UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5

IN THE MATTER OF:	)	
	)	Docket No.: CWA-05-2016-0004
Wayne Dempze Cranberry Co., LLC, Vesper, Wisconsin.	)	
Respondent	)	Consent Agreement and Final Order
	)	Pursuant to Sections 309(a) and (g) of the Clean Water Act, 33 U.S.C. §§1319(a) and (g).

CONSENT AGREEMENT AND FINAL ORDER AND AGREED ORDER FOR WETLAND RESTORATION

EXHIBIT 1

Compensatory Mitigation and Wetland Restoration Site Plan
With
Attachments 1-13


REGIONAL HEARING CLERK
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NOV 27 2015
U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION 5

Compensatory Mitigation and Wetland Restoration Site Plan
List of Attachments

Number	Title
1	Project Location Map
2	EPA Wetland Impact Map
3	Final Supplemental Contractor Guidance Plan
4	Topographic Map
5	Soil Survey Map
6	Reed Canary Grass Location Map
7	Wetland Delineation
8	Floodplain Map
9	Construction Plan Set
10	Designated Waters Map
11	Potentially Restorable Wetlands Map
12	Wetland Compensatory Mitigation Easement.

Compensatory Mitigation and Wetland Restoration and Enhancement Site Plan

Executive Summary

Site Name: Wayne Dempze Cranberry Company, LLC.

Location of Compensatory Mitigation Site: This site is located in the Town of Hanson, Wood County, WI. The address of the site is 4917 County Road D, Vesper, WI 54489. The legal description for the site is T. 23 N.-R.4E., Section 35 in Wood County. The site is located 0.7 miles northwest of the intersection of Meunier Road and CTH D. The site is 1.03 miles northwest of the Swensen Air Strip (Private) (715) 569-4286. The site is owned by Wayne Dempze Cranberry Company, LLC.

The site is located within the Lower Hemlock Creek Watershed (12-digit HUC 070700031005), which is contained within the Central Wisconsin Basin Water Management Unit (WMU).

Is this a Bank Site? No

Is this Project Specific? Yes

General Description of Design Concept for the site: This project will result in the restoration and enhancement of both high quality forested wetland, and wet meadow habitats. Hydrology and wetland characteristics will be restored by filling a man-made ditch, as well as excavation to intercept the ground water table within the root zone and grading to slow runoff by flattening the topography.

The need for this project is to resolve an enforcement action brought by the Environmental Protection Agency (EPA). The project involves both restoration and mitigation. The area of Restoration which is under EPA's exclusive jurisdiction is referred to as Wetland Restoration Area #1 on the Site Plan and is comprised of 2.91 acres. There is also a 3.28 acre area (Area #2) that involves enhancement efforts (EPA has jurisdiction over restoration aspects and WDNR/USACE has jurisdiction over the mitigation related aspects of enhancement).

The remaining acreage under the proposed plan is under the jurisdiction of both the Wisconsin Department of Natural Resources (WDNR) and U.S. Army Corps of Engineers (USACE) and for purposes of this plan, the .18 acre state only wetland is included. These activities will be performed for compensatory purposes under an After the Fact (ATF) permit application that is being sought (Application #IP-WC-2015-72-01551). Activities under the WDNR and USACE's jurisdiction will consist of wetland enhancement efforts along with provision of an upland buffer separating an agricultural area and the site.

Surrounding land uses: The project area is very rural and consists of undeveloped forested lands, agricultural land, scattered single family residences and other cranberry marshes.

Planned hydrology (expected water depth): Hydrologic depths of the project will include temporary/seasonally inundated areas and saturated soil areas. The hydrologic source is both groundwater, as well as flow from the drainage ditch that bisects the area being proposed for enhancement/compensatory activities.

Planned construction date:

Exclusive EPA jurisdictional restoration area (Area #1) – construction fall 2015
WDNR/USACE jurisdictional compensatory areas - reed canary grass treatment - Summer/fall 2014 & 2015
WDNR/USACE jurisdictional compensatory areas - construction summer/fall 2016

Wetland Credits Necessary:

4.75 (hardwood swamp) X 1.95 (out of kind)	=	9.26 acres
2.12 (degraded meadow) X 1.45 (in-kind)	=	3.07 acres
.18 (state-only degraded meadow) X 1.45 (in-kind)	=	.26 acres
Total Credits Necessary	=	12.59 acres

Wetland Credit Generated through On-Site Mitigation:

Site Acres	Wetland Activity Type	Ratio	Credit	Wetland Type
≅ 19.25	Enhancement	.66:1	12.71	Wet meadow
≅ 1.42	Buffer	.25:1	.36 acres	Buffer
	Total acres		13.07 acres	

4.75 acres of ATF is derived from March 22nd EPA map 1.91 + 4.9 + .25 = 7.06 acres
7.06 – 2.31 (bed 9 restoration; no ATF needed, note that the 2.31 acres is derived by multiplying .6205 x 1.62 for area below the mosaic line (1.02) and adding 1.29 for area above mosaic line) = 4.75 acres

2.12 acres of ATF is derived from March 22nd EPA map, and includes second set of dikes on northern end of beds that were not included in the March 22nd EPA map. Note that March 22nd EPA map indicated 1.15 acres of fill requiring an ATF.

.18 acres is derived from March 22nd EPA map.

Note that 2.91 acre bed 9 restoration will be pit and mound and performance standard based on that and is EPA jurisdiction only.

Note that 19.25 acres is based upon 4.61 acres of re-established wetland, in three areas (1.65 + .49 + 2.47); ≅ 3.28 acres of wetland enhanced beyond EPA restoration requirements; and 11.36 acres of enhanced wetlands in the riparian corridor.

Note that site will have substantially more and better functioning wetlands upon completion of the project. Trees will be planted throughout riparian corridor but no performance standard related to tree survivability will be applied since out-of-kind mitigation ratio was used. The 3.28 acre restoration area's mitigation credit ratio of based upon its high probability of success, as it is located within a previous wetland and the fact that this project will enhance the vegetation community well beyond the EPA's requirement to restore it to the degraded reed canary dominated wetland it was previously. It should also be noted that while not recognized for mitigation purposes, Dempze has created approximately 13.5 acres of cropped wetland with the creation of beds 5, 6, 7 and 8. Finally, the mitigation plan creates a much better environmental outcome than existed prior to the fill activities by improving and integrating the riparian corridor between the two undeveloped forested areas.

This project includes 0.30 acres (13,006 s.f.) of ditchline to be filled, which is not included in the mitigation impact analysis.

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LIST OF ATTACHMENTS

1.0 Introduction and Purpose

This plan summarizes the actions being proposed to comply with the restoration and compensatory wetland requirements at the Wayne Dempze Cranberry Company, LLC. site in Wood County, WI. (See Attachment 1 – Project Location Map). This project pertains to the aspects of a previously constructed cranberry marsh expansion consisting of approximately 13 acres and which allegedly resulted in wetland fill. The basis of this permit application originates from the Environmental Protection Agency (EPA) Memorandum dated February 28, 2011, which is an Impact Assessment for Unauthorized Discharges of Dredged and Fill Material at the Wayne Dempze Cranberry Company, LLC site in Wood County, WI. This Memorandum indicates that "there was sufficient evidence to suggest that five north-south oriented cranberry beds of varying length had been constructed wholly or partially in wetlands west of an existing cranberry operation. In addition, a reservoir had been constructed wholly or partially in wetlands south of the existing cranberry operation." (See Attachment 2 – EPA Wetland Impact Map).

This site is comprised of two separate jurisdictional areas. The southern 2/3rds of Cranberry Bed 9 referred to within this plan as Wetland Restoration Area #1 and comprised of 2.91 acres is under the sole jurisdiction of the Environmental Protection Agency (EPA). The remainder of the site is under the joint jurisdiction of the Wisconsin Department of Natural Resources (WDNR) and the US Army Corps of Engineers (USACE).

It is proposed that all grading, earthwork, planting and seeding operations within the area of EPA jurisdiction be completed by December 31, 2015. The EPA must approve all restoration grades in writing, prior to all seeding and planting activities. An As-Built Plan is required to be submitted to the EPA within 30 days of grade completion. The transplanting of trees is to occur in the fall of 2015 and/or the spring of 2016, and the planting of the tree and shrub seedlings is to be conducted in the spring of 2016. Monitoring is to be conducted on a biannual basis (2017, 2019, 2021, 2023, and 2025) with monitoring activities to be conducted in July and the monitoring reports to be submitted by the first business day of September of the monitoring year.

Grading, earthwork and seeding for the remainder of the site is to be completed by December 31, 2016. An As-Built Plan is required to be submitted to the WDNR and USACE within 30 days of grade completion. Planting of tree and shrub seedlings is to be conducted in the spring of 2017. Monitoring is to begin one full growing season after construction (including planting) and then be performed annually for a period of 5 years (2017-2021). If any changes to the final, approved mitigation plan are proposed, they will require approval by WDNR/USACE prior to implementing.
(See Attachment 3 – Supplemental Contractors Guidance Plan).

2.0 Plan Developers and Expertise

This permitee-specific site plan was developed by QUEST Civil Engineers, LLC's (QUEST) Environmental Department Head – Brian Kronstedt. Construction supervision and monitoring will be conducted by Brian Kronstedt and assisted by QUEST's Dave Joosten – Environmental Specialist.

2.1 Brian Kronstedt

Brian is the Environmental Department Head at QUEST with 20 years of experience. Brian's experience includes providing design, construction inspection, monitoring and invasive vegetation management services at a number of WisDOT wetland mitigation sites throughout the state. Brian has also conducted numerous wetland delineations and permit applications for both public and private sector projects. Brian will be the Project Manager for the project.

2.2 Dave Joosten

Dave is an Environmental Specialist with 9 years of experience. Dave has experience in providing design, construction inspection, monitoring and invasive vegetation management services at various WisDOT wetland mitigation sites across the state. He has conducted and assisted in a number of wetland delineations and permit applications for various projects. Dave will be the Assistant Project Manager for the project.

3.0 General Description of Site Plan

The total project site area is 30.45 acres and consists of 19.25 acres of wetland enhancement efforts, 2.91 acres of wetland restoration, 7.05 acres of After the Fact permitting, and 1.42 acres of upland buffer.

4.0 Location of Site

The site is located at 4917 County Road D, Vesper, Wood County, WI 54489. The site is located within the S ½ of the SW ¼ of Section 35, Township 23 North, Range 4 East in the Town of Hansen. The site is located on the east side of CTH D, north of Meunier Road.

5.0 Detailed Baseline Conditions

5.1 Site Survey

A topographical and boundary survey of the site was completed by QUEST (Kolby Schertz, PLS (715) 423-3525) in the fall of 2013. Topography was recorded with one-foot contours (See Attachment 4 – Topographical Map).

5.2 On-site Land Use

The area proposed for restoration was previously comprised of cropland, pastured forested uplands, and pits and mounds forested wetlands. Conversion of this area to cranberry beds began in 2005 was discontinued shortly thereafter, and then resumed in 2009.

The area proposed for compensatory activities was likely to have previously consisted of pastured forested uplands, and pits and mounds forested wetlands. Currently this area is comprised of degraded wet meadow wetlands and an agricultural field.

5.3 Zoning Designations

The site is not zoned.

5.4 Nearby Land Use

The nearby land use is very rural and consists of undeveloped forested lands, agricultural land, scattered single family residences and other cranberry marshes. Land use adjacent to the project site consists of undeveloped forested lands to the east and west, cranberry beds to the south and an agricultural field to the north.

5.5 Historical or Archaeological Resources

No historical or archaeological resources are known to be present on the site. A review for these resources will be conducted by the WDNR as part of the permitting process.

5.6 Geomorphic and Soils Assessment

This landscape is comprised of lacustrine and outwash sands originating from Glacial Lake Wisconsin. Soil types on site consist of Veedum silt loam and Vesper silt loam. These soils are found in large upland drainageways and depressions. Runoff is very slow to ponded. A high water table is present in spring and part of the summer. (See Attachment 5 – Soils Survey Map).

5.7 Hydrological Assessment

This project is located in the WDNR's Central Wisconsin Watershed Management Unit. Hydrology of the site is predominantly a result of inflow from a man-made drainage ditch that bisects the area being proposed for compensatory activities. This ditch has been deemed non-navigable by WDNR. It is proposed to fill this drainage ditch to restore and enhance its adjacent wetlands. The existing culvert located at the upstream end of this ditchline near the property line will remain in place to allow the site to accept water from the adjacent property. In order to prevent flooding of upgradient properties, filling of the ditchline will not begin until that point where the ditch fill would be at an elevation of 1040.25 or lower, which would allow 0.49' of flow to pass through the pipe completely unrestricted. The scenario where the proposed elevation of ditch fill to begin does not occur until the ditch has entered the property by more than 150'.

5.8 Floristic Assessment

Fresh (wet) meadow wetland plant communities are present in the area adjacent to the drainage ditch. Current land use and vegetation within the area proposed for compensatory and restoration activities consists of agricultural crops, cranberry beds and dikes, wet meadow wetland and patches of monotypic reed canary grass that are currently under management (tillage, spraying, and planting).

Pre-settlement conditions were likely a combination of pit and mound forested wetlands and forested uplands. More recently, the lands north of the drainage ditch were used for row crops and pasture.

Non-native invasive species (NNI) currently present on-site are currently limited to reed canary grass. Management activities for reed canary grass are currently being conducted and will be continued as needed throughout the monitoring period. A small amount of reed canary grass is present up gradient of the site along the drainage ditch which is likely to result in a future seed source. (See Attachment 6 – Reed Canary Grass Location Map).

Any invasive vegetation species encountered during the annual monitoring period will be handpulled or treated with herbicide.

Any areas found to exceed 50% coverage of invasive vegetation during the meander survey will be treated with herbicide, tilled and reseeded that fall with the same seed mix originally planted in that area.

5.9 Faunal Assessment

Observed wildlife species at the project site include whitetail deer, red winged blackbird, green frogs, sandhill cranes, and red tailed hawk. Other species anticipated to be using the site include coyote, red fox, muskrat, harrier and various herps and reptile species.

5.10 Web Soil Survey and WWI Mapping of the Site

Web Soil Survey shows the soils of this site within areas of proposed restoration and compensatory activities are comprised of Veedum silt loam and Vesper silt loam, with inclusions of Kert soils within the upland buffer. Both Veedum and Vesper silt loams are poorly drained and are found in drainageways and depressions and have seasonally high water tables at or near the surface. The Kert Series is a somewhat poorly drained, silty soil found on uplands. (See Attachment 4 – Soils Survey Map).

The Wisconsin Wetland Inventory (WWI) identifies the wetlands of the site as Emergent Wet Meadow (E1Ka). (See Attachment 7 – Wisconsin Wetland Inventory Map).

5.11 Wetland Delineation

Wetland boundaries relating to the proposed activities were predominantly determined by the Environmental Protection Agency's (EPA) – Greg Carlson. (See Attachment 2 – EPA Wetland Impact Map). A supplementary delineation was submitted on December 5, 2013 by QUEST's – Brian Kronstedt for that area north of the drainage ditch. This supplementary delineation was required due to a later decision to utilize this area for compensatory activities. (See Attachment 8 – Wetland Delineation).

5.12 Floodplain

There are no Federal Emergency Management Agency (FEMA) mapped floodplains within the project area. (See Attachment 9 - Floodplain Map).

5.13 State Navigable Waters

There are no navigable waters of special significance within the project site. An unnamed drainage ditch (WBIC 5019263) runs through the project site and is proposed to be filled as part of this project. This drainage ditch then flows into the Hemlock Creek which is located approximately 1.29 miles west of the site. (See Attachment 10 – Designated Waters Map).

5.14 Ecological Importance

The proposed activities for this site would provide a travel corridor for wildlife by connecting the forestlands on both the east and west sides of the project. The increased retention time provided by this project would improve water quality and buffer runoff rates. Improved and diversified habitat provided by planting of native seed mixes as well as planting of tree and shrubs will enhance wildlife populations and diversity.

6.0 Site Maps

The existing site conditions plan, proposed site plan, planting plan, and plan showing proposed hydrology are included within the Construction Plan Set – Attachment 10.

7.0 Design Features

The site plan consists of efforts to restore, create, enhance, re-stablish and rehabilitate wetland conditions by removing fill material, dikes, and filling of ditchlines. (See Sections 7.1 & 7.2 of Attachment 3 - Supplemental Contractors Guidance Plan).

Wetland enhancement activities at this site will consist of conversion of uplands to a wetland condition through excavation and placement of topsoil. The upland areas proposed for enhancement activities consist of an upland portion of an existing cranberry bed, an upland island, and a segment of an agricultural field. (See Section 7.3, 7.4 & 7.5 of Attachment 3 - Supplemental Contractors Guidance Plan).

Wetland enhancement efforts will be performed by filling an existing ditchline to match surrounding ground elevations, minor grading activities adjacent to the ditchline to flatten topography and slow runoff, providing invasive vegetation management and planting of a wet meadow seed mix and tree/shrub seedlings.
(See Section 7.6 of Attachment 3 - Supplemental Contractors Guidance Plan).

A buffer will provided to capture and absorb nutrients from the adjacent agricultural field. Buffer is to be established by the planting of Mesic Native Seed Mix. (See Section 7.7 of Attachment 3 - Supplemental Contractors Guidance Plan).

7.1 Proposed Construction Activities

Construction efforts will consist of removal of fill material, minor excavation to intercept groundwater with root zone, placement of topsoil, excavation and disposal of any remaining reed canary monotypes, planting of trees and shrubs and planting of Wet Meadow Native Seed Mix within wetland areas and Mesic Native Seed Mix in the buffer.

Construction inspection will be provided by QUEST Civil Engineers, LLC.

7.2 Proposed Hydrology

Hydrology of the site is expected to be restored through filling of the drainage ditch that runs east/west through the Site. Enhancement areas will require minor grading efforts to intercept the groundwater table with the root zone.

7.3 Wetland Vegetation Planting Plan

All seed is to be native to Wisconsin and is to have been harvested within 200 miles of the Dempze site and obtained from an existing commercial nursery. All disturbed or excavated wetland areas are to be seeded with Wet Meadow Native Seed Mix and the upland buffer is to be seeded with Mesic Native Seed Mix. If any species within the seed mix are unavailable at the time of order, replacement species require the approval of the agencies.

Wet Meadow Native Seed Mix is to be broadcasted at a rate of 8 lbs./acre. Total acreage of Wet Meadow Native Seeding is 22.16 acres and will require a total of 177.3 lbs of seed. A list of species found within the Wet Meadow Native Seed Mix and the percent composition of these species within the seed mix can be found in the following table. Wet Meadow Native Seed Mix is not to be planted on the mounds constructed within Wetland Restoration Area #1.
(See Section 3 of Attachment 3 - Supplemental Contractors Guidance Plan).

WET MEADOW NATIVE SEED MIX

WILDFLOWERS	COMMON NAME	OZ/ACRE
Anemone canadensis	Meadow Anemone	0.50
Asclepias incarnata	Marsh (Red) Milkweed	4.00
Aster novae-angliae	New England Aster	1.00
Aster puniceus	Swamp Aster	1.00
Baptisia leucantha (alba)	White Wild Indigo	2.00
Eupatorium maculatum	Spotted Joe Pye Weed	0.40
Eupatorium perfoliatum	Boneset	0.50
Gentiana andrewsii	Bottle Gentian	0.10
Helenium autumnale	Sneezeweed	0.25
Heliopsis helianthoides	Early Sunflower	1.50
Lobelia siphilitica	Great Blue Lobelia	0.50
Mimulus ringens	Monkey Flower	0.25
Monarda fistulosa	Wild Bergamot	2.00
Pycnanthemum virginianum	Mountain Mint	0.25
Ratibida pinnata	Yellow Coneflower	3.00
Solidago graminifolia	Grass-Leaved Goldenrod	0.10
Verbena hastata	Blue Vervain	1.50
Veronicastrum virginicum	Culver's Root	0.25
Zizia aurea	Golden Alexanders	4.00
	TOTAL	**23.10**

GRASSES	COMMON NAME	OZ/ACRE
Bromus ciliatus	Fringed Brome	32.00
Carex bebbii	Bebb's Oval Sedge	10.00
Carex crinita	Fringed Sedge	2.00
Carex scoparia	Lance-Fruited Oval Sedge	2.00
Carex stipata	Common Fox Sedge	3.90
Carex vulpinoidea	Brown Fox Sedge	1.50
Elymus virginicus	Virginia Wild Rye	48.00
Glyceria canadensis	Rattlesnake Grass	3.00
Glyceria grandis	Reed Manna Grass	2.50
	TOTAL	**104.90**

	SEED MIX TOTAL	**128.00**

All seeding within EPA the jurisdictional area is to occur upon completion of grading practices and between September 1 and November 15, 2015. All remaining areas are to be seeded upon completion of grading practices which are to be performed between September 1 and November 15, 2016. All disturbed areas to be seeded are to be lightly disced or tilled prior to planting. Those areas where topsoil has been placed do not require tillage if planting is to occur within 10 days of placement. The site should be allowed to be rained on once prior to seeding or a cultipacker shall be used to firm up the seed bed prior to seeding. Areas to be seeded are to be dragged prior to seeding to provide a uniform seedbed free of soil clods. Seed is to be uniformly broadcasted by hand and then cultipacked to ensure soil contact or seeded with a Truax seeder.

A cover crop consisting of 20 lbs. of winter wheat and 10 lbs. of common oats per acre is to be planted concurrently with the Wet Meadow Native Seed Mix.

7.4 Upland Buffer Vegetation Planting Plan

A permanent buffer is to be established along the north wetland boundary of the site through the planting of Mesic Native Seed Mix at a rate of 11 lbs./acre. Total acreage of Mesic Native Seeding is 1.42 acres and will require 15.6 lbs of seed. Performance criteria are to be based on a minimum of 75% ground coverage of native species at the end of the monitoring period. A list of species found within the Mesic Native Seed Mix and the percent composition of these species within the seed mix can be found in the following table.

MESIC NATIVE SEED MIX

WILDFLOWERS	COMMON NAME	OZ/ACRE
Amorpha canescens	Leadplant	3.00
Aster azureus	Sky Blue Aster	1.00
Aster novae-angliae	New England Aster	1.00
Baptisia leucantha (alba)	White Wild Indigo	2.00
Coreopsis palmata	Prairie Coreopsis	1.50
Dalea candida	White Prairie Clover	3.00
Dalea purpurea	Purple Prairie Clover	2.50
Echinacea pallida	Pale Purple Coneflower	4.00
Eryngium yuccifolium	Rattlesnake Master	2.50
Helianthus grosseserratus	Sawtooth Sunflower	0.50
Heliopsis helianthoides	Early Sunflower	15.00
Liatris pycnostachya	Prairie Blazing Star	1.50
Monarda fistulosa	Wild Bergamot	2.00
Penstemon digitalis	Foxglove Beard Tongue	0.50
Potentilla arguta	Prairie Cinquefoil	0.20
Pycnanthemum virginianum	Mountain Mint	0.20
Ratibida pinnata	Yellow Coneflower	2.25
Rudbeckia hirta	Black-Eyed Susan	3.50
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	2.00
Silphium laciniatum	Compass Plant	2.00
Silphium perfoliatum	Cup Plant	2.50
Solidago graminifolia	Grass-Leaved Goldenrod	0.20
Solidago rigida	Stiff Goldenrod	1.25
Verbena hastata	Blue Vervain	1.50
Veronicastrum virginicum	Culver's Root	0.20
	TOTAL	**55.80**

GRASSES	COMMON NAME	OZ/ACRE
Andropogon gerardii	Big Bluestem	24.00
Bouteloua curtipendula	Side Oats Grama	16.00
Carex bicknellii	Copper-Shouldered Oval Sedge	1.50
Elymus canadensis	Canada Wild Rye	16.00
Elymus virginicus	Virginia Wild Rye	32.00
Juncus tenuis	Path Rush	0.20
Panicum virgatum	Switchgrass	8.00
Schizachyrium scoparium	Little Bluestem	12.00
Sorghastrum nutans	Indian Grass	24.00
	TOTAL	**133.70**

	SEED MIX TOTAL	**189.50**

All seeding within EPA jurisdictional areas is to occur between September 1 and November 15, 2015. All remaining areas are to be seeded between September 1 and November 15, 2016. All disturbed areas to be seeded need to be lightly disced or rototilled prior to planting. Those areas where topsoil has been placed do not require tillage if planting is to occur within 10 days of placement. The site should be allowed to be rained on once prior to seeding or a cultipacker shall be used to firm up the seed bed prior to seeding. Areas to be seeded are to be dragged prior to seeding to provide a uniform seedbed free of soil clods. Seed is to be uniformly broadcasted by hand and then cultipacked to ensure soil contact or seeded with a Truax seeder.

A cover crop consisting of 20 lbs of winter wheat and 10 lbs of common oats per acre is to be planted concurrently with both the Mesic Native Seed Mix.

7.5 Site Constraints

Natural ecological succession is expected beyond the standard monitoring period. As this site was historically forested, succession to a forested state is desired and is not intended to be controlled by Dempze.

7.6 Site Preparation

All areas with pre-existing presence of Reed Canary Grass (RCG) will undergo the following sequence of steps in order to control the RCG and to rid the area of vegetative matter for seeding preparation. (See Attachment 6 – Reed Canary Grass Location Map).

1.) All areas of RCG are to be treated with herbicide during 2015.
2.) All RCG monocultures are to be tilled when and where feasible in 2015.
3.) Tilled areas are to then be allowed to regrow and upon regrowth of RCG, the site is then to be sprayed with Clethodim (a grass specific herbicide) mixed with crop oil. *Note: Clethodim is not an aquatic approved herbicide and therefore cannot legally be applied in areas where the applicators socks would become wet.* If portions of the site are not dry enough to allow for the legal use of Clethodim, Aquatic Glyphosate is to be used.
4.) Treatment areas are to be tilled again prior to planting of winter rye, which is to occur after September 1, 2015 and is to be planted at a rate of 100 lbs./acre.
5.) Those areas of the berms located west and south of Bed 9 that are dominated by RCG are to have all RCG excavated below their root line and this material buried in the bottom of the adjacent ditchlines that are to be filled.

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources (http://dnr.wi.gov//fish/documents/disinfection_protocols.pdf) for disinfection:

1.) Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species.
2.) Drain all water from trailers, engine compartments, and any other area where water may be trapped.
3.) Inspect all equipment surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can, prior to leaving the area or invested waters.
4.) Disinfect equipment and gear by either:
    a. Washing with ~212°F water (steam clean), or
    b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
    c. Disinfecting with either 200ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20 to 30 minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfectant should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

7.7 Erosion and Sedimentation Control

Erosion control methods planned for the site consists of minimizing the area of disturbance and seeding immediately upon placement of topsoil. Erosion concerns with filling of the drainage ditch will be addressed through the placement of a series of rock ditch checks to slow flow and capture sediment. Riprap and fabric will be placed at all outlets to prevent scouring. (See Sheet 8 of Attachment 10 – Construction Plan Set).

7.8 Impacts to Existing Jurisdictional Wetlands

No impacts to existing jurisdictional wetlands beyond those within the project limits are to occur.

8.0 Goals and Objectives for the Site

The goal of the site is to restore wetlands as required by an EPA enforcement action and enhance, rehabilitate and create compensatory wetlands under an After the Fact Permit Application through the WDNR and USACE.

8.1 Goal: Establish Wetland Area

The goal of this plan is for the site to develop wetland conditions throughout all areas of restoration and enhancement.

Objectives:

- **Wetland delineation should demonstrate establishment of wetlands as described in the plans.** All wetland habitats within the project area should successfully meet the criteria for being classified as a wetland according to the 1987 USACE *Wetland Delineation Manual* and *Regional Supplement: Northcentral and Northeast Region* (USACE 2012). An interim wetland delineation will be performed in 2020 and a final wetland delineation performed in 2025 for the area under sole jurisdiction of EPA (Area #1). A final wetland delineation is to be prepared for the remainder of the site in 2021. The wetland delineation report will be completed and attached to the standard monitoring report for that year.
- **Site should be constructed to specifications in the site plan.** The site plan includes filling of man-made ditches to restore sufficient hydrology to meet the enhancement goals and technical criteria for wetland habitat. A qualified construction inspector will be on-site during construction to ensure implementation of the compensatory mitigation site plan.
- **Site should reflect habitat diversity as described in this plan.** At the end of the monitoring period the following community types should be established or establishing, according to the Guidelines for Compensatory Wetland Mitigation in Wisconsin; wet meadow wetland and upland buffer.
- **Hydrologic establishment.** Hydrology will be monitored through the installation and use of 3 monitoring wells with Data Loggers as well as within soil pits dug during monitoring visits. The development of wetland hydrology may also be inferred based on the establishment of hydrophytic vegetation during monitoring. Hydrophytic vegetation (indicator status FAC or wetter), as designated by the National Wetland Plant List (USADC 2015) should comprise approximately 80% of the total vegetation in wetland habitats as a result of the monitoring performed during the 2022 monitoring year.

8.2 Goal: Establish Plant and Wildlife Habitat

Successful establishment of native vegetation should result through the plantings, seeding specified within the plan as well as the existing seed bank.

The site should have a minimum of 75% ground coverage by native species at the completion of the monitoring period (2025).

8.3 Goal: Protect Water Quality and Improve Hydrologic Integrity

The proposed on-site activities are expected to improve water quality in the Hemlock Creek watershed through increasing runoff detention time with in the wetlands which would reduce the amount of suspended solids and nutrients leaving the site.

9.0 Performance Standards

Performance standards will be measured during monitoring events as well as throughout the performance of other activities such as invasive management at the site.

9.1 Wetland Establishment

Wetland habitats within the project area should successfully meet the criteria for being classified as a wetland according to the 1987 USACE Wetland Delineation Manual and Regional Supplement (USACE 2012).

9.2 Hydrology

Levels of surface water and shallow groundwater will be recorded throughout the growing season of each monitoring year. The wetland hydrology performance standards must be met for a minimum of two consecutive years with normal to wetter than normal precipitation in order to meet performance standards. Fresh (Wet) Meadows, Sedge Meadows and Wet Prairies (Mineral Soils). Hydrology shall consist of saturation at or within 12 inches of the surface for a minimum of 28 consecutive days, or two periods of 14 consecutive days, during the growing season under normal to wetter than normal conditions (70 percent of years based on most recent 30-year record of precipitation). Inundation during the growing season shall not occur except following the 10-year frequency or greater storm/flood event. The depth of inundation shall be 6 inches or less and the duration of any inundation event shall be less than 14 days. An exception can be made for sites with hummocky microtopography—hollows between hummocks can have standing water depths of up to 6 inches for extended duration.

9.3 Vegetation Establishment

Area #1 (EPA Jurisdiction)

For the Area #1, the EPA requires a tree survival performance standard for hardwood swamp restoration of 60% for planted and marked trees and shrubs. If native and desireable "volunteer" tree and shrub species become established during the monitoring period, their numbers can be credited towards the required total to meet the survival percentage. To be eligible, volunteer species must be a minimum of 3' in height when evaluated in years 5 and 10. Volunteer species allowed for credit are limited to the following: white oak (*Quercus alba)*, yellow-bud hickory (*Carya cordiformis)*, white pine (*Pinus strobus)*, green ash (*Fraxinus pennsylvanica)*, red maple (*Acer rubrum)*, ninebark (*Physocarpus opulifolius)*, bebb's willow (*Salix bebbiana)*, hazelnut (*Corylus americana)*, elderberry (*Sambucus canadensis)* and red osier dogwood (*Cornus stolonifera)*. If the 60% survival criteria is not met at the end of the 5th and 10th monitoring periods, Dempze will replant to the standard within the year. No performance criterion for Native Seed Mix is required for this area.

For all remaining areas (those under WDNR/USACE jurisdiction)

In the fall of monitoring years 5 and 10, all remaining wetland areas will be evaluated and required to have a minimum of 75% ground coverage by native species at the completion of the monitoring period. No performance criteria will be assigned to the tree planting, since out of kind mitigation ratio is being utilized.

In Year 2 of monitoring, no more than 20% of the total site area shall be bare soil. If this criterion is not met, additional erosion control measures must be implemented.

A Floristic Quality Assessment (FQA) will be conducted with Floristic Quality Index (FQI) and mean coefficient of conservatism (mean C) calculated for each plant community. These FQI and mean C values will provide a baseline, and subsequent years of monitoring should record an increase in FQI and mean C values. This data will be collected and included in the respective monitoring reports; however, these values are not proposed to be used as performance standards to determine final success of the site.

Percent areal cover by invasive and/or non-native species shall decrease as monitoring progresses. Control of invasive and/or non-native plant species shall be implemented as necessary.

Percent Cover and Species Richness of native non-invasive (NNI) hydrophytes (FAC, FACW, OBL) and invasive species (I) and well as the percent cover of un-vegetated areas (bare soil and open water) will be noted in each community. In the upland buffer area, the percent cover and invasive species (I) as well as percent cover of un-vegetated areas will be documented.

Each community type will have a final performance standard as follows:

Wet Meadow – Contains a minimum of 20 NNI hydrophytic species that comprise no less than 80% absolute cover (excluding un-vegetated areas) with a maximum of 20% absolute cover of I species and with un-vegetated areas covering no more than 10% of the community.

Upland Buffer – Contains a minimum of 20 NNI upland species that comprise no less than 80% absolute cover (excluding un-vegetated areas) with a maximum of 20% absolute cover of I species and with un-vegetated areas covering no more than 10% of the community.

9.3 Wildlife Use

During the monitoring period, wildlife sightings will be recorded and habitat condition documented to verify that the conditions established are favorable to integrating this site into the surrounding landscape.

10.0 Site Monitoring Plan

10.1 Construction Inspection

Construction inspection services will be performed by QUEST, who will ensure that the plans are implemented as designed, or that contingency plans, where necessary, are developed and implemented in accordance with the project's mitigation goals and objectives.

10.2 As-Built Report

An As-Built Plan is to be prepared showing 1' contour lines of the entire site after construction has been completed. The As-Built is also required to show the locations of all tree and shrub plantings, locations of mounds within "pits and mounds" area, the extent of Wet Native Seed Mix planting, and the extent of Mesic Native planting (buffer area). Any deviations from the plans and specials are to be noted. The As-Built submittals are to include all invoices for seed purchases, as well as their corresponding seed tags. The As-Built Plan for Wetland Restoration Area #1 (2015) is to be submitted to the EPA within 30 days of grading completion (2015). The As-Built Plan is to be submitted to WDNR and USACE within 30 days of grading completion within the remainder of the site (2016).

10.3 Post Construction Monitoring

Jurisdiction over the monitoring requirements of this site is segmented into two separate entities. The monitoring requirements of the area identified as Area #1 is under the sole jurisdiction of the EPA and will be monitored biennially for a period of ten years after construction. The remainder of the site's monitoring requirements is under the combined jurisdiction of the WDNR and USACE and will be monitored annually for a period of 5 years.

Photos of the site are to be taken before and after construction to document work activities and included within the first monitoring report due Sept. 2017. All monitoring reports are to include all necessary components outlined in the 2013 Guidelines for Compensatory Mitigation in Wisconsin.

For that area under EPA jurisdiction and referred to as Area #1:
Prepare and submit Biennial Monitoring Reports to EPA for the area referred to as Area #1. Monitoring reports are to include discussions on maintenance activities performed, adaptive management recommendations, and future maintenance activities. The final report shall include the notification of completion if the mitigation site meets the established wetland criteria.

Biannual monitoring activities are to be conducted at the following intervals:

- 1st full growing season after completion of earthmoving/planting (monitor in July 2017, report due Sept. 2017)
- Monitor in July, report due Sept. 2019
- Monitor in July, report due Sept. 2021
- Monitor in July, report due Sept. 2023
- Monitor in July, report due Sept. 2025

*All EPA monitoring reports are due the first business day of September.

For the remaining areas which are under WDNR/ACOE jurisdiction:
Prepare and submit annual Monitoring Reports for a period of 5 years. Monitoring reports are to include discussions on maintenance activities performed, adaptive management recommendations, and future maintenance activities. The final report shall include the notification of completion if the mitigation site meets the established wetland criteria. If the site does not meet the performance standards within the initial 5 year monitoring period, additional years of monitoring will be required until the site meets the performance standards.

Annual monitoring activities are to be conducted at the following intervals:

- 1st full growing season after completion of earthmoving/planting (monitor in July 2017, report due Sept. 2017)
- Monitor in July, report due December 2018
- Monitor in July, report due December 2019
- Monitor in July, report due December 2020
- Monitor in July, report due December 2021

*All WDNR/USACE monitoring reports are due the first business day of December.

10.4 Specific Assessment Methods

Monitoring Requirements Specific to EPA only:

1. **Confirmation of Tree Transplanting:** To be provided within 30 days of completion.
2. **Vegetation Analysis:** Dempze is to perform annual monitoring and treatment of all invasive vegetation species observed.
3. **Tree and Shrub Survival:** The required performance standard for transplanted trees is to consist of 80% survival of the initial transplanted trees. Performance standard for the planted seedlings/shrubs is 60% survival of the initial planting. Determination of survival is to consist of a random check of 100 trees/shrubs. Indication of the general route of the tree/shrub checking is to be illustrated and included with that year's Monitoring Report.
4. **Establishment of Photo Station:** A single photo station is to be established within the EPA jurisdictional area (See Sheet 9 Monitoring Plan of Attachment 10 – Construction Plan Set). Photos are to be taken in an easterly direction as indicated on the Plan Sheet. Location of photo station will be marked with a fence post to enable field staff to take pictures from the exact same locations during each monitoring event.

Monitoring Requirements specific to WDNR/USACE only:

1. **Installation of Monitoring Wells:** A total of 3 monitoring wells and data loggers will be installed on site (See Sheet 9 Monitoring Plan of Attachment 10 – Construction Plan Set).
2. **Meander Survey:** A Meander Survey is to be conducted for all areas. All plant species observed during the Meander Survey will be recorded. Meander Survey is to be done in all mitigation areas.
2. **Community Mapping:** Vegetative communities are to be identified per the WDNR's Wetland Classification System and their locations indicated on a Plan Sheet to be submitted within the Monitoring Report.
4. **Establishment of Photo Stations:** A total of five photo stations are to be established within the WDNR/USACE jurisdictional areas (See Sheet 9 Monitoring Plan of Attachment 10 – Construction Plan Set). Photos are to be taken in the directions indicated on the Plan Sheet. Locations will be marked with fence posts to enable field staff to take pictures from the exact same locations during each monitoring event.

10.5 Vegetation

Data will be collected and a Data Form completed at one point within each "area" referenced within the plan. Vegetation will be observed and recorded in accordance to the 1987 USACE Wetland Delineation Manual:

- Identify each tree occurring within a 30-ft radius of the observation point;
- Identify each sapling/shrub occurring within a 15-ft radius of the observation point; and
- Herbaceous species will be measured inside a 5-ft by 5-ft quadrat placed with one corner touching the observation point.

10.6 Hydrology

A total of 3 monitoring wells and data loggers are to be installed within the area under WDNR/USACE jurisdiction (See Sheet 9 of Attachment 10 – Construction Plan Set). Data loggers are to be installed in April and removed in October each year. Data loggers are to be set to take readings on 8 hour intervals.

10.7 Soil

One test pit, not less than 16 inches deep will be sampled within each of the "areas" referenced within the plan to document establishment of soil characteristics. Each soil profile will be characterized, including soil texture and Munsell color for each layer within the sample.

10.8 Interim Wetland Delineation and Final Monitoring

An interim wetland delineation will be performed in 2020 and a final wetland delineation performed in 2025 for the area under EPA's sole jurisdiction (Area #1). A final delineation will be performed for the remainder of site which is under jurisdiction of WDNR/USACE in 2022.

11.0 Management Plan

An adaptive management plan will be implemented to assist in the establishment of the seeded and planted native plant species. For invasive plant species management, the appropriate control method will be selected based on the invasive species type and abundance. An integrated plant maintenance plan is the combined implementation of timed mowing and herbicide application. These tasks will be implemented as appropriate to enhance the establishment of native vegetation and suppress the establishment of invasive species, consistent with the goals defined in this site plan.

In addition to specific observation points, the entire project area will be walked to identify problems or additional areas of interest beyond the established observation points. If data collected at observation points or recognized elsewhere that the site is not progressing toward meeting site goals, then contingency plans or alternative management methods will be implemented.

The buffer area is to be mowed for establishment purposes between June 15 and July 15 of 2016, or when weed growth exceeds 12" in height. Mowing is to be done at a height of 6-8 inches to prevent annual weed species from seeding and to provide sunlight to planted species.

The buffer area is to be mowed for maintenance purposes in 2020 between October 1 and November 15. This mowing is to be done as close to the ground as possible. Spot treatment mowing of invasive perennial weeds is to be performed continually as needed throughout the monitoring period.

11.1 Contingency for Control of Exotic-Invasive Plants

Any areas within the site identified as being free of invasive vegetation and having desirable vegetation present can be left in an undisturbed state. Spot treatment of any individual RCG plants located within these areas began in 2014, and is to continue throughout the monitoring period for the entire site. Upon completion of construction and planting efforts, the entire site shall be continually monitored for the presence of any invasive plant species. Any invasive plants located are to be treated with herbicide. If the site is dry at the time of the herbicide application to use non-aquatic herbicides, Clethodim is to be used to treat invasive grass species and 2,4-D Amine is to be used for invasive broadleaf species. If the site is wet, aquatic glyphosate is to be used for all invasives. A diary of all post construction vegetation management practices is to be kept by Dempze for the duration of the monitoring period, to document when, where and what invasive control practices were performed. Receipts for herbicides are also to be retained. A summary of all invasive control practices is to be included within the monitoring reports.

11.2 Contingency for Failure to Establish Wetland Hydrologic Regimes

Establishment of hydrology will be monitored at each regular monitoring event by digging soil pits not less than 16 inches deep, as described in the 1987 USACE Wetland Delineation Manual. Any indicators of wetland hydrology observed shall be documented. Areas that fail to establish primary or secondary wetland hydrology indicators due to excess elevation will be graded and reseeded and/or replanted to ensure successful integration into the surrounding wetland. Success in establishing the appropriate hydrology regime is based upon meeting the hydrology performance standard and not based on primary or secondary indicators. Any additional grading deemed necessary needs prior WDNR and ACOE approval before conducting. An evaluation of the extent of any failure to develop wetland hydrology will be made and a maintenance plan developed and implemented by Dempze and QUEST.

12.0 Long-Term Protection of Site

The long term protection of the site will be achieved by the recording of a Wetland Compensatory Mitigation Easement on the 20.67 acres (19.25 + 1.42 buffer) involved in the Mitigation Plan.

13.0 Implementation Schedule

Dempze Cranberry - Implementation Schedule

13.1 Timeline of Activities for EPA's Jurisdictional Area - Wetland Restoration Area #1

Date	Task	Location
Summer of 2015	Herbicide Treatment of RCG	Wetland Restoration Area #1
Aug 15-Oct 15, 2015	Grading Activities	Wetland Restoration Area #1
Fall 2015 (<30 days of grading completion)	As-Built Plan	Wetland Restoration Area #1
Sept 1-Nov 15, 2015	Seeding	Wetland Restoration Area #1
Oct 15-Nov 15, 2015	Transplanting of Trees	Wetland Restoration Area #1
Fall 2015 (≤30 days after transplanting)	Confirmation of Transplanting	Wetland Restoration Area #1
April 15-May 15, 2016	Planting of Seedlings	Wetland Restoration Area #1
Summer 2016 (≤30 days after planting)	Confirmation of Planting/Receipt of Purchase	Wetland Restoration Area #1
Summer & Fall 2017	Monitor in July, Report by Sept	Wetland Restoration Area #1
Summer & Fall 2019	Monitor in July, Report by Sept	Wetland Restoration Area #1
Summer & Fall 2020	Monitor in July, Report by Sept	Wetland Restoration Area #1
Summer & Fall 2021	Monitor in July, Report by Sept	Wetland Restoration Area #1
Summer & Fall 2023	Monitor in July, Report by Sept	Wetland Restoration Area #1
Summer & Fall 2025	Monitor in July, Report by Sept	Wetland Restoration Area #1
Treatment of Invasive Vegetation	Throughout Monitoring Period	Wetland Restoration Area #1

13.2 Timeline of Activities for all remaining areas (WDNR/ACOE's Jurisdictional Areas)

Date	Task	Location
Aug 1, 2015	Glyphosate Treatment of RCG	Entire Site
Aug 20, 2015	Rototilling	RCG Treatment Areas
Sept 1-5, 2015	Clethodim Treatment of RCG	RCG Treatment Areas
Sept 1-15, 2015	Rototilling, Discing &Planting of Winter Rye	RCG Treatment Areas
May 1, 2016	Planting of Crops	Entire Site excluding Wetland Restoration Area #1
Aug 15-Oct 15, 2016	Grading Activities	Buffer Area and Wet Pairie Mix Area
Sept 1-Nov 15, 2016	Seeding	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
April 15-May 15, 2017	Planting of Seedlings	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer 2016 (≤30 days after planting)	Confirmation of Planting/Receipt of Purchase	Entire Site excluding Wetlarid Restoration Area #1
Fall 2016 (<30 days after planting)	As-Built Plan	Buffer Area & dry portions of Wet Prairie
June 15-July 15, 2017	Mowing	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer & Fall 2017	Monitor in July, Report by Sept	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer & Fall 2018	Monitor in July, Report by Sept	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer & Fall 2019	Monitor in July, Report by Sept	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer & Fall 2020	Monitor in July, Report by Sept	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Summer & Fall 2021	Monitor in July, Report by Sept	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1
Treatment of Invasive Vegetation	Throughout Monitoring Period	All restoration, creation & rehabilitation areas excluding Wetland Restoration Area #1

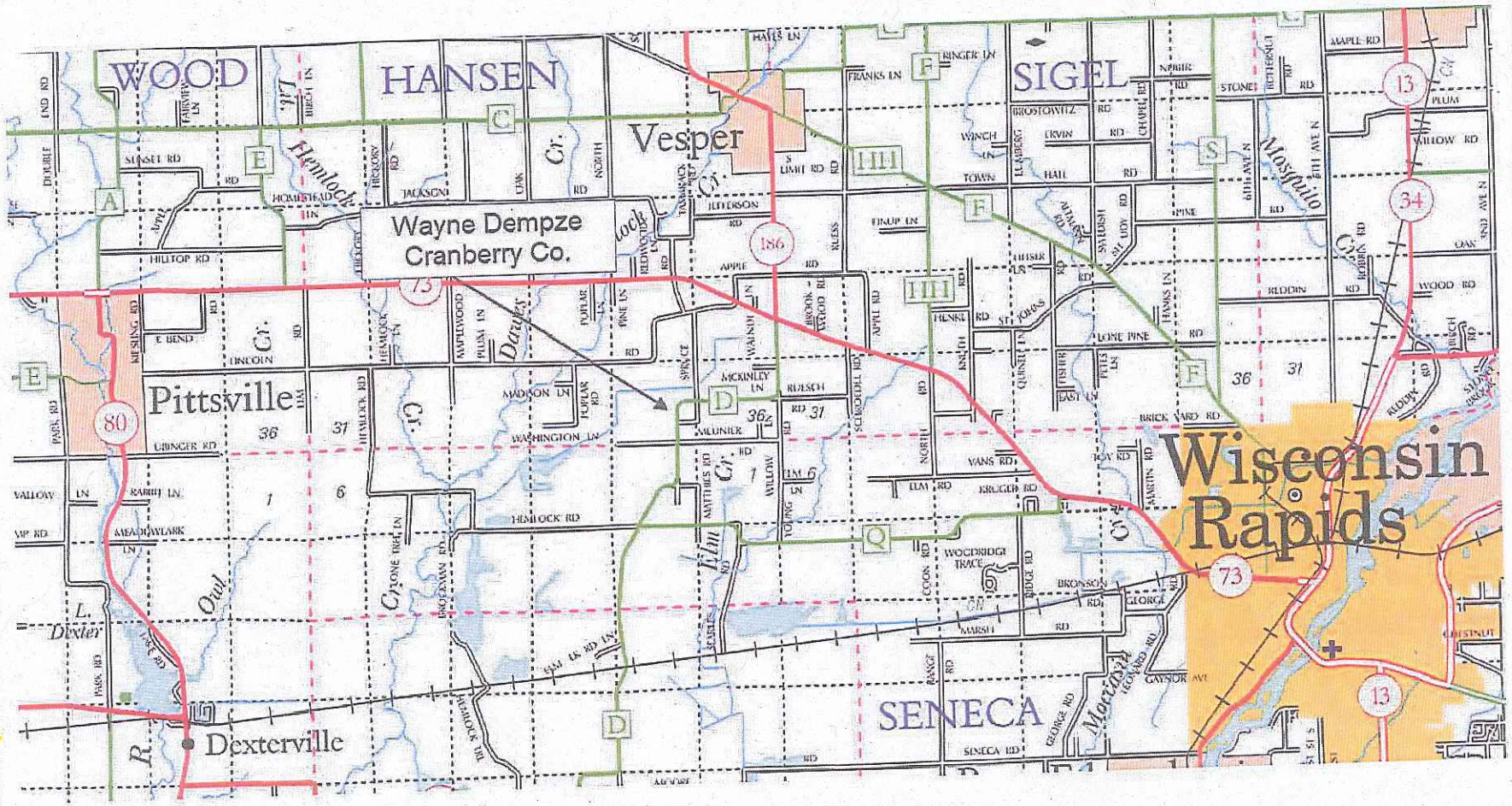
14.0 Financial Assurances

NR 350.10 and Guidelines for Wetland Compensatory Mitigation in Wisconsin do not require financial assurance. As noted in the Guidelines:

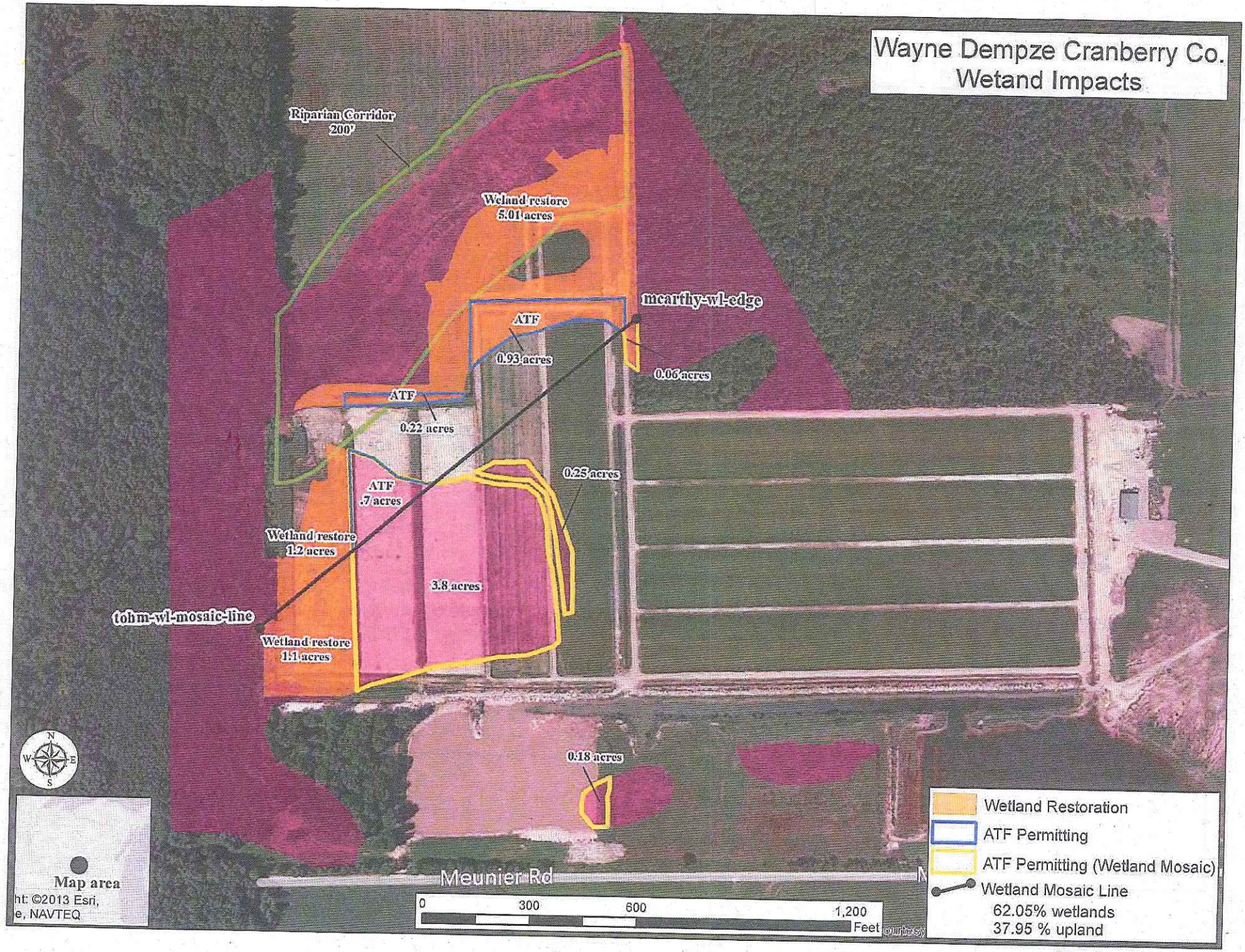
> In addition to site protection through legal instruments, financial assurances are generally required for construction of all mitigation sites, as well as for subsequent site monitoring and management activities.[1] The applicant or bank sponsor should work with the permitting agencies to determine the specific needs for their proposal. In general, financial assurances are required to ensure a high level of confidence that the compensatory mitigation project will be successfully completed, in accordance with applicable performance standards. In cases where an alternate mechanism is available to ensure a high level of confidence that the compensatory mitigation will be provided and maintained (e.g., a formal, documented commitment from a government agency or public authority) the permitting agencies may determine that financial assurances are not necessary for that compensatory mitigation project.[2] Any financial assurances required will be conditioned within any permit or MBI executed for the compensation site.

This mitigation results from an enforcement action wherein both the amount and nature of wetland fill activities were disputed. The obligation to conduct mitigation is required pursuant to the Consent Agreement and Final Order ("CAFO"). The CAFO provides an alternative mechanism to ensure that the mitigation will occur.

[1]Chapter NR 350.10, Wisconsin Administrative Code
[2]This is a USACE flexibility, see 33 CRF 332.3(n)



Attachment 1	Project Location Map	Wayne Dempze Cranberry, Co.	By: BWK Date: 7/17/15	Attach. 1	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525



Attachment 2

Wayne Dempze Cranberry Company, LLC.
Supplemental Contractor Guidance Plan

1.0 INTRODUCTION:

This plan summarizes the actions being proposed to comply with the restoration and compensatory wetland requirements at the Wayne Dempze Cranberry Company, LLC. site located in Wood County, WI. This site is comprised of two separate jurisdictional areas. The southern 2/3rds of Cranberry Bed 9 comprised of 2.91 acres and referred to within this plan as Wetland Restoration Area #1 is under the sole jurisdiction of the Environmental Protection Agency (EPA). The remainder of the site is under the joint jurisdiction of the Wisconsin Department of Natural Resources (WDNR) and the US Army Corps of Engineers (USACE).

It is proposed that all grading, earthwork and seeding operations within the area of EPA jurisdiction (Area #1) be completed by December 31, 2015. The EPA must approve all restoration grades in writing, prior to all seeding and planting activities. An As-Built Plan is required to be submitted to the EPA within 30 days of grade completion. The transplanting of trees is to occur in the fall of 2015 and/or the spring of 2016, and the planting of the tree and shrub seedlings is to be conducted in the spring of 2016. Monitoring is to be conducted on a biannual basis (2017, 2019, 2021, 2023, and 2025) with monitoring activities to be conducted in July and the monitoring reports to be submitted by the first business day of September of the monitoring year.

Grading, earthwork and seeding for the remainder of the site is to be completed by December 31, 2016. Planting of tree and shrub seedlings is to be conducted in the spring of 2017. Monitoring is to begin in 2018 and continue on an annual basis for a period of 5 years (2018-2022).

2.0 INVASIVE SPECIES

2.1 Invasive Species Prevention

Ensure that all equipment that has been in contact with waters of the state, or with infested or potentially infested waters, has been decontaminated for aquatic plant materials and zebra mussels prior to being used in other waters of the state. Before using equipment on this project, thoroughly disinfect all equipment that has come into contact with potentially infested waters. Use the following inspection and removal procedures (guidelines from the Wisconsin Department of Natural Resources (http://dnr.wi.gov//fish/documents/disinfection_protocols.pdf) for disinfection:

1). Prior to leaving the contaminated site, wash machinery and ensure that the machinery is free of all soil and other substances that could possibly contain exotic invasive species.
2). Drain all water from trailers, engine compartments, and any other area where water may be trapped.
3). Inspect all equipment surfaces. Scrape off any attached mussels, remove any aquatic plant materials (fragments, stems, leaves, seeds, or roots), and dispose of removed mussels and plant materials in a garbage can, prior to leaving the area or invested waters.
4). Disinfect equipment and gear by either:
    a. Washing with ~212°F water (steam clean), or
    b. Drying thoroughly for five days after cleaning with soap and water and/or high pressure water, or
    c. Disinfecting with either 200ppm (0.5 oz per gallon or 1 Tablespoon per gallon) Chlorine for 10-minute contact time or 1:100 solution (38 grams per gallon) of Virkon Aquatic for 20 to 30 minute contact time. Note: Virkon is not registered to kill zebra mussel veligers nor invertebrates like spiny water flea. Therefore this disinfectant should be used in conjunction with a hot water (>104° F) application.

Complete the inspection and removal procedure before equipment is brought to the project site and before the equipment leaves the project site.

2.2 Reed Canary Grass Control Measures – Site Preparation

All areas with pre-existing presence of Reed Canary Grass (RCG) will undergo the sequence of steps described below in order to control the RCG and to rid the area of vegetative matter for planting purposes. (See Attachment 9 - Reed Canary Grass Location Map).

1.) All areas of RCG are to be treated with herbicide during 2015.
2.) All RCG monocultures are to be tilled when and where feasible in 2015.
3.) Tilled areas are to then be allowed to regrow and upon regrowth of RCG, the site is then to be sprayed between with Clethodim (a grass specific herbicide) mixed with crop oil. *Note: Clethodim is not an aquatic approved herbicide and therefore cannot legally be applied in areas where the applicators socks would become wet.* If portions of the site are not dry enough to allow for the legal use of Clethodim, Aquatic Glyphosate is to be used.
4.) Treatment areas are to be rototilled again prior to planting of winter rye, which is to occur after September 1, 2015 and is to be planted at a rate of 100 lbs./acre.
5.) Those areas of the berms located west and south of Bed 9 that are dominated by RCG are to have all RCG excavated below their root line and this material buried in the bottom of the adjacent ditchlines that are to be filled.
6.) Any RCG noted prior to construction efforts in 2016 is to be treated with herbicide. Any treatment areas exceeding 10,000 s.f. in size are to be reseeded with common oats at a rate of 75 lbs. per acre for erosion control purposes.

2.3 Invasive Vegetation Control Measures – Post Construction

Any areas within the rehabilitation area identified prior to construction as being free of invasive vegetation and having desirable vegetation present can be left in an undisturbed state. Spot treatment of any individual RCG plants located within these areas began in 2014, and is to continue throughout the monitoring period for the entire site. Upon completion of construction and planting efforts, the entire site shall be continually monitored for the presence of any invasive vegetation plants. Any invasive plants located are to be treated with herbicide. If the site is dry at the time of the herbicide application to use non-aquatic herbicides, Clethodim is to be used to treat invasive grass species and 2,4-D Amine is to be used for invasive broadleaf species. If the site is wet, aquatic glyphosate is to be used for all invasives.

A diary of all post construction vegetation management practices is to be kept by Dempze for the duration of the monitoring period, to document when, where and what invasive control practices were performed. Receipts for herbicides are also to be retained. A summary of all invasive control practices is to be included within the monitoring reports.

3.0 WET MEADOW NATIVE SEED MIX AND MESIC NATIVE SEED MIX

3.1 Seed Source

All seed is to be native to Wisconsin, harvested within 200 miles of the Dempze site and obtained from an established commercial seed facility. All disturbed or excavated wetland areas are to be seeded with Wet Meadow Native Seed Mix and the upland buffer is to be seeded with Mesic Native Seed Mix.

3.2 Wet Meadow Native Seed Mix Description

Wet Meadow Native seed is to be broadcasted at a rate of 8 lbs./acre. Total acreage of Wet Meadow Native Seeding is 22.16 acres requiring a total of 177.3 lbs. of seed. A list of species found within the Wet Meadow Native Seed Mix and the percent composition of these species within the seed mix can be found in the following table. Wet Meadow Native Seed Mix is not to be planted on the mounds constructed within Wetland Restoration Area #1.

WET MEADOW NATIVE SEED MIX

WILDFLOWERS	COMMON NAME	OZ/ACRE
Anemone canadensis	Meadow Anemone	0.50
Asclepias incarnata	Marsh (Red) Milkweed	4.00
Aster novae-angliae	New England Aster	1.00
Aster puniceus	Swamp Aster	1.00
Baptisia leucantha (alba)	White Wild Indigo	2.00
Eupatorium maculatum	Spotted Joe Pye Weed	0.40
Eupatorium perfoliatum	Boneset	0.50
Gentiana andrewsii	Bottle Gentian	0.10
Helenium autumnale	Sneezeweed	0.25
Heliopsis helianthoides	Early Sunflower	1.50
Lobelia siphilitica	Great Blue Lobelia	0.50
Mimulus ringens	Monkey Flower	0.25
Monarda fistulosa	Wild Bergamot	2.00
Pycnanthemum virginianum	Mountain Mint	0.25
Ratibida pinnata	Yellow Coneflower	3.00
Solidago graminifolia	Grass-Leaved Goldenrod	0.10
Verbena hastata	Blue Vervain	1.50
Veronicastrum virginicum	Culver's Root	0.25
Zizia aurea	Golden Alexanders	4.00
	TOTAL	23.10

GRASSES	COMMON NAME	OZ/ACRE
Bromus ciliatus	Fringed Brome	32.00
Carex bebbii	Bebb's Oval Sedge	10.00
Carex crinita	Fringed Sedge	2.00
Carex scoparia	Lance-Fruited Oval Sedge	2.00
Carex stipata	Common Fox Sedge	3.90
Carex vulpinoidea	Brown Fox Sedge	1.50
Elymus virginicus	Virginia Wild Rye	48.00
Glyceria canadensis	Rattlesnake Grass	3.00
Glyceria grandis	Reed Manna Grass	2.50
	TOTAL	104.90

	SEED MIX TOTAL	128.00

3.3 Mesic Native Seed Mix Description

A permanent buffer is to be established along the north wetland boundary of the site through the planting of Mesic Native Seed Mix at a rate of 11 lbs./acre. Total acreage of Mesic Native Seeding is 1.42 acres requiring 15.6 lbs. of seed. Performance criteria are to be based on a minimum of 75% ground coverage of native species at the end of the monitoring period. A list of species found within the Wet Prairie Native Seed Mix and the percent composition of these species within the seed mix can be found in the following table.

MESIC NATIVE SEED MIX

WILDFLOWERS	COMMON NAME	OZ/ACRE
Amorpha canescens	Leadplant	3.00
Aster azureus	Sky Blue Aster	1.00
Aster novae-angliae	New England Aster	1.00
Baptisia leucantha (alba)	White Wild Indigo	2.00
Coreopsis palmata	Prairie Coreopsis	1.50
Dalea candida	White Prairie Clover	3.00
Dalea purpurea	Purple Prairie Clover	2.50
Echinacea pallida	Pale Purple Coneflower	4.00
Eryngium yuccifolium	Rattlesnake Master	2.50
Helianthus grosseserratus	Sawtooth Sunflower	0.50
Heliopsis helianthoides	Early Sunflower	15.00
Liatris pycnostachya	Prairie Blazing Star	1.50
Monarda fistulosa	Wild Bergamot	2.00
Penstemon digitalis	Foxglove Beard Tongue	0.50
Potentilla arguta	Prairie Cinquefoil	0.20
Pycnanthemum virginianum	Mountain Mint	0.20
Ratibida pinnata	Yellow Coneflower	2.25
Rudbeckia hirta	Black-Eyed Susan	3.50
Rudbeckia subtomentosa	Sweet Black-Eyed Susan	2.00
Silphium laciniatum	Compass Plant	2.00
Silphium perfoliatum	Cup Plant	2.50
Solidago graminifolia	Grass-Leaved Goldenrod	0.20
Solidago rigida	Stiff Goldenrod	1.25
Verbena hastata	Blue Vervain	1.50
Veronicastrum virginicum	Culver's Root	0.20
	TOTAL	**55.80**
GRASSES	**COMMON NAME**	**OZ/ACRE**
Andropogon gerardii	Big Bluestem	24.00
Bouteloua curtipendula	Side Oats Grama	16.00
Carex bicknellii	Copper-Shouldered Oval Sedge	1.50
Elymus canadensis	Canada Wild Rye	16.00
Elymus virginicus	Virginia Wild Rye	32.00
Juncus tenuis	Path Rush	0.20
Panicum virgatum	Switchgrass	8.00
Schizachyrium scoparium	Little Bluestem	12.00
Sorghastrum nutans	Indian Grass	24.00
	TOTAL	**133.70**
	SEED MIX TOTAL	**189.50**

3.4 Seeding Procedure

All seeding within the EPA jurisdictional area (Wetland Area #1) is to occur between September 1 and November 15, 2015. All remaining areas are to be seeded between September 1 and November 15, 2016. All disturbed areas to be seeded need to be lightly disced or rototilled prior to planting. Those areas where topsoil has been placed do not require tillage if planting is to occur within 10 days of placement. The site should either be allowed to be rained on once prior to seeding or a cultipacker shall be used to firm up the seed bed prior to seeding. Areas to be seeded are to be dragged prior to seeding to provide a uniform seedbed free of soil clods. Seed is to either be uniformly broadcasted by hand and then cultipacked to ensure soil contact or seeded with a Truax seeder.

3.5 Cover Crop

A cover crop consisting of 20 lbs. of winter wheat and 10 lbs. of common oats per acre is to be planted concurrently with both the Wet Meadow Native Seed Mix and the Mesic Native Seed Mix.

3.6 Establishment Mowing

The buffer area is to be mowed in 2016 between June 15 and July 15, or when weed growth exceeds 12" in height. Mowing is to be done at a height of 6-8 inches to prevent annual weed species from seeding and to provide sunlight to planted species.

3.7 Maintenance Mowing and Spot Treatment

The buffer area is to be mowed again in 2020 between October 1 and November 15. This mowing is to be done as close to the ground as possible. Spot treatment mowing of invasive perennial weeds is to be performed continually as needed throughout the monitoring period.

4.0 GRADING WORK

4.1 Grading

Along the west side of the property is a north – south cranberry bed referred to as "Bed 9". This area consists of 2.91 acres of wetland restoration (Area #1) and 1.65 acres of wetland creation (Area #2). The berms along both the south and west sides of the cranberry bed are to be removed and the associated ditches are to be filled as part of this project. Within Area #1, a backhoe is to be used to create mounds on which trees will then be transplanted. Material to construct the mounds is to be obtained from areas adjacent to the location of the mounds. This will mimic the pre-existing "pits and mounds" topography that was previously found at this location. No topsoil is to be placed within Area #1. Area #2 is to be subcut 0.5' and then have 0.5' of topsoil placed.

For that area north of the existing cranberry beds (identified as Area #3 within this plan), the goal of the grading work is to remove all previously placed material and returning the area to a wetland condition. Finished elevation within this area ranges from 1040.0 – 1042.0 including a minimum of 0.5' of topsoil. Within this area is a 0.49 acre Wetland Creation area (Area #4), which was previously an upland island and is now partially within a cranberry bed. This area is to be excavated to a subgrade elevation of 1040.5 – 1041.5 and then have 0.5' of topsoil placed in order to create a wetland condition.

The basis of restoring and enhancing the hydrology of this site centers around the filling of the east – west drainage ditch that runs through the riparian corridor. This ditch averages three to four feet in width and the depth of water within the ditch is typically +/- 0.5'. This ditch is to be filled with a clay based material acquired within Wetland Creation Area #3 (See Section 7.5) to ensure that the ditch is sealed properly. Finished elevation is to include a minimum of 0.5' of topsoil and is to be at an elevation equal to the top of the adjacent ditch banks. To ensure water is not backed up onto the upstream neighboring property, the ditch fill is not to begin at the east side of the property until where the ditch bottom is at 1040.25 or lower. This will allow water to flow into the site through the culvert which has an invert elevation of 1040.74.

North of the riparian area is a Area #6 (Section 7.5). Work within this 2.47 acre creation area is to consist of excavating all ground higher than elevation 1042.0 down to a subgrade elevation of 1041.5 and then placing a minimum of 0.5' of reclaimed topsoil back on top for a finished elevation of 1042.0. The outlet through the berm located along the west side of the agricultural field will be filled in order to retain runoff from the field and to enhance the hydrology of the site.

All finished grades are to be within plus 0.20' and minus 0.40'.

4.2 Topsoil

Topsoil to be used for this project can be salvaged from the area of excavation if deemed to be free of invasive vegetation, or is to be obtained from stockpiles located on the Dempze Cranberry Marsh. All RCG on the stockpiles is to be removed by excavating below the root system. This material is then to be buried in the bottom of the ditchlines located just south and west of Bed 9 which are to be filled as part of this project. No topsoil is to be placed within the Area #1. All other areas are to have 0.5' of topsoil placed.

4.3 Soil Compaction

All placed topsoil is to be tilled to a depth of 6 inches prior to seeding/planting to ensure soils are not compacted.

5.0 TREE PLANTING

5.1 Transplanting

Transplanting of trees is to be conducted in that portion of Area #1 south of the Mosaic Line only. The goal of transplanting trees is to restore a deciduous forested wetland that mimics the previously existing forested pit and mound wetland. Trees for transplanting will be obtained from the Dempze Cranberry Marsh property and also a neighboring property. Trees to be transplanted will consist of native red maple between 6 and 15 feet tall. All transplanted trees are to be planted on the mounds constructed as described in Section 7.1 of this plan. All transplanted trees will have tree tubes or screening placed around them to prevent girdling and to serve as "markers" to indicate which trees were transplanted.

Transplanting density will be 100 trees per acre. Performance criteria for transplanted trees is based on a minimum success rate of 80% survival.

5.2 Planting of Tree and Shrub Seedlings

Tree seedlings will be planted in all rehabilitation/enhancement, restoration and creation areas of the project. Seedlings are to be obtained from the WDNR's nursery. Seedling species will consist of swamp white oak and red osier dogwood. Planting density is to be a minimum of 50 swamp white oaks and 50 red osier dogwoods per acre. No performance criteria will be assigned to the tree seedlings within the enhancement or creation areas as the intended wetland type at the end of the monitoring period is wet meadow.

For Area #1, the EPA requires a tree survival performance standard for hardwood swamp restoration of 60% for planted and marked trees and shrubs. If native and desireable "volunteer" tree and shrub species become established during the monitoring period, their numbers can be credited towards the required total to meet the survival percentage. To be eligible, volunteer species must be a minimum of 3' in height when evaluated in years 5 and 10. Volunteer species allowed for credit are limited to the following: white oak (*Quercus alba)*, yellow-bud hickory (*Carya cordiformis)*, white pine (*Pinus strobus)*, green ash (*Fraxinus pennsylvanica)*, red maple (*Acer rubrum)*, ninebark (*Physocarpus opulifolius)*, bebb's willow (*Salix bebbiana)*, hazelnut (*Corylus americana)*, elderberry (*Sambucus canadensis)* and red osier dogwood (*Cornus stolonifera)*. If the 60% survival criteria is not met at the end of the 5th and 10th monitoring periods, Dempze will replant to the standard within the year.

5.3 Tree and Shrub Protection

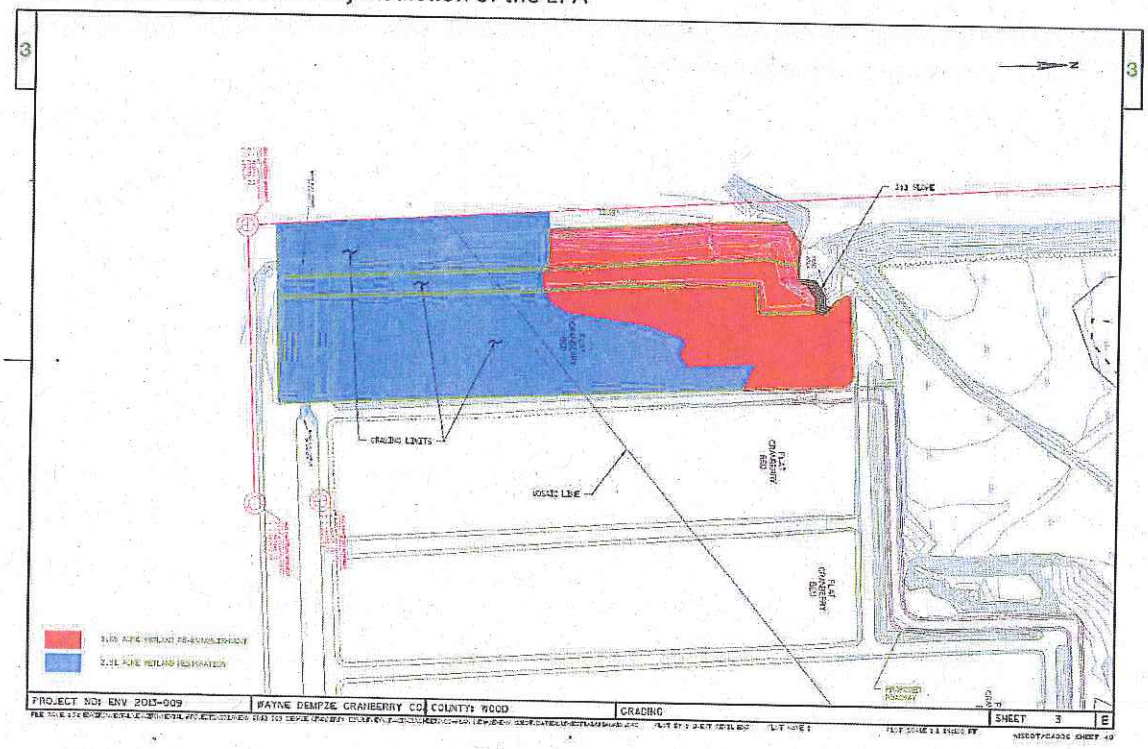
All tree seedlings are to be protected by installing 4' tall tree shelters over them and all shrubs are to have 1.5' tall shelters placed over them. All tubes are to be staked down and the tube secured to the stake per manufacturer's recommendations. Tree tubes will identify planted trees versus volunteer trees. There is a possibility that Dempze may erect a deer proof fence. If the deer proof fence is erected prior to planting of the trees, no tree shelters would be required.

6.0 COMPENSATORY ACTIVITIES BY AREA

The following descriptions detail the required activities for each specific segment of the site in terms of type of activity, finished elevation, seeding and tree planting scheme.

6.1 Wetland Restoration Area #1 (2.91 Acres)

- This 2.91 acre area is under the sole jurisdiction of the EPA



Summary of Work Activities: The objective for this area is to restore the pits and mounds deciduous wetland forest west of the mosaic line that was previously present here. This effort will consist of retaining the existing elevation 1041.50, enhance the vegetative community through the control of invasive species, planting of tree and shrub seedlings (Section 5.2) and restoring the ground layer vegetation by planting of Wet Meadow Native Seed Mix (Section 3.2) in order to meet the EPA's requirements of restoration. No topsoil is to be placed within this area.

For that portion of this area lying west of the mosaic line mounds are to be constructed to mimic a pits and mounds wetland complex. Trees (red maples) are to then be transplanted on these mounds (Section 5.1). Wet Meadow Native Seed Mix is not to be planted on mounds.

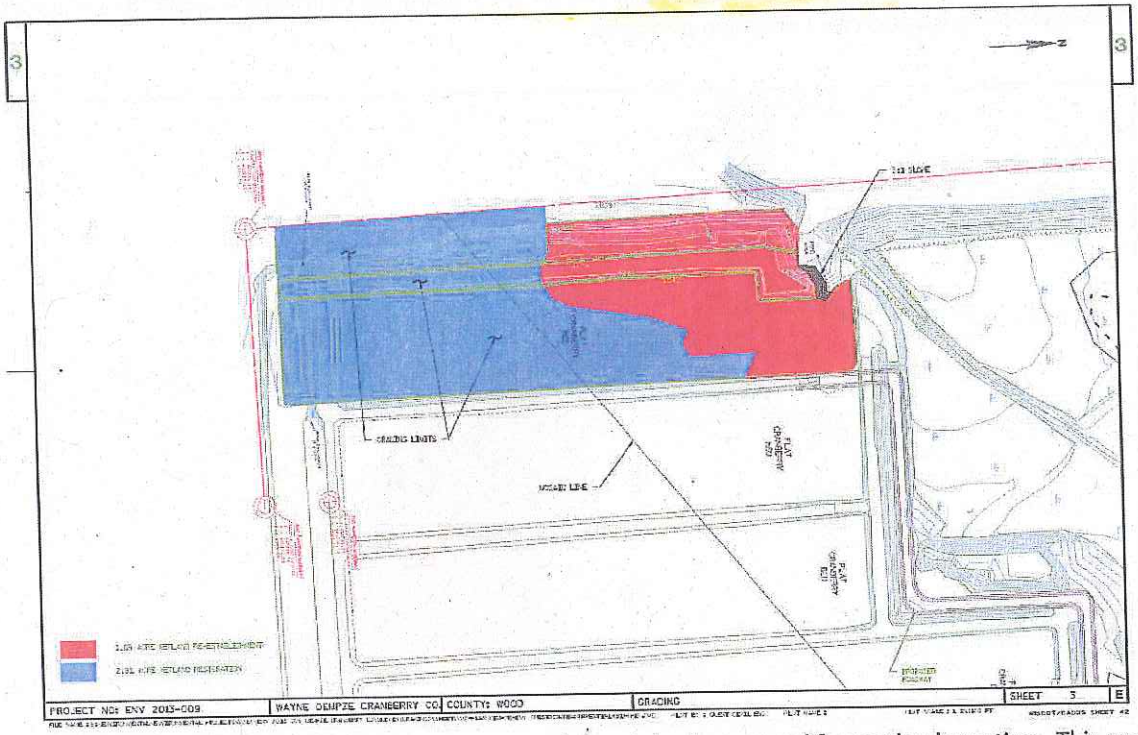
The ditchlines located west and south of the existing cranberry bed are to be filled. Reed canary grass present on the berm between the ditchline and the cranberry bed is to be excavated below its rootline and buried in the bottom of the ditchlines.

This area is not eligible for mitigation credit because it is being restored to its pre-existing condition of deciduous forested wetland as required by EPA enforcement action.

Miscellaneous Quantities:
Wet Meadow Native Seed Mix – 24 lbs
Winter Wheat (Cover Crop) – 58.2 lbs
Common Oats (Cover Crop) – 29 lbs
Red Maples (6'-15' transplanted) - 291
15 s.f. mounds – 217
30 s.f. mounds – 73
Swamp White Oaks - 146
Red Osier Dogwoods – 146

6.2 Wetland Re-establishment Area #2 (1.65 Acre)

- This 1.65 acre area is under the jurisdiction of WDNR/USACE.



Summary of Work Activities: This 1.65 acre area is a pre-existing upland proposed for wetland creation. This area is currently a cranberry bed that has not been planted.

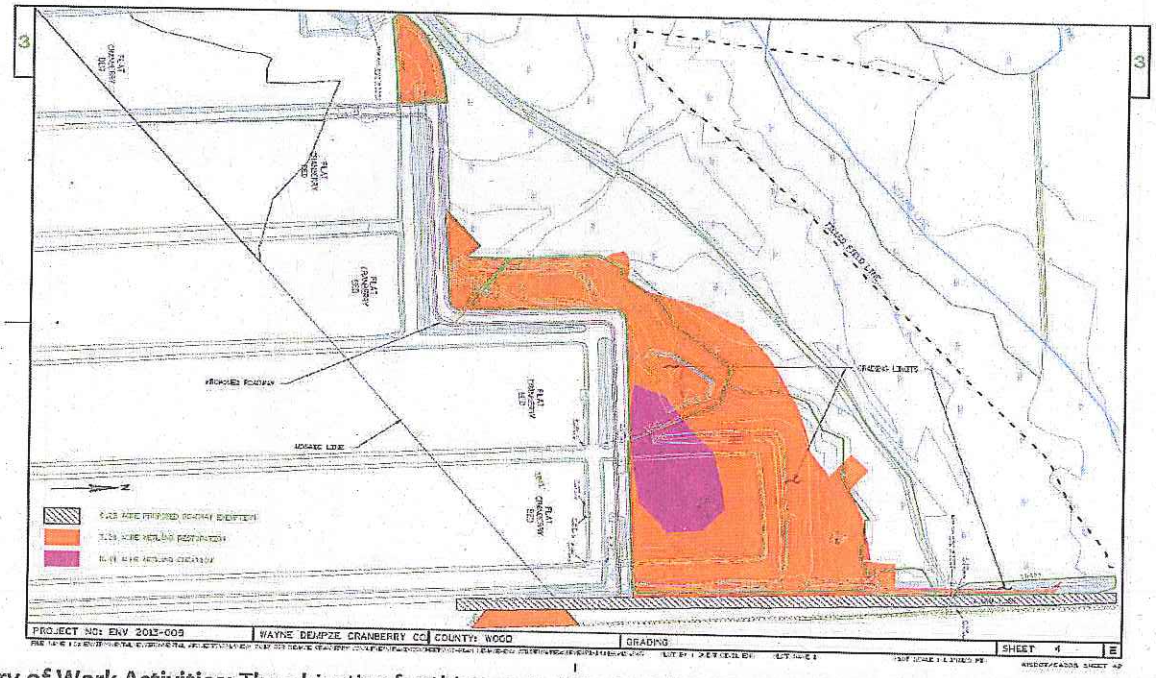
This effort will consist of excavating the existing cranberry bed (elev. 1041.5') down to a subgrade elevation 1041.0' and then placing 0.5' of topsoil for a finished elevation of 1041.5'. All disturbed areas are to be seeded with Wet Meadow Native Seed Mix (Section 3.2). Tree seedlings are to be planted throughout this area at a density of 50 swamp white oak and 50 red osier dogwood per acre (Section 5.2).

The ditchlines located west and south of the existing cranberry bed are to be filled. Reed canary grass present on the berm between the ditchline and the cranberry bed is to be excavated below its rootline and buried in the bottom of the ditchlines.

Miscellaneous Quantities:
Wet Meadow Native Seed Mix – 13.6 lbs.
Winter Wheat (Cover Crop) – 34 lbs.
Common Oats (Cover Crop) – 17 lbs.
Swamp White Oaks – 85
Red Osier Dogwoods - 85

6.3 Wetland Restoration/Enhancement Area #3 (3.28 Acres)

- This 3.28 acre area is under the jurisdiction of the EPA for the restoration of impacted wetlands and under WDNR/USACE's jurisdiction for mitigation purposes.



Summary of Work Activities: The objective for this area is to restore its approximate pre-existing contours and wetland conditions, by enhancing the vegetative community through the control of invasive species, restoring the herbaceous layer by planting Wet Meadow Native Seed Mix and planting the area with tree seedlings, in order to meet the EPA's requirements of restoration and meet the WDNR/USACE's requirements for mitigation.

Restoration efforts will consist of cutting down all elevations greater than 1042.0. Finished elevations will range from 1040.0 to 1042.0 which includes the placement of a minimum of 0.5' of topsoil.

The overflow culvert outlet located at the north end of Bed 8 is to be lined with medium random riprap and fabric as shown in the Erosion Control Plan Sheet.

All topsoil is to be tilled to a depth of 6 inches prior to seeding/planting to ensure soils are not compacted.

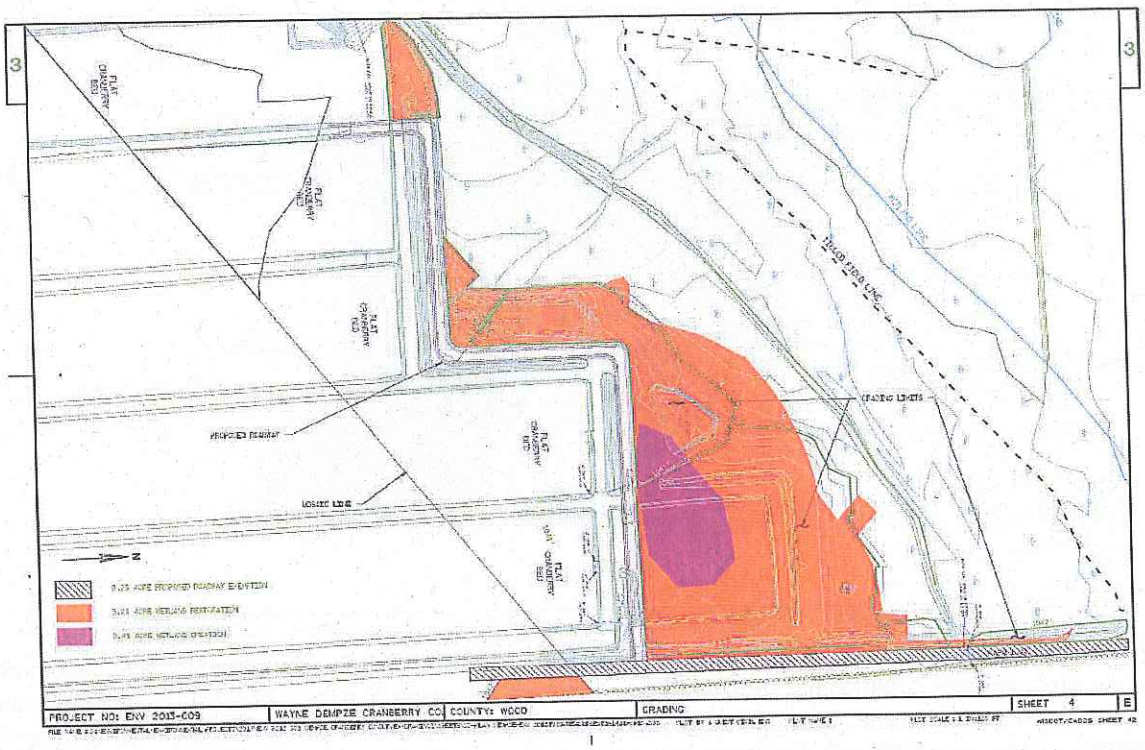
All disturbed areas are to be seeded with Wet Meadow Native Seed Mix (Section 3.2). Tree seedlings are to be planted throughout this area at a density of 50 swamp white oak and 50 red osier dogwood per acre (Section 5.2).

Invasive vegetative species management will consist of the pre-planting and maintenance scenario described in Section 2.2.

Miscellaneous Quantities:
Wet Meadow Native Seed Mix – 26 lbs.
Winter Wheat (Cover Crop) – 66 lbs.
Common Oats (Cover Crop) – 33 lbs.
Swamp White Oaks - 164
Red Osier Dogwoods – 164

6.4 Wetland Re-establishment Area #4 (0.49 Acre)

- This 0.49 acre area is under the jurisdiction of WDNR/USACE.



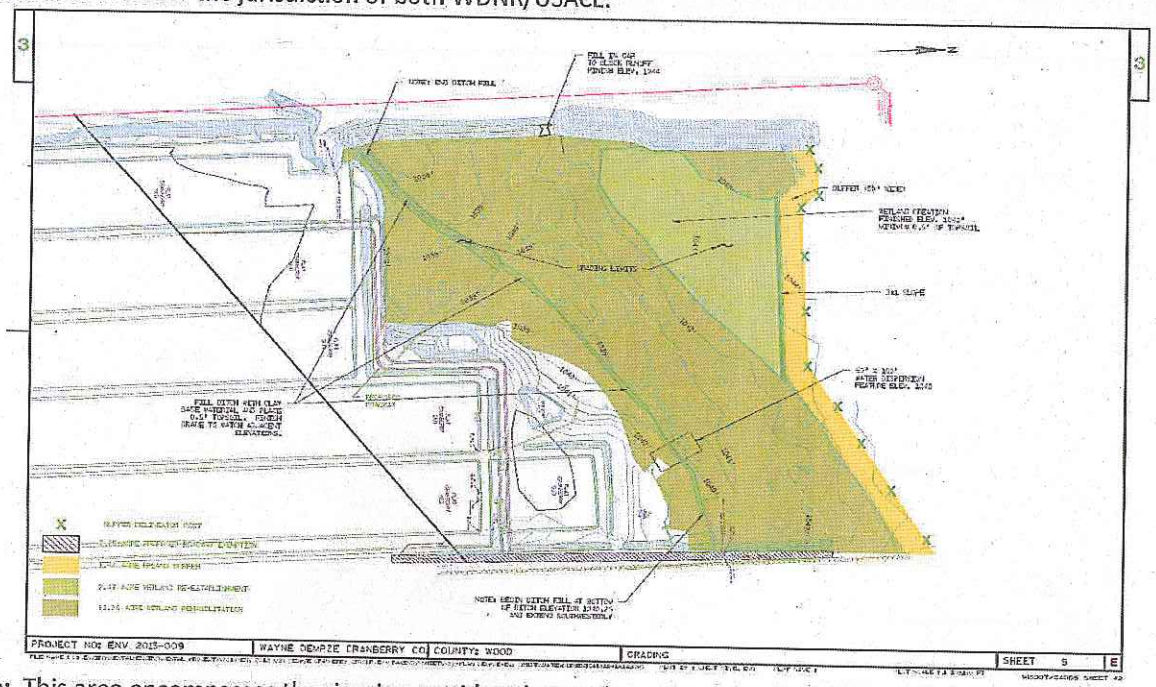
Summary of Work Activities: This 0.49 acre area is a pre-existing upland island that is surrounded by the 3.28 acre wetland restoration area. Most of this area is within an unplanted cranberry bed. The objective of this area is to create a wetland condition by removing 0.5' of existing material and replacing it with 0.5' of topsoil. Finished elevation would range between 1041.0 to 1042.0. A wet meadow wetland condition will be created by planting Wet Meadow Native Seed Mix (Section 3.2) and planting tree and shrub seedlings (Section 5.2). Proposed species are to consist of swamp white oak and red osier dogwood. Planting density is a total of 100 trees per acre (50 of each species per acre).

Miscellaneous Quantities:

Wet Meadow Native Seed Mix – 3.9 lbs.
Winter Wheat (Cover Crop) – 10 lbs.
Common Oats (Cover Crop) – 5 lbs.
Swamp White Oaks - 25
Red Osier Dogwoods - 25

6.5 Wetland Rehabilitation Area #5 (11.36 Acres)

- This area is under the jurisdiction of both WDNR/USACE.



Objective: This area encompasses the riparian corridor along either side of the ditch-line. Based on agency comments stating that the site's existing condition has sufficient hydrology, only minor grading work of existing topography outside the excavated ditch-line is proposed. Rehabilitation will be met by restoring the hydrology to pre-settlement conditions by filling the existing ditch to match the surrounding ground elevation, providing invasive vegetation management and planting of a Wet Meadow Native Seed Mix and tree seedlings (swamp white oak and red osier dogwood) to enhance the vegetative community.

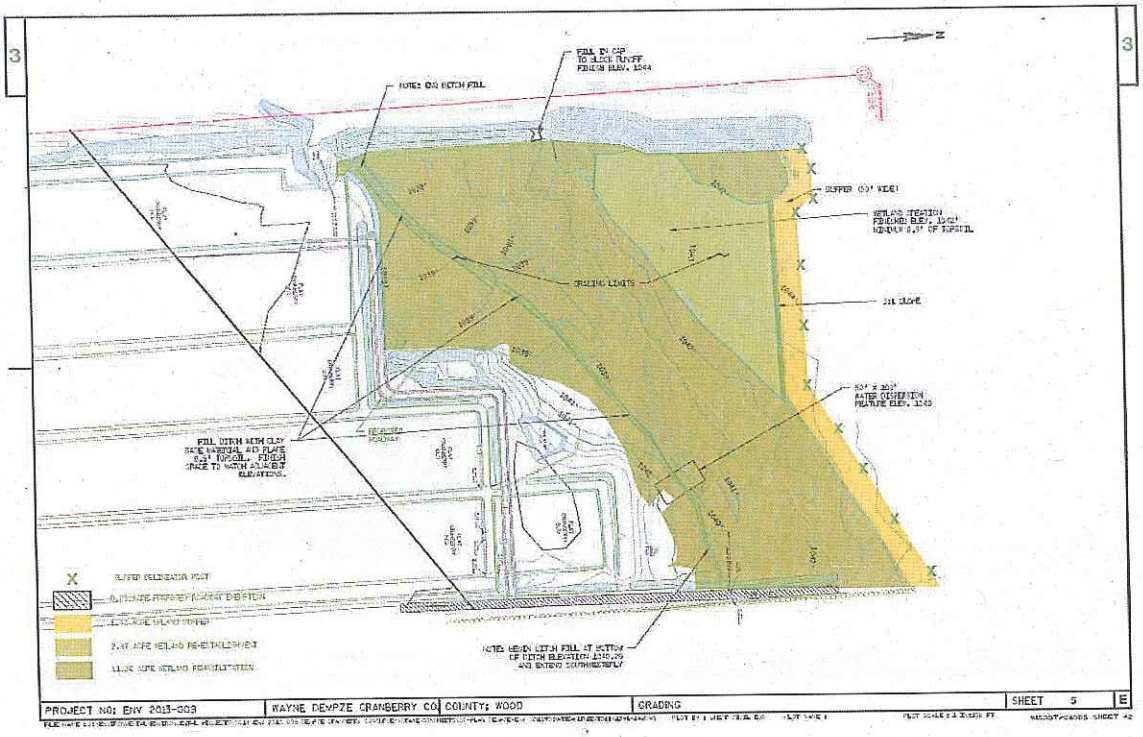
The 12" corrugated plastic culvert pipe (invert elevation 1040.74), located at the east edge of the rehabilitation area will remain intact beneath the access lane. Ditch fill is to begin where the bottom of ditch elevation is 1040.25 to prevent water from backing up within the culvert. Ditch is to be filled with a clay based material and then have 0.5' of topsoil placed. Finished elevation is to match the adjacent top of bank elevation. A series of rock ditch checks are to be placed in the ditchline prior to start of ditch fill activities (Sheet 8 of Attachment #10). In addition, the existing gap in the earthen berm on the west side of this site is to be filled with a clay based material and 0.5' of topsoil is to be placed on top of the fill material. Minimum finished grade is 1044.0. A wet meadow wetland condition will be created by planting Wet Meadow Native Seed Mix (Section 3.2). Tree and shrub seedlings will be planted to enhance the site (Section 5.2). Proposed species are to consist of swamp white oak and red osier dogwood. Planting density is a total of 100 trees per acre (50 of each species per acre).

Invasive vegetative species management will consist of the pre-planting and maintenance scenario described within Section 2.2 of this plan.

Miscellaneous Quantities:
Wet Meadow Native Seed Mix – 90.9 lbs.
Winter Wheat (Cover Crop) – 227 lbs.
Common Oats (Cover Crop) – 114 lbs.
Swamp White Oaks - 568
Red Osier Dogwoods – 568

6.6 Wetland Re-establishment Area #6 (2.47 Acres)

- This 2.47 acre area is under the jurisdiction WDNR/USACE.



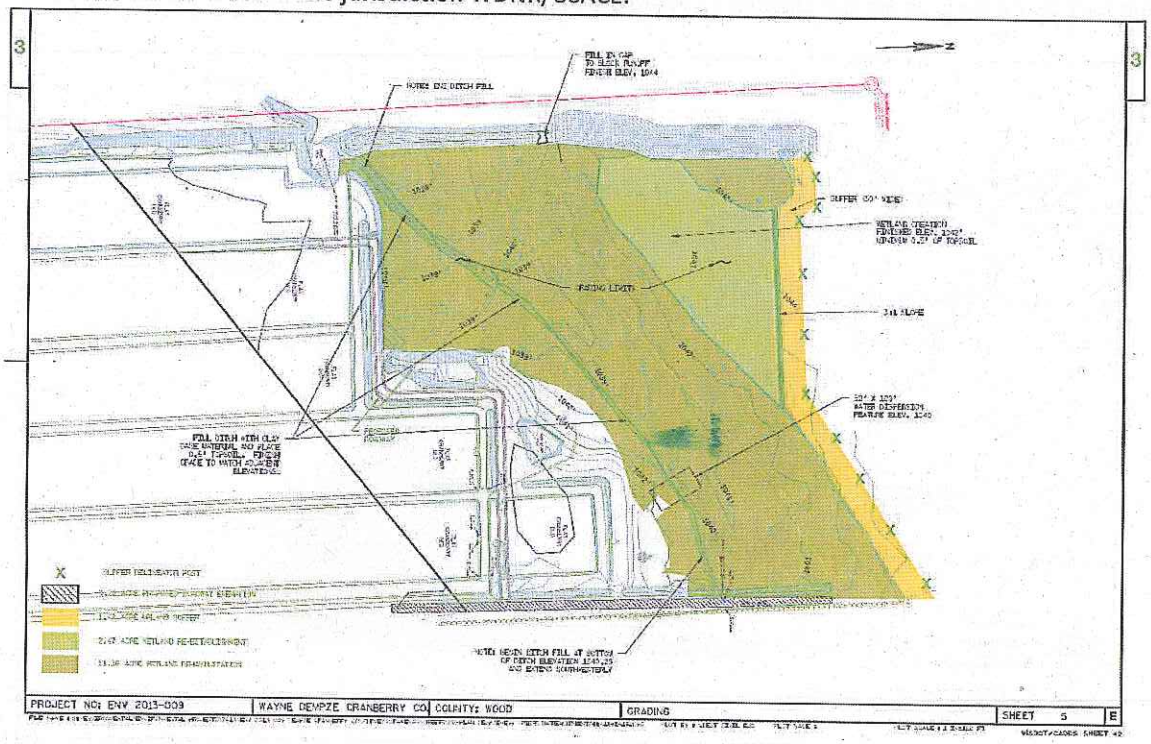
Summary of Work Activities: This area is located north of the riparian corridor and is currently in agricultural production. The objective of this area is to create a wetland condition by excavating all of this area down to a finished elevation of 1042.0' which includes 0.5' of topsoil.

Hydrology of this area will be enhanced by filling the existing ditch south of this area to match the surrounding ground elevation and by blocking the gap in the berm west of this area that currently allows runoff from this area to flow into the ditch to the west. A wet meadow wetland condition will be created by planting Wet Meadow Native Seed Mix (Section 3.2) and planting tree and shrub seedlings (Section 5.2). Proposed species are to consist of swamp white oak and red osier dogwood. Planting density is a total of 100 trees per acre (50 of each species per acre). No performance criteria will be assigned to the tree planting, since out of kind mitigation ratio is being utilized.

Miscellaneous Quantities:
Wet Meadow Native Seed Mix – 19.8 lbs.
Winter Wheat (Cover Crop) – 50 lbs.
Common Oats (Cover Crop) – 25 lbs.
Swamp White Oaks - 124
Red Osier Dogwoods - 124

6.7 Upland Buffer Area #7 (1.42 Acres)

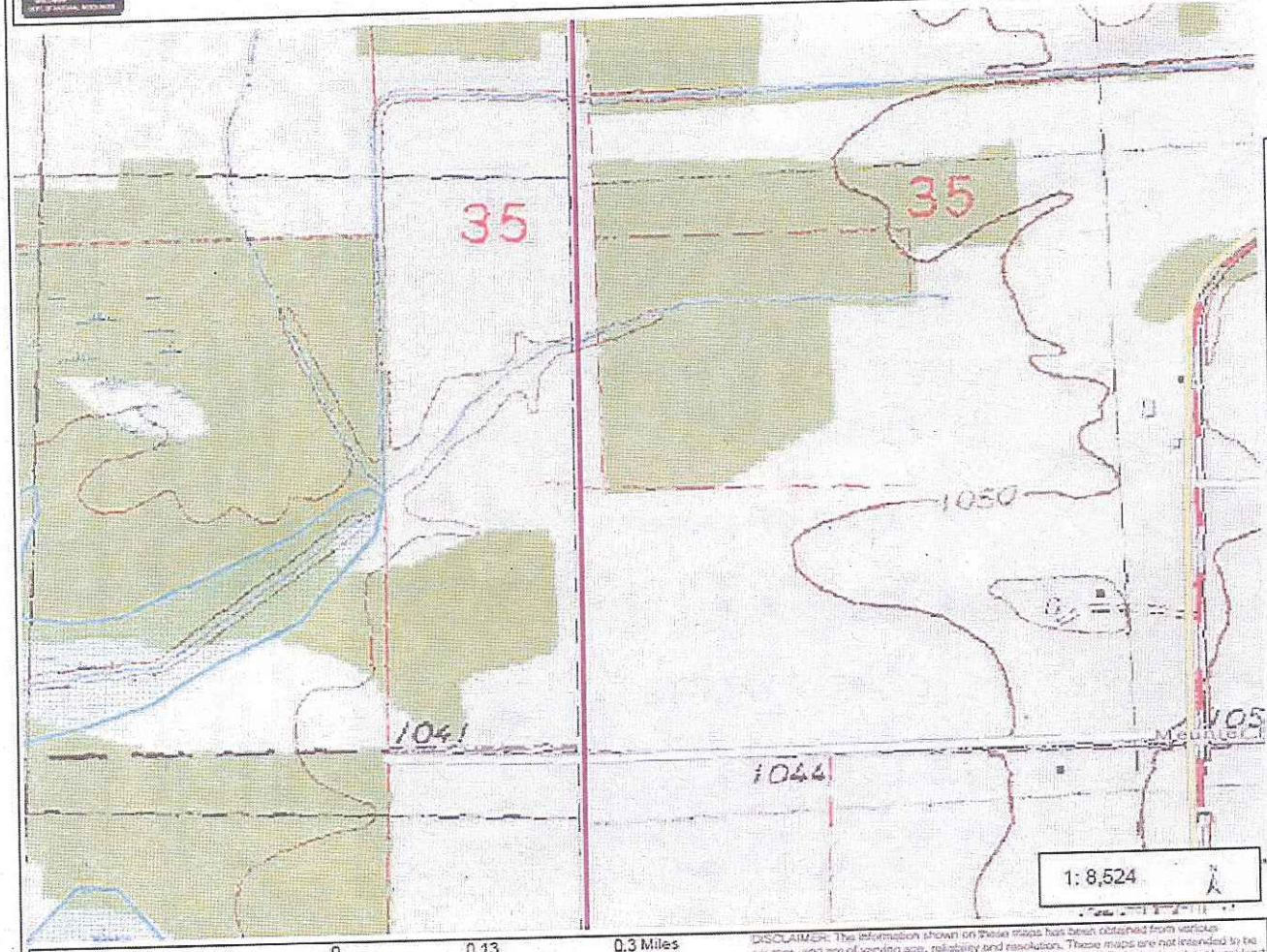
- This 1.42 acre area is under the jurisdiction WDNR/USACE.



Summary of Work Activities: A buffer is to be established along the north side of the compensation site. This buffer is designed to buffer the existing and created wetlands from nutrients and sediments coming from the adjacent agricultural field. This buffer is to be a minimum of 50 feet in width along the existing and created wetland boundaries. Buffer is to be established by the planting of Mesic Native Seed Mix (Section 3.3.) The outer limits of the buffer are to be marked with delineator posts as indicated by the X's on the diagram above to provide a clear interpretation of its boundary.

Miscellaneous Quantities:
Mesic Native Seed Mix – 15.6 lbs.
Winter Wheat (Cover Crop) – 28 lbs.
Common Oats (Cover Crop) - 14 lbs.

Surface Water Data Viewer Map



Legend

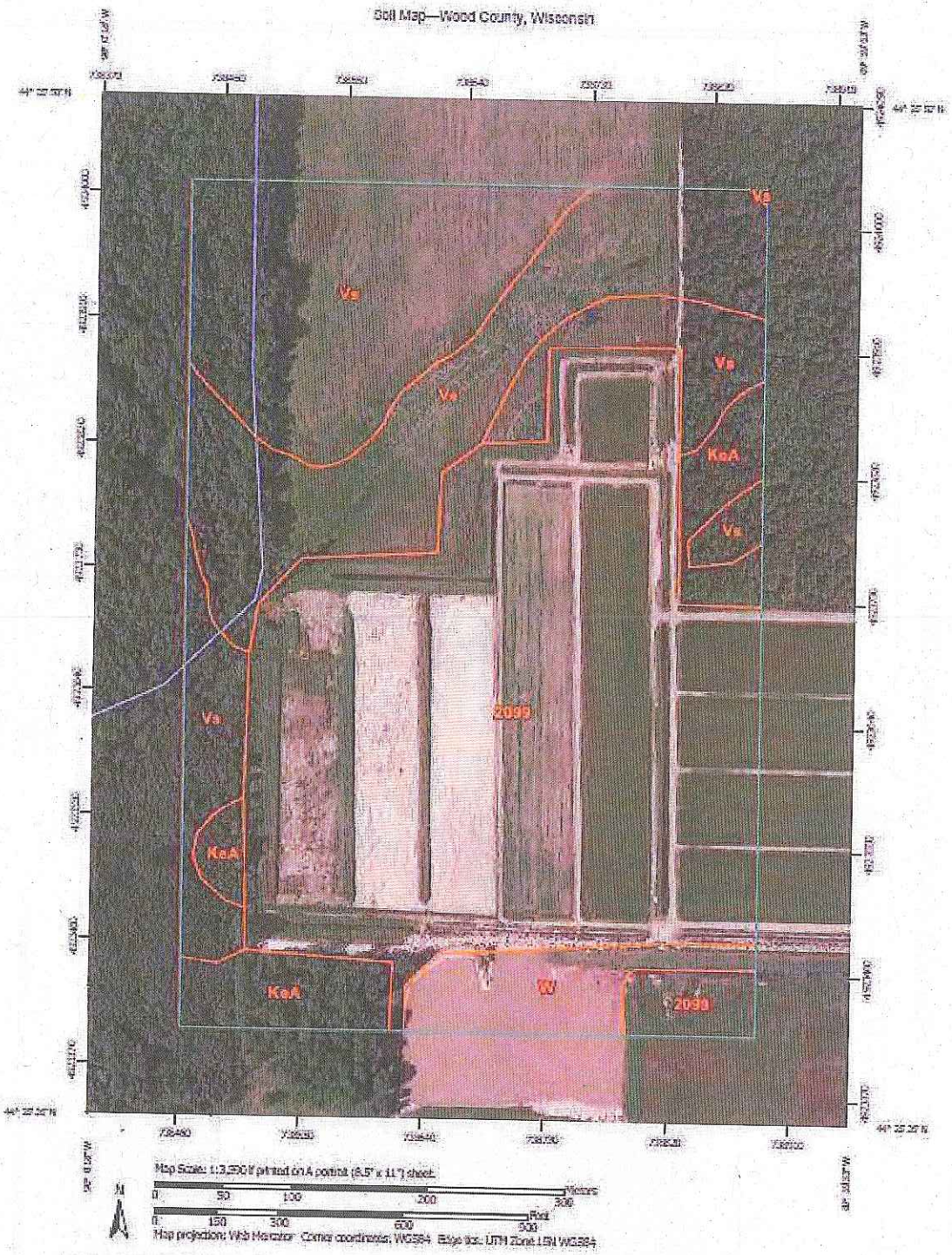
- Dams
  - Dams with FERC License
  - Dams
- Floodplain Analysis Lines
  - Other
  - Flood Insurance Study
  - Letter of Map Revision
  - Case By Case Analysis
  - Bridge
- Floodplain Analysis Points
  - Other
  - Flood Insurance Study
  - Letter of Map Revision
  - Case By Case Analysis
  - Bridge
- 1% Annual Chance Flood Haz
- 0.2% Annual Chance Flood Ha
- Cross Sections
- Floodway
- Base Flood Elevations
- FIRM Panel Index
- Statewide Flood Insurance Rat Index
- Rivers and Streams
- Open Water

Notes

0.3 0 0.13 0.3 Miles

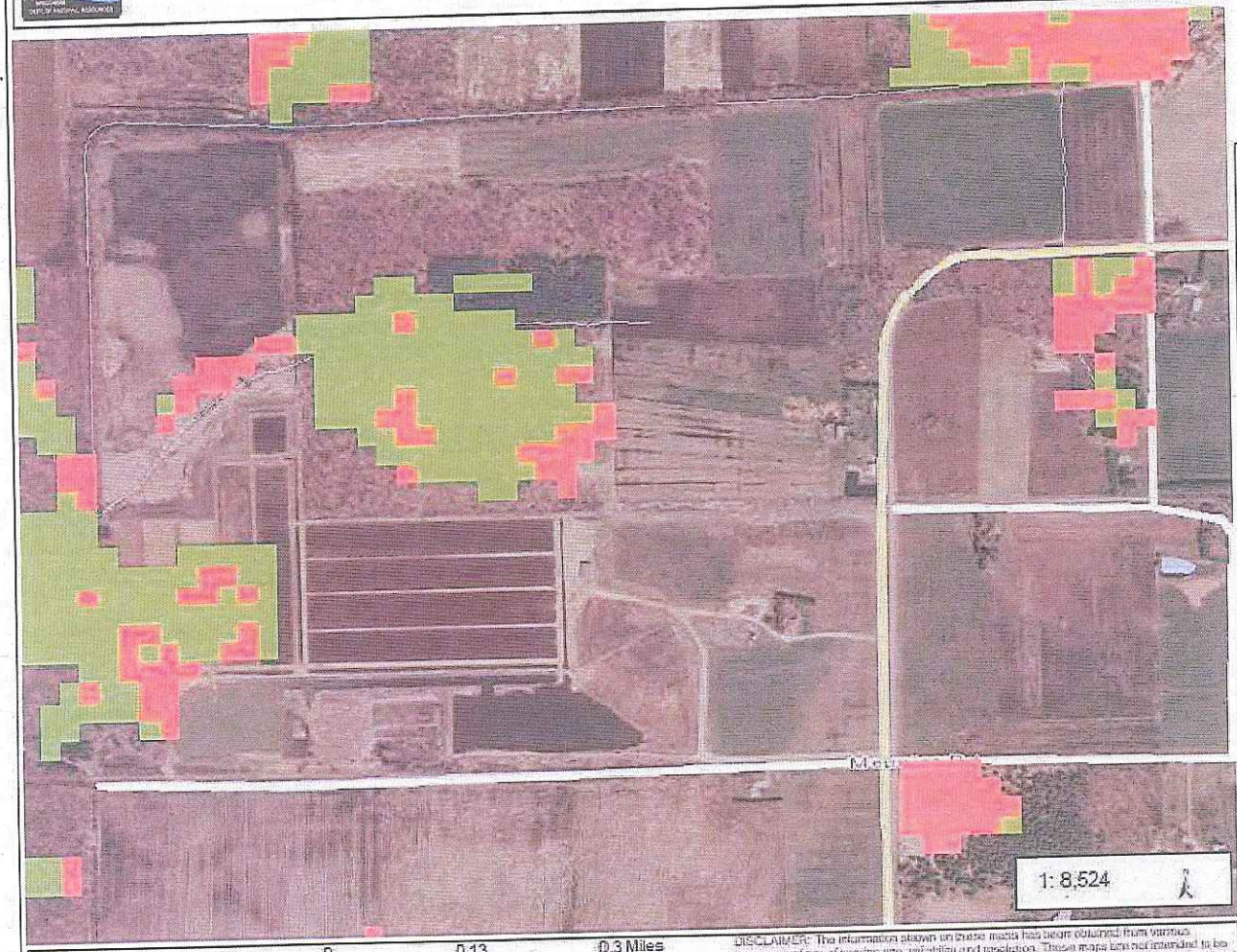
NAD_1983_HARN_Wisconsin_TM
© Latitude Geographics Group Ltd.

Topographical Map			By: BWK Date: 6/23/2015	Attach. 4	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525



Soils Survey Map		Wayne Dempze Cranberry, Co.	Attachment 5
	By: BWK Date: 7/17/15	QUEST Civil Engineers, LLC	320 W Grand Ave.,Suite 302 Wisconsin Rapids, WI 54495 715-423-3525

Surface Water Data Viewer Map



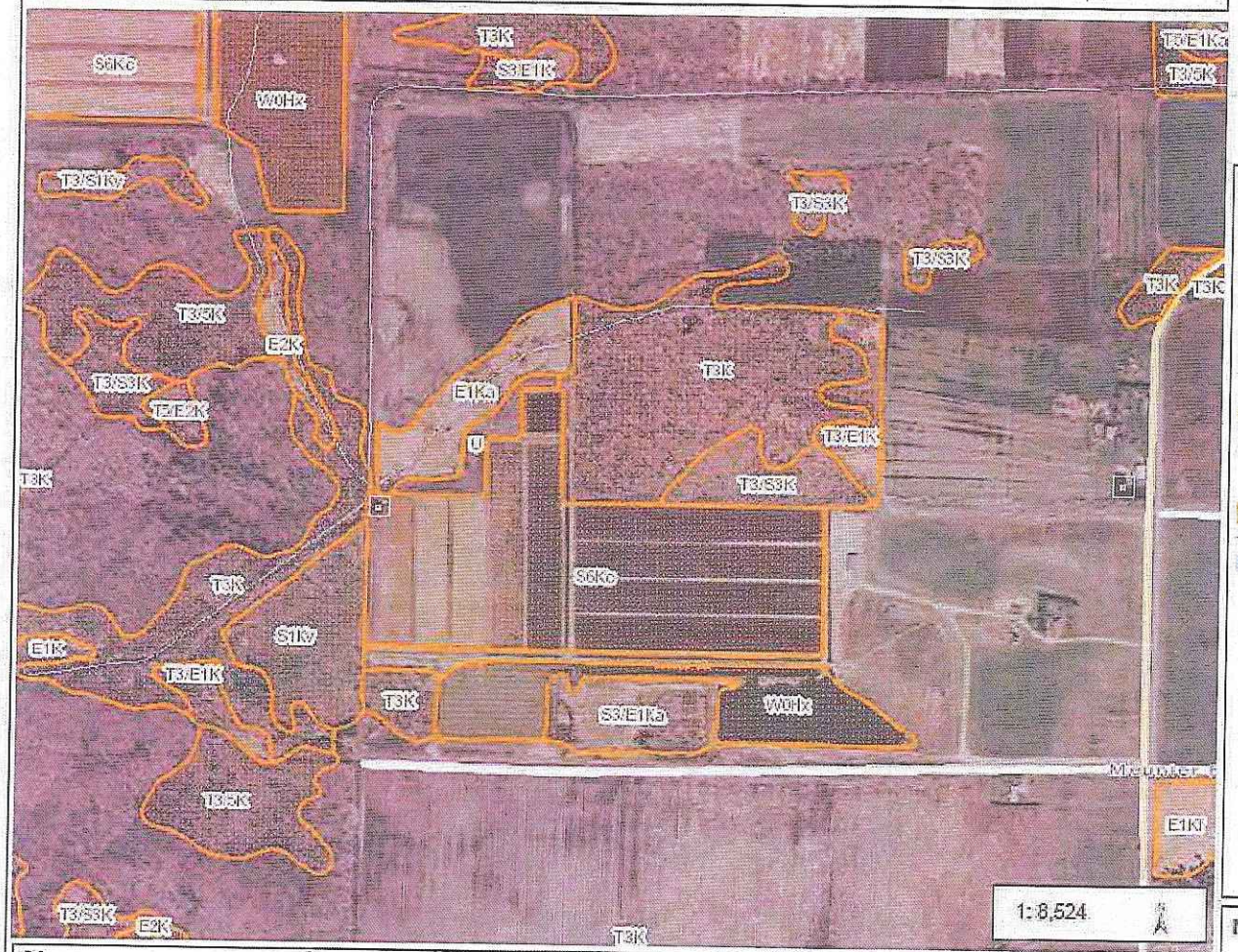
Legend

- Purple Loosestrife Points
- Purple Loosestrife Lines
- Purple Loosestrife Areas
- Flowering Rush Points
- Flowering Rush Lines
- Flowering Rush Areas
- Reed Canary Grass
  - Less than 50% RCG in the pixel
  - More than 50% RCG in the pixel
- Rivers and Streams
- Open Water
- 2010 Air Photos (WROC)

Notes

Reed Canary Grass Location Map			By: BWK Date: 6/23/2015	Attach. 6	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525

Surface Water Data Viewer Map



Legend

- Statewide Flood Insurance Rat Index
- Wetland Class Points
  - Dammed pond
  - Excavated pond
  - Filled excavated pond
  - Filled/drained wetland
  - Wetland too small to delineate
- Filled Points
- Wetland Class Areas
  - Wetland
  - Upland
- Filled Areas
- Rivers and Streams
- Open Water
- 2010 Air Photos (WROC)

Notes

Wetland Inventory Map		Wayne Dempze Cranberry Co.	By: BWK Date: 7/17/15	Attach. 7	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525

Attachment 8

Print Form

US Army Corps
of Engineers
St. Paul District

Request for Corps of Engineers Wetland Delineation Review

Please enter the following general information about the property under review:

Name of property owner	Wayne Dempce Cranberry Co.
Property Address (No. & Street, City, State, Zip Code)	4917 County Road D Vesper, WI 54489-9726
Lat. 44°25 Long. 90°00 (decimal degrees)	
County Wood	
Location: SW 1/4 Section 7 Township 23N Range 4E	
Size of review area	7.19 acre(s)

By submission of this wetland delineation report I am requesting that the U.S. Army Corps of Engineers, St. Paul District provide me with the following (check only one box):

☐ Wetland Delineation Concurrence. Concurrence with awetland delineation is a written notification from the Corps concurring, not concurring, or commenting on the wetland boundaries delineated on a property. Under this request, the Corps will not address the jurisdictional status of the wetlands on the property, only the boundaries of the resources within the review area.

☐ Preliminary Jurisdictional Determination. A preliminary jurisdictional determination is a non-binding written indication that there may be waters of the United States, including wetlands, on a parcel or indications of the approximate location(s) of waters of the United States or wetlands on a parcel. Preliminary jurisdictional determinations are advisory in nature and may not be appealed.

☒ Approved Jurisdictional Determination. An approved jurisdictional determination is an official Corps determination that jurisdictional waters of the United States or navigable waters of the United States, or both, are either present or absent on the property. An approved jurisdictional determination precisely identifies the limits of those waters on the project site determined to be jurisdictional under the Clean Water Act or Rivers and Harbors Act. Approved jurisdictional determinations can be relied upon by the affected party for a period of five years. An approved jurisdictional determination may be appealed through the Corps' administrative appeal process.

In order for the Corps to process your request, the wetland delineation must be prepared in accordance with the 1987 Corps of Engineers Wetland Delineation Manual, any approved Regional Supplements to the 1987 Manual, and the Guidelines for Submitting Wetland Delineations in Minnesota and Wisconsin (http://www.mvp.usace.army.mil/regulatory/).

Requestor Brian Kronstedt Date 12/5/13

Name (typed) Brian Kronstedt

WAYNE DEMPZE CRANBERRY CO.

Wetland Delineation Report

Prepared by: Brian Kronstedt & David Joosten

QUEST Civil Engineers, LLC
Civil Surveying Environmental
Design Green Build Green Live Green

QUEST Civil Engineers, LLC
2811 8th Street South, Suite 8
Wisconsin Rapids, WI 54494
Phone: 715-423-3525
Fax: 715-423-3597
www.questllc.biz

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APPENDICES

LIST OF FIGURES

WAYNE DEMPZE CRANBERRY CO
WETLAND DELINEATION REPORT

1.0 EXECUTIVE SUMMARY

Project:

This wetland delineation was prepared for, and at the request of, Wayne Dempze Cranberry Co. The purpose of this delineation was to identify the northern boundary of the area labeled "Wetland Rehabilitation Area" on the attached Figures.

The Area of Review for this report is the northern boundary of the 7.19 acre wetland rehabilitation area located in Parcel 0800648 within the Town of Hansen, in Wood County, WI (Figure 2).

2.0 DELINEATOR'S QUALIFICATIONS

Delineated by: Brian Kronstedt – Environmental Specialist for QUEST Civil Engineers, LLC.

Qualifications:

- *Completed training sponsored by the Wisconsin Coastal Management Program for both Basic and Advanced Wetland Delineation as well as Plant Identification.*
- *B.S. degree from the University of Wisconsin – Stevens Point, majoring in Biology and Wildlife Management.*
- *16 years of experience performing wetland delineations.*

Delineated by: David Joosten – Environmental Specialist for QUEST Civil Engineers, LLC.

Qualifications:

- *Completed training sponsored by the Wisconsin Coastal Management Program for Basic Wetland Delineation.*
- *B.S. degree from the University of Wisconsin – Eau Claire, majoring in Biology and Environmental Science.*
- *M.S. degree from Southern Cross University – Environmental Science.*
- *3 years of experience performing wetland delineations.*

3.0 PROPERTY DESCRIPTION

3.1 Location:

This property is located in the SW ¼ of Section 35 in T.23N.-R.4E in the Town of Hansen, Wood County, Wisconsin. This site is located west of CTH D, south of STH 73. See Figure 1 for Site Location Map.

3.2 Legal Description:

The Area of Review is located in Parcel ID 0800648 in the SW ¼ of Section 35, T.23N-R.4E

- The Area of Review for this parcel was the northern boundary of the 7.19 acre wetland rehabilitation area

4.0 REVIEW OF EXISTING INFORMATION

4.1 Soils Present on property:

Soils information was obtained from the NRCS's Web Soil Survey (Figure 5). The soils survey shows two soil types in the area of review. Both are classified as hydric soils and are described below:

Ve – Veedum silt loam – "This soil is in large upland drainageways and depressions. Seasonal high water table is at or near the surface."

Vs – Vesper silt loam – "This soil is in upland drainageways and depressions. Seasonal high water table is at or near the surface."

4.2 Wetland Inventory Mapping:

The Wisconsin Wetland Inventory Mapping shows the Area of Review as containing Emergent Wet Meadow (E1Ka) wetlands (Figure 3). The field review confirmed this wetland type.

The National Wetland Inventory identifies the project as Freshwater Forested/Shrub Wetland (PSS1/EMBg).

5.0 METHODOLOGY:

5.1 Delineation Methodology:

Delineation methods followed that of the Routine On-Site Determination Method described in the U.S. Army Corps of Engineers "Federal Manual for Identifying and Delineating Jurisdictional Wetlands" (1987 Edition) as well as the Northcentral and Northeast Interim Regional Supplement to the 1987 manual.

Field notes were recorded using the attached Field Data forms (Appendix A). Pictures of the delineated sites were taken and are attached. Wetland delineation boundaries were marked using pink fluorescent pin flags. Locations of soil pits were marked with blue flagging. The wetland boundaries were then surveyed by QUEST Civil Engineers, LLC. (Kolby Schertz, RLS (715)-423-3525). These boundaries are shown on the map attached as Figure 7 of this report.

6.0 FINDINGS AND CONCLUSIONS:

6.1 Vegetative Communities

The uplands on this site are comprised of tilled agricultural land.

The Wisconsin Wetland Inventory (WWI) map shows wetlands as being Emergent Wet Meadow Wetlands (E1Ka). The field review confirmed the wetland type, shape and extent of wetlands indicated on the WWI map.

6.2 Hydrology

The hydrology of the site is based on its close proximity to ground water and the presence of an intermittent stream that flows southwesterly to Hemlock Creek. This intermittent stream enters the rehabilitation site through a 12" X 20' plastic culvert.

6.3 Atypical Situations

An atypical situation is present in the Area of Review. The adjacent agricultural field encroaches on the northern border of the wetland. Recent tillage practices have removed the vegetation.

This site's hydrology is also atypical as it is adjacent to a cranberry marsh and affiliated ditches. The recent cranberry harvest and its associated water level fluctuations have also likely resulted in a temporary impact to the site's hydrology.

Delineation was thus based on soils analysis and the wetland boundary was marked where the Ve – Veedum silt loam ended (wetland) and the Vs – Vesper silt loam began (upland). This transition also followed a slight topographical contour.

This delineation line also approximated tillage line observed and surveyed previously this year.

7.0 Bibliography

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-Eggers, Steve D., and Donald M. Reed. 1997. Wetland plants and communities of Minnesota and Wisconsin. U.S. Army Corps of Engineers, St. Paul District. Jamestown, ND: Northern Prairie

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-Wisconsin State Herbarium, University Wisconsin – Madison, WisFlora: Wisconsin Vascular Plant Species, http://www.botany.wisc.edu/wisflora/

-United States Department of Agriculture – Natural Resource Conservation Service, Web Soil Survey, http://websoilsurvey.nrcs.usda.gov/app/

-Wisconsin Department of Natural Resources, WDNR Webview, http://dnrmaps.wisconsin.gov/img/imf.jsp?site=webview

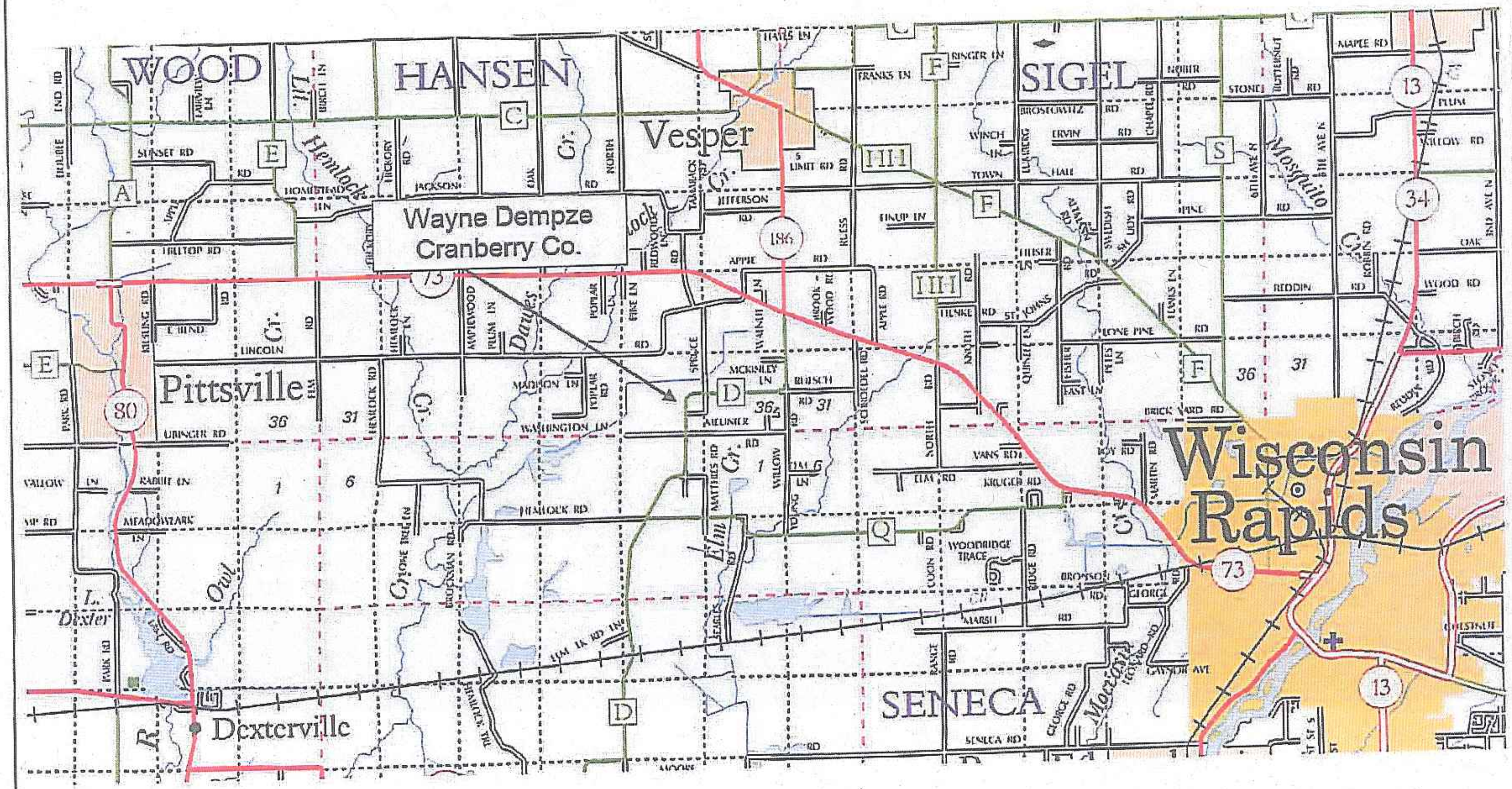


Figure 1	Site Location Map	Wayne Dempze Cranberry Co.	By: Quest Date: 12/13	Figure 1	QUEST Civil Engineers, LLC Design it. Build it. Live it.	2811 8TH St South, Suite 8 Wisconsin Rapids, WI 54494 715-423-3525

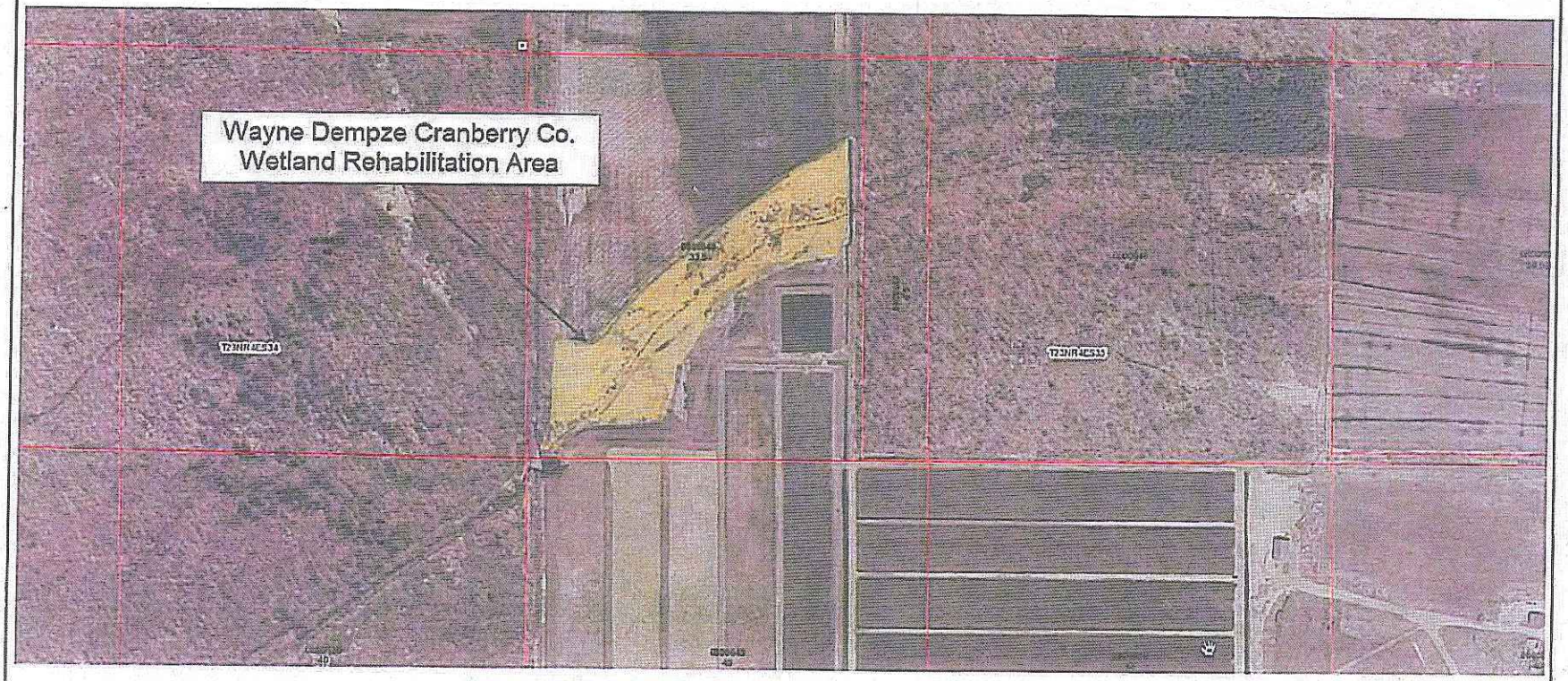


Figure 2	Parcel Map	Wayne Dempze Cranberry Co.	By: Quest Date: 12/13	Figure 2	QUEST Civil Engineers, LLC — Design It. Build It. Live It.	2811 8TH St South, Suite 8 Wisconsin Rapids, WI 54494 715-423-3525

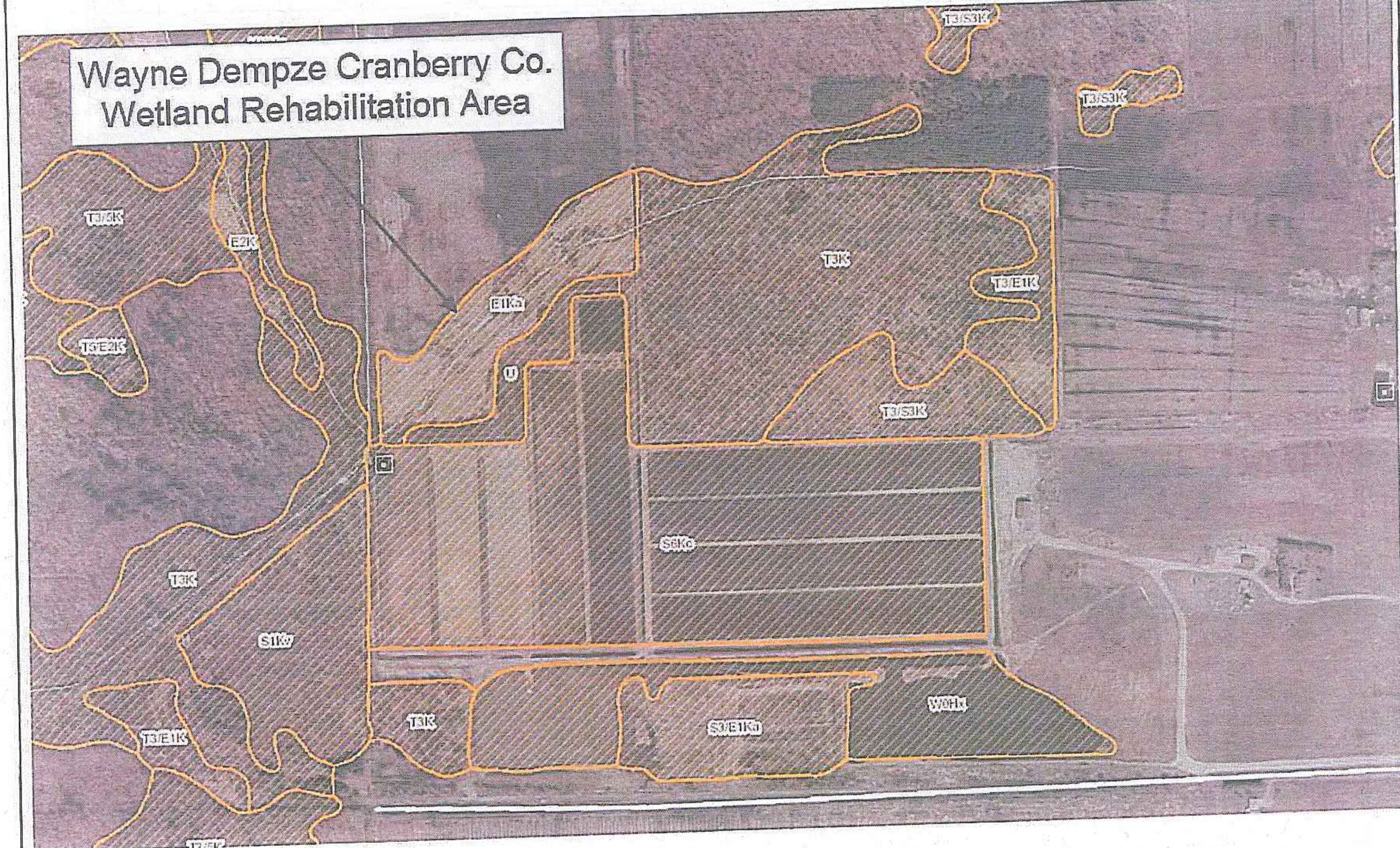


Figure 3	Wetland Inventory Map	Wayne Dempze Cranberry Co.	By: Quest Date: 12/13	Figure 3	QUEST Civil Engineers, LLC — Design it. Build it. Live it. — 2811 8TH St South, Suite 8, Wisconsin Rapids, WI 54494, 715-423-3525

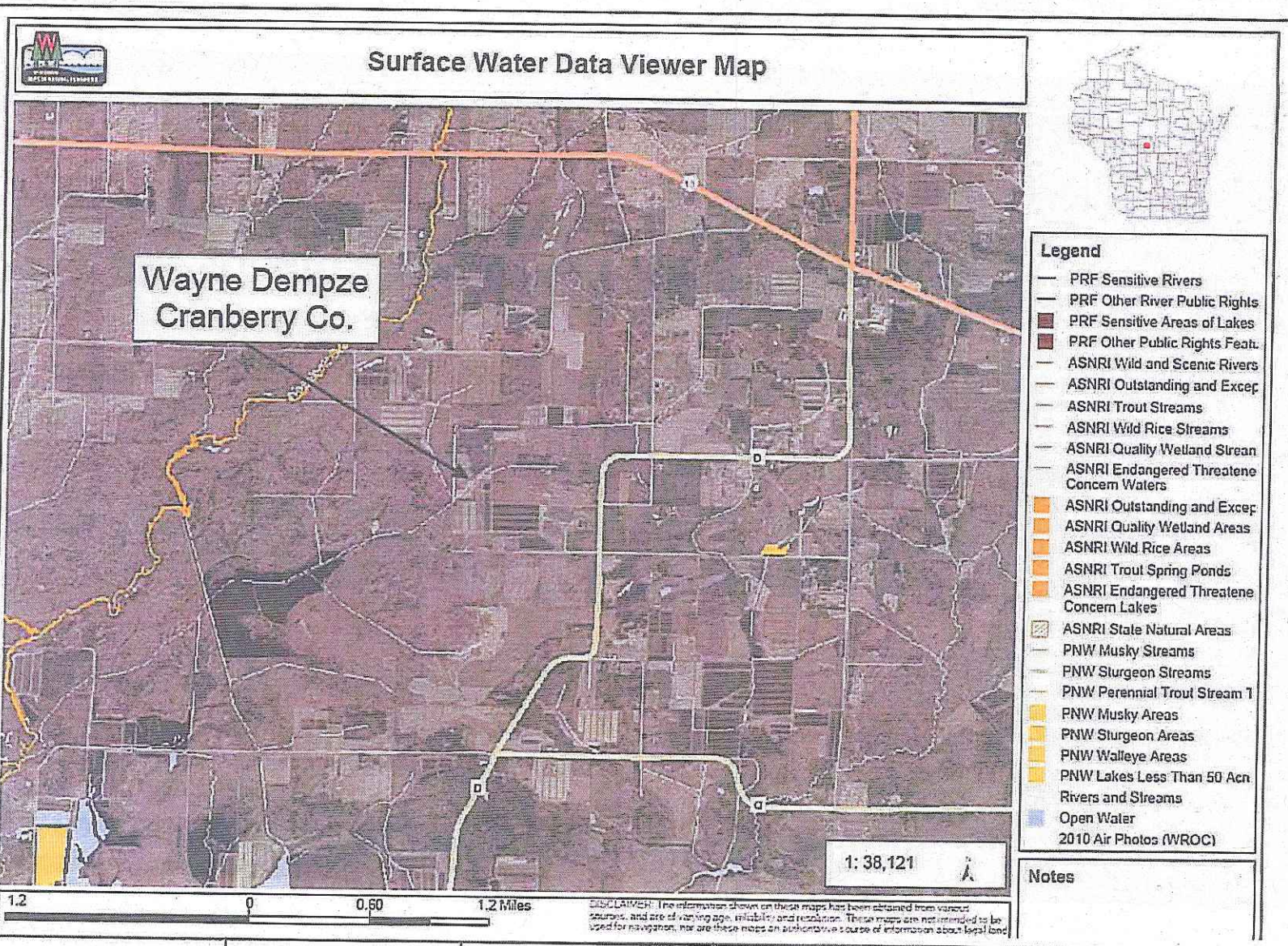


Figure 4	Designated Waters Map	Wayne Dempze Cranberry Co.	By: Quest Date: 12/13	Figure 4	QUEST Civil Engineers, LLC Design It. Build It. Live It. 2811 8TH St South, Suite B Wisconsin Rapids, WI 54494 715-423-3525

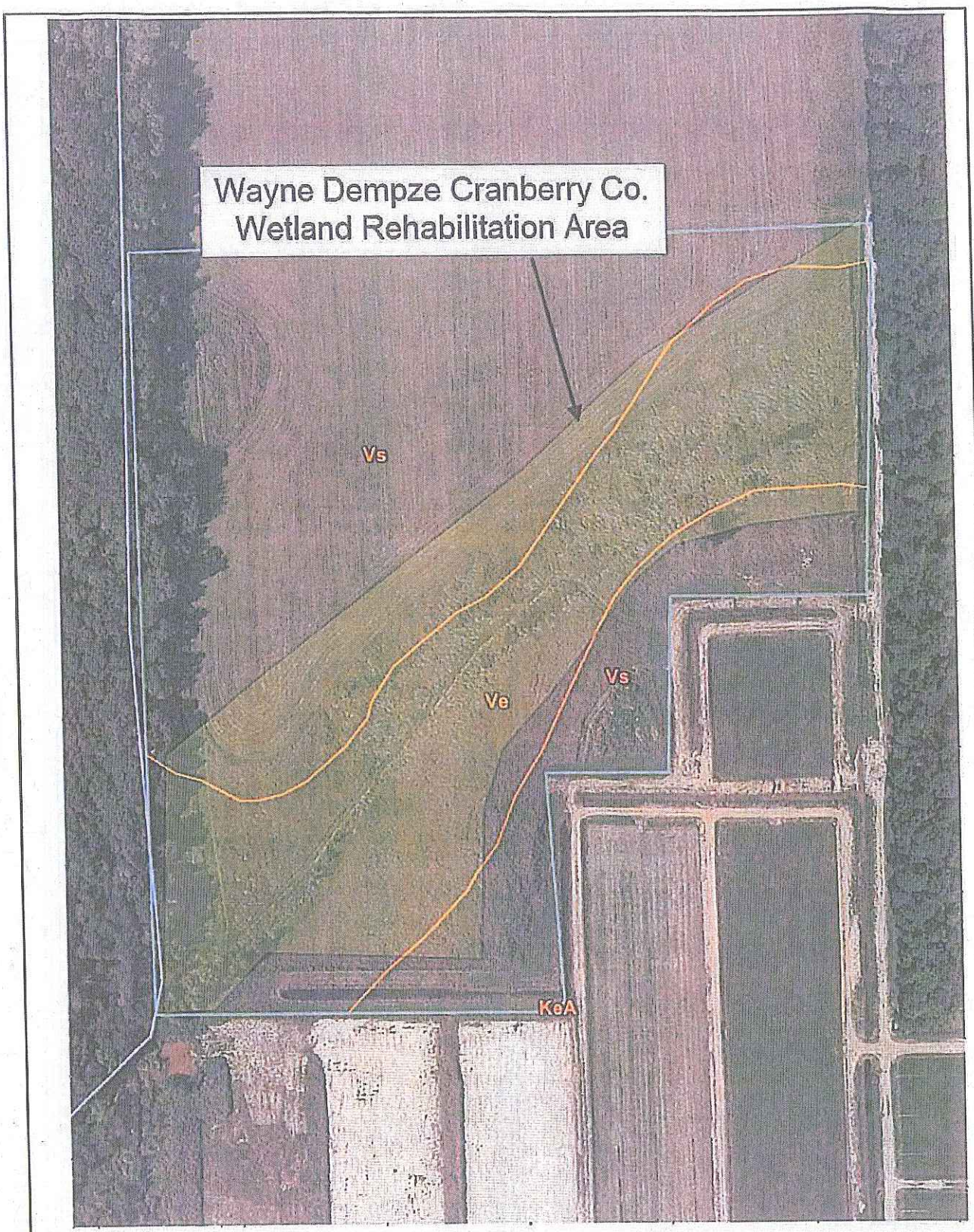


Figure 5		Wayne Dempze Cranberry Co.	Figure 5
Soils Map	By: BWK Date: 12/13	QUEST Civil Engineers, LLC — Design It. Build It. Live It.	2811 8TH St South, Suite 8 Wisconsin Rapids, WI 54494 715-423-3525

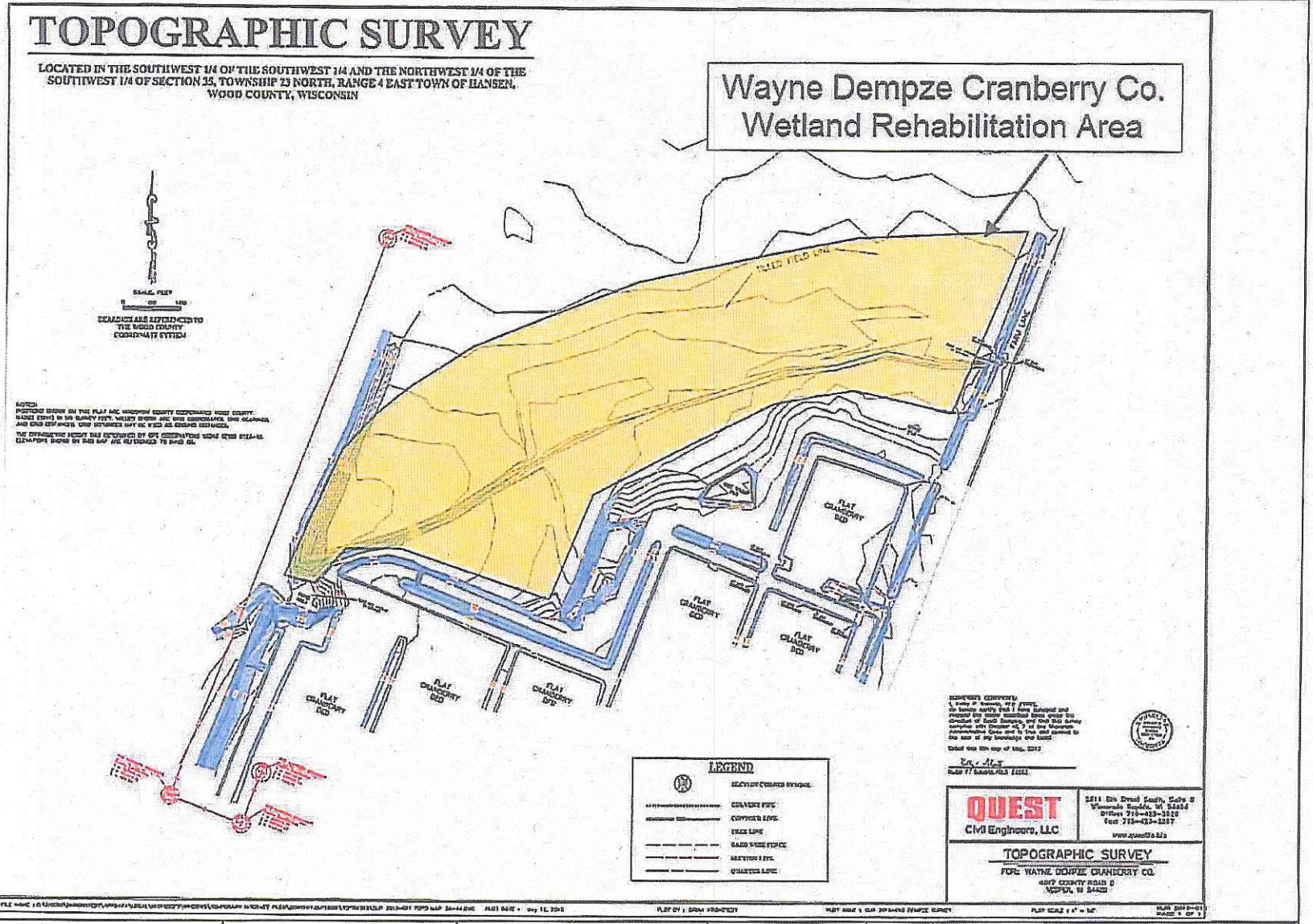
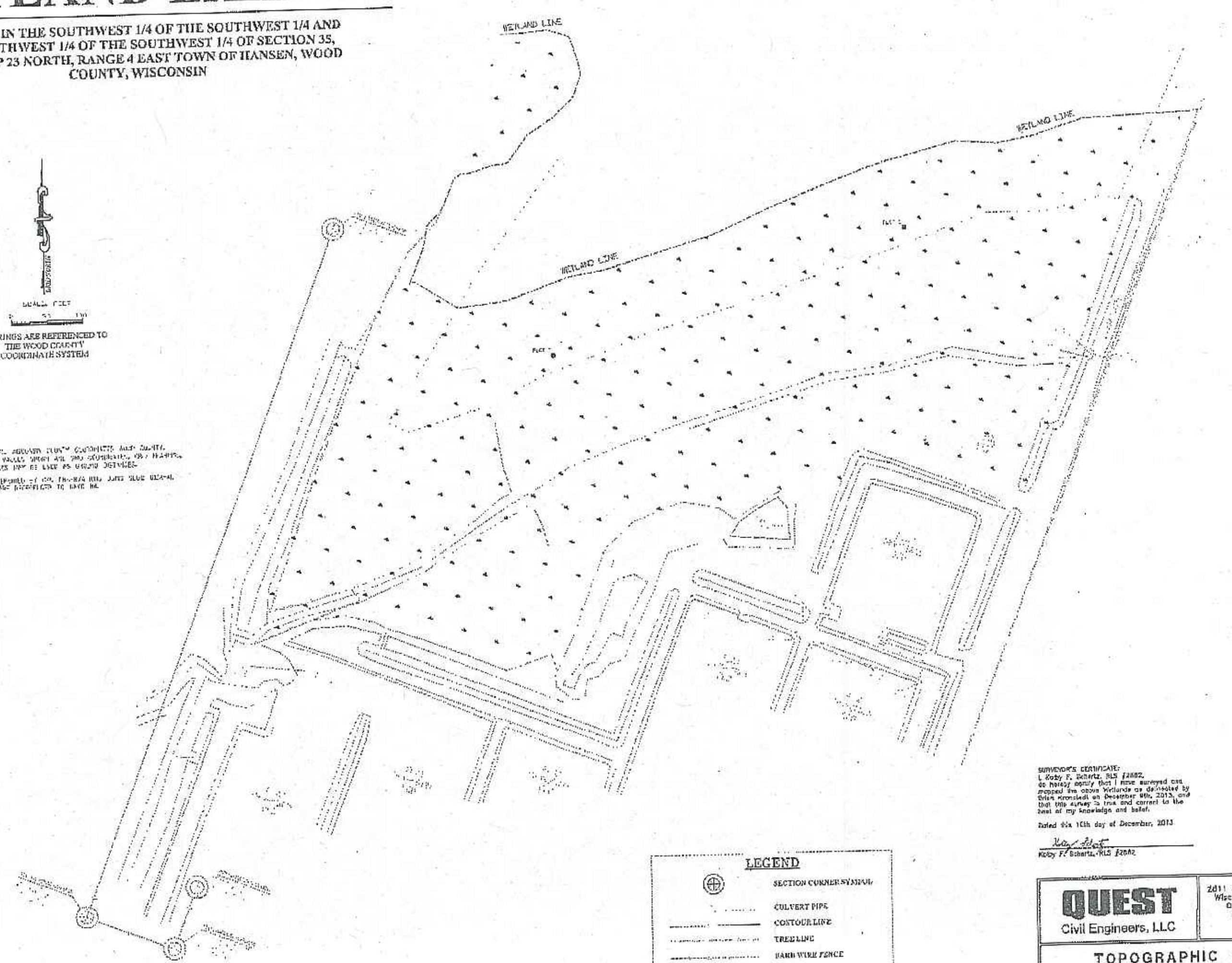


Figure 6	Topographical Map	Wayne Dempze Cranberry Co.	By: Quest Date: 12/13	Figure 6	QUEST Civil Engineers, LLC — Design It. Build It. Live It. — 2811 8TH St South, Suite 8, Wisconsin Rapids, WI 54494, 715-423-3525

WETLAND EXHIBIT

LOCATED IN THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST TOWN OF HANSEN, WOOD COUNTY, WISCONSIN

BEARINGS ARE REFERENCED TO THE WOOD COUNTY COORDINATE SYSTEM



LEGEND

- SECTION CORNER SYMBOL
- CULVERT PIPE
- CONTOUR LINE
- TREE LINE
- BARB WIRE FENCE
- SECTION LINE
- QUARTER LINE

SURVEYOR'S CERTIFICATE:
I, Koby F. Schertz, RLS 2882,
do hereby certify that I have surveyed and mapped the above Wetlands as delineated by Brian Kronstedt on December 9th, 2013, and that this survey is true and correct to the best of my knowledge and belief.

Dated this 16th day of December, 2013

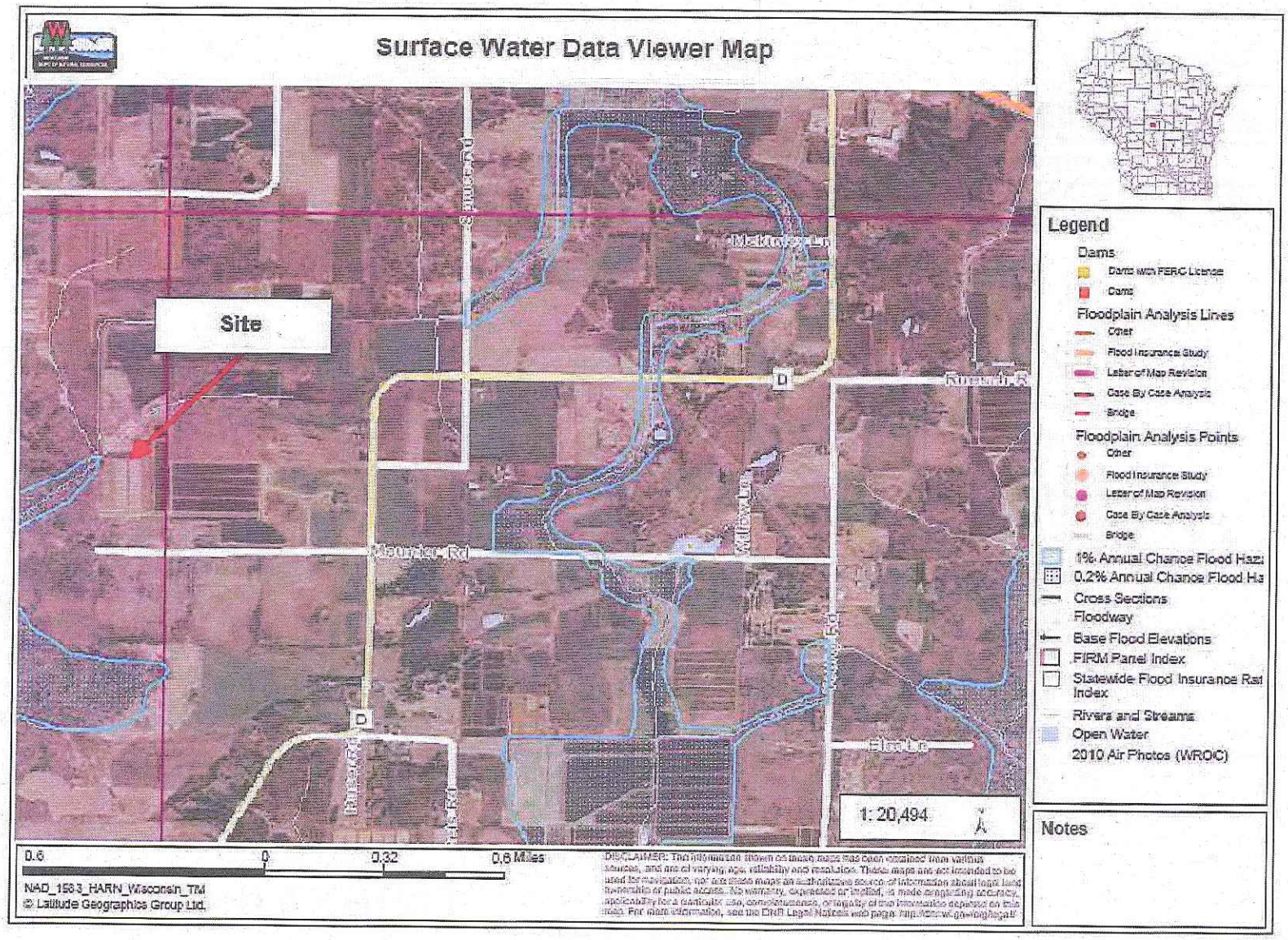
Koby F. Schertz, RLS 2882

QUEST Civil Engineers, LLC

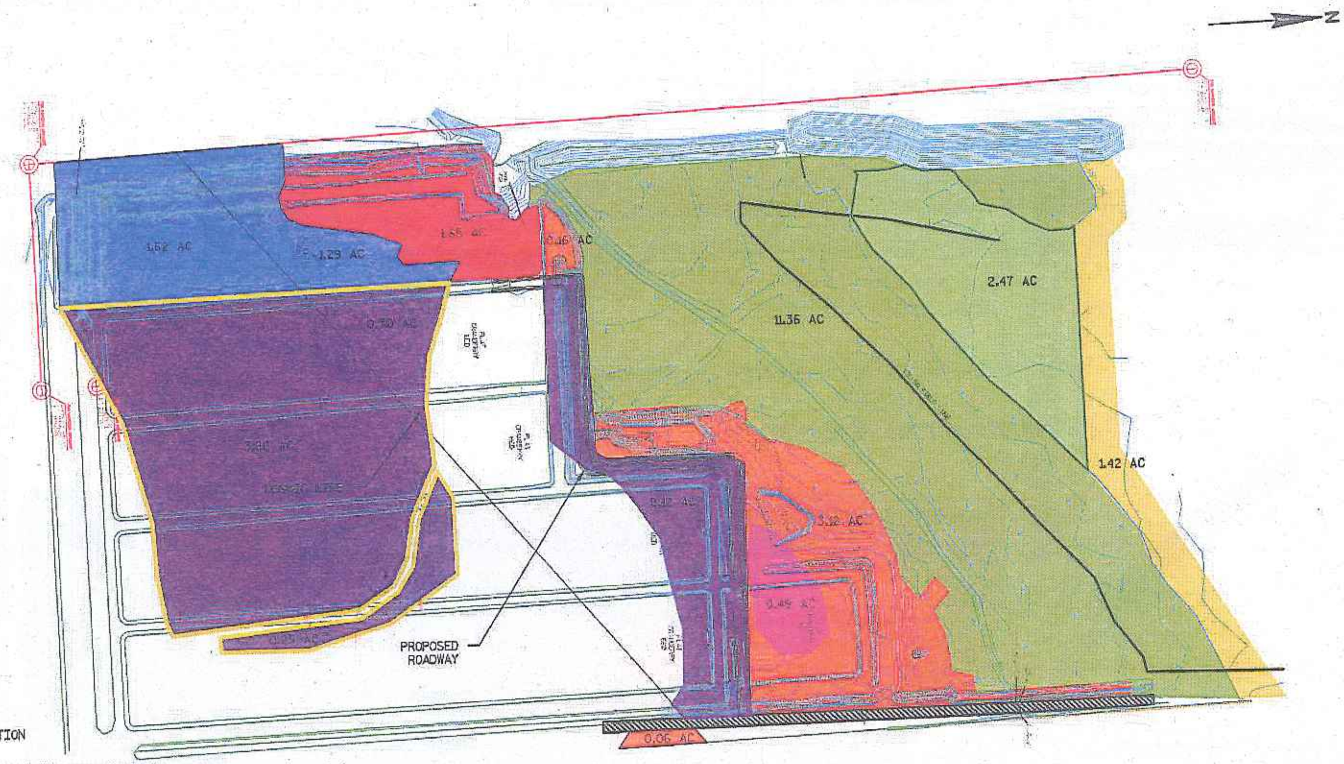
2011 8th Street South, Suite 5
Wisconsin Rapids, WI 54494
Office: 715-423-3526
Fax: 715-423-3597
www.questllc.biz

TOPOGRAPHIC SURVEY

FOR: WAYNE DEMPZE CRANBERRY CO.
4617 COUNTY ROAD D
VESPER, WI 54489



Floodplain Map		Wayne Dempze Cranberry Co.	By: BWK Date: 7/17/15	Attach. 9	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525



WETLAND MOSAIC LINE
62.05% WETLANDS
37.95% UPLANDS

- 0.25 ACRE PROPOSED ROADWAY EXEMPTION
- 1.65 ACRE WETLAND ENHANCEMENT (WDNR/USACE JURISDICTION)
- 2.91 ACRE WETLAND RESTORATION (EPA JURISDICTION - AREA 1 IN CAFO)
- 3.28 ACRE WETLAND ENHANCEMENT (EPA JURISDICTION OVER RESTORATION - AREA 2 IN CAFO, WDNR/USACE JURISDICTION OVER ENHANCEMENT)
- 0.49 ACRE WETLAND ENHANCEMENT (WDNR/USACE JURISDICTION)
- 7.05 ACRE AFTER THE FACT (ATF) (WDNR/USACE JURISDICTION)
- 1.42 ACRE UPLAND BUFFER (WDNR/USACE JURISDICTION)
- 2.47 ACRE WETLAND ENHANCEMENT (WDNR/USACE JURISDICTION)
- 11.36 ACRE WETLAND ENHANCEMENT (WDNR/USACE JURISDICTION)
- * 0.18 ACRE AFTER THE FACT (ATF) - (WDNR JURISDICTION ONLY - NOT SHOWN ON EXHIBIT)

TOTALS

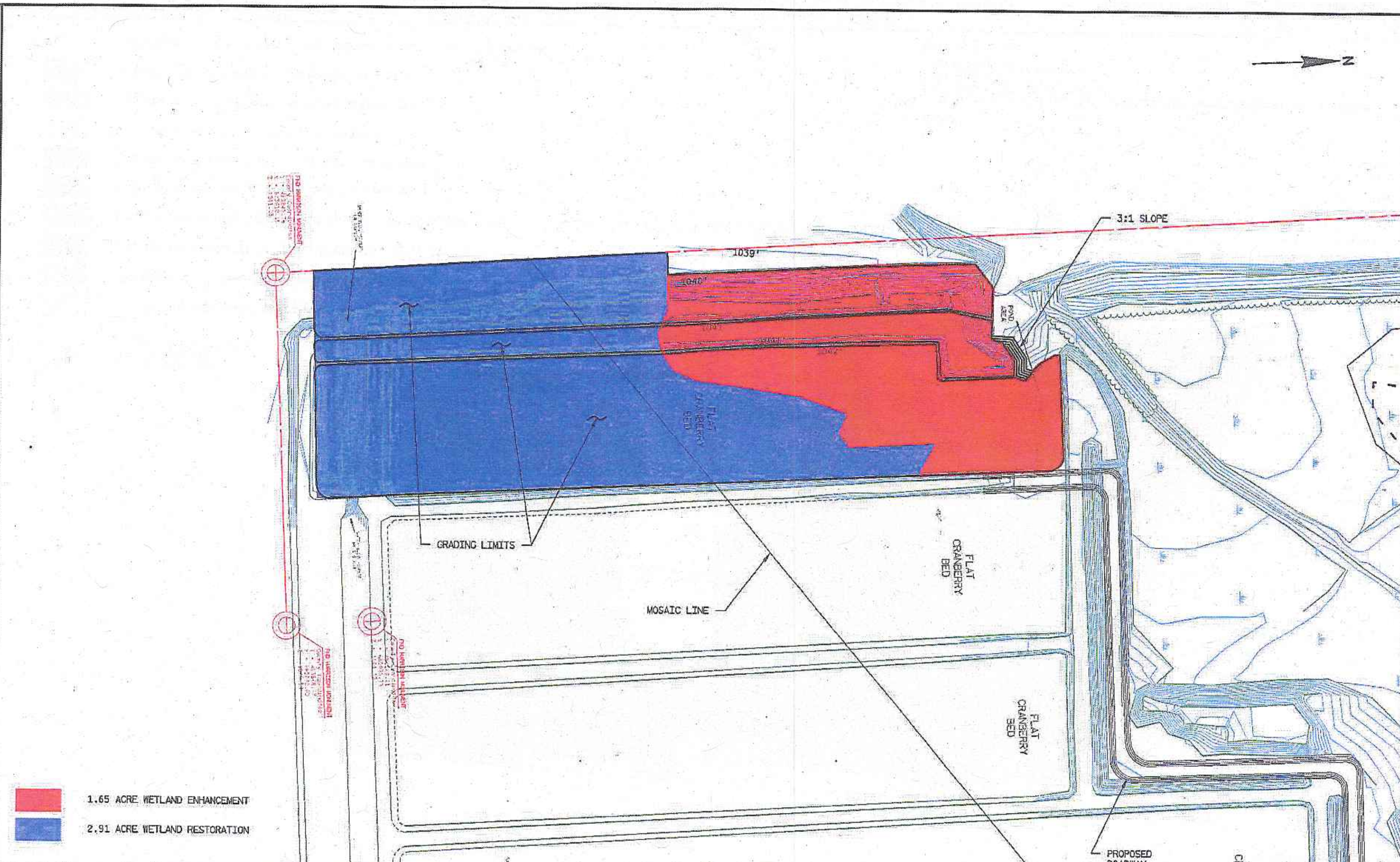
19.25 ACRES OF WETLAND CREATION, REHABILITATION, RE-ESTABLISHMENT AND ENHANCEMENT
2.91 ACRES OF WETLAND RESTORATION
7.05 ACRES AFTER THE FACT
1.42 ACRES OF UPLAND BUFFER

30.63 TOTAL ACRES

PROJECT NO: ENV 2013-009	WAYNE DEMPZE CRANBERRY CO.	COUNTY: WOOD	PROJECT OVERVIEW	SHEET 2	E

FILE NAME : S:\ENVIRONMENTAL\ENVIRONMENTAL PROJECTS\2014\ENV 2013 009 DEMPZE CRANBERRY CO\SURVEY\DRAWINGS\SHEETS\02-PLAN DEMPZE-ENV 2013009AREAS08V5W2615473215AB5.DWG PLOT BY : CUEST CIVIL ENG PLOT NAME : PLOT SCALE : 1 IN:200 FT WISDOT/CADDS SHEET 42

Attachment 10



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WISDOT/CADDS SHEET 42

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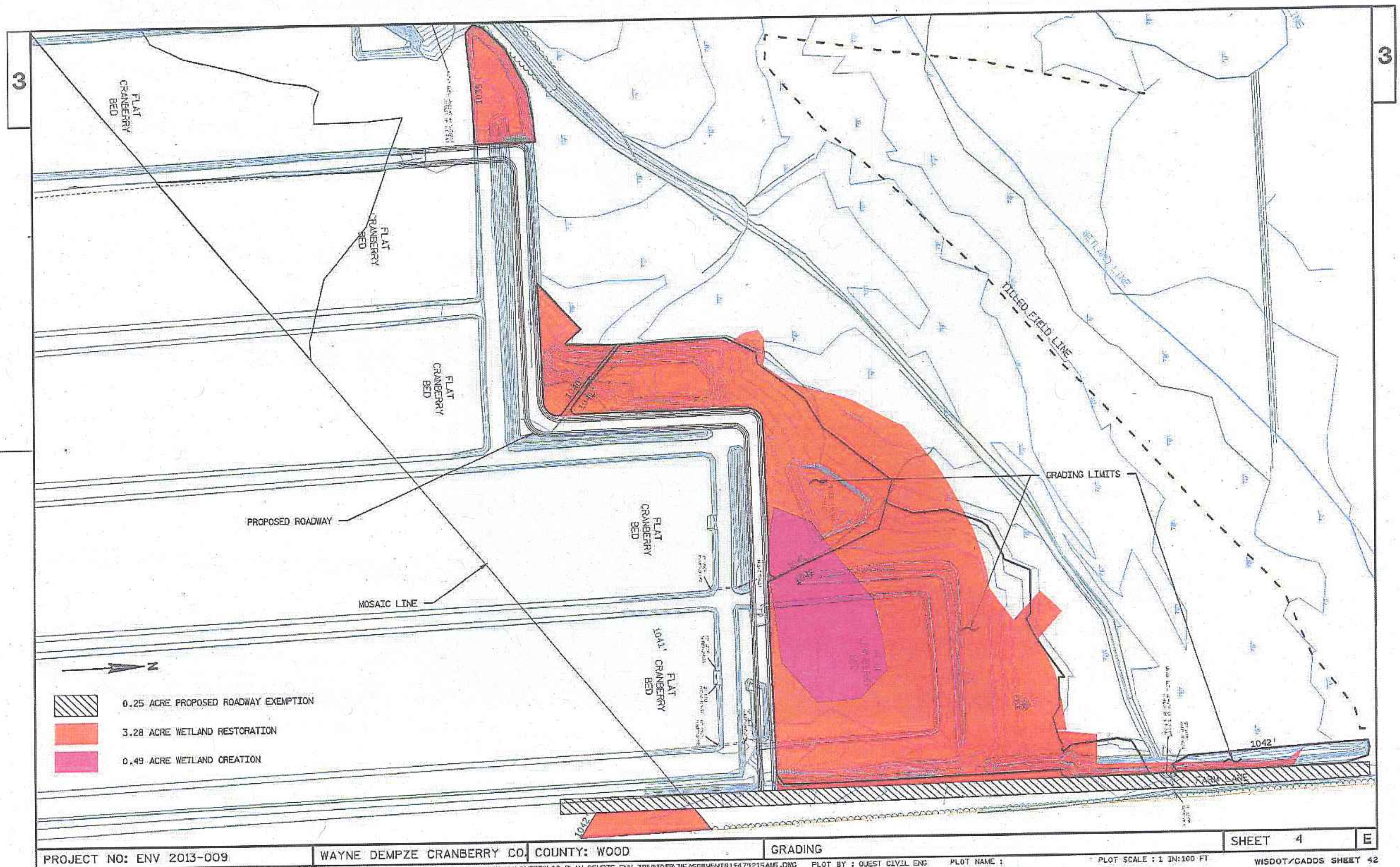

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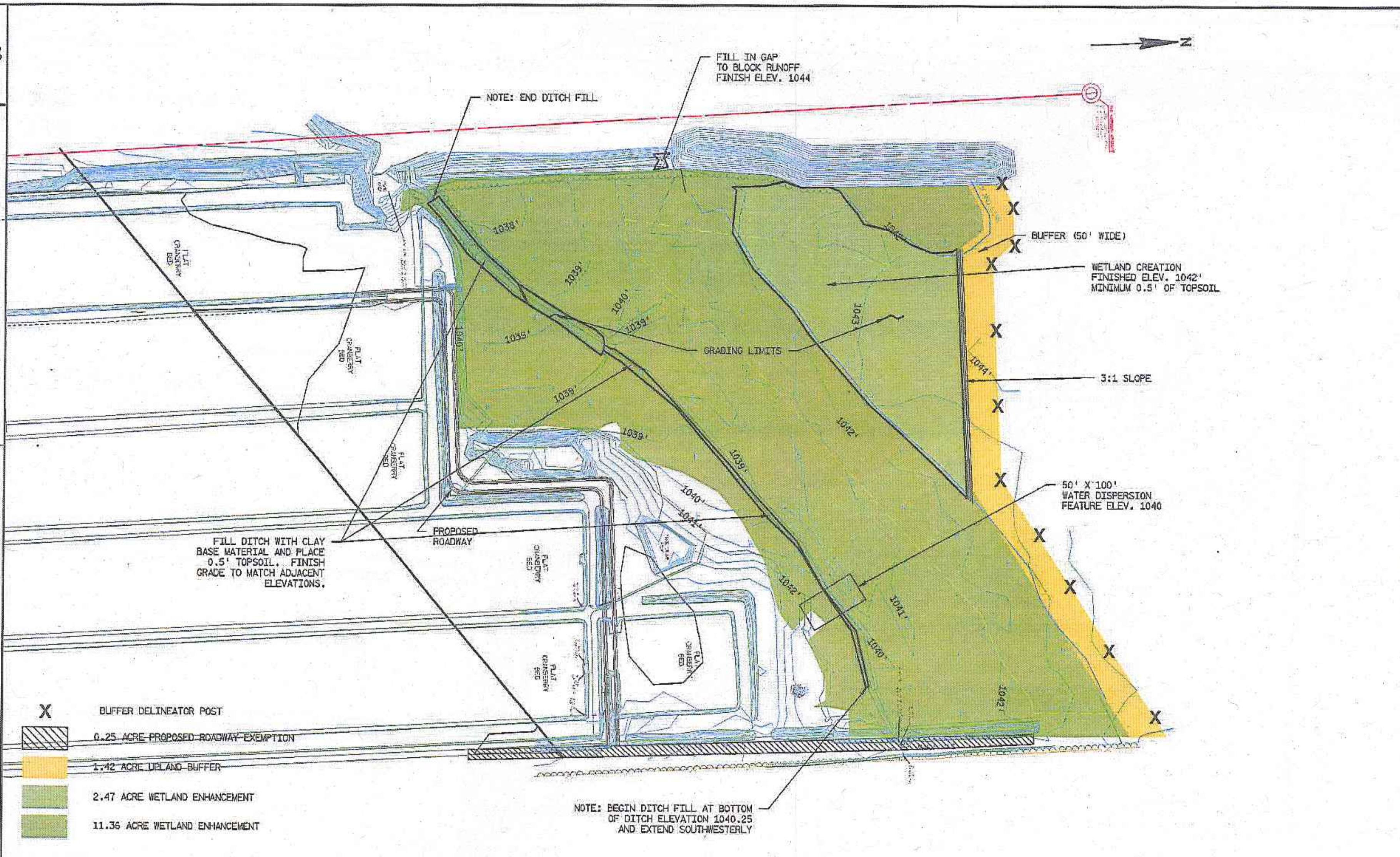
Attachment 10



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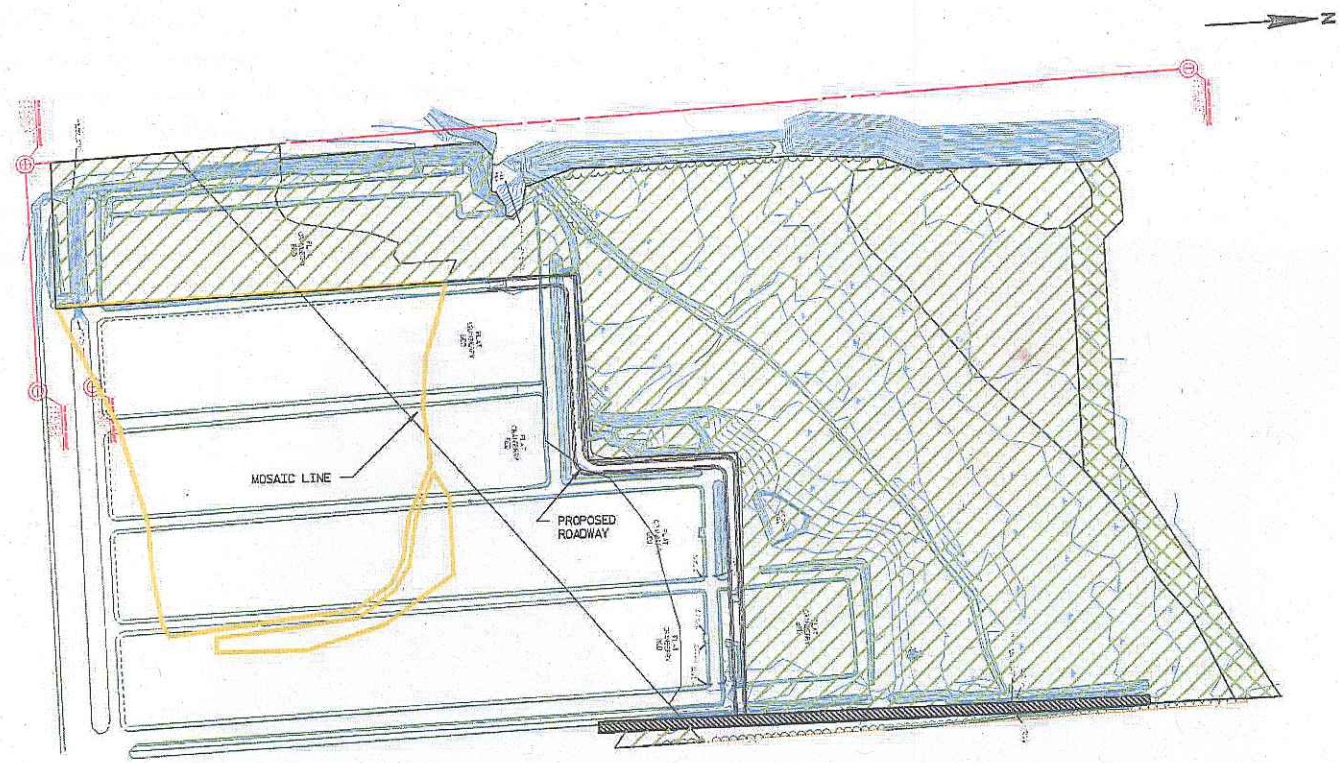


0.25 ACRE PROPOSED ROADWAY EXEMPTION

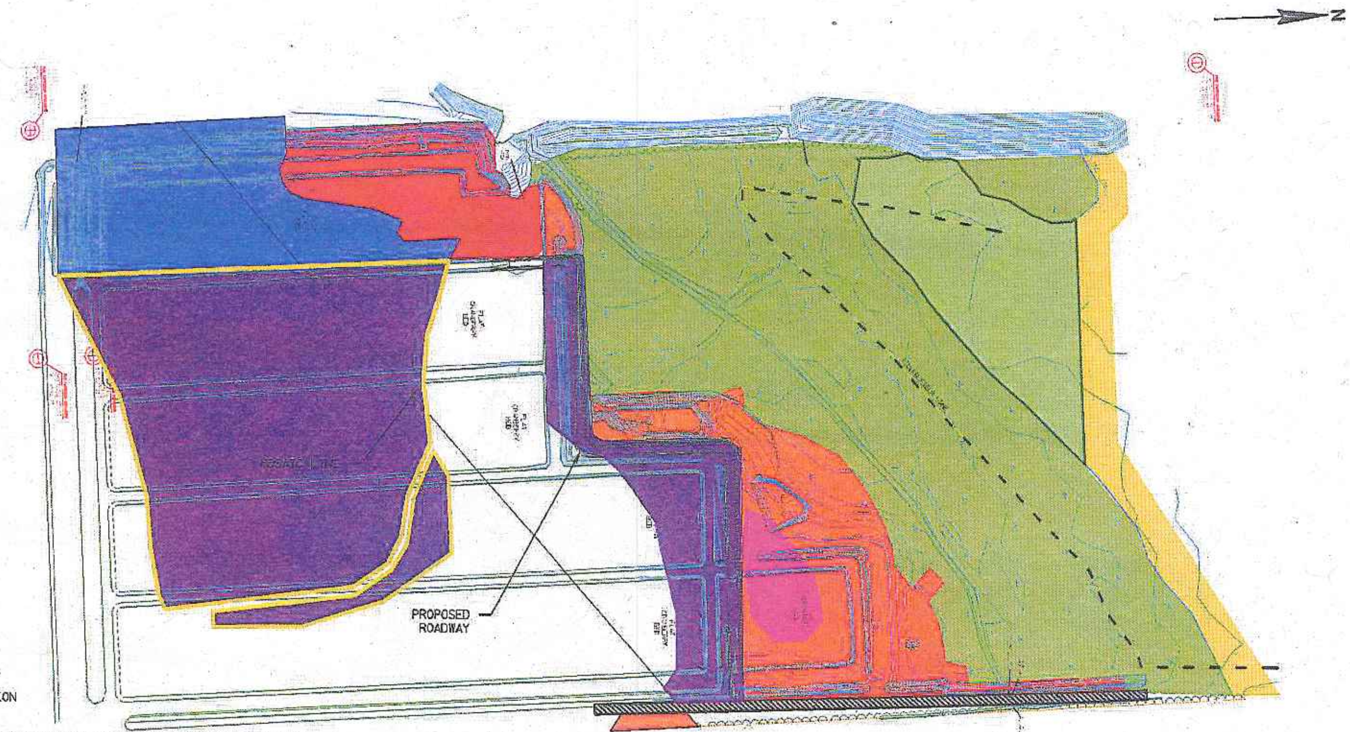
MESIC NATIVE SEED MIX (11 LBS PER ACRE)

WET NATIVE SEED MIX (8 LBS PER ACRE)

PROJECT NO: ENV 2013-009	WAYNE DEMPZE CRANBERRY CO.	COUNTY: WOOD	SEEDING PLAN	SHEET 6 E

FILE NAME : S:\ENVIRONMENTAL\ENVIRONMENTAL PROJECTS\2014\ENV 2013 009 DEMPZE CRANBERRY CO\SURVEY\DRAWINGS\SHEETS\02-PLAN DEMPZE-ENV 2013-009.DWG PLOT BY : QUEST CIVIL ENG PLOT NAME : PLOT SCALE : 1 IN:200 FT WISDOT/CADDS SHEET 42

Attachment 10



(hatched)	0.25 ACRE PROPOSED ROADWAY EXEMPTION
(red)	1.65 ACRE WETLAND ENHANCEMENT - 83 SWAMP WHITE OAKS / 83 RED OSIER DOGWOODS
(blue)	2.91 ACRE WETLAND RESTORATION - 291 RED MAPLE (TRANSPLANTS) / 146 SWAMP WHITE OAKS / 146 RED OSIER DOGWOODS
(orange)	3.28 ACRE WETLAND ENHANCEMENT - 164 SWAMP WHITE OAKS / 164 RED OSIER DOGWOODS
(pink)	0.49 ACRE WETLAND ENHANCEMENT - 25 SWAMP WHITE OAKS / 25 RED OSIER DOGWOODS
(purple)	7.05 ACRE AFTER THE FACT (ATF) - NO TREE PLANTING
(yellow)	1.42 ACRE UPLAND BUFFER - NO TREE PLANTING
(light green)	2.47 ACRE WETLAND ENHANCEMENT - 124 SWAMP WHITE OAKS / 124 RED OSIER DOGWOODS
(green)	11.36 ACRE WETLAND ENHANCEMENT - 568 SWAMP WHITE OAKS / 568 RED OSIER DOGWOODS

TOTALS

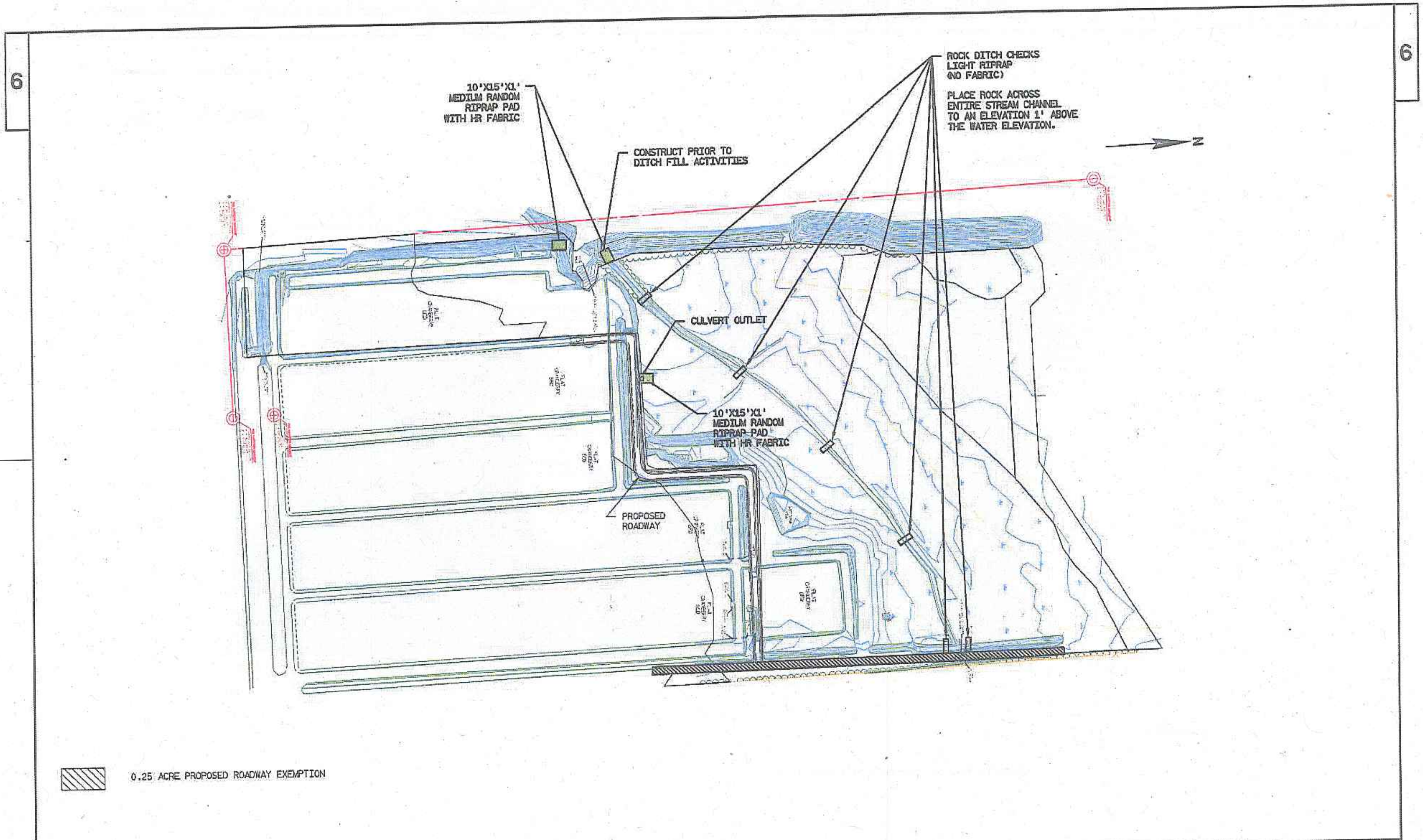
291 RED MAPLE (TRANSPLANT)
1110 SWAMP WHITE OAKS (SEEDLING)
1110 RED OSIER DOGWOODS (SEEDLING)

2511 TOTAL TREES

PROJECT NO: ENV 2013-009	WAYNE DEMPZE CRANBERRY CO.	COUNTY: WOOD	TREE AND SHRUB PLANTING PLAN	SHEET 7	E

FILE NAME : S:\ENVIRONMENTAL\ENVIRONMENTAL PROJECTS\2014\ENV 2013 009 DEMPZE CRANBERRY CO\SURVEY\DRAWINGS\SHEETS\02-PLAN DEMPZE-ENV 3BLB70BATEASUBMEN2015429E5AB5.DWG PLOT BY : GUEST CIVIL ENG PLOT NAME : PLOT SCALE : 1 IN:200 FT WISDOT/CADDS SHEET 42

Attachment 10

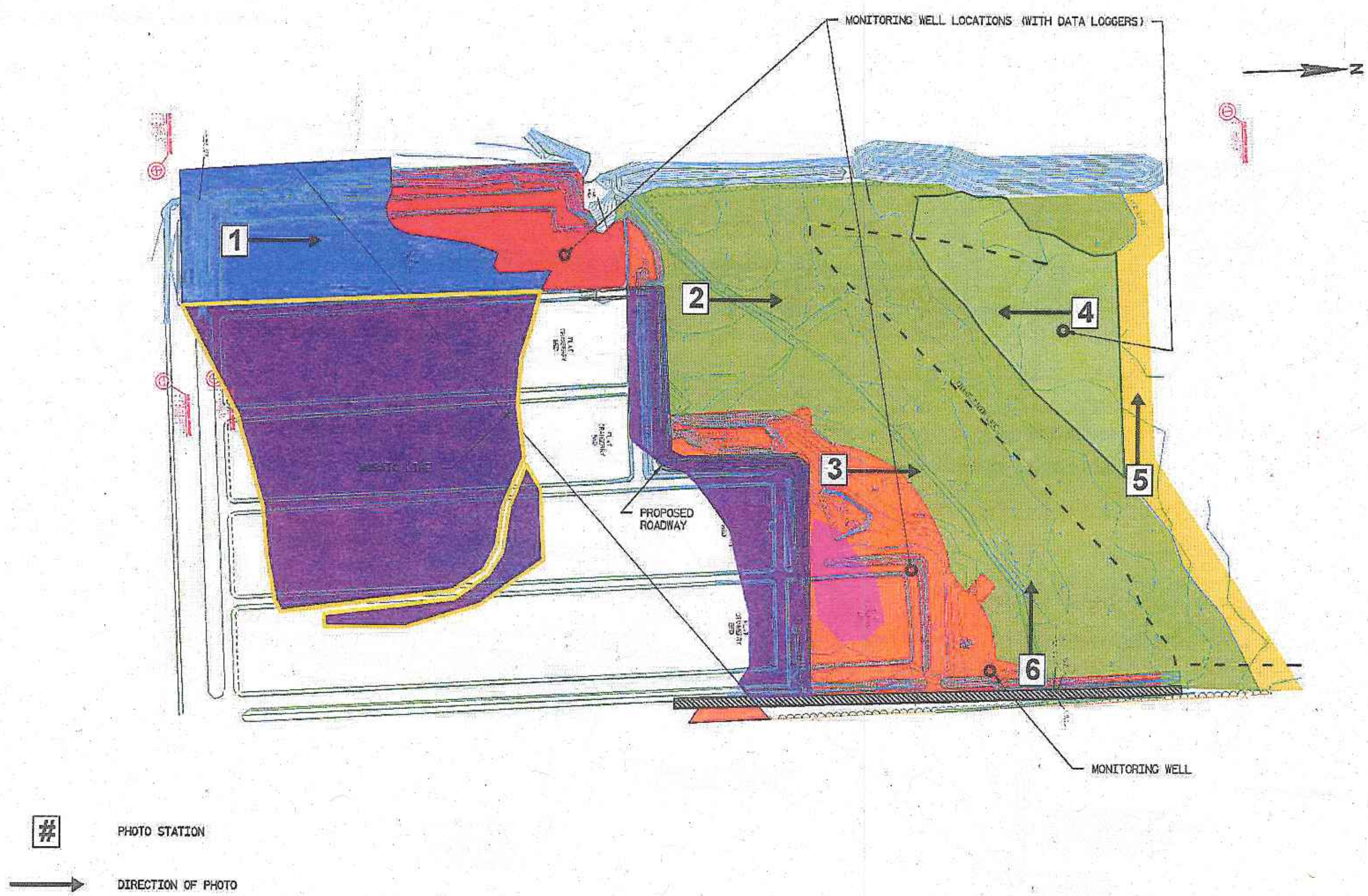


PROJECT NO: ENV 2013-009	WAYNE DEMPZE CRANBERRY CO.	COUNTY: WOOD	EROSION CONTROL PLAN	SHEET 8	E

FILE NAME : S:\ENVIRONMENTAL\ENVIRONMENTAL PROJECTS\2014\ENV 2013 009 DEMPZE CRANBERRY CO\SURVEY\DRAWINGS\SHEETS\02-PLAN DEMPZE-ENV 3013-009.DWG PLOT BY : GUEST CIVIL ENG PLOT NAME : PLOT SCALE : 1 IN:200 FT WISDOT/CADDS SHEET 42

Attachment 10

7



PROJECT NO: ENV 2013-009	WAYNE DEMPZE CRANBERRY CO.	COUNTY: WOOD	MONITORING PLAN	SHEET 9	E

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Attachment 10

Surface Water Data Viewer Map

Legend

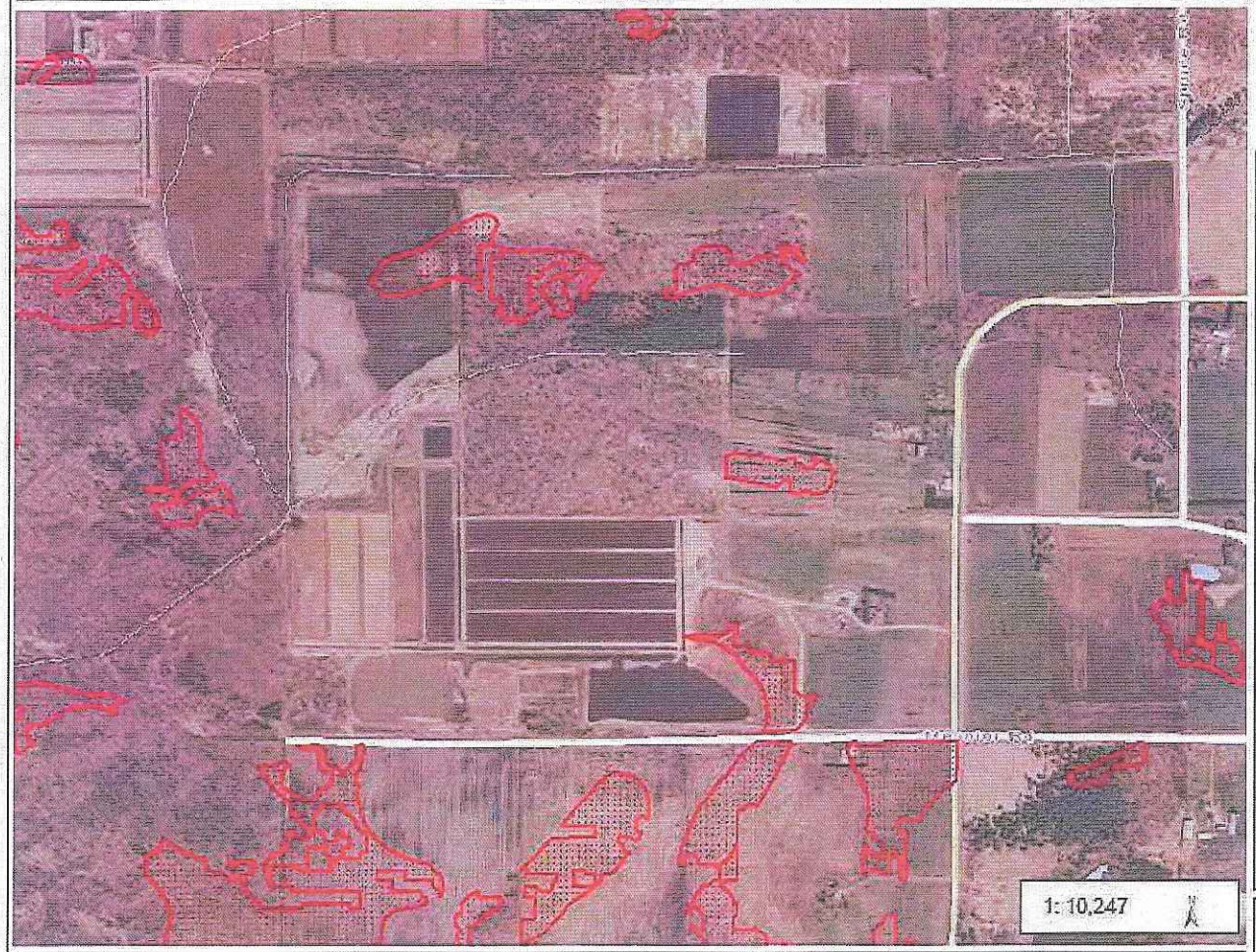
- Rivers and Streams
- Open Water
- 2010 Air Photos (WROC)

Notes

DISCLAIMER: The information shown on these maps has been obtained from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, is made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the DNR Legal Notices web page: http://dnr.wi.gov/org/legal/

Designated Waters Map			By: BWK Date: 6/23/2015	Attach. 11	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525

Surface Water Data Viewer Map



Legend

- Potentially Restorable Wetland
  - Less than 0.5 Acres
  - PRW
- Rivers and Streams
- Open Water
- 2010 Air Photos (WROC)

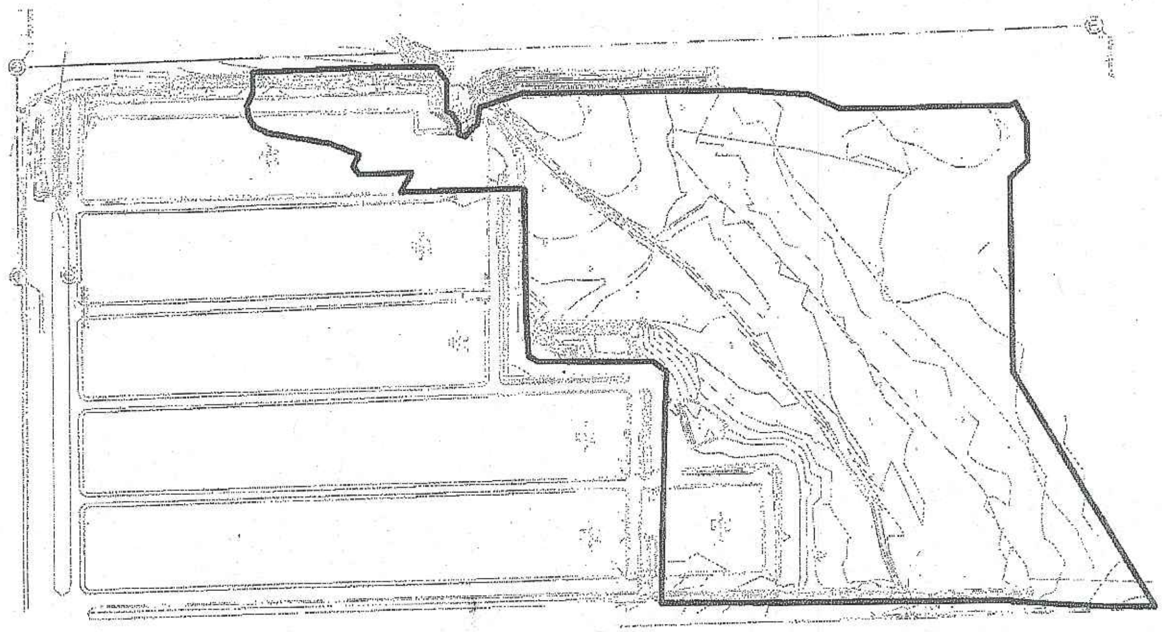
Notes

DISCLAIMER: The information shown on these maps has been collected from various sources, and are of varying age, reliability and resolution. These maps are not intended to be used for navigation, nor are these maps an authoritative source of information about legal land ownership or public access. No warranty, expressed or implied, or made regarding accuracy, applicability for a particular use, completeness, or legality of the information depicted on this map. For more information, see the Draft Legal Notices web page: http://dnr.wi.gov/org/legal/

Potentially Restorable Welands Map			By: BWK Date: 6/23/2015	Attach. 12	QUEST Civil Engineers, LLC 320 W Grand Ave., Suite 302 Wisconsin Rapids, WI 54495 715-423-3525

WETLAND COMPENSATORY MITIGATION EASEMENT

LOCATED IN THE SOUTHWEST 1/4 OF THE SOUTHWEST 1/4 AND THE NORTHWEST 1/4 OF THE SOUTHWEST 1/4 OF SECTION 35, TOWNSHIP 23 NORTH, RANGE 4 EAST TOWN OF HANSEN, WOOD COUNTY, WISCONSIN



BEARINGS ARE REFERENCED TO THE WOOD COUNTY COORDINATE SYSTEM

LEGEND

SECTION CORNER SYMBOL

MITIGATION EASEMENT

CULVERT PIPE

CONTOUR LINE

TREE LINE

BARB WIRE FENCE

SECTION LINE

QUARTER LINE

QUEST
Civil Engineers, LLC

320 West Grand Ave, Suite 302
Wisconsin Rapids, WI 54495
Office: 715-423-3525
Fax: 715-423-3587

TOPOGRAPHIC SURVEY

FOR: WAYNE DEMPZE CRANBERRY CO.
4917 COUNTY ROAD D
VESPER, WI 54489

Attachment 13

Wetland Compensatory Mitigation Easement

PARCEL A

Located in part of the Southwest 1/4 of the Southwest ¼ and the Northwest ¼ of the Southwest ¼ of section 35, Township 23 North, Range 4 East, Town of Hansen, County of Wood and State of Wisconsin described as follows:
Commencing at the Southwest 1/4 corner of said section 35,
Thence **North 01° 05' 50" West, 930.84 feet,** along the West Line of Said Section 35,
Thence **South 89° 52' 39" East, 27.24 feet,** to the
Point of Beginning
Thence **North 01° 06' 10" West, 33.67 feet,**
Thence **North 01° 17' 08" West, 197.92' feet,**
Thence **North 00° 48' 27" East, 109.87 feet,**
Thence **North 54° 33' 43" East, 35.39 feet,**
Thence **South 88° 20' 35" East, 56.19 feet,**
Thence **North 29° 53' 15" East, 11.95 feet,**
Thence **North 59° 41' 43" East, 25.16 feet,**
Thence **South 86° 47' 42" East, 17.79 feet,**
Thence **North 19° 18' 16" East, 13.06 feet,**
Thence **North 46° 53' 14" West, 24.63 feet,**
Thence **North 27° 18' 25" West, 7.18 feet,**
Thence **North 81° 10' 24" West, 34.45 feet,**
Thence **North 17° 56' 29" West, 81.66 feet,**
Thence **North 00° 17' 43" East, 405.07 feet,**
Thence **North 04° 47' 27" East, 129.53 feet,**
Thence **North 25° 13' 46" East, 67.59 feet,**
Thence **North 00° 02' 21" West, 273.91 feet,**
Thence **North 00° 02' 34" West, 44.51 feet,**
Thence **North 25° 22' 21" West, 10.54 feet,**
Thence **North 63° 30' 41" East, 45.71 feet,**
Thence **North 89° 08' 17" East, 68.96 feet,**
Thence **South 44° 58' 25" East, 47.55 feet,**
Thence **North 89° 37' 12" East, 364.67 feet,**
Thence **North 59° 50' 36" East, 522.12 feet,**
Thence **South 01° 12' 03" West, 79.63 feet,**
Thence **South 04° 09' 11" West, 187.50 feet,**
Thence **North 88° 46' 55" West, 2.17 feet,**
Thence **South 00° 31' 47" West, 418.49 feet,**
Thence **South 00° 44' 53" West, 236.64 feet,**
Thence **North 88° 40' 44" West, 369.85 feet,**
Thence **North 86° 30' 31" West, 70.19 feet,**
Thence **South 39° 03' 20" West, 33.27 feet,**
Thence **South 00° 55' 44" West, 213.18 feet,**
Thence **South 30° 59' 39" West, 20.85 feet,**
Thence **South 86° 29' 15" West, 68.73 feet,**
Thence **South 89° 10' 20" West, 93.84 feet,**
Thence **North 89° 53' 33" West, 70.39 feet,**
Thence **South 89° 27' 11" West, 63.72 feet,**
Thence **North 89° 25' 50" West, 13.35 feet,**
Thence **South 06° 07' 12" West, 3.30 feet,**
Thence **Southwesterly along a 37.75 foot** Radius Curve to the Left whose long Chord Bears **South 05° 07' 54" West, 17.02 feet,**
Thence **South 00° 43' 34" East, 44.79 feet,**
Thence **South 00° 29' 17" East, 165.62 feet,**
Thence **North 61° 22' 19" West, 42.65 feet,**
Thence **South 00° 36' 46" East, 97.80 feet,**
Thence **South 55° 44' 11" West, 18.51 feet,**
Thence **North 65° 13' 01" West, 24.37 feet,**
Thence **South 22° 15' 33" West, 56.89 feet,**
Thence **South 11° 03' 44" West, 50.56 feet,**
Thence **South 10° 53' 22" West, 69.37 feet,**
Thence **South 27° 08' 21" West, 26.47 feet,**
Thence **South 58° 46' 58" West, 22.29 feet,**
Thence **South 81° 13' 39" West, 20.88 feet,**
Thence **North 66° 39' 31" West, 29.83 feet,**
Thence **North 89° 52' 39" West, 37.86 feet,** to the Point of Beginning.
Said parcel contains 20.59 acres more or less.