.)		
Wet meadow (W7 reference wetland area). N	ADW vd bannel	JR as watland t	too small to delineate on WWI
			too sinali to delineate on www.
Mapped by USDA as wetland on the FSA wet	iand inventory if	пар.	
HYDROLOGY			
		Sec	condary Indicators (minimum of two
Primary Indicators (minimum of one is required; check a	all that apply)		uired)
•	Stained Leaves (B9)		Surface Soil Cracks (B6)
	Fauna (B13)		Drainage Patterns (B10)
	posits (B15)		Moss Trim Lines (B16)
	en Sulfide Odor (C1)		Dry-Season Water Table (C2)
	d Rhizospheres on L		Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C	•		Saturation Visible on Aerial Imagery
X Algal Mat or Crust (B4) Presence	e of Reduced Iron ((C4)	(C9)
Iron Deposits (B5) Recent I	Iron Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (Co	6)	X	Geomorphic Position (D2)
Imagery (B7) Thin Mu	ck Surface (C7)	X	Shallow Aquitard (D3)
Sparsely Vegetated Concave Other (E	Explain in Remarks)	X	FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
·			
Field Observations:			
Surface water present? Yes No>			Indicators of
Water table present? Yes No			wetland
Saturation present? Yes X No	Depth (inches	s):0	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre	vious inspections), if available:
Remarks:			
ivernains.			

VEGETATION - Use scientific names of plants Sampling Point: W7-1w 50/20 Thresholds Indicator 50% Absolute Dominant 20% Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 1 3 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator Sapling/Shrub Dominant FACW, or FAC: Absolute Plot Size (15') % Cover Status Stratum Species Salix interior FACW **Prevalence Index Worksheet** 5 Total % Cover of: OBL species x 1 = **FACW** species 85 x 2 = FAC species 20 x 3 = 60 **FACU** species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 105 (A) 230 2.19 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status **Species** Phalaris arundinacea 80 **FACW** X Prevalence index is ≤3.0* Urtica dioica 20 FAC Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W7-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Loc** (Inches) Color (moist) % Type* % 0-6 10YR 2/1 90 2.5YR 2.5/3 10 С Μ Mucky Silt Loam 6-18 10YR 2/1 90 2.5YR 2.5/3 10 С М Silt Loam 18-24 7.5YR 4/6 20 Silt Clay Loam 10YR 5/2 60 С Μ 10YR 2/1 20 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) X Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? Y Type: Depth (inches): 18 Remarks: Soil undisturbed.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/18/16</u>	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	W7-2u
Investigator(s): Tim King		Section, Townsh	nip, Range: Sec 22, T30N, I	R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo	ocal relief (concave	e, convex, none): Convex	
Slope (%): 2-4 Lat.:	Long.:	Datum:		
Soil Map Unit NameSaB	<u> </u>	NWI	Classification: N/A	
Are climatic/hydrologic conditions of the site typica	I for this time of the yea	r? Yes (If no	o, explain in remarks)	
Are vegetation, soil, or hydrological and a second sec	ogysignificant	tly disturbed?	Are "normal	
Are vegetation, soil, or hydrological and a second control of the second con	ogy naturally p	problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS	1			1
Lhadranhatia ya gatatian mraant?	le the comple		retiem dO N	
Hydrophytic vegetation present? Hydric soil present? N	- is the sample	ed area within a w	retland? N	
	- 1	1 1 - 2 - 1 D		
Indicators of wetland hydrology present? N	- If yes, optiona	I wetland site ID: _		
Remarks: (Explain alternative procedures here or i	n a senarate renort)			
Themaiks. (Explain alternative procedures here of t	ir a separate report.)			
Upland grassland. Historic cut/fill area.				
HYDROLOGY				
		Seco	ondary Indicators (minimum	of two
Primary Indicators (minimum of one is required; ch			iired)	
	ater-Stained Leaves (B9)		Surface Soil Cracks (B6)	
l 	Aquatic Fauna (B13)		Drainage Patterns (B10)	
l ——	rl Deposits (B15)		Moss Trim Lines (B16)	
	drogen Sulfide Odor (C1)		Dry-Season Water Table (C2	2)
	idized Rhizospheres on I		Crayfish Burrows (C8)	
l — ' ' ' ' — — — — — — — — — — — — — —	Roots (C3)		Saturation Visible on Aerial Ir	magery
	esence of Reduced Iron ((C9)	
	cent Iron Reduction in Ti		Stunted or Stressed Plants (I	01)
	ils (C6)		Geomorphic Position (D2)	
	in Muck Surface (C7)		Shallow Aquitard (D3)	
. , , , , , , , , , , , , , , , , , , ,	ner (Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)		'	Microtopographic Relief (D4)	
Field Observations:		1		
Field Observations:	V Donth (inches	۸.	Indicators of	
Surface water present? Yes No Water table present? Yes No	X Depth (inches Depth (inches		Indicators of wetland	
	X Depth (inches			
Saturation present? Yes No	Depth (inches	·):	hydrology	
(includes capillary fringe)			present? N	
Describe recorded data (stream gauge, monitoring	well aerial photos pre	vious inspections)	if available:	
Describe recorded data (stream gauge, monitoring	well, aeriai priotos, pre	vious irispections),	, ii avaiiabi c .	
Remarks:				

SOIL Sampling Point: W7-2u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-12 7.5YR 3/3 Silt Loam 12-20 10YR 4/3 80 7.5YR 4/6 20 С Μ Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/18/16</u>
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W7-2w
Investigator(s): Tim King		Section, Townshi	p, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope	Lo	ocal relief (concave,	convex, none): Concave
Slope (%): 0-2 Lat.:	Long.:	Datum:	
Soil Map Unit NameMaB	_		Classification: Wet Symbol
Are climatic/hydrologic conditions of the site typic	cal for this time of the yea	r? Yes (If no.	, explain in remarks)
Are vegetation , soil , or hydro	ology significant	tly disturbed?	Are "normal
Are vegetation , soil , or hydro		oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	Is the sample	ed area within a we	etland? Y
Hydric soil present? Y	_		
Indicators of wetland hydrology present? Y	If yes, optiona	l wetland site ID:	W7
Remarks: (Explain alternative procedures here or in a separate report.)			
Formed wetland/wat manday. Historia aut/fill area. Mannad by WDND as wetland too small to delineate an			
Farmed wetland/wet meadow. Historic cut/fill area. Mapped by WDNR as wetland too small to delineate on			
WWI.			
HYDROLOGY			
		Seco	ndary Indicators (minimum of two
Primary Indicators (minimum of one is required;	check all that apply)	requii	
, , ,	Water-Stained Leaves (B9)	•	urface Soil Cracks (B6)
	Aquatic Fauna (B13)		rainage Patterns (B10)
	Marl Deposits (B15)		loss Trim Lines (B16)
	Hydrogen Sulfide Odor (C1)		ry-Season Water Table (C2)
<u> </u>	Oxidized Rhizospheres on L		rayfish Burrows (C8)
	Roots (C3)		aturation Visible on Aerial Imagery
	Presence of Reduced Iron (C9)
	Recent Iron Reduction in Ti		tunted or Stressed Plants (D1)
	Soils (C6)		seomorphic Position (D2)
	Thin Muck Surface (C7)		hallow Aquitard (D3)
	Other (Explain in Remarks)		AC-Neutral Test (D5)
Surface (B8)	(=)		licrotopographic Relief (D4)
		 "	norotopograpino i tono: (2 i)
Field Observations:			
Surface water present? Yes No	X Depth (inches	s):	Indicators of
Water table present? Yes No			wetland
Saturation present? Yes No	X Depth (inches	s):	hydrology
(includes capillary fringe)			present? Y
			<u> </u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:			
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W7-2w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 53 21 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Sapling/Shrub Dominant Indicator FACW, or FAC: Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 10 x 2 = 20 FAC species 60 x 3 = 180 **FACU** species 35 x 4 = 140 UPL species 0 x 5 = 0 Column totals 105 (A) 340 3.24 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status X Dominance test is >50% Species 60 FAC Prevalence index is ≤3.0* Rumex crispus Taraxacum officinale FACU 20 Ν Morphogical adaptations* (provide Phalaris arundinacea 10 Ν **FACW** supporting data in Remarks or on a FACU Elymus repens 10 Ν separate sheet) FACU Problematic hydrophytic vegetation* Lolium perenne (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 105 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: W7-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Type* Loc** (Inches) Color (moist) % Color (moist) % 0-12 10YR 2/2 90 5YR 3/4 10 С Μ Silt Loam 10YR 4/2 12-24 70 7.5YR 4/6 30 С М Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) X Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Level to Ger Slope (%): 0-2 Lat.: Soil Map Unit NameMaB Are climatic/hydrologic conditions of the site typi Are vegetation X , soil X , or hydr Are vegetation , soil , or hydr (If needed, explain any answers in remarks)	ntly Sloping Loc Long.: ical for this time of the year' rology X significantly	y disturbed? Are "normal
SUMMARY OF FINDINGS		
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here of	If yes, optional or in a separate report.)	d area within a wetland? N N wetland site ID:
Mapped by WDNR as E1K wetland on USDA as wetland (W) on FSA wetland	WWI, mapped by NRC	eations Data Form 3. Historic filled wetland. S as a wet spot on soil survey, and mapped by
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)	check all that apply) Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Li Roots (C3) Presence of Reduced Iron (C Recent Iron Reduction in Tille Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)	Saturation Visible on Aerial Imagery (C9)
Field Observations: Surface water present? Yes New New Yes Saturation present? Yes New Yes (includes capillary fringe)	o X Depth (inches): O X Depth (inches):	wetland hydrology present? N
Describe recorded data (stream gauge, monitori Remarks: Placement of 6 to 7 feet of fill in wetland		

	30 30101111101	iamoo or pie				50/20 Thresholds	•
Tree Stratum	Plot Size (30')	Absolute % Cover	Dominant Species	Indicator Status	20% 50% Tree Stratum 0 0	6
1			_			Sapling/Shrub Stratum 0 0	
2						Herb Stratum 20 50	
3						Woody Vine Stratum 0 0	
5						Dominance Test Worksheet	
6						Number of Dominant	
7			_			Species that are OBL,	• `
8							A)
9 10						Total Number of Dominant Species Across all Strata: 4 (I	В)
10			0	= Total Cover			D)
				= 10tai 00vci		Percent of Dominant Species that are OBL,	
Sapling/Shrub			Absolute	Dominant	Indicator	FACW, or FAC: 25.00% (A	Δ/R)
Stratum	Plot Size (15')	% Cover	Species	Status	1716W, 611716.	(12)
1						Prevalence Index Worksheet	
2						Total % Cover of:	
3						OBL species $0 \times 1 = 0$	
4						FACW species 0 x 2 = 0	
6						FAC species 25 x 3 = 75 FACU species 75 x 4 = 300	
7						UPL species 0 x 5 = 0	
8						Column totals 100 (A) 375 (I	B)
9						Prevalence Index = $B/A = 3.75$	-,
10							
			0	= Total Cover		Hydrophytic Vegetation Indicators:	
Llaub Otaataan	Dist 0: /	5 ! \	Absolute	Dominant	Indicator	Rapid test for hydrophytic vegetation	
Herb Stratum	Plot Size (5')	% Cover	Species	Status	Dominance test is >50%	
1 Trifolium pratei			20	<u> </u>	FACU	Prevalence index is ≤3.0*	
2 Rumex crispus			20	Y	FAC	Morphogical adaptations* (provide	
3 Taraxacum offi			20	<u>Y</u>	FACU	supporting data in Remarks or on a	
4 Elymus repens 5 Dactvlis glome			<u>20</u> 10	Y N	FACU FACU	separate sheet)	
5 <u>Dactylis glome</u> 6 Alopecurus pra			5	N	FAC	Problematic hydrophytic vegetation* (explain)	
7 Lolium perenne			5	N	FACU	*Indicators of hydric soil and wetland hydrology mu	ot bo
8						present, unless disturbed or problematic	st be
9						Definitions of Vegetation Strata:	
11							
12 13						Tree - Woody plants 3 in. (7.6 cm) or more in diam breast height (DBH), regardless of height.	ieter at
14						Sapling/shrub - Woody plants less than 3 in. DBH	l and
15			400	Total Carre		greater than 3.28 ft (1 m) tall.	
			100	= Total Cover		Herb - All herbaceous (non-woody) plants, regardle	ess of
Woody Vine	Plot Size ()	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.	
Stratum	1 101 0120 (,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 f	t in
1 2						height.	
3							
4						Hydrophytic	
5				Total Cava		vegetation	
			0	= Total Cover		present? N	
Remarks: (Include ph						•	
Historic fill area.	Likely conve	rted from we	et meadow we	tland to uplan	nd grass/forb	community. See attached data form 3	3.

SOIL Sampling Point: W8-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-80 5YR 3/4 100 Sandy Loam Fill 80-90 10YR 2/1 90 5YR 3/4 5 С Μ Silt Loam 10YR 4/1 5 D Μ Silt Loam 90-100 10YR 4/1 60 7.5YR 4/6 40 С Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks: Approx. 6.7 feet of fill was placed over original surface in 2005 or 2006. A backhoe was used to excavate 8+ feet to examine original soil, which was found at a depth of 80 inches and confirmed to be a buried hydric soil. See attached data form 3.

DATA FORM 3 ATYPICAL SITUATIONS

Applica Name:	ant Emerald Sky Dairy	Project Name: Emerald Sky I	Dairy	Application No.:
Locatio	on: St. Croix County, WI	Sample Point: W8-1w	Date: 5/18/16	By: Tim K.
Α.	VEGETATION:			
	1. Type of Alteration: Wetland 2005 or 2006, based on review		pproximately 6.7	feet of fill in
	2. Effect on Vegetation: Convergrass/forb community.	rted from emergent wet	meadow wetland	to upland
	3. Previous Vegetation: Previous and stinging nettle (see reference as E1K wetland on WWI. Map	ce wetland 7, sample poi	nt W7-1w). Map	ped by WDNR
	4. Hydrophytic Vegetation?	Yes_ <u>X</u>	No	
В.	SOILS:			
	1. Type of Alteration: Original	ground surface covered	by approximately	6.7 feet of fill.
	2. Effect on Soils: Converted fr are sandy loam and rock with n	•		Feet of fill soils
	3. Previous Soils: Buried hydric indicators of the buried soils ince Refer to soil profile description wetland data form W7-1w. Ma	clude redox dark surface on data form W8-1w an	(F6) and depletend also the adjace	ed matrix (F3).
	4. Hydric Soils?	Yes_X_	No	
C.	HYDROLOGY:			
	1. Type of Alteration: Approx. eliminated wetland hydrology.	6.7 feet of fill placed ov	er original wetlar	nd surface
	2. Effect on Hydrology: Conver	rted from saturated hydr	ologic regime to	no wetland
	3. Previous Hydrology: Saturate	ed soil (refer to reference	e wetland W7-1w	v)
	4. Wetland Hydrology?	Yes_X_	No	

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Side Slope/Berm Slope (%): 6-12 Lat.: Lo Soil Map Unit NameAmC2 Are climatic/hydrologic conditions of the site typical for Are vegetation , soil , or hydrology Are vegetation , soil , or hydrology (If needed, explain any answers in remarks)	ng.: this time of the yea	Datum: Datum: NWI Ar? Yes (If not the disturbed)	Sampling Date: 5/18/16 Sampling Point: W9-1u ip, Range: Sec 22, T30N, R16W convex, none): Convex Classification: N/A o, explain in remarks) Are "normal circumstances" present? Yes
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a second content of the content of th	If yes, optiona	ed area within a wall wetland site ID:	etland? N
Upland grass berm.			
High Water Table (A2) Saturation (A3) Water Marks (B1) Sediment Deposits (B2) Drift Deposits (B3) Algal Mat or Crust (B4) Iron Deposits (B5) Aquatic Marl De Marl De Marl De Morities Morities Marl De Morities Marl De Morities	Stained Leaves (B9) c Fauna (B13) eposits (B15) een Sulfide Odor (C1 ed Rhizospheres on (C3) ce of Reduced Iron Iron Reduction in Ti	requi	Gurface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery C9) Stunted or Stressed Plants (D1)
	C6) uck Surface (C7) Explain in Remarks)		Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Water table present? Yes No	X Depth (inches X Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N
Describe recorded data (stream gauge, monitoring wel	l, aerial photos, pre	evious inspections),	if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: W9-1u 50/20 Thresholds Absolute Dominant Indicator 20% 50% Tree Stratum Plot Size (30' Status % Cover Species Tree Stratum 0 1 20 Acer negundo 2 FAC Sapling/Shrub Stratum 8 Herb Stratum 20 50 Woody Vine Stratum 0 Dominance Test Worksheet **Number of Dominant** Species that are OBL, FACW, or FAC: (A) Total Number of Dominant Species Across all Strata: 10 (B) = Total Cover Percent of Dominant Species that are OBL, 0.0<u>0%</u> (A/B) Sapling/Shrub FACW, or FAC: Absolute Dominant Indicator Plot Size (15') Stratum % Cover Species Status Rhus hirta 40 UPL **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = 0 FAC species 2 x 3 = 6 FACU species 75 x 4 = 300 UPL species 65 x 5 = 325 631 (B) 4.44

8 9 10		Column totals 142 (A) 631 (B) Prevalence Index = B/A = 4.44
	40 = Total Cover	
Herb Stratum Plot Size (5') 1 Poa pratensis 2 Bromus inermis 3 Cirsium arvense 4 Taraxacum officinale 5 6 7 8 9	Absolute Dominant Species 50 Y 25 Y 20 Y 5 N	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation Dominance test is >50% Prevalence index is ≤3.0* Morphogical 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
10 11 12 13		Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
15	Total Course	Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Plot Size () 1 2	Absolute Dominant Species	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
3 4 5	0 = Total Cover	Hydrophytic vegetation present?

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

SOIL Sampling Point: W9-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Type* Loc** (Inches) Color (moist) % % 0-16 10YR 2/2 100 Silt Loam 16-20 7.5YR 3/3 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/18/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: W9-1w
Investigator(s): Tim King			wnship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Swale	Lc	ocal relief (con	ncave, convex, none): Concave
Slope (%): 0-2 Lat.: Long	j.:	Datum:	
Soil Map Unit Name AmC2/SaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for the	•		(If no, explain in remarks)
Are vegetation, soil, or hydrology		ly disturbed?	Are "normal
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? Y	Is the sample	ad area within	n a wetland?
Hydric soil present?	is the sample	a area within	Ta Wettand:
Indicators of wetland hydrology present?	If yes, optiona	l wetland site	ID: W9
indicators of welland hydrology procent:	ii yoo, opiiona	ii wellana ollo	
Remarks: (Explain alternative procedures here or in a se	parate report.)		
Wet meadow.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check al	11.7/		required)
	ained Leaves (B9)		Surface Soil Cracks (B6)
	auna (B13)		X Drainage Patterns (B10)
	osits (B15)		Moss Trim Lines (B16)
	Sulfide Odor (C1)		Dry-Season Water Table (C2)
	Rhizospheres on L	Living	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C	,	· · · · · · · · · · · · · · · · · · ·	Saturation Visible on Aerial Imagery
	e of Reduced Iron ((C9)
	on Reduction in Ti	lled .	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C6			X Geomorphic Position (D2)
	k Surface (C7)		Shallow Aquitard (D3)
<u> </u>	kplain in Remarks)		X FAC-Neutral Test (D5)
Surface (B8)		-	Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes No X	Depth (inches):	Indicators of
Water table present? Yes X No	Depth (inches		wetland
Saturation present? Yes X No	Depth (inches		hydrology
(includes capillary fringe)		, <u> </u>	present? Y
, , , ,			· —
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre	vious inspecti	ons), if available:
Domarka			
Remarks:			

	lse scientific r	iames or p	Diants			Sampling Point: W9-1w
Tree Stratum Acer negundo 2	Plot Size (30'	Absolute % Cover 5	Dominant Species Y	Indicator Status FAC	50/20 Thresholds 20% 50% Tree Stratum 1 3 Sapling/Shrub Stratum 0 0 Herb Stratum 20 50 Woody Vine Stratum 0 0
Sapling/Shrub	Diet Cire /	45'	Absolute	= Total Cover	Indicator	Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: Total Number of Dominant Species Across all Strata: Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)
Stratum 2 2 3 4 5 6 7 7 8 9 9	Plot Size (15'	% Cover	Species	Status	Prevalence Index Worksheet Total % Cover of: 0BL species 10 x 1 = 10 FACW species 80 x 2 = 160 FAC species 10 x 3 = 30 FACU species 5 x 4 = 20 UPL species 0 x 5 = 0 Column totals 105 (A) 220 (B) Prevalence Index = B/A = 2.10
Herb Stratum Phalaris arundle Carex stricta Barbarea vulga Poa pratensis Carex stricta Barbarea vulga Carex stricta Barbarea vulga Carex stricta Carex st		5'	0 Absolute % Cover 80 10 5 5	Dominant Species Y N N	Indicator Status FACW OBL FAC FACU	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation Dominance test is >50% Prevalence index is ≤3.0* Morphogical 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
Woody Vine Stratum	Plot Size (100 Absolute % Cover	= Total Cover Dominant Species	Indicator Status	Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diamete breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH an greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
1				= Total Cover		Hydrophytic vegetation present? Y

SOIL Sampling Point: W9-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Remarks Texture Color (moist) Loc** (Inches) Color (moist) % Type* % 0-8 10YR 2/1 95 2.5YR 2.5/3 5 С Μ Mucky Silt Loam 2.5YR 2.5/3 8-24 10YR 2/1 95 5 С М Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks:

Soil Map Unit Name FnB Are climatic/hydrologic conditions of the site typical for Are vegetation, soil, or hydrology Are vegetation, soil, or hydrology (If needed, explain any answers in remarks)	ng.: this time of the yea	ocal relief (concave Datum: NWI ar? Yes (If no	Sampling Date: 5/4/16 Sampling Point: D1-1u ip, Range: Sec 22, T30N, R16W c, convex, none): Convex Classification: N/A p, explain in remarks) Are "normal circumstances" present? Yes
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a Grassland on side slope of ditch near edge of	If yes, optiona separate report.)	ed area within a wo	etland? N
HYDROLOGY			
Primary Indicators (minimum of one is required; check Surface Water (A1) Water-High Water Table (A2) Aquation (A3) Marl D Water Marks (B1) Hydrog Sediment Deposits (B2) Oxidize Drift Deposits (B3) Roots Algal Mat or Crust (B4) Preser Iron Deposits (B5) Recent Inundation Visible on Aerial Imagery (B7) Thin M Sparsely Vegetated Concave Surface (B8)	Stained Leaves (B9) c Fauna (B13) eposits (B15) gen Sulfide Odor (C1 ed Rhizospheres on (C3) nce of Reduced Iron t Iron Reduction in Ti	requi)	ondary Indicators (minimum of two ired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery (C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches X Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N
Describe recorded data (stream gauge, monitoring we	l, aerial photos, pre	evious inspections),	if available:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: D1-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 53 21 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Dominant Indicator FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 95 x 4 = 380 UPL species 10 x 5 = 50 Column totals 105 (A) 430 4.10 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 70 FACU Prevalence index is ≤3.0* Poa pratensis FACU Elvmus repens 10 Ν Morphogical adaptations* (provide Bromus inermis 5 Ν UPL supporting data in Remarks or on a FACU Taraxacum officinale 5 Ν separate sheet) Solidago canadensis Ν FACU Problematic hydrophytic vegetation* 5 Asclepias syriaca 5 N UPL 6 (explain) Cirsium arvense FACU 5 *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 105 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation

= Total Cover

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

Ν

present?

SOIL Sampling Point: D1-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 100 0-10 10YR 3/2 Silt Loam 5YR 3/4 10-20 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/4/16</u>	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	D1-1w
Investigator(s): Tim King		Section, Towns	ship, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Toe Slope/Ditch	Lo	cal relief (conca	ve, convex, none): Concar	ve
Slope (%): <u>0-2</u> Lat.: Lon	g.:	Datum:	-	
Soil Map Unit NameFnB			VI Classification: N/A	
Are climatic/hydrologic conditions of the site typical for t			no, explain in remarks)	
Are vegetation X, soil X, or hydrology		ly disturbed?	Are "normal	
Are vegetation , soil , or hydrology	naturally p	roblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
SOWIWART OF FINDINGS				
Hydrophytic vegetation present?	is the sample	ed area within a	wetland?	
Hydric soil present?	is the sample	a area within a		-
Indicators of wetland hydrology present?	If was antiona	I wetland site ID:	: D1	
indicators of wetland flydrology present:	ii yes, optiona	i welland site ib.		
Remarks: (Explain alternative procedures here or in a se	eparate report.)			
(=· -·				
Wet meadow in man-made ditch, drains south	to stormwater	pond. Potentia	al exempt artificial wetlar	nd under
NR 103.06(4). Refer to WDNR guidance for s		•	•	
gg	,			
HYDROLOGY				
			condary Indicators (minimur	n of two
Primary Indicators (minimum of one is required; check a	11.7/	rec	quired)	
<u> </u>	tained Leaves (B9)		Surface Soil Cracks (B6)	
	Fauna (B13)	<u>X</u>	Drainage Patterns (B10)	
	posits (B15)		Moss Trim Lines (B16)	
	n Sulfide Odor (C1)		_ Dry-Season Water Table (C	2)
	Rhizospheres on L	_iving	Crayfish Burrows (C8)	
Drift Deposits (B3) Roots (C	,		_Saturation Visible on Aerial I	magery
	e of Reduced Iron (_(C9)	D4)
	ron Reduction in Ti		Stunted or Stressed Plants ((וט
Inundation Visible on Aerial Soils (Ci			Geomorphic Position (D2) Shallow Aquitard (D3)	
	ck Surface (C7) xplain in Remarks)		FAC-Neutral Test (D5)	
Sparsely Vegetated Concave Other (E Surface (B8)	.xpiaiii iii iteiliaiks)	_^	Microtopographic Relief (D4)	\
Surface (Bo)			_ Wild otopographic Relief (D4))
Field Observations:				
Surface water present? Yes X No	Depth (inches): 2	Indicators of	
Water table present? Yes X No	Depth (inches		wetland	
Saturation present? Yes X No	Depth (inches		hydrology	
(includes capillary fringe)		·	present? Y	
, , , , ,				_
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre-	vious inspections	s), if available:	
Barrella.				
Remarks:				
Saturated at sample point. Surface water pres	sent in ditch cha	nnel.		

VEGETATION - Use scientific names of plants Sampling Point: D1-1w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 45 18 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator FACW, or FAC: Sapling/Shrub Dominant Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 90 x 2 = FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 180 90 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator X Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% Status % Cover Species Phalaris arundinacea 90 Υ FACW X Prevalence index is ≤3.0* Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 90 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: D1-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Type* Loc** (Inches) Color (moist) % Color (moist) % 0-10 10YR 3/2 90 5YR 3/4 10 С Mucky Silt Loam 5YR 4/4 10-20 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Excavated ditch

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/4/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: D2-1u
Investigator(s): Tim King			p, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope		·	convex, none): Convex
	_ong.:	Datum:	
Soil Map Unit Name SaB			Classification: N/A
Are climatic/hydrologic conditions of the site typical f			, explain in remarks)
Are vegetation, soil, or hydrolog	ysignifican	tly disturbed?	Are "normal
	ynaturally p	oroblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? N	Is the sample	ed area within a we	etland? N
Hydric soil present? N			
Indicators of wetland hydrology present? N	If yes, optiona	al wetland site ID:	
Remarks: (Explain alternative procedures here or in	a separate report.)		
Upland grassland/pasture.			
HYDROLOGY			
		Secor	ndary Indicators (minimum of two
Primary Indicators (minimum of one is required; che	ck all that apply)	requir	
	er-Stained Leaves (B9)	·	urface Soil Cracks (B6)
High Water Table (A2) Aqua	atic Fauna (B13)		rainage Patterns (B10)
l ——	Deposits (B15)		loss Trim Lines (B16)
	ogen Sulfide Odor (C1		ry-Season Water Table (C2)
	ized Rhizospheres on	· —	rayfish Burrows (C8)
	s (C3)		aturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Pres	ence of Reduced Iron		C9)
Iron Deposits (B5)	ent Iron Reduction in T	illed S	tunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils	(C6)	 G	eomorphic Position (D2)
Imagery (B7) Thin	Muck Surface (C7)	s	hallow Aquitard (D3)
Sparsely Vegetated Concave Othe	r (Explain in Remarks)	F	AC-Neutral Test (D5)
Surface (B8)		M	licrotopographic Relief (D4)
		<u> </u>	
Field Observations:			
Surface water present? Yes No	X Depth (inches		Indicators of
Water table present? Yes No	X Depth (inches		wetland
Saturation present? Yes No	X Depth (inches	s):	hydrology
(includes capillary fringe)			present? N
Describe recorded data (stress and stress are stress and stress are stress ar	all and other	odana dalah sebesa XII	Y available.
Describe recorded data (stream gauge, monitoring v	eii, aeriai photos, pre	evious inspections), i	ır avalladle:
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: D2-1u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ 100 x 4 = FACU species 400 0 x 5 = UPL species 0 Column totals 400 100 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Taraxacum officinale 40 FACU Prevalence index is ≤3.0* FACU Poa pratensis 30 Morphogical adaptations* (provide Elymus repens 20 FACU supporting data in Remarks or on a FACU Trifolium pratense 10 Ν separate sheet) Problematic hydrophytic vegetation* (explain) 6 *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: D2-1u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 100 0-16 10YR 3/2 Silt Loam 16-20 7.5YR 4/4 100 Silt Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County: St. Croix Sampling Date: 5/4/16
Applicant/Owner: Emerald Sky Dairy	State: WI Sampling Point: D2-1w
Investigator(s): Tim King	Section, Township, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Ditch	Local relief (concave, convex, none): Concave
Slope (%): 0-2 Lat.: Lor	ng.: Datum:
Soil Map Unit Name FnB	NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	
Are vegetation, soil, or hydrology	significantly disturbed? Are "normal
Are vegetation , soil , or hydrology	naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)	
SUMMARY OF FINDINGS	
Hydrophytic vegetation present? Y	Is the sampled area within a wetland?
Hydric soil present?	
Indicators of wetland hydrology present?	If yes, optional wetland site ID: D2
indicators of wetland hydrology present:	ii yes, optional wetland site ib.
Remarks: (Explain alternative procedures here or in a s	Lenarate report)
·	
	e, drains SE to stormwater pond. Potential exempt artificial
wetland under NR 103.06(4). Refer to WDNR	guidance for specific exemption determination procedures.
Other segments of ditch D2 may have wetlan	d history to the west and north of the barn and cut/fill area.
,	·
HYDROLOGY	
	Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	
,	11.37
	Stained Leaves (B9) Surface Soil Cracks (B6) Fauna (B13) X Drainage Patterns (B10)
	posits (B15) Moss Trim Lines (B16) — Res Green Wilder Table (CC)
	en Sulfide Odor (C1) Dry-Season Water Table (C2)
	d Rhizospheres on Living Crayfish Burrows (C8)
Drift Deposits (B3) Roots (
	ce of Reduced Iron (C4)(C9)
	Iron Reduction in Tilled Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C	
<u> </u>	uck Surface (C7) Shallow Aquitard (D3)
<u> </u>	Explain in Remarks) X FAC-Neutral Test (D5)
Surface (B8)	Microtopographic Relief (D4)
FillOlining	
Field Observations:	
Surface water present? Yes X No	Depth (inches): 2 Indicators of
Water table present? Yes X No	Depth (inches): 4 wetland
Saturation present? Yes X No	Depth (inches):0 hydrology
(includes capillary fringe)	present? Y
Describe recorded data (stream gauge, monitoring well	, aerial photos, previous inspections), if available:
B 1	
Remarks:	
Saturated at sample point. Surface water pre	sent in ditch channel. Altered drainage patterns.

US Army Corps of Engineers

SOIL Sampling Point: D2-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Color (moist) Type* Loc** (Inches) % % 0-8 7.5YR 3/2 98 2.5YR 2.5/3 2 С Μ Mucky Silt Loam 8-16 7.5YR 3/2 100 Silt Loam 100 Sandy Loam 16-20 7.5YR 3/3 Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) X (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Excavated ditch with berm on the south side.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/17/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: D2-2u
Investigator(s): Tim King		_	ship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Side Slope	Lo		ve, convex, none): Convex
	ong.:	Datum:	
Soil Map Unit Name MaB	9.:		VI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	r this time of the vea		no, explain in remarks)
Are vegetation , soil X , or hydrology		tly disturbed?	Are "normal
Are vegetation , soil , or hydrology		problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)	, -		0110d1110d11000 p.1000.11.
(ii Hooded, explain any aneners in terrains)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? N	Is the sample	ed area within a	wetland?
Hydric soil present?			
Indicators of wetland hydrology present?	If yes ontiona	l wetland site ID:	
indicators of wettand flydrology prosont:	ii yes, optiona	II Welland Site ib.	·
Remarks: (Explain alternative procedures here or in a	separate report.)		
	oopa.a.o,		
		. /2111	
Upland grassland on side slope of man-mad	le ditch at edge o	f cut/fill area.	
HYDROLOGY			
		Se	condary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		quired)
, , , , , , , , , , , , , , , , , , , ,	-Stained Leaves (B9)		Surface Soil Cracks (B6)
	c Fauna (B13)		Drainage Patterns (B10)
	eposits (B15)		Moss Trim Lines (B16)
	gen Sulfide Odor (C1)	<u> </u>	Dry-Season Water Table (C2)
l 	ed Rhizospheres on I		Crayfish Burrows (C8)
Drift Deposits (B3) Roots			Saturation Visible on Aerial Imagery
	nce of Reduced Iron ((C4)	(C9)
	t Iron Reduction in Ti		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (Geomorphic Position (D2)
,	luck Surface (C7)		Shallow Aquitard (D3)
	(Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)	(Explain in Nomano)		Microtopographic Relief (D4)
Gunace (Bo)			_ Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes No	X Depth (inches):	Indicators of
Water table present? Yes No	X Depth (inches		wetland
Saturation present? Yes No	X Depth (inches		hydrology
(includes capillary fringe)	Dopan (monoc	,· <u> </u>	present? N
(morado capillary milgo)			<u> </u>
Describe recorded data (stream gauge, monitoring we	II. aerial photos, pre	vious inspections	s), if available:
2000o .ooo.aoa aata (o.oo gaago,ogo	, aona. priotos, pro		, avaaz.e.
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: D2-2u 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 51 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Dominant Indicator FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 2 x 2 = 4 FAC species 0 x 3 = Λ FACU species 95 x 4 = 380 5 x 5 = UPL species 25 Column totals 409 102 (A) 4.01 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 70 FACU Prevalence index is ≤3.0* Poa pratensis FACU Phleum pratense 10 Ν Morphogical adaptations* (provide Elymus repens 10 Ν FACU supporting data in Remarks or on a Bromus inermis 5 Ν UPL separate sheet) FACU 5 Ν Problematic hydrophytic vegetation* Taraxacum officinale Phalaris arundinacea 2 FACW 6 (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 102 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in

= Total Cover

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

Ν

height.

Hydrophytic vegetation

present?

SOIL Sampling Point: D2-2u Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-14 5YR 3/4 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Rocky fill material; boring refusal on rock.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/17/16
Applicant/Owner: Emerald Sky Dairy		State: \	WI Sampling Point: D2-2w
Investigator(s): Tim King		Section,	Township, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Ditch	Lo	ocal relief (concave, convex, none): Concave
Slope (%): 0-2 Lat.: Lo	ng.:	Datu	ım:
Soil Map Unit NameMaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	this time of the year	ar? Yes	(If no, explain in remarks)
Are vegetation , soil X , or hydrology		tly disturbe	
Are vegetation , soil , or hydrology		oroblematic	
(If needed, explain any answers in remarks)			•
(
SUMMARY OF FINDINGS			
Hydrophytic vegetation present?	Is the sample	ed area wit	thin a wetland?
Hydric soil present?			
Indicators of wetland hydrology present?	If yes, optiona	al watland s	site ID: D2
indicators of wetland hydrology present:	li yes, optiona	ai welland s	Bile ID. DZ
Remarks: (Explain alternative procedures here or in a	L senarate report)		
Difficult wetland situation - problematic hydric	•		
exempt artificial wetland under NR 103.06(4)	. Refer to WDNF	R guidanc	ce for specific exemption determination
procedures. Part of D2 may have wetland his	story to the west	and north	١.
· · · · · · · · · · · · · · · · · · ·			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
	Stained Leaves (B9)		Surface Soil Cracks (B6)
	c Fauna (B13)		X Drainage Patterns (B10)
	eposits (B15)	\	Moss Trim Lines (B16)
	gen Sulfide Odor (C1)		Dry-Season Water Table (C2)
	ed Rhizospheres on Living Crayfish Burrows (C8)		
Drift Deposits (B3) Roots	• •	(0.4)	Saturation Visible on Aerial Imagery
	nce of Reduced Iron ((C9)
	t Iron Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (X Geomorphic Position (D2)
	luck Surface (C7)		X Shallow Aquitard (D3)
<u> </u>	(Explain in Remarks)		X FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations			
Field Observations:	Death Control	\ 4	In Protons of
Surface water present? Yes X No	Depth (inches		Indicators of
Water table present? Yes X No	Depth (inches		wetland
Saturation present? Yes X No	Depth (inches	s):0	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitoring we	I, aerial photos, pre	evious inspe	ections), if available:
Remarks:			
	ditab abassal Ali	torod dra:	inaga nattarna
Saturated at sample point. Surface water in o	anch channel. Alt	iered drai	mage patterns.

VEGETATION - Use scientific names of plants Sampling Point: D2-2w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover Species Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 45 18 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator FACW, or FAC: Sapling/Shrub Dominant Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 90 x 2 = FAC species 0 x 3 = 0 FACU species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 180 90 (A) Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator X Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% Status % Cover Species Phalaris arundinacea 90 Υ FACW X Prevalence index is ≤3.0* Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 90 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: D2-2w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 0-1 10YR 2/2 100 Organic matter 1-12 5YR 3/4 100 Sandy Loam 12-20 5YR 3/4 5YR 4/6 С 95 5 Μ Sandy Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Sandy Clay Loam Hydric soil present? Y Type: Depth (inches): 12 Remarks: Problematic hydric soils-recently developed wetland. Excavated, man-made drainage ditch - soil considered to be hydric.

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Toe Slope/Ditch Slope (%): 0-2	ng.: this time of the yea	Datum: Datum: NWI	Sampling Date: 5/18/16 Sampling Point: D3-1w ip, Range: Sec 22, T30N, R16W c, convex, none): Concave Classification: N/A p, explain in remarks) Are "normal circumstances" present? Yes			
SUMMARY OF FINDINGS	Ι					
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Y Page 1/2 (Explain alternative presedures here or in a general presedure of the presedure of t	If yes, optiona	Is the sampled area within a wetland? If yes, optional wetland site ID: D3				
Remarks: (Explain alternative procedures here or in a separate report.) Wet meadow in drainage ditch. Ditch likely has wetland history and is connected to wetlands W6 & W7.						
HYDROLOGY						
Primary Indicators (minimum of one is required; check at X Surface Water (A1) Water-S X High Water Table (A2) Aquatic X Saturation (A3) Marl De Water Marks (B1) Hydroge Sediment Deposits (B2) Oxidizer Drift Deposits (B3) Roots (Indicated Present Inundation Visible on Aerial Imagery (B7) Thin Muser Surface (B8)	Stained Leaves (B9) Fauna (B13) Posits (B15) en Sulfide Odor (C1 d Rhizospheres on C3) ce of Reduced Iron Iron Reduction in Ti	requi	ondary Indicators (minimum of two ired) Surface Soil Cracks (B6) Drainage Patterns (B10) Moss Trim Lines (B16) Dry-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes X No Water table present? Yes X No Saturation present? Yes X No (includes capillary fringe)	Depth (inches Depth (inches Depth (inches	s): 0 0	Indicators of wetland hydrology present?			
Describe recorded data (stream gauge, monitoring well	, aerial photos, pre	vious inspections),	if available:			
Remarks: Saturated at sample point. Surface water in d	itch channel.					

VEGETATION - Use scientific names of plants Sampling Point: D3-1w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Sapling/Shrub Dominant Indicator FACW, or FAC: Absolute Plot Size (15') Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species $0 \times 1 =$ **FACW** species 20 x 2 = 40 FAC species 80 x 3 = 240 **FACU** species 0 x 4 = 0 UPL species 0 x 5 = 0 Column totals 100 (A) 280 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status Species 70 FAC X Prevalence index is ≤3.0* Urtica dioica FACW Phalaris arundinacea 20 Morphogical adaptations* (provide Ambrosia trifida 10 FAC 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size () Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet) Giant ragweed (Ambrosia trifida) also present (dominant in 2015). See adjacent upland sample point W7-1u/D3-1u

SOIL Sampling Point: D3-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Loc** (Inches) Color (moist) % Type* % 0-8 10YR 2/2 95 2.5YR 2.5/3 5 С Μ Mucky Silt Loam 8-16 10YR 4/1 80 5R 3/4 20 С М Silt Loam 16-20 2.5YR 4/1 70 2.5YR 2.5/3 30 С Μ Silt Loam 20-24 10YR 4/3 80 7.5YR 3/4 С Silt Loam 20 Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Depleted Below Dark Suface (A11) X (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) X Depleted Matrix (F3) Sandy Gleved Matrix (S4) X Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Excavated ditch. Spoils/berm on the north side of ditch. Cut/fill area located to the south.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/18/1</u>	6	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	D4-1w	
Investigator(s): Tim King		Section, Town	ship, Range: Sec 22, T30N	, R16W	
Landform (hillslope, terrace, etc.): Toe Slope/Ditch	Lo	cal relief (conca	ive, convex, none): Conca	ive	
Slope (%): 0-2 Lat.: Lo	ng.:	Datum:			
Soil Map Unit NameMaB			VI Classification: E1K		
Are climatic/hydrologic conditions of the site typical for			no, explain in remarks)		
Are vegetation, soil, or hydrology	significant	ly disturbed?	Are "normal		
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" preser	nt? Yes	
(If needed, explain any answers in remarks)					
SUMMARY OF FINDINGS	T				
II look to contain a contain	1-41	1			
Hydrophytic vegetation present?	is the sample	d area within a	wetland? Y	_	
Hydric soil present? Y					
Indicators of wetland hydrology present? Y	If yes, optiona	I wetland site ID	: <u>D4</u>		
December /Feebrackers (feebrackers)					
Remarks: (Explain alternative procedures here or in a					
Wet meadow in ditch. Ditch likely has wetlan	d history and is c	onnected to V	V7, 8 & 9. Although, sho	rt segment	
of D4, between W7 and W8/9 is potentially a	rtificial exempt w	etland under I	NR 103.06(4). Refer to V	NDNR	
guidance for specific exemption determination	•		,		
garagnes for opening exemplication action many					
HYDROLOGY					
TITEROLOGI		9.	condary Indicators (minimus	m of two	
Primary Indicators (minimum of one is required; check	all that apply)		econdary Indicators (minimu quired)	III OI tWO	
Primary Indicators (minimum of one is required; check X Surface Water (A1) Water-	Stained Leaves (B9)	10	Surface Soil Cracks (B6)		
	Fauna (B13)	<u> </u>	Drainage Patterns (B10)		
 -	eposits (B15)		Moss Trim Lines (B16)		
	en Sulfide Odor (C1)		Dry-Season Water Table (C	'2)	
<u> </u>			Crayfish Burrows (C8)	· ∠)	
Drift Deposits (B3) Roots (· —			Imagery	
	ce of Reduced Iron (C4)	(C9)	imagery	
	Iron Reduction in Ti		Stunted or Stressed Plants	(D1)	
Inundation Visible on Aerial Soils (0			Geomorphic Position (D2)	(= .)	
	uck Surface (C7)		Shallow Aquitard (D3)		
	Explain in Remarks)	X	X FAC-Neutral Test (D5)		
Surface (B8)	,		Microtopographic Relief (D4	1)	
			_	,	
Field Observations:					
Surface water present? Yes X No	Depth (inches): 2	Indicators of		
Water table present? Yes No	X Depth (inches): <u> </u>	wetland		
Saturation present? Yes X No	Depth (inches): 0	hydrology		
(includes capillary fringe)			present? Y		
				_	
Describe recorded data (stream gauge, monitoring wel	l, aerial photos, pre	vious inspection	s), if available:		
Remarks:					
Surface water present in ditch channel.					

VEGETATION - Use scientific names of plants Sampling Point: D4-1w 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, 100.00% (A/B) Indicator Sapling/Shrub Dominant FACW, or FAC: Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 20 x 2 = 40 FAC species 80 x 3 = 240 **FACU** species 0 x 4 =0 UPL species 0 x 5 = 0 Column totals 100 (A) 280 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () X Dominance test is >50% % Cover Status **Species** Ambrosia trifida 60 FAC X Prevalence index is ≤3.0* FAC Urtica dioica 20 Morphogical adaptations* (provide Phalaris arundinacea 20 **FACW** 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: D4-1w Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Type* Loc** (Inches) Color (moist) Color (moist) % Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Soil not sampled in ditch. Hydric soil assumed.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/4/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: SP1-1
Investigator(s): Tim King		Section, Townsh	nip, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/D	epression Lo	ocal relief (concave	e, convex, none): Concave
Slope (%): 0-2 Lat.:	Long.:	Datum:	
Soil Map Unit NameFnB			I Classification: N/A
Are climatic/hydrologic conditions of the site typic	•		o, explain in remarks)
Are vegetation, soilX_, or hydr		tly disturbed?	Are "normal
Are vegetation , soil , or hydr	ologynaturally p	problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
CUMMARY OF FINIDINGS			
SUMMARY OF FINDINGS	<u> </u>		
Hydrophytic vogetation procent?	le the comple	ed area within a w	vetland?
Hydrophytic vegetation present? Hydric soil present? Y Y		eu area williili a w	venand? 1
	— If was antions	al watland site ID.	Ctormwater Dand
Indicators of wetland hydrology present? Y	if yes, optiona	al wetland site ID:	Stormwater Pond
Remarks: (Explain alternative procedures here o	r in a senarate report)		
Difficult wetland situation - problematic	hvdric soil - recently d	leveloped wetlar	nd in/around man-made, artificia
stormwater pond. Artificial pond is poter	•	•	
specific exemption determination proce		` '	•
pond margin.	dules. Haluwood swa	impromub can c	community established around
bond mardin.			
HYDROLOGY			
		Sec	ondary Indicators (minimum of two
Primary Indicators (minimum of one is required;	check all that apply)	requ	uired)
Surface Water (A1)	Nater-Stained Leaves (B9))	Surface Soil Cracks (B6)
	Aquatic Fauna (B13)	<u> </u>	Drainage Patterns (B10)
Saturation (A3)	Marl Deposits (B15)	<u> </u>	Moss Trim Lines (B16)
Water Marks (B1)	Hydrogen Sulfide Odor (C1		Dry-Season Water Table (C2)
	Oxidized Rhizospheres on I	Living	Crayfish Burrows (C8)
	Roots (C3)		Saturation Visible on Aerial Imagery
	Presence of Reduced Iron		(C9)
	Recent Iron Reduction in Ti		Stunted or Stressed Plants (D1)
	Soils (C6)		Geomorphic Position (D2)
	Thin Muck Surface (C7)		Shallow Aquitard (D3)
	Other (Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations			
Field Observations:	V Danth (inches		Indicators of
Surface water present? Yes No	`		Indicators of
Water table present? Yes No			wetland
Saturation present? Yes No	Depth (inches	s)	hydrology
(includes capillary fringe)			present? Y
Describe recorded data (stream gauge, monitori	ng well aerial photos, pre	evious inspections)	if available:
Booting recorded data (exteam gaage, memicin	ng won, donar priotos, pro	wiede mepeemene,	, ii availabio.
Remarks:			
Open water in adjacent pond, depth und			
por water in adjacont pena, aeptir and	determined.		
open water in adjacent pena, depart and	determined.		

SOIL Sampling Point: SP1-1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Loc** % Type* 0-4 7.5YR 3/3 100 Sandy Loam 4-24 7.5YR 3/4 98 7.5YR 4/6 2 С Μ Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA X Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? Y Type: Depth (inches): Remarks: Problematic hydric soils-recently developed wetland. Excavated, man-made stormwater pond - soil considered to be hydric.

Project/Site: Emerald Sky Dairy	City/County: S	St. Croix	Sampling Date: 5/4/16	
Applicant/Owner: Emerald Sky Dairy	S	state: WI	Sampling Point:	SP1-2
Investigator(s): Tim King	s	Section, Township	, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Side Slope		relief (concave, o		
	ng.:	Datum:		
Soil Map Unit Name FnB	<u> </u>		lassification: N/A	
Are climatic/hydrologic conditions of the site typical for	this time of the year?		explain in remarks)	
Are vegetation , soil , or hydrology			Are "normal	
Are vegetation , soil , or hydrology			circumstances" preser	nt? Yes
(If needed, explain any answers in remarks)				
(ii iioodaa, oxpidiii diiy diioiiolo iii ioiidaiio)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? N	Is the sampled a	rea within a wet	land? N	
Hydric soil present? N				_
Indicators of wetland hydrology present?	If yes, optional we	etland site ID:		
	, , , , , , , , , ,			
Remarks: (Explain alternative procedures here or in a	separate report.)			
Upland grassland/backslope.				
Opiana grassiana/backsiope.				
HYDROLOGY				
HIDROLOGI				
			dary Indicators (minimu	m of two
Primary Indicators (minimum of one is required; check	11.7/	require	,	
	Stained Leaves (B9)		rface Soil Cracks (B6)	
	c Fauna (B13)		ainage Patterns (B10)	
	eposits (B15)		oss Trim Lines (B16)	
Water Marks (B1) Hydrog	gen Sulfide Odor (C1)	Dry	y-Season Water Table (C	2)
Sediment Deposits (B2) Oxidize	ed Rhizospheres on Livir	ngCra	ayfish Burrows (C8)	
Drift Deposits (B3) Roots			turation Visible on Aerial	Imagery
Algal Mat or Crust (B4) Preser	ice of Reduced Iron (C4)	(Cs	9)	
Iron Deposits (B5) Recent	t Iron Reduction in Tilled	Stu	unted or Stressed Plants	(D1)
Inundation Visible on Aerial Soils (C6)		eomorphic Position (D2)	
Imagery (B7) Thin M	uck Surface (C7)	Sh	allow Aquitard (D3)	
Sparsely Vegetated Concave Other (Explain in Remarks)	FA	C-Neutral Test (D5)	
Surface (B8)		Mic	crotopographic Relief (D4	.)
				,
Field Observations:				
	X Depth (inches):		Indicators of	
Water table present? Yes No	X Depth (inches):		wetland	
Saturation present? Yes No	X Depth (inches):		hydrology	
(includes capillary fringe)			present? N	
				_
Describe recorded data (stream gauge, monitoring well	I, aerial photos, previou	us inspections), if	available:	
Remarks:				

Tree Stratum Plot Size (30') 1	Absolute % Cover	Dominant Species Total Cover	Indicator Status	20% 50%
Stratum	% Cover2	Species	Status FACW	Prevalence Index Worksheet Total % Cover of: OBL species
Herb Stratum Plot Size (5') 1	Absolute % Cover 40 30 10 10 5 2 2	Dominant Species Y Y N N N N N N	Indicator Status FACU FACU FACU UPL FAC UPL FACU	Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation Dominance test is >50% Prevalence index is ≤3.0* Morphogical 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 Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.
Woody Vine Plot Size () 1 2	Absolute % Cover	Dominant Species	Indicator Status	Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.
3 4 5 Remarks: (Include photo numbers here or on a sep		= Total Cover		Hydrophytic vegetation present? N

SOIL Sampling Point: SP1-2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Type* Loc** (Inches) Color (moist) % Color (moist) % 0-3 7.5YR 3/3 100 Silt Loam 3-20 7.5YR 3/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Depth (inches): Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/12/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: SP2
Investigator(s): Tim King		Section, To	ownship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Toe Slope/Depression	on Lo	ocal relief (co	ncave, convex, none): Concave
Slope (%): <u>0-2</u> Lat.: Long	g.:	Datum:	
Soil Map Unit NameSaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for the	-		(If no, explain in remarks)
Are vegetation X, soil, or hydrology		tly disturbed?	
Are vegetation, soil, or hydrology	naturally p	problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? N	le the cample	nd area within	n a wetland?
Hydrophytic vegetation present? Hydric soil present? N	Is the sample	eu area witiiii	
Indicators of wetland hydrology present?	If you options	l watland sita	, ID:
indicators of wetland hydrology present?	If yes, optiona	ii welland sile	· ID.
Remarks: (Explain alternative procedures here or in a se	parate report.)		
Upland cropland, sample point in low spot in fi	eld.		
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check a	ll that apply)		required)
Surface Water (A1) Water-St	ained Leaves (B9)		Surface Soil Cracks (B6)
	Fauna (B13)		Drainage Patterns (B10)
Saturation (A3) Marl Dep	osits (B15)		Moss Trim Lines (B16)
Water Marks (B1) Hydroge	n Sulfide Odor (C1)	Dry-Season Water Table (C2)
	Rhizospheres on I	Living	Crayfish Burrows (C8)
Drift Deposits (B3) Roots (C	•		Saturation Visible on Aerial Imagery
	e of Reduced Iron		(C9)
	ron Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C6	•		X Geomorphic Position (D2)
	ck Surface (C7)		Shallow Aquitard (D3)
<u> </u>	xplain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations:			
Surface water present? Yes No X	Depth (inches	a):	Indicators of
Water table present? Yes No X			wetland
Saturation present? Yes No X			hydrology
(includes capillary fringe)		′ ———	present? N
			· —
Describe recorded data (stream gauge, monitoring well,	aerial photos, pre	vious inspect	ions), if available:
Remarks:			
Nemarks.			

SOIL Sampling Point: SP2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 10YR 4/3 12-24 90 7.5YR 3/4 10 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	SP3
Investigator(s): Tim King		Section, Town	ship, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Foot Slope	Lo	cal relief (conca	ve, convex, none): Concar	ve
	ong.:	Datum:		
Soil Map Unit NameSaB	'	NV	VI Classification: N/A	
Are climatic/hydrologic conditions of the site typical fo	r this time of the yea	r? Yes (If	no, explain in remarks)	
Are vegetation X, soil , or hydrology		ly disturbed?	Are "normal	
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
SHIMMADY OF FINDINGS				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present? N	Is the sample	ed area within a	wetland? N	
Hydric soil present? N	•			-
Indicators of wetland hydrology present? N	If ves. optiona	l wetland site ID:		
	, , , , , , , , , , , , , , , , , ,		1	
Remarks: (Explain alternative procedures here or in a	separate report.)			
Upland cropland. Low spot in field where rur	noff discharges fro	om buildings to	o east	
HYDROLOGY				
		Se	condary Indicators (minimun	n of two
Primary Indicators (minimum of one is required; check	call that apply)		quired)	
Surface Water (A1) Water	-Stained Leaves (B9)		Surface Soil Cracks (B6)	
High Water Table (A2) Aquat	ic Fauna (B13)		Drainage Patterns (B10)	
Saturation (A3) Marl D	Deposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1) Hydro	gen Sulfide Odor (C1)		Dry-Season Water Table (Ca	2)
Sediment Deposits (B2) Oxidiz	ed Rhizospheres on I	_iving	_Crayfish Burrows (C8)	
Drift Deposits (B3) Roots	• •		_Saturation Visible on Aerial I	magery
	nce of Reduced Iron ((C4)	_(C9)	
	nt Iron Reduction in Ti		_Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils		<u> X</u>	_Geomorphic Position (D2)	
	/luck Surface (C7)		Shallow Aquitard (D3)	
	(Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)			_Microtopographic Relief (D4)	
Field Observations:				
Surface water present? Yes No	X Depth (inches):	Indicators of	
Water table present? Yes No	X Depth (inches		wetland	
Saturation present? Yes No	X Depth (inches		hydrology	
(includes capillary fringe)	<u> </u>	,	present? N	
, , , ,				-
Describe recorded data (stream gauge, monitoring we	ell, aerial photos, pre	vious inspections	s), if available:	
Remarks:				
nomano.				

SOIL Sampling Point: SP3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 12-20 7.5YR 4/4 98 7.5YR 4/6 2 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/6/16</u>	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	GS-1
Investigator(s): Tim King		Section, Towns	ship, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Foot Slope/Swale	Lo	ocal relief (conca	ve, convex, none): Concar	ve
	ng.:	Datum:		
Soil Map Unit Name FnB		NV	VI Classification: N/A	
Are climatic/hydrologic conditions of the site typical for	this time of the yea	r? Yes (If	no, explain in remarks)	
Are vegetation, soil, or hydrology	significant	tly disturbed?	Are "normal	
Are vegetation, soil, or hydrology	naturally p	oroblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
CHMMARY OF FINDINGS				
SUMMARY OF FINDINGS	1			
Hydrophytic vegetation present? N	Is the sample	ed area within a	wetland? N	
Hydric soil present?	'			_
Indicators of wetland hydrology present?	If ves. optiona	I wetland site ID:		
	, 555, 575			
Remarks: (Explain alternative procedures here or in a	separate report.)			
Vegetated upland grass swale near boundar	v of farmed wetla	and		
vogotatou apiaria grado divalo ribar boaridar	y or rannou would			
HYDROLOGY				
		Se	condary Indicators (minimun	n of two
Primary Indicators (minimum of one is required; check	all that apply)		quired)	
Surface Water (A1) Water-	Stained Leaves (B9)		Surface Soil Cracks (B6)	
	c Fauna (B13)		Drainage Patterns (B10)	
Saturation (A3) Marl D	eposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1) Hydrog	gen Sulfide Odor (C1		Dry-Season Water Table (Ca	2)
Sediment Deposits (B2) Oxidize	ed Rhizospheres on I	Living	Crayfish Burrows (C8)	
Drift Deposits (B3) Roots	(C3)		Saturation Visible on Aerial I	magery
Algal Mat or Crust (B4) Preser	nce of Reduced Iron	(C4)	(C9)	
Iron Deposits (B5) Recen	t Iron Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C6)	X	Geomorphic Position (D2)	
Imagery (B7) Thin M	uck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave Other	(Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)			Microtopographic Relief (D4))
Follow (Co.)			T	
Field Observations:	V Donth (inches	۸.	Indicators of	
Surface water present? Yes No	X Depth (inches		Indicators of	
Water table present? Saturation present? Yes X No No	X Depth (inches		wetland	
Saturation present? Yes X No (includes capillary fringe)	Depth (inches	i). 10	hydrology	
(includes capillary fringe)			present? Y	_
Describe recorded data (stream gauge, monitoring we	II. aerial photos, pre	vious inspections	s), if available:	
data (on oan gaago, montoning wo	, p p. 1000, pro	poonone	.,,	
Remarks:				
Soil erosion (rill/gullies) observed.				

SOIL Sampling Point: GS-1 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Loc** % Type* 0-16 10YR 2/2 100 Silt Loam 16-20 10YR 4/3 70 7.5YR 3/4 30 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam / Rock Hydric soil present? N Type: Depth (inches): 16 / 20 Remarks: Rocky soil. Boring refusal on rock.

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/6/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	GS-2
Investigator(s): Tim King		Section, Townsh	ip, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Swale on Side S	lope Loc	al relief (concave	e, convex, none): Conca	ve
Slope (%): 1-3 Lat.:	ong.:	Datum:		
Soil Map Unit Name SaB		NWI	Classification: N/A	
Are climatic/hydrologic conditions of the site typical for	or this time of the year'	? Yes (If no	o, explain in remarks)	
Are vegetation, soil, or hydrolog	ysignificantly	/ disturbed?	Are "normal	
Are vegetation, soil, or hydrolog	y naturally pr	oblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				1
Hudrophytic vegetation present?	lo the complete	l araa within a w	otland?	
Hydrophytic vegetation present? Hydric soil present? N	is the sampled	l area within a w	etland? N	-
	16	.0 1 .20 . 15		
Indicators of wetland hydrology present? N	if yes, optional	wetland site ID: _		
Remarks: (Explain alternative procedures here or in a	senarate report)			
Nemarks. (Explain alternative procedures here of in a	a separate report.)			
Vegetated upland grass swale, not cropped	l.			
HYDROLOGY				
			ondary Indicators (minimur	n of two
Primary Indicators (minimum of one is required; chec		requ	,	
	r-Stained Leaves (B9)		Surface Soil Cracks (B6)	
	tic Fauna (B13)		Orainage Patterns (B10)	
l ——	Deposits (B15)		Moss Trim Lines (B16)	
	ogen Sulfide Odor (C1)		Ory-Season Water Table (C	2)
	zed Rhizospheres on Li		Crayfish Burrows (C8)	
	s (C3)		Saturation Visible on Aerial	magery
	ence of Reduced Iron (C		(C9)	
	nt Iron Reduction in Tille		Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils			Geomorphic Position (D2)	
l ——	Muck Surface (C7)		Shallow Aquitard (D3)	
<u> </u>	r (Explain in Remarks)		FAC-Neutral Test (D5)	
Surface (B8)			Microtopographic Relief (D4))
Field Observations:				
Surface water present? Yes No	X Depth (inches):		Indicators of	
Water table present? Yes No	X Depth (inches):		wetland	
Saturation present? Yes No	X Depth (inches):		hydrology	
(includes capillary fringe)	Boptii (iiioiioo).		present? N	
(erados sapinai.) ilingo)			<u> </u>	_
Describe recorded data (stream gauge, monitoring w	ell, aerial photos, previ	ious inspections),	if available:	
Remarks:				

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

SOIL Sampling Point: GS-2 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks (Inches) Color (moist) % Color (moist) Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 12-20 10YR 3/3 80 7.5YR 3/4 15 С Μ Sandy Clay Loam 10YR 4/2 5 D Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Sandy Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County	: St. Croix	Sampling Date: 5/16/16	
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	GS-3
Investigator(s): Tim King		Section, Townshi	ip, Range: Sec 22, T30N, I	R16W
Landform (hillslope, terrace, etc.): Swale or	n Side Slope	Local relief (concave	, convex, none): Concav	е
Slope (%): 1-3 Lat.:	Long.:	Datum:		
Soil Map Unit NameSaB			Classification: N/A	
Are climatic/hydrologic conditions of the site	• •		, explain in remarks)	
		intly disturbed?	Are "normal	
	nydrology naturally	y problematic?	circumstances" present	? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	N Is the samp	oled area within a we	etland? N	
Hydric soil present?	N			
Indicators of wetland hydrology present?	N If yes, optio	nal wetland site ID:		
Remarks: (Explain alternative procedures he	re or in a separate report.)			
Vegetated upland grass swale, not o	cropped.			
HYDROLOGY				
		Seco	ondary Indicators (minimum	of two
Primary Indicators (minimum of one is require		requi	,	
Surface Water (A1)	Water-Stained Leaves (B		Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		Orainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (0		Ory-Season Water Table (C2)
Sediment Deposits (B2)	Oxidized Rhizospheres o		Crayfish Burrows (C8)	
Drift Deposits (B3)	Roots (C3)		Saturation Visible on Aerial Ir	nagery
Algal Mat or Crust (B4)	Presence of Reduced Iro	· · · · · · · · · · · · · · · · · · ·	C9)	24)
Iron Deposits (B5)	Recent Iron Reduction in		Stunted or Stressed Plants ([01)
Inundation Visible on Aerial	Soils (C6)		Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remark		AC-Neutral Test (D5)	
Surface (B8)		\	Microtopographic Relief (D4)	
Field Observations:				
Surface water present? Yes	No X Depth (inch	es):	Indicators of	
Water table present? Yes	No X Depth (inch		wetland	
Saturation present? Yes	No X Depth (inch		hydrology	
(includes capillary fringe)			present? N	
, , , ,			· —	i
Describe recorded data (stream gauge, mon	itoring well, aerial photos, p	revious inspections),	if available:	
Develop				
Remarks:				

VEGETATION - Use scientific names of plants Sampling Point: GS-3 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 51 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, Sapling/Shrub Dominant Indicator FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 60 x 4 = 240 UPL species 42 x 5 = 210 Column totals (A) 102 450 4.41 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute Dominant Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size (% Cover Status Dominance test is >50% **Species** Bromus inermis 40 UPL Prevalence index is ≤3.0* FACU Elymus repens 25 Morphogical adaptations* (provide

FACU

Taraxacum officinale		10	N	FACU	separate sheet)
Dactylis glomerata		10	N	FACU	Problematic hydrophytic vegetation*
Cirsium arvense		5	N	FACU	(explain)
Pastinaca sativa		2	N	UPL	*Indicators of hydric soil and wetland hydrology must be
					present, unless disturbed or problematic
					Definitions of Vegetation Strata:
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter a
					breast height (DBH), regardless of height.
					Sapling/shrub - Woody plants less than 3 in. DBH and
					greater than 3.28 ft (1 m) tall.
		102 :	= Total Cover		
					Herb - All herbaceous (non-woody) plants, regardless o
Voody Vine	\	Absolute	Dominant	Indicator	size, and woody plants less than 3.28 ft tall.
Stratum Flot Size (,	% Cover	Species	Status	Woody vines - All woody vines greater than 3.28 ft in
					height.
			· -		Hydrophytic
					vegetation
	· ·	0 :	= Total Cover		present? N
	Dactylis glomerata Cirsium arvense Pastinaca sativa Voody Vine Plot Size (Dactylis glomerata Cirsium arvense Pastinaca sativa Voody Vine Plot Size (Dactylis glomerata 10 Cirsium arvense 5 Pastinaca sativa 2 Voody Vine Stratum Plot Size () Absolute % Cover	Dactylis glomerata Cirsium arvense Pastinaca sativa 2 N 102 = Total Cover Voody Vine Stratum Plot Size () Absolute % Cover Species	Dactylis glomerata Cirsium arvense Pastinaca sativa 10 N FACU FACU Pastinaca sativa 2 N UPL 102 Total Cover Voody Vine Stratum Plot Size () Absolute % Cover Species Status

efinitions	of	Vegetation	Strata:	

supporting data in Remarks or on a

present? Ν

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

Poa pratensis

SOIL Sampling Point: GS-3 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) Type* Loc** (Inches) Color (moist) % % 0-8 10YR 2/2 98 5YR 3/4 2 С Μ Silt Loam 8-16 5YR 3/4 100 Sandy Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Thick Dark Surface (A12) Iron-Manganese Masses (F12) (LRR K, L, R) Loamy Gleyed Matrix (F2) Piedmont Floodplain Soils (F19) (MLRA 149B) Sandy Mucky Mineral (S1) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Hydric soil present? N Type: Rock Depth (inches): Remarks: Rocky soil, boring refusal on rock

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: <u>5/12/16</u>	3
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	GS-4
Investigator(s): Tim King		Section, Townshi	ip, Range: Sec 22, T30N,	R16W
Landform (hillslope, terrace, etc.): Swale on Si	de Slope Lo	ocal relief (concave	, convex, none): Concav	/e
Slope (%): 1-3 Lat.:	Long.:	Datum:		
Soil Map Unit NameMaB		NWI	Classification: N/A	
Are climatic/hydrologic conditions of the site typi	ical for this time of the yea	r? Yes (If no	, explain in remarks)	
Are vegetation, soil, or hydrometric and the second s		ly disturbed?	Are "normal	
Are vegetation, soil, or hydromy	rology naturally p	roblematic?	circumstances" presen	t? Yes
(If needed, explain any answers in remarks)				
SUMMARY OF FINDINGS				
III look for contagnous 10		1	-11 10 N	
Hydrophytic vegetation present?		ed area within a we	etland? N	-
Hydric soil present? N				
Indicators of wetland hydrology present? N	I If yes, optiona	I wetland site ID:		
Remarks: (Explain alternative procedures here of	or in a concrete report \			
Remarks. (Explain alternative procedures here t	or in a separate report.)			
Vegetated upland grass swale, not crop	oped.			
HYDROLOGY				
		Seco	ndary Indicators (minimun	n of two
Primary Indicators (minimum of one is required;	check all that apply)	requi	red)	
` ' /	Water-Stained Leaves (B9)		Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		Prainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)	N	loss Trim Lines (B16)	
	Hydrogen Sulfide Odor (C1)		Ory-Season Water Table (C2	2)
	Oxidized Rhizospheres on L		Crayfish Burrows (C8)	
	Roots (C3)		Saturation Visible on Aerial I	magery
	Presence of Reduced Iron (· · · · · · · · · · · · · · · · · · ·	C9)	
	Recent Iron Reduction in Ti		Stunted or Stressed Plants (D1)
	Soils (C6)		Geomorphic Position (D2)	
	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
	Other (Explain in Remarks)		AC-Neutral Test (D5)	
Surface (B8)		N	Aicrotopographic Relief (D4)	
Field Observations:				
Surface water present? Yes N	o X Depth (inches	١٠	Indicators of	
Water table present? Yes N			wetland	
Saturation present? Yes N			hydrology	
(includes capillary fringe)	o <u>x</u> Bopan (moneo	· 	present? N	
(morados sapinary milgo)			p. 600/m.	-
Describe recorded data (stream gauge, monitori	ng well, aerial photos, pre	vious inspections),	if available:	
33.,	5 - , , , , , ,	-,		
Remarks:				

SOIL Sampling Point: GS-4 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks (Inches) Color (moist) % Color (moist) Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 12-16 10YR 2/2 98 2.5YR 2.5/3 2 С Μ Silt Loam 16-24 10YR 4/2 5YR 3/4 20 С 80 Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 16 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: GS-5
Investigator(s): Tim King		Section, To	ownship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Swale on Side Slo	pe Lo	ocal relief (co	ncave, convex, none): Concave/Convex
	ng.:	Datum	:
Soil Map Unit NameMaB			NWI Classification: N/A
Are climatic/hydrologic conditions of the site typical for	this time of the year	ar? Yes	(If no, explain in remarks)
Are vegetation, soil, or hydrology		tly disturbed?	
Are vegetation, soil, or hydrology	naturally p	problematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
OUMANA A D.V. O.E. EINIDINIOO			
SUMMARY OF FINDINGS	T		
Hudrophytia vagatation propent?	lo the comple	ad araa withi	in a watland?
Hydrophytic vegetation present? Hydric soil present? N N	Is the sample	eu area witiii	in a wetland? N
	16	ماند ادمدامی	- ID:
Indicators of wetland hydrology present? N	If yes, optiona	ai wetiand site	e ID:
Remarks: (Explain alternative procedures here or in a	senarate renort)		
Tromanto. (Explain alternative procedures here of in a t	ooparato roporti,		
Vegetated upland grass swale, not cropped.			
HYDROLOGY			
			Secondary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		required)
Surface Water (A1) Water-	Stained Leaves (B9))	Surface Soil Cracks (B6)
High Water Table (A2) Aquatio	c Fauna (B13)		Drainage Patterns (B10)
Saturation (A3) Marl Do	eposits (B15)		Moss Trim Lines (B16)
Water Marks (B1) Hydrog	en Sulfide Odor (C1)	Dry-Season Water Table (C2)
	ed Rhizospheres on I	Living	Crayfish Burrows (C8)
Drift Deposits (B3) Roots	· ,		Saturation Visible on Aerial Imagery
	ce of Reduced Iron		(C9)
	Iron Reduction in Ti	illed	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (6			X Geomorphic Position (D2)
	uck Surface (C7)		Shallow Aquitard (D3)
<u> </u>	Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)			Microtopographic Relief (D4)
Field Observations:			
	X Depth (inches	٠١٠	Indicators of
	X Depth (inches		wetland
	X Depth (inches		hydrology
(includes capillary fringe)	Deptil (illelies	·)·	present? N
(morades supmary minge)			<u> </u>
Describe recorded data (stream gauge, monitoring wel	I, aerial photos, pre	vious inspec	tions), if available:
, 5,7			•
Remarks:			

SOIL Sampling Point: GS-5 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-10 10YR 2/2 Silt Loam 10YR 4/3 10-20 80 7.5YR 4/6 20 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 10 Remarks:

Project/Site: Emerald Sky Dairy Applicant/Owner: Emerald Sky Dairy Investigator(s): Tim King Landform (hillslope, terrace, etc.): Swale on Side Slo Slope (%): 2-4 Lat.: Lo Soil Map Unit Name SaB Are climatic/hydrologic conditions of the site typical for Are vegetation , soil , or hydrology Are vegetation , soil , or hydrology (If needed, explain any answers in remarks)	this time of the yea	Datum: NWI Ar? Yes (If no	Sampling Date: 5/16/16 Sampling Point: GS-6 ip, Range: Sec 22, T30N, R16W , convex, none): Concave/Convex Classification: N/A o, explain in remarks) Are "normal circumstances" present? Yes			
SUMMARY OF FINDINGS						
Hydrophytic vegetation present? Hydric soil present? Indicators of wetland hydrology present? Remarks: (Explain alternative procedures here or in a separate report.)						
Vegetated upland grass swale, not cropped.						
HYDROLOGY						
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) Marl D Aquativ Aquativ Aquativ Preser Soxidate Aquativ Aquativ Preser Soxidate Soxidate Aquativ Aquati	Stained Leaves (B9) c Fauna (B13) eposits (B15) gen Sulfide Odor (C1 ed Rhizospheres on (C3) nce of Reduced Iron t Iron Reduction in T	requi	ondary Indicators (minimum of two ired) Surface Soil Cracks (B6) Orainage Patterns (B10) Moss Trim Lines (B16) Ory-Season Water Table (C2) Crayfish Burrows (C8) Saturation Visible on Aerial Imagery C9) Stunted or Stressed Plants (D1) Geomorphic Position (D2) Shallow Aquitard (D3) FAC-Neutral Test (D5) Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes No Water table present? Yes No Saturation present? Yes No (includes capillary fringe)	X Depth (inches X Depth (inches Depth (inches	s):	Indicators of wetland hydrology present? N			
Describe recorded data (stream gauge, monitoring well	l, aerial photos, pre	evious inspections),	if available:			
Remarks:						

VEGETATION - Use scientific names of plants Sampling Point: GS-6 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ 100 x 4 = FACU species 400 0 x 5 = UPL species 0 Column totals 400 100 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 90 FACU Prevalence index is ≤3.0* Elymus repens Taraxacum officinale FACU 10 Ν Morphogical 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: GS-6 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 10YR 4/3 12-20 95 7.5YR 3/4 5 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/1	6
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point:	GS-7
Investigator(s): Tim King		Section, Townsh	ip, Range: Sec 22, T30N	, R16W
Landform (hillslope, terrace, etc.): Swale on S	Side Slope L	ocal relief (concave	, convex, none): Conca	ave/Convex
Slope (%): 2-4 Lat.:	Long.:	Datum:		
Soil Map Unit NameSaB			Classification: N/A	
Are climatic/hydrologic conditions of the site ty	pical for this time of the year	ar? Yes (If no	, explain in remarks)	
Are vegetation , soil , or hy		itly disturbed?	Are "normal	
		problematic?	circumstances" prese	nt? Yes
(If needed, explain any answers in remarks)				
(ii iioodod, oxpiaii aii) alionolo iii ioiliaiio)				
SUMMARY OF FINDINGS				
Hydrophytic vegetation present?	N Is the sampl	ed area within a w	etland? N	
Hydric soil present?	N Is the samp.	ou arou mann a m		_
Indicators of wetland hydrology present?		al watland sita ID:		
indicators of wetland hydrology present?	ii yes, option	al wetland site ID: _		
Remarks: (Explain alternative procedures here	or in a senarate report)			
rtemarke. (Explain alternative procedures here	or in a doparate report.			
Vegetated upland grass swale, not cro	opped.			
HYDROLOGY				
		Seco	ondary Indicators (minimu	m of two
Primary Indicators (minimum of one is required	d: check all that apply)	requi		
Surface Water (A1)	Water-Stained Leaves (B9	•	Surface Soil Cracks (B6)	
High Water Table (A2)	Aquatic Fauna (B13)		Orainage Patterns (B10)	
Saturation (A3)	Marl Deposits (B15)		Moss Trim Lines (B16)	
Water Marks (B1)	Hydrogen Sulfide Odor (C1		Ory-Season Water Table (0	22)
Sediment Deposits (B2)	Oxidized Rhizospheres on		Crayfish Burrows (C8)))
Drift Deposits (B3)	Roots (C3)			lmogan,
	Presence of Reduced Iron		Saturation Visible on Aerial	imagery
Algal Mat or Crust (B4)		· · ·	C9)	(D1)
Iron Deposits (B5)	Recent Iron Reduction in T		Stunted or Stressed Plants	(D1)
Inundation Visible on Aerial	_ Soils (C6)		Geomorphic Position (D2)	
Imagery (B7)	Thin Muck Surface (C7)		Shallow Aquitard (D3)	
Sparsely Vegetated Concave	Other (Explain in Remarks	· —	AC-Neutral Test (D5)	
Surface (B8)		N	Aicrotopographic Relief (De	1)
Field Observations		<u> </u>		
Field Observations:	Na V Danth (in abou	-) -	lu dia ataua af	
	No X Depth (inches		Indicators of	
	No X Depth (inches		wetland	
	No X Depth (inches	s):	hydrology	
(includes capillary fringe)			present? N	_
Describe recorded data (stream gauge, monito	oring well, aerial photos, pre	evious inspections),	if available:	
Remarks:				
ivenialna.				

VEGETATION - Use scientific names of plants Sampling Point: GS-7 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ 100 x 4 = FACU species 400 0 x 5 = UPL species 0 Column totals 400 100 (A) 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 90 FACU Prevalence index is ≤3.0* Elymus repens ٧ Taraxacum officinale FACU 5 Ν Morphogical adaptations* (provide Cirsium arvense 5 Ν FACU 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: GS-7 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-12 10YR 2/2 Silt Loam 10YR 4/4 12-24 98 7.5YR 3/4 2 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 12 Remarks:

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: GS-8
Investigator(s): Tim King		Section, Towns	ship, Range: Sec 22, T30N, R16W
Landform (hillslope, terrace, etc.): Swale on Side Slo	pe Lo	ocal relief (concav	ve, convex, none): Concave
	ong.:	Datum:	-
Soil Map Unit NameMaB		NW	/I Classification: N/A
Are climatic/hydrologic conditions of the site typical for	r this time of the year	r? Yes (If I	no, explain in remarks)
Are vegetation, soil, or hydrology		ly disturbed?	Are "normal
Are vegetation, soil, or hydrology	naturally p	roblematic?	circumstances" present? Yes
(If needed, explain any answers in remarks)			
SUMMARY OF FINDINGS			
Hydrophytic vegetation present? N	is the sample	ed area within a	wetland? N
Hydric soil present? N			
Indicators of wetland hydrology present? N	If yes, optional	I wetland site ID:	
Demontos (Esplain alternativa preseduras hara ar in a			
Remarks: (Explain alternative procedures here or in a	separate report.)		
Vegetated upland grass swale, not cropped.			
HYDROLOGY			
		Se	condary Indicators (minimum of two
Primary Indicators (minimum of one is required; check	all that apply)		juired)
•	-Stained Leaves (B9)		Surface Soil Cracks (B6)
	ic Fauna (B13)		Drainage Patterns (B10)
Saturation (A3) Marl D	eposits (B15)		Moss Trim Lines (B16)
Water Marks (B1) Hydrog	gen Sulfide Odor (C1))	Dry-Season Water Table (C2)
Sediment Deposits (B2) Oxidiz	ed Rhizospheres on L	_iving	Crayfish Burrows (C8)
Drift Deposits (B3) Roots	(C3)		Saturation Visible on Aerial Imagery
Algal Mat or Crust (B4) Preser	nce of Reduced Iron ((C4)	(C9)
Iron Deposits (B5) Recen	t Iron Reduction in Til	lled	Stunted or Stressed Plants (D1)
Inundation Visible on Aerial Soils (C6)	X	Geomorphic Position (D2)
	luck Surface (C7)		Shallow Aquitard (D3)
Sparsely Vegetated Concave Other	(Explain in Remarks)		FAC-Neutral Test (D5)
Surface (B8)			_Microtopographic Relief (D4)
FillOlimate			1
Field Observations:	V Danth (in ale as)	١.	In diagrams of
Surface water present? Yes No	X Depth (inches)		Indicators of
Water table present? Yes No	X Depth (inches)		wetland
Saturation present? Yes No	X Depth (inches)):	hydrology
(includes capillary fringe)			present? N
Describe recorded data (stream gauge, monitoring we	Il agrial photos pro	vious inspostions) if available:
Describe recorded data (stream gauge, monitoring we	ii, aeiiai priotos, pre	vious irispections	o, ii available.
Remarks:			

VEGETATION - Use scientific names of plants Sampling Point: GS-8 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 48 19 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = **FACW** species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 95 x 4 = 380 UPL species 0 x 5 = 0 Column totals 95 (A) 380 4.00 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** 80 FACU Prevalence index is ≤3.0* Elymus repens FACU Cirsium arvense 10 Ν Morphogical adaptations* (provide Taraxacum officinale 5 Ν FACU 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 9 **Definitions of Vegetation Strata:** 10 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 95 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: GS-8 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks Color (moist) (Inches) Color (moist) % Type* Loc** % 100 0-16 10YR 2/2 Silt Loam 10YR 4/2 16-24 80 7.5YR 4/6 20 С Μ Silt Clay Loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 16 Remarks:

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Emerald Sky Dairy	City/County:	St. Croix	Sampling Date: 5/16/16		
Applicant/Owner: Emerald Sky Dairy		State: WI	Sampling Point: GS-9		
Investigator(s): Tim King		Section, Tow	vnship, Range: Sec 22, T30N, R16W		
Landform (hillslope, terrace, etc.): Swale on Side Slop	oe Lo	ocal relief (cond	cave, convex, none): Concave/Convex		
Slope (%): 1-4 Lat.: Lo	ng.:	Datum:			
Soil Map Unit NameMaB			NWI Classification: N/A		
Are climatic/hydrologic conditions of the site typical for	this time of the yea	r? Yes ((If no, explain in remarks)		
Are vegetation , soil , or hydrology	significant	tly disturbed?	Are "normal		
Are vegetation , soil , or hydrology	naturally p	oroblematic?	circumstances" present? Yes_		
(If needed, explain any answers in remarks)	·				
SUMMARY OF FINDINGS					
Hudrophytic vegetation present?	lo the comple	nd area within	a watland?		
Hydrophytic vegetation present? N N N	is the sample	ed area within	a wetland? N		
			n		
Indicators of wetland hydrology present? N	If yes, optiona	ıl wetland site l	D:		
Remarks: (Explain alternative procedures here or in a s	operate report)				
Remarks. (Explain alternative procedures here of in a s	separate report.)				
Vegetated upland grass swale, not cropped.					
HYDROLOGY					
		3	Secondary Indicators (minimum of two		
Primary Indicators (minimum of one is required; check	all that apply)	r	required)		
Surface Water (A1) Water-	Stained Leaves (B9)	ned Leaves (B9) Surface Soil Cracks (B6)			
High Water Table (A2) Aquation	Fauna (B13)	Fauna (B13) Drainage Patterns (B10)			
Saturation (A3) Marl De	eposits (B15)	_	Moss Trim Lines (B16)		
Water Marks (B1) Hydrog	en Sulfide Odor (C1))	Dry-Season Water Table (C2)		
Sediment Deposits (B2) Oxidize	d Rhizospheres on I	Living _	Crayfish Burrows (C8)		
Drift Deposits (B3) Roots (•	_	Saturation Visible on Aerial Imagery		
	ce of Reduced Iron ((C4)	(C9)		
	Iron Reduction in Ti	illed _	Stunted or Stressed Plants (D1)		
Inundation Visible on Aerial Soils (C		_	X Geomorphic Position (D2)		
	uck Surface (C7)	_	Shallow Aquitard (D3)		
	Explain in Remarks)	_	FAC-Neutral Test (D5)		
Surface (B8)		_	Microtopographic Relief (D4)		
Field Observations					
Field Observations:	V Donth (inches	۸.	Indicators of		
·	X Depth (inchesX Depth (inches		Indicators of wetland		
	X Depth (inches		hydrology		
(includes capillary fringe)			present? N		
Describe recorded data (stream gauge, monitoring wel	l aerial photos pre	vious inspectio	ons) if available:		
Doornoo roooraoa aata (otroam gaago, morntomig wor	i, adriai priotod, pro	wiodo inopositio	nio), ii avallabio.		
Remarks:					
Ditches present adjacent to swale.					
•					

VEGETATION - Use scientific names of plants Sampling Point: GS-9 50/20 Thresholds Indicator 20% 50% Absolute Dominant Tree Stratum Plot Size (30' % Cover **Species** Status Tree Stratum 0 0 Sapling/Shrub Stratum 0 0 Herb Stratum 50 20 Woody Vine Stratum 0 Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: (A) **Total Number of Dominant** 10 Species Across all Strata: (B) = Total Cover Percent of Dominant Species that are OBL, Indicator Sapling/Shrub Dominant FACW, or FAC: 0.00% (A/B) Absolute Plot Size (15' Stratum % Cover Status Species **Prevalence Index Worksheet** Total % Cover of: OBL species x 1 = FACW species 0 x 2 = FAC species 0 x 3 = Λ **FACU** species 30 x 4 = 120 UPL species 70 x 5 = 350 Column totals 100 (A) 470 4.70 Prevalence Index = B/A = 10 = Total Cover **Hydrophytic Vegetation Indicators:** Absolute **Dominant** Indicator Rapid test for hydrophytic vegetation Herb Stratum Plot Size () % Cover Status Dominance test is >50% **Species** Bromus inermis 70 UPL Prevalence index is ≤3.0* FACU Elvmus repens 10 Ν Morphogical adaptations* (provide Poa pratensis 10 Ν FACU supporting data in Remarks or on a FACU Taraxacum officinale 5 Ν separate sheet) FACU Cirsium arvense Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic 9 10 **Definitions of Vegetation Strata:** 11 Tree - Woody plants 3 in. (7.6 cm) or more in diameter at 12 breast height (DBH), regardless of height. 13 Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. 100 = Total Cover Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody Vine Absolute Dominant Indicator Plot Size (Stratum % Cover Species Status Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation = Total Cover present? Ν Remarks: (Include photo numbers here or on a separate sheet)

SOIL Sampling Point: GS-9 Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.) Depth Matrix Redox Features Texture Remarks (Inches) Color (moist) % Color (moist) Type* Loc** % 100 0-16 10YR 2/2 Silt Loam 10YR 4/3 16-24 70 7.5YR 4/6 25 С Μ Silt Clay Loam 16-24 10YR 4/2 5 D Μ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains *Location: PL=Pore Lining, M=Matrix Hydric Soil Indicators: **Indicators for Problematic Hydric Soils:** 2 cm Muck (A10) (LRR K, L, MLRA 149B Histisol (A1) Polyvalue Below Surface Histic Epipedon (A2) (S8) (LRR R, MLRA 149B) Coast Prairie Redox (A16) (LRR K, L, R) Black Histic (A3) Thin Dark Surface (S9) 5 cm Mucky Peat or Peat (S3) (LRR K, L, R) Hydrogen Sulfide (A4) Dark Surface (S7) (LRR K. L (LRR R, MLRA 149B Polyvalue Below Surface (S8) (LRR K, L) Stratified Layers (A5) Loamy Mucky Mineral (F1) Thin Dark Surface (S9) (LRR K, L) Depleted Below Dark Suface (A11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, R) Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Sandy Mucky Mineral (S1) Piedmont Floodplain Soils (F19) (MLRA 149B) Depleted Matrix (F3) Sandy Gleved Matrix (S4) Redox Dark Surface (F6) Mesic Spodic (TA6) (MLRA 144A, 145, 149B) Sandy Redox (S5) Depleted Dark Surface (F7) Red Parent Material (F21) Stripped Matrix (S6) Redox Depressions (F8) Very Shallow Dark Surface (TF12) Dark Surface (S7) (LRR R, MLRA Other (Explain in Remarks) 149B) Indicators of hydrophytic vegetation and weltand hydrology must be present, unless disturbed or problematic Restrictive Layer (if observed): Silt Clay Loam Hydric soil present? N Type: Depth (inches): 16 Remarks:

APPENDIX CSITE PHOTOGRAPHS



1. Wetland W1 - Wet Meadow





3. Wetland W1 - Shrub Carr



4. Wetland W1 - Hardwood Swamp



5. Wetland W1 - Farmed Wetland



6. Wetland W2 - Seasonally Flooded Basin/Farmed Wetland



7. Wetland W3 - Seasonally Flooded Basin/Farmed Wetland



8. Wetland W4 - Seasonally Flooded Basin/Farmed Wetland



9. Wetland W5 - Farmed Wetland



10. Wetland W6 - Open Water Pond/Spoil Piles



11. Wetland W6 - Wet Meadow/Shallow Marsh



12. Wetland W6 - Wet Meadow (Reference)



13. Wetland W7 - Wet Meadow (Reference)



14. Wetland W8 - Filled Wetland



15. Wetland W9 - Wet Meadow



16. Misc. Sample Point SP2 - Upland Cropland



17. Stormwater Pond



18. Ditch D1



19. Ditch D2



20. Ditch D3



21. Ditch D4



22. GS1 - Upland Grass Swale



23. GS4 - Upland Grass Swale



24. GS6 - Upland Grass Swale



25. GS8 - Upland Grass Swale

APPENDIX D ANTECEDENT HYDROLOGY (WETS) ANALYSIS

WETS Analysis Worksheet

Project Name: Emerald Sky Dairy

Project No.: 16004 Date: 5/3/2016

Period of Interest: February-April 2016 WETS Station: Baldwin (WI0486)

County/State: St. Croix County Wisconsin

Long Term Precipitation Data (From WETS Station)¹

2011g 101111 1001phanon 2 and (110111 11210 01anon)					
	30% Chance	30% Chance			
Month	less than	Average	more than		
April	1.61	2.64	3.20		
March	1.09	1.83	2.22		
February	0.39	0.81	0.99		
	April March	Month less than April 1.61 March 1.09	Month less than Average April 1.61 2.64 March 1.09 1.83		

Sum = **5.28**

Site Climate Condition Determination

-						
	Site	Condition	Condition ³	Month		
	Precip (in)	Dry/Normal ² /Wet	Value	Weight	Product	
	1.62	Normal	2	3	6	
	2.35	Wet	3	2	6	
	0.71	Normal	2	1	2	
Sum =	4.68			Sum ⁴ =	14	

¹ Precipitation Data Source: USDA Field Office Climate Data: http://efotg.sc.egov.usda.gov/efotg_locator.aspx

² Normal precipitation with 30% to 70% probability of occurrence

³ Condition value:	⁴ If sum is:		Determination:		
Dry = 1	6 to 9	then period has been drier than normal	_		Dry
Normal $= 2$	10 to 14	then period has been normal	_	Х	Normal
Wet = 3	15 to 18	then period has been wetter than normal	_		Wet

Reference: Donald E.Woodward, ed. 1997. *Hydrology Tools for Wetland Determination*, Chapter 19. Engineering Field Handbook.

U.S. Department of Agriculture, Natural Resources Conservation Service, Fort Worth, TX.

APPENDIX E OFFSITE REVIEW

OFF-SITE REVIEW

Project Name/Site: Emerald Sky Dairy

Project Number: 16004

Project Location: Town of Emerald, St. Croix Co., WI

Review Date: 4/25/2016



	Monthly Rainfall (inches) ¹		2 Cropped	Wetness			
Year	April	May	June	Condition ²	Status ³	Signature ⁴	Interpretation Codes ⁵ /Comments
1979	1.24	5.07	4.76	Normal	CR/NC	Y	6a, 6b, 6d
1980	1.51	1.46	6.57	Normal	CR/NC	Y	6a, 66b, 6d
1981	3.44	2.37	4.21	Normal	CR/NC	Υ	6a, 6d
1982	2.21	4.54	2.13	Normal	CR/NC	Y	6a, 6d
1983	3.42	3.01	1.88	Normal	CR/NC	Y	6a, 6b, 6d
1984	4.06	2.08	5.67	Normal	CR/NC	Y	6a, 6b, 6d, 5
1985	2.46	3.15	2.56	Dry	CR/NC	Y	6a, 6b, 6d
1986	6.16	1.96	5.22	Normal	CR/NC	Y	6a, 6b,6d
1987	0.40	3.99	3.22	Normal	CR/NC	Y	6a, 6b 6d
1988	1.14	3.45	3.31	Normal	CR/NC	Y	6a, 6b, 6d, 3
1989	1.86	4.59	2.67	Normal	CR/NC	Y	6a, 6b, 6d
1990	4.53	4.50	10.84	Wet	CR/NC	Y	6a, 6b, 6d
1991	2.95	6.34	4.70	Normal	CR/NC	Y	6a, 6b, 6d, 1
1992	3.35	1.17	3.94	Normal	CR/NC	Y	6a, 6b, 6d, 1
1995	2.18	2.72	1.23	Dry	CR/NC	Y	6a, 6b, 6d, 1
1996	1.18	2.64	6.02	Normal	CR/NC	Y	6a, 6b, 6d, 1
2005	1.59	3.42	6.46	Normal	CR/NC	Y	6a, 6d, 5
2006	3.20	2.01	2.53	Dry	CR/NC	Y	6a, 6d, 3
2008	4.00	2.42	5.29	Normal	CR/NC	Y	6a, 6b, 6d, 1, 3
2010	2.04	3.14	7.94	Wet	CR/NC	Y	6a, 6b, 6d, 1, 5
2012	2.75	5.76	4.36	Normal	CR/NC	Y	6a, 6b, 6d, 1, 3
2013	3.47	4.61	5.65	Wet	CR/NC	Y	6a, 6b, 6d, 1, 3
2015	2.10	4.42	5.64	Wet	CR/NC	Y	6a, 6b, 6d, 1, 3, 5
# of years	23					100	Percent occurrence of wetness signatures
30% chance less than	1.61	2.26	3.20			Υ	50% or more show wetness signatures
30 Year Average	2.64	3.44	4.58			Υ	30% or more show wetness signatures and area is on WDNR WWI or NRCS wetland inventory
30% chance more than	3.20	4.13	5.45			Υ	Analysis indicates the site contains a wetland ⁶

¹Precipitation data from WETS weather station, Baldwin WI0486, St. Croix Co., WI. Assumption is made that FSA slides are taken in July; therefore, analysis focuses on three months prior.

²Condition: Dry Normal We

³ CR = cropped (row crop or tilled), NC = not cropped (hay, pasture, fallow, etc.)

⁴ Y = wetness signature present (+ = strong, - = weak); N = No wetness signature

⁵ Interpretation Codes - Feature: 1=water, 2=mud flat, 3=bare spot, 4=drowned crop, 5=planted late; Color: 6a=dark green, 6b=light green, 6c=yellow, 6d=brown, 6e=black; Manipulation: 7a=ditched, 7b=tiled, 7c=filled, 7d=tree/brush removal,

⁶On-site verification is required for final determination/delineation.





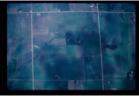








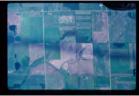


















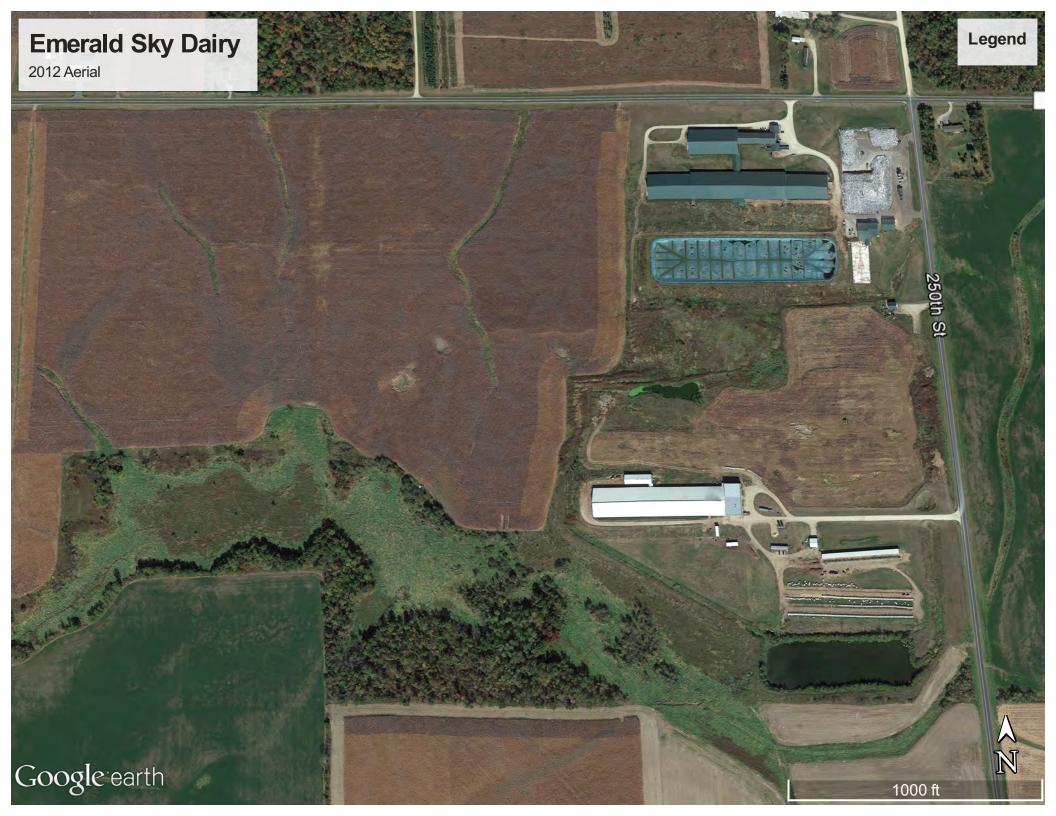






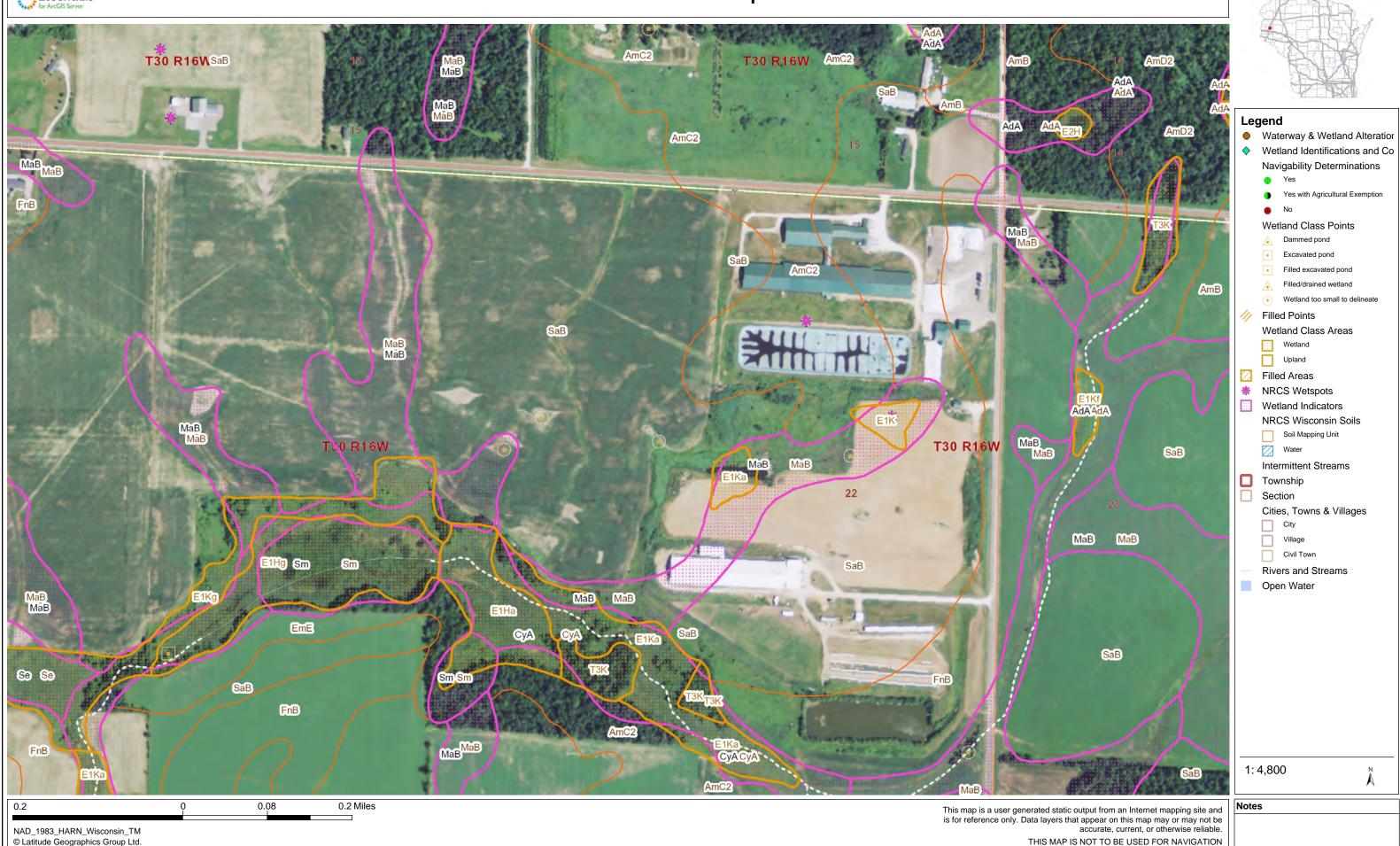






Geocortex® Essentials

Surface Water Data Viewer Map





APPENDIX F USDA NRCS WETLAND & SOILS DATA

Wetland Inventory

Date: 5/24/2016

Customer(s): Emerald Sky Dairy(Op) Todd Tuls (Ow)

BALDWIN SERVICE CENTER USDA - NRCS Assisted By: LRB St.Croix County, WI

Legal Description: T30N R16 W SEC 22 - EMERALD





Emerald Sky Dairy

SECTIONS - St. Croix_109

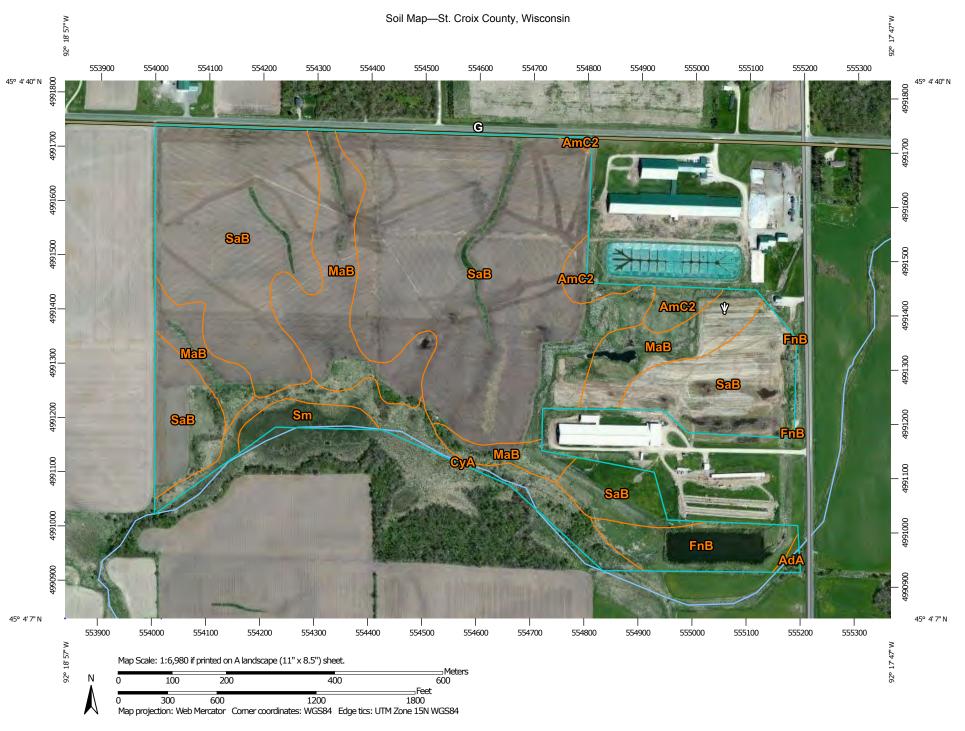
1:10,000

620 0 620 1,240 1,860 2,480

Feet







MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

☑ Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Landfill

A Lava Flow

▲ Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

Sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

Sodic Spot

__.._

Stony Spot

M Very Stony Spot

Spoil Area

Wet Spot

Other

Special Line Features

Water Features

Streams and Canals

Transportation

Rails

Interstate Highways

US Routes

Major Roads

Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Croix County, Wisconsin Survey Area Data: Version 11, Sep 17, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

St. Croix County, Wisconsin (WI109)						
Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI			
AdA	Adolph silt loam, 0 to 2 percent slopes	0.4	0.3%			
AmC2	Amery loam, 6 to 12 percent slopes, eroded	3.7	2.4%			
СуА	Clyde silt loam, 0 to 3 percent slopes	9.2	5.9%			
FnB	Freeon silt loam, 2 to 6 percent slopes	7.1	4.5%			
МаВ	Magnor silt loam, 0 to 4 percent slopes	27.3	17.5%			
SaB	Santiago silt loam, 2 to 6 percent slopes	105.7	67.7%			
Sm	Seelyeville muck	2.8	1.8%			
Totals for Area of Interest		156.2	100.0%			

Map Unit Description (Brief, Generated)

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions in this report, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

The Map Unit Description (Brief, Generated) report displays a generated description of the major soils that occur in a map unit. Descriptions of non-soil (miscellaneous areas) and minor map unit components are not included. This description is generated from the underlying soil attribute data.

Additional information about the map units described in this report is available in other Soil Data Mart reports, which give properties of the soils and the limitations, capabilities, and potentials for many uses. Also, the narratives that accompany the Soil Data Mart reports define some of the properties included in the map unit descriptions.

Report—Map Unit Description (Brief, Generated)

St. Croix County, Wisconsin

Map Unit: AdA—Adolph silt loam, 0 to 2 percent slopes

Component: Adolph (100%)

The Adolph component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on drainageways on ground moraines, depressions on ground moraines. The parent material consists of silty drift over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during April, May, November. Organic matter content in the surface horizon is about 6 percent. Nonirrigated land capability classification is 4w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 8 percent.

Map Unit: AmC2—Amery loam, 6 to 12 percent slopes, eroded

Component: Amery, deep to dense layer (100%)

The Amery, deep to dense layer component makes up 100 percent of the map unit. Slopes are 6 to 12 percent. This component is on end moraines, ground moraines. The parent material consists of loamy drift over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 3e. This soil does not meet hydric criteria.

Map Unit: CyA—Clyde silt loam, 0 to 3 percent slopes

Component: Clyde (100%)

The Clyde component makes up 100 percent of the map unit. Slopes are 0 to 3 percent. This component is on drainageways on ground moraines. The parent material consists of silty drift over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is moderate. This soil is not flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during April, May, November. Organic matter content in the surface horizon is about 8 percent. Nonirrigated land capability classification is 2w. This soil meets hydric criteria. The calcium carbonate equivalent within 40 inches, typically, does not exceed 13 percent.

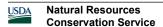
Map Unit: FnB—Freeon silt loam, 2 to 6 percent slopes

Component: Freeon (100%)

The Freeon component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on ground moraines. The parent material consists of loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is very low. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 12 inches during April. Organic matter content in the surface horizon is about 2 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

Map Unit: MaB—Magnor silt loam, 0 to 4 percent slopes

Component: Magnor (80%)



The Magnor component makes up 80 percent of the map unit. Slopes are 0 to 4 percent. This component is on ground moraines on till plains. The parent material consists of loess and/or silty lacustrine deposits over dense sandy loam till. Depth to a root restrictive layer, densic material, is 39 to 59 inches. The natural drainage class is somewhat poorly drained. Water movement in the most restrictive layer is low. Available water to a depth of 60 inches (or restricted depth) is moderate. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during April. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2w. This soil does not meet hydric criteria.

Component: Freeon (8%)

Generated brief soil descriptions are created for major soil components. The Freeon soil is a minor component.

Component: Cebana (4%)

Generated brief soil descriptions are created for major soil components. The Cebana soil is a minor component.

Component: Pesabic (2%)

Generated brief soil descriptions are created for major soil components. The Pesabic soil is a minor component.

Component: Capitola (2%)

Generated brief soil descriptions are created for major soil components. The Capitola soil is a minor component.

Component: Almena (2%)

Generated brief soil descriptions are created for major soil components. The Almena soil is a minor component.

Component: Magnor, very stony (2%)

Generated brief soil descriptions are created for major soil components. The Magnor soil is a minor component.

Map Unit: SaB—Santiago silt loam, 2 to 6 percent slopes

Component: Santiago (100%)

The Santiago component makes up 100 percent of the map unit. Slopes are 2 to 6 percent. This component is on ground moraines. The parent material consists of loamy drift and/or loess over loamy till. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is well drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is high. Shrink-swell potential is low. This soil is not flooded. It is not ponded. There is no zone of water saturation within a depth of 72 inches. Organic matter content in the surface horizon is about 3 percent. Nonirrigated land capability classification is 2e. This soil does not meet hydric criteria.

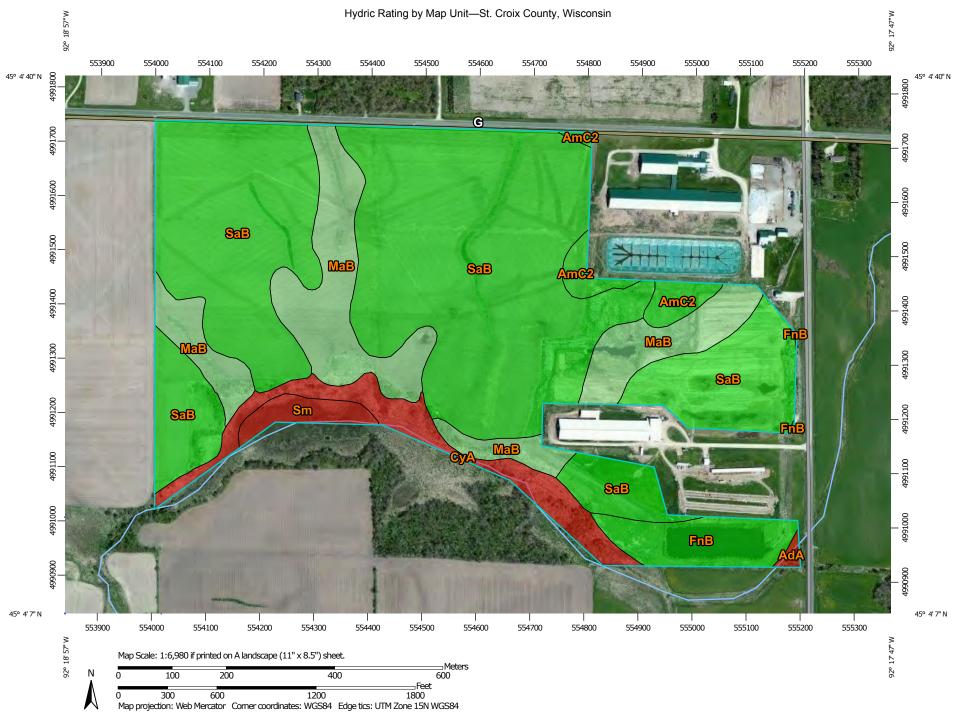
Map Unit: Sm—Seelyeville muck

Component: Seelyeville (100%)

The Seelyeville component makes up 100 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on flood plains, drainageways on flood plains. The parent material consists of organic material. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is moderately high. Available water to a depth of 60 inches (or restricted depth) is very high. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 0 inches during April, May, November. Organic matter content in the surface horizon is about 62 percent. Nonirrigated land capability classification is 3w. This soil meets hydric criteria.

Data Source Information

Soil Survey Area: St. Croix County, Wisconsin Survey Area Data: Version 11, Sep 17, 2015



MAP LEGEND

Area of Interest (AOI) Transportation Area of Interest (AOI) Rails Soils Interstate Highways Soil Rating Polygons **US Routes** Hydric (100%) Major Roads Hydric (66 to 99%) Local Roads \sim Hydric (33 to 65%) Background Hydric (1 to 32%) Aerial Photography Not Hydric (0%) Not rated or not available Soil Rating Lines Hydric (100%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (1 to 32%) Not Hydric (0%) Not rated or not available Soil Rating Points Hydric (100%) Hydric (66 to 99%) Hydric (33 to 65%) Hydric (1 to 32%) Not Hydric (0%) Not rated or not available **Water Features** Streams and Canals

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:15,800.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: St. Croix County, Wisconsin Survey Area Data: Version 11, Sep 17, 2015

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Data not available.

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydric Rating by Map Unit

Hydric Rating by Map Unit— Summary by Map Unit— St. Croix County, Wisconsin (WI109)						
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI		
AdA	Adolph silt loam, 0 to 2 percent slopes	100	0.4	0.3%		
AmC2	Amery loam, 6 to 12 percent slopes, eroded	0	3.7	2.4%		
СуА	Clyde silt loam, 0 to 3 percent slopes	100	9.2	5.9%		
FnB	Freeon silt loam, 2 to 6 percent slopes	0	7.1	4.5%		
МаВ	Magnor silt loam, 0 to 4 percent slopes	6	27.3	17.5%		
SaB	Santiago silt loam, 2 to 6 percent slopes	0	105.7	67.7%		
Sm	Seelyeville muck	100	2.8	1.8%		
Totals for Area of Interest			156.2	100.0%		

Description

This rating indicates the percentage of map units that meets the criteria for hydric soils. Map units are composed of one or more map unit components or soil types, each of which is rated as hydric soil or not hydric. Map units that are made up dominantly of hydric soils may have small areas of minor nonhydric components in the higher positions on the landform, and map units that are made up dominantly of nonhydric soils may have small areas of minor hydric components in the lower positions on the landform. Each map unit is rated based on its respective components and the percentage of each component within the map unit.

The thematic map is color coded based on the composition of hydric components. The five color classes are separated as 100 percent hydric components, 66 to 99 percent hydric components, 33 to 65 percent hydric components, 1 to 32 percent hydric components, and less than one percent hydric components.

In Web Soil Survey, the Summary by Map Unit table that is displayed below the map pane contains a column named 'Rating'. In this column the percentage of each map unit that is classified as hydric is displayed.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. September 18, 2002. Hydric soils of the United States.

Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.



Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2006. Keys to soil taxonomy. 10th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Rating Options

Aggregation Method: Percent Present

Component Percent Cutoff: None Specified

Tie-break Rule: Lower

Hydric Rating by Map Unit (WI)

This Hydric Soil Category rating indicates the components of map units that meet the criteria for hydric soils. Map units are composed of one or more major soil components or soil types that generally make up 20 percent or more of the map unit and are listed in the map unit name, and they may also have one or more minor contrasting soil components that generally make up less than 20 percent of the map unit. Each major and minor map unit component that meets the hydric criteria is rated **hydric.** The map unit class ratings based on the hydric components present are: WI Hydric, WI Predominantly Hydric, WI Partially Hydric, WI Predominantly Nonhydric, and WI Nonhydric. The report also shows the total representative percentage of each map unit that the hydric components comprise.

"WI Hydric" means that all major and minor components listed for a given map unit are rated as being hydric. "WI Predominantly Hydric" means that all major components listed for a given map unit are rated as hydric, and at least one contrasting minor component is not rated hydric. "WI Partially Hydric" means that at least one major component listed for a given map unit is rated as hydric, and at least one other major component is not rated hydric. "WI Predominantly Nonhydric" means that no major component listed for a given map unit is rated as hydric, and at least one contrasting minor component is rated hydric. "WI Nonhydric" means no major or minor components for the map unit are rated hydric. The assumption is that the map unit is nonhydric even if none of the components within the map unit have been rated.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part (Federal Register, 1994). Under natural conditions, these soils are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

If soils are wet enough for a long enough period of time to be considered hydric, they typically exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010).

The NTCHS has developed criteria to identify those soil properties unique to hydric soils (Federal Register, 2012). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria use selected soil properties that are described in "Field Indicators of Hydric Soils in the United States" (Vasilas, Hurt, and Noble, 2010), "Soil Taxonomy" (Soil Survey Staff, 1999), "Keys to Soil Taxonomy" (Soil Survey Staff, 2010), and the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

The criteria for hydric soils are represented by codes, for example, 2 or 3. Definitions for the codes are as follows:

- 1. All Histels except for Folistels, and Histosols except for Folists.
- Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
- 3. Soils that are frequently ponded for long or very long duration during the growing season.
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil:
- 4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

Federal Register. July 13, 1994. Changes in hydric soils of the United States.

Federal Register. February, 28, 2012. Hydric soils of the United States.

Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.

Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.

Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.

Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Report—Hydric Rating by Map Unit (WI)

Map Unit Symbol	Map Unit Name	Hydric Percent of Map Unit	Hydric Category
AdA	Adolph silt loam, 0 to 2 percent slopes	100	WI Hydric
AmC2	Amery loam, 6 to 12 percent slopes, eroded	0	WI Nonhydric
СуА	Clyde silt loam, 0 to 3 percent slopes	100	WI Hydric
FnB	Freeon silt loam, 2 to 6 percent slopes	0	WI Nonhydric
МаВ	Magnor silt loam, 0 to 4 percent slopes	6	WI Predominantly Nonydric
SaB	Santiago silt loam, 2 to 6 percent slopes	0	WI Nonhydric
Sm	Seelyeville muck	100	WI Hydric

Data Source Information

Soil Survey Area: St. Croix County, Wisconsin Survey Area Data: Version 11, Sep 17, 2015